Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM025527A

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: LONGSHIP FED COM 003H

2. Name of Operator: MR NM OPERATING LLC

9. API Well No.: 30-015-56788

3a. Address: 5950 BERKSHIRE LANE, SUITE 1000, DALLAS, TX 7522

3b. Phone No. *(include area code)*: (469) 906-2004

10. Field and Pool, or Exploratory: RED LAKE/GLORIETA-YESO, NORTHEA

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: SENE / 1540 FNL / 230 FEL / LAT 32.822699 / LONG -104.258699

At proposed prod. zone: NENE / 1310 FNL / 100 FEL / LAT 32.823261 / LONG -104.241139

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 22/T17S/R27E/NMP

14. Distance in miles and direction from nearest town or post office*: 8 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 230 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 320.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 515 feet

19. Proposed Depth: 3264 feet / 8910 feet

20. BLM/BIA Bond No. in file: FED: NMB106307928

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3538 feet

22. Approximate date work will start*: 04/01/2025

23. Estimated duration: 60 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.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRIAN WOOD / Ph: (469) 906-2004	10/08/2024

Title: Permitting Agent

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	05/09/2025

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad 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

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/09/2025

C-102	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024
Submit Electronically Via OCD Permitting		Submittal Type: [X] Initial Submittal [ ] Amended Report [ ] As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-56788	96836	RED LAKE; GLORIETA-YESO, NORTHEAST

Property Code	Property Name	Well Number
337347	LONGSHIP FED COM	3H

OGRID No.	Operator Name	Ground Level Elevation
330506	MR NM OPERATING LLC	3537.5'

Surface Owner: [ ] State [ ] Fee [ ] Tribal [X] Federal
Mineral Owner: [ ] State [ ] Fee [ ] Tribal [X] Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
H	22	17-S	27-E		1540' FNL	230' FEL	32.822699 32°49'21.72"	-104.258699 -104°15'31.32"	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	23	17-S	27-E		1310' FNL	100' FEL	32.823261 32°49'23.74"	-104.241139 -104°14'28.10"	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
320	Defining	3H (30-015-xxxxx)	N	C

Order Numbers.
Well setbacks are under Common Ownership: [X] Yes [ ] No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	22	17-S	27-E		1296' FNL	833' FEL	32.823351 32°49'24.06"	-104.260658 -104°15'38.37"	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	23	17-S	27-E		1310' FNL	100' FWL	32.823337 32°49'24.01"	-104.257622 -104°15'27.44"	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	23	17-S	27-E		1310' FNL	100' FEL	32.823261 32°49'23.74"	-104.241139 -104°14'28.10"	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type	Ground Floor Elevation:
	[X] Horizontal [ ] Vertical	

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief and, ***if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory' pooling order from the division.

Cory Walk — 09-09-24
Signature — Date

Cory Walk
Printed Name

cory@permitswest.com
Email Address

SURVEYOR CERTIFICATIONS

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

JAMES C. TOMPKINS — NEW MEXICO — 27177 — PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor
JAMES C. TOMPKINS 27117
Date 08/20/2024 Job. No.: WTC-56496 Draft: FH!

Certificate Number	Date of Survey
27117	June 27, 2024

D:\FH\WTC DWG\56496-MR NM LONGSHIP FED COM 1H-2H,3H,4H,5H.dwg 8/20/2024 1:12 PM FHERNANDEZ

Note: 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.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

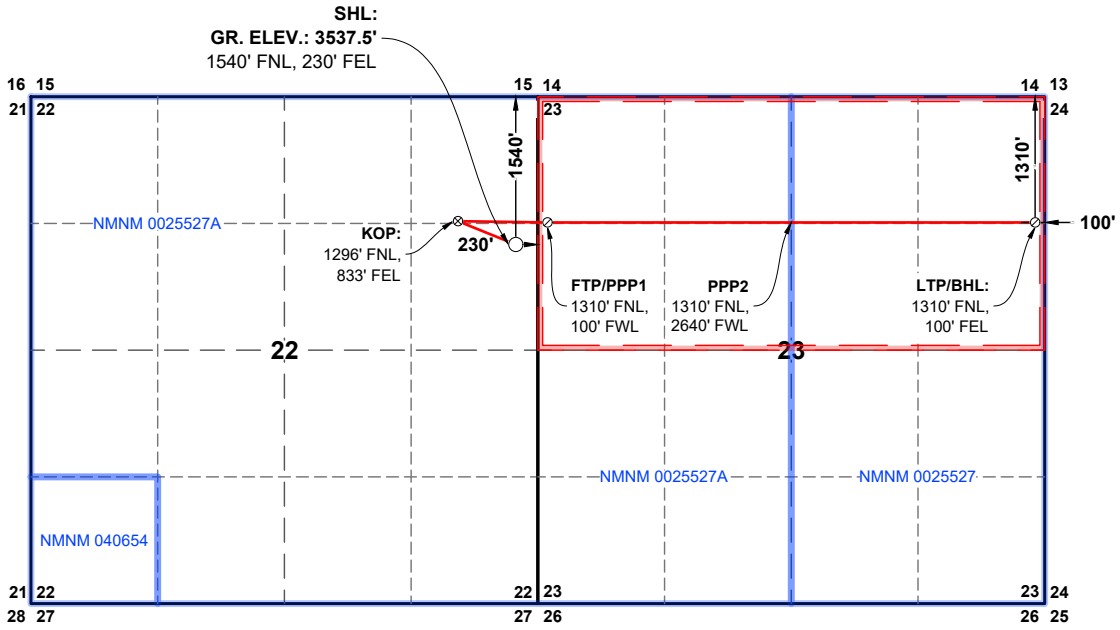
SHL
GR. ELEV. 3537.5'
NMSP-E (NAD 83)
N.(Y): = 663038.8'
E.(X): = 564264.1'
LAT.: = 32.8226990° N
LON.: = 104.2586995° W
NMSP-E (NAD 27)
N.(Y): = 662975.8'
E.(X): = 523085.0'
LAT.: = 32.8225852° N
LON.: = 104.2581856° W

KOP
NMSP-E (NAD 83)
N.(Y): = 663275.6'
E.(X): = 563662.4'
LAT.: = 32.8233511° N
LON.: = 104.2606578° W
NMSP-E (NAD 27)
N.(Y): = 663212.6'
E.(X): = 522483.3'
LAT.: = 32.8232373° N
LON.: = 104.2601439° W

FTP/PPP1
NMSP-E (NAD 83)
N.(Y): = 663271.2'
E.(X): = 564595.1'
LAT.: = 32.8233371° N
LON.: = 104.2576216° W
NMSP-E (NAD 27)
N.(Y): = 663208.2'
E.(X): = 523416.0'
LAT.: = 32.8232233° N
LON.: = 104.2571078° W

PPP2
NMSP-E (NAD 83)
N.(Y): = 663259.2'
E.(X): = 567126.8'
LAT.: = 32.8232991° N
LON.: = 104.2493801° W
NMSP-E (NAD 27)
N.(Y): = 663196.3'
E.(X): = 525947.6'
LAT.: = 32.8231852° N
LON.: = 104.2488665° W

LTP/BHL
NMSP-E (NAD 83)
N.(Y): = 663247.3'
E.(X): = 569658.2'
LAT.: = 32.8232606° N
LON.: = 104.2411393° W
NMSP-E (NAD 27)
N.(Y): = 663184.3'
E.(X): = 528479.1'
LAT.: = 32.8231466° N
LON.: = 104.2406259° W



SECTION: 22, T-17-S, R-27-E, N.M.P.M.
COUNTY: EDDY **STATE:** NEW MEXICO
DESCRIPTION: 1540' FNL & 230'' FEL
OPERATOR: MR NM OPERATING LLC
WELL NAME: LONGSHIP FED COM #3H
WELL PAD: LONGSHIP FED COM 3H

WTC ENGINEERS | SURVEYORS
W T C, INC.
405 S.W. 1st Street
Andrews, TX 79714
(432) 523-2181

MR NM OPERATING LLC
JOB NO.: WTC56496

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: MR NM OPERATING **OGRID:** 330506 **Date:** 9-23-24

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 BBL/D
Longship Fed Com 1H	30-15-	H-22-17S-27E	2085 FNL & 230 FEL	174	215	2,180
Longship Fed Com 2H	30-015-	H-22-17S-27E	2055 FNL & 230 FEL	193	265	1,977
Longship Fed Com 3H	30-015-	H-22-17S-27E	1540 FNL & 230 FEL	174	215	2,180
Longship Fed Com 4H	30-015-	A-22-17S-27E	570 FNL & 230 FEL	193	265	1,977
Longship Fed Com 5H	30-015-	A-22-17S-27E	540 FNL & 230 FEL	174	215	2,180

IV. Central Delivery Point Name: Frontier Field Services, LLC in M-35-16S-27E [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
Longship Fed Com 1H	30-015-	6-1-25	6-10-25	8-15-25	9-15-25	9-15-25
Longship Fed Com 2H	30-015-	6-12-25	6-22-25	8-15-25	9-15-25	9-15-25
Longship Fed Com 3H	30-015-	6-24-25	7-4-25	8-15-25	9-15-25	9-15-25
Longship Fed Com 4H	30-015-	7-6-25	7-16-25	8-15-25	9-15-25	9-15-25
Longship Fed Com 5H	30-015-	7-18-25	7-28-25	8-15-25	9-15-25	9-15-25

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

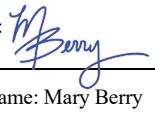
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

Signature: 
Printed Name: Mary Berry
Title: Manager
E-mail Address: mg@cypressnr.com
Date: 10-07-2024
Phone: 985 705-2759

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

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

Drilling Plan Data Report
05/10/2025

APD ID: 10400101165
Submission Date: 10/08/2024
Operator Name: MR NM OPERATING LLC
Well Name: LONGSHIP FED COM
Well Number: 003H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15602723	QUATERNARY	3538	0	0	ALLUVIUM	USEABLE WATER	N
15602724	YATES	3350	188	188	SILTSTONE	NONE	N
15602725	SEVEN RIVERS	3130	408	409	DOLOMITE	NATURAL GAS, OIL	N
15602726	QUEEN	2640	898	924	SANDSTONE	NATURAL GAS, OIL	N
15602727	GRAYBURG	2195	1343	1434	DOLOMITE	NATURAL GAS, OIL	N
15602728	SAN ANDRES	1885	1653	1775	DOLOMITE	NATURAL GAS, OIL	N
15602729	GLORIETA	520	3018	3296	SANDSTONE	NATURAL GAS, OIL	N
15602730	YESO	450	3088	3430	DOLOMITE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M
Rating Depth: 5000

Equipment: A 3M (minimum) BOP system will be used. The minimum blowout prevention equipment (BOPE) will consist of a 3,000-psi working pressure double ram BOP with blind ram and pipe ram inserts. A 3,000-psi annular preventer will be placed on top of the double ram BOP. Both units will be hydraulically operated.
Requesting Variance? YES

Variance request: A variance is requested for the option to batch drill the different hole sections in this well. If a BOPE seal is broken or the BOP moved a full BOPE test will be completed per 43 CFR 3172. Prior to moving the rig off of a well, the wellhead will be secured. MR NM requests a variance to use a flexible choke line from the BOP stack to the choke manifold. If flex hose is utilized the company man will have all proper certified paperwork for that hose available on location.

Testing Procedure: All BOPE will be tested in accordance with 43 CFR 3172. Prior to drilling out of the surface casing, ram type BOPE and accessory equipment will be tested to 250/3,000 psig and the annular preventer to 250/1,500 psig. All installed casing strings will be tested to the greater of 1,500 psi or Casing string length (ft) x 0.22 psi/ft, but not to exceed 70% of casing burst pressure (minimum internal yield). BOPE function tests will be performed daily for pipe rams and when drill pipe is out of the hole for blind rams. Function tests will be noted in the daily drillers log.

Choke Diagram Attachment:

Operator Name: MR NM OPERATING LLC

Well Name: LONGSHIP FED COM **Well Number:** 003H

Choke_Diagram_3k_20240923091453.pdf

BOP Diagram Attachment:

BOP_3k_20240923091510.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	12.25	9.625	NEW	API	N	0	1390	0	1300	3538	2238	1390	H-40	36	ST&C	1.125	1.25	DRY	1.6	DRY	1.6
2	PRODUCTION	8.75	7.0	NEW	API	N	0	3551	0	3225	3540	313	3551	L-80	29	BUTT	1.125	1.25	DRY	1.6	DRY	1.6
3	PRODUCTION	8.75	5.5	NEW	API	N	3551	8910	3225	3265	313	273	5359	L-80	17	BUTT	1.125	1.25	DRY	1.6	DRY	1.6

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20240923091541.pdf

Operator Name: MR NM OPERATING LLC

Well Name: LONGSHIP FED COM **Well Number:** 003H

Casing Attachments

Casing ID: 2 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20240923091602.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20240923091624.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1090	296	2.31	12.5	683	100	Class C	5% Salt + 2% Extender
SURFACE	Tail		1056	1390	140	1.34	14.8	188	100	Class C	2% Calcium
PRODUCTION	Lead		0	2351	187	2.8	11.5	523	35	50/50 Poz/C	10% Bentonite + 5% Salt + 0.3% Antisettling + 0.1% Retarder
PRODUCTION	Tail		2351	8910	1073	1.93	13.2	2071	35	25/78 Poz/C	10% Pumice + 5% Bentonite + 5% Salt + 0.4% Fluid Loss + 0.55% Antisettling +

Operator Name: MR NM OPERATING LLC

Well Name: LONGSHIP FED COM **Well Number:** 003H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											0.15% Retarder

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with 43 CFR 3172:

Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials will be on location to maintain mud properties and meet minimum loss control and weight increase requirements.

Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be utilized on the rig pits to monitor pit volumes, flow rates, pump pressures, and stroke rates.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1390	OTHER : Fresh Water	8.4	8.8							
1390	8910	OTHER : Cut Brine	8.8	9.4							

Operator Name: MR NM OPERATING LLC

Well Name: LONGSHIP FED COM **Well Number:** 003H

Section 6 - Test, Logging, Coring

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

Directional surveys will be run with GR from below surface casing.

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

GAMMA RAY LOG,

Coring operation description for the well:

No cores, DSTs, or mud logs are planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 1750 **Anticipated Surface Pressure:** 1031

Anticipated Bottom Hole Temperature(F): 120

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Longship_3H_H2S_Plan_20240923091848.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Longship_3H_Directional_Plan_20240923091902.pdf

Other proposed operations facets description:

MR NM Operating requests the approval of a contingency hole size and casing string if the risk for losses in the upper (above 400') zones is deemed high. If the risk is deemed to be low, MR NM will drill the well as described in the primary hole design described below. However, if the risk is deemed high then the contingency plan will be drilled from spud. If complete losses are encountered near surface (shallower than 400' MD) while drilling the primary hole design, and returns are unable to be regained, the surface hole will be reamed out to a larger diameter and casing and cement designs would be modified as shown in the contingency tables. Also, should a contingency string be needed, the wellhead would be changed from a conventional two-string design to a multi-bowl design.

Other proposed operations facets attachment:

Longship_3H_Drill_Plan_20240923091910.pdf

Longship_3H_Anticollision_Report_20240923091920.pdf

CoFlex_Certs_3k_20240923091928.pdf

Operator Name: MR NM OPERATING LLC

Well Name: LONGSHIP FED COM **Well Number:** 003H

Wellhead_Diagram_ContingencyDesign_v2_20240923091939.pdf

Wellhead_Diagram_PrimaryDesign_v2_20240923091939.pdf

Longship_1H_5H_WMP_20241008092805.pdf

Other Variance request(s)?: Y

Other Variance attachment:

Casing_Cementing_Variance_20240923092001.pdf

Sec 22, T17S, R27E
Longship Fed Com 3H
Q240* & WT-240***
Design #1

Company Name: Cypress Natural Resources
Longship Fed Com 3H
Eddy County, NM (NAD 83)
Rig:
Created by: Michael Hilliard
Date: 10:10, August 07 2024

CYPRESS NATURAL RESOURCES

KLX Directional Drilling

PROJECT DETAILS: Eddy County, NM (NAD 83)	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level

WELL DETAILS: Longship Fed Com 3H

3538.0

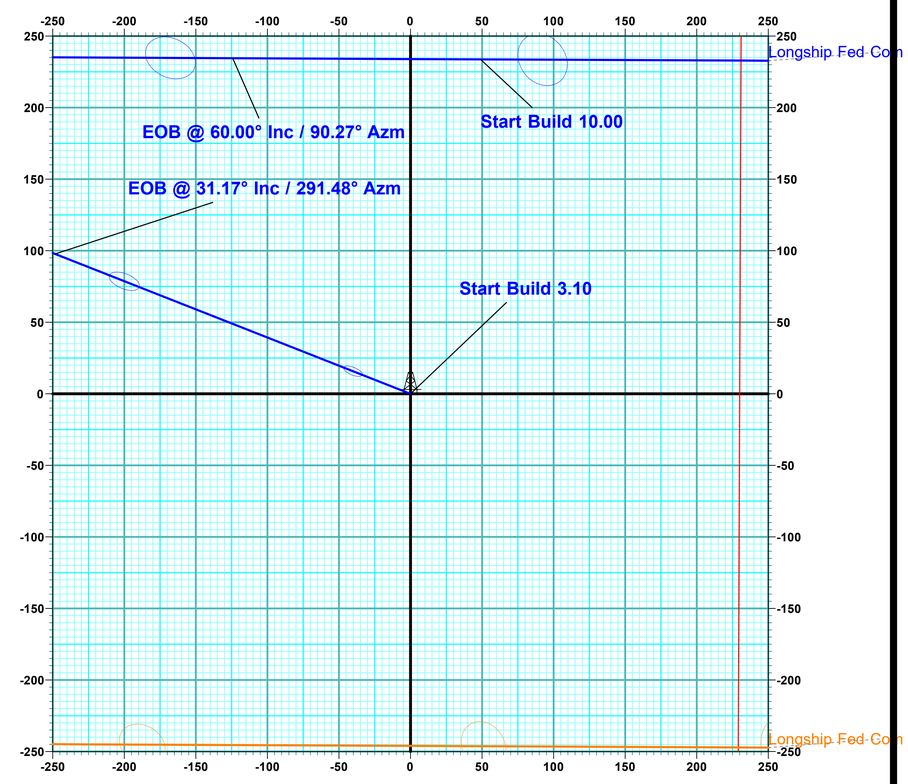
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	663038.80	564264.10	32.822699	-104.258700

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Longship Fed Com 3H - FTP prelim	0.0	232.4	331.0	663271.20	564595.10	32.823337	-104.257622
Longship Fed Com 3H - PBHL prelim	0.0	208.5	5394.1	663247.30	569658.20	32.823260	-104.241139
Longship Fed Com 3H - PP2 prelim	0.0	220.4	2862.7	663259.20	567126.80	32.823299	-104.249380

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
100.0	0.00	0.00	100.0	0.0	0.0	0.00	0.00	0.0	Start Build 3.10
1105.5	31.17	291.48	1056.6	97.7	-248.3	3.10	291.48	-248.7	EOB @ 31.17° Inc / 291.48° Azm
1323.8	31.17	291.48	1243.4	139.1	-353.4	0.00	0.00	-354.1	Start Drop -3.10
2329.2	0.00	0.00	2200.0	236.8	-601.7	3.10	180.00	-602.8	EOD @ Vertical
2351.0	0.00	0.00	2221.8	236.8	-601.7	0.00	0.00	-602.8	Start Build 6.00
3351.0	60.00	90.27	3048.8	234.5	-124.2	6.00	90.27	-125.3	EOB @ 60.00° Inc / 90.27° Azm
3551.0	60.00	90.27	3148.8	233.7	49.0	0.00	0.00	47.9	Start Build 10.00
3846.6	89.56	90.27	3225.5	232.4	331.0	10.00	0.00	329.9	EOC @ 89.56° Inc / 90.27° Azm / 3225.5' TVD
8909.9	89.56	90.27	3264.4	208.5	5394.1	0.00	0.00	5393.1	TD @ 8909.9' MD / 3264.4' TVD



Cypress Natural Resources

Eddy County, NM (NAD 83)
Sec 22, T17S, R27E
Longship Fed Com 3H

Wellbore #1

Plan: Design #1

KLX Well Planning Report

07 August, 2024

Well Planning Report

Database:	KLXDirectional-AD	**Local Co-ordinate Reference:**	Well Longship Fed Com 3H
Company:	Cypress Natural Resources	**TVD Reference:**	KB=15' @ 3553.0usft
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	KB=15' @ 3553.0usft
Site:	Sec 22, T17S, R27E	**North Reference:**	Grid
Well:	Longship Fed Com 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy County, NM (NAD 83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 22, T17S, R27E				
Site Position:		**Northing:**	662,493.70 usft	**Latitude:**	32.821201
From:	Map	**Easting:**	564,262.00 usft	**Longitude:**	-104.258708
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.04 °

Well	Longship Fed Com 3H				
Well Position	**+N/-S**	545.1 usft	**Northing:**	663,038.80 usft	**Latitude:**	32.822699
	+E/-W	2.1 usft	**Easting:**	564,264.10 usft	**Longitude:**	-104.258700
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,538.0 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM2024	8/1/2024	6.75	60.35	47,398.30000000

Design	Design #1			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.0	0.0	0.0	90.27

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,105.5	31.17	291.48	1,056.6	97.7	-248.3	3.10	3.10	0.00	291.48	
1,323.8	31.17	291.48	1,243.4	139.1	-353.4	0.00	0.00	0.00	0.00	
2,329.2	0.00	0.00	2,200.0	236.8	-601.7	3.10	-3.10	0.00	180.00	
2,351.0	0.00	0.00	2,221.8	236.8	-601.7	0.00	0.00	0.00	0.00	
3,351.0	60.00	90.27	3,048.8	234.5	-124.2	6.00	6.00	0.00	90.27	Longship Fed Com 3H
3,551.0	60.00	90.27	3,148.8	233.7	49.0	0.00	0.00	0.00	0.00	
3,846.6	89.56	90.27	3,225.5	232.4	331.0	10.00	10.00	0.00	0.00	Longship Fed Com 3H
8,909.9	89.56	90.27	3,264.4	208.5	5,394.1	0.00	0.00	0.00	0.00	Longship Fed Com 3H

Well Planning Report

Database:	KLXDirectional-AD	**Local Co-ordinate Reference:**	Well Longship Fed Com 3H
Company:	Cypress Natural Resources	**TVD Reference:**	KB=15' @ 3553.0usft
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	KB=15' @ 3553.0usft
Site:	Sec 22, T17S, R27E	**North Reference:**	Grid
Well:	Longship Fed Com 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.10									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	3.10	291.48	200.0	1.0	-2.5	-2.5	3.10	3.10	0.00
300.0	6.20	291.48	299.6	4.0	-10.1	-10.1	3.10	3.10	0.00
400.0	9.30	291.48	398.7	8.9	-22.6	-22.6	3.10	3.10	0.00
500.0	12.40	291.48	496.9	15.8	-40.1	-40.2	3.10	3.10	0.00
600.0	15.50	291.48	593.9	24.6	-62.6	-62.7	3.10	3.10	0.00
700.0	18.60	291.48	689.5	35.4	-89.8	-90.0	3.10	3.10	0.00
800.0	21.70	291.48	783.4	48.0	-121.9	-122.1	3.10	3.10	0.00
900.0	24.80	291.48	875.3	62.4	-158.6	-158.9	3.10	3.10	0.00
1,000.0	27.90	291.48	964.9	78.7	-199.9	-200.3	3.10	3.10	0.00
EOB @ 31.17° Inc / 291.48° Azm									
1,105.5	31.17	291.48	1,056.6	97.7	-248.3	-248.7	3.10	3.10	0.00
1,200.0	31.17	291.48	1,137.5	115.6	-293.8	-294.3	0.00	0.00	0.00
1,300.0	31.17	291.48	1,223.1	134.6	-342.0	-342.6	0.00	0.00	0.00
Start Drop -3.10									
1,323.8	31.17	291.48	1,243.4	139.1	-353.4	-354.1	0.00	0.00	0.00
1,400.0	28.81	291.48	1,309.4	153.0	-388.9	-389.6	3.10	-3.10	0.00
1,500.0	25.71	291.48	1,398.3	169.8	-431.5	-432.3	3.10	-3.10	0.00
1,600.0	22.61	291.48	1,489.5	184.8	-469.6	-470.4	3.10	-3.10	0.00
1,700.0	19.51	291.48	1,582.8	198.0	-503.0	-503.9	3.10	-3.10	0.00
1,800.0	16.41	291.48	1,678.0	209.2	-531.7	-532.6	3.10	-3.10	0.00
1,900.0	13.31	291.48	1,774.6	218.6	-555.5	-556.5	3.10	-3.10	0.00
2,000.0	10.21	291.48	1,872.5	226.1	-574.5	-575.5	3.10	-3.10	0.00
2,100.0	7.11	291.48	1,971.3	231.6	-588.5	-589.6	3.10	-3.10	0.00
2,200.0	4.01	291.48	2,070.9	235.1	-597.5	-598.6	3.10	-3.10	0.00
2,300.0	0.91	291.48	2,170.8	236.7	-601.5	-602.6	3.10	-3.10	0.00
EOD @ Vertical									
2,329.2	0.00	0.00	2,200.0	236.8	-601.7	-602.8	3.10	-3.10	0.00
Start Build 6.00									
2,351.0	0.00	0.00	2,221.8	236.8	-601.7	-602.8	0.00	0.00	0.00
2,400.0	2.94	90.27	2,270.7	236.8	-600.4	-601.6	6.00	6.00	0.00
2,450.0	5.94	90.27	2,320.6	236.8	-596.6	-597.7	6.00	6.00	0.00
2,500.0	8.94	90.27	2,370.1	236.7	-590.1	-591.2	6.00	6.00	0.00
2,550.0	11.94	90.27	2,419.3	236.7	-581.0	-582.2	6.00	6.00	0.00
2,600.0	14.94	90.27	2,467.9	236.6	-569.4	-570.5	6.00	6.00	0.00
2,650.0	17.94	90.27	2,515.9	236.6	-555.3	-556.4	6.00	6.00	0.00
2,700.0	20.94	90.27	2,563.0	236.5	-538.6	-539.8	6.00	6.00	0.00
2,750.0	23.94	90.27	2,609.2	236.4	-519.6	-520.7	6.00	6.00	0.00
2,800.0	26.94	90.27	2,654.4	236.3	-498.1	-499.2	6.00	6.00	0.00
2,850.0	29.94	90.27	2,698.4	236.2	-474.3	-475.4	6.00	6.00	0.00
2,900.0	32.94	90.27	2,741.0	236.1	-448.2	-449.3	6.00	6.00	0.00
2,950.0	35.94	90.27	2,782.2	235.9	-419.9	-421.0	6.00	6.00	0.00
3,000.0	38.94	90.27	2,821.9	235.8	-389.6	-390.7	6.00	6.00	0.00
3,050.0	41.94	90.27	2,860.0	235.6	-357.1	-358.2	6.00	6.00	0.00
3,100.0	44.94	90.27	2,896.3	235.5	-322.8	-323.9	6.00	6.00	0.00
3,150.0	47.94	90.27	2,930.7	235.3	-286.5	-287.6	6.00	6.00	0.00
3,200.0	50.94	90.27	2,963.3	235.1	-248.5	-249.6	6.00	6.00	0.00
3,250.0	53.94	90.27	2,993.7	234.9	-208.9	-210.0	6.00	6.00	0.00
3,300.0	56.94	90.27	3,022.1	234.8	-167.7	-168.8	6.00	6.00	0.00
EOB @ 60.00° Inc / 90.27° Azm									
3,351.0	60.00	90.27	3,048.8	234.5	-124.2	-125.3	6.00	6.00	0.00

Well Planning Report

Database:	KLXDirectional-AD	**Local Co-ordinate Reference:**	Well Longship Fed Com 3H
Company:	Cypress Natural Resources	**TVD Reference:**	KB=15' @ 3553.0usft
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	KB=15' @ 3553.0usft
Site:	Sec 22, T17S, R27E	**North Reference:**	Grid
Well:	Longship Fed Com 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,400.0	60.00	90.27	3,073.3	234.3	-81.8	-82.9	0.00	0.00	0.00
3,500.0	60.00	90.27	3,123.3	233.9	4.8	3.7	0.00	0.00	0.00
Start Build 10.00									
3,551.0	60.00	90.27	3,148.8	233.7	49.0	47.9	0.00	0.00	0.00
3,600.0	64.90	90.27	3,171.4	233.5	92.4	91.2	10.00	10.00	0.00
3,650.0	69.90	90.27	3,190.6	233.3	138.5	137.4	10.00	10.00	0.00
3,700.0	74.90	90.27	3,205.8	233.1	186.1	185.0	10.00	10.00	0.00
3,750.0	79.90	90.27	3,216.7	232.9	234.9	233.8	10.00	10.00	0.00
3,800.0	84.90	90.27	3,223.3	232.6	284.5	283.4	10.00	10.00	0.00
EOC @ 89.56° Inc / 90.27° Azm / 3225.5' TVD									
3,846.6	89.56	90.27	3,225.5	232.4	331.0	329.9	10.00	10.00	0.00
3,900.0	89.56	90.27	3,225.9	232.1	384.4	383.3	0.00	0.00	0.00
4,000.0	89.56	90.27	3,226.7	231.7	484.4	483.3	0.00	0.00	0.00
4,100.0	89.56	90.27	3,227.5	231.2	584.4	583.3	0.00	0.00	0.00
4,200.0	89.56	90.27	3,228.3	230.7	684.4	683.3	0.00	0.00	0.00
4,300.0	89.56	90.27	3,229.0	230.3	784.4	783.3	0.00	0.00	0.00
4,400.0	89.56	90.27	3,229.8	229.8	884.4	883.3	0.00	0.00	0.00
4,500.0	89.56	90.27	3,230.6	229.3	984.4	983.3	0.00	0.00	0.00
4,600.0	89.56	90.27	3,231.3	228.8	1,084.4	1,083.3	0.00	0.00	0.00
4,700.0	89.56	90.27	3,232.1	228.4	1,184.4	1,183.3	0.00	0.00	0.00
4,800.0	89.56	90.27	3,232.9	227.9	1,284.4	1,283.3	0.00	0.00	0.00
4,900.0	89.56	90.27	3,233.6	227.4	1,384.3	1,383.3	0.00	0.00	0.00
5,000.0	89.56	90.27	3,234.4	227.0	1,484.3	1,483.3	0.00	0.00	0.00
5,100.0	89.56	90.27	3,235.2	226.5	1,584.3	1,583.3	0.00	0.00	0.00
5,200.0	89.56	90.27	3,235.9	226.0	1,684.3	1,683.3	0.00	0.00	0.00
5,300.0	89.56	90.27	3,236.7	225.5	1,784.3	1,783.2	0.00	0.00	0.00
5,400.0	89.56	90.27	3,237.5	225.1	1,884.3	1,883.2	0.00	0.00	0.00
5,500.0	89.56	90.27	3,238.2	224.6	1,984.3	1,983.2	0.00	0.00	0.00
5,600.0	89.56	90.27	3,239.0	224.1	2,084.3	2,083.2	0.00	0.00	0.00
5,700.0	89.56	90.27	3,239.8	223.7	2,184.3	2,183.2	0.00	0.00	0.00
5,800.0	89.56	90.27	3,240.5	223.2	2,284.3	2,283.2	0.00	0.00	0.00
5,900.0	89.56	90.27	3,241.3	222.7	2,384.3	2,383.2	0.00	0.00	0.00
6,000.0	89.56	90.27	3,242.1	222.2	2,484.3	2,483.2	0.00	0.00	0.00
6,100.0	89.56	90.27	3,242.8	221.8	2,584.3	2,583.2	0.00	0.00	0.00
6,200.0	89.56	90.27	3,243.6	221.3	2,684.3	2,683.2	0.00	0.00	0.00
6,300.0	89.56	90.27	3,244.4	220.8	2,784.3	2,783.2	0.00	0.00	0.00
6,400.0	89.56	90.27	3,245.1	220.3	2,884.3	2,883.2	0.00	0.00	0.00
6,500.0	89.56	90.27	3,245.9	219.9	2,984.3	2,983.2	0.00	0.00	0.00
6,600.0	89.56	90.27	3,246.7	219.4	3,084.3	3,083.2	0.00	0.00	0.00
6,700.0	89.56	90.27	3,247.5	218.9	3,184.3	3,183.2	0.00	0.00	0.00
6,800.0	89.56	90.27	3,248.2	218.5	3,284.3	3,283.2	0.00	0.00	0.00
6,900.0	89.56	90.27	3,249.0	218.0	3,384.3	3,383.2	0.00	0.00	0.00
7,000.0	89.56	90.27	3,249.8	217.5	3,484.3	3,483.2	0.00	0.00	0.00
7,100.0	89.56	90.27	3,250.5	217.0	3,584.3	3,583.2	0.00	0.00	0.00
7,200.0	89.56	90.27	3,251.3	216.6	3,684.3	3,683.2	0.00	0.00	0.00
7,300.0	89.56	90.27	3,252.1	216.1	3,784.3	3,783.2	0.00	0.00	0.00
7,400.0	89.56	90.27	3,252.8	215.6	3,884.2	3,883.2	0.00	0.00	0.00
7,500.0	89.56	90.27	3,253.6	215.2	3,984.2	3,983.2	0.00	0.00	0.00
7,600.0	89.56	90.27	3,254.4	214.7	4,084.2	4,083.2	0.00	0.00	0.00
7,700.0	89.56	90.27	3,255.1	214.2	4,184.2	4,183.2	0.00	0.00	0.00
7,800.0	89.56	90.27	3,255.9	213.7	4,284.2	4,283.2	0.00	0.00	0.00
7,900.0	89.56	90.27	3,256.7	213.3	4,384.2	4,383.2	0.00	0.00	0.00
8,000.0	89.56	90.27	3,257.4	212.8	4,484.2	4,483.2	0.00	0.00	0.00
8,100.0	89.56	90.27	3,258.2	212.3	4,584.2	4,583.2	0.00	0.00	0.00

Well Planning Report

Database:	KLXDirectional-AD	**Local Co-ordinate Reference:**	Well Longship Fed Com 3H
Company:	Cypress Natural Resources	**TVD Reference:**	KB=15' @ 3553.0usft
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	KB=15' @ 3553.0usft
Site:	Sec 22, T17S, R27E	**North Reference:**	Grid
Well:	Longship Fed Com 3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,200.0	89.56	90.27	3,259.0	211.9	4,684.2	4,683.2	0.00	0.00	0.00
8,300.0	89.56	90.27	3,259.7	211.4	4,784.2	4,783.2	0.00	0.00	0.00
8,400.0	89.56	90.27	3,260.5	210.9	4,884.2	4,883.2	0.00	0.00	0.00
8,500.0	89.56	90.27	3,261.3	210.4	4,984.2	4,983.2	0.00	0.00	0.00
8,600.0	89.56	90.27	3,262.0	210.0	5,084.2	5,083.2	0.00	0.00	0.00
8,700.0	89.56	90.27	3,262.8	209.5	5,184.2	5,183.1	0.00	0.00	0.00
8,800.0	89.56	90.27	3,263.6	209.0	5,284.2	5,283.1	0.00	0.00	0.00
TD @ 8909.9' MD / 3264.4' TVD									
8,909.9	89.56	90.27	3,264.4	208.5	5,394.1	5,393.1	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Longship Fed Com 3H -	0.00	0.00	0.0	220.4	2,862.7	663,259.20	567,126.80	32.823299	-104.249380
- plan misses target center by 2871.2usft at 0.0usft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Point									
Longship Fed Com 3H -	0.00	0.00	0.0	232.4	331.0	663,271.20	564,595.10	32.823337	-104.257622
- plan misses target center by 404.4usft at 0.0usft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Point									
Longship Fed Com 3H -	0.00	0.00	0.0	208.5	5,394.1	663,247.30	569,658.20	32.823261	-104.241140
- plan misses target center by 3264.3usft at 8884.8usft MD (3264.2 TVD, 208.6 N, 5369.0 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
100.0	100.0	0.0	0.0	Start Build 3.10
1,105.5	1,056.6	97.7	-248.3	EOB @ 31.17° Inc / 291.48° Azm
1,323.8	1,243.4	139.1	-353.4	Start Drop -3.10
2,329.2	2,200.0	236.8	-601.7	EOD @ Vertical
2,351.0	2,221.8	236.8	-601.7	Start Build 6.00
3,351.0	3,048.8	234.5	-124.2	EOB @ 60.00° Inc / 90.27° Azm
3,551.0	3,148.8	233.7	49.0	Start Build 10.00
3,846.6	3,225.5	232.4	331.0	EOC @ 89.56° Inc / 90.27° Azm / 3225.5' TVD
8,909.9	3,264.4	208.5	5,394.1	TD @ 8909.9' MD / 3264.4' TVD

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mr NM Operating LLC
WELL NAME & NO.:	Longship Fed Com 1H-5H
LOCATION:	Sec 22-17S-27E-NMP
COUNTY:	Eddy County, New Mexico

Create COAs

H_2S	Cave / Karst	Waste Prevention Rule
Present	High	Waste Minimization Plan
Potash	**R-111-Q Design**	
None		
Wellhead: Conv. & MB	**Casing**: 3-String Well	☐ Liner ☐ Fluid Filled ☐ Casing Clearance
☑ Flex Hose ☐ Break Testing	**Cementing**	☐ DV Tool ☐ Bradenhead ☐ Echometer ☐ Offline Cement ☐ Open Annulus ☐ Pilot Hole
Special Requirements	☑ Capitan Reef ☐ Water Disposal ☑ COM ☐ Unit	

Operator has elected to have two casing designs. *The primary design is the two string design with the conventional wellhead. The contingency design is the three string design with Multibowl wellhead.*

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H_2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Yates** formation(s). As a result, the Hydrogen Sulfide area must meet all requirements from 43 CFR 3176, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. PRIMARY CASING

1. The **9-5/8** inch surface casing shall be set at approximately **1400** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. **Set depth adjusted per BLM geologist.**
    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified

and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater (including lead cement.)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7** inch production casing with **5-1/2** inch taper is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.
    - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.

C. CONTINGENCY CASING

1. The **13-3/8** inch surface casing shall be set at approximately **350** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. **Set depth adjusted per BLM geologist.**
    e. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    f. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater (including lead cement.)
    g. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    h. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing (set at **1750'** per BLM geologist) is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.
    - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.
3. The minimum required fill of cement behind the **7** inch production casing with **5-1/2** inch taper is at least **200 feet** into previous casing string. Operator shall provide method of verification.
    - If cement does not circulate to surface on the previous casing, this string must come to surface.
    - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.

D. PRESSURE CONTROL

1. **FOR THE PRIMARY DESIGN:** Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.
3. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

E. SPECIAL REQUIREMENT(S)

Communitization Agreement:

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or

if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible

hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
    i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
    ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
    iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve

open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

v. The results of the test shall be reported to the appropriate BLM office.

vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

MR NM Operating, LLC

Hydrogen Sulfide Plan Summary

A. All personnel shall receive proper H2S training an accordance with Onshore Order III.C.3.a

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible by location personnel.

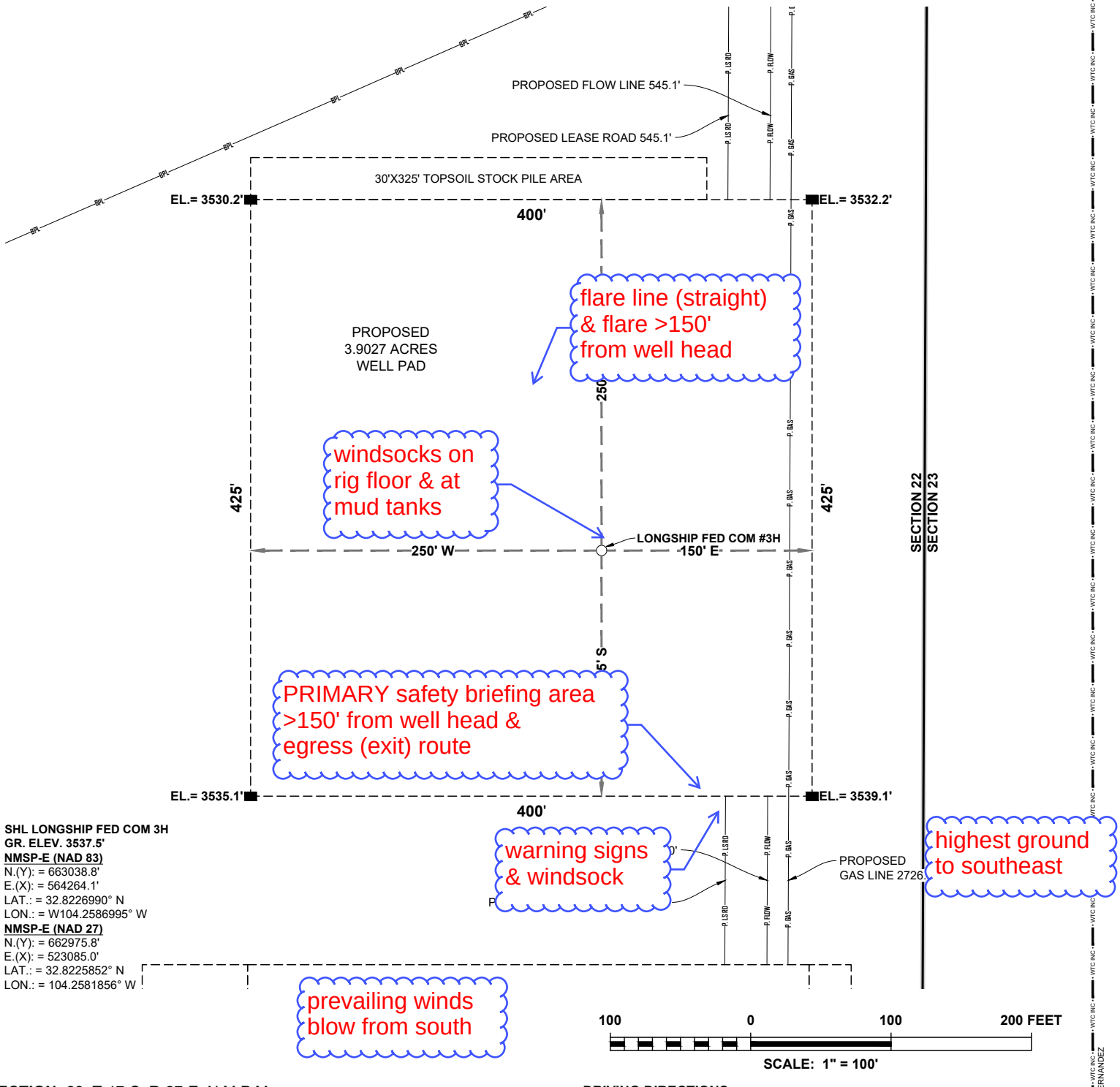
C. Required Emergency Equipment:

- Well Control Equipment
  - Flare line 150' from wellhead to be ignited by flare gun or remote igniter
  - Choke manifold with a remotely operated choke
  - Mud/Gas Separator
- Protective Equipment for Essential Personnel
  - Breathing Apparatus:
    - Rescue Packs (SCBA) – 1 unit shall be placed at each breathing area, 2 shall be stored in a safety trailer.
    - Work/Escape Packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity
    - Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation
  - Auxiliary Rescue Equipment
    - Stretcher
    - Two OSHA full body harnesses
    - 100' of 5/8" OSHA approved rope
    - 1 – 20# Class ABC fire extinguisher
- H2S Detection and Monitoring Equipment
  - The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell Nipple / End of flowline or where wellbore fluid is being discharged
- Visual Warning Systems

- One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site
- A colored condition flag will be on display, reflecting the current condition at the site at the time
- Two wind socks will be placed in strategic locations, visible from all angles

- Mud Program
  - The mud program will be designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones
- Metallurgy
  - All drill strings, casings, tubing, wellhead, blowout preventer, drilling spools, kill lines, choke manifolds, and valves shall be suitable for H2S service
- Communication
  - Communication will be via cell phones and land lines where available

SITE LOCATION



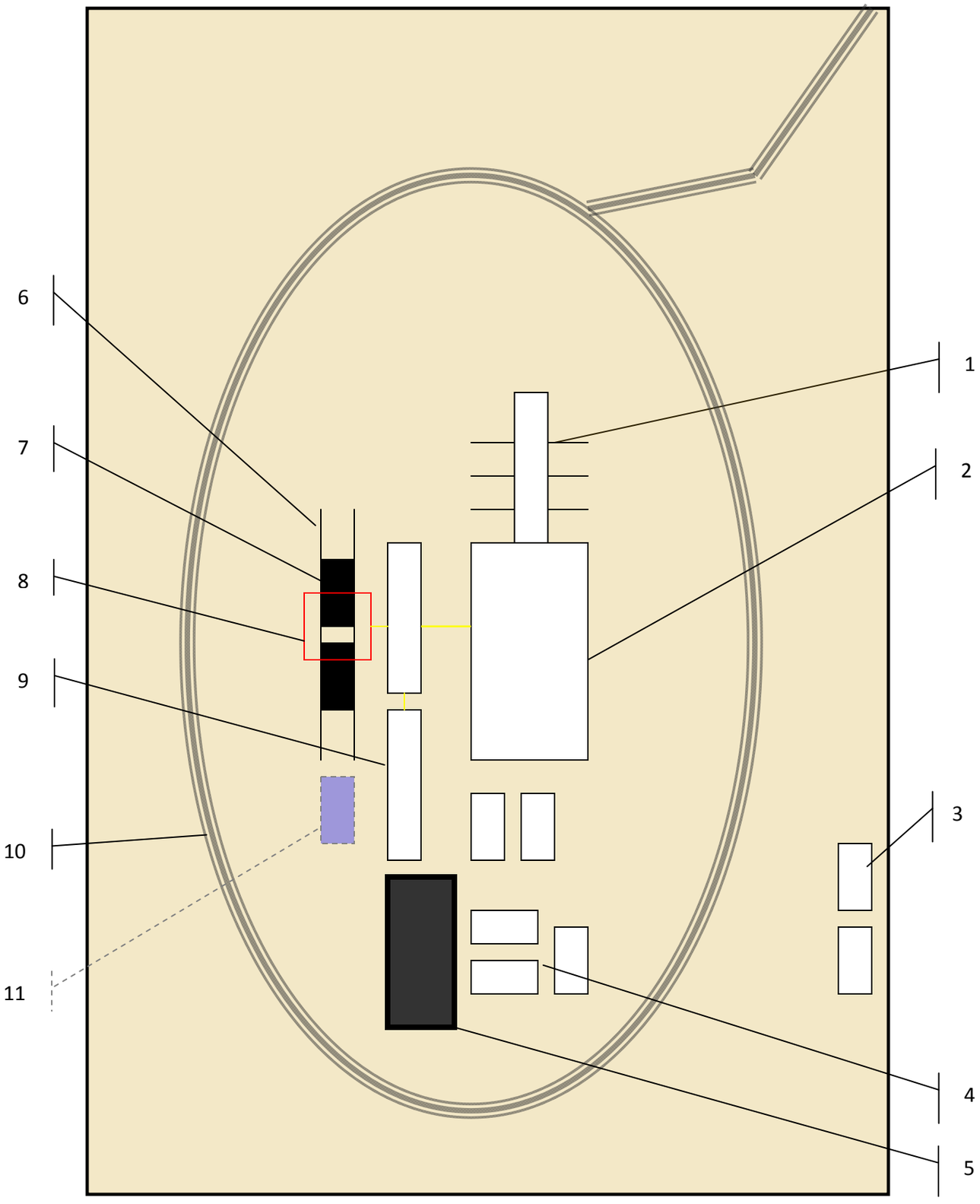
SHL LONGSHIP FED COM 3H
GR. ELEV. 3537.5'
NMSP-E (NAD 83)
N.(Y): = 663038.8'
E.(X): = 564264.1'
LAT.: = 32.8226990° N
LON.: = W104.2586995° W
NMSP-E (NAD 27)
N.(Y): = 662975.8'
E.(X): = 523085.0'
LAT.: = 32.8225852° N
LON.: = 104.2581856° W

SECTION: 22, T-17-S, R-27-E, N.M.P.M.
COUNTY: EDDY **STATE:** NEW MEXICO
DESCRIPTION: 1540' FNL & 230'' FEL
OPERATOR: MR NM OPERATING LLC
WELL NAME: LONGSHIP FED COM #3H
WELL PAD: LONGSHIP FED COM 3H

DRIVING DIRECTIONS:
BEGINNING AT THE INTERSECTION OF U.S. HIGHWAY 82 AND U.S. HIGHWAY 285, HEAD EAST ON U.S. HIGHWAY 82 ±9.4 MILES TO CRANE ROAD ON THE LEFT. TURN LEFT AND HEAD NORTH ±0.6 MILES TO A LEASE ROAD ON THE LEFT. TURN LEFT AND HEAD NORTHWEST ±0.6 MILES TO LEASE ROAD ON THE RIGHT. TURN RIGHT AND HEAD WEST ±0.4 MILES TO A PROPOSED STAKED LEASE ROAD. THE FLAGGED LOCATION PAD SITE IS ±1325 FEET WEST FROM THE EXISTING LEASE ROAD.

WTC ENGINEERS | SURVEYORS
W T C, INC.
405 S.W. 1st Street
Andrews, TX 79714
(432) 523-2181

MR NM OPERATING LLC
JOB NO.: WTC56496



Schematic Closed Loop Drilling Rig*

1. **Pipe Rack**
2. **Drill Rig**
3. **House Trailers/ Offices**
4. **Generator/Fuel/Storage**
5. **Overflow-Frac Tank**
6. **Skids**
7. **Roll Offs**
8. **Hopper or Centrifuge**
9. **Mud Tanks**
10. **Loop Drive**
11. **Generator (only for use with centrifuge)**

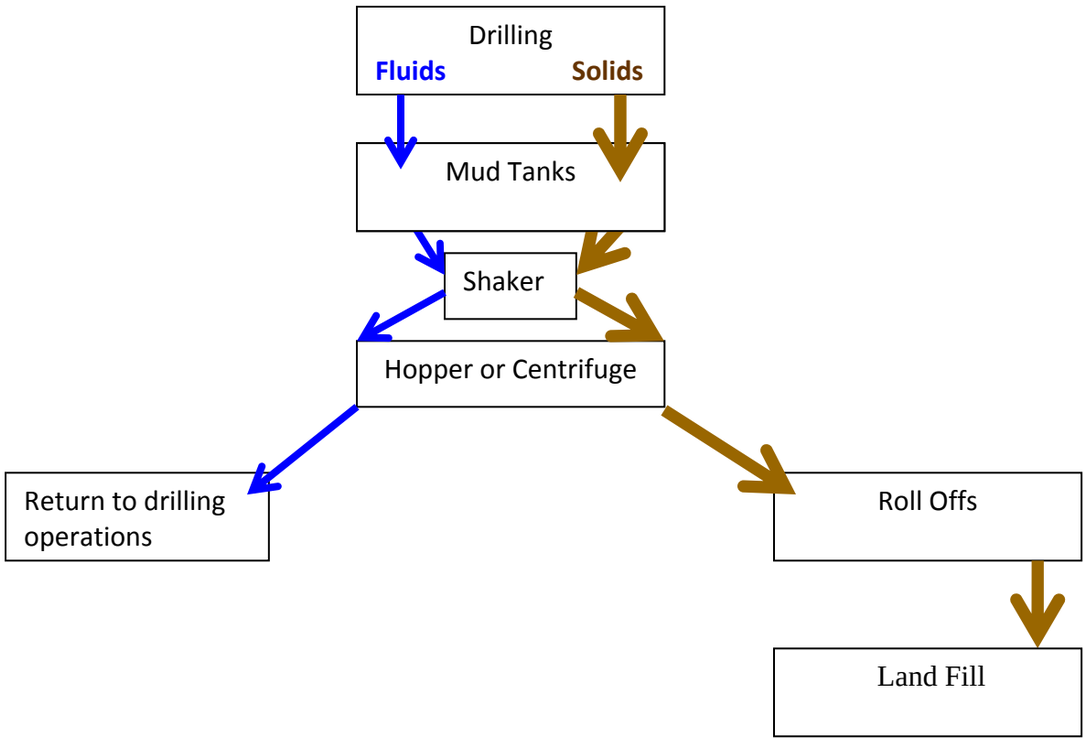
***Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available**

Above: Centrifugal Closed Loop System

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

Closed Loop Drilling System: Mud tanks to right (1)
Hopper in air to settle out solids (2)
Water return pipe (3)
Shaker between hopper and mud tanks (4)
Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator:	OGRID:
MR NM Operating LLC 5950 Berkshire Lane Dallas, TX 75225	330506
	Action Number: 460685
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
bwood	Cement is required to circulate on both surface and intermediate1 strings of casing.	5/10/2025
bwood	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	5/10/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	6/16/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	6/16/2025
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.	6/16/2025
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.	6/16/2025