

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.  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[321239]</div>	
2. Name of Operator <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[372286]</div>		9. API Well No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">30-045-38172</div>	
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  11. Sec., T. R. M. or Blk. and Survey or Area	
14. Distance in miles and direction from nearest town or post office*		12. County or Parish	
13. State		15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	
16. No of acres in lease		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)  <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;">           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).         </div> <div style="width: 48%;">           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.         </div> </div>			
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Office	
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.			

NGMP Rec 05/26/2022

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(Continued on page 2)



Approval Date: 05/25/2022

KZ  
05/26/2022

\*(Instructions on page 2)

## 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: NENW / 181 FNL / 2417 FWL / TWSP: 23N / RANGE: 9W / SECTION: 28 / LAT: 36.204663 / LONG: -107.794869 ( TVD: 0 feet, MD: 0 feet )  
PPP: SESE / 0 FSL / 800 FEL / TWSP: 23N / RANGE: 9W / SECTION: 17 / LAT: 36.211146 / LONG: -107.795099 ( TVD: 4500 feet, MD: 6500 feet )  
PPP: NENE / 0 FNL / 800 FEL / TWSP: 23N / RANGE: 9W / SECTION: 20 / LAT: 36.211146 / LONG: -107.795099 ( TVD: 4500 feet, MD: 6500 feet )  
PPP: NENE / 660 FNL / 0 FEL / TWSP: 23N / RANGE: 9W / SECTION: 20 / LAT: 36.211146 / LONG: -107.795099 ( TVD: 4500 feet, MD: 5400 feet )  
PPP: NWNW / 660 FNL / 0 FWL / TWSP: 23N / RANGE: 9W / SECTION: 21 / LAT: 36.211146 / LONG: -107.795099 ( TVD: 4500 feet, MD: 5400 feet )  
PPP: NESW / 2179 FSL / 2302 FWL / TWSP: 23N / RANGE: 9W / SECTION: 21 / LAT: 36.211146 / LONG: -107.795099 ( TVD: 4444 feet, MD: 5373 feet )  
BHL: SESE / 258 FSL / 890 FEL / TWSP: 23N / RANGE: 9W / SECTION: 17 / LAT: 36.220139 / LONG: -107.80631 ( TVD: 4474 feet, MD: 9734 feet )

### BLM Point of Contact

Name: RYAN JOYNER  
Title: Physical Scientist  
Phone: (970) 385-1242  
Email: rjoyner@blm.gov

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### **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.

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**Project Title:** Kimbeto Wash Unit #795H

**Applicant:** Enduring Resources, LLC.

**DNA Number:** DOI-BLM-NM-F010-2019-0088-DNA

**Case File/Project Number:** NMNM135255A

**Location/Legal Description:** New Mexico Principal Meridian, Rio Arriba County, New Mexico, T.23N., R.9W., sec.28.

### **Conditions of Approval, Design Features, and Best Management Practices**

Enduring Resources, LLC would adhere to the following Conditions of Approval (COAs) and follow the general design features and best management practices (BMPs).

#### **Control of Waste**

- Drilling of the horizontal laterals would be accomplished with water-based mud. All cuttings would be placed in roll-off bins and hauled to a commercial disposal facility or land farm. No blow pit would be used.
- The closed-loop system storage tanks would be sized to ensure confinement of all fluids and would provide sufficient freeboard to prevent uncontrolled releases.
- Drilling fluids would be stored on-site in aboveground storage tanks. Upon termination of drilling operations, the drilling fluids would be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. All residual fluids would be hauled to a commercial disposal facility.
- Any spills of non-freshwater fluids would be immediately cleaned up and removed to an approved disposal site.
- Portable toilets would be provided and maintained during construction, as needed.
- Garbage, trash, and other waste materials would be collected in a portable, self-contained, and fully enclosed trash container during drilling and completion operations. The accumulated trash would be removed, as needed, and would be disposed of at an authorized sanitary landfill. No trash would be buried or burned on location.

- Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash container would be cleaned up and removed from the well location.
- No chemicals subject to reporting under the 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 annually in association with the drilling, testing, or completing 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 in association with the drilling, testing, or completing of these wells.
- Berms would be constructed around all storage facilities sufficient in size to contain the storage capacity of tanks. Berm walls would be compacted with appropriate equipment to assure containment.

### **Protection of Paleontological Resources**

- If a paleontological site is discovered, the BLM would be notified and the site would be avoided by personnel, personal vehicles, and company equipment. Workers would be informed that it is illegal to collect, damage, or disturb some such resources, and that such activities are punishable by criminal and/or administrative penalties.
- Any paleontological resource discovery by the Holder, or any person working on his behalf on public or Federal land, shall be immediately reported to the Authorized Officer. The Holder shall suspend all operations in the immediate area of such discovery until given written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery would be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant scientific values. The Holder would be responsible for the cost of the evaluation. The results of further investigation would dictate site specific stipulations for avoidance or salvage of any potentially significant paleontological resources. Any decision as to proper mitigation measures would be made by the Authorized Officer, after consultation with the Holder.

### **Protection of Cultural Resources**

- All cultural resources stipulations would be followed as indicated in the BLM Cultural Resource Records of Review and the BIA-NNHPD Cultural Resources Compliance Form, attached to the COA in the APD/ROW as the case may be. These stipulations may include, but are not limited to temporary or permanent fencing or other physical barriers, monitoring of earth disturbing construction, project area

reduction and/or specific construction avoidance zones, and employee education. All employees, contractors, and sub-contractors of the project would be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities on Federal and Tribal lands are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm). In the event of a cultural resources discovery during construction, the project proponent would immediately stop all construction activities in the immediate vicinity of the discovery and immediately notify the archaeological monitor, if present, or the BLM and/or the BIA-NNHPD. The BLM and/or the BIA-NNHPD would then evaluate or cause the site to be evaluated. Should a discovery be evaluated as significant (e.g., National Register, NAGPRA, ARPA), it would be protected in place until mitigating measures can be developed and implemented according to guidelines set by the BLM and/or the BIA-NNHPD.

#### **Protection of Flora and Fauna, including SSS and Livestock**

- A preconstruction survey for Clover's cactus is required prior to any new ground-disturbing activities. Any Clover's cactus found within or in close proximity of the PPA will be transplanted under the direction of the BLM/FFO. Clover's cactus surveys must be conducted between April 1 and September 30. An approved horticulturist may be required to oversee the transplant operation.
- Vegetation removed during construction, including trees that measure less than 3 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 3 inches in diameter or greater (at ground level) would be cut to ground level and de-limbed. Tree trunks (left whole) and cut limbs would be stacked. The subsurface portion of trees (tree stumps) would be hauled to an approved disposal facility.
- A migratory bird nest survey would be conducted if any vegetation-disturbing activities would occur between May 15 and July 31. The survey must be conducted by a BLM-approved biologist using a survey protocol developed and provided by the BLM/FFO. If active nests are located within the proposed permitted area, project activities would not be permitted without written approval by a BLM/FFO biologist.
- Scraping, proper storing and re-spreading of the top 6 inches of top soil (if available) within Clover's cactus habitat would take place to preserve the seed bank.

- Should any active raptor nests be observed within one-third mile of the proposed project area or should any SSS (listed by the USFWS or BLM) be observed within the proposed project area prior to or during project implementation, construction would cease and the BLM-FFO would be immediately contacted. The BLM-FFO would then ensure evaluation of the resource. Should a discovery be evaluated as significant (protected under the ESA, etc.), it would be protected in place until mitigation could be developed and implemented according to guidelines set by the BLM.

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

- Grazing permittees would be notified when construction is scheduled to begin. All hazards to livestock would be fenced or contained.

- All existing improvements (such as fences, gates, and bar ditches) would be repaired to previous or better than pre-construction conditions.

- Backfilling operations would be performed within a reasonable amount of time to ensure that the trenches are not left open for more than 24 hours. If a trench is left open overnight, it would be temporarily fenced or a night watchman would be utilized. The excavated soils would be returned to the trenches, atop the pipe, and compacted to prevent subsidence. The trenches would be compacted after approximately 2 feet of fill is placed over the pipe and after the ground surface has been leveled.

- Escape ramps/crossovers would be constructed every 1,320 feet. The ends of the open trench would be sloped each night with a 4:1 slope.

- Established livestock and wildlife trails would be left in place as crossovers. In areas where active grazing is taking place, escape ramps/crossovers would be placed every 500 feet. Crossovers would be a minimum of 10 feet wide and not fenced.

- The end of the pipe would be plugged to prevent animals from crawling in.

- Before the trench is closed, it would be inspected for animals. Any trapped wildlife or livestock would be promptly removed and released at least 150 yards from the trench.

- Production equipment would be placed on location in such a manner to minimize long-term disturbance and maximize interim reclamation. As practical, access would be provided by a teardrop-shaped road through the production area so that the center may be revegetated.



**Protection of Topsoil**

- The upper 6 inches of topsoil (if available) would be stripped following vegetation and site clearing. Topsoil would not be mixed with the underlying subsoil horizons and would be stockpiled as a berm along the perimeter of the well pad within the construction zone, separate from subsoil or other excavated material.
- Topsoil and sub-surface soils would be replaced in the proper order, prior to final seedbed preparation. Spreading 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.

**Protection of the Public**

- The hauling of equipment and materials on public roads would comply with Department of Transportation regulations. No toxic substances would be stored or used within the proposed project area. Enduring would have inspectors present during construction. Any accidents involving persons or property would immediately be reported to the BLM-FFO. Enduring would notify the public of potential hazards by posting signage, as necessary.

**Prevention and Control of Weeds**

- A pre disturbance noxious weed inventory shall be conducted on all surface disturbing projects to determine the presence of noxious weeds prior to beginning the project, and to determine whether treatment is needed prior to disturbance. If noxious weeds are found a report would be provided to the BLM Weed Coordinator including: - A GPS location recorded in North American Datum 1983 - Species - Size of infestation (estimate of square feet or acres)
- Prior to construction equipment entering the proposed project area, construction equipment would be inspected for noxious weeds and cleaned.
- It would be Enduring's responsibility to monitor, control, and eradicate all invasive, non-native plant species within the proposed project area throughout the life of the project. Enduring would provide a Weed Management Plan as part of their Surface Use Plan of Operation and may utilize appropriate integrated pest management practices. Enduring would be required to submit a current Pesticide Use Proposal for the location prior to any pesticide application. Enduring's weed-control contractor must carry

a current pesticide applicator' license and only use pesticides authorized for use on BLM-managed lands. The use of pesticides would comply with federal and state laws and used in accordance with their registered use and limitations. Enduring's weed-control contractor would contact the BLM-FFO prior to using these chemicals.

### **Protection of Air Resources**

• The BLM's regulatory jurisdiction over field production operations has resulted in the development of BMPs designed to reduce impacts to air quality by reducing all emissions from field production and operations. Typical measures could include flaring hydrocarbons and gases at high temperatures in order to reduce emissions of incomplete combustion, requiring that vapor recovery systems be maintained and functional in areas where petroleum liquids are stored, ensuring that compressor engines 300 horsepower or less have nitrogen oxide (NOx) emissions limited to 2 grams per horsepower hour, revegetating areas not required for production facilities to reduce the amount of dust, and watering dirt roads during periods of high use in order to reduce fugitive dust emissions. Magnesium chloride, organic-based compounds, or polymer compounds could also be applied to roads or other surfaces to reduce fugitive dust. Neither petroleum-based products nor produced water would be used.

• BMPs for dust abatement and erosion control would be utilized to reduce fugitive dust for the life of the project, as necessary. Water application, using a rear-spraying truck or other suitable means, would be the primary method of dust suppression along the road.

### **Additional Design Features and BMPs**

• The access road would be designed and constructed as a Resource Road in accordance with the BLM Gold Book Standards (BLM and USFS 2007) and BLM 9113-1 (Roads Design Handbook) and BLM 9113-2 (Roads National Inventory and Condition Assessment Guidance and Instructions Handbook). Construction would include ditching, draining, installing culverts, crowning and capping or sloping and dipping the roadbed, as necessary, to provide a well-constructed and safe road.

• Production facilities would be painted Juniper Green to blend with the natural color of the landscape and would be located to reasonably minimize visual impact, to the extent practical. Equipment subject to safety considerations would not be painted.

• Vehicles would be restricted to proposed disturbance areas and existing areas of surface disturbance, such as existing roads and well pad.

- No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. If equipment would create ruts deeper than six inches, the soil would be deemed too wet for construction or maintenance.
- Worker safety incidents would be reported to the BLM-FFO as required under Notice to Lessees (NTL) -3A (USGS 1979). Enduring would adhere to company safety policies, Occupational Safety and Health Administration regulations, and Department of Transportation regulations.
- A temporary lay-flat line would be authorized to move water for completion activities. The lay-flat will reduce the amount of truck traffic to move water. The lay-flat line will be authorized for no more than 60 days from the date of installation or deployment. Request for an extension of the 60-day authorization, would require a sundry application be submitted to the BLM-FFO including justification for the request.



## United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Farmington District Office  
6251 College Blvd. Suite A  
Farmington, New Mexico 87402  
[www.blm.gov/nm](http://www.blm.gov/nm)



In Reply Refer To:  
3162.3-1(NMF0110)

\* Enduring Resources LLC  
#795H Kimbeto Wash Unit  
Lease: NMNM136267 Unit: NMNM135255A  
SH: NE $\frac{1}{4}$ NW $\frac{1}{4}$  Section 28, T. 23 N., R. 9 W.  
BH: SE $\frac{1}{4}$ SE $\frac{1}{4}$  Section 17, T. 23 N., R. 9 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 the surface casing to a minimum of \_\_\_\_\_ psi for 30 minutes.
- D. ☐ Test all casing strings below the surface 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.
- E. ☐ 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.
- F. ☐ 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.

## **I. GENERAL**

- A. Full compliance with all applicable laws, regulations, and Onshore Orders, 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 (Form 3160-4) 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. 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 (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **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 at Virgil Lucero at 505-793-1836.**
- G. **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.**
- H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two years extension may be granted if submitted prior to expiration.
- I. 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 time, unless the well is secured with blowout preventers or cement plugs.
- J. 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.

## **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. Original and three copies on Federal and an Original and five copies on Indian leases of Sundry Notice (Form 3150-5), giving 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 any and 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 manner in which 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 (Form 3160-4) 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.

## **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 in order 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.

#### **VII. PHONE NUMBERS**

- A. For BOPE tests, cementing, and plugging operations the phone number is 505-564-7750 and must be called 24 hours in advance in order that a BLM representative may witness the operations.
- B. Emergency program changes after hours contact:

**Virgil Lucero (505) 793-1836**



District I  
6127 E. 2nd St., Suite 400  
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

Submit one copy to  
Appropriate District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-045-38172</b>	<sup>2</sup> Pool Code 97232	<sup>3</sup> Pool Name BASIN MANCOS
<sup>4</sup> Property Code 321239	<sup>5</sup> Property Name KIMBETO WASH UNIT	<sup>6</sup> Well Number 795H
<sup>7</sup> GRID No. 372286	<sup>8</sup> Operator Name ENDURING RESOURCES, LLC	<sup>9</sup> Elevation 6534'

<sup>10</sup> Surface Location

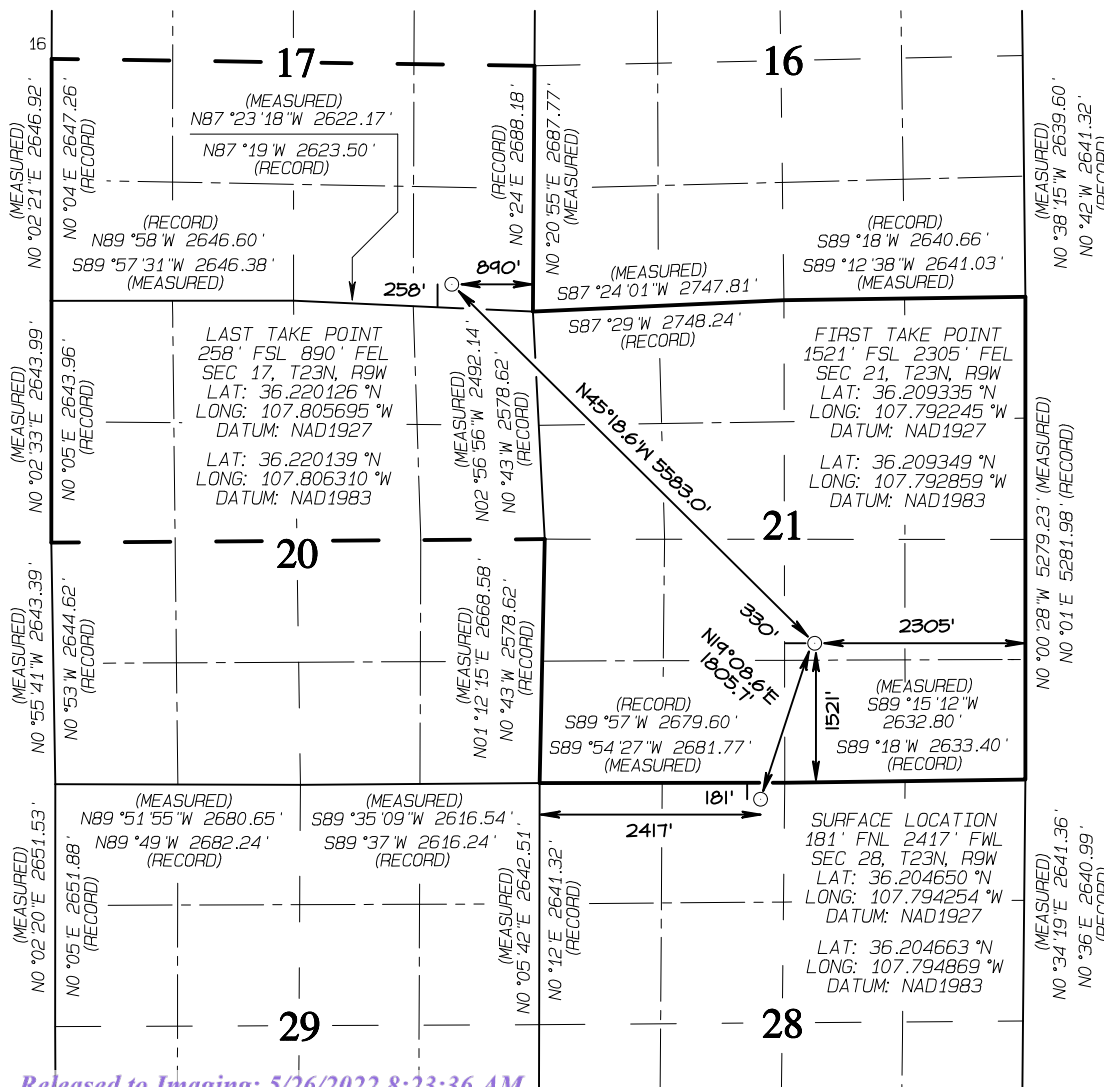
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	28	23N	9W		181	NORTH	2417	WEST	SAN JUAN

<sup>11</sup> 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	17	23N	9W		258	SOUTH	890	EAST	SAN JUAN

<sup>12</sup> Dedicated Acres 1280.00	S/2 - Section 17 N/2 - Section 20 Entire Section 21	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. R-14084
--	---	-------------------------------	----------------------------------	------------------------------------

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



**<sup>17</sup> 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.

Khem Suthiwan 1/11/2022  
Signature Date

Khem Suthiwan  
Printed Name

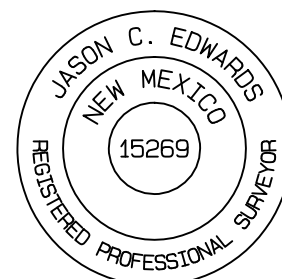
ksuthiwan@henduringresources.com  
E-mail Address

**<sup>18</sup> 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: DECEMBER 22, 2021  
Survey Date: OCTOBER 2, 2015

Signature and Seal of Professional Surveyor



**JASON C. EDWARDS**  
Certificate Number 15269



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:** 05/25/2022

**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
Kimbeto Wash Unit #772H	30-045-35825	Sec. 28, T23N, R9W	UL:C SHL:181' FNL & 2397' FWL	600	900	1,200
Kimbeto Wash Unit #774H	30-045-35823	Sec. 28, T23N, R9W	UL:C SHL:181' FNL & 2337' FWL	600	900	1,200
Kimbeto Wash Unit #793H	30-045-35822	Sec. 28, T23N, R9W	UL:C SHL:181' FNL & 2357' FWL	600	900	1,200
Kimbeto Wash Unit #794H	30-045-35821	Sec. 28, T23N, R9W	UL:C SHL:181' FNL & 2377' FWL	600	900	1,200
Kimbeto Wash Unit #795H	pending 30-045-38172	Sec. 28, T23N, R9W	pending	600	900	1,200

**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
Kimbeto Wash Unit #772H	30-045-35825	3/25/2022	3/27/2022	7/16/2022*	9/13/2022*	9/13/2022*
Kimbeto Wash Unit #774H	30-045-35823	3/21/2022	3/22/2022	7/16/2022*	9/13/2022*	9/13/2022*
Kimbeto Wash Unit #793H	30-045-35822	3/22/2022	3/24/2022	7/16/2022*	9/13/2022*	9/13/2022*
Kimbeto Wash Unit #794H	30-045-35821	3/27/2022	3/29/2022	7/16/2022*	9/13/2022*	9/13/2022*
Kimbeto wash Unit #795H	pending 30-045-38172	5/30/2022*	pending	7/16/2022*	9/13/2022*	9/13/2022*

\*Estimated dates

**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: Khem Suthiwan
Title: Regulatory Manager
E-mail Address: ksuthiwan@enduringresources.com
Date: May 25, 2022
Phone: (303) 350-5721
<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 80211**

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

**WELL INFORMATION:**

**Name:** KIMBETO WASH UNIT 795H

**API Number:** not yet assigned

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,534 ft ASL (GL)

6,562 ft ASL (KB)

**Surface Location:** 28-23N-09W Sec-Twn-Rng

181 ft FNL

2,417 ft FWL

36.204663 ° N latitude

107.794869 ° W longitude

(NAD 83)

**BH Location:** 17-23N-09W Sec-Twn-Rng

258 ft FSL

890 ft FEL

36.220139 ° N latitude

107.80631 ° 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 113.4; Right (SW) on CR 7890 for 0.8 miles to fork; Left (S) remaining on 7890 for 1.3 miles to 4-way intersection; Left (SE) on 7890 for 0.6 miles to fork; Right (SW) remaining on 7890 for 0.5 miles; Right (W) on access road for W Lybrook Unit 720H location for 0.6 miles to fork; Left (W) on access road for W Lybrook Unit 726H location for 0.7 miles to fork; Left (W) on access road for W Lybrook Unit 730H location for 1.9 miles; Right (N) on access road for 0.4 miles to Kimbeto Wash Unit 736H Pad (Wells: KWU 772H, 774H, 793H, 794H, 795H).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<b>Prognosis:</b>	<b>Formation Tops</b>	<b>TVD (ft ASL)</b>	<b>TVD (ft KB)</b>	<b>MD (ft KB)</b>	<b>O / G / W</b>	<b>Pressure</b>
	Ojo Alamo	6,450	112	112	W	normal
	Kirtland	6,390	172	172	W	normal
	Fruitland	6,110	452	452	G, W	sub
	Pictured Cliffs	5,770	792	792	G, W	sub
	Lewis	5,660	902	902	G, W	normal
	Chacra	5,420	1,142	1,144	G, W	normal
	Cliff House	4,400	2,162	2,259	G, W	sub
	Menefee	4,380	2,182	2,282	G, W	normal
	Point Lookout	3,389	3,173	3,400	G, W	normal
	Mancos	3,239	3,323	3,570	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,909	3,653	3,943	O,G	sub (~0.38)
	MNCS_B	2,786	3,776	4,082	O,G	sub (~0.38)
	MNCS_C	2,717	3,845	4,160	O,G	sub (~0.38)
	MNCS_Cms	2,674	3,888	4,208	O,G	sub (~0.38)
	MNCS_D	2,550	4,012	4,352	O,G	sub (~0.38)
	MNCS_E	2,398	4,164	4,544	O,G	sub (~0.38)
	MNCS_F	2,343	4,219	4,626	O,G	sub (~0.38)
	MNCS_G	2,275	4,287	4,747	O,G	sub (~0.38)
	MNCS_H	2,232	4,330	4,836	O,G	sub (~0.38)
	MNCS_I	2,176	4,386	5,009	O,G	sub (~0.38)
	<b>FTP TARGET</b>	<b>2,163</b>	<b>4,399</b>	<b>5,134</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>PROJECTED LTP</b>	<b>2,127</b>	<b>4,435</b>	<b>10,717</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:**

**1,910 psi**

Maximum anticipated surface pressure, assuming partially evacuated hole: 940 psi

Temperature: Maximum anticipated BHT is 125° 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; gas detection from drill out of 13-3/8" casing to TD; remote geo-steering from drill out of 9-5/8" casing to TD.

**MWD / LWD:** MWD surveys with inclination and azimuth in 100' stations (minimum) from drill out of 13-3/8" casing to TD; Gamma Ray from drill out of 9-5/8" casing to TD; Gamma Ray optional in 12-1/4" intermediate hole

**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.:** 773

**Draw Works:** Pacific Rim 1500AC

**Mast:** ADR 1500S Cantilever Triple (142 ft, 800,000 lbs, 12 lines)

**Top Drive:** Tesco 500-ESI-1350 (500 ton, 1,350 hp)

**Prime Movers:** 3 - CAT 3512 (1,475 hp)

**Pumps:** 3 - Gardner-Denver PZ11 (7,500 psi)

**BOPE 1:** Cameron single gate ram & double gate ram (13-5/8", 10,000 psi)

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

**Choke** 3", 10,000 psi

**KB-GL (ft):** 28

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

## 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.
- 2) 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.
- 3) 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.
- 4) 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.
- 5) Manual locking devices (hand wheels) shall be installed 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 additional details. Sufficient barite will be on location to weight up mud system to balance maximum anticipated 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	499	116,634	116,634
Min. S.F.					7.39	5.47	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 Details:** 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	2,394 ft (MD)	Hole Section Length:	2,044 ft
350 ft (TVD)	to	2,282 ft (TVD)	Casing Required:	2,394 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	No OBM

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD surveys with inclination and azimuth in 100' stations (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					997	1,071	175,157	175,157
Min. S.F.					2.03	3.29	3.22	2.59

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: 3,900 Optimum: 5,200 Maximum: 6,500

Casing Point: Target casing point is 100' TVD below the Menefee top

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

Centralizers: 1 per joint in non-vertical hole; 1 per 2-joints in vertical hole

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	471
Tail	Type III	14.6	1.380	6.64	20%	1,894	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 &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.

2,394 ft (MD)	to	10,717 ft (MD)	Hole Section Length:	8,323 ft
2,282 ft (TVD)	to	4,435 ft (TVD)	Casing Required:	10,717 ft

Estimated KOP:	4,208 ft (MD)	3,888 ft (TVD)
Estimated Landing Point (FTP):	5,134 ft (MD)	4,399 ft (TVD)
Estimated Lateral Length:	5,583 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (FW)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	OBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD surveys with inclination and azimuth in 100' stations (minimum) before KOP, every joint from KOP to POE, every 100' (minimum) from POE to TD; Gamma Ray from drill out of 9-5/8" shoe to TD

Logging: MWD Gamma Ray 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)
<i>Specs</i>	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
<i>Loading</i>					2,191	8,915	307,213	307,213
<i>Min. S.F.</i>					<b>3.41</b>	<b>1.19</b>	<b>1.78</b>	<b>1.45</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: 3,400 Optimum: 4,530 Maximum: 5,660

**Casing Details:** Float shoe, float collar, 2 jts casing, float collar, 20' marker jt, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub at KOP, casing to surface. The toe-initiation sleeve (last-take-point) cannot be placed closer than 330' to the unit boundary when measured perpendicular to the well path.

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

**Lateral:** 1 centralizer per joint

**POE to KOP:** 1 centralizer per joint from landing point to KOP

**KOP to surface:** 1 centralizer per 2 joints from KOP to 9-5/8" shoe, 1 per 3 joints from 9-5/8" shoe to surface

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
<i>Lead</i>	Type III	12.4	2.360	13.40	50%	0	520
<i>Tail</i>	G:POZ blend	13.3	1.560	7.70	10%	3,570	1,155

**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 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. RDMO Drilling Rig.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 25 plug-and-perf stages with 175,000 bbls slickwater fluid and 11,000,000 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:** 4/1/2022

**Completion:** 6/1/2022

**Production:** 7/15/2022

**Prepared by:** Alec Bridge 5/6/2019

**Updated by:** Alec Bridge 1/4/2022 - updated drilling prog & directional plan for new well dimensions & development plan



Well: Kimbeto Wash Unit 795H  
Site: Kimbeto Wash Unit  
Project: San Juan County, New Mexico NAD83 NM W  
Design: rev0  
Rig:

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Kimbeto 795 FTP 1521 FSL 2305 FEL	4399.00	1706.04	592.28	1895503.160	2735031.742	36.209349000	-107.792859000
Kimbeto 795 LTP 258 FSL 890 FEL	4435.00	5632.45	-3376.91	1899429.564	2731062.554	36.220139000	-107.806310000



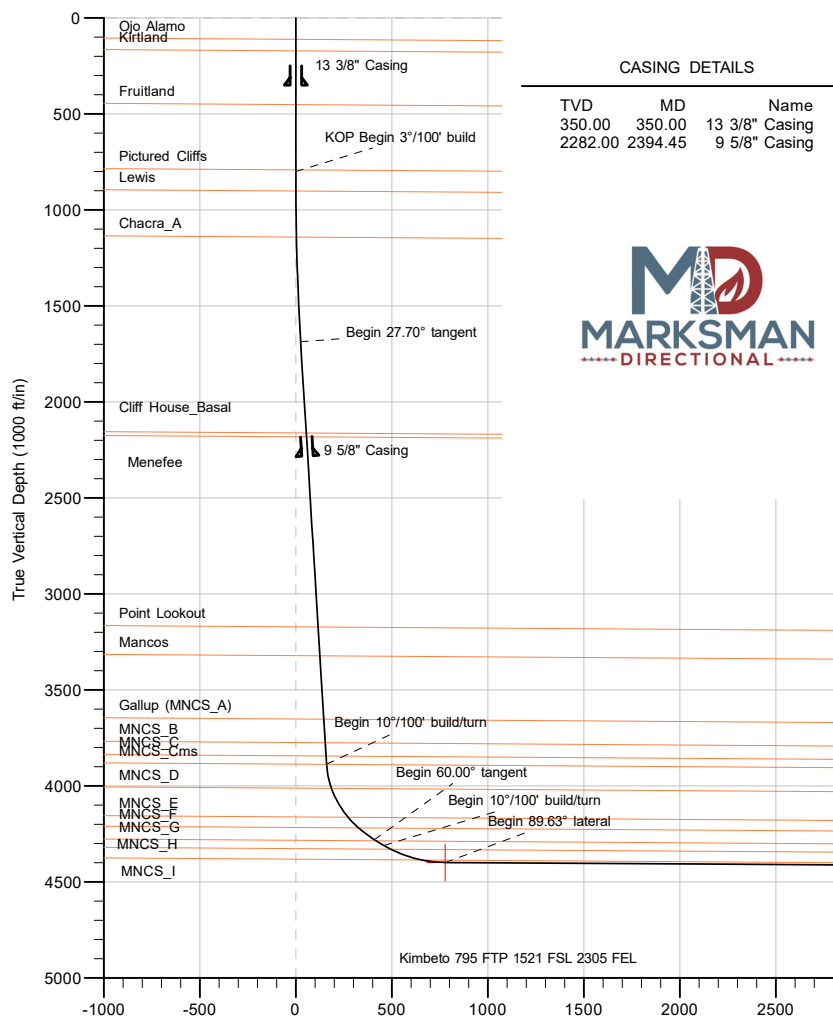
Azimuths to Grid North  
True North: -0.02°  
Magnetic North: 8.74°  
  
Magnetic Field  
Strength: 49235.7nT  
Dip Angle: 62.72°  
Date: 12/28/2021  
Model: IGRF2020

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=6534+28 @ 6562.00ft  
Surface location:  
Northing 1893797.120 Easting 2734439.462 Latitude 36.204663000 Longitude -107.794869000

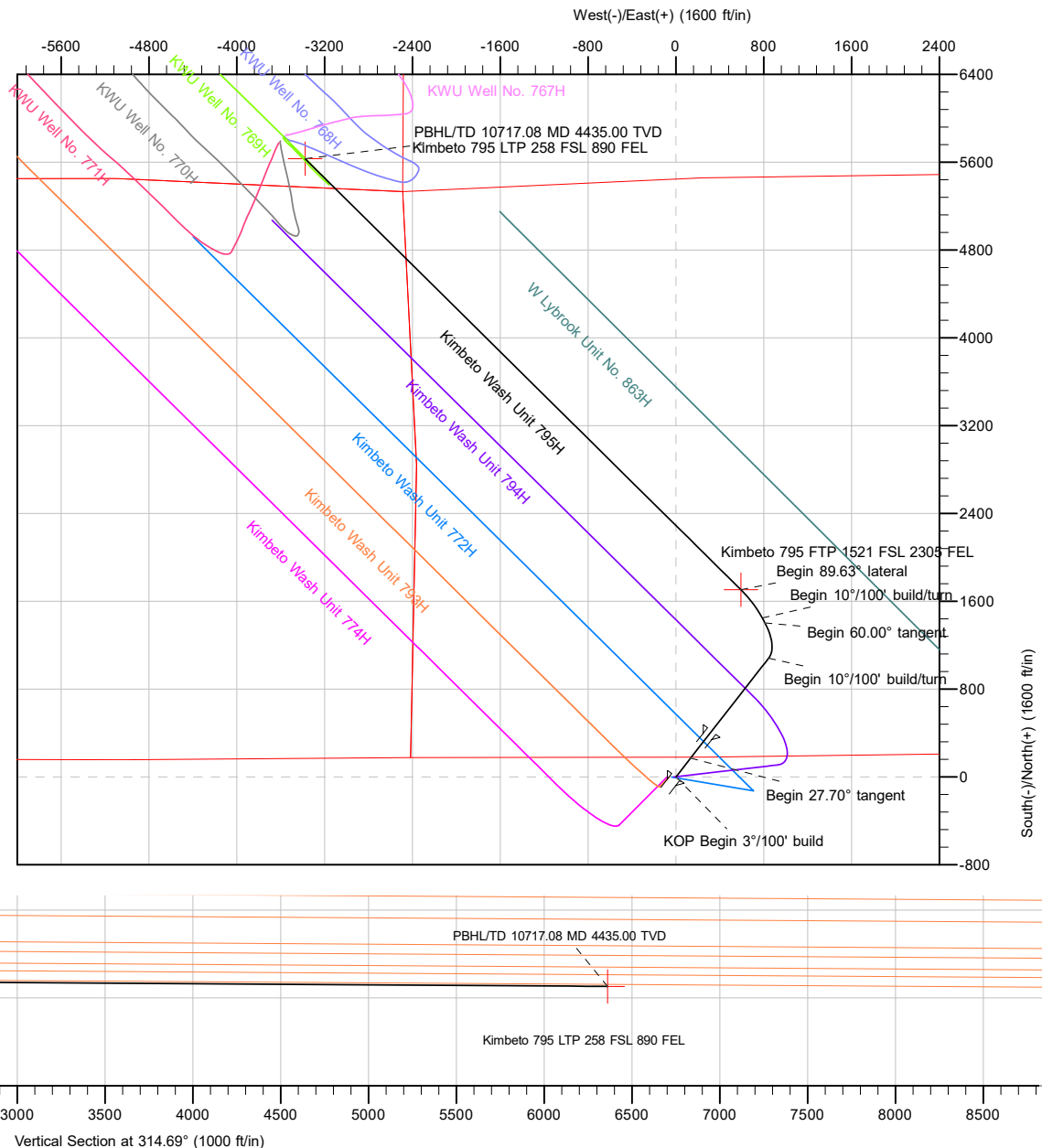
Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.744°

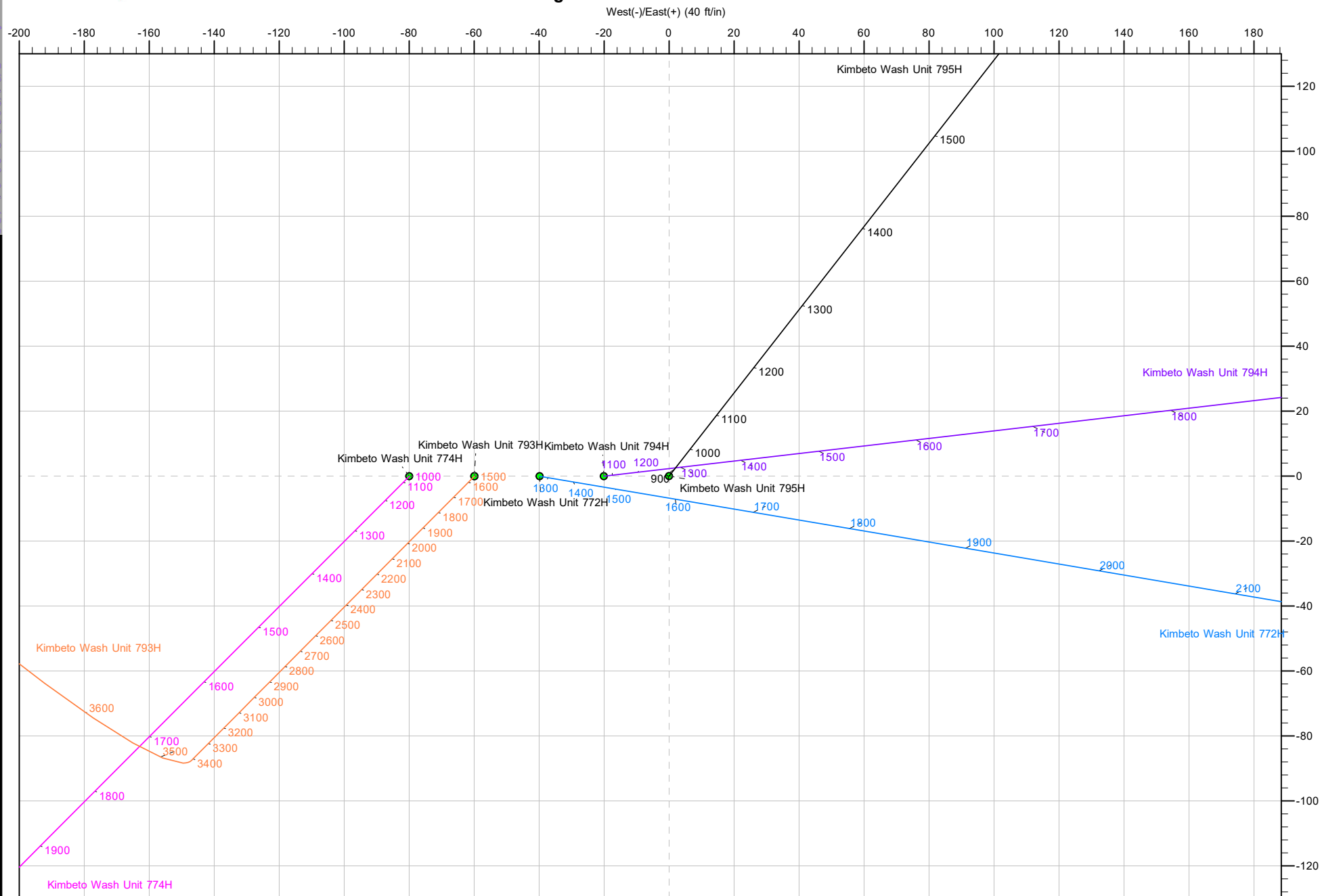
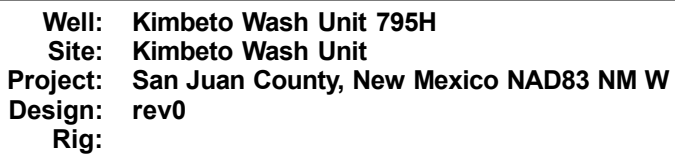
CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Casing
2282.00	2394.45	9 5/8" Casing



Section Details										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.000	0.00	KOP Begin 3"/100' build
3	1723.26	27.70	37.99	1687.71	172.48	134.70	3.00	37.989	25.54	Begin 27.70° tangent
4	4208.21	27.70	37.99	3887.93	1082.79	845.62	0.00	0.000	160.32	Begin 10°/100' build/turn
5	4734.47	60.00	332.08	4280.46	1403.40	811.79	10.00	-84.179	409.85	Begin 60.00° tangent
6	4794.47	60.00	332.08	4310.46	1449.31	787.46	0.00	0.000	459.43	Begin 10°/100' build/turn
7	5133.85	89.63	314.69	4399.00	1706.04	592.28	10.00	-32.367	778.75	Begin 89.63° lateral
8	10717.08	89.63	314.69	4435.00	5632.45	-3376.91	0.00	0.000	6361.86	PBHL/TD 10717.08 MD 4435.00 TVD







## Planning Report

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

<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	Kimbeto Wash Unit				
Site Position:		Northing:	1,899,650.113 usft	Latitude:	36.220745000
From:	Lat/Long	Easting:	2,730,890.825 usft	Longitude:	-107.806892000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Kimbeto Wash Unit 795H, Surf loc: 181 FNL 2417 FWL Section 28-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,893,797.120 usft	Latitude:	36.204663000
	+E/-W	0.00 ft	Easting:	2,734,439.462 usft	Longitude:	-107.794869000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,534.00 ft
Grid Convergence:		0.023 °				

<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	12/28/2021	8.767	62.717	49,235.69930940

<b>Design</b>	rev0				
<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	314.69	

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/28/2021			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	10,717.07	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,723.26	27.70	37.99	1,687.71	172.48	134.70	3.00	3.00	0.00	37.989	
4,208.21	27.70	37.99	3,887.93	1,082.79	845.62	0.00	0.00	0.00	0.000	
4,734.47	60.00	332.08	4,280.46	1,403.40	811.79	10.00	6.14	-12.52	-84.179	
4,794.47	60.00	332.08	4,310.46	1,449.31	787.46	0.00	0.00	0.00	0.000	
5,133.85	89.63	314.69	4,399.00	1,706.04	592.28	10.00	8.73	-5.12	-32.367	
10,717.08	89.63	314.69	4,435.00	5,632.45	-3,376.91	0.00	0.00	0.00	0.000	Kimbeto 795 LTP 258



## Planning Report

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
112.00	0.00	0.00	112.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Ojo Alamo</b>									
172.00	0.00	0.00	172.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Kirtland</b>									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
452.00	0.00	0.00	452.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fruitland</b>									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
792.00	0.00	0.00	792.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pictured Cliffs</b>									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>KOP Begin 3°/100' build</b>									
900.00	3.00	37.99	899.95	2.06	1.61	0.31	3.00	3.00	0.00
902.05	3.06	37.99	902.00	2.15	1.68	0.32	3.00	3.00	0.00
<b>Lewis</b>									
1,000.00	6.00	37.99	999.63	8.25	6.44	1.22	3.00	3.00	0.00
1,100.00	9.00	37.99	1,098.77	18.53	14.47	2.74	3.00	3.00	0.00
1,143.88	10.32	37.99	1,142.02	24.33	19.00	3.60	3.00	3.00	0.00
<b>Chacra_A</b>									
1,200.00	12.00	37.99	1,197.08	32.89	25.69	4.87	3.00	3.00	0.00
1,300.00	15.00	37.99	1,294.31	51.29	40.06	7.59	3.00	3.00	0.00
1,400.00	18.00	37.99	1,390.18	73.67	57.53	10.91	3.00	3.00	0.00
1,500.00	21.00	37.99	1,484.43	99.98	78.08	14.80	3.00	3.00	0.00
1,600.00	24.00	37.99	1,576.81	130.13	101.63	19.27	3.00	3.00	0.00
1,700.00	27.00	37.99	1,667.06	164.06	128.13	24.29	3.00	3.00	0.00
1,723.26	27.70	37.99	1,687.71	172.48	134.70	25.54	3.00	3.00	0.00
<b>Begin 27.70° tangent</b>									
1,800.00	27.70	37.99	1,755.66	200.59	156.66	29.70	0.00	0.00	0.00
1,900.00	27.70	37.99	1,844.21	237.23	185.27	35.12	0.00	0.00	0.00
2,000.00	27.70	37.99	1,932.75	273.86	213.88	40.55	0.00	0.00	0.00
2,100.00	27.70	37.99	2,021.29	310.49	242.48	45.97	0.00	0.00	0.00
2,200.00	27.70	37.99	2,109.83	347.12	271.09	51.40	0.00	0.00	0.00
2,259.32	27.70	37.99	2,162.35	368.86	288.06	54.61	0.00	0.00	0.00
<b>Cliff House_Basal</b>									
2,281.92	27.70	37.99	2,182.36	377.13	294.53	55.84	0.00	0.00	0.00
<b>Menefee</b>									
2,300.00	27.70	37.99	2,198.37	383.76	299.70	56.82	0.00	0.00	0.00
2,400.00	27.70	37.99	2,286.91	420.39	328.31	62.24	0.00	0.00	0.00
2,500.00	27.70	37.99	2,375.45	457.02	356.92	67.67	0.00	0.00	0.00
2,600.00	27.70	37.99	2,463.99	493.66	385.53	73.09	0.00	0.00	0.00
2,700.00	27.70	37.99	2,552.54	530.29	414.14	78.52	0.00	0.00	0.00
2,800.00	27.70	37.99	2,641.08	566.92	442.75	83.94	0.00	0.00	0.00
2,900.00	27.70	37.99	2,729.62	603.55	471.36	89.36	0.00	0.00	0.00
3,000.00	27.70	37.99	2,818.16	640.19	499.97	94.79	0.00	0.00	0.00
3,100.00	27.70	37.99	2,906.70	676.82	528.58	100.21	0.00	0.00	0.00
3,200.00	27.70	37.99	2,995.24	713.45	557.18	105.64	0.00	0.00	0.00
3,300.00	27.70	37.99	3,083.78	750.09	585.79	111.06	0.00	0.00	0.00





## Planning Report

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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)	
3,400.00	27.70	37.99	3,172.32	786.72	614.40	116.48	0.00	0.00	0.00	
3,400.48	27.70	37.99	3,172.75	786.90	614.54	116.51	0.00	0.00	0.00	
Point Lookout										
3,500.00	27.70	37.99	3,260.87	823.35	643.01	121.91	0.00	0.00	0.00	
3,569.96	27.70	37.99	3,322.81	848.98	663.03	125.70	0.00	0.00	0.00	
Mancos										
3,600.00	27.70	37.99	3,349.41	859.98	671.62	127.33	0.00	0.00	0.00	
3,700.00	27.70	37.99	3,437.95	896.62	700.23	132.76	0.00	0.00	0.00	
3,800.00	27.70	37.99	3,526.49	933.25	728.84	138.18	0.00	0.00	0.00	
3,900.00	27.70	37.99	3,615.03	969.88	757.45	143.60	0.00	0.00	0.00	
3,942.82	27.70	37.99	3,652.94	985.57	769.70	145.93	0.00	0.00	0.00	
Gallup (MNCS_A)										
4,000.00	27.70	37.99	3,703.57	1,006.52	786.06	149.03	0.00	0.00	0.00	
4,081.79	27.70	37.99	3,775.99	1,036.48	809.46	153.46	0.00	0.00	0.00	
MNCS_B										
4,100.00	27.70	37.99	3,792.11	1,043.15	814.67	154.45	0.00	0.00	0.00	
4,159.75	27.70	37.99	3,845.02	1,065.04	831.76	157.69	0.00	0.00	0.00	
MNCS_C										
4,208.21	27.70	37.99	3,887.93	1,082.79	845.62	160.32	0.00	0.00	0.00	
Begin 10°/100' build/turn										
4,208.34	27.70	37.99	3,888.04	1,082.84	845.66	160.33	0.00	0.00	0.00	
MNCS_Cms										
4,250.00	28.40	29.22	3,924.82	1,099.12	856.46	164.11	10.03	1.69	-21.04	
4,300.00	29.94	19.45	3,968.50	1,121.28	866.43	172.60	10.00	3.07	-19.55	
4,350.00	32.12	10.71	4,011.37	1,146.13	873.06	185.36	10.00	4.37	-17.47	
4,352.17	32.23	10.36	4,013.20	1,147.26	873.27	186.01	10.00	4.96	-16.30	
MNCS_D										
4,400.00	34.84	3.09	4,053.08	1,173.47	876.30	202.28	10.00	5.44	-15.20	
4,450.00	37.96	356.50	4,093.34	1,203.09	876.13	223.24	10.00	6.25	-13.17	
4,500.00	41.40	350.82	4,131.83	1,234.79	872.55	248.07	10.00	6.88	-11.37	
4,543.67	44.61	346.47	4,163.76	1,263.96	866.66	272.78	10.00	7.35	-9.96	
MNCS_E										
4,550.00	45.09	345.88	4,168.25	1,268.30	865.59	276.59	10.00	7.55	-9.30	
4,600.00	48.96	341.56	4,202.34	1,303.38	855.30	308.58	10.00	7.74	-8.65	
4,626.09	51.04	339.50	4,219.11	1,322.22	848.63	326.57	10.00	7.97	-7.88	
MNCS_F										
4,650.00	52.98	337.72	4,233.83	1,339.76	841.76	343.79	10.00	8.10	-7.45	
4,700.00	57.10	334.27	4,262.48	1,377.16	825.07	381.96	10.00	8.25	-6.89	
4,734.47	60.00	332.08	4,280.46	1,403.40	811.79	409.85	10.00	8.40	-6.36	
Begin 60.00° tangent										
4,746.98	60.00	332.08	4,286.71	1,412.97	806.72	420.18	0.00	0.00	0.00	
MNCS_G										
4,794.47	60.00	332.08	4,310.46	1,449.31	787.46	459.43	0.00	0.00	0.00	
Begin 10°/100' build/turn										
4,800.00	60.47	331.74	4,313.21	1,453.54	785.20	464.02	10.00	8.45	-6.15	
4,836.20	63.55	329.59	4,330.20	1,481.40	769.53	494.75	10.00	8.51	-5.95	
MNCS_H										
4,850.00	64.73	328.80	4,336.21	1,492.07	763.17	506.77	10.00	8.57	-5.73	
4,900.00	69.05	326.05	4,355.84	1,530.80	738.41	551.61	10.00	8.64	-5.48	
4,950.00	73.41	323.47	4,371.93	1,569.44	711.09	598.21	10.00	8.72	-5.18	
5,000.00	77.80	320.99	4,384.36	1,607.70	681.43	646.21	10.00	8.78	-4.94	
5,009.16	78.60	320.55	4,386.23	1,614.65	675.76	655.12	10.00	8.81	-4.84	





## Planning Report

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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)
<b>MNCS_I</b>									
5,050.00	82.21	318.60	4,393.04	1,645.29	649.65	695.24	10.00	8.83	-4.77
5,100.00	86.63	316.26	4,397.90	1,681.93	615.99	744.93	10.00	8.85	-4.68
5,133.85	89.63	314.69	4,399.00	1,706.04	592.28	778.75	10.00	8.86	-4.64
<b>Begin 89.63° lateral</b>									
5,200.00	89.63	314.69	4,399.43	1,752.57	545.25	844.90	0.00	0.00	0.00
5,300.00	89.63	314.69	4,400.07	1,822.89	474.16	944.90	0.00	0.00	0.00
5,400.00	89.63	314.69	4,400.72	1,893.22	403.06	1,044.90	0.00	0.00	0.00
5,500.00	89.63	314.69	4,401.36	1,963.54	331.97	1,144.89	0.00	0.00	0.00
5,600.00	89.63	314.69	4,402.01	2,033.87	260.88	1,244.89	0.00	0.00	0.00
5,700.00	89.63	314.69	4,402.65	2,104.19	189.79	1,344.89	0.00	0.00	0.00
5,800.00	89.63	314.69	4,403.30	2,174.52	118.70	1,444.89	0.00	0.00	0.00
5,900.00	89.63	314.69	4,403.94	2,244.84	47.61	1,544.88	0.00	0.00	0.00
6,000.00	89.63	314.69	4,404.59	2,315.17	-23.48	1,644.88	0.00	0.00	0.00
6,100.00	89.63	314.69	4,405.23	2,385.49	-94.57	1,744.88	0.00	0.00	0.00
6,200.00	89.63	314.69	4,405.88	2,455.82	-165.67	1,844.88	0.00	0.00	0.00
6,300.00	89.63	314.69	4,406.52	2,526.14	-236.76	1,944.88	0.00	0.00	0.00
6,400.00	89.63	314.69	4,407.17	2,596.47	-307.85	2,044.87	0.00	0.00	0.00
6,500.00	89.63	314.69	4,407.81	2,666.79	-378.94	2,144.87	0.00	0.00	0.00
6,600.00	89.63	314.69	4,408.46	2,737.12	-450.03	2,244.87	0.00	0.00	0.00
6,700.00	89.63	314.69	4,409.10	2,807.44	-521.12	2,344.87	0.00	0.00	0.00
6,800.00	89.63	314.69	4,409.74	2,877.77	-592.21	2,444.87	0.00	0.00	0.00
6,900.00	89.63	314.69	4,410.39	2,948.09	-663.30	2,544.86	0.00	0.00	0.00
7,000.00	89.63	314.69	4,411.03	3,018.42	-734.40	2,644.86	0.00	0.00	0.00
7,100.00	89.63	314.69	4,411.68	3,088.74	-805.49	2,744.86	0.00	0.00	0.00
7,200.00	89.63	314.69	4,412.32	3,159.07	-876.58	2,844.86	0.00	0.00	0.00
7,300.00	89.63	314.69	4,412.97	3,229.39	-947.67	2,944.86	0.00	0.00	0.00
7,400.00	89.63	314.69	4,413.61	3,299.72	-1,018.76	3,044.85	0.00	0.00	0.00
7,500.00	89.63	314.69	4,414.26	3,370.04	-1,089.85	3,144.85	0.00	0.00	0.00
7,600.00	89.63	314.69	4,414.90	3,440.37	-1,160.94	3,244.85	0.00	0.00	0.00
7,700.00	89.63	314.69	4,415.55	3,510.69	-1,232.03	3,344.85	0.00	0.00	0.00
7,800.00	89.63	314.69	4,416.19	3,581.02	-1,303.13	3,444.85	0.00	0.00	0.00
7,900.00	89.63	314.69	4,416.84	3,651.34	-1,374.22	3,544.84	0.00	0.00	0.00
8,000.00	89.63	314.69	4,417.48	3,721.67	-1,445.31	3,644.84	0.00	0.00	0.00
8,100.00	89.63	314.69	4,418.13	3,791.99	-1,516.40	3,744.84	0.00	0.00	0.00
8,200.00	89.63	314.69	4,418.77	3,862.32	-1,587.49	3,844.84	0.00	0.00	0.00
8,300.00	89.63	314.69	4,419.42	3,932.64	-1,658.58	3,944.84	0.00	0.00	0.00
8,400.00	89.63	314.69	4,420.06	4,002.97	-1,729.67	4,044.83	0.00	0.00	0.00
8,500.00	89.63	314.69	4,420.71	4,073.29	-1,800.76	4,144.83	0.00	0.00	0.00
8,600.00	89.63	314.69	4,421.35	4,143.62	-1,871.86	4,244.83	0.00	0.00	0.00
8,700.00	89.63	314.69	4,421.99	4,213.94	-1,942.95	4,344.83	0.00	0.00	0.00
8,800.00	89.63	314.69	4,422.64	4,284.27	-2,014.04	4,444.82	0.00	0.00	0.00
8,900.00	89.63	314.69	4,423.28	4,354.59	-2,085.13	4,544.82	0.00	0.00	0.00
9,000.00	89.63	314.69	4,423.93	4,424.92	-2,156.22	4,644.82	0.00	0.00	0.00
9,100.00	89.63	314.69	4,424.57	4,495.24	-2,227.31	4,744.82	0.00	0.00	0.00
9,200.00	89.63	314.69	4,425.22	4,565.57	-2,298.40	4,844.82	0.00	0.00	0.00
9,300.00	89.63	314.69	4,425.86	4,635.89	-2,369.50	4,944.81	0.00	0.00	0.00
9,400.00	89.63	314.69	4,426.51	4,706.22	-2,440.59	5,044.81	0.00	0.00	0.00
9,500.00	89.63	314.69	4,427.15	4,776.54	-2,511.68	5,144.81	0.00	0.00	0.00
9,600.00	89.63	314.69	4,427.80	4,846.87	-2,582.77	5,244.81	0.00	0.00	0.00
9,700.00	89.63	314.69	4,428.44	4,917.19	-2,653.86	5,344.81	0.00	0.00	0.00
9,800.00	89.63	314.69	4,429.09	4,987.52	-2,724.95	5,444.80	0.00	0.00	0.00
9,900.00	89.63	314.69	4,429.73	5,057.84	-2,796.04	5,544.80	0.00	0.00	0.00
10,000.00	89.63	314.69	4,430.38	5,128.17	-2,867.13	5,644.80	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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)
10,100.00	89.63	314.69	4,431.02	5,198.49	-2,938.23	5,744.80	0.00	0.00	0.00
10,200.00	89.63	314.69	4,431.67	5,268.82	-3,009.32	5,844.80	0.00	0.00	0.00
10,300.00	89.63	314.69	4,432.31	5,339.14	-3,080.41	5,944.79	0.00	0.00	0.00
10,400.00	89.63	314.69	4,432.96	5,409.47	-3,151.50	6,044.79	0.00	0.00	0.00
10,500.00	89.63	314.69	4,433.60	5,479.79	-3,222.59	6,144.79	0.00	0.00	0.00
10,600.00	89.63	314.69	4,434.25	5,550.12	-3,293.68	6,244.79	0.00	0.00	0.00
10,700.00	89.63	314.69	4,434.89	5,620.44	-3,364.77	6,344.79	0.00	0.00	0.00
10,717.08	89.63	314.69	4,435.00	5,632.45	-3,376.91	6,361.86	0.00	0.00	0.00
PBHL/TD 10717.08 MD 4435.00 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
Kimbeto 795 FTP 1521 I - plan hits target center - Point	0.00	0.00	4,399.00	1,706.04	592.28	1,895,503.160	2,735,031.743	36.209349000	-107.792859000
Kimbeto 795 LTP 258 F - plan hits target center - Point	0.00	0.00	4,435.00	5,632.45	-3,376.91	1,899,429.563	2,731,062.554	36.220139000	-107.806310000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Casing	13-5/8	17-1/2	
2,394.45	2,282.00	9 5/8" Casing	9-5/8	12-1/4	



## Planning Report

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
112.00	112.00	Ojo Alamo		0.370	314.69	
172.00	172.00	Kirtland		0.370	314.69	
452.00	452.00	Fruitland		0.370	314.69	
792.00	792.00	Pictured Cliffs		0.370	314.69	
902.05	902.00	Lewis		0.370	314.69	
1,143.88	1,142.02	Chacra_A		0.370	314.69	
2,259.32	2,162.35	Cliff House_Basal		0.370	314.69	
2,281.92	2,182.36	Menefee		0.370	314.69	
3,400.48	3,172.75	Point Lookout		0.370	314.69	
3,569.96	3,322.81	Mancos		0.370	314.69	
3,942.82	3,652.94	Gallup (MNCS_A)		0.370	314.69	
4,081.79	3,775.99	MNCS_B		0.370	314.69	
4,159.75	3,845.02	MNCS_C		0.370	314.69	
4,208.34	3,888.04	MNCS_Cms		0.370	314.69	
4,352.17	4,013.20	MNCS_D		0.370	314.69	
4,543.67	4,163.76	MNCS_E		0.370	314.69	
4,626.09	4,219.11	MNCS_F		0.370	314.69	
4,746.98	4,286.71	MNCS_G		0.370	314.69	
4,836.20	4,330.20	MNCS_H		0.370	314.69	
5,009.16	4,386.23	MNCS_I		0.370	314.69	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
800.00	800.00	0.00	0.00	KOP Begin 3°/100' build	
1,723.26	1,687.71	172.48	134.70	Begin 27.70° tangent	
4,208.21	3,887.93	1,082.79	845.62	Begin 10°/100' build/turn	
4,734.47	4,280.46	1,403.40	811.79	Begin 60.00° tangent	
4,794.47	4,310.46	1,449.31	787.46	Begin 10°/100' build/turn	
5,133.85	4,399.00	1,706.04	592.28	Begin 89.63° lateral	
10,717.08	4,435.00	5,632.45	-3,376.91	PBHL/TD 10717.08 MD 4435.00 TVD	



## Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

<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	Kimbeto Wash Unit				
Site Position:		Northing:	1,899,650.113 usft	Latitude:	36.220745000
From:	Lat/Long	Easting:	2,730,890.825 usft	Longitude:	-107.806892000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Kimbeto Wash Unit 795H, Surf loc: 181 FNL 2417 FWL Section 28-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,893,797.120 usft	Latitude:	36.204663000
	+E/-W	0.00 ft	Easting:	2,734,439.462 usft	Longitude:	-107.794869000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,534.00 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	12/28/2021	8.767	62.717	49,235.69930940

<b>Design</b>	rev0			
<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	314.69

<b>Plan Survey Tool Program</b>	<b>Date</b>			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	10,717.07 rev0 (Original Hole)		

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,723.26	27.70	37.99	1,687.71	172.48	134.70	3.00	3.00	0.00	37.989	
4,208.21	27.70	37.99	3,887.93	1,082.79	845.62	0.00	0.00	0.00	0.000	
4,734.47	60.00	332.08	4,280.46	1,403.40	811.79	10.00	6.14	-12.52	-84.179	
4,794.47	60.00	332.08	4,310.46	1,449.31	787.46	0.00	0.00	0.00	0.000	
5,133.85	89.63	314.69	4,399.00	1,706.04	592.28	10.00	8.73	-5.12	-32.367	
10,717.08	89.63	314.69	4,435.00	5,632.45	-3,376.91	0.00	0.00	0.00	0.000	Kimbeto 795 LTP 258



## Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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	0.00	0.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
100.00	0.00	0.00	100.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
112.00	0.00	0.00	112.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
<b>Ojo Alamo</b>									
172.00	0.00	0.00	172.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
<b>Kirtland</b>									
200.00	0.00	0.00	200.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
300.00	0.00	0.00	300.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
400.00	0.00	0.00	400.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
452.00	0.00	0.00	452.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
<b>Fruitland</b>									
500.00	0.00	0.00	500.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
600.00	0.00	0.00	600.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
700.00	0.00	0.00	700.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
792.00	0.00	0.00	792.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
<b>Pictured Cliffs</b>									
800.00	0.00	0.00	800.00	0.00	0.00	1,893,797.120	2,734,439.462	36.204663000	-107.794869000
<b>KOP Begin 3°/100' build</b>									
900.00	3.00	37.99	899.95	2.06	1.61	1,893,799.183	2,734,441.073	36.204668665	-107.794863536
902.05	3.06	37.99	902.00	2.15	1.68	1,893,799.269	2,734,441.139	36.204668900	-107.794863310
<b>Lewis</b>									
1,000.00	6.00	37.99	999.63	8.25	6.44	1,893,805.366	2,734,445.901	36.204685645	-107.794847161
1,100.00	9.00	37.99	1,098.77	18.53	14.47	1,893,815.652	2,734,453.934	36.204713893	-107.794819918
1,143.88	10.32	37.99	1,142.02	24.33	19.00	1,893,821.454	2,734,458.465	36.204729825	-107.794804552
<b>Chacra_A</b>									
1,200.00	12.00	37.99	1,197.08	32.89	25.69	1,893,830.013	2,734,465.150	36.204753331	-107.794781883
1,300.00	15.00	37.99	1,294.31	51.29	40.06	1,893,848.409	2,734,479.517	36.204803852	-107.794733160
1,400.00	18.00	37.99	1,390.18	73.67	57.53	1,893,870.791	2,734,496.996	36.204865318	-107.794673882
1,500.00	21.00	37.99	1,484.43	99.98	78.08	1,893,897.096	2,734,517.540	36.204937559	-107.794604212
1,600.00	24.00	37.99	1,576.81	130.13	101.63	1,893,927.253	2,734,541.091	36.205020377	-107.794524340
1,700.00	27.00	37.99	1,667.06	164.06	128.13	1,893,961.179	2,734,567.587	36.205113546	-107.794434486
1,723.26	27.70	37.99	1,687.71	172.48	134.70	1,893,969.599	2,734,574.163	36.205136670	-107.794412185
<b>Begin 27.70° tangent</b>									
1,800.00	27.70	37.99	1,755.66	200.59	156.66	1,893,997.713	2,734,596.118	36.205213876	-107.794337725
1,900.00	27.70	37.99	1,844.21	237.23	185.27	1,894,034.346	2,734,624.727	36.205314479	-107.794240702
2,000.00	27.70	37.99	1,932.75	273.86	213.88	1,894,070.978	2,734,653.336	36.205415081	-107.794143678
2,100.00	27.70	37.99	2,021.29	310.49	242.48	1,894,107.611	2,734,681.945	36.205515683	-107.794046654
2,200.00	27.70	37.99	2,109.83	347.12	271.09	1,894,144.244	2,734,710.555	36.205616285	-107.793949629
2,259.32	27.70	37.99	2,162.35	368.86	288.06	1,894,165.975	2,734,727.526	36.205675963	-107.793892074
<b>Cliff House_Basal</b>									
2,281.92	27.70	37.99	2,182.36	377.13	294.53	1,894,174.253	2,734,733.990	36.205698696	-107.793870149
<b>Menefee</b>									
2,300.00	27.70	37.99	2,198.37	383.76	299.70	1,894,180.877	2,734,739.164	36.205716887	-107.793852605
2,400.00	27.70	37.99	2,286.91	420.39	328.31	1,894,217.510	2,734,767.773	36.205817489	-107.793755580
2,500.00	27.70	37.99	2,375.45	457.02	356.92	1,894,254.142	2,734,796.382	36.205918091	-107.793658555
2,600.00	27.70	37.99	2,463.99	493.66	385.53	1,894,290.775	2,734,824.991	36.206018692	-107.793561530
2,700.00	27.70	37.99	2,552.54	530.29	414.14	1,894,327.408	2,734,853.600	36.206119294	-107.793464504
2,800.00	27.70	37.99	2,641.08	566.92	442.75	1,894,364.041	2,734,882.209	36.206219895	-107.793367478
2,900.00	27.70	37.99	2,729.62	603.55	471.36	1,894,400.673	2,734,910.818	36.206320497	-107.793270452
3,000.00	27.70	37.99	2,818.16	640.19	499.97	1,894,437.306	2,734,939.427	36.206421098	-107.793173426
3,100.00	27.70	37.99	2,906.70	676.82	528.58	1,894,473.939	2,734,968.036	36.206521700	-107.793076399
3,200.00	27.70	37.99	2,995.24	713.45	557.18	1,894,510.572	2,734,996.645	36.206622301	-107.792979373
3,300.00	27.70	37.99	3,083.78	750.09	585.79	1,894,547.205	2,735,025.254	36.206722902	-107.792882346



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<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,400.00	27.70	37.99	3,172.32	786.72	614.40	1,894,583.837	2,735,053.863	36.206823503	-107.792785318
3,400.48	27.70	37.99	3,172.75	786.90	614.54	1,894,584.014	2,735,054.001	36.206823989	-107.792784850
<b>Point Lookout</b>									
3,500.00	27.70	37.99	3,260.87	823.35	643.01	1,894,620.470	2,735,082.472	36.206924104	-107.792688291
3,569.96	27.70	37.99	3,322.81	848.98	663.03	1,894,646.099	2,735,102.488	36.206994487	-107.792620407
<b>Mancos</b>									
3,600.00	27.70	37.99	3,349.41	859.98	671.62	1,894,657.103	2,735,111.081	36.207024705	-107.792591263
3,700.00	27.70	37.99	3,437.95	896.62	700.23	1,894,693.736	2,735,139.690	36.207125306	-107.792494235
3,800.00	27.70	37.99	3,526.49	933.25	728.84	1,894,730.368	2,735,168.299	36.207225907	-107.792397207
3,900.00	27.70	37.99	3,615.03	969.88	757.45	1,894,767.001	2,735,196.908	36.207326507	-107.792300178
3,942.82	27.70	37.99	3,652.94	985.57	769.70	1,894,782.687	2,735,209.158	36.207369582	-107.792258633
<b>Gallup (MNCS_A)</b>									
4,000.00	27.70	37.99	3,703.57	1,006.52	786.06	1,894,803.634	2,735,225.517	36.207427108	-107.792203149
4,081.79	27.70	37.99	3,775.99	1,036.48	809.46	1,894,833.596	2,735,248.917	36.207509390	-107.792123788
<b>MNCS_B</b>									
4,100.00	27.70	37.99	3,792.11	1,043.15	814.67	1,894,840.267	2,735,254.126	36.207527708	-107.792106120
4,159.75	27.70	37.99	3,845.02	1,065.04	831.76	1,894,862.155	2,735,271.221	36.207587819	-107.792048144
<b>MNCS_C</b>									
4,208.21	27.70	37.99	3,887.93	1,082.79	845.62	1,894,879.908	2,735,285.085	36.207636569	-107.792001124
<b>Begin 10°/100' build/turn</b>									
4,208.34	27.70	37.99	3,888.04	1,082.84	845.66	1,894,879.953	2,735,285.120	36.207636695	-107.792001003
<b>MNCS_Cms</b>									
4,250.00	28.40	29.22	3,924.82	1,099.12	856.46	1,894,896.243	2,735,295.919	36.207681431	-107.791964374
4,300.00	29.94	19.45	3,968.50	1,121.28	866.43	1,894,918.400	2,735,305.885	36.207742288	-107.791930559
4,350.00	32.12	10.71	4,011.37	1,146.13	873.06	1,894,943.243	2,735,312.515	36.207810527	-107.791908050
4,352.17	32.23	10.36	4,013.20	1,147.26	873.27	1,894,944.379	2,735,312.727	36.207813645	-107.791907332
<b>MNCS_D</b>									
4,400.00	34.84	3.09	4,053.08	1,173.47	876.30	1,894,970.583	2,735,315.759	36.207885629	-107.791897017
4,450.00	37.96	356.50	4,093.34	1,203.09	876.13	1,895,000.212	2,735,315.590	36.207967021	-107.791897544
4,500.00	41.40	350.82	4,131.83	1,234.79	872.55	1,895,031.903	2,735,312.012	36.208054085	-107.791909628
4,543.67	44.61	346.47	4,163.76	1,263.96	866.66	1,895,061.079	2,735,306.118	36.208134240	-107.791929564
<b>MNCS_E</b>									
4,550.00	45.09	345.88	4,168.25	1,268.30	865.59	1,895,065.417	2,735,305.051	36.208146158	-107.791933176
4,600.00	48.96	341.56	4,202.34	1,303.38	855.30	1,895,100.497	2,735,294.760	36.208242540	-107.791968010
4,626.09	51.04	339.50	4,219.11	1,322.22	848.63	1,895,119.335	2,735,288.093	36.208294298	-107.791990581
<b>MNCS_F</b>									
4,650.00	52.98	337.72	4,233.83	1,339.76	841.76	1,895,136.877	2,735,281.217	36.208342496	-107.792013864
4,700.00	57.10	334.27	4,262.48	1,377.16	825.07	1,895,174.281	2,735,264.526	36.208445266	-107.792070389
4,734.47	60.00	332.08	4,280.46	1,403.40	811.79	1,895,200.514	2,735,251.250	36.208517347	-107.792115351
<b>Begin 60.00° tangent</b>									
4,746.98	60.00	332.08	4,286.71	1,412.97	806.72	1,895,210.085	2,735,246.179	36.208543644	-107.792132528
<b>MNCS_G</b>									
4,794.47	60.00	332.08	4,310.46	1,449.31	787.46	1,895,246.427	2,735,226.920	36.208643503	-107.792197758
<b>Begin 10°/100' build/turn</b>									
4,800.00	60.47	331.74	4,313.21	1,453.54	785.20	1,895,250.662	2,735,224.660	36.208655139	-107.792205414
4,836.20	63.55	329.59	4,330.20	1,481.40	769.53	1,895,278.517	2,735,208.995	36.208731677	-107.792258474
<b>MNCS_H</b>									
4,850.00	64.73	328.80	4,336.21	1,492.07	763.17	1,895,289.183	2,735,202.634	36.208760985	-107.792280021
4,900.00	69.05	326.05	4,355.84	1,530.80	738.41	1,895,327.912	2,735,177.868	36.208867407	-107.792363916
4,950.00	73.41	323.47	4,371.93	1,569.44	711.09	1,895,366.556	2,735,150.551	36.208973596	-107.792456460
5,000.00	77.80	320.99	4,384.36	1,607.70	681.43	1,895,404.819	2,735,120.890	36.209078743	-107.792556950
5,009.16	78.60	320.55	4,386.23	1,614.65	675.76	1,895,411.762	2,735,115.221	36.209097823	-107.792576155
<b>MNCS_I</b>									



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<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,050.00	82.21	318.60	4,393.04	1,645.29	649.65	1,895,442.411	2,735,089.110	36.209182049	-107.792664621
5,100.00	86.63	316.26	4,397.90	1,681.93	615.99	1,895,479.045	2,735,055.455	36.209282727	-107.792778654
5,133.85	89.63	314.69	4,399.00	1,706.04	592.28	1,895,503.159	2,735,031.737	36.209348997	-107.792859017
Begin 89.63° lateral									
5,200.00	89.63	314.69	4,399.43	1,752.57	545.25	1,895,549.682	2,734,984.708	36.209476853	-107.793018372
5,300.00	89.63	314.69	4,400.07	1,822.89	474.16	1,895,620.007	2,734,913.617	36.209670123	-107.793259258
5,400.00	89.63	314.69	4,400.72	1,893.22	403.06	1,895,690.332	2,734,842.526	36.209863393	-107.793500145
5,500.00	89.63	314.69	4,401.36	1,963.54	331.97	1,895,760.657	2,734,771.434	36.210056663	-107.793741033
5,600.00	89.63	314.69	4,402.01	2,033.87	260.88	1,895,830.982	2,734,700.343	36.210249932	-107.793981922
5,700.00	89.63	314.69	4,402.65	2,104.19	189.79	1,895,901.307	2,734,629.252	36.210443200	-107.794222813
5,800.00	89.63	314.69	4,403.30	2,174.52	118.70	1,895,971.631	2,734,558.161	36.210636468	-107.794463704
5,900.00	89.63	314.69	4,403.94	2,244.84	47.61	1,896,041.956	2,734,487.070	36.210829735	-107.794704597
6,000.00	89.63	314.69	4,404.59	2,315.17	-23.48	1,896,112.281	2,734,415.979	36.211023002	-107.794945491
6,100.00	89.63	314.69	4,405.23	2,385.49	-94.57	1,896,182.606	2,734,344.888	36.211216269	-107.795186387
6,200.00	89.63	314.69	4,405.88	2,455.82	-165.67	1,896,252.931	2,734,273.796	36.211409535	-107.795427283
6,300.00	89.63	314.69	4,406.52	2,526.14	-236.76	1,896,323.256	2,734,202.705	36.211602800	-107.795668181
6,400.00	89.63	314.69	4,407.17	2,596.47	-307.85	1,896,393.581	2,734,131.614	36.211796065	-107.795909079
6,500.00	89.63	314.69	4,407.81	2,666.79	-378.94	1,896,463.906	2,734,060.523	36.211989330	-107.796149979
6,600.00	89.63	314.69	4,408.46	2,737.12	-450.03	1,896,534.231	2,733,989.432	36.212182594	-107.796390880
6,700.00	89.63	314.69	4,409.10	2,807.44	-521.12	1,896,604.556	2,733,918.341	36.212375858	-107.796631783
6,800.00	89.63	314.69	4,409.74	2,877.77	-592.21	1,896,674.881	2,733,847.250	36.212569121	-107.796872686
6,900.00	89.63	314.69	4,410.39	2,948.09	-663.30	1,896,745.206	2,733,776.159	36.212762383	-107.797113591
7,000.00	89.63	314.69	4,411.03	3,018.42	-734.40	1,896,815.531	2,733,705.067	36.212955645	-107.797354497
7,100.00	89.63	314.69	4,411.68	3,088.74	-805.49	1,896,885.855	2,733,633.976	36.213148907	-107.797595404
7,200.00	89.63	314.69	4,412.32	3,159.07	-876.58	1,896,956.180	2,733,562.885	36.213342168	-107.797836312
7,300.00	89.63	314.69	4,412.97	3,229.39	-947.67	1,897,026.505	2,733,491.794	36.213535428	-107.798077222
7,400.00	89.63	314.69	4,413.61	3,299.72	-1,018.76	1,897,096.830	2,733,420.703	36.213728689	-107.798318132
7,500.00	89.63	314.69	4,414.26	3,370.04	-1,089.85	1,897,167.155	2,733,349.612	36.213921948	-107.798559044
7,600.00	89.63	314.69	4,414.90	3,440.37	-1,160.94	1,897,237.480	2,733,278.521	36.214115207	-107.798799957
7,700.00	89.63	314.69	4,415.55	3,510.69	-1,232.03	1,897,307.805	2,733,207.430	36.214308466	-107.799040872
7,800.00	89.63	314.69	4,416.19	3,581.02	-1,303.13	1,897,378.130	2,733,136.338	36.214501724	-107.799281787
7,900.00	89.63	314.69	4,416.84	3,651.34	-1,374.22	1,897,448.455	2,733,065.247	36.214694982	-107.799522703
8,000.00	89.63	314.69	4,417.48	3,721.67	-1,445.31	1,897,518.780	2,732,994.156	36.214888239	-107.799763621
8,100.00	89.63	314.69	4,418.13	3,791.99	-1,516.40	1,897,589.105	2,732,923.065	36.215081496	-107.800004540
8,200.00	89.63	314.69	4,418.77	3,862.32	-1,587.49	1,897,659.430	2,732,851.974	36.215274752	-107.800245460
8,300.00	89.63	314.69	4,419.42	3,932.64	-1,658.58	1,897,729.755	2,732,780.883	36.215468007	-107.800486382
8,400.00	89.63	314.69	4,420.06	4,002.97	-1,729.67	1,897,800.079	2,732,709.792	36.215661263	-107.800727304
8,500.00	89.63	314.69	4,420.71	4,073.29	-1,800.76	1,897,870.404	2,732,638.701	36.215854517	-107.800968228
8,600.00	89.63	314.69	4,421.35	4,143.62	-1,871.86	1,897,940.729	2,732,567.609	36.216047771	-107.801209153
8,700.00	89.63	314.69	4,421.99	4,213.94	-1,942.95	1,898,011.054	2,732,496.518	36.216241025	-107.801450079
8,800.00	89.63	314.69	4,422.64	4,284.27	-2,014.04	1,898,081.379	2,732,425.427	36.216434278	-107.801691006
8,900.00	89.63	314.69	4,423.28	4,354.59	-2,085.13	1,898,151.704	2,732,354.336	36.216627531	-107.801931934
9,000.00	89.63	314.69	4,423.93	4,424.92	-2,156.22	1,898,222.029	2,732,283.245	36.216820783	-107.802172864
9,100.00	89.63	314.69	4,424.57	4,495.24	-2,227.31	1,898,292.354	2,732,212.154	36.217014035	-107.802413795
9,200.00	89.63	314.69	4,425.22	4,565.57	-2,298.40	1,898,362.679	2,732,141.063	36.217207286	-107.802654727
9,300.00	89.63	314.69	4,425.86	4,635.89	-2,369.50	1,898,433.004	2,732,069.971	36.217400537	-107.802895660
9,400.00	89.63	314.69	4,426.51	4,706.22	-2,440.59	1,898,503.329	2,731,998.880	36.217593788	-107.803136594
9,500.00	89.63	314.69	4,427.15	4,776.54	-2,511.68	1,898,573.654	2,731,927.789	36.217787037	-107.803377530
9,600.00	89.63	314.69	4,427.80	4,846.87	-2,582.77	1,898,643.979	2,731,856.698	36.217980287	-107.803618466
9,700.00	89.63	314.69	4,428.44	4,917.19	-2,653.86	1,898,714.303	2,731,785.607	36.218173535	-107.803859404
9,800.00	89.63	314.69	4,429.09	4,987.52	-2,724.95	1,898,784.628	2,731,714.516	36.218366784	-107.804100343
9,900.00	89.63	314.69	4,429.73	5,057.84	-2,796.04	1,898,854.953	2,731,643.425	36.218560032	-107.804341284
10,000.00	89.63	314.69	4,430.38	5,128.17	-2,867.13	1,898,925.278	2,731,572.334	36.218753279	-107.804582225
10,100.00	89.63	314.69	4,431.02	5,198.49	-2,938.23	1,898,995.603	2,731,501.242	36.218946526	-107.804823168





## Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

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	89.63	314.69	4,431.67	5,268.82	-3,009.32	1,899,065.928	2,731,430.151	36.219139772	-107.805064112	
10,300.00	89.63	314.69	4,432.31	5,339.14	-3,080.41	1,899,136.253	2,731,359.060	36.219333018	-107.805305057	
10,400.00	89.63	314.69	4,432.96	5,409.47	-3,151.50	1,899,206.578	2,731,287.969	36.219526263	-107.805546003	
10,500.00	89.63	314.69	4,433.60	5,479.79	-3,222.59	1,899,276.903	2,731,216.878	36.219719508	-107.805786950	
10,600.00	89.63	314.69	4,434.25	5,550.12	-3,293.68	1,899,347.228	2,731,145.787	36.219912753	-107.806027899	
10,700.00	89.63	314.69	4,434.89	5,620.44	-3,364.77	1,899,417.553	2,731,074.696	36.220105997	-107.806268848	
10,717.08	89.63	314.69	4,435.00	5,632.45	-3,376.91	1,899,429.563	2,731,062.554	36.220139000	-107.806310000	
PBHL/TD 10717.08 MD 4435.00 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	
Kimbeto 795 FTP 1521 I - plan hits target center - Point	0.00	0.00	4,399.00	1,706.04	592.28	1,895,503.160	2,735,031.743	36.209349000	-107.792859000	
Kimbeto 795 LTP 258 F - plan hits target center - Point	0.00	0.00	4,435.00	5,632.45	-3,376.91	1,899,429.563	2,731,062.554	36.220139000	-107.806310000	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
350.00	350.00	13 3/8" Casing		13-5/8	17-1/2
2,394.45	2,282.00	9 5/8" Casing		9-5/8	12-1/4





## Planning Report - Geographic

<b>Database:</b>	DB_Dec2220_v16	<b>Local Co-ordinate Reference:</b>	Well Kimbeto Wash Unit 795H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6534+28 @ 6562.00ft
<b>Site:</b>	Kimbeto Wash Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Kimbeto Wash Unit 795H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
112.00	112.00	Ojo Alamo		0.370	314.69
172.00	172.00	Kirtland		0.370	314.69
452.00	452.00	Fruitland		0.370	314.69
792.00	792.00	Pictured Cliffs		0.370	314.69
902.05	902.00	Lewis		0.370	314.69
1,143.88	1,142.02	Chacra_A		0.370	314.69
2,259.32	2,162.35	Cliff House_Basal		0.370	314.69
2,281.92	2,182.36	Menefee		0.370	314.69
3,400.48	3,172.75	Point Lookout		0.370	314.69
3,569.96	3,322.81	Mancos		0.370	314.69
3,942.82	3,652.94	Gallup (MNCS_A)		0.370	314.69
4,081.79	3,775.99	MNCS_B		0.370	314.69
4,159.75	3,845.02	MNCS_C		0.370	314.69
4,208.34	3,888.04	MNCS_Cms		0.370	314.69
4,352.17	4,013.20	MNCS_D		0.370	314.69
4,543.67	4,163.76	MNCS_E		0.370	314.69
4,626.09	4,219.11	MNCS_F		0.370	314.69
4,746.98	4,286.71	MNCS_G		0.370	314.69
4,836.20	4,330.20	MNCS_H		0.370	314.69
5,009.16	4,386.23	MNCS_I		0.370	314.69

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
800.00	800.00	0.00	0.00	KOP Begin 3°/100' build
1,723.26	1,687.71	172.48	134.70	Begin 27.70° tangent
4,208.21	3,887.93	1,082.79	845.62	Begin 10°/100' build/turn
4,734.47	4,280.46	1,403.40	811.79	Begin 60.00° tangent
4,794.47	4,310.46	1,449.31	787.46	Begin 10°/100' build/turn
5,133.85	4,399.00	1,706.04	592.28	Begin 89.63° lateral
10,717.08	4,435.00	5,632.45	-3,376.91	PBHL/TD 10717.08 MD 4435.00 TVD



**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80211**

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

**WELL INFORMATION:**

**Name:** KIMBETO WASH UNIT 795H

**API Number:** not yet assigned

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,534 ft ASL (GL)

6,562 ft ASL (KB)

**Surface Location:** 28-23N-09W Sec-Twn-Rng

181 ft FNL

2,417 ft FWL

36.204663 ° N latitude

107.794869 ° W longitude

(NAD 83)

**BH Location:** 17-23N-09W Sec-Twn-Rng

258 ft FSL

890 ft FEL

36.220139 ° N latitude

107.80631 ° 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 113.4; Right (SW) on CR 7890 for 0.8 miles to fork; Left (S) remaining on 7890 for 1.3 miles to 4-way intersection; Left (SE) on 7890 for 0.6 miles to fork; Right (SW) remaining on 7890 for 0.5 miles; Right (W) on access road for W Lybrook Unit 720H location for 0.6 miles to fork; Left (W) on access road for W Lybrook Unit 726H location for 0.7 miles to fork; Left (W) on access road for W Lybrook Unit 730H location for 1.9 miles; Right (N) on access road for 0.4 miles to Kimbeto Wash Unit 736H Pad (Wells: KWU 772H, 774H, 793H, 794H, 795H).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<b>Prognosis:</b>	<b>Formation Tops</b>	<b>TVD (ft ASL)</b>	<b>TVD (ft KB)</b>	<b>MD (ft KB)</b>	<b>O / G / W</b>	<b>Pressure</b>
	Ojo Alamo	6,450	112	112	W	normal
	Kirtland	6,390	172	172	W	normal
	Fruitland	6,110	452	452	G, W	sub
	Pictured Cliffs	5,770	792	792	G, W	sub
	Lewis	5,660	902	902	G, W	normal
	Chacra	5,420	1,142	1,144	G, W	normal
	Cliff House	4,400	2,162	2,259	G, W	sub
	Menefee	4,380	2,182	2,282	G, W	normal
	Point Lookout	3,389	3,173	3,400	G, W	normal
	Mancos	3,239	3,323	3,570	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,909	3,653	3,943	O,G	sub (~0.38)
	MNCS_B	2,786	3,776	4,082	O,G	sub (~0.38)
	MNCS_C	2,717	3,845	4,160	O,G	sub (~0.38)
	MNCS_Cms	2,674	3,888	4,208	O,G	sub (~0.38)
	MNCS_D	2,550	4,012	4,352	O,G	sub (~0.38)
	MNCS_E	2,398	4,164	4,544	O,G	sub (~0.38)
	MNCS_F	2,343	4,219	4,626	O,G	sub (~0.38)
	MNCS_G	2,275	4,287	4,747	O,G	sub (~0.38)
	MNCS_H	2,232	4,330	4,836	O,G	sub (~0.38)
	MNCS_I	2,176	4,386	5,009	O,G	sub (~0.38)
	<b>FTP TARGET</b>	<b>2,163</b>	<b>4,399</b>	<b>5,134</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>PROJECTED LTP</b>	<b>2,127</b>	<b>4,435</b>	<b>10,717</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:**

**1,910 psi**

**Maximum anticipated surface pressure, assuming partially evacuated hole:** 940 psi

**Temperature:** Maximum anticipated BHT is 125° 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; gas detection from drill out of 13-3/8" casing to TD; remote geo-steering from drill out of 9-5/8" casing to TD.

**MWD / LWD:** MWD surveys with inclination and azimuth in 100' stations (minimum) from drill out of 13-3/8" casing to TD; Gamma Ray from drill out of 9-5/8" casing to TD; Gamma Ray optional in 12-1/4" intermediate hole

**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.:** 773

**Draw Works:** Pacific Rim 1500AC

**Mast:** ADR 1500S Cantilever Triple (142 ft, 800,000 lbs, 12 lines)

**Top Drive:** Tesco 500-ESI-1350 (500 ton, 1,350 hp)

**Prime Movers:** 3 - CAT 3512 (1,475 hp)

**Pumps:** 3 - Gardner-Denver PZ11 (7,500 psi)

**BOPE 1:** Cameron single gate ram & double gate ram (13-5/8", 10,000 psi)

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

**Choke** 3", 10,000 psi

**KB-GL (ft):** 28

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

## 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.
- 2) 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.
- 3) 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.
- 4) 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.
- 5) Manual locking devices (hand wheels) shall be installed 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 additional details. Sufficient barite will be on location to weight up mud system to balance maximum anticipated 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	499	116,634	116,634
Min. S.F.					7.39	5.47	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 Details:** 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	2,394 ft (MD)	Hole Section Length:	2,044 ft
350 ft (TVD)	to	2,282 ft (TVD)	Casing Required:	2,394 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	No OBM

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD surveys with inclination and azimuth in 100' stations (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					997	1,071	175,157	175,157
Min. S.F.					2.03	3.29	3.22	2.59

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: 3,900 Optimum: 5,200 Maximum: 6,500

Casing Point: Target casing point is 100' TVD below the Menefee top

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

Centralizers: 1 per joint in non-vertical hole; 1 per 2-joints in vertical hole

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	471
Tail	Type III	14.6	1.380	6.64	20%	1,894	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 &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.

2,394 ft (MD)	to	10,717 ft (MD)	Hole Section Length:	8,323 ft
2,282 ft (TVD)	to	4,435 ft (TVD)	Casing Required:	10,717 ft

Estimated KOP:	4,208 ft (MD)	3,888 ft (TVD)
Estimated Landing Point (FTP):	5,134 ft (MD)	4,399 ft (TVD)
Estimated Lateral Length:	5,583 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (FW)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	OBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD surveys with inclination and azimuth in 100' stations (minimum) before KOP, every joint from KOP to POE, every 100' (minimum) from POE to TD; Gamma Ray from drill out of 9-5/8" shoe to TD

Logging: MWD Gamma Ray 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)
<i>Specs</i>	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
<i>Loading</i>					2,191	8,915	307,213	307,213
<i>Min. S.F.</i>					<b>3.41</b>	<b>1.19</b>	<b>1.78</b>	<b>1.45</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: 3,400 Optimum: 4,530 Maximum: 5,660

**Casing Details:** Float shoe, float collar, 2 jts casing, float collar, 20' marker jt, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub at KOP, casing to surface. The toe-initiation sleeve (last-take-point) cannot be placed closer than 330' to the unit boundary when measured perpendicular to the well path.

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

**Lateral:** 1 centralizer per joint

**POE to KOP:** 1 centralizer per joint from landing point to KOP

**KOP to surface:** 1 centralizer per 2 joints from KOP to 9-5/8" shoe, 1 per 3 joints from 9-5/8" shoe to surface

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
<i>Lead</i>	Type III	12.4	2.360	13.40	50%	0	520
<i>Tail</i>	G:POZ blend	13.3	1.560	7.70	10%	3,570	1,155

**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 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. RDMO Drilling Rig.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 25 plug-and-perf stages with 175,000 bbls slickwater fluid and 11,000,000 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:** 4/1/2022

**Completion:** 6/1/2022

**Production:** 7/15/2022

**Prepared by:** Alec Bridge 5/6/2019

**Updated by:** Alec Bridge 1/4/2022 - updated drilling prog & directional plan for new well dimensions & development plan



WELL NAME: KIMBETO WASH UNIT 795H  
OBJECTIVE: Drill, complete, and equip single lateral in the Mancos-I formation

API Number: not yet assigned  
State: New Mexico  
County: San Juan

Surface Elev.: 6,534 ft ASL (GL) 6,562 ft ASL (KB)  
Surface Location: 28-23N-09W Sec-Twn- Rng 181 ft FNL 2,417 ft FWL  
BH Location: 17-23N-09W Sec-Twn- Rng 258 ft FSL 890 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 113.4; Right (SW) on CR 7890 for 0.8 miles to fork; Left (S) remaining on 7890 for 1.3 miles to 4-way intersection; Left (SE) on 7890 for 0.6 miles to fork; Right (SW) remaining on 7890 for 0.5 miles; Right (W) on access road for W Lybrook Unit 720H location for 0.6 miles to fork; Left (W) on access road for W Lybrook Unit 726H location for 0.7 miles to fork; Left (W) on access road for W Lybrook Unit 730H location for 1.9 miles; Right (N) on access road for 0.4 miles to Kimbeto Wash Unit 736H Pad (Wells: KWU 772H, 774H, 793H, 794H, 795H).

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	2,394 ft
KOP (MD)	4,208 ft
KOP (TVD)	3,888 ft
Target (TVD)	4,399 ft
Curve BUR	10 °/100 ft
POE (MD)	5,134 ft
TD (MD)	10,717 ft
Lat Len (ft)	5,583 ft

WELL CONSTRUCTION SUMMARY:

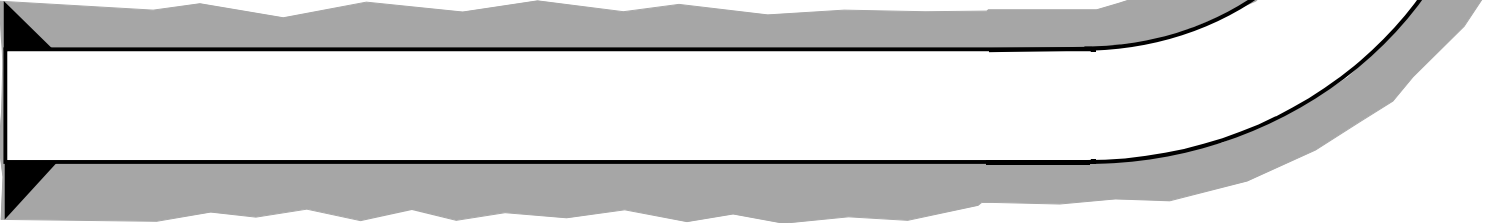
	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	2,394	9.625	36.0	J-55	LTC	0	2,394
Production	8.500	10,717	5.500	17.0	P-110	LTC	0	10,717

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	471
Inter. (Tail)	Type III	14.6	1.38	6.64	0.3132	20%	1,894	136
Prod. (Lead)	Type III	12.4	2.360	13.40	0.2691	50%	0	520
Prod. (Tail)	G:POZ blend	13.3	1.560	7.70	0.2291	10%	3,570	1,155

COMPLETION / PRODUCTION SUMMARY:

Frac: 25 plug-and-perf stages with 175,000 bbls slickwater fluid and 11,000,000 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	112	112
	Kirtland	172	172
	Fruitland	452	452
	Pictured Cliffs	792	792
	Lewis	902	902
	Chacra	1,142	1,144
	Cliff House	2,162	2,259
	Menefee	2,182	2,282
	Point Lookout	3,173	3,400
	Mancos	3,323	3,570
	Gallup (MNCS_A)	3,653	3,943
	MNCS_B	3,776	4,082
	MNCS_C	3,845	4,160
	MNCS_Cms	3,888	4,208
	MNCS_D	4,012	4,352
	MNCS_E	4,164	4,544
	MNCS_F	4,219	4,626
	MNCS_G	4,287	4,747
	MNCS_H	4,330	4,836
	MNCS_I	4,386	5,009
	FTP TARGET	4,399	5,134
	PROJECTED LTP	4,435	10,717





**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80211**

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

**WELL INFORMATION:**

**Name:** KIMBETO WASH UNIT 795H

**API Number:** not yet assigned

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,534 ft ASL (GL)

6,562 ft ASL (KB)

**Surface Location:** 28-23N-09W Sec-Twn-Rng

181 ft FNL

2,417 ft FWL

36.204663 ° N latitude

107.794869 ° W longitude

(NAD 83)

**BH Location:** 17-23N-09W Sec-Twn-Rng

258 ft FSL

890 ft FEL

36.220139 ° N latitude

107.80631 ° 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 113.4; Right (SW) on CR 7890 for 0.8 miles to fork; Left (S) remaining on 7890 for 1.3 miles to 4-way intersection; Left (SE) on 7890 for 0.6 miles to fork; Right (SW) remaining on 7890 for 0.5 miles; Right (W) on access road for W Lybrook Unit 720H location for 0.6 miles to fork; Left (W) on access road for W Lybrook Unit 726H location for 0.7 miles to fork; Left (W) on access road for W Lybrook Unit 730H location for 1.9 miles; Right (N) on access road for 0.4 miles to Kimbeto Wash Unit 736H Pad (Wells: KWU 772H, 774H, 793H, 794H, 795H).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<b>Prognosis:</b>	<b>Formation Tops</b>	<b>TVD (ft ASL)</b>	<b>TVD (ft KB)</b>	<b>MD (ft KB)</b>	<b>O / G / W</b>	<b>Pressure</b>
	Ojo Alamo	6,450	112	112	W	normal
	Kirtland	6,390	172	172	W	normal
	Fruitland	6,110	452	452	G, W	sub
	Pictured Cliffs	5,770	792	792	G, W	sub
	Lewis	5,660	902	902	G, W	normal
	Chacra	5,420	1,142	1,144	G, W	normal
	Cliff House	4,400	2,162	2,259	G, W	sub
	Menefee	4,380	2,182	2,282	G, W	normal
	Point Lookout	3,389	3,173	3,400	G, W	normal
	Mancos	3,239	3,323	3,570	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,909	3,653	3,943	O,G	sub (~0.38)
	MNCS_B	2,786	3,776	4,082	O,G	sub (~0.38)
	MNCS_C	2,717	3,845	4,160	O,G	sub (~0.38)
	MNCS_Cms	2,674	3,888	4,208	O,G	sub (~0.38)
	MNCS_D	2,550	4,012	4,352	O,G	sub (~0.38)
	MNCS_E	2,398	4,164	4,544	O,G	sub (~0.38)
	MNCS_F	2,343	4,219	4,626	O,G	sub (~0.38)
	MNCS_G	2,275	4,287	4,747	O,G	sub (~0.38)
	MNCS_H	2,232	4,330	4,836	O,G	sub (~0.38)
	MNCS_I	2,176	4,386	5,009	O,G	sub (~0.38)
	<b>FTP TARGET</b>	<b>2,163</b>	<b>4,399</b>	<b>5,134</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>PROJECTED LTP</b>	<b>2,127</b>	<b>4,435</b>	<b>10,717</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:**

**1,910 psi**

**Maximum anticipated surface pressure, assuming partially evacuated hole:** 940 psi

**Temperature:** Maximum anticipated BHT is 125° 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; gas detection from drill out of 13-3/8" casing to TD; remote geo-steering from drill out of 9-5/8" casing to TD.

**MWD / LWD:** MWD surveys with inclination and azimuth in 100' stations (minimum) from drill out of 13-3/8" casing to TD; Gamma Ray from drill out of 9-5/8" casing to TD; Gamma Ray optional in 12-1/4" intermediate hole

**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.:** 773

**Draw Works:** Pacific Rim 1500AC

**Mast:** ADR 1500S Cantilever Triple (142 ft, 800,000 lbs, 12 lines)

**Top Drive:** Tesco 500-ESI-1350 (500 ton, 1,350 hp)

**Prime Movers:** 3 - CAT 3512 (1,475 hp)

**Pumps:** 3 - Gardner-Denver PZ11 (7,500 psi)

**BOPE 1:** Cameron single gate ram & double gate ram (13-5/8", 10,000 psi)

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

**Choke** 3", 10,000 psi

**KB-GL (ft):** 28

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

## 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.
- 2) 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.
- 3) 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.
- 4) 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.
- 5) Manual locking devices (hand wheels) shall be installed 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 additional details. Sufficient barite will be on location to weight up mud system to balance maximum anticipated 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	499	116,634	116,634
Min. S.F.					7.39	5.47	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 Details:** 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	2,394 ft (MD)	Hole Section Length:	2,044 ft
350 ft (TVD)	to	2,282 ft (TVD)	Casing Required:	2,394 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	No OBM

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD surveys with inclination and azimuth in 100' stations (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					997	1,071	175,157	175,157
Min. S.F.					2.03	3.29	3.22	2.59

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: 3,900 Optimum: 5,200 Maximum: 6,500

Casing Point: Target casing point is 100' TVD below the Menefee top

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

Centralizers: 1 per joint in non-vertical hole; 1 per 2-joints in vertical hole

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	471
Tail	Type III	14.6	1.380	6.64	20%	1,894	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 &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.

2,394 ft (MD)	to	10,717 ft (MD)	Hole Section Length:	8,323 ft
2,282 ft (TVD)	to	4,435 ft (TVD)	Casing Required:	10,717 ft

Estimated KOP:	4,208 ft (MD)	3,888 ft (TVD)
Estimated Landing Point (FTP):	5,134 ft (MD)	4,399 ft (TVD)
Estimated Lateral Length:	5,583 ft (MD)	

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (FW)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	OBM as contingency

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD surveys with inclination and azimuth in 100' stations (minimum) before KOP, every joint from KOP to POE, every 100' (minimum) from POE to TD; Gamma Ray from drill out of 9-5/8" shoe to TD

Logging: MWD Gamma Ray 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)
<i>Specs</i>	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
<i>Loading</i>					2,191	8,915	307,213	307,213
<i>Min. S.F.</i>					<b>3.41</b>	<b>1.19</b>	<b>1.78</b>	<b>1.45</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: 3,400 Optimum: 4,530 Maximum: 5,660

**Casing Details:** Float shoe, float collar, 2 jts casing, float collar, 20' marker jt, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub at KOP, casing to surface. The toe-initiation sleeve (last-take-point) cannot be placed closer than 330' to the unit boundary when measured perpendicular to the well path.

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

**Lateral:** 1 centralizer per joint

**POE to KOP:** 1 centralizer per joint from landing point to KOP

**KOP to surface:** 1 centralizer per 2 joints from KOP to 9-5/8" shoe, 1 per 3 joints from 9-5/8" shoe to surface

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
<i>Lead</i>	Type III	12.4	2.360	13.40	50%	0	520
<i>Tail</i>	G:POZ blend	13.3	1.560	7.70	10%	3,570	1,155

**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 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. RDMO Drilling Rig.

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 25 plug-and-perf stages with 175,000 bbls slickwater fluid and 11,000,000 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:** 4/1/2022

**Completion:** 6/1/2022

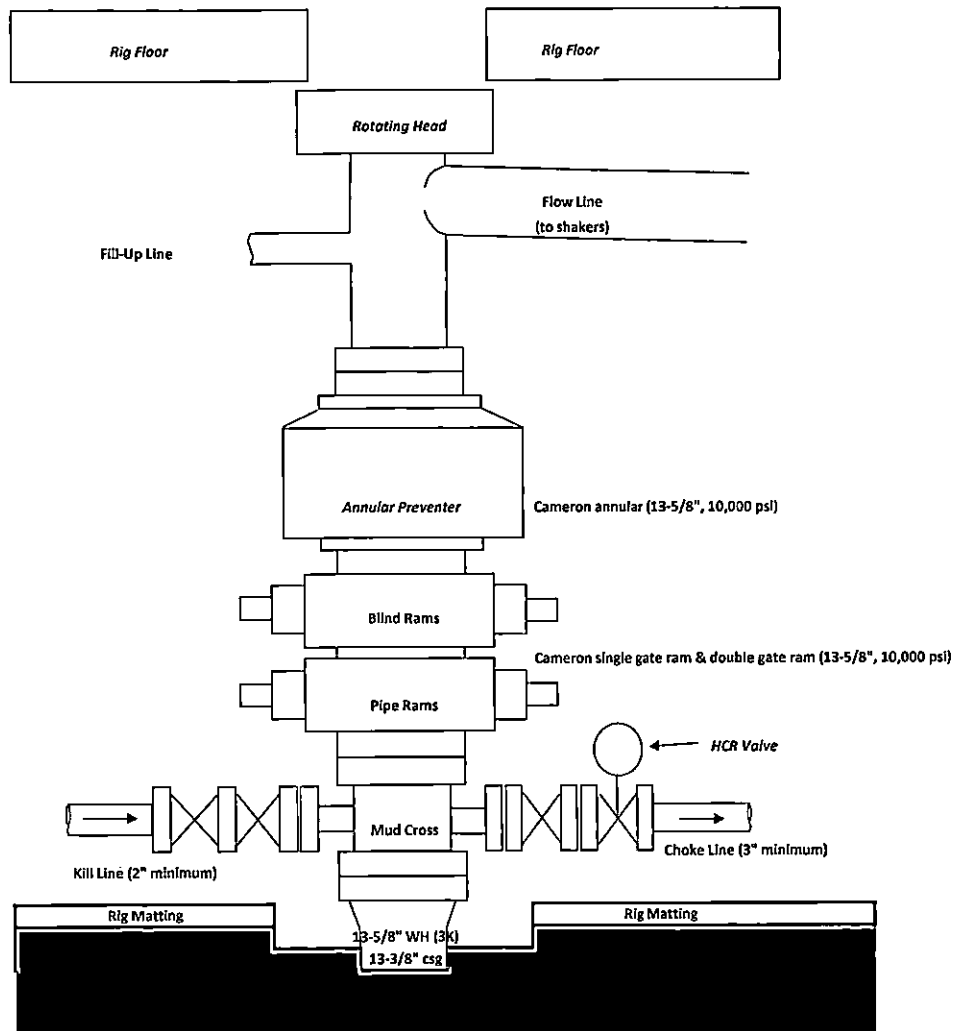
**Production:** 7/15/2022

**Prepared by:** Alec Bridge 5/6/2019

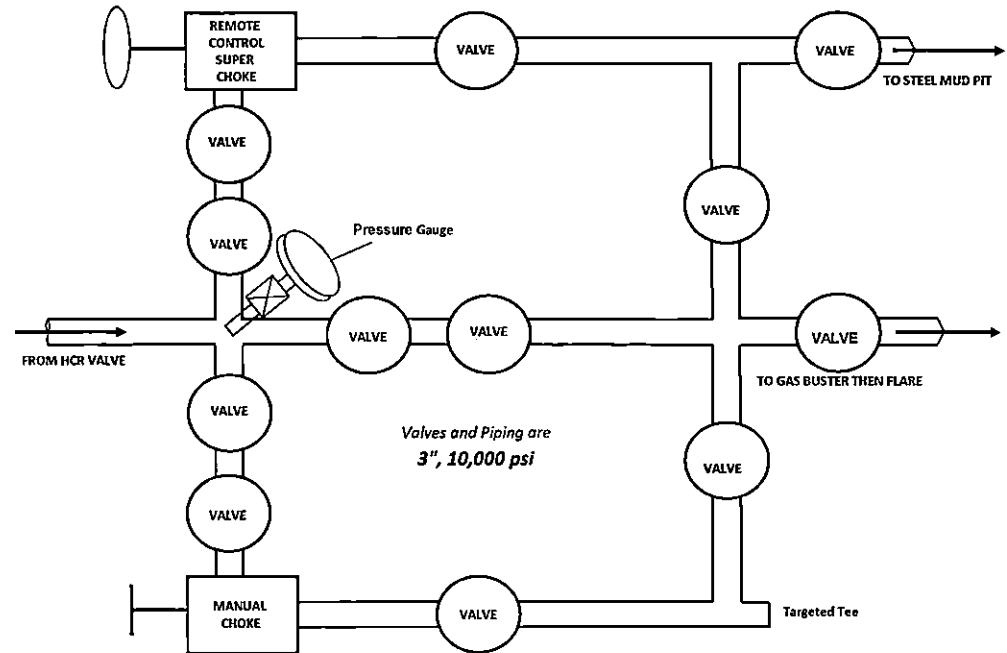
**Updated by:** Alec Bridge 1/4/2022 - updated drilling prog & directional plan for new well dimensions & development plan

## BOPE &amp; CHOKE MANIFOLD DIAGRAMS

## BOPE



## CHOKE MANIFOLD



**District I**

1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**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 110425

**CONDITIONS**

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 110425
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/26/2022
pkautz	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	5/26/2022
pkautz	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	5/26/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	5/26/2022