

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 291861

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

1. Operator Name and Address V-F PETROLEUM INC P.O. Box 1889 Midland, TX 79702		2. OGRID Number 24010
		3. API Number 30-015-48011
4. Property Code 329325	5. Property Name LIGHTFOOT 19 STATE COM	6. Well No. 232H

7. Surface Location

UL - Lot I	Section 19	Township 19S	Range 28E	Lot Idn i	Feet From 2090	N/S Line S	Feet From 100	E/W Line E	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot L	Section 19	Township 19S	Range 28E	Lot Idn 3	Feet From 2090	N/S Line S	Feet From 100	E/W Line W	County Eddy
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9. Pool Information

WINCHESTER; BONE SPRING, WEST	97569
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3508
16. Multiple N	17. Proposed Depth 13403	18. Formation Bone Spring	19. Contractor	20. Spud Date 2/1/2021
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	17.5	13.375	54.5	450	450	0
Int1	12.25	9.625	40	3500	825	0
Prod	8.75	5.5	17	13403	1600	2700

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	3000	1500	TBD
Double Ram	3000	3000	TBD

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 Pam O'Neil	Approved By: Kurt Simmons		
Title: Regulatory Manager	Title: Petroleum Specialist - A		
Email Address: pamo@vfpetroleum.com	Approved Date: 2/3/2021	Expiration Date: 2/3/2023	
Date: 1/29/2021	Phone: 432-683-3344	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, New Mexico 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	Pool Code 97569	Pool Name WINCHESTER; BONE SPRING, WEST
Property Code	Property Name LIGHTFOOT 19 STATE COM	Well Number 232H
OGRID No. 24010	Operator Name V-F PETROLEUM INC.	Elevation 3508'

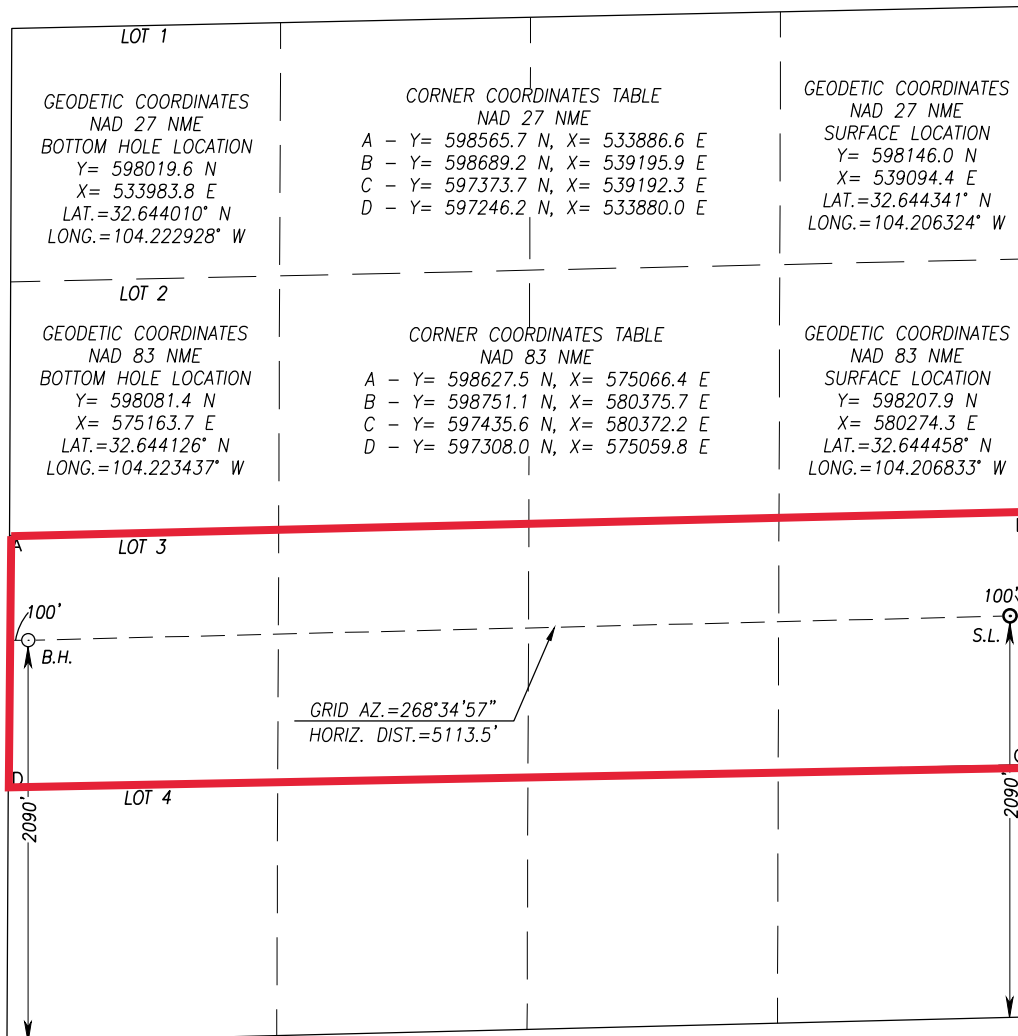
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	19	19-S	28-E		2090	SOUTH	100	EAST	EDDY

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
3	19	19-S	28-E		2090	SOUTH	100	WEST	EDDY
Dedicated Acres 163.08	Joint or Infill	Consolidation Code C	Order No.						

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



OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Jason L. Lodge 1/29/21
Signature Date

Jason Lodge
Printed Name

Jason@vfpetroleum.com
E-mail Address

SURVEYOR CERTIFICATION

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

3239
FEBRUARY 12, 2019
Date of Survey
Signature & Seal of Professional Surveyor:

Ronald J. Eidson 03/13/2019

Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239

LSL JWSC W.O.: 19.11.0130

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GAS CAPTURE PLAN

Date: 2/3/2021

☒ Original

Operator & OGRID No.: [24010] V-F PETROLEUM INC

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
LIGHTFOOT 19 STATE COM #232H	30-015-48011	I-19-19S-28E	2090S 0100E	1500	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to DCP OPERATING COMPANY, LP and will be connected to DCP OPERATING COMPANY, LP High/Low Pressure gathering system located in Eddy County, New Mexico. It will require 1400' of pipeline to connect the facility to High/Low Pressure gathering system. V-F PETROLEUM INC provides (periodically) to DCP OPERATING COMPANY, LP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, V-F PETROLEUM INC and DCP OPERATING COMPANY, LP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP OPERATING COMPANY, LP Processing Plant located in Sec. 20, Twn. 19S, Rng. 28E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on DCP OPERATING COMPANY, LP system at that time. Based on current information, it is V-F PETROLEUM INC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Comments

Permit 291861

PERMIT COMMENTS

Operator Name and Address: V-F PETROLEUM INC [24010] P.O. Box 1889 Midland, TX 79702		API Number: 30-015-48011
		Well: LIGHTFOOT 19 STATE COM #232H

Created By	Comment	Comment Date
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Form APD Conditions

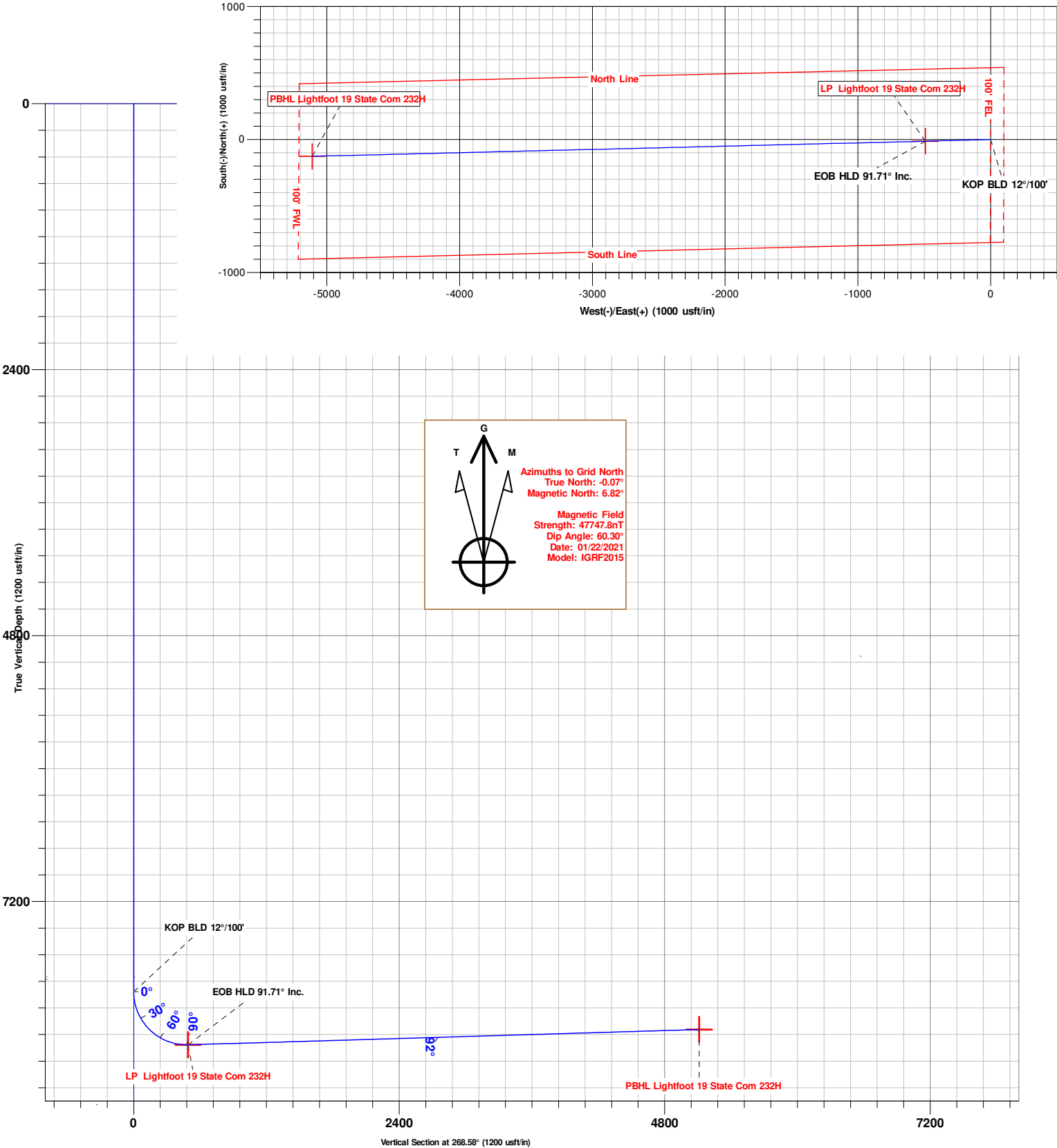
Permit 291861

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: V-F PETROLEUM INC [24010] P.O. Box 1889 Midland, TX 79702	API Number: 30-015-48011
	Well: LIGHTFOOT 19 STATE COM #232H

OCD Reviewer	Condition
ksimmons	Notify OCD 24 hours prior to casing & cement
ksimmons	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ksimmons	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
kpickford	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
kpickford	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

SECTION DETAILS									DESIGN TARGET DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Name	TVD	+N/-S	+E/-W	Northing	Eastings	Latitude	Longitude	Shape
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	PBHL Lightfoot 19 State Com 232H	8355.0	-126.5	-5110.6	598081.40	575163.70	32° 38' 38.853 N	104° 13' 24.374 W	Point
8015.7	0.00	0.00	8015.7	0.0	0.0	0.00	0.00	0.0	LP Lightfoot 19 State Com 232H	8493.0	-12.2	-491.6	598195.70	579782.70	32° 38' 39.934 N	104° 12' 30.349 W	Point
8780.0	91.71	268.58	8493.0	-12.2	-491.6	12.00	268.58	491.7	plan hits target center								
13402.5	91.71	268.58	8355.0	-126.5	-5110.6	0.00	0.00	5112.2	plan misses target center by 0.1usft at 8780.0usft MD (8493.0 TVD, -12.2 N, -491.6 E)								



V-F Petroleum, Inc.

Eddy County, NM

Sec 19-T19S-R28E

Lightfoot 19 State Com 232H

Wellbore #1

Plan: Plan #1

Standard Planning Report

22 January, 2021

Microsoft
Planning Report

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Lightfoot 19 State Com 232H
Company:	V-F Petroleum, Inc.	TVD Reference:	3508+20 @ 3528.0usft
Project:	Eddy County, NM	MD Reference:	3508+20 @ 3528.0usft
Site:	Sec 19-T19S-R28E	North Reference:	Grid
Well:	Lightfoot 19 State Com 232H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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

Site	Sec 19-T19S-R28E					
Site Position:		Northing:	598,207.90 usft	Latitude:	32° 38' 40.049 N	
From:	Map	Easting:	580,274.30 usft	Longitude:	104° 12' 24.599 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.07 °

Well	Lightfoot 19 State Com 232H					
Well Position	+N/-S	0.0 usft	Northing:	598,207.90 usft	Latitude:	32° 38' 40.049 N
	+E/-W	0.0 usft	Easting:	580,274.30 usft	Longitude:	104° 12' 24.599 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,508.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	01/22/21	6.89	60.30	47,747.80895585

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	268.58

Plan Survey Tool Program	Date	01/22/21		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	13,401.7	Plan #1 (Wellbore #1)	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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,015.7	0.00	0.00	8,015.7	0.0	0.0	0.00	0.00	0.00	0.00	
8,780.0	91.71	268.58	8,493.0	-12.2	-491.6	12.00	12.00	-11.96	268.58	
13,402.5	91.71	268.58	8,355.0	-126.5	-5,110.6	0.00	0.00	0.00	0.00	PBHL Lightfoot 19 Sta

Microsoft
Planning Report

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Lightfoot 19 State Com 232H
Company:	V-F Petroleum, Inc.	TVD Reference:	3508+20 @ 3528.0usft
Project:	Eddy County, NM	MD Reference:	3508+20 @ 3528.0usft
Site:	Sec 19-T19S-R28E	North Reference:	Grid
Well:	Lightfoot 19 State Com 232H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Microsoft
Planning Report

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Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,015.7	0.00	0.00	8,015.7	0.0	0.0	0.0	0.00	0.00	0.00
KOP BLD 12°/100'									
8,025.0	1.12	268.58	8,025.0	0.0	-0.1	0.1	12.00	12.00	0.00
8,050.0	4.12	268.58	8,050.0	0.0	-1.2	1.2	12.00	12.00	0.00
8,075.0	7.12	268.58	8,074.8	-0.1	-3.7	3.7	12.00	12.00	0.00
8,100.0	10.12	268.58	8,099.6	-0.2	-7.4	7.4	12.00	12.00	0.00
8,125.0	13.12	268.58	8,124.0	-0.3	-12.5	12.5	12.00	12.00	0.00
8,150.0	16.12	268.58	8,148.2	-0.5	-18.8	18.8	12.00	12.00	0.00
8,175.0	19.12	268.58	8,172.1	-0.7	-26.3	26.3	12.00	12.00	0.00
8,200.0	22.12	268.58	8,195.5	-0.9	-35.1	35.1	12.00	12.00	0.00
8,225.0	25.12	268.58	8,218.4	-1.1	-45.1	45.1	12.00	12.00	0.00
8,250.0	28.12	268.58	8,240.7	-1.4	-56.3	56.3	12.00	12.00	0.00
8,275.0	31.12	268.58	8,262.4	-1.7	-68.7	68.7	12.00	12.00	0.00
8,300.0	34.12	268.58	8,283.5	-2.0	-82.1	82.2	12.00	12.00	0.00
8,325.0	37.12	268.58	8,303.8	-2.4	-96.7	96.7	12.00	12.00	0.00
8,350.0	40.12	268.58	8,323.3	-2.8	-112.3	112.3	12.00	12.00	0.00
8,375.0	43.12	268.58	8,342.0	-3.2	-128.9	128.9	12.00	12.00	0.00
8,400.0	46.12	268.58	8,359.8	-3.6	-146.4	146.5	12.00	12.00	0.00
8,425.0	49.12	268.58	8,376.7	-4.1	-164.9	164.9	12.00	12.00	0.00
8,450.0	52.12	268.58	8,392.5	-4.6	-184.2	184.3	12.00	12.00	0.00
8,475.0	55.12	268.58	8,407.4	-5.1	-204.3	204.4	12.00	12.00	0.00
8,500.0	58.12	268.58	8,421.1	-5.6	-225.2	225.3	12.00	12.00	0.00
8,525.0	61.12	268.58	8,433.8	-6.1	-246.8	246.8	12.00	12.00	0.00
8,550.0	64.12	268.58	8,445.3	-6.7	-268.9	269.0	12.00	12.00	0.00
8,575.0	67.12	268.58	8,455.6	-7.2	-291.7	291.8	12.00	12.00	0.00
8,600.0	70.12	268.58	8,464.7	-7.8	-315.0	315.1	12.00	12.00	0.00

Microsoft
Planning Report

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Lightfoot 19 State Com 232H
Company:	V-F Petroleum, Inc.	TVD Reference:	3508+20 @ 3528.0usft
Project:	Eddy County, NM	MD Reference:	3508+20 @ 3528.0usft
Site:	Sec 19-T19S-R28E	North Reference:	Grid
Well:	Lightfoot 19 State Com 232H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,625.0	73.12	268.58	8,472.6	-8.4	-338.7	338.8	12.00	12.00	0.00
8,650.0	76.12	268.58	8,479.2	-9.0	-362.8	362.9	12.00	12.00	0.00
8,675.0	79.12	268.58	8,484.6	-9.6	-387.2	387.3	12.00	12.00	0.00
8,700.0	82.12	268.58	8,488.7	-10.2	-411.8	412.0	12.00	12.00	0.00
8,725.0	85.12	268.58	8,491.4	-10.8	-436.7	436.8	12.00	12.00	0.00
8,750.0	88.12	268.58	8,492.9	-11.4	-461.6	461.8	12.00	12.00	0.00
8,775.0	91.12	268.58	8,493.1	-12.0	-486.6	486.8	12.00	12.00	0.00
8,780.0	91.71	268.58	8,493.0	-12.2	-491.6	491.7	12.00	12.00	0.00
EOB HLD 91.71° Inc.									
8,800.0	91.71	268.58	8,492.4	-12.7	-511.6	511.8	0.00	0.00	0.00
8,900.0	91.71	268.58	8,489.4	-15.1	-611.5	611.7	0.00	0.00	0.00
9,000.0	91.71	268.58	8,486.4	-17.6	-711.4	711.7	0.00	0.00	0.00
9,100.0	91.71	268.58	8,483.4	-20.1	-811.4	811.6	0.00	0.00	0.00
9,200.0	91.71	268.58	8,480.4	-22.6	-911.3	911.6	0.00	0.00	0.00
9,300.0	91.71	268.58	8,477.4	-25.0	-1,011.2	1,011.5	0.00	0.00	0.00
9,400.0	91.71	268.58	8,474.4	-27.5	-1,111.1	1,111.5	0.00	0.00	0.00
9,500.0	91.71	268.58	8,471.5	-30.0	-1,211.1	1,211.4	0.00	0.00	0.00
9,600.0	91.71	268.58	8,468.5	-32.5	-1,311.0	1,311.4	0.00	0.00	0.00
9,700.0	91.71	268.58	8,465.5	-34.9	-1,410.9	1,411.4	0.00	0.00	0.00
9,800.0	91.71	268.58	8,462.5	-37.4	-1,510.8	1,511.3	0.00	0.00	0.00
9,900.0	91.71	268.58	8,459.5	-39.9	-1,610.8	1,611.3	0.00	0.00	0.00
10,000.0	91.71	268.58	8,456.5	-42.3	-1,710.7	1,711.2	0.00	0.00	0.00
10,100.0	91.71	268.58	8,453.6	-44.8	-1,810.6	1,811.2	0.00	0.00	0.00
10,200.0	91.71	268.58	8,450.6	-47.3	-1,910.5	1,911.1	0.00	0.00	0.00
10,300.0	91.71	268.58	8,447.6	-49.8	-2,010.5	2,011.1	0.00	0.00	0.00
10,400.0	91.71	268.58	8,444.6	-52.2	-2,110.4	2,111.0	0.00	0.00	0.00
10,500.0	91.71	268.58	8,441.6	-54.7	-2,210.3	2,211.0	0.00	0.00	0.00
10,600.0	91.71	268.58	8,438.6	-57.2	-2,310.2	2,311.0	0.00	0.00	0.00
10,700.0	91.71	268.58	8,435.7	-59.7	-2,410.2	2,410.9	0.00	0.00	0.00
10,800.0	91.71	268.58	8,432.7	-62.1	-2,510.1	2,510.9	0.00	0.00	0.00
10,900.0	91.71	268.58	8,429.7	-64.6	-2,610.0	2,610.8	0.00	0.00	0.00
11,000.0	91.71	268.58	8,426.7	-67.1	-2,709.9	2,710.8	0.00	0.00	0.00
11,100.0	91.71	268.58	8,423.7	-69.6	-2,809.9	2,810.7	0.00	0.00	0.00
11,200.0	91.71	268.58	8,420.7	-72.0	-2,909.8	2,910.7	0.00	0.00	0.00
11,300.0	91.71	268.58	8,417.7	-74.5	-3,009.7	3,010.6	0.00	0.00	0.00
11,400.0	91.71	268.58	8,414.8	-77.0	-3,109.6	3,110.6	0.00	0.00	0.00
11,500.0	91.71	268.58	8,411.8	-79.4	-3,209.6	3,210.6	0.00	0.00	0.00
11,600.0	91.71	268.58	8,408.8	-81.9	-3,309.5	3,310.5	0.00	0.00	0.00
11,700.0	91.71	268.58	8,405.8	-84.4	-3,409.4	3,410.5	0.00	0.00	0.00
11,800.0	91.71	268.58	8,402.8	-86.9	-3,509.3	3,510.4	0.00	0.00	0.00
11,900.0	91.71	268.58	8,399.8	-89.3	-3,609.3	3,610.4	0.00	0.00	0.00
12,000.0	91.71	268.58	8,396.9	-91.8	-3,709.2	3,710.3	0.00	0.00	0.00
12,100.0	91.71	268.58	8,393.9	-94.3	-3,809.1	3,810.3	0.00	0.00	0.00
12,200.0	91.71	268.58	8,390.9	-96.8	-3,909.0	3,910.2	0.00	0.00	0.00
12,300.0	91.71	268.58	8,387.9	-99.2	-4,009.0	4,010.2	0.00	0.00	0.00
12,400.0	91.71	268.58	8,384.9	-101.7	-4,108.9	4,110.2	0.00	0.00	0.00
12,500.0	91.71	268.58	8,381.9	-104.2	-4,208.8	4,210.1	0.00	0.00	0.00
12,600.0	91.71	268.58	8,378.9	-106.7	-4,308.7	4,310.1	0.00	0.00	0.00
12,700.0	91.71	268.58	8,376.0	-109.1	-4,408.7	4,410.0	0.00	0.00	0.00
12,800.0	91.71	268.58	8,373.0	-111.6	-4,508.6	4,510.0	0.00	0.00	0.00
12,900.0	91.71	268.58	8,370.0	-114.1	-4,608.5	4,609.9	0.00	0.00	0.00
13,000.0	91.71	268.58	8,367.0	-116.5	-4,708.4	4,709.9	0.00	0.00	0.00
13,100.0	91.71	268.58	8,364.0	-119.0	-4,808.4	4,809.8	0.00	0.00	0.00
13,200.0	91.71	268.58	8,361.0	-121.5	-4,908.3	4,909.8	0.00	0.00	0.00

Microsoft
Planning Report

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Lightfoot 19 State Com 232H
Company:	V-F Petroleum, Inc.	TVD Reference:	3508+20 @ 3528.0usft
Project:	Eddy County, NM	MD Reference:	3508+20 @ 3528.0usft
Site:	Sec 19-T19S-R28E	North Reference:	Grid
Well:	Lightfoot 19 State Com 232H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,300.0	91.71	268.58	8,358.1	-124.0	-5,008.2	5,009.7	0.00	0.00	0.00
13,402.5	91.71	268.58	8,355.0	-126.5	-5,110.6	5,112.2	0.00	0.00	0.00
13402.5 TD									

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
PBHL Lightfoot 19 State - plan hits target center - Point	0.00	0.00	8,355.0	-126.5	-5,110.6	598,081.40	575,163.70	32° 38' 38.853 N	104° 13' 24.374 W
LP Lightfoot 19 State Co - plan misses target center by 0.1usft at 8780.0usft MD (8493.0 TVD, -12.2 N, -491.6 E) - Point	0.00	0.00	8,493.0	-12.2	-491.6	598,195.70	579,782.70	32° 38' 39.934 N	104° 12' 30.349 W

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,015.7	8,015.7	0.0	0.0	KOP BLD 12°/100'
8,780.0	8,493.0	-12.2	-491.6	EOB HLD 91.71° Inc.
13,402.5	8,355.0	-126.5	-5,110.6	13402.5 TD