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.

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.

2. Name of Operator

9. API Well No.
30-015-56813

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

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

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

Approval Date: 02/21/2025

(Continued on page 2)

*(Instructions on page 2)

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: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-56813	50270	PENASCO DRAW;SA-YESO (ASSOC)

Property Code	Property Name	Well Number
332035	WARREN ANW FEDERAL	#102H

OGRID No.	Operator Name	Ground Level Elevation
330968	SILVERBACK OPERATING II, LLC	3491'

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	10	19 S	25 E		2074' FSL	706' FWL	32.673902°	-104.479166°	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	9	19 S	25 E		1458' FSL	100' FWL	32.672333°	-104.497958°	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
320.00	DEFINING			

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	10	19 S	25 E		2074' FSL	706' FWL	32.673902°	-104.479166°	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	9	19 S	25 E		1521' FSL	100' FEL	32.672441°	-104.481722°	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	9	19 S	25 E		1458' FSL	100' FWL	32.672333°	-104.497958°	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3491'

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.

Signature: B. Wood Date: 5-8-25

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.

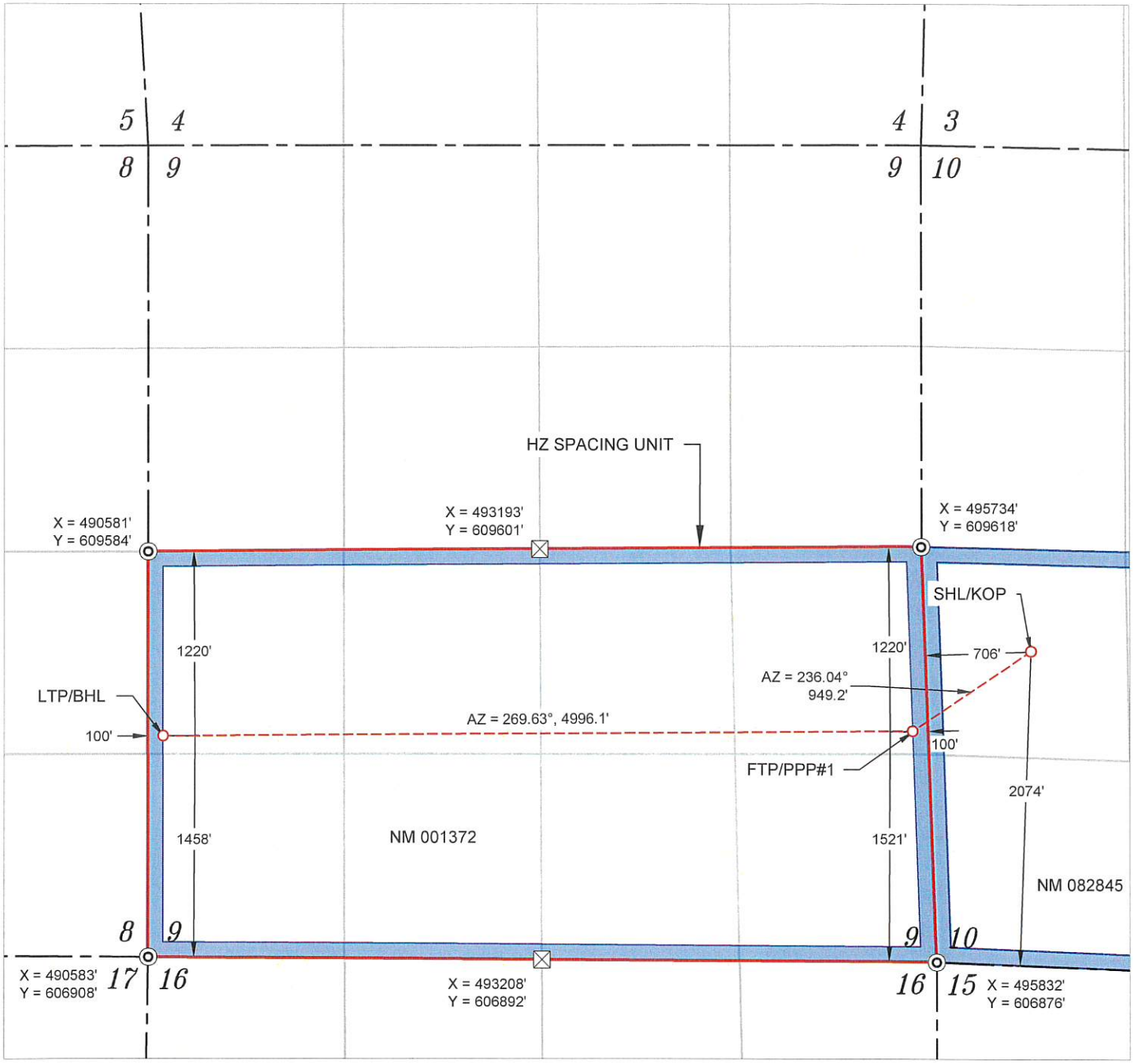
MATTHEW B. TOMERLIN NEW MEXICO 23203 PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor

23203 MAY 5, 2025

Certificate Number | Date of Survey

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.



WELL NAME: WARREN ANW FEDERAL #102H
ELEVATION: 3491'

NAD 83 (SHL/KOP) 2074' FSL & 706' FWL
LATITUDE = 32.673902°
LONGITUDE = -104.479166°
NAD 27 (SHL/KOP)
LATITUDE = 32.673789°
LONGITUDE = -104.478646°
STATE PLANE NAD 83 (N.M. EAST)
N: 608927.40' E: 496465.00'
STATE PLANE NAD 27 (N.M. EAST)
N: 608866.07' E: 455286.60'

NAD 83 (FTP/PPP#1) 1521' FSL & 100' FEL
LATITUDE = 32.672441°
LONGITUDE = -104.481722°
NAD 27 (FTP/PPP#1)
LATITUDE = 32.672328°
LONGITUDE = -104.481201°
STATE PLANE NAD 83 (N.M. EAST)
N: 608397.15' E: 495677.70'
STATE PLANE NAD 27 (N.M. EAST)
N: 608335.84' E: 454499.32'

NAD 83 (LTP/BHL) 1458' FSL & 100' FWL
LATITUDE = 32.672333°
LONGITUDE = -104.497958°
NAD 27 (LTP/BHL)
LATITUDE = 32.672220°
LONGITUDE = -104.497437°
STATE PLANE NAD 83 (N.M. EAST)
N: 608365.03' E: 490681.70'
STATE PLANE NAD 27 (N.M. EAST)
N: 608303.77' E: 449503.41'

FOUND MONUMENT
CALC. CORNER
SHL/ KOP/ FTP / PPP/ LTP / BHL
WELLBORE
HORIZONTAL SPACING UNIT
STATE OIL & GAS LEASE
BLM OIL & GAS LEASE

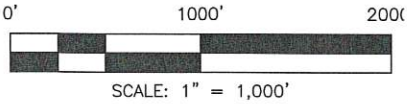
APPROXIMATE WELL BORE DISTANCE FROM FTP TO LTP/BHL	
SECTION 9	4996.11'
TOTAL	4996.11'

NOTES

1. ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001).

2. THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING MAY, 2025. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS EASEMENT IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.

3. ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.



SCALE: 1" = 1,000'

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: Silverback Operating II, LLC. **OGRID:** 330968 **Date:** 04/17/2025

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
Warren ANW Fed Com 101H	30-015	L-10-19S-25E	2094 S & 707W	515	800	3000
Warren ANW Fed Com 102H	30-015	L-10-19S-25E	2074 S & 706W	515	800	3000

IV. Central Delivery Point Name: Morrison CTB [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
Warren ANW Fed Com 101H	30-015	02/21/2026	02/29/2026	04/29/2026	05/20/2026	05/20/2026
Warren ANW Fed Com 102H	30-015	02/23/2026	03/04/2026	05/04/2026	05/25/2026	05/25/2026

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:	Fatma Abdallah
Printed Name:	Fatma Abdallah
Title:	Regulatory Manager
E-mail Address:	fabdallah@silverbackexp.com
Date:	04/23/2025
Phone:	405-286-4391

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

Separation Equipment

Silverback Operating II (LLC) has sampled existing producing wells and performed laboratory testing to determine composition. Performance of existing producing wells was analyzed to predict expected production volumes including a low probably, high volume production case (approximately 75% higher than type curve or most likely amount of production). Production composition and the volumes were utilized as inputs to a process model which predicts relative amounts of gas, oil and water throughout the process. The high volume case was used to size equipment, piping and instrumentation. Equipment sizing is based on drop settlement and limits the amount of carry over to the gas phase.

Each well has a dedicated 3 phase separator and gas from that separator is taken directly to gas sales. Facility piping and pipeline were sized to allow peak volumes to flow with minimal pressure loss and deliver to midstream gatherer at an acceptable pressure. Water is conveyed directly to tankage.

Oil from 3 phase separators is comingled and conveyed to a heated separator for enhanced liquid-liquid separation and degassing. Vapors from the heater treater are routed to flare. Oil and water storage tanks vapor outlets are common and utilize a closed vent vapor system to ensure all working & breathing and flashing losses are routed to the flare which is sized to accommodate peak expected production volume. Flash volumes were estimated using the high volume case and process modeling software.

Operational Practices

Silverback Operating II, LLC will ensure pipeline connectivity before producing hydrocarbons and will operate a closed vent vapor capture system that is designed to capture all associated and evolved gas during normal operation. Venting will only occur during maintenance activities or equipment failure or upset. Silverback may utilize the following from list A-I of Section 3 for its operations to minimize flaring:

- Power generation on lease – Natural gas driven gen set to produce power required to run supply well pad electrical loads
- Compression on lease – gas lift or gas compression as required
- Liquids removal on lease – gas pressure will be used to convey fluids as needed

Best Management Practices

Silverback utilizes automate engineering controls included in facility design to minimize venting and flaring. Additionally, operational best practices support minimization of flare and venting as described below.
If the main gas outlet becomes unavailable and pressure increases on the outlet sales line, produced gas will be routed directly to the facility flare. The facility control system will alert personnel to the need for maintenance and appropriate response to the temporary flaring event.
The facility design includes a closed vent vapor capture system to route flash or evolved from the heater treater and tanks to the flare.

For maintenance activities, Silverback will utilize the facility flare to blowdown equipment and piping whenever practical to minimize venting

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

Drilling Plan Data Report
04/04/2025

APD ID: 10400096220
Submission Date: 12/20/2023
Operator Name: SILVERBACK OPERATING II LLC
Well Name: WARREN ANW FEDERAL
Well Number: 102H
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
15077474	PERMIAN	3491	0	42	ALLUVIUM	NONE	N
15077475	SAN ANDRES	2679	812	812	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	N
15077477	PADDOCK	1193	2298	2350	DOLOMITE, SILTSTONE	NATURAL GAS, OIL	Y
15077476	GLORIETA	1154	2337	2400	DOLOMITE	NONE	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M
Rating Depth: 5000

Equipment: 5000 psi rig stack for drill out below surface casing

Requesting Variance? YES

Variance request: A variance to the requirement of a rigid steel line connecting to the choke manifold is requested. Specifications for the flex hose are provided with the BOP schematic in exhibit section. A variance to the requirement to rig up BOPs after setting surface casing is requested. The surface casing set at 500' is only for loss of circulation mitigation. The intermediate casing interval will be drilled with a fresh water mud system to cover the fresh water aquifer - no BOPs are required.
Testing Procedure: A third party testing company will conduct pressure tests and record prior to driling out below casing shoes. The BOP, Choke, Choke Manifold, Top Drive Valves and Floor Safety Valves will be tested to 3500 psi prior to drilling below the surface casing shoe and to 100% full working pressure (5,000 psi) prior to drilling below the intermediate casing shoe. The Annular Preventer will be tested to 3,500 psi prior to drilling below the surface casing shoe and to 100% working pressure (5,000 psi) prior to drilling below the intermediate casing shoe. In addition, the BOP equipment wil be tested after any repairs to the equipment as well as drilling out below any casing string. Pipe rams, blind rams, and annular preventer will be activated on each trip, and weekly BOP drills will be held with each crew.

Choke Diagram Attachment:

Silverback_Akita__BOP_and_Choke_20231210211959.pdf

BOP Diagram Attachment:

Silverback_Akita__BOP_and_Choke_20231210211950.pdf

Operator Name: SILVERBACK OPERATING II LLC

Well Name: WARREN ANW FEDERAL **Well Number:** 102H

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	3491	2991	500	J-55	54.5	ST&C	4.51	1.79	BUOY	22.06	BUOY	22.06
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	750	0	750	3491	2741	750	J-55	36	ST&C	5.38	9.66	BUOY	24.43	BUOY	24.43
3	PRODUCTION	8.75	7.0	NEW	API	Y	0	3392	0	2834	3491	657	3392	L-80	26	OTHER - HC PIXS	6.02	2.19	BUOY	10.15	BUOY	10.15
4	PRODUCTION	8.75	5.5	NEW	API	Y	3392	8453	2834	2834	657	657	5061	L-80	20	OTHER - HC PIXS	7.82	2.69	BUOY	99.99	BUOY	99.99

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Silverback_Exploration___Warren_ANW_Fed_102H___13.375__54.5__J_55_BTC_casing_20240701121839.pdf

Operator Name: SILVERBACK OPERATING II LLC

Well Name: WARREN ANW FEDERAL **Well Number:** 102H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Silverback_Exploration___Warren_ANW_Fed_102H___9.625_36__J_55_BTC__casing_20240701121850.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Data_Sheet___Paragon_PIXS___7_x_453__32.00___HC_L80_20231211135327.pdf

Casing Design Assumptions and Worksheet(s):

Silverback_Exploration___Warren_ANW_Fed_102H___7_32__L_80_HC_PIXS_casing_20240701121904.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Silverback_Exploration___Warren_ANW_Fed_102H___7_32__L_80_HC_PIXS_casing_20240701122011.pdf

Casing Design Assumptions and Worksheet(s):

Silverback_Exploration___Warren_ANW_Fed_102H___7_32__L_80_HC_PIXS_casing_20240701122013.pdf

Section 4 - Cement

Operator Name: SILVERBACK OPERATING II LLC

Well Name: WARREN ANW FEDERAL **Well Number:** 102H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	N/A	N/A
PRODUCTION	Tail		3992	8453	1334	1.15	14.8		20	Class C	50% B_Poz + 50% Class C + 0.1% FR-5 0.4% CFL-316 + 0.05% C-37 + 0.005 GPS NoFoam V1A
SURFACE	Lead		0	200	121	2.3	12.5	121	100	Class C	5% Salt + 2% Extender + 3pps Kolseal + 5 pps Pumice + 0.125 pps Cellophane
SURFACE	Tail		200	500	187	1.34	12.5		20	Class C	2% CaCl2
INTERMEDIATE	Lead		0	250	226	1.87	12.9	226	50	Class C	5% Salt + 2% Extender + 3pps Kolseal + 5 pps Pumice + 0.125 pps Cellophane
INTERMEDIATE	Tail		250	750	163	1.15	14.8		20	Class C	50% B_Poz + 50% Class C + 0.1% FR-5 0.4% CFL-316 + 0.05% C-37 + 0.005 GPS NoFoam V1A
PRODUCTION	Lead		0	2120	170	2.81	11.5	170	50	Class C	50% B_Poz + 50% Class C + 10% Gel + 5% SALT + 0.5% SMS + 0.4% FR-5 + 0.1% SA-1 + 3 pps Gilsonite + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
PRODUCTION	Tail		2120	3392	200	1.15	14.8		20	Class C	50% B_Poz + 50% Class C + 0.1% FR-5 0.4% CFL-316 + 0.05% C-37 + 0.005 GPS NoFoam V1A

Operator Name: SILVERBACK OPERATING II LLC

Well Name: WARREN ANW FEDERAL **Well Number:** 102H

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: Mud weight increases at shoe depths are for pressure control. Mud weight increase in the curve and lateral section of the hole are for hole stability, not pressure control. Mud weight assumptions for casing load designs exceed anticipated maximum mud weight for balanced drilling in all hole sections. Expected mud weights in producing formation will be 0.5 to 1.0 ppg greater than formation pressure (i.e. overbalanced drilling). An industry accepted medium will be stored on location in the event that there is a loss of circulation in the well bore.
Describe the mud monitoring system utilized: The mud system will run as a closed loop system with PVT monitoring. All drill cuttings and liquid mud will be hauled to an approved site for disposal or soil farmed upon receiving appropriate approval.

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	WATER-BASED MUD	8.4	9.5	47.2	0.99	9.5	1	800		
0	750	WATER-BASED MUD	8.4	9.5	47.2	0.99	9.5	1	800		
0	2834	OTHER : Cut Brine	8.9	9.1	51.1	0.99	9.5	1	110000		
2834	8453	OTHER : Cut Brine	8.9	9.1	51.1	0.99	9.5	1	110000		

Operator Name: SILVERBACK OPERATING II LLC

Well Name: WARREN ANW FEDERAL **Well Number:** 102H

Section 6 - Test, Logging, Coring

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

Production tests are not planned

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

MUD LOG/GEOLOGICAL LITHOLOGY LOG,MEASUREMENT WHILE DRILLING,GAMMA RAY LOG,

Coring operation description for the well:

Coring operations are not planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 1700 **Anticipated Surface Pressure:** 1077

Anticipated Bottom Hole Temperature(F): 93

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

Silverback_H2S_Plan_20231210232633.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Warren_ANW_Federal_102H_Plan_1r0_20240701121248.pdf

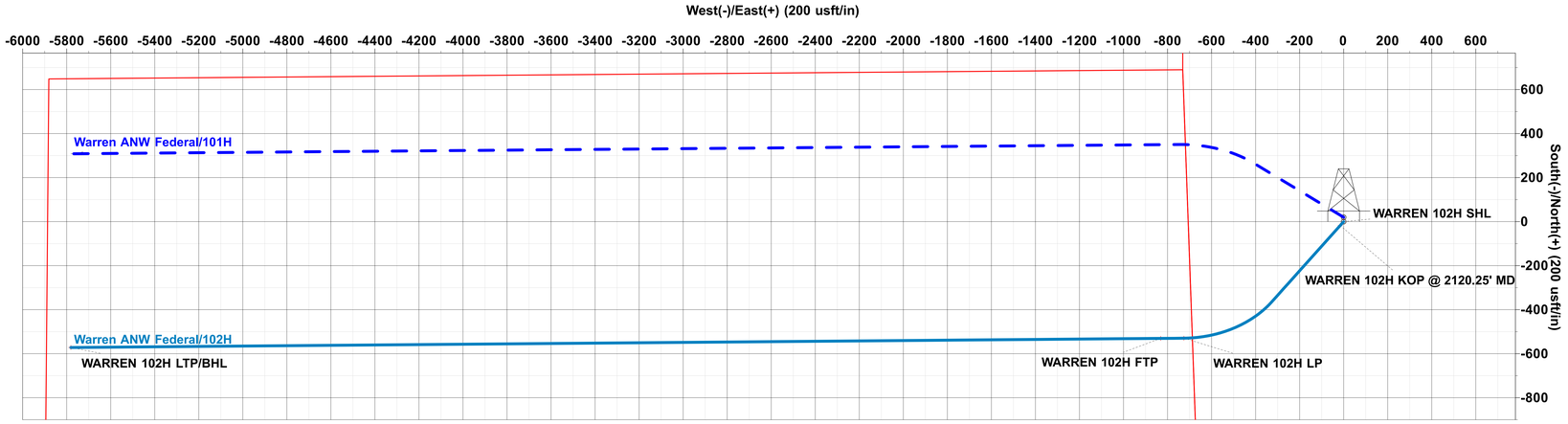
Other proposed operations facets description:

Other proposed operations facets attachment:

Other Variance attachment:

SILVERBACK EXPLORATION

Project: EDDY COUNTY, NM (NAD 83 - NME)
Site: Warren ANW Federal
Well: 102H
Wellbore: Wellbore #1
Design: Plan 1r0



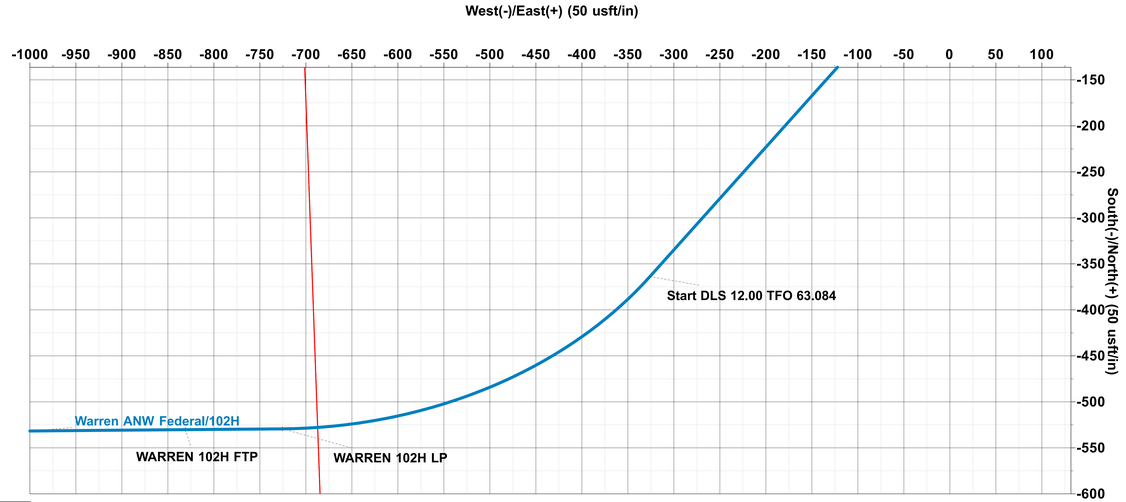
WELL DETAILS: 102H

Rig Name: AKITA 519 RKB = 16.2' @ 3520.20usft (AKITA 519)
Ground Level: 3504.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	608927.40	496465.00	32.6739018	-104.4791655

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	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	
3	750.00	5.00	221.86	749.68	-8.12	-7.27	2.00	7.34	
4	770.00	5.00	221.86	769.61	-9.42	-8.44	0.00	8.52	
5	1020.00	0.00	0.00	1019.29	-17.54	-15.71	2.00	15.86	
6	2120.25	0.00	0.00	2119.54	-17.54	-15.71	0.00	15.86	
7	2720.22	60.00	221.86	2615.72	-230.87	-206.88	10.00	208.81	
8	2926.37	60.00	221.86	2718.80	-363.83	-326.02	0.00	329.06	
9	3392.24	92.54	269.52	2834.27	-529.35	-725.55	12.00	729.96	
10	8452.74	92.54	269.52	2610.00	-571.70	-5780.90	0.00	5785.49	WARREN 102H LTP/BHL

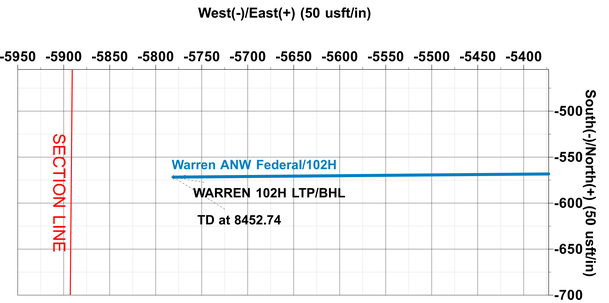


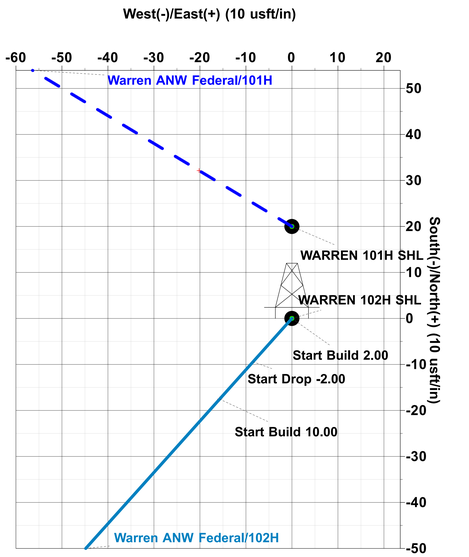
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WARREN 102H SHL	0.00	0.00	0.00	608927.40	496465.00	32.6739018	-104.4791655
WARREN 102H KOP @ 2120.25' MD	2119.54	-17.54	-15.71	608909.86	496449.29	32.6738535	-104.4792165
WARREN 102H LTP/BHL	2610.00	-571.70	-5780.90	608355.70	490684.10	32.6723071	-104.4979501
WARREN 102H FTP	2830.00	-530.00	-831.00	608397.40	495634.00	32.6724418	-104.4818638
WARREN 102H LP	2834.27	-529.35	-725.55	608398.05	495739.45	32.6724440	-104.4815211

PROJECT DETAILS: EDDY COUNTY, NM (NAD 83 - NME)

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 1r0 (102H/Wellbore #1)

Created By: PROTOTYPE WELL PLANNING / Date: 10:10, July 05 2023

SILVERBACK EXPLORATION

EDDY COUNTY, NM (NAD 83 - NME)
Warren ANW Federal
102H

Wellbore #1

Plan: Plan 1r0

Standard Planning Report

05 July, 2023

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 102H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Site:	Warren ANW Federal	**North Reference:**	Grid
Well:	102H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1r0		

Project EDDY COUNTY, NM (NAD 83 - NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Warren ANW Federal

Site Position:		**Northing:**	608,947.40 usft	**Latitude:**	32.6739568
From:	Map	**Easting:**	496,465.00 usft	**Longitude:**	-104.4791656
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.079 °

Well 102H

Well Position	**+N/-S**	-20.00 usft	**Northing:**	608,927.40 usft	**Latitude:**	32.6739018
	+E/-W	0.00 usft	**Easting:**	496,465.00 usft	**Longitude:**	-104.4791655
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,504.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	06/29/23	6.761	60.108	47,453

Design Plan 1r0

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	269.52

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.000	
750.00	5.00	221.86	749.68	-8.12	-7.27	2.00	2.00	0.00	221.860	
770.00	5.00	221.86	769.61	-9.42	-8.44	0.00	0.00	0.00	0.000	
1,020.00	0.00	0.00	1,019.29	-17.54	-15.71	2.00	-2.00	0.00	180.000	
2,120.25	0.00	0.00	2,119.54	-17.54	-15.71	0.00	0.00	0.00	0.000	
2,720.22	60.00	221.86	2,615.72	-230.87	-206.88	10.00	10.00	0.00	221.864	
2,926.37	60.00	221.86	2,718.81	-363.83	-326.02	0.00	0.00	0.00	0.000	
3,392.24	92.54	269.52	2,834.27	-529.35	-725.55	12.00	6.99	10.23	63.084	
8,452.74	92.54	269.52	2,610.00	-571.70	-5,780.90	0.00	0.00	0.00	0.000	WARREN 102H LTI

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 102H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Site:	Warren ANW Federal	**North Reference:**	Grid
Well:	102H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1r0		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WARREN 102H SHL									
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	2.00	221.86	599.98	-1.30	-1.16	1.18	2.00	2.00	0.00
700.00	4.00	221.86	699.84	-5.20	-4.66	4.70	2.00	2.00	0.00
750.00	5.00	221.86	749.68	-8.12	-7.27	7.34	2.00	2.00	0.00
770.00	5.00	221.86	769.61	-9.42	-8.44	8.52	0.00	0.00	0.00
800.00	4.40	221.86	799.51	-11.25	-10.08	10.17	2.00	-2.00	0.00
900.00	2.40	221.86	899.32	-15.66	-14.04	14.17	2.00	-2.00	0.00
1,000.00	0.40	221.86	999.29	-17.48	-15.67	15.81	2.00	-2.00	0.00
1,020.00	0.00	0.00	1,019.29	-17.54	-15.71	15.86	2.00	-2.00	0.00
1,100.00	0.00	0.00	1,099.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,200.00	0.00	0.00	1,199.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,300.00	0.00	0.00	1,299.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,400.00	0.00	0.00	1,399.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,500.00	0.00	0.00	1,499.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,600.00	0.00	0.00	1,599.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,700.00	0.00	0.00	1,699.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,800.00	0.00	0.00	1,799.29	-17.54	-15.71	15.86	0.00	0.00	0.00
1,900.00	0.00	0.00	1,899.29	-17.54	-15.71	15.86	0.00	0.00	0.00
2,000.00	0.00	0.00	1,999.29	-17.54	-15.71	15.86	0.00	0.00	0.00
2,100.00	0.00	0.00	2,099.29	-17.54	-15.71	15.86	0.00	0.00	0.00
2,120.25	0.00	0.00	2,119.54	-17.54	-15.71	15.86	0.00	0.00	0.00
WARREN 102H KOP @ 2120.25' MD									
2,150.00	2.97	221.86	2,149.28	-18.11	-16.23	16.38	10.00	10.00	0.00
2,200.00	7.97	221.86	2,199.03	-21.66	-19.41	19.59	10.00	10.00	0.00
2,250.00	12.97	221.86	2,248.18	-28.43	-25.48	25.71	10.00	10.00	0.00
2,300.00	17.97	221.86	2,296.36	-38.36	-34.38	34.70	10.00	10.00	0.00
2,350.00	22.97	221.86	2,343.18	-51.38	-46.04	46.47	10.00	10.00	0.00
2,400.00	27.97	221.86	2,388.31	-67.40	-60.39	60.95	10.00	10.00	0.00
2,450.00	32.97	221.86	2,431.39	-86.27	-77.31	78.03	10.00	10.00	0.00
2,500.00	37.97	221.86	2,472.09	-107.88	-96.67	97.57	10.00	10.00	0.00
2,550.00	42.97	221.86	2,510.11	-132.04	-118.32	119.42	10.00	10.00	0.00
2,600.00	47.97	221.86	2,545.16	-158.58	-142.10	143.43	10.00	10.00	0.00
2,650.00	52.97	221.86	2,576.97	-187.29	-167.83	169.40	10.00	10.00	0.00
2,700.00	57.97	221.86	2,605.30	-217.96	-195.32	197.13	10.00	10.00	0.00
2,720.22	60.00	221.86	2,615.72	-230.87	-206.88	208.81	10.00	10.00	0.00
2,800.00	60.00	221.86	2,655.61	-282.32	-252.99	255.34	0.00	0.00	0.00
2,900.00	60.00	221.86	2,705.62	-346.82	-310.78	313.68	0.00	0.00	0.00
2,926.37	60.00	221.86	2,718.81	-363.83	-326.02	329.06	0.00	0.00	0.00
2,950.00	61.31	224.75	2,730.38	-378.81	-340.15	343.31	12.00	5.56	12.20
2,975.00	62.77	227.72	2,742.11	-394.08	-356.09	359.38	12.00	5.82	11.88
3,000.00	64.29	230.61	2,753.25	-408.71	-373.02	376.44	12.00	6.07	11.57
3,025.00	65.86	233.42	2,763.79	-422.65	-390.89	394.42	12.00	6.29	11.27
3,050.00	67.48	236.17	2,773.69	-435.88	-409.65	413.29	12.00	6.49	10.99
3,075.00	69.15	238.86	2,782.93	-448.35	-429.24	432.98	12.00	6.67	10.73
3,100.00	70.86	241.48	2,791.48	-460.04	-449.62	453.46	12.00	6.84	10.49
3,125.00	72.60	244.05	2,799.32	-470.90	-470.73	474.66	12.00	6.98	10.28
3,150.00	74.38	246.57	2,806.43	-480.91	-492.50	496.52	12.00	7.11	10.08
3,175.00	76.19	249.05	2,812.78	-490.04	-514.89	518.98	12.00	7.23	9.91

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 102H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Site:	Warren ANW Federal	**North Reference:**	Grid
Well:	102H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1r0		

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)
3,200.00	78.02	251.48	2,818.36	-498.26	-537.83	541.98	12.00	7.32	9.75
3,225.00	79.87	253.89	2,823.15	-505.56	-561.25	565.46	12.00	7.41	9.62
3,250.00	81.74	256.27	2,827.15	-511.91	-585.09	589.36	12.00	7.48	9.51
3,275.00	83.62	258.62	2,830.33	-517.30	-609.29	613.61	12.00	7.53	9.42
3,300.00	85.52	260.96	2,832.70	-521.71	-633.78	638.13	12.00	7.57	9.35
3,325.00	87.42	263.29	2,834.24	-525.13	-658.50	662.88	12.00	7.60	9.30
3,350.00	89.32	265.60	2,834.95	-527.55	-683.37	687.76	12.00	7.62	9.27
3,375.00	91.23	267.92	2,834.83	-528.96	-708.33	712.73	12.00	7.62	9.27
3,392.24	92.54	269.52	2,834.27	-529.35	-725.55	729.96	12.00	7.62	9.28
WARREN 102H LP									
3,400.00	92.54	269.52	2,833.92	-529.41	-733.30	737.71	0.00	0.00	0.00
3,497.78	92.54	269.52	2,829.59	-530.23	-830.98	835.39	0.00	0.00	0.00
WARREN 102H FTP									
3,500.00	92.54	269.52	2,829.49	-530.25	-833.20	837.61	0.00	0.00	0.00
3,600.00	92.54	269.52	2,825.06	-531.09	-933.10	937.52	0.00	0.00	0.00
3,700.00	92.54	269.52	2,820.63	-531.92	-1,033.00	1,037.42	0.00	0.00	0.00
3,800.00	92.54	269.52	2,816.19	-532.76	-1,132.90	1,137.32	0.00	0.00	0.00
3,900.00	92.54	269.52	2,811.76	-533.60	-1,232.79	1,237.22	0.00	0.00	0.00
4,000.00	92.54	269.52	2,807.33	-534.43	-1,332.69	1,337.12	0.00	0.00	0.00
4,100.00	92.54	269.52	2,802.90	-535.27	-1,432.59	1,437.02	0.00	0.00	0.00
4,200.00	92.54	269.52	2,798.47	-536.11	-1,532.49	1,536.93	0.00	0.00	0.00
4,300.00	92.54	269.52	2,794.04	-536.94	-1,632.39	1,636.83	0.00	0.00	0.00
4,400.00	92.54	269.52	2,789.60	-537.78	-1,732.29	1,736.73	0.00	0.00	0.00
4,500.00	92.54	269.52	2,785.17	-538.62	-1,832.18	1,836.63	0.00	0.00	0.00
4,600.00	92.54	269.52	2,780.74	-539.46	-1,932.08	1,936.53	0.00	0.00	0.00
4,700.00	92.54	269.52	2,776.31	-540.29	-2,031.98	2,036.44	0.00	0.00	0.00
4,800.00	92.54	269.52	2,771.88	-541.13	-2,131.88	2,136.34	0.00	0.00	0.00
4,900.00	92.54	269.52	2,767.45	-541.97	-2,231.78	2,236.24	0.00	0.00	0.00
5,000.00	92.54	269.52	2,763.01	-542.80	-2,331.68	2,336.14	0.00	0.00	0.00
5,100.00	92.54	269.52	2,758.58	-543.64	-2,431.57	2,436.04	0.00	0.00	0.00
5,200.00	92.54	269.52	2,754.15	-544.48	-2,531.47	2,535.94	0.00	0.00	0.00
5,300.00	92.54	269.52	2,749.72	-545.31	-2,631.37	2,635.85	0.00	0.00	0.00
5,400.00	92.54	269.52	2,745.29	-546.15	-2,731.27	2,735.75	0.00	0.00	0.00
5,500.00	92.54	269.52	2,740.86	-546.99	-2,831.17	2,835.65	0.00	0.00	0.00
5,600.00	92.54	269.52	2,736.42	-547.82	-2,931.06	2,935.55	0.00	0.00	0.00
5,700.00	92.54	269.52	2,731.99	-548.66	-3,030.96	3,035.45	0.00	0.00	0.00
5,800.00	92.54	269.52	2,727.56	-549.50	-3,130.86	3,135.35	0.00	0.00	0.00
5,900.00	92.54	269.52	2,723.13	-550.34	-3,230.76	3,235.26	0.00	0.00	0.00
6,000.00	92.54	269.52	2,718.70	-551.17	-3,330.66	3,335.16	0.00	0.00	0.00
6,100.00	92.54	269.52	2,714.27	-552.01	-3,430.56	3,435.06	0.00	0.00	0.00
6,200.00	92.54	269.52	2,709.83	-552.85	-3,530.45	3,534.96	0.00	0.00	0.00
6,300.00	92.54	269.52	2,705.40	-553.68	-3,630.35	3,634.86	0.00	0.00	0.00
6,400.00	92.54	269.52	2,700.97	-554.52	-3,730.25	3,734.77	0.00	0.00	0.00
6,500.00	92.54	269.52	2,696.54	-555.36	-3,830.15	3,834.67	0.00	0.00	0.00
6,600.00	92.54	269.52	2,692.11	-556.19	-3,930.05	3,934.57	0.00	0.00	0.00
6,700.00	92.54	269.52	2,687.68	-557.03	-4,029.95	4,034.47	0.00	0.00	0.00
6,800.00	92.54	269.52	2,683.24	-557.87	-4,129.84	4,134.37	0.00	0.00	0.00
6,900.00	92.54	269.52	2,678.81	-558.70	-4,229.74	4,234.27	0.00	0.00	0.00
7,000.00	92.54	269.52	2,674.38	-559.54	-4,329.64	4,334.18	0.00	0.00	0.00
7,100.00	92.54	269.52	2,669.95	-560.38	-4,429.54	4,434.08	0.00	0.00	0.00
7,200.00	92.54	269.52	2,665.52	-561.22	-4,529.44	4,533.98	0.00	0.00	0.00
7,300.00	92.54	269.52	2,661.09	-562.05	-4,629.33	4,633.88	0.00	0.00	0.00
7,400.00	92.54	269.52	2,656.65	-562.89	-4,729.23	4,733.78	0.00	0.00	0.00
7,500.00	92.54	269.52	2,652.22	-563.73	-4,829.13	4,833.68	0.00	0.00	0.00

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 102H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 16.2' @ 3520.20usft (AKITA 519)
Site:	Warren ANW Federal	**North Reference:**	Grid
Well:	102H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1r0		

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)
7,600.00	92.54	269.52	2,647.79	-564.56	-4,929.03	4,933.59	0.00	0.00	0.00
7,700.00	92.54	269.52	2,643.36	-565.40	-5,028.93	5,033.49	0.00	0.00	0.00
7,800.00	92.54	269.52	2,638.93	-566.24	-5,128.83	5,133.39	0.00	0.00	0.00
7,900.00	92.54	269.52	2,634.50	-567.07	-5,228.72	5,233.29	0.00	0.00	0.00
8,000.00	92.54	269.52	2,630.06	-567.91	-5,328.62	5,333.19	0.00	0.00	0.00
8,100.00	92.54	269.52	2,625.63	-568.75	-5,428.52	5,433.10	0.00	0.00	0.00
8,200.00	92.54	269.52	2,621.20	-569.58	-5,528.42	5,533.00	0.00	0.00	0.00
8,300.00	92.54	269.52	2,616.77	-570.42	-5,628.32	5,632.90	0.00	0.00	0.00
8,400.00	92.54	269.52	2,612.34	-571.26	-5,728.22	5,732.80	0.00	0.00	0.00
8,452.74	92.54	269.52	2,610.00	-571.70	-5,780.90	5,785.49	0.00	0.00	0.00
WARREN 102H LTP/BHL									

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
WARREN 102H SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	608,927.40	496,465.00	32.6739018	-104.4791655
WARREN 102H KOP - plan hits target center - Point	0.00	0.00	2,119.54	-17.54	-15.71	608,909.87	496,449.29	32.6738536	-104.4792165
WARREN 102H LTP/I - plan hits target center - Point	0.00	360.00	2,610.00	-571.70	-5,780.90	608,355.70	490,684.10	32.6723071	-104.4979501
WARREN 102H FTP - plan misses target center by 0.47usft at 3497.78usft MD (2829.59 TVD, -530.23 N, -830.98 E) - Point	0.00	0.00	2,830.00	-530.00	-831.00	608,397.40	495,634.00	32.6724418	-104.4818638
WARREN 102H LP - plan hits target center - Point	0.00	0.00	2,834.27	-529.35	-725.55	608,398.06	495,739.45	32.6724440	-104.4815211

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Silverback Operating II LLC
WELL NAME & NO.:	Warren ANW Federal 102H
LOCATION:	Sec 10-19S-25E-NMP
COUNTY:	Eddy County, New Mexico

COA

H_2S	○ No		○ Yes	
Potash / WIPP	◉ None	○ Secretary	○ R-111-Q	☐ Open Annulus ☐ WIPP
Cave / Karst	○ Low	◉ Medium	○ High	○ Critical
Wellhead	◉ Conventional	○ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Capitan Reef	☐ Water Disposal	☐ COM	☐ Unit
Waste Prev.	○ Self-Certification	○ Waste Min. Plan	◉ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose ☐ Four-String	☐ Casing Clearance ☐ Offline Cementing	☐ Pilot Hole ☐ Fluid-Filled	☐ Break Testing

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **500** 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.

    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.

Approval Date: 02/21/2025

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 (***set at 1012' per BLM geologist)*** is:

   The operator has proposed utilize a DV tool. The selected depth is below the Salado and is an acceptable set point. Operator may adjust depth of DV tool if it remains below the Salado and cement volumes are adjusted accordingly. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

   b. **Second stage above DV tool:** Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

   ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

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. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

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 **5000 (5M)** psi.

 Approval Date: 02/21/2025

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.

Silverback Operating II, LLC
HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN
Barbara Federal Com 17 #201H
Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

This is an open drilling site. H2S monitoring equipment and emergency response equipment will be rigged up and in use when the company drills out from under surface casing. H2S monitors, warning signs, wind indicators and flags will be in use.

1. All personnel shall receive proper H2S training in accordance with Onshore Order 6 111.C.3.a

2. Briefing Area: Two perpendicular areas will be designated by signs and readily accessible.

3. Required Emergency Equipment:
   - 3.1. Well control equipment
     - 3.1.1. Flare line 150' from wellhead to be ignited by flare gun.
     - 3.1.2. Choke manifold with a remotely operated choke.
     - 3.1.3. Mud/Gas Separator.
   - 3.2. Protective Equipment for essential personnel.
     - 3.2.1. Breathing apparatus:
     - 3.2.2. Rescue Packs (SCBA) - 1 unit shall be placed at each briefing area. 2 units shall be stored in the safety trailer.
     - 3.2.3. Work/Escape packs - 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
     - 3.2.4. Emergency Escape Packs - 4 packs shall be stored in the doghouse for emergency evacuation.
   - 3.3. Auxiliary Rescue Equipment:
     - 3.3.1. Stretcher
     - 3.3.2. Two OSHA full body harness
     - 3.3.3. 100 ft. 5/8" OSHA approved rope
     - 3.3.4. One 20# class ABC fire extinguisher
   - 3.4. H2S detection and monitoring Equipment:
     - 3.4.1. The stationary detector with three sensors will be placed in the upper doghouse, 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 flare line or where well bore fluid is being discharged (Gas sample tubes will be stored in the safety trailer).
   - 3.5. Visual warning systems.
     - 3.5.1. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.

3.5.2. A colored condition flag will be on display, reflecting the current condition, at the drilling site.
3.5.3. Two windsocks will be placed in strategic locations, visible from all angles.
3.6. Mud Program:
3.6.1. The mud program has been designated 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.
3.7. Metallurgy:
3.7.1. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, shall be suitable for H2S service.
3.7.2. All elastomers used for packing and seals shall be H2S trim.
3.8. Communication:
3.8.1. Communication will be via two-way radio located in company vehicles. Cell phones and landlines where available.

H2S Operations

Though no H2S is anticipated during the drilling operation, this contingency plan will provide for methods to ensure the well is kept under control in the event an H2S reading of 100 ppm or more is encountered. Once personnel are safe and the proper protective gear is in place and on personnel, the operator and rig crew essential personnel will ensure the well is under control, suspend drilling operations and shut-in the well (unless pressure build up or other operational situations dictate suspending operations will prevent well control), increase the mud weight and circulate all gas from the hole utilizing the mud/gas separator downstream of the choke, the choke manifold and the emergency flare system located 150' from the well. Bring the mud system into compliance and the H2S level below 10 ppm, then notify all emergency officers that drilling ahead is practical and safe. Proceed with drilling ahead only after all provisions of Onshore Order 6, Section 111.C. have been satisfied.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

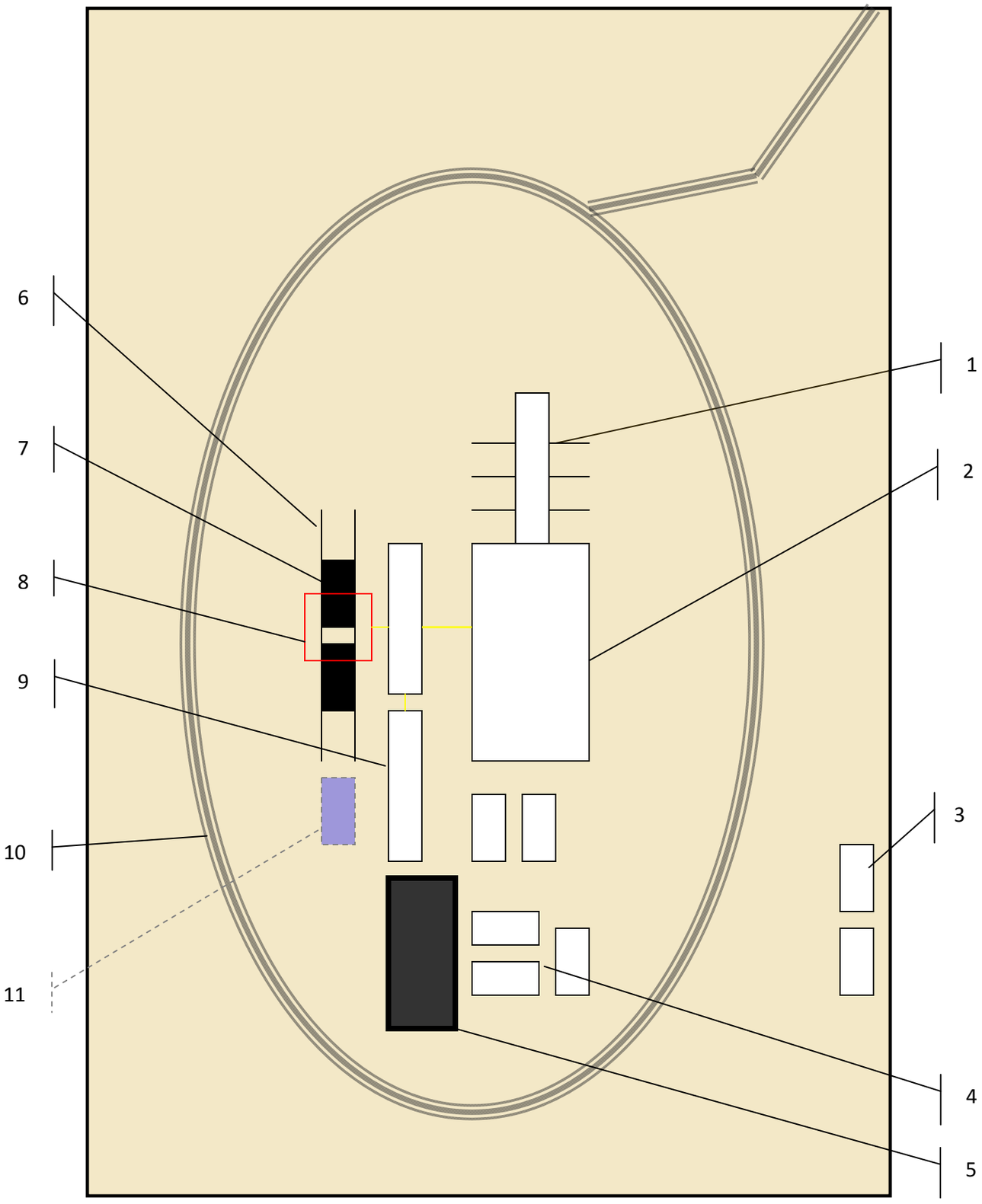
Characteristics of H2S and s02

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air= I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air= I	2 ppm	N/A	1000 ppm

Contacting Authorities

Silverback Operating II, LLC's personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Silverback's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

Public Safety	
Eddy County Sheriff	(575) 887-7551
Carlsbad Fire Department	(575) 885-3125
Artesia General Hospital	(575) 748-3333
Ambulance	911
Department of Public Safety	(392) 392-5588
Oil Conservation Division	(575) 748-1823
New Mexico Energy, Minerals & Natural Resources Department	(575) 748-1283
Silverback Operating II, LLC	
Drilling Manager	Wade Chapman- 361-215-2373
Drilling Engineer	
Operations Manager	Wade Chapman- 361-215-2373
Company Representative	Fatma Abdallah- 832-506-7262
Drilling Contractor	
Tool Pusher	
Relief Tool Pusher	
Drilling Manager	
Silverback Operating II, LLC Safety	
EHS Coordinator	Mark Ritchie- 713-553-8320
Field Safety Technician	
BLM ON-CALL LIST	
On-Call Engineer	575-706-2779
BLM Eddy County PET On-Call	575-361-2822
BLM Hobbs County PET On-Call	575-689-5981



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)**

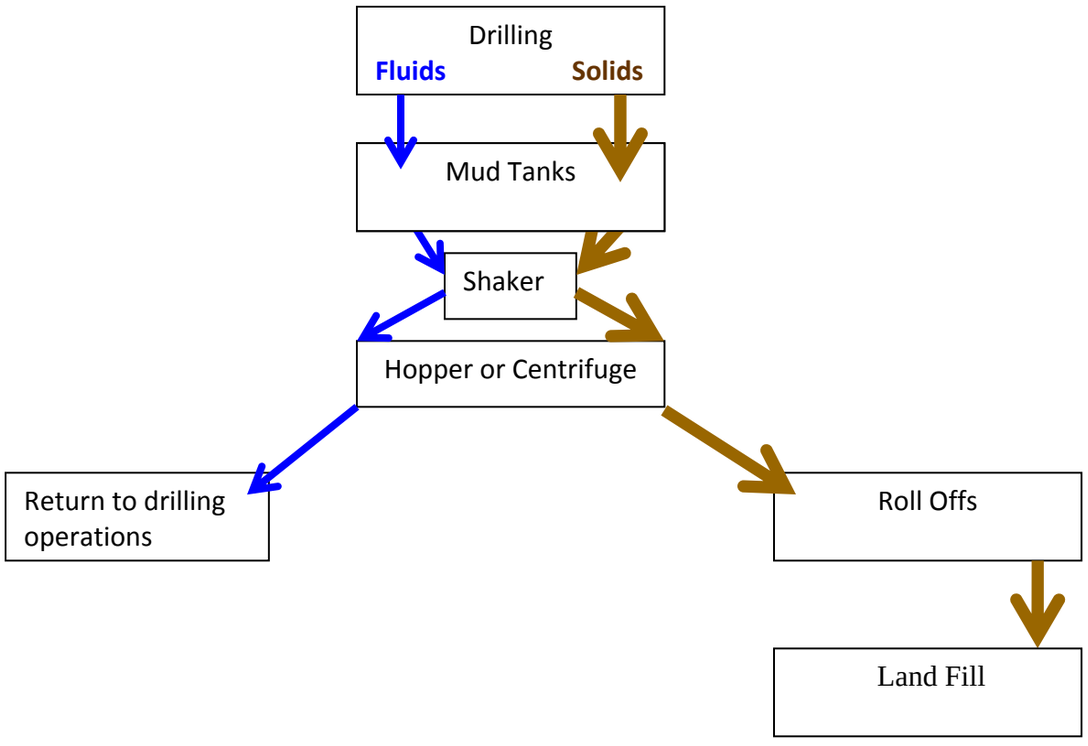
***Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available**

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: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 460355
	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.	5/8/2025
bwood	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	5/8/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	6/17/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	6/17/2025
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.	6/17/2025
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.	6/17/2025
ward.rikala	This well is in the Roswell Aquifer. Fresh water is to be used until the Roswell Aquifer is cased and cemented back to surface.	6/17/2025