

Form 3160-3  
(June 2015)FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No.  6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.	
2. Name of Operator		9. API Well No. <span style="border: 2px solid red; padding: 2px;">30-045-38324</span>	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory	
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish	
16. No of acres in lease		13. State	
17. Spacing Unit dedicated to this well		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	
19. Proposed Depth		20. BLM/BIA Bond No. in file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		22. Approximate date work will start*	
23. Estimated duration		24. Attachments	
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)			
1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must 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). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM.	
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Date	
Office		Date	
Application approval 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. 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.			

(Continued on page 2)

\*(Instructions on page 2)



Approval Date: 09/12/2023

## INSTRUCTIONS

**GENERAL:** This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

**ITEM I:** If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

**ITEM 4:** Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

**ITEM 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

**ITEMS 15 AND 18:** If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

**ITEM 22:** Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

**ITEM 24:** If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

**PRINCIPAL PURPOSES:** The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

## Additional Operator Remarks

### Location of Well

0. SHL: SENE / 1481 FNL / 391 FEL / TWSP: 23N / RANGE: 9W / SECTION: 25 / LAT: 36.200994 / LONG: -107.73285 ( TVD: 0 feet, MD: 0 feet )  
PPP: NWSE / 1905 FNL / 2647 FEL / TWSP: 23N / RANGE: 8W / SECTION: 32 / LAT: 36.189954 / LONG: -107.710391 ( TVD: 0 feet, MD: 0 feet )  
PPP: NWNW / 233 FNL / 942 FWL / TWSP: 23N / RANGE: 8W / SECTION: 32 / LAT: 36.189954 / LONG: -107.710391 ( TVD: 4830 feet, MD: 11528 feet )  
PPP: SESE / 940 FSL / 233 FEL / TWSP: 23N / RANGE: 8W / SECTION: 30 / LAT: 36.193185 / LONG: -107.714366 ( TVD: 4843 feet, MD: 9867 feet )  
PPP: NWSE / 2369 FNL / 1935 FEL / TWSP: 23N / RANGE: 8W / SECTION: 30 / LAT: 36.197863 / LONG: -107.720121 ( TVD: 4863 feet, MD: 7500 feet )  
PPP: SWNE / 2362 FNL / 2211 FEL / TWSP: 23N / RANGE: 8W / SECTION: 30 / LAT: 36.19862 / LONG: -107.721052 ( TVD: 4867 feet, MD: 7000 feet )  
BHL: SESE / 926 FSL / 234 FEL / TWSP: 23N / RANGE: 8W / SECTION: 32 / LAT: 36.178622 / LONG: -107.696454 ( TVD: 4782 feet, MD: 17353 feet )

### BLM Point of Contact

Name: CHRISTOPHER P WENMAN

Title: Natural Resource Specialist

Phone: (505) 564-7727

Email: cwenman@blm.gov

### **Review and Appeal Rights**

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

CONFIDENTIAL



## Conditions of Approval

Operator: Enduring Resources IV, LLC  
Well Names: Enduring's Rodeo Unit 508 Well Pad Expansion Project  
Legal Location: Sec 25, Twn 23N, R09W, San Juan County, NM  
NEPA Log Number: DOI-BLM-NM-F010-2023-0020-EA  
Inspection Date: November 17, 2021  
Lease Number: NMNM036949

The following conditions of approval will apply to Enduring's Rodeo Unit 508 Well Pad Expansion Project, and other associated facilities, unless a particular Surface Managing Agency or private surface owner has supplied to Bureau of Land Management and the operator a contradictory environmental stipulation. The failure of the operator to comply with these requirements may result in an assessment or civil penalties pursuant to 43 CFR 3163.1 or 3163.2.

**Disclaimers:** BLM's approval of the APD does not relieve the lessee and operator from obtaining any other authorizations that may be required by the BIA, Navajo Tribe, State, or other jurisdictional entities.

**Copy of Plans:** A complete copy of the APD package, including Surface Use Plan of Operations, Bare Soil Reclamation Plan, Plan of Development (if required), Conditions of Approval, Cultural Resource Record of Review, Cultural Resources Compliance Form (if required), and Project Stipulations (if required) shall be at the project area at all times and available to all persons.

**Review of NEPA documents:** It is the responsibility of the operator to follow all the design features, best management practices, and mitigation measures as contained in the Environmental Assessment DOI-BLM-NM-F010-2023-0020-EA, which contains additional design features and best management practices that must be followed. Copies of the EA, Decision Record, and Finding of No Significant Impact may be obtained from the BLM FFO public room, or online at: [EplanningUi \(blm.gov\)](https://eplanningui.blm.gov).

**Best Management Practices (BMPs):** Farmington Field Office established environmental Best Management Practices (BMP's) will be followed during construction and reclamation of well site pads, access roads, pipeline ties, facility placement or any other surface disturbing activity associated with this project. Bureau wide standard BMP's are found in the Gold Book, Fourth Edition-Revised 2007 and at [http://www.blm.gov/wo/st/en/prog/energy/oil\\_and\\_gas/best\\_management\\_practices.html](http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices.html). Farmington Field Office BMPs are integrated into the Environmental Assessment, Surface Use Plan of Operations, Bare Soil Reclamation Plan, and COAs.

**Construction, Production, Facilities, Reclamation & Maintenance**

**Construction & Reclamation Notification:** The operator or their contractor will contact the Bureau of Land Management, Farmington Field Office Environmental Protection Staff (505) 564-7600 or by email, at least 48 hours prior to any construction or reclamation on this project.

**Production Facilities:** design and layout of facilities will be deferred until an onsite with BLM-FFO surface protection staff is conducted to determine the best location. Enduring or their contractor will contact the Bureau of Land Management, Farmington Field Office, Surface, and Environmental Protection Staff (505) 564-7600 to schedule a facility layout onsite.

**Staking:** The holder shall place slope stakes, culvert location and grade stakes, and other construction control stakes as deemed necessary by the authorized officer to ensure construction in accordance with the plan of development. If stakes are disturbed, they shall be replaced before proceeding with construction.

**Weather:** No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts more than 6 inches deep, the soil shall be deemed too wet.

**Stockpile of Soil:** The top 6 inches of soil material will be stripped and stockpiled in the construction zones around the pad [construction zones may be restricted or deleted to provide resource avoidance]. The stockpiled soil will be free of brush and tree limbs, trunks, and roots. The stockpiled soil material will be spread on the reclaimed portions of the pad [including the reserve pit, cut and fill slopes] prior to re-seeding. Spreading shall not be done when the ground or topsoil is frozen or wet.

**Storage Tanks:** All open top permanent production or storage tanks regardless of diameter made of fiberglass, steel, or other material used for the containment of oil, condensate, produced water and or other production waste shall be screened, netted, or otherwise covered to protect migratory birds and other wildlife from access.

**Compressors:** Compressor units on this well location not equipped with a drip pan for containment of fluids shall be lined with an impervious material at least 8 mils thick and a 12-inch berm. The compressor will be painted to match the well facilities. Any variance to this will be approved by the Authorized Officer (AO). Noise mitigation may be required at the time of compressor installation.

**Culverts:** Silt Traps/Bell Holes will be built upstream of all culvert locations.

**Driving Surface Area:** All activities associated within the construction, operation, maintenance, and abandonment of the well location is limited to areas approved in the APD or ROW permit. During the production of the well, vehicular traffic is limited to the daily driving surface area established during interim reclamation construction operations. This area typically forms a keyhole or teardrop driving surface from which all production facilities may be serviced or

inspected. A v-type ditch will be constructed on the outside of the driving surface to further define the driving surface and to deter vehicular traffic from entering onto the interim reclamation areas.

**Contouring of Cut and Fill Slopes:** The interim cut and fill slope grade shall be as close to the original contour as possible. To obtain this ratio, pits and slopes shall be back sloped into the pad during interim reclamation. Only subsurface soil and material shall be utilized in the contouring of the cut and fill slopes. Under no circumstances shall topsoil be utilized as substrate material for contouring of cut and fill slopes.

**Maintenance:** In order to perform subsequent well operations, right-of-way (ROW) operations, or install new/additional equipment, it may be necessary to drive, park, and operate on restored, interim vegetation within the previously disturbed area. This is generally acceptable provided damage is promptly repaired and reclaimed following use. Where vehicular travel has occurred as a “convenience” and interim reclamation/vegetation has been compromised, immediate remediation of the affected areas is required. Additionally, where erosion has occurred and compromised the reclamation of the well location, the affected area must be promptly remediated so that future erosion is prevented, and the landform is stabilized.

### **Cultural Resources Stipulations**

#### **1. ARCHAEOLOGICAL MONITORING IS REQUIRED:**

A copy of these stipulations will be supplied to the archeological monitor at least two working days prior to the start of construction activities. No construction activities, including vegetation removal, may begin before the arrival of the archaeological monitor.

The monitor will:

- Ensure that a site protection barrier is located as indicated on the attached map in the vicinity of LA188434, LA188435, LA201607, LA201608, LA201609, & LA201610.
- Inform BLM-FFO archaeologists that monitoring will be occurring within 24 hours of the scheduled monitoring.
- Observe all construction within 100’ of LA188434, LA188435, LA201607, LA201608, LA201609, & LA201610.
- Submit a report of the monitoring activities within 30 days of completion of monitoring unless other arrangements are made with the BLM. These stipulations must be attached to the report.

#### **2. SITE PROTECTION BARRIER:**

- The temporary site protection barrier will be erected prior to the start of construction. The barrier will consist of metal T-Post and wire fencing spaced no more than 10 feet apart and marked with blue flagging or blue paint. The barrier will remain in place through reclamation and reseeding and shall be promptly removed after reclamation.
- The barrier will be placed as indicated on the attached map.
- There will be no surface-disturbing activities or vehicle traffic past the barrier.

Note: If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or [kadams@blm.gov](mailto:kadams@blm.gov).

### **Additional Cultural Resources Stipulations**

**Non-Permitted Disturbance:** Construction, construction maintenance or any other activity outside the areas permitted by the APD will require additional approval and may require a new cultural survey and clearance.

**Employee Education:** All employees of the project, including the Project Sponsor and its contractors and sub-contractors will be informed that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment. They will also be notified that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm) when on federal land and the New Mexico Cultural Properties Act NMSA 1978 when on state land.

**Discovery of Cultural Resources in the Absence of Monitoring:** Discovery of Cultural Resources in the Absence of Monitoring: If, in its operations, operator/holder discovers any previously unidentified historic or prehistoric cultural resources, then work in the vicinity of the discovery will be suspended and the discovery promptly reported to BLM Field Manager. BLM will then specify what action is to be taken. If there is an approved "discovery plan" in place for the project, then the plan will be executed. In the absence of an approved plan, the BLM will evaluate the significance of the discovery in accordance with 36 CFR Section 800.13, in consultation with the appropriate State or Tribal Historic Preservation Officer(s) and Indian tribe(s) that might attach religious and cultural significance to the affected property, **or in accordance with an approved program alternative.** Minor recordation, stabilization, or data recovery may be performed by BLM or a third party acting on its behalf, such as a permitted cultural resources consultant. If warranted, more extensive **archaeological or alternative mitigation**, likely implemented by a permitted cultural resources consultant, may be required of the operator/holder prior to allowing the project to proceed. Further damage to significant cultural resources will not be allowed until any **mitigations determined appropriate through the agency's Section 106 consultation are completed.** Failure to notify the BLM about a discovery may result in civil or criminal penalties in accordance with the Archeological Resources Protection Act (ARPA) of 1979, as amended, **the Native American Graves Protection and Repatriation Act (NAGRPA) of 1990, as amended, and other applicable laws.**

**Discovery of Cultural Resources during Monitoring:** If monitoring confirms the presence of previously unidentified historic or prehistoric cultural resources, then work in the vicinity of the discovery will be suspended and the monitor will promptly report the discovery to the BLM Field Manager. BLM will then specify what action is to be taken. **If there is an approved**

"discovery plan" in place for the project, then the plan will be executed. In the absence of an approved plan, the BLM will evaluate the significance of the discovery in accordance with 36 CFR Section 800.13, in consultation with the appropriate State or Tribal Historic Preservation Officer(s) and Indian tribe(s) that might attach religious and cultural significance to the affected property, or in accordance with an approved program alternative. Minor recordation, stabilization, or data recovery may be performed by BLM or a third party acting on its behalf, such as a permitted cultural resources consultant. If warranted, more extensive archaeological or alternative mitigation, likely implemented by a permitted cultural resources consultant, may be required of the operator/holder prior to allowing the project to proceed. Further damage to significant cultural resources will not be allowed until any mitigations determined appropriate through the agency's Section 106 consultation are completed.

**Damage to Sites:** If, in its operations, operator/holder damages, or is found to have damaged any previously documented or undocumented historic or prehistoric cultural resources, excluding "discoveries" as noted above, the operator/holder agrees at his/her expense to have a permitted cultural resources consultant prepare a BLM approved damage assessment and/or data recovery plan. The operator/holder agrees at his/her expense to implement a **mitigation** that the agency finds appropriate given the significance of the site, which the agency determines in consultation with the appropriate State or Tribal Historic Preservation Officer(s) and Indian tribe(s) that might attach religious and cultural significance to the affected property. **This mitigation may entail execution of the data recovery plan by a permitted cultural resources consultant and/or alternative mitigations.** Damage to cultural resources may result in **civil or criminal penalties in accordance with the Archeological Resources Protection Act (ARPA) of 1979, as amended, the Native American Graves Protection and Repatriation Act (NAGRPA) of 1990, as amended, and other applicable laws.**

### Noxious Weeds

Inventory the proposed site for the presence of noxious and invasive weeds. Noxious weeds are those listed on the New Mexico Noxious Weed List and USDA's Federal Noxious Weed List. The New Mexico Noxious Weed List or USDA's Noxious Weed List can be updated at any time and should be regularly check for any changes. Invasive species may or may not be listed as a noxious weed but have been identified to likely cause economic or environmental harm or harm to human health. The following noxious weeds have been identified as occurring on lands within the boundaries of the Farmington Field Office (FFO). There are numerous invasive species on the FFO such as Russian thistle (*Salsola spp.*) and field bindweed (*Convolvulus arvensis*).

Russian Knapweed ( <i>Centaurea repens</i> )	Musk Thistle ( <i>Carduus nutans</i> )
Bull Thistle ( <i>Cirsium vulgare</i> )	Canada Thistle ( <i>Cirsium arvense</i> )
Scotch Thistle ( <i>Onopordum acanthium</i> )	Hoary Cress ( <i>Cardaria draba</i> )
Perennial Pepperweed ( <i>Lepidium latifolium</i> )	Halogeton ( <i>Halogeton glomeratus</i> )
Spotted Knapweed ( <i>Centaurea maculosa</i> )	Dalmation Toadflax ( <i>Linaria genistifolia</i> )

Yellow Toadflax ( <i>Linaria vulgaris</i> )	Camelthorn ( <i>Alhagi pseudalhagi</i> )
African Rue ( <i>Peganum harmala</i> )	Salt Cedar ( <i>Tamarix spp.</i> )
Diffuse Knapweed ( <i>Centaurea diffusa</i> )	Leafy Spurge ( <i>Euphorbia esula</i> )

- a. Identified weeds will be treated prior to new surface disturbance if determined by the FFO Noxious Weed Coordinator. A Pesticide Use Proposal (PUP) must be submitted to and approved by the FFO Noxious Weed Coordinator prior to application of pesticide. The FFO Noxious Weeds Coordinator (505-564-7600) can provide assistance in the development of the PUP.
- b. Vehicles and equipment should be inspected and cleaned prior to coming onto the work site. This is especially important on vehicles from out of state or if coming from a weed-infested site.
- c. Fill dirt or gravel may be needed for excavation, road construction/repair, or for spill remediation. If fill dirt or gravel will be required, the source shall be noxious weed free and approved by the FFO Noxious Weed Coordinator.
- d. The site shall be monitored for the life of the project for the presence of noxious weeds (includes maintenance and construction activities). If weeds are found the FFO Coordinator shall be notified at (505) 564-7600 and provided with a Weed Management Plan and if necessary, a Pesticide Use Proposal (PUP). The FFO Coordinataor can provide assistance developing the Weed Management Plan and/or the Pesticide Use Proposal.
- e. Only pesticides authorized for use on BLM lands would be used and applied by a licensed pesticide applicator. The use of pesticides would comply with federal and state laws and used only in accordance with their registered use and limitations. Enduring's weed-control contractor would contact the BLM-FFO prior to using these chemicals.
- f. Noxious/invasive weed treatments must be reported to the FFO Noxious Weed Coordinator. A Pesticide Use Report (PUR) is required to report any mechanical, chemical, biological, or cultural treatments used to eradicate, and/or control noxious or invasive species. Reporting will be required quarterly and annually or per request from the FFO Noxious Weed Coordinator.

**Bare ground vegetation trim-out:** If bare ground vegetation treatment (trim-out) is desired around facility structures, the operator will submit a bare ground/trim-out design included in their Surface Use Plan of Operations (SUPO). The design will address vegetation safety concerns of the operator and BLM while minimizing impacts to interim reclamation efforts. The design must include what structures to be treated and buffer distances of trim-out. Pesticide use for vegetation control around anchor structures is not approved. If pesticides are used for bare ground trim-out, the trim-out will not exceed three feet from the edge of any eligible permanent



structure (i.e., well heads, fences, tanks). Additional distance/areas may be requested and must be approved by the FFO authorized officer. The additional information below must also be provided to the FFO:

- a. Pesticide use for trim out will require a Pesticide Use Proposal (PUP). A PUP is required **prior** to any treatment and must be approved by the FFO Noxious Weed Coordinator. Only pesticides authorized for use on BLM lands would be used and applied by a licensed pesticide applicator. The use of pesticides would comply with federal and state laws and used only in accordance with their registered use and limitations. Enduring's weed-control contractor would contact the BLM-FFO prior to using these chemicals and provide Pesticide Use Reports (PURs) post treatment.
- b. A Pesticide Use Report (PUR) or a Biological Use Report (BUR) is required to report any chemical, or biological treatments used to eradicate, or control vegetation on site. Reporting will be required quarterly and annually or per request from the FFO Noxious Weed Coordinator.

### **Paleontology**

Any paleontological resource discovered by the Operator, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant scientific values. The Holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the Holder.

### **Visual Resources**

Dark Sky COAs need to be applied to existing lighting, which is not dark sky friendly and to any additional lights added as part of pad expansion. All permanent lighting will use full cutoff luminaires, which are fully shielded (i.e., not emitting direct or indirect light above an imaginary horizontal plane passing through the lowest part of the light source). All permanent lighting will be pointed straight down at the ground in order to prevent light spill to the sides. All permanent lighting will be 4000° Kelvin or less with 3000° Kelvin preferred. Warmer light colors are less noticeable by humans and cause less impact to wildlife. All permanent lighting will be controlled by a switch and/or timer which allows the lights to be turned on when workers are on location during dark periods but will keep the lights off the majority of the time.

### **Wildlife**

**Migratory Bird:** The BLM/FFO migratory bird policy requires a bird nest survey between May 15-July 31 for any projects that would remove 4.0 or more acres of vegetation. The proposed project is estimated to disturb more than four acres of vegetation, a survey will be required.



**Threatened, Endangered or Sensitive Species:** If, in operations the operator/holder discovers any Threatened, Endangered, or Sensitive species, work in the vicinity of the discovery will be suspended and the discovery promptly reported to the BLM-FFO T&E specialist at (505) 564-7600. The BLM-FFO will then specify what action is to be taken. Failure to notify the BLM-FFO about a discovery may result in civil or criminal penalties in accordance with The Endangered Species Act (as amended).

**Nesting:** If a bird nest containing eggs or young is encountered in the path of construction the operator will cease construction and consult with BLM to determine appropriate actions.

**Raptors:** No construction, drilling, or completion activities shall be conducted within one third of a mile of active or historic raptor nest sites between the following time periods. Exceptions may be considered on a case-by-case basis and would require written approval from the BLM FFO biologist after determining that project activities would not impact nesting activities. Biological monitoring may be required to document nesting behavior if project activities are allowed to occur within these time periods.

- Golden Eagle - February 1 to June 30
- Ferruginous Hawk, Prairie Falcon - March 1 to June 30
- Peregrine falcon - Mitigation for nest sites will be determined on a site-specific basis using the principle of designating sensitive zones in which disturbance is seasonally restricted as delineated in Johnson (1994).

**Hazards:** Wildlife hazards associated with the proposed project would be fenced, covered, and/or contained in storage tanks, as necessary.

**Livestock Grazing:** If going thru existing fences, needs to be repaired after construction. If putting access road through fence, a cattleguard needs to be put in.

### **Soil, Air, Water**

**Land Farming:** No excavation, remediation or closure activities will be authorized without prior approval, on any federal or Indian mineral estate, federal surface, or federal ROW. A Sundry Notice (DOI, BLM Form 3160-5) must be submitted with an explanation of the remediation or closure plan for on-lease actions.

**Emission Control Standard:** Compressor engines 300 horsepower or less used during well production must be rated by the manufacturer as emitting NOx at 2 grams per horsepower hour or less to comply with the New Mexico Environmental Department, Air Quality Bureau's guidance.

**Waste Disposal:** All fluids (i.e., scrubber cleaners) used during washing of production equipment, including compressors, will be properly disposed of to avoid ground contamination, or hazard to livestock or wildlife.





BLM Report Number: 2017(IV)018F

USGS Map: Lybrook NW, NM

Activity Code: 1310

NMCRIS No: 138871

**CULTURAL RESOURCE RECORD OF REVIEW**

BUREAU OF LAND MANAGEMENT

FARMINGTON FIELD OFFICE

**1. Description of Report/Project:**Project Name: Rodeo Unit Number 508H-510H Dual Well Pad, Access Road, and Pipeline.Project Sponsor: WPX Energy Production LLC.Arch. Firm & Report No.: La Plata Archaeological Consultants; LAC Report No. 2017-2k.Location: T23N R9W Sections 24, & 25.Well Footages: 508H; 1,491 FNL/443 FEL  
510H; 1,511 FNL/409 FELSplit Estate: Yes.Project Dimensions: 490 ft x 315 ft – well pad (590 ft x 415 ft w/ 50 foot construction zone)  
2,484 ft x 40 ft – pipeline right-of-way.  
2,170 ft x 30 ft – access road.  
0.02 acre– temporary use area.  
100 ft x 20 ft – 2X Road pulloutsSites Located: LA188434/NM-210-48990 (NRHP-Not Determined; Avoided).

LA188435/NM-210-48988 (NRHP-Not Determined; Avoided).

Determination: No Effect to Historic Properties.**2. Field Check:** No.**3. Cultural ACEC:** No.**4. Sensitive Cultural Area:** No.**5. Recommendation:** *PROCEED WITH ACTION:* X *STIPULATIONS ATTACHED:* X**6. Reviewer /Archaeologist:** Kim Adams **Date:** 12/7/2017

Report Summary	BLM	Other	Total
Acres Inventoried	20.22	0.00	20.22
Sites Recorded	2	0	2
Prev. Recorded Sites	0	0	0
Sites Avoided	2	0	2
Sites Treated	0	0	0

**Discovery of Cultural Resources in the Presence or Absence of Monitoring:** If any previously unidentified historic or prehistoric cultural resources are discovered during construction or project operations, work in the vicinity of the discovery will be suspended and the discovery will promptly be reported to the BLM Field Manager.

**Note:** If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or kadams@blm.gov. Or Geoffrey Haymes (BLM) at 505.564.7684 or ghaymes@blm.gov.

CULTURAL RESOURCE STIPULATIONS  
Farmington Field Office  
BLM Report Number: 2017(IV)019F

Project Name: Rodeo Unit Number 508H-510H Dual Well Pad, Access Road, and Pipeline.  
Project Sponsor: WPX Energy Production LLC.

**1. SITE PROTECTION AND EMPLOYEE EDUCATION:**

All employees of the project, including the Project Sponsor and its contractors and sub-contractors will be informed that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. They will also be notified that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm) when on federal land and the New Mexico Cultural Properties Act NMSA 1978 when on state land.

**2. ARCHAEOLOGICAL MONITORING IS REQUIRED:**

A copy of these stipulations will be supplied to the archeological monitor at least two working days prior to the start of construction activities. No construction activities, including vegetation removal, may begin before the arrival of the archaeological monitor.

The monitor will:

- Ensure that site protection barriers are located as indicated on the attached maps in the vicinity of LA188434, & LA188435.
- Observe all surface disturbing activities within 100' of LA188434, & LA188435.
- Submit a report of the monitoring activities within 30 days of completion of monitoring unless other arrangements are made with the BLM. These stipulations must be attached to the report.

**3. SITE PROTECTION BARRIER:**

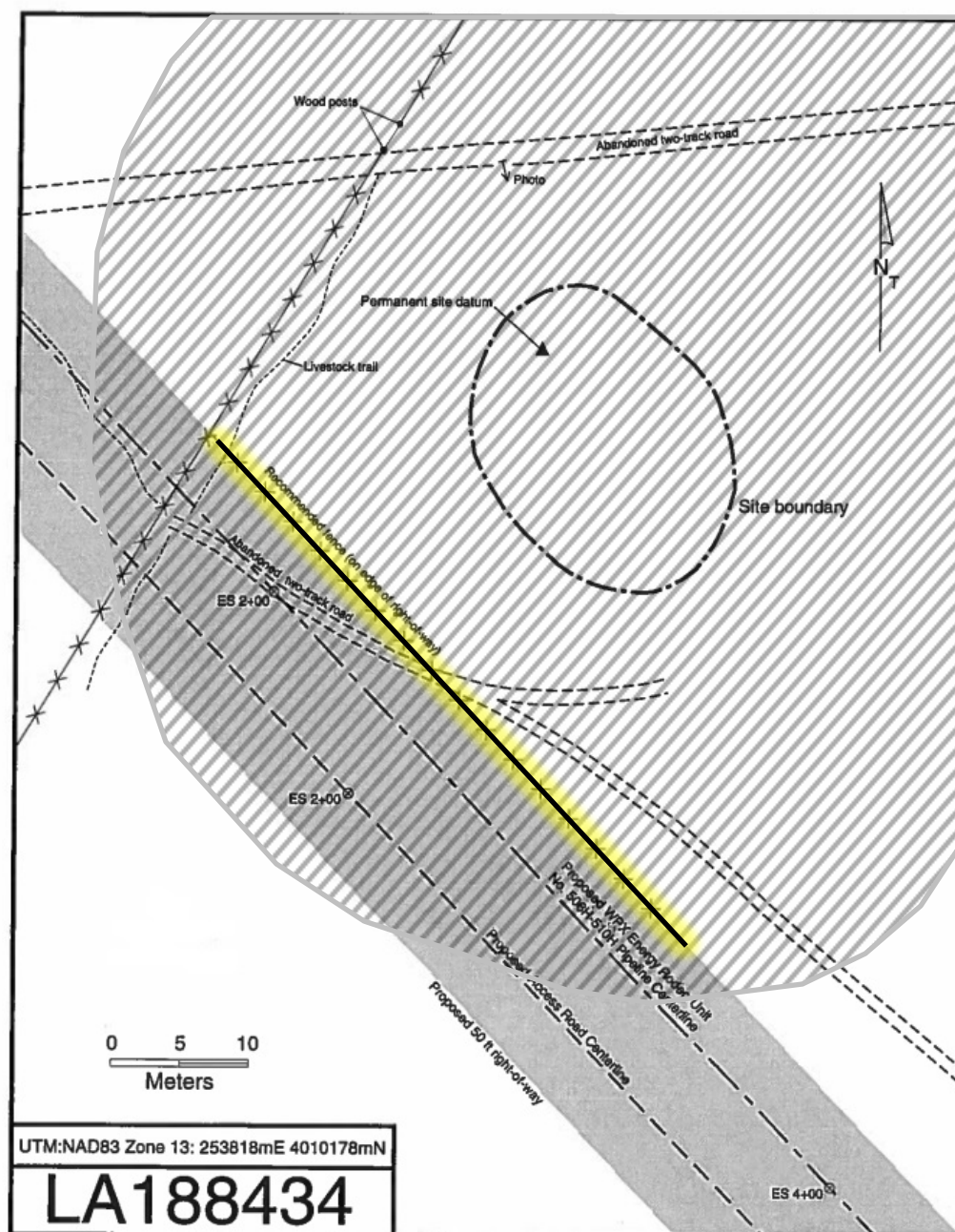
- Temporary site protection barriers will be erected prior to construction. The barriers will consist of upright wooden survey lath spaced no more than 10 feet apart and marked with blue flagging or blue paint. The barriers will remain in place through reclamation and reseeding and shall be promptly removed after reclamation.
- The barriers will be placed as indicated on the attached maps.
- There will be no surface-disturbing activities or vehicle traffic past the barriers.

**Note:** If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or [kadams@blm.gov](mailto:kadams@blm.gov). Or Geoffrey Haymes (BLM) at 505.564.7684 or [ghaymes@blm.gov](mailto:ghaymes@blm.gov).

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18)****CULTURAL RESOURCE STIPULATIONS**

Farmington Field Office

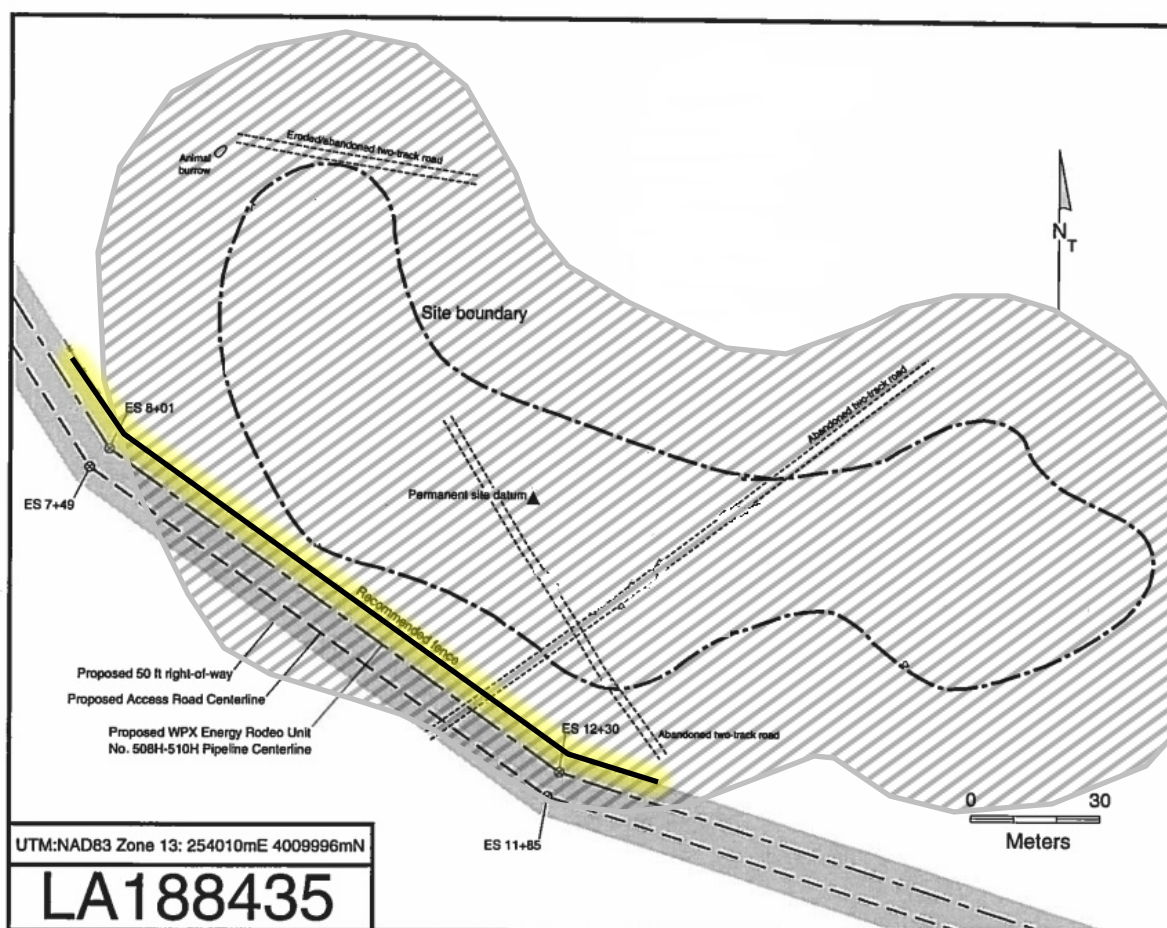
BLM Report Number: 2017(IV)018F

Project Name: Rodeo Unit Number 508H-510H Dual Well Pad, Access Road, and Pipeline.Project Sponsor: WPX Energy Production LLC.MONITOR CONSTRUCTION =  SITE PROTECTION BARRIER = 

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Farmington Field Office

BLM Report Number: 2017(IV)018F

Project Name: Rodeo Unit Number 508H-510H Dual Well Pad, Access Road, and Pipeline.Project Sponsor: WPX Energy Production LLC.MONITOR CONSTRUCTION =  SITE PROTECTION BARRIER = 





BLM Report Number: 2023(I)012.1F  
 USGS Map: Lybrook NW, NM  
 Activity Code: 1310  
 NMCRIS No: 152773

**CULTURAL RESOURCE RECORD OF REVIEW**  
 BUREAU OF LAND MANAGEMENT  
 FARMINGTON FIELD OFFICE

**1. Description of Report/Project:**

Project Name: Rodeo Unit No 503H Well Expansion No 2.

Project Sponsor: Enduring Resources.

Arch. Firm & Report No.: Division of Conservation Archaeology; DCA Report No. 21-DCA-015A.

Location: T23N R8W Section 19.

T23N R9W Sections 24, & 25.

Well Footages: See plats

Split Estate: No

Project Dimensions: 540 ft x 150 ft – irregular shaped pad expansion area.

**Note: The rest of the pad and the previous expansion was previously inventoried. Please see NMCRIS No 150989; 2023(I)012F, & NMCRIS No 138871; 2017(IV)018F.**

Sites Located: LA201607/NM-210-49468 (NRHP: Not Determined; Avoided).

Determination: No Effect to Historic Properties.

**2. Field Check:** none.

**3. Cultural ACEC:** No.

**4. Sensitive Cultural Area:** No.

**5. Recommendation:** *PROCEED WITH ACTION:* X *STIPULATIONS ATTACHED:* X

**6. Reviewer /Archaeologist:** Kim Adams **Date:** 4/26/2023

Report Summary	BLM	Other	Total
Acres Inventoried	5.48	0.00	5.48
Sites Recorded	0	0	0
Prev. Recorded Sites	1	0	1
Sites Avoided	1	0	1
Sites Treated	0	0	0

**Discovery of Cultural Resources in the Presence or Absence of Monitoring:** If any previously unidentified historic or prehistoric cultural resources are discovered during construction or project operations, work in the vicinity of the discovery will be suspended and the discovery will promptly be reported to the BLM Field Manager.

**Note:** If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or kadams@blm.gov.



**CULTURAL RESOURCE STIPULATIONS**

Farmington Field Office

BLM Report Number: 2023(I)012.1F

Project Name: Rodeo Unit No 503H Well Expansion No 2.Project Sponsor: Enduring Resources.**1. SITE PROTECTION AND EMPLOYEE EDUCATION:**

All employees of the project, including the Project Sponsor and its contractors and sub-contractors will be informed that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. They will also be notified that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm) when on federal land and the New Mexico Cultural Properties Act NMSA 1978 when on state land.

**2. ARCHAEOLOGICAL MONITORING IS REQUIRED:**

A copy of these stipulations will be supplied to the archeological monitor at least two working days prior to the start of construction activities. No construction activities, including vegetation removal, may begin before the arrival of the archaeological monitor.

The monitor will:

- Ensure that a site protection barrier is located as indicated on the attached map in the vicinity of LA201607.
- Inform BLM-FFO archaeologists that monitoring will be occurring within 24 hours of the scheduled monitoring.
- Observe all construction within 100' of LA201607.
- Submit a report of the monitoring activities within 30 days of completion of monitoring unless other arrangements are made with the BLM. These stipulations must be attached to the report.

**3. SITE PROTECTION BARRIER:**

- The temporary site protection barrier will be erected prior to the start of construction. The barrier will consist of metal T-Post and wire fencing spaced no more than 10 feet apart and marked with blue flagging or blue paint. The barrier will remain in place through reclamation and reseeding and shall be promptly removed after reclamation.
- The barrier will be placed as indicated on the attached map.
- There will be no surface-disturbing activities or vehicle traffic past the barrier.

**Note:** If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or [kadams@blm.gov](mailto:kadams@blm.gov).

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18)****CULTURAL RESOURCE STIPULATIONS**

Farmington Field Office

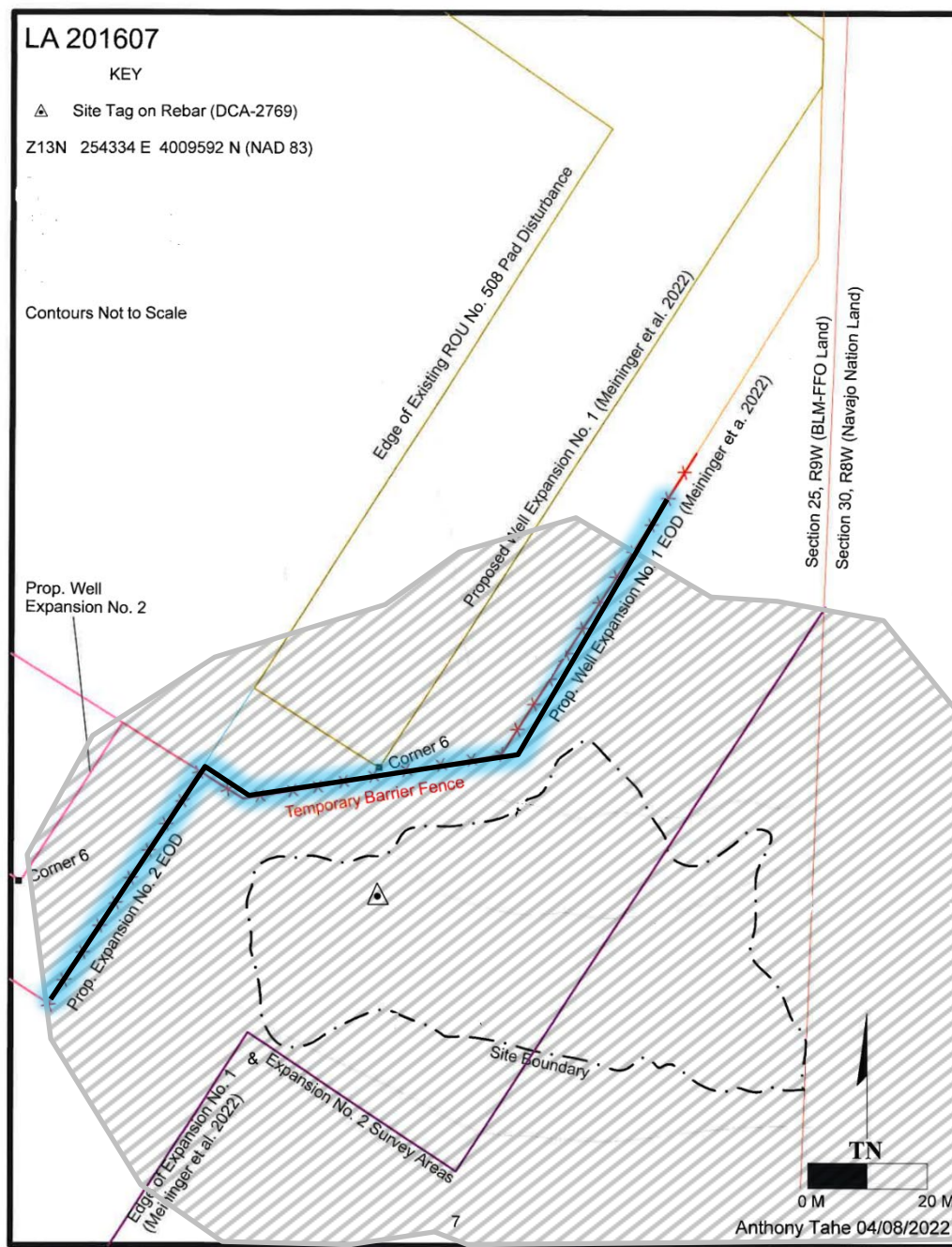
BLM Report Number: 2023(I)012.1F

Project Name: Rodeo Unit No 503H Well Expansion No 2.Project Sponsor: Enduring Resources.

MONITOR ZONE =



T-POST AND WIRE PROTECTION BARRIER =



Report No. 21-DCA-015A

Figure 3. Plan map of site LA 201607.

NMCRIS No. 152773



BLM Report Number: 2023(I)012F

USGS Map: Lybrook NW, NM

Activity Code: 1310

NMCRIS No: 150989

**CULTURAL RESOURCE RECORD OF REVIEW**

BUREAU OF LAND MANAGEMENT

FARMINGTON FIELD OFFICE

**1. Description of Report/Project:**Project Name: Rodeo Unit No 503H Well Pad Expansion and Layflat Waterline.Project Sponsor: Enduring Resources.Arch. Firm & Report No.: Division of Conservation Archaeology; DCA Report No. 21-DCA-015.Location: T23N R8W Section 19.

T23N R9W Sections 24, &amp; 25.

Well Footages: 1,461 FNL; 425 FELSplit Estate: NoProject Dimensions: 2,359 ft x 10 ft – layflat waterline.

3.45 acre – L shaped pad expansion area.

**Note: Also surveyed was an abandoned stand alone well pad.****The layflat was originally surveyed during NMCRIS No 138871; BLM No 2017(IV)018F.**Sites Located: LA201607/NM-210-49468 (NRHP: Not Determined; Avoided).

LA201608/NM-210-49469 (NRHP: Not Determined; Avoided).

LA201609/NM-210-49470 (NRHP: Not Determined; Avoided; No Further Work).

LA201610/NM-210-49471 (NRHP: Not Determined; Avoided; No Further Work).

Determination: No Effect to Historic Properties.**2. Field Check:** none.**3. Cultural ACEC:** No.**4. Sensitive Cultural Area:** No.**5. Recommendation:** *PROCEED WITH ACTION:* X *STIPULATIONS ATTACHED:* X**6. Reviewer /Archaeologist:** Kim Adams **Date:** 1/5/2023

Report Summary	BLM	Other	Total
Acres Inventoried	19.9	0.00	19.9
Sites Recorded	4	0	4
Prev. Recorded Sites	0	0	0
Sites Avoided	4	0	4
Sites Treated	0	0	0

**Discovery of Cultural Resources in the Presence or Absence of Monitoring:** If any previously unidentified historic or prehistoric cultural resources are discovered during construction or project operations, work in the vicinity of the discovery will be suspended and the discovery will promptly be reported to the BLM Field Manager.

**Note:** If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or kadams@blm.gov.

CULTURAL RESOURCE STIPULATIONS  
Farmington Field Office  
BLM Report Number: 2023(I)012F

Project Name: Rodeo Unit No 503H Well Pad Expansion and Layflat Waterline.

Project Sponsor: Enduring Resources.

**1. SITE PROTECTION AND EMPLOYEE EDUCATION:**

All employees of the project, including the Project Sponsor and its contractors and sub-contractors will be informed that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. They will also be notified that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm) when on federal land and the New Mexico Cultural Properties Act NMSA 1978 when on state land.

**2. ARCHAEOLOGICAL MONITORING IS REQUIRED:**

A copy of these stipulations will be supplied to the archeological monitor at least two working days prior to the start of construction activities. No construction activities, including vegetation removal, may begin before the arrival of the archaeological monitor.

The monitor will:

- Ensure that site protection barriers are located as indicated on the attached maps in the vicinity of LA201607, & LA201608.
- Inform BLM-FFO archaeologists that monitoring will be occurring within 24 hours of the scheduled monitoring.
- Observe all construction within 100' of LA201607, & LA201608.
- Submit a report of the monitoring activities within 30 days of completion of monitoring unless other arrangements are made with the BLM. These stipulations must be attached to the report.

**3. SITE PROTECTION BARRIER:**

- The temporary site protection barriers will be erected prior to the placement of the layflat line. The barriers will consist of upright wooden survey lath spaced no more than 10 feet apart and marked with blue flagging or blue paint. The barriers will remain in place through reclamation and reseeding and shall be promptly removed after reclamation.
- The barriers will be placed as indicated on the attached map.
- There will be no surface-disturbing activities or vehicle traffic past the barriers.

**Note:** If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or [kadams@blm.gov](mailto:kadams@blm.gov).

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Farmington Field Office

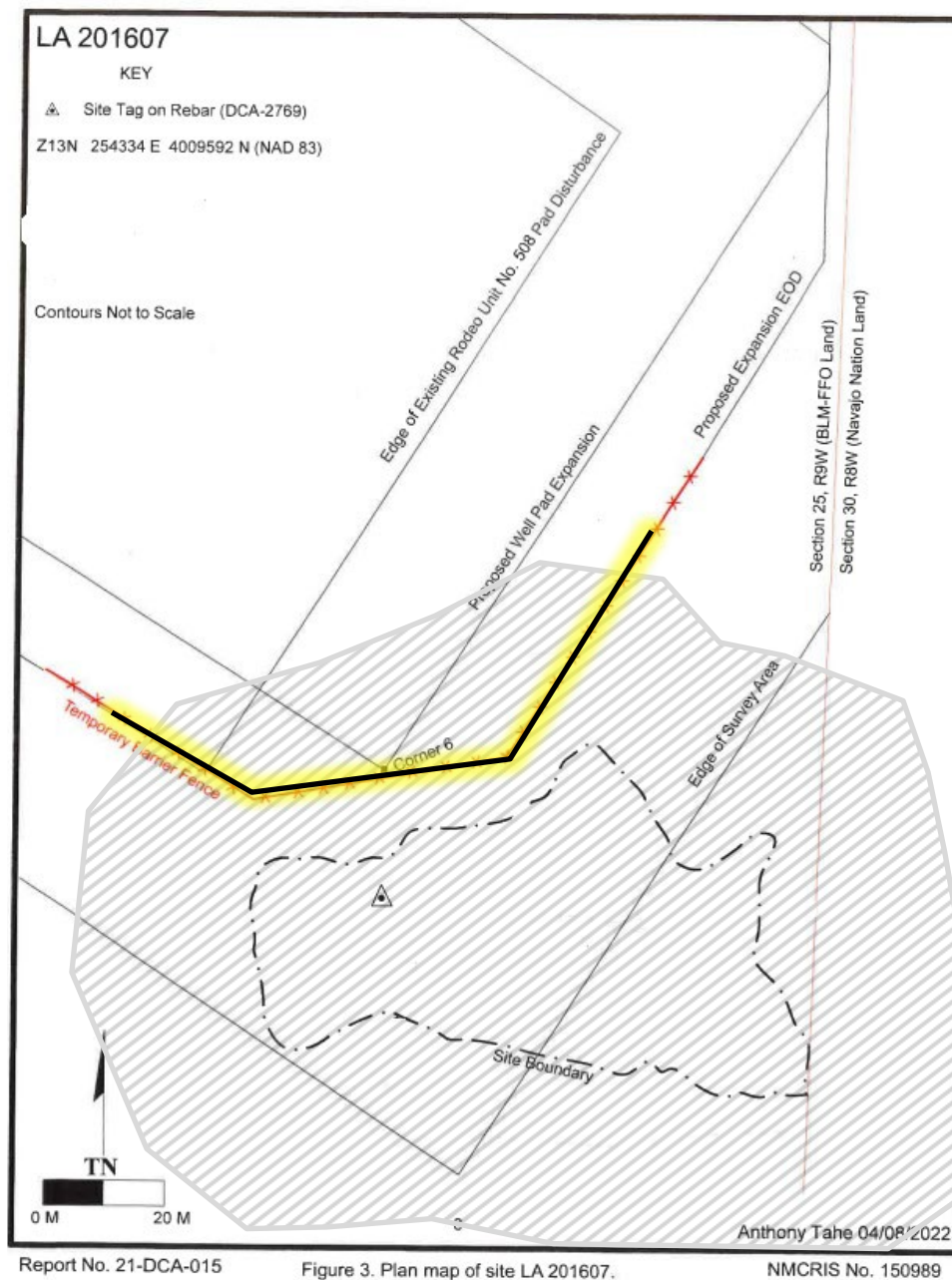
BLM Report Number: 2023(I)012F

Project Name: Rodeo Unit No 503H Well Pad Expansion and Layflat Waterline.Project Sponsor: Enduring Resources.

MONITOR ZONE =



SITE PROTECTION BARRIER =



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18)****CULTURAL RESOURCE STIPULATIONS**

Farmington Field Office

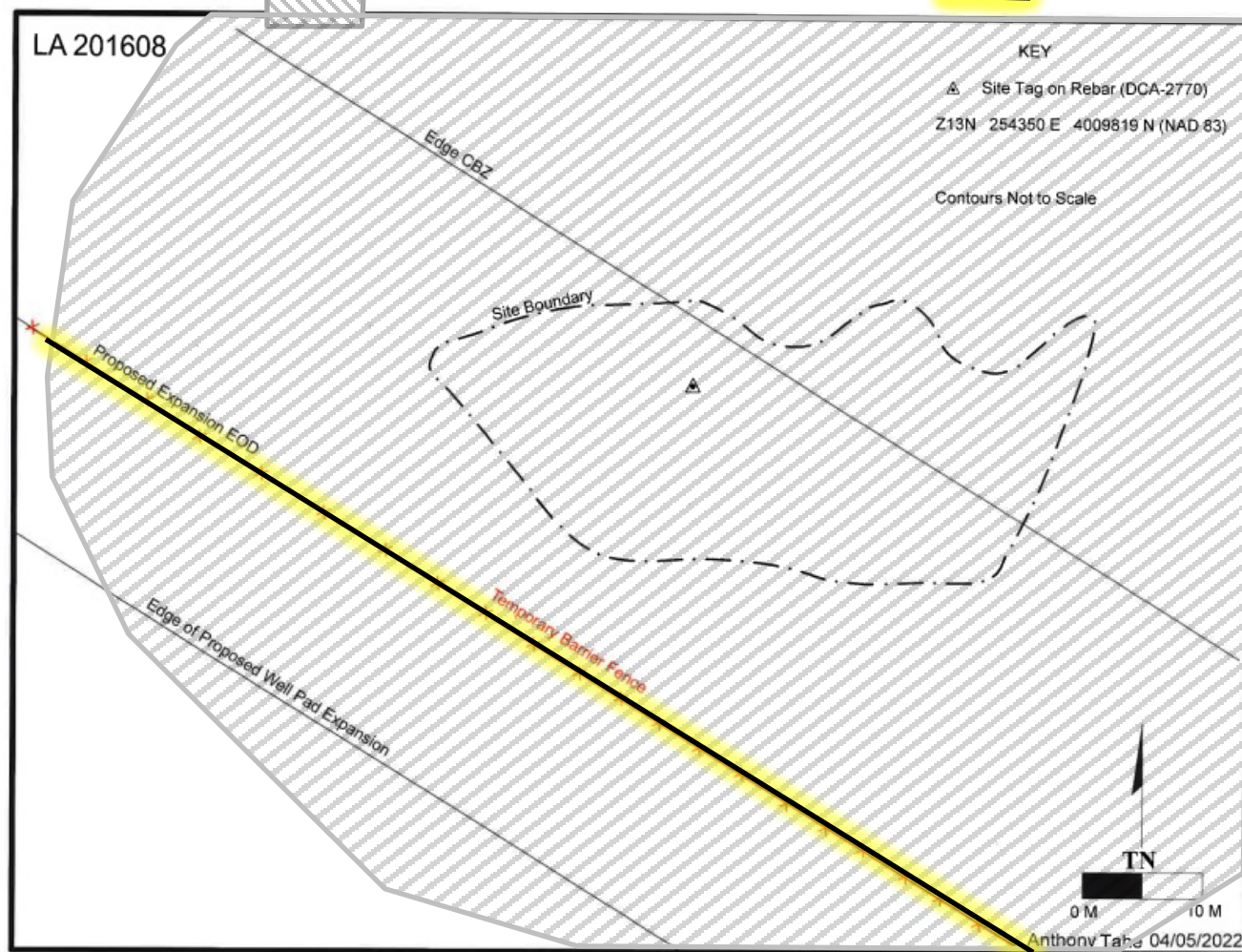
BLM Report Number: 2023(I)012F

Project Name: Rodeo Unit No 503H Well Pad Expansion and Layflat Waterline.Project Sponsor: Enduring Resources.

MONITOR ZONE =



SITE PROTECTION BARRIER =



Report No. 21-DCA-015

Figure 4. Plan map of site LA 201608

NMCRIS No. 150989





# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Farmington District Office  
6251 College Blvd, Suite A  
Farmington, New Mexico 87402



In Reply Refer To:  
3162.3-1(NMF0110)

\* ENDURING RESOURCES LLC

#506H RODEO UNIT

Lease: NMNM120377 Unit: NMNM135216A  
SH: SE $\frac{1}{4}$ NE $\frac{1}{4}$  Section 25, T. 23 N., R. 9 W.  
San Juan County, New Mexico  
BH: SE $\frac{1}{4}$ SE $\frac{1}{4}$  Section 32, T. 23 N., R. 8 W.  
San Juan County, New Mexico

\*Above Data Required on Well Sign

## GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

The following special requirements apply and are effective when **checked**:

- A. ☒ Note all surface/drilling conditions of approval attached.
- B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☒ Test all casing strings below the conductor casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield (burst) for a minimum of 30 minutes. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.
- D. ☐ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, New Mexico State Office, Reservoir Management Group, 301 Dinosaur Trail, Santa Fe, New Mexico 87508.  
The effective date of the agreement must be **prior** to any sales.
- E. ☐ The use of co-flex hose is authorized contingent upon the following:
  1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
  2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
  3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING



## **I. GENERAL**

- A. Full compliance with all applicable laws and regulations, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. BOP equipment (except the annular preventer) shall be tested utilizing a test plug to full working pressure for 10 minutes. No bleed-off of pressure is acceptable.
- G. The operator shall have sufficient weighting materials and lost circulation materials on location in the event of a pressure kick or in the event of lost circulation
- H. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare.
- I. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a Notice of Intent sundry within three business days. **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to Virgil Lucero at 505-793-1836.**
- J. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**

- K. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two-year extension may be granted if submitted prior to expiration.
- L. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all times, unless the well is secured with blowout preventers or cement plugs.
- M. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.
- N. **Commingling:** No production (oil, gas, and water) from the subject well should start until Sundry Notices (if necessary) granting variances from applicable regulations as related to commingling and off-lease measurement are approved by this office.

## **II. REPORTING REQUIREMENTS**

- A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.
- B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.
  - 1. Provide complete information concerning.
    - a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
    - b. Intervals tested, perforated (include size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
    - c. Subsequent Report of Abandonment, show the way the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.
  - 2. Well Completion Report will be submitted with 30 days after well has been completed.
    - a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.
  - 3. Submit a cement evaluation log if cement is not circulated to surface.

- C. Production Startup Notification is required no later than the 5<sup>th</sup> 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. CFR 43 3162.4-1(c).

### **III. DRILLER'S LOG**

The following shall be entered in the daily driller's log: 1) Blowout preventer pressures tests, including test pressures and results, 2) Blowout preventer tests for proper functioning, 3) Blowout prevention drills conducted, 4) Casing run, including size, grade, weight, and depth set, 5) How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc., 6) Waiting on cement time for each casing string, 7) Casing pressure tests after cementing, including test pressure and results, and 8) Estimated amounts of oil and gas recovered and/or produced during drill stem test.

### **IV. GAS FLARING**

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of \* Days or 50 MMCF following its (completion)(recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

\*30 days, unless a longer test period is specifically approved by the authorized officer. The 30-day period will commence upon the first gas to surface.

### **V. SAFETY**

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Rig safety lines are to be installed.
- C. Hard hats and other Personal Protective Equipment (PPE) must be utilized.

## **VI. CHANGE OF PLANS OR ABANDONMENT**

- A. Any changes of plans required to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.F.
- B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section 1.F. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1c.
- C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

# Operator Certification Data Report

09/12/2023

## Operator

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.

**NAME:** DANIELLE GAVITO**Signed on:** 06/16/2022**Title:** Permit Agent**Street Address:** 9446 CLEARMONT STREET**City:** THORNTON**State:** CO**Zip:** 80229**Phone:** (303)524-4651**Email address:** DGAVITO@CDHCONSULT.COM

## Field

**Representative Name:****Street Address:****City:****State:****Zip:****Phone:****Email address:**



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

## Application Data

09/12/2023

APD ID: 10400084208

Submission Date: 06/16/2022

Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

### Section 1 - General

APD ID: 10400084208

Tie to previous NOS? Y

Submission Date: 06/16/2022

BLM Office: Farmington

User: DANIELLE GAVITO

Title: Permit Agent

Federal/Indian APD: FED,IND

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM120377

Lease Acres:

Surface access agreement in place? N

Allotted? Y

Reservation: NAVAJO NATION

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM136328A

Agreement name:

Keep application confidential? Y

Permitting Agent? YES

APD Operator: ENDURING RESOURCES LLC

Operator letter of

BLM\_Operator\_Certification\_05192022\_20220616111636.pdf

### Operator Info

Operator Organization Name: ENDURING RESOURCES LLC

Operator Address: 200 ENERGY COURT

Zip: 87401

Operator PO Box:

Operator City: FARMINGTON

State: NM

Operator Phone: (505)497-8574

Operator Internet Address:

### Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: RODEO UNIT

Well Number: 506H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: LYBROOK  
MANCOS W

Pool Name:

Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

Is the proposed well in an area containing other mineral resources? NATURAL GAS

Is the proposed well in a Helium production area? N

Use Existing Well Pad? Y

New surface disturbance? Y

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:  
RODEO UNIT 508

Number: 503H 504H 506H

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 42 Miles

Distance to nearest well: 35 FT

Distance to lease line: 391 FT

Reservoir well spacing assigned acres Measurement: 960 Acres

Well plat: RODEO\_UNIT\_506H\_PLATS\_20232203\_20230908112138.PDF

Well work start Date: 11/01/2022

Duration: 30 DAYS

## Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 15269

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	148 1	FNL	391	FEL	23N	9W	25	Aliquot SENE	36.20099 4	- 107.7328 5	SAN JUA N	NEW MEXI CO	NEW MEXI CO	I	NMNM 36949	688 3	0	0	Y
KOP Leg #1	148 1	FNL	391	FEL	23N	9W	25	Aliquot SENE	36.20099 4	- 107.7328 5	SAN JUA N	NEW MEXI CO	NEW MEXI CO	I	NMNM 36949	232 1	501 0	456 2	N
PPP Leg #1-1	236 2	FNL	221 1	FEL	23N	8W	30	Aliquot SWNE	36.19862	- 107.7210 52	SAN JUA N	NEW MEXI CO	NEW MEXI CO	F	NMNM 120377	201 6	700 0	486 7	Y



Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-2	2369	FNL	1935	FEL	23N	8W	30	Aliquot NWSE	36.197863	- 107.720121	SAN JUAN	NEW MEXICO	NEW MEXICO	F	NMNM 136159	2020	7500	4863	Y
PPP Leg #1-3	940	FSL	233	FEL	23N	8W	30	Aliquot SESE	36.193185	- 107.714366	SAN JUAN	NEW MEXICO	NEW MEXICO	F	NMNM 136159	2040	9867	4843	Y
PPP Leg #1-4	233	FNL	942	FWL	23N	8W	32	Aliquot NWNW	36.189954	- 107.710391	SAN JUAN	NEW MEXICO	NEW MEXICO	S	STATE	2053	11528	4830	Y
PPP Leg #1-5	1905	FNL	2647	FEL	23N	8W	32	Aliquot NWSE	36.189954	- 107.710391	SAN JUAN	NEW MEXICO	NEW MEXICO	I	NOG14 191980	6883	0	0	Y
EXIT Leg #1	926	FSL	234	FEL	23N	8W	32	Aliquot SESE	36.178622	- 107.696454	SAN JUAN	NEW MEXICO	NEW MEXICO	I	NOG14 191980	2101	17353	4782	Y
BHL Leg #1	926	FSL	234	FEL	23N	8W	32	Aliquot SESE	36.178622	- 107.696454	SAN JUAN	NEW MEXICO	NEW MEXICO	I	NOG14 191980	2101	17353	4782	Y

Operator 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, are 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.

Executed this 19<sup>th</sup> day of May, 2022.

Name Khem Suthiwan

Position Title Regulatory Manager

Address 6300 S Syracuse Way, Suite 525; Centennial, CO 80111

Telephone (303) 350-5721

Field representative (if not above signatory) \_\_\_\_\_

Email ksuthiwan@enduringresources.com

Date: 5/19/2022



Khem Suthiwan  
Regulatory Manager  
Enduring Resources, LLC

District I  
1632 North St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 393-6161 Fax: (505) 393-0720  
District II  
811 S. First Street, Artesia, NM 88210  
Phone: (505) 748-1283 Fax: (505) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

Submit one copy to  
Appropriate District Office

OIL CONSERVATION DIVISION  
1220 South St. Francis Drive  
Santa Fe, NM 87505

☐ AMENDED REPORT

17 OPERATOR CERTIFICATION  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_

E-mail Address \_\_\_\_\_

18 SURVEYOR CERTIFICATION  
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: MARCH 21, 2023  
Survey Date: SEPTEMBER 15, 2021

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number <b>30-045-38324</b>		2 Pool Code 97232		3 Pool Name BASIN MANCOS	
4 Property Code 321253		5 Property Name RODEO UNIT			6 Well Number 506H
7 OGRID No. 372286		8 Operator Name ENDURING RESOURCES, LLC			9 Elevation 6883'

10 Surface Location

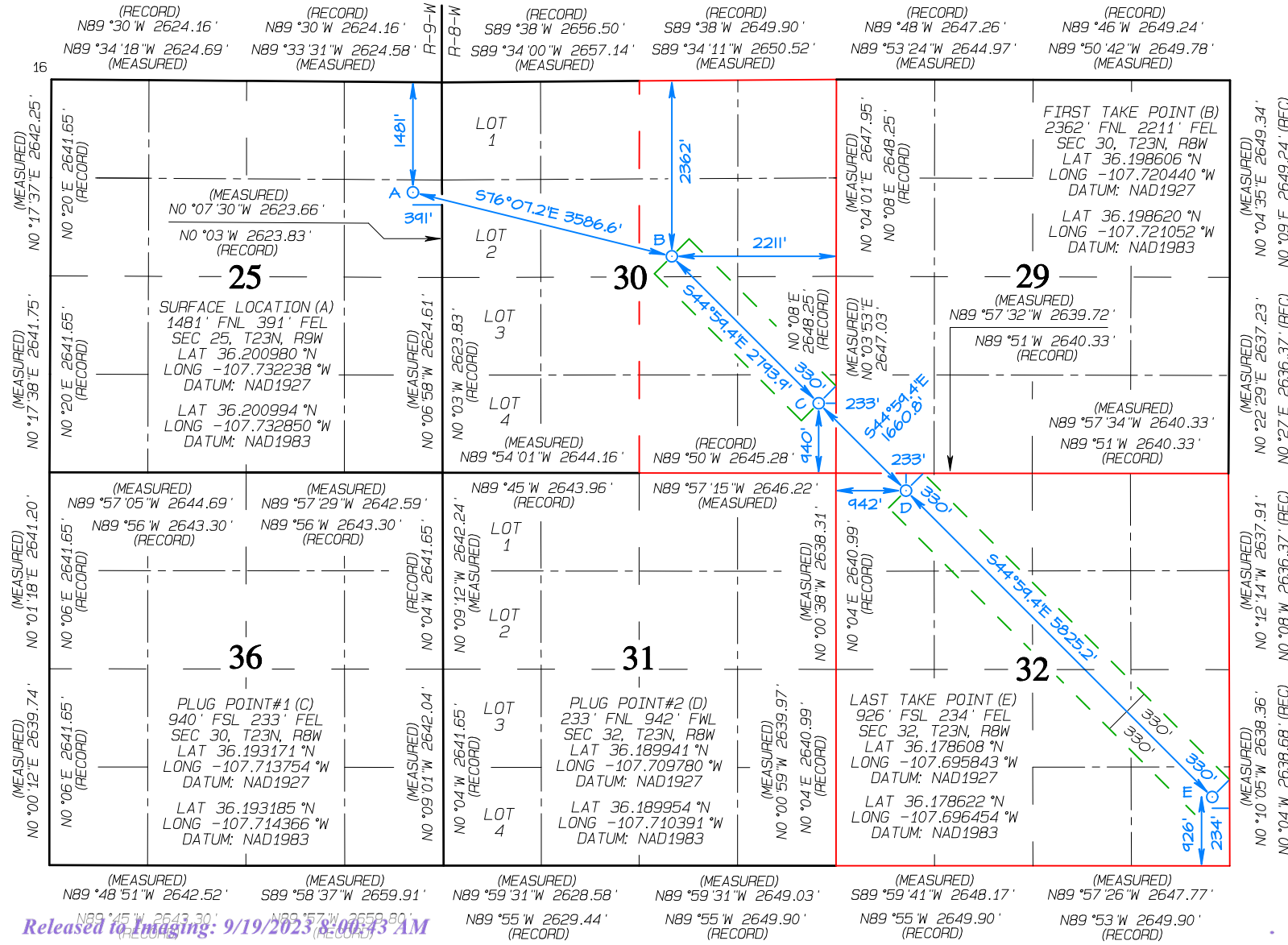
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	23N	9W		1481	NORTH	391	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	23N	8W		926	SOUTH	234	EAST	SAN JUAN

12 Dedicated Acres 960.00		E/2 - Section 30 Entire Section 32		13 Joint or Infill		14 Consolidation Code		15 Order No. R-14313	
------------------------------	--	---------------------------------------	--	--------------------	--	-----------------------	--	-------------------------	--

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



District I  
1630 S. First Street, Artesia, NM 88210  
Phone: (505) 393-6161 Fax: (505) 393-0720  
District II  
811 S. First Street, Artesia, NM 88210  
Phone: (505) 748-1283 Fax: (505) 748-9720  
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1000 Rio Brazos Road, Aztec, NM 87410  
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☐ AMENDED REPORT

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Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_

E-mail Address \_\_\_\_\_

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I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: MARCH 21, 2023  
Survey Date: SEPTEMBER 15, 2021

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 97232		3 Pool Name BASIN MANCOS	
4 Property Code 321253		5 Property Name RODEO UNIT		6 Well Number 506H	
7 OGRID No. 372286		8 Operator Name ENDURING RESOURCES, LLC		9 Elevation 6883'	

10 Surface Location

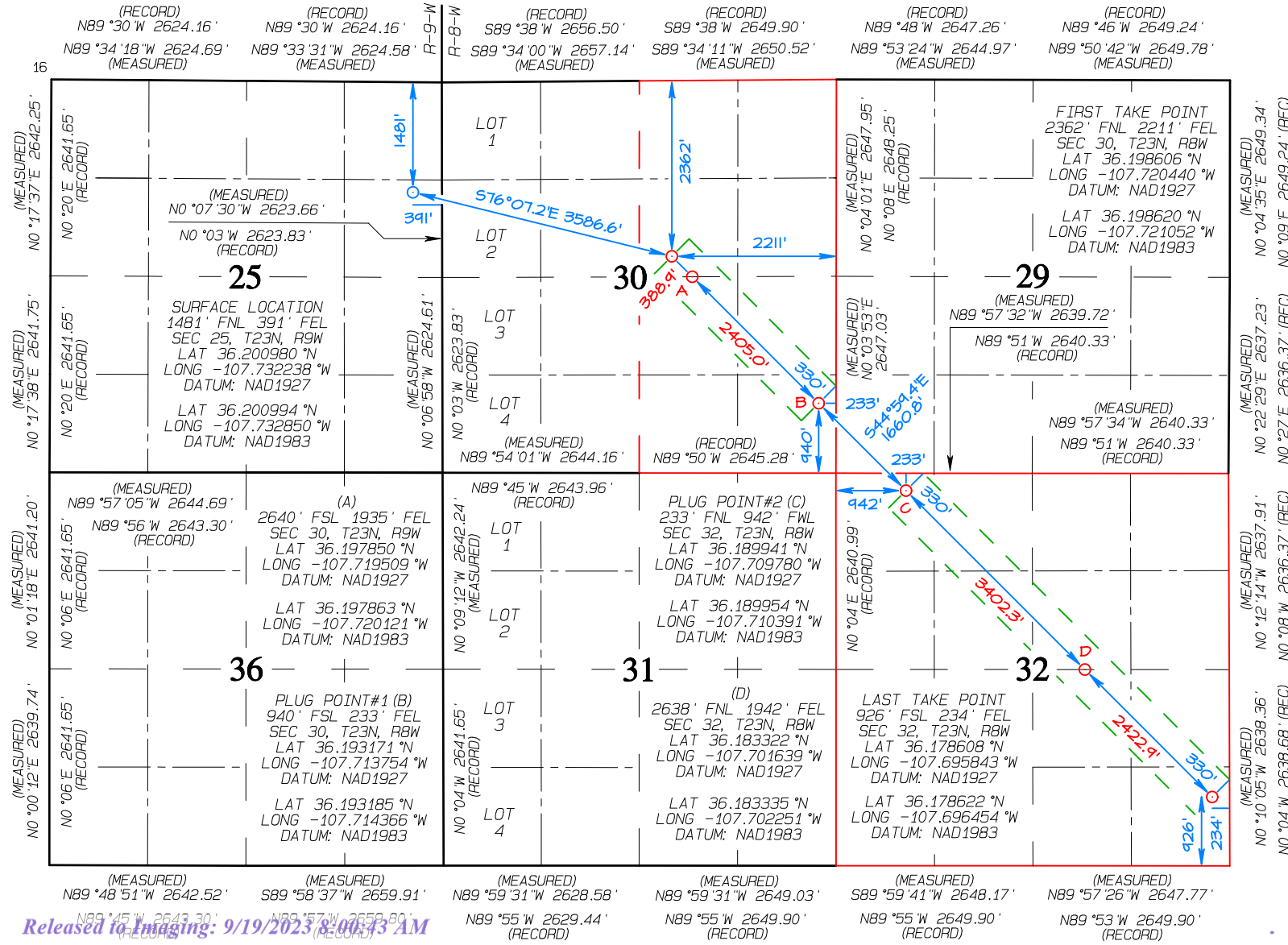
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	23N	9W		1481	NORTH	391	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	23N	8W		926	SOUTH	234	EAST	SAN JUAN

12 Dedicated Acres 960.00		E/2 - Section 30 Entire Section 32		13 Joint or Infill		14 Consolidation Code		15 Order No. R-14313	
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



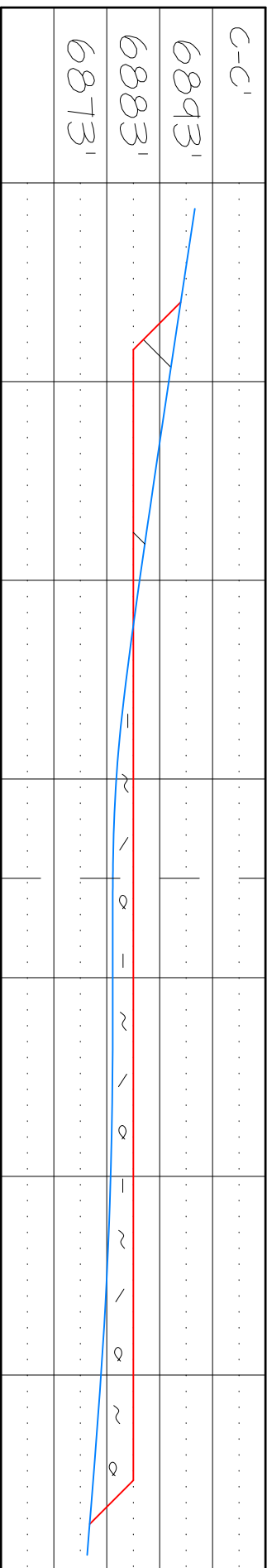
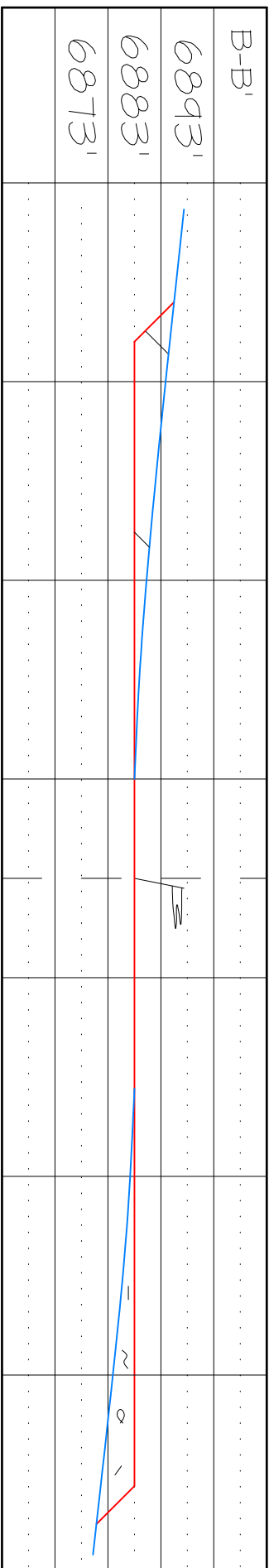
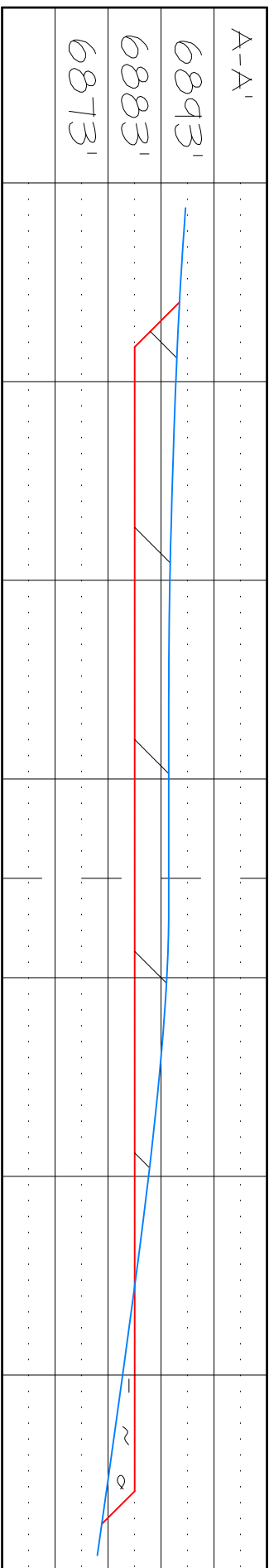
Area of Rodeo Unit #506H Project  
Total Disturbance 11.69 Acres



ENDURING RESOURCES, LLC RODEO UNIT #506H  
 1481' FNL & 391' FEL, SECTION 25, T23N, R9W, NMPM  
 SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6883'

HORIZONTAL SCALE  
 1"=80'

VERTICAL SCALE  
 1"=30'



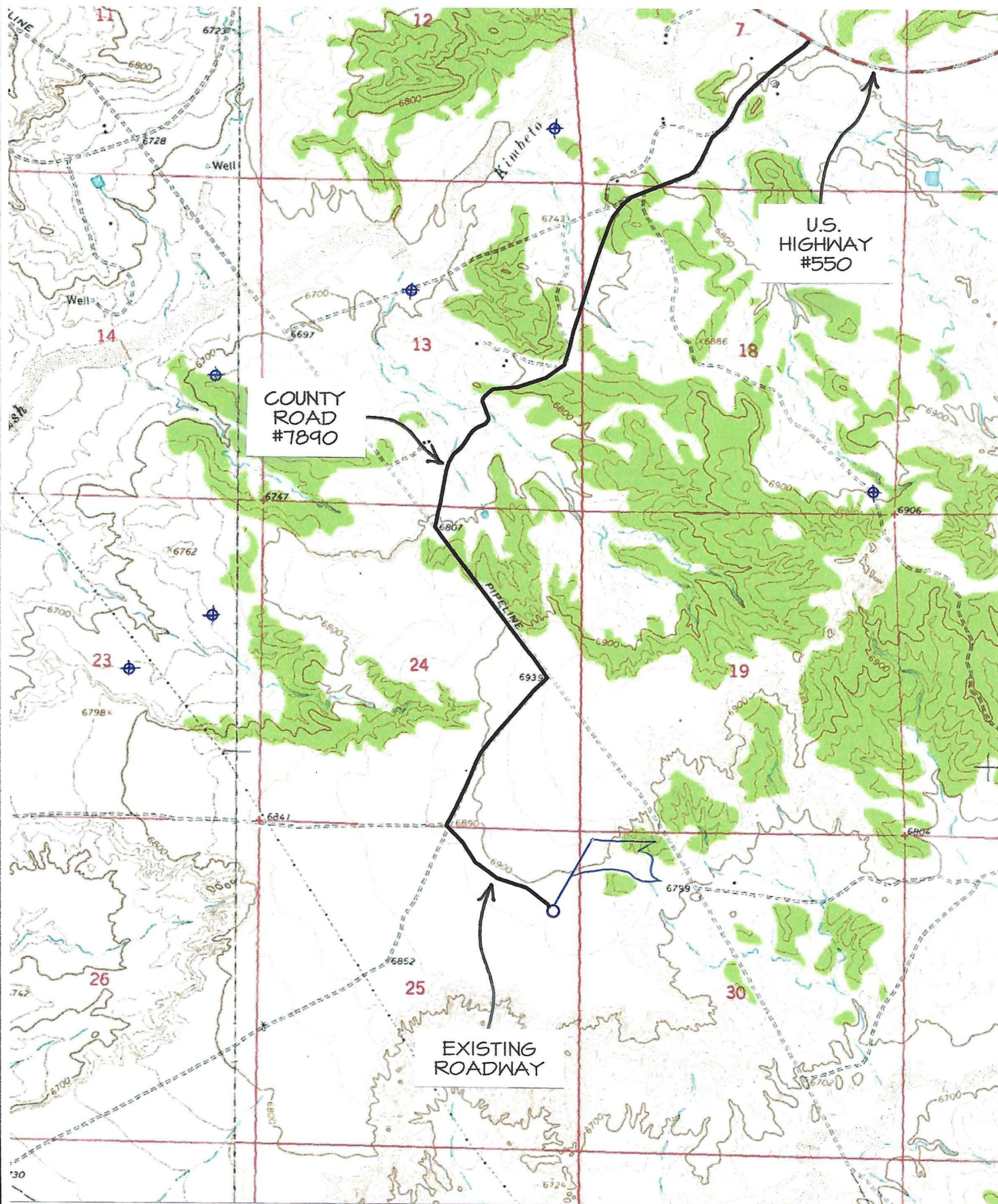
NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.



ENDURING RESOURCES, LLC. RODEO UNIT #30611

1481' FNL & 391' FEL, SECTION 25, T23N, R9W, N.M.P.M.  
SAN JUAN COUNTY, NEW MEXICO



TOPO NAME : LYBROOK NW

⊕ PRODUCING WELL

⊗ PLUGGED & ABANDONED WELL

**Directions from the Intersection of US Hwy 550 & US Hwy 64**  
**in Bloomfield, NM to Enduring Resources, LLC Rodeo Unit #506H**  
**1481' FNL & 391' FEL, Section 25, T23N, R9W, N.M.P.M., San Juan County, NM**

**Latitude 36.200994°N Longitude -107.732850°W Datum: NAD1983**

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.3 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.8 miles to fork in roadway;

Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to 4-way intersection;

Go Left (South-easterly) remaining on County Road #7890 for 1.2 miles to 4-way intersection;

Go Left (South-easterly) exiting County Road #7890 for 0.4 miles to staked Enduring Rodeo Unit #506H location which overlaps the existing Enduring Rodeo Unit #508H location.





U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

# Drilling Plan Data Report

09/12/2023

APD ID: 10400084208

Submission Date: 06/16/2022

Highlighted data  
reflects the most  
recent changes

Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12104240	NACIMIENTO	6896	0	0	SANDSTONE, SHALE	USEABLE WATER	N
12104241	OJO ALAMO	6325	571	571	SANDSTONE, SHALE	USEABLE WATER	N
12104242	KIRTLAND	6239	657	657	COAL, SHALE	COAL, NATURAL GAS	N
12104239	FRUITLAND	6035	861	861	COAL	COAL	N
12104243	PICTURED CLIFFS	5728	1168	1168	SANDSTONE, SHALE	NATURAL GAS	N
12104244	LEWIS	5569	1327	1328	SHALE	NATURAL GAS	N
12104245	CHACRA	5310	1586	1596	SANDSTONE, SHALE	NATURAL GAS	N
12104246	CLIFFHOUSE	4240	2656	2810	SANDSTONE	NATURAL GAS	N
12104247	MENEFEE	4222	2674	2830	COAL, SANDSTONE, SHALE	NATURAL GAS	N
12104248	POINT LOOKOUT	3248	3648	3655	SANDSTONE, SHALE	NATURAL GAS	N
12104249	MANCOS	3082	3814	4147	SHALE	NATURAL GAS, OIL	Y
12104250	GALLUP	2757	4139	4522	SHALE	NATURAL GAS, OIL	Y
12104251	MANCOS	2672	4224	4620	SHALE	NATURAL GAS, OIL	Y
12104252	MANCOS	2572	4324	4736	SHALE	NATURAL GAS, OIL	Y
12104253	MANCOS	2523	4373	4792	SHALE	NATURAL GAS, OIL	Y
12104254	MANCOS	2404	4492	4930	SHALE	NATURAL GAS, OIL	Y
12104255	MANCOS	2254	4642	5108	SHALE	NATURAL GAS, OIL	Y

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12104256	MANCOS	2197	4699	5187	SHALE	NATURAL GAS, OIL	Y
12104257	MANCOS	2121	4775	5317	SHALE	NATURAL GAS, OIL	Y
12104261	MANCOS	2114	4782	17354	SHALE	NATURAL GAS, OIL	Y
12104258	MANCOS	2067	4829	5431	SHALE	NATURAL GAS, OIL	Y
12104259	MANCOS	2029	4867	5556	SHALE	NATURAL GAS, OIL	Y
12104260	MANCOS	2018	4878	5675	SHALE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 3M**Rating Depth:** 4878**Equipment:** REFERENCE BOP DIAGRAM**Requesting Variance?** NO**Variance request:****Testing Procedure:** REFERENCE OPS PLAN BOP TESTING**Choke Diagram Attachment:**

BOPE\_\_\_CHOKE\_MANIFOLD\_DIAGRAM\_06152022\_20220616152536.pdf

**BOP Diagram Attachment:**

BOPE\_\_\_CHOKE\_MANIFOLD\_DIAGRAM\_06152022\_20220616152543.pdf

## Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	350	0	350	6883	6533	350	J-55	54.5	BUTT	7.39	4.45	BUOY	7.79	BUOY	7.31
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3004	0	2824	6883	4059	3004	J-55	36	LT&C	1.64	2.95	BUOY	2.33	BUOY	2.9

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
3	PRODUCTION	8.5	5.5	NEW	API	N	0	17354	0	4782	6883	2101	17354	P-110	17	LT&C	3.16	1.19	BUOY	1.1	BUOY	1.35

**Casing Attachments****Casing ID:** 1      **String**      SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

RODU\_506H\_Drilling\_Package\_08082023\_20230908102338.pdf

**Casing ID:** 2      **String**      INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

RODU\_506H\_Drilling\_Package\_08082023\_20230908102407.pdf

Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

## Casing Attachments

Casing ID: 3 String PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

## Casing Design Assumptions and Worksheet(s):

RODU\_506H\_Drilling\_Package\_08082023\_20230908102430.pdf

## Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	350	350	1.39	14.6	486.5	100	Type III	CaCl, Poly E-Flake, CD-2

INTERMEDIATE	Lead		0	2504	595	2.14	12.5	1273.3	70	Type III: POZ Blend	Pozmix Suspending Agent Cello Flake, D-MPA 1, dispersant, foam preventer
INTERMEDIATE	Tail		2504	3004	136	1.38	14.6	187.68	20	Type III	CaCl, Cello Flake, D-MPA 1
PRODUCTION	Lead		0	3004	526	2.36	12.4	1240	65	Type III	BA-90, Bentonite, Fluid Loss, Foam Preventer, Retarder
PRODUCTION	Tail		3004	17354	2134	1.56	13.3	3328	10	Class G:POZ Blend	Pozmix, BA-90, Bentonite, Fluid Loss, Foam Preventer, Viscosifier, Retarder



Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

## Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

**Describe what will be on location to control well or mitigate other conditions:** See "Detailed Drilling Plan" section for specifics. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

**Describe the mud monitoring system utilized:** Electronic and visual pit volume monitoring will be utilized.

## Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	3004	LOW SOLIDS NON- DISPERSED (LSND)	8.8	9.5			9	8		20	
0	350	SPUD MUD	8.4	8.4							
0	1735 4	OIL-BASED MUD	8	9					120000		OWR 80:20. WBD as contingency

## Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

REFERENCE OPS PLAN

List of open and cased hole logs run in the well:

DIRECTIONAL SURVEY, MEASUREMENT WHILE DRILLING, CEMENT BOND LOG,

Coring operation description for the well:

REFERENCE OPS PLAN

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 2100**Anticipated Surface Pressure:** 1029**Anticipated Bottom Hole Temperature(F):** 135**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** NO**Hydrogen sulfide drilling operations**

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Enduring\_Rodeo\_unit\_506H\_rev2b\_Directional\_Plan\_20230908085556.pdf

RODU\_506H\_WBD\_08082023\_20230908103137.pdf

**Other proposed operations facets description:**

Natural Gas Management Plan is attached

**Other proposed operations facets attachment:**

NGMPForm\_Rodeo508Expansion\_20220616153243.pdf

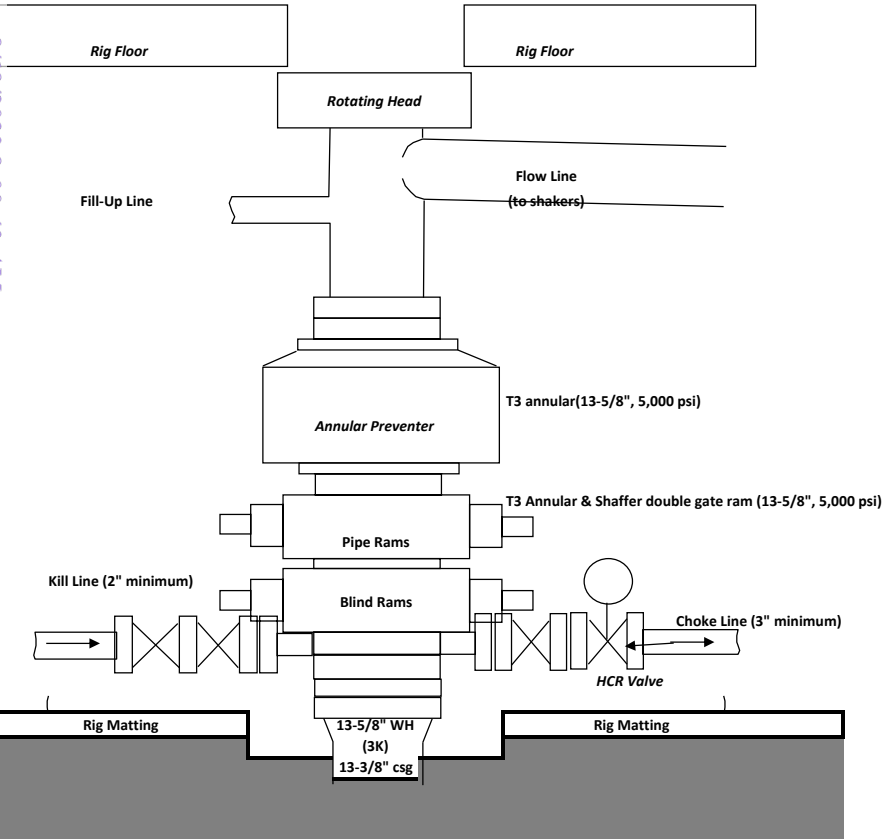
**Other Variance attachment:**

Ridge\_Unit\_506H\_Unleased\_Offset\_Plugs\_Explanation\_20220922094939.pdf

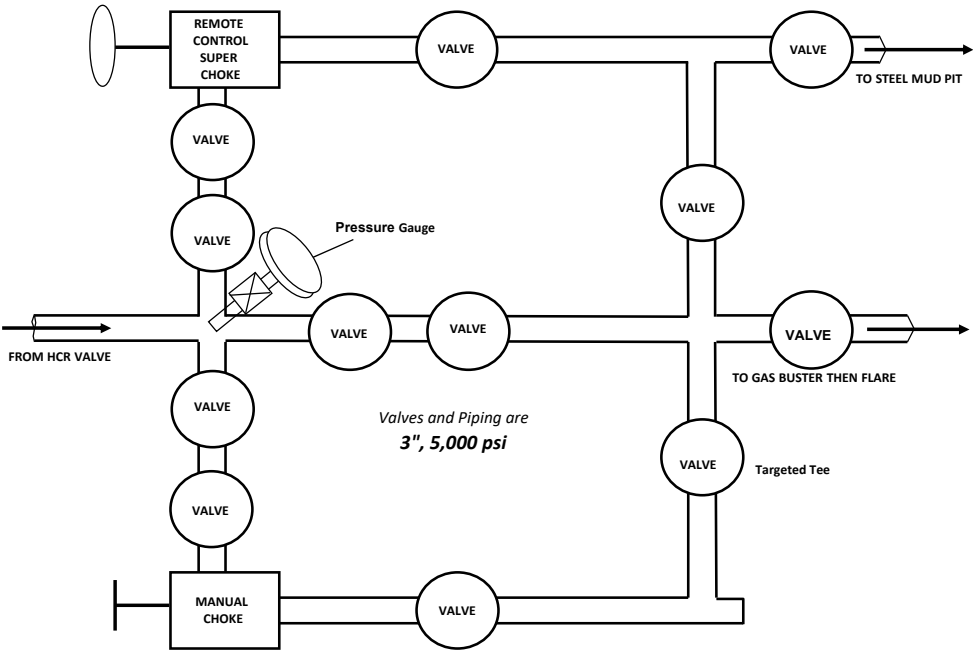
BOPE & CHOKE MANIFOLD DIAGRAMS

NOTE: EXACT BOPE AND CHOKE CONFIGURATION AND COMPONENTS MAY DIFFER FROM WHAT IS DEPICTED IN THE DIGRAMS BELOW DEPENDING ON THE RIG AND ITS ASSOCIATED EQUIPMENT. RAM PREVENTERS, ANNULAR PREVENTERS, AND CHOKE MANIFOLD AND COMPONENTS WILL BE RATED TO 3,000 PSI MINIMUM.

BOPE



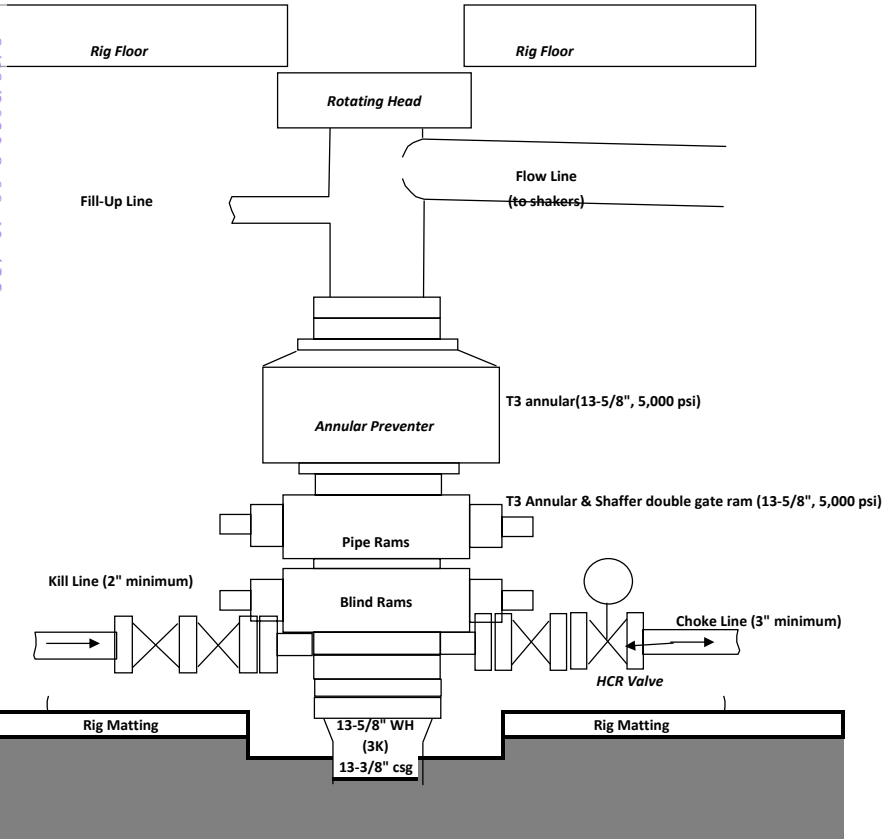
CHOKE MANIFOLD



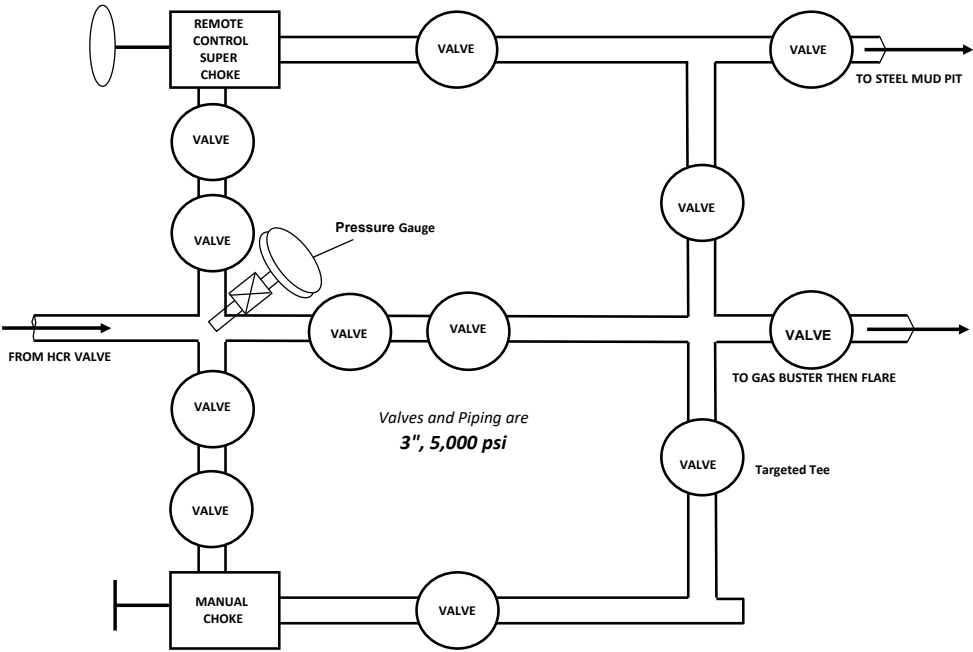
BOPE & CHOKE MANIFOLD DIAGRAMS

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BOPE



CHOKE MANIFOLD





**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80111**

**DRILLING PLAN:** *Drill, complete, and equip single lateral in the Mancos-I formation*

**WELL INFORMATION:**

**Name:** **RODEO UNIT 506H**

**API Number:** *not yet assigned*

**AFE Number:** *not yet assigned*

**ER Well Number:** *not yet assigned*

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,883 ft ASL (GL)

6,896 ft ASL (KB)

**Surface Location:** 25-23N-09W Sec-Twn-Rng

1,481 ft FNL

391 ft FEL

36.200994 ° N latitude

107.73285 ° W longitude

(NAD 83)

**BH Location:** 32-23N-08W Sec-Twn-Rng

926 ft FSL

234 ft FEL

36.178622 ° N latitude

107.696454 ° W longitude

(NAD 83)

**Driving Directions:** **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**

South on US Hwy 550 for 37.8 miles to MM 113.5; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) remaining on CR #7890 for 0.5 miles to access road; Left (Southeast) on access road for 0.4 miles to the RODEO UNIT 508H PAD (WELLS: 508H, 509H, 510H (DRILLED); 503H, 504H, 506H (PLANNED)).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<i>Prognosis:</i>	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,325	571	571	W	normal
	Kirtland	6,239	657	657	W	normal
	Fruitland	6,035	861	861	G, W	sub
	Pictured Cliffs	5,728	1,168	1,168	G, W	sub
	Lewis	5,569	1,327	1,328	G, W	normal
	Chacra	5,310	1,586	1,596	G, W	normal
	Cliff House	4,240	2,656	2,810	G, W	sub
	Menefee	4,222	2,674	2,830	G, W	normal
	Point Lookout	3,248	3,648	3,655	G, W	normal
	Mancos	3,082	3,814	4,147	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,757	4,139	4,522	O,G	sub (~0.38)
	MNCS_B	2,672	4,224	4,620	O,G	sub (~0.38)
	MNCS_C	2,572	4,324	4,736	O,G	sub (~0.38)
	MNCS_Cms	2,523	4,373	4,792	O,G	sub (~0.38)
	MNCS_D	2,404	4,492	4,930	O,G	sub (~0.38)
	MNCS_E	2,254	4,642	5,108	O,G	sub (~0.38)
	MNCS_F	2,197	4,699	5,187	O,G	sub (~0.38)
	MNCS_G	2,121	4,775	5,317	O,G	sub (~0.38)
	MNCS_H	2,067	4,829	5,431	O,G	sub (~0.38)
	MNCS_I	2,029	4,867	5,556	O,G	sub (~0.38)
	LP1 TARGET	2,018	4,878	5,675	O,G	sub (~0.38)
	<b>FTP (LP2) TARGET</b>	<b>2,026</b>	<b>4,870</b>	<b>6,692</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>LTP (TD) TARGET</b>	<b>2,114</b>	<b>4,782</b>	<b>17,354</b>	<b>O,G</b>	<b>sub (~0.38)</b>

**Surface:** Nacimiento

**Oil & Gas Zones:** Several gas bearing zones will be encountered; target formation is the Gallup

**Pressure:** Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations

Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft

**Maximum anticipated BH pressure, assuming maximum pressure gradient:** **2,100** psi

**Maximum anticipated surface pressure, assuming partially evacuated hole:** **1,030** psi

**Temperature:** Maximum anticipated BHT is 135° F or less

**H<sub>2</sub>S INFORMATION:**

**H<sub>2</sub>S Zones:** Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

**Safety:** Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

**LOGGING, CORING, AND TESTING:****Mud Logs:**

None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

**MWD / LWD:** Gamma Ray from drillout of 13-3/8" casing to TD

**Open Hole Logs:** None planned

**Testing:** None planned

**Coring:** None planned

**Cased Hole Logs:** CBL on 5-1/2" casing from deepest free-fall depth to surface

**DRILLING RIG INFORMATION:**

**Contractor:** Ensign

**Rig No.:** 145

**Draw Works:** Lewco LDS 1500K (1,000 hp)

**Mast:** ADR 1000 Cantilever Triple (134 ft, 500,000 lbs)

**Top Drive:** Tesco 350-EXI-600 (250 ton)

**Prime Movers:** 2 - CAT 3512 (1,350 hp), 1 -CAT C32 (1,100 hp)

**Pumps:** 2 - Mudder MD11 (5,000 psi)

**BOPE 1:** T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)

**Int Hole BOPE 2:** T3 annular(13-5/8", 5,000 psi)

**Prod Hole BOPE 2:** T3 annular/ Townsend Double gate(11", 5,000 psi)

**Choke** 3", 5,000 psi

**KB-GL (ft):** 12.5

**Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

**Note:** BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.

**BOPE REQUIREMENTS:**

*See attached diagram for details regarding BOPE specifications and configuration.*

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 3) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 4) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
- 5) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 6) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when there is no power to the accumulator.

**FLUIDS AND SOLIDS CONTROL PROGRAM:**



**Fluid Measurement:** Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

**Closed-Loop System:** A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimize the amount of fluids and solids that require disposal.

**Fluid Disposal:** Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Solids Disposal:** Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Fluid Program:** See "Detailed Drilling Plan" section for specifics. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

#### DETAILED DRILLING PLAN:

**SURFACE:** *Drill vertically to casing setting depth (plus necessary rathole), run casing, cement casing to surface.*

0 ft (MD)	to	350 ft (MD)	Hole Section Length:	350 ft
0 ft (TVD)	to	350 ft (TVD)	Casing Required:	350 ft

*Note: Surface hole may be drilled, cased, and cemented with a smaller rig in advance of the drilling rig.*

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	Fresh Water	8.4	N/C	2 - 8	2 - 12	9.0	Spud mud

**Hole Size:** 17-1/2"

**Bit / Motor:** Mill Tooth or PDC, no motor

**MWD / Survey:** No MWD, deviation survey

**Logging:** None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	613	116,634	116,634
Min. S.F.					7.39	4.45	7.31	7.79

*Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient*

*Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient*

*Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull*

**MU Torque (ft lbs):** Minimum: N/A Optimum: N/A Maximum: N/A

*Make-up as per API Buttress Connection running procedure.*

**Casing Summary:** Float shoe, 1 jt casing, float collar, casing to surface

**Centralizers:** 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Type III	14.6	1.39	6.686	0.6946	100%	0	350

*Calculated cement volumes assume gauge hole and the excess noted in table*

*Drake Energy Services surface cementing blend*

**Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.**

**INTERMEDIATE:** *Drill as per directional plan to casing setting depth, run casing, cement casing to surface.*

350 ft (MD)	to	3,004 ft (MD)	Hole Section Length:	2,654 ft
350 ft (TVD)	to	2,824 ft (TVD)	Casing Required:	3,004 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCl)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG**BIT:** 5- or 6-BLADE PDC w/16 mm or 19 mm cutters, target TFA 0.65 - 1.0 max); 6 - 14s = 0.902 sq-in TFA

MWD / Survey: MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to **1,500** psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,234	1,192	194,307	194,307
Min. S.F.					<b>1.64</b>	<b>2.95</b>	<b>2.90</b>	<b>2.33</b>

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): Minimum: 3,400 Optimum: 4,530 Maximum: 5,660

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt &amp; 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 2 jts (floating) to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	595
Tail	Type III	14.6	1.38	6.64	20%	2,504	136

Annular Capacity 0.3627 cuft/ft 9-5/8" casing x 13-3/8" casing annulus

0.3132 cuft/ft 9-5/8" casing x 12-1/4" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

Drake Energy Services Intermediate Cementing Program

Notify NMOCD &amp; BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

**PRODUCTION:** Drill to TD following directional plan, run casing, cement casing to surface.

<b>3,004</b> ft (MD)	to	<b>17,354</b> ft (MD)	Hole Section Length:	<b>14,350</b> ft
<b>2,824</b> ft (TVD)	to	<b>4,782</b> ft (TVD)	Casing Required:	<b>17,354</b> ft

<b>Estimated KOP:</b>	<b>5,010</b> ft (MD)	<b>4,562</b> ft (TVD)
<b>Estimated Landing Point (FTP):</b>	<b>6,692</b> ft (MD)	<b>4,870</b> ft (TVD)
<b>Estimated Lateral Length:</b>	<b>10,662</b> ft (MD)	

Fluid:	Type	MW (ppg)	WPS ppm	HTHP	YP (lb/100 sqft)	ES	OWR	Comment
	<b>OBM</b>	8.0 - 9.0	120,000 CaCl	NC	±6	+300	80:20	WBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 077857 - 7/8, 5.7, stage, 0.23 rev/gal, 1.83 - 2.12 DEG, 750 GPM, 1,580 DIFF PSIG (or similar); on demand friction breaking device(s) as required, bottom tool spaced ~3,000' behind the bit.**BIT:** 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

MWD / Survey: MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)

Logging: GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs

Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to **1,500** psi for 30 minutes.

<b>Casing Specs:</b>	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,362	8,948	404,574	404,574
Min. S.F.					<b>3.16</b>	<b>1.19</b>	<b>1.35</b>	<b>1.10</b>

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)

Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 9.0 ppg fluid with 150,000 lbs over-pull

**MU Torque (ft lbs):** Minimum: 3,470 Optimum: 4,620 Maximum: 5,780

**Casing Summary:** Float shoe, 1 jt casing, float collar w/debris catcher, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub, casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the the azimuth of the well. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys

**Lateral:** 1 centralizer per joint

**FTP to 9-5/8" shoe:** 1 centralizer per joint

**9-5/8" shoe to surface:** 1 centralizer per 2 joints

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	65%	0	526
Tail	G:POZ blend	13.3	1.560	7.70	10%	4,147	2,134

Annular Capacity 0.2691 cuft/ft 5-1/2" casing x 9-5/8" casing annulus

0.2291 cuft/ft 5-1/2" casing x 8-1/2" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

American Cementing Liner & Production Blend

**Notify NMOCD & BLM if cement is not circulated to surface.**

**Note:** This well will not be considered an unorthodox well location as defined by NMAC 19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the bottom toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

**FINISH WELL:** ND BOP, cap well, RDMO.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 45 plug-and-perf stages with 410,000 bbls slickwater fluid and 16,000,000 lbs of proppant (estimated)

**Flowback:** Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)

**Production:** Produce through production tubing via gas-lift into permanent production and storage facilities

#### ESTIMATED START DATES:

**Drilling:** TBD

**Completion:** TBD

**Production:** TBD

**Prepared by:** Alec Bridge 3/15/2022



**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80111**

**DRILLING PLAN:** *Drill, complete, and equip single lateral in the Mancos-I formation*

**WELL INFORMATION:**

**Name:** RODEO UNIT 506H

**API Number:** not yet assigned

**AFE Number:** not yet assigned

**ER Well Number:** not yet assigned

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,883 ft ASL (GL)

6,896 ft ASL (KB)

**Surface Location:** 25-23N-09W Sec-Twn-Rng

1,481 ft FNL

391 ft FEL

36.200994 ° N latitude

107.73285 ° W longitude

(NAD 83)

**BH Location:** 32-23N-08W Sec-Twn-Rng

926 ft FSL

234 ft FEL

36.178622 ° N latitude

107.696454 ° W longitude

(NAD 83)

**Driving Directions:** FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:

South on US Hwy 550 for 37.8 miles to MM 113.5; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) remaining on CR #7890 for 0.5 miles to access road; Left (Southeast) on access road for 0.4 miles to the RODEO UNIT 508H PAD (WELLS: 508H, 509H, 510H (DRILLED); 503H, 504H, 506H (PLANNED)).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<i>Prognosis:</i>	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,325	571	571	W	normal
	Kirtland	6,239	657	657	W	normal
	Fruitland	6,035	861	861	G, W	sub
	Pictured Cliffs	5,728	1,168	1,168	G, W	sub
	Lewis	5,569	1,327	1,328	G, W	normal
	Chacra	5,310	1,586	1,596	G, W	normal
	Cliff House	4,240	2,656	2,810	G, W	sub
	Menefee	4,222	2,674	2,830	G, W	normal
	Point Lookout	3,248	3,648	3,655	G, W	normal
	Mancos	3,082	3,814	4,147	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,757	4,139	4,522	O,G	sub (~0.38)
	MNCS_B	2,672	4,224	4,620	O,G	sub (~0.38)
	MNCS_C	2,572	4,324	4,736	O,G	sub (~0.38)
	MNCS_Cms	2,523	4,373	4,792	O,G	sub (~0.38)
	MNCS_D	2,404	4,492	4,930	O,G	sub (~0.38)
	MNCS_E	2,254	4,642	5,108	O,G	sub (~0.38)
	MNCS_F	2,197	4,699	5,187	O,G	sub (~0.38)
	MNCS_G	2,121	4,775	5,317	O,G	sub (~0.38)
	MNCS_H	2,067	4,829	5,431	O,G	sub (~0.38)
	MNCS_I	2,029	4,867	5,556	O,G	sub (~0.38)
	LP1 TARGET	2,018	4,878	5,675	O,G	sub (~0.38)
	<b>FTP (LP2) TARGET</b>	<b>2,026</b>	<b>4,870</b>	<b>6,692</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>LTP (TD) TARGET</b>	<b>2,114</b>	<b>4,782</b>	<b>17,354</b>	<b>O,G</b>	<b>sub (~0.38)</b>

**Surface:** Nacimiento

**Oil & Gas Zones:** Several gas bearing zones will be encountered; target formation is the Gallup

**Pressure:** Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations

Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft

**Maximum anticipated BH pressure, assuming maximum pressure gradient:** 2,100 psi

**Maximum anticipated surface pressure, assuming partially evacuated hole:** 1,030 psi

**Temperature:** Maximum anticipated BHT is 135° F or less

**H<sub>2</sub>S INFORMATION:**

**H<sub>2</sub>S Zones:** Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

**Safety:** Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

**LOGGING, CORING, AND TESTING:****Mud Logs:**

None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

**MWD / LWD:** Gamma Ray from drillout of 13-3/8" casing to TD

**Open Hole Logs:** None planned

**Testing:** None planned

**Coring:** None planned

**Cased Hole Logs:** CBL on 5-1/2" casing from deepest free-fall depth to surface

**DRILLING RIG INFORMATION:**

**Contractor:** Ensign

**Rig No.:** 145

**Draw Works:** Lewco LDS 1500K (1,000 hp)

**Mast:** ADR 1000 Cantilever Triple (134 ft, 500,000 lbs)

**Top Drive:** Tesco 350-EXI-600 (250 ton)

**Prime Movers:** 2 - CAT 3512 (1,350 hp), 1 -CAT C32 (1,100 hp)

**Pumps:** 2 - Mudder MD11 (5,000 psi)

**BOPE 1:** T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)

**Int Hole BOPE 2:** T3 annular(13-5/8", 5,000 psi)

**Prod Hole BOPE 2:** T3 annular/ Townsend Double gate(11", 5,000 psi)

**Choke** 3", 5,000 psi

**KB-GL (ft):** 12.5

**Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

**Note:** BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.

**BOPE REQUIREMENTS:**

*See attached diagram for details regarding BOPE specifications and configuration.*

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 3) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 4) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
- 5) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 6) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

**FLUIDS AND SOLIDS CONTROL PROGRAM:**



**Fluid Measurement:** Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

**Closed-Loop System:** A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimize the amount of fluids and solids that require disposal.

**Fluid Disposal:** Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Solids Disposal:** Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Fluid Program:** See "Detailed Drilling Plan" section for specifics. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

#### DETAILED DRILLING PLAN:

**SURFACE:** *Drill vertically to casing setting depth (plus necessary rathole), run casing, cement casing to surface.*

0 ft (MD)	to	350 ft (MD)	Hole Section Length:	350 ft
0 ft (TVD)	to	350 ft (TVD)	Casing Required:	350 ft

*Note: Surface hole may be drilled, cased, and cemented with a smaller rig in advance of the drilling rig.*

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	Fresh Water	8.4	N/C	2 - 8	2 - 12	9.0	Spud mud

**Hole Size:** 17-1/2"

**Bit / Motor:** Mill Tooth or PDC, no motor

**MWD / Survey:** No MWD, deviation survey

**Logging:** None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	613	116,634	116,634
Min. S.F.					7.39	4.45	7.31	7.79

*Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient*

*Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient*

*Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull*

**MU Torque (ft lbs):** Minumum: N/A Optimum: N/A Maximum: N/A

*Make-up as per API Buttress Connection running procedure.*

**Casing Summary:** Float shoe, 1 jt casing, float collar, casing to surface

**Centralizers:** 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Type III	14.6	1.39	6.686	0.6946	100%	0	350

*Calculated cement volumes assume gauge hole and the excess noted in table*

*Drake Energy Services surface cementing blend*

**Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.**

**INTERMEDIATE:** *Drill as per directional plan to casing setting depth, run casing, cement casing to surface.*

350 ft (MD)	to	3,004 ft (MD)	Hole Section Length:	2,654 ft
350 ft (TVD)	to	2,824 ft (TVD)	Casing Required:	3,004 ft



Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCI)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG**BIT:** 5- or 6-BLADE PDC w/16 mm or 19 mm cutters, target TFA 0.65 - 1.0 max); 6 - 14s = 0.902 sq-in TFA

MWD / Survey: MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to **1,500** psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,234	1,192	194,307	194,307
Min. S.F.					<b>1.64</b>	<b>2.95</b>	<b>2.90</b>	<b>2.33</b>

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): Minimum: 3,400 Optimum: 4,530 Maximum: 5,660

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt &amp; 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 2 jts (floating) to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	595
Tail	Type III	14.6	1.38	6.64	20%	2,504	136

Annular Capacity 0.3627 cuft/ft 9-5/8" casing x 13-3/8" casing annulus

0.3132 cuft/ft 9-5/8" casing x 12-1/4" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

Drake Energy Services Intermediate Cementing Program

Notify NMOCD &amp; BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

**PRODUCTION:** Drill to TD following directional plan, run casing, cement casing to surface.

<b>3,004</b> ft (MD)	to	<b>17,354</b> ft (MD)	Hole Section Length:	<b>14,350</b> ft
<b>2,824</b> ft (TVD)	to	<b>4,782</b> ft (TVD)	Casing Required:	<b>17,354</b> ft

<b>Estimated KOP:</b>	<b>5,010</b> ft (MD)	<b>4,562</b> ft (TVD)
<b>Estimated Landing Point (FTP):</b>	<b>6,692</b> ft (MD)	<b>4,870</b> ft (TVD)
<b>Estimated Lateral Length:</b>	<b>10,662</b> ft (MD)	

Fluid:	Type	MW (ppg)	WPS ppm	HTHP	YP (lb/100 sqft)	ES	OWR	Comment
	<b>OBM</b>	8.0 - 9.0	120,000 CaCl	NC	±6	+300	80:20	WBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 077857 - 7/8, 5.7, stage, 0.23 rev/gal, 1.83 - 2.12 DEG, 750 GPM, 1,580 DIFF PSIG (or similar); on demand friction breaking device(s) as required, bottom tool spaced ~3,000' behind the bit.**BIT:** 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

MWD / Survey: MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)

Logging: GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs

Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to **1,500** psi for 30 minutes.

<b>Casing Specs:</b>	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,362	8,948	404,574	404,574
Min. S.F.					<b>3.16</b>	<b>1.19</b>	<b>1.35</b>	<b>1.10</b>

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)

Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 9.0 ppg fluid with 150,000 lbs over-pull

**MU Torque (ft lbs):** Minimum: 3,470 Optimum: 4,620 Maximum: 5,780

**Casing Summary:** Float shoe, 1 jt casing, float collar w/debris catcher, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub, casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the the azimuth of the well. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys

**Lateral:** 1 centralizer per joint

**FTP to 9-5/8" shoe:** 1 centralizer per joint

**9-5/8" shoe to surface:** 1 centralizer per 2 joints

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	65%	0	526
Tail	G:POZ blend	13.3	1.560	7.70	10%	4,147	2,134

Annular Capacity 0.2691 cuft/ft 5-1/2" casing x 9-5/8" casing annulus

0.2291 cuft/ft 5-1/2" casing x 8-1/2" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

American Cementing Liner & Production Blend

**Notify NMOCD & BLM if cement is not circulated to surface.**

**Note:** This well will not be considered an unorthodox well location as defined by NMAC 19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the bottom toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

**FINISH WELL:** ND BOP, cap well, RDMO.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 45 plug-and-perf stages with 410,000 bbls slickwater fluid and 16,000,000 lbs of proppant (estimated)

**Flowback:** Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)

**Production:** Produce through production tubing via gas-lift into permanent production and storage facilities

#### ESTIMATED START DATES:

**Drilling:** TBD

**Completion:** TBD

**Production:** TBD

**Prepared by:** Alec Bridge 3/15/2022



**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80111**

**DRILLING PLAN:** *Drill, complete, and equip single lateral in the Mancos-I formation*

**WELL INFORMATION:**

**Name:** **RODEO UNIT 506H**

**API Number:** *not yet assigned*

**AFE Number:** *not yet assigned*

**ER Well Number:** *not yet assigned*

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,883 ft ASL (GL)

6,896 ft ASL (KB)

**Surface Location:** 25-23N-09W Sec-Twn-Rng

1,481 ft FNL

391 ft FEL

36.200994 ° N latitude

107.73285 ° W longitude

(NAD 83)

**BH Location:** 32-23N-08W Sec-Twn-Rng

926 ft FSL

234 ft FEL

36.178622 ° N latitude

107.696454 ° W longitude

(NAD 83)

**Driving Directions:** **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**

South on US Hwy 550 for 37.8 miles to MM 113.5; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) remaining on CR #7890 for 0.5 miles to access road; Left (Southeast) on access road for 0.4 miles to the RODEO UNIT 508H PAD (WELLS: 508H, 509H, 510H (DRILLED); 503H, 504H, 506H (PLANNED)).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<i>Prognosis:</i>	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,325	571	571	W	normal
	Kirtland	6,239	657	657	W	normal
	Fruitland	6,035	861	861	G, W	sub
	Pictured Cliffs	5,728	1,168	1,168	G, W	sub
	Lewis	5,569	1,327	1,328	G, W	normal
	Chacra	5,310	1,586	1,596	G, W	normal
	Cliff House	4,240	2,656	2,810	G, W	sub
	Menefee	4,222	2,674	2,830	G, W	normal
	Point Lookout	3,248	3,648	3,655	G, W	normal
	Mancos	3,082	3,814	4,147	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,757	4,139	4,522	O,G	sub (~0.38)
	MNCS_B	2,672	4,224	4,620	O,G	sub (~0.38)
	MNCS_C	2,572	4,324	4,736	O,G	sub (~0.38)
	MNCS_Cms	2,523	4,373	4,792	O,G	sub (~0.38)
	MNCS_D	2,404	4,492	4,930	O,G	sub (~0.38)
	MNCS_E	2,254	4,642	5,108	O,G	sub (~0.38)
	MNCS_F	2,197	4,699	5,187	O,G	sub (~0.38)
	MNCS_G	2,121	4,775	5,317	O,G	sub (~0.38)
	MNCS_H	2,067	4,829	5,431	O,G	sub (~0.38)
	MNCS_I	2,029	4,867	5,556	O,G	sub (~0.38)
	LP1 TARGET	2,018	4,878	5,675	O,G	sub (~0.38)
	<b>FTP (LP2) TARGET</b>	<b>2,026</b>	<b>4,870</b>	<b>6,692</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>LTP (TD) TARGET</b>	<b>2,114</b>	<b>4,782</b>	<b>17,354</b>	<b>O,G</b>	<b>sub (~0.38)</b>

**Surface:** Nacimiento

**Oil & Gas Zones:** Several gas bearing zones will be encountered; target formation is the Gallup

**Pressure:** Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations

Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft

**Maximum anticipated BH pressure, assuming maximum pressure gradient:** **2,100** psi

**Maximum anticipated surface pressure, assuming partially evacuated hole:** **1,030** psi

**Temperature:** Maximum anticipated BHT is 135° F or less

**H<sub>2</sub>S INFORMATION:**

**H<sub>2</sub>S Zones:** Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

**Safety:** Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

**LOGGING, CORING, AND TESTING:****Mud Logs:**

None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

**MWD / LWD:** Gamma Ray from drillout of 13-3/8" casing to TD

**Open Hole Logs:** None planned

**Testing:** None planned

**Coring:** None planned

**Cased Hole Logs:** CBL on 5-1/2" casing from deepest free-fall depth to surface

**DRILLING RIG INFORMATION:**

**Contractor:** Ensign

**Rig No.:** 145

**Draw Works:** Lewco LDS 1500K (1,000 hp)

**Mast:** ADR 1000 Cantilever Triple (134 ft, 500,000 lbs)

**Top Drive:** Tesco 350-EXI-600 (250 ton)

**Prime Movers:** 2 - CAT 3512 (1,350 hp), 1 -CAT C32 (1,100 hp)

**Pumps:** 2 - Mudder MD11 (5,000 psi)

**BOPE 1:** T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)

**Int Hole BOPE 2:** T3 annular(13-5/8", 5,000 psi)

**Prod Hole BOPE 2:** T3 annular/ Townsend Double gate(11", 5,000 psi)

**Choke** 3", 5,000 psi

**KB-GL (ft):** 12.5

**Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

**Note:** BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.

**BOPE REQUIREMENTS:**

*See attached diagram for details regarding BOPE specifications and configuration.*

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 3) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 4) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
- 5) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 6) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

**FLUIDS AND SOLIDS CONTROL PROGRAM:**

**Fluid Measurement:** Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

**Closed-Loop System:** A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimize the amount of fluids and solids that require disposal.

**Fluid Disposal:** Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Solids Disposal:** Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Fluid Program:** See "Detailed Drilling Plan" section for specifics. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

#### DETAILED DRILLING PLAN:

**SURFACE:** *Drill vertically to casing setting depth (plus necessary rathole), run casing, cement casing to surface.*

0 ft (MD)	to	350 ft (MD)	Hole Section Length:	350 ft
0 ft (TVD)	to	350 ft (TVD)	Casing Required:	350 ft

*Note: Surface hole may be drilled, cased, and cemented with a smaller rig in advance of the drilling rig.*

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	Fresh Water	8.4	N/C	2 - 8	2 - 12	9.0	Spud mud

**Hole Size:** 17-1/2"

**Bit / Motor:** Mill Tooth or PDC, no motor

**MWD / Survey:** No MWD, deviation survey

**Logging:** None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	613	116,634	116,634
Min. S.F.					7.39	4.45	7.31	7.79

*Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient*

*Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient*

*Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull*

**MU Torque (ft lbs):** Minimum: N/A Optimum: N/A Maximum: N/A

*Make-up as per API Buttress Connection running procedure.*

**Casing Summary:** Float shoe, 1 jt casing, float collar, casing to surface

**Centralizers:** 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Type III	14.6	1.39	6.686	0.6946	100%	0	350

*Calculated cement volumes assume gauge hole and the excess noted in table*

*Drake Energy Services surface cementing blend*

**Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.**

**INTERMEDIATE:** *Drill as per directional plan to casing setting depth, run casing, cement casing to surface.*

350 ft (MD)	to	3,004 ft (MD)	Hole Section Length:	2,654 ft
350 ft (TVD)	to	2,824 ft (TVD)	Casing Required:	3,004 ft



Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCl)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG**BIT:** 5- or 6-BLADE PDC w/16 mm or 19 mm cutters, target TFA 0.65 - 1.0 max); 6 - 14s = 0.902 sq-in TFA

MWD / Survey: MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to **1,500** psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,234	1,192	194,307	194,307
Min. S.F.					<b>1.64</b>	<b>2.95</b>	<b>2.90</b>	<b>2.33</b>

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): Minimum: 3,400 Optimum: 4,530 Maximum: 5,660

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt &amp; 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 2 jts (floating) to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	595
Tail	Type III	14.6	1.38	6.64	20%	2,504	136

Annular Capacity 0.3627 cuft/ft 9-5/8" casing x 13-3/8" casing annulus

0.3132 cuft/ft 9-5/8" casing x 12-1/4" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

Drake Energy Services Intermediate Cementing Program

Notify NMOCD &amp; BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

**PRODUCTION:** Drill to TD following directional plan, run casing, cement casing to surface.

<b>3,004</b> ft (MD)	to	<b>17,354</b> ft (MD)	Hole Section Length:	<b>14,350</b> ft
<b>2,824</b> ft (TVD)	to	<b>4,782</b> ft (TVD)	Casing Required:	<b>17,354</b> ft

<b>Estimated KOP:</b>	<b>5,010</b> ft (MD)	<b>4,562</b> ft (TVD)
<b>Estimated Landing Point (FTP):</b>	<b>6,692</b> ft (MD)	<b>4,870</b> ft (TVD)
<b>Estimated Lateral Length:</b>	<b>10,662</b> ft (MD)	

Fluid:	Type	MW (ppg)	WPS ppm	HTHP	YP (lb/100 sqft)	ES	OWR	Comment
	<b>OBM</b>	8.0 - 9.0	120,000 CaCl	NC	±6	+300	80:20	WBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): **MOTOR:** NOV 077857 - 7/8, 5.7, stage, 0.23 rev/gal, 1.83 - 2.12 DEG, 750 GPM, 1,580 DIFF PSIG (or similar); on demand friction breaking device(s) as required, bottom tool spaced ~3,000' behind the bit.**BIT:** 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

MWD / Survey: MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)

Logging: GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs

Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to **1,500** psi for 30 minutes.



<b>Casing Specs:</b>	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,362	8,948	404,574	404,574
Min. S.F.					<b>3.16</b>	<b>1.19</b>	<b>1.35</b>	<b>1.10</b>

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)

Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 9.0 ppg fluid with 150,000 lbs over-pull

**MU Torque (ft lbs):** Minimum: 3,470 Optimum: 4,620 Maximum: 5,780

**Casing Summary:** Float shoe, 1 jt casing, float collar w/debris catcher, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub, casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the the azimuth of the well. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys

**Lateral:** 1 centralizer per joint

**FTP to 9-5/8" shoe:** 1 centralizer per joint

**9-5/8" shoe to surface:** 1 centralizer per 2 joints

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	65%	0	526
Tail	G:POZ blend	13.3	1.560	7.70	10%	4,147	2,134

Annular Capacity 0.2691 cuft/ft 5-1/2" casing x 9-5/8" casing annulus

0.2291 cuft/ft 5-1/2" casing x 8-1/2" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

American Cementing Liner & Production Blend

**Notify NMOCD & BLM if cement is not circulated to surface.**

**Note:** This well will not be considered an unorthodox well location as defined by NMAC 19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the bottom toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

**FINISH WELL:** ND BOP, cap well, RDMO.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 45 plug-and-perf stages with 410,000 bbls slickwater fluid and 16,000,000 lbs of proppant (estimated)

**Flowback:** Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)

**Production:** Produce through production tubing via gas-lift into permanent production and storage facilities

#### ESTIMATED START DATES:

**Drilling:** TBD

**Completion:** TBD

**Production:** TBD

**Prepared by:** Alec Bridge 3/15/2022



Well: Rodeo Unit #506H  
Site: Rodeo Unit  
Project: San Juan County, New Mexico NAD83 NM W  
Design: rev2  
Rig: Ensign 773

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rodeo 506 FTP 2362 FNL 2211 FEL r1	4867.00	-860.37	3481.83	1891614.268	2756219.596	36.198620000	-107.721052000
Rodeo 506 LTP 926 FSL 234 FEL r1	4782.00	-8130.72	10749.61	1884343.927	2763487.359	36.178622000	-107.696454000
Rodeo 506 Plug point 1	4843.61	-2836.47	5456.93	1889638.172	2758194.686	36.193185000	-107.714366000
Rodeo 506 Plug point 2	4829.94	-4011.16	6631.30	1888463.487	2759369.058	36.189954000	-107.710391000

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Western Zone  
System Datum: Mean Sea Level  
Depth Reference: RKB=6883+28 @ 6911.00ft (Ensign 773)  
Surface location:  
Northing: 1892474.635 Easting: 2752737.771 Latitude: 36.200994000 Longitude: -107.732850000

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.66°



CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Csg
2824.00	3003.52	9 5/8" Csg

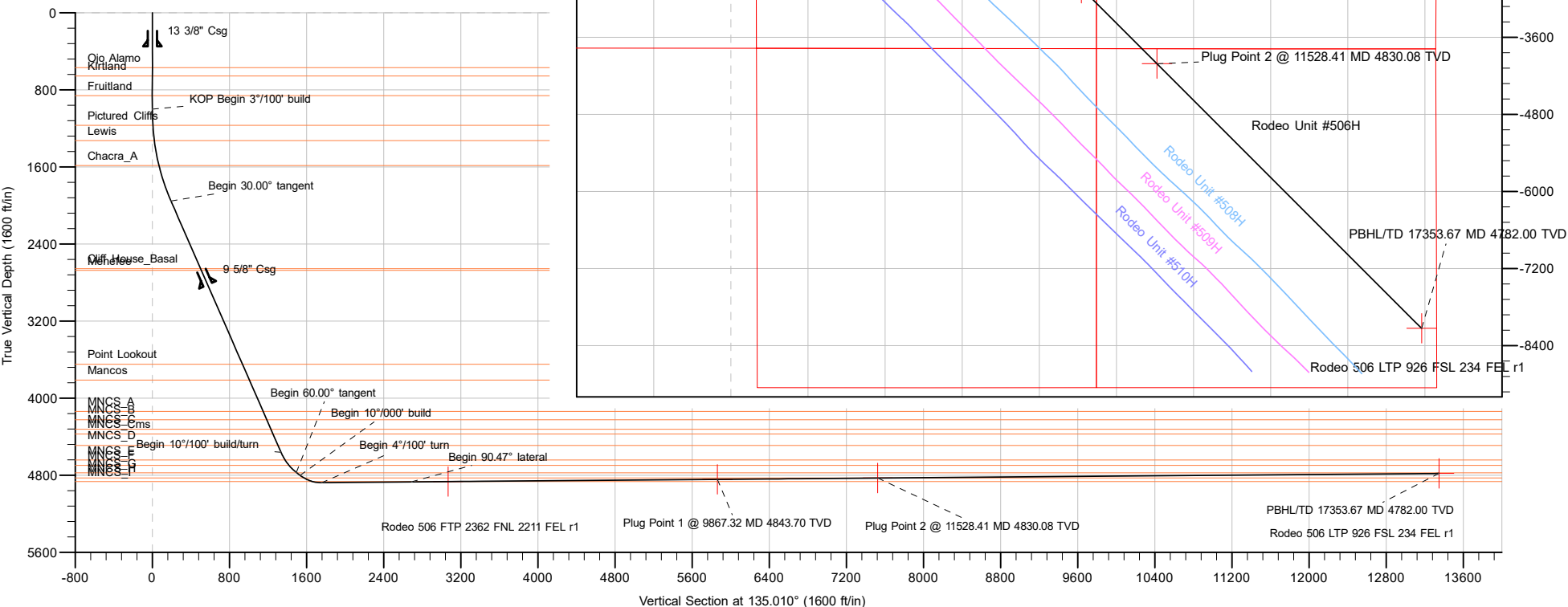


Azimuths to Grid North  
True North: -0.06°  
Magnetic North: 8.66°

Magnetic Field  
Strength: 49223.8nT  
Dip Angle: 62.72°  
Date: 2/22/2022  
Model: IGRF2020

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	2000.00	30.00	94.343	1954.93	-19.38	255.14	3.00	94.34	194.08	Begin 30.00° tangent
4	5010.39	30.00	94.343	4562.00	-133.36	1756.01	0.00	0.00	1335.79	Begin 10°/100' build/turn
5	5310.39	60.00	94.343	4771.72	-149.24	1965.12	10.00	0.00	1494.86	Begin 60.00° tangent
6	5370.39	60.00	94.343	4801.72	-153.18	2016.94	0.00	0.00	1534.27	Begin 10°/000' build
7	5675.09	90.47	94.343	4878.46	-175.23	2307.28	10.00	0.00	1755.13	Begin 4°/100' turn
8	6691.67	90.47	135.008	4869.75	-590.76	3211.74	4.00	89.83	2688.45	Begin 90.47° lateral
9	9867.32	90.47	135.008	4843.70	-2836.52	5456.87	0.00	0.00	5863.99	Plug Point 1 @ 9867.32 MD 4843.70
10	11528.41	90.47	135.008	4830.08	-4011.22	6631.24	0.00	0.00	7525.03	Plug Point 2 @ 11528.41 MD 4830.08
11	17353.67	90.47	135.008	4782.29	-8130.73	10749.60	0.00	0.00	13350.09	PBHL/TD 17353.67 MD 4782.00





## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

<b>Project</b>	San Juan County, New Mexico NAD83 NM W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Western Zone		

Site	Rodeo Unit				
Site Position:		Northing:	1,892,465.480 usft	Latitude:	36.200969000
From:	Lat/Long	Easting:	2,752,685.264 usft	Longitude:	-107.733028000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rodeo Unit #506H, Surf loc: 1481 FNL 391 FEL Section 25-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,892,474.635 usft	Latitude:	36.200994000
	+E/-W	0.00 ft	Easting:	2,752,737.771 usft	Longitude:	-107.732850000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,883.00 ft
Grid Convergence:		0.06 °				

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	2/22/2022	8.72	62.72	49,223.81549036

<b>Design</b>	rev2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	135.010

<b>Plan Survey Tool Program</b>	<b>Date</b>	9/9/2022		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	17,353.67	rev2 (Original Hole)	MWD
			OWSG MWD - Standard	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
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<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	3.00	3.00	0.00	94.34	
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	0.00	0.00	0.00	0.00	
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	10.00	10.00	0.00	0.00	
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	0.00	0.00	0.00	0.00	
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	10.00	10.00	0.00	0.00	
6,691.67	90.47	135.008	4,869.75	-590.76	3,211.74	4.00	0.00	4.00	89.83	
9,867.32	90.47	135.008	4,843.70	-2,836.52	5,456.87	0.00	0.00	0.00	0.00	Rodeo 506 Plug point
11,528.41	90.47	135.008	4,830.08	-4,011.22	6,631.24	0.00	0.00	0.00	0.00	Rodeo 506 Plug point
17,353.67	90.47	135.008	4,782.29	-8,130.73	10,749.60	0.00	0.00	0.00	0.00	Rodeo 506 LTP 926 F



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
350.00	0.00	0.000	350.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>13 3/8" Csg</b>									
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
571.00	0.00	0.000	571.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Ojo Alamo</b>									
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
657.00	0.00	0.000	657.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Kirtland</b>									
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
861.00	0.00	0.000	861.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fruitland</b>									
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>KOP Begin 3°/100' build</b>									
1,100.00	3.00	94.343	1,099.95	-0.20	2.61	1.99	3.00	3.00	0.00
1,168.22	5.05	94.343	1,168.00	-0.56	7.38	5.62	3.00	3.00	0.00
<b>Pictured Cliffs</b>									
1,200.00	6.00	94.343	1,199.63	-0.79	10.43	7.94	3.00	3.00	0.00
1,300.00	9.00	94.343	1,298.77	-1.78	23.45	17.84	3.00	3.00	0.00
1,328.62	9.86	94.343	1,327.00	-2.14	28.12	21.39	3.00	3.00	0.00
<b>Lewis</b>									
1,400.00	12.00	94.343	1,397.08	-3.16	41.62	31.66	3.00	3.00	0.00
1,500.00	15.00	94.343	1,494.31	-4.93	64.89	49.36	3.00	3.00	0.00
1,595.61	17.87	94.343	1,586.00	-6.98	91.86	69.88	3.00	3.00	0.00
<b>Chacra_A</b>									
1,600.00	18.00	94.343	1,590.18	-7.08	93.21	70.90	3.00	3.00	0.00
1,700.00	21.00	94.343	1,684.43	-9.61	126.49	96.22	3.00	3.00	0.00
1,800.00	24.00	94.343	1,776.81	-12.50	164.64	125.24	3.00	3.00	0.00
1,900.00	27.00	94.343	1,867.06	-15.76	207.56	157.89	3.00	3.00	0.00
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	194.08	3.00	3.00	0.00
<b>Begin 30.00° tangent</b>									
2,100.00	30.00	94.343	2,041.53	-23.16	304.99	232.01	0.00	0.00	0.00
2,200.00	30.00	94.343	2,128.13	-26.95	354.85	269.93	0.00	0.00	0.00
2,300.00	30.00	94.343	2,214.74	-30.74	404.71	307.86	0.00	0.00	0.00
2,400.00	30.00	94.343	2,301.34	-34.52	454.56	345.78	0.00	0.00	0.00
2,500.00	30.00	94.343	2,387.94	-38.31	504.42	383.71	0.00	0.00	0.00
2,600.00	30.00	94.343	2,474.54	-42.09	554.28	421.63	0.00	0.00	0.00
2,700.00	30.00	94.343	2,561.15	-45.88	604.13	459.56	0.00	0.00	0.00
2,800.00	30.00	94.343	2,647.75	-49.67	653.99	497.49	0.00	0.00	0.00
2,809.53	30.00	94.343	2,656.00	-50.03	658.74	501.10	0.00	0.00	0.00
<b>Cliff House_Basal</b>									
2,830.31	30.00	94.343	2,674.00	-50.82	669.10	508.98	0.00	0.00	0.00
<b>Menefee</b>									
2,900.00	30.00	94.343	2,734.35	-53.45	703.85	535.41	0.00	0.00	0.00
3,000.00	30.00	94.343	2,820.96	-57.24	753.70	573.34	0.00	0.00	0.00
3,003.52	30.00	94.343	2,824.00	-57.37	755.46	574.67	0.00	0.00	0.00
<b>9 5/8" Csg</b>									



## Planning Report

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<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,100.00	30.00	94.343	2,907.56	-61.03	803.56	611.26	0.00	0.00	0.00
3,200.00	30.00	94.343	2,994.16	-64.81	853.42	649.19	0.00	0.00	0.00
3,300.00	30.00	94.343	3,080.76	-68.60	903.27	687.11	0.00	0.00	0.00
3,400.00	30.00	94.343	3,167.37	-72.39	953.13	725.04	0.00	0.00	0.00
3,500.00	30.00	94.343	3,253.97	-76.17	1,002.98	762.96	0.00	0.00	0.00
3,600.00	30.00	94.343	3,340.57	-79.96	1,052.84	800.89	0.00	0.00	0.00
3,700.00	30.00	94.343	3,427.17	-83.74	1,102.70	838.82	0.00	0.00	0.00
3,800.00	30.00	94.343	3,513.78	-87.53	1,152.55	876.74	0.00	0.00	0.00
3,900.00	30.00	94.343	3,600.38	-91.32	1,202.41	914.67	0.00	0.00	0.00
3,954.99	30.00	94.343	3,648.00	-93.40	1,229.83	935.52	0.00	0.00	0.00
<b>Point Lookout</b>									
4,000.00	30.00	94.343	3,686.98	-95.10	1,252.27	952.59	0.00	0.00	0.00
4,100.00	30.00	94.343	3,773.58	-98.89	1,302.12	990.52	0.00	0.00	0.00
4,146.67	30.00	94.343	3,814.00	-100.66	1,325.39	1,008.22	0.00	0.00	0.00
<b>Mancos</b>									
4,200.00	30.00	94.343	3,860.19	-102.68	1,351.98	1,028.44	0.00	0.00	0.00
4,300.00	30.00	94.343	3,946.79	-106.46	1,401.84	1,066.37	0.00	0.00	0.00
4,400.00	30.00	94.343	4,033.39	-110.25	1,451.69	1,104.29	0.00	0.00	0.00
4,500.00	30.00	94.343	4,119.99	-114.04	1,501.55	1,142.22	0.00	0.00	0.00
4,521.95	30.00	94.343	4,139.00	-114.87	1,512.49	1,150.54	0.00	0.00	0.00
<b>MNCS_A</b>									
4,600.00	30.00	94.343	4,206.60	-117.82	1,551.41	1,180.14	0.00	0.00	0.00
4,620.10	30.00	94.343	4,224.00	-118.58	1,561.42	1,187.77	0.00	0.00	0.00
<b>MNCS_B</b>									
4,700.00	30.00	94.343	4,293.20	-121.61	1,601.26	1,218.07	0.00	0.00	0.00
4,735.57	30.00	94.343	4,324.00	-122.95	1,618.99	1,231.56	0.00	0.00	0.00
<b>MNCS_C</b>									
4,792.15	30.00	94.343	4,373.00	-125.10	1,647.20	1,253.02	0.00	0.00	0.00
<b>MNCS_Cms</b>									
4,800.00	30.00	94.343	4,379.80	-125.39	1,651.12	1,256.00	0.00	0.00	0.00
4,900.00	30.00	94.343	4,466.40	-129.18	1,700.97	1,293.92	0.00	0.00	0.00
4,929.56	30.00	94.343	4,492.00	-130.30	1,715.71	1,305.13	0.00	0.00	0.00
<b>MNCS_D</b>									
5,000.00	30.00	94.343	4,553.01	-132.97	1,750.83	1,331.85	0.00	0.00	0.00
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	1,335.79	0.00	0.00	0.00
<b>Begin 10°/100' build/turn</b>									
5,050.00	33.96	94.343	4,595.60	-134.95	1,776.93	1,351.70	10.00	10.00	0.00
5,100.00	38.96	94.343	4,635.80	-137.20	1,806.54	1,374.23	10.00	10.00	0.00
5,108.03	39.76	94.343	4,642.00	-137.58	1,811.62	1,378.09	10.00	10.00	0.00
<b>MNCS_E</b>									
5,150.00	43.96	94.343	4,673.25	-139.70	1,839.55	1,399.33	10.00	10.00	0.00
5,186.94	47.66	94.343	4,699.00	-141.71	1,865.95	1,419.42	10.00	10.00	0.00
<b>MNCS_F</b>									
5,200.00	48.96	94.343	4,707.68	-142.45	1,875.68	1,426.81	10.00	10.00	0.00
5,250.00	53.96	94.343	4,738.83	-145.41	1,914.66	1,456.47	10.00	10.00	0.00
5,300.00	58.96	94.343	4,766.44	-148.56	1,956.20	1,488.07	10.00	10.00	0.00
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	1,494.86	10.00	10.00	0.00
<b>Begin 60.00° tangent</b>									
5,316.95	60.00	94.343	4,775.00	-149.67	1,970.79	1,499.17	0.00	0.00	0.00
<b>MNCS_G</b>									
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	1,534.27	0.00	0.00	0.00
<b>Begin 10°/000' build</b>									





## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	62.96	94.343	4,815.86	-155.15	2,042.88	1,554.01	10.00	10.00	0.00
5,430.52	66.01	94.343	4,829.00	-157.23	2,070.34	1,574.90	10.00	10.00	0.00
MNCS_H									
5,450.00	67.96	94.343	4,836.61	-158.59	2,088.22	1,588.50	10.00	10.00	0.00
5,500.00	72.96	94.343	4,853.33	-162.16	2,135.19	1,624.23	10.00	10.00	0.00
5,550.00	77.96	94.343	4,865.88	-165.82	2,183.43	1,660.93	10.00	10.00	0.00
5,555.50	78.51	94.343	4,867.00	-166.23	2,188.81	1,665.01	10.00	10.00	0.00
MNCS_I									
5,600.00	82.96	94.343	4,874.16	-169.55	2,232.59	1,698.31	10.00	10.00	0.00
5,650.00	87.96	94.343	4,878.12	-173.33	2,282.27	1,736.11	10.00	10.00	0.00
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	1,755.13	10.00	10.00	0.00
Begin 4°/100' turn									
5,700.00	90.47	95.340	4,878.25	-177.33	2,332.10	1,774.17	4.00	0.01	4.00
5,800.00	90.48	99.340	4,877.42	-190.10	2,431.26	1,853.31	4.00	0.01	4.00
5,900.00	90.49	103.340	4,876.57	-209.76	2,529.28	1,936.51	4.00	0.01	4.00
6,000.00	90.50	107.340	4,875.71	-236.21	2,625.70	2,023.38	4.00	0.01	4.00
6,100.00	90.50	111.340	4,874.83	-269.32	2,720.03	2,113.49	4.00	0.00	4.00
6,200.00	90.50	115.340	4,873.96	-308.93	2,811.83	2,206.40	4.00	0.00	4.00
6,300.00	90.50	119.340	4,873.09	-354.84	2,900.64	2,301.66	4.00	0.00	4.00
6,400.00	90.50	123.341	4,872.22	-406.84	2,986.02	2,398.80	4.00	0.00	4.00
6,500.00	90.49	127.341	4,871.36	-464.67	3,067.58	2,497.36	4.00	-0.01	4.00
6,600.00	90.48	131.341	4,870.51	-528.05	3,144.90	2,596.84	4.00	-0.01	4.00
6,691.67	90.47	135.008	4,869.75	-590.76	3,211.74	2,688.45	4.00	-0.01	4.00
Begin 90.47° lateral									
6,700.00	90.47	135.008	4,869.68	-596.65	3,217.63	2,696.78	0.00	0.00	0.00
6,800.00	90.47	135.008	4,868.86	-667.37	3,288.32	2,796.77	0.00	0.00	0.00
6,900.00	90.47	135.008	4,868.04	-738.09	3,359.02	2,896.77	0.00	0.00	0.00
7,000.00	90.47	135.008	4,867.22	-808.81	3,429.72	2,996.77	0.00	0.00	0.00
7,100.00	90.47	135.008	4,866.40	-879.52	3,500.42	3,096.76	0.00	0.00	0.00
7,200.00	90.47	135.008	4,865.58	-950.24	3,571.12	3,196.76	0.00	0.00	0.00
7,300.00	90.47	135.008	4,864.76	-1,020.96	3,641.82	3,296.76	0.00	0.00	0.00
7,400.00	90.47	135.008	4,863.94	-1,091.68	3,712.51	3,396.75	0.00	0.00	0.00
7,500.00	90.47	135.008	4,863.12	-1,162.40	3,783.21	3,496.75	0.00	0.00	0.00
7,600.00	90.47	135.008	4,862.30	-1,233.11	3,853.91	3,596.75	0.00	0.00	0.00
7,700.00	90.47	135.008	4,861.48	-1,303.83	3,924.61	3,696.74	0.00	0.00	0.00
7,800.00	90.47	135.008	4,860.66	-1,374.55	3,995.31	3,796.74	0.00	0.00	0.00
7,900.00	90.47	135.008	4,859.84	-1,445.27	4,066.01	3,896.74	0.00	0.00	0.00
8,000.00	90.47	135.008	4,859.02	-1,515.99	4,136.71	3,996.73	0.00	0.00	0.00
8,100.00	90.47	135.008	4,858.20	-1,586.71	4,207.40	4,096.73	0.00	0.00	0.00
8,200.00	90.47	135.008	4,857.38	-1,657.42	4,278.10	4,196.73	0.00	0.00	0.00
8,300.00	90.47	135.008	4,856.56	-1,728.14	4,348.80	4,296.72	0.00	0.00	0.00
8,400.00	90.47	135.008	4,855.74	-1,798.86	4,419.50	4,396.72	0.00	0.00	0.00
8,500.00	90.47	135.008	4,854.92	-1,869.58	4,490.20	4,496.72	0.00	0.00	0.00
8,600.00	90.47	135.008	4,854.10	-1,940.30	4,560.90	4,596.71	0.00	0.00	0.00
8,700.00	90.47	135.008	4,853.28	-2,011.01	4,631.59	4,696.71	0.00	0.00	0.00
8,800.00	90.47	135.008	4,852.46	-2,081.73	4,702.29	4,796.71	0.00	0.00	0.00
8,900.00	90.47	135.008	4,851.64	-2,152.45	4,772.99	4,896.70	0.00	0.00	0.00
9,000.00	90.47	135.008	4,850.82	-2,223.17	4,843.69	4,996.70	0.00	0.00	0.00
9,100.00	90.47	135.008	4,850.00	-2,293.89	4,914.39	5,096.70	0.00	0.00	0.00
9,200.00	90.47	135.008	4,849.18	-2,364.61	4,985.09	5,196.69	0.00	0.00	0.00
9,300.00	90.47	135.008	4,848.36	-2,435.32	5,055.78	5,296.69	0.00	0.00	0.00
9,400.00	90.47	135.008	4,847.54	-2,506.04	5,126.48	5,396.69	0.00	0.00	0.00
9,500.00	90.47	135.008	4,846.72	-2,576.76	5,197.18	5,496.68	0.00	0.00	0.00
9,600.00	90.47	135.008	4,845.90	-2,647.48	5,267.88	5,596.68	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,700.00	90.47	135.008	4,845.07	-2,718.20	5,338.58	5,696.68	0.00	0.00	0.00
9,800.00	90.47	135.008	4,844.25	-2,788.91	5,409.28	5,796.67	0.00	0.00	0.00
9,867.32	90.47	135.008	4,843.70	-2,836.52	5,456.87	5,863.99	0.00	0.00	0.00
<b>Plug Point 1 @ 9867.32 MD 4843.70 TVD</b>									
9,900.00	90.47	135.008	4,843.43	-2,859.63	5,479.98	5,896.67	0.00	0.00	0.00
10,000.00	90.47	135.008	4,842.61	-2,930.35	5,550.67	5,996.67	0.00	0.00	0.00
10,100.00	90.47	135.008	4,841.79	-3,001.07	5,621.37	6,096.66	0.00	0.00	0.00
10,200.00	90.47	135.008	4,840.97	-3,071.79	5,692.07	6,196.66	0.00	0.00	0.00
10,300.00	90.47	135.008	4,840.15	-3,142.51	5,762.77	6,296.66	0.00	0.00	0.00
10,400.00	90.47	135.008	4,839.33	-3,213.22	5,833.47	6,396.65	0.00	0.00	0.00
10,500.00	90.47	135.008	4,838.51	-3,283.94	5,904.17	6,496.65	0.00	0.00	0.00
10,600.00	90.47	135.008	4,837.69	-3,354.66	5,974.86	6,596.65	0.00	0.00	0.00
10,700.00	90.47	135.008	4,836.87	-3,425.38	6,045.56	6,696.64	0.00	0.00	0.00
10,800.00	90.47	135.008	4,836.05	-3,496.10	6,116.26	6,796.64	0.00	0.00	0.00
10,900.00	90.47	135.008	4,835.23	-3,566.81	6,186.96	6,896.64	0.00	0.00	0.00
11,000.00	90.47	135.008	4,834.41	-3,637.53	6,257.66	6,996.63	0.00	0.00	0.00
11,100.00	90.47	135.008	4,833.59	-3,708.25	6,328.36	7,096.63	0.00	0.00	0.00
11,200.00	90.47	135.008	4,832.77	-3,778.97	6,399.05	7,196.63	0.00	0.00	0.00
11,300.00	90.47	135.008	4,831.95	-3,849.69	6,469.75	7,296.62	0.00	0.00	0.00
11,400.00	90.47	135.008	4,831.13	-3,920.41	6,540.45	7,396.62	0.00	0.00	0.00
11,500.00	90.47	135.008	4,830.31	-3,991.12	6,611.15	7,496.62	0.00	0.00	0.00
11,528.41	90.47	135.008	4,830.08	-4,011.22	6,631.24	7,525.03	0.00	0.00	0.00
<b>Plug Point 2 @ 11528.41 MD 4830.08 TVD</b>									
11,600.00	90.47	135.008	4,829.49	-4,061.84	6,681.85	7,596.61	0.00	0.00	0.00
11,700.00	90.47	135.008	4,828.67	-4,132.56	6,752.55	7,696.61	0.00	0.00	0.00
11,800.00	90.47	135.008	4,827.85	-4,203.28	6,823.25	7,796.61	0.00	0.00	0.00
11,900.00	90.47	135.008	4,827.03	-4,274.00	6,893.94	7,896.60	0.00	0.00	0.00
12,000.00	90.47	135.008	4,826.21	-4,344.71	6,964.64	7,996.60	0.00	0.00	0.00
12,100.00	90.47	135.008	4,825.39	-4,415.43	7,035.34	8,096.60	0.00	0.00	0.00
12,200.00	90.47	135.008	4,824.57	-4,486.15	7,106.04	8,196.59	0.00	0.00	0.00
12,300.00	90.47	135.008	4,823.75	-4,556.87	7,176.74	8,296.59	0.00	0.00	0.00
12,400.00	90.47	135.008	4,822.93	-4,627.59	7,247.44	8,396.59	0.00	0.00	0.00
12,500.00	90.47	135.008	4,822.11	-4,698.31	7,318.13	8,496.58	0.00	0.00	0.00
12,600.00	90.47	135.008	4,821.29	-4,769.02	7,388.83	8,596.58	0.00	0.00	0.00
12,700.00	90.47	135.008	4,820.47	-4,839.74	7,459.53	8,696.58	0.00	0.00	0.00
12,800.00	90.47	135.008	4,819.65	-4,910.46	7,530.23	8,796.57	0.00	0.00	0.00
12,900.00	90.47	135.008	4,818.83	-4,981.18	7,600.93	8,896.57	0.00	0.00	0.00
13,000.00	90.47	135.008	4,818.01	-5,051.90	7,671.63	8,996.57	0.00	0.00	0.00
13,100.00	90.47	135.008	4,817.18	-5,122.61	7,742.32	9,096.56	0.00	0.00	0.00
13,200.00	90.47	135.008	4,816.36	-5,193.33	7,813.02	9,196.56	0.00	0.00	0.00
13,300.00	90.47	135.008	4,815.54	-5,264.05	7,883.72	9,296.56	0.00	0.00	0.00
13,400.00	90.47	135.008	4,814.72	-5,334.77	7,954.42	9,396.55	0.00	0.00	0.00
13,500.00	90.47	135.008	4,813.90	-5,405.49	8,025.12	9,496.55	0.00	0.00	0.00
13,600.00	90.47	135.008	4,813.08	-5,476.21	8,095.82	9,596.55	0.00	0.00	0.00
13,700.00	90.47	135.008	4,812.26	-5,546.92	8,166.52	9,696.54	0.00	0.00	0.00
13,800.00	90.47	135.008	4,811.44	-5,617.64	8,237.21	9,796.54	0.00	0.00	0.00
13,900.00	90.47	135.008	4,810.62	-5,688.36	8,307.91	9,896.54	0.00	0.00	0.00
14,000.00	90.47	135.008	4,809.80	-5,759.08	8,378.61	9,996.53	0.00	0.00	0.00
14,100.00	90.47	135.008	4,808.98	-5,829.80	8,449.31	10,096.53	0.00	0.00	0.00
14,200.00	90.47	135.008	4,808.16	-5,900.51	8,520.01	10,196.53	0.00	0.00	0.00
14,300.00	90.47	135.008	4,807.34	-5,971.23	8,590.71	10,296.52	0.00	0.00	0.00
14,400.00	90.47	135.008	4,806.52	-6,041.95	8,661.40	10,396.52	0.00	0.00	0.00
14,500.00	90.47	135.008	4,805.70	-6,112.67	8,732.10	10,496.52	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
14,600.00	90.47	135.008	4,804.88	-6,183.39	8,802.80	10,596.51	0.00	0.00	0.00	
14,700.00	90.47	135.008	4,804.06	-6,254.11	8,873.50	10,696.51	0.00	0.00	0.00	
14,800.00	90.47	135.008	4,803.24	-6,324.82	8,944.20	10,796.51	0.00	0.00	0.00	
14,900.00	90.47	135.008	4,802.42	-6,395.54	9,014.90	10,896.50	0.00	0.00	0.00	
15,000.00	90.47	135.008	4,801.60	-6,466.26	9,085.60	10,996.50	0.00	0.00	0.00	
15,100.00	90.47	135.008	4,800.78	-6,536.98	9,156.29	11,096.50	0.00	0.00	0.00	
15,200.00	90.47	135.008	4,799.96	-6,607.70	9,226.99	11,196.49	0.00	0.00	0.00	
15,300.00	90.47	135.008	4,799.14	-6,678.41	9,297.69	11,296.49	0.00	0.00	0.00	
15,400.00	90.47	135.008	4,798.32	-6,749.13	9,368.39	11,396.49	0.00	0.00	0.00	
15,500.00	90.47	135.008	4,797.50	-6,819.85	9,439.09	11,496.48	0.00	0.00	0.00	
15,600.00	90.47	135.008	4,796.68	-6,890.57	9,509.79	11,596.48	0.00	0.00	0.00	
15,700.00	90.47	135.008	4,795.86	-6,961.29	9,580.48	11,696.47	0.00	0.00	0.00	
15,800.00	90.47	135.008	4,795.04	-7,032.00	9,651.18	11,796.47	0.00	0.00	0.00	
15,900.00	90.47	135.008	4,794.22	-7,102.72	9,721.88	11,896.47	0.00	0.00	0.00	
16,000.00	90.47	135.008	4,793.40	-7,173.44	9,792.58	11,996.46	0.00	0.00	0.00	
16,100.00	90.47	135.008	4,792.58	-7,244.16	9,863.28	12,096.46	0.00	0.00	0.00	
16,200.00	90.47	135.008	4,791.76	-7,314.88	9,933.98	12,196.46	0.00	0.00	0.00	
16,300.00	90.47	135.008	4,790.94	-7,385.60	10,004.67	12,296.45	0.00	0.00	0.00	
16,400.00	90.47	135.008	4,790.12	-7,456.31	10,075.37	12,396.45	0.00	0.00	0.00	
16,500.00	90.47	135.008	4,789.29	-7,527.03	10,146.07	12,496.45	0.00	0.00	0.00	
16,600.00	90.47	135.008	4,788.47	-7,597.75	10,216.77	12,596.44	0.00	0.00	0.00	
16,700.00	90.47	135.008	4,787.65	-7,668.47	10,287.47	12,696.44	0.00	0.00	0.00	
16,800.00	90.47	135.008	4,786.83	-7,739.19	10,358.17	12,796.44	0.00	0.00	0.00	
16,900.00	90.47	135.008	4,786.01	-7,809.90	10,428.87	12,896.43	0.00	0.00	0.00	
17,000.00	90.47	135.008	4,785.19	-7,880.62	10,499.56	12,996.43	0.00	0.00	0.00	
17,100.00	90.47	135.008	4,784.37	-7,951.34	10,570.26	13,096.43	0.00	0.00	0.00	
17,200.00	90.47	135.008	4,783.55	-8,022.06	10,640.96	13,196.42	0.00	0.00	0.00	
17,300.00	90.47	135.008	4,782.73	-8,092.78	10,711.66	13,296.42	0.00	0.00	0.00	
17,353.67	90.47	135.008	4,782.29	-8,130.73	10,749.60	13,350.09	0.00	0.00	0.00	
PBHL/TD 17353.67 MD 4782.00 TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Rodeo 506 LTP 926 FSL - hit/miss target - Shape - Point	0.00	0.000	4,782.00	-8,130.72	10,749.61	1,884,343.927	2,763,487.359	36.178622000	-107.696454000	
- plan misses target center by 0.29ft at 17353.67ft MD (4782.29 TVD, -8130.73 N, 10749.60 E)										
Rodeo 506 Plug point 2 - plan misses target center by 0.16ft at 11528.42ft MD (4830.08 TVD, -4011.22 N, 6631.24 E) - Point	0.00	0.000	4,829.94	-4,011.16	6,631.30	1,888,463.487	2,759,369.058	36.189954000	-107.710391000	
Rodeo 506 Plug point 1 - plan misses target center by 0.12ft at 9867.32ft MD (4843.70 TVD, -2836.52 N, 5456.87 E) - Point	0.00	0.000	4,843.61	-2,836.47	5,456.93	1,889,638.172	2,758,194.686	36.193185000	-107.714366000	
Rodeo 506 FTP 2362 F - plan misses target center by 0.55ft at 7073.31ft MD (4866.62 TVD, -860.65 N, 3481.55 E) - Point	0.00	0.000	4,867.00	-860.37	3,481.83	1,891,614.268	2,756,219.596	36.198620000	-107.721052000	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,003.52	2,824.00	9 5/8" Csg	9-5/8	12-1/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
571.00	571.00	Ojo Alamo				
657.00	657.00	Kirtland				
861.00	861.00	Fruitland				
1,168.22	1,168.00	Pictured Cliffs				
1,328.62	1,327.00	Lewis				
1,595.61	1,586.00	Chacra_A				
2,809.53	2,656.00	Cliff House_Basal				
2,830.31	2,674.00	Menefee				
3,954.99	3,648.00	Point Lookout				
4,146.67	3,814.00	Mancos				
4,521.95	4,139.00	MNCS_A				
4,620.10	4,224.00	MNCS_B				
4,735.57	4,324.00	MNCS_C				
4,792.15	4,373.00	MNCS_Cms				
4,929.56	4,492.00	MNCS_D				
5,108.03	4,642.00	MNCS_E				
5,186.94	4,699.00	MNCS_F				
5,316.95	4,775.00	MNCS_G				
5,430.52	4,829.00	MNCS_H				
5,555.50	4,867.00	MNCS_I		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
2,000.00	1,954.93	-19.38	255.14	Begin 30.00° tangent	
5,010.39	4,562.00	-133.36	1,756.01	Begin 10°/100' build/turn	
5,310.39	4,771.72	-149.24	1,965.12	Begin 60.00° tangent	
5,370.39	4,801.72	-153.18	2,016.94	Begin 10°/000' build	
5,675.09	4,878.46	-175.23	2,307.28	Begin 4°/100' turn	
6,691.67	4,869.75	-590.76	3,211.74	Begin 90.47° lateral	
9,867.32	4,843.70	-2,836.52	5,456.87	Plug Point 1 @ 9867.32 MD 4843.70 TVD	
11,528.41	4,830.08	-4,011.22	6,631.24	Plug Point 2 @ 11528.41 MD 4830.08 TVD	
17,353.67	4,782.29	-8,130.73	10,749.60	PBHL/TD 17353.67 MD 4782.00 TVD	



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

<b>Project</b>	San Juan County, New Mexico NAD83 NM W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Western Zone		

Site	Rodeo Unit				
Site Position:		Northing:	1,892,465.480 usft	Latitude:	36.200969000
From:	Lat/Long	Easting:	2,752,685.264 usft	Longitude:	-107.733028000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rodeo Unit #506H, Surf loc: 1481 FNL 391 FEL Section 25-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,892,474.635 usft	Latitude:	36.200994000
	+E/-W	0.00 ft	Easting:	2,752,737.771 usft	Longitude:	-107.732850000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,883.00 ft
Grid Convergence:						

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	2/22/2022	8.72	62.72	49,223.81549036

<b>Design</b>	rev2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	135.010

Plan Survey Tool Program		Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,353.67 rev2 (Original Hole)			



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	3.00	3.00	0.00	94.34	
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	0.00	0.00	0.00	0.00	
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	10.00	10.00	0.00	0.00	
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	0.00	0.00	0.00	0.00	
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	10.00	10.00	0.00	0.00	
6,691.67	90.47	135.008	4,869.75	-590.76	3,211.74	4.00	0.00	4.00	89.83	
9,867.32	90.47	135.008	4,843.70	-2,836.52	5,456.87	0.00	0.00	0.00	0.00	Rodeo 506 Plug point
11,528.41	90.47	135.008	4,830.08	-4,011.22	6,631.24	0.00	0.00	0.00	0.00	Rodeo 506 Plug point
17,353.67	90.47	135.008	4,782.29	-8,130.73	10,749.60	0.00	0.00	0.00	0.00	Rodeo 506 LTP 926 F





## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
100.00	0.00	0.000	100.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
200.00	0.00	0.000	200.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
300.00	0.00	0.000	300.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
350.00	0.00	0.000	350.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
13 3/8" Csg									
400.00	0.00	0.000	400.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
500.00	0.00	0.000	500.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
571.00	0.00	0.000	571.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
Ojo Alamo									
600.00	0.00	0.000	600.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
657.00	0.00	0.000	657.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
Kirtland									
700.00	0.00	0.000	700.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
800.00	0.00	0.000	800.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
861.00	0.00	0.000	861.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
Fruitland									
900.00	0.00	0.000	900.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
KOP Begin 3°/100' build									
1,100.00	3.00	94.343	1,099.95	-0.20	2.61	1,892,474.437	2,752,740.381	36.200993448	-107.732841155
1,168.22	5.05	94.343	1,168.00	-0.56	7.38	1,892,474.074	2,752,745.153	36.200992439	-107.732824981
Pictured Cliffs									
1,200.00	6.00	94.343	1,199.63	-0.79	10.43	1,892,473.843	2,752,748.203	36.200991794	-107.732814643
1,300.00	9.00	94.343	1,298.77	-1.78	23.45	1,892,472.854	2,752,761.217	36.200989042	-107.732770538
1,328.62	9.86	94.343	1,327.00	-2.14	28.12	1,892,472.499	2,752,765.892	36.200988053	-107.732754693
Lewis									
1,400.00	12.00	94.343	1,397.08	-3.16	41.62	1,892,471.474	2,752,779.386	36.200985199	-107.732708960
1,500.00	15.00	94.343	1,494.31	-4.93	64.89	1,892,469.707	2,752,802.661	36.200980277	-107.732630078
1,595.61	17.87	94.343	1,586.00	-6.98	91.86	1,892,467.659	2,752,829.629	36.200974574	-107.732538679
Chacra_A									
1,600.00	18.00	94.343	1,590.18	-7.08	93.21	1,892,467.556	2,752,830.977	36.200974289	-107.732534108
1,700.00	21.00	94.343	1,684.43	-9.61	126.49	1,892,465.029	2,752,864.258	36.200967250	-107.732421314
1,800.00	24.00	94.343	1,776.81	-12.50	164.64	1,892,462.131	2,752,902.412	36.200959181	-107.732292004
1,900.00	27.00	94.343	1,867.06	-15.76	207.56	1,892,458.871	2,752,945.335	36.200950103	-107.732146533
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	1,892,455.258	2,752,992.908	36.200940042	-107.731985300
Begin 30.00° tangent									
2,100.00	30.00	94.343	2,041.53	-23.16	304.99	1,892,451.472	2,753,042.765	36.200929497	-107.731816329
2,200.00	30.00	94.343	2,128.13	-26.95	354.85	1,892,447.686	2,753,092.621	36.200918952	-107.731647359
2,300.00	30.00	94.343	2,214.74	-30.74	404.71	1,892,443.899	2,753,142.477	36.200908407	-107.731478388
2,400.00	30.00	94.343	2,301.34	-34.52	454.56	1,892,440.113	2,753,192.334	36.200897862	-107.731309418
2,500.00	30.00	94.343	2,387.94	-38.31	504.42	1,892,436.327	2,753,242.190	36.200887316	-107.731140447
2,600.00	30.00	94.343	2,474.54	-42.09	554.28	1,892,432.540	2,753,292.046	36.200876770	-107.730971477
2,700.00	30.00	94.343	2,561.15	-45.88	604.13	1,892,428.754	2,753,341.903	36.200866224	-107.730802506
2,800.00	30.00	94.343	2,647.75	-49.67	653.99	1,892,424.968	2,753,391.759	36.200855678	-107.730633536
2,809.53	30.00	94.343	2,656.00	-50.03	658.74	1,892,424.607	2,753,396.508	36.200854673	-107.730617439
Cliff House_Basal									
2,830.31	30.00	94.343	2,674.00	-50.82	669.10	1,892,423.820	2,753,406.871	36.200852481	-107.730582319
Menefee									
2,900.00	30.00	94.343	2,734.35	-53.45	703.85	1,892,421.181	2,753,441.615	36.200845131	-107.730464566
3,000.00	30.00	94.343	2,820.96	-57.24	753.70	1,892,417.395	2,753,491.472	36.200834584	-107.730295595
3,003.52	30.00	94.343	2,824.00	-57.37	755.46	1,892,417.262	2,753,493.225	36.200834213	-107.730289654
9 5/8" Csg									



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,100.00	30.00	94.343	2,907.56	-61.03	803.56	1,892,413.609	2,753,541.328	36.200824037	-107.730126625
3,200.00	30.00	94.343	2,994.16	-64.81	853.42	1,892,409.822	2,753,591.184	36.200813490	-107.729957655
3,300.00	30.00	94.343	3,080.76	-68.60	903.27	1,892,406.036	2,753,641.041	36.200802942	-107.729788685
3,400.00	30.00	94.343	3,167.37	-72.39	953.13	1,892,402.250	2,753,690.897	36.200792395	-107.729619715
3,500.00	30.00	94.343	3,253.97	-76.17	1,002.98	1,892,398.463	2,753,740.753	36.200781847	-107.729450745
3,600.00	30.00	94.343	3,340.57	-79.96	1,052.84	1,892,394.677	2,753,790.610	36.200771298	-107.729281775
3,700.00	30.00	94.343	3,427.17	-83.74	1,102.70	1,892,390.890	2,753,840.466	36.200760750	-107.729112805
3,800.00	30.00	94.343	3,513.78	-87.53	1,152.55	1,892,387.104	2,753,890.322	36.200750201	-107.728943835
3,900.00	30.00	94.343	3,600.38	-91.32	1,202.41	1,892,383.318	2,753,940.178	36.200739652	-107.728774865
3,954.99	30.00	94.343	3,648.00	-93.40	1,229.83	1,892,381.236	2,753,967.594	36.200733851	-107.728681950
<b>Point Lookout</b>									
4,000.00	30.00	94.343	3,686.98	-95.10	1,252.27	1,892,379.531	2,753,990.035	36.200729103	-107.728605895
4,100.00	30.00	94.343	3,773.58	-98.89	1,302.12	1,892,375.745	2,754,039.891	36.200718554	-107.728436926
4,146.67	30.00	94.343	3,814.00	-100.66	1,325.39	1,892,373.978	2,754,063.159	36.200713630	-107.728358068
<b>Mancos</b>									
4,200.00	30.00	94.343	3,860.19	-102.68	1,351.98	1,892,371.959	2,754,089.747	36.200708004	-107.728267956
4,300.00	30.00	94.343	3,946.79	-106.46	1,401.84	1,892,368.172	2,754,139.604	36.200697454	-107.728098986
4,400.00	30.00	94.343	4,033.39	-110.25	1,451.69	1,892,364.386	2,754,189.460	36.200686904	-107.727930017
4,500.00	30.00	94.343	4,119.99	-114.04	1,501.55	1,892,360.600	2,754,239.316	36.200676353	-107.727761047
4,521.95	30.00	94.343	4,139.00	-114.87	1,512.49	1,892,359.769	2,754,250.259	36.200674038	-107.727723963
<b>MNCS_A</b>									
4,600.00	30.00	94.343	4,206.60	-117.82	1,551.41	1,892,356.813	2,754,289.173	36.200665803	-107.727592078
4,620.10	30.00	94.343	4,224.00	-118.58	1,561.42	1,892,356.052	2,754,299.192	36.200663682	-107.727558120
<b>MNCS_B</b>									
4,700.00	30.00	94.343	4,293.20	-121.61	1,601.26	1,892,353.027	2,754,339.029	36.200655252	-107.727423108
4,735.57	30.00	94.343	4,324.00	-122.95	1,618.99	1,892,351.680	2,754,356.761	36.200651499	-107.727363011
<b>MNCS_C</b>									
4,792.15	30.00	94.343	4,373.00	-125.10	1,647.20	1,892,349.538	2,754,384.970	36.200645529	-107.727267408
<b>MNCS_Cms</b>									
4,800.00	30.00	94.343	4,379.80	-125.39	1,651.12	1,892,349.241	2,754,388.885	36.200644701	-107.727254139
4,900.00	30.00	94.343	4,466.40	-129.18	1,700.97	1,892,345.454	2,754,438.742	36.200634149	-107.727085169
4,929.56	30.00	94.343	4,492.00	-130.30	1,715.71	1,892,344.335	2,754,453.478	36.200631031	-107.727035228
<b>MNCS_D</b>									
5,000.00	30.00	94.343	4,553.01	-132.97	1,750.83	1,892,341.668	2,754,488.598	36.200623598	-107.726916200
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	1,892,341.275	2,754,493.776	36.200622502	-107.726898652
<b>Begin 10°/100' build/turn</b>									
5,050.00	33.96	94.343	4,595.60	-134.95	1,776.93	1,892,339.686	2,754,514.693	36.200618075	-107.726827762
5,100.00	38.96	94.343	4,635.80	-137.20	1,806.54	1,892,337.437	2,754,544.312	36.200611806	-107.726727379
5,108.03	39.76	94.343	4,642.00	-137.58	1,811.62	1,892,337.051	2,754,549.387	36.200610732	-107.726710179
<b>MNCS_E</b>									
5,150.00	43.96	94.343	4,673.25	-139.70	1,839.55	1,892,334.931	2,754,577.312	36.200604822	-107.726615537
5,186.94	47.66	94.343	4,699.00	-141.71	1,865.95	1,892,332.925	2,754,603.720	36.200599233	-107.726526039
<b>MNCS_F</b>									
5,200.00	48.96	94.343	4,707.68	-142.45	1,875.68	1,892,332.187	2,754,613.442	36.200597175	-107.726493088
5,250.00	53.96	94.343	4,738.83	-145.41	1,914.66	1,892,329.226	2,754,652.427	36.200588923	-107.726360965
5,300.00	58.96	94.343	4,766.44	-148.56	1,956.20	1,892,326.071	2,754,693.970	36.200580131	-107.726220171
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	1,892,325.394	2,754,702.890	36.200578242	-107.726189937
<b>Begin 60.00° tangent</b>									
5,316.95	60.00	94.343	4,775.00	-149.67	1,970.79	1,892,324.963	2,754,708.560	36.200577042	-107.726170722
<b>MNCS_G</b>									
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	1,892,321.459	2,754,754.703	36.200567275	-107.726014339
<b>Begin 10°/000' build</b>									
5,400.00	62.96	94.343	4,815.86	-155.15	2,042.88	1,892,319.488	2,754,780.646	36.200561784	-107.725926414



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,430.52	66.01	94.343	4,829.00	-157.23	2,070.34	1,892,317.403	2,754,808.110	36.200555971	-107.725833334
<b>MNCS_H</b>									
5,450.00	67.96	94.343	4,836.61	-158.59	2,088.22	1,892,316.045	2,754,825.985	36.200552187	-107.725772755
5,500.00	72.96	94.343	4,853.33	-162.16	2,135.19	1,892,312.478	2,754,872.955	36.200542244	-107.725613566
5,550.00	77.96	94.343	4,865.88	-165.82	2,183.43	1,892,308.814	2,754,921.200	36.200532032	-107.725450060
5,555.50	78.51	94.343	4,867.00	-166.23	2,188.81	1,892,308.406	2,754,926.572	36.200530895	-107.725431854
<b>MNCS_I</b>									
5,600.00	82.96	94.343	4,874.16	-169.55	2,232.59	1,892,305.081	2,754,970.351	36.200521627	-107.725283480
5,650.00	87.96	94.343	4,878.12	-173.33	2,282.27	1,892,301.308	2,755,020.036	36.200511110	-107.725115095
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	1,892,299.409	2,755,045.045	36.200505815	-107.725030336
<b>Begin 4°/100' turn</b>									
5,700.00	90.47	95.340	4,878.25	-177.33	2,332.10	1,892,297.306	2,755,069.869	36.200499963	-107.724946204
5,800.00	90.48	99.340	4,877.42	-190.10	2,431.26	1,892,284.534	2,755,169.026	36.200464572	-107.724610170
5,900.00	90.49	103.340	4,876.57	-209.76	2,529.28	1,892,264.876	2,755,267.050	36.200410268	-107.724278002
6,000.00	90.50	107.340	4,875.71	-236.21	2,625.70	1,892,238.428	2,755,363.464	36.200337314	-107.723951318
6,100.00	90.50	111.340	4,874.83	-269.32	2,720.03	1,892,205.318	2,755,457.798	36.200246066	-107.723631710
6,200.00	90.50	115.340	4,873.96	-308.93	2,811.83	1,892,165.709	2,755,549.593	36.200136970	-107.723320735
6,300.00	90.50	119.340	4,873.09	-354.84	2,900.64	1,892,119.793	2,755,638.400	36.200010556	-107.723019908
6,400.00	90.50	123.341	4,872.22	-406.84	2,986.02	1,892,067.793	2,755,723.789	36.199867440	-107.722730695
6,500.00	90.49	127.341	4,871.36	-464.67	3,067.58	1,892,009.963	2,755,805.342	36.199708321	-107.722454506
6,600.00	90.48	131.341	4,870.51	-528.05	3,144.90	1,891,946.585	2,755,882.662	36.199533972	-107.722192685
6,691.67	90.47	135.008	4,869.75	-590.76	3,211.74	1,891,883.872	2,755,949.504	36.199361483	-107.721966377
<b>Begin 90.47° lateral</b>									
6,700.00	90.47	135.008	4,869.68	-596.65	3,217.63	1,891,877.985	2,755,955.390	36.199345291	-107.721946451
6,800.00	90.47	135.008	4,868.86	-667.37	3,288.32	1,891,807.267	2,756,026.088	36.199150799	-107.721707105
6,900.00	90.47	135.008	4,868.04	-738.09	3,359.02	1,891,736.549	2,756,096.786	36.198956306	-107.721467761
7,000.00	90.47	135.008	4,867.22	-808.81	3,429.72	1,891,665.831	2,756,167.485	36.198761812	-107.721228418
7,100.00	90.47	135.008	4,866.40	-879.52	3,500.42	1,891,595.113	2,756,238.183	36.198567318	-107.720989076
7,200.00	90.47	135.008	4,865.58	-950.24	3,571.12	1,891,524.395	2,756,308.881	36.198372823	-107.720749735
7,300.00	90.47	135.008	4,864.76	-1,020.96	3,641.82	1,891,453.677	2,756,379.580	36.198178328	-107.720510396
7,400.00	90.47	135.008	4,863.94	-1,091.68	3,712.51	1,891,382.959	2,756,450.278	36.197983833	-107.720271057
7,500.00	90.47	135.008	4,863.12	-1,162.40	3,783.21	1,891,312.241	2,756,520.976	36.197789337	-107.720031720
7,600.00	90.47	135.008	4,862.30	-1,233.11	3,853.91	1,891,241.523	2,756,591.674	36.197594840	-107.719792384
7,700.00	90.47	135.008	4,861.48	-1,303.83	3,924.61	1,891,170.805	2,756,662.373	36.197400343	-107.719553049
7,800.00	90.47	135.008	4,860.66	-1,374.55	3,995.31	1,891,100.087	2,756,733.071	36.197205846	-107.719313715
7,900.00	90.47	135.008	4,859.84	-1,445.27	4,066.01	1,891,029.369	2,756,803.769	36.197011348	-107.719074383
8,000.00	90.47	135.008	4,859.02	-1,515.99	4,136.71	1,890,958.650	2,756,874.468	36.196816850	-107.718835053
8,100.00	90.47	135.008	4,858.20	-1,586.71	4,207.40	1,890,887.932	2,756,945.166	36.196622351	-107.718595723
8,200.00	90.47	135.008	4,857.38	-1,657.42	4,278.10	1,890,817.214	2,757,015.864	36.196427851	-107.718356394
8,300.00	90.47	135.008	4,856.56	-1,728.14	4,348.80	1,890,746.496	2,757,086.562	36.196233352	-107.718117066
8,400.00	90.47	135.008	4,855.74	-1,798.86	4,419.50	1,890,675.778	2,757,157.261	36.196038851	-107.717877739
8,500.00	90.47	135.008	4,854.92	-1,869.58	4,490.20	1,890,605.060	2,757,227.959	36.195844350	-107.717638414
8,600.00	90.47	135.008	4,854.10	-1,940.30	4,560.90	1,890,534.342	2,757,298.657	36.195649849	-107.717399090
8,700.00	90.47	135.008	4,853.28	-2,011.01	4,631.59	1,890,463.624	2,757,369.355	36.195455347	-107.717159767
8,800.00	90.47	135.008	4,852.46	-2,081.73	4,702.29	1,890,392.906	2,757,440.054	36.195260845	-107.716920445
8,900.00	90.47	135.008	4,851.64	-2,152.45	4,772.99	1,890,322.188	2,757,510.752	36.195066342	-107.716681124
9,000.00	90.47	135.008	4,850.82	-2,223.17	4,843.69	1,890,251.470	2,757,581.450	36.194871839	-107.716441805
9,100.00	90.47	135.008	4,850.00	-2,293.89	4,914.39	1,890,180.752	2,757,652.149	36.194677335	-107.716202486
9,200.00	90.47	135.008	4,849.18	-2,364.61	4,985.09	1,890,110.034	2,757,722.847	36.194482831	-107.715963169
9,300.00	90.47	135.008	4,848.36	-2,435.32	5,055.78	1,890,039.316	2,757,793.545	36.194288327	-107.715723853
9,400.00	90.47	135.008	4,847.54	-2,506.04	5,126.48	1,889,968.598	2,757,864.243	36.194093821	-107.715484539
9,500.00	90.47	135.008	4,846.72	-2,576.76	5,197.18	1,889,897.880	2,757,934.942	36.193899316	-107.715245225
9,600.00	90.47	135.008	4,845.90	-2,647.48	5,267.88	1,889,827.162	2,758,005.640	36.193704810	-107.715005913
9,700.00	90.47	135.008	4,845.07	-2,718.20	5,338.58	1,889,756.444	2,758,076.338	36.193510303	-107.714766602



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,800.00	90.47	135.008	4,844.25	-2,788.91	5,409.28	1,889,685.726	2,758,147.037	36.193315796	-107.714527292	
9,867.32	90.47	135.008	4,843.70	-2,836.52	5,456.87	1,889,638.118	2,758,194.632	36.193184850	-107.714366185	
Plug Point 1 @ 9867.32 MD 4843.70 TVD										
9,900.00	90.47	135.008	4,843.43	-2,859.63	5,479.98	1,889,615.008	2,758,217.735	36.193121288	-107.714287983	
10,000.00	90.47	135.008	4,842.61	-2,930.35	5,550.67	1,889,544.290	2,758,288.433	36.192926780	-107.714048675	
10,100.00	90.47	135.008	4,841.79	-3,001.07	5,621.37	1,889,473.572	2,758,359.131	36.192732272	-107.713809369	
10,200.00	90.47	135.008	4,840.97	-3,071.79	5,692.07	1,889,402.854	2,758,429.830	36.192537763	-107.713570063	
10,300.00	90.47	135.008	4,840.15	-3,142.51	5,762.77	1,889,332.136	2,758,500.528	36.192343253	-107.713330759	
10,400.00	90.47	135.008	4,839.33	-3,213.22	5,833.47	1,889,261.418	2,758,571.226	36.192148743	-107.713091456	
10,500.00	90.47	135.008	4,838.51	-3,283.94	5,904.17	1,889,190.700	2,758,641.925	36.191954233	-107.712852155	
10,600.00	90.47	135.008	4,837.69	-3,354.66	5,974.86	1,889,119.982	2,758,712.623	36.191759722	-107.712612854	
10,700.00	90.47	135.008	4,836.87	-3,425.38	6,045.56	1,889,049.264	2,758,783.321	36.191565210	-107.712373555	
10,800.00	90.47	135.008	4,836.05	-3,496.10	6,116.26	1,888,978.546	2,758,854.019	36.191370698	-107.712134257	
10,900.00	90.47	135.008	4,835.23	-3,566.81	6,186.96	1,888,907.828	2,758,924.718	36.191176186	-107.711894960	
11,000.00	90.47	135.008	4,834.41	-3,637.53	6,257.66	1,888,837.110	2,758,995.416	36.190981673	-107.711655664	
11,100.00	90.47	135.008	4,833.59	-3,708.25	6,328.36	1,888,766.392	2,759,066.114	36.190787160	-107.711416369	
11,200.00	90.47	135.008	4,832.77	-3,778.97	6,399.05	1,888,695.674	2,759,136.813	36.190592646	-107.711177076	
11,300.00	90.47	135.008	4,831.95	-3,849.69	6,469.75	1,888,624.956	2,759,207.511	36.190398132	-107.710937784	
11,400.00	90.47	135.008	4,831.13	-3,920.41	6,540.45	1,888,554.238	2,759,278.209	36.190203617	-107.710698493	
11,500.00	90.47	135.008	4,830.31	-3,991.12	6,611.15	1,888,483.520	2,759,348.907	36.190009102	-107.710459203	
11,528.41	90.47	135.008	4,830.08	-4,011.22	6,631.24	1,888,463.425	2,759,368.996	36.189953830	-107.710391209	
Plug Point 2 @ 11528.41 MD 4830.08 TVD										
11,600.00	90.47	135.008	4,829.49	-4,061.84	6,681.85	1,888,412.802	2,759,419.606	36.189814586	-107.710219914	
11,700.00	90.47	135.008	4,828.67	-4,132.56	6,752.55	1,888,342.084	2,759,490.304	36.189620070	-107.709980627	
11,800.00	90.47	135.008	4,827.85	-4,203.28	6,823.25	1,888,271.365	2,759,561.002	36.189425553	-107.709741340	
11,900.00	90.47	135.008	4,827.03	-4,274.00	6,893.94	1,888,200.647	2,759,631.700	36.189231036	-107.709502055	
12,000.00	90.47	135.008	4,826.21	-4,344.71	6,964.64	1,888,129.929	2,759,702.399	36.189036519	-107.709262771	
12,100.00	90.47	135.008	4,825.39	-4,415.43	7,035.34	1,888,059.211	2,759,773.097	36.188842001	-107.709023488	
12,200.00	90.47	135.008	4,824.57	-4,486.15	7,106.04	1,887,988.493	2,759,843.795	36.188647482	-107.708784207	
12,300.00	90.47	135.008	4,823.75	-4,556.87	7,176.74	1,887,917.775	2,759,914.494	36.188452963	-107.708544926	
12,400.00	90.47	135.008	4,822.93	-4,627.59	7,247.44	1,887,847.057	2,759,985.192	36.188258443	-107.708305647	
12,500.00	90.47	135.008	4,822.11	-4,698.31	7,318.13	1,887,776.339	2,760,055.890	36.188063923	-107.708066369	
12,600.00	90.47	135.008	4,821.29	-4,769.02	7,388.83	1,887,705.621	2,760,126.588	36.187869402	-107.707827092	
12,700.00	90.47	135.008	4,820.47	-4,839.74	7,459.53	1,887,634.903	2,760,197.287	36.187674881	-107.707587817	
12,800.00	90.47	135.008	4,819.65	-4,910.46	7,530.23	1,887,564.185	2,760,267.985	36.187480360	-107.707348542	
12,900.00	90.47	135.008	4,818.83	-4,981.18	7,600.93	1,887,493.467	2,760,338.683	36.187285838	-107.707109269	
13,000.00	90.47	135.008	4,818.01	-5,051.90	7,671.63	1,887,422.749	2,760,409.382	36.187091315	-107.706869997	
13,100.00	90.47	135.008	4,817.18	-5,122.61	7,742.32	1,887,352.031	2,760,480.080	36.186896792	-107.706630726	
13,200.00	90.47	135.008	4,816.36	-5,193.33	7,813.02	1,887,281.313	2,760,550.778	36.186702269	-107.706391456	
13,300.00	90.47	135.008	4,815.54	-5,264.05	7,883.72	1,887,210.595	2,760,621.476	36.186507745	-107.706152187	
13,400.00	90.47	135.008	4,814.72	-5,334.77	7,954.42	1,887,139.877	2,760,692.175	36.186313220	-107.705912920	
13,500.00	90.47	135.008	4,813.90	-5,405.49	8,025.12	1,887,069.159	2,760,762.873	36.186118695	-107.705673654	
13,600.00	90.47	135.008	4,813.08	-5,476.21	8,095.82	1,886,998.441	2,760,833.571	36.185924170	-107.705434389	
13,700.00	90.47	135.008	4,812.26	-5,546.92	8,166.52	1,886,927.723	2,760,904.270	36.185729644	-107.705195125	
13,800.00	90.47	135.008	4,811.44	-5,617.64	8,237.21	1,886,857.005	2,760,974.968	36.185535118	-107.704955862	
13,900.00	90.47	135.008	4,810.62	-5,688.36	8,307.91	1,886,786.287	2,761,045.666	36.185340591	-107.704716601	
14,000.00	90.47	135.008	4,809.80	-5,759.08	8,378.61	1,886,715.569	2,761,116.364	36.185146063	-107.704477340	
14,100.00	90.47	135.008	4,808.98	-5,829.80	8,449.31	1,886,644.851	2,761,187.063	36.184951536	-107.704238081	
14,200.00	90.47	135.008	4,808.16	-5,900.51	8,520.01	1,886,574.133	2,761,257.761	36.184757007	-107.703998823	
14,300.00	90.47	135.008	4,807.34	-5,971.23	8,590.71	1,886,503.415	2,761,328.459	36.184562479	-107.703759567	
14,400.00	90.47	135.008	4,806.52	-6,041.95	8,661.40	1,886,432.697	2,761,399.158	36.184367949	-107.703520311	
14,500.00	90.47	135.008	4,805.70	-6,112.67	8,732.10	1,886,361.979	2,761,469.856	36.184173420	-107.703281057	
14,600.00	90.47	135.008	4,804.88	-6,183.39	8,802.80	1,886,291.261	2,761,540.554	36.183978889	-107.703041804	
14,700.00	90.47	135.008	4,804.06	-6,254.11	8,873.50	1,886,220.543	2,761,611.252	36.183784359	-107.702802552	



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,800.00	90.47	135.008	4,803.24	-6,324.82	8,944.20	1,886,149.825	2,761,681.951	36.183589827	-107.702563301
14,900.00	90.47	135.008	4,802.42	-6,395.54	9,014.90	1,886,079.107	2,761,752.649	36.183395296	-107.702324051
15,000.00	90.47	135.008	4,801.60	-6,466.26	9,085.60	1,886,008.389	2,761,823.347	36.183200763	-107.702084803
15,100.00	90.47	135.008	4,800.78	-6,536.98	9,156.29	1,885,937.671	2,761,894.045	36.183006231	-107.701845555
15,200.00	90.47	135.008	4,799.96	-6,607.70	9,226.99	1,885,866.953	2,761,964.744	36.182811698	-107.701606309
15,300.00	90.47	135.008	4,799.14	-6,678.41	9,297.69	1,885,796.235	2,762,035.442	36.182617164	-107.701367064
15,400.00	90.47	135.008	4,798.32	-6,749.13	9,368.39	1,885,725.517	2,762,106.140	36.182422630	-107.701127821
15,500.00	90.47	135.008	4,797.50	-6,819.85	9,439.09	1,885,654.799	2,762,176.839	36.182228095	-107.700888578
15,600.00	90.47	135.008	4,796.68	-6,890.57	9,509.79	1,885,584.080	2,762,247.537	36.182033560	-107.700649337
15,700.00	90.47	135.008	4,795.86	-6,961.29	9,580.48	1,885,513.362	2,762,318.235	36.181839025	-107.700410097
15,800.00	90.47	135.008	4,795.04	-7,032.00	9,651.18	1,885,442.644	2,762,388.933	36.181644489	-107.700170858
15,900.00	90.47	135.008	4,794.22	-7,102.72	9,721.88	1,885,371.926	2,762,459.632	36.181449952	-107.699931620
16,000.00	90.47	135.008	4,793.40	-7,173.44	9,792.58	1,885,301.208	2,762,530.330	36.181255415	-107.699692383
16,100.00	90.47	135.008	4,792.58	-7,244.16	9,863.28	1,885,230.490	2,762,601.028	36.181060878	-107.699453148
16,200.00	90.47	135.008	4,791.76	-7,314.88	9,933.98	1,885,159.772	2,762,671.727	36.180866340	-107.699213913
16,300.00	90.47	135.008	4,790.94	-7,385.60	10,004.67	1,885,089.054	2,762,742.425	36.180671801	-107.698974680
16,400.00	90.47	135.008	4,790.12	-7,456.31	10,075.37	1,885,018.336	2,762,813.123	36.180477262	-107.698735448
16,500.00	90.47	135.008	4,789.29	-7,527.03	10,146.07	1,884,947.618	2,762,883.821	36.180282723	-107.698496218
16,600.00	90.47	135.008	4,788.47	-7,597.75	10,216.77	1,884,876.900	2,762,954.520	36.180088183	-107.698256988
16,700.00	90.47	135.008	4,787.65	-7,668.47	10,287.47	1,884,806.182	2,763,025.218	36.179893643	-107.698017760
16,800.00	90.47	135.008	4,786.83	-7,739.19	10,358.17	1,884,735.464	2,763,095.916	36.179699102	-107.697778533
16,900.00	90.47	135.008	4,786.01	-7,809.90	10,428.87	1,884,664.746	2,763,166.615	36.179504561	-107.697539307
17,000.00	90.47	135.008	4,785.19	-7,880.62	10,499.56	1,884,594.028	2,763,237.313	36.179310019	-107.697300082
17,100.00	90.47	135.008	4,784.37	-7,951.34	10,570.26	1,884,523.310	2,763,308.011	36.179115477	-107.697060858
17,200.00	90.47	135.008	4,783.55	-8,022.06	10,640.96	1,884,452.592	2,763,378.709	36.178920934	-107.696821636
17,300.00	90.47	135.008	4,782.73	-8,092.78	10,711.66	1,884,381.874	2,763,449.408	36.178726391	-107.696582415
17,353.67	90.47	135.008	4,782.29	-8,130.73	10,749.60	1,884,343.920	2,763,487.351	36.178621979	-107.696454026
PBHL/TD 17353.67 MD 4782.00 TVD									

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting		
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
Rodeo 506 LTP 926 FSL	0.00	0.000	4,782.00	-8,130.72	10,749.61	1,884,343.927	2,763,487.359	36.178622000	-107.696454000
- plan misses target center by 0.29ft at 17353.67ft MD (4782.29 TVD, -8130.73 N, 10749.60 E)									
- Point									
Rodeo 506 Plug point 2	0.00	0.000	4,829.94	-4,011.16	6,631.30	1,888,463.487	2,759,369.058	36.189954000	-107.710391000
- plan misses target center by 0.16ft at 11528.42ft MD (4830.08 TVD, -4011.22 N, 6631.24 E)									
- Point									
Rodeo 506 Plug point 1	0.00	0.000	4,843.61	-2,836.47	5,456.93	1,889,638.172	2,758,194.686	36.193185000	-107.714366000
- plan misses target center by 0.12ft at 9867.32ft MD (4843.70 TVD, -2836.52 N, 5456.87 E)									
- Point									
Rodeo 506 FTP 2362 FT	0.00	0.000	4,867.00	-860.37	3,481.83	1,891,614.268	2,756,219.596	36.198620000	-107.721052000
- plan misses target center by 0.55ft at 7073.31ft MD (4866.62 TVD, -860.65 N, 3481.55 E)									
- Point									



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,003.52	2,824.00	9 5/8" Csg	9-5/8	12-1/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
571.00	571.00	Ojo Alamo				
657.00	657.00	Kirtland				
861.00	861.00	Fruitland				
1,168.22	1,168.00	Pictured Cliffs				
1,328.62	1,327.00	Lewis				
1,595.61	1,586.00	Chacra_A				
2,809.53	2,656.00	Cliff House_Basal				
2,830.31	2,674.00	Menefee				
3,954.99	3,648.00	Point Lookout				
4,146.67	3,814.00	Mancos				
4,521.95	4,139.00	MNCS_A				
4,620.10	4,224.00	MNCS_B				
4,735.57	4,324.00	MNCS_C				
4,792.15	4,373.00	MNCS_Cms				
4,929.56	4,492.00	MNCS_D				
5,108.03	4,642.00	MNCS_E				
5,186.94	4,699.00	MNCS_F				
5,316.95	4,775.00	MNCS_G				
5,430.52	4,829.00	MNCS_H				
5,555.50	4,867.00	MNCS_I		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
2,000.00	1,954.93	-19.38	255.14	Begin 30.00° tangent	
5,010.39	4,562.00	-133.36	1,756.01	Begin 10°/100' build/turn	
5,310.39	4,771.72	-149.24	1,965.12	Begin 60.00° tangent	
5,370.39	4,801.72	-153.18	2,016.94	Begin 10°/000' build	
5,675.09	4,878.46	-175.23	2,307.28	Begin 4°/100' turn	
6,691.67	4,869.75	-590.76	3,211.74	Begin 90.47° lateral	
9,867.32	4,843.70	-2,836.52	5,456.87	Plug Point 1 @ 9867.32 MD 4843.70 TVD	
11,528.41	4,830.08	-4,011.22	6,631.24	Plug Point 2 @ 11528.41 MD 4830.08 TVD	
17,353.67	4,782.29	-8,130.73	10,749.60	PBHL/TD 17353.67 MD 4782.00 TVD	



**WELL NAME:** **RODEO UNIT 506H**

**OBJECTIVE:** **Drill, complete, and equip single lateral in the Mancos-I formation**

**API Number:** *not yet assigned*

**AFE Number:** *not yet assigned*

**ER Well Number:** *not yet assigned*

**State:** New Mexico

**County:** San Juan

**Surface Elev.:** 6,883 ft ASL (GL) 6,896 ft ASL (KB)

**Surface Location:** 25-23N-09W Sec-Twn- Rng 1,481 ft FNL 391 ft FEL

**BH Location:** 32-23N-08W Sec-Twn- Rng 926 ft FSL 234 ft FEL

**Driving Directions:** ***FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:***

QUICK REFERENCE		
Sur TD (MD)	350	ft
Int TD (MD)	3,004	ft
KOP (MD)	5,010	ft
KOP (TVD)	4,562	ft
Target (TVD)	4,870	ft
Curve BUR	10 °/100 ft	
POE (MD)	6,692	ft
TD (MD)	17,354	ft
Lat Len (ft)	10,662	ft

South on US Hwy 550 for 37.8 miles to MM 113.5; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) remaining on CR #7890 for 0.5 miles to access road; Left (Southeast) on access road for 0.4 miles to the RODEO UNIT 508H PAD (WELLS: 508H, 509H, 510H (DRILLED); 503H, 504H, 506H (PLANNED)).

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	3,004	9.625	36.0	J-55	LTC	0	3,004
Production	8.500	17,354	5.500	17.0	P-110	LTC	0	17,354

CEMENT PROPERTIES SUMMARY:

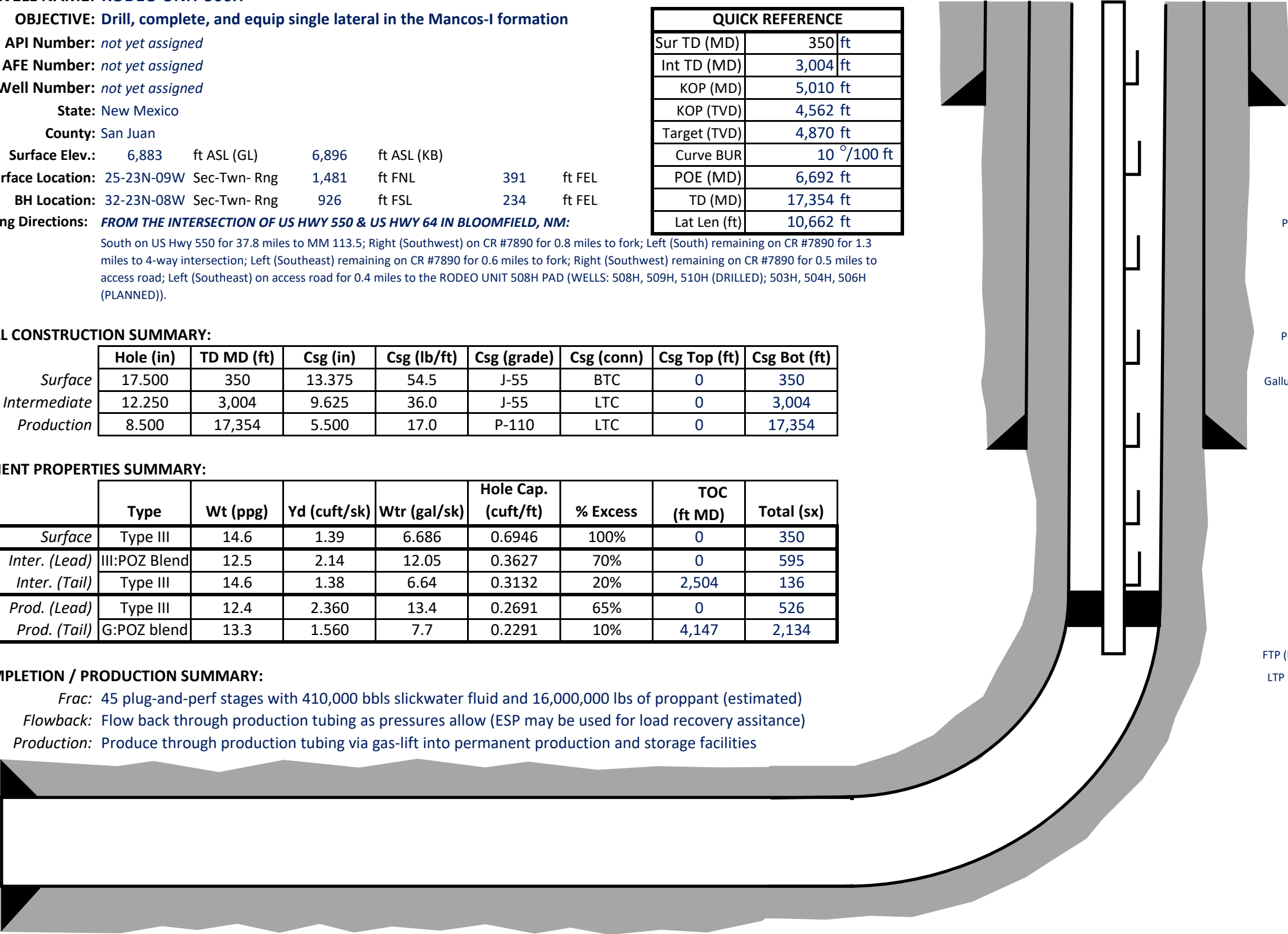
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	Type III	14.6	1.39	6.686	0.6946	100%	0	350
Inter. (Lead)	III:POZ Blend	12.5	2.14	12.05	0.3627	70%	0	595
Inter. (Tail)	Type III	14.6	1.38	6.64	0.3132	20%	2,504	136
Prod. (Lead)	Type III	12.4	2.360	13.4	0.2691	65%	0	526
Prod. (Tail)	G:POZ blend	13.3	1.560	7.7	0.2291	10%	4,147	2,134

COMPLETION / PRODUCTION SUMMARY:

**Frac:** 45 plug-and-perf stages with 410,000 bbls slickwater fluid and 16,000,000 lbs of proppant (estimated)

**Flowback:** Flow back through production tubing as pressures allow (ESP may be used for load recovery assitance)

**Production:** Produce through production tubing via gas-lift into permanent production and storage facilities



Tops	TVD (ft KB)	MD (ft KB)
Ojo Alamo	571	571
Kirtland	657	657
Fruitland	861	861
Pictured Cliffs	1,168	1,168
Lewis	1,327	1,328
Chacra	1,586	1,596
Cliff House	2,656	2,810
Menefee	2,674	2,830
Point Lookout	3,648	3,655
Mancos	3,814	4,147
Gallup (MNCS_A)	4,139	4,522
MNCS_B	4,224	4,620
MNCS_C	4,324	4,736
MNCS_Cms	4,373	4,792
MNCS_D	4,492	4,930
MNCS_E	4,642	5,108
MNCS_F	4,699	5,187
MNCS_G	4,775	5,317
MNCS_H	4,829	5,431
MNCS_I	4,867	5,556
LP1 TARGET	4,878	5,675
FTP (LP2) TARGET	4,870	6,692
LTP (TD) TARGET	4,782	17,354

State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit Electronically  
Via E-permitting

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

### Section 1 – Plan Description Effective May 25, 2021

**I. Operator:** Enduring Resources IV, LLC **OGRID:** 372286 **Date:** 06/14/2022

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water
Rodeo Unit 503H	pending	Sec. 25, T23N, R9W	UL:C SHL:1461' FNL & 425' FEL	808	975	854
Rodeo Unit 504H	pending	Sec. 25, T23N, R9W	UL:C SHL:1471' FNL & 408' FEL	545	658	905
Rodeo Unit 506H	pending	Sec. 25, T23N, R9W	UL:C SHL:1481' FNL & 391' FEL	1,070	1,173	931

**IV. Central Delivery Point Name:** 2-9 Gas Receipt & Trunk 1 Transfer Gas Receipt [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Rodeo Unit 503H	pending	1/1/2023	1/8/2023	2/25/2023	2/26/2023	2/27/2023
Rodeo Unit 504H	pending	1/1/2023	1/15/2023	2/25/2023	2/26/2023	2/27/2023
Rodeo Unit 506H	pending	1/1/2023	1/23/2023	2/25/2023	2/26/2023	2/27/2023

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

**Section 2 – Enhanced Plan**  
**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

**X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☒ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☒ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

### **Section 3 - Certifications**

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### **Section 4 - Notices**

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: <i>Khem Suthiwan</i>
Printed Name: <b>Khem Suthiwan</b>
Title: <b>Regulatory Manager</b>
E-mail Address: <b>ksuthiwan@enduringresources.com</b>
Date: <b>June 14, 2022</b>
Phone: <b>(303) 350-5721</b>
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:

## Attachments:

**Separation Equipment:** Below is a complete description of how Operator will size separation equipment to optimize gas capture.

Description of how separation equipment will be sized to optimize gas capture:

Well separation equipment is sized to have appropriate residence time and vapor space to remove gas particles on the micron scale per typical engineering calculations and/or operational experience. Furthermore, a sales scrubber downstream of the well separators is planned in order to capture any additional liquids if present. All gas is routed to end users or the sales pipeline under normal operating conditions.

**Operational & Best Management Practices:** Below is a complete description of the actions the Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC. Additionally, below is a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

### Drilling Operations:

Enduring Resources will minimize venting by:

- Gas will only be vented to the atmosphere to avoid risk of immediate or substantial adverse impact to employee safety, public health, and the environment.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location

### Completion Operations:

Enduring Resources will minimize venting by:

- Separator operation will commence as soon as technically feasible.
- Gas will route immediately to a collection system or applied to other beneficial use, such as a fuel source for onsite equipment.
- During initial flowback and if technically feasible, flaring shall occur rather than venting.
- If natural gas does not meet pipeline standards, gas will be vented or flared. A gas analysis will be performed twice weekly until standards are met (for up to 60 days). This is not anticipated to occur.
- If required, all venting and flaring of natural gas during flowback operations shall be performed in compliance with Subsections B, C and D of 19.15.27.8 NMAC.

### Production Operations:

Enduring Resources will minimize venting by:

- Shutting in the wells if the pipeline is not available. No flaring of high pressure gas will occur.
- Utilizing gas for equipment fuel, heater fuel, and artificial lift when allowable.
- Capturing low pressure gas via a gas capture system when allowable.

### In General:

- All venting and flaring from drilling, flowback and operation phases shall be reported in compliance with Subsection G of 19.15.27.8 NMAC.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location and 100 ft from the permanent facility storage tanks.

### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.



**Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

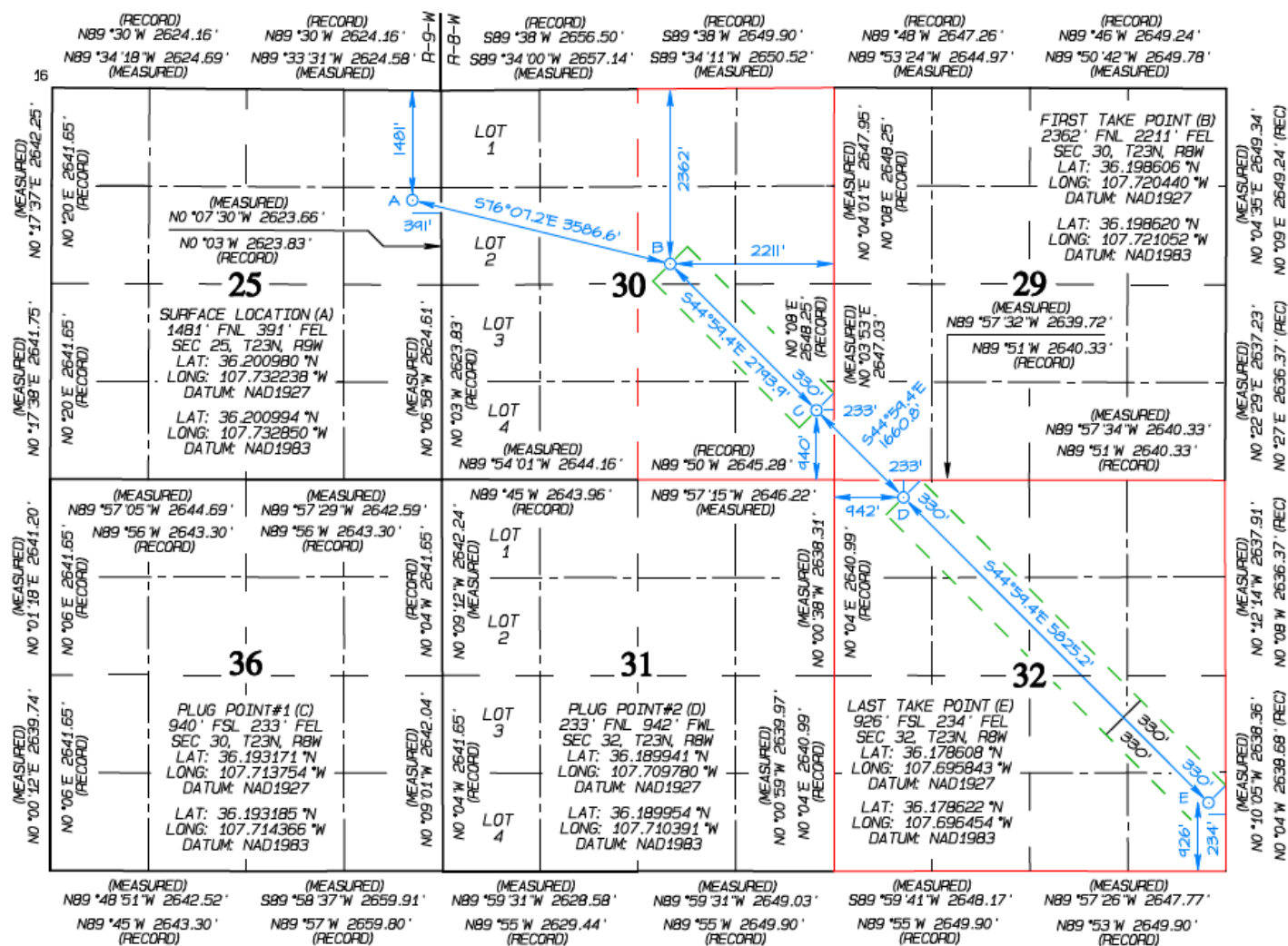
- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines
- Power generation for grid;
- Liquids removal on lease;
- Reinjection for underground storage;
- Reinjection for temporary storage;
- Reinjection for enhanced oil recovery;
- Fuel cell production; and
- Other alternative beneficial uses approved by the division.



*ENDURING RESOURCES IV LLC*

200 Energy Court Farmington, NM 87401  
Field Office: 505.636.9720 | Main Office: 303.573.1222

Enduring Resources IV, LLC (Enduring) proposes drilling the Rodeo Unit 506H well as shown in the plat below (also attached to this APD submittal). There is an unleased section along the lateral that goes through the SWSW of Section 29-23N-8W in San Juan County, New Mexico. Enduring will set a plug 330' from each side of the unleased qtr-qtr as to not produced that section of the lateral.





U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

## SUPO Data Report

09/12/2023

APD ID: 10400084208

Submission Date: 06/16/2022

Operator Name: ENDURING RESOURCES LLC

Well Name: RODEO UNIT

Well Number: 506H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data  
reflects the most  
recent changes

[Show Final Text](#)

### Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Rodeo506ExistingRoadsMap\_20230908112344.pdf

Existing Road Purpose: ACCESS

Row(s) Exist? YES

#### ROW ID(s)

ID: NMNM 135923

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

### Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

### Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H

75253p9\_ROU\_506H\_Wells\_Within\_1Mile\_20230908112413.pdf

## Section 4 - Location of Existing and/or Proposed Production Facilities

**Submit or defer a Proposed Production Facilities plan?** SUBMIT**Production Facilities description:** Reference attached Enduring Resources Surface Use Plan of Operations, Chapter 4 Section 4.1 (Location of Existing or Proposed Production Facilities).**Production Facilities map:**

Pad\_Layout\_Rodeo\_508\_21129\_01\_Facility\_Layout\_RevB\_20220616154213.pdf

Pad\_Layout\_Rodeo\_508\_21129\_01\_Completions\_Layout\_RevA\_20220616154213.pdf

Pad\_Layout\_Rodeo\_508\_21129\_01\_Drilling\_Layout\_RevA\_20220616154213.pdf

## Section 5 - Location and Types of Water Supply

### Water Source Table

**Water source type:** GW WELL

<b>Water source use type:</b>	DUST CONTROL
	SURFACE CASING
	INTERMEDIATE/PRODUCTION CASING
	STIMULATION

**Source latitude:** 36.359802**Source longitude:** -107.81031**Source datum:** NAD83**Water source permit type:** WATER WELL**Water source transport method:** TRUCKING**Source land ownership:** STATE**Source transportation land ownership:** STATE**Water source volume (barrels):** 6130**Source volume (acre-feet):** 0.79011468**Source volume (gal):** 257460

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Water source type:** GW WELL

**Water source use type:** DUST CONTROL  
SURFACE CASING  
INTERMEDIATE/PRODUCTION  
CASING  
STIMULATION

**Source latitude:** 36.069826**Source longitude:** -107.04718**Source datum:** NAD83**Water source permit type:** WATER WELL**Water source transport method:** TRUCKING**Source land ownership:** PRIVATE**Source transportation land ownership:** PRIVATE**Water source volume (barrels):** 6130**Source volume (acre-feet):** 0.79011468**Source volume (gal):** 257460**Water source type:** RECYCLED**Water source use type:** STIMULATION**Source latitude:** 36.143567**Source longitude:** -107.576013**Source datum:** NAD83

**Water source permit type:** WATER WELL  
OTHER

**Water source transport method:** TRUCKING  
PIPELINE

**Source land ownership:** STATE**Source transportation land ownership:** STATE**Water source volume (barrels):** 1130000**Source volume (acre-feet):** 145.64919885**Source volume (gal):** 47460000

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Water source type:** RECYCLED**Water source use type:** STIMULATION**Source latitude:** 36.205932**Source longitude:** -107.741568**Source datum:** NAD83**Water source permit type:** WATER WELL  
OTHER**Water source transport method:** TRUCKING  
PIPELINE**Source land ownership:** FEDERAL**Source transportation land ownership:** FEDERAL**Water source volume (barrels):** 1130000**Source volume (acre-feet):** 145.64919885**Source volume (gal):** 47460000**Water source type:** RECYCLED**Water source use type:** STIMULATION**Source latitude:** 36.210181**Source longitude:** -107.831776**Source datum:** NAD83**Water source permit type:** WATER WELL  
OTHER**Water source transport method:** PIPELINE  
TRUCKING**Source land ownership:** FEDERAL**Source transportation land ownership:** FEDERAL**Water source volume (barrels):** 1130000**Source volume (acre-feet):** 145.64919885**Source volume (gal):** 47460000



**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Water source type:** RECYCLED**Water source use type:** STIMULATION**Source latitude:** 36.117342**Source longitude:** -107.488712**Source datum:** NAD83**Water source permit type:** OTHER

WATER WELL

**Water source transport method:** PIPELINE

TRUCKING

**Source land ownership:** FEDERAL**Source transportation land ownership:** FEDERAL**Water source volume (barrels):** 1130000**Source volume (acre-feet):** 145.64919885**Source volume (gal):** 47460000**Water source and transportation**

75253p9\_ROU\_506H\_Water\_Transportation\_20230908122756.pdf

**Water source comments:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 5 (Locations and Types of Water Supply).**New water well?** N**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Water well additional information:****State appropriation permit:****Additional information attachment:**

### Section 6 - Construction Materials

**Using any construction materials:** YES**Construction Materials description:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 6 (Construction Materials).**Construction Materials source location**

RODEO\_508\_Materials\_SourceMap\_20230908\_20230908112513.pdf

### Section 7 - Methods for Handling

**Waste type:** DRILLING**Waste content description:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 7 (Methods for Handling Waste).Section 7.2 (Drilling Fluids).**Amount of waste:** 12000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** Drilling fluids would be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids would be recycled and transferred to other permitted closed-loop systems or disposed at one of the locations specified in part 7.8**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** Approved commercial disposal facility or land farm**Waste type:** FLOWBACK**Waste content description:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 7 (Methods for Handling Waste).Section 7.7 (Flowback). Flowback transported off location will consist of approximately 2500 bbls of produced water per day for approximately 30 days.**Amount of waste:** 2500 barrels**Waste disposal frequency :** Daily**Safe containment description:** Flowback fluid would be gathered, recycled, and reused as described in Section 5. If there are no foreseen drilling and completion operations, flowback fluids would be disposed at one of the disposal wells listed in section 7.8 of the attached SUPO.**Safe containmant attachment:****Waste disposal type:** RECYCLE **Disposal location ownership:** OTHER**Disposal type description:****Disposal location description:** Produced water from flowback will be stored, treated, and recycled at any of Enduring's approved water recycling facilities. Containments are constructed, lined, and monitored per regulatory requirements.

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Waste type:** SEWAGE**Waste content description:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 7 (Methods for Handling Waste).Section 7.4 (Sewage).**Amount of waste:** 500 gallons**Waste disposal frequency :** Weekly**Safe containment description:** Portable toilets would be provided and maintained as needed during construction.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** Commercial facilities disposal**Waste type:** GARBAGE**Waste content description:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 7 (Methods for Handling Waste).Section E (Garbage and other waste material).**Amount of waste:** 1500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** Working area within well pad is bermed and protected from run-on and run-off waste.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** Approved landfill**Waste type:** GARBAGE**Waste content description:** All garbage and trash would be placed in enclosed metal trash containers. The trash and garbage would be hauled off site and dumped in an approved landfill, as needed.**Amount of waste:** 1500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** All garbage and trash would be placed in enclosed metal trash containers. The trash and garbage would be hauled off site and dumped in an approved landfill, as needed.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to approved landfill**Waste type:** PRODUCED WATER**Waste content description:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 7 (Methods for Handling Waste).Section H (Produced Water).**Amount of waste:** 11000 barrels**Waste disposal frequency :** Weekly

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Safe containment description:** Working area within well pad is bermed and protected from run-on and run-off waste.**Safe containmant attachment:****Waste disposal type:** OFF-LEASE INJECTION**Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** Commercial UIC

### Reserve Pit

**Reserve Pit being used?** NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)****Reserve pit width (ft.)****Reserve pit depth (ft.)****Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description**

### Cuttings Area

**Cuttings Area being used?** NO**Are you storing cuttings on location?** Y**Description of cuttings location** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 7 (Methods for Handling Waste).Section A7.1 (Cuttings).**Cuttings area length (ft.)****Cuttings area width (ft.)****Cuttings area depth (ft.)****Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description**

### Section 8 - Ancillary

**Are you requesting any Ancillary Facilities?:** N**Ancillary Facilities****Comments:**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Section 9 - Well Site****Well Site Layout Diagram:**

Pad\_Layout\_Rodeo\_508\_21129\_01\_Facility\_Layout\_RevB\_20220616154453.pdf

Pad\_Layout\_Rodeo\_508\_21129\_01\_Drilling\_Layout\_RevA\_20220616154453.pdf

Pad\_Layout\_Rodeo\_508\_21129\_01\_Completions\_Layout\_RevA\_20220616154453.pdf

**Comments:** Reference attached Enduring Resources Surface Use Plan of Operations Chapter 9 (Well Site Layout) and Chapter 4 (Location of Existing or Proposed Production Facilities).**Section 10 - Plans for Surface****Type of disturbance:** New Surface Disturbance**Multiple Well Pad Name:** RODEO UNIT 508**Multiple Well Pad Number:** 503H 504H 506H**Recontouring****Drainage/Erosion control construction:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.3 and the construction plats.**Drainage/Erosion control reclamation:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.3 and the construction plats.**Well pad proposed disturbance (acres):** 11.69**Well pad interim reclamation (acres):** 9.089**Well pad long term disturbance (acres):** 2.603**Road proposed disturbance (acres):****Road interim reclamation (acres):** 0**Road long term disturbance (acres):** 0**Powerline proposed disturbance (acres):** 0**Powerline interim reclamation (acres):** 0**Powerline long term disturbance (acres):** 0**Pipeline proposed disturbance (acres):** 0**Pipeline interim reclamation (acres):** 0**Pipeline long term disturbance (acres):** 0**Other proposed disturbance (acres):** 0**Other interim reclamation (acres):** 0**Other long term disturbance (acres):** 0**Total proposed disturbance:** 11.69**Total interim reclamation:** 9.089**Total long term disturbance:** 2.603**Disturbance Comments:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 2.2 (Project Description) and Table 1 for project footprint calculations and reclamation estimates and details.**Reconstruction method:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Sections 4.2 - 4.7.**Topsoil redistribution:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.2**Soil treatment:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.5.**Existing Vegetation at the well pad:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 3 (Pre-Disturbance Site Visit) Section 3.1.**Existing Vegetation at the well pad****Existing Vegetation Community at the road:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 3 (Pre-Disturbance Site Visit) Section 3.1.**Existing Vegetation Community at the road**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Existing Vegetation Community at the pipeline:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 3 (Pre-Disturbance Site Visit) Section 3.1.**Existing Vegetation Community at the pipeline****Existing Vegetation Community at other disturbances:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 3 (Pre-Disturbance Site Visit) Section 3.1.**Existing Vegetation Community at other disturbances****Non native seed used?** N**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** N**Seedling transplant description****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:****Seed****Seed Table****Seed type:** OTHER**Seed source:** COMMERCIAL**Seed name:** Indian ricegrass**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** Paloma or Rimrock**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 4**Proposed seeding season:** AUTUMN**Seed type:** OTHER**Seed source:** COMMERCIAL**Seed name:** Bottle brush squirreltail**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** Tusas or VNS**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 3**Proposed seeding season:** AUTUMN



**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Seed type:** FORB**Seed source:** COMMERCIAL**Seed name:** Small burnet**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** Delar**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 2**Proposed seeding season:** AUTUMN**Seed type:** OTHER**Seed source:** COMMERCIAL**Seed name:** Sand dropseed**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** VNS**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 0.5**Proposed seeding season:** AUTUMN**Seed type:** SHRUB**Seed source:** COMMERCIAL**Seed name:** Fourwing saltbrush**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** VNS**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 2**Proposed seeding season:** AUTUMN**Seed type:** OTHER**Seed source:** COMMERCIAL**Seed name:** Western wheatgrass**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** Arriba**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 4**Proposed seeding season:** AUTUMN**Seed type:** SHRUB**Seed source:** COMMERCIAL**Seed name:** Winterfat**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** VNS**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**PLS pounds per acre:** 2**Proposed seeding season:** AUTUMN**Seed type:** PERENNIAL GRASS**Seed source:** COMMERCIAL**Seed name:** Blue grama**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** Alma or Hachita**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 2.5**Proposed seeding season:** AUTUMN**Seed type:** FORB**Seed source:** COMMERCIAL**Seed name:** Blue Flax**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** Apar**Seed use location:** EXISTING ACCESS ROAD,NEW ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 0.25**Proposed seeding season:** AUTUMN**Seed type:** SHRUB**Seed source:** COMMERCIAL**Seed name:** Sagebrush**Source name:** Southwest Seed, Inc.**Source address:** 13514 Rd. 29, Dolores, CO 81323**Source phone:** (970)565-8722**Seed cultivar:** VNS**Seed use location:** EXISTING ACCESS ROAD,OTHER,PIPELINE,WELL PAD**PLS pounds per acre:** 0**Proposed seeding season:** AUTUMN**Seed Summary****Total pounds/Acre:** 20.25

Seed Type	Pounds/Acre
SHRUB	4
OTHER	11.5
FORB	2.25
PERENNIAL GRASS	2.5

**Seed reclamation****Operator Contact/Responsible Official****First Name:** Theresa**Last Name:** Ancell**Phone:** (505)696-9720**Email:** tancell@enduringresources.com

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H

**Seedbed prep:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.4.

**Seed BMP:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Sections 4.4 - 4.6.

**Seed method:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.6.

**Existing invasive species?** Y

**Existing invasive species treatment description:** Halogeton Class B Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.7.

**Existing invasive species treatment**

**Weed treatment plan description:** Halogeton Class B Reference attached Enduring Resources Surface Reclamation Plan Chapter 4 (Reclamation Techniques for Successful Revegetation) Section 4.7.

**Weed treatment plan**

**Monitoring plan description:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 5 (Monitoring Requirements).

**Monitoring plan**

**Success standards:** Reference attached Enduring Resources Surface Reclamation Plan Chapter 3 (Pre-Disturbance Site Visit) Section 3.3.

**Pit closure description:** N/A, this well will be drill utilizing closed-loop technology. Please see attached SUPO and Drill Plan

**Pit closure attachment:**

## Section 11 - Surface

**Disturbance type:** EXISTING ACCESS ROAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT,OTHER

**Other surface owner description:** Navajo Indian Allotted & Farmington Field Office

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Disturbance type:** PIPELINE**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT,OTHER**Other surface owner description:** Navajo Indian Allotted & Farmington Field Office**BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Disturbance type:** OTHER**Describe:** TUA**Surface Owner:** BUREAU OF LAND MANAGEMENT,OTHER**Other surface owner description:** Farmington Field Office & Navajo Indian Allotted**BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Disturbance type:** WELL PAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT, OTHER**Other surface owner description:** Navajo Indian Allotted & Farmington Field Office**BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

## Section 12 - Other

**Right of Way needed?** Y**Use APD as ROW?** N**ROW Type(s):****ROW**

SUB\_NMNM\_135923\_ROW\_Amendment\_\_\_SF\_299\_and\_Plat\_20220616155108.pdf

**SUPO Additional Information:** Attached is the Amendment to ROW NMNM-135923, submitted to the BLM Farmington Field Office on 6/15/2022.**Use a previously conducted onsite?** Y**Previous Onsite information:** Onsite conducted on September 22, 2021

## Other SUPO

Payment\_Confirmation\_\_\_BLM\_Oil\_and\_Gas\_Online\_Payment\_20220628162029.pdf

Rodeo\_508\_\_\_506\_\_\_SUPO\_20230908\_20230908121929.pdf

**Operator Name:** ENDURING RESOURCES LLC

**Well Name:** RODEO UNIT

**Well Number:** 506H

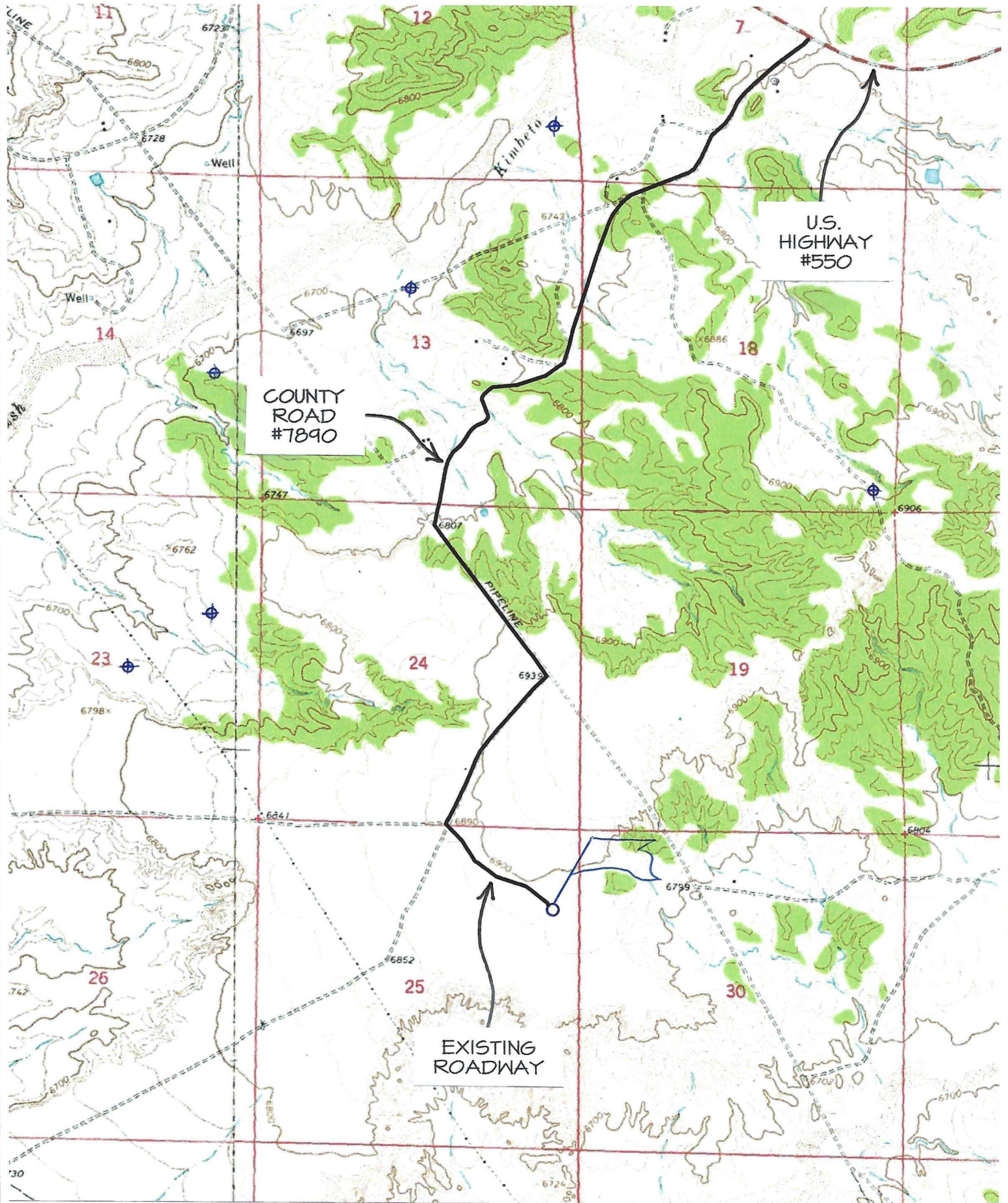
Rodeo\_508\_\_506\_\_RecPlan\_20230906\_20230908113037.pdf

Rodeo\_508\_\_506\_\_Road\_Plan\_20230906\_20230908113046.pdf



# ENDURING RESOURCES, LLC. RODEO UNIT #30611

1481' FNL & 391' FEL, SECTION 25, T23N, R9W, N.M.P.M.  
SAN JUAN COUNTY, NEW MEXICO

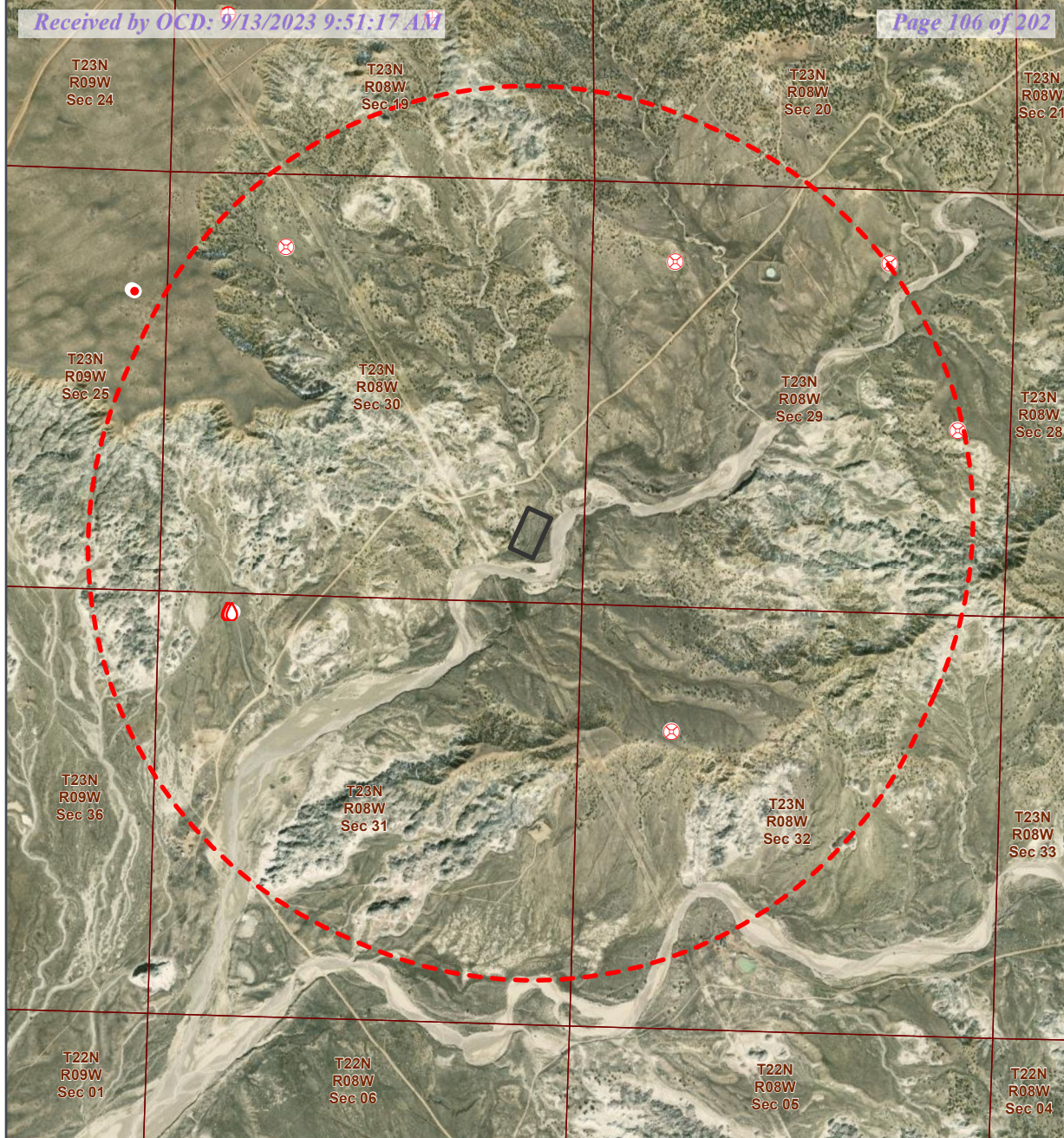


TOPO NAME : LYBROOK NW

⊕ PRODUCING WELL

⊗ PLUGGED & ABANDONED WELL





## ROU 506H Project | Wells Within 1 Mile



No OSE PODs  
in Map Extent



1 Mile Buffer



Wellpad

### Oil and Gas Well Status



Active



Cancelled



New

Wells	Within 1 Mile	Within Map Extent
OSE Points of Diversion	0	0
Active O&G	2	5
Cancelled O&G	1	5
Plugged (site released) O&G	3	3
Plugged (site released) O&G	0	2

Released to Imaging: 9/19/2023 8:00:43 AM

Rio Arriba County, NM  
NAD 1983 BLM Zone 13N  
36.1918°N 107.7155°W



1:25,000



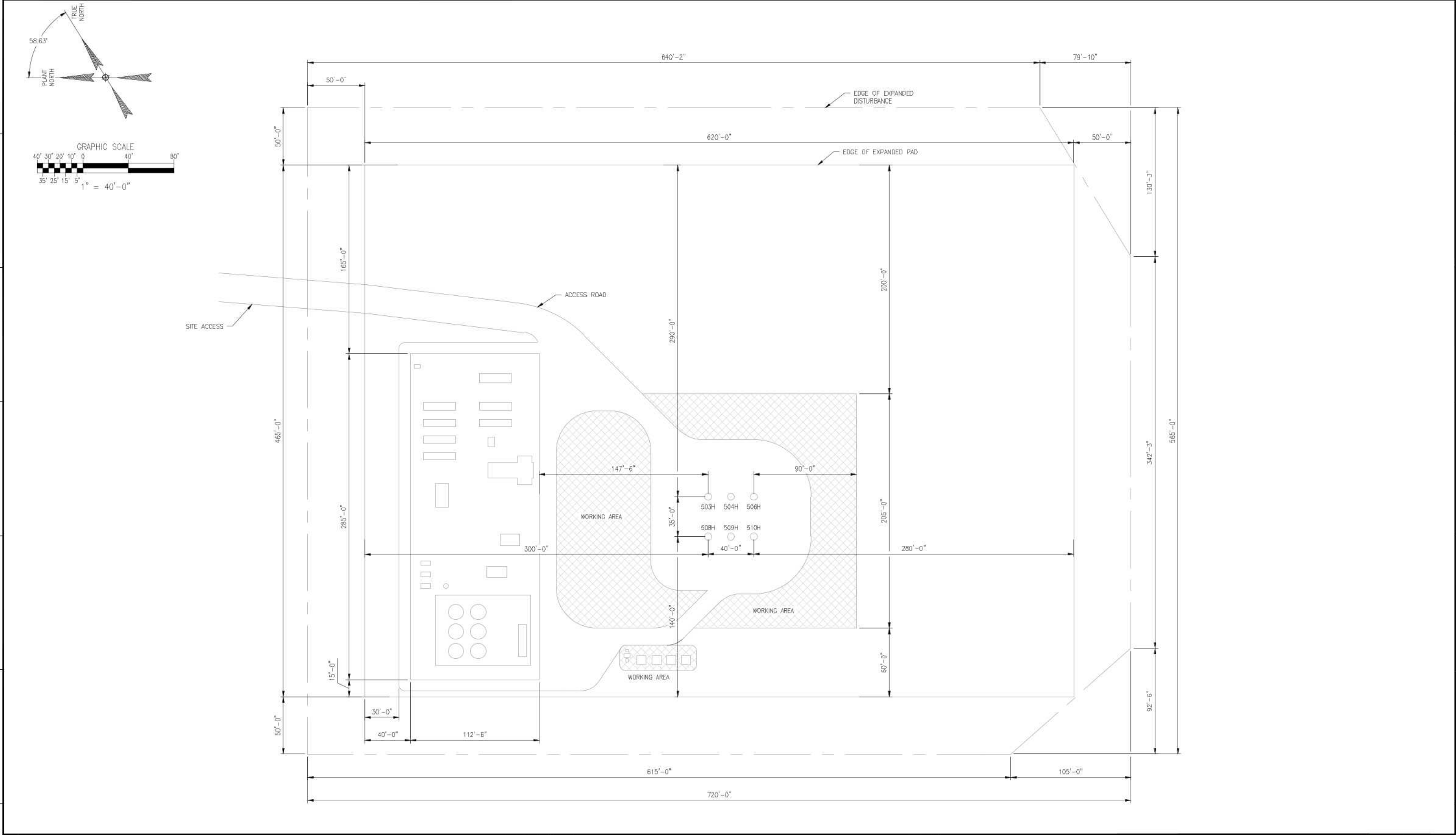
Base Map: ESRI ArcGIS Online,  
accessed September 2023  
Updated: 9/8/2023  
Project No. 75253p75


Layout:  
253p9\_ROU\_506H\_Wells\_Within\_1Mile  
Aprx:  
5253p9\_RodeoUnit\_508\_WellPad\_Exp

**SWCA**  
ENVIRONMENTAL CONSULTANTS

**ENDURIN**  
RESOURCES, LLC

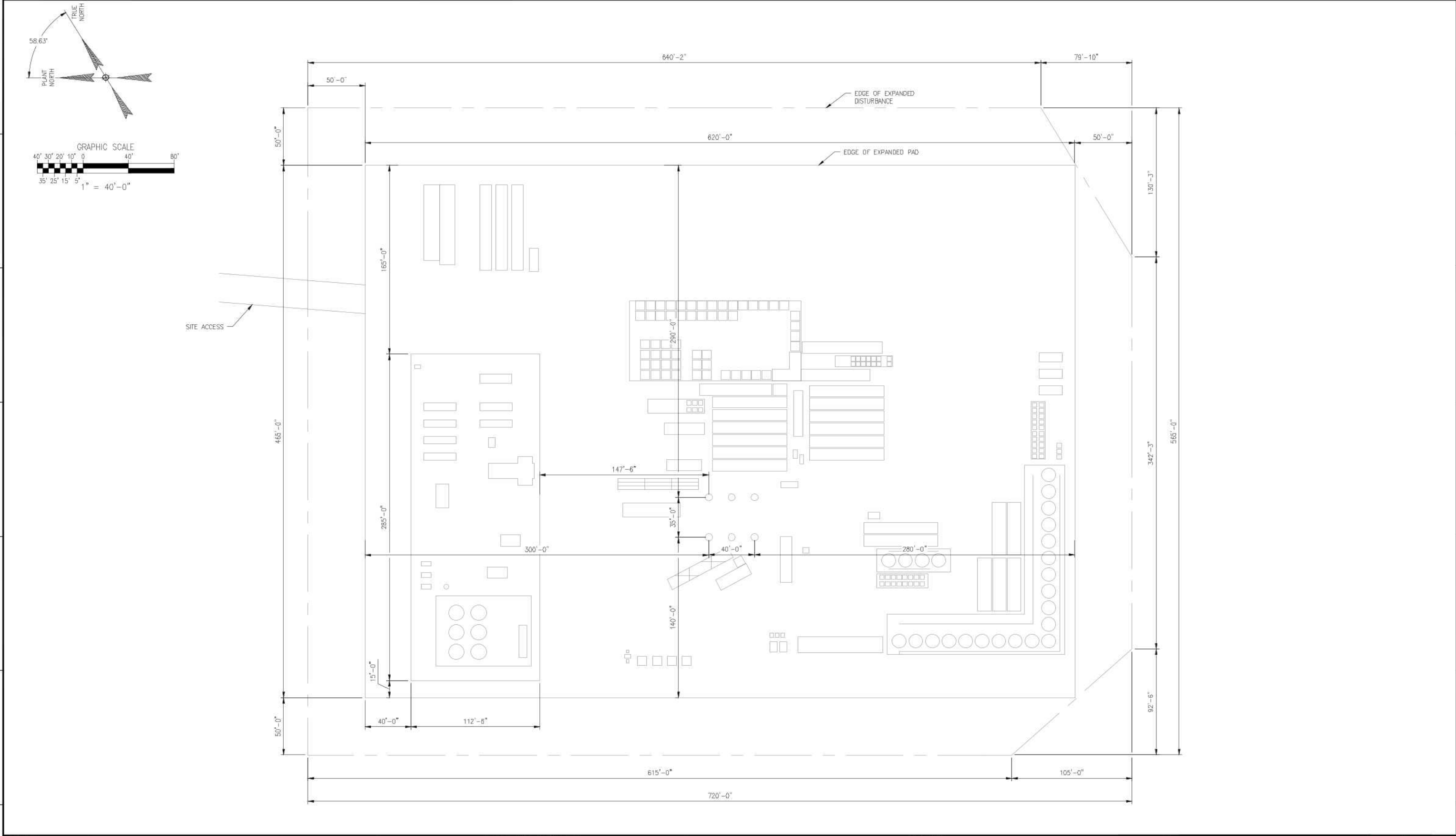
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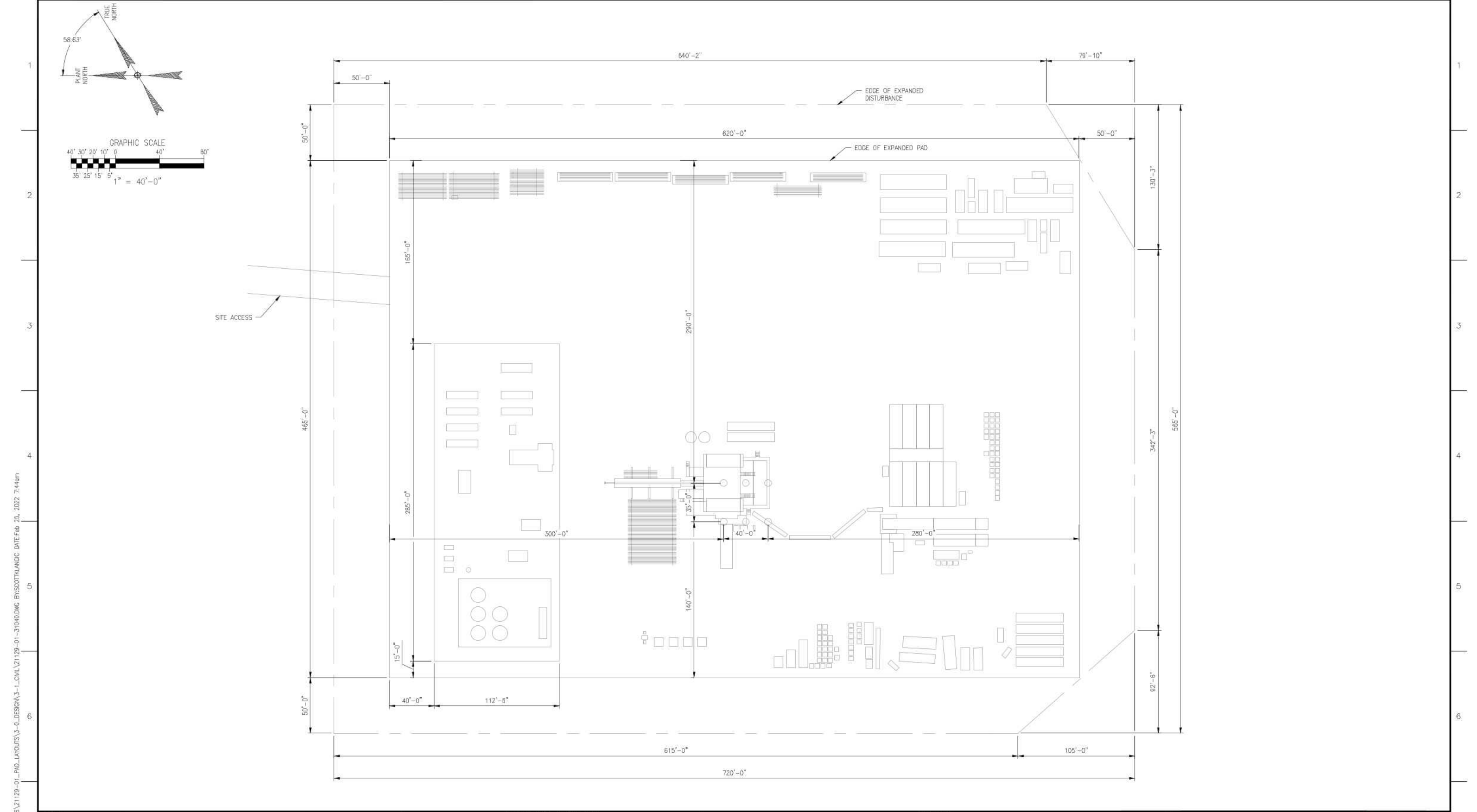
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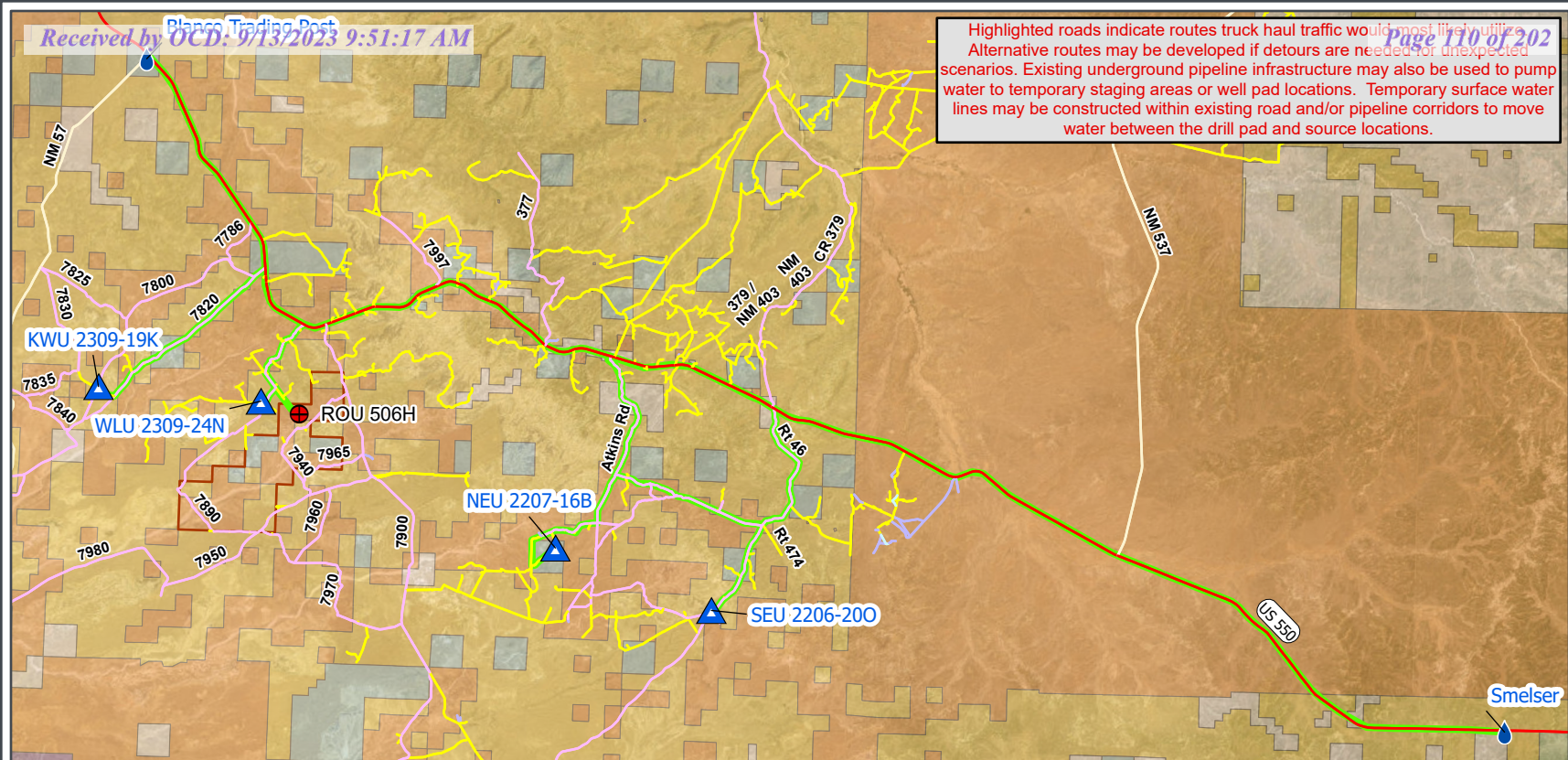
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	DWG NO.	TITLE	REV	DESCRIPTION	DATE	BY	CHK	ENG	APR	SCALE: (FORMATTED 22X34) 1" = 40'-0"	DRAWING NO. 21129-01-31040	▲

Highlighted roads indicate routes truck haul traffic would most likely utilize. Alternative routes may be developed if detours are needed for unexpected scenarios. Existing underground pipeline infrastructure may also be used to pump water to temporary staging areas or well pad locations. Temporary surface water lines may be constructed within existing road and/or pipeline corridors to move water between the drill pad and source locations.



## ROU 506H Project | Water Transportation

- |   |                           |   |              |   |
|---|---------------------------|---|--------------|---|
|  | ROU 506H                  |  | Access, Dirt | <b>Land Ownership</b>   |
|  | Potable Water Sources     |  | County       |  BLM     |
|  | Non-Potable Water Sources |  | Highway      |  USFS    |
|  | Potential Truck Routes    |  | Private      |  Tribal  |
|   |                           |  | Reclaim      |  NPS     |
|   |                           |  | State        |  Private |
|   |                           |   |              |  State   |

 Unit Boundary

San Juan, Rio Arriba, and  
Sandoval County, NM  
NAD 1983 UTM Zone 13N  
36.2186°N 107.4483°W



1:345,000

Base Map: ESRI ArcGIS Online,  
accessed September 2023  
Updated: 9/8/2023  
Project No. 75253p36

3p9\_ROU\_506H\_Water\_Transportation  
5253p9 RodeoUnit 508 WellPad Exp



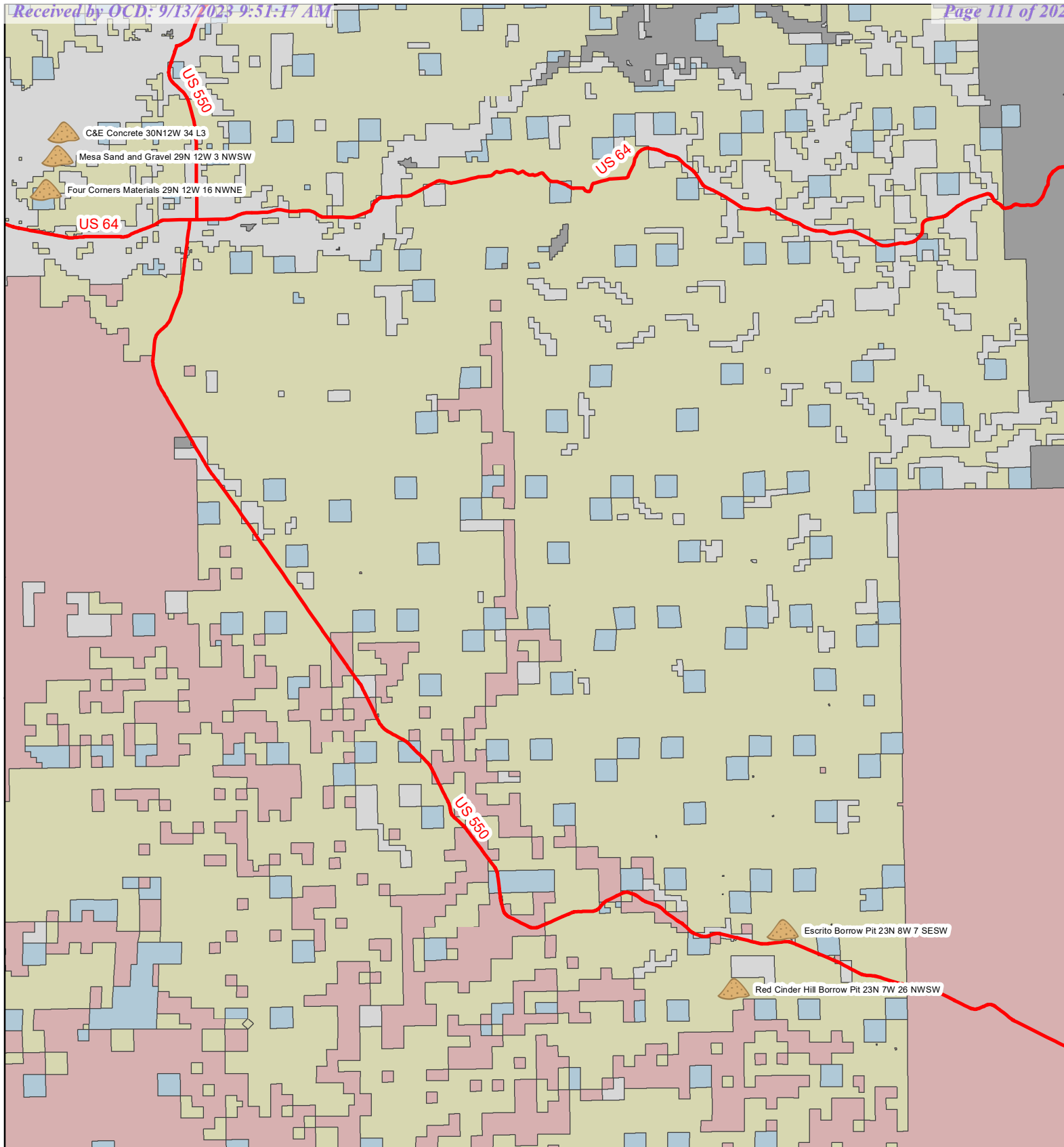
New Mexico









**SWCA**  
ENVIRONMENTAL CONSULTANTS

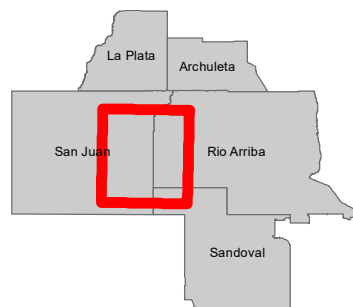
ENDURING  
RESOURCES, LLC





## Material Source Location Map

-  Material Source
-  Highway, Paved
-  BLM Surface
-  Indian Surface
-  Private Surface
-  State Surface



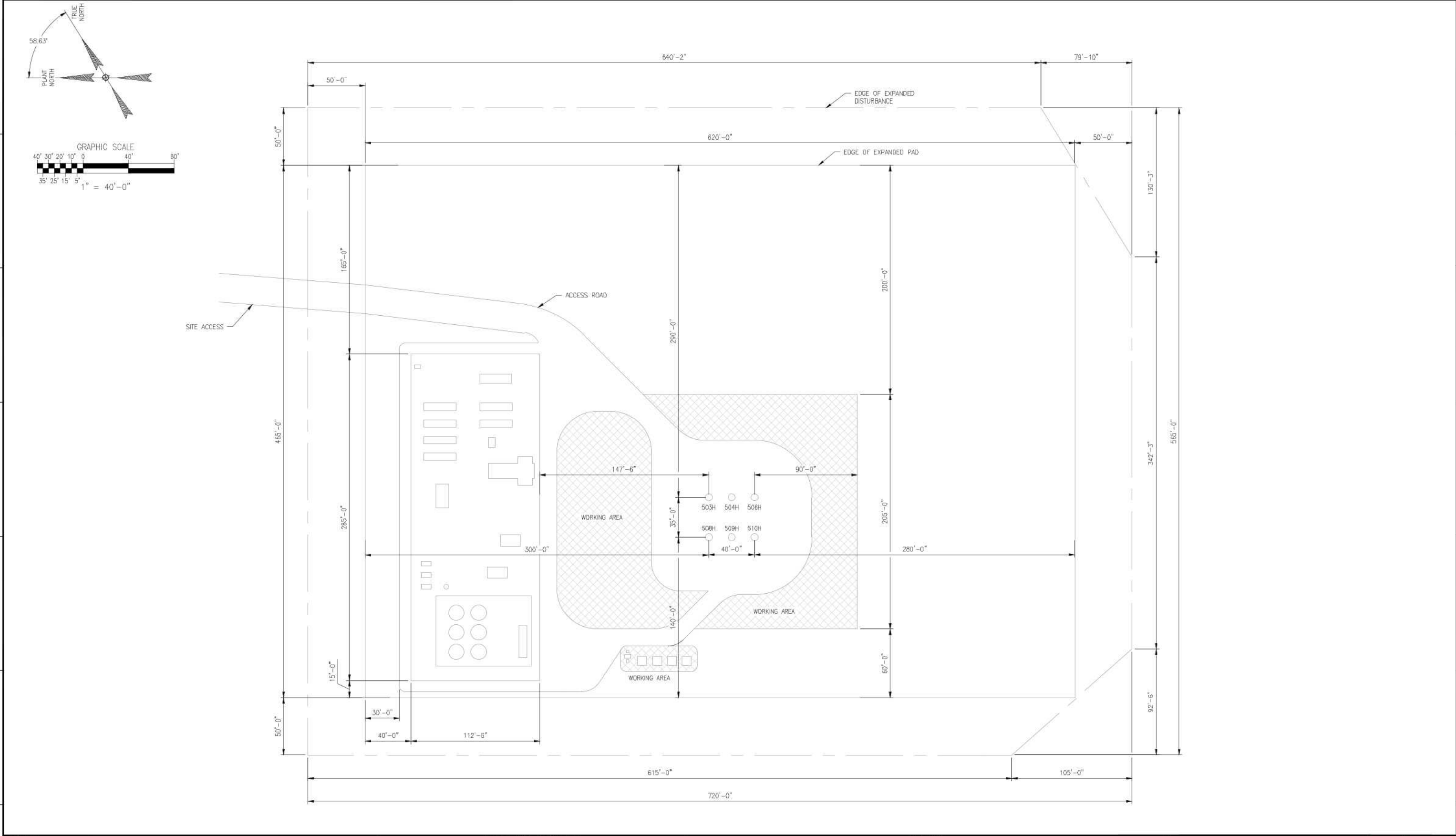
**ENDURING  
RESOURCES, LLC**

Data Source Statement:  
BLM-FFO, Enduring Resources GIS, ESRI Inc.,  
NCE Surveys, USGS

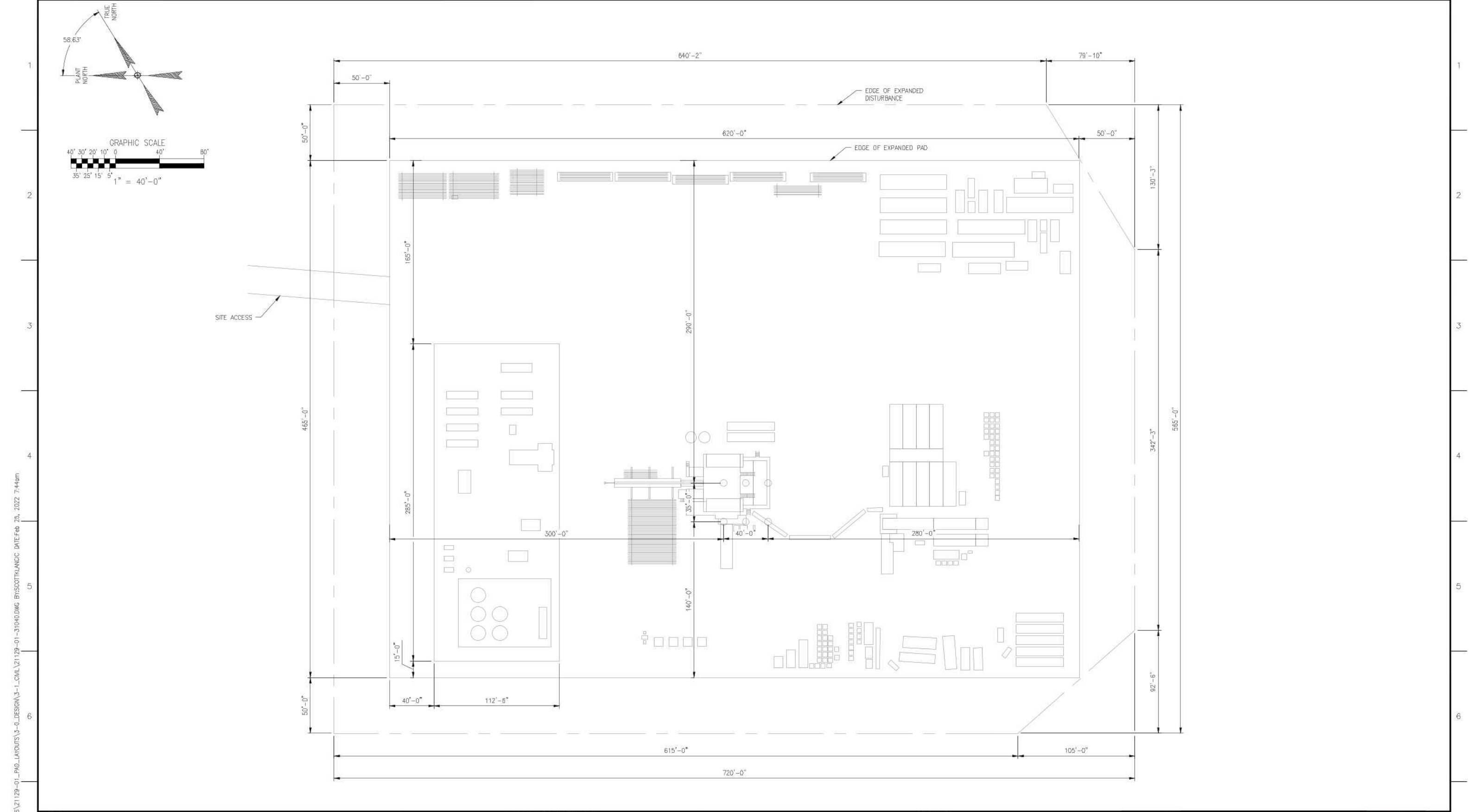
Author: drogers

Date: 10/23/2019

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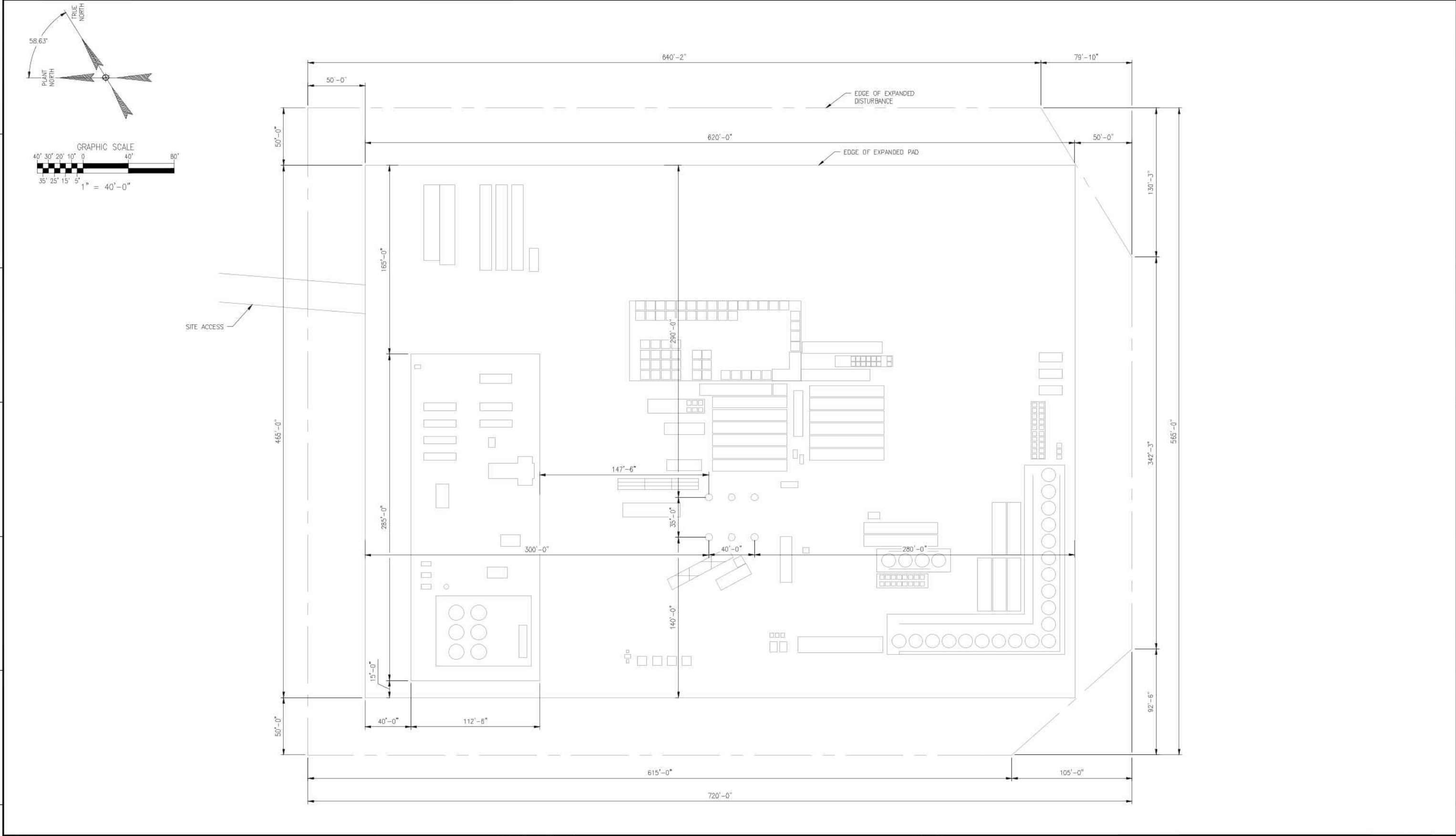
NOTES:	REFERENCE DRAWINGS		REVISIONS						<div>HALKER</div> <div>ENGINEERED SOLUTIONS</div> <div></div> <div>ENDURING RESOURCES RODEO UNIT 508 EXPANSION FACILITY LAYOUT</div> <div>SCALE: (FORMATTED 22X34) 1" = 40'-0"</div> <div>DRAWING NO. 21129-01-31042</div>
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FILE PATH: P:\ENDURING RESOURCES\21129-01\_PAO\_LAYOUTS\3-0\_DESIGN\3-1\_CIVIL\21129-01-31040.DWG BY:SCOTT/KL/C/D DATE:Feb 25, 2022 7:44am

NOTES:	REFERENCE DRAWINGS		REVISIONS						<div><div>HALKER</div><div>ENGINEERED SOLUTIONS</div></div> <div><div>ENDURING RESOURCES</div><div>RODEO UNIT 508 EXPANSION</div><div>FACILITY AND RIG LAYOUT</div></div> <div><div>SCALE: (FORMATTED 22X34)</div><div>1" = 40'-0"</div></div> <div><div>DRAWING NO.</div><div>21129-01-31040</div></div>
	DWG NO.	TITLE	REV	DESCRIPTION	DATE	BY	CHK	ENG	APR

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NOTES:	REFERENCE DRAWINGS		REVISIONS							<div> <div>HALKER</div> <div>ENGINEERED SOLUTIONS</div> <div> </div> </div> <div> <div>ENDURING RESOURCES</div> <div>RODEO UNIT 508 EXPANSION</div> <div>FACILITY AND COMPLETIONS LAYOUT</div> </div> <div> <div>SCALE: (FORMATTED 22X34)</div> <div>1" = 40'-0"</div> </div> <div> <div>DRAWING NO.</div> <div>21129-01-31041</div> </div>
	DWG NO.	TITLE	REV	DESCRIPTION	DATE	BY	CHK	ENG	APR	
				ISSUED FOR INFORMATION	02/25/22	SCK	DTS	BBS	BBS	

**From:** [Mark Lokshin](#)  
**To:** [Heather Huntington](#)  
**Cc:** [Khem Suthiwan](#); [Alex Campbell](#)  
**Subject:** FW: Payment Confirmation: BLM Oil and Gas Online Payment  
**Date:** Thursday, June 16, 2022 12:10:46 PM

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**From:** notification@pay.gov <notification@pay.gov>  
**Sent:** Thursday, June 16, 2022 12:09 PM  
**To:** Mark Lokshin <MLokshin@enduringresources.com>  
**Subject:** Payment Confirmation: BLM Oil and Gas Online Payment



An official email of the United States government

Pay.gov logo



Your payment has been submitted to the designated government agency through [Pay.gov](#) and the details are below. Please note that this is just a confirmation of transaction submission. To confirm that the payment processed as expected, you may refer to your bank statement on the scheduled payment date. If you have any questions or wish to cancel this payment, you will need to contact the agency you paid at your earliest convenience.

Application Name: BLM Oil and Gas Online Payment  
[Pay.gov](#) Tracking ID: 270HBG3P  
Agency Tracking ID: 76253882529

Account Holder Name: Enduring Resources IV, LLC  
Transaction Type: ACH Debit  
Transaction Amount: \$32,700.00  
Payment Date: 06/17/2022

Account Type: Business Checking  
Routing Number: 102001017  
Account Number: \*\*\*\*\*9961

Transaction Date: 06/16/2022 02:08:56 PM EDT  
Total Payments Scheduled: 1  
Frequency: OneTime

Company: Enduring Resources IV LLC

APD IDs: 10400084206, 10400084207, 10400084208

Lease Numbers: NMNM120377, NMNM120377, NMNM120377

Well Numbers: 503H, 504H, 506H

Note: You will need your [Pay.gov](#) Tracking ID to complete your APD transaction in AFMSS II. Please ensure you write this number down upon completion of payment.

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.



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# **SURFACE USE PLAN OF OPERATIONS**

## **Rodeo Unit, 503H, 504H, & 506H Oil and Natural Gas Wells Project (Rodeo 508 Pad Expansion)**

SEPTEMBER 2023



## **ENDURING RESOURCES IV, LLC**

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200 Energy Court  
Farmington, New Mexico 87401  
Phone: (505) 636-9720

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Surface Use Plan of Operations

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Pursuant to Onshore Oil and Gas Order No. 1 (43 CFR 3160), this Surface Use Plan of Operations (SUPO) has been prepared for the Bureau of Land Management (BLM) Farmington Field Office (FFO) as part of Enduring Resources IV, LLC's (Enduring's) proposed Rodeo Unit 503H, 504H, & 506H Oil and Natural Gas Wells Project (Rodeo 508 Pad Expansion) Applications for Permit to Drill (APDs). This SUPO has been developed to meet the requirements of Onshore Oil and Gas Order No. 1. The below information is provided to the surface management agency to give an accurate account of the proposed action for National Environmental Policy Act (NEPA) disclosure.

Infrastructure proposed to be constructed, operated, subsequently interim reclaimed, and eventually fully reclaimed as part of the Rodeo Unit 508 Pad Expansion includes expansion of the existing Rodeo Unit 508 well pad to accommodate additional production facilities and an expanded construction buffer zone. Existing disturbance and/or facilities to be utilized as part of this project include; one existing well pad access road with one pullout, one existing well-connect pipeline corridor including temporary drilling and completion surface lay-flat lines, and temporary use areas. The proposed infrastructure associated with the Rodeo Unit 508 Pad Expansion would be located off-lease. The proposed off-lease project located on Navajo Indian Allotted lands would be built per lease authority associated with Enduring's W Lybrook Unit (NMNM135923). The proposed wells would access Federal and Navajo Indian Allotted minerals within Enduring's Rodeo Unit (NMNM136328X).

## 1. EXISTING ROADS

---

The Rodeo Unit 508 Pad Expansion project area is located in northwest New Mexico; specifically, in the BLM-FFO management area in the southeast portion of San Juan County, New Mexico. The project area is accessed off of US Highway 550, approximately 38 miles south of Bloomfield.

### 1.1. Driving Directions

- From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.3 miles to Mile Marker 113.4,
- Go Right (South-westerly) on County Road #7890 for 0.8 miles to fork in roadway,
- Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to 4-way intersection,
- Go Left (South-easterly) remaining on County Road #7890 for 1.2 miles to 4-way intersection,
- Go Left (South-easterly) exiting County Road #7890 for 0.4 miles to the staked Enduring Rodeo Unit, 503H, 504H, & 506H Oil and Natural Gas Wells Project Area, which overlaps the existing Enduring Rodeo Unit 508 location.

For existing County Roads or roads that are considered collector roads, Enduring would defer to the county or to the Roads Committee, when formed, for maintenance determinations.

Existing roadways utilized would be maintained to the same or better condition as existed prior to the commencement of operations. Roadways would be maintained to accommodate anticipated traffic volumes with all-weather access. Maintenance would continue until wells accessed by existing roadway have been Plugged and Abandoned (P&A) and a Final Abandonment Notice (FAN) has been approved.

Best management practices (BMPs) for dust abatement would be utilized along the roads to reduce fugitive dust during construction, drilling, completion, and any other heavy traffic activities during the life of the project. Water application using a rear-spraying truck or other suitable means would be the primary method of dust suppression along the roads. If it is found to be necessary to apply commercial dust mitigation materials such as magnesium chloride, organic-based compounds, or polymer compounds to the roads; Enduring would seek approval from the appropriate surface managing agency.

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Surface Use Plan of Operations

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No routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. If equipment creates ruts deeper than six inches, the soil would be deemed too wet for construction or maintenance.

Existing water management and erosion control structures would be inspected and maintained to accommodate long term storm water control.

See Enduring's Road Maintenance Plan for more details.

## **1.2. Onsite Inspection**

On November 17, 2021, an onsite inspection was conducted as required by Onshore Oil and Gas Order No. 1 (43 CFR 3160). Members of the BLM, third party contractors, company representatives from Enduring Resources, and others were in attendance. The following items were published as items requiring further evaluation or action in the Notice of 7-day Onsite Letter of BLM Surface Concerns for Enduring Resources, Rodeo Unit 503H, 504H, and 506H, Sec 25, Twn 23N, Rng 9W.

### **1.2.1. Pad Layout**

- A. "The pad layout as it stands today (November 17, 2021) has the northeastern corner of the pad (stake #5) falling directly at the border of BLM and IA surface. In an effort to minimize the risk of IA surface disturbance at this location, it was suggested to pull in the corner of the pad to allow [a] 50' edge of disturbance buffer if possible. Operator will evaluate feasibility of this proposal and provide new surveyed plats when submitting the APD's should the layout be changed."
- B. "If the pad cannot be changed, the operator will take the appropriate measures to prevent disturbance on IA surface."

### **1.2.2. Additional Observations**

- A. "Juniper Green Paint for the above ground equipment."
- B. "Sagebrush seed mix to be used at reclamation."
- C. "Designated pre-reclamation fill material storage location to be identified."
- D. "This letter does not represent an exhaustive list of resource concerns and is subject to change at the time of APD submittal and subsequent scoping by the FFO Inter Disciplinary (ID) Team."

## **2. NEW OR RECONSTRUCTED ACCESS ROAD(S)**

---

No new access roads are required or proposed as part of the Rodeo Unit 508 Pad Expansion project. See the construction plats in Appendix C for proposed access road improvements or modifications and any other site-specific design features.

Enduring previously construct 2,170 feet of roadway to accommodate anticipated traffic volumes and all-weather access to the Rodeo Unit 508H, 509H, & 510H Oil and Natural Gas Wells Project. This roadway was designed, constructed, has been maintained, and will continue to be maintained in accordance with The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development and BLM Manual 9113, Sections 1 and 2.

Maintenance activities requiring surfacing material or fill material, such as sandstone, gravel, pit run, or road base would be obtained, if needed and economically viable, from an approved location. Enduring will maximize the use of native material within the proposed project area to reduce or eliminate the need to haul in foreign materials.

BMPs for dust abatement and erosion control will be implemented as needed along the existing access road to reduce fugitive dust during construction, drilling, completion, and any other heavy traffic activities during the life of the project. Water application using a rear-spraying truck or other suitable means, would be the primary method of dust suppression along the road. Any additional erosion-control practices, such as the application of commercial dust mitigation materials like magnesium chloride, organic-based compounds, or polymer compounds would be included in the COAs attached to the approved APD.

No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. If equipment creates ruts deeper than six inches, the soil would be deemed too wet for construction or maintenance.

All Enduring approved locations may be utilized as staging areas during construction activities.

Final reclamation of the proposed access road is discussed in the Surface Reclamation Plan.

### **3. LOCATION OF EXISTING WELLS**

---

Water wells and oil and gas wells (plugged and abandoned, active, and proposed) within a one-mile radius of the Rodeo Unit 508 Pad Expansion are depicted in Appendix C. There is one (1) water well and four (4) oil and gas wells within a one-mile radius of the proposed well pad expansion location.

### **4. LOCATION OF EXISTING OR PROPOSED PRODUCTION FACILITIES**

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#### **4.1. Production Facilities**

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See Appendix C for a diagram depicting the anticipated production facility layout.

Production facilities for the Rodeo Unit 508 Pad Expansion would be located in kind with the existing facilities on the existing well pad. Facilities on existing location include, but are not limited to (including facilities that may occur through the life of the wells), vertical and/or horizontal separators of varying types, 500 bbl oil and water tanks, 750 bbl flash tanks, below grade tanks of varying sizes, above grade steel pit tank, vapor recovery units, vapor recovery tower, LACT building and equipment, Gas Scrubbers of various types, Instrument Air System (Compressor/dryer/receiver etc), chemical skids, gas lift skid, gas lift compressor, sales compressor, electric/automation buildings and equipment, capstone generators or other generator types, power poles, communication tower, combustors, cathodic protection equipment, various pumps, meter runs, pipeline risers, and artificial lift equipment. These facilities will be utilized and additional facilities for the proposed new wellbores will be limited and addressed on an as needed basis.

Berms or containment walls have been constructed around all storage tanks sufficient in size to contain the volume of the single largest storage vessel plus 1-foot freeboard for precipitation; or, 110% of the volume of the largest vessel. Containment walls and floors will be impervious to fluids including hydrocarbons for 72 hours. No additional storage tanks or additional containment will be required as part of the Rodeo Unit 508 Pad Expansion.

Within 90 days of installation, all long-term production facilities associated with the Rodeo Unit 508 Pad Expansion would be painted BLM Juniper Green. BLM Juniper Green was chosen to match existing facilities in the area and to blend with the surrounding landscape, as seen from a viewing distance and location typically used by the public. Contrasting safety paint and/or reflective tape will be used to highlight and mitigate a potential hazard, such as a tripping hazards, pinch points, or protruding or mechanical edges that could harm the operator or public.

All open-vent exhaust stacks will be modified/equipped and maintained to prevent birds or bats from entering and to discourage perching, roosting, and nesting.

#### **4.2. Pipelines**

Please see the construction plats in Appendix C for the existing pipeline corridor center line survey plats identifying route, length and location, existing structures within the same corridor and/or crossed, TUAs, and any other site-specific design features.

Enduring proposes no new pipeline system to serve the Rodeo Unit 508 Pad Expansion but will utilize existing infrastructure and approvals. The existing well-connect pipelines and waterlines are located in Section 25 in Township 23 North, Range 9 West N.M.P.M. and Section 24 in Township 23 North, Range 9 West N.M.P.M.

Above ground appurtenances associated with the existing pipelines may include, but are not limited to, pigging stations, future well tie-in risers, valve cans, coriolis check meters/meter skids/meter house, automation equipment, BGT(s), crossover valve set, and protective barricade structures. All above ground appurtenances associated with the permanent buried steel pipelines would be painted BLM Juniper Green. Contrasting safety paint and/or reflective tape will be used to highlight and mitigate a potential hazard, such as a tripping hazards, pinch points, protruding or mechanical edges that could harm the operator or public, and pipe barricades to highlight visibility from roadway.

No new buried pipelines are anticipated as part of the Rodeo Unit 508 Pad Expansion; however, Enduring could lay up to two parallel 12-inch inside diameter or less surface lay-flat lines or high-density polyethylene (HDPE) pipelines within the existing pipeline corridor and other existing road and pipeline corridors to serve drilling and completion operations. These surface pipelines would be temporary for the duration of active drilling and completion operation in the surrounding area or movement of water between recycling facilities as needed. These pipelines would transport fresh water, flowback water, and produced water. Where surface lines cross roadways, dual 18-inch or 24-inch culverts would be installed within the roadway and used as casing for the pipelines. Any area where the lay-flat line crosses a significant wash or watercourse, jersey barriers will be set parallel to the drainage flow. The lay-flat would be run through 18-inch to 24-inch culverts that are anchored to the top of the jersey barriers. This prevents any obstruction or impoundment of natural drainage and protects the lines in the event of high flows. Roadway culverts and jersey barriers with anchored culverts will remain in place even in periods when lay-flat lines have been retrieved and are not in use. Prior to breaking down and picking up surface lines they would be pigged multiple times with foam pigs and compressed air. Liquids would be recovered in a facility, recycling containment, or water hauler for reuse or disposal.

Reclamation of the existing pipeline corridor is discussed in the Surface Reclamation Plan.

## **5. LOCATIONS AND TYPES OF WATER SUPPLY**

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Please see Appendix C for the water transportation map for the below listed sources.

During construction, fresh water sources will be used to dampen the native soils as fill slopes are constructed in lifts. This will promote acceptable compaction for the well pad as well as control fugitive dust. Enduring anticipates use of approximately 2,000 bbls of fresh water to construct the proposed well pad expansion. Fresh water is additionally used on an as needed basis for dust suppression along dirt roadways during drilling, completion, and any other operations where heavy traffic would be anticipated. Total amounts applied during these activities are dependent upon, but not limited to, length of dirt road, weather conditions, relative humidity, density of traffic, and duration of traffic.



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Surface Use Plan of Operations

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The following estimates are general and assumed using average past volume usage for similar activities. Variables that can significantly affect these volumes include, but are not limited to, soil type, grain size, grain shape, recent weather events, relative humidity, time of year, and soil moisture holding capacity. During initial drilling, and post completion drill out operations, Enduring will use a consolidated 6,130 bbls of fresh water. This is inclusive of the Rodeo Unit 503H (2,000 bbls), 504H (2,000 bbls), and 506H (2,000 bbls) wells, and an estimated 130 bbl rig wash.

Fresh water would be obtained from the following location(s):

**5.1. Blanco Trading Post (POD No. SJ02105)**

- The Blanco Trading Post Well is located in the southwest ¼ of the northeast ¼ of Section 32, Township 25 North, Range 9 West, NMPM. The well is located at Latitude 36.359802° North and Longitude -107.810310° West. This source is located on State of New Mexico lands managed by the NMSLO. Transportation from source will be via truck.

**5.2. Smelser (POD No. 82771 S2)**

- The Smelser Well is located in the northeast ¼ of the northeast ¼ of Section 9, Township 21 North, Range 2 West, NMPM. The well is located at Latitude 36.069826° North and Longitude -107.04718° West. This source is located on private lands. Transportation from source will be via truck.

During completion operations, Enduring will use a consolidated 1,130,000 bbls of non-potable brine water from a non-potable formation, produced water, and recycled water. This is inclusive of the Rodeo Unit 503H (360,000 bbls), 504H (360,000 bbls), and 506H (410,000 bbls) wells. Sources of these fluids and the process of recycling are discussed further below.

During completion operations, Enduring would use non-potable water from a non-potable water bearing formation. Enduring may also utilize produced water gathered from their existing wells within the Mancos Gallup area. Produced water may be gathered via existing underground pipeline infrastructure, temporary surface line infrastructure, and trucked. Flowback water from completion operations would be recycled for reuse. These non-potable sources would be gathered, stored, treated, and recycled at any and all of Enduring's Water Recycling Facilities. Enduring Resources filters and separates water contained within their recycling facilities in three phases. Phase one includes retention of water within a 750 bbl water leg that separates 100-micron oil droplets and sediment/particles. Phase two, downstream of the water leg, water passes through a large coalescer filter with estimated 30-micron oil droplet removal capabilities. The final phase of filtration before entering the containment, includes passing through two filter pots in parallel containing bag or cartridge filters. These filters can vary in micron filtration sizing dictated by the solids recovered, likely, a range between 10-50 microns. Enduring resources will size bag or cartridge filters as may be necessary during operations. Average Entrada water supply well TDS is 8,000 – 10,000. Flowback water from completion activities will be recycled and returned to an Enduring water recycling facility for reuse. Flowback water may contain solids, oil, and produced water when immediately returned from the wellbore. Prior to water leaving the completion location, it will pass through the permanent facilities on location if built and commissioned or pass through a temporary treatment facility on location. Treatment will remove oil and solids prior to leaving location. Flowback water may additionally pass through the permanent water treatment facility at the containment location prior to entering containment if necessary. Flowback water within containment after treatment and filtration may contain a mixture of produced water and supply water from the Entrada Formation used for the stimulation process. Enduring Resources will fill and store water in all containments that use is anticipated during drilling and completions activities. Filling containments via Entrada supply wells on locations will begin no later than four to five working weeks prior to drilling and completion activities commencing unless supplementary sources are used in addition thereto. Enduring

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 Surface Use Plan of Operations
 

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Resources provides all stimulation fluid properties and additives through the Frac Focus site established for reporting to State and Federal Agencies. See Frac Focus for stimulation fluid components.

In addition to recycled and produced water, Enduring would use non-potable water from their following non-potable brine water supply wells:

### **5.3. Enduring Resources NEU 2207-16B Water Recycling Facility**

- The NEU 2207-16B Water Recycling Facility is located in the Northwest ¼ of the Northeast ¼ of Section 16, Township 22 North, Range 9 West, NMPM. The supply well is located at Latitude 36.143567° North and Longitude -107.576013° West. This water recycling Facility is located on State of New Mexico lands managed by the NMSLO. Transportation from source will be via truck, underground pipe, or surface lines, depending on availability.

### **5.4. Enduring Resources WLU 2309-24N Water Recycling Facility**

- The WLU 2309-24N Water Recycling Facility is located in the Southeast ¼ of the Southwest ¼ and Southwest ¼ of the Southeast ¼ of Section 24, Township 23 North, Range 9 West, NMPM. The supply well is located at Latitude 36.205932° North and Longitude -107.741568° West. This water recycling Facility is located on public lands managed by the BLM-FFO. Transportation from source will be via truck, underground pipe, or surface lines, depending on availability.

### **5.4 Enduring Resources KWU 2390- Water Recycling Facility**

- The KWU 2309-19K Water Recycling Facility is located in the Northeast ¼ of the Southwest ¼ of Section 19, Township 23 North, Range 9 West, NMPM. The supply well is located at Latitude 36.210181° North and Longitude -107.831776° West. This water recycling Facility is located on public lands managed by the BLM-FFO. Transportation from source will be via truck, underground pipe, or surface lines, depending on availability.

### **5.5 Enduring Resources SEU 2206-20O Water Recycling Facility**

- The SEU 2206-20O Water Recycling Facility is located in the Southwest ¼ of the Southeast ¼ of Section 20, Township 22 North, Range 6 West, NMPM. The supply well is located at Latitude 36.117342° North and Longitude -107.488712° West. This water supply well is located on public lands managed by the BLM-FFO. Transportation from source will be via truck, underground pipe, or surface lines, depending on availability.

## **6. CONSTRUCTION MATERIALS**

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- A. All surface infrastructure would be constructed utilizing native borrow within the permitted area to create a balanced working surface. Surfacing material or fill material, such as sandstone, gravel, pit run, or road base would be used if needed and economically viable and would be obtained from an approved location. Enduring will maximize the use of native material within the proposed project area to reduce or eliminate the need to haul in foreign material.
- B. Material may be imported and used for any of the following reasons; low water crossings (pit run and road base), road surfacing (road base, gravel, or sandstone), erosion control (riprap cobble stone), barricades (boulders), under and surrounding equipment (gravel), and filling soft or muddy areas (sandstone, pit run, road base, or gravel).
- C. A map of borrow pit locations where Enduring may obtain material can be found in Appendix C. The borrow pits are labeled with operating company name if applicable and legal location to the quarter-quarter.

## 7. METHODS FOR HANDLING WASTE

### 7.1. Cuttings

- Drilling operations would utilize a closed-loop system. Drilling of the horizontal laterals would be accomplished with water-based mud. Oil based mud could be used contingent on formation properties encountered. All cuttings would be placed in roll-off bins and hauled to a commercial disposal facility or land farm. Enduring would follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit would be used.
- Closed-loop tanks would be adequately sized for containment of all fluids.

### 7.2. Drilling Fluids

- Drilling fluids would be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids would be recycled and transferred to other permitted closed-loop systems or disposed of at one of the locations specified below in part 7.8.

### 7.3. Spills

- Any spills of non-freshwater fluids would be immediately cleaned up and removed to an approved disposal site.

### 7.4. Sewage

- Portable toilets would be provided and maintained as needed during construction.

### 7.5. Garbage and other waste material

- All garbage and trash would be placed in enclosed metal trash containers. The trash and garbage would be hauled off site and dumped in an approved landfill, as needed.

### 7.6. Hazardous Waste

- No chemicals subject to reporting under Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of these wells.
- No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities would be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
- All fluids (i.e., scrubber cleaners) used during washing of production equipment would be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.

### 7.7. Flowback:

- Flowback transported off location will consist of approximately 2500 bbls of produced water per day for approximately 30 days.
- Flowback fluid would be gathered, recycled, and reused as described in Section 5. If there are no foreseen drilling and completion operations, flowback would be disposed of at one of the disposal wells listed below.

### 7.8. Produced Water:

- Enduring would dispose of produced water at the following facilities:

#### 7.8.1. Disposal 001, API 30-045-26862

Operated by Basin Disposal Inc., located in the Southeast ¼ of the Northwest ¼, Section 3, Township 29 North, Range 11 West.

**7.8.2. Sunco Disposal 001, API 30-045-28653**

Operated by Agua Moss, LLC, located in the Southwest  $\frac{1}{4}$  of the Northwest  $\frac{1}{4}$ , Section 2, Township 29 North, Range 12 West.

**7.8.3. Pretty Lady 30 11 34 001, API 30-045-30922**

Operated by Agua Moss, LLC, located in the Northwest  $\frac{1}{4}$  of the Southeast  $\frac{1}{4}$ , Section 34, Township 30 North, Range 11 West.

**7.8.4. NE Chaco COM SWD 001, API 30-039-31378**

Operated by Enduring Resources IV, LLC, located in the Northwest  $\frac{1}{4}$  of the Southeast  $\frac{1}{4}$  of Section 13, Township 23 North, Range 7 West.

- Produced water would be hauled by truck and/or transported through below grade or surface pipeline infrastructure to any of Enduring's water recycling facilities. Produced water may be gathered and used in future drilling and completion operations as an alternative disposal method.

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## 8. ANCILLARY FACILITIES

Any of Enduring's existing locations may be used for staging during construction, drilling, and completion operations. Sleeping quarters for drilling and completion personnel will be located on the active location or one of Enduring's nearby locations.

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## 9. WELL SITE LAYOUT

Topsoil removal, storage, and protection is described in detail in the Surface Reclamation Plan. During construction, the proposed well pad would be leveled to provide adequate space and a level working surface for vehicles and equipment. Excavated materials from cuts would be used on fill portions of the well pad to level the surface. The approximate cuts, fills, and well pad orientation is shown on the cut/fill worksheet and cross section diagrams in the survey plats found in Appendix C. Additionally, please see Appendix C for the proposed Well Pad Facility Diagram showing long term well pad layout, reclamation areas, and disturbance acreage; Well Pad Drilling Diagrams showing the location and orientation of the drill rig; and the Well Pad Completion Diagram, showing the location and orientation of the completion equipment.

Drilling of the proposed three wells would require constructing an expansion of the existing Rodeo Unit 508 Pad. The expansion area is proposed as a 150-foot by 565-foot area south and west of the existing pad (3.45 acres) and a 100-foot by 640-foot area north and east of the existing pad (2.62 acres) for a total expansion of (6.07 acres). This area includes a 50-foot construction buffer zone surrounding the new disturbance area. The resulting area of the existing well pad, well pad expansion area, and construction buffer zone, would encompass a 11.69-acre disturbed area. This entire area would be utilized during construction, setting of production equipment, drilling and completion phases. The approximate cuts and fills and well pad orientation for the proposed Rodeo Unit 508 Pad Expansion are shown on the plats in Appendix C.

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## 10. PLANS FOR SURFACE RECLAMATION

A Surface Reclamation Plan for the Rodeo Unit 508 Pad Expansion has been prepared as a separate document. The Surface Reclamation Plan was prepared in accordance with Onshore Oil and Gas Order No. 1.

The Surface Reclamation plan addresses:

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Surface Use Plan of Operations

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- Configuration of the reshaped topography;
- Drainage systems;
- Segregation of spoil material;
- Surface disturbances;
- Backfill requirements;
- Redistribution of topsoil;
- Soil treatments;
- Seeding or other steps to reestablish vegetation;
- Weed control;
- and practices necessary to reclaim all disturbed areas.

## 11. SURFACE OWNERSHIP

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The project is located on BLM-managed land. The field office contact information is:

Bureau of Land Management - Farmington Field Office  
6251 College Boulevard, Suite A  
Farmington, New Mexico 87402  
(505) 564-7600

## 12. OTHER INFORMATION

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- Enduring's appointed construction contractors would call New Mexico One-Call (or equivalent) to identify the location of any marked or unmarked pipelines or cables located in proximity to the proposed Rodeo Unit 508 Pad Expansion or any other areas proposed to have ground disturbance at least two working days prior to ground disturbance.
- The construction phase of the project would commence upon receipt of an approved APD. The BLM-FFO would be notified via phone or email at least 48 hours prior to the start of construction activities associated with the project.
- All activities associated with the construction, use/operation, maintenance, and abandonment or termination of the Rodeo Unit 508 Pad Expansion would be limited to areas approved in the APDs.
- The project area has been surveyed by Division of Conservation Archaeology (DCA). The cultural survey report will be submitted directly to the surface managing agencies. Cultural mitigation, monitoring, and implementation of site protection barriers would occur if stipulated in the COAs attached to the approved APDs.
- Construction and maintenance activities would cease if soil or road surfaces become saturated to the extent that construction equipment is unable to stay within the project area and/or when activities cause irreparable harm to roads, soils, or streams.
- All BLM-FFO general COAs would apply to this action.



## **Appendix A. FIGURES & DIAGRAMS**

**A.1. SURVEY & CONSTRUCTION PLATS**

**A.2. FIGURE 1 – LOCATION ACCESS**

**A.3. FIGURE 2 – EXISTING WELLS WITHIN 1-MILE**

**A.4. FIGURE 3 – WATER TRANSPORTATION MAP**

**A.5. FIGURE 4 – CONSTRUCTION MATERIALS**

**A.6. WELL PAD LAYOUT DIAGRAMS**

A

District I  
1632 North St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 393-6161 Fax: (505) 393-0720  
District II  
811 S. First Street, Artesia, NM 88210  
Phone: (505) 748-1283 Fax: (505) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

Submit one copy to  
Appropriate District Office

OIL CONSERVATION DIVISION  
1220 South St. Francis Drive  
Santa Fe, NM 87505

☐ AMENDED REPORT

17 OPERATOR  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed Name \_\_\_\_\_

E-mail Address \_\_\_\_\_

18 SURVEYOR CERTIFICATION  
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: MARCH 21, 2023  
Survey Date: SEPTEMBER 15, 2021

Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 97232		3 Pool Name BASIN MANCOS	
4 Property Code 321253		5 Property Name RODEO UNIT		6 Well Number 506H	
7 OGRID No. 372286		8 Operator Name ENDURING RESOURCES, LLC		9 Elevation 6883'	

10 Surface Location

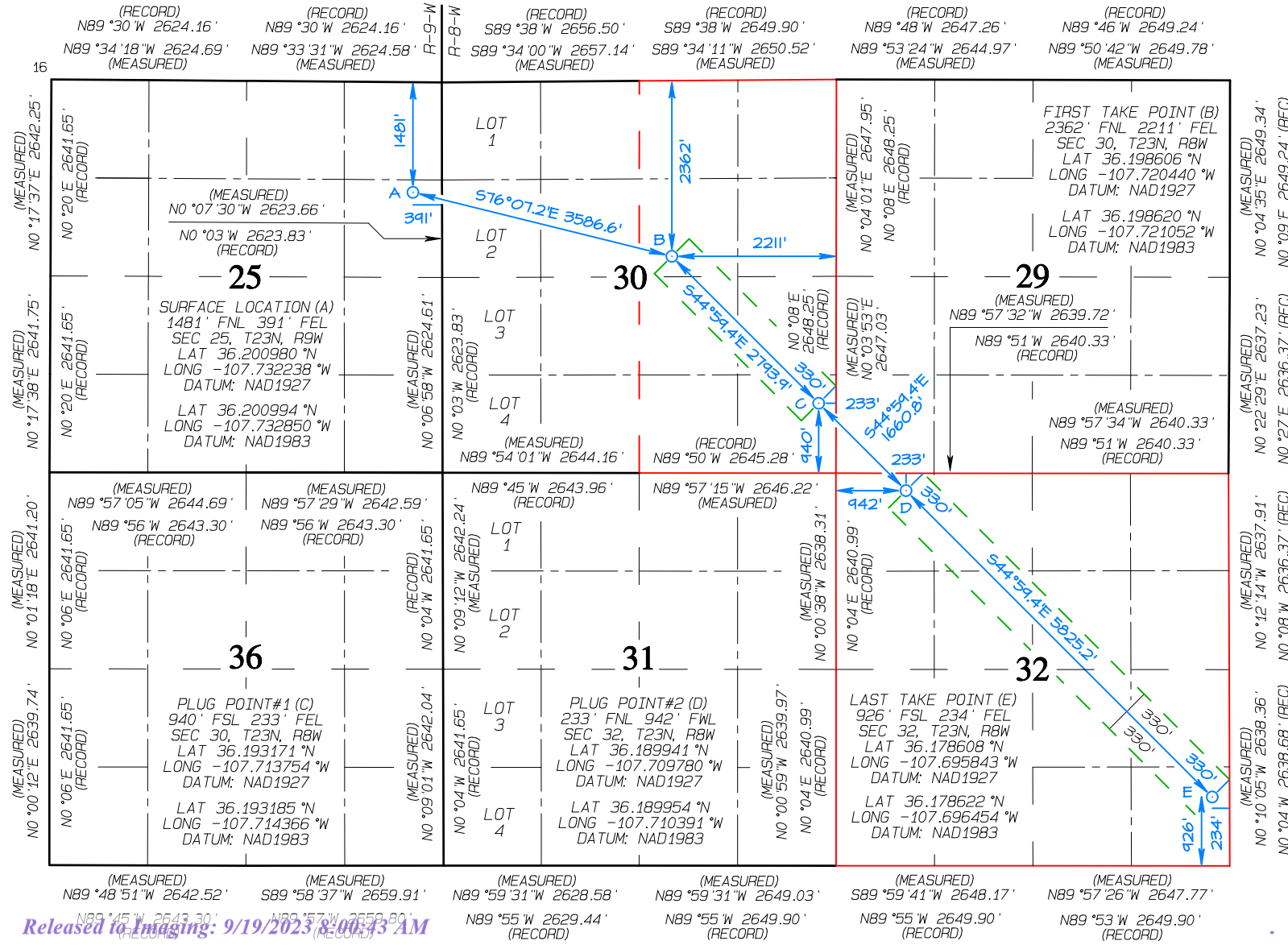
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	23N	9W		1481	NORTH	391	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	23N	8W		926	SOUTH	234	EAST	SAN JUAN

12 Dedicated Acres 960.00		E/2 - Section 30 Entire Section 32		13 Joint or Infill		14 Consolidation Code		15 Order No. R-14313	
------------------------------	--	---------------------------------------	--	--------------------	--	-----------------------	--	-------------------------	--

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



District I  
1630 North  
Phone: (575) 393-6161 Fax: (575) 393-0720  
District II  
811 S. First Street, Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

17 OPERATOR  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Printed Name \_\_\_\_\_  
E-mail Address \_\_\_\_\_

OIL CONSERVATION DIVISION  
1220 South St. Francis Drive  
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code	3 Pool Name
		97232	BASIN MANCOS
4 Property Code	5 Property Name		6 Well Number
321253	RODEO UNIT		506H
7 OGRID No.	8 Operator Name		9 Elevation
372286	ENDURING RESOURCES, LLC		6883'

10 Surface Location


UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	25	23N	9W		1481	NORTH	391	EAST	SAN JUAN

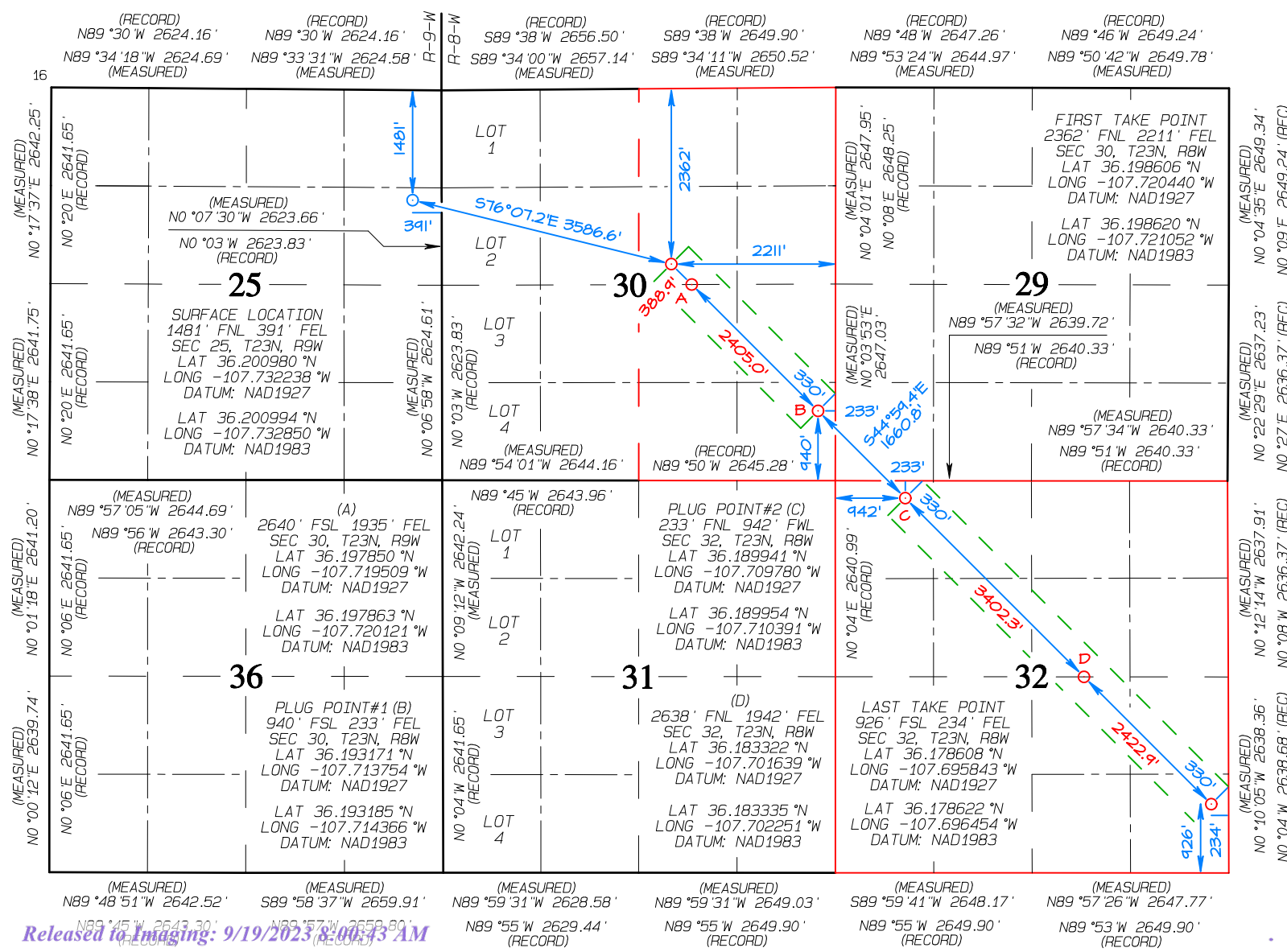
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	23N	8W		926	SOUTH	234	EAST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill		14 Consolidation Code	15 Order No.
960.00	E/2 - Section 30 Entire Section 32			R-14313

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

18 SURVEYOR CERTIFICATION  
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  
Date Revised: MARCH 21, 2023  
Survey Date: SEPTEMBER 15, 2021  
Signature and Seal of Professional Surveyor  
  
JASON C. EDWARDS  
Certificate Number 15269

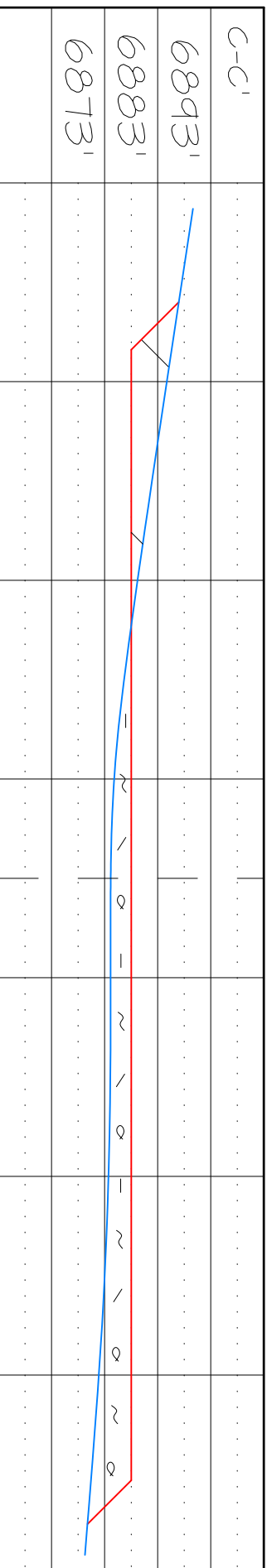
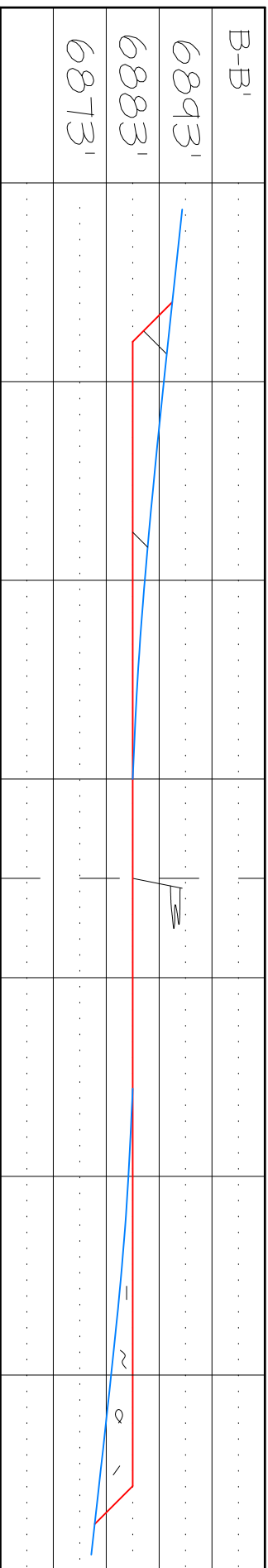
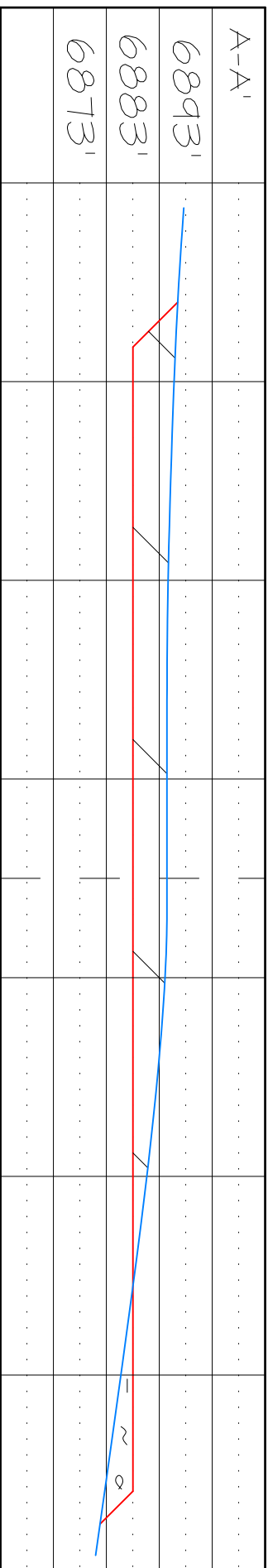




ENDURING RESOURCES, LLC RODEO UNIT #506H  
 1481' FNL & 391' FEL, SECTION 25, T23N, R9W, NMPM  
 SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6883'

HORIZONTAL SCALE  
 1"=80'

VERTICAL SCALE  
 1"=30'



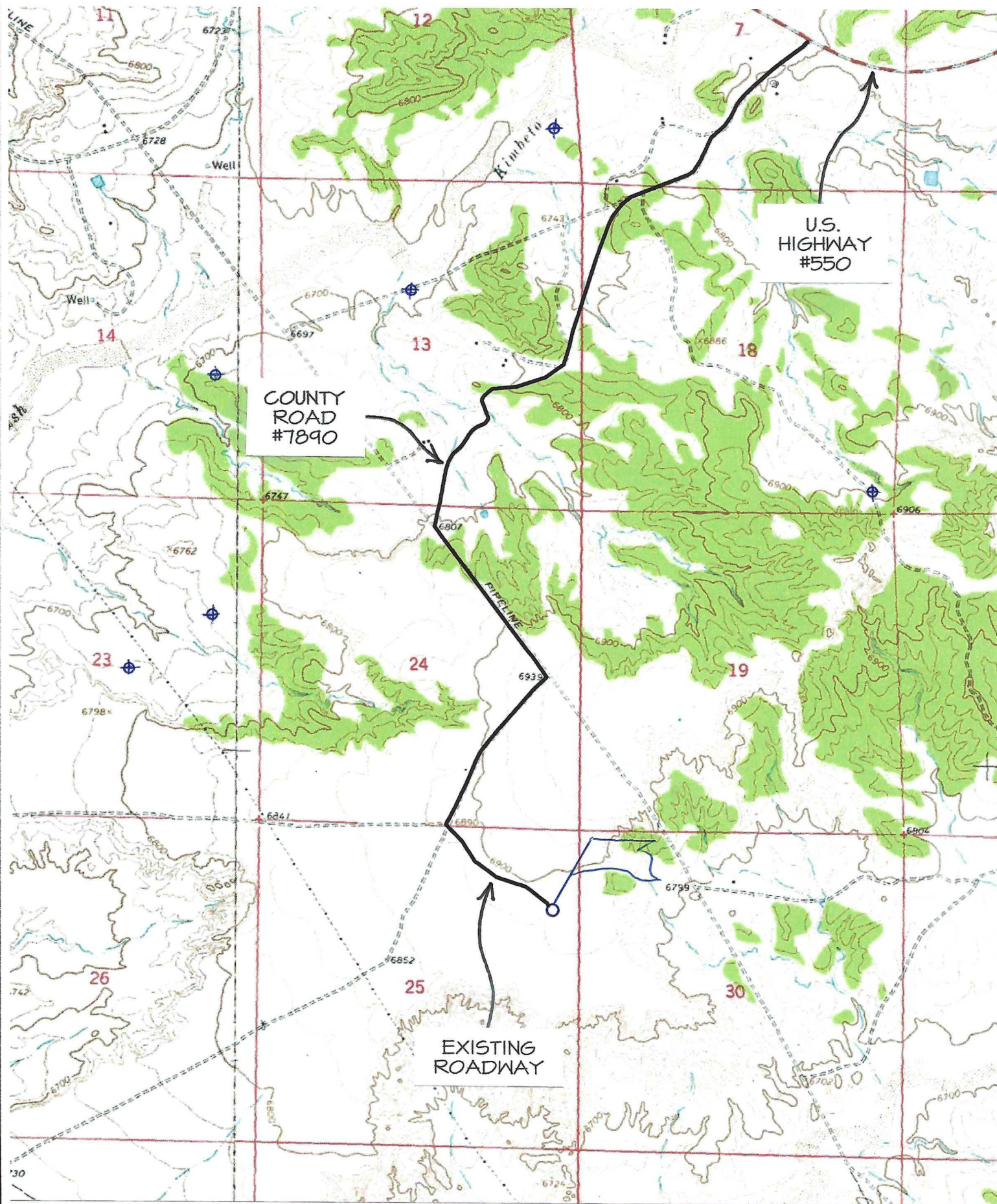
NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.



ENDURING RESOURCES, LLC. RODEO UNIT #30611

1481' FNL & 391' FEL, SECTION 25, T23N, R9W, N.M.P.M.  
SAN JUAN COUNTY, NEW MEXICO



TOPO NAME : LYBROOK NW

⊕ PRODUCING WELL

⊗ PLUGGED & ABANDONED WELL



**Directions from the Intersection of US Hwy 550 & US Hwy 64**  
**in Bloomfield, NM to Enduring Resources, LLC Rodeo Unit #506H**  
**1481' FNL & 391' FEL, Section 25, T23N, R9W, N.M.P.M., San Juan County, NM**

**Latitude 36.200994°N Longitude -107.732850°W Datum: NAD1983**

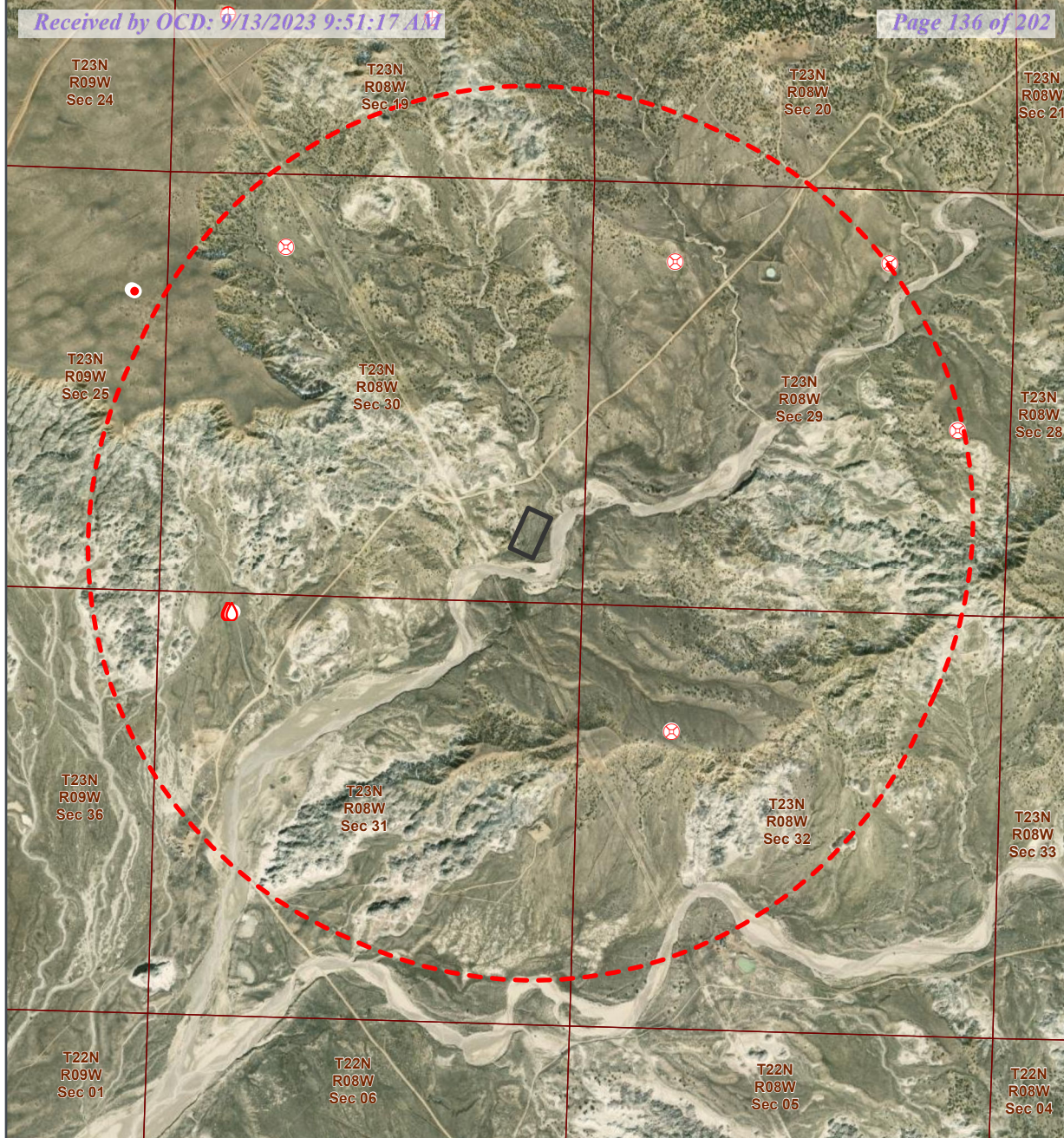
From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.3 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.8 miles to fork in roadway;

Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to 4-way intersection;

Go Left (South-easterly) remaining on County Road #7890 for 1.2 miles to 4-way intersection;

Go Left (South-easterly) exiting County Road #7890 for 0.4 miles to staked Enduring Rodeo Unit #506H location which overlaps the existing Enduring Rodeo Unit #508H location.



## ROU 506H Project | Wells Within 1 Mile



No OSE PODs  
in Map Extent



1 Mile Buffer



Wellpad

### Oil and Gas Well Status



Active



Cancelled



New

Wells	Within 1 Mile	Within Map Extent
OSE Points of Diversion	0	0
Active O&G	2	5
Cancelled O&G	1	5
Plugged (site released) O&G	3	3
Plugged (site released) O&G	0	2

Released to Imaging: 9/19/2023 8:00:43 AM

Rio Arriba County, NM  
NAD 1983 BLM Zone 13N  
36.1918°N 107.7155°W



1:25,000



Base Map: ESRI ArcGIS Online,  
accessed September 2023  
Updated: 9/8/2023  
Project No. 75253p75

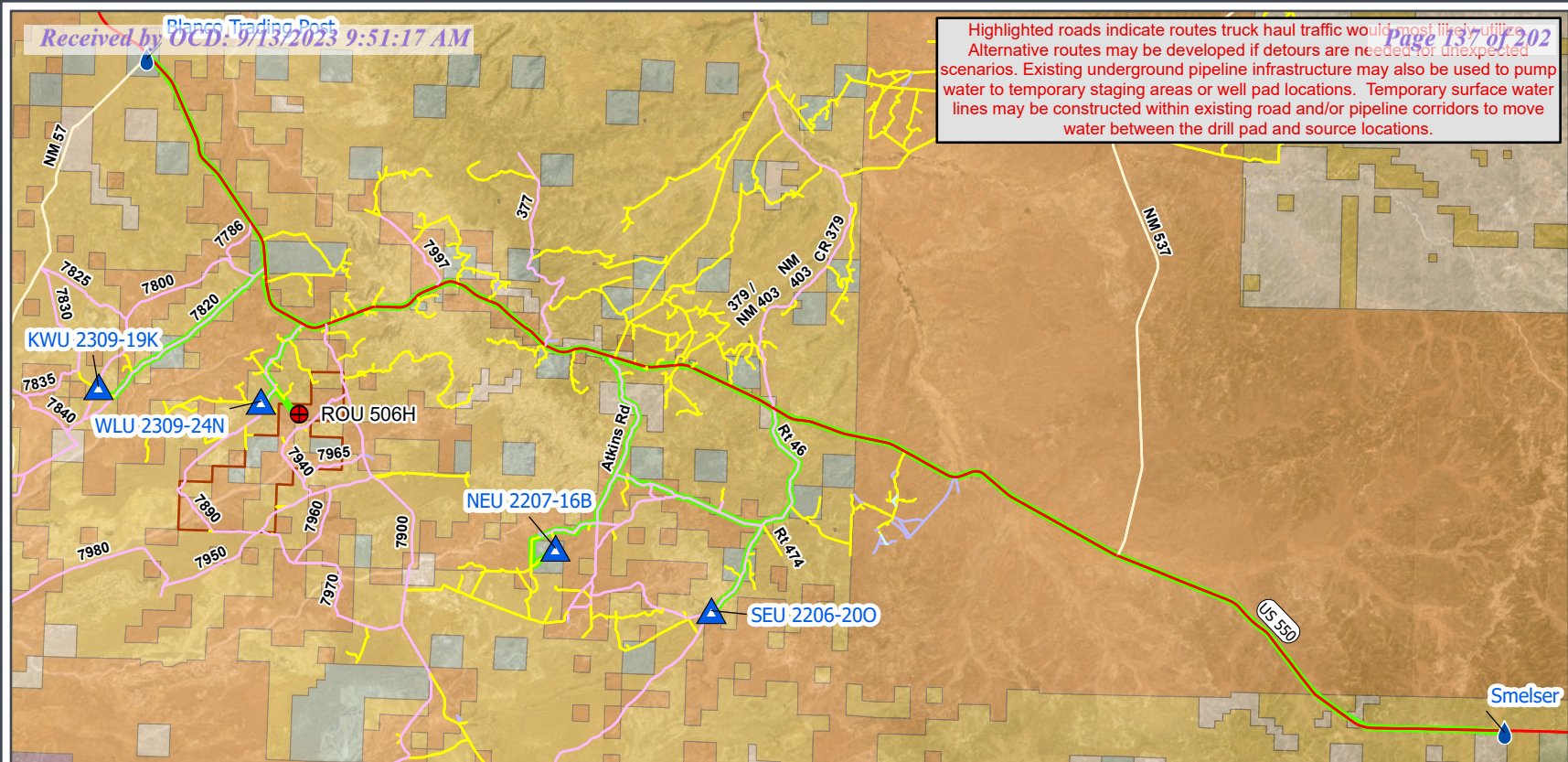
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253p9\_ROU\_506H\_Wells\_Within\_1Mile  
Aprx:  
5253p9\_RodeoUnit\_508\_WellPad\_Exp

**SWCA**  
ENVIRONMENTAL CONSULTANTS

**ENDURIN**  
RESOURCES, LLC



Highlighted roads indicate routes truck haul traffic would most likely utilize. Alternative routes may be developed if detours are needed for unexpected scenarios. Existing underground pipeline infrastructure may also be used to pump water to temporary staging areas or well pad locations. Temporary surface water lines may be constructed within existing road and/or pipeline corridors to move water between the drill pad and source locations.



# ROU 506H Project | Water Transportation

- |  |  |   |   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li>ROU 506H</li> <li>Potable Water Sources</li> <li>Non-Potable Water Sources</li> <li>Potential Truck Routes</li> </ul> | <ul style="list-style-type: none"> <li>Access, Dirt</li> <li>County</li> <li>Highway</li> <li>Private</li> <li>Reclaim</li> <li>State</li> </ul> | <p><b>Land Ownership</b></p> <ul style="list-style-type: none"> <li>BLM</li> <li>USFS</li> <li>Tribal</li> <li>NPS</li> <li>Private</li> <li>State</li> </ul> | <ul style="list-style-type: none"> <li>Unit Boundary</li> </ul> |
|--|--|---|---|

San Juan, Rio Arriba, and Sandoval County, NM  
NAD 1983 UTM Zone 13N  
36.2186°N 107.4483°W

0 10,000 20,000 Feet  
0 3,000 6,000 Meters

N

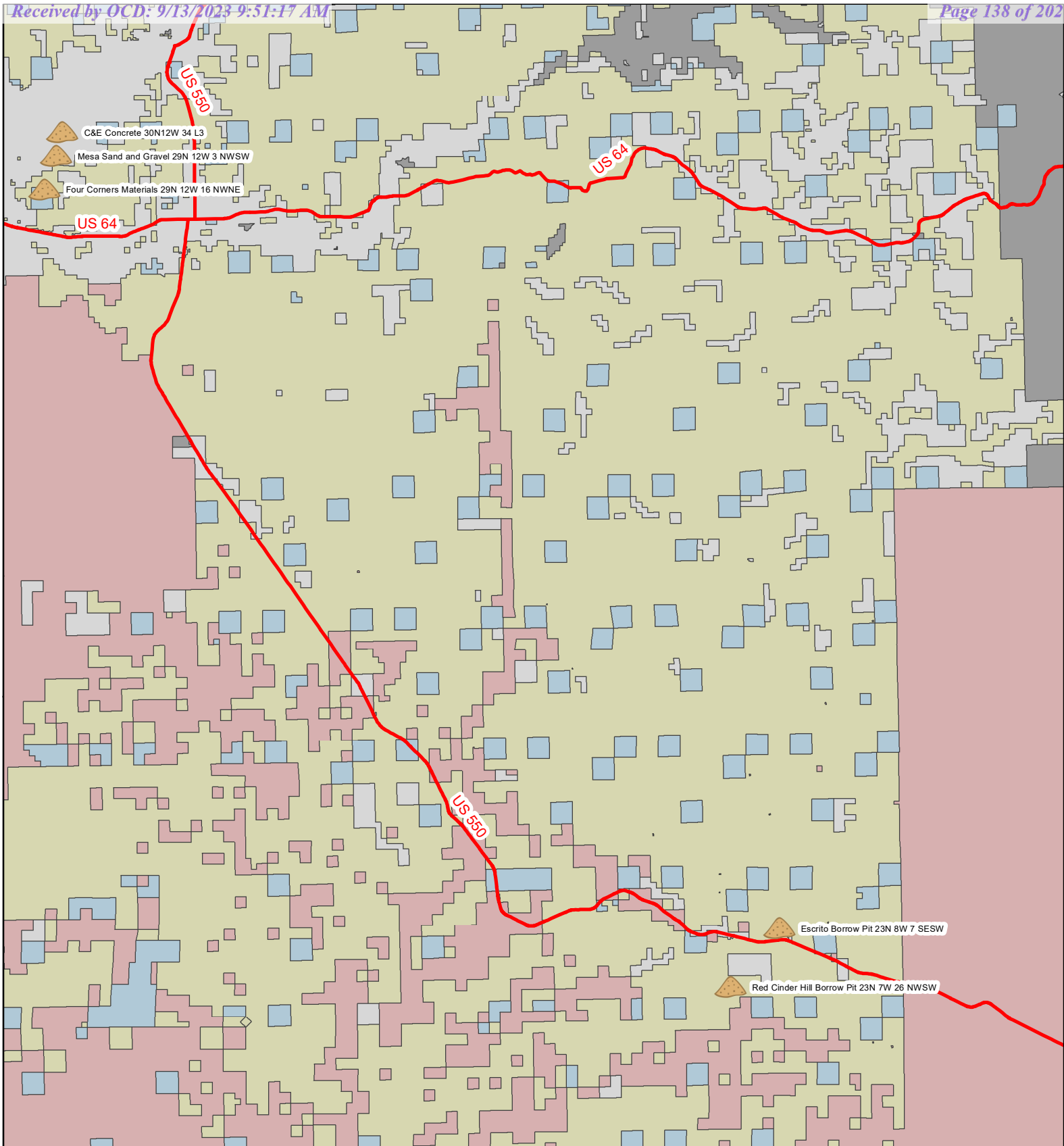
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Layout:  
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
New Mexico

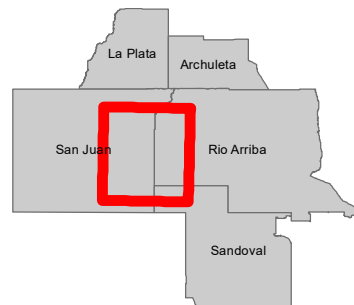
SWCA  
ENVIRONMENTAL CONSULTANTS

ENDURING  
RESOURCES, LLC



## Material Source Location Map

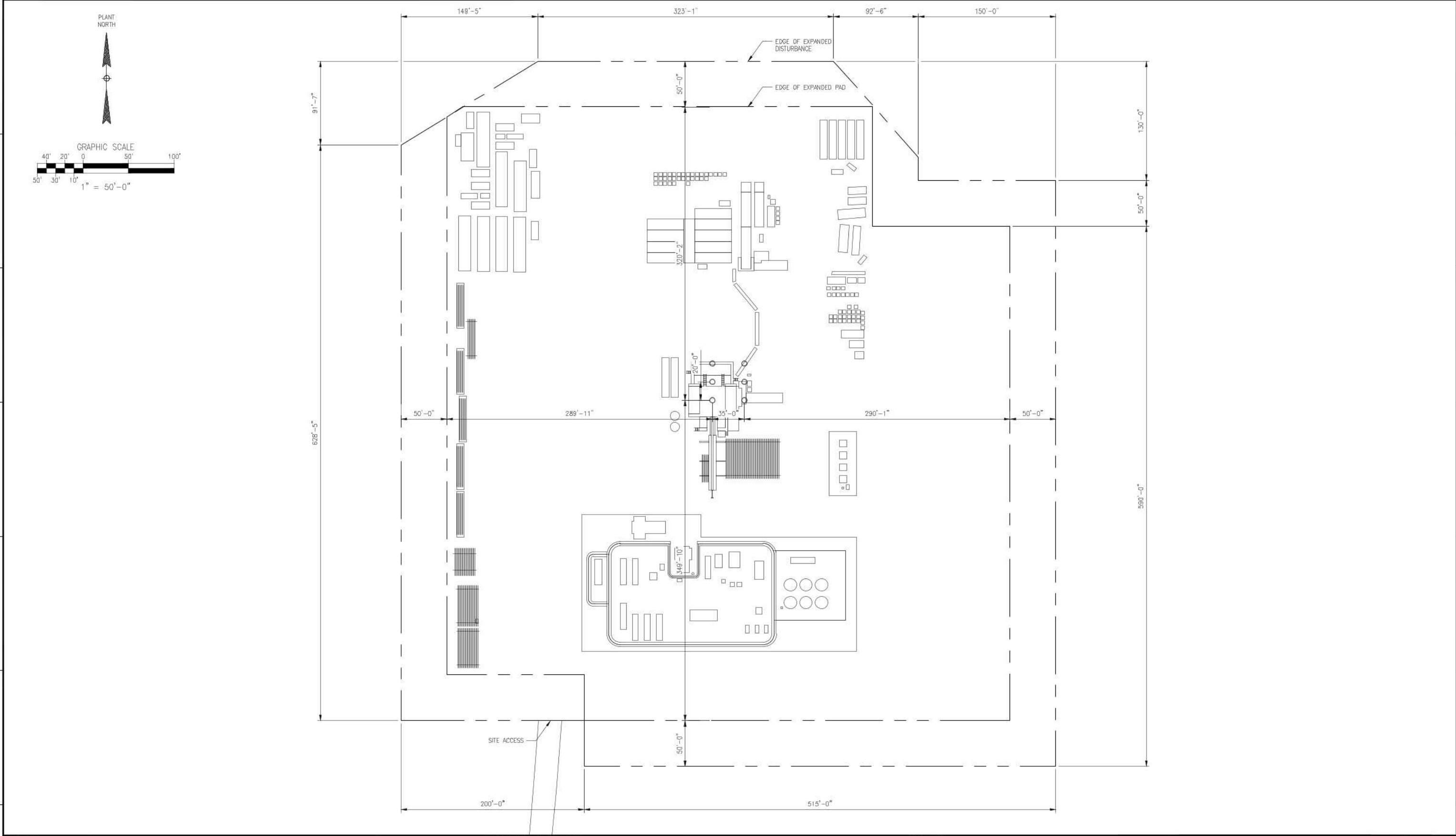
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-  Highway, Paved
-  BLM Surface
-  Indian Surface
-  Private Surface
-  State Surface



**ENDURING  
RESOURCES, LLC**

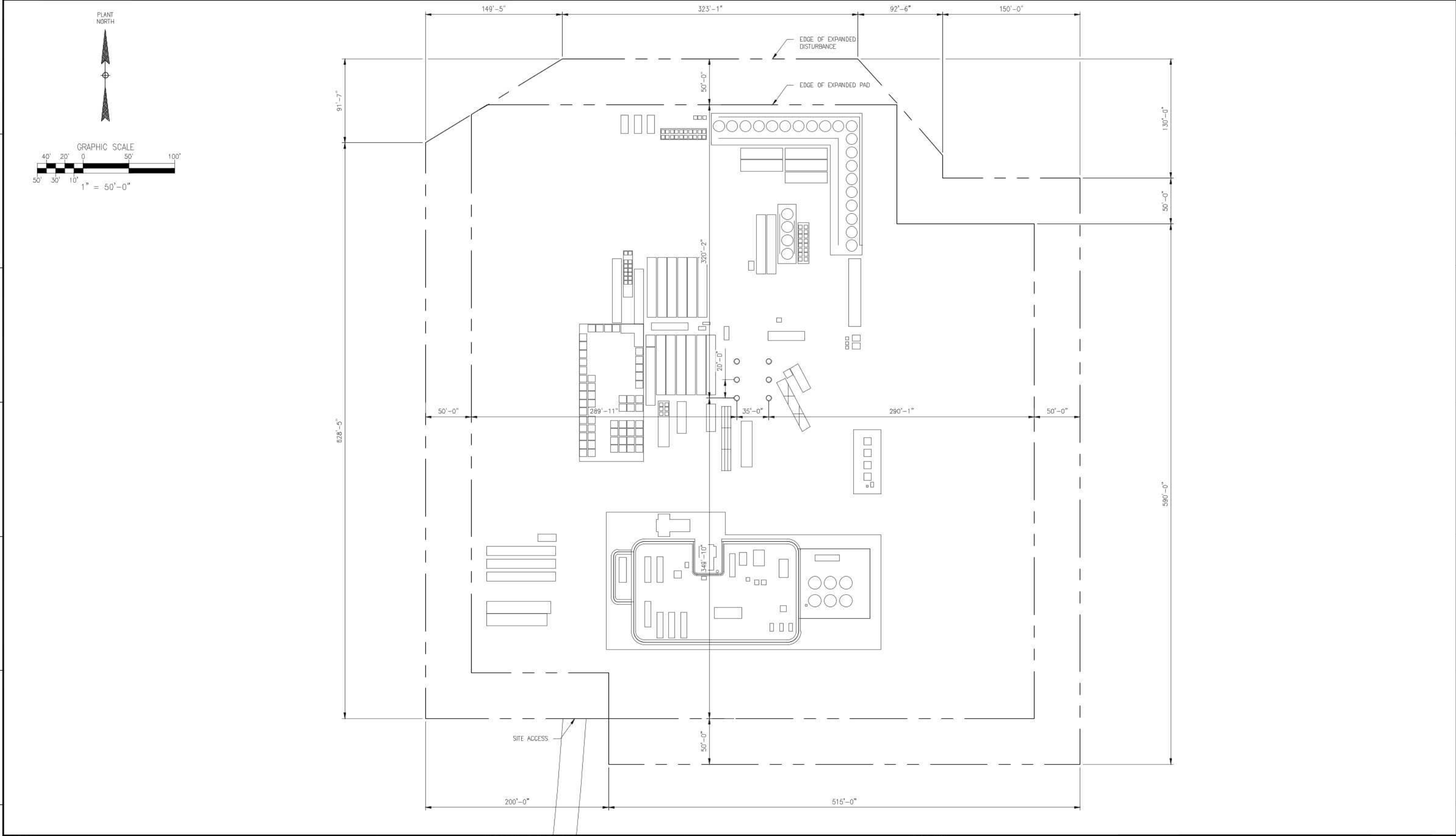
Data Source Statement:  
BLM-FFO, Enduring Resources GIS, ESRI Inc.,  
NCE Surveys, USGS



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NOTES:	REFERENCE DRAWINGS			REVISIONS							<div><div>HALKER</div><div>ENGINEERED SOLUTIONS</div></div> <div><div>ENDURING RESOURCES</div><div>RODEO UNIT 508 EXPANSION</div><div>FACILITY AND RIG LAYOUT</div></div> <div>SCALE: (FORMATTED 22X34) 1" = 50'-0"</div> <div>DRAWING NO. 22014-01-31040</div>
	DWG NO.	TITLE		REV	DESCRIPTION	DATE	BY	CHK	ENG	APR	

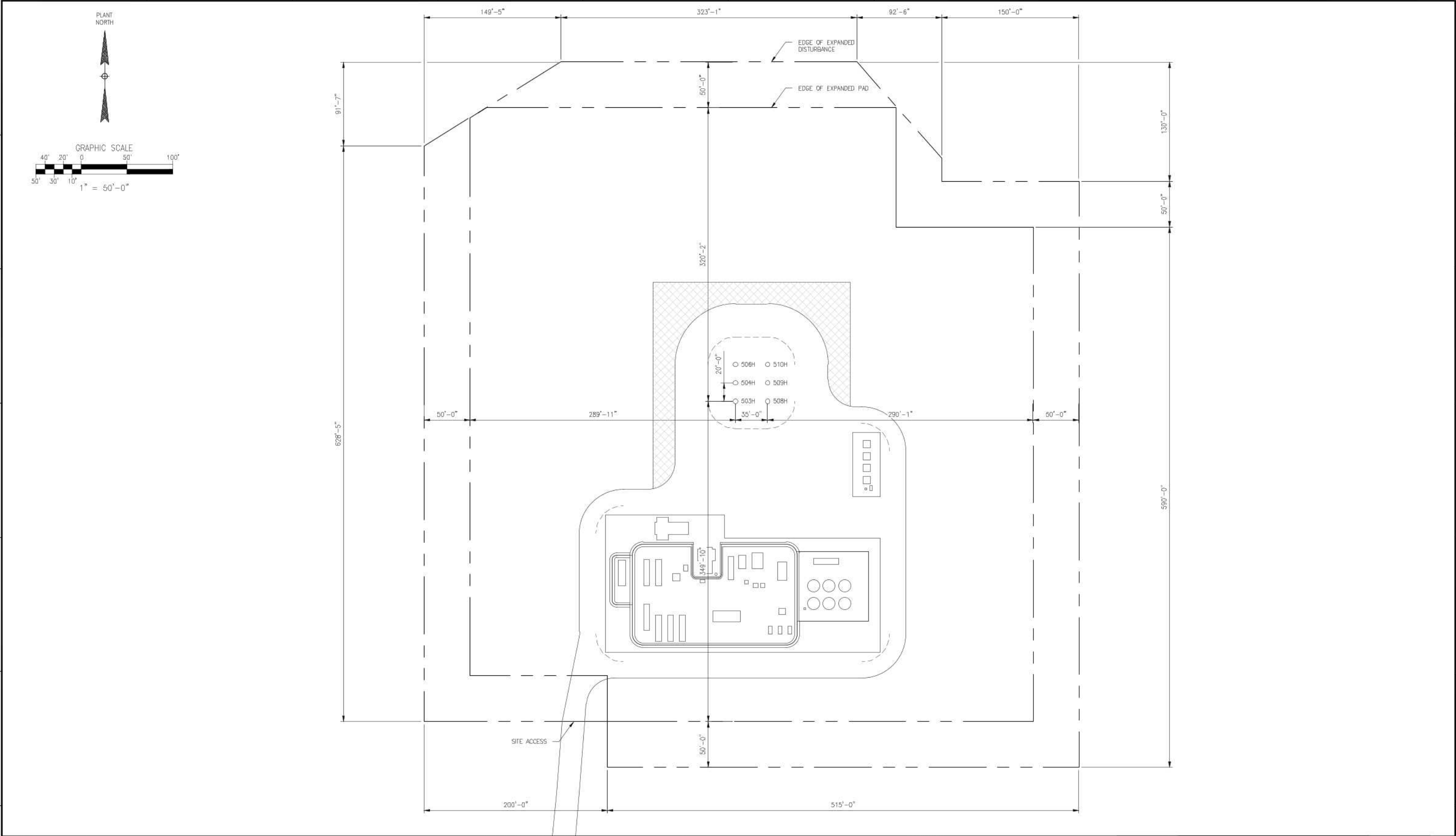
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NOTES:	REFERENCE DRAWINGS		REVISIONS							<div><div>HALKER</div><div>ENGINEERED SOLUTIONS</div></div> <div></div>		
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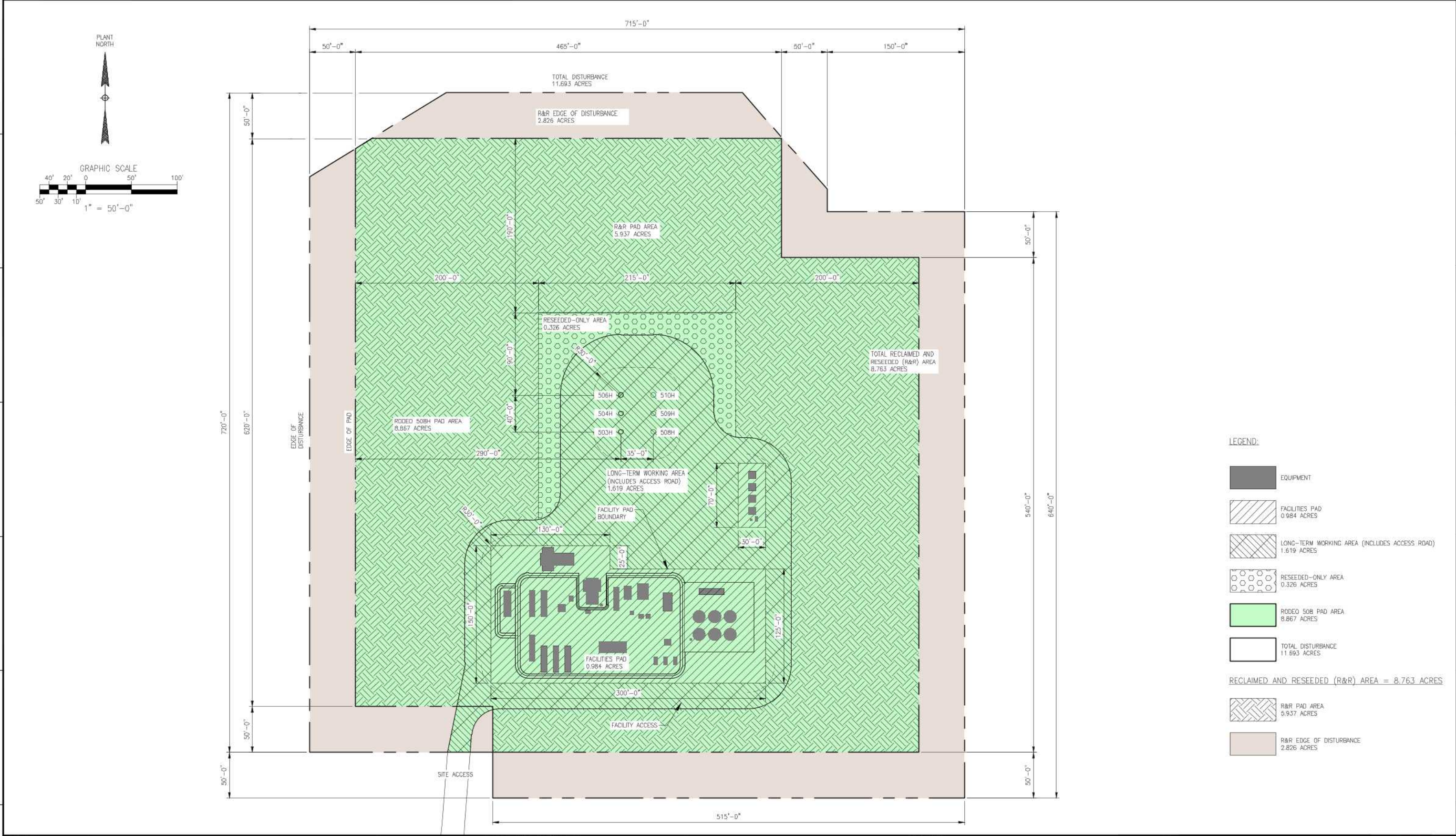
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# **SURFACE RECLAMATION PLAN**

## **Rodeo Unit 503H, 504H, & 506H Oil and Natural Gas Wells Project (Rodeo Unit 508 Pad Expansion)**

SEPTEMBER 2023



## **ENDURING RESOURCES IV, LLC**

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200 Energy Court  
Farmington, New Mexico 87401  
Phone: (505) 636-9720

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## Surface Reclamation Plan

<b>Applicant</b>	Enduring Resources IV, LLC
<b>Project Type</b>	Three planned oil & natural gas wells and the expansion of an existing well pad
<b>Name</b>	Rodeo Unit 503H, 504H and 506H Oil and Natural Gas Wells Project ( <b>Rodeo Unit 508 Pad Expansion</b> )
<b>Legal Location</b>	Rodeo Unit 503H: 1461' FNL and 425' FEL Sec. 25, Twn. 23N, Rng. 9W Rodeo Unit 504H: 1471' FNL and 408' FEL Sec. 25, Twn. 23N, Rng. 9W Rodeo Unit 506H: 1481' FNL and 391' FEL Sec. 25, Twn. 23N, Rng. 9W
<b>Lease Numbers</b>	Rodeo Unit Recordation Number: NMNM-105311745 (Legacy NMNM-136328X) Rodeo Unit 508 Pad ROW Authorization: NMNM-135923

## 1. INTRODUCTION

Enduring Resources IV, LLC (Enduring) is providing this Surface Reclamation Plan as part of the Surface Use Plan of Operations (SUPO) to the Bureau of Land Management – Farmington Field Office (BLM-FFO) for their Rodeo Unit 503H, 504H, & 506H Oil and Natural Gas Wells Project (Rodeo Unit 508 Pad Expansion) Applications for Permit to Drill (APDs). The Rodeo Unit 508 Pad Expansion is part of WPX's Rodeo Unit Master Development Plan (MDP) submitted to the BLM on August 21, 2017.

Enduring may submit a request to the BLM-FFO to revise this Reclamation Plan at any time during the life of the project in accordance to page 44 of the Gold Book (USDI-USDA 2007). Enduring would include justification for the revision request.

The Enduring Contact person for this reclamation plan is:

Theresa Ancell  
Regulatory Manager  
Enduring Resources IV, LLC  
200 Energy Court  
Farmington, New Mexico 87401  
505-696-9720

During interim and final reclamation, Enduring will meet the reclamation standards provided in this plan to reestablish vegetation and control noxious weeds and erosion. The reclamation standards provided in this Plan are habitat specific and meet standards established in The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (The Gold Book). Enduring will be responsible for all surface disturbance authorized by the approved APDs until the permits are transferred or they obtain a Final Abandonment Notice (FAN) or relinquishment from the BLM-FFO.

## 2. PROJECT DESCRIPTION

### 2.1 Project Infrastructure

Infrastructure proposed to be constructed, operated, subsequently interim reclaimed, and eventually fully reclaimed as part of the Rodeo Unit 503H, 504H, & 506H Oil and Natural Gas Wells Project includes expansion of the existing Rodeo Unit 508 well pad with production facilities and construction buffer zone, one existing well pad access road with one pullout, one existing well-connect pipeline corridor including temporary drilling and completion surface lines, and temporary use area. The aforementioned proposed infrastructure associated with the Rodeo Unit 508 Pad Expansion would be located on BLM lands and would be built per lease authority associated with Enduring's W



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Surface Reclamation Plan

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Lybrook Unit (NMNM135923). The proposed wells would access Federal and Navajo Indian Allotted minerals administered by the BLM-FFO within Enduring's Rodeo Unit (NMNM136328X).

See the Surface Use Plan of Operations (SUPO) and construction plats for detailed descriptions of project components, construction processes, and geographic locations of all project components.

## **2.2 Estimated Total Area of Disturbance**

The Rodeo Unit 508 Pad Expansion would result in a total of 6.07 acres of new disturbance. The total disturbance area of the Rodeo Unit 508 Pad Expansion would be 11.69 acres. New surface disturbance is placed with respect to archeology, paleontology, geology, terrain characteristics, current/proposed Enduring infrastructure, leasehold area and efforts to minimize ground/vegetative disturbance in areas of critical habitat to sensitive species. During interim reclamation, of the total 11.69 acres proposed surface disturbance, approximately 8.763 acres would be fully reclaimed, approximately .326 acres would be reseeded only, and the remaining 2.603 acres would be stabilized and used as an operations area throughout the life of the project. The operations area and the areas that were reseeded only, would be fully reclaimed during final reclamation. Disturbance per project feature is described below.

## **2.3 Well Pad**

The proposed Rodeo Unit 508 Pad Expansion would be a 150-foot by 565-foot area south and west of the existing pad (3.45 acres) and a 150-foot by 640-foot area north and east of the existing pad (5.62 acres) for a total expansion of (6.07 acres). This area includes a 50-foot construction buffer zone surrounding the new disturbance area. The resulting area of the existing well pad, well pad expansion area, and construction buffer zone, would encompass a 11.69-acre disturbed area. During well pad construction, elevated areas would be excavated and utilized as fill material on low areas to establish a level working surface. This entire area would be utilized during construction, setting of production equipment, drilling, and completion phases. The three horizontal wells planned to be drilled from this well pad as part of this project will increase the existing well count from three horizontal wellbores to six horizontal wellbores. Once all drilling and completions phases are complete for the three wells, the well pad would be interim reclaimed. During interim reclamation, of the total 11.69 acres of well pad disturbance, approximately 8.763 acres would be fully reclaimed, approximately .326 acres would be reseeded only, and the remaining 2.603 acres would be stabilized and used as a working surface throughout the life of the wells. The approximate cuts, fills, and well pad orientation is shown on the construction plats in the SUPO. Anticipated facility layout of the location is depicted in the SUPO, facility layout diagram.

## **2.4 Access Road and Traffic Pullouts**

No new access roads or Traffic Pullouts are required or proposed as part of the proposed Rodeo Unit 508 Pad Expansion. All access for the Rodeo Unit 508 Pad Expansion will be via existing and adequate infrastructure. See the construction plats in the SUPO for proposed access road improvements or modifications and any other site-specific design features.

## **2.5 Pipeline Corridor**

Enduring proposes no new pipeline system to serve the Rodeo Unit 508 Pad Expansion. Existing infrastructure will be utilized. No new buried pipelines are anticipated as part of the Rodeo Unit 508 Pad Expansion; however, Enduring could lay up to one parallel 12-inch inside diameter or less lay-flat hoses or high density polyethylene (HDPE) pipelines within the existing pipeline corridor and other existing road and pipeline corridors to serve drilling and completion operations. The lay-flat line measures approximately 2,359.6 feet long. This surface pipelines would be temporary for the duration of active drilling and completion operation in the surrounding area or movement of water between recycling facilities as needed.

## Surface Reclamation Plan

**2.6 Temporary Use Areas**

Temporary Use Areas (TUA) are areas where ground disturbance would take place because additional area outside the proposed ROW is needed to accommodate the task. TUAs may be cleared of vegetation and material excavated or placed in-order to establish appropriate slopes needed to stabilize the surface and reduce erosion. TUAs are generally reclaimed during interim reclamation unless found to be necessary long term by the operator and authorized officer. Reclamation may include re-contouring and reseeding or only reseeding to preserve safe cut slopes. The proposed Rodeo 508 Pad Expansion does not require the use of TUAs as no new buried pipelines are anticipated as Surface Reclamation Plan Rodeo 508 Pad Expansion June 2023 - 3 - part of this project. Please see the SUPO for details concerning the infrastructure associated with the Rodeo 508 Pad Expansion.

*Table 1. Project Disturbance and Reclamation Estimates*

Feature	Disturbance Acreage		Reclamation Acreage		
	Total	New Disturbance	Fully Reclaimed	Reseed Only	Long-term Disturbance
Well Pad and Construction Buffer Zone	11.69	6.07	8.763	.326	2.603
<b>Total:</b>	<b>11.69</b>	<b>6.07</b>	<b>8.763</b>	<b>.326</b>	<b>2.603</b>

**3. PRE-DISTURBANCE SITE VISIT**

The pre-disturbance onsite meeting occurred for the proposed project on November 17, 2021. Table 2, below, provides a list of individuals present at the site visit.

*Table 2. Pre-Disturbance Onsite Visit Attendees.*

Name	Affiliation
Mitch Sigler	BLM
Ryan Joyner	BLM
Jamie DeMarco	BLM
Rodger Herrera	BLM
Laverna Jaquez	FIMO
Marjorie Brown	BLM
Virginia Barber	BLM
Chris Jones	WSP
Deidre Duffy	WSP
Khem Suthiwan	WSP
Dave Rogers	Enduring

**3.1 Vegetation Community**

The proposed project area vegetation community is classified as sagebrush shrubland community. The dominant species observed in the project area is big sagebrush (*Artemisia tridentata*). No New Mexico Department of Agriculture Class A- or Class B- listed species were observed within or directly surrounding the Rodeo Unit 508 Pad Expansion. Russian thistle (*Salsola turgus*) was observed on all surrounding disturbance areas and sporadically mixed in the surrounding habitat.

**3.2 Proposed Reclamation Seed Mix**

Disturbance would be re-contoured, and topsoil would be redistributed and prepared for seeding by the construction contractor. Ripping, disking, and seeding of the site would be done by Enduring's construction contractor using the

## Surface Reclamation Plan

BLM-approved seed mix shown in Table 3 below. The proposed reclamation seed mix takes into account the existing vegetation on the proposed project site.

**Table 3. BLM Farmington Field Office Sagebrush Community Seed Mix.**

Common Name	Scientific Name	Variety	Season	Form	PLS lbs/acre <sup>1</sup>
Fourwing saltbush	<i>Atriplex canescens</i>	VNS	Cool	Shrub	2.0
Winterfat	<i>Krascheninnikovia lanata</i>	VNS	Cool	Shrub	2.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	VNS	Warm	Bunch	0.5
Western wheatgrass	<i>Pascopyrum smithii</i>	Arriba	Cool	Sod-forming	4.0
Indian ricegrass	<i>Achnatherum hymenoides</i>	Paloma or Rimrock	Cool	Bunch	4.0
Blue grama	<i>Bouteloua gracilis</i>	Alma or Hachita	Warm	Sod-forming	2.5
Bottle brush squirreltail	<i>Elymus elymoides</i>	Tusas or VNS	Cool	Bunch	3.0
Blue flax	<i>Linum lewisii</i>	Apar	Cool	Forb	0.25
Rocky Mtn. bee Plant	<i>Cleome Serrulata</i>	Local or VNS	Cool	Forb	0.25

<sup>1</sup>Based on 60 PLS per square foot, drill seeded; double this rate (120 PLS per square foot) if broadcast or hydro-seeded.

### 3.3 Vegetation Reclamation Standards

The Rodeo Unit 508 Pad Expansion is located on BLM-managed land and Navajo Indian allotted lands. Requirements for determining reclamation and its successful completion of the selected vegetation community on BLM lands is determined by the reclamation percent cover standards for the community, as outlined in Table 4. These standards must be met on BLM-managed lands during post-disturbance monitoring procedures in order for the BLM-FFO to sign off on the attainment of vegetation reclamation standards. The portions of the proposed project area located on Indian Allotted lands will be monitored on a regular basis by Enduring until the reclaimed areas have reached an approximate vegetative cover of at least 80% of surrounding undisturbed areas (background) within the same vegetative community.

**Table 4. Reclamation Goal for Sagebrush Community.**

Functional Group	Percent (%) Foliar Cover	Common Species
Trees/Shrubs/ Grasses/Forbs	$\geq 35$	Utah juniper, Piñon pine; big sagebrush, four-wing saltbush, antelope bitterbrush, alkali sacaton, Western wheatgrass, Indian ricegrass, galleta, sand dropseed, scarlet globemallow, woolly Indian wheat, fleabane, Penstemon spp., buckwheat, threadleaf groundsel.
Invasive/undesirables 10% allowed toward meeting standard of 35%.	$\leq 10$	Plants that have the potential to become a dominant species on a site where its presence is a detriment to revegetation efforts or the native plant community. Examples of invasive species include cheatgrass, Russian thistle, kochia.

### 3.4 Pre-Disturbance Weed Survey

During the onsite visit, the proposed action area was surveyed for noxious weeds listed on the NMDA's Class-A and Class-B noxious weeds list. No NMDA Class A-listed species were identified. The Onsite Noxious Weed form was

## Surface Reclamation Plan

completed and signed by the BLM-FFO representative and project proponent. The form is attached to the end of this Surface Reclamation Plan.

### 3.5 Pre-Disturbance Soil Evaluation

The BLM-FFO representative and Enduring representative collaboratively decided at the pre-disturbance site visit that no soil testing is necessary for the proposed project areas.

### 3.6 Pre-Disturbance Site Photographs

Photographs were taken of the pre-disturbance site. Each photograph in this Vegetation Reclamation Plan is notated with the location of the photo point and the direction the photograph was taken. The photographs and locations are listed in Table 5 below. Due to active drilling operations on the existing pad, the well location stakes for the proposed new wells had been removed for adequate spacing and safety while operating equipment. Well locations can be interpreted from the construction plats in the SUPO.

*Table 5. List of Pre-Disturbance Site Photographs*

Photographs	Location Description
1, 2, 3, 4	From each location corner, looking toward the well stakes
5	Start & End of Access Road & Well-Connect Pipeline



*Photo 1. Corner 3 (Expansion) Looking West.*



Surface Reclamation Plan

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*Photo 2. Corner 5 (Expansion) Looking North.*



*Photo 3. Corner 6 (Expansion) Looking East.*



Surface Reclamation Plan

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*Photo 4. Corner 2 (Expansion) Looking South.*



*Photo 5. Existing Access Road and Well-Connect Pipeline  
Start Looking North terminating at existing well pad.*

## 4. RECLAMATION TECHNIQUES FOR SUCCESSFUL REVEGETATION

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All activities associated with the construction, use/operation, maintenance, and abandonment or termination of the Rodeo Unit 508 Pad Expansion would be limited to areas approved in the APDs.

### 4.1 Vegetation and Site Clearing

Vegetation removed during construction, including trees (if applicable) that measure less than three inches in diameter (at ground level) and slash/brush, would be chipped or mulched and incorporated into the topsoil as additional organic matter. If trees are present, all trees three inches in diameter or greater (at ground level) would be cut to ground level and delimbed. Tree trunks (left whole) and cut limbs would be stacked and made available to the public. The subsurface portion of trees (tree stumps) would be disposed of appropriately.

### 4.2 Topsoil Stripping, Storage, and Replacement

The upper six inches of topsoil (if available) would be stripped following vegetation mulching. Topsoil would not be mixed with the underlying subsoil horizons and would be stockpiled as a berm/windrow along the interior perimeter of the construction buffer zone. Topsoil and sub-surface soils would be replaced in the proper order, prior to final seedbed preparation. Redistribution of topsoil shall not be done when the ground or topsoil is wet. Vehicle/equipment traffic would not be allowed to cross topsoil stockpiles. If topsoil is stored for a length of time such that nutrients are depleted from the topsoil, amendments would be added to the topsoil as advised by the Enduring environmental scientist or appropriate agent/contractor.

### 4.3 Water Management/Erosion Control Features

The BLM-FFO representative and the Enduring representative would work in collaboration to develop site-specific erosion control or water management features and to identify installation locations. Potential erosion control or water management features that may be used include (but are not limited to) water bars or rolling dips for roads, sediment basins or sediment traps, check dams, silt fencing, bellholes upstream of culverts, outlet protection for culverts, erosion control blankets, straw bales, and straw wattles.

As determined during the on-site on November 17, 2021, the following water management/erosion control features would be implemented during construction of the project: none noted

During interim reclamation, areas of the project that are not needed for long term well operations and maintenance will be recontoured to reestablish disturbed terrain and blend into the surrounding landscape. The natural drainage network would be reestablished as practicable with necessary diversions and silt traps around the long-term project footprint.

### 4.4 Seedbed Preparation

For cut-and-fill slopes, initial seedbed preparation would consist of pushing (dozer)/excavating (excavator)/hauling (belly scraper) the unneeded fill slope material and placing it within the cut slopes. Natural rolling contours would be implemented to break up the surface and aid in removing signs of the sharp well pad corners once vegetation establishes. Emphasis would be placed on restoration of the existing drainage patterns and landforms to pre-construction conditions, to the extent practicable.

Within areas that would be reseeded, stockpiled topsoil would be evenly redistributed prior to final seedbed preparation. Seedbed preparation within compacted areas would include ripping to a minimum depth of 18 inches and spacing furrows two feet apart. Ripping would be conducted perpendicularly in two phases, where practicable. If large clumps/clods result from the ripping process, disking would be conducted perpendicular to slopes in order to provide terracing and minimize runoff and erosion. Final seedbed preparation would consist of raking or harrowing the spread

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Surface Reclamation Plan

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topsoil prior to seeding to promote a firm (but not compacted) seedbed without surface crusting. Seedbed preparation may not be necessary for topsoil storage piles or other areas of temporary seeding.

#### **4.5 Soil Amendments**

Soil amendments would be added to the topsoil, if needed, as advised by the Enduring environmental scientist or appropriate surface managing agency.

#### **4.6 Seeding**

The seed mix chosen for this project area is listed in Table 3. Seeding would occur at the time of interim and final reclamation. A disc-type seed drill with two boxes for various seed sizes would be utilized for seeding the disturbed areas of the site. Enduring or its reclamation subcontractor would ensure that perennial grasses and shrubs are planted at the appropriate depth. Intermediate size seeds (such as wheatgrasses and shrubs) would be planted at a depth of 0.5-inch, larger seeds (such as Indian ricegrass) would be planted at a depth of one to two inches, and small seeds (such as alkali sacaton and sand dropseed) would be planted at a depth of 0.25 inch. In situations where differing planting depths are not practicable with the equipment being used, the entire mix would be planted no deeper than 0.25 inch. A drag, packer, or roller would follow the seeder to ensure uniform seed coverage and adequate compaction. Seed would be drilled perpendicular to slopes at practical in order to minimize runoff and erosion.

Drill seeding may be used on well-packed and stable soils that occur on gentler slopes where tractors and drill seeders can safely operate. Where drill seeding is not practicable due to topography, the contractor would hand-broadcast seed using a “cyclone” hand seeder or similar broadcast seeder. Seeds like Galleta (with florets) and winter fat (with fine hairs) may also be broadcast as they do not flow well through a seeder. Broadcast application of seed requires a doubling of the drill-seeding rate. The seed would then be raked into the ground so the seed is planted no deeper than 0.25 inch below the surface.

#### **4.7 Noxious and Invasive Weed Control**

Should any noxious or invasive weeds be documented on any portions of the action area located on BLM-managed lands after earthwork and seeding activities, the BLM-FFO weed coordinator would provide Enduring with specific requirements and instructions for weed treatments, including the period of treatment, list of approved herbicides, required documentation to be submitted to the BLM-FFO after treatment, and any other site-specific instructions that may be applicable.

## **5. MONITORING REQUIREMENTS**

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Monitoring for project areas on BLM-managed lands would be completed according to the BLM-FFO Bare Soil Reclamation Procedure B. Monitoring activities would be initiated after the project is completed (Interim Monitoring), during the post disturbance earthwork, and seeding inspection process.

#### **5.1 Initiation**

During the post-disturbance site inspection at the project site located on BLM lands, the BLM-FFO representative (in collaboration with the Enduring Representative) would determine site-specific monitoring locations for photo point monitoring and vegetation line point intercept transects. The BLM-FFO would GPS the monitoring locations, take the initial monitoring photographs, and complete the initial monitoring report within 60 days of post-disturbance earthwork and seeding approval. The initial report would be available from the BLM-FFO. Photograph location requirements are found in the BLM-FFO Bare Soil Reclamation Procedure Appendix A.

#### **5.2 Annual Monitoring and Reporting**



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Surface Reclamation Plan

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The operator will be responsible for annual monitoring of the photo points and the vegetation line point intercept transects starting two years after the completion and approval of the earthwork and seeding. Monitoring may occur during any time of the year. Vegetation line point intercept transects will be monitored annually by the operator until attainment of vegetation reclamation standards is met. Enduring will submit the monitoring report to the BLM by December 31 of the year monitored.

**5.3 Attainment of Vegetation Reclamation Standards**

When vegetation within BLM-managed lands appears to meet the required percent revegetation standard (see Section 3.3 Vegetation Reclamation Standards), Enduring may request BLM-FFO concurrence that vegetation percent cover standards have been attained any time after two calendar years of completion of earthwork and seeding. Enduring will submit a written report identifying that revegetation standards have been attained. The BLM-FFO will reply to the operator to confirm concurrence (or not) with a rationale for the determination within 60 days of receiving the request.

If the revegetation standards are not being attained, Enduring and the BLM-FFO will analyze the issues that may have contributed to vegetation reclamation failure or lack of meaningful progress. Remedial actions will be developed collaboratively if vegetation percent cover standards are not being attained.

**5.4 Long-Term Monitoring**

After the required percent revegetation standard has been attained, Enduring will begin long-term monitoring. Every fifth year after attainment, Enduring will monitor the site at all established photo points to ensure the site remains productive and stable. Enduring will submit the monitoring report to the BLM by December 31 of the year monitored.

**5.5 Final Abandonment**

If 1 acre or more of bare soil results from earthwork required in preparation for final abandonment, Enduring would follow the Vegetation Reclamation Plan in accordance with Procedure B of the BLM-FFO Bare Soil Reclamation Procedures.

If final abandonment or relinquishment earthwork results in less than 1 acre, but more than 0.1 acre of bare soil, Enduring would initiate the Vegetation Reclamation Plan in accordance with Procedure A of the BLM-FFO Bare Soil Reclamation Procedures. Disturbed areas less than 0.1 acre are expected to revegetate naturally from seed sources adjacent to the disturbance.

Revegetation percent cover standards will be attained, documented, and submitted to the BLM-FFO by Enduring or an exception granted before the BLM-FFO will approve a final abandonment notice (FAN) or relinquishment.

**5.6 Cessation of Monitoring**

Monitoring requirements will remain in effect as long as the permit, grant, or authorization remains in force and until all infrastructure or associated facilities are abandoned by established BLM procedure and a FAN or relinquishment is issued by the BLM-FFO. Enduring will document that percent cover standards have been obtained when submitting a request for a FAN or a relinquishment.

## 6. REFERENCES

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43 CFR Part 3160, "Onshore Oil and Gas Order No. 1; Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Approval of Operations," 72 Federal Register 44 (March 2007), pp. 10328-10338.

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Surface Reclamation Plan

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BLM. 2013. Farmington Field Office Bare Soil Reclamation Procedures. Available at: <http://www.emnrd.state.nm.us/MMD/AML/documents/FFOBareSoilReclamationProcedures2-1-13.pdf>. Accessed September 2014.

U.S. Department of the Interior - U.S. Department of Agriculture (USDI-USDA). 2007. Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development. BLM/WO/ST-06/021+307/REV 07. Bureau of Land Management. Denver, Colorado. 84 pp.



## Appendix C – Onsite Noxious Weed Form

**Onsite Noxious Weed Form**

If noxious weeds are found during the onsite, fill out form and submit to FFO weed coordinator

Operator Enduring Resources Surveyor(s) C. Jones, K. Suthwan, & D. RogersWell Name and Number Rodeo 503H Date 11/17/2021Location: Township, Range, Section Sec 25, Twn 23N, Rng 9W

Location of Project NAD 83 Decimal Degrees \_\_\_\_\_

**Class A Noxious Weed – Check Box if Found**

<input type="checkbox"/>	Alfombrilla	<input type="checkbox"/>	Diffuse knapweed	<input type="checkbox"/>	Hydrilla	<input type="checkbox"/>	Purple starthistle	<input type="checkbox"/>	Yellow toadflax
<input type="checkbox"/>	Black henbane	<input type="checkbox"/>	Dyer's woad	<input type="checkbox"/>	Leafy spurge	<input type="checkbox"/>	Ravenna grass	<input type="checkbox"/>	
<input type="checkbox"/>	Camelthorn	<input type="checkbox"/>	Eurasian watermilfoil	<input type="checkbox"/>	Oxeye daisy	<input type="checkbox"/>	Scotch thistle	<input type="checkbox"/>	
<input type="checkbox"/>	Canada thistle	<input type="checkbox"/>	Giant salvinia	<input type="checkbox"/>	Parrotfeather	<input type="checkbox"/>	Spotted knapweed	<input type="checkbox"/>	
<input type="checkbox"/>	Dalmatian toadflax	<input type="checkbox"/>	Hoary cress	<input type="checkbox"/>	Purple loosestrife	<input type="checkbox"/>	Yellow starthistle	<input type="checkbox"/>	

**Class B Noxious Weed – Check Box if Found**

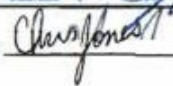
<input type="checkbox"/>	African rue	<input type="checkbox"/>	Perennial pepperweed	<input type="checkbox"/>	Russian knapweed	<input type="checkbox"/>	Tree of heaven
<input type="checkbox"/>	Chicory	<input type="checkbox"/>	Musk thistle	<input type="checkbox"/>	Poison hemlock	<input type="checkbox"/>	
<input type="checkbox"/>	Halimolobos	<input type="checkbox"/>	Malta starthistle	<input type="checkbox"/>	Teasel	<input type="checkbox"/>	

**Comments:**

No List A or List B species observed. Russian thistle observed in previously disturbed areas.

FFO Representative: 

sign and date

Operator Representative:  11/17/2021

sign and date

# Enduring Resources IV, LLC

## Road Maintenance Plan

***Rodeo Unit 503H, 504H, & 506H Oil and Natural Gas Wells Project (Rodeo Unit 508 Pad Expansion)***

**September 2023**

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Enduring Resources IV, LLC  
200 Energy Court  
Farmington, New Mexico 87401  
Phone: (505) 636-9720

## 1.0 Introduction

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Enduring Resources IV, LLC (Enduring) is providing this Road Maintenance Plan (Plan) to the Bureau of Land Management Farmington Field Office (BLM-FFO) as part of the Surface Use Plan of Operations (SUPO) for the Rodeo Unit 503H, 504H, and 506H Oil and Natural Gas Wells Project (Rodeo Unit 508 Pad Expansion). The road addressed in this Plan was permitted under the Application for Permit to Drill (APD) for the aforementioned Rodeo 508H pad wells. The coordinates (Universal Transverse Mercator, North American Datum 1983) for the access road are as follows:

- Start: 36.205177, -107.738949
- End: 36.201964, -107.733471

The road maintenance procedures provided in this Plan meet the standards established in The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development and BLM Manual 9113.

Under the Rodeo Unit 503H, 504H, and 506H APDs, Enduring will be responsible for road maintenance associated with the wells. This responsibility will continue until Enduring transfers the permit or abandons the project and obtains a Final Abandonment Notice or relinquishment from the BLM-FFO. Refer to Conditions of Approval (COAs) attached to the approved APDs for any upgrades to existing roads.

## 2.0 Road Inspections

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Enduring Representatives will formally inspect the road biannually, in the spring and fall, to assess the condition of the road. The formal road inspection will be recorded on a Road Inspection Form (blank form attached to this Plan). Completed Road Inspection Forms will be kept on file at Enduring and can be provided to the BLM-FFO, if requested (See Attached Road Inspection Form).

Additionally, outside of the formal inspection period, Enduring Representatives driving to/from the project area will assess the condition of the road and notify the Enduring Construction Supervisor if maintenance is needed.

Road maintenance activities will be documented at Enduring and can be provided to the BLM-FFO, if requested.

## 3.0 Road Maintenance

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The following maintenance may be performed on an as needed basis:

- Water control structures (such as culverts, ditches, and silt traps) and/or cattle guards may be cleaned. If this occurs, the soil/sediment material will be spread on area roads or locations.
- Bar ditches may be pulled.
- Low-water crossings and drainage dips may be cleared and/or repaired.
- Crowning may be repaired.

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Road Maintenance Plan

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- Litter may be collected.
- Noxious weeds may be controlled following the BLM-FFO noxious weed guidelines.
- The access road may be bladed.

In addition to inspection-triggered maintenance procedures, the road will be maintained following this Plan, as needed.

Attachment: Road Inspection Form

## Road Maintenance Plan

*Road Inspection Form*

<b>Road Name:</b>	<b>County:</b>
<b>Date:</b>	<b>Time (a.m./p.m.):</b>
<b>Weather:</b>	
<b>Inspector(s):</b>	
<b>Road Surface Type:</b>	

Road Condition Inspection Items	Road Condition		
	Good	Poor	Comments
Water-Control Structure(s)			
Low-Water Crossing(s)			
Road Crowning/Ruts/Potholes			
Road Surfacing			
Cattle guard(s)			
Litter			
Noxious Weeds Within/Adjacent to Roadway			
Vegetation Within Roadway			
Additional Site-Specific Inspection Notes:			





U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

## PWD Data Report

09/12/2023

**APD ID:** 10400084208

**Submission Date:** 06/16/2022

**Operator Name:** ENDURING RESOURCES LLC

**Well Name:** RODEO UNIT

**Well Number:** 506H

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Section 1 - General

Would you like to address long-term produced water disposal? NO

### Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Lined pit PWD on or off channel:**

**Lined pit PWD discharge volume (bbl/day):**

**Lined pit**

**Pit liner description:**

**Pit liner manufacturers**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal**

**Lined pit precipitated solids disposal schedule:**

**Lined pit precipitated solids disposal schedule**

**Lined pit reclamation description:**

**Lined pit reclamation**

**Leak detection system description:**

**Leak detection system**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Lined pit Monitor description:****Lined pit Monitor****Lined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Lined pit bond number:****Lined pit bond amount:****Additional bond information**

### Section 3 - Unlined

**Would you like to utilize Unlined Pit PWD options?** N**Produced Water Disposal (PWD) Location:****PWD disturbance (acres):****PWD surface owner:****Unlined pit PWD on or off channel:****Unlined pit PWD discharge volume (bbl/day):****Unlined pit****Precipitated solids disposal:****Describe precipitated solids disposal:****Precipitated solids disposal****Unlined pit precipitated solids disposal schedule:****Unlined pit precipitated solids disposal schedule****Unlined pit reclamation description:****Unlined pit reclamation****Unlined pit Monitor description:****Unlined pit Monitor****Do you propose to put the produced water to beneficial use?****Beneficial use user****Estimated depth of the shallowest aquifer (feet):****Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?****TDS lab results:****Geologic and hydrologic****State****Unlined Produced Water Pit Estimated****Unlined pit: do you have a reclamation bond for the pit?**

**Operator Name:** ENDURING RESOURCES LLC**Well Name:** RODEO UNIT**Well Number:** 506H**Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information****Section 4 -****Would you like to utilize Injection PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection****Underground Injection Control (UIC) Permit?****UIC Permit****Section 5 - Surface****Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:****Section 6 -****Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**

**Operator Name:** ENDURING RESOURCES LLC

**Well Name:** RODEO UNIT

**Well Number:** 506H

**Other PWD type description:**

**Other PWD type**

**Have other regulatory requirements been met?**

**Other regulatory requirements**



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

## Bond Info Data

09/12/2023

**APD ID:** 10400084208

**Submission Date:** 06/16/2022

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

**Operator Name:** ENDURING RESOURCES LLC

**Well Name:** RODEO UNIT

**Well Number:** 506H

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Bond

**Federal/Indian APD:** FED,IND

**BLM Bond number:**

**BIA Bond number:**

**Do you have a reclamation bond?** NO

**Is the reclamation bond a rider under the BLM bond?**

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond**

**Reclamation bond number:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information**



District I  
1632 S. St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 393-6161 Fax: (505) 393-0720  
District II  
811 S. First Street, Artesia, NM 88210  
Phone: (505) 748-1283 Fax: (505) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Drive, Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

Submit one copy to  
Appropriate District Office

OIL CONSERVATION DIVISION  
1220 South St. Francis Drive  
Santa Fe, NM 87505


☐ AMENDED REPORT

17 OPERATOR **Page 166 of 202**  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Heather Huntington Date 9/12/23  
**Heather Huntington**  
Printed Name  
hhuntington@enduringresources.com  
E-mail Address

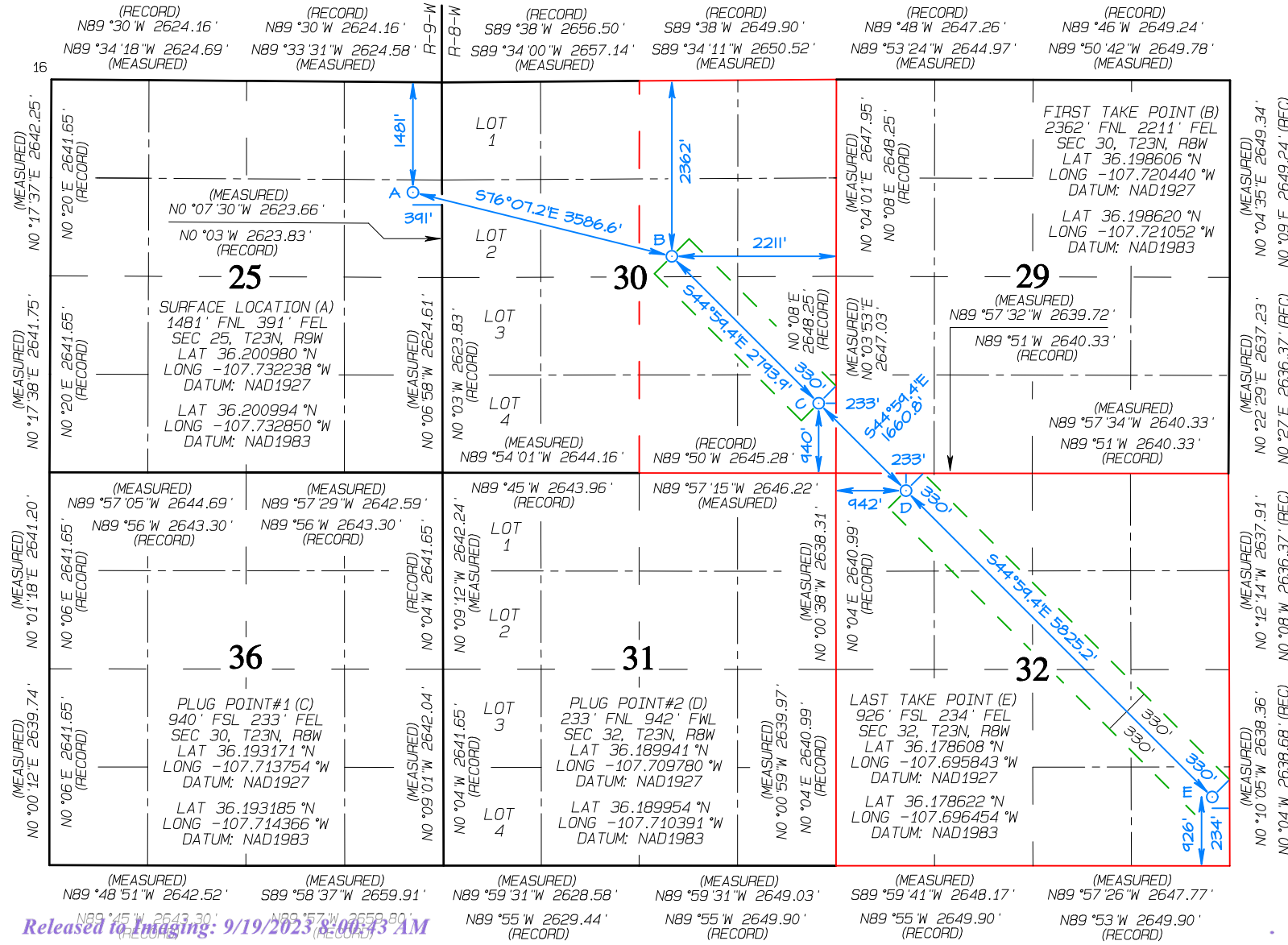
1 API Number <b>30-045-38324</b>		2 Pool Code 97232	3 Pool Name BASIN MANCOS
4 Property Code 321253	5 Property Name RODEO UNIT		6 Well Number 506H
7 OGRID No. 372286	8 Operator Name ENDURING RESOURCES, LLC		9 Elevation 6883'

18 SURVEYOR CERTIFICATION  
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  
Date Revised: MARCH 21, 2023  
Survey Date: SEPTEMBER 15, 2021

Signature and Seal of Professional Surveyor  
  
**JASON C. EDWARDS**  
Certificate Number 15269

10 Surface Location									
UL or lot no. H	Section 25	Township 23N	Range 9W	Lot Idn	Feet from the 1481	North/South line NORTH	Feet from the 391	East/West line EAST	County SAN JUAN
11 Bottom Hole Location If Different From Surface									
UL or lot no. P	Section 32	Township 23N	Range 8W	Lot Idn	Feet from the 926	North/South line SOUTH	Feet from the 234	East/West line EAST	County SAN JUAN
12 Dedicated Acres 960.00		E/2 - Section 30 Entire Section 32		13 Joint or Infill		14 Consolidation Code	15 Order No. R-14313		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION





**ENDURING RESOURCES, LLC RODEO UNIT #506H**  
**1481' FNL & 391' FEL, SECTION 25, T23N, R9W, NMPM**  
**SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6883'**  
**LAT 36°12'03.5294"N LONG -107°43'56.0553"W DATUM: NAD1927**

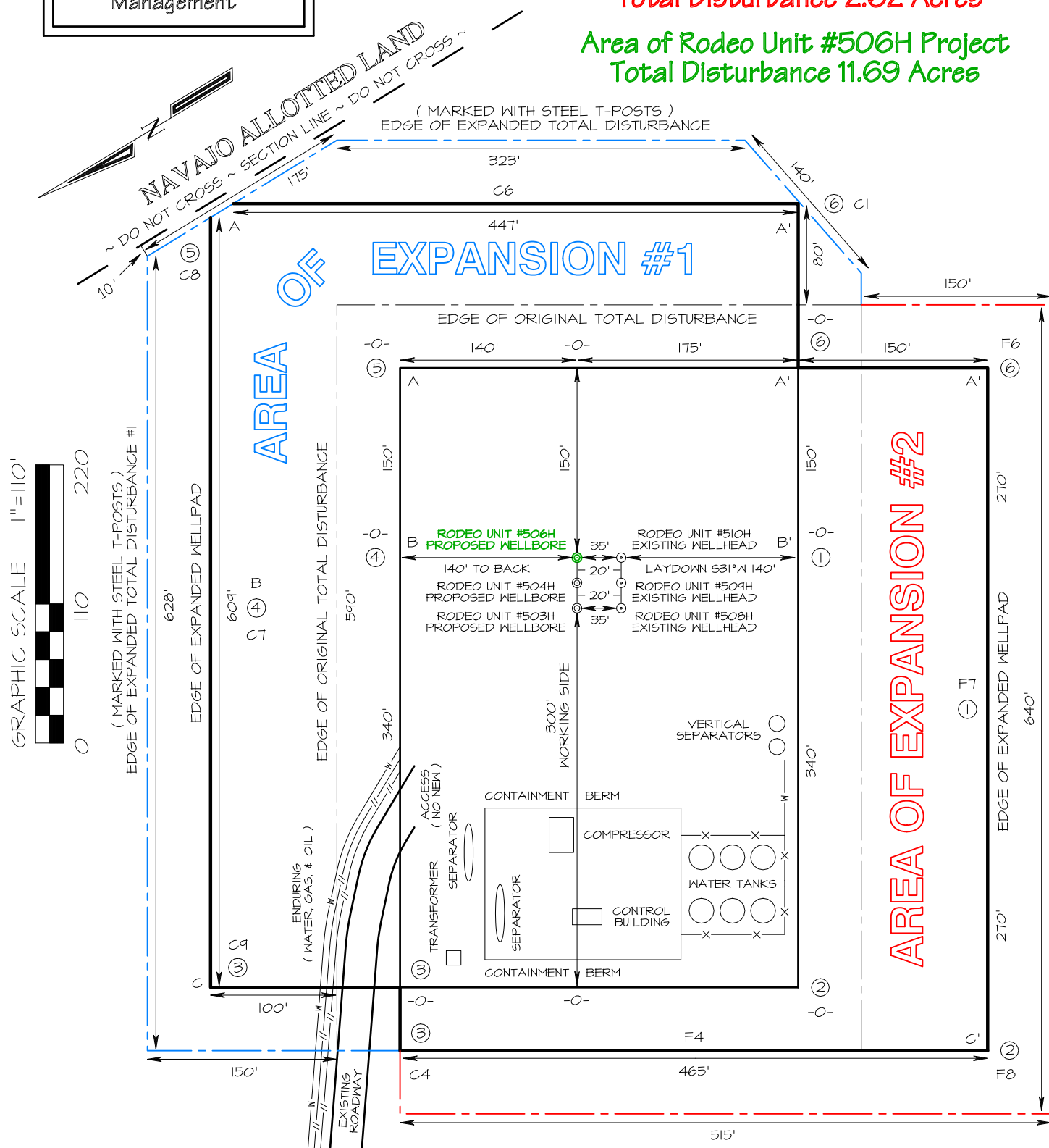
~ SURFACE OWNER ~

Bureau of Land  
Management

Area of Expansion #1  
Total Disturbance 3.45 Acres

Area of Expansion #2  
Total Disturbance 2.62 Acres

Area of Rodeo Unit #506H Project  
Total Disturbance 11.69 Acres

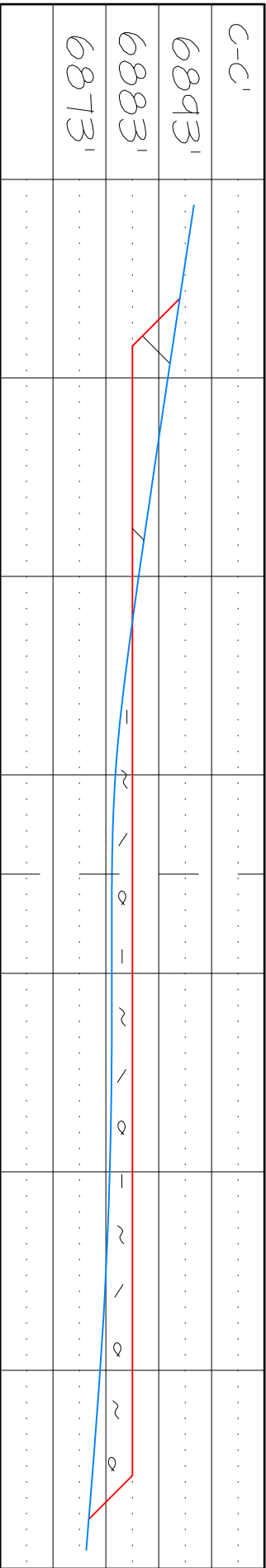
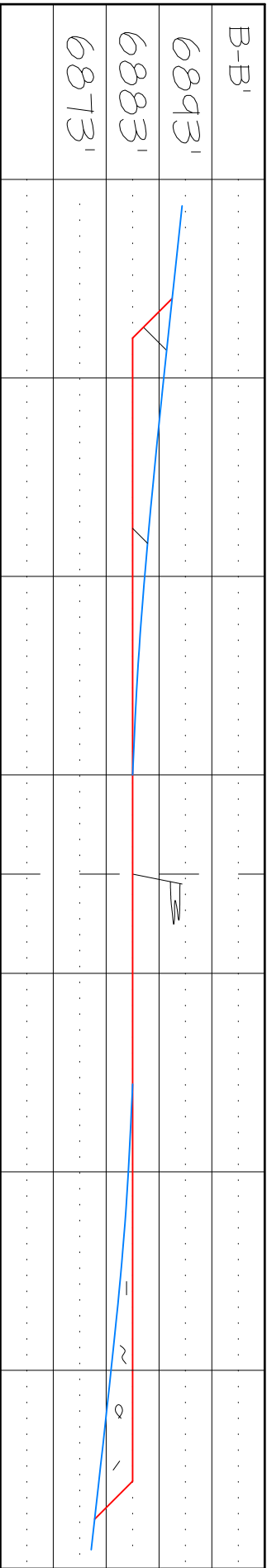
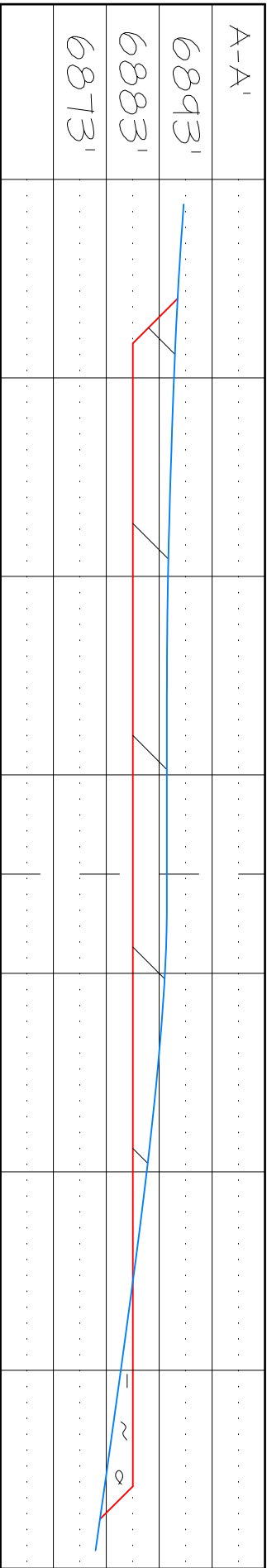


Steel T-Posts have been set to define Edge of Disturbance limits which are 50' offset from edge of staked wellpad.

ENDURING RESOURCES, LLC RODEO UNIT #506H  
 1481' FNL & 391' FEL, SECTION 25, T23N, R9W, NMPM  
 SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6883'

HORIZONTAL SCALE  
 1"=80'

VERTICAL SCALE  
 1"=30'

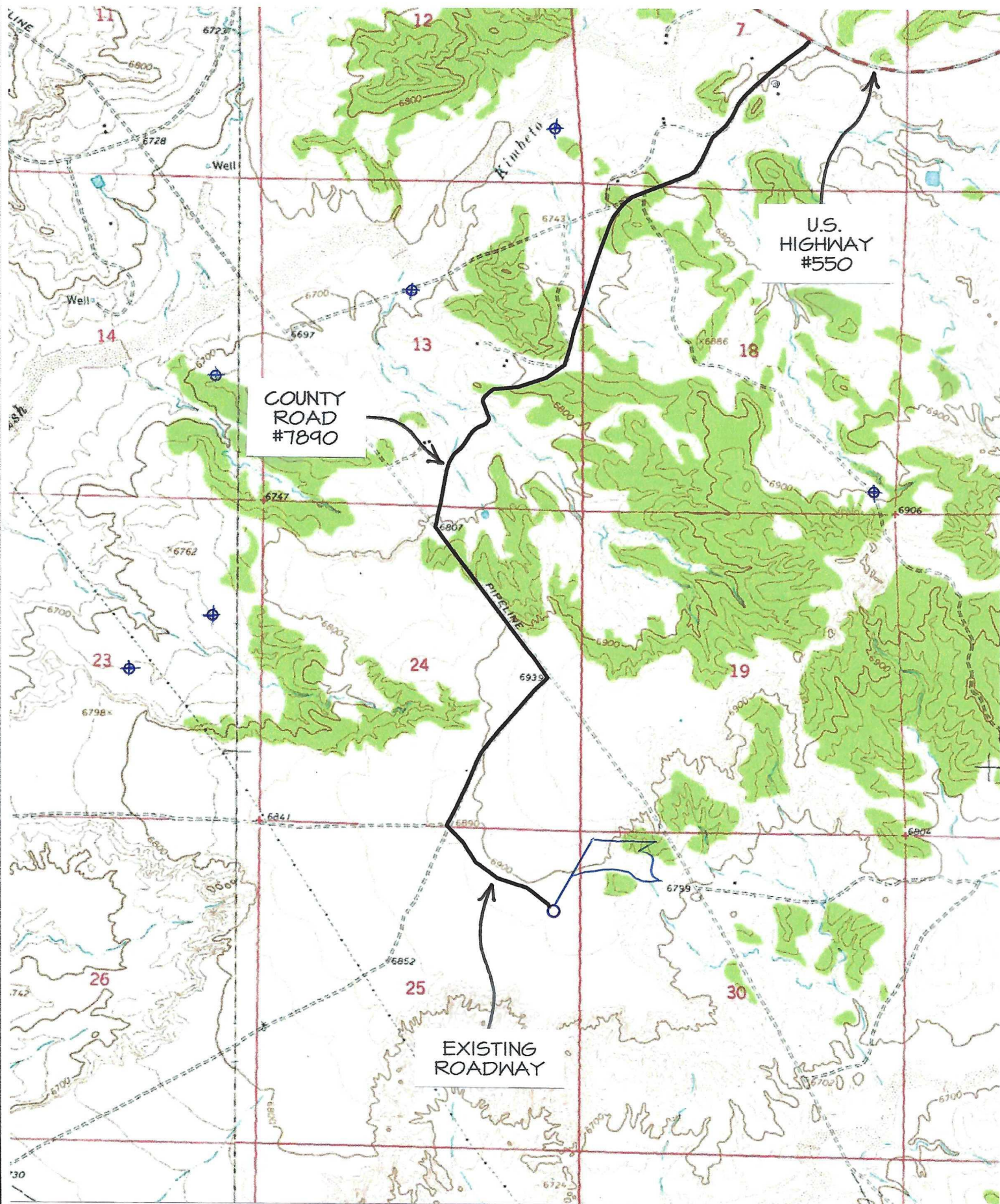


NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.  
 CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND  
 UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.



# ENDURING RESOURCES, LLC. RODEO UNIT #30611

1481' FNL & 391' FEL, SECTION 25, T23N, R9W, N.M.P.M.  
SAN JUAN COUNTY, NEW MEXICO



TOPO NAME : LYBROOK NW

⊕ PRODUCING WELL

⊗ PLUGGED & ABANDONED WELL



**Directions from the Intersection of US Hwy 550 & US Hwy 64**  
**in Bloomfield, NM to Enduring Resources, LLC Rodeo Unit #506H**  
**1481' FNL & 391' FEL, Section 25, T23N, R9W, N.M.P.M., San Juan County, NM**

**Latitude 36.200994°N Longitude -107.732850°W Datum: NAD1983**

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.3 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.8 miles to fork in roadway;

Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to 4-way intersection;

Go Left (South-easterly) remaining on County Road #7890 for 1.2 miles to 4-way intersection;

Go Left (South-easterly) exiting County Road #7890 for 0.4 miles to staked Enduring Rodeo Unit #506H location which overlaps the existing Enduring Rodeo Unit #508H location.

State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

### **Section 1 – Plan Description** **Effective May 25, 2021**

**I. Operator:** Enduring Resources IV, LLC **OGRID:** 372286 **Date:** 9/12/2023

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water
Rodeo Unit 503H	pending	Sec. 25, T23N, R9W	UL:C SHL:1461' FNL & 425' FEL	210	420	430
Rodeo Unit 504H	pending	Sec. 25, T23N, R9W	UL:C SHL:1471' FNL & 408' FEL	210	420	430
Rodeo Unit 506H	pending	Sec. 25, T23N, R9W	UL:C SHL:1481' FNL & 391' FEL	210	420	430

**IV. Central Delivery Point Name:** 2-9 Gas Receipt & Trunk 1 Transfer Gas Receipt [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Rodeo Unit 503H	pending	11/1/2023	11/21/2023	12/15/2023	12/29/2023	1/6/2024
Rodeo Unit 504H	pending	11/10/2023	11/30/2023	12/15/2023	1/1/2024	1/6/2024
Rodeo Unit 506H	pending	11/20/2023	12/10/2023	12/15/2023	1/4/2023	1/6/2023

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

## **Section 2 – Enhanced Plan**

### **EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

#### **IX. Anticipated Natural Gas Production:**

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

#### **X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☒ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☒ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

### **Section 3 - Certifications**

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### **Section 4 - Notices**


1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 
Printed Name: Heather Huntington
Title: Regulatory Agent
E-mail Address: hhuntington@enduringresources.com
Date: 9/12/2023
Phone: 505-636-9751
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:



## Attachments:

**Separation Equipment:** Below is a complete description of how Operator will size separation equipment to optimize gas capture.

Description of how separation equipment will be sized to optimize gas capture:

Well separation equipment is sized to have appropriate residence time and vapor space to remove gas particles on the micron scale per typical engineering calculations and/or operational experience. Furthermore, a sales scrubber downstream of the well separators is planned in order to capture any additional liquids if present. All gas is routed to end users or the sales pipeline under normal operating conditions.

**Operational & Best Management Practices:** Below is a complete description of the actions the Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC. Additionally, below is a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

**Drilling Operations:**

Enduring Resources will minimize venting by:

- Gas will only be vented to the atmosphere to avoid risk of immediate or substantial adverse impact to employee safety, public health, and the environment.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location

**Completion Operations:**

Enduring Resources will minimize venting by:

- Separator operation will commence as soon as technically feasible.
- Gas will route immediately to a collection system or applied to other beneficial use, such as a fuel source for onsite equipment.
- During initial flowback and if technically feasible, flaring shall occur rather than venting.
- If natural gas does not meet pipeline standards, gas will be vented or flared. A gas analysis will be performed twice weekly until standards are met (for up to 60 days). This is not anticipated to occur.
- If required, all venting and flaring of natural gas during flowback operations shall be performed in compliance with Subsections B, C and D of 19.15.27.8 NMAC.

**Production Operations:**

Enduring Resources will minimize venting by:

- Shutting in the wells if the pipeline is not available. No flaring of high pressure gas will occur.
- Utilizing gas for equipment fuel, heater fuel, and artificial lift when allowable.
- Capturing low pressure gas via a gas capture system when allowable.

**In General:**

- All venting and flaring from drilling, flowback and operation phases shall be reported in compliance with Subsection G of 19.15.27.8 NMAC.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location and 100 ft from the permanent facility storage tanks.

**Flowback Strategy**

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

**Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines
- Power generation for grid;
- Liquids removal on lease;
- Reinjection for underground storage;
- Reinjection for temporary storage;
- Reinjection for enhanced oil recovery;
- Fuel cell production; and
- Other alternative beneficial uses approved by the division.



**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80111**

**DRILLING PLAN:** *Drill, complete, and equip single lateral in the Mancos-I formation*

**WELL INFORMATION:**

**Name:** RODEO UNIT 506H  
**API Number:** not yet assigned  
**AFE Number:** not yet assigned  
**ER Well Number:** not yet assigned  
**State:** New Mexico  
**County:** San Juan  
**Surface Elevation:** 6,883 ft ASL (GL) 6,896 ft ASL (KB)  
**Surface Location:** 25-23N-09W Sec-Twn-Rng 1,481 ft FNL 391 ft FEL  
 36.200994 ° N latitude 107.73285 ° W longitude (NAD 83)  
**BH Location:** 32-23N-08W Sec-Twn-Rng 926 ft FSL 234 ft FEL  
 36.178622 ° N latitude 107.696454 ° W longitude (NAD 83)

**Driving Directions:** FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:

South on US Hwy 550 for 37.8 miles to MM 113.5; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) remaining on CR #7890 for 0.5 miles to access road; Left (Southeast) on access road for 0.4 miles to the RODEO UNIT 508H PAD (WELLS: 508H, 509H, 510H (DRILLED); 503H, 504H, 506H (PLANNED)).

**GEOLOGIC AND RESERVOIR INFORMATION:**

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,325	571	571	W	normal
	Kirtland	6,239	657	657	W	normal
	Fruitland	6,035	861	861	G, W	sub
	Pictured Cliffs	5,728	1,168	1,168	G, W	sub
	Lewis	5,569	1,327	1,328	G, W	normal
	Chacra	5,310	1,586	1,596	G, W	normal
	Cliff House	4,240	2,656	2,810	G, W	sub
	Menefee	4,222	2,674	2,830	G, W	normal
	Point Lookout	3,248	3,648	3,655	G, W	normal
	Mancos	3,082	3,814	4,147	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,757	4,139	4,522	O,G	sub (~0.38)
	MNCS_B	2,672	4,224	4,620	O,G	sub (~0.38)
	MNCS_C	2,572	4,324	4,736	O,G	sub (~0.38)
	MNCS_Cms	2,523	4,373	4,792	O,G	sub (~0.38)
	MNCS_D	2,404	4,492	4,930	O,G	sub (~0.38)
	MNCS_E	2,254	4,642	5,108	O,G	sub (~0.38)
	MNCS_F	2,197	4,699	5,187	O,G	sub (~0.38)
	MNCS_G	2,121	4,775	5,317	O,G	sub (~0.38)
	MNCS_H	2,067	4,829	5,431	O,G	sub (~0.38)
	MNCS_I	2,029	4,867	5,556	O,G	sub (~0.38)
	LP1 TARGET	2,018	4,878	5,675	O,G	sub (~0.38)
	FTP (LP2) TARGET	2,026	4,870	6,692	O,G	sub (~0.38)
	LTP (TD) TARGET	2,114	4,782	17,354	O,G	sub (~0.38)

**Surface:** Nacimiento

**Oil & Gas Zones:** Several gas bearing zones will be encountered; target formation is the Gallup

**Pressure:** Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations

Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft  
 Maximum anticipated BH pressure, assuming maximum pressure gradient: 2,100 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,030 psi

Temperature: Maximum anticipated BHT is 135° F or less

## H<sub>2</sub>S INFORMATION:

**H<sub>2</sub>S Zones:** Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

**Safety:** Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

## LOGGING, CORING, AND TESTING:

### Mud Logs:

None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

**MWD / LWD:** Gamma Ray from drillout of 13-3/8" casing to TD

**Open Hole Logs:** None planned

**Testing:** None planned

**Coring:** None planned

**Cased Hole Logs:** CBL on 5-1/2" casing from deepest free-fall depth to surface

## DRILLING RIG INFORMATION:

**Contractor:** Ensign

**Rig No.:** 145

**Draw Works:** Lewco LDS 1500K (1,000 hp)

**Mast:** ADR 1000 Cantilever Triple (134 ft, 500,000 lbs)

**Top Drive:** Tesco 350-EXI-600 (250 ton)

**Prime Movers:** 2 - CAT 3512 (1,350 hp), 1 - CAT C32 (1,100 hp)

**Pumps:** 2 - Mudder MD11 (5,000 psi)

**BOPE 1:** T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)

**Int Hole BOPE 2:** T3 annular(13-5/8", 5,000 psi)

**Prod Hole BOPE 2:** T3 annular/ Townsend Double gate(11", 5,000 psi)

**Choke** 3", 5,000 psi

**KB-GL (ft):** 12.5

**Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

**Note:** BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.

## BOPE REQUIREMENTS:

*See attached diagram for details regarding BOPE specifications and configuration.*

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 3) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 4) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
- 5) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.
- 6) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when there is no power to the accumulator.

## FLUIDS AND SOLIDS CONTROL PROGRAM:

**Fluid Measurement:** Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

**Closed-Loop System:** A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimize the amount of fluids and solids that require disposal.

**Fluid Disposal:** Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Solids Disposal:** Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

**Fluid Program:** See "Detailed Drilling Plan" section for specifics. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

#### DETAILED DRILLING PLAN:

**SURFACE:** *Drill vertically to casing setting depth (plus necessary rathole), run casing, cement casing to surface.*

0 ft (MD)	to	350 ft (MD)	Hole Section Length:	350 ft
0 ft (TVD)	to	350 ft (TVD)	Casing Required:	350 ft

*Note: Surface hole may be drilled, cased, and cemented with a smaller rig in advance of the drilling rig.*

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	Fresh Water	8.4	N/C	2 - 8	2 - 12	9.0	Spud mud

**Hole Size:** 17-1/2"

**Bit / Motor:** Mill Tooth or PDC, no motor

**MWD / Survey:** No MWD, deviation survey

**Logging:** None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	613	116,634	116,634
Min. S.F.					7.39	4.45	7.31	7.79

*Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient*

*Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient*

*Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull*

**MU Torque (ft lbs):** Minimum: N/A Optimum: N/A Maximum: N/A

*Make-up as per API Buttress Connection running procedure.*

**Casing Summary:** Float shoe, 1 jt casing, float collar, casing to surface

**Centralizers:** 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Type III	14.6	1.39	6.686	0.6946	100%	0	350

*Calculated cement volumes assume gauge hole and the excess noted in table*

**Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.**

**INTERMEDIATE:** *Drill as per directional plan to casing setting depth, run casing, cement casing to surface.*

350 ft (MD)	to	3,004 ft (MD)	Hole Section Length:	2,654 ft
350 ft (TVD)	to	2,824 ft (TVD)	Casing Required:	3,004 ft



Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCI)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

**Hole Size:** 12-1/4"

**Bit / Motor:** PDC w/mud motor

**MWD / Survey:** MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional

**Logging:** None

**Pressure Test:** NU BOPE and test (as noted above); pressure test 13-3/8" casing to 1,500 psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,234	1,192	194,307	194,307
Min. S.F.					1.64	2.95	2.90	2.33

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

**MU Torque (ft lbs):** Minimum: 3,400 Optimum: 4,530 Maximum: 5,660

**Casing Summary:** Float shoe, 1 jt casing, float collar, casing to surface

**Centralizers:** 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt & 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 2 jts (floating) to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	595
Tail	Type III	14.6	1.38	6.64	20%	2,504	136

Annular Capacity 0.3627 cuft/ft 9-5/8" casing x 13-3/8" casing annulus

0.3132 cuft/ft 9-5/8" casing x 12-1/4" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

**Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.**

**PRODUCTION:** Drill to TD following directional plan, run casing, cement casing to surface.

3,004 ft (MD)	to	17,354 ft (MD)	Hole Section Length:	14,350 ft
2,824 ft (TVD)	to	4,782 ft (TVD)	Casing Required:	17,354 ft

Estimated KOP:	5,010 ft (MD)	4,562 ft (TVD)
Estimated Landing Point (FTP):	6,692 ft (MD)	4,870 ft (TVD)
Estimated Lateral Length:	10,662 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	ES	OWR
	OBM	8.7 - 9.0	10 - 15	10 - 20	6 - 10	500+	80:20

**Hole Size:** 8-1/2"

**Bit / Motor:** PDC w/mud motor

**MWD / Survey:** MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)

**Logging:** GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs

**Pressure Test:** NU BOPE and test (as noted above); pressure test 9-5/8" casing to 1,500 psi for 30 minutes.

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,362	8,948	404,574	404,574
Min. S.F.					3.16	1.19	1.35	1.10

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)

Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 9.0 ppg fluid with 150,000 lbs over-pull

**MU Torque (ft lbs):** Minimum: 3,470 Optimum: 4,620 Maximum: 5,780

**Casing Summary:** Float shoe, 1 jt casing, float collar w/debris catcher, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub, casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the the azimuth of the well. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys

**Lateral:** 1 centralizer per joint

**FTP to 9-5/8" shoe:** 1 centralizer per joint

**9-5/8" shoe to surface:** 1 centralizer per 2 joints

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	65%	0	526
Tail	G:POZ blend	13.3	1.560	7.70	10%	4,147	2,134

Annular Capacity 0.2691 cuft/ft 5-1/2" casing x 9-5/8" casing annulus

0.2291 cuft/ft 5-1/2" casing x 8-1/2" hole annulus

Calculated cement volumes assume gauge hole and the excess noted in table

**Notify NMOCD & BLM if cement is not circulated to surface.**

**Note:** This well will not be considered an unorthodox well location as defined by NMAC 19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the bottom toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

**FINISH WELL:** ND BOP, cap well, RDMO.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 45 plug-and-perf stages with 410,000 bbls slickwater fluid and 16,000,000 lbs of proppant (estimated)

**Flowback:** Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)

**Production:** Produce through production tubing via gas-lift into permanent production and storage facilities

#### ESTIMATED START DATES:

**Drilling:** TBD

**Completion:** TBD

**Production:** TBD

**Prepared by:** Alec Bridge 3/15/2022

WELL NAME: **RODEO UNIT 506H**  
OBJECTIVE: **Drill, complete, and equip single lateral in the Mancos-I formation**

API Number: *not yet assigned*  
AFE Number: *not yet assigned*  
ER Well Number: *not yet assigned*

State: **New Mexico**  
County: **San Juan**

Surface Elev.: **6,883** ft ASL (GL) **6,896** ft ASL (KB)  
Surface Location: **25-23N-09W** Sec-Twn- Rng **1,481** ft FNL **391** ft FEL  
BH Location: **32-23N-08W** Sec-Twn- Rng **926** ft FSL **234** ft FEL

Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**  
South on US Hwy 550 for 37.8 miles to MM 113.5; Right (Southwest) on CR #7890 for 0.8 miles to fork; Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection; Left (Southeast) remaining on CR #7890 for 0.6 miles to fork; Right (Southwest) remaining on CR #7890 for 0.5 miles to access road; Left (Southeast) on access road for 0.4 miles to the RODEO UNIT 508H PAD (WELLS: 508H, 509H, 510H (DRILLED); 503H, 504H, 506H (PLANNED)).

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	3,004 ft
KOP (MD)	5,010 ft
KOP (TVD)	4,562 ft
Target (TVD)	4,870 ft
Curve BUR	10 °/100 ft
POE (MD)	6,692 ft
TD (MD)	17,354 ft
Lat Len (ft)	10,662 ft

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	3,004	9.625	36.0	J-55	LTC	0	3,004
Production	8.500	17,354	5.500	17.0	P-110	LTC	0	17,354

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	Type III	14.6	1.39	6.686	0.6946	100%	0	350
Inter. (Lead)	III:POZ Blend	12.5	2.14	12.05	0.3627	70%	0	595
Inter. (Tail)	Type III	14.6	1.38	6.64	0.3132	20%	2,504	136
Prod. (Lead)	Type III	12.4	2.360	13.4	0.2691	65%	0	526
Prod. (Tail)	G:POZ blend	13.3	1.560	7.7	0.2291	10%	4,147	2,134

COMPLETION / PRODUCTION SUMMARY:

Frac: 45 plug-and-perf stages with 410,000 bbls slickwater fluid and 16,000,000 lbs of proppant (estimated)  
Flowback: Flow back through production tubing as pressures allow (ESP may be used for load recovery assistance)  
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

	Tops	TVD (ft KB)	MD (ft KB)
	Ojo Alamo	571	571
	Kirtland	657	657
	Fruitland	861	861
	Pictured Cliffs	1,168	1,168
	Lewis	1,327	1,328
	Chacra	1,586	1,596
	Cliff House	2,656	2,810
	Menefee	2,674	2,830
	Point Lookout	3,648	3,655
	Mancos	3,814	4,147
	Gallup (MNCS_A)	4,139	4,522
	MNCS_B	4,224	4,620
	MNCS_C	4,324	4,736
	MNCS_Cms	4,373	4,792
	MNCS_D	4,492	4,930
	MNCS_E	4,642	5,108
	MNCS_F	4,699	5,187
	MNCS_G	4,775	5,317
	MNCS_H	4,829	5,431
	MNCS_I	4,867	5,556
	LP1 TARGET	4,878	5,675
	FTP (LP2) TARGET	4,870	6,692
	LTP (TD) TARGET	4,782	17,354



Well: Rodeo Unit #506H  
Site: Rodeo Unit  
Project: San Juan County, New Mexico NAD83 NM W  
Design: rev2  
Rig: Ensign 773

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rodeo 506 LTP 926 FSL 234 FEL r1	4782.00	-8130.72	10749.61	1884343.927	2763487.359	36.178622000	-107.696454000
Rodeo 506 FTP 2362 FNL 2211 FEL r1	4867.00	-860.37	3481.83	1891614.268	2756219.596	36.198620000	-107.721052000

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Western Zone  
System Datum: Mean Sea Level  
Depth Reference: RKB=6883+28 @ 6911.00ft (Ensign 773)  
Surface location:  
Northing: 1892474.635  
Easting: 2752737.771  
Latitude: 36.200994000  
Longitude: -107.732850000



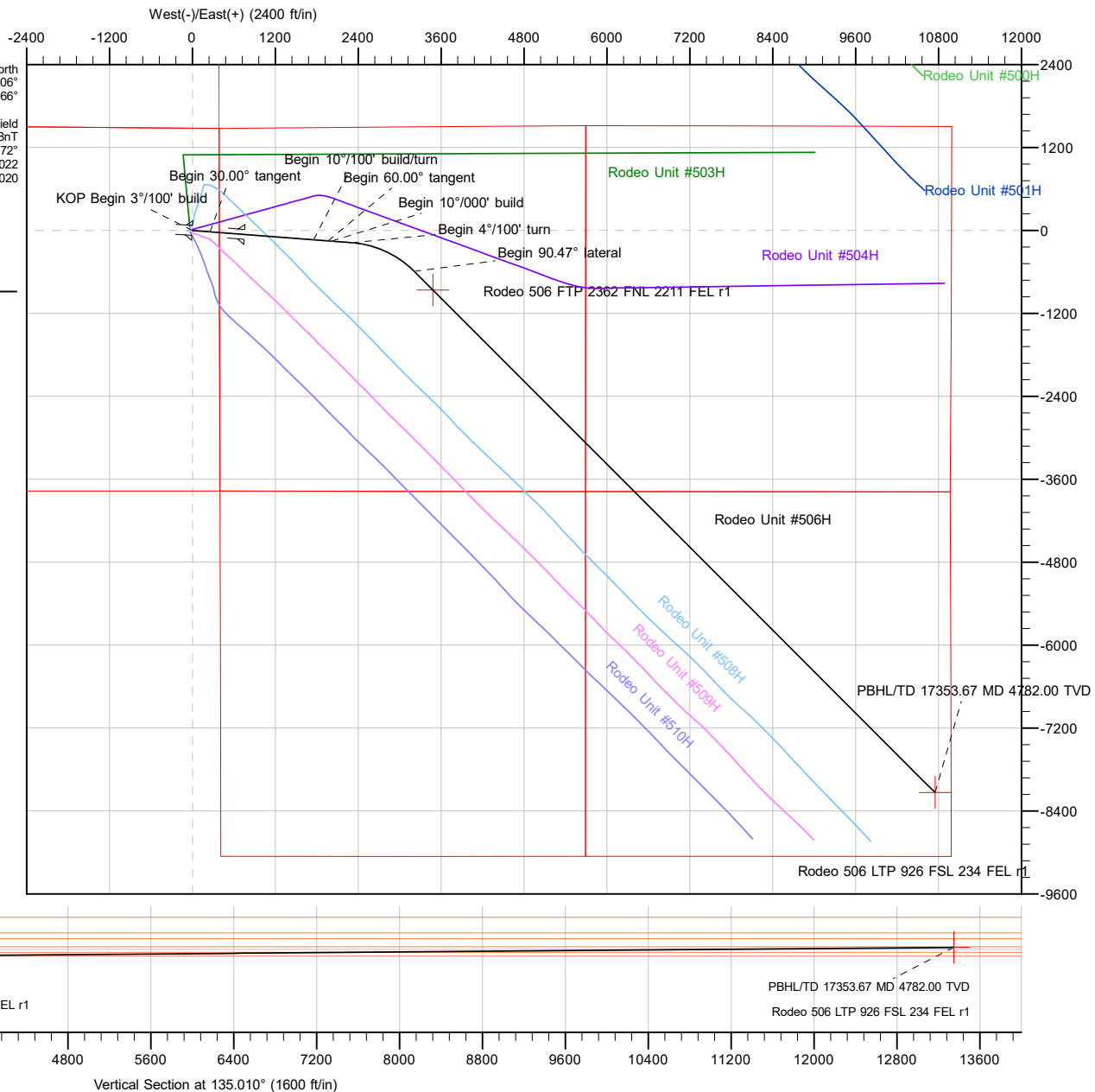
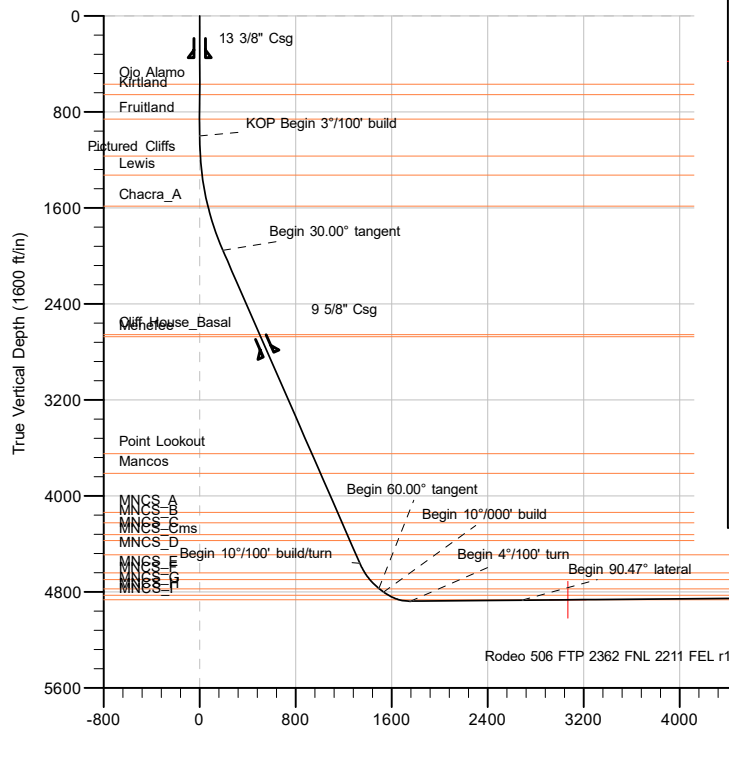
Azimuths to Grid North  
True North: -0.06°  
Magnetic North: 8.66°

Magnetic Field  
Strength: 49223.8nT  
Dip Angle: 62.72°  
Date: 2/22/2022  
Model: IGRF2020

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.66°

CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Csg
2824.00	3003.52	9 5/8" Csg



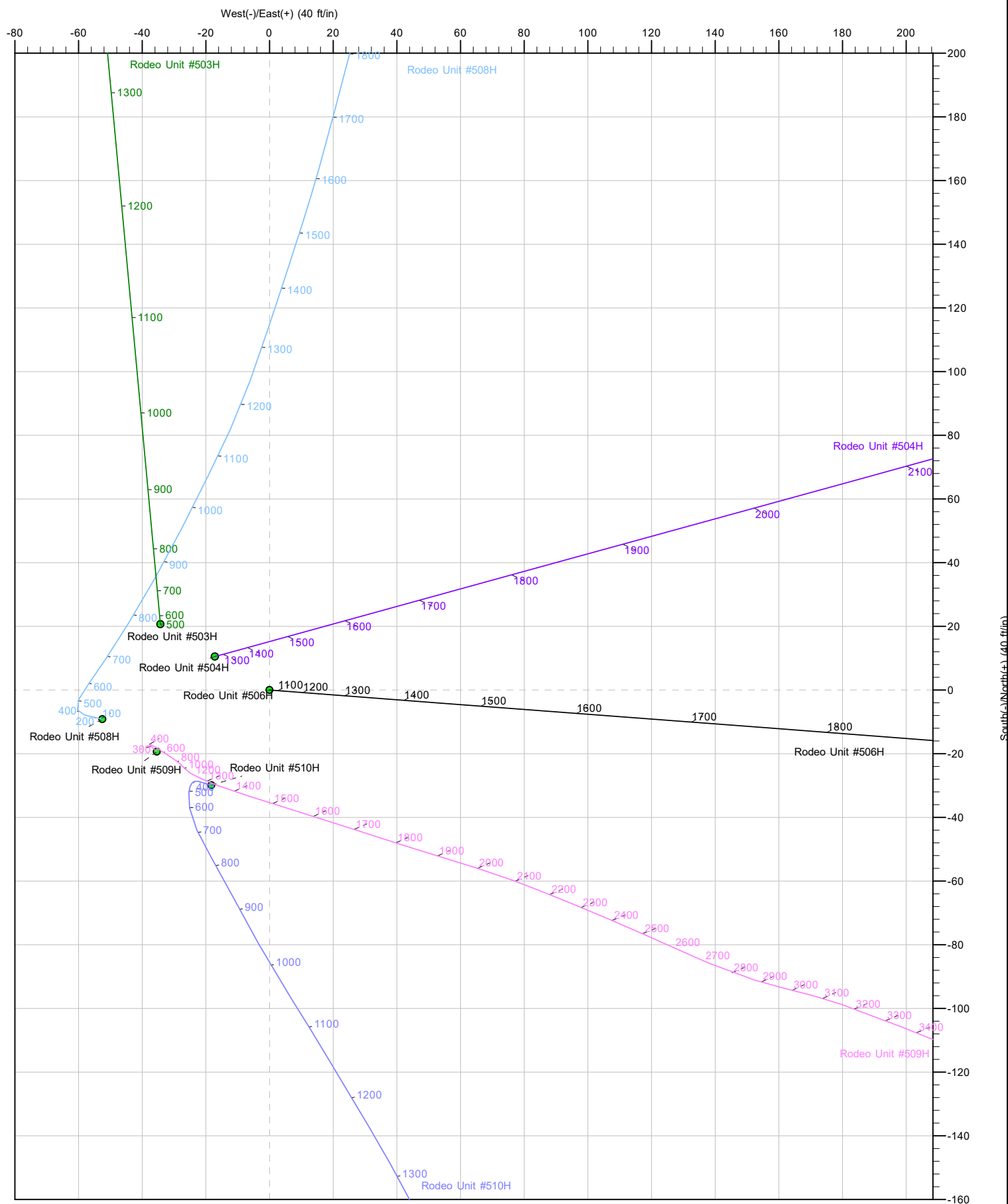
Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3"/100' build
3	2000.00	30.00	94.343	1954.93	-19.38	255.14	3.00	94.34	194.08	Begin 30.00° tangent
4	5010.39	30.00	94.343	4562.00	-133.36	1756.01	0.00	0.00	1335.79	Begin 10"/100' build/turn
5	5310.39	60.00	94.343	4771.72	-149.24	1965.12	10.00	0.00	1494.86	Begin 60.00° tangent
6	5370.39	60.00	94.343	4801.72	-153.18	2016.94	0.00	0.00	1534.27	Begin 10"/000' build
7	5675.09	90.47	94.343	4878.46	-175.23	2307.28	10.00	0.00	1755.13	Begin 4"/100' turn
8	6691.67	90.47	135.008	4869.74	-590.76	3211.74	4.00	89.82	2688.45	Begin 90.47° lateral
9	17353.67	90.47	135.008	4782.00	-8130.72	10749.61	0.00	0.00	13350.09	PBHL/TD 17353.67 MD 4782.0

ft/in) North(-)/South(+)



Well: Rodeo Unit #506H  
Site: Rodeo Unit  
Project: San Juan County, New Mexico NAD83 NM W  
Design: rev2  
Rig: Ensign 773



21:14, March 08 2022





## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

<b>Project</b>	San Juan County, New Mexico NAD83 NM W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Western Zone		

Site	Rodeo Unit				
Site Position:		Northing:	1,892,465.480 usft	Latitude:	36.200969000
From:	Lat/Long	Easting:	2,752,685.264 usft	Longitude:	-107.733028000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rodeo Unit #506H, Surf loc: 1481 FNL 391 FEL Section 25-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,892,474.635 usft	Latitude:	36.200994000
	+E/-W	0.00 ft	Easting:	2,752,737.771 usft	Longitude:	-107.732850000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,883.00 ft
Grid Convergence:		0.06 °				

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	2/22/2022	8.72	62.72	49,223.81549036

<b>Design</b>	rev2				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	135.010	

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/8/2022			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	17,353.67	rev2 (Original Hole)	MWD	
			OWSG MWD - Standard		



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	3.00	3.00	0.00	94.34	
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	0.00	0.00	0.00	0.00	
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	10.00	10.00	0.00	0.00	
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	0.00	0.00	0.00	0.00	
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	10.00	10.00	0.00	0.00	
6,691.67	90.47	135.008	4,869.74	-590.76	3,211.74	4.00	0.00	4.00	89.82	
17,353.67	90.47	135.008	4,782.00	-8,130.72	10,749.61	0.00	0.00	0.00	0.00	Rodeo 506 LTP 926 F



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
571.00	0.00	0.000	571.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Ojo Alamo</b>									
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
657.00	0.00	0.000	657.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Kirtland</b>									
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
861.00	0.00	0.000	861.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fruitland</b>									
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>KOP Begin 3°/100' build</b>									
1,100.00	3.00	94.343	1,099.95	-0.20	2.61	1.99	3.00	3.00	0.00
1,168.22	5.05	94.343	1,168.00	-0.56	7.38	5.62	3.00	3.00	0.00
<b>Pictured Cliffs</b>									
1,200.00	6.00	94.343	1,199.63	-0.79	10.43	7.94	3.00	3.00	0.00
1,300.00	9.00	94.343	1,298.77	-1.78	23.45	17.84	3.00	3.00	0.00
1,328.62	9.86	94.343	1,327.00	-2.14	28.12	21.39	3.00	3.00	0.00
<b>Lewis</b>									
1,400.00	12.00	94.343	1,397.08	-3.16	41.62	31.66	3.00	3.00	0.00
1,500.00	15.00	94.343	1,494.31	-4.93	64.89	49.36	3.00	3.00	0.00
1,595.61	17.87	94.343	1,586.00	-6.98	91.86	69.88	3.00	3.00	0.00
<b>Chacra_A</b>									
1,600.00	18.00	94.343	1,590.18	-7.08	93.21	70.90	3.00	3.00	0.00
1,700.00	21.00	94.343	1,684.43	-9.61	126.49	96.22	3.00	3.00	0.00
1,800.00	24.00	94.343	1,776.81	-12.50	164.64	125.24	3.00	3.00	0.00
1,900.00	27.00	94.343	1,867.06	-15.76	207.56	157.89	3.00	3.00	0.00
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	194.08	3.00	3.00	0.00
<b>Begin 30.00° tangent</b>									
2,100.00	30.00	94.343	2,041.53	-23.16	304.99	232.01	0.00	0.00	0.00
2,200.00	30.00	94.343	2,128.13	-26.95	354.85	269.93	0.00	0.00	0.00
2,300.00	30.00	94.343	2,214.74	-30.74	404.71	307.86	0.00	0.00	0.00
2,400.00	30.00	94.343	2,301.34	-34.52	454.56	345.78	0.00	0.00	0.00
2,500.00	30.00	94.343	2,387.94	-38.31	504.42	383.71	0.00	0.00	0.00
2,600.00	30.00	94.343	2,474.54	-42.09	554.28	421.63	0.00	0.00	0.00
2,700.00	30.00	94.343	2,561.15	-45.88	604.13	459.56	0.00	0.00	0.00
2,800.00	30.00	94.343	2,647.75	-49.67	653.99	497.49	0.00	0.00	0.00
2,809.53	30.00	94.343	2,656.00	-50.03	658.74	501.10	0.00	0.00	0.00
<b>Cliff House_Basal</b>									
2,830.31	30.00	94.343	2,674.00	-50.82	669.10	508.98	0.00	0.00	0.00
<b>Menefee</b>									
2,900.00	30.00	94.343	2,734.35	-53.45	703.85	535.41	0.00	0.00	0.00
3,000.00	30.00	94.343	2,820.96	-57.24	753.70	573.34	0.00	0.00	0.00
3,100.00	30.00	94.343	2,907.56	-61.03	803.56	611.26	0.00	0.00	0.00
3,200.00	30.00	94.343	2,994.16	-64.81	853.42	649.19	0.00	0.00	0.00
3,300.00	30.00	94.343	3,080.76	-68.60	903.27	687.11	0.00	0.00	0.00
3,400.00	30.00	94.343	3,167.37	-72.39	953.13	725.04	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,500.00	30.00	94.343	3,253.97	-76.17	1,002.98	762.96	0.00	0.00	0.00
3,600.00	30.00	94.343	3,340.57	-79.96	1,052.84	800.89	0.00	0.00	0.00
3,700.00	30.00	94.343	3,427.17	-83.74	1,102.70	838.82	0.00	0.00	0.00
3,800.00	30.00	94.343	3,513.78	-87.53	1,152.55	876.74	0.00	0.00	0.00
3,900.00	30.00	94.343	3,600.38	-91.32	1,202.41	914.67	0.00	0.00	0.00
3,954.99	30.00	94.343	3,648.00	-93.40	1,229.83	935.52	0.00	0.00	0.00
Point Lookout									
4,000.00	30.00	94.343	3,686.98	-95.10	1,252.27	952.59	0.00	0.00	0.00
4,100.00	30.00	94.343	3,773.58	-98.89	1,302.12	990.52	0.00	0.00	0.00
4,146.67	30.00	94.343	3,814.00	-100.66	1,325.39	1,008.22	0.00	0.00	0.00
Mancos									
4,200.00	30.00	94.343	3,860.19	-102.68	1,351.98	1,028.44	0.00	0.00	0.00
4,300.00	30.00	94.343	3,946.79	-106.46	1,401.84	1,066.37	0.00	0.00	0.00
4,400.00	30.00	94.343	4,033.39	-110.25	1,451.69	1,104.29	0.00	0.00	0.00
4,500.00	30.00	94.343	4,119.99	-114.04	1,501.55	1,142.22	0.00	0.00	0.00
4,521.95	30.00	94.343	4,139.00	-114.87	1,512.49	1,150.54	0.00	0.00	0.00
MNCS_A									
4,600.00	30.00	94.343	4,206.60	-117.82	1,551.41	1,180.14	0.00	0.00	0.00
4,620.10	30.00	94.343	4,224.00	-118.58	1,561.42	1,187.77	0.00	0.00	0.00
MNCS_B									
4,700.00	30.00	94.343	4,293.20	-121.61	1,601.26	1,218.07	0.00	0.00	0.00
4,735.57	30.00	94.343	4,324.00	-122.95	1,618.99	1,231.56	0.00	0.00	0.00
MNCS_C									
4,792.15	30.00	94.343	4,373.00	-125.10	1,647.20	1,253.02	0.00	0.00	0.00
MNCS_Cms									
4,800.00	30.00	94.343	4,379.80	-125.39	1,651.12	1,256.00	0.00	0.00	0.00
4,900.00	30.00	94.343	4,466.40	-129.18	1,700.97	1,293.92	0.00	0.00	0.00
4,929.56	30.00	94.343	4,492.00	-130.30	1,715.71	1,305.13	0.00	0.00	0.00
MNCS_D									
5,000.00	30.00	94.343	4,553.01	-132.97	1,750.83	1,331.85	0.00	0.00	0.00
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	1,335.79	0.00	0.00	0.00
Begin 10°/100' build/turn									
5,050.00	33.96	94.343	4,595.60	-134.95	1,776.93	1,351.70	10.00	10.00	0.00
5,100.00	38.96	94.343	4,635.80	-137.20	1,806.54	1,374.23	10.00	10.00	0.00
5,108.03	39.76	94.343	4,642.00	-137.58	1,811.62	1,378.09	10.00	10.00	0.00
MNCS_E									
5,150.00	43.96	94.343	4,673.25	-139.70	1,839.55	1,399.33	10.00	10.00	0.00
5,186.94	47.66	94.343	4,699.00	-141.71	1,865.95	1,419.42	10.00	10.00	0.00
MNCS_F									
5,200.00	48.96	94.343	4,707.68	-142.45	1,875.68	1,426.81	10.00	10.00	0.00
5,250.00	53.96	94.343	4,738.83	-145.41	1,914.66	1,456.47	10.00	10.00	0.00
5,300.00	58.96	94.343	4,766.44	-148.56	1,956.20	1,488.07	10.00	10.00	0.00
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	1,494.86	10.00	10.00	0.00
Begin 60.00° tangent									
5,316.95	60.00	94.343	4,775.00	-149.67	1,970.79	1,499.17	0.00	0.00	0.00
MNCS_G									
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	1,534.27	0.00	0.00	0.00
Begin 10°/000' build									
5,400.00	62.96	94.343	4,815.86	-155.15	2,042.88	1,554.01	10.00	10.00	0.00
5,430.52	66.01	94.343	4,829.00	-157.23	2,070.34	1,574.90	10.00	10.00	0.00
MNCS_H									
5,450.00	67.96	94.343	4,836.61	-158.59	2,088.22	1,588.50	10.00	10.00	0.00



## Planning Report

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<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,500.00	72.96	94.343	4,853.33	-162.16	2,135.19	1,624.23	10.00	10.00	0.00
5,550.00	77.96	94.343	4,865.88	-165.82	2,183.43	1,660.93	10.00	10.00	0.00
5,555.50	78.51	94.343	4,867.00	-166.23	2,188.81	1,665.01	10.00	10.00	0.00
<b>MNCS_I</b>									
5,600.00	82.96	94.343	4,874.16	-169.55	2,232.59	1,698.31	10.00	10.00	0.00
5,650.00	87.96	94.343	4,878.12	-173.33	2,282.27	1,736.11	10.00	10.00	0.00
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	1,755.13	10.00	10.00	0.00
<b>Begin 4°/100' turn</b>									
5,700.00	90.47	95.340	4,878.25	-177.33	2,332.10	1,774.17	4.00	0.01	4.00
5,800.00	90.48	99.340	4,877.42	-190.10	2,431.26	1,853.31	4.00	0.01	4.00
5,900.00	90.49	103.340	4,876.57	-209.76	2,529.28	1,936.51	4.00	0.01	4.00
6,000.00	90.50	107.340	4,875.70	-236.21	2,625.70	2,023.38	4.00	0.01	4.00
6,100.00	90.50	111.340	4,874.83	-269.32	2,720.03	2,113.49	4.00	0.00	4.00
6,200.00	90.50	115.340	4,873.96	-308.93	2,811.83	2,206.40	4.00	0.00	4.00
6,300.00	90.50	119.340	4,873.08	-354.84	2,900.64	2,301.66	4.00	0.00	4.00
6,400.00	90.50	123.341	4,872.21	-406.84	2,986.02	2,398.80	4.00	0.00	4.00
6,500.00	90.49	127.341	4,871.35	-464.67	3,067.58	2,497.36	4.00	-0.01	4.00
6,600.00	90.48	131.341	4,870.50	-528.05	3,144.90	2,596.84	4.00	-0.01	4.00
6,691.67	90.47	135.008	4,869.74	-590.76	3,211.74	2,688.45	4.00	-0.01	4.00
<b>Begin 90.47° lateral</b>									
6,700.00	90.47	135.008	4,869.67	-596.65	3,217.63	2,696.78	0.00	0.00	0.00
6,800.00	90.47	135.008	4,868.85	-667.37	3,288.32	2,796.77	0.00	0.00	0.00
6,900.00	90.47	135.008	4,868.02	-738.09	3,359.02	2,896.77	0.00	0.00	0.00
7,000.00	90.47	135.008	4,867.20	-808.81	3,429.72	2,996.77	0.00	0.00	0.00
7,100.00	90.47	135.008	4,866.38	-879.52	3,500.42	3,096.76	0.00	0.00	0.00
7,200.00	90.47	135.008	4,865.56	-950.24	3,571.12	3,196.76	0.00	0.00	0.00
7,300.00	90.47	135.008	4,864.73	-1,020.96	3,641.82	3,296.76	0.00	0.00	0.00
7,400.00	90.47	135.008	4,863.91	-1,091.68	3,712.51	3,396.75	0.00	0.00	0.00
7,500.00	90.47	135.008	4,863.09	-1,162.40	3,783.21	3,496.75	0.00	0.00	0.00
7,600.00	90.47	135.008	4,862.26	-1,233.11	3,853.91	3,596.75	0.00	0.00	0.00
7,700.00	90.47	135.008	4,861.44	-1,303.83	3,924.61	3,696.74	0.00	0.00	0.00
7,800.00	90.47	135.008	4,860.62	-1,374.55	3,995.31	3,796.74	0.00	0.00	0.00
7,900.00	90.47	135.008	4,859.79	-1,445.27	4,066.01	3,896.74	0.00	0.00	0.00
8,000.00	90.47	135.008	4,858.97	-1,515.99	4,136.71	3,996.73	0.00	0.00	0.00
8,100.00	90.47	135.008	4,858.15	-1,586.70	4,207.40	4,096.73	0.00	0.00	0.00
8,200.00	90.47	135.008	4,857.33	-1,657.42	4,278.10	4,196.73	0.00	0.00	0.00
8,300.00	90.47	135.008	4,856.50	-1,728.14	4,348.80	4,296.72	0.00	0.00	0.00
8,400.00	90.47	135.008	4,855.68	-1,798.86	4,419.50	4,396.72	0.00	0.00	0.00
8,500.00	90.47	135.008	4,854.86	-1,869.58	4,490.20	4,496.72	0.00	0.00	0.00
8,600.00	90.47	135.008	4,854.03	-1,940.29	4,560.90	4,596.71	0.00	0.00	0.00
8,700.00	90.47	135.008	4,853.21	-2,011.01	4,631.60	4,696.71	0.00	0.00	0.00
8,800.00	90.47	135.008	4,852.39	-2,081.73	4,702.29	4,796.71	0.00	0.00	0.00
8,900.00	90.47	135.008	4,851.57	-2,152.45	4,772.99	4,896.70	0.00	0.00	0.00
9,000.00	90.47	135.008	4,850.74	-2,223.17	4,843.69	4,996.70	0.00	0.00	0.00
9,100.00	90.47	135.008	4,849.92	-2,293.89	4,914.39	5,096.70	0.00	0.00	0.00
9,200.00	90.47	135.008	4,849.10	-2,364.60	4,985.09	5,196.69	0.00	0.00	0.00
9,300.00	90.47	135.008	4,848.27	-2,435.32	5,055.79	5,296.69	0.00	0.00	0.00
9,400.00	90.47	135.008	4,847.45	-2,506.04	5,126.48	5,396.69	0.00	0.00	0.00
9,500.00	90.47	135.008	4,846.63	-2,576.76	5,197.18	5,496.68	0.00	0.00	0.00
9,600.00	90.47	135.008	4,845.81	-2,647.48	5,267.88	5,596.68	0.00	0.00	0.00
9,700.00	90.47	135.008	4,844.98	-2,718.19	5,338.58	5,696.68	0.00	0.00	0.00
9,800.00	90.47	135.008	4,844.16	-2,788.91	5,409.28	5,796.67	0.00	0.00	0.00
9,900.00	90.47	135.008	4,843.34	-2,859.63	5,479.98	5,896.67	0.00	0.00	0.00





## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,000.00	90.47	135.008	4,842.51	-2,930.35	5,550.68	5,996.67	0.00	0.00	0.00	
10,100.00	90.47	135.008	4,841.69	-3,001.07	5,621.37	6,096.66	0.00	0.00	0.00	
10,200.00	90.47	135.008	4,840.87	-3,071.78	5,692.07	6,196.66	0.00	0.00	0.00	
10,300.00	90.47	135.008	4,840.05	-3,142.50	5,762.77	6,296.66	0.00	0.00	0.00	
10,400.00	90.47	135.008	4,839.22	-3,213.22	5,833.47	6,396.65	0.00	0.00	0.00	
10,500.00	90.47	135.008	4,838.40	-3,283.94	5,904.17	6,496.65	0.00	0.00	0.00	
10,600.00	90.47	135.008	4,837.58	-3,354.66	5,974.87	6,596.65	0.00	0.00	0.00	
10,700.00	90.47	135.008	4,836.75	-3,425.37	6,045.56	6,696.64	0.00	0.00	0.00	
10,800.00	90.47	135.008	4,835.93	-3,496.09	6,116.26	6,796.64	0.00	0.00	0.00	
10,900.00	90.47	135.008	4,835.11	-3,566.81	6,186.96	6,896.64	0.00	0.00	0.00	
11,000.00	90.47	135.008	4,834.28	-3,637.53	6,257.66	6,996.63	0.00	0.00	0.00	
11,100.00	90.47	135.008	4,833.46	-3,708.25	6,328.36	7,096.63	0.00	0.00	0.00	
11,200.00	90.47	135.008	4,832.64	-3,778.97	6,399.06	7,196.63	0.00	0.00	0.00	
11,300.00	90.47	135.008	4,831.82	-3,849.68	6,469.76	7,296.62	0.00	0.00	0.00	
11,400.00	90.47	135.008	4,830.99	-3,920.40	6,540.45	7,396.62	0.00	0.00	0.00	
11,500.00	90.47	135.008	4,830.17	-3,991.12	6,611.15	7,496.62	0.00	0.00	0.00	
11,600.00	90.47	135.008	4,829.35	-4,061.84	6,681.85	7,596.61	0.00	0.00	0.00	
11,700.00	90.47	135.008	4,828.52	-4,132.56	6,752.55	7,696.61	0.00	0.00	0.00	
11,800.00	90.47	135.008	4,827.70	-4,203.27	6,823.25	7,796.60	0.00	0.00	0.00	
11,900.00	90.47	135.008	4,826.88	-4,273.99	6,893.95	7,896.60	0.00	0.00	0.00	
12,000.00	90.47	135.008	4,826.06	-4,344.71	6,964.65	7,996.60	0.00	0.00	0.00	
12,100.00	90.47	135.008	4,825.23	-4,415.43	7,035.34	8,096.59	0.00	0.00	0.00	
12,200.00	90.47	135.008	4,824.41	-4,486.15	7,106.04	8,196.59	0.00	0.00	0.00	
12,300.00	90.47	135.008	4,823.59	-4,556.86	7,176.74	8,296.59	0.00	0.00	0.00	
12,400.00	90.47	135.008	4,822.76	-4,627.58	7,247.44	8,396.58	0.00	0.00	0.00	
12,500.00	90.47	135.008	4,821.94	-4,698.30	7,318.14	8,496.58	0.00	0.00	0.00	
12,600.00	90.47	135.008	4,821.12	-4,769.02	7,388.84	8,596.58	0.00	0.00	0.00	
12,700.00	90.47	135.008	4,820.30	-4,839.74	7,459.53	8,696.57	0.00	0.00	0.00	
12,800.00	90.47	135.008	4,819.47	-4,910.45	7,530.23	8,796.57	0.00	0.00	0.00	
12,900.00	90.47	135.008	4,818.65	-4,981.17	7,600.93	8,896.57	0.00	0.00	0.00	
13,000.00	90.47	135.008	4,817.83	-5,051.89	7,671.63	8,996.56	0.00	0.00	0.00	
13,100.00	90.47	135.008	4,817.00	-5,122.61	7,742.33	9,096.56	0.00	0.00	0.00	
13,200.00	90.47	135.008	4,816.18	-5,193.33	7,813.03	9,196.56	0.00	0.00	0.00	
13,300.00	90.47	135.008	4,815.36	-5,264.04	7,883.73	9,296.55	0.00	0.00	0.00	
13,400.00	90.47	135.008	4,814.54	-5,334.76	7,954.42	9,396.55	0.00	0.00	0.00	
13,500.00	90.47	135.008	4,813.71	-5,405.48	8,025.12	9,496.55	0.00	0.00	0.00	
13,600.00	90.47	135.008	4,812.89	-5,476.20	8,095.82	9,596.54	0.00	0.00	0.00	
13,700.00	90.47	135.008	4,812.07	-5,546.92	8,166.52	9,696.54	0.00	0.00	0.00	
13,800.00	90.47	135.008	4,811.24	-5,617.64	8,237.22	9,796.54	0.00	0.00	0.00	
13,900.00	90.47	135.008	4,810.42	-5,688.35	8,307.92	9,896.53	0.00	0.00	0.00	
14,000.00	90.47	135.008	4,809.60	-5,759.07	8,378.61	9,996.53	0.00	0.00	0.00	
14,100.00	90.47	135.008	4,808.77	-5,829.79	8,449.31	10,096.53	0.00	0.00	0.00	
14,200.00	90.47	135.008	4,807.95	-5,900.51	8,520.01	10,196.52	0.00	0.00	0.00	
14,300.00	90.47	135.008	4,807.13	-5,971.23	8,590.71	10,296.52	0.00	0.00	0.00	
14,400.00	90.47	135.008	4,806.31	-6,041.94	8,661.41	10,396.52	0.00	0.00	0.00	
14,500.00	90.47	135.008	4,805.48	-6,112.66	8,732.11	10,496.51	0.00	0.00	0.00	
14,600.00	90.47	135.008	4,804.66	-6,183.38	8,802.81	10,596.51	0.00	0.00	0.00	
14,700.00	90.47	135.008	4,803.84	-6,254.10	8,873.50	10,696.51	0.00	0.00	0.00	
14,800.00	90.47	135.008	4,803.01	-6,324.82	8,944.20	10,796.50	0.00	0.00	0.00	
14,900.00	90.47	135.008	4,802.19	-6,395.53	9,014.90	10,896.50	0.00	0.00	0.00	
15,000.00	90.47	135.008	4,801.37	-6,466.25	9,085.60	10,996.50	0.00	0.00	0.00	
15,100.00	90.47	135.008	4,800.55	-6,536.97	9,156.30	11,096.49	0.00	0.00	0.00	
15,200.00	90.47	135.008	4,799.72	-6,607.69	9,227.00	11,196.49	0.00	0.00	0.00	
15,300.00	90.47	135.008	4,798.90	-6,678.41	9,297.70	11,296.49	0.00	0.00	0.00	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,400.00	90.47	135.008	4,798.08	-6,749.12	9,368.39	11,396.48	0.00	0.00	0.00
15,500.00	90.47	135.008	4,797.25	-6,819.84	9,439.09	11,496.48	0.00	0.00	0.00
15,600.00	90.47	135.008	4,796.43	-6,890.56	9,509.79	11,596.48	0.00	0.00	0.00
15,700.00	90.47	135.008	4,795.61	-6,961.28	9,580.49	11,696.47	0.00	0.00	0.00
15,800.00	90.47	135.008	4,794.79	-7,032.00	9,651.19	11,796.47	0.00	0.00	0.00
15,900.00	90.47	135.008	4,793.96	-7,102.72	9,721.89	11,896.47	0.00	0.00	0.00
16,000.00	90.47	135.008	4,793.14	-7,173.43	9,792.58	11,996.46	0.00	0.00	0.00
16,100.00	90.47	135.008	4,792.32	-7,244.15	9,863.28	12,096.46	0.00	0.00	0.00
16,200.00	90.47	135.008	4,791.49	-7,314.87	9,933.98	12,196.46	0.00	0.00	0.00
16,300.00	90.47	135.008	4,790.67	-7,385.59	10,004.68	12,296.45	0.00	0.00	0.00
16,400.00	90.47	135.008	4,789.85	-7,456.31	10,075.38	12,396.45	0.00	0.00	0.00
16,500.00	90.47	135.008	4,789.03	-7,527.02	10,146.08	12,496.45	0.00	0.00	0.00
16,600.00	90.47	135.008	4,788.20	-7,597.74	10,216.78	12,596.44	0.00	0.00	0.00
16,700.00	90.47	135.008	4,787.38	-7,668.46	10,287.47	12,696.44	0.00	0.00	0.00
16,800.00	90.47	135.008	4,786.56	-7,739.18	10,358.17	12,796.44	0.00	0.00	0.00
16,900.00	90.47	135.008	4,785.73	-7,809.90	10,428.87	12,896.43	0.00	0.00	0.00
17,000.00	90.47	135.008	4,784.91	-7,880.61	10,499.57	12,996.43	0.00	0.00	0.00
17,100.00	90.47	135.008	4,784.09	-7,951.33	10,570.27	13,096.43	0.00	0.00	0.00
17,200.00	90.47	135.008	4,783.26	-8,022.05	10,640.97	13,196.42	0.00	0.00	0.00
17,300.00	90.47	135.008	4,782.44	-8,092.77	10,711.66	13,296.42	0.00	0.00	0.00
17,353.67	90.47	135.008	4,782.00	-8,130.72	10,749.61	13,350.09	0.00	0.00	0.00
PBHL/TD 17353.67 MD 4782.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Rodeo 506 LTP 926 FSL	0.00	0.000	4,782.00	-8,130.72	10,749.61	1,884,343.927	2,763,487.359	36.178622000	-107.696454000
- plan hits target center									
- Point									
Rodeo 506 FTP 2362 F1	0.00	0.000	4,867.00	-860.37	3,481.83	1,891,614.268	2,756,219.596	36.198620000	-107.721052000
- plan misses target center by 0.57ft at 7073.31ft MD (4866.60 TVD, -860.65 N, 3481.55 E)									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,003.52	2,824.00	9 5/8" Csg	9-5/8	12-1/4	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
571.00	571.00	Ojo Alamo				
657.00	657.00	Kirtland				
861.00	861.00	Fruitland				
1,168.22	1,168.00	Pictured Cliffs				
1,328.62	1,327.00	Lewis				
1,595.61	1,586.00	Chacra_A				
2,809.53	2,656.00	Cliff House_Basal				
2,830.31	2,674.00	Menefee				
3,954.99	3,648.00	Point Lookout				
4,146.67	3,814.00	Mancos				
4,521.95	4,139.00	MNCS_A				
4,620.10	4,224.00	MNCS_B				
4,735.57	4,324.00	MNCS_C				
4,792.15	4,373.00	MNCS_Cms				
4,929.56	4,492.00	MNCS_D				
5,108.03	4,642.00	MNCS_E				
5,186.94	4,699.00	MNCS_F				
5,316.95	4,775.00	MNCS_G				
5,430.52	4,829.00	MNCS_H				
5,555.50	4,867.00	MNCS_I		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
2,000.00	1,954.93	-19.38	255.14	Begin 30.00° tangent	
5,010.39	4,562.00	-133.36	1,756.01	Begin 10°/100' build/turn	
5,310.39	4,771.72	-149.24	1,965.12	Begin 60.00° tangent	
5,370.39	4,801.72	-153.18	2,016.94	Begin 10°/000' build	
5,675.09	4,878.46	-175.23	2,307.28	Begin 4°/100' turn	
6,691.67	4,869.74	-590.76	3,211.74	Begin 90.47° lateral	
17,353.67	4,782.00	-8,130.72	10,749.61	PBHL/TD 17353.67 MD 4782.00 TVD	



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

<b>Project</b>	San Juan County, New Mexico NAD83 NM W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Western Zone		

Site	Rodeo Unit				
Site Position:		Northing:	1,892,465.480 usft	Latitude:	36.200969000
From:	Lat/Long	Easting:	2,752,685.264 usft	Longitude:	-107.733028000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Rodeo Unit #506H, Surf loc: 1481 FNL 391 FEL Section 25-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,892,474.635 usft	Latitude:	36.200994000
	+E/-W	0.00 ft	Easting:	2,752,737.771 usft	Longitude:	-107.732850000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,883.00 ft
Grid Convergence:		0.06 °				

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	2/22/2022	8.72	62.72	49,223.81549036

<b>Design</b>	rev2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	135.010

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/8/2022		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	17,353.67 rev2 (Original Hole)	MWD	
			OWSG MWD - Standard	



## Planning Report - Geographic

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<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	3.00	3.00	0.00	94.34	
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	0.00	0.00	0.00	0.00	
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	10.00	10.00	0.00	0.00	
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	0.00	0.00	0.00	0.00	
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	10.00	10.00	0.00	0.00	
6,691.67	90.47	135.008	4,869.74	-590.76	3,211.74	4.00	0.00	4.00	89.82	
17,353.67	90.47	135.008	4,782.00	-8,130.72	10,749.61	0.00	0.00	0.00	0.00	Rodeo 506 LTP 926 F





## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
100.00	0.00	0.000	100.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
200.00	0.00	0.000	200.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
300.00	0.00	0.000	300.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
400.00	0.00	0.000	400.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
500.00	0.00	0.000	500.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
571.00	0.00	0.000	571.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
<b>Ojo Alamo</b>									
600.00	0.00	0.000	600.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
657.00	0.00	0.000	657.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
<b>Kirtland</b>									
700.00	0.00	0.000	700.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
800.00	0.00	0.000	800.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
861.00	0.00	0.000	861.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
<b>Fruitland</b>									
900.00	0.00	0.000	900.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,892,474.635	2,752,737.771	36.200994000	-107.732850000
<b>KOP Begin 3°/100' build</b>									
1,100.00	3.00	94.343	1,099.95	-0.20	2.61	1,892,474.437	2,752,740.381	36.200993448	-107.732841155
1,168.22	5.05	94.343	1,168.00	-0.56	7.38	1,892,474.074	2,752,745.153	36.200992439	-107.732824981
<b>Pictured Cliffs</b>									
1,200.00	6.00	94.343	1,199.63	-0.79	10.43	1,892,473.843	2,752,748.203	36.200991794	-107.732814643
1,300.00	9.00	94.343	1,298.77	-1.78	23.45	1,892,472.854	2,752,761.217	36.200989042	-107.732770538
1,328.62	9.86	94.343	1,327.00	-2.14	28.12	1,892,472.499	2,752,765.892	36.200988053	-107.732754693
<b>Lewis</b>									
1,400.00	12.00	94.343	1,397.08	-3.16	41.62	1,892,471.474	2,752,779.386	36.200985199	-107.732708960
1,500.00	15.00	94.343	1,494.31	-4.93	64.89	1,892,469.707	2,752,802.661	36.200980277	-107.732630078
1,595.61	17.87	94.343	1,586.00	-6.98	91.86	1,892,467.659	2,752,829.629	36.200974574	-107.732538679
<b>Chacra_A</b>									
1,600.00	18.00	94.343	1,590.18	-7.08	93.21	1,892,467.556	2,752,830.977	36.200974289	-107.732534108
1,700.00	21.00	94.343	1,684.43	-9.61	126.49	1,892,465.029	2,752,864.258	36.200967250	-107.732421314
1,800.00	24.00	94.343	1,776.81	-12.50	164.64	1,892,462.131	2,752,902.412	36.200959181	-107.732292004
1,900.00	27.00	94.343	1,867.06	-15.76	207.56	1,892,458.871	2,752,945.335	36.200950103	-107.732146533
2,000.00	30.00	94.343	1,954.93	-19.38	255.14	1,892,455.258	2,752,992.908	36.200940042	-107.731985300
<b>Begin 30.00° tangent</b>									
2,100.00	30.00	94.343	2,041.53	-23.16	304.99	1,892,451.472	2,753,042.765	36.200929497	-107.731816329
2,200.00	30.00	94.343	2,128.13	-26.95	354.85	1,892,447.686	2,753,092.621	36.200918952	-107.731647359
2,300.00	30.00	94.343	2,214.74	-30.74	404.71	1,892,443.899	2,753,142.477	36.200908407	-107.731478388
2,400.00	30.00	94.343	2,301.34	-34.52	454.56	1,892,440.113	2,753,192.334	36.200897862	-107.731309418
2,500.00	30.00	94.343	2,387.94	-38.31	504.42	1,892,436.327	2,753,242.190	36.200887316	-107.731140447
2,600.00	30.00	94.343	2,474.54	-42.09	554.28	1,892,432.540	2,753,292.046	36.200876770	-107.730971477
2,700.00	30.00	94.343	2,561.15	-45.88	604.13	1,892,428.754	2,753,341.903	36.200866224	-107.730802506
2,800.00	30.00	94.343	2,647.75	-49.67	653.99	1,892,424.968	2,753,391.759	36.200855678	-107.730633536
2,809.53	30.00	94.343	2,656.00	-50.03	658.74	1,892,424.607	2,753,396.508	36.200854673	-107.730617439
<b>Cliff House_Basal</b>									
2,830.31	30.00	94.343	2,674.00	-50.82	669.10	1,892,423.820	2,753,406.871	36.200852481	-107.730582319
<b>Menefee</b>									
2,900.00	30.00	94.343	2,734.35	-53.45	703.85	1,892,421.181	2,753,441.615	36.200845131	-107.730464566
3,000.00	30.00	94.343	2,820.96	-57.24	753.70	1,892,417.395	2,753,491.472	36.200834584	-107.730295595
3,100.00	30.00	94.343	2,907.56	-61.03	803.56	1,892,413.609	2,753,541.328	36.200824037	-107.730126625
3,200.00	30.00	94.343	2,994.16	-64.81	853.42	1,892,409.822	2,753,591.184	36.200813490	-107.729957655
3,300.00	30.00	94.343	3,080.76	-68.60	903.27	1,892,406.036	2,753,641.041	36.200802942	-107.729788685
3,400.00	30.00	94.343	3,167.37	-72.39	953.13	1,892,402.250	2,753,690.897	36.200792395	-107.729619715



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,500.00	30.00	94.343	3,253.97	-76.17	1,002.98	1,892,398.463	2,753,740.753	36.200781847	-107.729450745	
3,600.00	30.00	94.343	3,340.57	-79.96	1,052.84	1,892,394.677	2,753,790.610	36.200771298	-107.729281775	
3,700.00	30.00	94.343	3,427.17	-83.74	1,102.70	1,892,390.890	2,753,840.466	36.200760750	-107.729112805	
3,800.00	30.00	94.343	3,513.78	-87.53	1,152.55	1,892,387.104	2,753,890.322	36.200750201	-107.728943835	
3,900.00	30.00	94.343	3,600.38	-91.32	1,202.41	1,892,383.318	2,753,940.178	36.200739652	-107.728774865	
3,954.99	30.00	94.343	3,648.00	-93.40	1,229.83	1,892,381.236	2,753,967.594	36.200733851	-107.728681950	
Point Lookout										
4,000.00	30.00	94.343	3,686.98	-95.10	1,252.27	1,892,379.531	2,753,990.035	36.200729103	-107.728605895	
4,100.00	30.00	94.343	3,773.58	-98.89	1,302.12	1,892,375.745	2,754,039.891	36.200718554	-107.728436926	
4,146.67	30.00	94.343	3,814.00	-100.66	1,325.39	1,892,373.978	2,754,063.159	36.200713630	-107.728358068	
Mancos										
4,200.00	30.00	94.343	3,860.19	-102.68	1,351.98	1,892,371.959	2,754,089.747	36.200708004	-107.728267956	
4,300.00	30.00	94.343	3,946.79	-106.46	1,401.84	1,892,368.172	2,754,139.604	36.200697454	-107.728098986	
4,400.00	30.00	94.343	4,033.39	-110.25	1,451.69	1,892,364.386	2,754,189.460	36.200686904	-107.727930017	
4,500.00	30.00	94.343	4,119.99	-114.04	1,501.55	1,892,360.600	2,754,239.316	36.200676353	-107.727761047	
4,521.95	30.00	94.343	4,139.00	-114.87	1,512.49	1,892,359.769	2,754,250.259	36.200674038	-107.727723963	
MNCS_A										
4,600.00	30.00	94.343	4,206.60	-117.82	1,551.41	1,892,356.813	2,754,289.173	36.200665803	-107.727592078	
4,620.10	30.00	94.343	4,224.00	-118.58	1,561.42	1,892,356.052	2,754,299.192	36.200663682	-107.727558120	
MNCS_B										
4,700.00	30.00	94.343	4,293.20	-121.61	1,601.26	1,892,353.027	2,754,339.029	36.200655252	-107.727423108	
4,735.57	30.00	94.343	4,324.00	-122.95	1,618.99	1,892,351.680	2,754,356.761	36.200651499	-107.727363011	
MNCS_C										
4,792.15	30.00	94.343	4,373.00	-125.10	1,647.20	1,892,349.538	2,754,384.970	36.200645529	-107.727267408	
MNCS_Cms										
4,800.00	30.00	94.343	4,379.80	-125.39	1,651.12	1,892,349.241	2,754,388.885	36.200644701	-107.727254139	
4,900.00	30.00	94.343	4,466.40	-129.18	1,700.97	1,892,345.454	2,754,438.742	36.200634149	-107.727085169	
4,929.56	30.00	94.343	4,492.00	-130.30	1,715.71	1,892,344.335	2,754,453.478	36.200631031	-107.727035228	
MNCS_D										
5,000.00	30.00	94.343	4,553.01	-132.97	1,750.83	1,892,341.668	2,754,488.598	36.200623598	-107.726916200	
5,010.39	30.00	94.343	4,562.00	-133.36	1,756.01	1,892,341.275	2,754,493.776	36.200622502	-107.726898652	
Begin 10°/100' build/turn										
5,050.00	33.96	94.343	4,595.60	-134.95	1,776.93	1,892,339.686	2,754,514.693	36.200618075	-107.726827762	
5,100.00	38.96	94.343	4,635.80	-137.20	1,806.54	1,892,337.437	2,754,544.312	36.200611806	-107.726727379	
5,108.03	39.76	94.343	4,642.00	-137.58	1,811.62	1,892,337.051	2,754,549.387	36.200610732	-107.726710179	
MNCS_E										
5,150.00	43.96	94.343	4,673.25	-139.70	1,839.55	1,892,334.931	2,754,577.312	36.200604822	-107.726615537	
5,186.94	47.66	94.343	4,699.00	-141.71	1,865.95	1,892,332.925	2,754,603.720	36.200599233	-107.726526039	
MNCS_F										
5,200.00	48.96	94.343	4,707.68	-142.45	1,875.68	1,892,332.187	2,754,613.442	36.200597175	-107.726493088	
5,250.00	53.96	94.343	4,738.83	-145.41	1,914.66	1,892,329.226	2,754,652.427	36.200588923	-107.726360965	
5,300.00	58.96	94.343	4,766.44	-148.56	1,956.20	1,892,326.071	2,754,693.970	36.200580131	-107.726220171	
5,310.39	60.00	94.343	4,771.72	-149.24	1,965.12	1,892,325.394	2,754,702.890	36.200578242	-107.726189937	
Begin 60.00° tangent										
5,316.95	60.00	94.343	4,775.00	-149.67	1,970.79	1,892,324.963	2,754,708.560	36.200577042	-107.726170722	
MNCS_G										
5,370.39	60.00	94.343	4,801.72	-153.18	2,016.94	1,892,321.459	2,754,754.703	36.200567275	-107.726014339	
Begin 10°/000' build										
5,400.00	62.96	94.343	4,815.86	-155.15	2,042.88	1,892,319.488	2,754,780.646	36.200561784	-107.725926414	
5,430.52	66.01	94.343	4,829.00	-157.23	2,070.34	1,892,317.403	2,754,808.110	36.200555971	-107.725833334	
MNCS_H										
5,450.00	67.96	94.343	4,836.61	-158.59	2,088.22	1,892,316.045	2,754,825.985	36.200552187	-107.725772755	
5,500.00	72.96	94.343	4,853.33	-162.16	2,135.19	1,892,312.478	2,754,872.955	36.200542244	-107.725613566	



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,550.00	77.96	94.343	4,865.88	-165.82	2,183.43	1,892,308.814	2,754,921.200	36.200532032	-107.725450060	
5,555.50	78.51	94.343	4,867.00	-166.23	2,188.81	1,892,308.406	2,754,926.572	36.200530895	-107.725431854	
MNCS_I										
5,600.00	82.96	94.343	4,874.16	-169.55	2,232.59	1,892,305.081	2,754,970.351	36.200521627	-107.725283480	
5,650.00	87.96	94.343	4,878.12	-173.33	2,282.27	1,892,301.308	2,755,020.036	36.200511110	-107.725115095	
5,675.09	90.47	94.343	4,878.46	-175.23	2,307.28	1,892,299.409	2,755,045.045	36.200505815	-107.725030336	
Begin 4°/100' turn										
5,700.00	90.47	95.340	4,878.25	-177.33	2,332.10	1,892,297.306	2,755,069.869	36.200499963	-107.724946204	
5,800.00	90.48	99.340	4,877.42	-190.10	2,431.26	1,892,284.534	2,755,169.026	36.200464572	-107.724610170	
5,900.00	90.49	103.340	4,876.57	-209.76	2,529.28	1,892,264.876	2,755,267.050	36.200410268	-107.724278002	
6,000.00	90.50	107.340	4,875.70	-236.21	2,625.70	1,892,238.428	2,755,363.464	36.200337314	-107.723951318	
6,100.00	90.50	111.340	4,874.83	-269.32	2,720.03	1,892,205.318	2,755,457.798	36.200246066	-107.723631710	
6,200.00	90.50	115.340	4,873.96	-308.93	2,811.83	1,892,165.709	2,755,549.593	36.200136970	-107.723320735	
6,300.00	90.50	119.340	4,873.08	-354.84	2,900.64	1,892,119.793	2,755,638.400	36.200010556	-107.723019908	
6,400.00	90.50	123.341	4,872.21	-406.84	2,986.02	1,892,067.793	2,755,723.789	36.199867440	-107.722730695	
6,500.00	90.49	127.341	4,871.35	-464.67	3,067.58	1,892,009.963	2,755,805.342	36.199708321	-107.722454506	
6,600.00	90.48	131.341	4,870.50	-528.05	3,144.90	1,891,946.585	2,755,882.662	36.199533972	-107.722192686	
6,691.67	90.47	135.008	4,869.74	-590.76	3,211.74	1,891,883.873	2,755,949.503	36.199361486	-107.721966381	
Begin 90.47° lateral										
6,700.00	90.47	135.008	4,869.67	-596.65	3,217.63	1,891,877.985	2,755,955.390	36.199345291	-107.721946451	
6,800.00	90.47	135.008	4,868.85	-667.37	3,288.32	1,891,807.267	2,756,026.088	36.199150799	-107.721707106	
6,900.00	90.47	135.008	4,868.02	-738.09	3,359.02	1,891,736.549	2,756,096.786	36.198956306	-107.721467761	
7,000.00	90.47	135.008	4,867.20	-808.81	3,429.72	1,891,665.831	2,756,167.485	36.198761813	-107.721228418	
7,100.00	90.47	135.008	4,866.38	-879.52	3,500.42	1,891,595.113	2,756,238.183	36.198567319	-107.720989076	
7,200.00	90.47	135.008	4,865.56	-950.24	3,571.12	1,891,524.395	2,756,308.881	36.198372825	-107.720749735	
7,300.00	90.47	135.008	4,864.73	-1,020.96	3,641.82	1,891,453.677	2,756,379.580	36.198178330	-107.720510395	
7,400.00	90.47	135.008	4,863.91	-1,091.68	3,712.51	1,891,382.959	2,756,450.278	36.197983835	-107.720271056	
7,500.00	90.47	135.008	4,863.09	-1,162.40	3,783.21	1,891,312.241	2,756,520.976	36.197789339	-107.720031719	
7,600.00	90.47	135.008	4,862.26	-1,233.11	3,853.91	1,891,241.523	2,756,591.675	36.197594843	-107.719792383	
7,700.00	90.47	135.008	4,861.44	-1,303.83	3,924.61	1,891,170.805	2,756,662.373	36.197400346	-107.719553048	
7,800.00	90.47	135.008	4,860.62	-1,374.55	3,995.31	1,891,100.088	2,756,733.071	36.197205849	-107.719313714	
7,900.00	90.47	135.008	4,859.79	-1,445.27	4,066.01	1,891,029.370	2,756,803.770	36.197011351	-107.719074381	
8,000.00	90.47	135.008	4,858.97	-1,515.99	4,136.71	1,890,958.652	2,756,874.468	36.196816853	-107.718835051	
8,100.00	90.47	135.008	4,858.15	-1,586.70	4,207.40	1,890,887.934	2,756,945.166	36.196622354	-107.718595720	
8,200.00	90.47	135.008	4,857.33	-1,657.42	4,278.10	1,890,817.216	2,757,015.865	36.196427855	-107.718356391	
8,300.00	90.47	135.008	4,856.50	-1,728.14	4,348.80	1,890,746.498	2,757,086.563	36.196233356	-107.718117063	
8,400.00	90.47	135.008	4,855.68	-1,798.86	4,419.50	1,890,675.780	2,757,157.262	36.196038855	-107.717877736	
8,500.00	90.47	135.008	4,854.86	-1,869.58	4,490.20	1,890,605.062	2,757,227.960	36.195844355	-107.717638411	
8,600.00	90.47	135.008	4,854.03	-1,940.29	4,560.90	1,890,534.344	2,757,298.658	36.195649854	-107.717399086	
8,700.00	90.47	135.008	4,853.21	-2,011.01	4,631.60	1,890,463.626	2,757,369.357	36.195455352	-107.717159763	
8,800.00	90.47	135.008	4,852.39	-2,081.73	4,702.29	1,890,392.908	2,757,440.055	36.195260850	-107.716920441	
8,900.00	90.47	135.008	4,851.57	-2,152.45	4,772.99	1,890,322.190	2,757,510.753	36.195066348	-107.716681120	
9,000.00	90.47	135.008	4,850.74	-2,223.17	4,843.69	1,890,251.472	2,757,581.452	36.194871845	-107.716441801	
9,100.00	90.47	135.008	4,849.92	-2,293.89	4,914.39	1,890,180.754	2,757,652.150	36.194677341	-107.716202482	
9,200.00	90.47	135.008	4,849.10	-2,364.60	4,985.09	1,890,110.036	2,757,722.848	36.194482837	-107.715963165	
9,300.00	90.47	135.008	4,848.27	-2,435.32	5,055.79	1,890,039.318	2,757,793.547	36.194288333	-107.715723849	
9,400.00	90.47	135.008	4,847.45	-2,506.04	5,126.48	1,889,968.601	2,757,864.245	36.194093828	-107.715484534	
9,500.00	90.47	135.008	4,846.63	-2,576.76	5,197.18	1,889,897.883	2,757,934.943	36.193899323	-107.715245220	
9,600.00	90.47	135.008	4,845.81	-2,647.48	5,267.88	1,889,827.165	2,758,005.642	36.193704817	-107.715005908	
9,700.00	90.47	135.008	4,844.98	-2,718.19	5,338.58	1,889,756.447	2,758,076.340	36.193510310	-107.714766596	
9,800.00	90.47	135.008	4,844.16	-2,788.91	5,409.28	1,889,685.729	2,758,147.038	36.193315803	-107.714527286	
9,900.00	90.47	135.008	4,843.34	-2,859.63	5,479.98	1,889,615.011	2,758,217.737	36.193121296	-107.714287977	
10,000.00	90.47	135.008	4,842.51	-2,930.35	5,550.68	1,889,544.293	2,758,288.435	36.192926788	-107.714048669	
10,100.00	90.47	135.008	4,841.69	-3,001.07	5,621.37	1,889,473.575	2,758,359.133	36.192732280	-107.713809363	



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude		Longitude
10,200.00	90.47	135.008	4,840.87	-3,071.78	5,692.07	1,889,402.857	2,758,429.832	36.192537771		-107.713570057
10,300.00	90.47	135.008	4,840.05	-3,142.50	5,762.77	1,889,332.139	2,758,500.530	36.192343262		-107.713330753
10,400.00	90.47	135.008	4,839.22	-3,213.22	5,833.47	1,889,261.421	2,758,571.228	36.192148752		-107.713091450
10,500.00	90.47	135.008	4,838.40	-3,283.94	5,904.17	1,889,190.703	2,758,641.927	36.191954242		-107.712852148
10,600.00	90.47	135.008	4,837.58	-3,354.66	5,974.87	1,889,119.985	2,758,712.625	36.191759731		-107.712612847
10,700.00	90.47	135.008	4,836.75	-3,425.37	6,045.56	1,889,049.267	2,758,783.323	36.191565220		-107.712373548
10,800.00	90.47	135.008	4,835.93	-3,496.09	6,116.26	1,888,978.549	2,758,854.022	36.191370708		-107.712134249
10,900.00	90.47	135.008	4,835.11	-3,566.81	6,186.96	1,888,907.831	2,758,924.720	36.191176196		-107.711894952
11,000.00	90.47	135.008	4,834.28	-3,637.53	6,257.66	1,888,837.113	2,758,995.418	36.190981684		-107.711655656
11,100.00	90.47	135.008	4,833.46	-3,708.25	6,328.36	1,888,766.396	2,759,066.117	36.190787170		-107.711416361
11,200.00	90.47	135.008	4,832.64	-3,778.97	6,399.06	1,888,695.678	2,759,136.815	36.190592657		-107.711177068
11,300.00	90.47	135.008	4,831.82	-3,849.68	6,469.76	1,888,624.960	2,759,207.513	36.190398143		-107.710937775
11,400.00	90.47	135.008	4,830.99	-3,920.40	6,540.45	1,888,554.242	2,759,278.212	36.190203628		-107.710698484
11,500.00	90.47	135.008	4,830.17	-3,991.12	6,611.15	1,888,483.524	2,759,348.910	36.190009113		-107.710459194
11,600.00	90.47	135.008	4,829.35	-4,061.84	6,681.85	1,888,412.806	2,759,419.608	36.189814598		-107.710219905
11,700.00	90.47	135.008	4,828.52	-4,132.56	6,752.55	1,888,342.088	2,759,490.307	36.189620082		-107.709980617
11,800.00	90.47	135.008	4,827.70	-4,203.27	6,823.25	1,888,271.370	2,759,561.005	36.189425565		-107.709741331
11,900.00	90.47	135.008	4,826.88	-4,273.99	6,893.95	1,888,200.652	2,759,631.703	36.189231048		-107.709502046
12,000.00	90.47	135.008	4,826.06	-4,344.71	6,964.65	1,888,129.934	2,759,702.402	36.189036532		-107.709262761
12,100.00	90.47	135.008	4,825.23	-4,415.43	7,035.34	1,888,059.216	2,759,773.100	36.188842014		-107.709023478
12,200.00	90.47	135.008	4,824.41	-4,486.15	7,106.04	1,887,988.498	2,759,843.798	36.188647495		-107.708784197
12,300.00	90.47	135.008	4,823.59	-4,556.86	7,176.74	1,887,917.780	2,759,914.497	36.188452976		-107.708544916
12,400.00	90.47	135.008	4,822.76	-4,627.58	7,247.44	1,887,847.062	2,759,985.195	36.188258457		-107.708305637
12,500.00	90.47	135.008	4,821.94	-4,698.30	7,318.14	1,887,776.344	2,760,055.893	36.188063937		-107.708066358
12,600.00	90.47	135.008	4,821.12	-4,769.02	7,388.84	1,887,705.626	2,760,126.592	36.187869417		-107.707827081
12,700.00	90.47	135.008	4,820.30	-4,839.74	7,459.53	1,887,634.908	2,760,197.290	36.187674896		-107.707587805
12,800.00	90.47	135.008	4,819.47	-4,910.45	7,530.23	1,887,564.191	2,760,267.988	36.187480374		-107.707348531
12,900.00	90.47	135.008	4,818.65	-4,981.17	7,600.93	1,887,493.473	2,760,338.687	36.187285853		-107.707109257
13,000.00	90.47	135.008	4,817.83	-5,051.89	7,671.63	1,887,422.755	2,760,409.385	36.187091330		-107.706869985
13,100.00	90.47	135.008	4,817.00	-5,122.61	7,742.33	1,887,352.037	2,760,480.083	36.186896808		-107.706630714
13,200.00	90.47	135.008	4,816.18	-5,193.33	7,813.03	1,887,281.319	2,760,550.782	36.186702284		-107.706391444
13,300.00	90.47	135.008	4,815.36	-5,264.04	7,883.73	1,887,210.601	2,760,621.480	36.186507761		-107.706152175
13,400.00	90.47	135.008	4,814.54	-5,334.76	7,954.42	1,887,139.883	2,760,692.178	36.186313236		-107.705912908
13,500.00	90.47	135.008	4,813.71	-5,405.48	8,025.12	1,887,069.165	2,760,762.877	36.186118712		-107.705673641
13,600.00	90.47	135.008	4,812.89	-5,476.20	8,095.82	1,886,998.447	2,760,833.575	36.185924187		-107.705434376
13,700.00	90.47	135.008	4,812.07	-5,546.92	8,166.52	1,886,927.729	2,760,904.273	36.185729661		-107.705195112
13,800.00	90.47	135.008	4,811.24	-5,617.64	8,237.22	1,886,857.011	2,760,974.972	36.185535135		-107.704955849
13,900.00	90.47	135.008	4,810.42	-5,688.35	8,307.92	1,886,786.293	2,761,045.670	36.185340608		-107.704716587
14,000.00	90.47	135.008	4,809.60	-5,759.07	8,378.61	1,886,715.575	2,761,116.368	36.185146081		-107.704477327
14,100.00	90.47	135.008	4,808.77	-5,829.79	8,449.31	1,886,644.857	2,761,187.067	36.184951553		-107.704238068
14,200.00	90.47	135.008	4,807.95	-5,900.51	8,520.01	1,886,574.139	2,761,257.765	36.184757025		-107.703998809
14,300.00	90.47	135.008	4,807.13	-5,971.23	8,590.71	1,886,503.421	2,761,328.463	36.184562497		-107.703759553
14,400.00	90.47	135.008	4,806.31	-6,041.94	8,661.41	1,886,432.704	2,761,399.162	36.184367968		-107.703520297
14,500.00	90.47	135.008	4,805.48	-6,112.66	8,732.11	1,886,361.986	2,761,469.860	36.184173438		-107.703281042
14,600.00	90.47	135.008	4,804.66	-6,183.38	8,802.81	1,886,291.268	2,761,540.558	36.183978908		-107.703041789
14,700.00	90.47	135.008	4,803.84	-6,254.10	8,873.50	1,886,220.550	2,761,611.257	36.183784378		-107.702802537
14,800.00	90.47	135.008	4,803.01	-6,324.82	8,944.20	1,886,149.832	2,761,681.955	36.183589847		-107.702563286
14,900.00	90.47	135.008	4,802.19	-6,395.53	9,014.90	1,886,079.114	2,761,752.653	36.183395315		-107.702324036
15,000.00	90.47	135.008	4,801.37	-6,466.25	9,085.60	1,886,008.396	2,761,823.352	36.183200783		-107.702084787
15,100.00	90.47	135.008	4,800.55	-6,536.97	9,156.30	1,885,937.678	2,761,894.050	36.183006251		-107.701845540
15,200.00	90.47	135.008	4,799.72	-6,607.69	9,227.00	1,885,866.960	2,761,964.748	36.182811718		-107.701606293
15,300.00	90.47	135.008	4,798.90	-6,678.41	9,297.70	1,885,796.242	2,762,035.447	36.182617185		-107.701367048
15,400.00	90.47	135.008	4,798.08	-6,749.12	9,368.39	1,885,725.524	2,762,106.145	36.182422651		-107.701127804
15,500.00	90.47	135.008	4,797.25	-6,819.84	9,439.09	1,885,654.806	2,762,176.843	36.182228116		-107.700888562
15,600.00	90.47	135.008	4,796.43	-6,890.56	9,509.79	1,885,584.088	2,762,247.542	36.182033582		-107.700649320



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,700.00	90.47	135.008	4,795.61	-6,961.28	9,580.49	1,885,513.370	2,762,318.240	36.181839046	-107.700410080
15,800.00	90.47	135.008	4,794.79	-7,032.00	9,651.19	1,885,442.652	2,762,388.938	36.181644511	-107.700170841
15,900.00	90.47	135.008	4,793.96	-7,102.72	9,721.89	1,885,371.934	2,762,459.637	36.181449974	-107.699931603
16,000.00	90.47	135.008	4,793.14	-7,173.43	9,792.58	1,885,301.216	2,762,530.335	36.181255437	-107.699692366
16,100.00	90.47	135.008	4,792.32	-7,244.15	9,863.28	1,885,230.499	2,762,601.033	36.181060900	-107.699453130
16,200.00	90.47	135.008	4,791.49	-7,314.87	9,933.98	1,885,159.781	2,762,671.732	36.180866363	-107.699213896
16,300.00	90.47	135.008	4,790.67	-7,385.59	10,004.68	1,885,089.063	2,762,742.430	36.180671824	-107.698974662
16,400.00	90.47	135.008	4,789.85	-7,456.31	10,075.38	1,885,018.345	2,762,813.128	36.180477286	-107.698735430
16,500.00	90.47	135.008	4,789.03	-7,527.02	10,146.08	1,884,947.627	2,762,883.827	36.180282746	-107.698496199
16,600.00	90.47	135.008	4,788.20	-7,597.74	10,216.78	1,884,876.909	2,762,954.525	36.180088207	-107.698256970
16,700.00	90.47	135.008	4,787.38	-7,668.46	10,287.47	1,884,806.191	2,763,025.223	36.179893667	-107.698017741
16,800.00	90.47	135.008	4,786.56	-7,739.18	10,358.17	1,884,735.473	2,763,095.922	36.179699126	-107.697778514
16,900.00	90.47	135.008	4,785.73	-7,809.90	10,428.87	1,884,664.755	2,763,166.620	36.179504585	-107.697539288
17,000.00	90.47	135.008	4,784.91	-7,880.61	10,499.57	1,884,594.037	2,763,237.318	36.179310043	-107.697300063
17,100.00	90.47	135.008	4,784.09	-7,951.33	10,570.27	1,884,523.319	2,763,308.017	36.179115501	-107.697060839
17,200.00	90.47	135.008	4,783.26	-8,022.05	10,640.97	1,884,452.601	2,763,378.715	36.178920959	-107.696821616
17,300.00	90.47	135.008	4,782.44	-8,092.77	10,711.66	1,884,381.883	2,763,449.413	36.178726416	-107.696582395
17,353.67	90.47	135.008	4,782.00	-8,130.72	10,749.61	1,884,343.927	2,763,487.359	36.178622000	-107.696454000
PBHL/TD 17353.67 MD 4782.00 TVD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Rodeo 506 LTP 926 FSL - plan hits target center - Point	0.00	0.000	4,782.00	-8,130.72	10,749.61	1,884,343.927	2,763,487.359	36.178622000	-107.696454000
Rodeo 506 FTP 2362 FTL - plan misses target center by 0.57ft at 7073.31ft MD (4866.60 TVD, -860.65 N, 3481.55 E) - Point	0.00	0.000	4,867.00	-860.37	3,481.83	1,891,614.268	2,756,219.596	36.198620000	-107.721052000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,003.52	2,824.00	9 5/8" Csg	9-5/8	12-1/4	





## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Rodeo Unit #506H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6883+28 @ 6911.00ft (Ensign 773)
<b>Site:</b>	Rodeo Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Rodeo Unit #506H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
571.00	571.00	Ojo Alamo				
657.00	657.00	Kirtland				
861.00	861.00	Fruitland				
1,168.22	1,168.00	Pictured Cliffs				
1,328.62	1,327.00	Lewis				
1,595.61	1,586.00	Chacra_A				
2,809.53	2,656.00	Cliff House_Basal				
2,830.31	2,674.00	Menefee				
3,954.99	3,648.00	Point Lookout				
4,146.67	3,814.00	Mancos				
4,521.95	4,139.00	MNCS_A				
4,620.10	4,224.00	MNCS_B				
4,735.57	4,324.00	MNCS_C				
4,792.15	4,373.00	MNCS_Cms				
4,929.56	4,492.00	MNCS_D				
5,108.03	4,642.00	MNCS_E				
5,186.94	4,699.00	MNCS_F				
5,316.95	4,775.00	MNCS_G				
5,430.52	4,829.00	MNCS_H				
5,555.50	4,867.00	MNCS_I		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
2,000.00	1,954.93	-19.38	255.14	Begin 30.00° tangent	
5,010.39	4,562.00	-133.36	1,756.01	Begin 10°/100' build/turn	
5,310.39	4,771.72	-149.24	1,965.12	Begin 60.00° tangent	
5,370.39	4,801.72	-153.18	2,016.94	Begin 10°/000' build	
5,675.09	4,878.46	-175.23	2,307.28	Begin 4°/100' turn	
6,691.67	4,869.74	-590.76	3,211.74	Begin 90.47° lateral	
17,353.67	4,782.00	-8,130.72	10,749.61	PBHL/TD 17353.67 MD 4782.00 TVD	

**District I**

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**District II**

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**District III**

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**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 264786

**CONDITIONS**

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID:
	372286
	Action Number:
	264786
Action Type:	
[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

**CONDITIONS**

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	9/15/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/15/2023
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	9/15/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	9/15/2023
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	9/15/2023
ward.rikala	The perpendicular distance from the lease line(s) needs to be 330' set back thus can not perforate closer than the 330' set back distance regarding the SWSW Section 29-T23N-R8W.	9/19/2023