

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		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address	3b. Phone No. (include area code)	9. API Well No.
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
		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)

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| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
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.



(Continued on page 2)

*(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 a new 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: NWNW / 1099 FNL / 703 FWL / TWSP: 23N / RANGE: 6W / SECTION: 6 / LAT: 36.257635 / LONG: -107.516937 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 386 FNL / 153 FEL / TWSP: 23N / RANGE: 7W / SECTION: 1 / LAT: 36.259605 / LONG: -107.519881 (TVD: 5661 feet, MD: 6509 feet)

PPP: NWNW / 380 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 6 / LAT: 36.259604 / LONG: -107.519362 (TVD: 5662 feet, MD: 6662 feet)

PPP: NWNW / 401 FNL / 0 FWL / TWSP: 23N / RANGE: 6W / SECTION: 5 / LAT: 36.259583 / LONG: -107.501551 (TVD: 5717 feet, MD: 11913 feet)

BHL: NENE / 380 FNL / 100 FEL / TWSP: 23N / RANGE: 6W / SECTION: 5 / LAT: 36.259559 / LONG: -107.484083 (TVD: 5770 feet, MD: 17064 feet)

BLM Point of Contact

Name: CHRISTOPHER P WENMAN

Title: Natural Resource Specialist

Phone: (505) 564-7727

Email: cwenman@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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Conditions of Approval

Operator: Enduring Resources IV, LLC
Well Names: Haynes Canyon Unit 428H Pad: HCU 428H, 430H, 440H, 442H
Haynes Canyon Unit 432H Pad: HCU 432H, 434H, 436H, 438H,
Northeast Lybrook COM 176H Pad: NELCA 262H and 263H
Legal Location: Sec 3 & Sec 6 Township 23N, Range 6W, Rio Arriba County
NEPA Log Number: DOI-BLM-NM-F010-2023-0067-EA
Inspection Date: June 27, 2023
Lease Number: NMNM-028733, NMNM-142111X, NMSF-078362, NMNM-132829

The following conditions of approval will apply to Haynes Canyon Unit 428H, 432H, and NE Lybrook Com 176H Reoccupation (NELCA 262H) Oil and Gas Wells Project, and other associated facilities, unless a particular Surface Managing Agency or private surface owner has supplied to Bureau of Land Management and the operator a contradictory environmental stipulation. The failure of the operator to comply with these requirements may result in an assessment or civil penalties pursuant to 43 CFR 3163.1 or 3163.2.

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

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

Review of NEPA documents: It is the responsibility of the operator to follow all the design features, best management practices, and mitigation measures as contained in the Environmental Assessment DOI-BLM-NM-F010-2023-0067-EA, which contains additional design features and best management practices that must be followed. Copies of the EA, Decision Record, and Finding of No Significant Impact may be obtained from the BLM FFO public room, or online at: [EplanningUi \(blm.gov\)](https://eplanningui.blm.gov).

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

Construction, Production, Facilities, Reclamation & Maintenance

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

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

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

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

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

Painting of Equipment: Within 90 days of installation, all above ground structures not subject to safety requirements shall be painted by the Holder to blend with the natural color of the landscape. A reflective material may be used to reduce hazards that may occur when such structures are near roads. Otherwise, the paint use shall be a non-glare, non-reflective, non-chalking color of: Federal 595a-34127 (Juniper Green).

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

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

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

Driving Surface Area: All activities associated within the construction, operation, maintenance, and abandonment of the well location is limited to areas approved in the APD or ROW permit. During the production of the well, vehicular traffic is limited to the daily driving surface area established during interim reclamation construction operations. This area typically forms a keyhole or teardrop driving surface from which all production facilities may be serviced or inspected. A v-type ditch will be constructed on the outside of the driving surface to further define the driving surface and to deter vehicular traffic from entering onto the interim reclamation areas.

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

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

Layflat Lines: Layflat lines used for development of the wells may be on the ground for a maximum of 6 months and shall be retrieved immediately following completion operations. If the layflat lines are needed for longer than 6 months a Sundry NOI shall be submitted to the BLM FFO for review and decision that includes a rationale for the time extension.

The holder or its contractors will notify the BLM of any fires and comply with all rules and regulations administered by the BLM concerning the use, prevention and suppression of fires on federal lands, including any fire prevention orders that may be in effect at the time of the permitted activity. The holder or its contractors may be held liable for the cost of fire suppression, stabilization and rehabilitation. In the event of a fire, personal safety will be the first priority of the holder or its contractors.

“Hotwork” and Construction Affecting Fire Safety: The holder or its contractors shall:

1. Operate all internal and external combustion engines (including off-highway vehicles, chainsaws, generators, heavy equipment, etc.) with a qualified spark arrester. Qualified spark arresters are maintained and not modified, and meet the Society of Automotive Engineers (SAE) Recommended Practices J335 or J350. Refer to 43 CFR §8343.1.
 - a. *Refueling of any combustible engine equipment must be minimum of 3 meters away from any ignition source (open flame, smoking, etc.).*
2. Maintain and clean all equipment regularly to remove flammable debris buildup and prevent fluid leaks that can lead to ignitions.

3. Carry at least one shovel or wildland fire hand tool (combi, Pulaski, McLeod) per person working, minimum 5 gallons of water, and a fire extinguisher rated at a minimum as ABC - 10 pound on each piece of equipment and each vehicle.
4. When conducting “hotwork” such as, but not limited to welding, grinding, cutting, spark-producing work with metal, work that creates hot material or slag; choose an area large enough to contain all hot material that is naturally free of all flammable vegetation or remove the flammable vegetation in a manner compliant with the permitted activity. If adequate clearance cannot be made, wet an area large enough to contain all hot material prior to the activity and periodically throughout the activity to reduce the risk of wildfire ignition. Regardless of clearance, maintain readiness to respond to an ignition at all times. In addition, keep one hand tool per person and at least one fire extinguisher ready, minimum, as specified earlier (#3) during this activity.
5. Keep apprised of current and forecasted weather at <https://www.weather.gov/abq/forecasts-fireweather-links> and fire conditions at www.wfas.net and take additional fire precautions when fire danger is rated High or greater. Red Flag Warnings are issued by the National Weather Service when fire conditions are most dangerous, and ignitions escape control quickly. Extra precautions are required during these warnings such as additional water, designate a fire watch/patrol and tools. If work is being conducted in an area that is not clear of vegetation within 50 feet of work area; then, when fire danger is rated High or greater and 1. There is a predicted Red Flag warning for your area or 2. If winds are predicted to be greater than 10 mph, stop all hotwork activities for the day at 10 am.
6. In the event of an ignition, initiate fire suppression actions in the work area to prevent fire spread to or on federally administered lands. If a fire spreads beyond the capability of workers with the stipulated tools, all will cease fire suppression action and leave the area immediately via pre-identified escape routes.
7. Call **911** or the **Taos Interagency Fire Dispatch Center (575-758-6208)** immediately of the location and status of any fire.

AND

Notify the respective BLM field office for which the permit or contract was issued immediately of the incident.

Farmington Field Office at 505-564-7600

Taos Field Office at 575-758-8851

Noxious Weeds

Inventory the proposed site for the presence of noxious and invasive weeds. Noxious weeds are those listed on the New Mexico Noxious Weed List and USDA’s Federal Noxious Weed List. The New Mexico Noxious Weed List or USDA’s Noxious Weed List can be updated at any time and should be regularly check for any changes. Invasive species may or may not be listed as a noxious weed but have been identified to likely cause economic or environmental harm or harm to human health. The following noxious weeds have been identified as occurring

on lands within the boundaries of the Farmington Field Office (FFO). There are numerous invasive species on the FFO such as Russian thistle (*Salsola spp.*) and field bindweed (*Convolvulus arvensis*).

Russian Knapweed (<i>Centaurea repens</i>)	Musk Thistle (<i>Carduss nutans</i>)
Bull Thistle (<i>Cirsium vulgare</i>)	Canada Thistle (<i>Cirsium arvense</i>)
Scotch Thistle (<i>Onopordum acanthium</i>)	Hoary Cress (<i>Cardaria draba</i>)
Perennial Pepperweed (<i>Lepidium latifolium</i>)	Halogeton (<i>Halogeton glomeratus</i>)
Spotted Knapweed (<i>Centaurea maculosa</i>)	Dalmation Toadflax (<i>Linaria genistifolia</i>)
Yellow Toadflax (<i>Linaria vulgaris</i>)	Camelthorn (<i>Alhagi pseudalhagi</i>)
African Rue (<i>Penganum harmala</i>)	Salt Cedar (<i>Tamarix spp.</i>)
Diffuse Knapweed (<i>Centaurea diffusa</i>)	Leafy Spurge (<i>Euphorbia esula</i>)

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

Bare ground vegetation trim-out: If bare ground vegetation treatment (trim-out) is desired around facility structures, the operator will submit a bare ground/trim-out design included in their Surface Use Plan of Operations (SUPO). The design will address vegetation safety concerns of the operator and BLM while minimizing impacts to interim reclamation efforts. The design must include what structures to be treated and buffer distances of trim-out. Pesticide use

for vegetation control around anchor structures is not approved. If pesticides are used for bare ground trim-out, the trim-out will not exceed three feet from the edge of any eligible permanent structure (i.e., well heads, fences, tanks). Additional distance/areas may be requested and must be approved by the FFO authorized officer. The additional information below must also be provided to the FFO:

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

Paleontology

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

Visual Resources

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

Wildlife Resources

Wildlife: The proposed project intersects a known mule deer migration route. Big game habitat areas and hunting activities are valuable land uses which support BLM's multiple-use land management objectives. To maintain reasonable concurrence with surface use closure

requirements in other recognized mule deer migration areas in the BLM FFO, no surface use will take place December 1 – March 1.

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

Migratory Bird: Migratory nest survey stipulations. Once drilling and completion activities are complete, any open water that could be harmful to birds and wildlife. must be covered, screened, or netted to prevent entry.

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

Noise: This well is located within a designated Noise Sensitive Area (NSA). Once proposed project activities are complete, noise from pumpjack, compressor or other facilities cannot exceed 48.6 db at edge of Bald eagle ACEC core area. Any compressor that emits noise > 48.6db may require a 'noise wall' to deflect sound away from ACEC...

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

Livestock Grazing: Cattle are in allotment between 5/1 and 10/31. Industry may need to coordinate with permittee if concerns of livestock in area during construction.

Soil, Air, Water

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

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

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

Cultural Resources

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

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

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

Discovery of Cultural Resources during Monitoring: If monitoring confirms the presence of previously unidentified historic or prehistoric cultural resources, then work in the vicinity of the discovery will be suspended and the monitor will promptly report the discovery to the BLM Field Manager. BLM will then specify what action is to be taken. **If there is an approved "discovery plan" in place for the project, then the plan will be executed. In the absence of an approved plan, the BLM will evaluate the significance of the discovery in accordance with 36 CFR Section 800.13, in consultation with the appropriate State or Tribal Historic Preservation Officer(s) and Indian tribe(s) that might attach religious and cultural significance to the affected property, or in accordance with an approved program alternative.** Minor recordation, stabilization, or data recovery may be performed by BLM or a third party acting on its behalf, such as a permitted cultural resources consultant. If warranted, more extensive archaeological or alternative mitigation, likely implemented by a permitted cultural resources consultant, may be required of the operator/holder prior to

allowing the project to proceed. Further damage to significant cultural resources will not be allowed until any mitigations determined appropriate through the agency's Section 106 consultation are completed.

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

See below additional cultural stipulations.

IN-HOUSE ARCHEOLOGICAL SURVEY DETERMINATION
FARMINGTON FIELD OFFICE

NM-210-2024-003

Case No./Name: Haynes Canyon 428H Well Pad
Company: Enduring
Type of Case: Well Pad

Date Submitted: 10/17/2023.

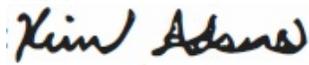
IS A CULTURAL RESOURCE INVENTORY REQUIRED?

- Proposal involves non-Federal lands.
- Proposal is within an existing right-of-way.
- Proposal is along an existing road.
- Proposal is within an existing disturbed area.
- The well pad is to be expanded _____ feet to the _____.
- Other: This new well pad will be re-permitted and drilled on an existing location.
Please see the attached base map.

Submitted by: Kim A. on behalf of Chris W.

CULTURAL RESOURCE SPECIALIST RECOMMENDATIONS

- Inventory for cultural resources **is** required.
- Inventory for cultural resources **is not** required for the reason(s) indicated below.
 - Previous natural ground disturbance has modified the surface so extensively that the likelihood of finding cultural properties is negligible (e.g., within a floodplain), or
 - Human activity has created a new land surface to such an extent as to eradicate traces of cultural properties, or
 - Existing Class II or equivalent inventory or environmental data are sufficient to indicate that there is no likelihood of finding a National Register or eligible property, or
 - Inventory at the Class III level of intensity has previously been performed and records adequately documenting the location, methods, and results of the inventory are available in report no. NMCRIS No 130650
or
 - Natural environmental characteristics are unfavorable to the presence of cultural properties (such as recent landslide or rock falls), or
 - The nature of the proposed action is such that no impact can be expected on significant cultural resources (e.g. land use will not require any surface disturbing action, e.g., aerial spraying, hand application of chemicals, travel on existing roads, etc.), or
 - Other:

Recommended by: 
Archaeologist

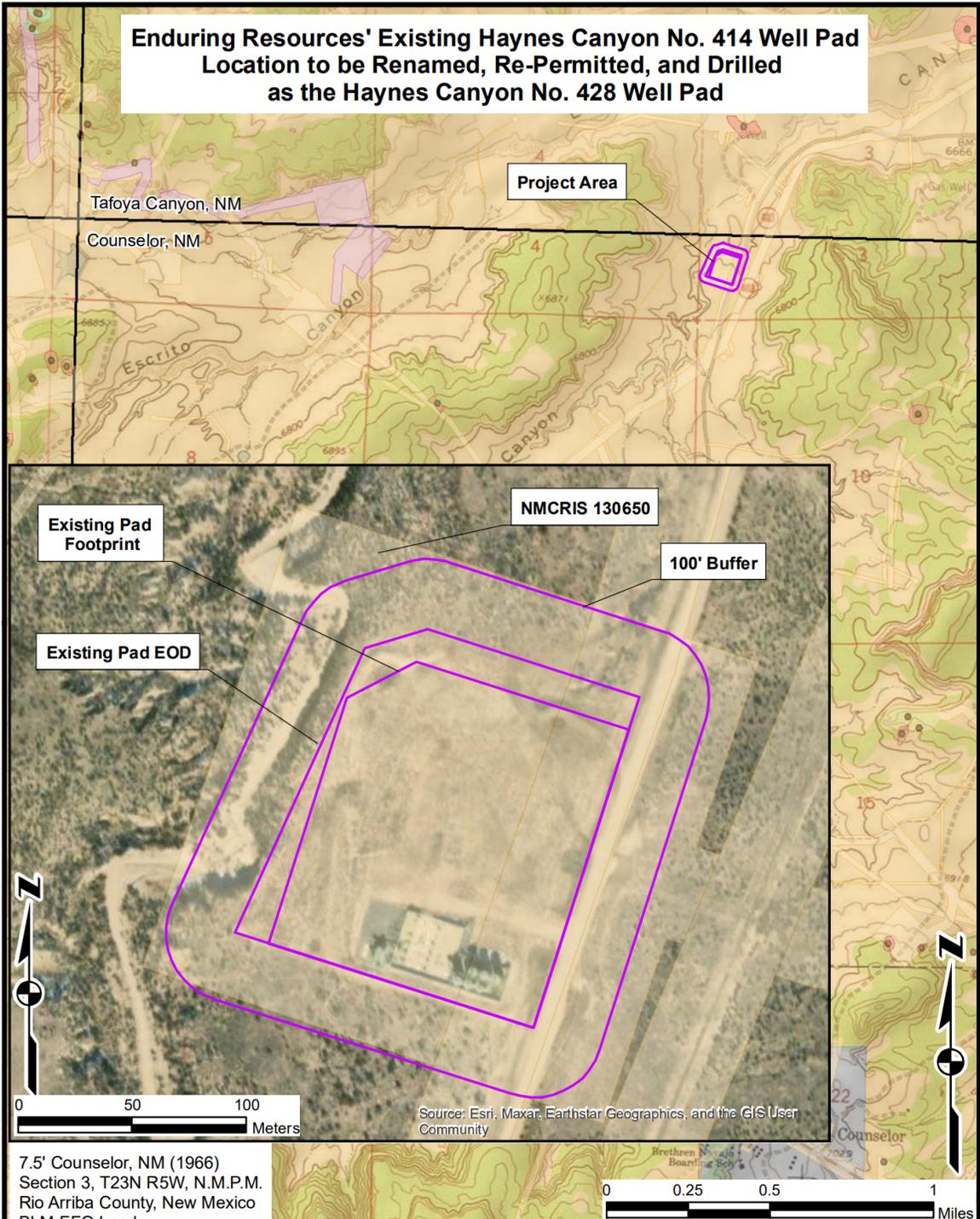
Date: 10/17/2023

Cultural Notes (if any, e.g., conditions, stipulations, etc.):

For Official Use Only
Disclosure of Site Locations is Prohibited (36CFR 296.18)

VICINITY MAP

**Enduring Resources' Existing Haynes Canyon No. 414 Well Pad
Location to be Renamed, Re-Permitted, and Drilled
as the Haynes Canyon No. 428 Well Pad**





BLM Report Number: 2024(I)002F
USGS Map: Counselor & Tafoya Canyon, NM
Activity Code: 1310
NMCRIS No: 153816

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

1. Description of Report/Project:

Project Name: Haynes Canyon Unit 432H Reoccupation Well Pad, Access Road Upgrade, Pipeline, Layflat, and Temporary Use Areas.

Project Sponsor: Enduring Resources.

Arch. Firm & Report No.: Division of Conservation Archaeology; DCA Report No. 23-DCA-027.

Location: T23N R6W Section 3.

Well Footages: 1,773' FNL, 303' FWL.

Split Estate: No.

Project Dimensions: 400 ft x 400 ft – well pad (500 ft x 500 ft w/ a 50 ft construction zone).
 1,571 ft x 30 ft - access road upgrade.
 3,384 ft x 40 ft – pipeline/layflat.
 248 ft x 25 ft – TUA.
 323 ft x 25 ft – TUA.

Sites Located: LA39919/NM-01-31536 (NRHP- Eligible; Avoided).

Determination: No Effect to Historic Properties.

2. Field Check: No

3. Cultural ACEC: No.

4. Sensitive Cultural Area: No.

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

6. Reviewer /Archaeologist: Kim Adams **Date:** 10/23/2023

Note: Part of this project was previously inventoried.

Report Summary	BLM	Other	Total
Acres Inventoried	14.93	0.00	14.93
Sites Recorded	0	0	0
Prev. Recorded Sites	1	0	1
Sites Avoided	1	0	1
Sites Treated	0	0	0

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

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

CULTURAL RESOURCE STIPULATIONS
Farmington Field Office
BLM Report Number: 2024(I)002F

Project Name: Haynes Canyon Unit 432H Reoccupation Well Pad, Access Road Upgrade, Pipeline, Layflat, and Temporary Use Area.

Project Sponsor: Enduring Resources.

1. SITE PROTECTION AND EMPLOYEE EDUCATION:

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

2. ARCHAEOLOGICAL MONITORING IS REQUIRED:

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

The monitor will:

- Ensure that the site protection barrier is located as indicated on the attached map in the vicinity of LA39919.
- Inform BLM-FFO archaeologists that monitoring will be occurring within 24 hours of the scheduled monitoring.
- Observe all construction activities within 100' of LA39919.
- Submit a report of the monitoring activities within 30 days of completion of monitoring unless other arrangements are made with the BLM. These stipulations must be attached to the report.

3. SITE PROTECTION BARRIER:

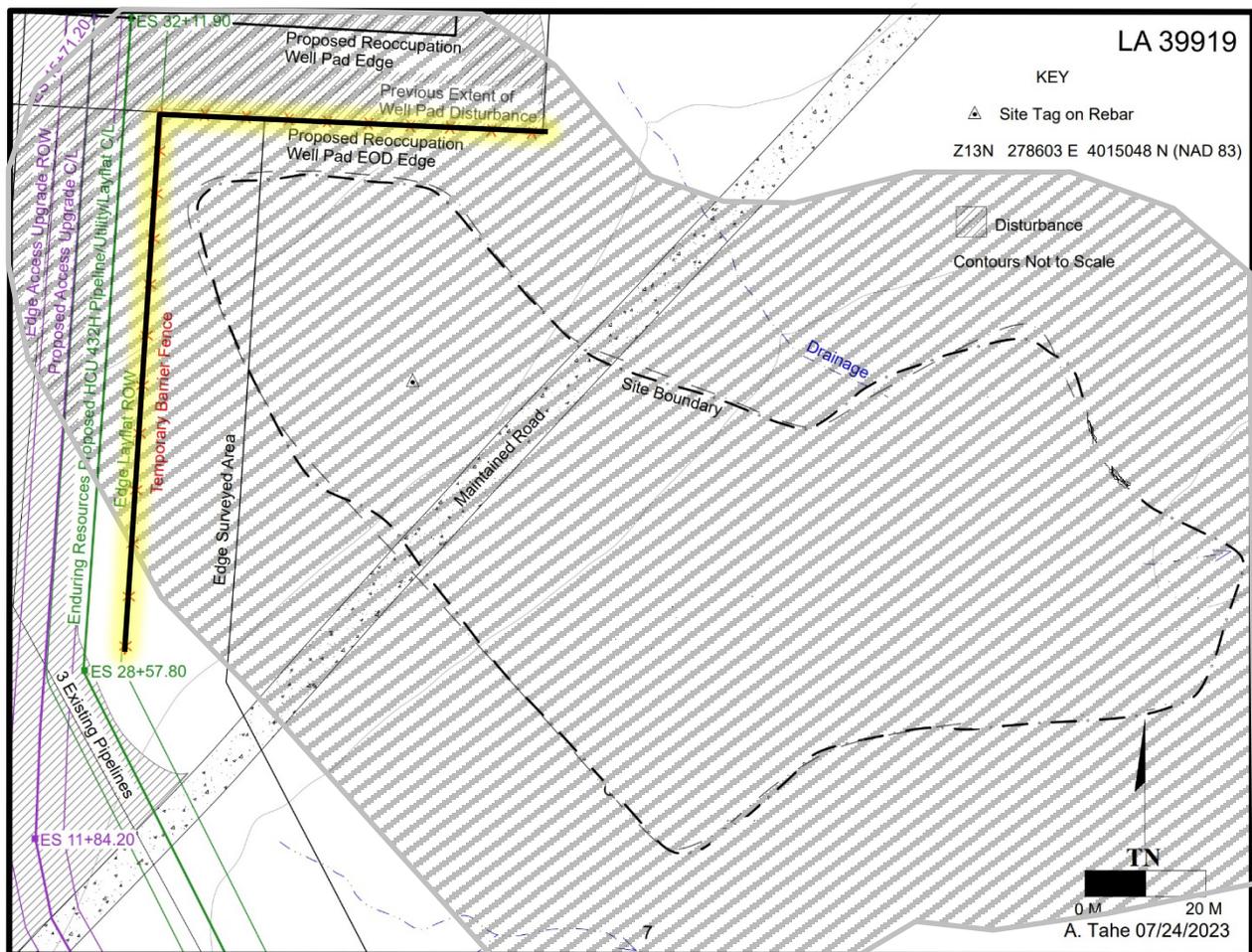
- The temporary site protection barrier will be erected prior to the start of construction. The barrier will consist of upright wooden survey lath spaced no more than 10 feet apart and marked with blue flagging or blue paint. The barrier will remain in place through reclamation and reseeding and shall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

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

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18)
CULTURAL RESOURCE STIPULATIONS
 Farmington Field Office
 BLM Report Number: 2024(I)002F

Project Name: Haynes Canyon Unit 432H Reoccupation Well Pad, Access Road Upgrade, Pipeline, Layflat, and Temporary Use Area.
Project Sponsor: Enduring Resources.

MONITOR CONSTRUCTION =  TEMPORARY FENCING = 



Report No. 23 DCA 027

Figure 3. Plan map of LA 39919

NMCRIS No. 153816



BLM Report Number: 2024(I)005F
USGS Map: Crow Mesa West, NM
Activity Code: 1310
NMCRIS No: 154100

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

1. Description of Report/Project:

Project Name: Northeast Lybrook Com No 262H Reoccupation Well.
Project Sponsor: Enduring Resources.
Arch. Firm & Report No.: Division of Conservation Archaeology; DCA Report No. 22-DCA-060.
Location: T23N R6W Section 6.

Well Footages: See plats

Split Estate: No.

Project Dimensions: 300 ft x 500 ft – well pad (400 ft x 600 ft w/ a 50 ft construction zone).

Sites Located: LA64876/NM-01-34748 (NRHP- Eligible; Update; Avoided; No Further Work).
 LA175265/NM-210-47840 (NRHP- Eligible; Update; Avoided).
 LA178266/NM-210-48243 (NRHP- Eligible; Update; Avoided).

Determination: No Effect to Historic Properties.

2. Field Check: No

3. Cultural ACEC: No.

4. Sensitive Cultural Area: No.

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

6. Reviewer /Archaeologist: Kim Adams **Date:** 11/6/2023

Note: The majority of this project was previously inventoried (see NMCRIS No 129798).

Report Summary	BLM	Other	Total
Acres Inventoried	0.74	0.00	0.74
Sites Recorded	0	0	0
Prev. Recorded Sites	3	0	3
Sites Avoided	3	0	3
Sites Treated	0	0	0

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

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

CULTURAL RESOURCE STIPULATIONS
Farmington Field Office
BLM Report Number: 2024(I)005F

Project Name: Northeast Lybrook Com No 262H **Reoccupation Well.**

Project Sponsor: Enduring Resources.

1. SITE PROTECTION AND EMPLOYEE EDUCATION:

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

2. ARCHAEOLOGICAL MONITORING IS REQUIRED:

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

The monitor will:

- Ensure that the site protection barriers are located as indicated on the attached maps in the vicinity of LA175265, & LA178266.
- Inform BLM-FFO archaeologists that monitoring will be occurring within 24 hours of the scheduled monitoring.
- Observe all construction activities within 100' of LA175265, & LA178266.
- Submit a report of the monitoring activities within 30 days of completion of monitoring unless other arrangements are made with the BLM. These stipulations must be attached to the report.

3. SITE PROTECTION BARRIER:

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

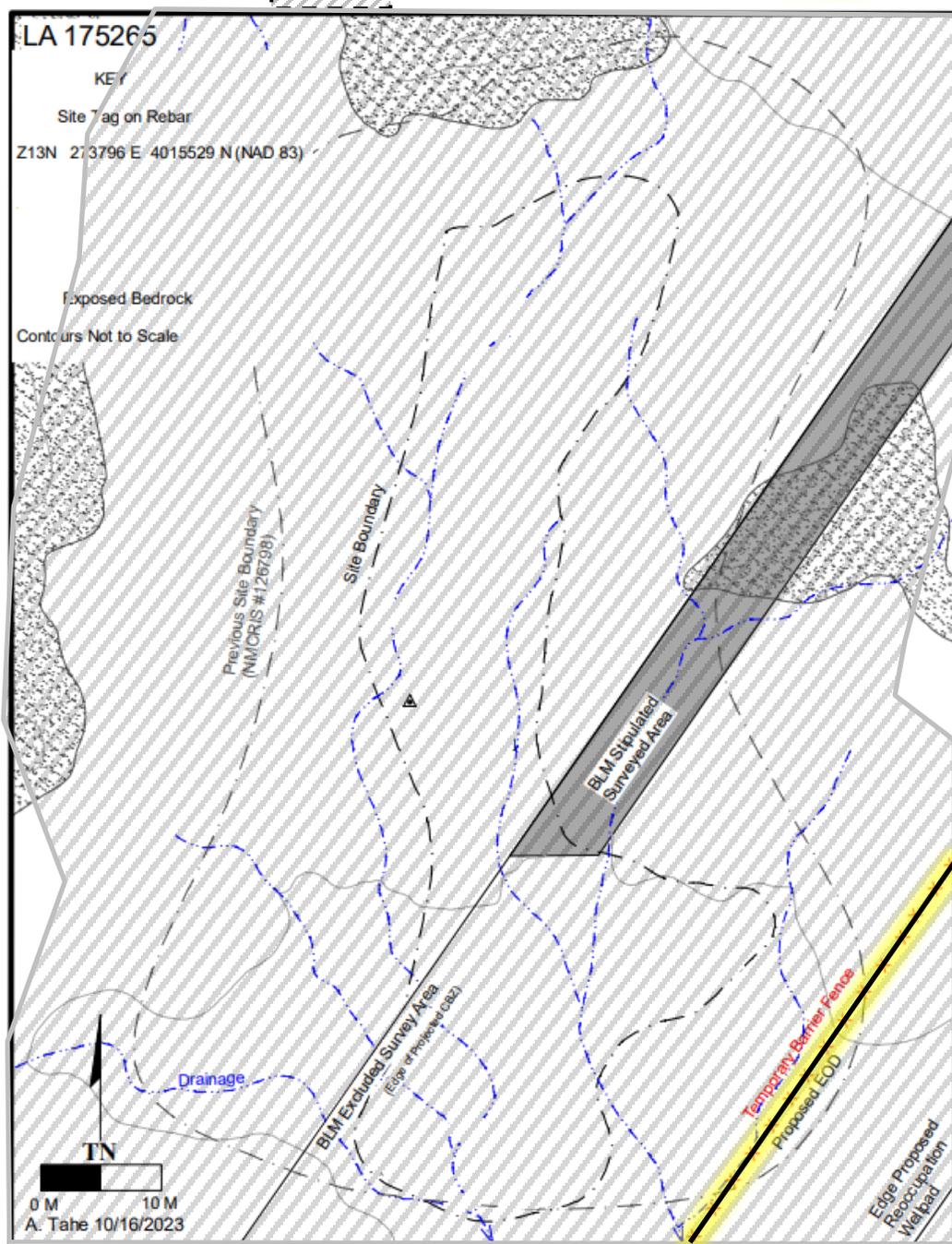
Note: If there are questions about these stipulations, contact Kim Adams (BLM) at 505.564.7683 or kadams@blm.gov.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18)
CULTURAL RESOURCE STIPULATIONS
 Farmington Field Office
 BLM Report Number: 2024(I)005F

Project Name: Northeast Lybrook Com No 262H Reoccupation Well.

Project Sponsor: Enduring Resources.

MONITOR CONSTRUCTION =  TEMPORARY FENCING = 

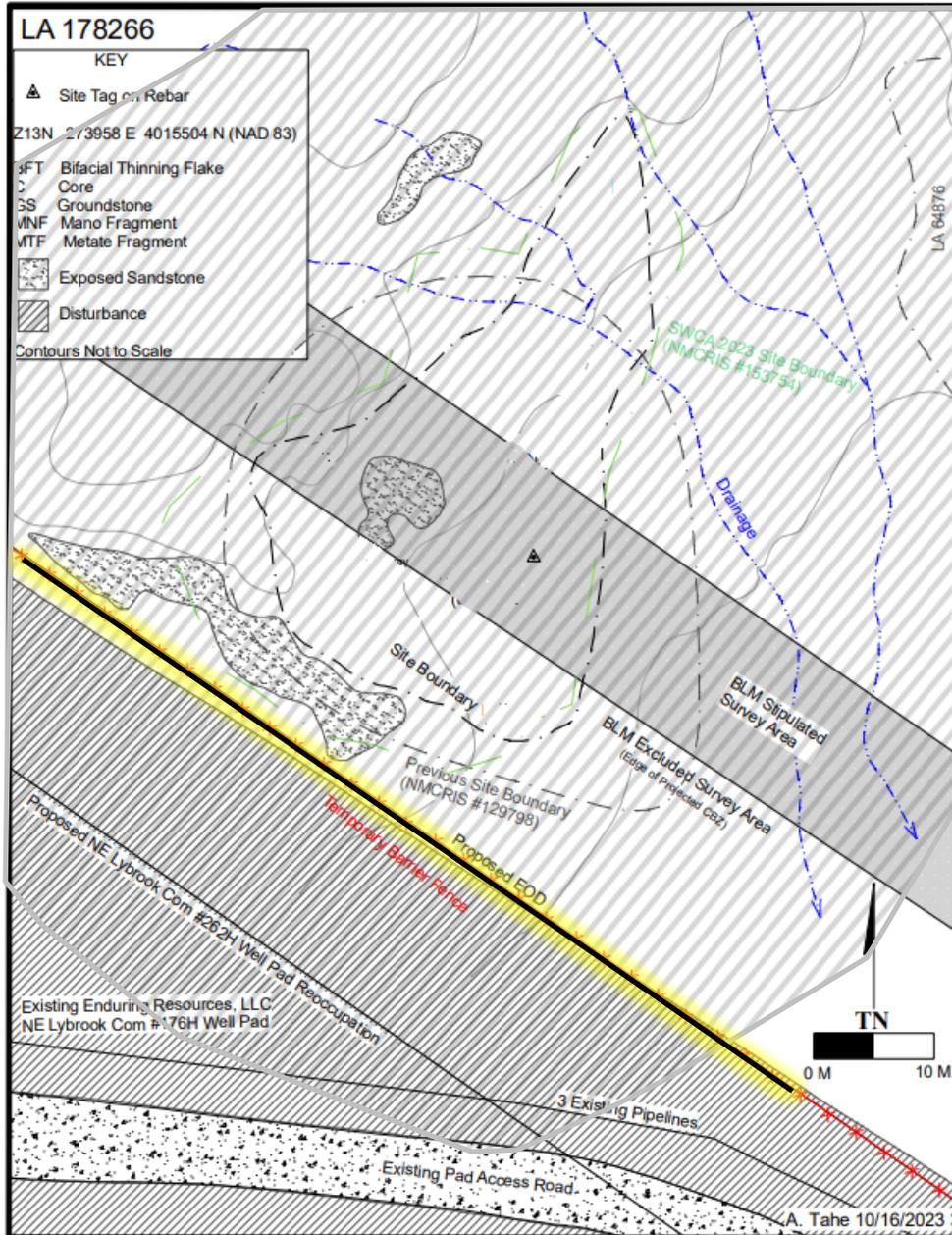


For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18)
CULTURAL RESOURCE STIPULATIONS
 Farmington Field Office
 BLM Report Number: 2024(I)005F

Project Name: Northeast Lybrook Com No 262H Reoccupation Well.

Project Sponsor: Enduring Resources.

MONITOR CONSTRUCTION =  TEMPORARY FENCING = 



Report No. 22-DCA-060

NMCRIS No. 154100



United States Department of the Interior



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

In Reply Refer To:
3162.3-1(NMF0110)

* ENDURING RESOURCES LLC
#262H NE LYBROOK COM
Lease: NMSF078362 Agreement: NMNM132829

SH: NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 6, T. 23N., R. 6W.
Rio Arriba County, New Mexico
BH: NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 5, T. 23N., R. 6W.
Rio Arriba County, New Mexico
***Above Data Required on Well Sign**

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

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

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

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

I. GENERAL

- A. Full compliance with all applicable laws and regulations, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. BOP equipment (except the annular preventer) shall be tested utilizing a test plug to full working pressure for 10 minutes. No bleed-off of pressure is acceptable. (See 43 CFR 3172.6(b)(9)(ii)).
- G. The operator shall have sufficient weighting materials and lost circulation materials on location in the event of a pressure kick or in the event of lost circulation. (See 43 CFR 3172.8(a)).
- H. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare. (See 43 CFR 3172.8(b)(7)).
- I. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a Notice of Intent sundry within three business days. **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to Virgil Lucero at 505-793-1836.**
- J. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**

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

II. REPORTING REQUIREMENTS

- A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.
- B. The following reports shall be filed with the BLM-Authorized Officer online through AFMSS 2 within 30 days after the work is completed.
 - 1. Provide complete information concerning.
 - a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
 - b. Intervals tested, perforated (include size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
 - c. Subsequent Report of Abandonment, show the way the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.
 - 2. Well Completion Report will be submitted with 30 days after well has been completed.
 - a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.
 - 3. Submit a cement evaluation log if cement is not circulated to surface.
- C. Production Startup Notification is required no later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site or resumes production in the case of a well which has been off production for more than 90 days. The operator shall notify the Authorized Officer by letter or Sundry Notice, Form 3160-5, or orally to be followed

by a letter or Sundry Notice, of the date on which such production has begun or resumed. CFR 43 3162.4-1(c).

III. DRILLER'S LOG

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

IV. GAS FLARING

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

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

V. SAFETY

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

VI. CHANGE OF PLANS OR ABANDONMENT

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

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

AMENDED REPORT

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

17 OPERATOR CERTIFICATION

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

Signature: *Heather Huntington* Date: 9/14/23
Printed Name: Heather Huntington
E-mail Address: hhuntingotn@enduringresources.com

18 SURVEYOR CERTIFICATION

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

Date Revised: JULY 20, 2023
Survey Date: JANUARY 29, 2023

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name	
		98088		CHACO NE HZ (OIL)	
4 Property Code		5 Property Name		6 Well Number	
332738		NE LYBROOK COM		262H	
7 OGRID No.		8 Operator Name		9 Elevation	
372286		ENDURING RESOURCES, LLC		6980'	

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	6	23N	6W	4	1099	NORTH	703	WEST	RIO ARRIBA

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	5	23N	6W	1	380	NORTH	100	EAST	RIO ARRIBA

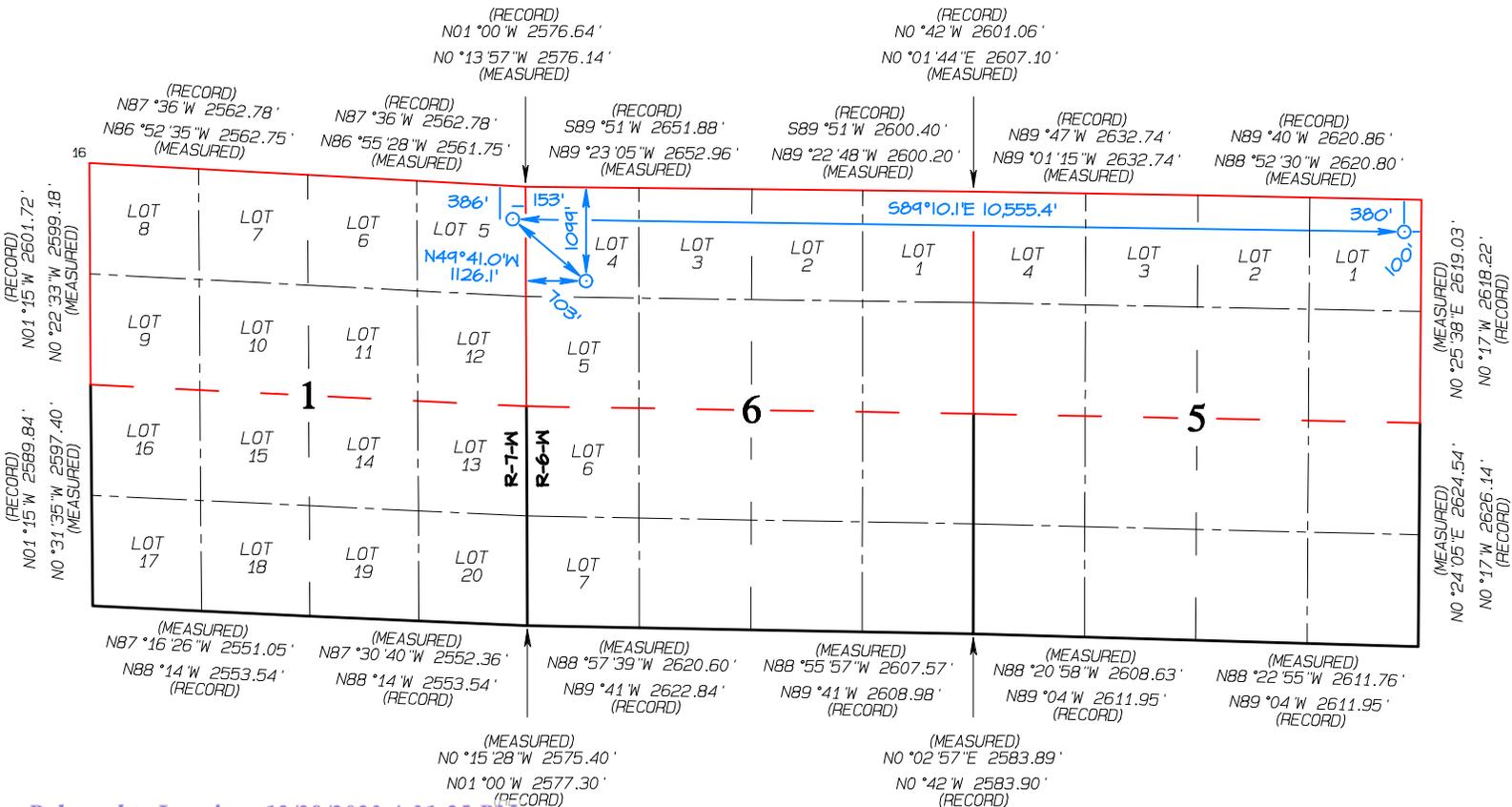
12 Dedicated Acres		13 Joint or Infill		14 Consolidation Code		15 Order No.	
949.17		N/2 - Sec 1, T23N, R7W N/2 - Sec 5, T23N, R6W N/2 - Sec 6, T23N, R6W					

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

FIRST TAKE POINT
386' FNL 153' FEL
SEC 1, T23N, R7W
LAT 36.259605°N
LONG -107.519881°W
DATUM: NAD1983

SURFACE LOCATION
1099' FNL 703' FWL
SEC 6, T23N, R6W
LAT 36.257635°N
LONG -107.516937°W
DATUM: NAD1983

LAST TAKE POINT
380' FNL 100' FEL
SEC 5, T23N, R6W
LAT 36.259559°N
LONG -107.484083°W
DATUM: NAD1983



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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

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

Submit one copy to
Appropriate District Office

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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

AMENDED REPORT

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

17 OPERATOR CERTIFICATION

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

Signature: *Heather Huntington* Date: 9/14/23

Printed Name: Heather Huntington

E-mail Address: hhuntington@enduringresources.com

18 SURVEYOR CERTIFICATION

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

Date Revised: JULY 20, 2023
Survey Date: JANUARY 29, 2023

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

WELL LOCATION AND ACREAGE DEDICATION PLAT

Table with 3 columns: API Number, Pool Code, Pool Name, Property Code, Property Name, Well Number, OGRID No., Operator Name, Elevation.

10 Surface Location

Table with 10 columns: UL or lot no., Section, Township, Range, Lot Idn, Feet from the, North/South line, Feet from the, East/West line, County.

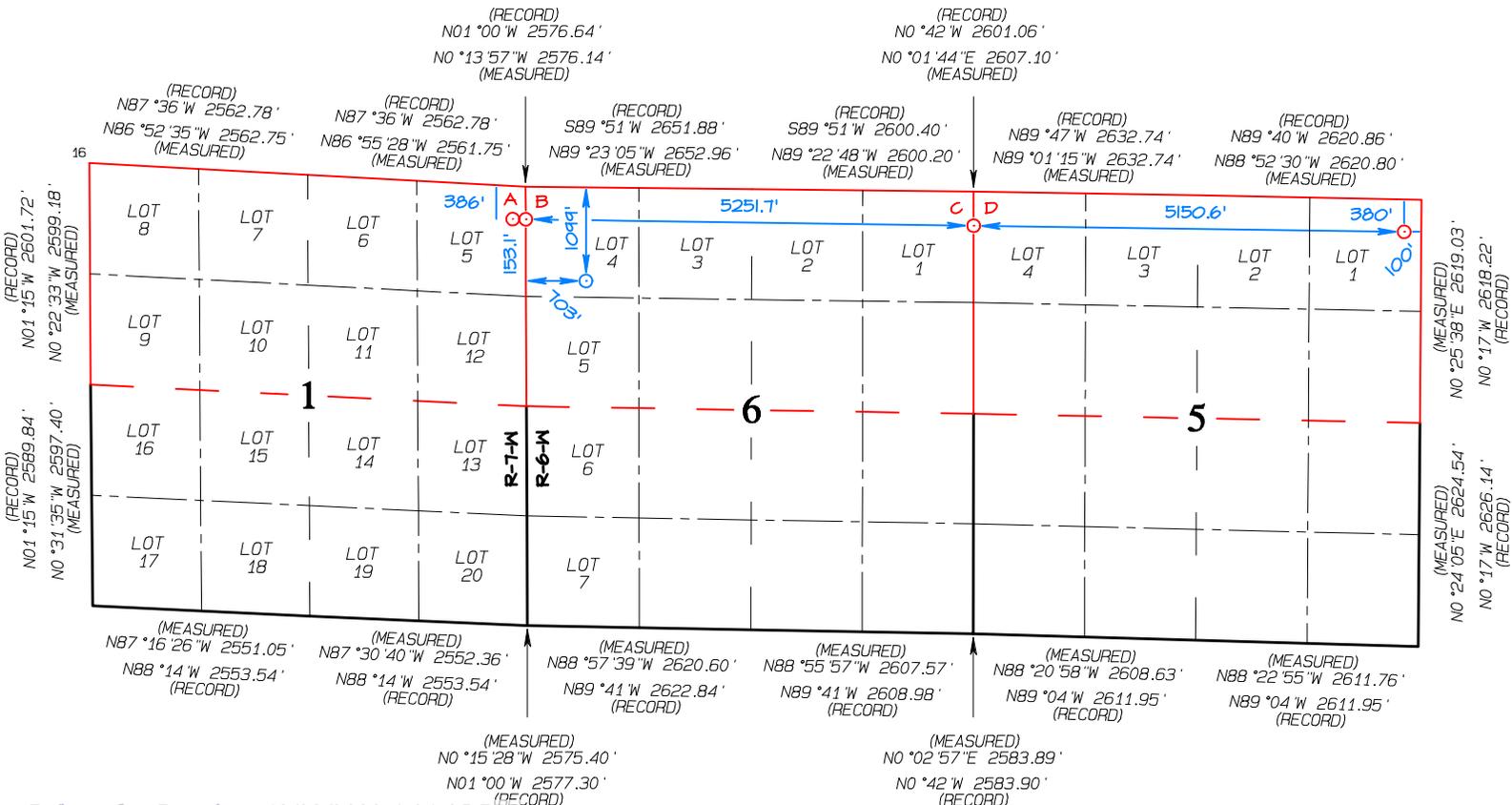
11 Bottom Hole Location If Different From Surface

Table with 10 columns: UL or lot no., Section, Township, Range, Lot Idn, Feet from the, North/South line, Feet from the, East/West line, County.

Table with 5 columns: Dedicated Acres, Joint or Infill, Consolidation Code, Order No., and a grid of section descriptions (N/2 - Sec 1, T23N, R7W, etc.).

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

Table with 7 columns: FIRST TAKE POINT, SURFACE LOCATION, LEASE X-ING (A), LEASE X-ING (B), LEASE X-ING (C), LEASE X-ING (D), LAST TAKE POINT. Includes coordinates and datums.



~ SURFACE OWNER ~

Bureau of Land Management

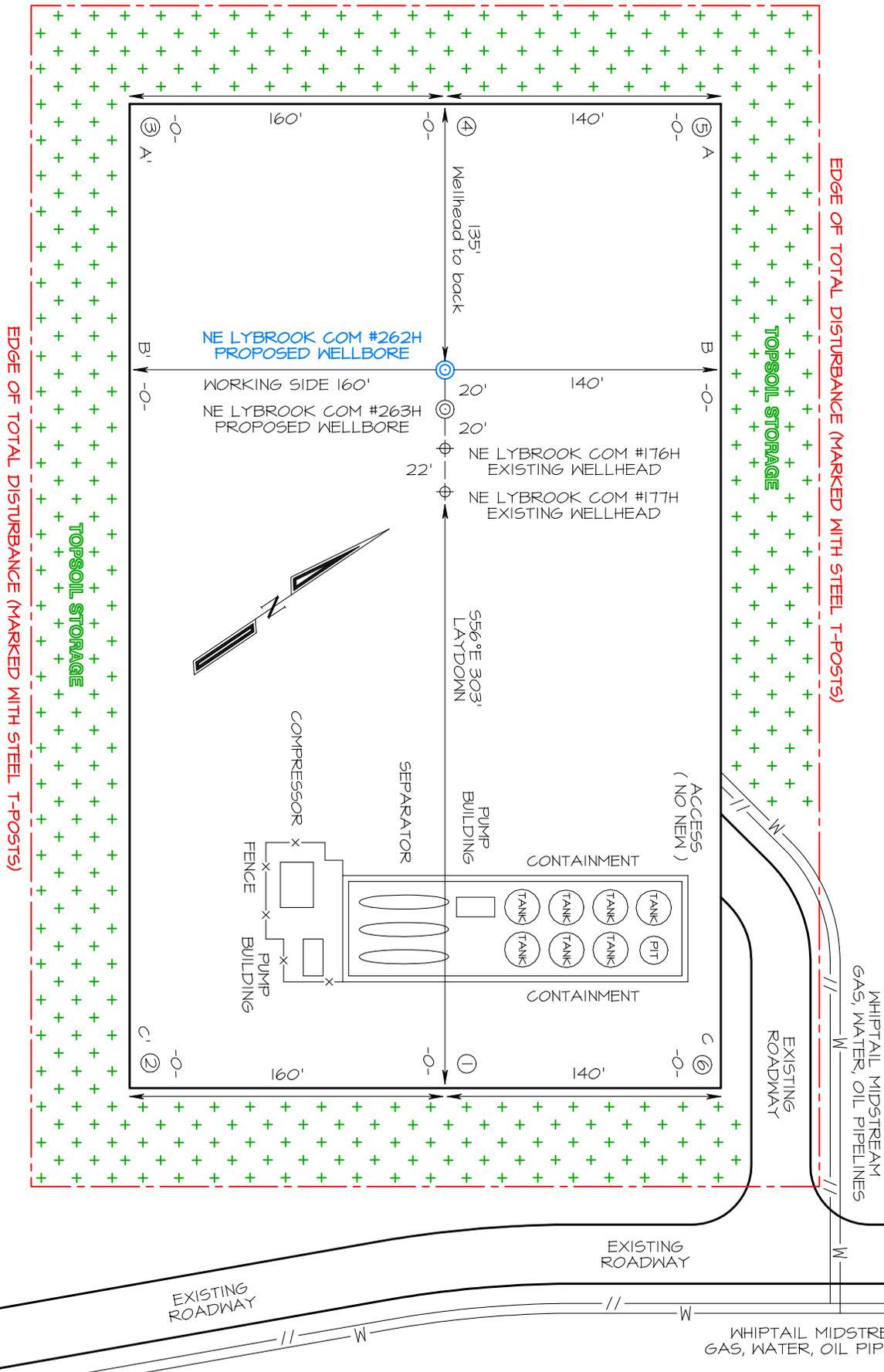
GRAPHIC SCALE 1" = 75'



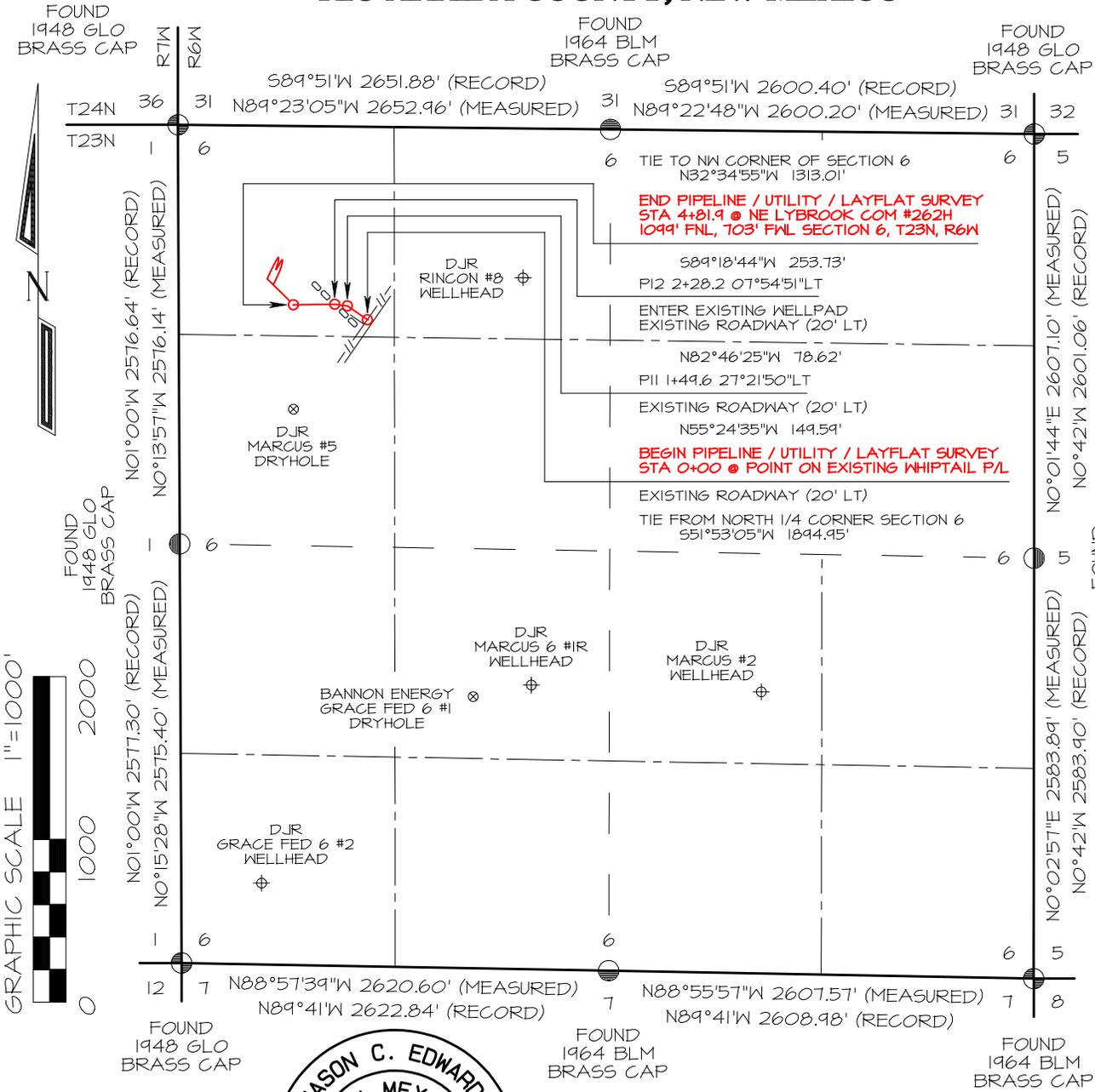
Area of Total Disturbance
600' X 400' = 5.51 Acres

Steel T-Posts have been set to define the Edge of Disturbance limits which are 50' offset from the edge of the staked wellhead.

**ENDURING RESOURCES, LLC NE LYBROOK COM #262H
1099' FNL & 703' FWL, SECTION 6, T23N, R6W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 6980'
LAT 36.257635°N LONG -107.516937°W DATUM: NAD1983**

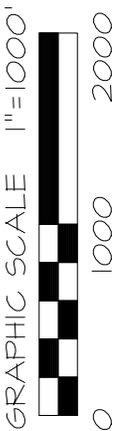


ENDURING RESOURCES, LLC NE LYBROOK COM #262H SURVEY FOR EXISTING PIPELINE / UTILITY / LAYFLAT WATERLINE LOCATED IN NW/4 NW/4 OF SECTION 6, T23N, R6W, NMPM RIO ARriba COUNTY, NEW MEXICO



REAL-TIME KINEMATIC GPS SURVEY SOLUTION OBTAINED FROM SATELLITES TRACKED ON JANUARY 29, 2023 FROM A REFERENCE STATION POSITIONED IN SE/4 NW/4 OF SECTION 1, T23N, R7W

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THE PROJECT



~ SURFACE OWNERSHIP ~
Bureau of Land Management

0+00 TO 4+81.9 481.9 FT / 29.2 RODS

I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: August 17, 2023
Jason C. Edwards, P.L.S.
New Mexico L.S. #15269

Prepared for: ENDURING RESOURCES, LLC 200 ENERGY COURT FARMINGTON, NM 87401		Land Surveyor: Jason C. Edwards	CHECKED BY: JCE DRAWN BY: EDO
		Mailing Address: Post Office Box 6612 Farmington, NM 87499 Business Address: 111 East Pinon Street Farmington, NM 87402 (505) 486-1695 (Office) ncesurveys@comcast.net	
SURVEYS, INC.		SHEET 5 OF 7 FILENAME: 2366Dg1	

Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to Enduring Resources, LLC NE Lybrook Com #262H
1099' FNL & 703' FWL, Section 6, T23N, R6W, N.M.P.M., Rio Arriba County, NM

Latitude 36.257635°N Longitude -107.516937°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 48.3 miles to Mile Marker #102.9;

Go Left (Northerly) on County Road #378 for 1.1 miles to fork in roadway;

Go Right (Northerly) exiting County Road #378 for 0.1 miles to fork in roadway;

Go Left (North-easterly) which is straight for 1.3 miles to fork in roadway;

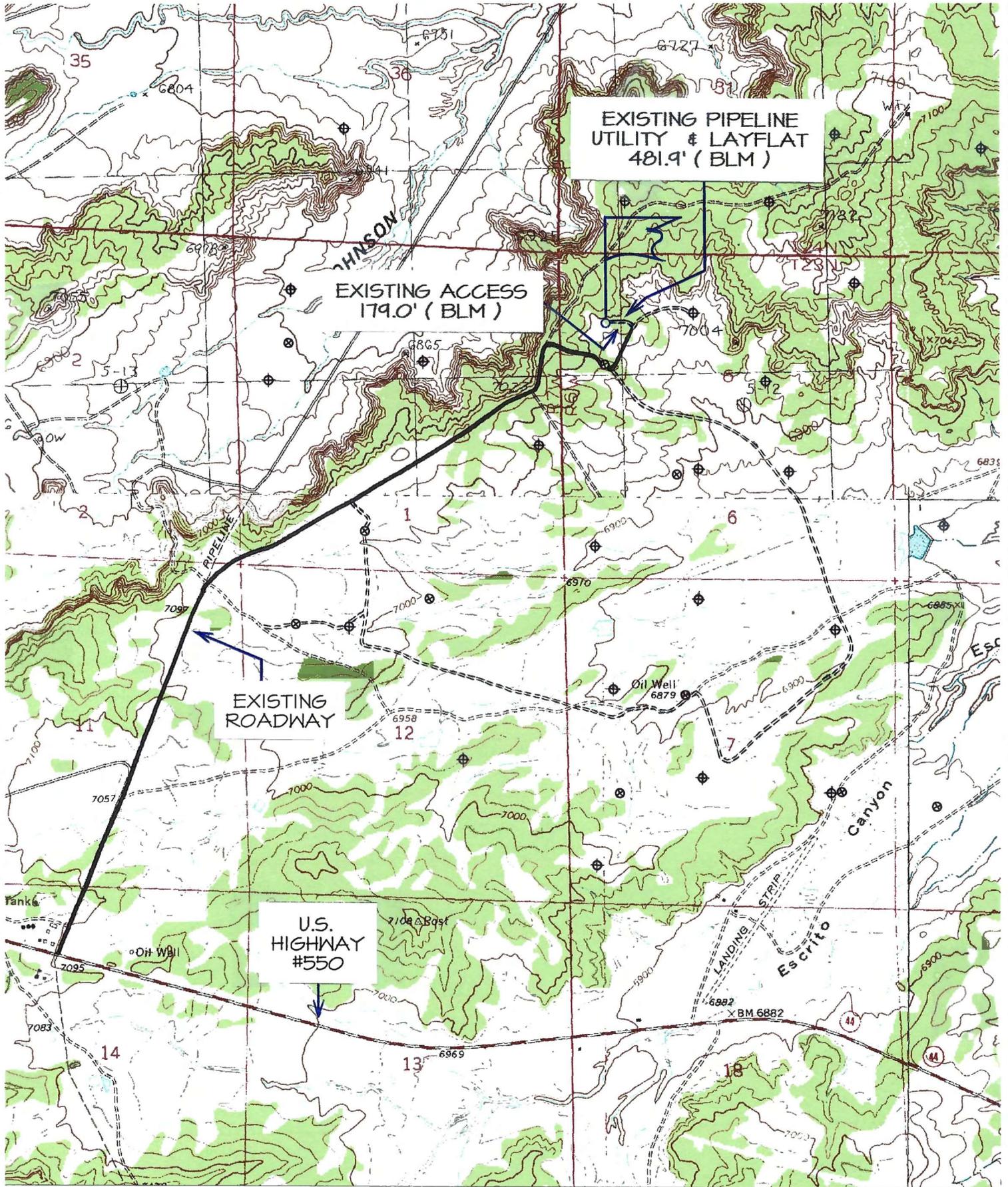
Go Right (Easterly) for 0.2 miles to fork in roadway;

Go Left (North-easterly) for 0.1 miles to fork in roadway;

Go Left (Westerly) for 179.0' to Enduring NE Lybrook Com #262H staked location which overlaps an existing wellpad.

ENDURING RESOURCES, LLC NE LYBROOK COM #262H

1099' FNL & 703' FWL, SECTION 6, T23N, R6W, N.M.P.M.
RIO ARriba COUNTY, NEW MEXICO



TOPO NAMES :
CROW MESA EAST & LYBROOK

⊕ PRODUCING WELL

⊗ PLUGGED & ABANDONED WELL

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:** 12/5/2023

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water
NE Lybrook COM 262H	pending	Sec. 6, T23N, R6W	UL:D SHL:1099' FNL & 703' FWL	490	977	586
NE Lybrook COM 263H	pending	Sec. 6, T23N, R6W	UL:D SHL:1109' FNL & 719' FWL	490	977	586

IV. Central Delivery Point Name: Haynes Canyon 428 CDP [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
NE Lybrook COM 262H	pending	3/24/2024	4/4/2024	4/17/2024	5/8/2024	5/10/2024
NE Lybrook COM 263H	pending	4/1/2024	4/15/2024	4/17/2024	5/8/2024	5/10/2024

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: 
Printed Name: Heather Huntington
Title: Regulatory Agent
E-mail Address: hhuntington@enduringresources.com
Date: 12/5/2023
Phone: 505-636-9751

OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
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, equip single lateral Mancos formation Gallup member.*

WELL INFORMATION:

Name: NE LYBROOK COM 262H
API Number: Not assigned yet
AFE Number: Not assigned yet
ER Well Number: Not assigned yet
State: New Mexico
County: Rio Arriba
Surface Elevation: 6,980 ft ASL (GL) 7,005 ft ASL (KB)
Surface Location: 6-23-6 Sec-Twn-Rng 1,099 ft FNL 703 ft FWL
 36.257635 °N latitude 107.516937 °W longitude (NAD 83)
BH Location: 5-23-6 Sec-Twn-Rng 380 ft FNL 100 ft FEL
 36.259559 °N latitude 107.484083 °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 48.3 miles to MM 102.9; Left (North) on County Road #378 for 1.1 miles to fork; Right (North) exiting CR 378 for 0.1 miles to fork; Left (North-East) for 1.3 miles to fork; Right (East) for 0.2 miles to fork; Left (NorthEast) on lease road for .1 miles to fork, Left (West) on access road into NE Lybrook Com 176H Pad. The 262H will be one of 2 wells to be added to an existing, 2 well pad. The 262H will be the furthest North well and furthest from the location entrance. From South to North will be NE Lybrook Com 177H (existing well), NE Lybrook Com 176 (existing well), NE Lybrook Com 263H (proposed) and NE Lybrook Com 262H (proposed).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Nacimiento	7,005	0	0	0	0
	Ojo Alamo	5,498	1,507	1,551	W	normal
	Kirtland	5,415	1,590	1,640	W	normal
	Fruitland	5,154	1,851	1,924	G, W	sub
	Pictured Cliffs	4,865	2,140	2,238	G, W	sub
	Lewis	4,736	2,269	2,379	G, W	normal
	Chacra A	4,437	2,568	2,703	G, W	normal
	Cliff House Basal	3,337	3,668	3,900	G, W	sub
	Menefee	3,302	3,703	3,937	G, W	normal
	Point Lookout	2,615	4,390	4,684	G, W	normal
	Mancos	2,331	4,674	4,993	O,G	normal
	MNCS_A	1,987	5,018	5,358	O,G	sub (~.38)
	MNCS_B	1,902	5,103	5,444	O,G	sub (~.38)
	MNCS_C	1,767	5,238	5,583	O,G	sub (~.38)
	MNCS_Cms	1,694	5,311	5,662	O,G	sub (~.38)
	MNCS_D	1,631	5,374	5,735	O,G	sub (~.38)
	MNCS_E	1,535	5,470	5,861	O,G	sub (~.38)
	MNCS_F	1,490	5,515	5,931	O,G	sub (~.38)
	MNCS_G	1,403	5,602	6,100	O,G	sub (~.38)
	MNCS_H	1,357	5,648	6,246	O,G	sub (~.38)
	FTP TARGET	1,403	5,602	6,100	O,G	sub (~.38)
	PROJECTED WELL TD (BHL)	1,235	5,770	17,064	O,G	sub (~.38)

Surface: Nacimiento

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

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

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

Maximum anticipated BH pressure, assuming maximum pressure gradient: 2,490 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,230 psi

Temperature: Maximum anticipated BHT is 125° F or less

H₂S INFORMATION:

H₂S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

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

LOGGING, CORING, AND TESTING:

Mud Logs:

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

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

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

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

DRILLING RIG INFORMATION:

- Contractor:** Aztec
 - Rig No.:** 1000
 - Draw Works:** E80 AC 1,500 hp
 - Mast:** Hyduke Triple (136 ft, 600,000 lbs, 10 lines)
 - Top Drive:** NOV IDS-350PE (350 ton)
 - Prime Movers:** 4 - GE Jenbacher Natural Gas Generator
 - Pumps:** 2 - RSF-1600 (7,500 psi)
 - BOPE 1:** Cameron single & double gate rams (13-5/8", 3,000 psi)
 - BOPE 2:** Cameron annular (13-5/8", 5,000 psi)
 - Choke:** Cameron (4", 10,000 psi)
 - KB-GL (ft):** 25
- Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

STATE AND FEDERAL NOTIFICATIONS		BLM	State
Construction and Reclamation:	BLM is to be notified minimum of 48 hours prior to start of construction or reclamation. Grazing permittee is to be notified 10 days in advance.	(505) 564-7600	
Spud	BLM and state are to be notified minimum of 24 hours prior to spud.	(505) 564-7750	(505) 334-6178
BOP	BLM is to be notified minimum of 24 hours prior to BOPE testing.	(505) 564-7750	see note
Casing / cementing	BLM and state are to be notified minimum of 24 hours prior to running casing and cementing.	(505) 564-7750	(505) 334-6178
Plugging	BLM and state are to be notified minimum of 24 hours prior to plugging ops.	(505) 564-7750	see note

All notifications are to be recorded in the WellView report with time, date, name or number that notifications were made to.

Note: Monica Keuhling with the OCD requests state notifications 24 hrs in advance for spud, BOP tests, casing & cementing and any plugging be given to her in both phone message and email: (505) 320-0243, monica.keuhling@emnrd.nm.gov

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. 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 intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

- Fluid Measurement:** Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).
- Closed-Loop System:** A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimize the amount of fluids and solids that require disposal.
- Fluid Disposal:** Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).
- Solids Disposal:** Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).
- Fluid Program:** See "Detailed Drilling Plan" section for 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

Procedure: Drill to TD. Use 12-7/4" bit and open to 17-1/2" if unable to drill with 17-1/2" bit. Run inclination survey in 100' stations from TD to surface. Condition hole and fluid for casing running as required. TOOH. Run casing. Pump cement as detailed below. Monitor returns during cement job and note cement volume to surface. Install cellar and wellhead.

Casing Specs:	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	J-55	BTC	1,130	2,730	853,000	909,000
Loading				153	829	116,634	116,634
Min. S.F.				7.39	3.29	7.31	7.79

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
 Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient
 Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

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

Make-up as per API Buttress Connection running procedure.

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

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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	TYPE III	14.6	1.39	6.686	0.6946	100%	0	364

Annular Capacity 0.6946 cuft/ft 13-3/8" casing x 17-1/2" hole annulus Csg capacity 0.8680 ft3/ft

Drake Energy Services: Calculated cement volumes assume gauge hole and the excess noted in table

Cu Ft Slurry	505.3
--------------	-------

D-CD2 .3% BWOC
 Calcium Chloride 2% Dispersant/Friction .25 lbs/sx Cello
 Tail ASTM Type III Blend BWOC Accelerator reducer Flake - seepage

Notify COGCC & 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	4,100 ft (MD)	Hole Section Length:	3,750 ft
350 ft (TVD)	to	3,853 ft (TVD)	Casing Required:	4,100 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
LSND (5% KCl)		8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	No OBM

Hole Size: 12-1/4"

Bit / Motor: 12-1/4" PDC bit w/mud motor

Bit / Motor: MOTOR: NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG

BIT: 6-BLADE PDC w/16 mm or 19 mm cutters, TFA = 0.67 sq-in (range 0.65 - 0.90 max), jet with 6 - 12s

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

Logging: None

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

Procedure: Drill to TD following directional plan (20' rat-hole past casing setting depth). Steer as needed to keep well on plan. Keep DLS < 3 deg/100' and keep slide length < 10', when possible. Take surveys every stand, at a minimum. Target flow-rates of 750 GPM (higher if able to control return rates). Minimum desired flow-rate is 650 GPM. At TD, condition hole and fluid for casing running. TOOH. Run casing using a CRT and washing / circulating as required. Land casing. ND BOPE. Walk rig to next well. Perform off-line cement job. Pump cement as detailed below. Monitor returns during cement job and note cement volume to surface.

Casing Specs:	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	J-55	LTC	2,020	3,520	564,000	453,000
Loading				1,683	1,450	220,960	220,960
Min. S.F.				1.20	2.43	2.55	2.05

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
 Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient
 Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

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

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface (FLOAT EQUIPMENT FROM WEATHERFORD)

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

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt & 1 centralizer floating on bottom joint, 1 centralizer per jt (floating) to KOP ; 1 centralizer per 3 jts (floating) to surface (**Centralizers from Scepter Supply - SLIP'N'SLIDE 9-5/8" x 11.75" SOLID BODY POLYMER**)

Stage 1	Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
	Spacer	D-Mud Breaker	8.5				0	10 bbls	
	Lead	90:10 Type III:POZ	12.5	2.140	12.05	70%	0	868	1,857
	Tail	Type III	14.6	1.380	6.64	20%	3,600	150	207
	Displacement	314 est bbls							
	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				9-5/8" 36# ID	8.921	
		0.4341 cuft/ft	9-5/8" casing vol				est shoe jt ft	44	

Calculated cement volumes assume gauge hole and the excess (open hole only) noted in table

Spacer D-Mud Breaker SAPP

Lead	90/10 Poz	D-CSE 15.0% BWOC Strength Enhancer	D-MPA-1.4% BWOC Fluid Loss & Gas Migration Control	D-SA 11.4% BWOC Na Metasilicate	D-CD 2.4% BWOC Dispersant	Cello Flace LCM .25 lb/sx	D-FP1 0.5% BWOC Defoamer	D-R1 .5% Retarder
Tail	ASTM Type III Blend		D-MPA-1.4% BWOC Fluid Loss & Gas Migration Control		D-CD 2.5% BWOC Dispersant	Cello Flace LCM .25 lb/sx		D-R1 .2% Retarder

Drake Intermediate Cementing Program

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

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

4,100 ft (MD)	to	17,064 ft (MD)	Hole Section Length:	12,964 ft
3,853 ft (TVD)	to	5,770 ft (TVD)	Casing Required:	17,064 ft
Estimated KOP:		5,200 ft (MD)	4,865 ft (TVD)	
Estimated Landing Point (FTP):		6,100 ft (MD)	5,602 ft (TVD)	
Estimated Lateral Length:		10,964 ft (MD)		

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

Fluids / Solids Notes: OptiDrill OBM system will be built from previous well. Ensure that drying shakers are rigged up after the rig (2nd set) of shakers. Solids control will burn retorts on cuttings samples one per tour to check % ROC. Add diesel and products as required to maintain mud in program specs. Reference Newpark's mud program for additional details.

Hole Size: 8-1/2"

Bit / Motor: 8-1/2" PDC bit w/mud motor

Bit / Motor: MOTOR: NOV 077857 - 6.5" 7/8, 5.0 stage, 0.23 rev/gal, 1.83 deg, 750 GPM, 1,580 DIFF PSIG (or similar); on demand friction breaking device(s) as required, bottom tool spaced ~3,000' behind the bit.
BIT: 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

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

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

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

Procedure: Drill to KOP following directional plan. Target flow-rate is 650 - 700 GPM. Target differential is pressure is 700 - 1,000 psig. Target ROP 500 - 600 ft/hr. Steer as needed to keep well on plan. Keep DLS < 3 deg/100' and keep slide length < 10' until KOP, when feasible. Take surveys every stand, at a minimum. Confirm landing target, planned BUR for curve, and KOP with Geology and Engineering. Drill curve following directional plan and updated landing target. Take survey every joint during curve. Land curve. Continue drilling in lateral section, steering as needed to keep well on plan and in the target window. Keep DLS < 2 deg/100' and keep slide length < 20', when feasible. Take surveys every stand, at a minimum. **Target rotating parameters / performance: flow-rate is 650 - 700 GPM, differential is pressure is 700 - 1,000 psig, ROP 500 - 600 ft/hr, torque 38K ft-lbs (MAX drill pipe MUT).** After reaching TD, perform no more than one clean-up cycle to condition hole for casing running unless shakers indicate additional cleaning needed. TOOH & LD drill pipe (ROOH, if required; should NOT be required with OBM system). When pumping hole cleaning sweeps, fine LCM product is to be used -Do not use barite for sweeps. Run casing as described below. Use CRT for casing running only if necessary (should NOT be required with OBM). Verify make up torque when running casing. Space out casing getting the toe sleeve as close to LTP as possible. Land casing and test pack-off. Open floatation sub, fill casing, and circulate as required. Pump cement as detailed below. Note cement volume circulated to surface. Nipple down BOPE. Clean pits. RDMO to next pad.

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000

Loading	2,850	9,040	350,320	350,320
Min. S.F.	2.62	1.18	1.56	1.27

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 100,000 lbs over-pull

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

Casing Summary: Float shoe, float collar, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub 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.

Casing Summary: Float shoe, float collar w/debris catcher, 1 jt casing, float collar (**Weatherford (WFT) float equipment**), 20' marker joint, toe-initiation sleeve (**WFT RD 8,500 psi**), casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub (**NCS Air-Lock 2,500 psi from WFT**), casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 300' measured perpendicular to the East or West lease lines for a East-West azimuth drilled wellbore. Wellbore path must be no closer than 600' from the parallel lease lines. **Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.**

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

Lateral: 1 centralizer per 3 joints (purchase centralizers from either Scepter Supply or Arsenal)
 Top of curve to 9-5/8" shoe: 1 centralizer per 5 joints
 9-5/8" shoe to surface: 1 centralizer per 5 joints

	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)	Total Cmt (cu ft)
Spacer	IntegraGuard Star	11		31.6		0	60 bbls	
Lead	ASTM type I/II	12.4	2.370	13.40	50%	0	550	1,304
Tail	G:POZ blend	13.3	1.570	7.70	10%	4,684	1,987	3,120
Displacement	126 est bbls							
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					
	0.1245	cuft/ft	5-1/2" casing vol		est shoe jt ft	100		

Calculated cement volumes assume gauge hole and the excess noted in table
 American Cementing Liner & Production Blend

	Spacer	Lead	Tail
	S-8 Silica Flour 163.7 lbs/bbl	Avis 616 viscosifier 11.6 lb/bbl	FP24 Defoamer .5 lb/bbl
		BA90 Bonding Agent 5.0 lb/sx	Bentonite Viscosifier 8% BWOB
			FL24 Fluid Loss .5% BWOB
			Viscosifier .1% BWOB
			IntegraGuard Star Plus 3K LCM 15 gal/bbl
			IntegraGuard GW86 FP24 Defoamer
			R7C Retarder .2% BWOB
			0.3% BWOB, Anti-Static .01 lb/sx
			IntegraGuard GW86 FP24 Defoamer .3%
			R3 Retarder .5% BWOB, IntegraSeal 0.25 lb/sx

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, cap well, RDMO.

Procedure: After off-line cement job, cap and cover well. Continue drilling operations on subsequent wells on pad.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 10,864
 Est Frac Inform: 45 Frac Stages 174,000 bbls slick water 14,130,000 lbs proppant
 Flowback: Flow back through production tubing as pressures allow
 Production: Produce through production tubing via gas-lift into permanent production and storage facilities

ESTIMATED START DATES:

Drilling: 2/1/24
 Completion: 4/1/24
 Production: 5/16/24

Prepared by: Greg Olson 8/9/23
 Updated: Greg Olson 9/14/23



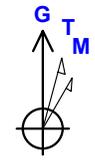
Well: NE Lybrook Com 262 H
Site: Section 06-T23N-R06W
Project: Rio Arriba County, New Mexico NAD83 NM C
Design: rev2
Rig:

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Central Zone

System Datum: Mean Sea Level
 Depth Reference: RKB=6980+25 @ 7005.00ft
 Surface location:

Northing: 1915488.563 Easting: 1266892.374 Latitude: 36.257635000 Longitude: -107.516937000

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 9.22"



Azimuths to Grid North
 True North: 0.75°
 Magnetic North: 9.22°
 Magnetic Field
 Strength: 49123.3nT
 Dip Angle: 62.76°
 Date: 9/11/2023
 Model: IGRF2020



Section Details

C _{Sec}	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V _{Sect}	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1269.34	23.08	288.969	1248.70	49.69	-144.57	3.00	288.97	-145.27	Begin 23.08° tangent
4	5178.59	23.08	288.969	4845.05	547.85	-1593.84	0.00	0.00	-1601.62	Begin 10°/100' build/turn
5	5998.94	60.00	90.180	5552.71	610.00	-1347.00	10.00	163.64	-1355.71	Begin 60.00° tangent
6	6058.94	60.00	90.180	5582.71	609.84	-1295.04	0.00	0.00	-1303.75	Begin 10°/100' build
7	6353.02	89.41	90.180	5659.44	608.96	-1014.48	10.00	0.00	-1023.20	Begin 89.41° lateral
8	17063.70	89.41	90.180	5770.00	575.36	9695.57	0.00	0.00	9686.21	PBHL/TD @ 17063.70 MD 5770.00 TVD

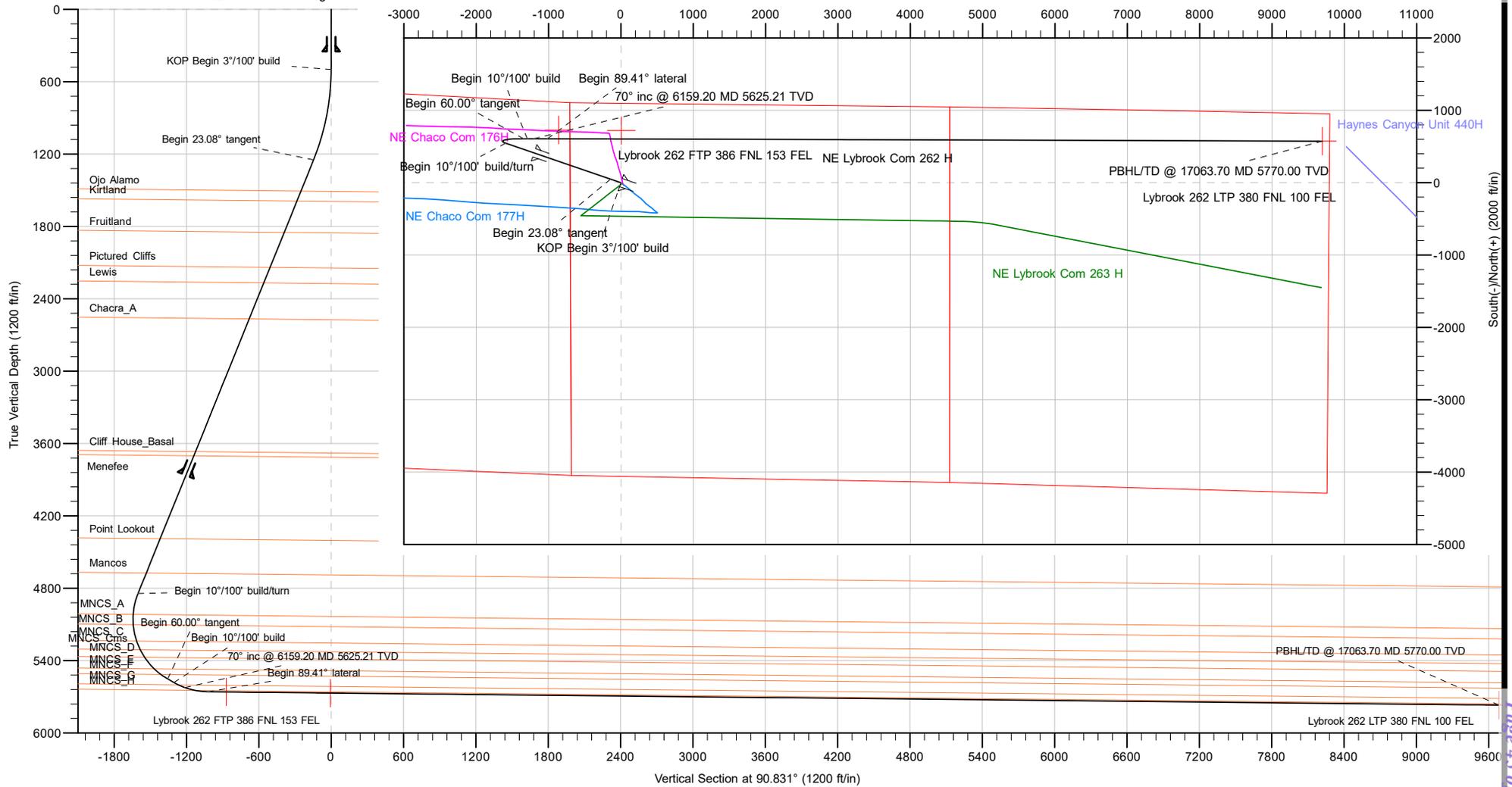
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Lybrook 262 FTP 386 FNL 153 FEL	5661.03	728.54	-858.61	1916217.097	1266033.769	36.259605000	-107.519881000
Lybrook 262 0 VS	5670.00	721.43	4.67	1916209.990	1266897.040	36.259616528	-107.516953176
Lybrook 262 LTP 380 FNL 100 FEL	5770.00	575.36	9695.57	1916063.927	1276587.928	36.259559000	-107.484083000

CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Csg
3865.00	4113.27	9 5/8" Csg

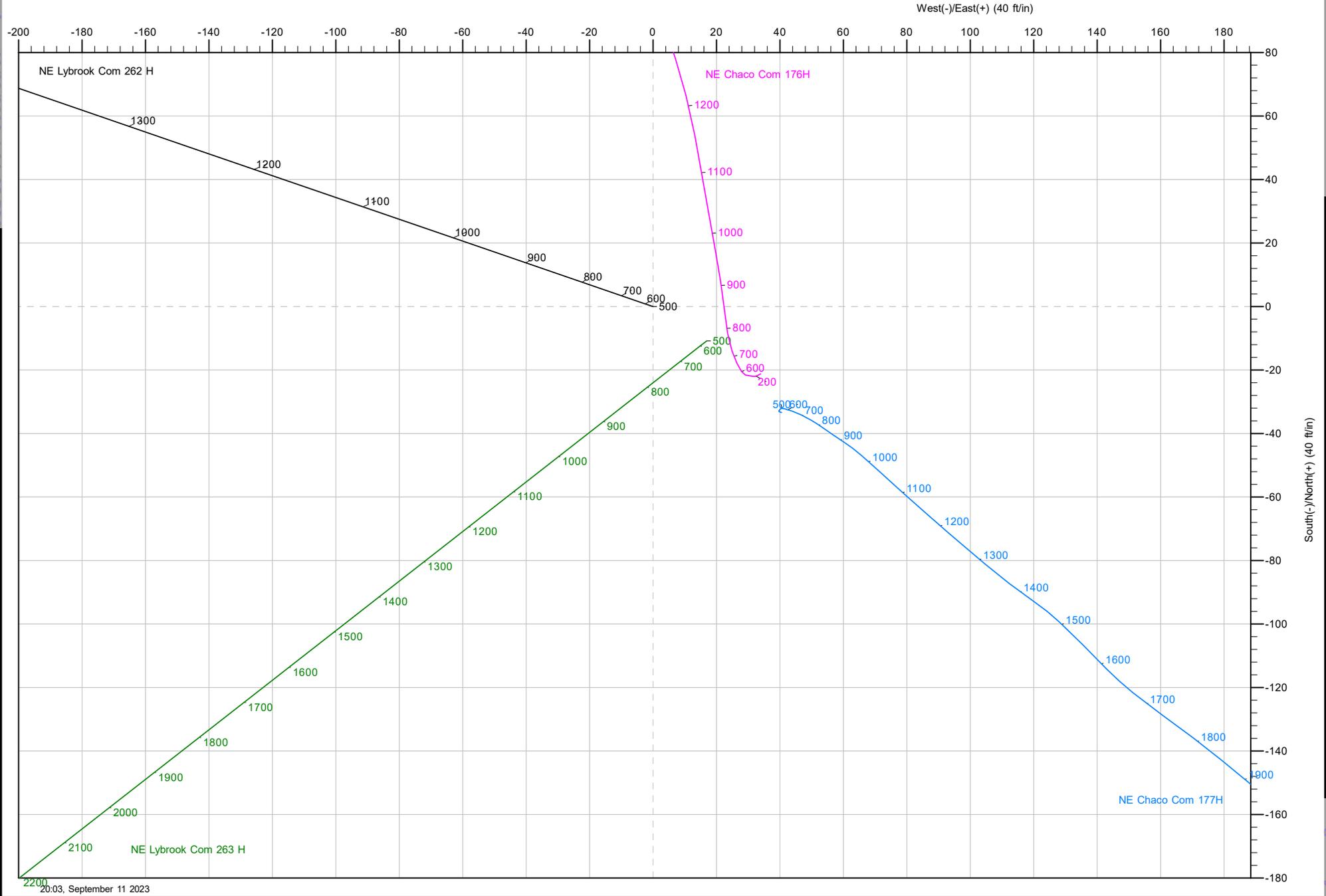
West(-)/East(+) (2000 ft/in)



South(-)/North(+) (2000 ft/in)



Well: NE Lybrook Com 262 H
Site: Section 06-T23N-R06W
Project: Rio Arriba County, New Mexico NAD83 NM C
Design: rev2
Rig:





Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Project	Rio Arriba County, New Mexico NAD83 NM C		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Section 06-T23N-R06W				
Site Position:		Northing:	1,915,488.563 usft	Latitude:	36.257635000
From:	Lat/Long	Easting:	1,266,892.374 usft	Longitude:	-107.516937000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	NE Lybrook Com 262 H, Surf loc: 1099 FNL 703 FWL Section 06-T23N-R06W					
Well Position	+N/-S	0.00 ft	Northing:	1,915,488.563 usft	Latitude:	36.257635000
	+E/-W	0.00 ft	Easting:	1,266,892.374 usft	Longitude:	-107.516937000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,980.00 ft
Grid Convergence:		-0.75 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/11/2023	8.47	62.76	49,123.25179824

Design	rev2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	90.831	

Plan Survey Tool Program	Date	9/11/2023			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,063.69 rev2 (Original Hole)	MWD	OWSG MWD - Standard	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,269.34	23.08	288.969	1,248.70	49.69	-144.57	3.00	3.00	0.00	288.97	
5,178.59	23.08	288.969	4,845.05	547.85	-1,593.84	0.00	0.00	0.00	0.00	
5,998.94	60.00	90.180	5,552.71	610.00	-1,347.00	10.00	4.50	19.65	163.64	
6,058.94	60.00	90.180	5,582.71	609.84	-1,295.04	0.00	0.00	0.00	0.00	
6,353.02	89.41	90.180	5,659.44	608.96	-1,014.48	10.00	10.00	0.00	0.00	
17,063.70	89.41	90.180	5,770.00	575.36	9,695.57	0.00	0.00	0.00	0.00	Lybrook 262 LTP 380



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
350.00	0.00	0.000	350.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Csg									
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3°/100' build									
600.00	3.00	288.969	599.95	0.85	-2.48	-2.49	3.00	3.00	0.00
700.00	6.00	288.969	699.63	3.40	-9.89	-9.94	3.00	3.00	0.00
800.00	9.00	288.969	798.77	7.64	-22.24	-22.35	3.00	3.00	0.00
900.00	12.00	288.969	897.08	13.57	-39.47	-39.66	3.00	3.00	0.00
1,000.00	15.00	288.969	994.31	21.15	-61.54	-61.84	3.00	3.00	0.00
1,100.00	18.00	288.969	1,090.18	30.39	-88.40	-88.83	3.00	3.00	0.00
1,200.00	21.00	288.969	1,184.43	41.23	-119.96	-120.55	3.00	3.00	0.00
1,269.34	23.08	288.969	1,248.70	49.69	-144.57	-145.27	3.00	3.00	0.00
Begin 23.08° tangent									
1,300.00	23.08	288.969	1,276.91	53.60	-155.94	-156.70	0.00	0.00	0.00
1,400.00	23.08	288.969	1,368.90	66.34	-193.01	-193.95	0.00	0.00	0.00
1,500.00	23.08	288.969	1,460.90	79.09	-230.08	-231.20	0.00	0.00	0.00
1,550.57	23.08	288.969	1,507.43	85.53	-248.83	-250.04	0.00	0.00	0.00
Ojo Alamo									
1,600.00	23.08	288.969	1,552.89	91.83	-267.15	-268.46	0.00	0.00	0.00
1,640.42	23.08	288.969	1,590.08	96.98	-282.14	-283.52	0.00	0.00	0.00
Kirtland									
1,700.00	23.08	288.969	1,644.89	104.57	-304.23	-305.71	0.00	0.00	0.00
1,800.00	23.08	288.969	1,736.89	117.31	-341.30	-342.97	0.00	0.00	0.00
1,900.00	23.08	288.969	1,828.88	130.06	-378.37	-380.22	0.00	0.00	0.00
1,924.03	23.08	288.969	1,850.99	133.12	-387.28	-389.17	0.00	0.00	0.00
Fruitland									
2,000.00	23.08	288.969	1,920.88	142.80	-415.45	-417.47	0.00	0.00	0.00
2,100.00	23.08	288.969	2,012.87	155.54	-452.52	-454.73	0.00	0.00	0.00
2,200.00	23.08	288.969	2,104.87	168.29	-489.59	-491.98	0.00	0.00	0.00
2,237.96	23.08	288.969	2,139.79	173.12	-503.66	-506.12	0.00	0.00	0.00
Pictured Cliffs									
2,300.00	23.08	288.969	2,196.87	181.03	-526.66	-529.23	0.00	0.00	0.00
2,378.68	23.08	288.969	2,269.25	191.06	-555.83	-558.55	0.00	0.00	0.00
Lewis									
2,400.00	23.08	288.969	2,288.86	193.77	-563.74	-566.49	0.00	0.00	0.00
2,500.00	23.08	288.969	2,380.86	206.52	-600.81	-603.74	0.00	0.00	0.00
2,600.00	23.08	288.969	2,472.85	219.26	-637.88	-640.99	0.00	0.00	0.00
2,700.00	23.08	288.969	2,564.85	232.00	-674.95	-678.25	0.00	0.00	0.00
2,703.43	23.08	288.969	2,568.00	232.44	-676.23	-679.53	0.00	0.00	0.00
Chacra_A									
2,800.00	23.08	288.969	2,656.84	244.74	-712.03	-715.50	0.00	0.00	0.00
2,900.00	23.08	288.969	2,748.84	257.49	-749.10	-752.76	0.00	0.00	0.00
3,000.00	23.08	288.969	2,840.84	270.23	-786.17	-790.01	0.00	0.00	0.00
3,100.00	23.08	288.969	2,932.83	282.97	-823.25	-827.26	0.00	0.00	0.00
3,200.00	23.08	288.969	3,024.83	295.72	-860.32	-864.52	0.00	0.00	0.00
3,300.00	23.08	288.969	3,116.82	308.46	-897.39	-901.77	0.00	0.00	0.00
3,400.00	23.08	288.969	3,208.82	321.20	-934.46	-939.02	0.00	0.00	0.00
3,500.00	23.08	288.969	3,300.81	333.95	-971.54	-976.28	0.00	0.00	0.00



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,600.00	23.08	288.969	3,392.81	346.69	-1,008.61	-1,013.53	0.00	0.00	0.00
3,700.00	23.08	288.969	3,484.81	359.43	-1,045.68	-1,050.79	0.00	0.00	0.00
3,800.00	23.08	288.969	3,576.80	372.17	-1,082.76	-1,088.04	0.00	0.00	0.00
3,899.58	23.08	288.969	3,668.41	384.86	-1,119.67	-1,125.14	0.00	0.00	0.00
Cliff House_Basal									
3,900.00	23.08	288.969	3,668.80	384.92	-1,119.83	-1,125.29	0.00	0.00	0.00
3,937.47	23.08	288.969	3,703.27	389.69	-1,133.72	-1,139.25	0.00	0.00	0.00
Menefee									
4,000.00	23.08	288.969	3,760.79	397.66	-1,156.90	-1,162.55	0.00	0.00	0.00
4,100.00	23.08	288.969	3,852.79	410.40	-1,193.97	-1,199.80	0.00	0.00	0.00
4,113.27	23.08	288.969	3,865.00	412.10	-1,198.90	-1,204.75	0.00	0.00	0.00
9 5/8" Csg									
4,200.00	23.08	288.969	3,944.78	423.15	-1,231.05	-1,237.05	0.00	0.00	0.00
4,300.00	23.08	288.969	4,036.78	435.89	-1,268.12	-1,274.31	0.00	0.00	0.00
4,400.00	23.08	288.969	4,128.78	448.63	-1,305.19	-1,311.56	0.00	0.00	0.00
4,500.00	23.08	288.969	4,220.77	461.38	-1,342.27	-1,348.82	0.00	0.00	0.00
4,600.00	23.08	288.969	4,312.77	474.12	-1,379.34	-1,386.07	0.00	0.00	0.00
4,684.39	23.08	288.969	4,390.40	484.87	-1,410.62	-1,417.51	0.00	0.00	0.00
Point Lookout									
4,700.00	23.08	288.969	4,404.76	486.86	-1,416.41	-1,423.32	0.00	0.00	0.00
4,800.00	23.08	288.969	4,496.76	499.60	-1,453.48	-1,460.58	0.00	0.00	0.00
4,900.00	23.08	288.969	4,588.76	512.35	-1,490.56	-1,497.83	0.00	0.00	0.00
4,992.90	23.08	288.969	4,674.22	524.19	-1,525.00	-1,532.44	0.00	0.00	0.00
Mancos									
5,000.00	23.08	288.969	4,680.75	525.09	-1,527.63	-1,535.08	0.00	0.00	0.00
5,100.00	23.08	288.969	4,772.75	537.83	-1,564.70	-1,572.34	0.00	0.00	0.00
5,178.59	23.08	288.969	4,845.05	547.85	-1,593.84	-1,601.62	0.00	0.00	0.00
Begin 10°/100' build/turn									
5,200.00	21.03	290.649	4,864.89	550.57	-1,601.40	-1,609.22	10.00	-9.56	7.85
5,250.00	16.35	296.116	4,912.24	556.83	-1,616.13	-1,624.03	10.00	-9.38	10.93
5,300.00	11.90	305.657	4,960.72	562.94	-1,626.64	-1,634.63	10.00	-8.88	19.08
5,350.00	8.13	324.923	5,009.97	568.84	-1,632.87	-1,640.95	10.00	-7.55	38.53
5,358.21	7.64	329.747	5,018.10	569.79	-1,633.48	-1,641.57	10.00	-5.92	58.79
MNCS_A									
5,400.00	6.34	2.975	5,059.59	574.50	-1,634.76	-1,642.92	10.00	-3.12	79.50
5,443.81	7.65	38.011	5,103.10	579.21	-1,632.83	-1,641.06	10.00	2.98	79.97
MNCS_B									
5,450.00	8.01	41.699	5,109.23	579.86	-1,632.29	-1,640.53	10.00	5.84	59.61
5,500.00	11.74	61.545	5,158.49	584.88	-1,625.50	-1,633.81	10.00	7.47	39.69
5,550.00	16.17	71.324	5,207.01	589.54	-1,614.43	-1,622.81	10.00	8.85	19.56
5,582.94	19.23	75.290	5,238.39	592.39	-1,604.83	-1,613.26	10.00	9.31	12.04
MNCS_C									
5,600.00	20.85	76.897	5,254.42	593.79	-1,599.16	-1,607.60	10.00	9.47	9.42
5,650.00	25.65	80.479	5,300.35	597.60	-1,579.81	-1,588.31	10.00	9.60	7.16
5,661.53	26.76	81.132	5,310.70	598.41	-1,574.78	-1,583.29	10.00	9.68	5.66
MNCS_Cms									
5,700.00	30.51	82.989	5,344.45	600.94	-1,556.53	-1,565.08	10.00	9.73	4.83
5,735.02	33.93	84.353	5,374.07	602.99	-1,537.97	-1,546.55	10.00	9.78	3.89
MNCS_D									
5,750.00	35.40	84.864	5,386.40	603.79	-1,529.49	-1,538.08	10.00	9.81	3.41
5,800.00	40.32	86.336	5,425.86	606.12	-1,498.90	-1,507.53	10.00	9.84	2.94
5,850.00	45.25	87.535	5,462.54	607.92	-1,465.00	-1,473.66	10.00	9.87	2.40



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,860.55	46.30	87.762	5,469.90	608.23	-1,457.44	-1,466.11	10.00	9.88	2.15	
MNCS_E										
5,900.00	50.20	88.546	5,496.17	609.17	-1,428.03	-1,436.72	10.00	9.89	1.99	
5,931.15	53.28	89.104	5,515.46	609.67	-1,403.58	-1,412.28	10.00	9.90	1.79	
MNCS_F										
5,950.00	55.15	89.421	5,526.48	609.86	-1,388.29	-1,396.99	10.00	9.91	1.68	
5,998.94	60.00	90.180	5,552.71	610.00	-1,347.00	-1,355.71	10.00	9.91	1.55	
Begin 60.00° tangent										
6,000.00	60.00	90.180	5,553.24	610.00	-1,346.08	-1,354.79	0.00	0.00	0.00	
6,058.94	60.00	90.180	5,582.71	609.84	-1,295.04	-1,303.75	0.00	0.00	0.00	
Begin 10°/100' build										
6,100.00	64.11	90.180	5,601.95	609.72	-1,258.78	-1,267.49	10.00	10.00	0.00	
MNCS_G										
6,150.00	69.11	90.180	5,621.80	609.58	-1,212.90	-1,221.61	10.00	10.00	0.00	
6,159.20	70.03	90.180	5,625.01	609.55	-1,204.28	-1,212.99	10.00	10.00	0.00	
70° inc @ 6159.20 MD 5625.21 TVD										
6,200.00	74.11	90.180	5,637.57	609.43	-1,165.47	-1,174.18	10.00	10.00	0.00	
6,245.96	78.70	90.180	5,648.37	609.29	-1,120.81	-1,129.53	10.00	10.00	0.00	
MNCS_H										
6,250.00	79.11	90.180	5,649.15	609.28	-1,116.84	-1,125.56	10.00	10.00	0.00	
6,300.00	84.11	90.180	5,656.44	609.12	-1,067.39	-1,076.12	10.00	10.00	0.00	
6,353.02	89.41	90.180	5,659.44	608.96	-1,014.48	-1,023.20	10.00	10.00	0.00	
Begin 89.41° lateral										
6,400.00	89.41	90.180	5,659.93	608.81	-967.50	-976.23	0.00	0.00	0.00	
6,500.00	89.41	90.180	5,660.96	608.50	-867.51	-876.24	0.00	0.00	0.00	
6,600.00	89.41	90.180	5,661.99	608.18	-767.51	-776.25	0.00	0.00	0.00	
6,700.00	89.41	90.180	5,663.02	607.87	-667.52	-676.26	0.00	0.00	0.00	
6,800.00	89.41	90.180	5,664.06	607.55	-567.52	-576.28	0.00	0.00	0.00	
6,900.00	89.41	90.180	5,665.09	607.24	-467.53	-476.29	0.00	0.00	0.00	
7,000.00	89.41	90.180	5,666.12	606.93	-367.54	-376.30	0.00	0.00	0.00	
7,100.00	89.41	90.180	5,667.15	606.61	-267.54	-276.31	0.00	0.00	0.00	
7,200.00	89.41	90.180	5,668.18	606.30	-167.55	-176.32	0.00	0.00	0.00	
7,300.00	89.41	90.180	5,669.22	605.99	-67.55	-76.34	0.00	0.00	0.00	
7,400.00	89.41	90.180	5,670.25	605.67	32.44	23.65	0.00	0.00	0.00	
7,500.00	89.41	90.180	5,671.28	605.36	132.43	123.64	0.00	0.00	0.00	
7,600.00	89.41	90.180	5,672.31	605.05	232.43	223.63	0.00	0.00	0.00	
7,700.00	89.41	90.180	5,673.35	604.73	332.42	323.62	0.00	0.00	0.00	
7,800.00	89.41	90.180	5,674.38	604.42	432.42	423.61	0.00	0.00	0.00	
7,900.00	89.41	90.180	5,675.41	604.10	532.41	523.59	0.00	0.00	0.00	
8,000.00	89.41	90.180	5,676.44	603.79	632.41	623.58	0.00	0.00	0.00	
8,100.00	89.41	90.180	5,677.47	603.48	732.40	723.57	0.00	0.00	0.00	
8,200.00	89.41	90.180	5,678.51	603.16	832.39	823.56	0.00	0.00	0.00	
8,300.00	89.41	90.180	5,679.54	602.85	932.39	923.55	0.00	0.00	0.00	
8,400.00	89.41	90.180	5,680.57	602.54	1,032.38	1,023.53	0.00	0.00	0.00	
8,500.00	89.41	90.180	5,681.60	602.22	1,132.38	1,123.52	0.00	0.00	0.00	
8,600.00	89.41	90.180	5,682.64	601.91	1,232.37	1,223.51	0.00	0.00	0.00	
8,700.00	89.41	90.180	5,683.67	601.60	1,332.36	1,323.50	0.00	0.00	0.00	
8,800.00	89.41	90.180	5,684.70	601.28	1,432.36	1,423.49	0.00	0.00	0.00	
8,900.00	89.41	90.180	5,685.73	600.97	1,532.35	1,523.48	0.00	0.00	0.00	
9,000.00	89.41	90.180	5,686.76	600.65	1,632.35	1,623.46	0.00	0.00	0.00	
9,100.00	89.41	90.180	5,687.80	600.34	1,732.34	1,723.45	0.00	0.00	0.00	
9,200.00	89.41	90.180	5,688.83	600.03	1,832.34	1,823.44	0.00	0.00	0.00	
9,300.00	89.41	90.180	5,689.86	599.71	1,932.33	1,923.43	0.00	0.00	0.00	



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,400.00	89.41	90.180	5,690.89	599.40	2,032.32	2,023.42	0.00	0.00	0.00	
9,500.00	89.41	90.180	5,691.93	599.09	2,132.32	2,123.41	0.00	0.00	0.00	
9,600.00	89.41	90.180	5,692.96	598.77	2,232.31	2,223.39	0.00	0.00	0.00	
9,700.00	89.41	90.180	5,693.99	598.46	2,332.31	2,323.38	0.00	0.00	0.00	
9,800.00	89.41	90.180	5,695.02	598.15	2,432.30	2,423.37	0.00	0.00	0.00	
9,900.00	89.41	90.180	5,696.05	597.83	2,532.29	2,523.36	0.00	0.00	0.00	
10,000.00	89.41	90.180	5,697.09	597.52	2,632.29	2,623.35	0.00	0.00	0.00	
10,100.00	89.41	90.180	5,698.12	597.20	2,732.28	2,723.33	0.00	0.00	0.00	
10,200.00	89.41	90.180	5,699.15	596.89	2,832.28	2,823.32	0.00	0.00	0.00	
10,300.00	89.41	90.180	5,700.18	596.58	2,932.27	2,923.31	0.00	0.00	0.00	
10,400.00	89.41	90.180	5,701.22	596.26	3,032.27	3,023.30	0.00	0.00	0.00	
10,500.00	89.41	90.180	5,702.25	595.95	3,132.26	3,123.29	0.00	0.00	0.00	
10,600.00	89.41	90.180	5,703.28	595.64	3,232.25	3,223.28	0.00	0.00	0.00	
10,700.00	89.41	90.180	5,704.31	595.32	3,332.25	3,323.26	0.00	0.00	0.00	
10,800.00	89.41	90.180	5,705.34	595.01	3,432.24	3,423.25	0.00	0.00	0.00	
10,900.00	89.41	90.180	5,706.38	594.70	3,532.24	3,523.24	0.00	0.00	0.00	
11,000.00	89.41	90.180	5,707.41	594.38	3,632.23	3,623.23	0.00	0.00	0.00	
11,100.00	89.41	90.180	5,708.44	594.07	3,732.22	3,723.22	0.00	0.00	0.00	
11,200.00	89.41	90.180	5,709.47	593.75	3,832.22	3,823.20	0.00	0.00	0.00	
11,300.00	89.41	90.180	5,710.51	593.44	3,932.21	3,923.19	0.00	0.00	0.00	
11,400.00	89.41	90.180	5,711.54	593.13	4,032.21	4,023.18	0.00	0.00	0.00	
11,500.00	89.41	90.180	5,712.57	592.81	4,132.20	4,123.17	0.00	0.00	0.00	
11,600.00	89.41	90.180	5,713.60	592.50	4,232.20	4,223.16	0.00	0.00	0.00	
11,700.00	89.41	90.180	5,714.63	592.19	4,332.19	4,323.15	0.00	0.00	0.00	
11,800.00	89.41	90.180	5,715.67	591.87	4,432.18	4,423.13	0.00	0.00	0.00	
11,900.00	89.41	90.180	5,716.70	591.56	4,532.18	4,523.12	0.00	0.00	0.00	
12,000.00	89.41	90.180	5,717.73	591.25	4,632.17	4,623.11	0.00	0.00	0.00	
12,100.00	89.41	90.180	5,718.76	590.93	4,732.17	4,723.10	0.00	0.00	0.00	
12,200.00	89.41	90.180	5,719.80	590.62	4,832.16	4,823.09	0.00	0.00	0.00	
12,300.00	89.41	90.180	5,720.83	590.30	4,932.16	4,923.08	0.00	0.00	0.00	
12,400.00	89.41	90.180	5,721.86	589.99	5,032.15	5,023.06	0.00	0.00	0.00	
12,500.00	89.41	90.180	5,722.89	589.68	5,132.14	5,123.05	0.00	0.00	0.00	
12,600.00	89.41	90.180	5,723.92	589.36	5,232.14	5,223.04	0.00	0.00	0.00	
12,700.00	89.41	90.180	5,724.96	589.05	5,332.13	5,323.03	0.00	0.00	0.00	
12,800.00	89.41	90.180	5,725.99	588.74	5,432.13	5,423.02	0.00	0.00	0.00	
12,900.00	89.41	90.180	5,727.02	588.42	5,532.12	5,523.00	0.00	0.00	0.00	
13,000.00	89.41	90.180	5,728.05	588.11	5,632.11	5,622.99	0.00	0.00	0.00	
13,100.00	89.41	90.180	5,729.09	587.80	5,732.11	5,722.98	0.00	0.00	0.00	
13,200.00	89.41	90.180	5,730.12	587.48	5,832.10	5,822.97	0.00	0.00	0.00	
13,300.00	89.41	90.180	5,731.15	587.17	5,932.10	5,922.96	0.00	0.00	0.00	
13,400.00	89.41	90.180	5,732.18	586.86	6,032.09	6,022.95	0.00	0.00	0.00	
13,500.00	89.41	90.180	5,733.21	586.54	6,132.09	6,122.93	0.00	0.00	0.00	
13,600.00	89.41	90.180	5,734.25	586.23	6,232.08	6,222.92	0.00	0.00	0.00	
13,700.00	89.41	90.180	5,735.28	585.91	6,332.07	6,322.91	0.00	0.00	0.00	
13,800.00	89.41	90.180	5,736.31	585.60	6,432.07	6,422.90	0.00	0.00	0.00	
13,900.00	89.41	90.180	5,737.34	585.29	6,532.06	6,522.89	0.00	0.00	0.00	
14,000.00	89.41	90.180	5,738.38	584.97	6,632.06	6,622.87	0.00	0.00	0.00	
14,100.00	89.41	90.180	5,739.41	584.66	6,732.05	6,722.86	0.00	0.00	0.00	
14,200.00	89.41	90.180	5,740.44	584.35	6,832.04	6,822.85	0.00	0.00	0.00	
14,300.00	89.41	90.180	5,741.47	584.03	6,932.04	6,922.84	0.00	0.00	0.00	
14,400.00	89.41	90.180	5,742.50	583.72	7,032.03	7,022.83	0.00	0.00	0.00	
14,500.00	89.41	90.180	5,743.54	583.41	7,132.03	7,122.82	0.00	0.00	0.00	
14,600.00	89.41	90.180	5,744.57	583.09	7,232.02	7,222.80	0.00	0.00	0.00	
14,700.00	89.41	90.180	5,745.60	582.78	7,332.02	7,322.79	0.00	0.00	0.00	



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
14,800.00	89.41	90.180	5,746.63	582.46	7,432.01	7,422.78	0.00	0.00	0.00	
14,900.00	89.41	90.180	5,747.67	582.15	7,532.00	7,522.77	0.00	0.00	0.00	
15,000.00	89.41	90.180	5,748.70	581.84	7,632.00	7,622.76	0.00	0.00	0.00	
15,100.00	89.41	90.180	5,749.73	581.52	7,731.99	7,722.75	0.00	0.00	0.00	
15,200.00	89.41	90.180	5,750.76	581.21	7,831.99	7,822.73	0.00	0.00	0.00	
15,300.00	89.41	90.180	5,751.79	580.90	7,931.98	7,922.72	0.00	0.00	0.00	
15,400.00	89.41	90.180	5,752.83	580.58	8,031.97	8,022.71	0.00	0.00	0.00	
15,500.00	89.41	90.180	5,753.86	580.27	8,131.97	8,122.70	0.00	0.00	0.00	
15,600.00	89.41	90.180	5,754.89	579.96	8,231.96	8,222.69	0.00	0.00	0.00	
15,700.00	89.41	90.180	5,755.92	579.64	8,331.96	8,322.67	0.00	0.00	0.00	
15,800.00	89.41	90.180	5,756.96	579.33	8,431.95	8,422.66	0.00	0.00	0.00	
15,900.00	89.41	90.180	5,757.99	579.01	8,531.95	8,522.65	0.00	0.00	0.00	
16,000.00	89.41	90.180	5,759.02	578.70	8,631.94	8,622.64	0.00	0.00	0.00	
16,100.00	89.41	90.180	5,760.05	578.39	8,731.93	8,722.63	0.00	0.00	0.00	
16,200.00	89.41	90.180	5,761.08	578.07	8,831.93	8,822.62	0.00	0.00	0.00	
16,300.00	89.41	90.180	5,762.12	577.76	8,931.92	8,922.60	0.00	0.00	0.00	
16,400.00	89.41	90.180	5,763.15	577.45	9,031.92	9,022.59	0.00	0.00	0.00	
16,500.00	89.41	90.180	5,764.18	577.13	9,131.91	9,122.58	0.00	0.00	0.00	
16,600.00	89.41	90.180	5,765.21	576.82	9,231.91	9,222.57	0.00	0.00	0.00	
16,700.00	89.41	90.180	5,766.25	576.51	9,331.90	9,322.56	0.00	0.00	0.00	
16,800.00	89.41	90.180	5,767.28	576.19	9,431.89	9,422.54	0.00	0.00	0.00	
16,900.00	89.41	90.180	5,768.31	575.88	9,531.89	9,522.53	0.00	0.00	0.00	
17,000.00	89.41	90.180	5,769.34	575.56	9,631.88	9,622.52	0.00	0.00	0.00	
17,063.70	89.41	90.180	5,770.00	575.36	9,695.57	9,686.21	0.00	0.00	0.00	
PBHL/TD @ 17063.70 MD 5770.00 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	
Lybrook 262 FTP 386 Ft - plan misses target center by 120.07ft at 6508.52ft MD (5661.05 TVD, 608.47 N, -858.98 E) - Point	0.00	0.000	5,661.03	728.54	-858.61	1,916,217.097	1,266,033.769	36.259605000	-107.519881000	
Lybrook 262 0 VS - plan misses target center by 115.67ft at 7371.86ft MD (5669.96 TVD, 605.76 N, 4.30 E) - Point	0.00	0.000	5,670.00	721.43	4.67	1,916,209.990	1,266,897.040	36.259616529	-107.516953176	
Lybrook 262 LTP 380 Ft - plan hits target center - Point	0.00	0.000	5,770.00	575.36	9,695.57	1,916,063.927	1,276,587.928	36.259559000	-107.484083000	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2		
4,113.27	3,865.00	9 5/8" Csg	9-5/8	12-1/4		



Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,550.57	1,507.43	Ojo Alamo		0.59	90.831	
1,640.42	1,590.08	Kirtland		0.59	90.831	
1,924.03	1,850.99	Fruitland		0.59	90.831	
2,237.96	2,139.79	Pictured Cliffs		0.59	90.831	
2,378.68	2,269.25	Lewis		0.59	90.831	
2,703.43	2,568.00	Chacra_A		0.59	90.831	
3,899.58	3,668.41	Cliff House_Basal		0.59	90.831	
3,937.47	3,703.27	Menefee		0.59	90.831	
4,684.39	4,390.40	Point Lookout		0.59	90.831	
4,992.90	4,674.22	Mancos		0.59	90.831	
5,358.21	5,018.10	MNCS_A		0.59	90.831	
5,443.81	5,103.10	MNCS_B		0.59	90.831	
5,582.94	5,238.39	MNCS_C		0.59	90.831	
5,661.53	5,310.70	MNCS_Cms		0.59	90.831	
5,735.02	5,374.07	MNCS_D		0.59	90.831	
5,860.55	5,469.90	MNCS_E		0.59	90.831	
5,931.15	5,515.46	MNCS_F		0.59	90.831	
6,100.00	5,601.95	MNCS_G		0.59	90.831	
6,245.96	5,648.37	MNCS_H		0.59	90.831	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
500.00	500.00	0.00	0.00	KOP Begin 3°/100' build	
1,269.34	1,248.70	49.69	-144.57	Begin 23.08° tangent	
5,178.59	4,845.05	547.85	-1,593.84	Begin 10°/100' build/turn	
5,998.94	5,552.71	610.00	-1,347.00	Begin 60.00° tangent	
6,058.94	5,582.71	609.84	-1,295.04	Begin 10°/100' build	
6,159.20	5,625.01	609.55	-1,204.28	70° inc @ 6159.20 MD 5625.21 TVD	
6,353.02	5,659.44	608.96	-1,014.48	Begin 89.41° lateral	
17,063.70	5,770.00	575.36	9,695.57	PBHL/TD @ 17063.70 MD 5770.00 TVD	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Project	Rio Arriba County, New Mexico NAD83 NM C		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Section 06-T23N-R06W				
Site Position:		Northing:	1,915,488.563 usft	Latitude:	36.257635000
From:	Lat/Long	Easting:	1,266,892.374 usft	Longitude:	-107.516937000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	NE Lybrook Com 262 H, Surf loc: 1099 FNL 703 FWL Section 06-T23N-R06W					
Well Position	+N/-S	0.00 ft	Northing:	1,915,488.563 usft	Latitude:	36.257635000
	+E/-W	0.00 ft	Easting:	1,266,892.374 usft	Longitude:	-107.516937000
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,980.00 ft	
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2020	9/11/2023	(°)	(°)	(nT)
			8.47	62.76	49,123.25179824

Design	rev2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	90.831

Plan Survey Tool Program	Date			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	0.00	17,063.69 rev2 (Original Hole)		

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,269.34	23.08	288.969	1,248.70	49.69	-144.57	3.00	3.00	0.00	288.97	
5,178.59	23.08	288.969	4,845.05	547.85	-1,593.84	0.00	0.00	0.00	0.00	
5,998.94	60.00	90.180	5,552.71	610.00	-1,347.00	10.00	4.50	19.65	163.64	
6,058.94	60.00	90.180	5,582.71	609.84	-1,295.04	0.00	0.00	0.00	0.00	
6,353.02	89.41	90.180	5,659.44	608.96	-1,014.48	10.00	10.00	0.00	0.00	
17,063.70	89.41	90.180	5,770.00	575.36	9,695.57	0.00	0.00	0.00	0.00	Lybrook 262 LTP 380



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.000	0.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
100.00	0.00	0.000	100.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
200.00	0.00	0.000	200.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
300.00	0.00	0.000	300.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
350.00	0.00	0.000	350.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
13 3/8" Csg										
400.00	0.00	0.000	400.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
500.00	0.00	0.000	500.00	0.00	0.00	1,915,488.563	1,266,892.374	36.257635000	-107.516937000	
KOP Begin 3°/100' build										
600.00	3.00	288.969	599.95	0.85	-2.48	1,915,489.414	1,266,889.898	36.257637248	-107.516945431	
700.00	6.00	288.969	699.63	3.40	-9.89	1,915,491.964	1,266,882.479	36.257643985	-107.516970703	
800.00	9.00	288.969	798.77	7.64	-22.24	1,915,496.207	1,266,870.137	36.257655194	-107.517012745	
900.00	12.00	288.969	897.08	13.57	-39.47	1,915,502.130	1,266,852.905	36.257670842	-107.517071443	
1,000.00	15.00	288.969	994.31	21.15	-61.54	1,915,509.717	1,266,830.831	36.257690888	-107.517146635	
1,100.00	18.00	288.969	1,090.18	30.39	-88.40	1,915,518.949	1,266,803.975	36.257715276	-107.517238116	
1,200.00	21.00	288.969	1,184.43	41.23	-119.96	1,915,529.798	1,266,772.411	36.257743939	-107.517345635	
1,269.34	23.08	288.969	1,248.70	49.69	-144.57	1,915,538.255	1,266,747.806	36.257766283	-107.517429447	
Begin 23.08° tangent										
1,300.00	23.08	288.969	1,276.91	53.60	-155.94	1,915,542.163	1,266,736.439	36.257776606	-107.517468169	
1,400.00	23.08	288.969	1,368.90	66.34	-193.01	1,915,554.906	1,266,699.366	36.257810271	-107.517594452	
1,500.00	23.08	288.969	1,460.90	79.09	-230.08	1,915,567.649	1,266,662.293	36.257843937	-107.517720735	
1,550.57	23.08	288.969	1,507.43	85.53	-248.83	1,915,574.093	1,266,643.544	36.257860963	-107.517784602	
Ojo Alamo										
1,600.00	23.08	288.969	1,552.89	91.83	-267.15	1,915,580.392	1,266,625.220	36.257877602	-107.517847019	
1,640.42	23.08	288.969	1,590.08	96.98	-282.14	1,915,585.543	1,266,610.235	36.257891210	-107.517898064	
Kirtland										
1,700.00	23.08	288.969	1,644.89	104.57	-304.23	1,915,593.135	1,266,588.148	36.257911267	-107.517973302	
1,800.00	23.08	288.969	1,736.89	117.31	-341.30	1,915,605.878	1,266,551.075	36.257944932	-107.518099586	
1,900.00	23.08	288.969	1,828.88	130.06	-378.37	1,915,618.621	1,266,514.002	36.257978597	-107.518225869	
1,924.03	23.08	288.969	1,850.99	133.12	-387.28	1,915,621.683	1,266,505.092	36.257986688	-107.518256220	
Fruitland										
2,000.00	23.08	288.969	1,920.88	142.80	-415.45	1,915,631.364	1,266,476.929	36.258012262	-107.518352153	
2,100.00	23.08	288.969	2,012.87	155.54	-452.52	1,915,644.107	1,266,439.857	36.258045926	-107.518478437	
2,200.00	23.08	288.969	2,104.87	168.29	-489.59	1,915,656.850	1,266,402.784	36.258079591	-107.518604721	
2,237.96	23.08	288.969	2,139.79	173.12	-503.66	1,915,661.687	1,266,388.712	36.258092369	-107.518652654	
Pictured Cliffs										
2,300.00	23.08	288.969	2,196.87	181.03	-526.66	1,915,669.593	1,266,365.711	36.258113255	-107.518731005	
2,378.68	23.08	288.969	2,269.25	191.06	-555.83	1,915,679.619	1,266,336.542	36.258139742	-107.518830366	
Lewis										
2,400.00	23.08	288.969	2,288.86	193.77	-563.74	1,915,682.336	1,266,328.638	36.258146919	-107.518857289	
2,500.00	23.08	288.969	2,380.86	206.52	-600.81	1,915,695.079	1,266,291.566	36.258180583	-107.518983573	
2,600.00	23.08	288.969	2,472.85	219.26	-637.88	1,915,707.822	1,266,254.493	36.258214247	-107.519109857	
2,700.00	23.08	288.969	2,564.85	232.00	-674.95	1,915,720.565	1,266,217.420	36.258247911	-107.519236142	
2,703.43	23.08	288.969	2,568.00	232.44	-676.23	1,915,721.002	1,266,216.149	36.258249065	-107.519240471	
Chacra_A										
2,800.00	23.08	288.969	2,656.84	244.74	-712.03	1,915,733.308	1,266,180.347	36.258281575	-107.519362426	
2,900.00	23.08	288.969	2,748.84	257.49	-749.10	1,915,746.051	1,266,143.275	36.258315238	-107.519488711	
3,000.00	23.08	288.969	2,840.84	270.23	-786.17	1,915,758.794	1,266,106.202	36.258348902	-107.519614996	
3,100.00	23.08	288.969	2,932.83	282.97	-823.25	1,915,771.537	1,266,069.129	36.258382565	-107.519741280	
3,200.00	23.08	288.969	3,024.83	295.72	-860.32	1,915,784.280	1,266,032.056	36.258416228	-107.519867565	
3,300.00	23.08	288.969	3,116.82	308.46	-897.39	1,915,797.023	1,265,994.984	36.258449891	-107.519993850	
3,400.00	23.08	288.969	3,208.82	321.20	-934.46	1,915,809.765	1,265,957.911	36.258483554	-107.520120136	
3,500.00	23.08	288.969	3,300.81	333.95	-971.54	1,915,822.508	1,265,920.838	36.258517217	-107.520246421	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,600.00	23.08	288.969	3,392.81	346.69	-1,008.61	1,915,835.251	1,265,883.765	36.258550879	-107.520372706	
3,700.00	23.08	288.969	3,484.81	359.43	-1,045.68	1,915,847.994	1,265,846.693	36.258584542	-107.520498992	
3,800.00	23.08	288.969	3,576.80	372.17	-1,082.76	1,915,860.737	1,265,809.620	36.258618204	-107.520625277	
3,899.58	23.08	288.969	3,668.41	384.86	-1,119.67	1,915,873.427	1,265,772.702	36.258651726	-107.520751036	
Cliff House_Basal										
3,900.00	23.08	288.969	3,668.80	384.92	-1,119.83	1,915,873.480	1,265,772.547	36.258651866	-107.520751563	
3,937.47	23.08	288.969	3,703.27	389.69	-1,133.72	1,915,878.255	1,265,758.656	36.258664479	-107.520798882	
Menefee										
4,000.00	23.08	288.969	3,760.79	397.66	-1,156.90	1,915,886.223	1,265,735.474	36.258685528	-107.520877849	
4,100.00	23.08	288.969	3,852.79	410.40	-1,193.97	1,915,898.966	1,265,698.402	36.258719190	-107.521004135	
4,113.27	23.08	288.969	3,865.00	412.10	-1,198.90	1,915,900.658	1,265,693.481	36.258723658	-107.521020897	
9 5/8" Csg										
4,200.00	23.08	288.969	3,944.78	423.15	-1,231.05	1,915,911.709	1,265,661.329	36.258752852	-107.521130421	
4,300.00	23.08	288.969	4,036.78	435.89	-1,268.12	1,915,924.452	1,265,624.256	36.258786513	-107.521256707	
4,400.00	23.08	288.969	4,128.78	448.63	-1,305.19	1,915,937.195	1,265,587.183	36.258820175	-107.521382993	
4,500.00	23.08	288.969	4,220.77	461.38	-1,342.27	1,915,949.938	1,265,550.111	36.258853836	-107.521509279	
4,600.00	23.08	288.969	4,312.77	474.12	-1,379.34	1,915,962.681	1,265,513.038	36.258887497	-107.521635566	
4,684.39	23.08	288.969	4,390.40	484.87	-1,410.62	1,915,973.435	1,265,481.752	36.258915904	-107.521742139	
Point Lookout										
4,700.00	23.08	288.969	4,404.76	486.86	-1,416.41	1,915,975.424	1,265,475.965	36.258921159	-107.521761852	
4,800.00	23.08	288.969	4,496.76	499.60	-1,453.48	1,915,988.167	1,265,438.892	36.258954820	-107.521888139	
4,900.00	23.08	288.969	4,588.76	512.35	-1,490.56	1,916,000.910	1,265,401.820	36.258988480	-107.522014426	
4,992.90	23.08	288.969	4,674.22	524.19	-1,525.00	1,916,012.748	1,265,367.379	36.259019751	-107.522131746	
Mancos										
5,000.00	23.08	288.969	4,680.75	525.09	-1,527.63	1,916,013.653	1,265,364.747	36.259022141	-107.522140713	
5,100.00	23.08	288.969	4,772.75	537.83	-1,564.70	1,916,026.396	1,265,327.674	36.259055802	-107.522267000	
5,178.59	23.08	288.969	4,845.05	547.85	-1,593.84	1,916,036.411	1,265,298.538	36.259082256	-107.522366250	
Begin 10°/100' build/turn										
5,200.00	21.03	290.649	4,864.89	550.57	-1,601.40	1,916,039.130	1,265,290.974	36.259089451	-107.522392024	
5,250.00	16.35	296.116	4,912.24	556.83	-1,616.13	1,916,045.396	1,265,276.250	36.259106127	-107.522442232	
5,300.00	11.90	305.657	4,960.72	562.94	-1,626.64	1,916,051.503	1,265,265.736	36.259122521	-107.522478160	
5,350.00	8.13	324.923	5,009.97	568.84	-1,632.87	1,916,057.406	1,265,259.510	36.259138508	-107.522499535	
5,358.21	7.64	329.747	5,018.10	569.79	-1,633.48	1,916,058.352	1,265,258.902	36.259141084	-107.522501640	
MNCS_A										
5,400.00	6.34	2.975	5,059.59	574.50	-1,634.76	1,916,063.059	1,265,257.621	36.259153966	-107.522506194	
5,443.81	7.65	38.011	5,103.10	579.21	-1,632.83	1,916,067.773	1,265,259.542	36.259166984	-107.522499888	
MNCS_B										
5,450.00	8.01	41.699	5,109.23	579.86	-1,632.29	1,916,068.419	1,265,260.082	36.259168777	-107.522498085	
5,500.00	11.74	61.545	5,158.49	584.88	-1,625.50	1,916,073.447	1,265,266.876	36.259182830	-107.522475271	
5,550.00	16.17	71.324	5,207.01	589.54	-1,614.43	1,916,078.102	1,265,277.950	36.259196016	-107.522437926	
5,582.94	19.23	75.290	5,238.39	592.39	-1,604.83	1,916,080.949	1,265,287.543	36.259204180	-107.522405520	
MNCS_C										
5,600.00	20.85	76.897	5,254.42	593.79	-1,599.16	1,916,082.351	1,265,293.219	36.259208235	-107.522386333	
5,650.00	25.65	80.479	5,300.35	597.60	-1,579.81	1,916,086.160	1,265,312.569	36.259219395	-107.522320885	
5,661.53	26.76	81.132	5,310.70	598.41	-1,574.78	1,916,086.974	1,265,317.597	36.259221810	-107.522303871	
MNCS_Cms										
5,700.00	30.51	82.989	5,344.45	600.94	-1,556.53	1,916,089.501	1,265,335.851	36.259229411	-107.522242080	
5,735.02	33.93	84.353	5,374.07	602.99	-1,537.97	1,916,091.549	1,265,354.405	36.259235703	-107.522179251	
MNCS_D										
5,750.00	35.40	84.864	5,386.40	603.79	-1,529.49	1,916,092.348	1,265,362.889	36.259238206	-107.522150519	
5,800.00	40.32	86.336	5,425.86	606.12	-1,498.90	1,916,094.680	1,265,393.476	36.259245713	-107.522046897	
5,850.00	45.25	87.535	5,462.54	607.92	-1,465.00	1,916,096.479	1,265,427.379	36.259251876	-107.521932004	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,860.55	46.30	87.762	5,469.90	608.23	-1,457.44	1,916,096.789	1,265,434.934	36.259253000	-107.521906399	
MNCS_E										
5,900.00	50.20	88.546	5,496.17	609.17	-1,428.03	1,916,097.730	1,265,464.342	36.259256646	-107.521806714	
5,931.15	53.28	89.104	5,515.46	609.67	-1,403.58	1,916,098.229	1,265,488.795	36.259258898	-107.521723811	
MNCS_F										
5,950.00	55.15	89.421	5,526.48	609.86	-1,388.29	1,916,098.426	1,265,504.082	36.259259989	-107.521671980	
5,998.94	60.00	90.180	5,552.71	610.00	-1,347.00	1,916,098.562	1,265,545.376	36.259261853	-107.521531950	
Begin 60.00° tangent										
6,000.00	60.00	90.180	5,553.24	610.00	-1,346.08	1,916,098.559	1,265,546.296	36.259261878	-107.521528830	
6,058.94	60.00	90.180	5,582.71	609.84	-1,295.04	1,916,098.399	1,265,597.338	36.259263278	-107.521355734	
Begin 10°/100' build										
6,100.00	64.11	90.180	5,601.95	609.72	-1,258.78	1,916,098.285	1,265,633.599	36.259264272	-107.521232761	
MNCS_G										
6,150.00	69.11	90.180	5,621.80	609.58	-1,212.90	1,916,098.141	1,265,679.478	36.259265530	-107.521077170	
6,159.20	70.03	90.180	5,625.01	609.55	-1,204.28	1,916,098.114	1,265,688.099	36.259265766	-107.521047934	
70° inc @ 6159.20 MD 5625.21 TVD										
6,200.00	74.11	90.180	5,637.57	609.43	-1,165.47	1,916,097.992	1,265,726.908	36.259266830	-107.520916320	
6,245.96	78.70	90.180	5,648.37	609.29	-1,120.81	1,916,097.852	1,265,771.564	36.259268055	-107.520764879	
MNCS_H										
6,250.00	79.11	90.180	5,649.15	609.28	-1,116.84	1,916,097.839	1,265,775.533	36.259268163	-107.520751420	
6,300.00	84.11	90.180	5,656.44	609.12	-1,067.39	1,916,097.684	1,265,824.981	36.259269519	-107.520583726	
6,353.02	89.41	90.180	5,659.44	608.96	-1,014.48	1,916,097.518	1,265,877.900	36.259270969	-107.520404261	
Begin 89.41° lateral										
6,400.00	89.41	90.180	5,659.93	608.81	-967.50	1,916,097.371	1,265,924.874	36.259272257	-107.520244958	
6,500.00	89.41	90.180	5,660.96	608.50	-867.51	1,916,097.057	1,266,024.868	36.259274997	-107.519905848	
6,600.00	89.41	90.180	5,661.99	608.18	-767.51	1,916,096.744	1,266,124.862	36.259277735	-107.519566738	
6,700.00	89.41	90.180	5,663.02	607.87	-667.52	1,916,096.430	1,266,224.856	36.259280473	-107.519227628	
6,800.00	89.41	90.180	5,664.06	607.55	-567.52	1,916,096.117	1,266,324.850	36.259283210	-107.518888518	
6,900.00	89.41	90.180	5,665.09	607.24	-467.53	1,916,095.803	1,266,424.844	36.259285946	-107.518549407	
7,000.00	89.41	90.180	5,666.12	606.93	-367.54	1,916,095.489	1,266,524.838	36.259288681	-107.518210297	
7,100.00	89.41	90.180	5,667.15	606.61	-267.54	1,916,095.176	1,266,624.832	36.259291415	-107.517871187	
7,200.00	89.41	90.180	5,668.18	606.30	-167.55	1,916,094.862	1,266,724.826	36.259294148	-107.517532076	
7,300.00	89.41	90.180	5,669.22	605.99	-67.55	1,916,094.548	1,266,824.820	36.259296880	-107.517192966	
7,400.00	89.41	90.180	5,670.25	605.67	32.44	1,916,094.235	1,266,924.814	36.259299611	-107.516853855	
7,500.00	89.41	90.180	5,671.28	605.36	132.43	1,916,093.921	1,267,024.808	36.259302341	-107.516514744	
7,600.00	89.41	90.180	5,672.31	605.05	232.43	1,916,093.608	1,267,124.802	36.259305070	-107.516175634	
7,700.00	89.41	90.180	5,673.35	604.73	332.42	1,916,093.294	1,267,224.796	36.259307798	-107.515836523	
7,800.00	89.41	90.180	5,674.38	604.42	432.42	1,916,092.980	1,267,324.790	36.259310526	-107.515497412	
7,900.00	89.41	90.180	5,675.41	604.10	532.41	1,916,092.667	1,267,424.784	36.259313252	-107.515158302	
8,000.00	89.41	90.180	5,676.44	603.79	632.41	1,916,092.353	1,267,524.778	36.259315977	-107.514819191	
8,100.00	89.41	90.180	5,677.47	603.48	732.40	1,916,092.039	1,267,624.772	36.259318702	-107.514480080	
8,200.00	89.41	90.180	5,678.51	603.16	832.39	1,916,091.726	1,267,724.766	36.259321425	-107.514140969	
8,300.00	89.41	90.180	5,679.54	602.85	932.39	1,916,091.412	1,267,824.760	36.259324148	-107.513801858	
8,400.00	89.41	90.180	5,680.57	602.54	1,032.38	1,916,091.099	1,267,924.754	36.259326869	-107.513462747	
8,500.00	89.41	90.180	5,681.60	602.22	1,132.38	1,916,090.785	1,268,024.748	36.259329590	-107.513123636	
8,600.00	89.41	90.180	5,682.64	601.91	1,232.37	1,916,090.471	1,268,124.742	36.259332309	-107.512784524	
8,700.00	89.41	90.180	5,683.67	601.60	1,332.36	1,916,090.158	1,268,224.735	36.259335028	-107.512445413	
8,800.00	89.41	90.180	5,684.70	601.28	1,432.36	1,916,089.844	1,268,324.729	36.259337745	-107.512106302	
8,900.00	89.41	90.180	5,685.73	600.97	1,532.35	1,916,089.530	1,268,424.723	36.259340462	-107.511767191	
9,000.00	89.41	90.180	5,686.76	600.65	1,632.35	1,916,089.217	1,268,524.717	36.259343178	-107.511428079	
9,100.00	89.41	90.180	5,687.80	600.34	1,732.34	1,916,088.903	1,268,624.711	36.259345892	-107.511088968	
9,200.00	89.41	90.180	5,688.83	600.03	1,832.34	1,916,088.590	1,268,724.705	36.259348606	-107.510749856	
9,300.00	89.41	90.180	5,689.86	599.71	1,932.33	1,916,088.276	1,268,824.699	36.259351319	-107.510410745	
9,400.00	89.41	90.180	5,690.89	599.40	2,032.32	1,916,087.962	1,268,924.693	36.259354031	-107.510071633	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,500.00	89.41	90.180	5,691.93	599.09	2,132.32	1,916,087.649	1,269,024.687	36.259356742	-107.509732521	
9,600.00	89.41	90.180	5,692.96	598.77	2,232.31	1,916,087.335	1,269,124.681	36.259359452	-107.509393410	
9,700.00	89.41	90.180	5,693.99	598.46	2,332.31	1,916,087.021	1,269,224.675	36.259362161	-107.509054298	
9,800.00	89.41	90.180	5,695.02	598.15	2,432.30	1,916,086.708	1,269,324.669	36.259364869	-107.508715186	
9,900.00	89.41	90.180	5,696.05	597.83	2,532.29	1,916,086.394	1,269,424.663	36.259367576	-107.508376074	
10,000.00	89.41	90.180	5,697.09	597.52	2,632.29	1,916,086.081	1,269,524.657	36.259370282	-107.508036962	
10,100.00	89.41	90.180	5,698.12	597.20	2,732.28	1,916,085.767	1,269,624.651	36.259372987	-107.507697851	
10,200.00	89.41	90.180	5,699.15	596.89	2,832.28	1,916,085.453	1,269,724.645	36.259375691	-107.507358739	
10,300.00	89.41	90.180	5,700.18	596.58	2,932.27	1,916,085.140	1,269,824.639	36.259378394	-107.507019626	
10,400.00	89.41	90.180	5,701.22	596.26	3,032.27	1,916,084.826	1,269,924.633	36.259381097	-107.506680515	
10,500.00	89.41	90.180	5,702.25	595.95	3,132.26	1,916,084.512	1,270,024.627	36.259383798	-107.506341403	
10,600.00	89.41	90.180	5,703.28	595.64	3,232.25	1,916,084.199	1,270,124.621	36.259386498	-107.506002291	
10,700.00	89.41	90.180	5,704.31	595.32	3,332.25	1,916,083.885	1,270,224.615	36.259389198	-107.505663179	
10,800.00	89.41	90.180	5,705.34	595.01	3,432.24	1,916,083.572	1,270,324.609	36.259391896	-107.505324066	
10,900.00	89.41	90.180	5,706.38	594.70	3,532.24	1,916,083.258	1,270,424.603	36.259394594	-107.504984954	
11,000.00	89.41	90.180	5,707.41	594.38	3,632.23	1,916,082.944	1,270,524.597	36.259397290	-107.504645842	
11,100.00	89.41	90.180	5,708.44	594.07	3,732.22	1,916,082.631	1,270,624.591	36.259399986	-107.504306729	
11,200.00	89.41	90.180	5,709.47	593.75	3,832.22	1,916,082.317	1,270,724.585	36.259402680	-107.503967617	
11,300.00	89.41	90.180	5,710.51	593.44	3,932.21	1,916,082.003	1,270,824.579	36.259405374	-107.503628504	
11,400.00	89.41	90.180	5,711.54	593.13	4,032.21	1,916,081.690	1,270,924.573	36.259408066	-107.503289391	
11,500.00	89.41	90.180	5,712.57	592.81	4,132.20	1,916,081.376	1,271,024.567	36.259410758	-107.502950279	
11,600.00	89.41	90.180	5,713.60	592.50	4,232.20	1,916,081.063	1,271,124.561	36.259413449	-107.502611166	
11,700.00	89.41	90.180	5,714.63	592.19	4,332.19	1,916,080.749	1,271,224.555	36.259416139	-107.502272053	
11,800.00	89.41	90.180	5,715.67	591.87	4,432.18	1,916,080.435	1,271,324.549	36.259418827	-107.501932940	
11,900.00	89.41	90.180	5,716.70	591.56	4,532.18	1,916,080.122	1,271,424.543	36.259421515	-107.501593827	
12,000.00	89.41	90.180	5,717.73	591.25	4,632.17	1,916,079.808	1,271,524.537	36.259424202	-107.501254714	
12,100.00	89.41	90.180	5,718.76	590.93	4,732.17	1,916,079.494	1,271,624.531	36.259426888	-107.500915601	
12,200.00	89.41	90.180	5,719.80	590.62	4,832.16	1,916,079.181	1,271,724.525	36.259429573	-107.500576488	
12,300.00	89.41	90.180	5,720.83	590.30	4,932.16	1,916,078.867	1,271,824.519	36.259432257	-107.500237375	
12,400.00	89.41	90.180	5,721.86	589.99	5,032.15	1,916,078.554	1,271,924.513	36.259434940	-107.499898262	
12,500.00	89.41	90.180	5,722.89	589.68	5,132.14	1,916,078.240	1,272,024.507	36.259437622	-107.499559149	
12,600.00	89.41	90.180	5,723.92	589.36	5,232.14	1,916,077.926	1,272,124.501	36.259440303	-107.499220036	
12,700.00	89.41	90.180	5,724.96	589.05	5,332.13	1,916,077.613	1,272,224.495	36.259442983	-107.498880922	
12,800.00	89.41	90.180	5,725.99	588.74	5,432.13	1,916,077.299	1,272,324.488	36.259445662	-107.498541809	
12,900.00	89.41	90.180	5,727.02	588.42	5,532.12	1,916,076.985	1,272,424.482	36.259448341	-107.498202696	
13,000.00	89.41	90.180	5,728.05	588.11	5,632.11	1,916,076.672	1,272,524.476	36.259451018	-107.497863582	
13,100.00	89.41	90.180	5,729.09	587.80	5,732.11	1,916,076.358	1,272,624.470	36.259453694	-107.497524469	
13,200.00	89.41	90.180	5,730.12	587.48	5,832.10	1,916,076.045	1,272,724.464	36.259456370	-107.497185355	
13,300.00	89.41	90.180	5,731.15	587.17	5,932.10	1,916,075.731	1,272,824.458	36.259459044	-107.496846241	
13,400.00	89.41	90.180	5,732.18	586.86	6,032.09	1,916,075.417	1,272,924.452	36.259461717	-107.496507128	
13,500.00	89.41	90.180	5,733.21	586.54	6,132.09	1,916,075.104	1,273,024.446	36.259464390	-107.496168014	
13,600.00	89.41	90.180	5,734.25	586.23	6,232.08	1,916,074.790	1,273,124.440	36.259467061	-107.495828900	
13,700.00	89.41	90.180	5,735.28	585.91	6,332.07	1,916,074.476	1,273,224.434	36.259469732	-107.495489786	
13,800.00	89.41	90.180	5,736.31	585.60	6,432.07	1,916,074.163	1,273,324.428	36.259472401	-107.495150673	
13,900.00	89.41	90.180	5,737.34	585.29	6,532.06	1,916,073.849	1,273,424.422	36.259475070	-107.494811559	
14,000.00	89.41	90.180	5,738.38	584.97	6,632.06	1,916,073.536	1,273,524.416	36.259477738	-107.494472445	
14,100.00	89.41	90.180	5,739.41	584.66	6,732.05	1,916,073.222	1,273,624.410	36.259480404	-107.494133331	
14,200.00	89.41	90.180	5,740.44	584.35	6,832.04	1,916,072.908	1,273,724.404	36.259483070	-107.493794216	
14,300.00	89.41	90.180	5,741.47	584.03	6,932.04	1,916,072.595	1,273,824.399	36.259485735	-107.493455102	
14,400.00	89.41	90.180	5,742.50	583.72	7,032.03	1,916,072.281	1,273,924.393	36.259488399	-107.493115988	
14,500.00	89.41	90.180	5,743.54	583.41	7,132.03	1,916,071.967	1,274,024.387	36.259491062	-107.492776874	
14,600.00	89.41	90.180	5,744.57	583.09	7,232.02	1,916,071.654	1,274,124.381	36.259493723	-107.492437760	
14,700.00	89.41	90.180	5,745.60	582.78	7,332.02	1,916,071.340	1,274,224.375	36.259496384	-107.492098645	
14,800.00	89.41	90.180	5,746.63	582.46	7,432.01	1,916,071.027	1,274,324.369	36.259499044	-107.491759531	
14,900.00	89.41	90.180	5,747.67	582.15	7,532.00	1,916,070.713	1,274,424.363	36.259501703	-107.491420416	



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
15,000.00	89.41	90.180	5,748.70	581.84	7,632.00	1,916,070.399	1,274,524.357	36.259504361	-107.491081302	
15,100.00	89.41	90.180	5,749.73	581.52	7,731.99	1,916,070.086	1,274,624.351	36.259507018	-107.490742187	
15,200.00	89.41	90.180	5,750.76	581.21	7,831.99	1,916,069.772	1,274,724.345	36.259509675	-107.490403073	
15,300.00	89.41	90.180	5,751.79	580.90	7,931.98	1,916,069.458	1,274,824.339	36.259512330	-107.490063958	
15,400.00	89.41	90.180	5,752.83	580.58	8,031.97	1,916,069.145	1,274,924.333	36.259514984	-107.489724843	
15,500.00	89.41	90.180	5,753.86	580.27	8,131.97	1,916,068.831	1,275,024.327	36.259517637	-107.489385729	
15,600.00	89.41	90.180	5,754.89	579.96	8,231.96	1,916,068.518	1,275,124.321	36.259520289	-107.489046614	
15,700.00	89.41	90.180	5,755.92	579.64	8,331.96	1,916,068.204	1,275,224.315	36.259522941	-107.488707499	
15,800.00	89.41	90.180	5,756.96	579.33	8,431.95	1,916,067.890	1,275,324.309	36.259525591	-107.488368384	
15,900.00	89.41	90.180	5,757.99	579.01	8,531.95	1,916,067.577	1,275,424.303	36.259528240	-107.488029269	
16,000.00	89.41	90.180	5,759.02	578.70	8,631.94	1,916,067.263	1,275,524.297	36.259530889	-107.487690154	
16,100.00	89.41	90.180	5,760.05	578.39	8,731.93	1,916,066.950	1,275,624.291	36.259533536	-107.487351039	
16,200.00	89.41	90.180	5,761.08	578.07	8,831.93	1,916,066.636	1,275,724.285	36.259536183	-107.487011924	
16,300.00	89.41	90.180	5,762.12	577.76	8,931.92	1,916,066.322	1,275,824.279	36.259538828	-107.486672809	
16,400.00	89.41	90.180	5,763.15	577.45	9,031.92	1,916,066.009	1,275,924.273	36.259541473	-107.486333694	
16,500.00	89.41	90.180	5,764.18	577.13	9,131.91	1,916,065.695	1,276,024.267	36.259544117	-107.485994578	
16,600.00	89.41	90.180	5,765.21	576.82	9,231.91	1,916,065.381	1,276,124.261	36.259546759	-107.485655463	
16,700.00	89.41	90.180	5,766.25	576.51	9,331.90	1,916,065.068	1,276,224.255	36.259549401	-107.485316348	
16,800.00	89.41	90.180	5,767.28	576.19	9,431.89	1,916,064.754	1,276,324.249	36.259552042	-107.484977232	
16,900.00	89.41	90.180	5,768.31	575.88	9,531.89	1,916,064.441	1,276,424.242	36.259554681	-107.484638117	
17,000.00	89.41	90.180	5,769.34	575.56	9,631.88	1,916,064.127	1,276,524.236	36.259557320	-107.484299001	
17,063.70	89.41	90.180	5,770.00	575.36	9,695.57	1,916,063.927	1,276,587.928	36.259559000	-107.484083000	

PBHL/TD @ 17063.70 MD 5770.00 TVD

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Lybrook 262 FTP 386 F1 - hit/miss target - Shape - Point	0.00	0.000	5,661.03	728.54	-858.61	1,916,217.097	1,266,033.769	36.259605000	-107.519881000	
- plan misses target center by 120.07ft at 6508.52ft MD (5661.05 TVD, 608.47 N, -858.98 E)										
Lybrook 262 0 VS - plan misses target center by 115.67ft at 7371.86ft MD (5669.96 TVD, 605.76 N, 4.30 E) - Point	0.00	0.000	5,670.00	721.43	4.67	1,916,209.990	1,266,897.040	36.259616529	-107.516953176	
Lybrook 262 LTP 380 FN - plan hits target center - Point	0.00	0.000	5,770.00	575.36	9,695.57	1,916,063.927	1,276,587.928	36.259559000	-107.484083000	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2		
4,113.27	3,865.00	9 5/8" Csg	9-5/8	12-1/4		



Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well NE Lybrook Com 262 H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6980+25 @ 7005.00ft
Project:	Rio Arriba County, New Mexico NAD83 NM C	MD Reference:	RKB=6980+25 @ 7005.00ft
Site:	Section 06-T23N-R06W	North Reference:	Grid
Well:	NE Lybrook Com 262 H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,550.57	1,507.43	Ojo Alamo		0.59	90.831
1,640.42	1,590.08	Kirtland		0.59	90.831
1,924.03	1,850.99	Fruitland		0.59	90.831
2,237.96	2,139.79	Pictured Cliffs		0.59	90.831
2,378.68	2,269.25	Lewis		0.59	90.831
2,703.43	2,568.00	Chacra_A		0.59	90.831
3,899.58	3,668.41	Cliff House_Basal		0.59	90.831
3,937.47	3,703.27	Menefee		0.59	90.831
4,684.39	4,390.40	Point Lookout		0.59	90.831
4,992.90	4,674.22	Mancos		0.59	90.831
5,358.21	5,018.10	MNCS_A		0.59	90.831
5,443.81	5,103.10	MNCS_B		0.59	90.831
5,582.94	5,238.39	MNCS_C		0.59	90.831
5,661.53	5,310.70	MNCS_Cms		0.59	90.831
5,735.02	5,374.07	MNCS_D		0.59	90.831
5,860.55	5,469.90	MNCS_E		0.59	90.831
5,931.15	5,515.46	MNCS_F		0.59	90.831
6,100.00	5,601.95	MNCS_G		0.59	90.831
6,245.96	5,648.37	MNCS_H		0.59	90.831

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
500.00	500.00	0.00	0.00	KOP Begin 3°/100' build	
1,269.34	1,248.70	49.69	-144.57	Begin 23.08° tangent	
5,178.59	4,845.05	547.85	-1,593.84	Begin 10°/100' build/turn	
5,998.94	5,552.71	610.00	-1,347.00	Begin 60.00° tangent	
6,058.94	5,582.71	609.84	-1,295.04	Begin 10°/100' build	
6,159.20	5,625.01	609.55	-1,204.28	70° inc @ 6159.20 MD 5625.21 TVD	
6,353.02	5,659.44	608.96	-1,014.48	Begin 89.41° lateral	
17,063.70	5,770.00	575.36	9,695.57	PBHL/TD @ 17063.70 MD 5770.00 TVD	

WELL NAME: NE LYBROOK COM 262H

OBJECTIVE: Drill, complete, equip single lateral Mancos formation Gallup member.

API Number: Not assigned yet

AFE Number: Not assigned yet

ER Well Number: Not assigned yet

State: New Mexico

County: Rio Arriba

Surface Elev.: 6,980 ft ASL (GL) 7,005 ft ASL (KB)

Surface Location: 6-23-6 Sec-Twn- Rng 1,099 ft FNL 703 ft FWL

BH Location: 5-23-6 Sec-Twn- Rng 380 ft FNL 100 ft FEL

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

South on US HWY 550 for 48.3 mles to MM 102.9; Left (North) on County Road #378 for 1.1 miles to fork; Right (North) exiting CR 378 for 0.1 miles to fork; Left (North-East) for 1.3 miles to fork; Right (East) for 0.2 miles to fork; Left (NorthEast) on lease road for .1 miles to fork, Left (West) on access road into NE Lybrook Com 176H Pad. The 262H will be one of 2 wells to be added to an existing, 2 well pad. The 262H will be the furthest North well and furthest from the location entrance. From South to North will be NE Lybrook Com 177H (existing well), NE Lybrook Com 176 (existing well), NE Lybrook Com 263H (proposed) and NE Lybrook Com 262H (proposed).

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	4,100 ft
KOP (MD)	5,200 ft
KOP (TVD)	4,865 ft
Target (TVD)	5,602 ft
Curve BUR	10 °/100 ft
POE (MD)	6,100 ft
TD (MD)	17,064 ft
Lat Len (ft)	10,964 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	4,100	9.625	36.0	J-55	LTC	0	4,100
Production	8.500	17,064	5.500	17.0	P-110	LTC	0	17,064

CEMENT PROPERTIES SUMMARY:

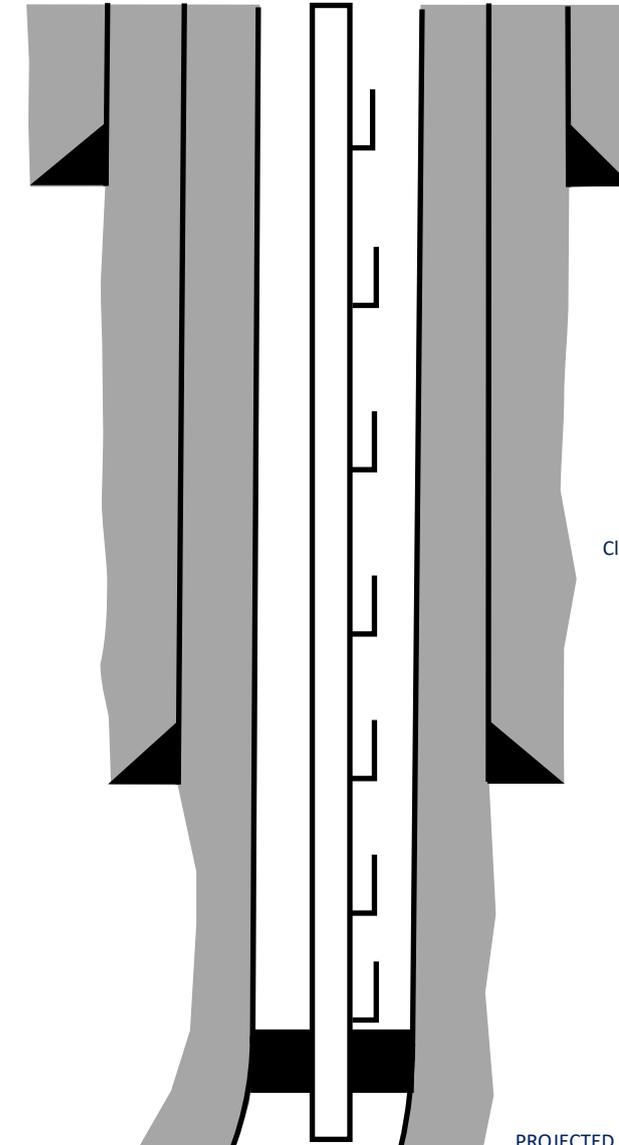
	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	TOC (ft MD)	Total (sx)	Cu Ft Slurry
Surface	TYPE III	14.6	1.39	6.686	100%	0	364	505
Inter. (Lead)	10 Type III:P	12.5	2.14	12.05	70%	0	868	1,857
Inter. (Tail)	Type III	14.6	1.38	6.64	20%	3600	150	207
Prod. (Lead)	ASTM type I/I	12.4	2.370	13.4	50%	0	550	1,304
Prod. (Tail)	G:POZ blend	13.3	1.570	7.7	10%	4684	1987	3,120

COMPLETION / PRODUCTION SUMMARY:

Frac: 10864

Flowback: Flow back through production tubing as pressures allow

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

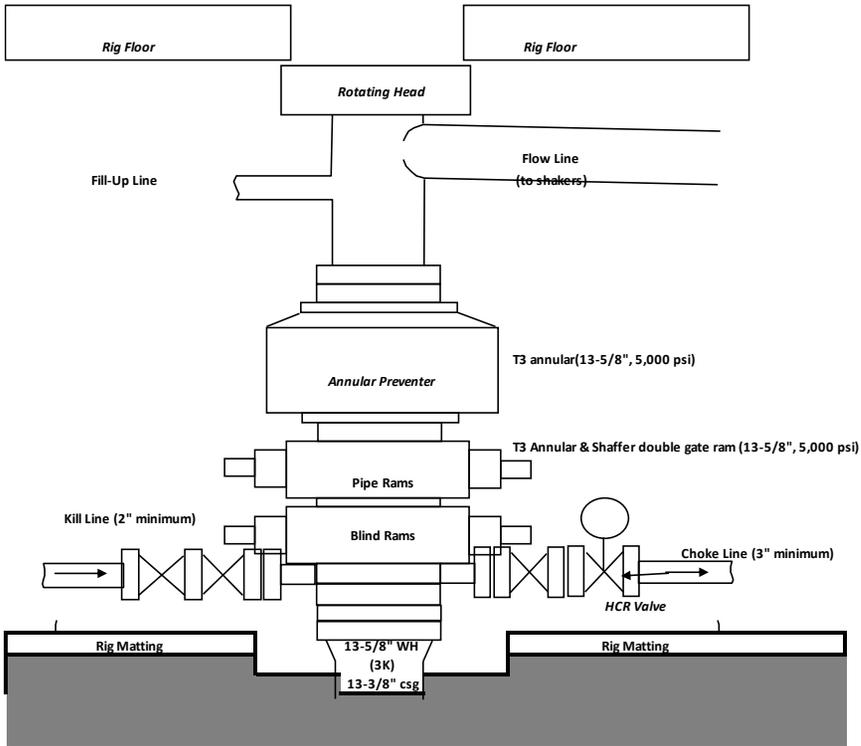


Tops	TVD (ft KB)	MD (ft KB)
Nacimiento	0	0
Ojo Alamo	1,507	1,551
Kirtland	1,590	1,640
Fruitland	1,851	1,924
Pictured Cliffs	2,140	2,238
Lewis	2,269	2,379
Chacra A	2,568	2,703
Cliff House Basal	3,668	3,900
Menefee	3,703	3,937
Point Lookout	4,390	4,684
Mancos	4,674	4,993
MNCS_A	5,018	5,358
MNCS_B	5,103	5,444
MNCS_C	5,238	5,583
MNCS_Cms	5,311	5,662
MNCS_D	5,374	5,735
MNCS_E	5,470	5,861
MNCS_F	5,515	5,931
MNCS_G	5,602	6,100
MNCS_H	5,648	6,246
FTP TARGET	5,602	6,100
PROJECTED WELL TD (BHL)	5,770	17,064

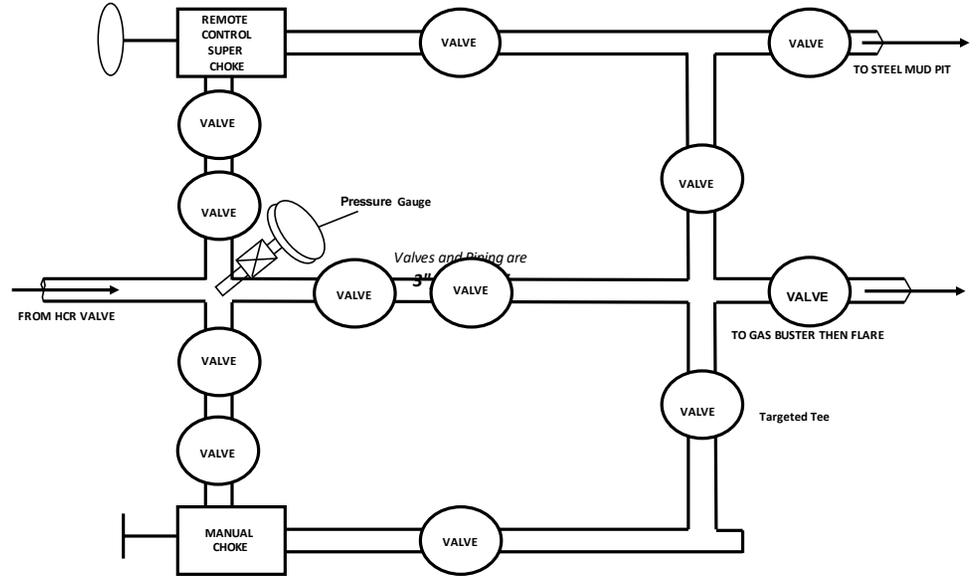
BOPE & CHOKE MANIFOLD DIAGRAMS

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

BOPE



CHOKE MANIFOLD



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 291552

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 291552
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	12/28/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	12/28/2023
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	12/28/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	12/28/2023
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	12/28/2023
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	12/28/2023