

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

Form C-101
August 1, 2011
Permit 294236

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

1. Operator Name and Address V-F PETROLEUM INC P.O. Box 1889 Midland, TX 79702		2. OGRID Number 24010
		3. API Number 30-015-48217
4. Property Code 330332	5. Property Name WALKER 34 33 STATE COM	6. Well No. 221H

7. Surface Location

UL - Lot N	Section 34	Township 18S	Range 28E	Lot Idn N	Feet From 375	N/S Line S	Feet From 2185	E/W Line W	County Eddy
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8. Proposed Bottom Hole Location

UL - Lot M	Section 33	Township 18S	Range 28E	Lot Idn M	Feet From 330	N/S Line S	Feet From 100	E/W Line W	County Eddy
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9. Pool Information

PALMILLO;BONE SPRING, SOUTHWWEST	96413
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3549
16. Multiple N	17. Proposed Depth 14390	18. Formation Bone Spring	19. Contractor	20. Spud Date 4/1/2021
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	450	450	0
Int1	12.25	9.625	40	3500	825	0
Prod	8.75	5.5	17	14390	1690	3000

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

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

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. Signature:	OIL CONSERVATION DIVISION
Printed Name: Electronically filed by Pam O'Neil	Approved By: Kurt Simmons
Title: Regulatory Manager	Title: Petroleum Specialist - A
Email Address: pamo@vfpetroleum.com	Approved Date: 3/31/2021
Date: 3/30/2021	Phone: 432-683-3344
Conditions of Approval Attached	
Expiration Date: 3/31/2023	

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 96413 97257	Well Name TRAVIS; BONE SPRING PALMILLO; BONE SPRING, SOUTHWEST
Property Code	Property Name WALKER 34/33 STATE COM	Well Number 221H
OGRID No. 24010	Operator Name V-F PETROLEUM INC	Elevation 3549'

Surface Location

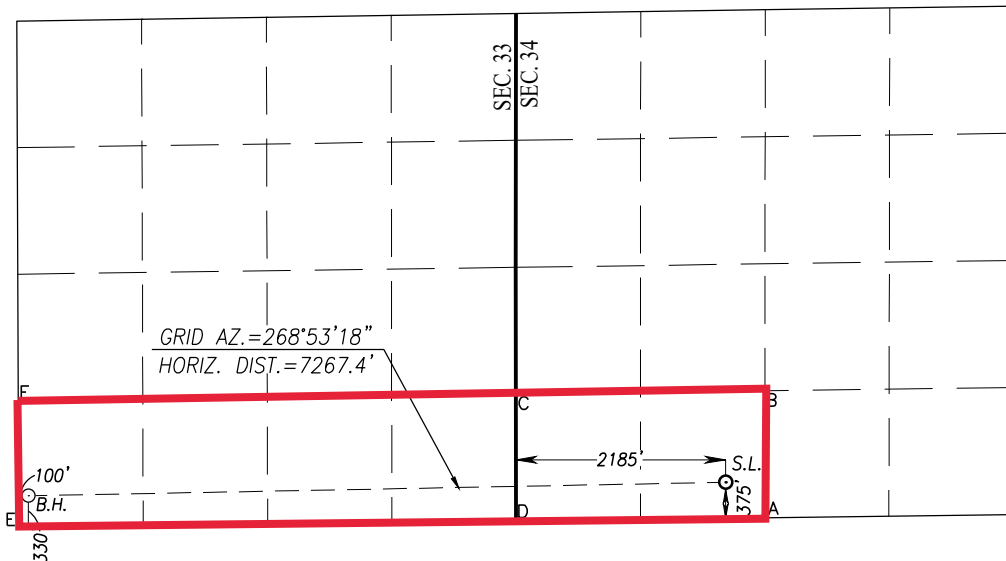
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	34	18-S	28-E		375	SOUTH	2185	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	33	18-S	28-E		330	SOUTH	100	WEST	EDDY

Dedicated Acres 240	Joint or Infill	Consolidation Code C	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



BOTTOM HOLE LOCATION
NAD 27 NME
Y = 617517.1 N
X = 544587.5 E
LAT. = 32.697569° N
LONG. = 104.188392° W

CORNER COORDINATES TABLE
NAD 27 NME

A - Y = 617288.3 N, X = 552257.0 E
B - Y = 618610.6 N, X = 552258.7 E
C - Y = 618575.9 N, X = 549666.6 E
D - Y = 617254.3 N, X = 549667.6 E
E - Y = 617185.8 N, X = 544488.9 E
F - Y = 618505.6 N, X = 544483.6 E

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y = 617658.0 N
X = 551851.8 E
LAT. = 32.697927° N
LONG. = 104.164778° W

BOTTOM HOLE LOCATION
NAD 83 NME
Y = 617579.4 N
X = 585767.0 E
LAT. = 32.697685° N
LONG. = 104.188902° W

CORNER COORDINATES TABLE
NAD 83 NME

A - Y = 617350.7 N, X = 593436.5 E
B - Y = 618673.0 N, X = 593438.2 E
C - Y = 618638.3 N, X = 590846.1 E
D - Y = 617316.7 N, X = 590847.1 E
E - Y = 617248.1 N, X = 585668.4 E
F - Y = 618568.0 N, X = 585663.1 E

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y = 617720.4 N
X = 593031.3 E
LAT. = 32.698043° N
LONG. = 104.165287° W

OPERATOR CERTIFICATION

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

Jason L. Lodge 3/30/21
Signature Date

Jason Lodge
Printed Name

Jason@vfpetroleum.com
E-mail Address

SURVEYOR CERTIFICATION

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



Date of Survey
Signature & Seal of Professional Surveyor

Ronald J. Eidson 04/02/2019

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

LSL JWSC W.O.: 19.11.0105

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GAS CAPTURE PLAN

Date: 3/31/2021

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

Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
WALKER 34 33 STATE COM #221H	30-015-48217	N-34-18S-28E	0375S 2185W	2000	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to DCP OPERATING COMPANY, LP and will be connected to DCP OPERATING COMPANY, LP High/Low Pressure gathering system located in Eddy County, New Mexico. It will require 1380' of pipeline to connect the facility to High/Low Pressure gathering system. V-F PETROLEUM INC provides (periodically) to DCP OPERATING COMPANY, LP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, V-F PETROLEUM INC and DCP OPERATING COMPANY, LP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP OPERATING COMPANY, LP Processing Plant located in Sec. 20, Twn. 19S, Rng. 28E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

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Form APD Comments

Permit 294236

PERMIT COMMENTS

Operator Name and Address: V-F PETROLEUM INC [24010] P.O. Box 1889 Midland, TX 79702	API Number: 30-015-48217
	Well: WALKER 34 33 STATE COM #221H

Created By	Comment	Comment Date
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Form APD Conditions
 Permit 294236

PERMIT CONDITIONS OF APPROVAL

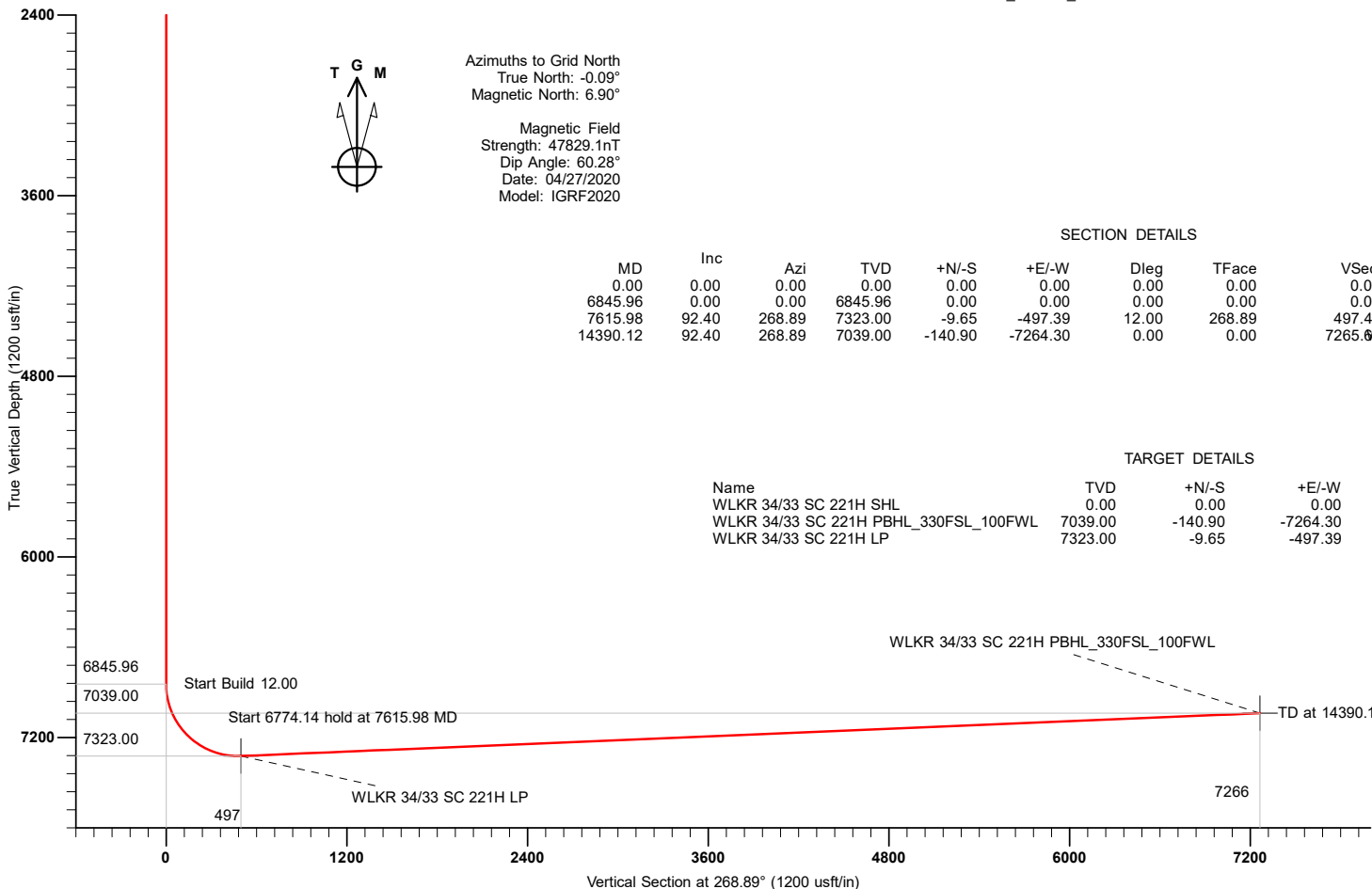
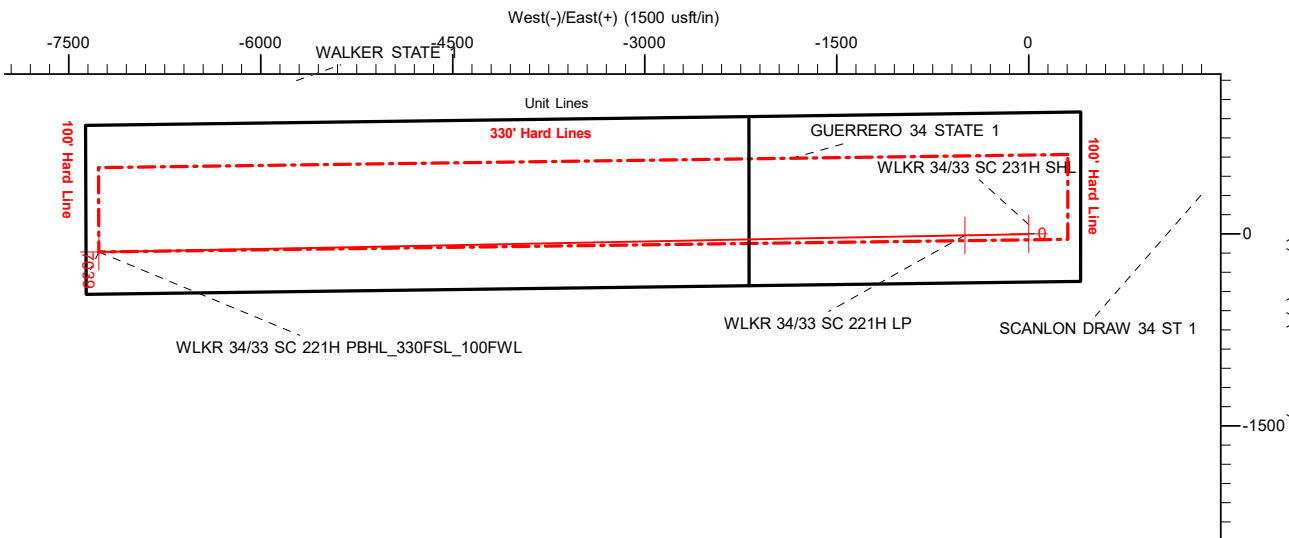
Operator Name and Address: V-F PETROLEUM INC [24010] P.O. Box 1889 Midland, TX 79702	API Number: 30-015-48217
	Well: WALKER 34 33 STATE COM #221H

OCD Reviewer	Condition
ksimmons	Notify OCD 24 hours prior to casing & cement
ksimmons	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ksimmons	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	Surface casing must be set 25' below top of Rustler Anhydrite or salt in order to seal off protectable water
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system

V-F PETROLUUM

Project: Eddy County, NM (NAD27) NMEZ Grid
 Site: Walker 34/33 State COM
 Well: 221H
 Wellbore: Lateral
 Design: Plan #1

3549+20 @ 3569.00usft (Planning)
 NAD 1927 (NADCON CONUS)



Azimuths to Grid North
 True North: -0.09°
 Magnetic North: 6.90°

Magnetic Field
 Strength: 47829.1nT
 Dip Angle: 60.28°
 Date: 04/27/2020
 Model: IGRF2020

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6845.96	0.00	0.00	6845.96	0.00	0.00	0.00	0.00	0.00
7615.98	92.40	268.89	7323.00	-9.65	-497.39	12.00	268.89	497.48
14390.12	92.40	268.89	7039.00	-140.90	-7264.30	0.00	0.00	7265.67

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
WLKR 34/33 SC 221H SHL	0.00	0.00	0.00	617658.00	551851.80
WLKR 34/33 SC 221H PBHL_330FSL_100FWL	7039.00	-140.90	-7264.30	617517.10	544587.50
WLKR 34/33 SC 221H LP	7323.00	-9.65	-497.39	617648.35	551354.41

To convert a Magnetic Direction to a Grid Direction, Add 6.90°
 To convert a Magnetic Direction to a True Direction, Add 6.99° East
 Magnetic North is 6.90° East of Grid North (Magnetic Convergence)
 Magnetic North is 6.99° East of True North (Magnetic Declination)

Plan: Plan #1 (221H/Lateral)
 Created By: Mekka Williams
 eSomina Well Design
 mekka@esominawelldesign.com
 13:26, April 27 2020

TRUE PERFORMANCE DIRECTIONAL
 5075 E 52ND ST, ODESSA TX 79762
 903-777-6827



Planning Report

Database:	TP_EDM	Local Co-ordinate Reference:	Well 221H
Company:	V-F PETROLUEM	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site:	Walker 34/33 State COM	North Reference:	Grid
Well:	221H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Project	Eddy County, NM (NAD27) NMEZ Grid		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Walker 34/33 State COM				
Site Position:		Northing:	617,658.00 usft	Latitude:	32° 41' 52.537 N
From:	Map	Easting:	551,851.80 usft	Longitude:	104° 9' 53.199 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.09 °

Well	221H					
Well Position	+N/-S	0.00 usft	Northing:	617,658.00 usft	Latitude:	32° 41' 52.537 N
	+E/-W	0.00 usft	Easting:	551,851.80 usft	Longitude:	104° 9' 53.199 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,549.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	04/27/20	6.99	60.28	47,829

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	268.89

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,845.96	0.00	0.00	6,845.96	0.00	0.00	0.00	0.00	0.00	0.00	
7,615.98	92.40	268.89	7,323.00	-9.65	-497.39	12.00	12.00	0.00	268.89	
14,390.12	92.40	268.89	7,039.00	-140.90	-7,264.30	0.00	0.00	0.00	0.00	WLKR 34/33 SC 221H

Planning Report

Database:	TP_EDM	Local Co-ordinate Reference:	Well 221H
Company:	V-F PETROLUEM	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site:	Walker 34/33 State COM	North Reference:	Grid
Well:	221H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WLKR 34/33 SC 221H SHL									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

Database:	TP_EDM	Local Co-ordinate Reference:	Well 221H
Company:	V-F PETROLUEM	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site:	Walker 34/33 State COM	North Reference:	Grid
Well:	221H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,845.96	0.00	0.00	6,845.96	0.00	0.00	0.00	0.00	0.00	0.00	
6,850.00	0.48	268.89	6,850.00	0.00	-0.02	0.02	12.00	12.00	0.00	
6,875.00	3.48	268.89	6,874.98	-0.02	-0.88	0.88	12.00	12.00	0.00	
6,900.00	6.48	268.89	6,899.88	-0.06	-3.05	3.05	12.00	12.00	0.00	
6,925.00	9.48	268.89	6,924.64	-0.13	-6.53	6.53	12.00	12.00	0.00	
6,950.00	12.48	268.89	6,949.18	-0.22	-11.29	11.29	12.00	12.00	0.00	
6,975.00	15.48	268.89	6,973.44	-0.34	-17.33	17.33	12.00	12.00	0.00	
7,000.00	18.48	268.89	6,997.34	-0.48	-24.63	24.63	12.00	12.00	0.00	
7,025.00	21.48	268.89	7,020.83	-0.64	-33.17	33.18	12.00	12.00	0.00	
7,050.00	24.48	268.89	7,043.85	-0.83	-42.93	42.94	12.00	12.00	0.00	
7,075.00	27.48	268.89	7,066.32	-1.05	-53.88	53.89	12.00	12.00	0.00	
7,100.00	30.48	268.89	7,088.18	-1.28	-65.99	66.00	12.00	12.00	0.00	
7,125.00	33.48	268.89	7,109.38	-1.54	-79.23	79.24	12.00	12.00	0.00	
7,150.00	36.48	268.89	7,129.87	-1.81	-93.56	93.58	12.00	12.00	0.00	
7,175.00	39.48	268.89	7,149.57	-2.11	-108.94	108.96	12.00	12.00	0.00	
7,200.00	42.48	268.89	7,168.44	-2.43	-125.33	125.36	12.00	12.00	0.00	
7,225.00	45.48	268.89	7,186.42	-2.77	-142.69	142.72	12.00	12.00	0.00	
7,250.00	48.48	268.89	7,203.48	-3.12	-160.96	160.99	12.00	12.00	0.00	
7,275.00	51.48	268.89	7,219.55	-3.49	-180.10	180.14	12.00	12.00	0.00	
7,300.00	54.48	268.89	7,234.60	-3.88	-200.06	200.10	12.00	12.00	0.00	
7,325.00	57.48	268.89	7,248.58	-4.28	-220.78	220.82	12.00	12.00	0.00	
7,350.00	60.48	268.89	7,261.46	-4.70	-242.19	242.24	12.00	12.00	0.00	
7,375.00	63.48	268.89	7,273.20	-5.13	-264.26	264.31	12.00	12.00	0.00	
7,400.00	66.48	268.89	7,283.77	-5.56	-286.91	286.96	12.00	12.00	0.00	
7,425.00	69.48	268.89	7,293.14	-6.01	-310.08	310.13	12.00	12.00	0.00	
7,450.00	72.48	268.89	7,301.29	-6.47	-333.71	333.77	12.00	12.00	0.00	
7,475.00	75.48	268.89	7,308.18	-6.94	-357.73	357.80	12.00	12.00	0.00	
7,500.00	78.48	268.89	7,313.81	-7.41	-382.08	382.15	12.00	12.00	0.00	
7,525.00	81.48	268.89	7,318.16	-7.89	-406.69	406.77	12.00	12.00	0.00	
7,550.00	84.48	268.89	7,321.21	-8.37	-431.50	431.58	12.00	12.00	0.00	
7,575.00	87.48	268.89	7,322.96	-8.85	-456.43	456.51	12.00	12.00	0.00	
7,600.00	90.48	268.89	7,323.41	-9.34	-481.41	481.51	12.00	12.00	0.00	
7,615.98	92.40	268.89	7,323.00	-9.65	-497.39	497.48	12.00	12.00	0.00	
WLKR 34/33 SC 221H LP										
7,700.00	92.40	268.89	7,319.48	-11.28	-581.32	581.43	0.00	0.00	0.00	
7,800.00	92.40	268.89	7,315.29	-13.21	-681.21	681.34	0.00	0.00	0.00	
7,900.00	92.40	268.89	7,311.10	-15.15	-781.10	781.25	0.00	0.00	0.00	

Planning Report

Database:	TP_EDM	Local Co-ordinate Reference:	Well 221H
Company:	V-F PETROLUEM	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site:	Walker 34/33 State COM	North Reference:	Grid
Well:	221H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,000.00	92.40	268.89	7,306.90	-17.09	-881.00	881.16	0.00	0.00	0.00	
8,100.00	92.40	268.89	7,302.71	-19.03	-980.89	981.07	0.00	0.00	0.00	
8,200.00	92.40	268.89	7,298.52	-20.96	-1,080.78	1,080.99	0.00	0.00	0.00	
8,300.00	92.40	268.89	7,294.33	-22.90	-1,180.68	1,180.90	0.00	0.00	0.00	
8,400.00	92.40	268.89	7,290.13	-24.84	-1,280.57	1,280.81	0.00	0.00	0.00	
8,500.00	92.40	268.89	7,285.94	-26.78	-1,380.46	1,380.72	0.00	0.00	0.00	
8,600.00	92.40	268.89	7,281.75	-28.71	-1,480.36	1,480.63	0.00	0.00	0.00	
8,700.00	92.40	268.89	7,277.56	-30.65	-1,580.25	1,580.55	0.00	0.00	0.00	
8,800.00	92.40	268.89	7,273.36	-32.59	-1,680.14	1,680.46	0.00	0.00	0.00	
8,900.00	92.40	268.89	7,269.17	-34.53	-1,780.04	1,780.37	0.00	0.00	0.00	
9,000.00	92.40	268.89	7,264.98	-36.46	-1,879.93	1,880.28	0.00	0.00	0.00	
9,100.00	92.40	268.89	7,260.79	-38.40	-1,979.82	1,980.19	0.00	0.00	0.00	
9,200.00	92.40	268.89	7,256.59	-40.34	-2,079.72	2,080.11	0.00	0.00	0.00	
9,300.00	92.40	268.89	7,252.40	-42.28	-2,179.61	2,180.02	0.00	0.00	0.00	
9,400.00	92.40	268.89	7,248.21	-44.21	-2,279.50	2,279.93	0.00	0.00	0.00	
9,500.00	92.40	268.89	7,244.02	-46.15	-2,379.40	2,379.84	0.00	0.00	0.00	
9,600.00	92.40	268.89	7,239.82	-48.09	-2,479.29	2,479.76	0.00	0.00	0.00	
9,700.00	92.40	268.89	7,235.63	-50.03	-2,579.18	2,579.67	0.00	0.00	0.00	
9,800.00	92.40	268.89	7,231.44	-51.96	-2,679.08	2,679.58	0.00	0.00	0.00	
9,900.00	92.40	268.89	7,227.25	-53.90	-2,778.97	2,779.49	0.00	0.00	0.00	
10,000.00	92.40	268.89	7,223.05	-55.84	-2,878.86	2,879.40	0.00	0.00	0.00	
10,100.00	92.40	268.89	7,218.86	-57.78	-2,978.76	2,979.32	0.00	0.00	0.00	
10,200.00	92.40	268.89	7,214.67	-59.71	-3,078.65	3,079.23	0.00	0.00	0.00	
10,300.00	92.40	268.89	7,210.48	-61.65	-3,178.54	3,179.14	0.00	0.00	0.00	
10,400.00	92.40	268.89	7,206.29	-63.59	-3,278.44	3,279.05	0.00	0.00	0.00	
10,500.00	92.40	268.89	7,202.09	-65.53	-3,378.33	3,378.96	0.00	0.00	0.00	
10,600.00	92.40	268.89	7,197.90	-67.46	-3,478.22	3,478.88	0.00	0.00	0.00	
10,700.00	92.40	268.89	7,193.71	-69.40	-3,578.12	3,578.79	0.00	0.00	0.00	
10,800.00	92.40	268.89	7,189.52	-71.34	-3,678.01	3,678.70	0.00	0.00	0.00	
10,900.00	92.40	268.89	7,185.32	-73.28	-3,777.90	3,778.61	0.00	0.00	0.00	
11,000.00	92.40	268.89	7,181.13	-75.21	-3,877.79	3,878.52	0.00	0.00	0.00	
11,100.00	92.40	268.89	7,176.94	-77.15	-3,977.69	3,978.44	0.00	0.00	0.00	
11,200.00	92.40	268.89	7,172.75	-79.09	-4,077.58	4,078.35	0.00	0.00	0.00	
11,300.00	92.40	268.89	7,168.55	-81.03	-4,177.47	4,178.26	0.00	0.00	0.00	
11,400.00	92.40	268.89	7,164.36	-82.96	-4,277.37	4,278.17	0.00	0.00	0.00	
11,500.00	92.40	268.89	7,160.17	-84.90	-4,377.26	4,378.08	0.00	0.00	0.00	
11,600.00	92.40	268.89	7,155.98	-86.84	-4,477.15	4,478.00	0.00	0.00	0.00	
11,700.00	92.40	268.89	7,151.78	-88.78	-4,577.05	4,577.91	0.00	0.00	0.00	
11,800.00	92.40	268.89	7,147.59	-90.72	-4,676.94	4,677.82	0.00	0.00	0.00	
11,900.00	92.40	268.89	7,143.40	-92.65	-4,776.83	4,777.73	0.00	0.00	0.00	
12,000.00	92.40	268.89	7,139.21	-94.59	-4,876.73	4,877.65	0.00	0.00	0.00	
12,100.00	92.40	268.89	7,135.01	-96.53	-4,976.62	4,977.56	0.00	0.00	0.00	
12,200.00	92.40	268.89	7,130.82	-98.47	-5,076.51	5,077.47	0.00	0.00	0.00	
12,300.00	92.40	268.89	7,126.63	-100.40	-5,176.41	5,177.38	0.00	0.00	0.00	
12,400.00	92.40	268.89	7,122.44	-102.34	-5,276.30	5,277.29	0.00	0.00	0.00	
12,500.00	92.40	268.89	7,118.24	-104.28	-5,376.19	5,377.21	0.00	0.00	0.00	
12,600.00	92.40	268.89	7,114.05	-106.22	-5,476.09	5,477.12	0.00	0.00	0.00	
12,700.00	92.40	268.89	7,109.86	-108.15	-5,575.98	5,577.03	0.00	0.00	0.00	
12,800.00	92.40	268.89	7,105.67	-110.09	-5,675.87	5,676.94	0.00	0.00	0.00	
12,900.00	92.40	268.89	7,101.47	-112.03	-5,775.77	5,776.85	0.00	0.00	0.00	
13,000.00	92.40	268.89	7,097.28	-113.97	-5,875.66	5,876.77	0.00	0.00	0.00	
13,100.00	92.40	268.89	7,093.09	-115.90	-5,975.55	5,976.68	0.00	0.00	0.00	
13,200.00	92.40	268.89	7,088.90	-117.84	-6,075.45	6,076.59	0.00	0.00	0.00	
13,300.00	92.40	268.89	7,084.70	-119.78	-6,175.34	6,176.50	0.00	0.00	0.00	

Planning Report

Database:	TP_EDM	Local Co-ordinate Reference:	Well 221H
Company:	V-F PETROLUEM	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Project:	Eddy County, NM (NAD27) NMEZ Grid	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site:	Walker 34/33 State COM	North Reference:	Grid
Well:	221H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,400.00	92.40	268.89	7,080.51	-121.72	-6,275.23	6,276.41	0.00	0.00	0.00
13,500.00	92.40	268.89	7,076.32	-123.65	-6,375.13	6,376.33	0.00	0.00	0.00
13,600.00	92.40	268.89	7,072.13	-125.59	-6,475.02	6,476.24	0.00	0.00	0.00
13,700.00	92.40	268.89	7,067.93	-127.53	-6,574.91	6,576.15	0.00	0.00	0.00
13,800.00	92.40	268.89	7,063.74	-129.47	-6,674.81	6,676.06	0.00	0.00	0.00
13,900.00	92.40	268.89	7,059.55	-131.40	-6,774.70	6,775.97	0.00	0.00	0.00
14,000.00	92.40	268.89	7,055.36	-133.34	-6,874.59	6,875.89	0.00	0.00	0.00
14,100.00	92.40	268.89	7,051.16	-135.28	-6,974.49	6,975.80	0.00	0.00	0.00
14,200.00	92.40	268.89	7,046.97	-137.22	-7,074.38	7,075.71	0.00	0.00	0.00
14,300.00	92.40	268.89	7,042.78	-139.15	-7,174.27	7,175.62	0.00	0.00	0.00
14,390.12	92.40	268.89	7,039.00	-140.90	-7,264.30	7,265.67	0.00	0.00	0.00
WLKR 34/33 SC 221H PBHL_330FSL_100FWL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WLKR 34/33 SC 221H S - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	617,658.00	551,851.80	32° 41' 52.537 N	104° 9' 53.199 W
WLKR 34/33 SC 221H F - plan hits target center - Point	0.00	0.00	7,039.00	-140.90	-7,264.30	617,517.10	544,587.50	32° 41' 51.249 N	104° 11' 18.212 W
WLKR 34/33 SC 221H L - plan hits target center - Point	0.00	0.00	7,323.00	-9.65	-497.39	617,648.35	551,354.41	32° 41' 52.449 N	104° 9' 59.020 W

Anticollision Report

Company:	V-F PETROLUEM	Local Co-ordinate Reference:	Well 221H
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Reference Site:	Walker 34/33 State COM	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	221H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	TP_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 300.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	04/27/20		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,389.78	Plan #1 (Lateral)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Walker 34/33 State COM						
231H - Lateral - Plan #1	6,800.00	6,798.00	74.90	25.60	1.519	CC
231H - Lateral - Plan #1	6,900.00	6,897.88	75.02	24.93	1.498	Level 3, ES, SF

Offset Design													Offset Site Error:	0.00 usft
Walker 34/33 State COM - 231H - Lateral - Plan #1													Offset Well Error:	0.00 usft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-0.08	74.90	-0.10	74.93					
50.00	50.00	48.00	48.00	0.12	0.15	-0.08	74.90	-0.10	74.90	74.70	0.20	365.412		
100.00	100.00	98.00	98.00	0.31	0.30	-0.08	74.90	-0.10	74.90	74.43	0.47	157.791		
150.00	150.00	148.00	148.00	0.63	0.62	-0.08	74.90	-0.10	74.90	73.91	0.99	75.552		
200.00	200.00	198.00	198.00	0.95	0.94	-0.08	74.90	-0.10	74.90	73.39	1.51	49.481		
250.00	250.00	248.00	248.00	1.21	1.20	-0.08	74.90	-0.10	74.90	72.95	1.95	38.429		
300.00	300.00	298.00	298.00	1.46	1.45	-0.08	74.90	-0.10	74.90	72.52	2.38	31.436		
350.00	350.00	348.00	348.00	1.68	1.67	-0.08	74.90	-0.10	74.90	72.12	2.78	26.943		
400.00	400.00	398.00	398.00	1.89	1.89	-0.08	74.90	-0.10	74.90	71.72	3.18	23.579		
450.00	450.00	448.00	448.00	2.10	2.09	-0.08	74.90	-0.10	74.90	71.34	3.56	21.045		
500.00	500.00	498.00	498.00	2.31	2.30	-0.08	74.90	-0.10	74.90	70.96	3.94	19.005		
550.00	550.00	548.00	548.00	2.50	2.50	-0.08	74.90	-0.10	74.90	70.58	4.32	17.354		
600.00	600.00	598.00	598.00	2.70	2.69	-0.08	74.90	-0.10	74.90	70.21	4.69	15.968		
650.00	650.00	648.00	648.00	2.89	2.89	-0.08	74.90	-0.10	74.90	69.84	5.06	14.800		
700.00	700.00	698.00	698.00	3.09	3.08	-0.08	74.90	-0.10	74.90	69.47	5.43	13.791		
750.00	750.00	748.00	748.00	3.28	3.27	-0.08	74.90	-0.10	74.90	69.10	5.80	12.916		
800.00	800.00	798.00	798.00	3.47	3.46	-0.08	74.90	-0.10	74.90	68.73	6.17	12.147		
850.00	850.00	848.00	848.00	3.66	3.65	-0.08	74.90	-0.10	74.90	68.37	6.53	11.467		
900.00	900.00	898.00	898.00	3.85	3.84	-0.08	74.90	-0.10	74.90	68.00	6.90	10.859		
950.00	950.00	948.00	948.00	4.03	4.02	-0.08	74.90	-0.10	74.90	67.64	7.26	10.314		
1,000.00	1,000.00	998.00	998.00	4.22	4.21	-0.08	74.90	-0.10	74.90	67.27	7.63	9.822		
1,050.00	1,050.00	1,048.00	1,048.00	4.40	4.40	-0.08	74.90	-0.10	74.90	66.91	7.99	9.375		
1,100.00	1,100.00	1,098.00	1,098.00	4.59	4.58	-0.08	74.90	-0.10	74.90	66.55	8.35	8.967		
1,150.00	1,150.00	1,148.00	1,148.00	4.77	4.77	-0.08	74.90	-0.10	74.90	66.18	8.72	8.594		
1,200.00	1,200.00	1,198.00	1,198.00	4.96	4.95	-0.08	74.90	-0.10	74.90	65.82	9.08	8.251		

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

Anticollision Report

Company:	V-F PETROLUEM	Local Co-ordinate Reference:	Well 221H
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Reference Site:	Walker 34/33 State COM	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	221H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	TP_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Walker 34/33 State COM - 231H - Lateral - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
1,250.00	1,250.00	1,248.00	1,248.00	5.14	5.14	-0.08	74.90	-0.10	74.90	65.46	9.44	7.935		
1,300.00	1,300.00	1,298.00	1,298.00	5.33	5.32	-0.08	74.90	-0.10	74.90	65.10	9.80	7.642		
1,350.00	1,350.00	1,348.00	1,348.00	5.51	5.50	-0.08	74.90	-0.10	74.90	64.74	10.16	7.370		
1,400.00	1,400.00	1,398.00	1,398.00	5.69	5.69	-0.08	74.90	-0.10	74.90	64.38	10.52	7.117		
1,450.00	1,450.00	1,448.00	1,448.00	5.88	5.87	-0.08	74.90	-0.10	74.90	64.01	10.89	6.881		
1,500.00	1,500.00	1,498.00	1,498.00	6.06	6.05	-0.08	74.90	-0.10	74.90	63.65	11.25	6.660		
1,550.00	1,550.00	1,548.00	1,548.00	6.24	6.23	-0.08	74.90	-0.10	74.90	63.29	11.61	6.453		
1,600.00	1,600.00	1,598.00	1,598.00	6.42	6.42	-0.08	74.90	-0.10	74.90	62.93	11.97	6.258		
1,650.00	1,650.00	1,648.00	1,648.00	6.61	6.60	-0.08	74.90	-0.10	74.90	62.57	12.33	6.075		
1,700.00	1,700.00	1,698.00	1,698.00	6.79	6.78	-0.08	74.90	-0.10	74.90	62.21	12.69	5.903		
1,750.00	1,750.00	1,748.00	1,748.00	6.97	6.96	-0.08	74.90	-0.10	74.90	61.85	13.05	5.740		
1,800.00	1,800.00	1,798.00	1,798.00	7.15	7.14	-0.08	74.90	-0.10	74.90	61.49	13.41	5.586		
1,850.00	1,850.00	1,848.00	1,848.00	7.33	7.32	-0.08	74.90	-0.10	74.90	61.13	13.77	5.440		
1,900.00	1,900.00	1,898.00	1,898.00	7.51	7.51	-0.08	74.90	-0.10	74.90	60.77	14.13	5.301		
1,950.00	1,950.00	1,948.00	1,948.00	7.69	7.69	-0.08	74.90	-0.10	74.90	60.41	14.49	5.169		
2,000.00	2,000.00	1,998.00	1,998.00	7.88	7.87	-0.08	74.90	-0.10	74.90	60.05	14.85	5.044		
2,050.00	2,050.00	2,048.00	2,048.00	8.06	8.05	-0.08	74.90	-0.10	74.90	59.69	15.21	4.925		
2,100.00	2,100.00	2,098.00	2,098.00	8.24	8.23	-0.08	74.90	-0.10	74.90	59.33	15.57	4.811		
2,150.00	2,150.00	2,148.00	2,148.00	8.42	8.41	-0.08	74.90	-0.10	74.90	58.97	15.93	4.702		
2,200.00	2,200.00	2,198.00	2,198.00	8.60	8.59	-0.08	74.90	-0.10	74.90	58.61	16.29	4.598		
2,250.00	2,250.00	2,248.00	2,248.00	8.78	8.77	-0.08	74.90	-0.10	74.90	58.25	16.65	4.499		
2,300.00	2,300.00	2,298.00	2,298.00	8.96	8.95	-0.08	74.90	-0.10	74.90	57.89	17.01	4.404		
2,350.00	2,350.00	2,348.00	2,348.00	9.14	9.14	-0.08	74.90	-0.10	74.90	57.53	17.37	4.313		
2,400.00	2,400.00	2,398.00	2,398.00	9.32	9.32	-0.08	74.90	-0.10	74.90	57.17	17.73	4.225		
2,450.00	2,450.00	2,448.00	2,448.00	9.50	9.50	-0.08	74.90	-0.10	74.90	56.81	18.09	4.141		
2,500.00	2,500.00	2,498.00	2,498.00	9.68	9.68	-0.08	74.90	-0.10	74.90	56.45	18.45	4.061		
2,550.00	2,550.00	2,548.00	2,548.00	9.87	9.86	-0.08	74.90	-0.10	74.90	56.10	18.80	3.983		
2,600.00	2,600.00	2,598.00	2,598.00	10.05	10.04	-0.08	74.90	-0.10	74.90	55.74	19.16	3.908		
2,650.00	2,650.00	2,648.00	2,648.00	10.23	10.22	-0.08	74.90	-0.10	74.90	55.38	19.52	3.836		
2,700.00	2,700.00	2,698.00	2,698.00	10.41	10.40	-0.08	74.90	-0.10	74.90	55.02	19.88	3.767		
2,750.00	2,750.00	2,748.00	2,748.00	10.59	10.58	-0.08	74.90	-0.10	74.90	54.66	20.24	3.700		
2,800.00	2,800.00	2,798.00	2,798.00	10.77	10.76	-0.08	74.90	-0.10	74.90	54.30	20.60	3.636		
2,850.00	2,850.00	2,848.00	2,848.00	10.95	10.94	-0.08	74.90	-0.10	74.90	53.94	20.96	3.573		
2,900.00	2,900.00	2,898.00	2,898.00	11.13	11.12	-0.08	74.90	-0.10	74.90	53.58	21.32	3.513		
2,950.00	2,950.00	2,948.00	2,948.00	11.31	11.30	-0.08	74.90	-0.10	74.90	53.22	21.68	3.455		
3,000.00	3,000.00	2,998.00	2,998.00	11.49	11.48	-0.08	74.90	-0.10	74.90	52.86	22.04	3.399		
3,050.00	3,050.00	3,048.00	3,048.00	11.67	11.66	-0.08	74.90	-0.10	74.90	52.50	22.40	3.344		
3,100.00	3,100.00	3,098.00	3,098.00	11.85	11.84	-0.08	74.90	-0.10	74.90	52.14	22.76	3.291		
3,150.00	3,150.00	3,148.00	3,148.00	12.03	12.02	-0.08	74.90	-0.10	74.90	51.79	23.11	3.240		
3,200.00	3,200.00	3,198.00	3,198.00	12.21	12.20	-0.08	74.90	-0.10	74.90	51.43	23.47	3.191		
3,250.00	3,250.00	3,248.00	3,248.00	12.39	12.38	-0.08	74.90	-0.10	74.90	51.07	23.83	3.143		
3,300.00	3,300.00	3,298.00	3,298.00	12.57	12.56	-0.08	74.90	-0.10	74.90	50.71	24.19	3.096		
3,350.00	3,350.00	3,348.00	3,348.00	12.75	12.74	-0.08	74.90	-0.10	74.90	50.35	24.55	3.051		
3,400.00	3,400.00	3,398.00	3,398.00	12.93	12.92	-0.08	74.90	-0.10	74.90	49.99	24.91	3.007		
3,450.00	3,450.00	3,448.00	3,448.00	13.11	13.10	-0.08	74.90	-0.10	74.90	49.63	25.27	2.964		
3,500.00	3,500.00	3,498.00	3,498.00	13.29	13.28	-0.08	74.90	-0.10	74.90	49.27	25.63	2.923		
3,550.00	3,550.00	3,548.00	3,548.00	13.47	13.46	-0.08	74.90	-0.10	74.90	48.91	25.99	2.882		
3,600.00	3,600.00	3,598.00	3,598.00	13.65	13.64	-0.08	74.90	-0.10	74.90	48.55	26.35	2.843		
3,650.00	3,650.00	3,648.00	3,648.00	13.83	13.82	-0.08	74.90	-0.10	74.90	48.20	26.70	2.805		
3,700.00	3,700.00	3,698.00	3,698.00	14.01	14.00	-0.08	74.90	-0.10	74.90	47.84	27.06	2.768		
3,750.00	3,750.00	3,748.00	3,748.00	14.19	14.18	-0.08	74.90	-0.10	74.90	47.48	27.42	2.731		
3,800.00	3,800.00	3,798.00	3,798.00	14.37	14.36	-0.08	74.90	-0.10	74.90	47.12	27.78	2.696		

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

Anticollision Report

Company:	V-F PETROLUEM	Local Co-ordinate Reference:	Well 221H
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Reference Site:	Walker 34/33 State COM	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	221H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	TP_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Walker 34/33 State COM - 231H - Lateral - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
3,850.00	3,850.00	3,848.00	3,848.00	14.55	14.54	-0.08	74.90	-0.10	74.90	46.76	28.14	2.662		
3,900.00	3,900.00	3,898.00	3,898.00	14.73	14.72	-0.08	74.90	-0.10	74.90	46.40	28.50	2.628		
3,950.00	3,950.00	3,948.00	3,948.00	14.91	14.90	-0.08	74.90	-0.10	74.90	46.04	28.86	2.595		
4,000.00	4,000.00	3,998.00	3,998.00	15.09	15.08	-0.08	74.90	-0.10	74.90	45.68	29.22	2.564		
4,050.00	4,050.00	4,048.00	4,048.00	15.27	15.26	-0.08	74.90	-0.10	74.90	45.32	29.58	2.533		
4,100.00	4,100.00	4,098.00	4,098.00	15.45	15.44	-0.08	74.90	-0.10	74.90	44.97	29.93	2.502		
4,150.00	4,150.00	4,148.00	4,148.00	15.63	15.62	-0.08	74.90	-0.10	74.90	44.61	30.29	2.473		
4,200.00	4,200.00	4,198.00	4,198.00	15.81	15.80	-0.08	74.90	-0.10	74.90	44.25	30.65	2.444		
4,250.00	4,250.00	4,248.00	4,248.00	15.99	15.98	-0.08	74.90	-0.10	74.90	43.89	31.01	2.415		
4,300.00	4,300.00	4,298.00	4,298.00	16.17	16.16	-0.08	74.90	-0.10	74.90	43.53	31.37	2.388		
4,350.00	4,350.00	4,348.00	4,348.00	16.34	16.34	-0.08	74.90	-0.10	74.90	43.17	31.73	2.361		
4,400.00	4,400.00	4,398.00	4,398.00	16.52	16.52	-0.08	74.90	-0.10	74.90	42.81	32.09	2.334		
4,450.00	4,450.00	4,448.00	4,448.00	16.70	16.70	-0.08	74.90	-0.10	74.90	42.45	32.45	2.308		
4,500.00	4,500.00	4,498.00	4,498.00	16.88	16.88	-0.08	74.90	-0.10	74.90	42.10	32.80	2.283		
4,550.00	4,550.00	4,548.00	4,548.00	17.06	17.06	-0.08	74.90	-0.10	74.90	41.74	33.16	2.259		
4,600.00	4,600.00	4,598.00	4,598.00	17.24	17.24	-0.08	74.90	-0.10	74.90	41.38	33.52	2.234		
4,650.00	4,650.00	4,648.00	4,648.00	17.42	17.42	-0.08	74.90	-0.10	74.90	41.02	33.88	2.211		
4,700.00	4,700.00	4,698.00	4,698.00	17.60	17.60	-0.08	74.90	-0.10	74.90	40.66	34.24	2.188		
4,750.00	4,750.00	4,748.00	4,748.00	17.78	17.77	-0.08	74.90	-0.10	74.90	40.30	34.60	2.165		
4,800.00	4,800.00	4,798.00	4,798.00	17.96	17.95	-0.08	74.90	-0.10	74.90	39.94	34.96	2.143		
4,850.00	4,850.00	4,848.00	4,848.00	18.14	18.13	-0.08	74.90	-0.10	74.90	39.58	35.32	2.121		
4,900.00	4,900.00	4,898.00	4,898.00	18.32	18.31	-0.08	74.90	-0.10	74.90	39.23	35.67	2.100		
4,950.00	4,950.00	4,948.00	4,948.00	18.50	18.49	-0.08	74.90	-0.10	74.90	38.87	36.03	2.079		
5,000.00	5,000.00	4,998.00	4,998.00	18.68	18.67	-0.08	74.90	-0.10	74.90	38.51	36.39	2.058		
5,050.00	5,050.00	5,048.00	5,048.00	18.86	18.85	-0.08	74.90	-0.10	74.90	38.15	36.75	2.038		
5,100.00	5,100.00	5,098.00	5,098.00	19.04	19.03	-0.08	74.90	-0.10	74.90	37.79	37.11	2.018		
5,150.00	5,150.00	5,148.00	5,148.00	19.22	19.21	-0.08	74.90	-0.10	74.90	37.43	37.47	1.999		
5,200.00	5,200.00	5,198.00	5,198.00	19.40	19.39	-0.08	74.90	-0.10	74.90	37.07	37.83	1.980		
5,250.00	5,250.00	5,248.00	5,248.00	19.58	19.57	-0.08	74.90	-0.10	74.90	36.71	38.19	1.961		
5,300.00	5,300.00	5,298.00	5,298.00	19.76	19.75	-0.08	74.90	-0.10	74.90	36.36	38.54	1.943		
5,350.00	5,350.00	5,348.00	5,348.00	19.94	19.93	-0.08	74.90	-0.10	74.90	36.00	38.90	1.925		
5,400.00	5,400.00	5,398.00	5,398.00	20.12	20.11	-0.08	74.90	-0.10	74.90	35.64	39.26	1.908		
5,450.00	5,450.00	5,448.00	5,448.00	20.30	20.29	-0.08	74.90	-0.10	74.90	35.28	39.62	1.890		
5,500.00	5,500.00	5,498.00	5,498.00	20.48	20.47	-0.08	74.90	-0.10	74.90	34.92	39.98	1.873		
5,550.00	5,550.00	5,548.00	5,548.00	20.66	20.65	-0.08	74.90	-0.10	74.90	34.56	40.34	1.857		
5,600.00	5,600.00	5,598.00	5,598.00	20.83	20.83	-0.08	74.90	-0.10	74.90	34.20	40.70	1.840		
5,650.00	5,650.00	5,648.00	5,648.00	21.01	21.01	-0.08	74.90	-0.10	74.90	33.85	41.05	1.824		
5,700.00	5,700.00	5,698.00	5,698.00	21.19	21.19	-0.08	74.90	-0.10	74.90	33.49	41.41	1.809		
5,750.00	5,750.00	5,748.00	5,748.00	21.37	21.37	-0.08	74.90	-0.10	74.90	33.13	41.77	1.793		
5,800.00	5,800.00	5,798.00	5,798.00	21.55	21.55	-0.08	74.90	-0.10	74.90	32.77	42.13	1.778		
5,850.00	5,850.00	5,848.00	5,848.00	21.73	21.73	-0.08	74.90	-0.10	74.90	32.41	42.49	1.763		
5,900.00	5,900.00	5,898.00	5,898.00	21.91	21.90	-0.08	74.90	-0.10	74.90	32.05	42.85	1.748		
5,950.00	5,950.00	5,948.00	5,948.00	22.09	22.08	-0.08	74.90	-0.10	74.90	31.69	43.21	1.734		
6,000.00	6,000.00	5,998.00	5,998.00	22.27	22.26	-0.08	74.90	-0.10	74.90	31.33	43.57	1.719		
6,050.00	6,050.00	6,048.00	6,048.00	22.45	22.44	-0.08	74.90	-0.10	74.90	30.98	43.92	1.705		
6,100.00	6,100.00	6,098.00	6,098.00	22.63	22.62	-0.08	74.90	-0.10	74.90	30.62	44.28	1.691		
6,150.00	6,150.00	6,148.00	6,148.00	22.81	22.80	-0.08	74.90	-0.10	74.90	30.26	44.64	1.678		
6,200.00	6,200.00	6,198.00	6,198.00	22.99	22.98	-0.08	74.90	-0.10	74.90	29.90	45.00	1.664		
6,250.00	6,250.00	6,248.00	6,248.00	23.17	23.16	-0.08	74.90	-0.10	74.90	29.54	45.36	1.651		
6,300.00	6,300.00	6,298.00	6,298.00	23.35	23.34	-0.08	74.90	-0.10	74.90	29.18	45.72	1.638		
6,350.00	6,350.00	6,348.00	6,348.00	23.53	23.52	-0.08	74.90	-0.10	74.90	28.82	46.08	1.626		
6,400.00	6,400.00	6,398.00	6,398.00	23.71	23.70	-0.08	74.90	-0.10	74.90	28.47	46.43	1.613		

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

Anticollision Report

Company:	V-F PETROLUEM	Local Co-ordinate Reference:	Well 221H
Project:	Eddy County, NM (NAD27) NMEZ Grid	TVD Reference:	3549+20 @ 3569.00usft (Planning)
Reference Site:	Walker 34/33 State COM	MD Reference:	3549+20 @ 3569.00usft (Planning)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	221H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Lateral	Database:	TP_EDM
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Walker 34/33 State COM - 231H - Lateral - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,450.00	6,450.00	6,448.00	6,448.00	23.89	23.88	-0.08	74.90	-0.10	74.90	28.11	46.79	1.601		
6,500.00	6,500.00	6,498.00	6,498.00	24.07	24.06	-0.08	74.90	-0.10	74.90	27.75	47.15	1.589		
6,550.00	6,550.00	6,548.00	6,548.00	24.24	24.24	-0.08	74.90	-0.10	74.90	27.39	47.51	1.577		
6,600.00	6,600.00	6,598.00	6,598.00	24.42	24.42	-0.08	74.90	-0.10	74.90	27.03	47.87	1.565		
6,650.00	6,650.00	6,648.00	6,648.00	24.60	24.60	-0.08	74.90	-0.10	74.90	26.67	48.23	1.553		
6,700.00	6,700.00	6,698.00	6,698.00	24.78	24.78	-0.08	74.90	-0.10	74.90	26.31	48.59	1.542		
6,750.00	6,750.00	6,748.00	6,748.00	24.96	24.96	-0.08	74.90	-0.10	74.90	25.96	48.94	1.530		
6,800.00	6,800.00	6,798.00	6,798.00	25.14	25.13	-0.08	74.90	-0.10	74.90	25.60	49.30	1.519 CC		
6,804.13	6,804.13	6,802.13	6,802.13	25.16	25.15	91.04	74.90	-0.10	74.90	25.57	49.33	1.518		
6,850.00	6,850.00	6,848.00	6,848.00	25.32	25.31	91.05	74.90	-0.10	74.90	25.24	49.66	1.508		
6,900.00	6,899.88	6,897.88	6,897.88	25.49	25.49	93.35	74.90	-0.10	75.02	24.93	50.08	1.498 Level 3, ES, SF		
6,950.00	6,949.18	6,947.18	6,947.18	25.67	25.67	99.36	74.90	-0.10	75.95	25.31	50.63	1.500 Level 3		
7,000.00	6,997.34	6,995.34	6,995.34	25.84	25.84	108.22	74.90	-0.10	79.27	28.00	51.26	1.546		
7,050.00	7,043.85	7,041.85	7,041.85	26.01	26.01	118.29	74.90	-0.10	87.00	35.14	51.86	1.678		
7,100.00	7,088.18	7,086.18	7,086.18	26.18	26.17	127.78	74.90	-0.10	100.72	48.39	52.33	1.925		
7,150.00	7,129.87	7,127.87	7,127.87	26.34	26.32	135.54	74.90	-0.10	120.91	68.27	52.64	2.297		
7,200.00	7,168.44	7,166.44	7,166.44	26.49	26.46	141.29	74.90	-0.10	147.18	94.34	52.85	2.785		
7,250.00	7,203.48	7,201.48	7,201.48	26.65	26.58	145.16	74.90	-0.10	178.79	125.79	53.00	3.373		
7,300.00	7,234.60	7,232.60	7,232.60	26.81	26.69	147.38	74.90	-0.10	214.92	161.80	53.12	4.046		
7,350.00	7,261.46	7,259.46	7,259.46	27.00	26.79	148.03	74.90	-0.10	254.84	201.63	53.22	4.789		
7,400.00	7,283.77	7,281.77	7,281.77	27.22	26.87	146.94	74.90	-0.10	297.88	244.59	53.29	5.590		
7,450.00	7,301.29	7,299.29	7,299.29	27.48	26.93	143.41	74.90	-0.10	343.39	290.04	53.34	6.437		
7,500.00	7,313.81	7,311.81	7,311.81	27.80	26.98	135.63	74.90	-0.10	390.75	337.37	53.37	7.321		
7,550.00	7,321.21	7,319.21	7,319.21	28.16	27.01	119.06	74.90	-0.10	439.36	385.98	53.38	8.231		
7,600.00	7,323.41	7,321.41	7,321.41	28.56	27.01	86.88	74.90	-0.10	488.63	435.27	53.36	9.156		
7,650.00	7,321.58	7,319.58	7,319.58	29.02	27.01	73.39	74.90	-0.10	538.06	484.72	53.34	10.088		
7,700.00	7,319.48	7,317.48	7,317.48	29.50	27.00	71.93	74.90	-0.10	587.57	534.26	53.31	11.022		
7,750.00	7,317.39	7,315.39	7,315.39	30.07	26.99	70.49	74.90	-0.10	637.15	583.86	53.29	11.957		
7,800.00	7,315.29	7,313.29	7,313.29	30.63	26.98	69.08	74.90	-0.10	686.79	633.52	53.27	12.893		
7,850.00	7,313.19	7,311.19	7,311.19	31.27	26.98	67.70	74.90	-0.10	736.46	683.22	53.25	13.831		
7,900.00	7,311.10	7,309.10	7,309.10	31.92	26.97	66.34	74.90	-0.10	786.18	732.94	53.23	14.769		
7,950.00	7,309.00	7,307.00	7,307.00	32.63	26.96	65.01	74.90	-0.10	835.92	782.70	53.22	15.708		
8,000.00	7,306.90	7,304.90	7,304.90	33.34	26.95	63.71	74.90	-0.10	885.69	832.48	53.20	16.647		
8,050.00	7,304.81	7,302.81	7,302.81	34.10	26.95	62.43	74.90	-0.10	935.47	882.28	53.19	17.587		
8,100.00	7,302.71	7,300.71	7,300.71	34.87	26.94	61.19	74.90	-0.10	985.28	932.10	53.18	18.527		

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