Form 3160-3
(October 2024)

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2027

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-015-57434

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

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

At surface

At proposed prod. zone

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

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

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

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

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

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date

Title

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

Title	Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 10/23/2025

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Approval Date: 10/23/2025

Additional Operator Remarks

Location of Well

0. SHL: SESE / 861 FSL / 441 FEL / TWSP: 19S / RANGE: 27E / SECTION: 36 / LAT: 32.612135 / LONG: -104.226595 (TVD: 0 feet, MD: 0 feet)

PPP: NESE / 1980 FSL / 100 FEL / TWSP: 19S / RANGE: 27E / SECTION: 36 / LAT: 32.615212 / LONG: -104.224699 (TVD: 7956 feet, MD: 8120 feet)

PPP: NESE / 1999 FSL / 0 FWL / TWSP: 19S / RANGE: 27E / SECTION: 35 / LAT: 32.615265 / LONG: -104.259319 (TVD: 7970 feet, MD: 18876 feet)

PPP: NESE / 1998 FSL / 0 FWL / TWSP: 19S / RANGE: 27E / SECTION: 36 / LAT: 32.61524 / LONG: -104.24216 (TVD: 8095 feet, MD: 13591 feet)

BHL: NWSW / 1980 FSL / 100 FWL / TWSP: 19S / RANGE: 27E / SECTION: 34 / LAT: 32.615287 / LONG: -104.27556 (TVD: 7852 feet, MD: 23878 feet)

BLM Point of Contact

Name: MARIAH HUGHES
Title: Land Law Examiner
Phone: (575) 234-5972
Email: MHUGHES@BLM.GOV

C-102	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024
Submit Electronically Via OCD Permitting		Submittal Type: ☑ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-57434	97569	Winchester; Bone Spring, West

Property Code	Property Name	Well Number
337848	ANGELL RANCH 36 34 FED COM	232H

OGRID No.	Operator Name	Ground Level Elevation
24010	V-F PETROLEUM INC.	3381'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☑ Federal

Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☑ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
P	36	19-S	27-E	-	861.2 FSL	440.9 FEL	32.612135°	104.226595°	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	34	19-S	27-E	-	1980 FSL	100 FWL	32.615287°	104.275560°	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
1,906.34	Infill	n/a	N	n/a

Order Numbers. R-23924

Well setbacks are under Common Ownership: ☑Yes ☐No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	36	19-S	27-E	-	1980 FSL	50 FEL	32.615212°	104.224533°	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
I	36	19-S	27-E	-	1980 FSL	100 FEL	32.615212°	104.224699°	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	34	19-S	27-E	-	1980 FSL	100 FWL	32.615287°	104.275560°	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☑ Horizontal ☐ Vertical	Ground Floor Elevation: 3381
n/a		

OPERATOR CERTIFICATIONS

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

If this well is a horizontal well, I further certify that this organization has received the consent of at EDDYst one lessee or owner of a working interest or unEDDYsed mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Signature 10/31/2024 Date

Mikah Thomas

Printed Name

mikah.thomas@permiancompliance.com

E-mail Address

SURVEYOR CERTIFICATIONS

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

GARY G. EIDSON NEW MEXICO 12641 PROFESSIONAL SURVEYOR

Gary G Eidson 10/08/2024

Signature and Seal of Professional Surveyor

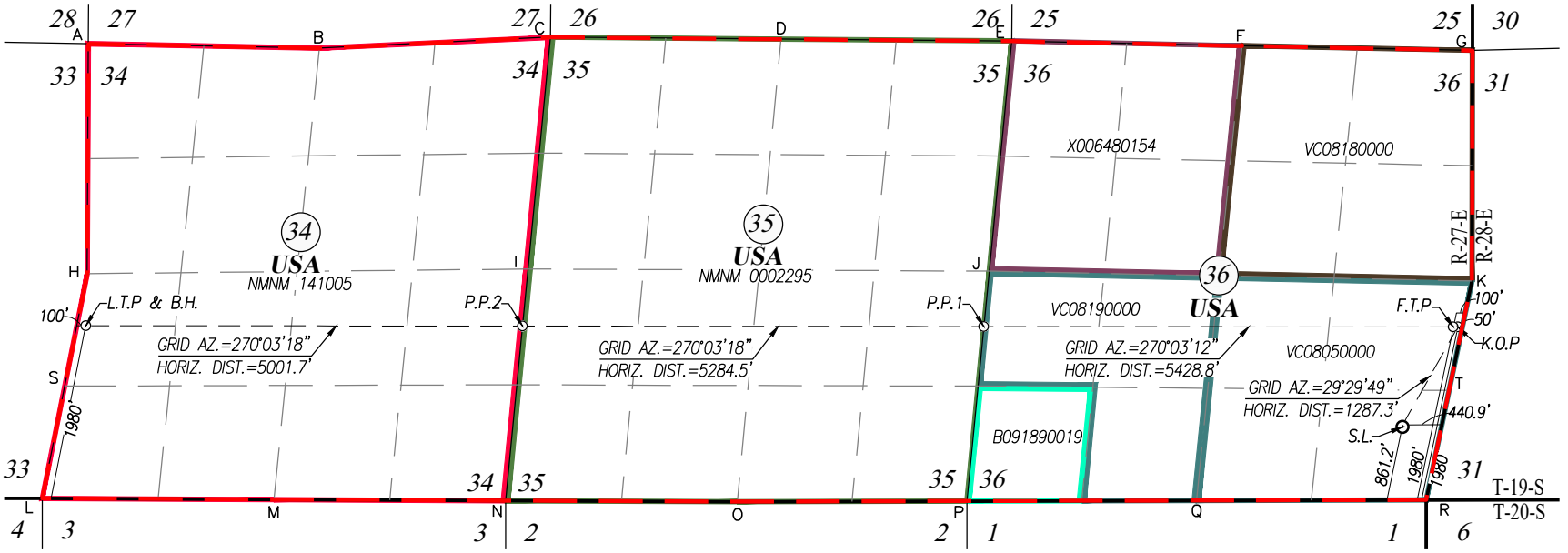
Gary G. Eidson 12641 Certificate Number

SEPTEMBER 23, 2024 Date of Survey

PAGE 1 OF 2 ACK JWSC W.O.: 24.11.0335

Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division

SCALE: 1"=2000'



LAST TAKE POINT & BOTTOM HOLE LOCATION
NAD 27 NME
Y= 587515.7 N
X= 517946.2 E
LAT.=32.615171° N
LONG.=104.275049° W

1980' FSL & 100' FWL
SEC. 34

LAST TAKE POINT & BOTTOM HOLE LOCATION
NAD 83 NME
Y= 587577.1 N
X= 559126.0 E
LAT.=32.615287° N
LONG.=104.275560° W

PENETRATION POINT 2
NAD 27 NME
Y= 587510.8 N
X= 522946.6 E
LAT.=32.615149° N
LONG.=104.258809° W

1999.4' FSL & 0' FWL
SEC. 35

PENETRATION POINT 2
NAD 83 NME
Y= 587572.3 N
X= 564126.5 E
LAT.=32.615265° N
LONG.=104.259319° W

PENETRATION POINT 1
NAD 27 NME
Y= 587505.7 N
X= 528229.7 E
LAT.=32.615124° N
LONG.=104.241651° W

1998.2' FSL & 0' FWL
SEC. 36

PENETRATION POINT 1
NAD 83 NME
Y= 587567.2 N
X= 569409.7 E
LAT.=32.615240° N
LONG.=104.242160° W

FIRST TAKE POINT
NAD 27 NME
Y= 587500.5 N
X= 533606.0 E
LAT.=32.615096° N
LONG.=104.224190° W

1980' FSL & 100' FEL
SEC. 36

FIRST TAKE POINT
NAD 83 NME
Y= 587562.1 N
X= 574786.0 E
LAT.=32.615212° N
LONG.=104.224699° W

KOP LOCATION
NAD 27 NME
Y= 587500.6 N
X= 533657.1 E
LAT.=32.615096° N
LONG.=104.224024° W

1980' FSL & 50' FEL
SEC. 36

KOP LOCATION
NAD 83 NME
Y= 587562.2 N
X= 574837.1 E
LAT.=32.615212° N
LONG.=104.224533° W

SURFACE LOCATION
GEODETIC COORDINATES
NAD 27 NME
Y= 586380.5 N
X= 533023.4 E
LAT.=32.612018° N
LONG.=104.226086° W

861.2' FSL & 440.9' FEL
SEC. 36

SURFACE LOCATION
GEODETIC COORDINATES
NAD 83 NME
Y= 586442.1 N
X= 574203.4 E
LAT.=32.612135° N
LONG.=104.226595° W

CORNER COORDINATES TABLE
NAD 27 NME

A – Y= 590741.5 N, X= 517976.6 E
B – Y= 590691.6 N, X= 520622.7 E
C – Y= 590817.1 N, X= 523268.2 E
D – Y= 590794.3 N, X= 525907.2 E
E – Y= 590772.6 N, X= 528548.3 E
F – Y= 590718.3 N, X= 531185.2 E
G – Y= 590664.7 N, X= 533823.6 E
H – Y= 588110.5 N, X= 517963.2 E
I – Y= 588164.5 N, X= 523009.9 E
J – Y= 588139.9 N, X= 528291.3 E
K – Y= 588027.4 N, X= 533818.4 E
L – Y= 585538.6 N, X= 517448.6 E
M – Y= 585525.8 N, X= 520101.4 E
N – Y= 585512.8 N, X= 522753.0 E
O – Y= 585500.7 N, X= 525406.5 E
P – Y= 585507.6 N, X= 528035.6 E
Q – Y= 585513.6 N, X= 530664.4 E
R – Y= 585520.2 N, X= 533293.7 E
S – Y= 586824.6 N, X= 517705.9 E
T – Y= 586773.8 N, X= 533556.0 E

CORNER COORDINATES TABLE
NAD 83 NME

A – Y= 590803.0 N, X= 559156.4 E
B – Y= 590753.1 N, X= 561802.5 E
C – Y= 590878.6 N, X= 564448.1 E
D – Y= 590855.9 N, X= 567087.1 E
E – Y= 590834.2 N, X= 569728.2 E
F – Y= 590780.0 N, X= 572365.2 E
G – Y= 590726.3 N, X= 575003.6 E
H – Y= 588171.9 N, X= 559143.1 E
I – Y= 588226.0 N, X= 564189.8 E
J – Y= 588201.5 N, X= 569471.3 E
K – Y= 588089.0 N, X= 574998.4 E
L – Y= 585600.0 N, X= 558628.4 E
M – Y= 585587.2 N, X= 561281.3 E
N – Y= 585574.3 N, X= 563932.9 E
O – Y= 585562.2 N, X= 566586.5 E
P – Y= 585569.1 N, X= 569215.6 E
Q – Y= 585575.1 N, X= 571844.4 E
R – Y= 585581.8 N, X= 574473.7 E
S – Y= 586886.0 N, X= 558885.7 E
T – Y= 586835.4 N, X= 574736.0 E

	ANGELL RANCH 36 34 FED COM #232H	
PAGE 2 OF 2	ACK	JWSC W.O.: 24.11.0335

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: V-F Petroleum Inc. **OGRID:** 24010 **Date:** 10 / 21 / 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
Angell Ranch 36 34 Fed Com #222H		P 36 19S 27E	836.1FSL & 435.8FEL	1,200	1,900	2,500
Angell Ranch 36 34 Fed Com #232H		P 36 19S 27E	861.2FSL & 440.9FEL	1,150	2,100	2,500

IV. Central Delivery Point Name: Angell Ranch 36 34 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
Angell Ranch 36 34 Fed Com #222H		7/25/2025	8/19/2025	9/15/2025	11/1/2025	11/1/2025
Angell Ranch 36 34 Fed Com #232H		8/21/2025	9/13/2025	9/15/2025	11/1/2025	11/1/2025

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:	
Printed Name:	Jason J. Lodge
Title:	Geologist
E-mail Address:	jason@vfpetroleum.com
Date:	10/21/2024
Phone:	432-683-3344

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

V-F Petroleum Inc
Natural Gas Management Plan - Attachment

VI: Separation Equipment

V-F Petroleum Inc (V-F) has sized all separation equipment to be adequate to handle the maximum anticipated production facility rates for all three phases. Adequate separation relates to retention time for Liquid-Liquid separation and velocity for Gas-Liquid separation. Ancillary equipment and metering will be selected to be serviced without flow interruptions or the need to release gas from the well.

VII: Operational Practices

Drilling Operations

V-F will capture or combust natural gas using best industry practices and control technologies during drilling operations. A properly sized flare stack will be located at a minimum of 100 feet from the nearest surface hole location. Gas may be vented in an emergency to avoid a risk of an immediate and substantial adverse impact on safety, public health, or the environment.

Completion/Recompletion Operations

During initial flowback, V-F will route flowback fluids into a completion or storage tank, and if possible, flare instead of vent any natural gas with a properly sized flare stack until it is able to flow through a separator and down a line for sales. In the unlikely event that produced natural gas does not meet pipeline specifications, V-F will flare it for 60 days or until the natural gas meets pipeline specifications, whichever is sooner.

Production Operations

Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D (1) through (4). If there is no adequate takeaway for the separator gas, all effected wells will be shut in until takeaway issues are resolved. Exceptions would be emergency or major malfunction situations.

Performance Standards

All completion, production separation equipment, and storage tanks will be properly sized to handle the maximum anticipated volumes and pressures associated with each well. Any permanent storage tank associated with production operations that is routed to a flare or control device, will be equipped with an automatic gauging system that reduces the venting of natural gas. A properly sized flare stack will be securely anchored and installed at least 100 feet away from both the well(s) and storage tanks, and will be equipped with an automatic ignitor or continuous pilot. V-F will conduct AVO inspections on the frequency specified in 19.15.27.8 E (5) (b) and (c). V-F will do everything possible to minimize waste and will resolve emergencies as quickly and safely as possible.

Measurement and Estimation

Any vented or flared natural gas volumes will be estimated and reported appropriately. V-F will install equipment to measure the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high-pressure separators, heater treaters, or vapor recovery units. All measuring equipment will adhere to industry standards set forth by the American Petroleum Institute Manual of Petroleum Measurement Standards Chapter 14.10. Measuring equipment will not be designed or equipped with a manifold that allows diversion of natural gas around a metering element, except for the sole purpose of inspecting and servicing the measurement equipment. Flared/vented

V-F Petroleum Inc
Natural Gas Management Plan - Attachment

natural gas will be estimated if metering is not practical due to low flow rate or low pressures. This estimation will include but will not be limited to an annual GOR test reported to the division.

VIII: Best Management Practices

V-F will utilize best management practices to minimize venting during active and planned maintenance. Potential actions that will be considered include, but are not limited to:

- Venting limited to the depressurizing of the subject equipment to ensure a safe repair
- Identifying alternate capture methods
- Temporarily reduce production or shut-in wells during maintenance
- Flare if natural gas does not meet pipeline specifications
- Perform preventative maintenance to avoid potential equipment failure

Angell Ranch 36 34 Fed Com #232H Production Forecast				
V-F Petroleum Inc.				
Year	Month	Oil (BBLs)	Gas (Mcf)	Water (BBLs)
2025	Nov	35,773	110,871	61,444
2025	Dec	38,790	122,373	44,327
2026	Jan	31,109	111,279	32,415
2026	Feb	105,672	344,523	138,186
2026	Mar	27,283	102,657	29,635
2026	Apr	20,892	90,406	26,801
2026	May	20,203	103,663	26,381
2026	Jun	17,266	86,666	24,249
2026	Jul	15,973	81,912	22,337
2026	Aug	14,085	72,495	20,513
2026	Sep	11,518	59,520	16,272
2026	Oct	9,214	47,616	13,018
2026	Nov	7,372	38,093	10,414
2026	Dec	5,897	30,474	8,331
2027	Jan	4,021	13,320	36,650
2027	Feb	5,127	14,332	29,500
2027	Mar	5,849	14,708	24,703
2027	Apr	5,614	14,178	19,792
2027	May	6,422	15,383	20,922
2027	Jun	5,927	19,686	14,041
2027	Jul	6,021	21,106	13,939
2027	Aug	5,965	28,213	17,226
2027	Sep	4,980	21,982	13,548
2027	Oct	3,984	17,586	10,838
2027	Nov	2,583	4,521	39,114
2027	Dec	3,098	7,061	33,387
2028	Jan	2,560	7,965	24,153
2028	Feb	2,066	7,618	19,796
2028	Mar	1,670	3,722	12,775
2028	Apr	1,035	1,962	8,394
2028	May	1,229	3,764	9,307
2028	Jun	1,365	4,182	10,341
2028	Jul	1,517	4,647	11,490
2028	Aug	2,021	14,161	15,541
2028	Sep	2,842	17,113	14,615
2028	Oct	3,278	18,743	14,905
2028	Nov	3,114	17,806	14,160

V-F Petroleum Inc.

APPLICATION FOR DRILLING

V-F Petroleum Inc.

Angell Ranch 36 34 Fed Com 232H
Surface Hole: 861.2' FSL & 440.9' FEL, Sec. 36-T19S-R27E
Bottom Hole: 1980' FSL & 100' FWL, Sec. 34-T19S-R27E (horizontal drill)
Eddy County, New Mexico
Lease No.:
3rd Bone Spring Sand

In conjunction with Form 3160-3, Application for Permit to Drill subject well, V-F Petroleum Inc. submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits. Survey Plat and supporting plats are attached, Exhibit 1.

2. The estimated tops of geologic markers are as follows:

Geological Marker	TVD & MD	SS Elevation
Surface: Quaternary Alluvium	0'	3408'
Rustler	136'	3272'
Yates	627'	2781'
Queen	1554'	1854'
Grayburg	1944'	1464'
San Andres	2372'	1036'
Delaware	2508'	900'
Bone Spring	3692'	-284'
1st BS Sand	5899'	-2491'
2nd BS Carb	6046'	-2638'
2nd BS Sand	6560'	-3152'
3rd BS Carb	7074'	-3666'
3rd BS Sand	8035'	-4627'
Target TVD	8212'	-4804'
Wolfcamp	8433'	-5025'

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:
Water: Surface water between 100' - 300'.
Oil Possible in the Bone Spring.
Gas: Not likely

4. Directions: From the intersection of N. Loop Road and George Shoup Relief Route. Head North on N. Loop Road toward N. Canal Street approx. 0.9 Miles. Turn Right onto Illinois Camp Road (C.R. 206) and go North for approx. 9.3 miles to Caliche lease road. Turn Left at caliche lease road and go West approx. 109 feet from caliche lease road.

V-F Petroleum Inc.

5. Proposed Casing Program (all API condition NEW):

Hole Size	Casing Interval From	Casing Interval To	Casing Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	450	13.375"	48	H40	STC	4.0	7.92	14.9
12.25"	0	4000	9.625"	40	J55	BTC	1.93	2.8	3.25
8.75"	0	23877	5.5"	20	P110	GBCD	4.54	3.8	2.43

Centralizers every other joint in lateral, and every 4th joint in vertical

6.Cement Program

String	Lead/ Tail	Top MD	Bottom MD	Sacks	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Lead	0	315	250	1.78	13.4	445	100	Class C	Salt, Gel, LCM
Surface	Tail	315	450	260	1.34	14.8	215	100	Class C	Salt, Retarder
Intermediate	Lead	0	2000	410	2.28	11.9	935	50	C-50/50	Salt, Gel, Extender, LCM
Intermediate	Tail	2000	4000	720	1.34	14.8	965	50	Class C	Retarder
Production	Lead	1850	8500	750	2.92	11.3	2190	30	Class C	Gel, Defoamer, Retarder, Extender
Production	Tail	8500	23877	3770	1.34	13.5	5052	30	Class H	Retarder, Defoamer, Fluid Loss

Note: The above cement volumes may be revised pending fluid caliper measurements to re-calculate the cement volumes.

7. Minimum Specifications for Pressure Control:
All blowout preventer and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 Section III.A.2.a-g and API RP 53 section 17.

A 13 5/8" x 2000# (minimum) Annular system with a minimum of 3000# choke manifold (see Drilling Plan, Exhibit 2) will be installed after running the 13 3/8" casing and tested per Onshore Oil and Gas Order No. 2 Section III.A.2.a.i-vii, b.i-iv by an independent tester. An 11" x 5000# (minimum) Double Ram BOP (see Drilling Plan, Exhibit 3) and a minimum of 3000# Annular (see Drilling Plan, Exhibit 4) will be installed after running the 9 5/8" casing and tested as per Onshore Oil and Gas Order No. 2 Section III.A.2.a.i-vii, b.i-iv by an independent tester. Pressure tests will be conducted prior to drilling out all casing strings. Co-Flex Hose certification (Exhibit 5)
The BLM shall be notified a minimum of 4 hours in advance of such tests with the results of each test reported to the BLM. BOPE will be inspected and operated as recommended in Onshore Oil and Gas Order No. 2 Section III.A.2. Pipe rams will be operationally checked every 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOPE will include a Kelly cock will be on the string at all times, a full opening drill pipe stabbing valve with the appropriate connections will be on the rig floor at all times, choke lines and choke manifold with the appropriate working pressure rating.

V-F Petroleum Inc.

8. Mud Program

MUD PROGRAM DEPTH	MUD	MUD WEIGHT	VIS.	W/L CONTROL
O' - 450'	Fresh water mud:	8.5 – 9.2 ppg	28-32	No control
450' - 4000'	Brine, Fresh water*	8.6 – 9.5 ppg	28-32	NC
3500'-23877'MD	Oil-Based Mud	8.4-10 ppg	30-40	NC
*NOTE:	Switch to fresh water mud if loose circulation			

Note: No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP= 3,329 psi with a temperature of <145° and surface pressure of 2,646 psi.

The necessary mud products for weight addition and fluid loss control will be on location.

Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. Visual pit level monitors and audible alarms will be utilized and will be available to the control room and the supervisors. Mud properties will be monitored daily and reported on the automatic monitoring system. Although no abnormal pressures are expected, a mud-gas separator will be rigged up and functional prior to drilling out the 13 3/8" shoe.

9. Testing, Logging, and Coring Program:

Drill Stem Tests:	None
Open Hole Logs:	MWD Gamma
Coring:	Rotary Sidewall: None Planned
Mud Logging:	10' samples-3500' to TD.
MWD:	Directional surveys from surface to TD

10. H2S: None expected. No abnormal pressures or temperatures are expected. H2S has sometimes been detected in the Bone Spring zones in this area during drilling. Hydrogen sulfide detection equipment will be in operation after drilling out the 13.375" casing shoe at 450' until production casing has been set and cemented at total depth (See the attached Hydrogen Sulfide Drilling Operations Plan). The rig will be equipped with H2S monitors, H2S warning signs and pit monitors. Windsocks will indicate wind direction. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated maximum BHP is 3,791 psi and estimated BHT < 145-degree F. Hydrogen Sulfide Drilling Plan Exhibit 6.

11. Anticipated Starting Date and Duration of Operations:

a. Road and location construction will begin after the receipt of an approved APD. The anticipated spud date will be as soon as an acceptable drilling rig can be contracted after receipt of the approved APD. Drilling operations are expected to take 30-40 days from spud date. Completion operations will require at least 45 days.

b. Drilling Plan, exhibit 7 is a directional drilling plan for this well.

V-F Petroleum
Angel Ranch 36 34 Fed Com
232H
SHL: 861.2' FSL & 440.9' FEL, Sec. 36-T19S-R27E
BHL: 1980' FSL & 100' FWL, Sec. 34-T19S-R27E

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0'	450'	13.375"	48	H40	STC	4.0	7.92	14.9
12.25"	0'	4000'	9.625"	40	J55	BTC	1.93	2.8	3.25
8.75"	0'	23877'	5.5"	20	P110	GBCD	4.54	3.8	2.43
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

CASING / CEMENT DESIGN SUMMARY

Estimate only, confirm volumes and cement blends prior to job, adjust as required for hole conditions and changes in well bore construction. Re-calculate all volumes prior to pump.

Surface Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	450.0 ft	450.0 ft	450.0 ft	13.375 in	48.0 #/ft	J55	STC	12.715 in	12.459 in	14.735 in
2	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	2,370 psi	299 psi	7.92	740 psi	182 psi	4.1	322,000 lbs	21,600 lbs	14.9	- ft*lbs
2	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs
3	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Cement to Su	0 - 450	Lead	250 sx	C+4% Gel+2% CaCl2+1/4 #/sx Cello Flake	Yield	1.78 ft3/sx
Excess	100% Lead				Density	13.4 ppg
	100% Tail	Tail	160 sx	C+1% CaCl+1-GAL/100-SX CF-41L	Yield	1.34 ft3/sx
					Density	14.8 ppg

Intermediate Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	4,000.0 ft	4,000.0 ft	4,000.0 ft	9.625 in	40.0 #/ft	J55	BTC	8.835 in	8.679 in	10.625 in
2	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	3,950 psi	1,412 psi	2.80	2,570 psi	1,329 psi	1.9	520,000 lbs	160,000 lbs	3.3	7,270 ft*lbs
2	- psi	1,872 psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs
3	- psi	1,872 psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Intermediate	0 - 4000	Lead	410 sx	50/50 Plite + 5%PF44+.6%PF79+5#/Sk PF62	Yield	2.28 ft3/sx
2000 - 0	50% Lead			.125#/sk CFL-1= 3#/sk PF42+.4#/skPF45	Density	11.9 ppg
4000 - 2000	50% Tail	Tail	720 sx	C+.1%PF13	Yield	1.34 ft3/sx
					Density	14.8 ppg

Production Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	8,212.0 ft	23,877.0 ft	23,877.0 ft	5.500 in	20.0 #/ft	HCP110	GBCD -	4.778 in	4.653 in	5.920 in
2	- ft	- ft	- ft	- in	- #/ft	-	- -	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	- -	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	12,640 psi	3,326 psi	3.80 #	12,200 psi	2,685 psi	4.5	641,000 lbs	264,240 lbs	2.4 -	18,750 ft*lbs
2	- psi	- psi	0.00 #	- psi	- psi	-	- lbs	100,000 lbs	- -	- ft*lbs
3	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Prod	1850 - 23877	Lead	750 sx	50/50 Plite + 5%PF44+.6%PF79+5#/Sk PF62	Yield	1.34 ft3/sx
8500 - 1850	30% Lead			.125#/sk CFL-1= 3#/sk PF42+.4#/skPF45	Density	14.8 ppg
23877 - 8500	30% Tail	Tail	3770 sx	Class H+.5% O-TX47A+.2%OTX 20+1g/sk CFL-4	Yield	1.34 ft3/sx
					Density	13.5 ppg

V-F Petroleum

Angel Ranch 36 34 Fed Com

232H

SHL: 861.2' FSL & 440.9' FEL, Sec. 36-T19S-R27E

BHL: 1980' FSL & 100' FWL, Sec. 34-T19S-R27E

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0'	450'	13.375"	48	H40	STC	4.0	7.92	14.9
12.25"	0'	4000'	9.625"	40	J55	BTC	1.93	2.8	3.25
8.75"	0'	23877'	5.5"	20	P110	GBCD	4.54	3.8	2.43
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

CASING / CEMENT DESIGN SUMMARY

Estimate only, confirm volumes and cement blends prior to job, adjust as required for hole conditions and changes in well bore construction. Re-calculate all volumes prior to pump.

Surface Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	450.0 ft	450.0 ft	450.0 ft	13.375 in	48.0 #/ft	J55	STC	12.715 in	12.459 in	14.735 in
2	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	2,370 psi	299 psi	7.92	740 psi	182 psi	4.1	322,000 lbs	21,600 lbs	14.9	- ft*lbs
2	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs
3	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Cement to Su	0 - 450	Lead	250 sx	C+4% Gel+2% CaCl2+1/4 #/sx Cello Flake	Yield	1.78 ft3/sx
Excess	100% Lead				Density	13.4 ppg
	100% Tail	Tail	160 sx	C+1% CaCl+1-GAL/100-SX CF-41L	Yield	1.34 ft3/sx
					Density	14.8 ppg

Intermediate Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	4,000.0 ft	4,000.0 ft	4,000.0 ft	9.625 in	40.0 #/ft	J55	BTC	8.835 in	8.679 in	10.625 in
2	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	3,950 psi	1,412 psi	2.80	2,570 psi	1,329 psi	1.9	520,000 lbs	160,000 lbs	3.3	7,270 ft*lbs
2	- psi	1,872 psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs
3	- psi	1,872 psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Intermediate	0 - 4000	Lead	410 sx	50/50 Plite + 5%PF44+.6%PF79+5#/Sk PF62	Yield	2.28 ft3/sx
2000 - 0	50% Lead			.125#/sk CFL-1= 3#/sk PF42+.4#/skPF45	Density	11.9 ppg
4000 - 2000	50% Tail	Tail	720 sx	C+.1%PF13	Yield	1.34 ft3/sx
					Density	14.8 ppg

Production Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	8,212.0 ft	23,877.0 ft	23,877.0 ft	5.500 in	20.0 #/ft	HCP110	GBCD -	4.778 in	4.653 in	5.920 in
2	- ft	- ft	- ft	- in	- #/ft	-	- -	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	- -	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	12,640 psi	3,326 psi	3.80 #	12,200 psi	2,685 psi	4.5	641,000 lbs	264,240 lbs	2.4 -	18,750 ft*lbs
2	- psi	- psi	0.00 #	- psi	- psi	-	- lbs	100,000 lbs	- -	- ft*lbs
3	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Prod	1850 - 23877	Lead	750 sx	50/50 Plite + 5%PF44+.6%PF79+5#/Sk PF62	Yield	1.34 ft3/sx
8500 - 1850	30% Lead			.125#/sk CFL-1= 3#/sk PF42+.4#/skPF45	Density	14.8 ppg
23877 - 8500	30% Tail	Tail	3770 sx	Class H+.5% O-TX47A+.2%OTX 20+1g/sk CFL-4	Yield	1.34 ft3/sx
					Density	13.5 ppg

V-F Petroleum

Angel Ranch 36 34 Fed Com

232H

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BHL: 1980' FSL & 100' FWL, Sec. 34-T19S-R27E

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17.5"	0'	450'	13.375"	48	H40	STC	4.0	7.92	14.9
12.25"	0'	4000'	9.625"	40	J55	BTC	1.93	2.8	3.25
8.75"	0'	23877'	5.5"	20	P110	GBCD	4.54	3.8	2.43
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

CASING / CEMENT DESIGN SUMMARY

Estimate only, confirm volumes and cement blends prior to job, adjust as required for hole conditions and changes in well bore construction. Re-calculate all volumes prior to pump.

Surface Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	450.0 ft	450.0 ft	450.0 ft	13.375 in	48.0 #/ft	J55	STC	12.715 in	12.459 in	14.735 in
2	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	2,370 psi	299 psi	7.92	740 psi	182 psi	4.1	322,000 lbs	21,600 lbs	14.9	- ft*lbs
2	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs
3	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Cement to Su	0 - 450	Lead	250 sx	C+4% Gel+2% CaCl2+1/4 #/sx Cello Flake	Yield	1.78 ft3/sx
Excess	100% Lead				Density	13.4 ppg
	100% Tail	Tail	160 sx	C+1% CaCl+1-GAL/100-SX CF-41L	Yield	1.34 ft3/sx
					Density	14.8 ppg

Intermediate Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	4,000.0 ft	4,000.0 ft	4,000.0 ft	9.625 in	40.0 #/ft	J55	BTC	8.835 in	8.679 in	10.625 in
2	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	-	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	3,950 psi	1,412 psi	2.80	2,570 psi	1,329 psi	1.9	520,000 lbs	160,000 lbs	3.3	7,270 ft*lbs
2	- psi	1,872 psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs
3	- psi	1,872 psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Intermediate	0 - 4000	Lead	410 sx	50/50 Plite + 5%PF44+.6%PF79+5#/Sk PF62	Yield	2.28 ft3/sx
2000 - 0	50% Lead			.125#/sk CFL-1= 3#/sk PF42+.4#/skPF45	Density	11.9 ppg
4000 - 2000	50% Tail	Tail	720 sx	C+.1%PF13	Yield	1.34 ft3/sx
					Density	14.8 ppg

Production Casing

	Setting Depth TVD	MD	Length	Size	Weight	Grade	Threads	ID	Drift	Conn OD
1	8,212.0 ft	23,877.0 ft	23,877.0 ft	5.500 in	20.0 #/ft	HCP110	GBCD -	4.778 in	4.653 in	5.920 in
2	- ft	- ft	- ft	- in	- #/ft	-	- -	- in	- in	- in
3	- ft	- ft	- ft	- in	- #/ft	-	- -	- in	- in	- in

	BURST Rated	Load	S.F.	COLLAPSE Rated	Load	S.F.	TENSILE Rated	Load	S.F.	Optimum Torque
1	12,640 psi	3,326 psi	3.80 #	12,200 psi	2,685 psi	4.5	641,000 lbs	264,240 lbs	2.4 -	18,750 ft*lbs
2	- psi	- psi	0.00 #	- psi	- psi	-	- lbs	100,000 lbs	- -	- ft*lbs
3	- psi	- psi	0.00	- psi	- psi	-	- lbs	- lbs	-	- ft*lbs

Prod	1850 - 23877	Lead	750 sx	50/50 Plite + 5%PF44+.6%PF79+5#/Sk PF62	Yield	1.34 ft3/sx
8500 - 1850	30% Lead			.125#/sk CFL-1= 3#/sk PF42+.4#/skPF45	Density	14.8 ppg
23877 - 8500	30% Tail	Tail	3770 sx	Class H+.5% O-TX47A+.2%OTX 20+1g/sk CFL-4	Yield	1.34 ft3/sx
					Density	13.5 ppg

V-F Petroleum, Inc.

Eddy County, NM
Sec 36-T19S-R27E
Angell Ranch 36/34 Fed Com 232H

Wellbore #1

Plan: Plan #2

Standard Planning Report

16 October, 2024

Amazon.com
Planning Report

Database:	WC365	**Local Co-ordinate Reference:**	Well Angell Ranch 36/34 Fed Com 232H
Company:	V-F Petroleum, Inc.	**TVD Reference:**	3381+25 @ 3406.0usft
Project:	Eddy County, NM	**MD Reference:**	3381+25 @ 3406.0usft
Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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 36-T19S-R27E

Site Position:		**Northing:**	586,392.10 usft	**Latitude:**	32° 36' 43.192 N
From:	Map	**Easting:**	574,203.40 usft	**Longitude:**	104° 13' 35.743 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Angell Ranch 36/34 Fed Com 232H

Well Position	**+N/-S**	0.0 usft	**Northing:**	586,442.10 usft	**Latitude:**	32° 36' 43.687 N
	+E/-W	0.0 usft	**Easting:**	574,203.40 usft	**Longitude:**	104° 13' 35.742 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,381.0 usft
Grid Convergence:		0.06 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/14/2024	6.49	60.22	47,345.37496042

Design Plan #2

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	274.31

Plan Survey Tool Program **Date** 10/16/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	23,877.7	Plan #2 (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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,720.5	14.41	29.49	1,712.9	78.5	44.4	2.00	2.00	0.00	29.49	
6,169.3	14.41	29.49	6,021.8	1,042.1	589.4	0.00	0.00	0.00	0.00	
6,889.8	0.00	0.00	6,734.7	1,120.6	633.7	2.00	-2.00	0.00	180.00	
7,889.8	0.00	0.00	7,734.7	1,120.6	633.7	0.00	0.00	0.00	0.00	
8,651.1	91.35	270.05	8,212.0	1,121.0	145.0	12.00	12.00	-11.82	270.05	
23,877.7	91.35	270.05	7,852.0	1,135.0	-15,077.4	0.00	0.00	0.00	0.00	BHL/LTP Angell Ranc

Amazon.com
Planning Report

Database:	WC365	**Local Co-ordinate Reference:**	Well Angell Ranch 36/34 Fed Com 232H
Company:	V-F Petroleum, Inc.	**TVD Reference:**	3381+25 @ 3406.0usft
Project:	Eddy County, NM	**MD Reference:**	3381+25 @ 3406.0usft
Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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	2.00	29.49	1,100.0	1.5	0.9	-0.7	2.00	2.00	0.00
1,200.0	4.00	29.49	1,199.8	6.1	3.4	-3.0	2.00	2.00	0.00
1,300.0	6.00	29.49	1,299.5	13.7	7.7	-6.7	2.00	2.00	0.00
1,400.0	8.00	29.49	1,398.7	24.3	13.7	-11.9	2.00	2.00	0.00
1,500.0	10.00	29.49	1,497.5	37.9	21.4	-18.5	2.00	2.00	0.00
1,600.0	12.00	29.49	1,595.6	54.5	30.8	-26.6	2.00	2.00	0.00
1,700.0	14.00	29.49	1,693.1	74.1	41.9	-36.2	2.00	2.00	0.00
1,720.5	14.41	29.49	1,712.9	78.5	44.4	-38.4	2.00	2.00	0.00
1,800.0	14.41	29.49	1,789.9	95.7	54.1	-46.8	0.00	0.00	0.00
1,900.0	14.41	29.49	1,886.8	117.3	66.4	-57.4	0.00	0.00	0.00
2,000.0	14.41	29.49	1,983.6	139.0	78.6	-68.0	0.00	0.00	0.00
2,100.0	14.41	29.49	2,080.5	160.7	90.9	-78.5	0.00	0.00	0.00
2,200.0	14.41	29.49	2,177.3	182.3	103.1	-89.1	0.00	0.00	0.00
2,300.0	14.41	29.49	2,274.2	204.0	115.4	-99.7	0.00	0.00	0.00
2,400.0	14.41	29.49	2,371.1	225.6	127.6	-110.3	0.00	0.00	0.00
2,500.0	14.41	29.49	2,467.9	247.3	139.9	-120.9	0.00	0.00	0.00
2,600.0	14.41	29.49	2,564.8	269.0	152.1	-131.5	0.00	0.00	0.00
2,700.0	14.41	29.49	2,661.6	290.6	164.4	-142.1	0.00	0.00	0.00
2,800.0	14.41	29.49	2,758.5	312.3	176.6	-152.7	0.00	0.00	0.00
2,900.0	14.41	29.49	2,855.3	334.0	188.9	-163.3	0.00	0.00	0.00
3,000.0	14.41	29.49	2,952.2	355.6	201.1	-173.9	0.00	0.00	0.00
3,100.0	14.41	29.49	3,049.0	377.3	213.4	-184.4	0.00	0.00	0.00
3,200.0	14.41	29.49	3,145.9	398.9	225.6	-195.0	0.00	0.00	0.00
3,300.0	14.41	29.49	3,242.7	420.6	237.9	-205.6	0.00	0.00	0.00
3,400.0	14.41	29.49	3,339.6	442.3	250.1	-216.2	0.00	0.00	0.00
3,500.0	14.41	29.49	3,436.4	463.9	262.4	-226.8	0.00	0.00	0.00
3,600.0	14.41	29.49	3,533.3	485.6	274.6	-237.4	0.00	0.00	0.00
3,700.0	14.41	29.49	3,630.2	507.2	286.9	-248.0	0.00	0.00	0.00
3,800.0	14.41	29.49	3,727.0	528.9	299.1	-258.6	0.00	0.00	0.00
3,900.0	14.41	29.49	3,823.9	550.6	311.4	-269.2	0.00	0.00	0.00
4,000.0	14.41	29.49	3,920.7	572.2	323.6	-279.8	0.00	0.00	0.00
4,100.0	14.41	29.49	4,017.6	593.9	335.9	-290.3	0.00	0.00	0.00
4,200.0	14.41	29.49	4,114.4	615.6	348.1	-300.9	0.00	0.00	0.00
4,300.0	14.41	29.49	4,211.3	637.2	360.4	-311.5	0.00	0.00	0.00
4,400.0	14.41	29.49	4,308.1	658.9	372.6	-322.1	0.00	0.00	0.00
4,500.0	14.41	29.49	4,405.0	680.5	384.9	-332.7	0.00	0.00	0.00
4,600.0	14.41	29.49	4,501.8	702.2	397.1	-343.3	0.00	0.00	0.00
4,700.0	14.41	29.49	4,598.7	723.9	409.4	-353.9	0.00	0.00	0.00
4,800.0	14.41	29.49	4,695.5	745.5	421.6	-364.5	0.00	0.00	0.00
4,900.0	14.41	29.49	4,792.4	767.2	433.9	-375.1	0.00	0.00	0.00
5,000.0	14.41	29.49	4,889.3	788.8	446.1	-385.7	0.00	0.00	0.00
5,100.0	14.41	29.49	4,986.1	810.5	458.4	-396.2	0.00	0.00	0.00
5,200.0	14.41	29.49	5,083.0	832.2	470.6	-406.8	0.00	0.00	0.00

Amazon.com
Planning Report

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Project:	Eddy County, NM	**MD Reference:**	3381+25 @ 3406.0usft
Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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)
5,300.0	14.41	29.49	5,179.8	853.8	482.9	-417.4	0.00	0.00	0.00
5,400.0	14.41	29.49	5,276.7	875.5	495.1	-428.0	0.00	0.00	0.00
5,500.0	14.41	29.49	5,373.5	897.2	507.4	-438.6	0.00	0.00	0.00
5,600.0	14.41	29.49	5,470.4	918.8	519.6	-449.2	0.00	0.00	0.00
5,700.0	14.41	29.49	5,567.2	940.5	531.9	-459.8	0.00	0.00	0.00
5,800.0	14.41	29.49	5,664.1	962.1	544.1	-470.4	0.00	0.00	0.00
5,900.0	14.41	29.49	5,760.9	983.8	556.4	-481.0	0.00	0.00	0.00
6,000.0	14.41	29.49	5,857.8	1,005.5	568.6	-491.6	0.00	0.00	0.00
6,100.0	14.41	29.49	5,954.6	1,027.1	580.9	-502.1	0.00	0.00	0.00
6,169.3	14.41	29.49	6,021.8	1,042.1	589.4	-509.5	0.00	0.00	0.00
6,200.0	13.80	29.49	6,051.5	1,048.6	593.1	-512.7	2.00	-2.00	0.00
6,300.0	11.80	29.49	6,149.1	1,067.9	604.0	-522.1	2.00	-2.00	0.00
6,400.0	9.80	29.49	6,247.3	1,084.2	613.2	-530.1	2.00	-2.00	0.00
6,500.0	7.80	29.49	6,346.1	1,097.5	620.7	-536.6	2.00	-2.00	0.00
6,600.0	5.80	29.49	6,445.4	1,107.8	626.5	-541.6	2.00	-2.00	0.00
6,700.0	3.80	29.49	6,545.0	1,115.1	630.6	-545.2	2.00	-2.00	0.00
6,800.0	1.80	29.49	6,644.9	1,119.4	633.0	-547.2	2.00	-2.00	0.00
6,889.8	0.00	0.00	6,734.7	1,120.6	633.7	-547.8	2.00	-2.00	0.00
6,900.0	0.00	0.00	6,744.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,844.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,100.0	0.00	0.00	6,944.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,044.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,144.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,244.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,344.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,444.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,700.0	0.00	0.00	7,544.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,644.9	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,889.8	0.00	0.00	7,734.7	1,120.6	633.7	-547.8	0.00	0.00	0.00
7,900.0	1.22	270.05	7,744.9	1,120.6	633.6	-547.7	12.00	12.00	0.00
7,925.0	4.22	270.05	7,769.9	1,120.6	632.4	-546.5	12.00	12.00	0.00
7,950.0	7.22	270.05	7,794.7	1,120.6	629.9	-544.1	12.00	12.00	0.00
7,975.0	10.22	270.05	7,819.4	1,120.6	626.2	-540.3	12.00	12.00	0.00
8,000.0	13.22	270.05	7,843.9	1,120.6	621.1	-535.2	12.00	12.00	0.00
8,025.0	16.22	270.05	7,868.1	1,120.6	614.7	-528.9	12.00	12.00	0.00
8,050.0	19.22	270.05	7,891.9	1,120.6	607.1	-521.3	12.00	12.00	0.00
8,075.0	22.22	270.05	7,915.3	1,120.6	598.3	-512.5	12.00	12.00	0.00
8,100.0	25.22	270.05	7,938.2	1,120.6	588.2	-502.4	12.00	12.00	0.00
8,125.0	28.22	270.05	7,960.5	1,120.6	577.0	-491.2	12.00	12.00	0.00
8,150.0	31.22	270.05	7,982.2	1,120.7	564.6	-478.9	12.00	12.00	0.00
8,175.0	34.22	270.05	8,003.2	1,120.7	551.1	-465.4	12.00	12.00	0.00
8,200.0	37.22	270.05	8,023.5	1,120.7	536.5	-450.8	12.00	12.00	0.00
8,225.0	40.22	270.05	8,043.0	1,120.7	520.8	-435.2	12.00	12.00	0.00
8,250.0	43.22	270.05	8,061.7	1,120.7	504.2	-418.6	12.00	12.00	0.00
8,275.0	46.22	270.05	8,079.4	1,120.7	486.6	-401.1	12.00	12.00	0.00
8,300.0	49.22	270.05	8,096.3	1,120.7	468.1	-382.7	12.00	12.00	0.00
8,325.0	52.22	270.05	8,112.1	1,120.8	448.8	-363.4	12.00	12.00	0.00
8,350.0	55.22	270.05	8,126.9	1,120.8	428.6	-343.3	12.00	12.00	0.00
8,375.0	58.22	270.05	8,140.6	1,120.8	407.7	-322.4	12.00	12.00	0.00
8,400.0	61.22	270.05	8,153.2	1,120.8	386.1	-300.9	12.00	12.00	0.00
8,425.0	64.22	270.05	8,164.7	1,120.8	363.9	-278.7	12.00	12.00	0.00
8,450.0	67.22	270.05	8,174.9	1,120.9	341.1	-256.0	12.00	12.00	0.00
8,475.0	70.22	270.05	8,184.0	1,120.9	317.8	-232.8	12.00	12.00	0.00

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Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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)
8,500.0	73.22	270.05	8,191.8	1,120.9	294.1	-209.1	12.00	12.00	0.00
8,525.0	76.22	270.05	8,198.4	1,120.9	270.0	-185.1	12.00	12.00	0.00
8,550.0	79.22	270.05	8,203.7	1,120.9	245.5	-160.7	12.00	12.00	0.00
8,575.0	82.22	270.05	8,207.8	1,121.0	220.9	-136.1	12.00	12.00	0.00
8,600.0	85.22	270.05	8,210.5	1,121.0	196.0	-111.3	12.00	12.00	0.00
8,625.0	88.22	270.05	8,211.9	1,121.0	171.1	-86.4	12.00	12.00	0.00
8,651.1	91.35	270.05	8,212.0	1,121.0	145.0	-60.4	12.00	12.00	0.00
8,700.0	91.35	270.05	8,210.9	1,121.1	96.1	-11.7	0.00	0.00	0.00
8,800.0	91.35	270.05	8,208.5	1,121.2	-3.9	88.0	0.00	0.00	0.00
8,900.0	91.35	270.05	8,206.1	1,121.3	-103.9	187.7	0.00	0.00	0.00
9,000.0	91.35	270.05	8,203.8	1,121.4	-203.8	287.4	0.00	0.00	0.00
9,100.0	91.35	270.05	8,201.4	1,121.4	-303.8	387.1	0.00	0.00	0.00
9,200.0	91.35	270.05	8,199.0	1,121.5	-403.8	486.8	0.00	0.00	0.00
9,300.0	91.35	270.05	8,196.7	1,121.6	-503.7	586.5	0.00	0.00	0.00
9,400.0	91.35	270.05	8,194.3	1,121.7	-603.7	686.2	0.00	0.00	0.00
9,500.0	91.35	270.05	8,192.0	1,121.8	-703.7	785.9	0.00	0.00	0.00
9,600.0	91.35	270.05	8,189.6	1,121.9	-803.7	885.6	0.00	0.00	0.00
9,700.0	91.35	270.05	8,187.2	1,122.0	-903.6	985.3	0.00	0.00	0.00
9,800.0	91.35	270.05	8,184.9	1,122.1	-1,003.6	1,085.0	0.00	0.00	0.00
9,900.0	91.35	270.05	8,182.5	1,122.2	-1,103.6	1,184.7	0.00	0.00	0.00
10,000.0	91.35	270.05	8,180.1	1,122.3	-1,203.5	1,284.4	0.00	0.00	0.00
10,100.0	91.35	270.05	8,177.8	1,122.4	-1,303.5	1,384.1	0.00	0.00	0.00
10,200.0	91.35	270.05	8,175.4	1,122.5	-1,403.5	1,483.8	0.00	0.00	0.00
10,300.0	91.35	270.05	8,173.0	1,122.5	-1,503.5	1,583.5	0.00	0.00	0.00
10,400.0	91.35	270.05	8,170.7	1,122.6	-1,603.4	1,683.2	0.00	0.00	0.00
10,500.0	91.35	270.05	8,168.3	1,122.7	-1,703.4	1,782.9	0.00	0.00	0.00
10,600.0	91.35	270.05	8,165.9	1,122.8	-1,803.4	1,882.6	0.00	0.00	0.00
10,700.0	91.35	270.05	8,163.6	1,122.9	-1,903.4	1,982.3	0.00	0.00	0.00
10,800.0	91.35	270.05	8,161.2	1,123.0	-2,003.3	2,082.0	0.00	0.00	0.00
10,900.0	91.35	270.05	8,158.9	1,123.1	-2,103.3	2,181.7	0.00	0.00	0.00
11,000.0	91.35	270.05	8,156.5	1,123.2	-2,203.3	2,281.4	0.00	0.00	0.00
11,100.0	91.35	270.05	8,154.1	1,123.3	-2,303.2	2,381.1	0.00	0.00	0.00
11,200.0	91.35	270.05	8,151.8	1,123.4	-2,403.2	2,480.8	0.00	0.00	0.00
11,300.0	91.35	270.05	8,149.4	1,123.5	-2,503.2	2,580.5	0.00	0.00	0.00
11,400.0	91.35	270.05	8,147.0	1,123.6	-2,603.2	2,680.2	0.00	0.00	0.00
11,500.0	91.35	270.05	8,144.7	1,123.6	-2,703.1	2,779.8	0.00	0.00	0.00
11,600.0	91.35	270.05	8,142.3	1,123.7	-2,803.1	2,879.5	0.00	0.00	0.00
11,700.0	91.35	270.05	8,139.9	1,123.8	-2,903.1	2,979.2	0.00	0.00	0.00
11,800.0	91.35	270.05	8,137.6	1,123.9	-3,003.0	3,078.9	0.00	0.00	0.00
11,900.0	91.35	270.05	8,135.2	1,124.0	-3,103.0	3,178.6	0.00	0.00	0.00
12,000.0	91.35	270.05	8,132.8	1,124.1	-3,203.0	3,278.3	0.00	0.00	0.00
12,100.0	91.35	270.05	8,130.5	1,124.2	-3,303.0	3,378.0	0.00	0.00	0.00
12,200.0	91.35	270.05	8,128.1	1,124.3	-3,402.9	3,477.7	0.00	0.00	0.00
12,300.0	91.35	270.05	8,125.8	1,124.4	-3,502.9	3,577.4	0.00	0.00	0.00
12,400.0	91.35	270.05	8,123.4	1,124.5	-3,602.9	3,677.1	0.00	0.00	0.00
12,500.0	91.35	270.05	8,121.0	1,124.6	-3,702.8	3,776.8	0.00	0.00	0.00
12,600.0	91.35	270.05	8,118.7	1,124.7	-3,802.8	3,876.5	0.00	0.00	0.00
12,700.0	91.35	270.05	8,116.3	1,124.7	-3,902.8	3,976.2	0.00	0.00	0.00
12,800.0	91.35	270.05	8,113.9	1,124.8	-4,002.8	4,075.9	0.00	0.00	0.00
12,900.0	91.35	270.05	8,111.6	1,124.9	-4,102.7	4,175.6	0.00	0.00	0.00
13,000.0	91.35	270.05	8,109.2	1,125.0	-4,202.7	4,275.3	0.00	0.00	0.00
13,100.0	91.35	270.05	8,106.8	1,125.1	-4,302.7	4,375.0	0.00	0.00	0.00
13,200.0	91.35	270.05	8,104.5	1,125.2	-4,402.7	4,474.7	0.00	0.00	0.00

Amazon.com
Planning Report

Database:	WC365	**Local Co-ordinate Reference:**	Well Angell Ranch 36/34 Fed Com 232H
Company:	V-F Petroleum, Inc.	**TVD Reference:**	3381+25 @ 3406.0usft
Project:	Eddy County, NM	**MD Reference:**	3381+25 @ 3406.0usft
Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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	91.35	270.05	8,102.1	1,125.3	-4,502.6	4,574.4	0.00	0.00	0.00
13,400.0	91.35	270.05	8,099.7	1,125.4	-4,602.6	4,674.1	0.00	0.00	0.00
13,500.0	91.35	270.05	8,097.4	1,125.5	-4,702.6	4,773.8	0.00	0.00	0.00
13,600.0	91.35	270.05	8,095.0	1,125.6	-4,802.5	4,873.5	0.00	0.00	0.00
13,700.0	91.35	270.05	8,092.6	1,125.7	-4,902.5	4,973.2	0.00	0.00	0.00
13,800.0	91.35	270.05	8,090.3	1,125.8	-5,002.5	5,072.9	0.00	0.00	0.00
13,900.0	91.35	270.05	8,087.9	1,125.8	-5,102.5	5,172.6	0.00	0.00	0.00
14,000.0	91.35	270.05	8,085.6	1,125.9	-5,202.4	5,272.3	0.00	0.00	0.00
14,100.0	91.35	270.05	8,083.2	1,126.0	-5,302.4	5,372.0	0.00	0.00	0.00
14,200.0	91.35	270.05	8,080.8	1,126.1	-5,402.4	5,471.7	0.00	0.00	0.00
14,300.0	91.35	270.05	8,078.5	1,126.2	-5,502.3	5,571.4	0.00	0.00	0.00
14,400.0	91.35	270.05	8,076.1	1,126.3	-5,602.3	5,671.1	0.00	0.00	0.00
14,500.0	91.35	270.05	8,073.7	1,126.4	-5,702.3	5,770.8	0.00	0.00	0.00
14,600.0	91.35	270.05	8,071.4	1,126.5	-5,802.3	5,870.4	0.00	0.00	0.00
14,700.0	91.35	270.05	8,069.0	1,126.6	-5,902.2	5,970.1	0.00	0.00	0.00
14,800.0	91.35	270.05	8,066.6	1,126.7	-6,002.2	6,069.8	0.00	0.00	0.00
14,900.0	91.35	270.05	8,064.3	1,126.8	-6,102.2	6,169.5	0.00	0.00	0.00
15,000.0	91.35	270.05	8,061.9	1,126.9	-6,202.1	6,269.2	0.00	0.00	0.00
15,100.0	91.35	270.05	8,059.5	1,126.9	-6,302.1	6,368.9	0.00	0.00	0.00
15,200.0	91.35	270.05	8,057.2	1,127.0	-6,402.1	6,468.6	0.00	0.00	0.00
15,300.0	91.35	270.05	8,054.8	1,127.1	-6,502.1	6,568.3	0.00	0.00	0.00
15,400.0	91.35	270.05	8,052.5	1,127.2	-6,602.0	6,668.0	0.00	0.00	0.00
15,500.0	91.35	270.05	8,050.1	1,127.3	-6,702.0	6,767.7	0.00	0.00	0.00
15,600.0	91.35	270.05	8,047.7	1,127.4	-6,802.0	6,867.4	0.00	0.00	0.00
15,700.0	91.35	270.05	8,045.4	1,127.5	-6,902.0	6,967.1	0.00	0.00	0.00
15,800.0	91.35	270.05	8,043.0	1,127.6	-7,001.9	7,066.8	0.00	0.00	0.00
15,900.0	91.35	270.05	8,040.6	1,127.7	-7,101.9	7,166.5	0.00	0.00	0.00
16,000.0	91.35	270.05	8,038.3	1,127.8	-7,201.9	7,266.2	0.00	0.00	0.00
16,100.0	91.35	270.05	8,035.9	1,127.9	-7,301.8	7,365.9	0.00	0.00	0.00
16,200.0	91.35	270.05	8,033.5	1,128.0	-7,401.8	7,465.6	0.00	0.00	0.00
16,300.0	91.35	270.05	8,031.2	1,128.1	-7,501.8	7,565.3	0.00	0.00	0.00
16,400.0	91.35	270.05	8,028.8	1,128.1	-7,601.8	7,665.0	0.00	0.00	0.00
16,500.0	91.35	270.05	8,026.4	1,128.2	-7,701.7	7,764.7	0.00	0.00	0.00
16,600.0	91.35	270.05	8,024.1	1,128.3	-7,801.7	7,864.4	0.00	0.00	0.00
16,700.0	91.35	270.05	8,021.7	1,128.4	-7,901.7	7,964.1	0.00	0.00	0.00
16,800.0	91.35	270.05	8,019.4	1,128.5	-8,001.6	8,063.8	0.00	0.00	0.00
16,900.0	91.35	270.05	8,017.0	1,128.6	-8,101.6	8,163.5	0.00	0.00	0.00
17,000.0	91.35	270.05	8,014.6	1,128.7	-8,201.6	8,263.2	0.00	0.00	0.00
17,100.0	91.35	270.05	8,012.3	1,128.8	-8,301.6	8,362.9	0.00	0.00	0.00
17,200.0	91.35	270.05	8,009.9	1,128.9	-8,401.5	8,462.6	0.00	0.00	0.00
17,300.0	91.35	270.05	8,007.5	1,129.0	-8,501.5	8,562.3	0.00	0.00	0.00
17,400.0	91.35	270.05	8,005.2	1,129.1	-8,601.5	8,662.0	0.00	0.00	0.00
17,500.0	91.35	270.05	8,002.8	1,129.2	-8,701.4	8,761.7	0.00	0.00	0.00
17,600.0	91.35	270.05	8,000.4	1,129.2	-8,801.4	8,861.4	0.00	0.00	0.00
17,700.0	91.35	270.05	7,998.1	1,129.3	-8,901.4	8,961.1	0.00	0.00	0.00
17,800.0	91.35	270.05	7,995.7	1,129.4	-9,001.4	9,060.7	0.00	0.00	0.00
17,900.0	91.35	270.05	7,993.3	1,129.5	-9,101.3	9,160.4	0.00	0.00	0.00
18,000.0	91.35	270.05	7,991.0	1,129.6	-9,201.3	9,260.1	0.00	0.00	0.00
18,100.0	91.35	270.05	7,988.6	1,129.7	-9,301.3	9,359.8	0.00	0.00	0.00
18,200.0	91.35	270.05	7,986.2	1,129.8	-9,401.3	9,459.5	0.00	0.00	0.00
18,300.0	91.35	270.05	7,983.9	1,129.9	-9,501.2	9,559.2	0.00	0.00	0.00
18,400.0	91.35	270.05	7,981.5	1,130.0	-9,601.2	9,658.9	0.00	0.00	0.00
18,500.0	91.35	270.05	7,979.2	1,130.1	-9,701.2	9,758.6	0.00	0.00	0.00
18,600.0	91.35	270.05	7,976.8	1,130.2	-9,801.1	9,858.3	0.00	0.00	0.00

Amazon.com
Planning Report

Database:	WC365	**Local Co-ordinate Reference:**	Well Angell Ranch 36/34 Fed Com 232H
Company:	V-F Petroleum, Inc.	**TVD Reference:**	3381+25 @ 3406.0usft
Project:	Eddy County, NM	**MD Reference:**	3381+25 @ 3406.0usft
Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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)
18,700.0	91.35	270.05	7,974.4	1,130.3	-9,901.1	9,958.0	0.00	0.00	0.00
18,800.0	91.35	270.05	7,972.1	1,130.3	-10,001.1	10,057.7	0.00	0.00	0.00
18,900.0	91.35	270.05	7,969.7	1,130.4	-10,101.1	10,157.4	0.00	0.00	0.00
19,000.0	91.35	270.05	7,967.3	1,130.5	-10,201.0	10,257.1	0.00	0.00	0.00
19,100.0	91.35	270.05	7,965.0	1,130.6	-10,301.0	10,356.8	0.00	0.00	0.00
19,200.0	91.35	270.05	7,962.6	1,130.7	-10,401.0	10,456.5	0.00	0.00	0.00
19,300.0	91.35	270.05	7,960.2	1,130.8	-10,500.9	10,556.2	0.00	0.00	0.00
19,400.0	91.35	270.05	7,957.9	1,130.9	-10,600.9	10,655.9	0.00	0.00	0.00
19,500.0	91.35	270.05	7,955.5	1,131.0	-10,700.9	10,755.6	0.00	0.00	0.00
19,600.0	91.35	270.05	7,953.1	1,131.1	-10,800.9	10,855.3	0.00	0.00	0.00
19,700.0	91.35	270.05	7,950.8	1,131.2	-10,900.8	10,955.0	0.00	0.00	0.00
19,800.0	91.35	270.05	7,948.4	1,131.3	-11,000.8	11,054.7	0.00	0.00	0.00
19,900.0	91.35	270.05	7,946.1	1,131.4	-11,100.8	11,154.4	0.00	0.00	0.00
20,000.0	91.35	270.05	7,943.7	1,131.4	-11,200.7	11,254.1	0.00	0.00	0.00
20,100.0	91.35	270.05	7,941.3	1,131.5	-11,300.7	11,353.8	0.00	0.00	0.00
20,200.0	91.35	270.05	7,939.0	1,131.6	-11,400.7	11,453.5	0.00	0.00	0.00
20,300.0	91.35	270.05	7,936.6	1,131.7	-11,500.7	11,553.2	0.00	0.00	0.00
20,400.0	91.35	270.05	7,934.2	1,131.8	-11,600.6	11,652.9	0.00	0.00	0.00
20,500.0	91.35	270.05	7,931.9	1,131.9	-11,700.6	11,752.6	0.00	0.00	0.00
20,600.0	91.35	270.05	7,929.5	1,132.0	-11,800.6	11,852.3	0.00	0.00	0.00
20,700.0	91.35	270.05	7,927.1	1,132.1	-11,900.6	11,952.0	0.00	0.00	0.00
20,800.0	91.35	270.05	7,924.8	1,132.2	-12,000.5	12,051.7	0.00	0.00	0.00
20,900.0	91.35	270.05	7,922.4	1,132.3	-12,100.5	12,151.3	0.00	0.00	0.00
21,000.0	91.35	270.05	7,920.0	1,132.4	-12,200.5	12,251.0	0.00	0.00	0.00
21,100.0	91.35	270.05	7,917.7	1,132.5	-12,300.4	12,350.7	0.00	0.00	0.00
21,200.0	91.35	270.05	7,915.3	1,132.5	-12,400.4	12,450.4	0.00	0.00	0.00
21,300.0	91.35	270.05	7,912.9	1,132.6	-12,500.4	12,550.1	0.00	0.00	0.00
21,400.0	91.35	270.05	7,910.6	1,132.7	-12,600.4	12,649.8	0.00	0.00	0.00
21,500.0	91.35	270.05	7,908.2	1,132.8	-12,700.3	12,749.5	0.00	0.00	0.00
21,600.0	91.35	270.05	7,905.9	1,132.9	-12,800.3	12,849.2	0.00	0.00	0.00
21,700.0	91.35	270.05	7,903.5	1,133.0	-12,900.3	12,948.9	0.00	0.00	0.00
21,800.0	91.35	270.05	7,901.1	1,133.1	-13,000.2	13,048.6	0.00	0.00	0.00
21,900.0	91.35	270.05	7,898.8	1,133.2	-13,100.2	13,148.3	0.00	0.00	0.00
22,000.0	91.35	270.05	7,896.4	1,133.3	-13,200.2	13,248.0	0.00	0.00	0.00
22,100.0	91.35	270.05	7,894.0	1,133.4	-13,300.2	13,347.7	0.00	0.00	0.00
22,200.0	91.35	270.05	7,891.7	1,133.5	-13,400.1	13,447.4	0.00	0.00	0.00
22,300.0	91.35	270.05	7,889.3	1,133.6	-13,500.1	13,547.1	0.00	0.00	0.00
22,400.0	91.35	270.05	7,886.9	1,133.6	-13,600.1	13,646.8	0.00	0.00	0.00
22,500.0	91.35	270.05	7,884.6	1,133.7	-13,700.0	13,746.5	0.00	0.00	0.00
22,600.0	91.35	270.05	7,882.2	1,133.8	-13,800.0	13,846.2	0.00	0.00	0.00
22,700.0	91.35	270.05	7,879.8	1,133.9	-13,900.0	13,945.9	0.00	0.00	0.00
22,800.0	91.35	270.05	7,877.5	1,134.0	-14,000.0	14,045.6	0.00	0.00	0.00
22,900.0	91.35	270.05	7,875.1	1,134.1	-14,099.9	14,145.3	0.00	0.00	0.00
23,000.0	91.35	270.05	7,872.8	1,134.2	-14,199.9	14,245.0	0.00	0.00	0.00
23,100.0	91.35	270.05	7,870.4	1,134.3	-14,299.9	14,344.7	0.00	0.00	0.00
23,200.0	91.35	270.05	7,868.0	1,134.4	-14,399.9	14,444.4	0.00	0.00	0.00
23,300.0	91.35	270.05	7,865.7	1,134.5	-14,499.8	14,544.1	0.00	0.00	0.00
23,400.0	91.35	270.05	7,863.3	1,134.6	-14,599.8	14,643.8	0.00	0.00	0.00
23,500.0	91.35	270.05	7,860.9	1,134.7	-14,699.8	14,743.5	0.00	0.00	0.00
23,600.0	91.35	270.05	7,858.6	1,134.7	-14,799.7	14,843.2	0.00	0.00	0.00
23,700.0	91.35	270.05	7,856.2	1,134.8	-14,899.7	14,942.9	0.00	0.00	0.00
23,800.0	91.35	270.05	7,853.8	1,134.9	-14,999.7	15,042.6	0.00	0.00	0.00
23,877.7	91.35	270.05	7,852.0	1,135.0	-15,077.4	15,120.1	0.00	0.00	0.00

Amazon.com
Planning Report

Database:	WC365	**Local Co-ordinate Reference:**	Well Angell Ranch 36/34 Fed Com 232H
Company:	V-F Petroleum, Inc.	**TVD Reference:**	3381+25 @ 3406.0usft
Project:	Eddy County, NM	**MD Reference:**	3381+25 @ 3406.0usft
Site:	Sec 36-T19S-R27E	**North Reference:**	Grid
Well:	Angell Ranch 36/34 Fed Com 232H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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
KOP Angell Ranch 36/3 - plan misses target center by 0.5usft at 7897.7usft MD (7742.6 TVD, 1120.6 N, 633.7 E) - Point	0.00	0.00	7,742.6	1,120.1	633.7	587,562.20	574,837.10	32° 36' 54.765 N	104° 13' 28.320 W
BHL/LTP Angell Ranch 3 - plan hits target center - Point	0.00	0.00	7,852.0	1,135.0	-15,077.4	587,577.10	559,126.00	32° 36' 55.034 N	104° 16' 32.015 W
FTP Angell Ranch 36/34 - plan misses target center by 3.5usft at 8119.6usft MD (7955.7 TVD, 1120.6 N, 579.5 E) - Point	0.00	0.00	7,957.3	1,120.0	582.6	587,562.10	574,786.00	32° 36' 54.764 N	104° 13' 28.917 W
PP2 Angell Ranch 36/34 - plan misses target center by 2.6usft at 18875.8usft MD (7970.3 TVD, 1130.4 N, -10076.8 E) - Point	0.00	0.00	7,972.9	1,130.2	-10,076.9	587,572.30	564,126.50	32° 36' 54.956 N	104° 15' 33.549 W
PP1 Angell Ranch 36/34 - plan misses target center by 5.4usft at 13591.0usft MD (8095.2 TVD, 1125.6 N, -4793.6 E) - Point	0.00	0.00	8,100.6	1,125.1	-4,793.7	587,567.20	569,409.70	32° 36' 54.865 N	104° 14' 31.777 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,000.0	1,000.0	0.0	0.0	Nudge 2°/100'
1,720.5	1,712.9	78.5	44.4	EON HLD 14.41° Inc.
6,169.3	6,021.8	1,042.1	589.4	DROP 2°/100'
6,889.8	6,734.7	1,120.6	633.7	EOD HLD 0° Inc.
7,889.8	7,734.7	1,120.6	633.7	KOP BLD 12°/100'
8,651.1	8,212.0	1,121.0	145.0	EOB HLD 91.35° Inc.
23,877.7	7,852.0	1,135.0	-15,077.4	TD at 23877.7

Angell Ranch 36 34 FED COM 232H

APD - Geology COAs (Not in Potash or WIPP)

- For at least one well per pad (deepest well within initial development preferred) the record of the drilling rate (ROP) along with the Gamma Ray (GR) and Neutron (CNL) well logs run from TVD to surface in the vertical section of the hole shall be submitted to the BLM office as well as all other logs run on the full borehole 30 days from completion. Any other logs run on the wellbore, excluding cement remediation, should also be sent. Only digital copies of the logs in .TIF or .LAS formats are necessary; paper logs are no longer required. Logs shall be emailed to blm-cfo-geology@doimspp.onmicrosoft.com. Well completion report should have .pdf copies of any CBLs or Temp Logs run on the wellbore.

- Exceptions: In areas where there is extensive log coverage (in particular the salt zone adjacent to a pad), Operators are encouraged to contact BLM Geologists to discuss if additional GR and N logs are necessary on a pad. Operator may request a waiver of the GR and N log requirement due to good well control or other reasons to be approved by BLM Geologist prior to well completion. A waiver approved by BLM must be attached to completion well report to satisfy COAs.

- The top of the Rustler, top and bottom of the Salt, and the top of the Capitan Reef (if present) are to be recorded on the Completion Report.

Be aware that:

- H2S has been reported within one mile of the proposed project. Measurements up to 1500 ppm were recorded.

Questions? Contact Thomas Evans, BLM Geologist at 575-234-5965 or tvevans@blm.gov

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	VF Petroleum Incorporated
WELL NAME & NO.:	Angell Ranch 36 34 Fed Com 232H
LOCATION:	Sec 36-19S-27E-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

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet **at spud**. As a result, the Hydrogen Sulfide area must meet all reuirements from 43 CFR 3176, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **450** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

Approval Date: 10/23/2025

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing 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.**

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

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 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.

Approval Date: 10/23/2025

GENERAL REQUIREMENTS

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

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

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;
BLM_NM_CFO_DrillingNotifications@BLM.GOV; (575) 361-2822

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

A. CASING

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

conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

B. PRESSURE CONTROL

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

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
    i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
    ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
    iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Hydrogen Sulfide Drilling Operations
Plan **V-F Petroleum**

1. General Requirements

Rule 118 does not apply to this well because COI has researched this area and no high concentrations of H2S were found. COI will have on location and working all H2S safety equipment before the Bone Spring formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
2 Corrective action and shut-in procedures, blowout prevention, and well controlprocedures while drilling a well.
3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke/remote choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel
   Thirty-minute self-contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems
A. Wind direction indicators as indicated on the wellsite diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisor's trailer. Communications in company vehicles and toolpushers are either two-way radios or cellular phones.

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

Eddy County Sheriff's Office	**911 or 575-887-7551**
Ambulance Service	**911 or 575-885-2111**
Carlsbad Fire Dept	**911 or 575-885-2111**
Loco Hills Volunteer Fire Dept.	**911 or 575-677-3266**

Closest Medical Facility - Columbia Medical Center of Carlsbad 575-492-5000

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

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

ACKNOWLEDGMENTS

Operator: V-F PETROLEUM INC P.O. Box 1889 Midland, TX 79702	OGRID: 24010
	Action Number: 522245
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

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

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

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: V-F PETROLEUM INC P.O. Box 1889 Midland, TX 79702	OGRID: 24010
	Action Number: 522245
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
mikahthomas	Cement is required to circulate on both surface and intermediate1 strings of casing.	10/31/2025
mikahthomas	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	10/31/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	11/4/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	11/4/2025
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	11/4/2025
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	11/4/2025
ward.rikala	Well is within the Artesia Aquifer. Only fresh water can be used until well is beneath the aquifer and casing has been ran and cemented back to surface.	11/4/2025