

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

Form C-101
August 1, 2011

Permit 353802

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address Silverback Operating II, LLC 19707 IH10 West, Suite 201 San Antonio, TX 78256		2. OGRID Number 330968
		3. API Number 30-015-54364
4. Property Code 334850	5. Property Name MARGARET NORTH	6. Well No. 105H

7. Surface Location

UL - Lot A	Section 22	Township 18S	Range 26E	Lot Idn	Feet From 1165	N/S Line N	Feet From 775	E/W Line E	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot H	Section 23	Township 18S	Range 26E	Lot Idn H	Feet From 2016	N/S Line N	Feet From 100	E/W Line E	County Eddy
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9. Pool Information

ATOKA;GLORIETA-YESO	3250
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type Private	15. Ground Level Elevation 3330
16. Multiple N	17. Proposed Depth 8549	18. Formation Yeso	19. Contractor	20. Spud Date 1/23/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1231	274	0
Prod	8.75	7	32	3474	167	0
Prod	8.75	5.5	20	8549	1598	2080

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	5000	Shaffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Matthew Alley	Approved By: Ward Rikala	
Title: Chief Financial Officer	Title:	
Email Address: malley@silverbackexp.com	Approved Date: 11/16/2023	Expiration Date: 11/16/2025
Date: 11/11/2023	Phone: 303-513-0990	Conditions of Approval Attached

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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 30-015- 54364	² Pool Code 3250	³ Pool Name ATOKA, GLORIETA-YESO
⁴ Property Code 334850	⁵ Property Name MARGARET NORTH	
⁶ Well Number 105H		
⁷ OGRID No. 330968	⁸ Operator Name SILVERBACK OPERATING II, LLC	
	⁹ Elevation 3,330'	

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
A	22	18-S	26-E		1,165'	NORTH	775'	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	23	18-S	26-E		2,016'	NORTH	100'	EAST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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: 531995.75
Y: 632016.50
LAT.: N32.737448
LONG.: W104.363715

FIRST TAKE POINT (FTP)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 532867.27
Y: 631166.37
LAT.: N32.735112
LONG.: W104.360880

LAST TAKE POINT (LTP)

BOTTOM HOLE LOCATION (BHL)
NAD 83, NM EAST ZONE, U.S. FOOT
X: 537940.01
Y: 631117.82
LAT.: N32.734981
LONG.: W104.344382

LINE TABLE		
LINE #	BEARING	LENGTH
L1	S89°21'29"E	2,653'
L2	N89°53'54"E	2,649'
L3	S89°27'06"E	2,638'
L4	S89°27'06"E	2,638'
L5	S00°19'20"W	2,636'
L6	S00°19'20"W	2,636'
L7	N89°47'10"W	2,629'

LINE TABLE		
LINE #	BEARING	LENGTH
L8	N89°49'29"W	2,637'
L9	N89°49'23"W	2,647'
L10	N89°49'31"W	2,647'
L11	N00°34'17"E	2,648'
L12	N00°20'02"W	2,666'
L13	N00°12'31"E	2,653'
L14	N00°12'31"E	2,653'

The figure is a detailed survey map of four adjacent sections: SECTION 15 (top-left), SECTION 14 (top-right), SECTION 22 (bottom-left), and SECTION 23 (bottom-right). The map is overlaid with a grid representing quarter-section corners (NW/4, NE/4, SW/4, SE/4) and section numbers (22, 23). A red line traces a path through the sections, starting from a point labeled L1, passing through L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, and ending at L14. Key features include:
- A north arrow pointing towards the top of the page.
- A scale bar indicating distances up to 2000 feet.
- GPS DATUM information: NAD83, NM EAST ZONE.
- Various survey points are marked, including SHL (Surface Hole Location), FTP (First Take Point), LTP/BHL (Last Take Point / Bottom Hole Location), and FOUND IRON ROD locations.
- Bearings and lengths are provided for several segments: S89°27'06"E (5,073'), S89°27'06"E (2,016'), S89°27'06"E (2,638'), S89°27'06"E (2,638'), S00°19'20"W (2,636'), S00°19'20"W (2,636'), N89°47'10"W (2,629'), N89°49'29"W (2,637'), N89°49'23"W (2,647'), N89°49'31"W (2,647'), N00°34'17"E (2,648'), N00°20'02"W (2,666'), N00°12'31"E (2,653'), and N00°12'31"E (2,653').
- Other labels include "FOUND 1/2\" IRON ROD", "FOUND 3/8\" IRON ROD", "FOUND RAILROAD SPIKE", and "FOUND 3/8\" IRON ROD".
- Section numbers 22 and 23 are circled in the center of their respective sections.

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.

Fatma Abdallah 11/09/2023
Signature Date

Fatma Abdallah

Printed Name _____

fabdallah@silverbackexp.com

E-mail Address

18 SURVEYOR CERTIFICATION

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

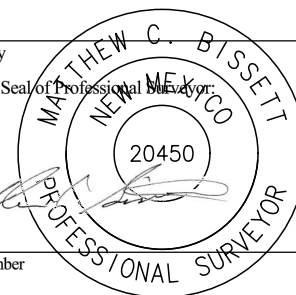
11/1/23

Date of Survey _____

Signature and Seal of Professional Surveyor: 

20450

Certificate Number



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

Form APD Conditions

Permit 353802

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Silverback Operating II, LLC [330968] 19707 IH10 West, Suite 201 San Antonio, TX 78256	API Number: 30-015-54364
	Well: MARGARET NORTH #105H

OCD Reviewer	Condition
ward.rikala	Notify OCD 24 hours prior to casing & cement
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104
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
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing
ward.rikala	If cement does not circulate on any string , a CBL is required for that string of casing.
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
ward.rikala	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

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:** 11 / 10 / 23

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 table						

IV. Central Delivery Point Name: Krauss/Margaret North 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 table						

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

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

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

Section 2 – Enhanced Plan**EFFECTIVE APRIL 1, 2022**

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: <i>Fatma Abdallah</i>
Printed Name: Fatma Abdallah
Title: Regulatory Manager
E-mail Address: fabdallah@silverbackexp.com
Date: 11/11/2023
Phone: 210-585-3316
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

<u>Well Name</u>	<u>API</u>	<u>ULSTR</u>	<u>Footages</u>	<u>Anticipated Oil BBL/D</u>	<u>Anticipated Gas MCF/D</u>	<u>Anticipated Produced Water BBL/D</u>
Margaret North 105H	30-15	A-22-18S-26E	1165' FNL & 775' FEL	515	800	3000
Margaret North 106H	30-15	A-22-18S-26E	1145' FNL & 775' FEL	515	800	3000
Margaret North 107H	30-15	A-22-18S-26E	1125' FNL & 775' FEL	515	800	3000
Krauss 22 D 101H	30-015-53329	P-22-18S-26E	1145' FSL & 178' FEL	515	800	3000
Krauss 22 C 102H	30-015-53330	P-22-18S-26E	1125' FSL & 178' FEL	515	800	3000
Krauss 22 C 103H	30-015-53283	I-22-18S-26E	2146 FSL & 158 FEL	515	800	3000
<u>Well Name</u>	<u>API</u>	<u>Spud date</u>	<u>TD Reached Date</u>	<u>Completion Commencement Date</u>	<u>Initial Flow Back Date</u>	<u>First Production Date</u>
Margaret North 105H	30-15	1/23/2024	3/22/2024	4/25/2024	5/18/2024	5/18/2024
Margaret North 106H	30-15	1/28/2024	4/1/2024	4/25/2024	5/19/2024	5/19/2024
Margaret North 107H	30-15	2/2/2024	4/10/2024	4/25/2024	5/20/2024	5/20/2024
Krauss 22 D 101H	30-015-53329	1/8/2024	2/22/2024	4/10/2024	5/1/2024	5/1/2024
Krauss 22 C 102H	30-015-53330	1/13/2024	3/1/2024	4/10/2024	5/2/2024	5/2/2024
Krauss 22 C 103H	30-015-53283	1/18/2024	3/9/2024	4/18/2024	5/3/2024	5/3/2024

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 a Vapor Recovery Unit (VRU).

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 Vapor Recovery Unit (VRU). Site VRUs are sized to accommodate peak expected production volume. Flash volumes were estimated using the high volume case and process modeling software. Gas from the VRU outlet is combined with 1st stage separation gas and sent to sales.

Venting and Flaring

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 or flaring will only occur during start up and shut down, 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:

- a) Power generation on lease – Natural gas driven gen set to produce power required to run supply well pad electrical loads
- c) Compression on lease – gas lift or gas compression as required
- d) 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.

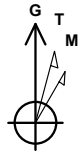
The facility design includes a closed vent vapor capture system to route flash or evolved from the heater treater and tanks to the Vapor Recovery Unit (VRU) Compressor. If the VRU requires planned or unplanned maintenance, vapors will automatically be routed to the facility flare.

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

SILVERBACK EXPLORATION

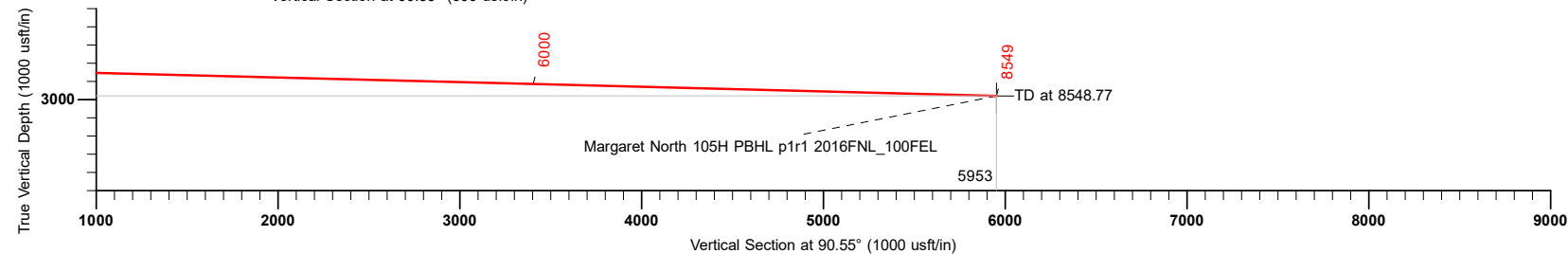
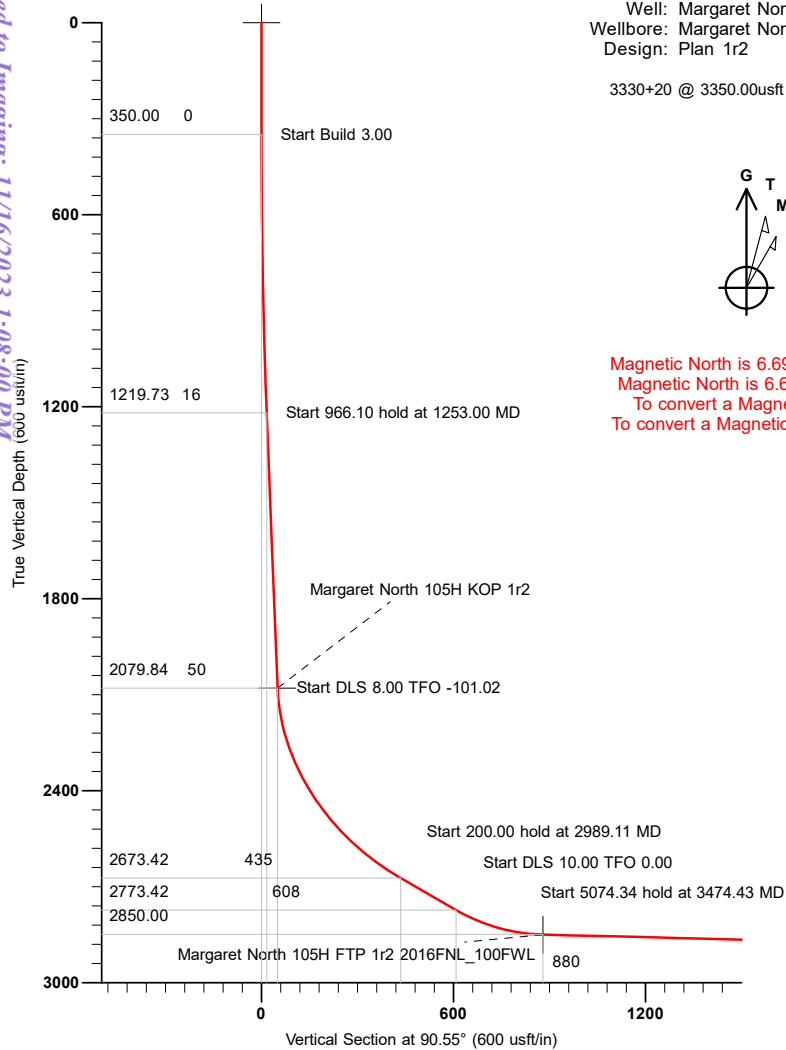
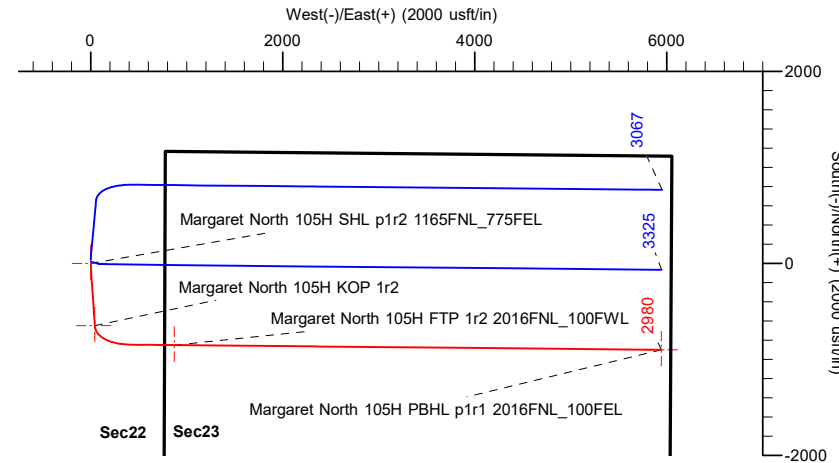
Project: EDDY COUNTY, NM (NAD83) NMEZ GRID
 Site: Margaret North Pad
 Well: Margaret North 105H
 Wellbore: Margaret North 105H
 Design: Plan 1r2

3330+20 @ 3350.00usft (110923 gl+kb)



Azimuths to Grid North
 True North: 0.02°
 Magnetic North: 6.69°
 Magnetic Field
 Strength: 47465.6nT
 Dip Angle: 60.17°
 Date: 11/09/2023
 Model: IGRF2020

Magnetic North is 6.69° East of Grid North (Magnetic Convergence)
 Magnetic North is 6.67° East of True North (Magnetic Declination)
 To convert a Magnetic Direction to a Grid Direction, Add 6.69°
 To convert a Magnetic Direction to a True Direction, Add 6.67° East



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Margaret North 105H SHL p1r2 1165FNL_775FEL	0.00	0.00	0.00	632016.50	531995.75	Point
Margaret North 105H KOP 1r2	2079.84	-647.99	43.95	631368.51	532039.70	Point
Margaret North 105H FTP 1r2 2016FNL_100FWL	2850.00	-850.13	871.52	631166.37	532867.27	Point
Margaret North 105H PBHL p1r1 2016FNL_100FEL	2980.00	-898.68	5944.26	631117.82	537940.01	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
2	350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	Start 966.10 hold at 1253.00 MD
3	1253.00	27.09	176.12	1219.73	-209.05	14.18	3.00	176.12	16.18	Start DLS 8.00 TFO -101.02
4	2219.10	27.09	176.12	2079.84	-647.99	43.95	0.00	50.17	50.17	Start 200.00 hold at 2989.11 MD
5	2989.11	60.00	90.55	2673.42	-845.52	426.84	8.00	-101.02	434.93	Start DLS 10.00 TFO 0.00
6	3189.11	60.00	90.55	2773.42	-847.18	600.03	0.00	0.00	608.14	Start 5074.34 hold at 3474.43 MD
7	3474.43	88.53	90.55	2850.00	-849.80	871.82	10.00	0.00	879.94	TD at 8548.77
8	8548.77	88.53	90.55	2980.00	-898.68	5944.26	0.00	0.00	5952.61	

SILVERBACK EXPLORATION

3330+20 @ 3350.00usft (110923 gl+kb)

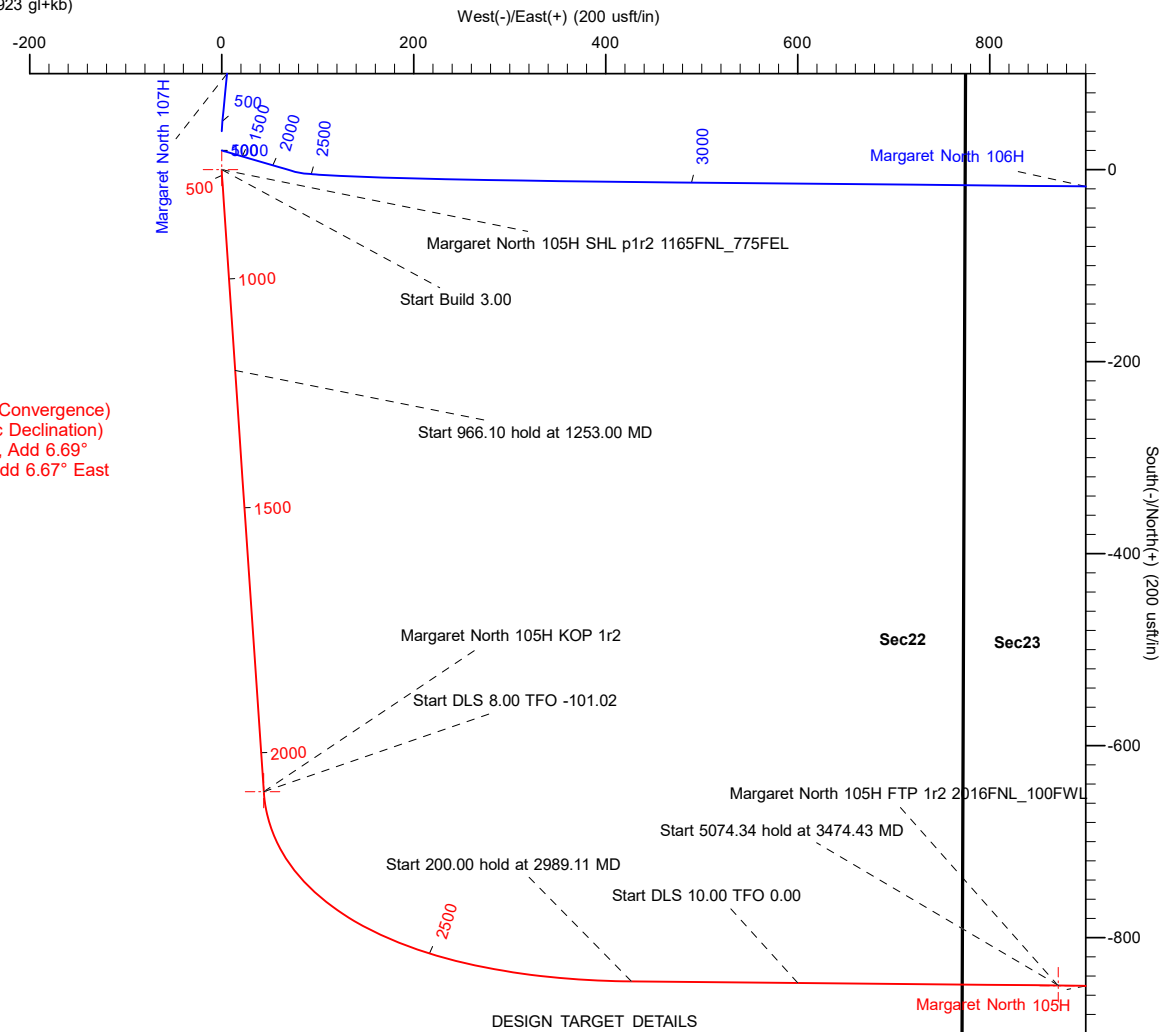
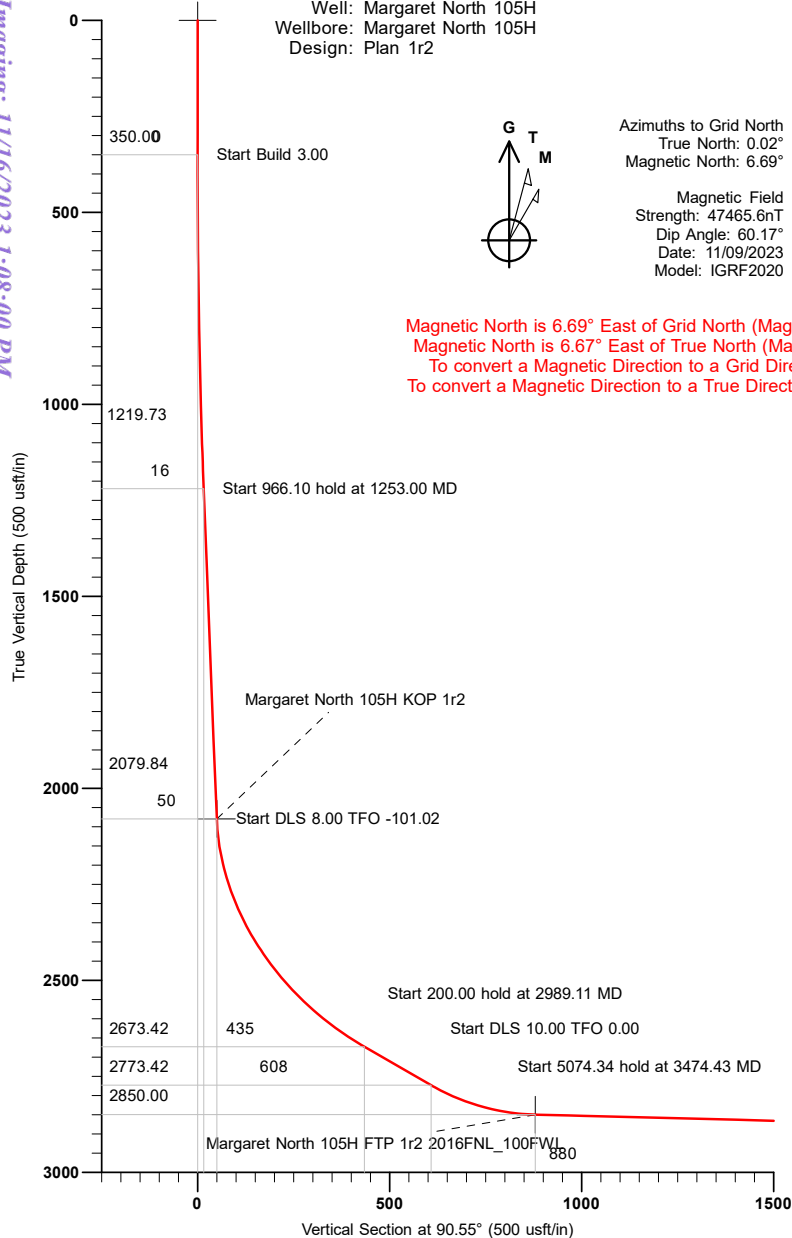
Project: EDDY COUNTY, NM (NAD83) NMEZ GRID
Site: Margaret North Pad
Well: Margaret North 105H
Wellbore: Margaret North 105H
Design: Plan 1r2



Azimuths to Grid North
True North: 0.02°
Magnetic North: 6.69°

Magnetic Field
Strength: 47465.6nT
Dip Angle: 60.17°
Date: 11/09/2023
Model: IGRF2020

Magnetic North is 6.69° East of Grid North (Magnetic Convergence)
Magnetic North is 6.67° East of True North (Magnetic Declination)
To convert a Magnetic Direction to a Grid Direction, Add 6.69°
To convert a Magnetic Direction to a True Direction, Add 6.67° East



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Margaret North 105H SHL p1r2 1165FNL_775FEL	0.00	0.00	0.00	632016.50	531995.75	Point
Margaret North 105H KOP 1r2	2079.84	-647.99	43.95	631368.51	532039.70	Point
Margaret North 105H FTP 1r2 2016FNL_100FWL	2850.00	-850.13	871.52	631166.37	532867.27	Point
Margaret North 105H PBHL p1r1 2016FNL_100FEL	2980.00	-898.68	5944.26	631117.82	537940.01	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
3	1253.00	27.09	176.12	1219.73	-209.05	14.18	3.00	176.12	16.18	Start 966.10 hold at 1253.00 MD
4	2219.10	27.09	176.12	2079.84	-647.99	43.95	0.00	50.17	50.17	Start DLS 8.00 TFO -101.02
5	2989.11	60.00	90.55	2673.42	-845.52	426.84	8.00	-101.02	434.93	Start 200.00 hold at 2989.11 MD
6	3189.11	60.00	90.55	2773.42	-847.18	600.03	0.00	0.00	608.14	Start DLS 10.00 TFO 0.00
7	3474.43	88.53	90.55	2850.00	-849.80	871.82	10.00	0.00	879.94	Start 5074.34 hold at 3474.43 MD
8	8548.77	88.53	90.55	2980.00	-898.68	5944.26	0.00	0.00	5952.61	TD at 8548.77

SILVERBACK EXPLORATION

EDDY COUNTY, NM (NAD83) NMEZ GRID

Margaret North Pad

Margaret North 105H

Margaret North 105H

Plan: Plan 1r2

Standard Planning Report

09 November, 2023

Planning Report

Database:	PRIME_EDM	Local Co-ordinate Reference:	Well Margaret North 105H
Company:	SILVERBACK EXPLORATION	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site:	Margaret North Pad	North Reference:	Grid
Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Margaret North 105H		
Design:	Plan 1r2		

Project	EDDY COUNTY, NM (NAD83) NMEZ GRID		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Margaret North Pad			
Site Position:		Northing:	632,006.47 usft	Latitude:	32.7374202
From:	Map	Easting:	531,995.74 usft	Longitude:	-104.3637149
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.02 °

Well	Margaret North 105H					
Well Position	+N/-S	10.04 usft	Northing:	632,016.50 usft	Latitude:	32.7374478
	+E/-W	0.01 usft	Easting:	531,995.75 usft	Longitude:	-104.3637148
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,330.00 usft

Wellbore	Margaret North 105H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/09/23	6.67	60.17	47,465.55988757

Design	Plan 1r2			
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	90.55

Plan Survey Tool Program	Date	11/09/23		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	8,548.77	Plan 1r2 (Margaret North 105H)	MWD
				OWSG MWD - Standard

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	0.00	
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,253.00	27.09	176.12	1,219.73	-209.05	14.18	3.00	3.00	0.00	176.12	
2,219.10	27.09	176.12	2,079.84	-647.99	43.95	0.00	0.00	0.00	0.00	
2,989.11	60.00	90.55	2,673.42	-845.52	426.84	8.00	4.27	-11.11	-101.02	
3,189.11	60.00	90.55	2,773.42	-847.18	600.03	0.00	0.00	0.00	0.00	
3,474.43	88.53	90.55	2,850.00	-849.80	871.82	10.00	10.00	0.00	0.00	
8,548.77	88.53	90.55	2,980.00	-898.68	5,944.26	0.00	0.00	0.00	0.00	Margaret North 105H

Planning Report

Database:	PRIME_EDM	Local Co-ordinate Reference:	Well Margaret North 105H
Company:	SILVERBACK EXPLORATION	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site:	Margaret North Pad	North Reference:	Grid
Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Margaret North 105H		
Design:	Plan 1r2		

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
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
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
400.00	1.50	176.12	399.99	-0.65	0.04	0.05	3.00	3.00	0.00
500.00	4.50	176.12	499.85	-5.87	0.40	0.45	3.00	3.00	0.00
600.00	7.50	176.12	599.29	-16.30	1.11	1.26	3.00	3.00	0.00
700.00	10.50	176.12	698.04	-31.91	2.16	2.47	3.00	3.00	0.00
800.00	13.50	176.12	795.85	-52.65	3.57	4.08	3.00	3.00	0.00
900.00	16.50	176.12	892.43	-78.47	5.32	6.07	3.00	3.00	0.00
1,000.00	19.50	176.12	987.52	-109.30	7.41	8.46	3.00	3.00	0.00
1,100.00	22.50	176.12	1,080.87	-145.05	9.84	11.23	3.00	3.00	0.00
1,200.00	25.50	176.12	1,172.22	-185.62	12.59	14.37	3.00	3.00	0.00
1,253.00	27.09	176.12	1,219.73	-209.05	14.18	16.18	3.00	3.00	0.00
Start 966.10 hold at 1253.00 MD									
1,300.00	27.09	176.12	1,261.57	-230.40	15.63	17.84	0.00	0.00	0.00
1,400.00	27.09	176.12	1,350.60	-275.83	18.71	21.35	0.00	0.00	0.00
1,500.00	27.09	176.12	1,439.63	-321.27	21.79	24.87	0.00	0.00	0.00
1,600.00	27.09	176.12	1,528.66	-366.70	24.87	28.39	0.00	0.00	0.00
1,700.00	27.09	176.12	1,617.69	-412.14	27.95	31.91	0.00	0.00	0.00
1,800.00	27.09	176.12	1,706.72	-457.57	31.03	35.42	0.00	0.00	0.00
1,900.00	27.09	176.12	1,795.75	-503.01	34.12	38.94	0.00	0.00	0.00
2,000.00	27.09	176.12	1,884.78	-548.44	37.20	42.46	0.00	0.00	0.00
2,100.00	27.09	176.12	1,973.81	-593.88	40.28	45.98	0.00	0.00	0.00
2,200.00	27.09	176.12	2,062.84	-639.31	43.36	49.49	0.00	0.00	0.00
2,219.10	27.09	176.12	2,079.84	-647.99	43.95	50.17	0.00	0.00	0.00
Start DLS 8.00 TFO -101.02									
2,250.00	26.72	170.72	2,107.40	-661.87	45.55	51.90	8.00	-1.20	-17.49
2,300.00	26.56	161.80	2,152.11	-683.59	50.85	57.41	8.00	-0.31	-17.84
2,350.00	26.96	152.95	2,196.77	-704.32	59.50	66.26	8.00	0.80	-17.69
2,400.00	27.90	144.50	2,241.17	-723.94	71.46	78.40	8.00	1.86	-16.90
2,450.00	29.31	136.67	2,285.08	-742.37	86.65	93.77	8.00	2.82	-15.65
2,500.00	31.13	129.60	2,328.30	-759.52	105.02	112.30	8.00	3.65	-14.15
2,550.00	33.31	123.29	2,370.61	-775.30	126.46	133.90	8.00	4.34	-12.61
2,600.00	35.76	117.72	2,411.80	-789.64	150.88	158.45	8.00	4.91	-11.15
2,650.00	38.44	112.79	2,451.69	-802.46	178.15	185.85	8.00	5.36	-9.85
2,700.00	41.31	108.44	2,490.06	-813.71	208.15	215.95	8.00	5.73	-8.71
2,750.00	44.32	104.56	2,526.74	-823.32	240.72	248.62	8.00	6.02	-7.75
2,800.00	47.45	101.09	2,561.55	-831.26	275.72	283.68	8.00	6.26	-6.95
2,850.00	50.67	97.95	2,594.31	-837.48	312.96	320.98	8.00	6.45	-6.27
2,900.00	53.97	95.09	2,624.88	-841.95	352.26	360.33	8.00	6.60	-5.71
2,950.00	57.33	92.47	2,653.09	-844.65	393.44	401.53	8.00	6.72	-5.25
2,989.11	60.00	90.55	2,673.42	-845.52	426.84	434.93	8.00	6.82	-4.90
Start 200.00 hold at 2989.11 MD									
3,000.00	60.00	90.55	2,678.87	-845.61	436.26	444.36	0.00	0.00	0.00
3,100.00	60.00	90.55	2,728.87	-846.44	522.86	530.96	0.00	0.00	0.00
3,189.11	60.00	90.55	2,773.42	-847.18	600.03	608.14	0.00	0.00	0.00
Start DLS 10.00 TFO 0.00									
3,200.00	61.09	90.55	2,778.78	-847.27	609.51	617.62	10.00	10.00	0.00
3,250.00	66.09	90.55	2,801.01	-847.70	654.28	662.38	10.00	10.00	0.00
3,300.00	71.09	90.55	2,819.26	-848.15	700.81	708.92	10.00	10.00	0.00

Planning Report

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Company:	SILVERBACK EXPLORATION	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site:	Margaret North Pad	North Reference:	Grid
Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Margaret North 105H		
Design:	Plan 1r2		

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)
3,350.00	76.09	90.55	2,833.38	-848.61	748.75	756.87	10.00	10.00	0.00
3,400.00	81.09	90.55	2,843.27	-849.08	797.75	805.86	10.00	10.00	0.00
3,450.00	86.09	90.55	2,848.85	-849.56	847.42	855.53	10.00	10.00	0.00
3,474.43	88.53	90.55	2,850.00	-849.80	871.82	879.94	10.00	10.00	0.00
Start 5074.34 hold at 3474.43 MD									
3,500.00	88.53	90.55	2,850.65	-850.04	897.38	905.50	0.00	0.00	0.00
3,600.00	88.53	90.55	2,853.21	-851.01	997.34	1,005.46	0.00	0.00	0.00
3,700.00	88.53	90.55	2,855.78	-851.97	1,097.30	1,105.43	0.00	0.00	0.00
3,800.00	88.53	90.55	2,858.34	-852.93	1,197.27	1,205.40	0.00	0.00	0.00
3,900.00	88.53	90.55	2,860.90	-853.90	1,297.23	1,305.37	0.00	0.00	0.00
4,000.00	88.53	90.55	2,863.46	-854.86	1,397.19	1,405.33	0.00	0.00	0.00
4,100.00	88.53	90.55	2,866.02	-855.82	1,497.15	1,505.30	0.00	0.00	0.00
4,200.00	88.53	90.55	2,868.59	-856.79	1,597.12	1,605.27	0.00	0.00	0.00
4,300.00	88.53	90.55	2,871.15	-857.75	1,697.08	1,705.23	0.00	0.00	0.00
4,400.00	88.53	90.55	2,873.71	-858.71	1,797.04	1,805.20	0.00	0.00	0.00
4,500.00	88.53	90.55	2,876.27	-859.68	1,897.00	1,905.17	0.00	0.00	0.00
4,600.00	88.53	90.55	2,878.83	-860.64	1,996.97	2,005.14	0.00	0.00	0.00
4,700.00	88.53	90.55	2,881.40	-861.60	2,096.93	2,105.10	0.00	0.00	0.00
4,800.00	88.53	90.55	2,883.96	-862.57	2,196.89	2,205.07	0.00	0.00	0.00
4,900.00	88.53	90.55	2,886.52	-863.53	2,296.85	2,305.04	0.00	0.00	0.00
5,000.00	88.53	90.55	2,889.08	-864.49	2,396.82	2,405.00	0.00	0.00	0.00
5,100.00	88.53	90.55	2,891.64	-865.46	2,496.78	2,504.97	0.00	0.00	0.00
5,200.00	88.53	90.55	2,894.21	-866.42	2,596.74	2,604.94	0.00	0.00	0.00
5,300.00	88.53	90.55	2,896.77	-867.38	2,696.70	2,704.91	0.00	0.00	0.00
5,400.00	88.53	90.55	2,899.33	-868.35	2,796.67	2,804.87	0.00	0.00	0.00
5,500.00	88.53	90.55	2,901.89	-869.31	2,896.63	2,904.84	0.00	0.00	0.00
5,600.00	88.53	90.55	2,904.45	-870.27	2,996.59	3,004.81	0.00	0.00	0.00
5,700.00	88.53	90.55	2,907.02	-871.24	3,096.55	3,104.77	0.00	0.00	0.00
5,800.00	88.53	90.55	2,909.58	-872.20	3,196.52	3,204.74	0.00	0.00	0.00
5,900.00	88.53	90.55	2,912.14	-873.16	3,296.48	3,304.71	0.00	0.00	0.00
6,000.00	88.53	90.55	2,914.70	-874.13	3,396.44	3,404.68	0.00	0.00	0.00
6,100.00	88.53	90.55	2,917.26	-875.09	3,496.40	3,504.64	0.00	0.00	0.00
6,200.00	88.53	90.55	2,919.83	-876.05	3,596.37	3,604.61	0.00	0.00	0.00
6,300.00	88.53	90.55	2,922.39	-877.02	3,696.33	3,704.58	0.00	0.00	0.00
6,400.00	88.53	90.55	2,924.95	-877.98	3,796.29	3,804.54	0.00	0.00	0.00
6,500.00	88.53	90.55	2,927.51	-878.94	3,896.25	3,904.51	0.00	0.00	0.00
6,600.00	88.53	90.55	2,930.07	-879.91	3,996.22	4,004.48	0.00	0.00	0.00
6,700.00	88.53	90.55	2,932.64	-880.87	4,096.18	4,104.45	0.00	0.00	0.00
6,800.00	88.53	90.55	2,935.20	-881.83	4,196.14	4,204.41	0.00	0.00	0.00
6,900.00	88.53	90.55	2,937.76	-882.80	4,296.10	4,304.38	0.00	0.00	0.00
7,000.00	88.53	90.55	2,940.32	-883.76	4,396.07	4,404.35	0.00	0.00	0.00
7,100.00	88.53	90.55	2,942.88	-884.72	4,496.03	4,504.31	0.00	0.00	0.00
7,200.00	88.53	90.55	2,945.45	-885.69	4,595.99	4,604.28	0.00	0.00	0.00
7,300.00	88.53	90.55	2,948.01	-886.65	4,695.95	4,704.25	0.00	0.00	0.00
7,400.00	88.53	90.55	2,950.57	-887.61	4,795.92	4,804.22	0.00	0.00	0.00
7,500.00	88.53	90.55	2,953.13	-888.58	4,895.88	4,904.18	0.00	0.00	0.00
7,600.00	88.53	90.55	2,955.69	-889.54	4,995.84	5,004.15	0.00	0.00	0.00
7,700.00	88.53	90.55	2,958.25	-890.50	5,095.80	5,104.12	0.00	0.00	0.00
7,800.00	88.53	90.55	2,960.82	-891.47	5,195.77	5,204.08	0.00	0.00	0.00
7,900.00	88.53	90.55	2,963.38	-892.43	5,295.73	5,304.05	0.00	0.00	0.00
8,000.00	88.53	90.55	2,965.94	-893.39	5,395.69	5,404.02	0.00	0.00	0.00
8,100.00	88.53	90.55	2,968.50	-894.36	5,495.65	5,503.99	0.00	0.00	0.00
8,200.00	88.53	90.55	2,971.06	-895.32	5,595.62	5,603.95	0.00	0.00	0.00

Planning Report

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Company:	SILVERBACK EXPLORATION	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site:	Margaret North Pad	North Reference:	Grid
Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Margaret North 105H		
Design:	Plan 1r2		

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)	
8,300.00	88.53	90.55	2,973.63	-896.28	5,695.58	5,703.92	0.00	0.00	0.00	
8,400.00	88.53	90.55	2,976.19	-897.25	5,795.54	5,803.89	0.00	0.00	0.00	
8,500.00	88.53	90.55	2,978.75	-898.21	5,895.50	5,903.86	0.00	0.00	0.00	
8,548.77	88.53	90.55	2,980.00	-898.68	5,944.26	5,952.61	0.00	0.00	0.00	
TD at 8548.77										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- Shape										
Margaret North 105H SI- - plan hits target center - Point	0.00	360.00	0.00	0.00	0.00	632,016.50	531,995.75	32.7374478		-104.3637148
Margaret North 105H KC - plan hits target center - Point	0.00	360.00	2,079.84	-647.99	43.95	631,368.51	532,039.70	32.7356667		-104.3635713
Margaret North 105H FT - plan misses target center by 0.34usft at 3474.14usft MD (2849.99 TVD, -849.79 N, 871.52 E) - Point	0.00	360.00	2,850.00	-850.13	871.52	631,166.37	532,867.27	32.7351117		-104.3608797
Margaret North 105H PE - plan hits target center - Point	0.00	360.00	2,980.00	-898.68	5,944.26	631,117.82	537,940.01	32.7349808		-104.3443824

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
350.00	350.00	0.00	0.00	Start Build 3.00	
1,253.00	1,219.73	-209.05	14.18	Start 966.10 hold at 1253.00 MD	
2,219.10	2,079.84	-647.99	43.95	Start DLS 8.00 TFO -101.02	
2,989.11	2,673.42	-845.52	426.84	Start 200.00 hold at 2989.11 MD	
3,189.11	2,773.42	-847.18	600.03	Start DLS 10.00 TFO 0.00	
3,474.43	2,850.00	-849.80	871.82	Start 5074.34 hold at 3474.43 MD	
8,548.77	2,980.00	-898.68	5,944.26	TD at 8548.77	

SILVERBACK EXPLORATION

EDDY COUNTY, NM (NAD83) NMEZ GRID

Margaret North Pad

Margaret North 105H

Margaret North 105H

Plan 1r2

Anticollision Report

09 November, 2023

Anticollision Report

Company:	SILVERBACK EXPLORATION	Local Co-ordinate Reference:	Well Margaret North 105H
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Reference Site:	Margaret North Pad	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Margaret North 105H	Database:	PRIME_EDM
Reference Design:	Plan 1r2	Offset TVD Reference:	Reference Datum

Reference	Plan 1r2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 0.00 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	11/09/23		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	8,548.77	Plan 1r2 (Margaret North 105H)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation	Warning
Offset Well - Wellbore - Design						
Margaret North Pad						
Margaret North 106H - Margaret North 106H - Plan 1r2	300.00	300.00	20.00	17.61	8.358	CC
Margaret North 106H - Margaret North 106H - Plan 1r2	400.00	399.99	20.65	17.53	6.617	ES
Margaret North 106H - Margaret North 106H - Plan 1r2	8,548.77	8,649.67	901.58	632.93	3.356	SF
Margaret North 107H - Margaret North 107H - Plan 1r2	300.00	300.00	40.00	37.61	16.717	CC, ES
Margaret North 107H - Margaret North 107H - Plan 1r2	500.00	494.51	56.02	48.56	7.512	SF

Offset Design	Margaret North Pad - Margaret North 106H - Margaret North 106H - Plan 1r2												Offset Site Error:	0.00 usft
Survey Program:	0-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis			Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	20.00					
100.00	100.00	100.00	100.00	0.31	0.31	0.00	20.00	0.00	20.00	19.52	0.48	41.677		
200.00	200.00	200.00	200.00	0.95	0.95	0.00	20.00	0.00	20.00	18.47	1.53	13.112		
300.00	300.00	300.00	300.00	1.46	1.46	0.00	20.00	0.00	20.00	17.61	2.39	8.358	CC	
300.00	300.00	300.00	300.00	1.46	1.46	0.01	20.00	0.00	20.00	17.61	2.39	8.358		
400.00	399.99	399.99	399.99	1.73	1.89	-176.24	20.00	0.00	20.65	17.53	3.12	6.617	ES	
500.00	499.85	499.85	499.85	3.25	2.31	-176.99	20.00	0.00	25.88	20.72	5.16	5.015		
600.00	599.29	599.29	599.29	4.92	2.70	-177.85	20.00	0.00	36.32	29.13	7.19	5.055		
700.00	698.04	698.04	698.04	6.16	3.08	-178.48	20.00	0.00	51.95	43.18	8.77	5.923		
800.00	795.85	795.85	795.85	7.20	3.45	-178.90	20.00	0.00	72.74	62.59	10.15	7.168		
900.00	892.43	892.43	892.43	8.11	3.82	-179.18	20.00	0.00	98.61	87.22	11.39	8.658		
1,000.00	987.52	987.52	987.52	8.93	4.17	-179.36	20.00	0.00	129.51	116.97	12.53	10.332		
1,100.00	1,080.87	1,080.87	1,080.87	9.67	4.52	-179.49	20.00	0.00	165.34	151.74	13.60	12.155		
1,200.00	1,172.22	1,174.89	1,174.87	10.36	4.90	-179.16	19.59	1.41	205.54	190.88	14.65	14.027		
1,300.00	1,261.57	1,266.91	1,266.73	10.63	5.23	-178.00	18.10	6.60	248.71	233.44	15.28	16.282		
1,400.00	1,350.60	1,356.77	1,356.39	10.82	5.49	-177.08	16.44	12.32	292.41	276.61	15.79	18.514		
1,500.00	1,439.63	1,446.64	1,446.06	11.04	5.75	-176.40	14.79	18.04	336.14	319.80	16.34	20.569		
1,600.00	1,528.66	1,536.50	1,535.73	11.28	6.02	-175.87	13.14	23.76	379.91	363.01	16.90	22.473		
1,700.00	1,617.69	1,626.37	1,625.40	11.55	6.30	-175.45	11.49	29.48	423.70	406.22	17.48	24.242		
1,800.00	1,706.72	1,716.23	1,715.06	11.84	6.58	-175.11	9.84	35.21	467.50	449.44	18.06	25.885		
1,900.00	1,795.75	1,806.10	1,804.73	12.17	6.86	-174.83	8.19	40.93	511.32	492.66	18.65	27.411		
2,000.00	1,884.78	1,895.96	1,894.40	12.55	7.15	-174.60	6.53	46.65	555.14	535.88	19.26	28.828		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SILVERBACK EXPLORATION	Local Co-ordinate Reference:	Well Margaret North 105H
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Reference Site:	Margaret North Pad	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Margaret North 105H	Database:	PRIME_EDM
Reference Design:	Plan 1r2	Offset TVD Reference:	Reference Datum

Offset Design Margaret North Pad - Margaret North 106H - Margaret North 106H - Plan 1r2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,100.00	1,973.81	1,985.83	1,984.06	13.02	7.44	-174.39	4.88	52.37	598.97	579.10	19.87	30.145		
2,200.00	2,062.84	2,075.69	2,073.73	13.59	7.74	-174.22	3.23	58.10	642.80	622.31	20.49	31.370		
2,300.00	2,152.11	2,166.06	2,163.90	14.35	8.06	-158.80	1.57	63.85	685.39	664.27	21.12	32.453		
2,400.00	2,241.17	2,256.97	2,254.61	15.41	8.40	-141.58	-0.10	69.64	723.97	702.14	21.83	33.161		
2,500.00	2,328.30	2,346.70	2,344.15	16.37	8.73	-127.99	-1.75	75.35	758.52	735.85	22.67	33.455		
2,600.00	2,411.80	2,437.39	2,434.54	17.20	9.08	-118.41	-3.41	82.28	789.54	765.98	23.56	33.507		
2,700.00	2,490.06	2,538.09	2,533.31	17.99	9.87	-112.03	-5.22	101.36	816.66	792.04	24.62	33.171		
2,800.00	2,561.55	2,648.26	2,637.13	18.79	10.73	-108.01	-7.10	137.85	839.02	813.20	25.82	32.497		
2,900.00	2,624.88	2,769.16	2,743.13	19.64	11.53	-105.80	-9.00	195.67	855.75	828.44	27.31	31.338		
3,000.00	2,678.87	2,901.41	2,846.13	20.56	12.25	-105.29	-10.81	278.30	865.92	836.71	29.21	29.647		
3,100.00	2,728.87	3,045.84	2,939.18	21.58	13.04	-106.92	-12.41	388.44	870.58	838.88	31.70	27.465		
3,200.00	2,778.78	3,164.08	3,000.11	22.70	14.52	-107.06	-13.43	489.72	871.00	836.62	34.38	25.337		
3,300.00	2,819.26	3,263.39	3,049.77	24.01	15.98	-107.42	-14.26	575.72	874.16	837.16	37.00	23.623		
3,400.00	2,843.27	3,419.02	3,116.68	25.52	18.56	-108.84	-15.60	715.83	881.00	839.80	41.20	21.384		
3,500.00	2,850.65	3,601.14	3,145.72	27.18	22.12	-109.52	-17.32	894.88	883.46	836.73	46.73	18.906		
3,600.00	2,853.21	3,701.13	3,149.26	28.95	24.21	-109.58	-18.27	994.81	883.80	833.37	50.43	17.526		
3,700.00	2,855.78	3,801.13	3,152.81	30.81	26.37	-109.64	-19.23	1,094.74	884.13	829.86	54.28	16.289		
3,800.00	2,858.34	3,901.12	3,156.35	32.75	28.57	-109.70	-20.19	1,194.66	884.47	826.23	58.24	15.186		
3,900.00	2,860.90	4,001.12	3,159.90	34.76	30.82	-109.76	-21.14	1,294.59	884.81	822.51	62.30	14.203		
4,000.00	2,863.46	4,101.11	3,163.44	36.82	33.09	-109.82	-22.10	1,394.52	885.15	818.72	66.42	13.326		
4,100.00	2,866.02	4,201.11	3,166.99	38.93	35.39	-109.88	-23.05	1,494.45	885.49	814.88	70.61	12.540		
4,200.00	2,868.59	4,301.11	3,170.53	41.08	37.71	-109.94	-24.01	1,594.38	885.83	810.98	74.85	11.835		
4,300.00	2,871.15	4,401.10	3,174.08	43.26	40.05	-110.00	-24.97	1,694.30	886.17	807.05	79.13	11.200		
4,400.00	2,873.71	4,501.10	3,177.62	45.47	42.40	-110.06	-25.92	1,794.23	886.52	803.08	83.44	10.625		
4,500.00	2,876.27	4,601.09	3,181.17	47.70	44.76	-110.12	-26.88	1,894.16	886.86	799.08	87.78	10.104		
4,600.00	2,878.83	4,701.09	3,184.71	49.96	47.13	-110.18	-27.84	1,994.09	887.20	795.06	92.14	9.629		
4,700.00	2,881.40	4,801.08	3,188.26	52.23	49.51	-110.24	-28.79	2,094.01	887.55	791.02	96.53	9.195		
4,800.00	2,883.96	4,901.08	3,191.80	54.53	51.90	-110.30	-29.75	2,193.94	887.90	786.97	100.93	8.797		
4,900.00	2,886.52	5,001.07	3,195.34	56.83	54.29	-110.36	-30.71	2,293.87	888.24	782.90	105.34	8.432		
5,000.00	2,889.08	5,101.07	3,198.89	59.15	56.69	-110.42	-31.66	2,393.80	888.59	778.82	109.77	8.095		
5,100.00	2,891.64	5,201.06	3,202.43	61.48	59.09	-110.48	-32.62	2,493.73	888.94	774.73	114.21	7.783		
5,200.00	2,894.21	5,301.06	3,205.98	63.82	61.50	-110.54	-33.58	2,593.65	889.29	770.63	118.66	7.494		
5,300.00	2,896.77	5,401.05	3,209.52	66.17	63.92	-110.59	-34.53	2,693.58	889.65	766.52	123.12	7.226		
5,400.00	2,899.33	5,501.05	3,213.07	68.52	66.33	-110.65	-35.49	2,793.51	890.00	762.41	127.58	6.976		
5,500.00	2,901.89	5,601.04	3,216.61	70.88	68.75	-110.71	-36.44	2,893.44	890.35	758.30	132.05	6.742		
5,600.00	2,904.45	5,701.04	3,220.16	73.25	71.17	-110.77	-37.40	2,993.36	890.71	754.18	136.53	6.524		
5,700.00	2,907.02	5,801.03	3,223.70	75.63	73.60	-110.83	-38.36	3,093.29	891.06	750.05	141.01	6.319		
5,800.00	2,909.58	5,901.03	3,227.25	78.01	76.02	-110.89	-39.31	3,193.22	891.42	745.93	145.49	6.127		
5,900.00	2,912.14	6,001.02	3,230.79	80.40	78.45	-110.95	-40.27	3,293.15	891.77	741.80	149.97	5.946		
6,000.00	2,914.70	6,101.02	3,234.34	82.79	80.88	-111.01	-41.23	3,393.08	892.13	737.67	154.46	5.776		
6,100.00	2,917.26	6,201.01	3,237.88	85.18	83.31	-111.07	-42.18	3,493.00	892.49	733.55	158.95	5.615		
6,200.00	2,919.83	6,301.01	3,241.43	87.58	85.75	-111.13	-43.14	3,592.93	892.85	729.42	163.43	5.463		
6,300.00	2,922.39	6,401.00	3,244.97	89.98	88.18	-111.18	-44.10	3,692.86	893.21	725.29	167.92	5.319		
6,400.00	2,924.95	6,501.00	3,248.52	92.38	90.62	-111.24	-45.05	3,792.79	893.57	721.16	172.42	5.183		
6,500.00	2,927.51	6,600.99	3,252.06	94.79	93.05	-111.30	-46.01	3,892.71	893.94	717.03	176.91	5.053		
6,600.00	2,930.07	6,700.99	3,255.60	97.20	95.49	-111.36	-46.97	3,992.64	894.30	712.90	181.40	4.930		
6,700.00	2,932.64	6,800.98	3,259.15	99.61	97.93	-111.42	-47.92	4,092.57	894.67	708.78	185.89	4.813		
6,800.00	2,935.20	6,900.98	3,262.69	102.03	100.37	-111.48	-48.88	4,192.50	895.03	704.65	190.38	4.701		
6,900.00	2,937.76	7,000.97	3,266.24	104.44	102.81	-111.54	-49.83	4,292.42	895.40	700.53	194.87	4.595		
7,000.00	2,940.32	7,100.97	3,269.78	106.86	105.26	-111.59	-50.79	4,392.35	895.77	696.41	199.35	4.493		
7,100.00	2,942.88	7,200.96	3,273.33	109.28	107.70	-111.65	-51.75	4,492.28	896.13	692.29	203.84	4.396		
7,200.00	2,945.45	7,300.96	3,276.87	111.70	110.14	-111.71	-52.70	4,592.21	896.50	688.18	208.33	4.303		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SILVERBACK EXPLORATION	Local Co-ordinate Reference:	Well Margaret North 105H
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Reference Site:	Margaret North Pad	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Margaret North 105H	Database:	PRIME_EDM
Reference Design:	Plan 1r2	Offset TVD Reference:	Reference Datum

Offset Design Margaret North Pad - Margaret North 106H - Margaret North 106H - Plan 1r2												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,300.00	2,948.01	7,400.96	3,280.42	114.13	112.59	-111.77	-53.66	4,692.14	896.87	684.06	212.81	4.214	
7,400.00	2,950.57	7,500.95	3,283.96	116.55	115.03	-111.83	-54.62	4,792.06	897.25	679.95	217.29	4.129	
7,500.00	2,953.13	7,600.95	3,287.51	118.98	117.48	-111.88	-55.57	4,891.99	897.62	675.84	221.78	4.047	
7,600.00	2,955.69	7,700.94	3,291.05	121.41	119.92	-111.94	-56.53	4,991.92	897.99	671.73	226.26	3.969	
7,700.00	2,958.25	7,800.94	3,294.60	123.84	122.37	-112.00	-57.49	5,091.85	898.36	667.63	230.73	3.894	
7,800.00	2,960.82	7,900.93	3,298.14	126.27	124.82	-112.06	-58.44	5,191.77	898.74	663.53	235.21	3.821	
7,900.00	2,963.38	8,000.93	3,301.69	128.70	127.26	-112.12	-59.40	5,291.70	899.12	659.43	239.68	3.751	
8,000.00	2,965.94	8,100.92	3,305.23	131.13	129.71	-112.17	-60.36	5,391.63	899.49	655.34	244.15	3.684	
8,100.00	2,968.50	8,200.92	3,308.78	133.57	132.16	-112.23	-61.31	5,491.56	899.87	651.25	248.62	3.619	
8,200.00	2,971.06	8,300.91	3,312.32	136.00	134.61	-112.29	-62.27	5,591.49	900.25	647.16	253.09	3.557	
8,300.00	2,973.63	8,400.91	3,315.86	138.44	137.06	-112.35	-63.23	5,691.41	900.63	643.07	257.55	3.497	
8,400.00	2,976.19	8,500.90	3,319.41	140.87	139.51	-112.41	-64.18	5,791.34	901.01	638.99	262.02	3.439	
8,500.00	2,978.75	8,600.90	3,322.95	143.31	141.96	-112.46	-65.14	5,891.27	901.39	634.91	266.47	3.383	
8,548.77	2,980.00	8,649.67	3,324.68	144.50	143.15	-112.49	-65.60	5,940.01	901.58	632.93	268.65	3.356 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SILVERBACK EXPLORATION	Local Co-ordinate Reference:	Well Margaret North 105H
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Reference Site:	Margaret North Pad	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Margaret North 105H	Database:	PRIME_EDM
Reference Design:	Plan 1r2	Offset TVD Reference:	Reference Datum

Offset Design Margaret North Pad - Margaret North 107H - Margaret North 107H - Plan 1r2													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00	40.00					
100.00	100.00	100.00	100.00	0.31	0.31	0.00	40.00	0.00	40.00	39.52	0.48	83.353		
200.00	200.00	200.00	200.00	0.95	0.95	0.00	40.00	0.00	40.00	38.47	1.53	26.224		
300.00	300.00	300.00	300.00	1.46	1.46	0.00	40.00	0.00	40.00	37.61	2.39	16.717 CC, ES		
400.00	399.99	397.83	397.79	1.73	2.68	-175.86	42.49	0.23	43.20	39.19	4.01	10.775		
500.00	499.85	494.51	494.17	3.25	4.45	-175.54	49.85	0.91	56.02	48.56	7.46	7.512 SF		
600.00	599.29	588.55	587.45	4.92	5.72	-175.32	61.66	2.01	78.86	68.55	10.32	7.644		
700.00	698.04	678.66	676.18	6.16	6.71	-175.19	77.25	3.46	111.34	98.91	12.42	8.962		
800.00	795.85	763.74	759.20	7.20	7.54	-175.08	95.79	5.18	152.90	138.80	14.10	10.847		
900.00	892.43	842.98	835.70	8.11	8.24	-174.98	116.34	7.08	202.91	187.45	15.46	13.126		
1,000.00	987.52	915.82	905.20	8.93	8.84	-174.87	138.00	9.09	260.65	244.07	16.58	15.722		
1,100.00	1,080.87	981.94	967.54	9.67	9.34	-174.73	159.94	11.13	325.37	307.88	17.49	18.599		
1,200.00	1,172.22	1,041.24	1,022.77	10.36	9.71	-174.56	181.44	13.12	396.32	378.14	18.18	21.798		
1,300.00	1,261.57	1,095.99	1,073.16	10.63	9.99	-174.50	202.77	15.10	472.37	453.88	18.49	25.545		
1,400.00	1,350.60	1,159.58	1,131.42	10.82	10.10	-174.61	228.12	17.45	549.55	530.82	18.73	29.335		
1,500.00	1,439.63	1,223.16	1,189.69	11.04	10.21	-174.69	253.47	19.80	626.73	607.74	19.00	32.992		
1,600.00	1,528.66	1,286.75	1,247.96	11.28	10.34	-174.75	278.81	22.15	703.91	684.63	19.28	36.510		
1,700.00	1,617.69	1,350.33	1,306.22	11.55	10.47	-174.80	304.16	24.51	781.09	761.51	19.58	39.890		
1,800.00	1,706.72	1,413.92	1,364.49	11.84	10.61	-174.84	329.51	26.86	858.27	838.38	19.89	43.141		
1,900.00	1,795.75	1,477.50	1,422.76	12.17	10.76	-174.87	354.85	29.21	935.45	915.23	20.22	46.255		

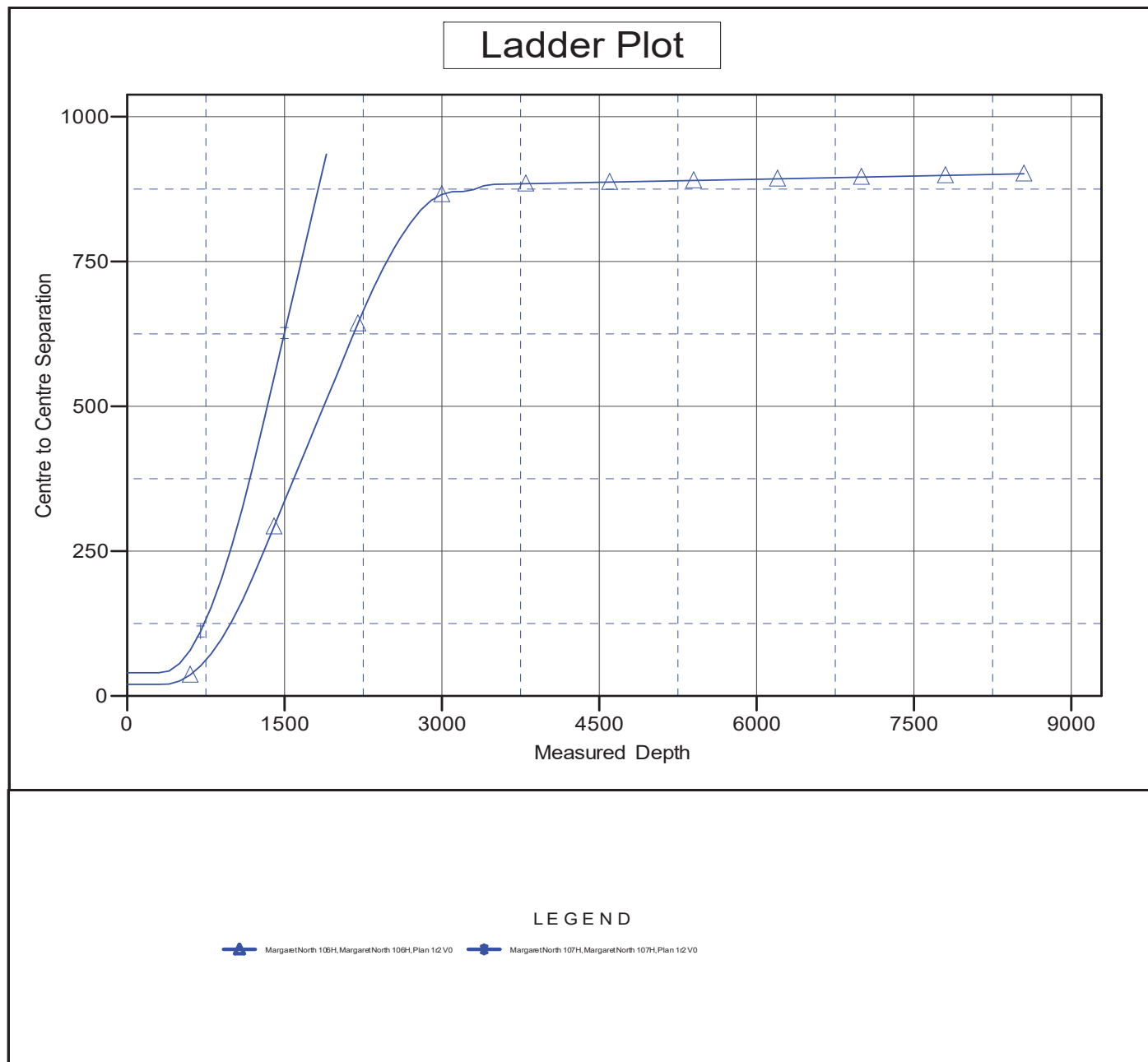
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	SILVERBACK EXPLORATION	Local Co-ordinate Reference:	Well Margaret North 105H
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Reference Site:	Margaret North Pad	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Margaret North 105H	Database:	PRIME_EDM
Reference Design:	Plan 1r2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to 3330+20 @ 3350.00usft (110923 gl+
Offset Depths are relative to Offset Datum
Central Meridian is -104.3333333

Coordinates are relative to: Margaret North 105H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: -0.02°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

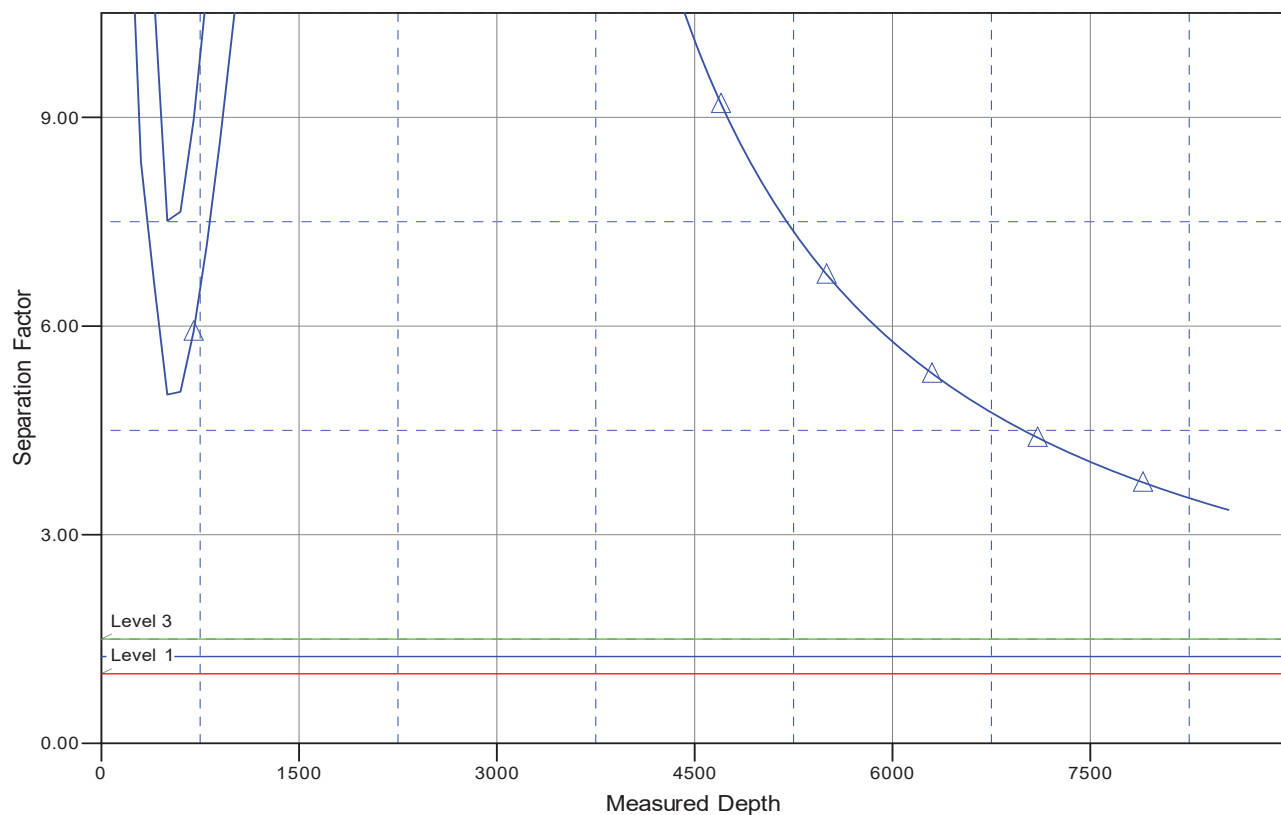
Anticollision Report

Company:	SILVERBACK EXPLORATION	Local Co-ordinate Reference:	Well Margaret North 105H
Project:	EDDY COUNTY, NM (NAD83) NMEZ GRID	TVD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Reference Site:	Margaret North Pad	MD Reference:	3330+20 @ 3350.00usft (110923 gl+kb)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Margaret North 105H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Margaret North 105H	Database:	PRIME_EDM
Reference Design:	Plan 1r2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to 3330+20 @ 3350.00usft (110923 gl+
Offset Depths are relative to Offset Datum
Central Meridian is -104.333333

Coordinates are relative to: Margaret North 105H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: -0.02°

Separation Factor Plot



LEGEND

▲ Margaret North 105H, Margaret North 106H, Plan 1/2 V0 ● Margaret North 107H, Margaret North 107H, Plan 1/2 V0