

Form 3160-3
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NOG13121857
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name NAVAJO NATION
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No. Greater Lybrook / NMNM 144419X
2. Name of Operator ENDURING RESOURCES LLC		8. Lease Name and Well No. GREATER LYBROOK UNIT 054H
3a. Address 200 ENERGY COURT, FARMINGTON, NM 87401	3b. Phone No. (include area code) (505) 497-8574	9. API Well No. 30-045-38308
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWSE / 1386 FSL / 2041 FEL / LAT 36.208974 / LONG -107.756182 At proposed prod. zone SESE / 232 FSL / 1160 FEL / LAT 36.191278 / LONG -107.735443		10. Field and Pool, or Exploratory LYBROOK MANCOS W
11. Sec., T. R. M. or Blk. and Survey or Area SEC 23/T23N/R9W/NMP		
14. Distance in miles and direction from nearest town or post office* 43 miles	12. County or Parish SAN JUAN	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 655 feet	16. No of acres in lease 440.0	17. Spacing Unit dedicated to this well IND:
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1120 feet	19. Proposed Depth 4727 feet / 14685 feet	20. BLM/BIA Bond No. in file IND:
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6802 feet	22. Approximate date work will start* 10/01/2022	23. Estimated duration 30 days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 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 (Electronic Submission)	Name (Printed/Typed) KHEM SUTHIWAN / Ph: (505) 386-8205	Date 01/14/2022
Title Regulatory Manager		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) DAVE J MANKIEWICZ / Ph: (505) 564-7761	Date 06/27/2023
Title AFM-Minerals Farmington Field 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.

APPROVED WITH CONDITIONS

Approval Date: 06/27/2023

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

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

Additional Operator Remarks

Location of Well

0. SHL: NWSE / 1386 FSL / 2041 FEL / TWSP: 23N / RANGE: 9W / SECTION: 23 / LAT: 36.208974 / LONG: -107.756182 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 833 FNL / 0 FEL / TWSP: 23N / RANGE: 9W / SECTION: 25 / LAT: 36.202752 / LONG: -107.749341 (TVD: 4760 feet, MD: 8800 feet)

PPP: NENE / 0 FNL / 870 FEL / TWSP: 23N / RANGE: 9W / SECTION: 26 / LAT: 36.205172 / LONG: -107.752273 (TVD: 4767 feet, MD: 7600 feet)

PPP: NWSE / 1571 FSL / 2430 FEL / TWSP: 23N / RANGE: 9W / SECTION: 23 / LAT: 36.209478 / LONG: -107.757491 (TVD: 4780 feet, MD: 5362 feet)

BHL: SESE / 232 FSL / 1160 FEL / TWSP: 23N / RANGE: 9W / SECTION: 25 / LAT: 36.191278 / LONG: -107.735443 (TVD: 4727 feet, MD: 14685 feet)

CONFIDENTIAL

Review and Appeal Rights

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

CONFIDENTIAL

12/21 revision

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.

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

CONDITIONS OF APPROVAL

Operator: Enduring Resources, LLC
Well Name: Greater Lybrook Unit (GLU) 053 Nos. 053H, 054H, 055H, 056H, 057H and One Future Well Oil and Natural Gas Project (GLU 053) Wells Project
EA Number: DOI-BLM-NM-F010-2023-0040-EA
Lease Number: N0G13121857 & NMNM144419X

The following conditions of approval will apply to the Greater Lybrook Unit (GLU) 053 Oil and Natural Gas Well Project wells pad, access roads and pipeline 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 the assessment of liquidated damages or penalties pursuant to 43 CFR 3163.1 or 3163.2.

Special Stipulations

Copy of COA's: A copy of these stipulations, including exhibits and the Plan(s) of Operation (if required), shall be on the project area and available to person directing equipment.

Construction & Reclamation Notification: The operator or their contractor will contact the Bureau of Land Management, Farmington Field Office Environmental Protection Staff at (505) 564-7600 or by email, at least 48 hours prior to any construction or reclamation on this project. The operator or their contractor will contact the grazing permittee to give notice at least 10 days prior to start of construction operations.

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 in excess of 6 inches deep, the soil shall be deemed too wet.

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.

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 cut and fill slopes) prior to re-seeding. Spreading shall not be done when the ground or topsoil is frozen or wet.

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

Design Features

Enduring would adhere to any conditions required by the BLM FFO. Additional project-specific design features would be included as determined during the BLM on-site meeting. Enduring has also committed to the following design features and BMPs to lessen impacts to resources. Where applicable, additional details related to the design features may be found in the APDs on file at the BLM FFO.

Air Resources

- Areas not required for facilities would be revegetated during interim reclamation.
- Dirt roads would be watered during periods of high use (magnesium chloride, organic-based compounds, and/or polymer compounds could also be used on dirt roads upon approval of the BLM).
- BMPs provided in The Gold Book would be implemented for proposed and existing roads (BLM and U.S. Forest Service 2007).
- Where applicable, compressor engines 300 horsepower or less used during well production must be rated by the manufacturer as emitting NO_x at 2 grams per horsepower hour or less to comply with the NMED, Air Quality Bureau's guidance.

Water Resources

- To prevent erosion, certain areas surrounding the proposed site would be recontoured during interim reclamation.
- Culverts and silt traps would be installed as appropriate, and locations would be determined during the BLM on-site and/or facility on-site visits.

Wildlife, Migratory Birds, and Special-Status Species

- Any wildlife encountered within the proposed project area would be avoided and allowed to move out of the proposed project area. No wildlife would be intentionally harmed or harassed.
- Wildlife hazards, such as storage tanks, associated with the proposed project would be fenced or covered, as necessary.
- Because the proposed project would disturb more than 4.0 acres of vegetation, migratory breeding bird nesting surveys would be required if construction activities are scheduled to occur during the migratory bird nesting season (May 15–July 31). If an active nest is encountered, it would be avoided (avoidance buffer to be determined by BLM FFO) and left undisturbed until the nest has failed, or nestlings have fledged. If present, an inactive nest could be cleared by a BLM FFO–approved wildlife biologist.
- Enduring would notify the BLM and U.S. Fish and Wildlife Service (USFWS) upon discovery of a dead or injured migratory bird, bald eagle (*Haliaeetus leucocephalus*), or golden eagle (*Aquila chrysaetos*) within or adjacent to the proposed project area. If the BLM becomes aware of such mortality or injury, the BLM will inform Enduring. If Enduring fails to notify the USFWS of the mortality or injury, the BLM would notify the USFWS. The BLM and the USFWS would then attempt to determine the cause of mortality and identify appropriate mitigation measures to avoid future occurrences.
- Should other special-status species be observed within the proposed project area prior to or during the proposed project, construction would cease, and the BLM FFO would be immediately contacted. The BLM FFO would then evaluate the resource. Should a discovery be evaluated as significant (protected under the Endangered Species Act, etc.), it would be protected in place

until mitigation could be developed and implemented according to guidelines set by the BLM FFO.

- Per BLM FFO Instruction Memorandum No. NM-200-2008-001 (BLM 2008b), an updated pre-construction biological survey could be required for the proposed project if vegetation removal would occur more than 1 year following the previous biological survey.

Soil, Upland Vegetation, and Noxious Weeds and Invasive Species

- No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. If equipment creates ruts deeper than six inches, the soil would be deemed too wet for construction or maintenance.
- Reclamation would follow the guidance provided in the *Farmington Field Office Bare Soil Reclamation Procedures* (BLM 2013). These procedures are referenced in Enduring's Surface Reclamation Plan.
- During the pre-disturbance on-site meeting with BLM, a suitable vegetation community from the *Farmington Field Office Bare Soil Reclamation Procedures* (BLM 2013) would be selected by the BLM. Plant species would be chosen from the BLM FFO's seed pick list for the selected community.
- A noxious weed inventory utilizing the New Mexico Noxious Weed List (New Mexico Department of Agriculture 2020) and the U.S. Department of Agriculture's (USDA's) Federal Noxious Weed List (USDA 2010) will be conducted during the pre-disturbance on-site meeting.
- Identified noxious weeds would be treated prior to new surface disturbance, as determined by the BLM FFO Noxious Weed Specialist (505-564-7600). A pesticide use proposal (PUP) would be submitted to and approved by the BLM FFO Noxious Weed Specialist prior to application of any pesticide.
- Reclamation, including seeding, of temporarily disturbed areas along roads and pipelines, and of topsoil piles and berms, shall be completed within 30 days following completion of construction. Any such area on which construction is completed prior to December 1 shall be seeded during the remainder of the early winter season instead of during the following spring unless BLM approves otherwise based on weather. If road or pipeline construction occurs discontinuously (e.g., new segments installed as new pads are built) or continuously but with a total duration greater than 30 days, reclamation, including seeding, shall be phased such that no portion of the temporarily disturbed area remains in an un-reclaimed condition for longer than 30 days. BLM may authorize deviation from this requirement based on the season and the amount of work remaining on the entirety of the road or pipeline when the 30-day period has expired.
- To the extent practical, existing vegetation shall be preserved when clearing and grading for pads, roads, and pipelines. Cleared trees and rocks may be salvaged for redistribution over reshaped cut and-fill slopes or along linear features.
- See the above water resources section for erosion-control features.

Cultural Resources

- All cultural resources stipulations would be followed as indicated in the BLM Cultural Resource Records of Review and the conditions of approvals. These stipulations may include, but are not limited to, temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, project area reduction and/or specific construction avoidance zones, and employee education.

- Known sites and sites identified during the pre-construction cultural resources inventory surveys would be avoided.
- If heritage resources are discovered during the project, all work in the immediate vicinity will stop, and the district archaeologist or forest archaeologist will be notified immediately. Significant cultural resources will not be affected, archaeological clearance is recommended for the project.
- **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.**

- **EMPLOYEE EDUCATION:** All employees of the project, including the Project Sponsor and its contractors and sub-contractors will be informed **and educated** that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. This includes personnel associated with construction, use, maintenance and abandonment of the well pad, well facilities, access and pipeline. They will also be notified that it is illegal to collect, damage, or disturb **historic or prehistoric** cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the **ARPA (16 U.S.C. 470aa-mm), NAGPRA (25 U.S.C. 3001-3013), and other laws, as applicable (for example, NM Stat. § 18-6-9 through § 18-6-11.2, as amended, and NM Stat. § 30-12-12, as amended).**

Paleontological Resources

If any paleontological resources are discovered during activities associated with the proposed project:

- Enduring would immediately inform the BLM Authorized Officer.
- Activities in the vicinity of the discovery would be immediately suspended until written authorization to proceed is issued by the BLM Authorized Officer.
- The discovery would be protected from damage or looting.
- The Authorized Officer would ensure evaluation of the discovery as soon as possible.
- Appropriate measures to mitigate adverse effects to significant paleontological resources would be determined by the Authorized Officer after consulting with the operator.
- Any paleontological resource discovered by the Operator, or any person working on his behalf,
- 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 and Dark Skies

- Equipment not subject to safety requirements would be painted a BLM Standard Environmental Color (Juniper Green) to minimize contrast with the surrounding landscape.
- If applicable, during reclamation, stockpiled rocks, if available, would be placed within the reclaimed area for erosion control and/or to discourage off-highway vehicle traffic (if requested by the BLM FFO). Rocks would be placed in a manner that visually blends with the adjacent, undisturbed landscape.
- Lights would be limited to those needed for safety during construction and operations.
- Lighting would be downward-facing or shielded where possible.

Livestock Grazing and Rangeland Health Standards

- Livestock grazing operators in the vicinity of the proposed project area would be contacted prior to construction.
- Safety meetings would be conducted prior to construction to increase awareness of livestock, such as the presence of open range and driving speed to avoid livestock collisions.
- To the extent feasible, construction activities would not be conducted when livestock are present within the proposed project area.
- If livestock are present during construction, barriers would be placed to ensure that livestock do not come in contact with potential hazards. Barrier examples could include fencing of exposed ditch-type holes, covering of holes when personnel are not present on-site, and containment of contaminants, fluid leaks, or hazards that could cause injury to livestock.

Public Health and Safety

- The hauling of equipment and materials on public roads would comply with New Mexico Department of Transportation regulations. Any accidents involving persons or property would be reported to the BLM FFO. Enduring would notify the public of potential hazards by posting signage, having flaggers, or using lighted signs, as necessary.
- Worker safety incidents would be reported to the BLM FFO as required under NTL-3A (BLM 2019b). Enduring would adhere to company safety policies and Occupational Safety and Health Administration regulations.
- Vehicles would be restricted to proposed and existing disturbance areas.
- The proposed site would have an informational sign, delineating operator, legal description, etc.
- Oil and gas industry traffic is expected to adhere to all posted speed limits and signs. Drivers would be appropriately licensed and inspected.

Lay-Flat Pipeline BMPs

- If a temporary lay flat line would be authorized to move water for completion activities, the lay flat will reduce the amount of truck traffic to move water. The lay flat will be authorized for no more than 60 days from the date of installation or development. Request for an extension of the 60-day authorization, would require a sundry application be submitted to the BLM-FFO including justification for the request.
- Time construction activities at perennial, intermittent, and ephemeral drainage crossings (e.g., buried pipelines, culverts) to avoid high-flow conditions. When construction disturbs a flowing stream, utilize either a piped stream diversion or a cofferdam and pump to divert flow around the disturbed area.
- Design and construct surface pipelines at drainage crossings at an adequate height above possible flood levels. Bore/bury pipeline crossings below the surface deep enough to remain undisturbed by scour and fill processes typically associated with peak flows. Complete a hydraulic analysis during the pipeline design phase to avoid repeated maintenance of such a crossing and eliminate costly repairs and potential environmental degradation associated with pipeline breaks at stream crossings. Utilize horizontal directional boring techniques below perennial water bodies and/or wetland complexes when environmental circumstances allow.
- X-ray pipeline welds within 100 feet of a perennial stream to prevent leakage into the stream. Where pipelines cross streams that support Federal or State-listed threatened or endangered species

or BLM-listed sensitive species, utilize additional safeguards (such as double-walled pipe, and remotely actuated block or check valves) on both sides of the stream.

- Avoid water courses when locating pipelines and flowlines; utilize road corridors wherever possible to minimize surface disturbance and provide better leak detection and access for installation and repair activities.
- Reclamation, including seeding, of temporarily disturbed areas along roads and pipelines, and of topsoil piles and berms, shall be completed within 30 days following completion of construction. Any such area on which construction is completed prior to December 1 shall be seeded during the remainder of the early winter season instead of during the following spring unless BLM approves otherwise based on weather. If road or pipeline construction occurs discontinuously (e.g., new segments installed as new pads are built) or continuously but with a total duration greater than 30 days, reclamation, including seeding, shall be phased such that no portion of the temporarily disturbed area remains in an un-reclaimed condition for longer than 30 days. BLM may authorize deviation from this requirement based on the season and the amount of work remaining on the entirety of the road or pipeline when the 30-day period has expired.
- To the extent practical, existing vegetation shall be preserved when clearing and grading for pads, roads, and pipelines. Cleared trees and rocks may be salvaged for redistribution over reshaped cut and-fill slopes or along linear features.



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
Greater Lybrook Unit 054H
Lease: NOG13121857 Unit: NMNM144419X
SH: NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 23, T.23 N., R.9 W.
BH: SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 25, T.23 N., R.9 W.
San Juan County, New Mexico

***Above Data Required on Well Sign**

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

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

- A. ☒ Note all surface/drilling conditions of approval attached.
- B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☐ Test the surface casing to a minimum of _____ psi for 30 minutes.
- D. ☐ Test all casing strings below the surface casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield burst) for a minimum of 30 minutes.
- E. ☒ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, New Mexico State Office, Reservoir Management Group, 301 Dinosaur Trail, Santa Fe, New Mexico 87508.
The effective date of the agreement must be **prior** to any sales.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

- F. ☐ The use of co-flex hose is authorized contingent upon the following:
1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
 2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
 3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

I. GENERAL

- A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to at Virgil Lucero at 505-793-1836.**
- G. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**
- H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two years extension may be granted if submitted prior to expiration.
- I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all time, unless the well is secured with blowout preventers or cement plugs.

- J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

II. REPORTING REQUIREMENTS

A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.

B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.

1. Original and three copies on Federal and an Original and five copies on Indian leases of Sundry Notice (Form 3150-5), giving complete information concerning.

- a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
- b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
- c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.

2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.

- a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.

3. Submit a cement evaluation log if cement is not circulated to surface.

III. DRILLER'S LOG

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

IV. GAS FLARING

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

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

V. SAFETY

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

VI. CHANGE OF PLANS OR ABANDONMENT

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

VII. PHONE NUMBERS

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

Virgil Lucero (505) 793-1836
BLM 24 Hour Number (505) 564-7750

District I
Received by OGD: 6/29/2023 3:43:36 PM
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 17, 2017 Page 17 of 58

Submit one copy to
Appropriate District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38308		² Pool Code 98157		³ Pool Name LYBROOK MANCOS W	
⁴ Property Code 332891		⁵ Property Name GREATER LYBROOK UNIT		⁶ Well Number 054H	
⁷ GRID No. 372286		⁸ Operator Name ENDURING RESOURCES, LLC		⁹ Elevation 6802'	

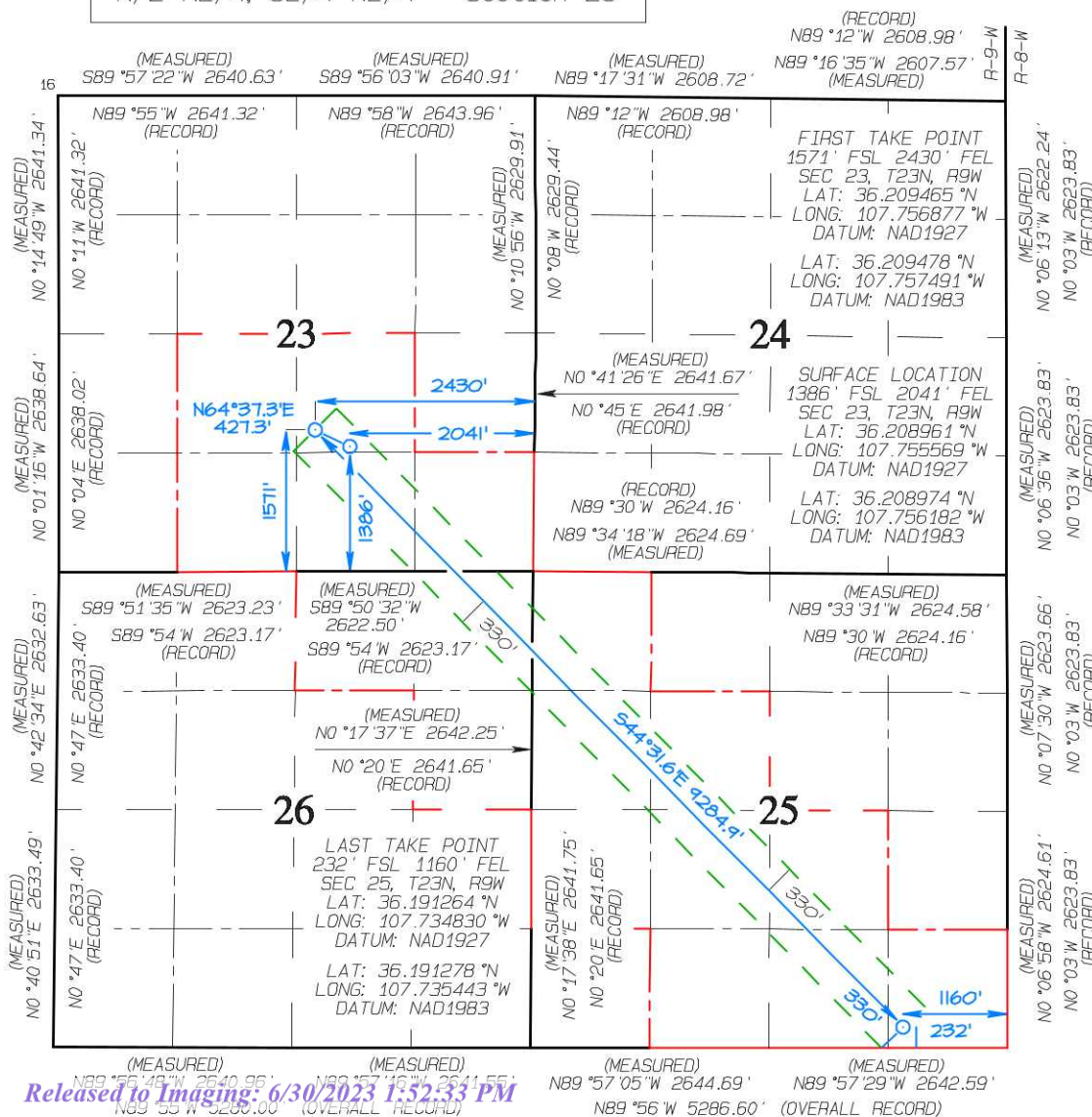
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	23	23N	9W		1386	SOUTH	2041	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	25	23N	9W		232	SOUTH	1160	EAST	SAN JUAN

¹² Dedicated Acres 680.0	E/2 SW/4, NW/4 SE/4 S/2 SE/4 - Section 23 NW/4 NW/4, S/2 NW/4 N/2 SW/4, SE/4 SW/4 NW/4 SE/4, S/2 SE/4 - Section 25 N/2 NE/4, SE/4 NE/4 - Section 26	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-22081
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				



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.

Khem Suthiwan 6/2/2022
Signature Date
Khem Suthiwan
Printed Name
ksuthiwan@enduringresources.com
E-mail Address

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

Date Revised: JUNE 1, 2022
Survey Date: SEPTEMBER 29, 2021
Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

District I
Received by OGD: 6/29/2023 3:43:36 PM
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 18, 2010 Page 18 of 58

Submit one copy to
Appropriate District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 98157		³ Pool Name LYBROOK MANCOS W	
⁴ Property Code 332891		⁵ Property Name GREATER LYBROOK UNIT			⁶ Well Number 054H
⁷ GRID No. 372286		⁸ Operator Name ENDURING RESOURCES, LLC			⁹ Elevation 6802'

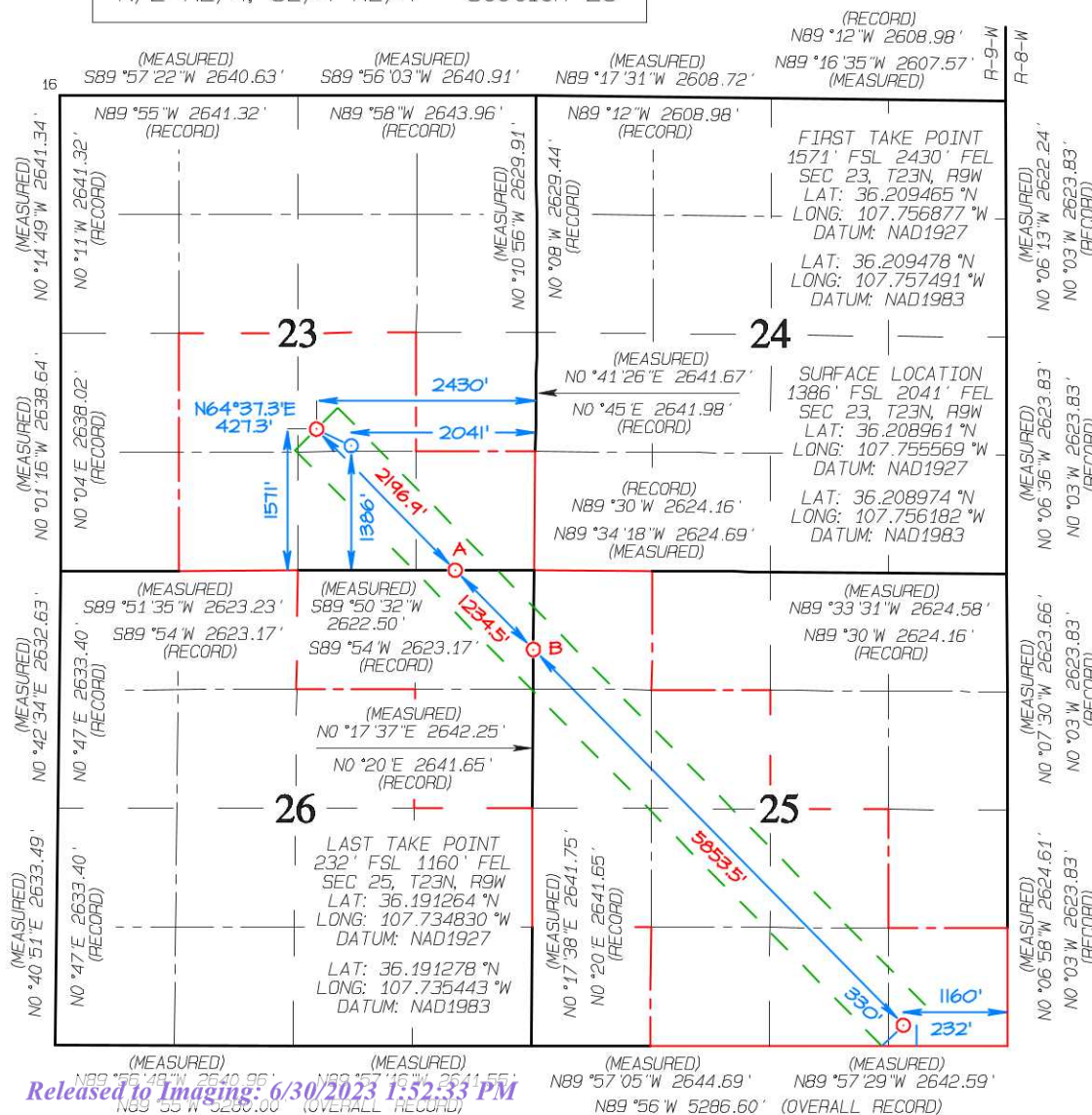
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	23	23N	9W		1386	SOUTH	2041	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	25	23N	9W		232	SOUTH	1160	EAST	SAN JUAN

¹² Dedicated Acres 680.0	E/2 SW/4, NW/4 SE/4 S/2 SE/4 - Section 23 NW/4 NW/4, S/2 NW/4 N/2 SW/4, SE/4 SW/4 NW/4 SE/4, S/2 SE/4 - Section 25 N/2 NE/4, SE/4 NE/4 - Section 26	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-22081
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				



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

Signature _____ Date _____
Printed Name _____
E-mail Address _____

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

Date Revised: JUNE 1, 2022
Survey Date: SEPTEMBER 29, 2021

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

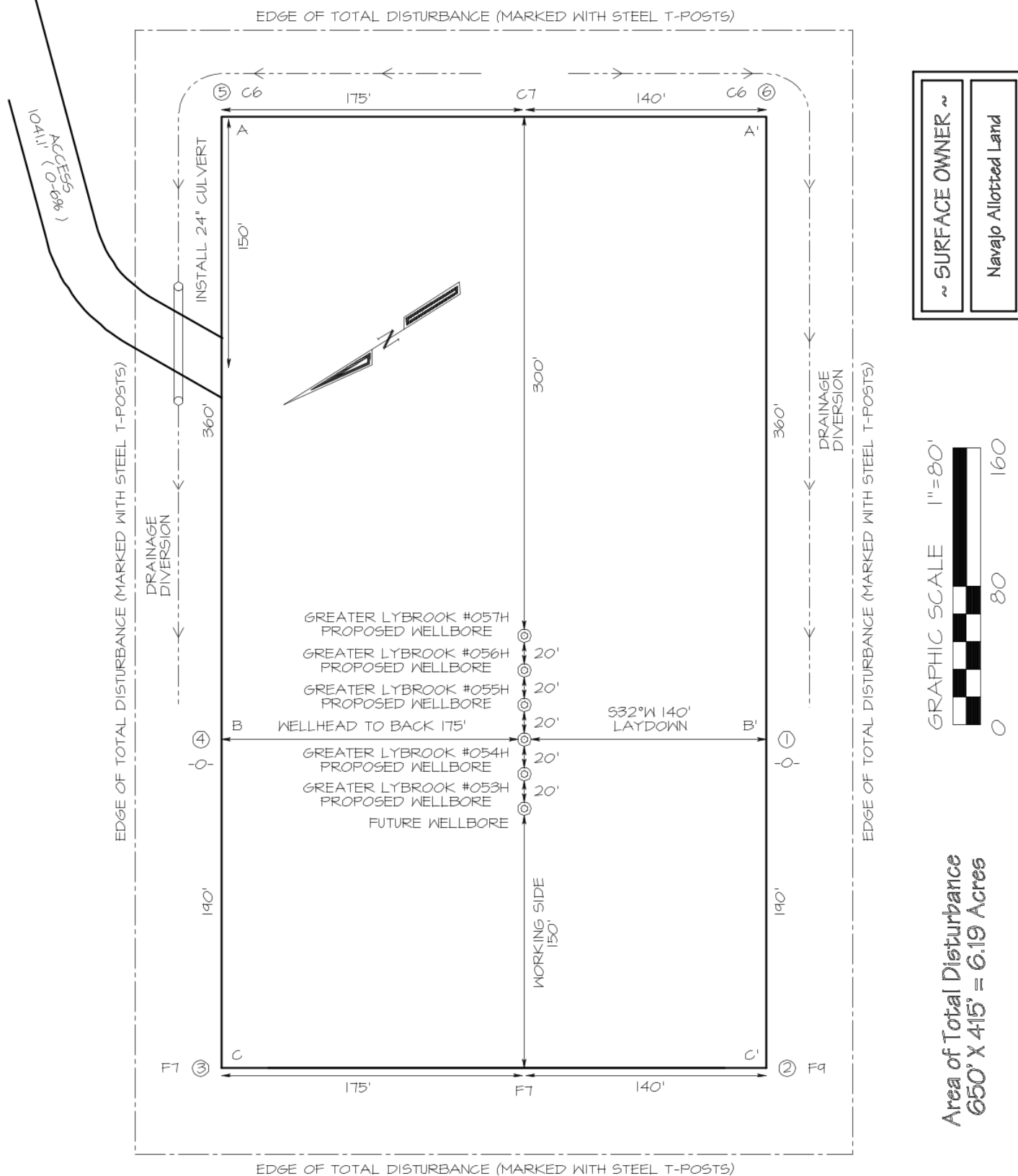
(A) 0' FNL 870' FEL
SEC 26, T23N, R9W
LAT: 36.205159 °N
LONG: 107.751659 °W
DATUM: NAD1927

LAT: 36.205172 °N
LONG: 107.752273 °W
DATUM: NAD1983

(B) 833' FNL 0' FEL
SEC 26, T23N, R9W
LAT: 36.202739 °N
LONG: 107.748728 °W
DATUM: NAD1927

LAT: 36.202752 °N
LONG: 107.749341 °W
DATUM: NAD1983

ENDURING RESOURCES, LLC GREATER LYBROOK UNIT #054H
1386' FSL & 2041' FEL, SECTION 23, T23N, R9W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6802'
LAT: 36°12'32.2596" LONG: 107°45'20.0478" DATUM: NAD1927



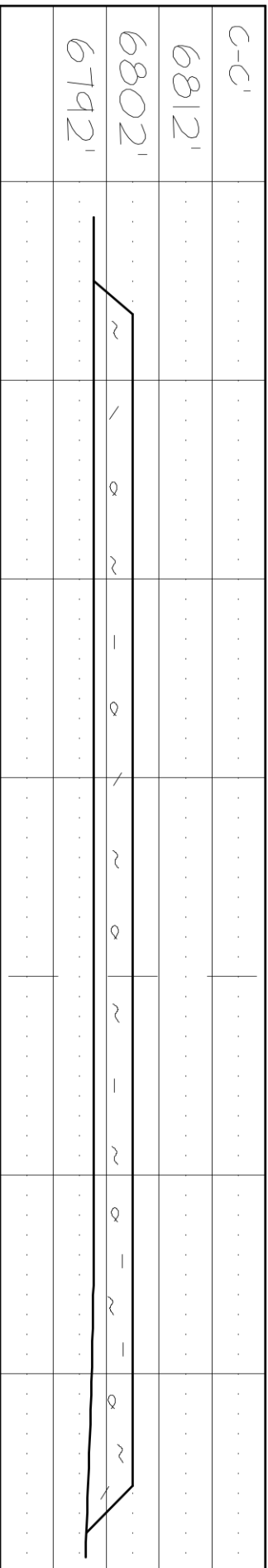
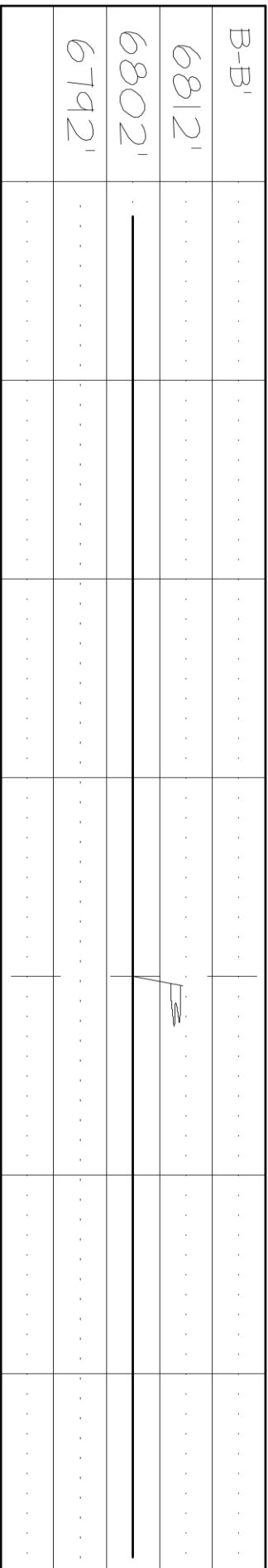
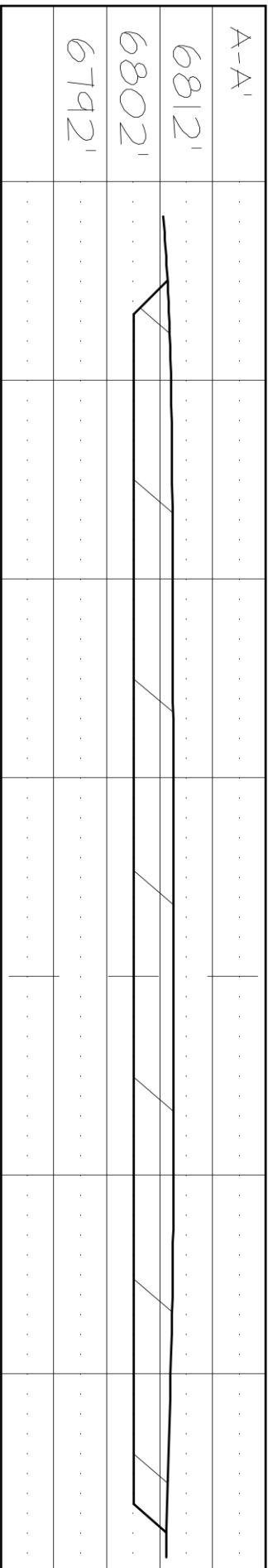
Steel T-Posts have been set to define Edge of Disturbance limits which are 50' offset from edge of wellpad.

ENDURING RESOURCES, LLC GREATER LYBROOK UNIT #054H
1386' FSL & 2041' FEL, SECTION 23, T23N, R9W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6802'

HORIZONTAL SCALE
1"=40'

C/L

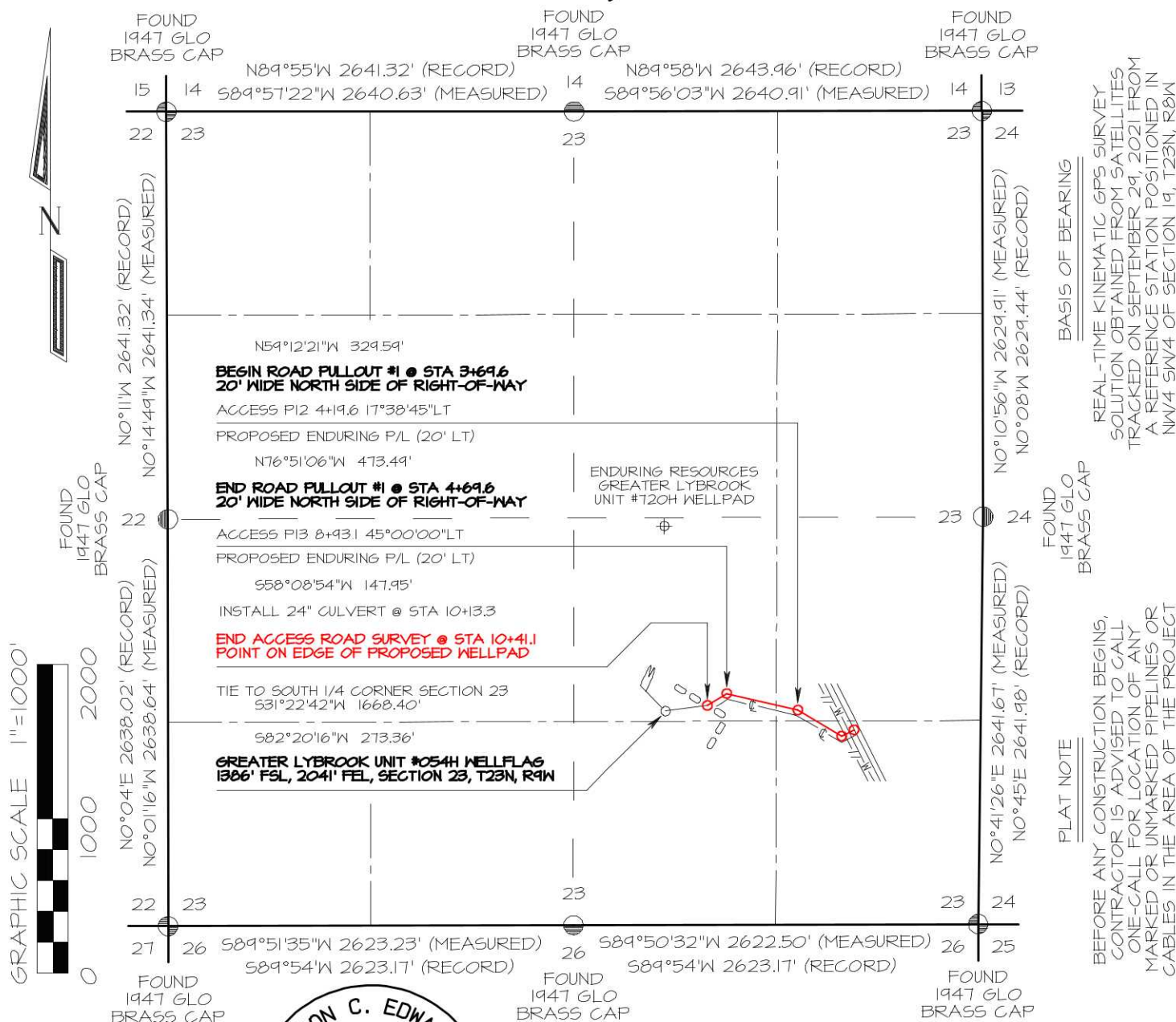
VERTICAL SCALE
1"=30'



NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.
CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND
UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.

Released to Imaging: 6/30/2023 1:52:33 PM

ENDURING RESOURCES, LLC GREATER LYBROOK UNIT #054H **PROPOSED ACCESS ROAD SURVEY LOCATED IN** **SE/4 OF SECTION 23, T23N, R9W, NMPM** **SAN JUAN COUNTY, NEW MEXICO**



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

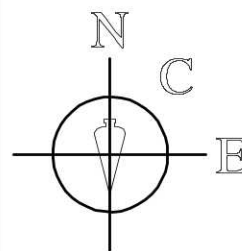
Date: June 1, 2022

Jason C. Edwards, P.L.S.
 New Mexico L.S. #15269

~ SURFACE OWNERSHIP ~
 Navajo Allotted Land (SE/4 Section 23)

0+00 TO 10+41.1 1041.1 FT / 63.1 RODS

Prepared for:
 ENDURING RESOURCES, LLC
 200 ENERGY COURT
 FARMINGTON, NM 87401



SURVEYS, INC.

Land Surveyor:
 Jason C. Edwards
 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

CHECKED BY: JCE
 DRAWN BY: EDO
 SHEET 7 OF 10
 FILENAME: 23F23JA2

Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to Enduring Resources, LLC Greater Lybrook Unit #054H
1386' FSL & 2041' FEL, Section 23, T23N, R9W, N.M.P.M., San Juan County, NM

Latitude: 36.208974°N Longitude: 107.756182°W Datum: NAD1983

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

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

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

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

Go Right (Westerly) exiting County Road #7890 along existing roadway for 0.6 miles to fork in roadway;

Go Right (North-westerly) for 0.3 miles to new access on left-hand side of existing roadway which continues for 1041.1' to Enduring Greater Lybrook Unit #054H staked location.

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:** 10/26/2022

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water
Greater Lybrook Unit 053H	pending	Sec. 23, T23N, R9W	UL:C SHL:1397' FSL & 2058' FEL	650	1,700	1,200
Greater Lybrook Unit 054H	pending	Sec. 23, T23N, R9W	UL:C SHL:1386' FSL & 2041' FEL	650	1,700	1,200
Greater Lybrook Unit 055H	pending	Sec. 23, T23N, R9W	UL:C SHL:1376' FSL & 2024' FEL	650	1,700	1,200
Greater Lybrook Unit 056H	pending	Sec. 23, T23N, R9W	UL:C SHL:1365' FSL & 2007' FEL	650	1,700	1,200
Greater Lybrook Unit 772H	pending	Sec. 23, T23N, R9W	UL:C SHL:1448' FSL & 1981' FEL	650	1,700	1,200

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

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Greater Lybrook Unit 053H	pending	12/16/2022	1/13/2023	1/21/2023	2/21/2023	2/24/2023
Greater Lybrook Unit 054H	pending	12/13/2022	1/8/2023	1/21/2023	2/21/2023	2/24/2023
Greater Lybrook Unit 055H	pending	12/11/2022	1/3/2023	1/21/2023	2/21/2023	2/24/2023
Greater Lybrook Unit 056H	pending	12/9/2022	12/28/2022	1/21/2023	2/21/2023	2/24/2023
Greater Lybrook Unit 772H	pending	12/7/2023	12/23/2022	1/21/2023	2/21/2023	2/24/2023

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: <i>Khem Suthiwan</i>
Printed Name: Khem Suthiwan
Title: Regulatory Manager
E-mail Address: ksuthiwan@enduringresources.com
Date: 10/26/2022
Phone: (303) 350-5721
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, and equip single lateral in the Mancos-I formation*

WELL INFORMATION:

Name: GREATER LYBROOK UNIT 054H

API Number: not yet assigned

AFE Number: not yet assigned

ER Well Number: not yet assigned

State: New Mexico

County: San Juan

Surface Elevation: 6,802 ft ASL (GL)

6,815 ft ASL (KB)

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

1,386 ft FSL

2,041 ft FEL

36.208974 ° N latitude

107.756182 ° W longitude

(NAD 83)

BH Location: 25-23N-09W Sec-Twn-Rng

232 ft FSL

1,160 ft FEL

36.191278 ° N latitude

107.735443 ° 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 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 1.2 miles to 4-way intersection; Right (West) exiting CR #7890 along existing roadway for 0.6 mile to fork; Right (Northwest) for 0.3 miles to new access road; Left on access road for 0.2 miles to W LYBROOK UNIT 772H PAD (772H, 773H, 774H, 775H, 776H wells).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
	Ojo Alamo	6,398	417	417	W	normal
	Kirtland	6,295	520	520	W	normal
	Fruitland	6,095	720	720	G, W	sub
	Pictured Cliffs	5,715	1,100	1,100	G, W	sub
	Lewis	5,593	1,222	1,223	G, W	normal
	Chacra	5,324	1,491	1,496	G, W	normal
	Cliff House	4,267	2,548	2,660	G, W	sub
	Menefee	4,242	2,573	2,688	G, W	normal
	Point Lookout	3,285	3,530	3,745	G, W	normal
	Mancos	3,140	3,675	3,895	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,780	4,035	4,258	O,G	sub (~0.38)
	MNCS_B	2,669	4,146	4,369	O,G	sub (~0.38)
	MNCS_C	2,579	4,236	4,459	O,G	sub (~0.38)
	MNCS_Cms	2,539	4,276	4,499	O,G	sub (~0.38)
	MNCS_D	2,390	4,425	4,657	O,G	sub (~0.38)
	MNCS_E	2,275	4,540	4,793	O,G	sub (~0.38)
	MNCS_F	2,212	4,603	4,880	O,G	sub (~0.38)
	MNCS_G	2,141	4,674	5,002	O,G	sub (~0.38)
	MNCS_H	2,096	4,719	5,097	O,G	sub (~0.38)
	MNCS_I	2,052	4,763	5,221	O,G	sub (~0.38)
	FTP TARGET	2,035	4,780	5,363	O,G	sub (~0.38)
	PROJECTED TD	2,088	4,727	14,685	O,G	sub (~0.38)

Surface: Nacimiento

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

Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations
 Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft
Maximum anticipated BH pressure, assuming maximum pressure gradient: 2,060 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 1,010 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: Ensign

Rig No.: 145

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

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

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

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

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

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

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

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

Choke 3", 5,000 psi

KB-GL (ft): 12.5

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

Note: BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered.

BOPE REQUIREMENTS:

See attached diagram for details regarding BOPE specifications and configuration.

- 1) Rig will be equipped with upper and lower kelly cocks with handles available.
- 2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.
- 2) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.
- 3) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.
- 4) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.

- 5) Manual locking devices (hand wheels) shall be 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 and attached Newpark mud program for additional details.

DETAILED DRILLING PLAN:

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

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

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

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

Hole Size: 17-1/2"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, deviation survey

Logging: None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	581	116,634	116,634
Min. S.F.					7.39	4.70	7.31	7.79

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

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

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

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

Make-up as per API Buttress Connection running procedure.

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

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

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

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

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

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

350 ft (MD)	to	2,797 ft (MD)	Hole Section Length:	2,447 ft
350 ft (TVD)	to	2,673 ft (TVD)	Casing Required:	2,797 ft

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

Hole Size: 12-1/4"

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

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

Logging: None

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

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,168	1,163	187,808	187,808
Min. S.F.					1.73	3.03	3.00	2.41

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

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

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

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

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

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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	544
Tail	Type III	14.6	1.380	6.64	20%	2,297	136

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

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

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

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

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

2,797 ft (MD)	to	14,685 ft (MD)	Hole Section Length:	11,888 ft
2,673 ft (TVD)	to	4,727 ft (TVD)	Casing Required:	14,685 ft

Estimated KOP:	4,399 ft (MD)	4,177 ft (TVD)
Estimated Landing Point (FTP):	5,363 ft (MD)	4,780 ft (TVD)
Estimated Lateral Length:	9,322 ft (MD)	

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

Hole Size: 8-1/2"

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

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

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

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

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,335	8,942	315,421	315,421
Min. S.F.					3.19	1.19	1.73	1.41

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, 1 jt casing, 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.

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

Lateral: 1 centralizer per joint

Landing point to 9-5/8" shoe: 1 centralizer per joint

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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	50%	0	532
Tail	G:POZ blend	13.3	1.560	7.70	10%	4,258	1,684

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

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

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

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

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

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Frac: 40 plug-and-perf stages with 280,000 bbls slickwater fluid and 17,000,000 lbs of proppant (estimated)

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: 4/1/2022

Completion: 5/31/2022

Production: 7/15/2022

Prepared by: Alec Bridge 11/22/2021

WELL NAME: GREATER LYBROOK UNIT 054H
OBJECTIVE: Drill, complete, and equip single lateral in the Mancos-I formation

API Number: not yet assigned
AFE Number: not yet assigned
ER Well Number: not yet assigned

State: New Mexico
County: San Juan

Surface Elev.: 6,802 ft ASL (GL) 6,815 ft ASL (KB)
Surface Location: 23-23N-09W Sec-Twn- Rng 1,386 ft FSL 2,041 ft FEL
BH Location: 25-23N-09W Sec-Twn- Rng 232 ft FSL 1160 ft FEL

Driving Directions: FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:
South on US Hwy 550 for 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 1.2 miles to 4-way intersection; Right (West) exiting CR #7890 along existing roadway for 0.6 mile to fork; Right (Northwest) for 0.3 miles to new access road; Left on access road for 0.2 miles to W LYBROOK UNIT 772H PAD (772H, 773H, 774H, 775H, 776H wells).

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	2,797 ft
KOP (MD)	4,399 ft
KOP (TVD)	4,177 ft
Target (TVD)	4,780 ft
Curve BUR	10 °/100 ft
POE (MD)	5,363 ft
TD (MD)	14,685 ft
Lat Len (ft)	9,322 ft

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	2,797	9.625	36.0	J-55	LTC	0	2,797
Production	8.500	14,685	5.500	17.0	P-110	LTC	0	14,685

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	Hole Cap. (cuft/ft)	% Excess	TOC (ft MD)	Total (sx)
Surface	TYPE III	14.6	1.39	6.686	0.6946	100%	0	350
Inter. (Lead)	III:POZ Blend	12.5	2.14	12.05	0.3627	70%	0	544
Inter. (Tail)	Type III	14.6	1.38	6.64	0.3132	20%	2,297	136
Prod. (Lead)	Type III	12.4	2.360	13.4	0.2691	50%	0	532
Prod. (Tail)	G:POZ blend	13.3	1.560	7.7	0.2291	10%	4,258	1,684

COMPLETION / PRODUCTION SUMMARY:

Frac: 40 plug-and-perf stages with 280,000 bbls slickwater fluid and 17,000,000 lbs of proppant (estimated)
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)
	Ojo Alamo	417	417
	Kirtland	520	520
	Fruitland	720	720
	Pictured Cliffs	1,100	1,100
	Lewis	1,222	1,223
	Chacra	1,491	1,496
	Cliff House	2,548	2,660
	Menefee	2,573	2,688
	Point Lookout	3,530	3,745
	Mancos	3,675	3,895
	Gallup (MNCS_A)	4,035	4,258
	MNCS_B	4,146	4,369
	MNCS_C	4,236	4,459
	MNCS_Cms	4,276	4,499
	MNCS_D	4,425	4,657
	MNCS_E	4,540	4,793
	MNCS_F	4,603	4,880
	MNCS_G	4,674	5,002
	MNCS_H	4,719	5,097
	MNCS_I	4,763	5,221
	FTP TARGET	4,780	5,363
	PROJECTED TD	4,727	14,685



Well: Greater Lybrook Unit No. 054H
Site: Greater Lybrook 57 Pad (52,53,54,55,56 & 57)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev0
Rig: Ensign 773

Section Details

ec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1880.58	26.42	305.624	1849.71	116.16	-162.11	3.00	305.62	-196.50	Begin 26.42° tangent
4	3418.84	26.42	305.624	3227.34	514.79	-718.42	0.00	0.00	-870.80	Begin 3°/100' drop
5	4299.42	0.00	0.000	4077.05	630.95	-880.53	3.00	180.00	-1067.29	Begin vertical hold
6	4399.42	0.00	0.000	4177.05	630.95	-880.53	0.00	0.00	-1067.29	Begin 10°/100' build
7	4999.42	60.00	135.470	4673.25	426.72	-679.63	10.00	135.47	-780.82	Begin 60.00° tangent
8	5059.42	60.00	135.470	4703.25	389.68	-643.19	0.00	0.00	-728.85	Begin 10°/100' build/turn
9	5362.69	90.33	135.242	4780.00	183.56	-439.55	10.00	-0.45	-439.11	Begin 90.33° lateral
10	14685.37	90.33	135.242	4727.00	-6436.19	6124.62	0.00	0.00	8883.35	PBHL/TD

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone
System Datum: Mean Sea Level
Depth Reference: RKB=6802+28 @ 6830.00ft (Ensign 773)
Surface location:

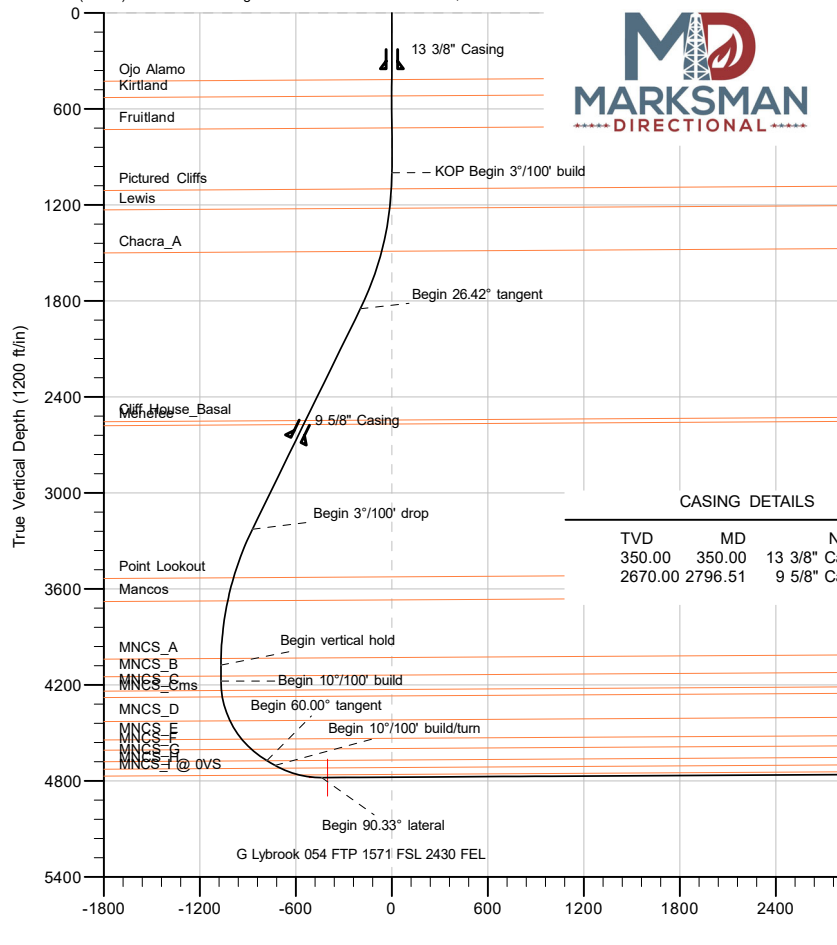
Northing: 1895373.214 Easting: 2745851.701 Latitude: 36.208974000 Longitude: -107.756182000



Azimuths to Grid North
True North: -0.05°
Magnetic North: 8.61°

Magnetic Field
Strength: 49154.3nT
Dip Angle: 62.70°
Date: 11/3/2022
Model: IGRF2020

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.61°



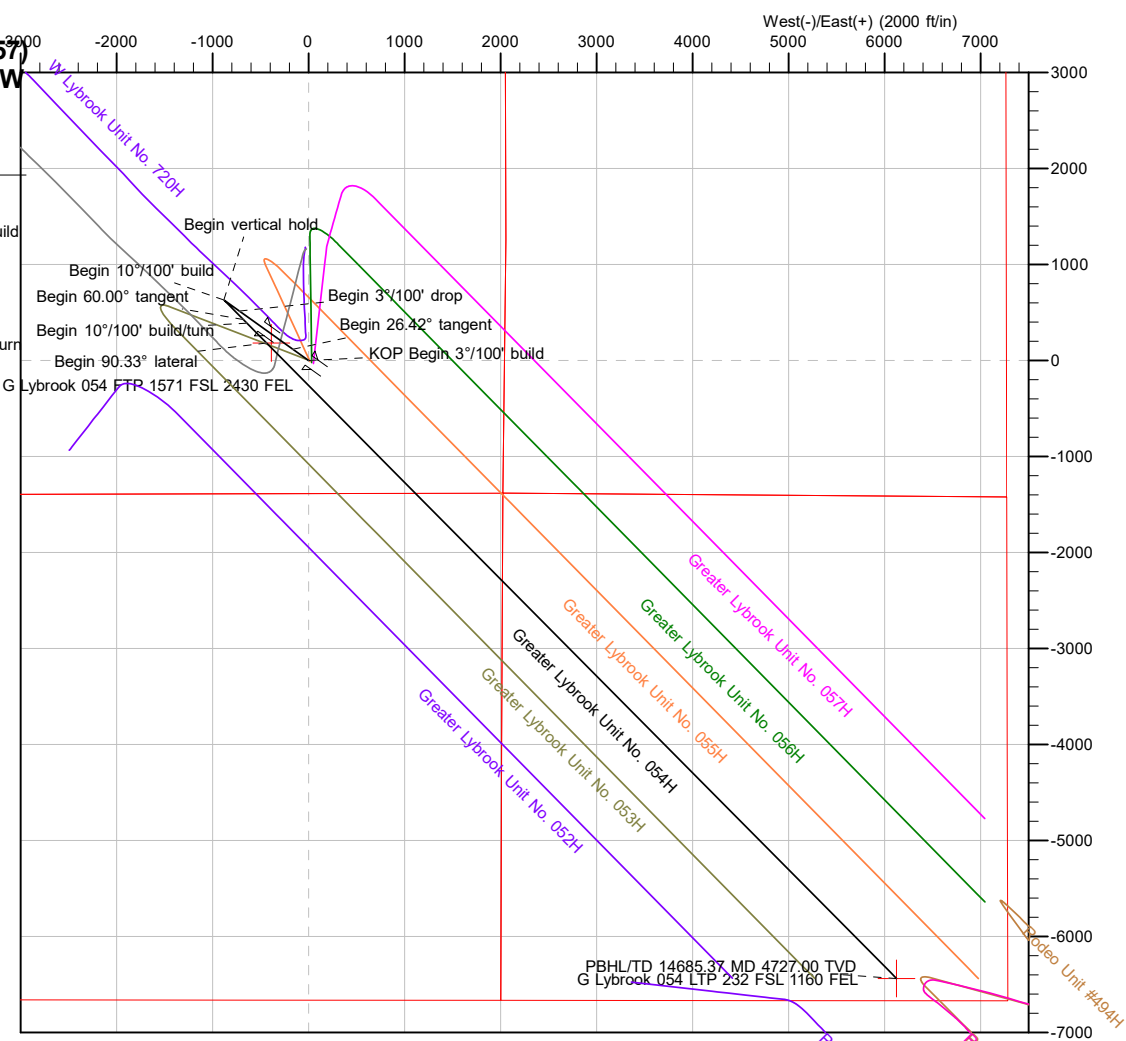
CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Casing
2670.00	2796.51	9 5/8" Casing

DESIGN TARGET DETAILS

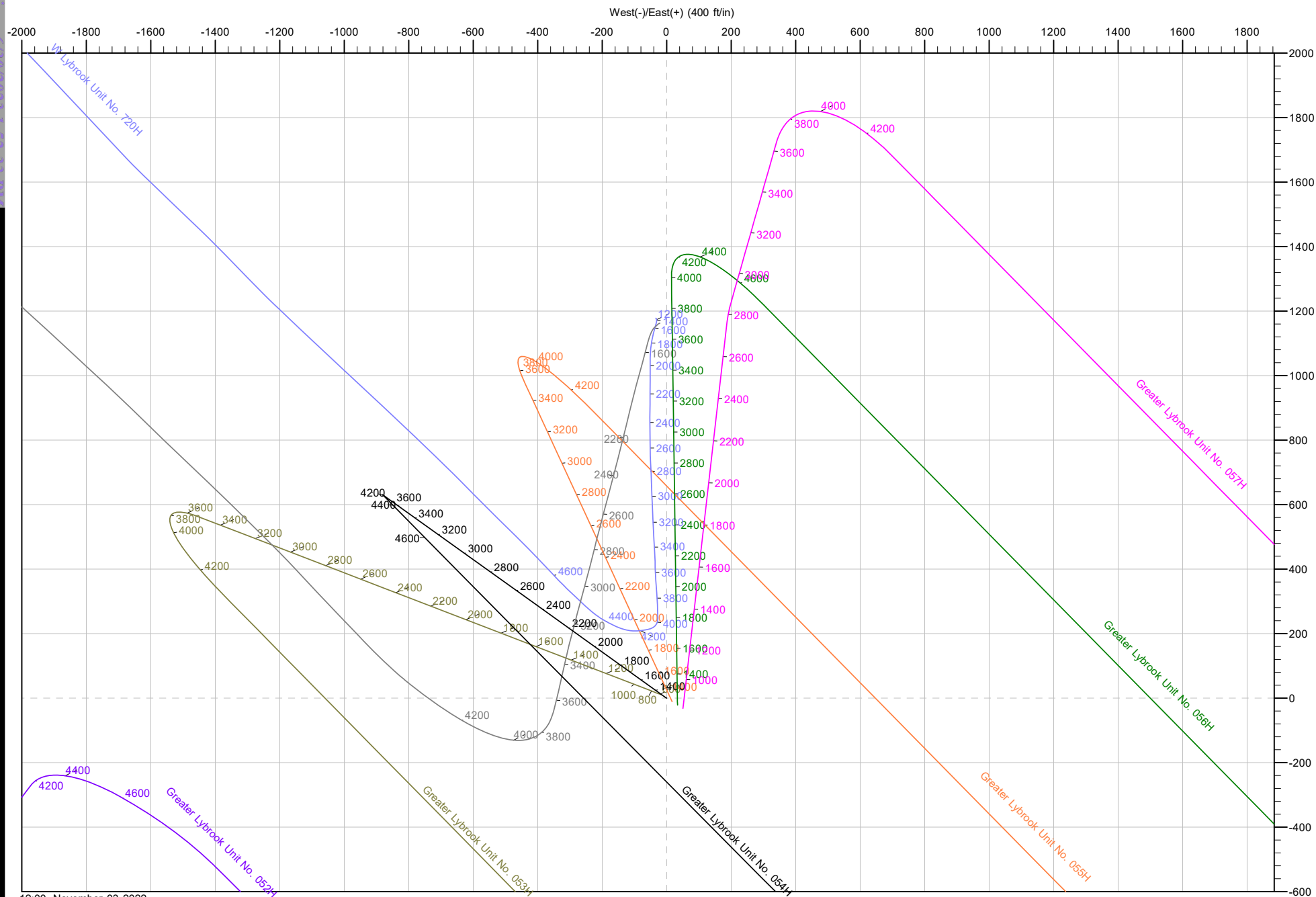
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
G Lybrook 054 LTP 232 FSL 1160 FEL	4727.00	-6436.19	6124.62	1888937.037	2751976.313	36.191278000	-107.735443000
G Lybrook 054 FTP 1571 FSL 2430 FEL	4780.00	183.16	-386.31	1895556.375	2745465.396	36.209478000	-107.757491000

Vertical Section at 135.470° (1200 ft/in)





Well: Greater Lybrook Unit No. 054H
Site: Greater Lybrook 57 Pad (52,53,54,55,56 & 57)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev0
Rig: Ensign 773





Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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

Site	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)		
Site Position:		Northing:	1,895,341.584 usft
From:	Lat/Long	Easting:	2,745,902.467 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	36.208887000
		Longitude:	-107.756010000

Well	Greater Lybrook Unit No. 054H, Surf loc: 1386 FSL 2041 FEL Section 23-T23N-R09W		
Well Position	+N/-S	0.00 ft	Northing: 1,895,373.214 usft
	+E/-W	0.00 ft	Easting: 2,745,851.701 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
Grid Convergence:	0.05 °	Ground Level:	6,802.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/3/2022	8.66	62.70	49,154.28939413

Design	rev0				
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	135.470	

Plan Survey Tool Program	Date	11/3/2022			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	14,685.37	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,880.58	26.42	305.624	1,849.71	116.16	-162.11	3.00	3.00	0.00	305.62	
3,418.84	26.42	305.624	3,227.34	514.79	-718.42	0.00	0.00	0.00	0.00	
4,299.42	0.00	0.000	4,077.05	630.95	-880.53	3.00	-3.00	0.00	180.00	
4,399.42	0.00	0.000	4,177.05	630.95	-880.53	0.00	0.00	0.00	0.00	
4,999.42	60.00	135.470	4,673.25	426.72	-679.63	10.00	10.00	0.00	135.47	
5,059.42	60.00	135.470	4,703.25	389.68	-643.19	0.00	0.00	0.00	0.00	
5,362.69	90.33	135.242	4,780.00	183.56	-439.55	10.00	10.00	-0.08	-0.45	
14,685.37	90.33	135.242	4,727.00	-6,436.19	6,124.62	0.00	0.00	0.00	0.00	G Lybrook 054 LTP 2'



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	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" Casing									
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
417.00	0.00	0.000	417.00	0.00	0.00	0.00	0.00	0.00	0.00
Ojo Alamo									
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
520.00	0.00	0.000	520.00	0.00	0.00	0.00	0.00	0.00	0.00
Kirtland									
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
720.00	0.00	0.000	720.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruitland									
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3°/100' build									
1,100.00	3.00	305.624	1,099.95	1.52	-2.13	-2.58	3.00	3.00	0.00
1,100.06	3.00	305.624	1,100.01	1.53	-2.13	-2.58	0.00	0.00	0.00
Pictured Cliffs									
1,200.00	6.00	305.624	1,199.63	6.09	-8.50	-10.31	3.00	3.00	0.00
1,222.58	6.68	305.624	1,222.07	7.55	-10.53	-12.76	3.00	3.00	0.00
Lewis									
1,300.00	9.00	305.624	1,298.77	13.70	-19.11	-23.17	3.00	3.00	0.00
1,400.00	12.00	305.624	1,397.08	24.31	-33.92	-41.12	3.00	3.00	0.00
1,495.92	14.88	305.624	1,490.36	37.29	-52.04	-63.08	3.00	3.00	0.00
Chacra_A									
1,500.00	15.00	305.624	1,494.31	37.90	-52.90	-64.12	3.00	3.00	0.00
1,600.00	18.00	305.624	1,590.18	54.45	-75.98	-92.10	3.00	3.00	0.00
1,700.00	21.00	305.624	1,684.43	73.89	-103.11	-124.98	3.00	3.00	0.00
1,800.00	24.00	305.624	1,776.81	96.17	-134.22	-162.68	3.00	3.00	0.00
1,880.58	26.42	305.624	1,849.71	116.16	-162.11	-196.50	3.00	3.00	0.00
Begin 26.42° tangent									
1,900.00	26.42	305.624	1,867.10	121.19	-169.13	-205.01	0.00	0.00	0.00
2,000.00	26.42	305.624	1,956.66	147.11	-205.30	-248.84	0.00	0.00	0.00
2,100.00	26.42	305.624	2,046.22	173.02	-241.46	-292.68	0.00	0.00	0.00
2,200.00	26.42	305.624	2,135.78	198.94	-277.63	-336.52	0.00	0.00	0.00
2,300.00	26.42	305.624	2,225.33	224.85	-313.79	-380.35	0.00	0.00	0.00
2,400.00	26.42	305.624	2,314.89	250.77	-349.96	-424.19	0.00	0.00	0.00
2,500.00	26.42	305.624	2,404.45	276.68	-386.12	-468.02	0.00	0.00	0.00
2,600.00	26.42	305.624	2,494.01	302.59	-422.29	-511.86	0.00	0.00	0.00
2,660.40	26.42	305.624	2,548.10	318.25	-444.13	-538.33	0.00	0.00	0.00
Cliff House_Basal									
2,688.40	26.42	305.624	2,573.17	325.50	-454.26	-550.61	0.00	0.00	0.00
Menefee									
2,700.00	26.42	305.624	2,583.56	328.51	-458.45	-555.69	0.00	0.00	0.00
2,796.51	26.42	305.624	2,670.00	353.52	-493.36	-598.00	0.00	0.00	0.00
9 5/8" Casing									
2,800.00	26.42	305.624	2,673.12	354.42	-494.62	-599.53	0.00	0.00	0.00
2,900.00	26.42	305.624	2,762.68	380.34	-530.78	-643.36	0.00	0.00	0.00



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,000.00	26.42	305.624	2,852.24	406.25	-566.95	-687.20	0.00	0.00	0.00
3,100.00	26.42	305.624	2,941.79	432.16	-603.11	-731.03	0.00	0.00	0.00
3,200.00	26.42	305.624	3,031.35	458.08	-639.28	-774.87	0.00	0.00	0.00
3,300.00	26.42	305.624	3,120.91	483.99	-675.44	-818.70	0.00	0.00	0.00
3,400.00	26.42	305.624	3,210.47	509.91	-711.61	-862.54	0.00	0.00	0.00
3,418.84	26.42	305.624	3,227.34	514.79	-718.42	-870.80	0.00	0.00	0.00
Begin 3°/100' drop									
3,500.00	23.98	305.624	3,300.77	534.91	-746.51	-904.84	3.00	-3.00	0.00
3,600.00	20.98	305.624	3,393.16	557.18	-777.59	-942.52	3.00	-3.00	0.00
3,700.00	17.98	305.624	3,487.42	576.61	-804.69	-975.37	3.00	-3.00	0.00
3,745.32	16.62	305.624	3,530.69	584.46	-815.65	-988.65	3.00	-3.00	0.00
Point Lookout									
3,800.00	14.98	305.624	3,583.30	593.13	-827.75	-1,003.32	3.00	-3.00	0.00
3,895.27	12.12	305.624	3,675.91	606.14	-845.90	-1,025.32	3.00	-3.00	0.00
Mancos									
3,900.00	11.98	305.624	3,680.54	606.71	-846.70	-1,026.29	3.00	-3.00	0.00
4,000.00	8.98	305.624	3,778.86	617.31	-861.49	-1,044.22	3.00	-3.00	0.00
4,100.00	5.98	305.624	3,877.99	624.89	-872.07	-1,057.05	3.00	-3.00	0.00
4,200.00	2.98	305.624	3,977.68	629.44	-878.43	-1,064.75	3.00	-3.00	0.00
4,258.51	1.23	305.624	4,036.14	630.69	-880.17	-1,066.86	3.00	-3.00	0.00
MNCS_A									
4,299.42	0.00	0.000	4,077.05	630.95	-880.53	-1,067.29	3.00	-3.00	0.00
Begin vertical hold									
4,368.52	0.00	0.000	4,146.15	630.95	-880.53	-1,067.29	0.00	0.00	0.00
MNCS_B									
4,399.42	0.00	0.000	4,177.05	630.95	-880.53	-1,067.29	0.00	0.00	0.00
Begin 10°/100' build									
4,450.00	5.06	135.470	4,227.56	629.36	-878.97	-1,065.06	10.00	10.00	0.00
4,458.60	5.92	135.470	4,236.13	628.77	-878.39	-1,064.24	10.00	10.00	0.00
MNCS_C									
4,498.97	9.95	135.470	4,276.10	624.80	-874.48	-1,058.67	10.00	10.00	0.00
MNCS_Cms									
4,500.00	10.06	135.470	4,277.11	624.67	-874.35	-1,058.49	10.00	10.00	0.00
4,550.00	15.06	135.470	4,325.90	616.93	-866.73	-1,047.62	10.00	10.00	0.00
4,600.00	20.06	135.470	4,373.56	606.18	-856.16	-1,032.54	10.00	10.00	0.00
4,650.00	25.06	135.470	4,419.72	592.51	-842.71	-1,013.37	10.00	10.00	0.00
4,656.75	25.73	135.470	4,425.82	590.44	-840.68	-1,010.47	10.00	10.00	0.00
MNCS_D									
4,700.00	30.06	135.470	4,464.03	576.02	-826.49	-990.24	10.00	10.00	0.00
4,750.00	35.06	135.470	4,506.16	556.84	-807.63	-963.34	10.00	10.00	0.00
4,793.00	39.36	135.470	4,540.40	538.31	-789.40	-937.35	10.00	10.00	0.00
MNCS_E									
4,800.00	40.06	135.470	4,545.78	535.12	-786.26	-932.87	10.00	10.00	0.00
4,850.00	45.06	135.470	4,582.60	511.02	-762.56	-899.07	10.00	10.00	0.00
4,879.74	48.03	135.470	4,603.05	495.64	-747.42	-877.48	10.00	10.00	0.00
MNCS_F									
4,900.00	50.06	135.470	4,616.33	484.73	-736.69	-862.18	10.00	10.00	0.00
4,950.00	55.06	135.470	4,646.72	456.44	-708.86	-822.50	10.00	10.00	0.00
4,999.42	60.00	135.470	4,673.25	426.72	-679.63	-780.82	10.00	10.00	0.00
Begin 60.00° tangent									
5,001.90	60.00	135.470	4,674.48	425.19	-678.12	-778.67	0.00	0.00	0.00
MNCS_G									
5,059.42	60.00	135.470	4,703.25	389.68	-643.19	-728.85	0.00	0.00	0.00



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Begin 10°/100' build/turn									
5,097.11	63.77	135.437	4,721.01	365.99	-619.87	-695.61	10.00	10.00	-0.09
MNCS_H									
5,100.00	64.06	135.434	4,722.28	364.15	-618.05	-693.02	10.00	10.00	-0.08
5,150.00	69.06	135.394	4,742.16	331.49	-585.86	-647.16	10.00	10.00	-0.08
5,200.00	74.06	135.356	4,757.97	297.74	-552.55	-599.75	10.00	10.00	-0.08
5,220.87	76.14	135.340	4,763.34	283.39	-538.38	-579.58	10.00	10.00	-0.07
MNCS_I @ 0VS									
5,250.00	79.06	135.320	4,769.59	263.16	-518.38	-551.13	10.00	10.00	-0.07
5,300.00	84.06	135.285	4,776.93	228.02	-483.60	-501.69	10.00	10.00	-0.07
5,350.00	89.06	135.250	4,779.93	192.57	-448.49	-451.80	10.00	10.00	-0.07
5,362.69	90.33	135.242	4,780.00	183.56	-439.55	-439.11	10.00	10.00	-0.07
Begin 90.33° lateral									
5,400.00	90.33	135.242	4,779.79	157.07	-413.28	-401.80	0.00	0.00	0.00
5,500.00	90.33	135.242	4,779.22	86.06	-342.87	-301.80	0.00	0.00	0.00
5,600.00	90.33	135.242	4,778.65	15.05	-272.46	-201.80	0.00	0.00	0.00
5,700.00	90.33	135.242	4,778.08	-55.95	-202.05	-101.80	0.00	0.00	0.00
5,800.00	90.33	135.242	4,777.51	-126.96	-131.64	-1.81	0.00	0.00	0.00
5,900.00	90.33	135.242	4,776.95	-197.97	-61.23	98.19	0.00	0.00	0.00
6,000.00	90.33	135.242	4,776.38	-268.98	9.18	198.19	0.00	0.00	0.00
6,100.00	90.33	135.242	4,775.81	-339.98	79.60	298.19	0.00	0.00	0.00
6,200.00	90.33	135.242	4,775.24	-410.99	150.01	398.18	0.00	0.00	0.00
6,300.00	90.33	135.242	4,774.67	-482.00	220.42	498.18	0.00	0.00	0.00
6,400.00	90.33	135.242	4,774.10	-553.00	290.83	598.18	0.00	0.00	0.00
6,500.00	90.33	135.242	4,773.53	-624.01	361.24	698.18	0.00	0.00	0.00
6,600.00	90.33	135.242	4,772.97	-695.02	431.65	798.17	0.00	0.00	0.00
6,700.00	90.33	135.242	4,772.40	-766.02	502.06	898.17	0.00	0.00	0.00
6,800.00	90.33	135.242	4,771.83	-837.03	572.47	998.17	0.00	0.00	0.00
6,900.00	90.33	135.242	4,771.26	-908.04	642.88	1,098.17	0.00	0.00	0.00
7,000.00	90.33	135.242	4,770.69	-979.04	713.29	1,198.16	0.00	0.00	0.00
7,100.00	90.33	135.242	4,770.12	-1,050.05	783.70	1,298.16	0.00	0.00	0.00
7,200.00	90.33	135.242	4,769.56	-1,121.06	854.11	1,398.16	0.00	0.00	0.00
7,300.00	90.33	135.242	4,768.99	-1,192.07	924.53	1,498.16	0.00	0.00	0.00
7,400.00	90.33	135.242	4,768.42	-1,263.07	994.94	1,598.16	0.00	0.00	0.00
7,500.00	90.33	135.242	4,767.85	-1,334.08	1,065.35	1,698.15	0.00	0.00	0.00
7,600.00	90.33	135.242	4,767.28	-1,405.09	1,135.76	1,798.15	0.00	0.00	0.00
7,700.00	90.33	135.242	4,766.71	-1,476.09	1,206.17	1,898.15	0.00	0.00	0.00
7,800.00	90.33	135.242	4,766.14	-1,547.10	1,276.58	1,998.15	0.00	0.00	0.00
7,900.00	90.33	135.242	4,765.58	-1,618.11	1,346.99	2,098.14	0.00	0.00	0.00
8,000.00	90.33	135.242	4,765.01	-1,689.11	1,417.40	2,198.14	0.00	0.00	0.00
8,100.00	90.33	135.242	4,764.44	-1,760.12	1,487.81	2,298.14	0.00	0.00	0.00
8,200.00	90.33	135.242	4,763.87	-1,831.13	1,558.22	2,398.14	0.00	0.00	0.00
8,300.00	90.33	135.242	4,763.30	-1,902.14	1,628.63	2,498.13	0.00	0.00	0.00
8,400.00	90.33	135.242	4,762.73	-1,973.14	1,699.04	2,598.13	0.00	0.00	0.00
8,500.00	90.33	135.242	4,762.16	-2,044.15	1,769.46	2,698.13	0.00	0.00	0.00
8,600.00	90.33	135.242	4,761.60	-2,115.16	1,839.87	2,798.13	0.00	0.00	0.00
8,700.00	90.33	135.242	4,761.03	-2,186.16	1,910.28	2,898.12	0.00	0.00	0.00
8,800.00	90.33	135.242	4,760.46	-2,257.17	1,980.69	2,998.12	0.00	0.00	0.00
8,900.00	90.33	135.242	4,759.89	-2,328.18	2,051.10	3,098.12	0.00	0.00	0.00
9,000.00	90.33	135.242	4,759.32	-2,399.18	2,121.51	3,198.12	0.00	0.00	0.00
9,100.00	90.33	135.242	4,758.75	-2,470.19	2,191.92	3,298.11	0.00	0.00	0.00
9,200.00	90.33	135.242	4,758.19	-2,541.20	2,262.33	3,398.11	0.00	0.00	0.00
9,300.00	90.33	135.242	4,757.62	-2,612.21	2,332.74	3,498.11	0.00	0.00	0.00



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,400.00	90.33	135.242	4,757.05	-2,683.21	2,403.15	3,598.11	0.00	0.00	0.00
9,500.00	90.33	135.242	4,756.48	-2,754.22	2,473.56	3,698.10	0.00	0.00	0.00
9,600.00	90.33	135.242	4,755.91	-2,825.23	2,543.97	3,798.10	0.00	0.00	0.00
9,700.00	90.33	135.242	4,755.34	-2,896.23	2,614.39	3,898.10	0.00	0.00	0.00
9,800.00	90.33	135.242	4,754.77	-2,967.24	2,684.80	3,998.10	0.00	0.00	0.00
9,900.00	90.33	135.242	4,754.21	-3,038.25	2,755.21	4,098.09	0.00	0.00	0.00
10,000.00	90.33	135.242	4,753.64	-3,109.25	2,825.62	4,198.09	0.00	0.00	0.00
10,100.00	90.33	135.242	4,753.07	-3,180.26	2,896.03	4,298.09	0.00	0.00	0.00
10,200.00	90.33	135.242	4,752.50	-3,251.27	2,966.44	4,398.09	0.00	0.00	0.00
10,300.00	90.33	135.242	4,751.93	-3,322.27	3,036.85	4,498.09	0.00	0.00	0.00
10,400.00	90.33	135.242	4,751.36	-3,393.28	3,107.26	4,598.08	0.00	0.00	0.00
10,500.00	90.33	135.242	4,750.79	-3,464.29	3,177.67	4,698.08	0.00	0.00	0.00
10,600.00	90.33	135.242	4,750.23	-3,535.30	3,248.08	4,798.08	0.00	0.00	0.00
10,700.00	90.33	135.242	4,749.66	-3,606.30	3,318.49	4,898.08	0.00	0.00	0.00
10,800.00	90.33	135.242	4,749.09	-3,677.31	3,388.91	4,998.07	0.00	0.00	0.00
10,900.00	90.33	135.242	4,748.52	-3,748.32	3,459.32	5,098.07	0.00	0.00	0.00
11,000.00	90.33	135.242	4,747.95	-3,819.32	3,529.73	5,198.07	0.00	0.00	0.00
11,100.00	90.33	135.242	4,747.38	-3,890.33	3,600.14	5,298.07	0.00	0.00	0.00
11,200.00	90.33	135.242	4,746.81	-3,961.34	3,670.55	5,398.06	0.00	0.00	0.00
11,300.00	90.33	135.242	4,746.25	-4,032.34	3,740.96	5,498.06	0.00	0.00	0.00
11,400.00	90.33	135.242	4,745.68	-4,103.35	3,811.37	5,598.06	0.00	0.00	0.00
11,500.00	90.33	135.242	4,745.11	-4,174.36	3,881.78	5,698.06	0.00	0.00	0.00
11,600.00	90.33	135.242	4,744.54	-4,245.37	3,952.19	5,798.05	0.00	0.00	0.00
11,700.00	90.33	135.242	4,743.97	-4,316.37	4,022.60	5,898.05	0.00	0.00	0.00
11,800.00	90.33	135.242	4,743.40	-4,387.38	4,093.01	5,998.05	0.00	0.00	0.00
11,900.00	90.33	135.242	4,742.84	-4,458.39	4,163.42	6,098.05	0.00	0.00	0.00
12,000.00	90.33	135.242	4,742.27	-4,529.39	4,233.84	6,198.04	0.00	0.00	0.00
12,100.00	90.33	135.242	4,741.70	-4,600.40	4,304.25	6,298.04	0.00	0.00	0.00
12,200.00	90.33	135.242	4,741.13	-4,671.41	4,374.66	6,398.04	0.00	0.00	0.00
12,300.00	90.33	135.242	4,740.56	-4,742.41	4,445.07	6,498.04	0.00	0.00	0.00
12,400.00	90.33	135.242	4,739.99	-4,813.42	4,515.48	6,598.03	0.00	0.00	0.00
12,500.00	90.33	135.242	4,739.42	-4,884.43	4,585.89	6,698.03	0.00	0.00	0.00
12,600.00	90.33	135.242	4,738.86	-4,955.44	4,656.30	6,798.03	0.00	0.00	0.00
12,700.00	90.33	135.242	4,738.29	-5,026.44	4,726.71	6,898.03	0.00	0.00	0.00
12,800.00	90.33	135.242	4,737.72	-5,097.45	4,797.12	6,998.02	0.00	0.00	0.00
12,900.00	90.33	135.242	4,737.15	-5,168.46	4,867.53	7,098.02	0.00	0.00	0.00
13,000.00	90.33	135.242	4,736.58	-5,239.46	4,937.94	7,198.02	0.00	0.00	0.00
13,100.00	90.33	135.242	4,736.01	-5,310.47	5,008.35	7,298.02	0.00	0.00	0.00
13,200.00	90.33	135.242	4,735.44	-5,381.48	5,078.77	7,398.02	0.00	0.00	0.00
13,300.00	90.33	135.242	4,734.88	-5,452.48	5,149.18	7,498.01	0.00	0.00	0.00
13,400.00	90.33	135.242	4,734.31	-5,523.49	5,219.59	7,598.01	0.00	0.00	0.00
13,500.00	90.33	135.242	4,733.74	-5,594.50	5,290.00	7,698.01	0.00	0.00	0.00
13,600.00	90.33	135.242	4,733.17	-5,665.50	5,360.41	7,798.01	0.00	0.00	0.00
13,700.00	90.33	135.242	4,732.60	-5,736.51	5,430.82	7,898.00	0.00	0.00	0.00
13,800.00	90.33	135.242	4,732.03	-5,807.52	5,501.23	7,998.00	0.00	0.00	0.00
13,900.00	90.33	135.242	4,731.47	-5,878.53	5,571.64	8,098.00	0.00	0.00	0.00
14,000.00	90.33	135.242	4,730.90	-5,949.53	5,642.05	8,198.00	0.00	0.00	0.00
14,100.00	90.33	135.242	4,730.33	-6,020.54	5,712.46	8,297.99	0.00	0.00	0.00
14,200.00	90.33	135.242	4,729.76	-6,091.55	5,782.87	8,397.99	0.00	0.00	0.00
14,300.00	90.33	135.242	4,729.19	-6,162.55	5,853.28	8,497.99	0.00	0.00	0.00
14,400.00	90.33	135.242	4,728.62	-6,233.56	5,923.70	8,597.99	0.00	0.00	0.00
14,500.00	90.33	135.242	4,728.05	-6,304.57	5,994.11	8,697.98	0.00	0.00	0.00
14,600.00	90.33	135.242	4,727.49	-6,375.57	6,064.52	8,797.98	0.00	0.00	0.00
14,685.37	90.33	135.242	4,727.00	-6,436.19	6,124.62	8,883.35	0.00	0.00	0.00



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
PBHL/TD 14685.37 MD 4727.00 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
G Lybrook 054 LTP 232 - plan hits target center - Point	0.00	0.000	4,727.00	-6,436.19	6,124.62	1,888,937.037	2,751,976.313	36.191278000	-107.735443000
G Lybrook 054 FTP 157 - plan misses target center by 37.53ft at 5400.46ft MD (4779.79 TVD, 156.74 N, -412.96 E) - Point	0.00	0.000	4,780.00	183.16	-386.31	1,895,556.375	2,745,465.396	36.209478000	-107.757491000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Casing	13-5/8	17-1/2	
2,796.51	2,670.00	9 5/8" Casing	9-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
417.00	417.00	Ojo Alamo		-0.33	135.470
520.00	520.00	Kirtland		-0.33	135.470
720.00	720.00	Fruitland		-0.33	135.470
1,100.06	1,100.01	Pictured Cliffs		-0.33	135.470
1,222.58	1,222.07	Lewis		-0.33	135.470
1,495.92	1,490.36	Chacra_A		-0.33	135.470
2,660.40	2,548.10	Cliff House_Basal		-0.33	135.470
2,688.40	2,573.17	Menefee		-0.33	135.470
3,745.32	3,530.69	Point Lookout		-0.33	135.470
3,895.27	3,675.91	Mancos		-0.33	135.470
4,258.51	4,036.14	MNCS_A		-0.33	135.470
4,368.52	4,146.15	MNCS_B		-0.33	135.470
4,458.60	4,236.13	MNCS_C		-0.33	135.470
4,498.97	4,276.10	MNCS_Cms		-0.33	135.470
4,656.75	4,425.82	MNCS_D		-0.33	135.470
4,793.00	4,540.40	MNCS_E		-0.33	135.470
4,879.74	4,603.05	MNCS_F		-0.33	135.470
5,001.90	4,674.48	MNCS_G		-0.33	135.470
5,097.11	4,721.01	MNCS_H		-0.33	135.470
5,220.87	4,763.34	MNCS_I @ OVS		-0.33	135.470



Planning Report

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
1,880.58	1,849.71	116.16	-162.11	Begin 26.42° tangent	
3,418.84	3,227.34	514.79	-718.42	Begin 3°/100' drop	
4,299.42	4,077.05	630.95	-880.53	Begin vertical hold	
4,399.42	4,177.05	630.95	-880.53	Begin 10°/100' build	
4,999.42	4,673.25	426.72	-679.63	Begin 60.00° tangent	
5,059.42	4,703.25	389.68	-643.19	Begin 10°/100' build/turn	
5,362.69	4,780.00	183.56	-439.55	Begin 90.33° lateral	
14,685.37	4,727.00	-6,436.19	6,124.62	PBHL/TD 14685.37 MD 4727.00 TVD	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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

Site	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)				
Site Position:		Northing:	1,895,341.584 usft	Latitude:	36.208887000
From:	Lat/Long	Easting:	2,745,902.467 usft	Longitude:	-107.756010000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Greater Lybrook Unit No. 054H, Surf loc: 1386 FSL 2041 FEL Section 23-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,895,373.214 usft	Latitude:	36.208974000
	+E/-W	0.00 ft	Easting:	2,745,851.701 usft	Longitude:	-107.756182000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,802.00 ft
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/3/2022	8.66	62.70	49,154.28939413

Design	rev0			
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	135.470

Plan Survey Tool Program	Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,685.37 rev0 (Original Hole)		



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,880.58	26.42	305.624	1,849.71	116.16	-162.11	3.00	3.00	0.00	305.62	
3,418.84	26.42	305.624	3,227.34	514.79	-718.42	0.00	0.00	0.00	0.00	
4,299.42	0.00	0.000	4,077.05	630.95	-880.53	3.00	-3.00	0.00	180.00	
4,399.42	0.00	0.000	4,177.05	630.95	-880.53	0.00	0.00	0.00	0.00	
4,999.42	60.00	135.470	4,673.25	426.72	-679.63	10.00	10.00	0.00	135.47	
5,059.42	60.00	135.470	4,703.25	389.68	-643.19	0.00	0.00	0.00	0.00	
5,362.69	90.33	135.242	4,780.00	183.56	-439.55	10.00	10.00	-0.08	-0.45	
14,685.37	90.33	135.242	4,727.00	-6,436.19	6,124.62	0.00	0.00	0.00	0.00	G Lybrook 054 LTP 2'



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
100.00	0.00	0.000	100.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
200.00	0.00	0.000	200.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
300.00	0.00	0.000	300.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
350.00	0.00	0.000	350.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
13 3/8" Casing									
400.00	0.00	0.000	400.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
417.00	0.00	0.000	417.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
Ojo Alamo									
500.00	0.00	0.000	500.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
520.00	0.00	0.000	520.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
Kirtland									
600.00	0.00	0.000	600.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
700.00	0.00	0.000	700.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
720.00	0.00	0.000	720.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
Fruitland									
800.00	0.00	0.000	800.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
900.00	0.00	0.000	900.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,895,373.214	2,745,851.701	36.208974000	-107.756182000
KOP Begin 3°/100' build									
1,100.00	3.00	305.624	1,099.95	1.52	-2.13	1,895,374.738	2,745,849.573	36.208978193	-107.756189207
1,100.06	3.00	305.624	1,100.01	1.53	-2.13	1,895,374.740	2,745,849.571	36.208978198	-107.756189216
Pictured Cliffs									
1,200.00	6.00	305.624	1,199.63	6.09	-8.50	1,895,379.308	2,745,843.196	36.208990759	-107.756210811
1,222.58	6.68	305.624	1,222.07	7.55	-10.53	1,895,380.759	2,745,841.170	36.208994752	-107.756217675
Lewis									
1,300.00	9.00	305.624	1,298.77	13.70	-19.11	1,895,386.909	2,745,832.588	36.209011665	-107.756246752
1,400.00	12.00	305.624	1,397.08	24.31	-33.92	1,895,397.523	2,745,817.776	36.209040853	-107.756296931
1,495.92	14.88	305.624	1,490.36	37.29	-52.04	1,895,410.505	2,745,799.658	36.209076557	-107.756358312
Chacra_A									
1,500.00	15.00	305.624	1,494.31	37.90	-52.90	1,895,411.118	2,745,798.803	36.209078243	-107.756361210
1,600.00	18.00	305.624	1,590.18	54.45	-75.98	1,895,427.659	2,745,775.719	36.209123733	-107.756439415
1,700.00	21.00	305.624	1,684.43	73.89	-103.11	1,895,447.100	2,745,748.588	36.209177197	-107.756531329
1,800.00	24.00	305.624	1,776.81	96.17	-134.22	1,895,469.387	2,745,717.485	36.209238490	-107.756636702
1,880.58	26.42	305.624	1,849.71	116.16	-162.11	1,895,489.376	2,745,689.590	36.209293461	-107.756731208
Begin 26.42° tangent									
1,900.00	26.42	305.624	1,867.10	121.19	-169.13	1,895,494.408	2,745,682.566	36.209307301	-107.756755002
2,000.00	26.42	305.624	1,956.66	147.11	-205.30	1,895,520.322	2,745,646.402	36.209378568	-107.756877523
2,100.00	26.42	305.624	2,046.22	173.02	-241.46	1,895,546.236	2,745,610.237	36.209449834	-107.757000044
2,200.00	26.42	305.624	2,135.78	198.94	-277.63	1,895,572.150	2,745,574.073	36.209521101	-107.757122566
2,300.00	26.42	305.624	2,225.33	224.85	-313.79	1,895,598.064	2,745,537.908	36.209592367	-107.757245087
2,400.00	26.42	305.624	2,314.89	250.77	-349.96	1,895,623.978	2,745,501.743	36.209663633	-107.757367609
2,500.00	26.42	305.624	2,404.45	276.68	-386.12	1,895,649.892	2,745,465.579	36.209734899	-107.757490131
2,600.00	26.42	305.624	2,494.01	302.59	-422.29	1,895,675.806	2,745,429.414	36.209806165	-107.757612654
2,660.40	26.42	305.624	2,548.10	318.25	-444.13	1,895,691.459	2,745,407.570	36.209849211	-107.757686660
Cliff House_Basal									
2,688.40	26.42	305.624	2,573.17	325.50	-454.26	1,895,698.713	2,745,397.446	36.209869161	-107.757720958
Menefee									
2,700.00	26.42	305.624	2,583.56	328.51	-458.45	1,895,701.720	2,745,393.249	36.209877431	-107.757735176
2,796.51	26.42	305.624	2,670.00	353.52	-493.36	1,895,726.731	2,745,358.345	36.209946213	-107.757853429
9 5/8" Casing									
2,800.00	26.42	305.624	2,673.12	354.42	-494.62	1,895,727.634	2,745,357.085	36.209948697	-107.757857699
2,900.00	26.42	305.624	2,762.68	380.34	-530.78	1,895,753.548	2,745,320.920	36.210019962	-107.757980222



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,000.00	26.42	305.624	2,852.24	406.25	-566.95	1,895,779.462	2,745,284.756	36.210091227	-107.758102745	
3,100.00	26.42	305.624	2,941.79	432.16	-603.11	1,895,805.376	2,745,248.591	36.210162493	-107.758225268	
3,200.00	26.42	305.624	3,031.35	458.08	-639.28	1,895,831.290	2,745,212.426	36.210233758	-107.758347792	
3,300.00	26.42	305.624	3,120.91	483.99	-675.44	1,895,857.204	2,745,176.262	36.210305023	-107.758470316	
3,400.00	26.42	305.624	3,210.47	509.91	-711.61	1,895,883.118	2,745,140.097	36.210376288	-107.758592840	
3,418.84	26.42	305.624	3,227.34	514.79	-718.42	1,895,888.001	2,745,133.284	36.210389714	-107.758615924	
Begin 3°/100' drop										
3,500.00	23.98	305.624	3,300.77	534.91	-746.51	1,895,908.127	2,745,105.197	36.210445062	-107.758711082	
3,600.00	20.98	305.624	3,393.16	557.18	-777.59	1,895,930.397	2,745,074.116	36.210506307	-107.758816381	
3,700.00	17.98	305.624	3,487.42	576.61	-804.69	1,895,949.821	2,745,047.009	36.210559724	-107.758908220	
3,745.32	16.62	305.624	3,530.69	584.46	-815.65	1,895,957.673	2,745,036.052	36.210581316	-107.758945343	
Point Lookout										
3,800.00	14.98	305.624	3,583.30	593.13	-827.75	1,895,966.345	2,745,023.949	36.210605165	-107.758986347	
3,895.27	12.12	305.624	3,675.91	606.14	-845.90	1,895,979.348	2,745,005.803	36.210640923	-107.759047825	
Mancos										
3,900.00	11.98	305.624	3,680.54	606.71	-846.70	1,895,979.924	2,745,004.999	36.210642507	-107.759050548	
4,000.00	8.98	305.624	3,778.86	617.31	-861.49	1,895,990.520	2,744,990.212	36.210671646	-107.759100647	
4,100.00	5.98	305.624	3,877.99	624.89	-872.07	1,895,998.104	2,744,979.628	36.210692502	-107.759136506	
4,200.00	2.98	305.624	3,977.68	629.44	-878.43	1,896,002.656	2,744,973.276	36.210705020	-107.759158027	
4,258.51	1.23	305.624	4,036.14	630.69	-880.17	1,896,003.907	2,744,971.529	36.210708462	-107.759163945	
MNCS_A										
4,299.42	0.00	0.000	4,077.05	630.95	-880.53	1,896,004.162	2,744,971.173	36.210709164	-107.759165152	
Begin vertical hold										
4,368.52	0.00	0.000	4,146.15	630.95	-880.53	1,896,004.162	2,744,971.173	36.210709164	-107.759165152	
MNCS_B										
4,399.42	0.00	0.000	4,177.05	630.95	-880.53	1,896,004.162	2,744,971.173	36.210709164	-107.759165152	
Begin 10°/100' build										
4,450.00	5.06	135.470	4,227.56	629.36	-878.97	1,896,002.572	2,744,972.737	36.210704791	-107.759159852	
4,458.60	5.92	135.470	4,236.13	628.77	-878.39	1,896,001.985	2,744,973.314	36.210703178	-107.759157897	
MNCS_C										
4,498.97	9.95	135.470	4,276.10	624.80	-874.48	1,895,998.013	2,744,977.222	36.210692258	-107.759144662	
MNCS_Cms										
4,500.00	10.06	135.470	4,277.11	624.67	-874.35	1,895,997.885	2,744,977.348	36.210691907	-107.759144235	
4,550.00	15.06	135.470	4,325.90	616.93	-866.73	1,895,990.138	2,744,984.969	36.210670607	-107.759118420	
4,600.00	20.06	135.470	4,373.56	606.18	-856.16	1,895,979.388	2,744,995.544	36.210641055	-107.759082602	
4,650.00	25.06	135.470	4,419.72	592.51	-842.71	1,895,965.719	2,745,008.991	36.210603476	-107.759037054	
4,656.75	25.73	135.470	4,425.82	590.44	-840.68	1,895,963.654	2,745,011.022	36.210597799	-107.759030173	
MNCS_D										
4,700.00	30.06	135.470	4,464.03	576.02	-826.49	1,895,949.233	2,745,025.208	36.210558155	-107.758982124	
4,750.00	35.06	135.470	4,506.16	556.84	-807.63	1,895,930.057	2,745,044.072	36.210505437	-107.758918228	
4,793.00	39.36	135.470	4,540.40	538.31	-789.40	1,895,911.525	2,745,062.302	36.210454489	-107.758856478	
MNCS_E										
4,800.00	40.06	135.470	4,545.78	535.12	-786.26	1,895,908.337	2,745,065.439	36.210445724	-107.758845854	
4,850.00	45.06	135.470	4,582.60	511.02	-762.56	1,895,884.237	2,745,089.146	36.210379469	-107.758765552	
4,879.74	48.03	135.470	4,603.05	495.64	-747.42	1,895,868.849	2,745,104.284	36.210337165	-107.758714279	
MNCS_F										
4,900.00	50.06	135.470	4,616.33	484.73	-736.69	1,895,857.942	2,745,115.014	36.210307178	-107.758677934	
4,950.00	55.06	135.470	4,646.72	456.44	-708.86	1,895,829.650	2,745,142.845	36.210229400	-107.758583665	
4,999.42	60.00	135.470	4,673.25	426.72	-679.63	1,895,799.937	2,745,172.075	36.210147713	-107.758484659	
Begin 60.00° tangent										
5,001.90	60.00	135.470	4,674.48	425.19	-678.12	1,895,798.407	2,745,173.580	36.210143507	-107.758479562	
MNCS_G										



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,059.42	60.00	135.470	4,703.25	389.68	-643.19	1,895,762.894	2,745,208.515	36.210045876	-107.758361232	
Begin 10°/100' build/turn										
5,097.11	63.77	135.437	4,721.01	365.99	-619.87	1,895,739.204	2,745,231.833	36.209980748	-107.758282249	
MNCS_H										
5,100.00	64.06	135.434	4,722.28	364.15	-618.05	1,895,737.358	2,745,233.651	36.209975672	-107.758276091	
5,150.00	69.06	135.394	4,742.16	331.49	-585.86	1,895,704.698	2,745,265.843	36.209885883	-107.758167052	
5,200.00	74.06	135.356	4,757.97	297.74	-552.55	1,895,670.951	2,745,299.152	36.209793105	-107.758054229	
5,220.87	76.14	135.340	4,763.34	283.39	-538.38	1,895,656.604	2,745,313.326	36.209753663	-107.758006222	
MNCS_I @ OVS										
5,250.00	79.06	135.320	4,769.59	263.16	-518.38	1,895,636.373	2,745,333.325	36.209698044	-107.757938482	
5,300.00	84.06	135.285	4,776.93	228.02	-483.60	1,895,601.228	2,745,368.101	36.209601424	-107.757820690	
5,350.00	89.06	135.250	4,779.93	192.57	-448.49	1,895,565.784	2,745,403.216	36.209503979	-107.757701750	
5,362.69	90.33	135.242	4,780.00	183.56	-439.55	1,895,556.776	2,745,412.147	36.209479215	-107.757671500	
Begin 90.33° lateral										
5,400.00	90.33	135.242	4,779.79	157.07	-413.28	1,895,530.280	2,745,438.421	36.209406371	-107.757582508	
5,500.00	90.33	135.242	4,779.22	86.06	-342.87	1,895,459.273	2,745,508.832	36.209211157	-107.757344019	
5,600.00	90.33	135.242	4,778.65	15.05	-272.46	1,895,388.266	2,745,579.242	36.209015943	-107.757105531	
5,700.00	90.33	135.242	4,778.08	-55.95	-202.05	1,895,317.260	2,745,649.653	36.208820728	-107.756867045	
5,800.00	90.33	135.242	4,777.51	-126.96	-131.64	1,895,246.253	2,745,720.064	36.208625513	-107.756628559	
5,900.00	90.33	135.242	4,776.95	-197.97	-61.23	1,895,175.246	2,745,790.474	36.208430297	-107.756390075	
6,000.00	90.33	135.242	4,776.38	-268.98	9.18	1,895,104.239	2,745,860.885	36.208235081	-107.756151593	
6,100.00	90.33	135.242	4,775.81	-339.98	79.60	1,895,033.232	2,745,931.296	36.208039864	-107.755913111	
6,200.00	90.33	135.242	4,775.24	-410.99	150.01	1,894,962.225	2,746,001.706	36.207844647	-107.755674630	
6,300.00	90.33	135.242	4,774.67	-482.00	220.42	1,894,891.219	2,746,072.117	36.207649429	-107.755436151	
6,400.00	90.33	135.242	4,774.10	-553.00	290.83	1,894,820.212	2,746,142.528	36.207454211	-107.755197673	
6,500.00	90.33	135.242	4,773.53	-624.01	361.24	1,894,749.205	2,746,212.939	36.207258992	-107.754959196	
6,600.00	90.33	135.242	4,772.97	-695.02	431.65	1,894,678.198	2,746,283.349	36.207063773	-107.754720720	
6,700.00	90.33	135.242	4,772.40	-766.02	502.06	1,894,607.191	2,746,353.760	36.206868553	-107.754482245	
6,800.00	90.33	135.242	4,771.83	-837.03	572.47	1,894,536.185	2,746,424.171	36.206673333	-107.754243773	
6,900.00	90.33	135.242	4,771.26	-908.04	642.88	1,894,465.178	2,746,494.581	36.206478112	-107.754005301	
7,000.00	90.33	135.242	4,770.69	-979.04	713.29	1,894,394.171	2,746,564.992	36.206282891	-107.753766830	
7,100.00	90.33	135.242	4,770.12	-1,050.05	783.70	1,894,323.164	2,746,635.403	36.206087670	-107.753528360	
7,200.00	90.33	135.242	4,769.56	-1,121.06	854.11	1,894,252.157	2,746,705.814	36.205892448	-107.753289891	
7,300.00	90.33	135.242	4,768.99	-1,192.07	924.53	1,894,181.150	2,746,776.224	36.205697225	-107.753051424	
7,400.00	90.33	135.242	4,768.42	-1,263.07	994.94	1,894,110.144	2,746,846.635	36.205502002	-107.752812957	
7,500.00	90.33	135.242	4,767.85	-1,334.08	1,065.35	1,894,039.137	2,746,917.046	36.205306778	-107.752574492	
7,600.00	90.33	135.242	4,767.28	-1,405.09	1,135.76	1,893,968.130	2,746,987.456	36.205111554	-107.752336028	
7,700.00	90.33	135.242	4,766.71	-1,476.09	1,206.17	1,893,897.123	2,747,057.867	36.204916330	-107.752097566	
7,800.00	90.33	135.242	4,766.14	-1,547.10	1,276.58	1,893,826.116	2,747,128.278	36.204721105	-107.751859104	
7,900.00	90.33	135.242	4,765.58	-1,618.11	1,346.99	1,893,755.109	2,747,198.688	36.204525880	-107.751620644	
8,000.00	90.33	135.242	4,765.01	-1,689.11	1,417.40	1,893,684.103	2,747,269.099	36.204330654	-107.751382184	
8,100.00	90.33	135.242	4,764.44	-1,760.12	1,487.81	1,893,613.096	2,747,339.510	36.204135427	-107.751143726	
8,200.00	90.33	135.242	4,763.87	-1,831.13	1,558.22	1,893,542.089	2,747,409.921	36.203940200	-107.750905270	
8,300.00	90.33	135.242	4,763.30	-1,902.14	1,628.63	1,893,471.082	2,747,480.331	36.203744973	-107.750666814	
8,400.00	90.33	135.242	4,762.73	-1,973.14	1,699.04	1,893,400.075	2,747,550.743	36.203549745	-107.750428360	
8,500.00	90.33	135.242	4,762.16	-2,044.15	1,769.46	1,893,329.069	2,747,621.154	36.203354517	-107.750189906	
8,600.00	90.33	135.242	4,761.60	-2,115.16	1,839.87	1,893,258.062	2,747,691.564	36.203159288	-107.749951454	
8,700.00	90.33	135.242	4,761.03	-2,186.16	1,910.28	1,893,187.055	2,747,761.975	36.202964059	-107.749713003	
8,800.00	90.33	135.242	4,760.46	-2,257.17	1,980.69	1,893,116.048	2,747,832.386	36.202768829	-107.749474553	
8,900.00	90.33	135.242	4,759.89	-2,328.18	2,051.10	1,893,045.041	2,747,902.797	36.202573599	-107.749236105	
9,000.00	90.33	135.242	4,759.32	-2,399.18	2,121.51	1,892,974.034	2,747,973.207	36.202378368	-107.748997658	
9,100.00	90.33	135.242	4,758.75	-2,470.19	2,191.92	1,892,903.028	2,748,043.618	36.202183137	-107.748759211	
9,200.00	90.33	135.242	4,758.19	-2,541.20	2,262.33	1,892,832.021	2,748,114.029	36.201987905	-107.748520766	
9,300.00	90.33	135.242	4,757.62	-2,612.21	2,332.74	1,892,761.014	2,748,184.439	36.201792673	-107.748282323	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,400.00	90.33	135.242	4,757.05	-2,683.21	2,403.15	1,892,690.007	2,748,254.850	36.201597441	-107.748043880	
9,500.00	90.33	135.242	4,756.48	-2,754.22	2,473.56	1,892,619.000	2,748,325.261	36.201402208	-107.747805439	
9,600.00	90.33	135.242	4,755.91	-2,825.23	2,543.97	1,892,547.994	2,748,395.671	36.201206974	-107.747566998	
9,700.00	90.33	135.242	4,755.34	-2,896.23	2,614.39	1,892,476.987	2,748,466.082	36.201011740	-107.747328559	
9,800.00	90.33	135.242	4,754.77	-2,967.24	2,684.80	1,892,405.980	2,748,536.493	36.200816505	-107.747090121	
9,900.00	90.33	135.242	4,754.21	-3,038.25	2,755.21	1,892,334.973	2,748,606.904	36.200621270	-107.746851685	
10,000.00	90.33	135.242	4,753.64	-3,109.25	2,825.62	1,892,263.966	2,748,677.314	36.200426035	-107.746613249	
10,100.00	90.33	135.242	4,753.07	-3,180.26	2,896.03	1,892,192.959	2,748,747.725	36.200230799	-107.746374815	
10,200.00	90.33	135.242	4,752.50	-3,251.27	2,966.44	1,892,121.953	2,748,818.136	36.200035562	-107.746136382	
10,300.00	90.33	135.242	4,751.93	-3,322.27	3,036.85	1,892,050.946	2,748,888.546	36.199840325	-107.745897950	
10,400.00	90.33	135.242	4,751.36	-3,393.28	3,107.26	1,891,979.939	2,748,958.957	36.199645088	-107.745659519	
10,500.00	90.33	135.242	4,750.79	-3,464.29	3,177.67	1,891,908.932	2,749,029.368	36.199449850	-107.745421089	
10,600.00	90.33	135.242	4,750.23	-3,535.30	3,248.08	1,891,837.925	2,749,099.778	36.199254612	-107.745182661	
10,700.00	90.33	135.242	4,749.66	-3,606.30	3,318.49	1,891,766.918	2,749,170.189	36.199059373	-107.744944234	
10,800.00	90.33	135.242	4,749.09	-3,677.31	3,388.91	1,891,695.912	2,749,240.600	36.198864134	-107.744705808	
10,900.00	90.33	135.242	4,748.52	-3,748.32	3,459.32	1,891,624.905	2,749,311.011	36.198668894	-107.744467383	
11,000.00	90.33	135.242	4,747.95	-3,819.32	3,529.73	1,891,553.898	2,749,381.421	36.198473653	-107.744228959	
11,100.00	90.33	135.242	4,747.38	-3,890.33	3,600.14	1,891,482.891	2,749,451.832	36.198278413	-107.743990537	
11,200.00	90.33	135.242	4,746.81	-3,961.34	3,670.55	1,891,411.884	2,749,522.243	36.198083171	-107.743752115	
11,300.00	90.33	135.242	4,746.25	-4,032.34	3,740.96	1,891,340.878	2,749,592.653	36.197887930	-107.743513695	
11,400.00	90.33	135.242	4,745.68	-4,103.35	3,811.37	1,891,269.871	2,749,663.064	36.197692687	-107.743275276	
11,500.00	90.33	135.242	4,745.11	-4,174.36	3,881.78	1,891,198.864	2,749,733.475	36.197497445	-107.743036858	
11,600.00	90.33	135.242	4,744.54	-4,245.37	3,952.19	1,891,127.857	2,749,803.886	36.197302202	-107.742798442	
11,700.00	90.33	135.242	4,743.97	-4,316.37	4,022.60	1,891,056.850	2,749,874.296	36.197106958	-107.742560027	
11,800.00	90.33	135.242	4,743.40	-4,387.38	4,093.01	1,890,985.843	2,749,944.707	36.196911714	-107.742321612	
11,900.00	90.33	135.242	4,742.84	-4,458.39	4,163.42	1,890,914.837	2,750,015.118	36.196716469	-107.742083199	
12,000.00	90.33	135.242	4,742.27	-4,529.39	4,233.84	1,890,843.830	2,750,085.528	36.196521224	-107.741844787	
12,100.00	90.33	135.242	4,741.70	-4,600.40	4,304.25	1,890,772.823	2,750,155.939	36.196325978	-107.741606377	
12,200.00	90.33	135.242	4,741.13	-4,671.41	4,374.66	1,890,701.816	2,750,226.350	36.196130732	-107.741367967	
12,300.00	90.33	135.242	4,740.56	-4,742.41	4,445.07	1,890,630.809	2,750,296.760	36.195935486	-107.741129559	
12,400.00	90.33	135.242	4,739.99	-4,813.42	4,515.48	1,890,559.803	2,750,367.171	36.195740239	-107.740891152	
12,500.00	90.33	135.242	4,739.42	-4,884.43	4,585.89	1,890,488.796	2,750,437.582	36.195544991	-107.740652746	
12,600.00	90.33	135.242	4,738.86	-4,955.44	4,656.30	1,890,417.789	2,750,507.993	36.195349743	-107.740414341	
12,700.00	90.33	135.242	4,738.29	-5,026.44	4,726.71	1,890,346.782	2,750,578.403	36.195154495	-107.740175938	
12,800.00	90.33	135.242	4,737.72	-5,097.45	4,797.12	1,890,275.775	2,750,648.814	36.194959246	-107.739937535	
12,900.00	90.33	135.242	4,737.15	-5,168.46	4,867.53	1,890,204.768	2,750,719.225	36.194763997	-107.739699134	
13,000.00	90.33	135.242	4,736.58	-5,239.46	4,937.94	1,890,133.762	2,750,789.635	36.194568747	-107.739460734	
13,100.00	90.33	135.242	4,736.01	-5,310.47	5,008.35	1,890,062.755	2,750,860.046	36.194373496	-107.739222335	
13,200.00	90.33	135.242	4,735.44	-5,381.48	5,078.77	1,889,991.748	2,750,930.457	36.194178246	-107.738983938	
13,300.00	90.33	135.242	4,734.88	-5,452.48	5,149.18	1,889,920.741	2,751,000.867	36.193982994	-107.738745541	
13,400.00	90.33	135.242	4,734.31	-5,523.49	5,219.59	1,889,849.734	2,751,071.278	36.193787742	-107.738507146	
13,500.00	90.33	135.242	4,733.74	-5,594.50	5,290.00	1,889,778.728	2,751,141.689	36.193592490	-107.738268752	
13,600.00	90.33	135.242	4,733.17	-5,665.50	5,360.41	1,889,707.721	2,751,212.100	36.193397237	-107.738030359	
13,700.00	90.33	135.242	4,732.60	-5,736.51	5,430.82	1,889,636.714	2,751,282.510	36.193201984	-107.737791967	
13,800.00	90.33	135.242	4,732.03	-5,807.52	5,501.23	1,889,565.707	2,751,352.921	36.193006730	-107.737553577	
13,900.00	90.33	135.242	4,731.47	-5,878.53	5,571.64	1,889,494.700	2,751,423.332	36.192811476	-107.737315187	
14,000.00	90.33	135.242	4,730.90	-5,949.53	5,642.05	1,889,423.693	2,751,493.742	36.192616221	-107.737076799	
14,100.00	90.33	135.242	4,730.33	-6,020.54	5,712.46	1,889,352.687	2,751,564.153	36.192420966	-107.736838412	
14,200.00	90.33	135.242	4,729.76	-6,091.55	5,782.87	1,889,281.680	2,751,634.564	36.192225711	-107.736600027	
14,300.00	90.33	135.242	4,729.19	-6,162.55	5,853.28	1,889,210.673	2,751,704.975	36.192030455	-107.736361642	
14,400.00	90.33	135.242	4,728.62	-6,233.56	5,923.70	1,889,139.666	2,751,775.385	36.191835198	-107.736123258	
14,500.00	90.33	135.242	4,728.05	-6,304.57	5,994.11	1,889,068.659	2,751,845.796	36.191639941	-107.735884876	
14,600.00	90.33	135.242	4,727.49	-6,375.57	6,064.52	1,888,997.652	2,751,916.207	36.191444683	-107.735646495	



Planning Report - Geographic

Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,685.37	90.33	135.242	4,727.00	-6,436.19	6,124.62	1,888,937.037	2,751,976.313	36.191278000	-107.735443000
PBHL/TD 14685.37 MD 4727.00 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	
G Lybrook 054 LTP 232 - plan hits target center - Point	0.00	0.000	4,727.00	-6,436.19	6,124.62	1,888,937.037	2,751,976.313	36.191278000	-107.735443000	
G Lybrook 054 FTP 157 - plan misses target center by 37.53ft at 5400.46ft MD (4779.79 TVD, 156.74 N, -412.96 E) - Point	0.00	0.000	4,780.00	183.16	-386.31	1,895,556.375	2,745,465.396	36.209478000	-107.757491000	

Casing Points							Casing Diameter (")	Hole Diameter (")
Measured Depth (ft)	Vertical Depth (ft)	Name						
350.00	350.00	13 3/8" Casing					13-5/8	17-1/2
2,796.51	2,670.00	9 5/8" Casing					9-5/8	12-1/4

Formations							Dip (°)	Dip Direction (°)
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology					
417.00	417.00	Ojo Alamo					-0.33	135.470
520.00	520.00	Kirtland					-0.33	135.470
720.00	720.00	Fruitland					-0.33	135.470
1,100.06	1,100.01	Pictured Cliffs					-0.33	135.470
1,222.58	1,222.07	Lewis					-0.33	135.470
1,495.92	1,490.36	Chacra_A					-0.33	135.470
2,660.40	2,548.10	Cliff House_Basal					-0.33	135.470
2,688.40	2,573.17	Menefee					-0.33	135.470
3,745.32	3,530.69	Point Lookout					-0.33	135.470
3,895.27	3,675.91	Mancos					-0.33	135.470
4,258.51	4,036.14	MNCS_A					-0.33	135.470
4,368.52	4,146.15	MNCS_B					-0.33	135.470
4,458.60	4,236.13	MNCS_C					-0.33	135.470
4,498.97	4,276.10	MNCS_Cms					-0.33	135.470
4,656.75	4,425.82	MNCS_D					-0.33	135.470
4,793.00	4,540.40	MNCS_E					-0.33	135.470
4,879.74	4,603.05	MNCS_F					-0.33	135.470
5,001.90	4,674.48	MNCS_G					-0.33	135.470
5,097.11	4,721.01	MNCS_H					-0.33	135.470
5,220.87	4,763.34	MNCS_I @ OVS					-0.33	135.470



Planning Report - Geographic

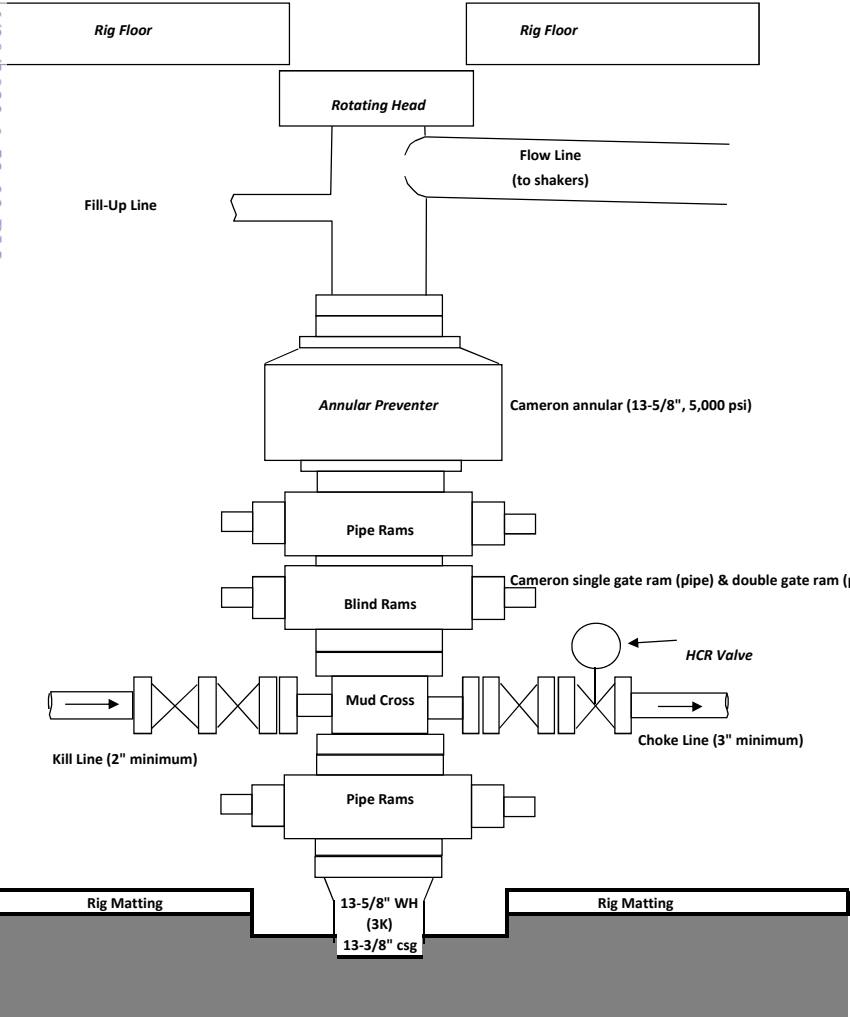
Database:	DB_Feb2822	Local Co-ordinate Reference:	Well Greater Lybrook Unit No. 054H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6802+28 @ 6830.00ft (Ensign 773)
Site:	Greater Lybrook 57 Pad (52,53,54,55,56 & 57)	North Reference:	Grid
Well:	Greater Lybrook Unit No. 054H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
1,880.58	1,849.71	116.16	-162.11	Begin 26.42° tangent	
3,418.84	3,227.34	514.79	-718.42	Begin 3°/100' drop	
4,299.42	4,077.05	630.95	-880.53	Begin vertical hold	
4,399.42	4,177.05	630.95	-880.53	Begin 10°/100' build	
4,999.42	4,673.25	426.72	-679.63	Begin 60.00° tangent	
5,059.42	4,703.25	389.68	-643.19	Begin 10°/100' build/turn	
5,362.69	4,780.00	183.56	-439.55	Begin 90.33° lateral	
14,685.37	4,727.00	-6,436.19	6,124.62	PBHL/TD 14685.37 MD 4727.00 TVD	

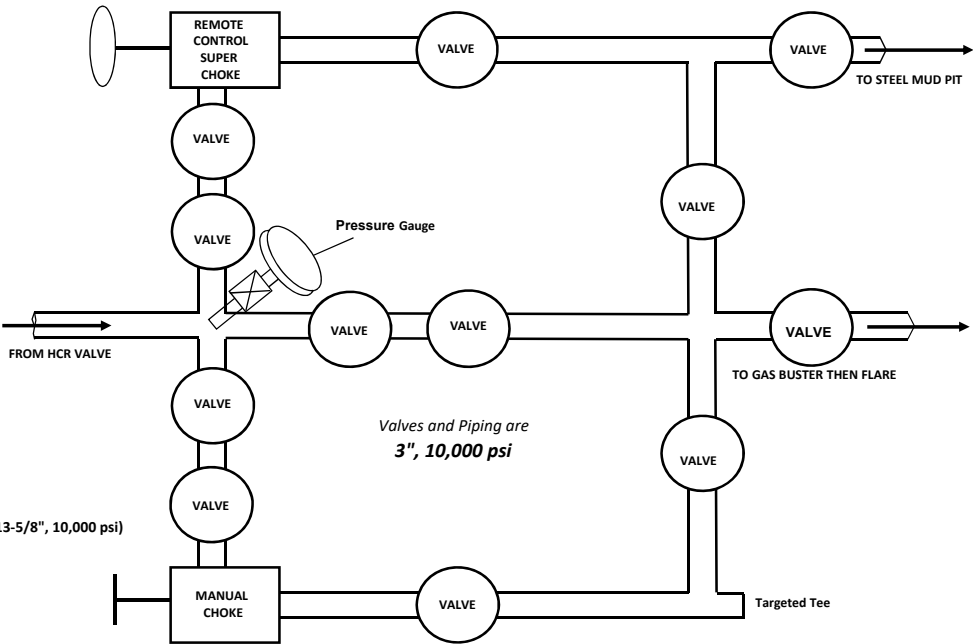
BOPE & CHOKE MANIFOLD DIAGRAMS

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 234611

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 234611
	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	6/30/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/30/2023
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	6/30/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	6/30/2023
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	6/30/2023