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.: NMNM12833

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.: ARROW ARW FEDERAL COM 204H

2. Name of Operator: SILVERBACK OPERATING II LLC

9. API Well No.: 30-015-55353

3a. Address: 19707 IH 10 WEST SUITE 201, SAN ANTONIO, TX 7825

3b. Phone No. *(include area code)*: (303) 585-3316

10. Field and Pool, or Exploratory: N SEVEN RIVERS/GLORIETA-YESO

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

At surface: SENE / 2570 FNL / 275 FEL / LAT 32.675775 / LONG -104.464912

At proposed prod. zone: SENE / 2614 FNL / 100 FEL / LAT 32.675221 / LONG -104.447379

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 10/T19S/R25E/NMP

14. Distance in miles and direction from nearest town or post office*: 11 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): 70 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 480.0

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

19. Proposed Depth: 3785 feet / 9081 feet

20. BLM/BIA Bond No. in file: FED: NMB002001

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3466 feet

22. Approximate date work will start*: 06/01/2024

23. Estimated duration: 30 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRIAN WOOD / Ph: (303) 585-3316	01/31/2024

Title: Permitting Agent

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	07/23/2024

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: 07/23/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-55353	97565	N. SEVEN RIVERS; GLORIETA-YESO

[4] Property Code	[5] Property Name	[6] Well Number
331814	ARROW ARW FEDERAL COM	204H

[7] OGRID No.	[8] Operator Name	[9] Elevation
330968	SILVERBACK OPERATING II, LLC.	3,466'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	10	19-S	25-E		2,570'	NORTH	275'	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	11	19-S	25-E		2,614'	NORTH	100'	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
480.00		C	NSP

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.

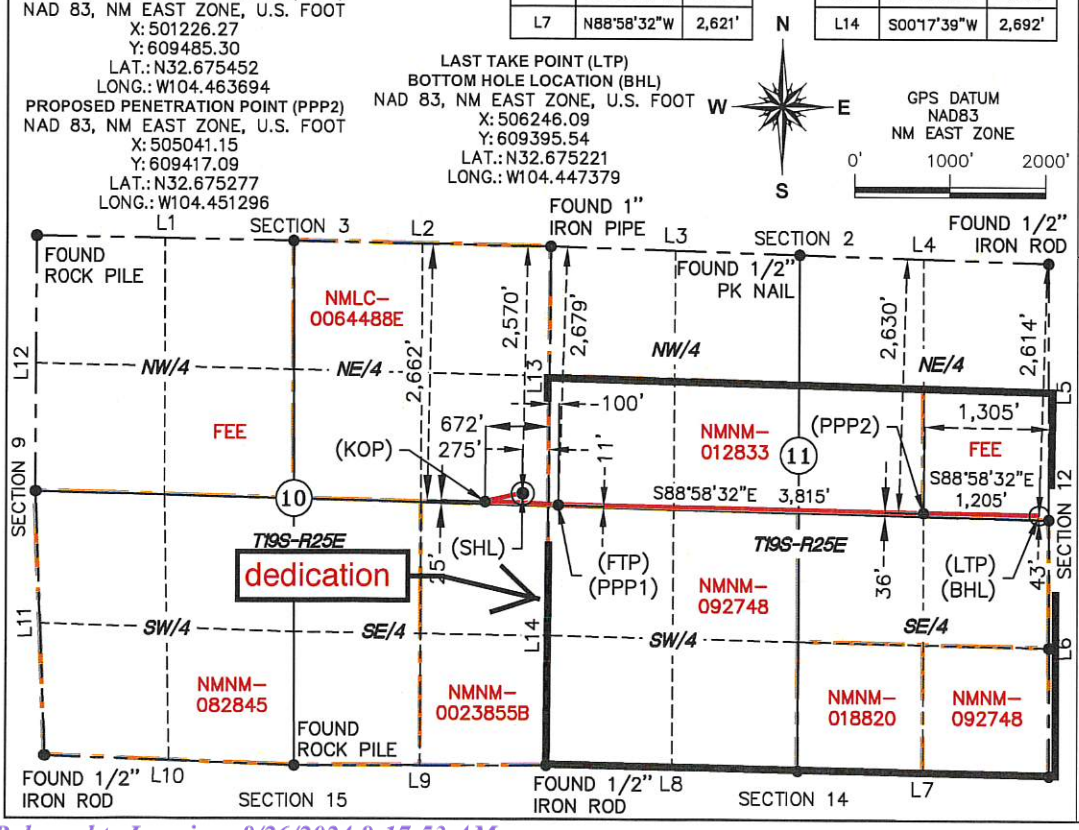
SURFACE HOLE LOCATION (SHL)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 500851.57
Y: 609603.30
LAT.: N32.675775
LONG.: W104.464912
KICK OFF POINT (KOP)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 500454.68
Y: 609519.12
LAT.: N32.675543
LONG.: W104.466202
FIRST TAKE POINT (FTP)
PROPOSED PENETRATION POINT (PPP1)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 501226.27
Y: 609485.30
LAT.: N32.675452
LONG.: W104.463694
PROPOSED PENETRATION POINT (PPP2)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 505041.15
Y: 609417.09
LAT.: N32.675277
LONG.: W104.451296

LINE TABLE		
LINE #	BEARING	LENGTH
L1	S88°59'22"E	2,703'
L2	S88°56'03"E	2,702'
L3	S88°14'25"E	2,601'
L4	S88°13'57"E	2,601'
L5	S00°08'47"E	2,659'
L6	S00°08'47"E	2,659'
L7	N88°58'32"W	2,621'

LINE TABLE		
LINE #	BEARING	LENGTH
L8	N88°58'32"W	2,621'
L9	S89°50'50"W	2,653'
L10	N87°51'57"W	2,629'
L11	N02°03'41"W	2,744'
L12	N00°03'37"E	2,649'
L13	S00°17'39"W	2,692'
L14	S00°17'39"W	2,692'

LAST TAKE POINT (LTP)
BOTTOM HOLE LOCATION (BHL)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 506246.09
Y: 609395.54
LAT.: N32.675221
LONG.: W104.447379

GPS DATUM
NAD83
NM EAST ZONE



[17] OPERATOR CERTIFICATION

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

Signature 1-26-24 Date

BRIAN WOOD
Printed Name

brian@permitswest.com
E-mail Address

505 466-8120

[18] SURVEYOR CERTIFICATION

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

1/22/24
Date of Survey

Signature and Seal of Professional Surveyor:

MATTHEW C. BISSETT
NEW MEXICO
20450
PROFESSIONAL SURVEYOR

20450
Certificate Number

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:** ___/___/ 2024

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
See attached						

IV. Central Delivery Point Name: Arrow ARW Federal Com 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
See attached						

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
See attached			

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
See attached				

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:	
Phone:	210-585-3316

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

[redacted]

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
[redacted]						
[redacted]						

[redacted]

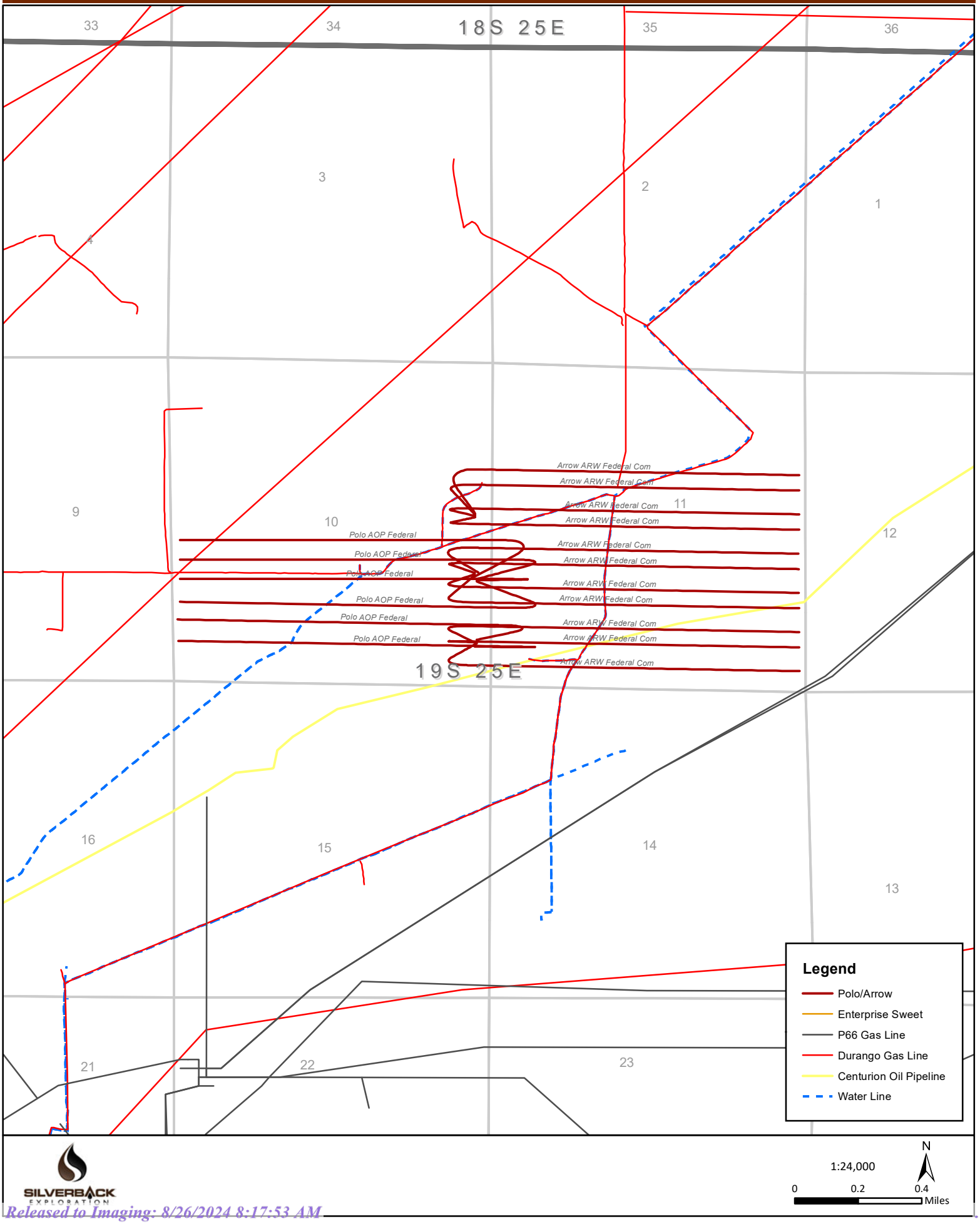
[redacted]

		Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF
[redacted]			

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	[redacted]	Available Maximum Daily Capacity of System Segment Tie-in
[redacted]				

Silverback Exploration: Polo/Arrow



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

Silverback Operating II, LLC DRILL PLAN PAGE 1
Arrow ARW Federal Com 204H
SHL: 2570' FNL & 275' FEL 10-19S-25E
BHL: 2614' FNL & 100' FEL 11-19S-25E
Eddy County, NM

Drilling Program

1. ESTIMATED TOPS

Formation/Lithology	TVD	MD	Contains
Quaternary caliche	000'	000'	water
San Andres dolomite	1017'	1022'	hydrocarbons
Glorieta dolomite	2581'	2617'	hydrocarbons
(KOP	2721'	2759'	hydrocarbons)
Paddock member of the Yeso dolomite	2903'	2943'	hydrocarbons
Blinebry member of the Yeso dolomite	3188'	3241'	hydrocarbons
TD	3785'	9081'	hydrocarbons

2. NOTABLE ZONES

Yeso Blinebry is the goal. Closest water well (RA 04208) is 0.85 mile north. Water bearing strata were found from 80' to 90' in the 110' deep well.

3. PRESSURE CONTROL

A 5000-psi 5000' rated BOP stack consisting of annular preventer and double (blind and pipe) ram will be used below surface casing to TD. See attached BOP and choke manifold diagram.

A third-party testing company will conduct pressure tests and record the results before drilling out below casing shoes. The BOP, choke, choke manifold, top drive valves, and floor safety valve will be tested to 3500 psi before drilling below the surface casing shoe. The annular preventer will be tested to 3500 psi before drilling below the surface casing shoe.

Silverback Operating II, LLC DRILL PLAN PAGE 2
Arrow ARW Federal Com 204H
SHL: 2570' FNL & 275' FEL 10-19S-25E
BHL: 2614' FNL & 100' FEL 11-19S-25E
Eddy County, NM

BOP equipment will 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. Weekly BOP drills will be held with each crew.

Floor safety valves that are full open and sized to fit the drill pipe and collars will be available on the rig floor in the open position when the Kelly is not in use.

A variance is requested to the requirement of a rigid steel line connecting to the choke manifold. Flex hose specifications are attached.

4. CASING & CEMENT

All casing will be API and new.

Hole O. D.	Set MD	Set TVD	Casing O. D.	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
12.25"	0' - 1250'	0' - 1224'	Surface 9.625"	36	J-55	BTC	3.26	2.24	14.97
8.75"	0' - 3872'	0' – 3544'	Product. 7"	32	L-80	HC PIXS	6.361	2.134	10.904
	3872' – 9081'	3544' – 3785'	Product. 5.5"	20	L-80	HC PIXS	8.95	2.63	100.00

Silverback Operating II, LLC
Arrow ARW Federal Com 204H
SHL: 2570' FNL & 275' FEL 10-19S-25E
BHL: 2614' FNL & 100' FEL 11-19S-25E
Eddy County, NM

DRILL PLAN PAGE 3

Casing Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Lead	259	2.30	595	12.5	Class C + 5% salt + 2% extender + 3 pps coal seal + 5 pps pumice + 1/8 pps cello-flake
	Tail	84	1.34	112	14.8	Class C + 2% $CaCl_2$
TOC = GL		>20% Excess			11 bow spring centralizers	
Production Top	Lead GL – 1773'	142	2.81	399	11.5	50% Class B poz + 50% Class C + 10% gel + 5% salt + 0.5% SMS + 0.4% FR-5 + 0.1% SA-1+ 3 pps gilsonite + 0.25 pps pol-e-flake + 0.005 GPS No Foam V1A
	Tail 1773' – 3872'	329	1.15	378	14.8	Class C + CFL-316 + 0.05% C-37 + 0.005 GPS No Foam V!A
TOC = GL		>20%			13 bow spring + 50 double bow	
Production Bottom	Tail 3872' – 9081'	1373	1.15	1578	14.8	50% Class B poz + 50% Class C + 0.1% FR-5 + 0.4% CFL-316 + 0.05% C-37 + 0.005 GPS No Foam V1A
TOC = 3872'		20% excess			125 solid bodies	

5. MUD PROGRAM

An electronic/mechanical mud monitor with a minimum pit volume totalizer, stroke counter, and flow sensor will be used. All necessary mud products (e. g., LCM) to handle any abnormal hole condition that may be encountered while drilling this well will be on site. A closed loop system will be used.

Type	Interval (MD)	lb/gal	Viscosity	Fluid Loss
fresh water	0' - 1250'	8.4 – 9.5	32 - 34	NC
cut brine	1250' - 1773'	8.9 – 9.1	32 - 34	NC
cut brine	1773' - 9081'	8.9 - 9.1	32 - 34	NC

6. CORES, TESTS, & LOGS

No core or drill stem test is planned.

Mud loggers will collect samples from base of surface casing to TD. GR and SP/CNL logs will be run from 1250' to 2853'. CBL will be run from 1250' to TD.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is 1900 psi. Expected bottom hole temperature is 90˚ F.

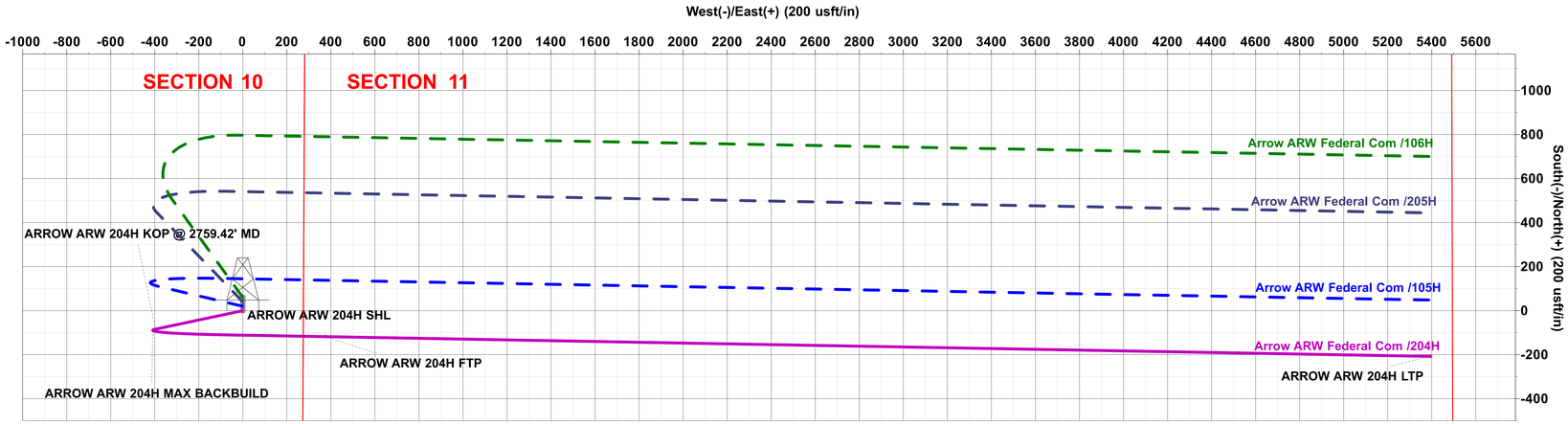
A Hydrogen Sulfide Drilling Operation Plan is attached.

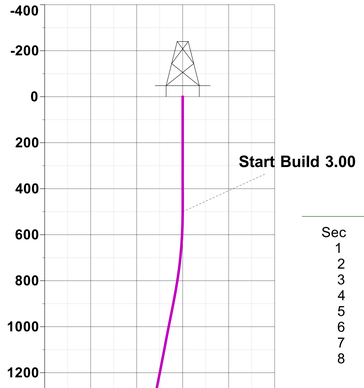
8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈1 month to drill and complete the well.

SILVERBACK EXPLORATION

Project: EDDY COUNTY, NM (NAD 83 - NME)
Site: Arrow ARW Federal Com
Well: 204H
Wellbore: OH
Design: Plan 2r0





WELL DETAILS: 204H

Rig Name: TBD RKB = 20' @ 3485.00usft (TBD)
Ground Level: 3465.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	609603.30	500851.57	32.6757754	-104.4649123

SECTION DETAILS

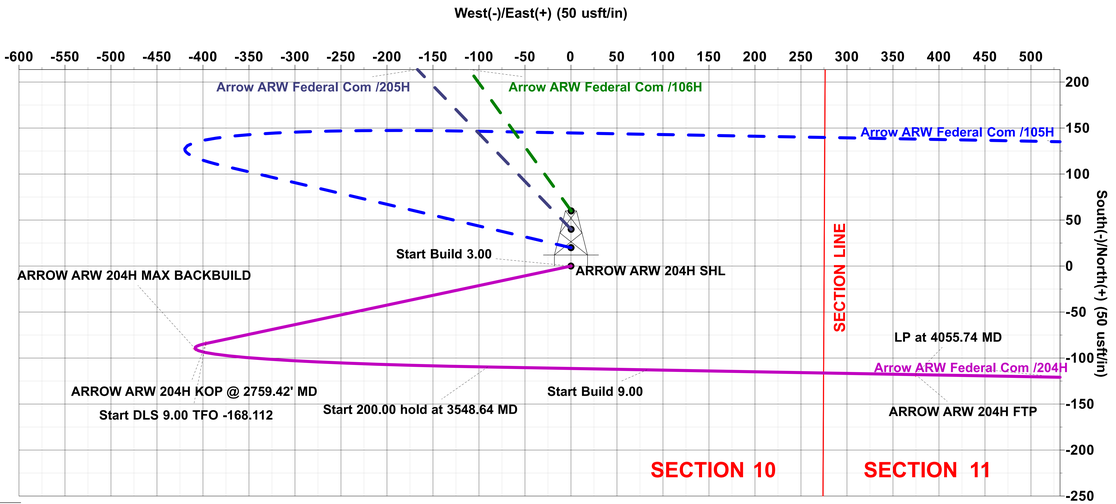
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	
3	876.44	11.29	258.02	874.01	-7.67	-36.17	3.00	-36.03	
4	2759.42	11.29	258.02	2720.52	-84.18	-396.89	0.00	-395.33	
5	3548.64	60.00	91.02	3393.25	-109.68	-90.52	9.00	-88.55	
6	3748.64	60.00	91.02	3493.25	-112.78	82.66	0.00	84.66	
7	4055.74	87.64	91.02	3578.00	-118.00	374.70	9.00	376.74	ARROW ARW 204H FTP
8	9080.63	87.64	91.02	3785.00	-207.76	5394.52	0.00	5397.36	ARROW ARW 204H LTP

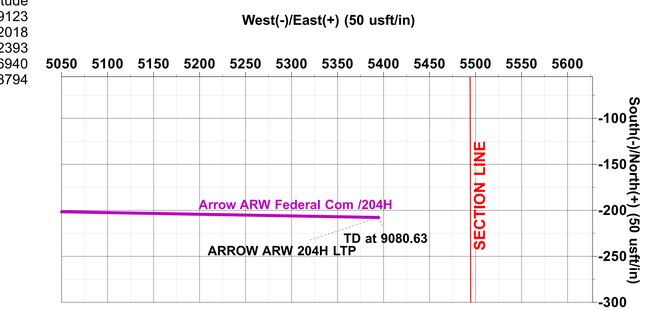
DESIGN TARGET DETAILS

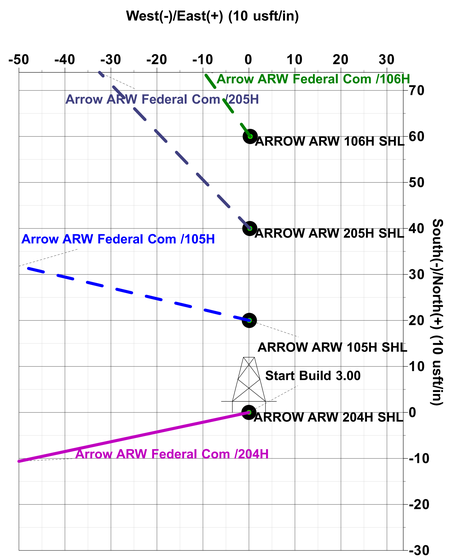
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
ARROW ARW 204H SHL	0.00	0.00	0.00	609603.30	500851.57	32.6757754	-104.4649123
ARROW ARW 204H KOP @ 2759.42' MD	2719.52	-84.18	-396.89	609519.12	500454.68	32.6755426	-104.4662018
ARROW ARW 204H MAX BACKBUILD	2859.23	-89.89	-408.43	609513.41	500443.14	32.6755269	-104.4662393
ARROW ARW 204H FTP	3578.00	-118.00	374.70	609485.30	501226.27	32.6754523	-104.4636940
ARROW ARW 204H LTP	3785.00	-207.76	5394.52	609395.54	506246.09	32.6752215	-104.4473794

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 2r0 (204H/OH)

Created By: PROTOTYPE WELL PLANNING / Date: 11:38, November 13 2023

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 204H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Site:	Arrow ARW Federal Com	**North Reference:**	Grid
Well:	204H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2r0		

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 Arrow ARW Federal Com

Site Position:		**Northing:**	609,623.30 usft	**Latitude:**	32.6758304
From:	Map	**Easting:**	500,851.67 usft	**Longitude:**	-104.4649120
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.071 °

Well 204H

Well Position	**+N/-S**	-20.00 usft	**Northing:**	609,603.30 usft	**Latitude:**	32.6757754
	+E/-W	-0.10 usft	**Easting:**	500,851.57 usft	**Longitude:**	-104.4649123
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,465.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/13/23	6.711	60.100	47,417

Design Plan 2r0

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	91.02

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	
876.44	11.29	258.02	874.01	-7.67	-36.17	3.00	3.00	0.00	258.024	
2,759.42	11.29	258.02	2,720.52	-84.18	-396.89	0.00	0.00	0.00	0.000	
3,548.64	60.00	91.02	3,393.25	-109.68	-90.52	9.00	6.17	-21.16	-168.112	
3,748.64	60.00	91.02	3,493.25	-112.78	82.66	0.00	0.00	0.00	0.000	
4,055.74	87.64	91.02	3,578.00	-118.00	374.70	9.00	9.00	0.00	0.000	ARROW ARW 204H
9,080.63	87.64	91.02	3,785.00	-207.76	5,394.52	0.00	0.00	0.00	0.000	ARROW ARW 204H

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 204H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Site:	Arrow ARW Federal Com	**North Reference:**	Grid
Well:	204H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2r0		

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
ARROW ARW 204H 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	3.00	258.02	599.95	-0.54	-2.56	-2.55	3.00	3.00	0.00
700.00	6.00	258.02	699.63	-2.17	-10.23	-10.19	3.00	3.00	0.00
800.00	9.00	258.02	798.77	-4.88	-23.00	-22.91	3.00	3.00	0.00
876.44	11.29	258.02	874.01	-7.67	-36.17	-36.03	3.00	3.00	0.00
900.00	11.29	258.02	897.11	-8.63	-40.69	-40.53	0.00	0.00	0.00
1,000.00	11.29	258.02	995.17	-12.69	-59.84	-59.61	0.00	0.00	0.00
1,100.00	11.29	258.02	1,093.24	-16.76	-79.00	-78.69	0.00	0.00	0.00
1,200.00	11.29	258.02	1,191.30	-20.82	-98.16	-97.77	0.00	0.00	0.00
1,300.00	11.29	258.02	1,289.37	-24.88	-117.31	-116.85	0.00	0.00	0.00
1,400.00	11.29	258.02	1,387.43	-28.95	-136.47	-135.93	0.00	0.00	0.00
1,500.00	11.29	258.02	1,485.49	-33.01	-155.63	-155.02	0.00	0.00	0.00
1,600.00	11.29	258.02	1,583.56	-37.07	-174.78	-174.10	0.00	0.00	0.00
1,700.00	11.29	258.02	1,681.62	-41.14	-193.94	-193.18	0.00	0.00	0.00
1,800.00	11.29	258.02	1,779.69	-45.20	-213.10	-212.26	0.00	0.00	0.00
1,900.00	11.29	258.02	1,877.75	-49.26	-232.25	-231.34	0.00	0.00	0.00
2,000.00	11.29	258.02	1,975.81	-53.33	-251.41	-250.42	0.00	0.00	0.00
2,100.00	11.29	258.02	2,073.88	-57.39	-270.57	-269.50	0.00	0.00	0.00
2,200.00	11.29	258.02	2,171.94	-61.45	-289.73	-288.59	0.00	0.00	0.00
2,300.00	11.29	258.02	2,270.00	-65.52	-308.88	-307.67	0.00	0.00	0.00
2,400.00	11.29	258.02	2,368.07	-69.58	-328.04	-326.75	0.00	0.00	0.00
2,500.00	11.29	258.02	2,466.13	-73.64	-347.20	-345.83	0.00	0.00	0.00
2,600.00	11.29	258.02	2,564.20	-77.71	-366.35	-364.91	0.00	0.00	0.00
2,700.00	11.29	258.02	2,662.26	-81.77	-385.51	-383.99	0.00	0.00	0.00
2,758.43	11.29	258.02	2,719.56	-84.15	-396.70	-395.14	0.00	0.00	0.00
ARROW ARW 204H KOP @ 2759.42' MD									
2,759.42	11.29	258.02	2,720.52	-84.18	-396.89	-395.33	0.00	0.00	0.00
2,800.00	7.76	252.44	2,760.54	-85.84	-403.39	-401.80	9.00	-8.72	-13.75
2,850.00	3.71	231.20	2,810.29	-87.87	-407.87	-406.24	9.00	-8.09	-42.49
2,899.00	2.76	146.60	2,859.23	-89.85	-408.46	-406.79	9.00	-1.94	-172.65
ARROW ARW 204H MAX BACKBUILD									
2,900.00	2.81	145.06	2,860.23	-89.89	-408.43	-406.77	9.00	5.01	-153.94
2,950.00	6.52	110.38	2,910.07	-91.88	-405.07	-403.37	9.00	7.42	-69.36
3,000.00	10.84	101.86	2,959.48	-93.84	-397.80	-396.07	9.00	8.65	-17.05
3,050.00	15.27	98.19	3,008.18	-95.74	-386.68	-384.91	9.00	8.85	-7.33
3,100.00	19.73	96.15	3,055.85	-97.59	-371.76	-369.97	9.00	8.92	-4.08
3,150.00	24.20	94.84	3,102.21	-99.36	-353.15	-351.33	9.00	8.95	-2.62
3,200.00	28.68	93.92	3,146.97	-101.04	-330.96	-329.11	9.00	8.96	-1.84
3,250.00	33.17	93.23	3,189.85	-102.64	-305.32	-303.45	9.00	8.97	-1.38
3,300.00	37.66	92.69	3,230.60	-104.12	-276.40	-274.50	9.00	8.98	-1.09
3,350.00	42.15	92.25	3,268.94	-105.50	-244.36	-242.44	9.00	8.98	-0.88
3,400.00	46.64	91.87	3,304.66	-106.75	-209.41	-207.48	9.00	8.98	-0.74
3,450.00	51.13	91.55	3,337.53	-107.87	-171.77	-169.82	9.00	8.99	-0.64
3,500.00	55.63	91.27	3,367.35	-108.86	-131.66	-129.70	9.00	8.99	-0.56
3,548.64	60.00	91.02	3,393.25	-109.68	-90.52	-88.55	9.00	8.99	-0.51
3,600.00	60.00	91.02	3,418.93	-110.48	-46.04	-44.07	0.00	0.00	0.00
3,700.00	60.00	91.02	3,468.93	-112.02	40.55	42.54	0.00	0.00	0.00

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 204H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Site:	Arrow ARW Federal Com	**North Reference:**	Grid
Well:	204H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2r0		

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)
3,748.64	60.00	91.02	3,493.25	-112.78	82.66	84.66	0.00	0.00	0.00
3,750.00	60.12	91.02	3,493.93	-112.80	83.84	85.84	9.00	9.00	0.00
3,800.00	64.62	91.02	3,517.11	-113.59	128.12	130.12	9.00	9.00	0.00
3,850.00	69.12	91.02	3,536.74	-114.41	174.09	176.09	9.00	9.00	0.00
3,900.00	73.62	91.02	3,552.71	-115.26	221.45	223.46	9.00	9.00	0.00
3,950.00	78.12	91.02	3,564.91	-116.13	269.91	271.94	9.00	9.00	0.00
4,000.00	82.62	91.02	3,573.27	-117.01	319.19	321.22	9.00	9.00	0.00
4,050.00	87.12	91.02	3,577.74	-117.90	368.97	371.01	9.00	9.00	0.00
4,055.74	87.64	91.02	3,578.00	-118.00	374.70	376.74	9.00	9.00	0.00
ARROW ARW 204H FTP									
4,100.00	87.64	91.02	3,579.82	-118.79	418.92	420.97	0.00	0.00	0.00
4,200.00	87.64	91.02	3,583.94	-120.58	518.82	520.88	0.00	0.00	0.00
4,300.00	87.64	91.02	3,588.06	-122.36	618.72	620.80	0.00	0.00	0.00
4,400.00	87.64	91.02	3,592.18	-124.15	718.61	720.71	0.00	0.00	0.00
4,500.00	87.64	91.02	3,596.30	-125.94	818.51	820.63	0.00	0.00	0.00
4,600.00	87.64	91.02	3,600.42	-127.72	918.41	920.54	0.00	0.00	0.00
4,700.00	87.64	91.02	3,604.54	-129.51	1,018.31	1,020.46	0.00	0.00	0.00
4,800.00	87.64	91.02	3,608.66	-131.29	1,118.21	1,120.37	0.00	0.00	0.00
4,900.00	87.64	91.02	3,612.78	-133.08	1,218.11	1,220.29	0.00	0.00	0.00
5,000.00	87.64	91.02	3,616.90	-134.87	1,318.01	1,320.20	0.00	0.00	0.00
5,100.00	87.64	91.02	3,621.02	-136.65	1,417.91	1,420.12	0.00	0.00	0.00
5,200.00	87.64	91.02	3,625.14	-138.44	1,517.81	1,520.03	0.00	0.00	0.00
5,300.00	87.64	91.02	3,629.26	-140.23	1,617.71	1,619.95	0.00	0.00	0.00
5,400.00	87.64	91.02	3,633.38	-142.01	1,717.61	1,719.86	0.00	0.00	0.00
5,500.00	87.64	91.02	3,637.50	-143.80	1,817.51	1,819.78	0.00	0.00	0.00
5,600.00	87.64	91.02	3,641.62	-145.59	1,917.40	1,919.69	0.00	0.00	0.00
5,700.00	87.64	91.02	3,645.74	-147.37	2,017.30	2,019.61	0.00	0.00	0.00
5,800.00	87.64	91.02	3,649.85	-149.16	2,117.20	2,119.52	0.00	0.00	0.00
5,900.00	87.64	91.02	3,653.97	-150.94	2,217.10	2,219.44	0.00	0.00	0.00
6,000.00	87.64	91.02	3,658.09	-152.73	2,317.00	2,319.35	0.00	0.00	0.00
6,100.00	87.64	91.02	3,662.21	-154.52	2,416.90	2,419.27	0.00	0.00	0.00
6,200.00	87.64	91.02	3,666.33	-156.30	2,516.80	2,519.18	0.00	0.00	0.00
6,300.00	87.64	91.02	3,670.45	-158.09	2,616.70	2,619.10	0.00	0.00	0.00
6,400.00	87.64	91.02	3,674.57	-159.88	2,716.60	2,719.01	0.00	0.00	0.00
6,500.00	87.64	91.02	3,678.69	-161.66	2,816.50	2,818.93	0.00	0.00	0.00
6,600.00	87.64	91.02	3,682.81	-163.45	2,916.40	2,918.84	0.00	0.00	0.00
6,700.00	87.64	91.02	3,686.93	-165.23	3,016.29	3,018.76	0.00	0.00	0.00
6,800.00	87.64	91.02	3,691.05	-167.02	3,116.19	3,118.67	0.00	0.00	0.00
6,900.00	87.64	91.02	3,695.17	-168.81	3,216.09	3,218.59	0.00	0.00	0.00
7,000.00	87.64	91.02	3,699.29	-170.59	3,315.99	3,318.50	0.00	0.00	0.00
7,100.00	87.64	91.02	3,703.41	-172.38	3,415.89	3,418.42	0.00	0.00	0.00
7,200.00	87.64	91.02	3,707.53	-174.17	3,515.79	3,518.33	0.00	0.00	0.00
7,300.00	87.64	91.02	3,711.65	-175.95	3,615.69	3,618.25	0.00	0.00	0.00
7,400.00	87.64	91.02	3,715.77	-177.74	3,715.59	3,718.16	0.00	0.00	0.00
7,500.00	87.64	91.02	3,719.89	-179.53	3,815.49	3,818.08	0.00	0.00	0.00
7,600.00	87.64	91.02	3,724.01	-181.31	3,915.39	3,917.99	0.00	0.00	0.00
7,700.00	87.64	91.02	3,728.13	-183.10	4,015.29	4,017.91	0.00	0.00	0.00
7,800.00	87.64	91.02	3,732.24	-184.88	4,115.19	4,117.82	0.00	0.00	0.00
7,900.00	87.64	91.02	3,736.36	-186.67	4,215.08	4,217.74	0.00	0.00	0.00
8,000.00	87.64	91.02	3,740.48	-188.46	4,314.98	4,317.65	0.00	0.00	0.00
8,100.00	87.64	91.02	3,744.60	-190.24	4,414.88	4,417.57	0.00	0.00	0.00
8,200.00	87.64	91.02	3,748.72	-192.03	4,514.78	4,517.49	0.00	0.00	0.00
8,300.00	87.64	91.02	3,752.84	-193.82	4,614.68	4,617.40	0.00	0.00	0.00
8,400.00	87.64	91.02	3,756.96	-195.60	4,714.58	4,717.32	0.00	0.00	0.00

SILVERBACK EXPLORATION

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well 204H
Company:	SILVERBACK EXPLORATION	**TVD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Project:	EDDY COUNTY, NM (NAD 83 - NME)	**MD Reference:**	RKB = 20' @ 3485.00usft (TBD)
Site:	Arrow ARW Federal Com	**North Reference:**	Grid
Well:	204H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2r0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.00	87.64	91.02	3,761.08	-197.39	4,814.48	4,817.23	0.00	0.00	0.00
8,600.00	87.64	91.02	3,765.20	-199.17	4,914.38	4,917.15	0.00	0.00	0.00
8,700.00	87.64	91.02	3,769.32	-200.96	5,014.28	5,017.06	0.00	0.00	0.00
8,800.00	87.64	91.02	3,773.44	-202.75	5,114.18	5,116.98	0.00	0.00	0.00
8,900.00	87.64	91.02	3,777.56	-204.53	5,214.08	5,216.89	0.00	0.00	0.00
9,000.00	87.64	91.02	3,781.68	-206.32	5,313.98	5,316.81	0.00	0.00	0.00
9,080.63	87.64	91.02	3,785.00	-207.76	5,394.52	5,397.36	0.00	0.00	0.00
ARROW ARW 204H LTP									

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
ARROW ARW 204H S - plan hits target center - Point	0.00	360.00	0.00	0.00	0.00	609,603.30	500,851.57	32.6757754	-104.4649123
ARROW ARW 204H H - plan misses target center by 0.20usft at 2758.43usft MD (2719.56 TVD, -84.15 N, -396.70 E) - Point	0.00	0.00	2,719.52	-84.18	-396.89	609,519.12	500,454.68	32.6755427	-104.4662018
ARROW ARW 204H M - plan misses target center by 0.05usft at 2899.00usft MD (2859.23 TVD, -89.85 N, -408.46 E) - Point	0.00	0.00	2,859.23	-89.89	-408.43	609,513.42	500,443.14	32.6755269	-104.4662393
ARROW ARW 204H F - plan hits target center - Point	0.00	360.00	3,578.00	-118.00	374.70	609,485.30	501,226.27	32.6754523	-104.4636940
ARROW ARW 204H L - plan hits target center - Point	0.00	360.00	3,785.00	-207.76	5,394.52	609,395.54	506,246.09	32.6752215	-104.4473794

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Silverback Operating LLC
WELL NAME & NO.:	Arrow Arw Federal Com 204H
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 **9-5/8** inch surface casing shall be set at approximately **1224** 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)

Approval Date: 07/23/2024

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

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

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to 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).

D. PRESSURE CONTROL

1. 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.

E. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

Contact Eddy County Petroleum Engineering Inspection Staff:
Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;
BLM_NM_CFO_DrillingNotifications@BLM.GOV; (575) 361-2822

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be

recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

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

Approval Date: 07/23/2024

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

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

EDDY COUNTY, NEW MEXICO

Secondary Safety Briefing Area & Exit >150' from Well Heads

Flare 150' from well heads

Highest Ground to West

Wind Socks on Rig Floor & at Mud Tanks

Warning Sign & Windsock

PRIMARY Safety Briefing Area & Exit >150' from Well Heads

Prevailing Winds Blow from South

ARROW ARW FEDERAL COM #106H (A)
ELEV. 3,465.2'

ARROW ARW FEDERAL COM #205H (B)
ELEV.3,465.1'

ARROW ARW FEDERAL COM #105H (C)
ELEV.3,465.4'

ARROW ARW FEDERAL COM #204H (D)
ELEV.3,465.5'

20' 20' 20'

WELL LAYOUT

1. CATWALK
2. DOGHOUSE
3. WATER TANK
4. ACCUMULATOR
5. HPU
6. PARTS HOUSE
7. SHAKER TANK
8. MIXING TANK
9. PUMP HOUSE #1
10. PUMP HOUSE #2
11. PLUG BOARD
12. DRIVE HOUSE
13. AIRCOND ROOM
14. BOILER
15. TRAILER

150'

100'

3466

3465

3464

250'

160'

PROPOSED WELL PAD 2.97 ACRES

CUT/FILL TRANSITION LINE

TOPSOIL PILE

PROPOSED ACCESS ROAD

PROPOSED FLOWLINES

STATE OF NEW MEXICO
COUNTY OF EDDY

I hereby certify that the above and foregoing plat represents an on the ground survey conducted in November of 2023 and is true and correct to the best of my knowledge.

1/10/24

MATTHEW C. BISSETT,
PROFESSIONAL LAND SURVEYOR
NEW MEXICO REGISTRATION NO. 20450

MATTHEW C. BISSETT
NEW MEXICO
20450
PROFESSIONAL SURVEYOR

LEGEND

PAD LINE
EXISTING PIPELINE
FENCE LINE
SECTION LINE

0' 30' 60'

N
W E
S

RIG LAYOUT PLAT

SILVERBACK OPERATING II, LLC.
ARROW ARW FEDERAL COM # 106H, ARROW ARW FEDERAL COM #205H, ARROW ARW FEDERAL COM #105H, & ARROW ARW FEDERAL COM #204H PAD SITE
SITUATED IN
SECTION 10, T19S, R25E
EDDY COUNTY, NEW MEXICO

NOTES:
1. SURVEY RECONSTRUCTION FILED IN THE OFFICE OF ATWELL, LLC.
2. ALL BEARING AND COORDINATES SHOWN ARE BASED ON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983.
3. THE ABOVE SKETCH REPRESENTS THE LOCATION AS STAKED ON THE GROUND AND IS FOR PERMIT PURPOSE ONLY.
4. THIS DOES NOT CONSTITUTE A BOUNDARY SURVEY.
5. UNIT DESCRIPTION PROVIDED BY CLIENT.

SILVERBACK EXPLORATION

ATWELL
866.850.4200 www.atwell-group.com
10100 Reunion Place, Suite 700
San Antonio, Texas 78216
TBPLS FIRM # 10194153

DRAWN	
CHECKED	
APP'D	
SCALE	1"=60'
PAGE	8 OF 10

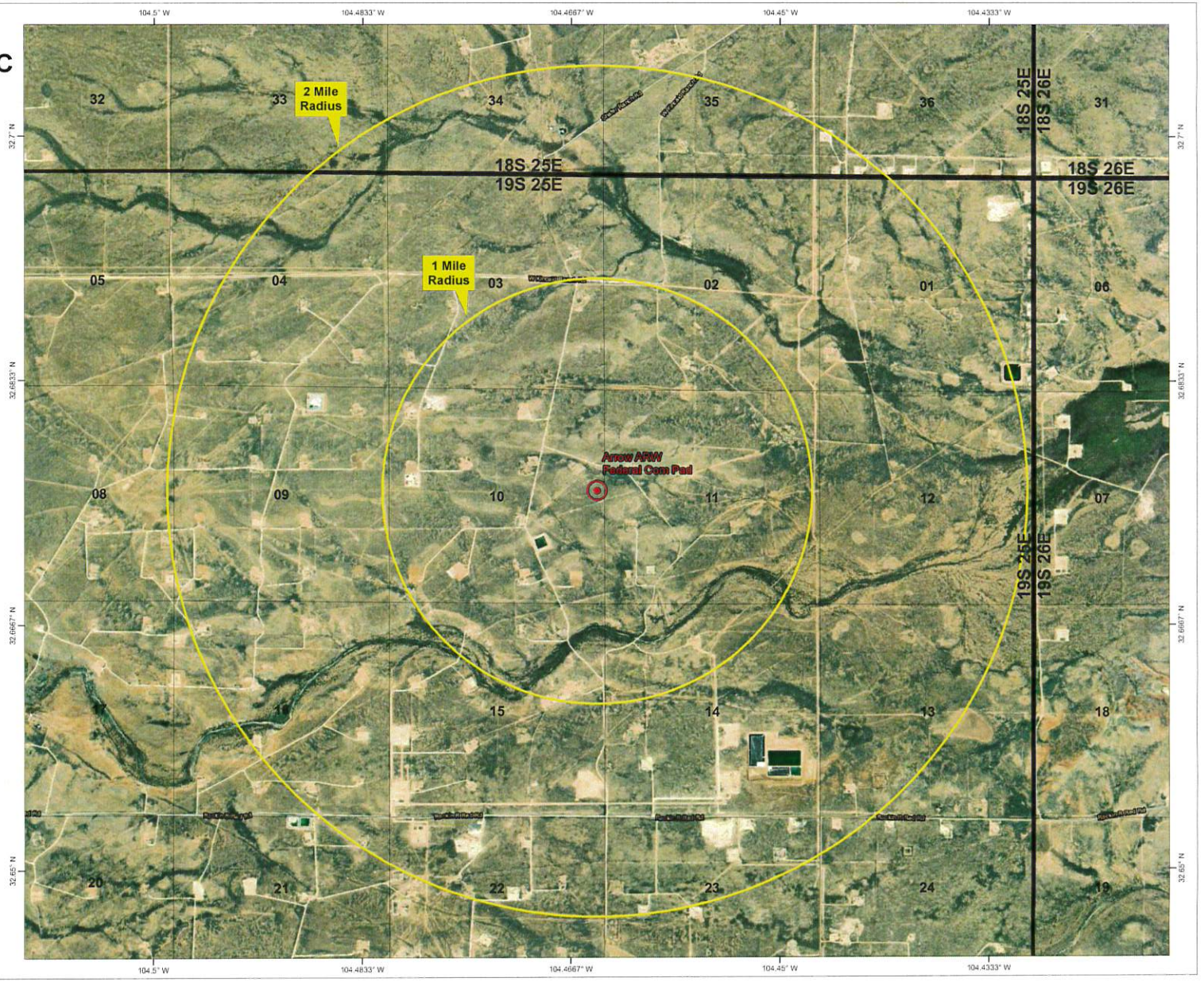
REV#	DATE	DESC.

JOB NO. 23006260

Silverback Operating, LLC

Arrow ARW Federal Com Pad
H2S Contingency Plan:
Radius Map

Section 10, Township 19S, Range 25E
Eddy County, New Mexico



Pad Center

1:27,000

0 0.25 0.5 1

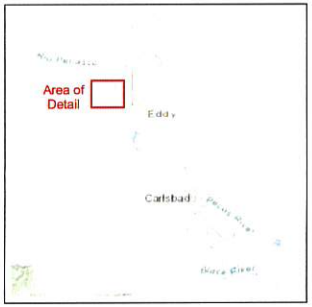
Miles

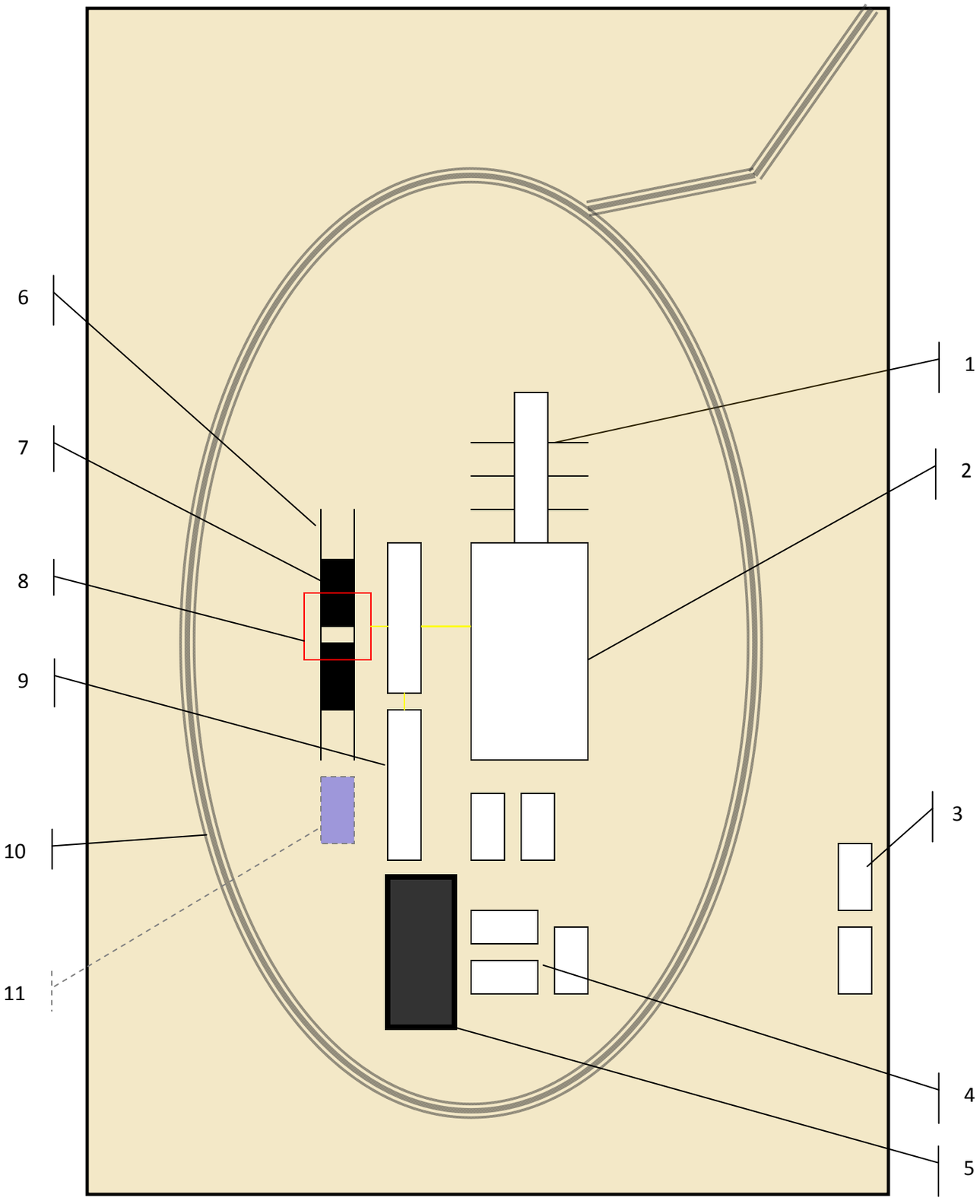
N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

Prepared by Permits West, Inc., January 22, 2024
for Avant Operating, LLC





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)**

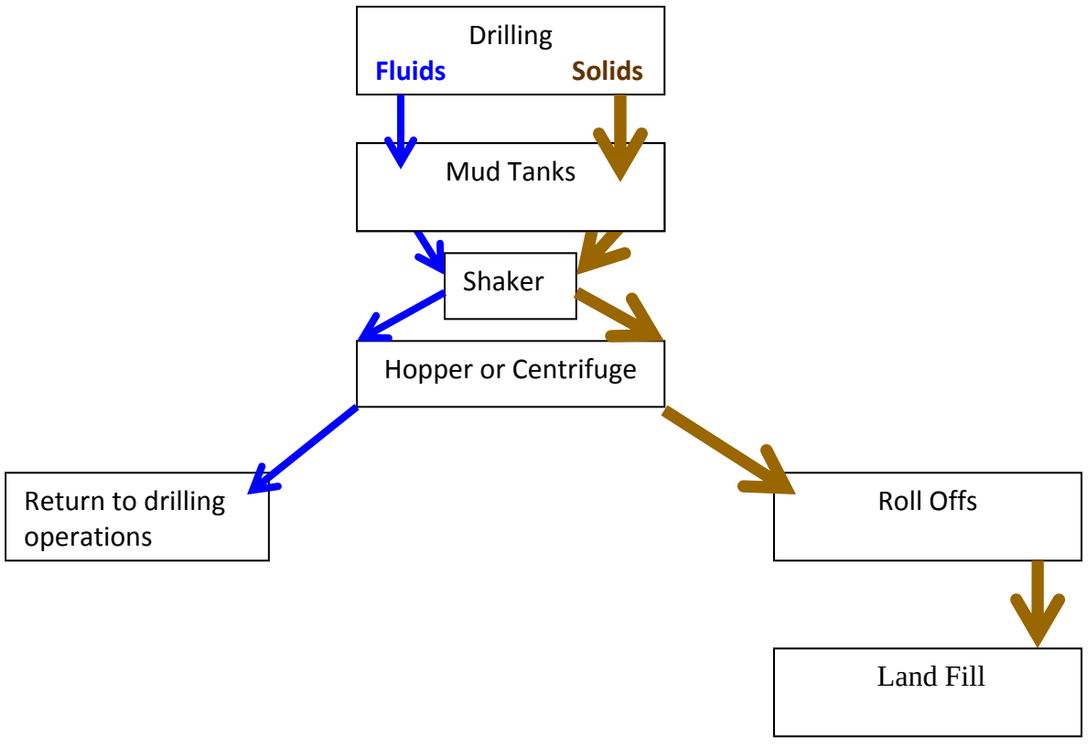
***Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available**

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 367928

CONDITIONS

Operator: Silverback Operating II, LLC 1001 W. Wilshire Blvd Oklahoma City, OK 73112	OGRID: 330968
	Action Number: 367928
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	8/26/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/26/2024
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	8/26/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	8/26/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	8/26/2024
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	8/26/2024