Form 3160-3
(October 2024)

FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM102037

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.: PETTY 31CD FED COM 003H

2. Name of Operator: LONGFELLOW ENERGY LP

9. API Well No.: 30-015-58413

3a. Address: 8115 PRESTON ROAD SUITE 800, DALLAS, TX 75225

3b. Phone No. *(include area code)*: (972) 590-9900

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

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

At surface: NWSW / 1677 FSL / 411 FWL / LAT 32.8753965 / LONG -103.8991937

At proposed prod. zone: LOT 3 / 2159 FSL / 20 FWL / LAT 32.8766817 / LONG -103.9166975

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 32/T16S/R31E/NMP

14. Distance in miles and direction from nearest town or post office*: 6 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): 411 feet

16. No of acres in lease: 120

17. Spacing Unit dedicated to this well: 302.07

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 20 feet

19. Proposed Depth: 5814 feet / 11324 feet

20. BLM/BIA Bond No. in file: FED: NMB001490

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3856 feet

22. Approximate date work will start*: 03/16/2026

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)	CORY WALK / Ph: (972) 590-9900	05/06/2025

Title: Permitting Agent

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	04/08/2026

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: 04/08/2026

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type: ☑ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-58413	96831	CEDAR LAKE; GLORIETA-YESO

Property Code	Property Name	Well Number
339059	PETTY 31CD FED COM	003H

OGRID No.	Operator Name	Ground Level Elevation
372210	LONGFELLOW ENERGY, LP	3856.1

Surface Owner: ☑State ☐Fee ☐Tribal ☐Federal

Mineral Owner: ☑State ☐Fee ☐Tribal ☑Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	32	16 S	31 E		1677 SOUTH	411 WEST	32.8753965°N	103.8991937°W	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	31	16 S	31 E	3	2159 SOUTH	20 WEST	32.8766817°N	103.9166975°W	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
302.07	INFILL	006H		C

Order Numbers.

Well setbacks are under Common Ownership: ☐Yes ☐No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	32	16 S	31 E		1677 SOUTH	411 WEST	32.8753965°N	103.8991937°W	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	31	16 S	31 E		2159 SOUTH	100 EAST	32.8767182°N	103.9008597°W	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	31	16 S	31 E	3	2159 SOUTH	100 WEST	32.8766823°N	103.9164370°W	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☑Horizontal ☐Vertical	Ground Floor Elevation:

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best ofmy 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 run leased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order here to fore 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.

1-3-26

Signature Date

BRIAN WOOD

Printed Name

brian@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.

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor

FILIMON F. JARAMILLO

CertificateNumber	Dateof Survey
PLS 12797	APRIL 2, 2025

SURVEY NO. 10368A

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.

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.

PETTY 31CD FED COM 003H

EL. = 3856.1

GEODETIC COORDINATES
NAD 83 NMSP EAST

SURFACE LOCATION
1677' FSL, 411' FWL
N.=682477.04
E.=674621.82
LAT.=32.8753965°N
LONG.=103.8991937°W

KICK OFF POINT
1677' FSL, 411' FWL
N.=682477.04
E.=674621.82
LAT.=32.8753965°N
LONG.=103.8991937°W

FIRST TAKE POINT
2159' FSL, 100' FEL
N.=682955.80
E.=674108.37
LAT.=32.8767182°N
LONG.=103.9008597°W

LAST TAKE POINT
2159' FSL, 100' FWL
N.=682923.48
E.=669326.10
LAT.=32.8766823°N
LONG.=103.9164370°W

BOTTOM OF HOLE
2159' FSL, 20' FWL
N.=682922.95
E.=669246.12
LAT.=32.8766817°N
LONG.=103.9166975°W

PPP2
2159' FSL, 1321' FEL
N.=682947.56
E.=672887.33
LAT.=32.8767092°N
LONG.=103.9048370°W

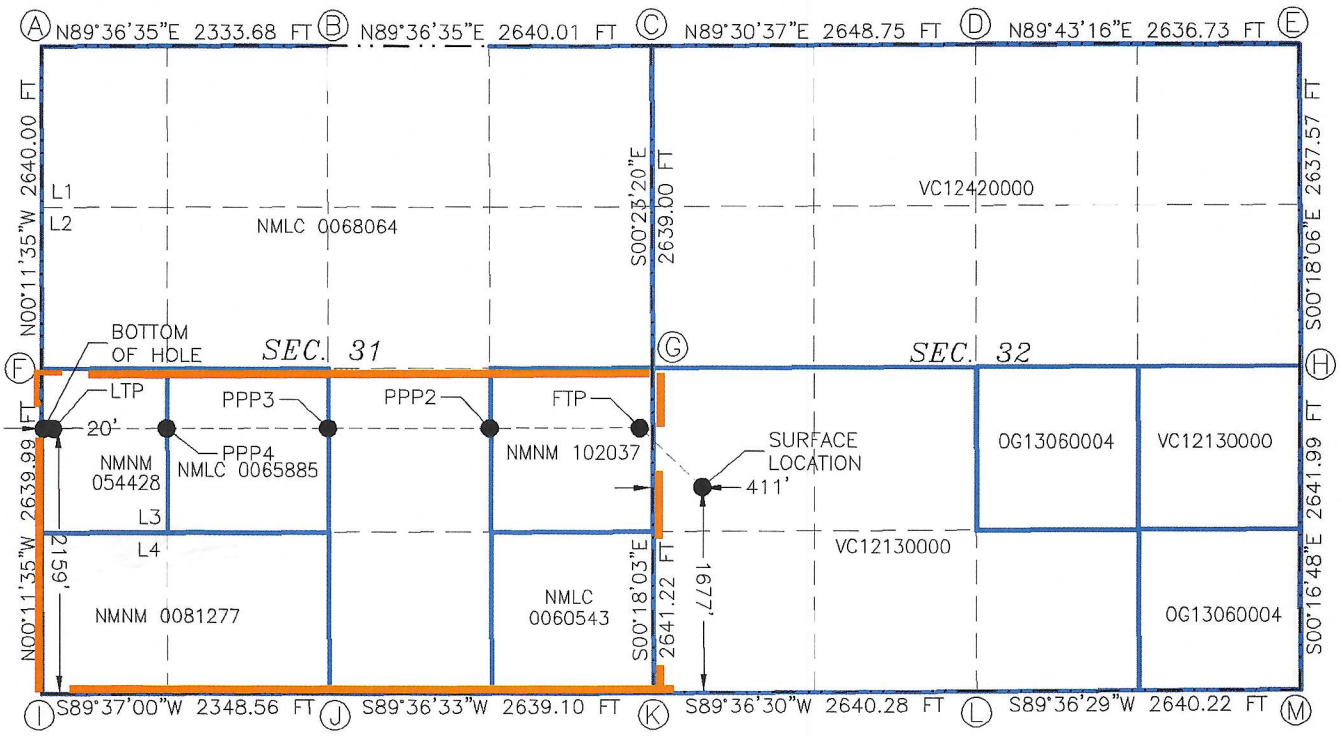
PPP3
2159' FSL, 2641' FEL
N.=682938.64
E.=671567.95
LAT.=32.8766994°N
LONG.=103.9091346°W

PPP4
2159' FSL, 1027' FWL
N.=682929.75
E.=670252.35
LAT.=32.8766894°N
LONG.=103.9134200°W

CORNER COORDINATES TABLE
NAD 83 NMSP EAST

A	N.=686042.98	E.=669215.61
B	N.=686058.88	E.=671548.64
C	N.=686076.85	E.=674187.91
D	N.=686099.49	E.=676835.89
E	N.=686112.32	E.=679471.91
F	N.=683403.67	E.=669224.51
G	N.=683438.58	E.=674205.82
H	N.=683475.46	E.=679485.80
I	N.=680764.37	E.=669233.40
J	N.=680780.07	E.=671581.31
K	N.=680798.07	E.=674219.68
L	N.=680816.12	E.=676859.22
M	N.=680834.18	E.=679498.71

LEGEND
- SECTION LINE
- QUARTER LINE
- LEASE LINE
- WELL PATH



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: Longfellow Energy, LP **OGRID:** 372210 **Date:** 1-3-26

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
Petty 31CD Fed Com 001H	30-015-	L-32-16S-31E	1717 FSL & 411 FWL	50	150	150
Petty 31CD Fed Com 002H	30-015-	L-32-16S-31E	1697 FSL & 411 FWL	50	150	150
Petty 31CD Fed Com 003H	30-015-	L-32-16S-31E	1677 FSL & 411 FWL	50	150	150
Petty 31CD Fed Com 004H	30-015-	L-32-16S-31E	1657 FSL & 411 FWL	50	150	150
Petty 31CD Fed Com 005H	30-015-	L-32-16S-31E	1637 FSL & 411 FWL	50	150	150

IV. Central Delivery Point Name: Kinetik Gas Gathering, LLC (333008) in J-5-17s-31e) [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
Petty 31CD Fed Com 001H	30-015-	3-1-26	3-10-26	5-15-26	7-1-26	7-15-26
Petty 31CD Fed Com 002H	30-015-	3-11-26	3-22-26	7-2-26	8-15-26	8-31-26
Petty 31CD Fed Com 003H	30-015-	3-23-26	4-3-26	8-16-26	10-1-26	10-15-26
Petty 31CD Fed Com 004H	30-015-	4-4-26	4-14-26	10-2-26	11-15-26	12-1-26
Petty 31CD Fed Com 005H	30-015-	4-15-26	4-25-26	11-16-26	1-2-27	1-15-27

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 M ɪ 25 , 2P 1

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: Brian Wood
Title: Consultant
E-mail Address: brian@permitswest.com
Date: 1-3-26
Phone: 505 466-8120

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

LONGFELLOW ENERGY, LP

Attachment VI. Separation Equipment:

Longfellow Energy (LFE) production facilities include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the completion project. LFE will utilize flowback separation equipment and production separation equipment designed and built to industry specifications after the completion to optimize gas capture and send gas to sales or flare based on analytical composition. LFE operates facilities that are typically multi-well facilities. Production separation equipment is upgraded or installed before new wells are completed. This equipment is on-site and tied into sales gas lines prior to flowback.

Attachment VII. Operational Practices:

19.15.27.8 Subsection A: Venting and Flaring of Natural Gas

Longfellow Energy (LFE) understands the requirements of NMAC 19.15.27.8 which states that the venting and flaring of natural gas during drilling, completion, or production operations that constitutes waste as defined in 19.15.2 are prohibited.

19.15.27.8 Subsection B: Venting and flaring during drilling operations

1. LFE shall capture or combust natural gas if technically feasible using best industry practices
2. A properly-sized flare stack shall be located at a minimum of 100 feet from the nearest surface hole location unless otherwise approved by the division.
3. In an emergency or malfunction, LFE may vent natural gas to avoid a risk of an immediate and substantial adverse impact on safety, public health, or the environment. LFE will report natural gas vented or flared during an emergency or malfunction to the NMOCD.

19.15.27.8 Subsection C: Venting and flaring during completion or recompletion operations

1. During initial flowback, LFE shall route flowback fluids into a completion or storage tank and, if technically feasible under the applicable well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function
2. During separation flowback, LFE shall capture and route natural gas from the separation equipment:
    a. to a gas flowline or collection system, reinject into the well, or use on-site as a fuel source or other purpose that a purchased fuel or raw material would serve; or
    b. to a flare if routing the natural gas to a gas flowline or collection system, reinjecting it into the well, or using it on-site as a fuel source or other purpose that a purchased fuel or raw material would serve would pose a risk to safe operation or personnel safety.
3. If natural gas does not meet gathering pipeline quality specifications, LFE may flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner, provided that:

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19.15.27.8 Subsection D: Venting and flaring during production operations

LFE shall not vent or flare natural gas except:

1. during an emergency or malfunction;
2. to unload or clean-up liquid holdup in a well to atmospheric pressure, provided
    a. LFE does not vent after the well achieves a stabilized rate and pressure;
    b. for liquids unloading by manual purging, LFE remains present on-site until the end of unloading or posts at the well site the contact information of the personnel conducting the liquids unloading operation and ensures that personnel remains within 30 minutes' drive time of the well being unloaded until the end of unloading, takes all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time and takes reasonable actions to minimize venting to the maximum extent practicable;
    c. during downhole well maintenance, only when LFE uses a workover rig, swabbing rig, coiled tubing unit or similar specialty equipment and minimizes the venting of natural gas to the extent that it does not pose a risk to safe operations and personnel safety
3. during the following activities unless prohibited by applicable state or federal law, rule, or regulation for the emission of hydrocarbons and volatile organic compounds:
    a. gauging or sampling a storage tank or other low-pressure production vessel;
    b. loading out liquids from a storage tank or other low-pressure production vessel to a transport vehicle;
    c. repair and maintenance, including blowing down and depressurizing production equipment to perform repair and maintenance;
    d. normal operation of a gas-activated pneumatic controller or pump;
    e. normal operation of a storage tank or other low-pressure production vessel, but not including venting from a thief hatch that is not properly closed or maintained
    f. normal operations of valves, flanges and connectors that is not the result of inadequate equipment design or maintenance;
    g. a packer leakage test;
    h. a production test lasting less than 24 hours unless the division requires or approves a longer test period;
    i. when natural gas does not meet the gathering pipeline specifications, provided LFE analyzes natural gas samples twice per week to determine whether the specifications have been achieved, routes the natural gas into a gathering pipeline as soon as the pipeline specifications are met and provides the pipeline specifications and natural gas analyses to the division upon request; or
    j. Commissioning of pipelines, equipment, or facilities only for as long as necessary to purge introduced impurities from the pipeline or equipment.

19.15.27.8 Subsection E: Performance Standards

1. LFE designed completion and production separation equipment and storage tanks for maximum anticipated throughput and pressure to minimize waste.
2. LFE permanent storage tanks associated with production operations that is routed to a flare or control device are equipped with automatic gauging system that reduces the venting of natural gas.
3. LFE shall combust natural gas in a flare stack that is properly sized and designed to ensure proper combustion efficiency.
    a. The flare stack shall be equipped with an automatic ignitor or continuous pilot.

4. The flare stack shall be securely anchored and located at least 100 feet from the well and storage tanks unless otherwise approved by the division.
5. LFE shall conduct an AVO inspection weekly to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
    a. During an AVO inspection the LFE shall inspect all components, including flare stacks, thief hatches, closed vent systems, pumps, compressors, pressure relief devices, valves, lines, flanges, connectors, and associated piping to identify defects, leaks, and releases by:
        i. a comprehensive external visual inspection;
        ii. listening for pressure and liquid leaks; and
        iii. smelling for unusual and strong odors.
    b. LFE shall make and keep a record of an AVO inspection for not less than five years and make such record available for inspection by the division upon request.
6. facilities shall be designed to minimize waste;
7. LFE has an obligation to minimize waste and shall resolve emergencies as quickly and safely as is feasible.

19.15.27.8 Subsection F: Measurement or estimation of vented and flared natural gas

1. LFE shall measure or estimate the volume of natural gas that it vents, flares, or beneficially uses during drilling, completion, and production operations regardless of the reason or authorization for such venting or flaring.
2. LFE shall install equipment to measure the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by the APD

Attachment VIII. Best Management Practices:

Longfellow Energy (LFE) utilizes the following best management practices to minimize venting during active and planned maintenance

1. LFE has a closed vent capture system to route emissions from the heater treater, tanks and vapor to the VRU with a flare for backup. The system is designed such that if the VRU is taken out of service for any reason, the vapors will be routed to the flare for combustion.
2. LFE will isolate and attempt to route all vapors to the VRU or flare prior to opening any lines for maintenance to minimize venting from the equipment when technically feasible
3. LFE will shut in wells in the event of a takeaway disruption, emergency situations, or other operations where venting or flaring may occur due to equipment failures.
4. Lease operators will be visiting the location daily to check and maintain all equipment ensuring all scrubbers, flame arrestors, and the flare ignitor is functioning properly.

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

Drilling Plan Data Report
04/09/2026

APD ID: 10400104339
Submission Date: 05/06/2025

Operator Name: LONGFELLOW ENERGY LP

Well Name: PETTY 31CD 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
17818388	QUATERNARY	3856	0	0	OTHER : Caliche	USEABLE WATER	N
17818389	RUSTLER ANHYDRITE	3478	378	378	ANHYDRITE	NONE	N
17818399	TOP SALT	3253	603	603	SALT	NONE	N
17818391	BASE OF SALT	2253	1603	1603	SALT	NONE	N
17818392	YATES	2173	1683	1683	SANDSTONE	NATURAL GAS, OIL	N
17818393	SEVEN RIVERS	1903	1953	1955	GYPSUM	NATURAL GAS, OIL	N
17818394	QUEEN	1374	2482	2494	SANDSTONE	NATURAL GAS, OIL	N
17818395	GRAYBURG	978	2878	2897	DOLOMITE	NATURAL GAS, OIL	N
17818386	SAN ANDRES	655	3201	3226	DOLOMITE	NATURAL GAS, OIL	N
17818387	GLORIETA	-781	4637	4690	DOLOMITE	NATURAL GAS, OIL	N
17818396	PADDOCK	-813	4669	4722	DOLOMITE, OTHER : Yeso dolomite	NATURAL GAS, OIL	N
17818397	BLINEBRY	-1209	5065	5124	DOLOMITE, OTHER : Yeso dolomite	NATURAL GAS, OIL	N
17818385	BLINEBRY	-2038	5894	6442	DOLOMITE, OTHER : Yeso dolomite	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: LONGFELLOW ENERGY LP

Well Name: PETTY 31CD FED COM **Well Number:** 003H

Pressure Rating (PSI): 5M **Rating Depth:** 6000

Equipment: A 5000-psi BOP stack (rated to 6000') consisting of annular preventer and double (blind and pipe) ram will be used below surface casing to TD. Other accessories to the BOPE will include a speed head, Kelly cock and floor safety valve (inside BOP), and choke lines and choke manifold.
Requesting Variance? YES

Variance request: Variance is requested to use a flex-hose. Test certificate for a typical hose is attached. Certificate for the hose in use will be available on the rig before spud.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250-psi low and 3000-psi high per 43 CFR 3172 requirements. The system may be upgraded to a higher pressure, but still tested as described above. If the system is upgraded, then all the installed components will be functional and tested. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.
Choke Diagram Attachment:

Petty_3H_Choke_Rev2_20260104103734.pdf

BOP Diagram Attachment:

Petty_3H_BOP_Rev2_20260104103741.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	500	0	500	3856	3356	500	J-55	54.5	LT&C	1.125	1.125	DRY	1.8	DRY	1.8
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3915	0	3877	3856	-21	3915	J-55	36	LT&C	1.125	1.125	DRY	1.8	DRY	1.8
3	PRODUCTION	8.75	7.0	NEW	API	N	0	6301	0	5874	3857	-2018	6301	L-80	32	BUTT	1.125	1.125	DRY	1.8	DRY	1.8
4	PRODUCTION	8.75	5.5	NEW	API	N	6301	11324	5874	5874	-2018	-2018	5023	L-80	20	BUTT	1.125	1.125	DRY	1.8	DRY	1.8

Casing Attachments

Operator Name: LONGFELLOW ENERGY LP

Well Name: PETTY 31CD FED COM **Well Number:** 003H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Petty_3H_Casing_Design_Rev3_20260312163550.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Petty_3H_Casing_Design_Rev3_20260312163617.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Petty_3H_Drill_Plan_Rev4_20260312163650.pdf

Operator Name: LONGFELLOW ENERGY LP

Well Name: PETTY 31CD FED COM **Well Number:** 003H

Casing Attachments

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Petty_3H_Casing_Design_Rev3_20260312163731.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	500	390	1.72	13.5	670	100	Class C	None
SURFACE	Tail		0	500	160	1.33	14.8	212	100	Class C	None
INTERMEDIATE	Lead	2826	0	2826	1500	1.83	12.4	2745	100	35/65 Poz C	None
INTERMEDIATE	Tail		2826	3915	590	1.19	15.6	702	100	Class C	None
PRODUCTION	Lead		1295	6301	580	2.08	12.2	1206	10	25/75 Poz C	None
PRODUCTION	Tail		6301	11324	1010	1.4	14.8	1414	10	Class C	None

Operator Name: LONGFELLOW ENERGY LP

Well Name: PETTY 31CD FED COM **Well Number:** 003H

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: All necessary mud products (LCM) will be on site to handle any abnormal hole condition that may be encountered while drilling this well.

Describe the mud monitoring system utilized: An electronic/mechanical mud monitor with a minimum pit volume totalizer, stroke counter, and flow sensor will be used.

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	500	OTHER : Fresh water/Gel	8.4	9							
500	3915	OTHER : Salt Saturated	8.8	9.2							
3915	11324	OTHER : Cut Brine	8.8	9.2							

Section 6 - Test, Logging, Coring

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

A mud logger will be used from GL to TD. Samples will be collected every 10' in the lateral pay zone. A wireline MWD GR log will be run from the base of the surface casing to TD.

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

MUD LOG/GEOLOGICAL LITHOLOGY LOG,GAMMA RAY LOG,

Coring operation description for the well:

No core or drill stem test is planned.

Operator Name: LONGFELLOW ENERGY LP

Well Name: PETTY 31CD FED COM **Well Number:** 003H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2593 **Anticipated Surface Pressure:** 1296

Anticipated Bottom Hole Temperature(F): 105

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

Petty_PadC_H2S_Rev_20260104104516.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Petty_3H_Directional_Plan_Rev3_20260312163853.pdf

Other proposed operations facets description:

Will be drilled toe up. AFMSS does not allow bottom 5.5" TVD depth to be less than 5.5" top depth. DV tool and an external casing packer will be set 2826', just above the Grayburg.

Other proposed operations facets attachment:

Coflex_Certs_20251002143044.pdf

Petty_3H_Anticollision_Rev2_20260104104629.pdf

Petty_PadC_WMP_Rev_20260104104646.pdf

Petty_3H_Drill_Plan_Rev4_20260312163859.pdf

Other Variance request(s)?: N

Other Variance attachment:

LONGFELLOW ENERGY, LP

Company: Longfellow Energy
Project: Eddy Co., NM (Nad-83)
Site: PETTY FED COM 31 CD
Well: 003H
Wellbore: OH
Rig:
Design: PLAN 2 / 16:15, October 28 2025

WELLBENDERS DIRECTIONAL SERVICES LLC

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
003H SHL: 1677' FSL, 411' FWL	0.00	0.00	0.00	682477.04	674621.82	32.875397	-103.899194
003H BHL: 2159' FSL, 20' FWL	5814.00	445.91	-5375.70	682922.95	669246.12	32.876682	-103.916698
003H LTP: 2159' FSL, 100' FWL	5815.32	446.44	-5295.72	682923.48	669326.10	32.876682	-103.916437
003H PPP4: 2159' FSL, 1027' FWL	5830.56	452.71	-4369.47	682929.75	670252.35	32.876689	-103.913420
003H PPP3: 2159' FSL, 2641' FEL	5852.20	461.60	-3053.87	682938.64	671567.95	32.876699	-103.909135
003H PPP2: 2159' FSL, 1321' FEL	5873.91	470.52	-1734.49	682947.56	672887.33	32.876709	-103.904837
003H FTP: 2159' FSL, 100' FEL	5894.00	478.76	-513.45	682955.80	674108.37	32.876718	-103.900860

WELL DETAILS: 003H

RKB = 20' @ 3876.10usft
Ground Elevation: 3856.10

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	682477.04	674621.82	32.875397	-103.899194

SECTION DETAILS

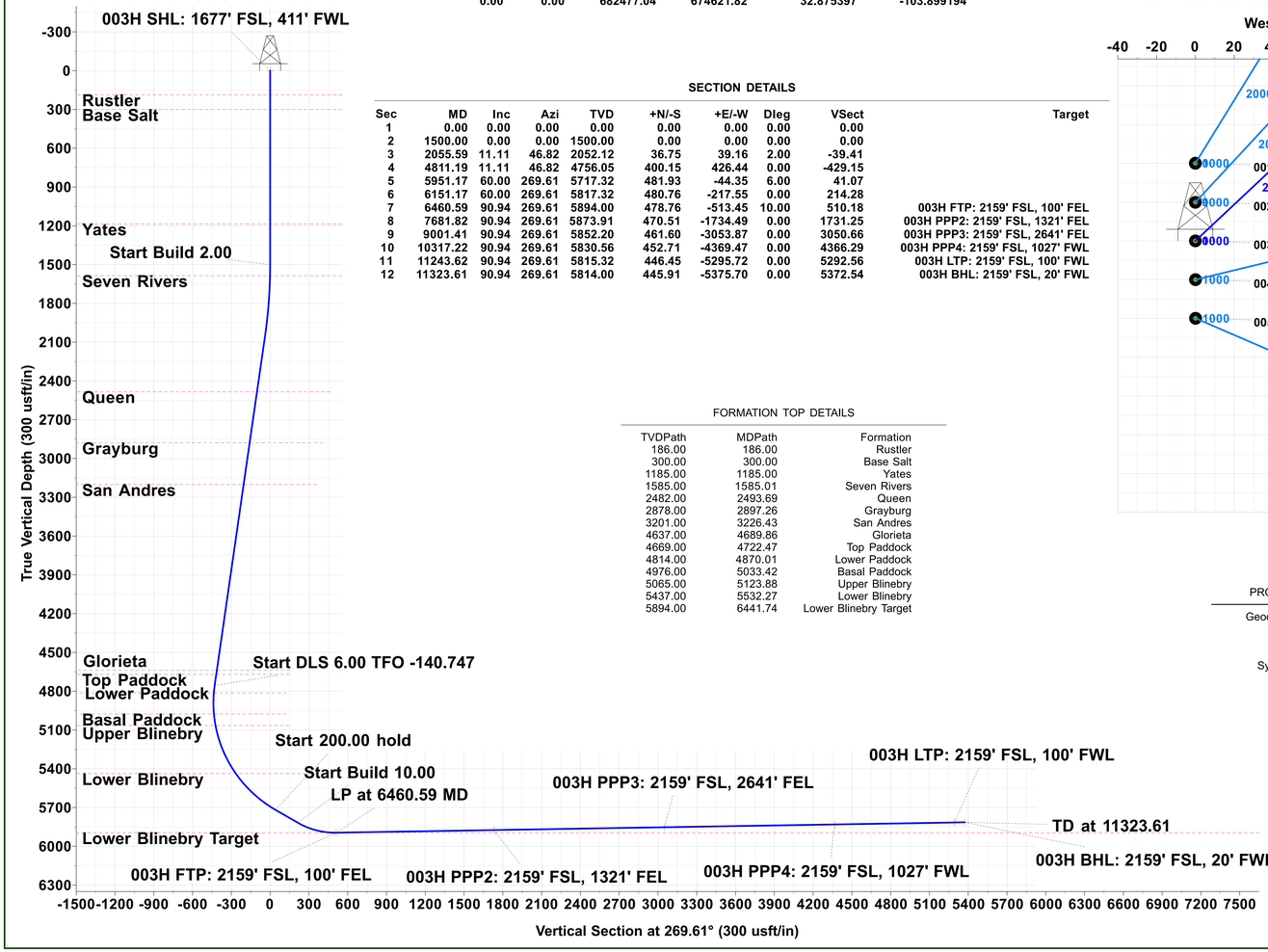
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	
3	2055.59	11.11	46.82	2052.12	36.75	39.16	2.00	-39.41	
4	4811.19	11.11	46.82	4756.05	400.15	426.44	0.00	-429.15	
5	5951.17	60.00	269.61	5717.32	481.93	-44.35	6.00	41.07	
6	6151.17	60.00	269.61	5817.32	480.76	-217.55	0.00	214.28	
7	6460.59	90.94	269.61	5894.00	478.76	-513.45	10.00	510.18	003H FTP: 2159' FSL, 100' FEL
8	7681.82	90.94	269.61	5873.91	470.51	-1734.49	0.00	1731.25	003H PPP2: 2159' FSL, 1321' FEL
9	9001.41	90.94	269.61	5852.20	461.60	-3053.87	0.00	3050.66	003H PPP3: 2159' FSL, 2641' FEL
10	10317.22	90.94	269.61	5830.56	452.71	-4369.47	0.00	4366.29	003H PPP4: 2159' FSL, 1027' FWL
11	11243.62	90.94	269.61	5815.32	446.45	-5295.72	0.00	5292.56	003H LTP: 2159' FSL, 100' FWL
12	11323.61	90.94	269.61	5814.00	445.91	-5375.70	0.00	5372.54	003H BHL: 2159' FSL, 20' FWL

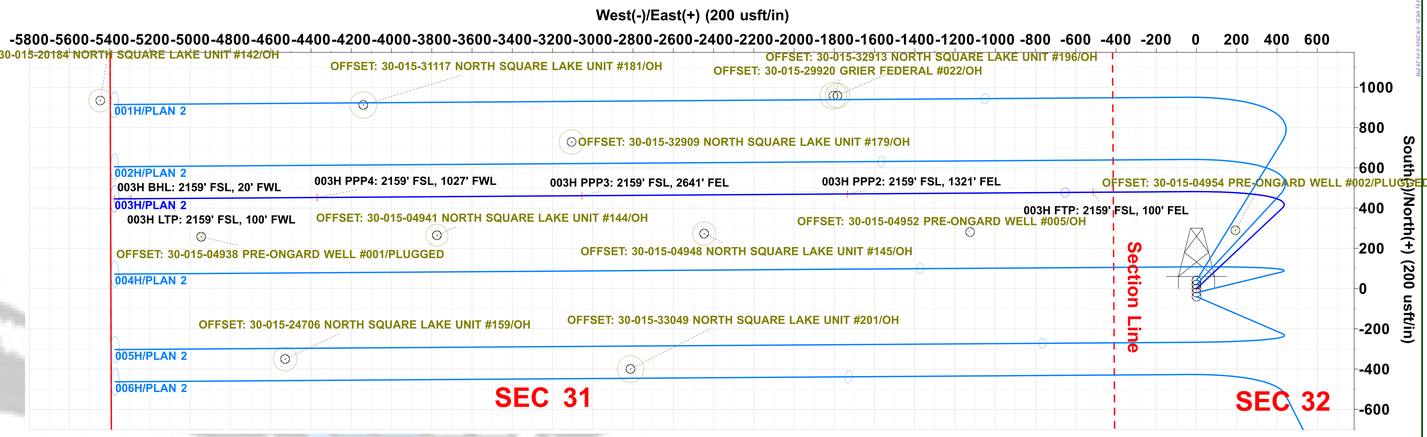
FORMATION TOP DETAILS

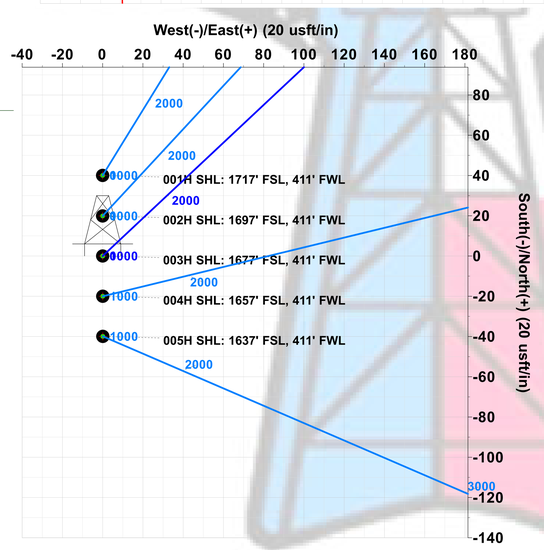
TVDPath	MDPath	Formation
186.00	186.00	Rustler
300.00	300.00	Base Salt
1185.00	1185.00	Yates
1585.00	1585.01	Seven Rivers
2482.00	2493.69	Queen
2878.00	2897.26	Grayburg
3201.00	3226.43	San Andres
4637.00	4689.86	Glorieta
4669.00	4722.47	Top Paddock
4814.00	4870.01	Lower Paddock
4976.00	5033.42	Basal Paddock
5065.00	5123.88	Upper Blinebry
5437.00	5532.27	Lower Blinebry
5894.00	6441.74	Lower Blinebry Target

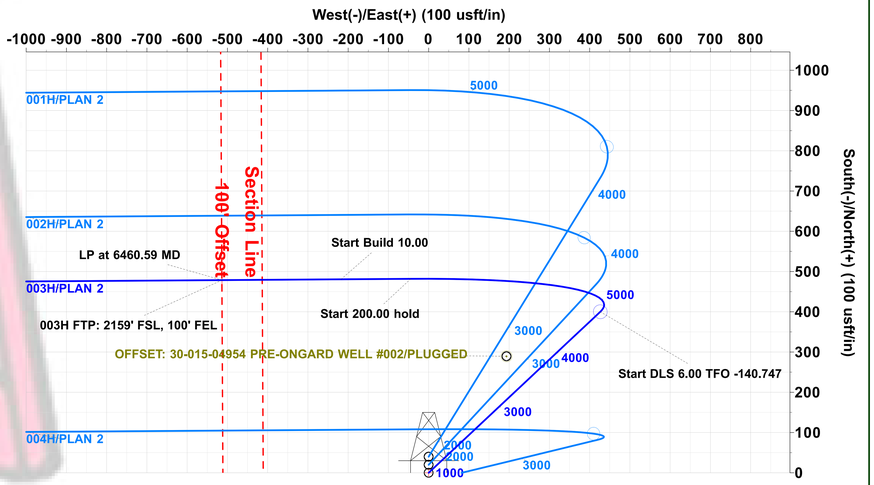
PROJECT DETAILS: Eddy Co., NM (Nad-83)

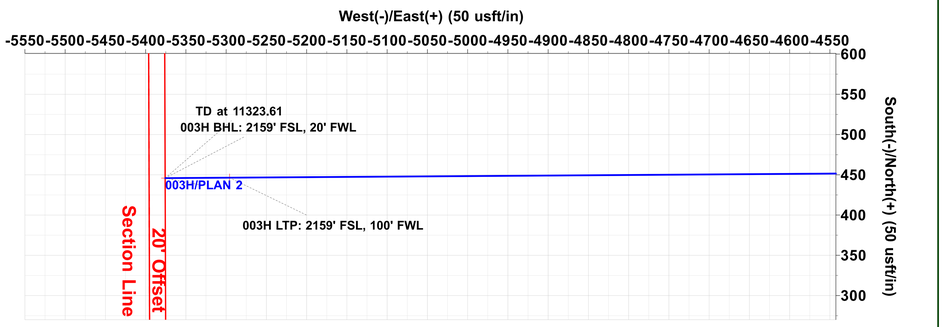
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level











Plan: PLAN 2 (003H/OH)

Created By: Matthew May Date: 16:15, October 28 2025

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_3	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20' @ 3876.10usft
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20' @ 3876.10usft
Site:	PETTY FED COM 31 CD	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN 2		

Project Eddy Co., 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		

Well 003H

Well Position	**+N/-S**	0.00 usft	**Northing:**	682,477.04 usft	**Latitude:**	32.875397
	+E/-W	0.00 usft	**Easting:**	674,621.82 usft	**Longitude:**	-103.899194
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,856.10 usft
Grid Convergence:		0.236 °				

Design PLAN 2

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	269.61

Plan Survey Tool Program **Date** 10/28/2025

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,323.61	PLAN 2 (OH)	MWD+IFR1+SAG+FDIR	
				OWSG MWD + IFR1 + Sag	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,055.59	11.11	46.82	2,052.12	36.75	39.16	2.00	2.00	0.00	46.822	
4,811.19	11.11	46.82	4,756.05	400.15	426.44	0.00	0.00	0.00	0.000	
5,951.17	60.00	269.61	5,717.32	481.93	-44.35	6.00	4.29	-12.04	-140.747	
6,151.17	60.00	269.61	5,817.32	480.76	-217.55	0.00	0.00	0.00	0.000	
6,460.59	90.94	269.61	5,894.00	478.76	-513.45	10.00	10.00	0.00	0.000	003H FTP: 2159' FS
7,681.82	90.94	269.61	5,873.91	470.51	-1,734.49	0.00	0.00	0.00	0.000	003H PPP2: 2159' I
9,001.41	90.94	269.61	5,852.20	461.60	-3,053.87	0.00	0.00	0.00	0.000	003H PPP3: 2159' I
10,317.22	90.94	269.61	5,830.56	452.71	-4,369.47	0.00	0.00	0.00	0.000	003H PPP4: 2159' I
11,243.62	90.94	269.61	5,815.32	446.45	-5,295.72	0.00	0.00	0.00	0.000	003H LTP: 2159' FS
11,323.61	90.94	269.61	5,814.00	445.91	-5,375.70	0.00	0.00	0.00	0.000	003H BHL: 2159' FS

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_3	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20' @ 3876.10usft
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20' @ 3876.10usft
Site:	PETTY FED COM 31 CD	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	2.00	46.82	1,599.98	1.19	1.27	-1.28	2.00	2.00	0.00
1,700.00	4.00	46.82	1,699.84	4.78	5.09	-5.12	2.00	2.00	0.00
1,800.00	6.00	46.82	1,799.45	10.74	11.44	-11.52	2.00	2.00	0.00
1,900.00	8.00	46.82	1,898.70	19.08	20.33	-20.46	2.00	2.00	0.00
2,000.00	10.00	46.82	1,997.47	29.78	31.74	-31.94	2.00	2.00	0.00
2,055.59	11.11	46.82	2,052.12	36.75	39.16	-39.41	2.00	2.00	0.00
2,100.00	11.11	46.82	2,095.69	42.61	45.41	-45.69	0.00	0.00	0.00
2,200.00	11.11	46.82	2,193.82	55.79	59.46	-59.84	0.00	0.00	0.00
2,300.00	11.11	46.82	2,291.94	68.98	73.51	-73.98	0.00	0.00	0.00
2,400.00	11.11	46.82	2,390.07	82.17	87.57	-88.13	0.00	0.00	0.00
2,500.00	11.11	46.82	2,488.19	95.36	101.62	-102.27	0.00	0.00	0.00
2,600.00	11.11	46.82	2,586.32	108.54	115.68	-116.41	0.00	0.00	0.00
2,700.00	11.11	46.82	2,684.44	121.73	129.73	-130.56	0.00	0.00	0.00
2,800.00	11.11	46.82	2,782.57	134.92	143.78	-144.70	0.00	0.00	0.00
2,900.00	11.11	46.82	2,880.69	148.11	157.84	-158.84	0.00	0.00	0.00
3,000.00	11.11	46.82	2,978.82	161.29	171.89	-172.99	0.00	0.00	0.00
3,100.00	11.11	46.82	3,076.94	174.48	185.95	-187.13	0.00	0.00	0.00
3,200.00	11.11	46.82	3,175.07	187.67	200.00	-201.27	0.00	0.00	0.00
3,300.00	11.11	46.82	3,273.19	200.86	214.06	-215.42	0.00	0.00	0.00
3,400.00	11.11	46.82	3,371.32	214.04	228.11	-229.56	0.00	0.00	0.00
3,500.00	11.11	46.82	3,469.45	227.23	242.16	-243.70	0.00	0.00	0.00
3,600.00	11.11	46.82	3,567.57	240.42	256.22	-257.85	0.00	0.00	0.00
3,700.00	11.11	46.82	3,665.70	253.61	270.27	-271.99	0.00	0.00	0.00
3,800.00	11.11	46.82	3,763.82	266.79	284.33	-286.14	0.00	0.00	0.00
3,900.00	11.11	46.82	3,861.95	279.98	298.38	-300.28	0.00	0.00	0.00
4,000.00	11.11	46.82	3,960.07	293.17	312.43	-314.42	0.00	0.00	0.00
4,100.00	11.11	46.82	4,058.20	306.36	326.49	-328.57	0.00	0.00	0.00
4,200.00	11.11	46.82	4,156.32	319.54	340.54	-342.71	0.00	0.00	0.00
4,300.00	11.11	46.82	4,254.45	332.73	354.60	-356.85	0.00	0.00	0.00
4,400.00	11.11	46.82	4,352.57	345.92	368.65	-371.00	0.00	0.00	0.00
4,500.00	11.11	46.82	4,450.70	359.11	382.71	-385.14	0.00	0.00	0.00
4,600.00	11.11	46.82	4,548.82	372.29	396.76	-399.28	0.00	0.00	0.00
4,700.00	11.11	46.82	4,646.95	385.48	410.81	-413.43	0.00	0.00	0.00
4,800.00	11.11	46.82	4,745.07	398.67	424.87	-427.57	0.00	0.00	0.00
4,811.19	11.11	46.82	4,756.05	400.15	426.44	-429.15	0.00	0.00	0.00
4,850.00	9.42	37.79	4,794.24	405.22	431.11	-433.86	6.00	-4.35	-23.28
4,900.00	7.75	20.98	4,843.69	411.60	434.83	-437.62	6.00	-3.35	-33.62
4,950.00	7.01	358.16	4,893.29	417.80	435.94	-438.77	6.00	-1.47	-45.64

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LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_3	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20' @ 3876.10usft
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20' @ 3876.10usft
Site:	PETTY FED COM 31 CD	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,000.00	7.50	334.54	4,942.90	423.79	434.44	-437.31	6.00	0.97	-47.24
5,050.00	9.01	316.34	4,992.39	429.57	430.33	-433.25	6.00	3.02	-36.40
5,100.00	11.14	304.16	5,041.62	435.12	423.63	-426.58	6.00	4.26	-24.36
5,150.00	13.60	296.08	5,090.46	440.41	414.36	-417.34	6.00	4.91	-16.16
5,200.00	16.23	290.51	5,138.77	445.45	402.53	-405.55	6.00	5.28	-11.15
5,250.00	18.98	286.48	5,186.43	450.20	388.18	-391.24	6.00	5.49	-8.05
5,300.00	21.79	283.45	5,233.29	454.67	371.36	-374.45	6.00	5.62	-6.06
5,350.00	24.64	281.08	5,279.24	458.83	352.11	-355.22	6.00	5.70	-4.73
5,400.00	27.52	279.19	5,324.15	462.68	330.47	-333.61	6.00	5.76	-3.80
5,450.00	30.42	277.62	5,367.89	466.20	306.51	-309.68	6.00	5.81	-3.13
5,500.00	33.34	276.31	5,410.34	469.39	280.30	-283.49	6.00	5.84	-2.63
5,550.00	36.27	275.18	5,451.39	472.24	251.91	-255.12	6.00	5.86	-2.25
5,600.00	39.21	274.21	5,490.92	474.73	221.41	-224.64	6.00	5.88	-1.96
5,650.00	42.16	273.34	5,528.83	476.87	188.89	-192.13	6.00	5.89	-1.72
5,700.00	45.11	272.57	5,565.02	478.65	154.43	-157.69	6.00	5.91	-1.54
5,750.00	48.07	271.88	5,599.38	480.05	118.14	-121.41	6.00	5.91	-1.39
5,800.00	51.03	271.25	5,631.81	481.09	80.11	-83.39	6.00	5.92	-1.26
5,850.00	53.99	270.67	5,662.24	481.75	40.45	-43.73	6.00	5.93	-1.16
5,900.00	56.96	270.13	5,690.57	482.03	-0.74	-2.54	6.00	5.93	-1.08
5,951.17	60.00	269.61	5,717.32	481.93	-44.35	41.07	6.00	5.94	-1.01
6,000.00	60.00	269.61	5,741.73	481.64	-86.64	83.36	0.00	0.00	0.00
6,100.00	60.00	269.61	5,791.73	481.06	-173.24	169.96	0.00	0.00	0.00
6,151.17	60.00	269.61	5,817.32	480.76	-217.55	214.28	0.00	0.00	0.00
6,200.00	64.88	269.61	5,839.90	480.47	-260.83	257.56	10.00	10.00	0.00
6,250.00	69.88	269.61	5,859.12	480.16	-306.97	303.70	10.00	10.00	0.00
6,300.00	74.88	269.61	5,874.25	479.83	-354.61	351.34	10.00	10.00	0.00
6,350.00	79.88	269.61	5,885.17	479.50	-403.39	400.11	10.00	10.00	0.00
6,400.00	84.88	269.61	5,891.79	479.17	-452.93	449.66	10.00	10.00	0.00
6,450.00	89.88	269.61	5,894.08	478.83	-502.86	499.59	10.00	10.00	0.00
6,460.59	90.94	269.61	5,894.00	478.76	-513.45	510.18	10.00	10.00	0.00
6,500.00	90.94	269.61	5,893.35	478.49	-552.85	549.58	0.00	0.00	0.00
6,600.00	90.94	269.61	5,891.71	477.82	-652.84	649.57	0.00	0.00	0.00
6,700.00	90.94	269.61	5,890.06	477.14	-752.82	749.56	0.00	0.00	0.00
6,800.00	90.94	269.61	5,888.42	476.47	-852.81	849.54	0.00	0.00	0.00
6,900.00	90.94	269.61	5,886.77	475.79	-952.79	949.53	0.00	0.00	0.00
7,000.00	90.94	269.61	5,885.13	475.12	-1,052.77	1,049.52	0.00	0.00	0.00
7,100.00	90.94	269.61	5,883.48	474.44	-1,152.76	1,149.50	0.00	0.00	0.00
7,200.00	90.94	269.61	5,881.84	473.77	-1,252.74	1,249.49	0.00	0.00	0.00
7,300.00	90.94	269.61	5,880.19	473.09	-1,352.73	1,349.47	0.00	0.00	0.00
7,400.00	90.94	269.61	5,878.55	472.41	-1,452.71	1,449.46	0.00	0.00	0.00
7,500.00	90.94	269.61	5,876.90	471.74	-1,552.69	1,549.45	0.00	0.00	0.00
7,600.00	90.94	269.61	5,875.26	471.06	-1,652.68	1,649.43	0.00	0.00	0.00
7,681.82	90.94	269.61	5,873.91	470.51	-1,734.49	1,731.25	0.00	0.00	0.00
7,700.00	90.94	269.61	5,873.61	470.39	-1,752.66	1,749.42	0.00	0.00	0.00
7,800.00	90.94	269.61	5,871.97	469.71	-1,852.65	1,849.41	0.00	0.00	0.00
7,900.00	90.94	269.61	5,870.32	469.04	-1,952.63	1,949.39	0.00	0.00	0.00
8,000.00	90.94	269.61	5,868.68	468.36	-2,052.62	2,049.38	0.00	0.00	0.00
8,100.00	90.94	269.61	5,867.03	467.69	-2,152.60	2,149.37	0.00	0.00	0.00
8,200.00	90.94	269.61	5,865.39	467.01	-2,252.58	2,249.35	0.00	0.00	0.00
8,300.00	90.94	269.61	5,863.74	466.33	-2,352.57	2,349.34	0.00	0.00	0.00
8,400.00	90.94	269.61	5,862.10	465.66	-2,452.55	2,449.33	0.00	0.00	0.00
8,500.00	90.94	269.61	5,860.45	464.98	-2,552.54	2,549.31	0.00	0.00	0.00
8,600.00	90.94	269.61	5,858.81	464.31	-2,652.52	2,649.30	0.00	0.00	0.00
8,700.00	90.94	269.61	5,857.16	463.63	-2,752.50	2,749.29	0.00	0.00	0.00

LONGFELLOW ENERGY, LP

Planning Report

WELLBENDERS DIRECTIONAL SERVICES LLC

Database:	WBDS_SQL_3	**Local Co-ordinate Reference:**	Well 003H
Company:	Longfellow Energy	**TVD Reference:**	RKB = 20' @ 3876.10usft
Project:	Eddy Co., NM (Nad-83)	**MD Reference:**	RKB = 20' @ 3876.10usft
Site:	PETTY FED COM 31 CD	**North Reference:**	Grid
Well:	003H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN 2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	90.94	269.61	5,855.52	462.96	-2,852.49	2,849.27	0.00	0.00	0.00
8,900.00	90.94	269.61	5,853.87	462.28	-2,952.47	2,949.26	0.00	0.00	0.00
9,001.41	90.94	269.61	5,852.20	461.60	-3,053.87	3,050.66	0.00	0.00	0.00
9,100.00	90.94	269.61	5,850.58	460.93	-3,152.44	3,149.23	0.00	0.00	0.00
9,200.00	90.94	269.61	5,848.93	460.26	-3,252.43	3,249.22	0.00	0.00	0.00
9,300.00	90.94	269.61	5,847.29	459.58	-3,352.41	3,349.20	0.00	0.00	0.00
9,400.00	90.94	269.61	5,845.64	458.90	-3,452.39	3,449.19	0.00	0.00	0.00
9,500.00	90.94	269.61	5,844.00	458.23	-3,552.38	3,549.18	0.00	0.00	0.00
9,600.00	90.94	269.61	5,842.35	457.55	-3,652.36	3,649.16	0.00	0.00	0.00
9,700.00	90.94	269.61	5,840.71	456.88	-3,752.35	3,749.15	0.00	0.00	0.00
9,800.00	90.94	269.61	5,839.06	456.20	-3,852.33	3,849.14	0.00	0.00	0.00
9,900.00	90.94	269.61	5,837.42	455.53	-3,952.32	3,949.12	0.00	0.00	0.00
10,000.00	90.94	269.61	5,835.77	454.85	-4,052.30	4,049.11	0.00	0.00	0.00
10,100.00	90.94	269.61	5,834.13	454.18	-4,152.28	4,149.10	0.00	0.00	0.00
10,200.00	90.94	269.61	5,832.48	453.50	-4,252.27	4,249.08	0.00	0.00	0.00
10,300.00	90.94	269.61	5,830.84	452.82	-4,352.25	4,349.07	0.00	0.00	0.00
10,317.22	90.94	269.61	5,830.56	452.71	-4,369.47	4,366.29	0.00	0.00	0.00
10,400.00	90.94	269.61	5,829.19	452.15	-4,452.24	4,449.06	0.00	0.00	0.00
10,500.00	90.94	269.61	5,827.55	451.47	-4,552.22	4,549.04	0.00	0.00	0.00
10,600.00	90.94	269.61	5,825.90	450.80	-4,652.20	4,649.03	0.00	0.00	0.00
10,700.00	90.94	269.61	5,824.26	450.12	-4,752.19	4,749.01	0.00	0.00	0.00
10,800.00	90.94	269.61	5,822.61	449.45	-4,852.17	4,849.00	0.00	0.00	0.00
10,900.00	90.94	269.61	5,820.97	448.77	-4,952.16	4,948.99	0.00	0.00	0.00
11,000.00	90.94	269.61	5,819.32	448.10	-5,052.14	5,048.97	0.00	0.00	0.00
11,100.00	90.94	269.61	5,817.68	447.42	-5,152.13	5,148.96	0.00	0.00	0.00
11,200.00	90.94	269.61	5,816.03	446.75	-5,252.11	5,248.95	0.00	0.00	0.00
11,243.62	90.94	269.61	5,815.32	446.45	-5,295.72	5,292.56	0.00	0.00	0.00
11,300.00	90.94	269.61	5,814.39	446.07	-5,352.09	5,348.93	0.00	0.00	0.00
11,323.61	90.94	269.61	5,814.00	445.91	-5,375.70	5,372.54	0.00	0.00	0.00

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PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Longfellow Energy LP**
LOCATION:	Section 32, T.16 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	**Petty 31CD Fed Com 1H**
ATS/API ID:	**ATS-25-1583**
APD ID:	**10400104330**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 2H**
ATS/API ID:	**ATS-25-1584**
APD ID:	**10400104336**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 3H**
ATS/API ID:	**ATS-25-1585**
APD ID:	**10400104339**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 4H**
ATS/API ID:	**ATS-25-1586**
APD ID:	**10400104342**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 5H**
ATS/API ID:	**ATS-25-1587**
APD ID:	**10400104343**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 6H**
ATS/API ID:	**ATS-25-1589**
APD ID:	**10400104462**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 7H**
ATS/API ID:	**ATS-25-1591**
APD ID:	**10400104509**
Sundry ID:	**N/a**

Approval Date: 04/08/2026

WELL NAME & NO.:	**Petty 31CD Fed Com 8H**
ATS/API ID:	**ATS-25-1592**
APD ID:	**10400104512**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Petty 31CD Fed Com 9H**
ATS/API ID:	**ATS-25-1590**
APD ID:	**10400104514**
Sundry ID:	**N/a**

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	Conventional		
Other	☐ 4 String ☐ 5 String	Capitan Reef: None	☐ WIPP
Other	Pilot Hole: None	☐ Open Annulus	
Cementing	Contingency Squeeze: None	Echo-Meter: None	Primary Cement Squeeze: None
Special Requirements	☐ Water Disposal/Injection	☑ COM	☐ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention: Waste MP	
Special Requirements Variance	☐ BOPE Break Testing ☐ Offline BOPE Testing	☐ Offline Cementing	☐ Casing Clearance

 Approval Date: 04/08/2026

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Grayburg** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **462 feet** (a minimum of 70 feet into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.

    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. (This is to include the 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 **9-5/8** inch intermediate casing is:

    Option 1 (Single Stage):

    - Cement to surface. If cement does not circulate see B.1.a, c-d above.

    Option 2:

    Operator has proposed a DV tool(s), the depth may be adjusted as long as the cement is changed proportionally. The DV tool(s) may be cancelled if cement circulates to surface on the first stage.

    DV tool(s) shall be set a minimum of 50’ below previous shoe and a minimum of 200’ above current shoe. Operator shall contact the BLM if DV tool(s) depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50’ below the shoe

to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool(s): Cement to circulate. If cement does not circulate off the DV tool(s), contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool(s):

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

3. The minimum required fill of cement behind the **7** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. 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).'

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

D. 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 part 3170 Subpart 3171**
- 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)

☑ Eddy County
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
      - Notify the BLM when moving in and removing the Spudder Rig.
      - 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.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 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.

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-P 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 part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

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:

    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. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    e. 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.

    a. 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).

    b. 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.)

c. 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 part 3170 Subpart 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).

d. 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.

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

f. 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.

g. 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.

h. 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 part 3170 Subpart 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.

Long Vo (LVO) 3/3/2026

 Approval Date: 04/08/2026

LONGFELLOW ENERGY, LP

H_2S Drilling Operations Plan

a. All personnel will be trained in H_2S working conditions as required by 43 CFR 3176 before drilling out of the surface casing.

b. Two briefing areas will be established. Each will be ≥150' from the wellhead, perpendicular from one another, and easily entered and exited. See H_2S page 5 for more details.

c. H_2S Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a pilot light.
- Beware of SO_2 created by flaring.
- Choke manifold will include a remotely operated choke.
- Mud gas separator

ii. Protective Equipment for Essential Personnel

- Every person on site will be required to wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the chest – not on the belt.
- One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
- Four work/escape packs will be on the rig floor. Each pack will have a long enough hose to allow unimpaired work activity.
- Four emergency escape packs will be in the doghouse for emergency evacuation.
- Hand signals will be used when wearing protective breathing apparatus.
- Stokes litter or stretcher
- Two full OSHA compliant body harnesses
- A 100' long x 5/8" OSHA compliant rope
- One 20-pound ABC fire extinguisher

iii. H_2S Detection & Monitoring Equipment

- Every person on site will be required to wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the chest.

- A stationary detector with 3 sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- Color-coded H_2S condition sign will be set at the entrance to the pad.
- Color-coded condition flag will be installed to indicate current H_2S conditions.
- Two windsocks will be installed that will be visible from all sides.

v. Mud Program

- A water-based mud with a pH of $\geq$10 will be maintained to control corrosion, H_2S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H_2S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H_2S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H_2S will be suitable for H_2S service.
- Equipment that will meet the metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head & spool, rotating head, kill lines, choke, choke manifold & lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site

- Cell phones and/or two-way radios will be used to communicate from the well site.

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H_2S.

LONGFELLOW ENERGY, LP

Company Personnel to be Notified

James Follis	Office: (972) 590-9905
	Mobile: (405) 306-6169

Local & County Agencies

Maljamar Fire Department	911 or (575) 370-4362
Loco Hills Fire Department	911 or (575) 628-5450
Eddy County Sheriff (Carlsbad)	911 or (575) 887-7551
Eddy County Sheriff sub-office (Artesia)	911 or (575) 746-9888
Eddy County Emergency Management (Carlsbad)	(575) 887-9511
Artesia General Hospital	(575) 748-3333
Lovington (Nor-Lea) Hospital	(575) 396-6611
Eddy County North Road Department (Artesia)	(575) 746-9540

State Agencies

NM State Police (Artesia)	(575) 748-9718
NM Oil Conservation (Artesia)	(575) 748-1283
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201

Federal Agencies

BLM Carlsbad Field Office	(575) 234-5972
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

LONGFELLOW ENERGY, LP

Residents within 2 miles (none)

Air Evacuation

Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

Veterinarian

Artesia Animal Clinic	(575) 748-2042

Longfellow Energy, L.P.

Petty 31C Pad
H_2S Contingency Plan:
Radius Map

Section 32, Township 16S, Range 31E
Eddy County, New Mexico

Well Pad Location

1:27,000

0 0.25 0.5 1

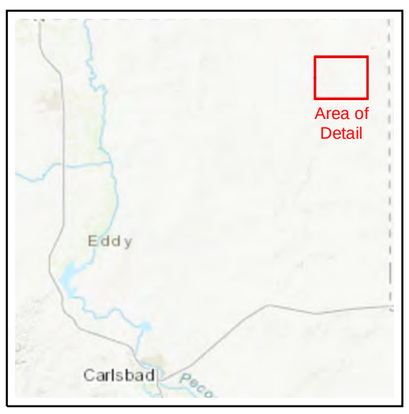
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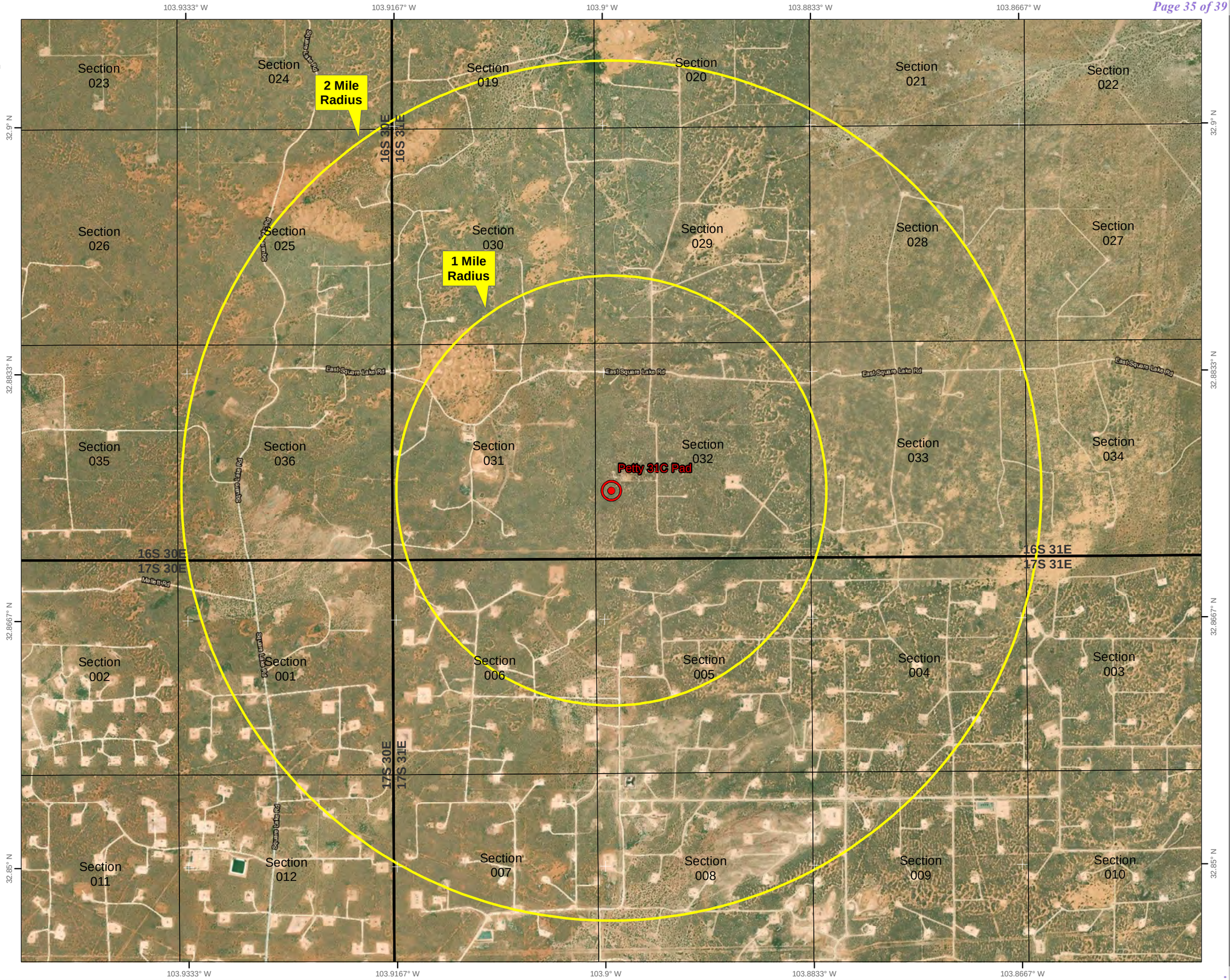
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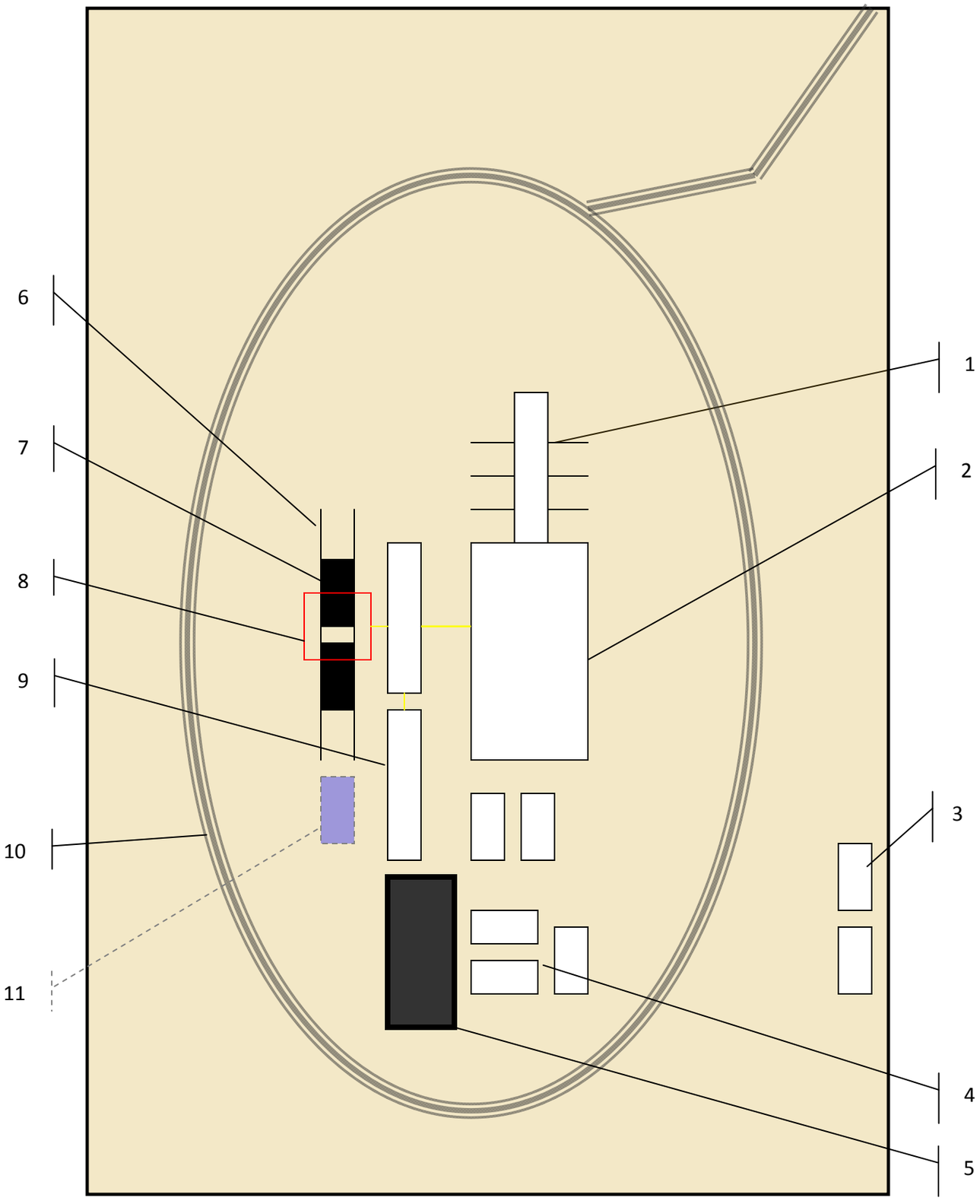
NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

Prepared by Permits West, Inc., April 7, 2025
for Longfellow Energy, L.P.







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**



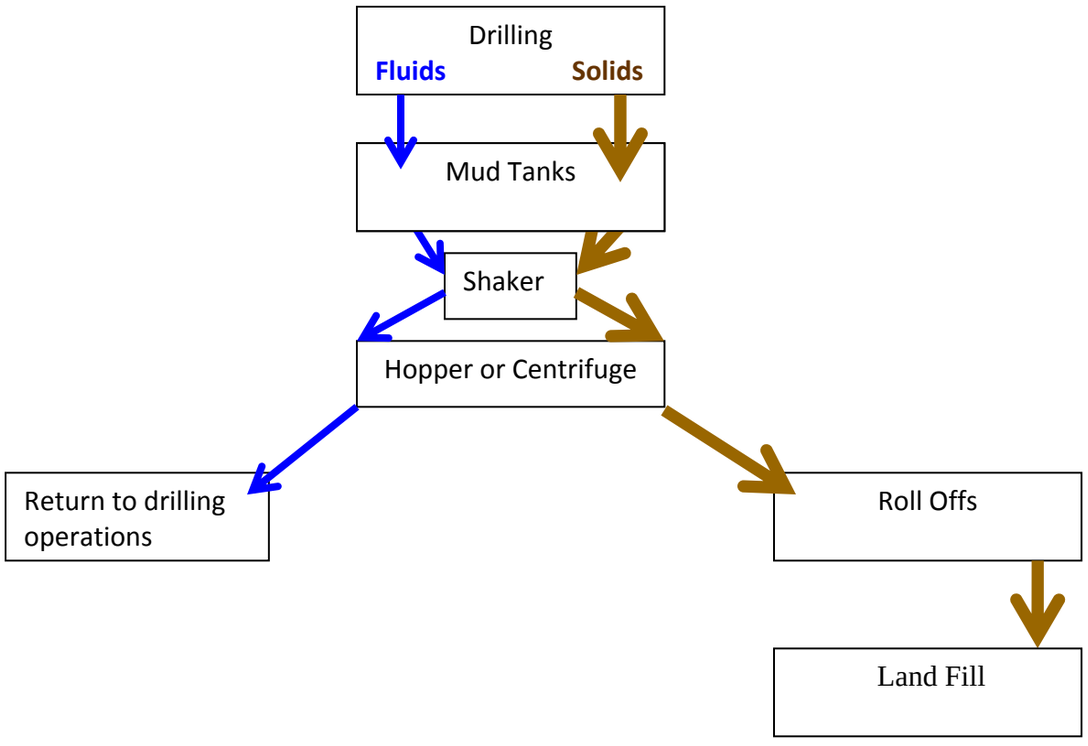
Above: Centrifugal Closed Loop System

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

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

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

ACKNOWLEDGMENTS

Operator: LONGFELLOW ENERGY, LP 8115 Preston Road Dallas, TX 75225	OGRID: 372210
	Action Number: 573740
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☑	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

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

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Phone: (505) 629-6116

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

CONDITIONS

Operator: LONGFELLOW ENERGY, LP 8115 Preston Road Dallas, TX 75225	OGRID: 372210
	Action Number: 573740
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
permitsw	Cement is required to circulate on both surface and intermediate1 strings of casing.	4/9/2026
permitsw	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	4/9/2026
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	6/29/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	6/29/2026
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.	6/29/2026
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.	6/29/2026
ward.rikala	If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations.	6/29/2026
ward.rikala	If a DV tool is utilized during the casing cementing operations, the following COA applies: 1- Once the DV tool is opened and circulation is established, it needs to be noted if cement is circulated off of the top of the DV tool and how much. 2- If cement is not circulated off of the top of the DV tool, then a CBL will be required. Depending upon the results of the CBL, remedial action may be required prior to drilling operations continuing.	6/29/2026