

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

EMNRD-OCD ARTESIA Form C-103
REC'D: 7/25/2020 Revised July 18, 2013

WELL API NO. 30-015-45952	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name CROCKETT 16 STATE COM	
8. Well Number #231H	
9. OGRID Number 24010	
10. Pool name or Wildcat Palmillo; Bone Spring, SW (96413)	
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well ☒ Gas Well ☐ Other SWD ☐	
2. Name of Operator V-F PETROLEUM, INC.	
3. Address of Operator P.O.Box 1889, Midland, TX 79702	
4. Well Location Unit Letter <u>A</u> : <u>990</u> feet from the <u>North</u> line and <u>225</u> feet from the <u>East</u> line Section <u>16</u> Township <u>19-S</u> Range <u>28-E</u> NMPM <u>Eddy</u> County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3523' GL	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☒			
OTHER: <u>Change Bottom Hole Location</u> ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

V-F PETROLEUM, INC. would like to change the location of the bottom hole in this proposed horizontal oil well to 990' FNL & 2540' FEL, Sec. 17, T 19S R28E. The APD for this well was approved on 5/3/2019. Attached please find the new C-102 with its associated plats, the new Directional Diagram, the new Standard Planning Report for a deviated well, and the Anticollision Report.

Spud Date:

Drilling Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Mike Pippin TITLE Petroleum Engineer DATE 7/16/20

Type or print name Mike Pippin E-mail address: mike@pippinllc.com PHONE: 505-327-4573

For State Use Only

APPROVED BY: John Garcia TITLE Petroleum Engineer DATE 8/27/2020

Conditions of Approval (if any): Will Require an NSL

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

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

EMNRD-OCD ARTESIA
REC'D: 7/25/2020
Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45952	² Pool Code 96413	³ Pool Name Palmillo; Bone Spring, SW
⁴ Property Code 325617	⁵ Property Name CROCKETT 16 STATE COM	⁶ Well Number 231H
⁷ OGRID No. 24010	⁸ Operator Name V-F PETROLEUM INC.	⁹ Elevation 3523.0

¹⁰ Surface Location

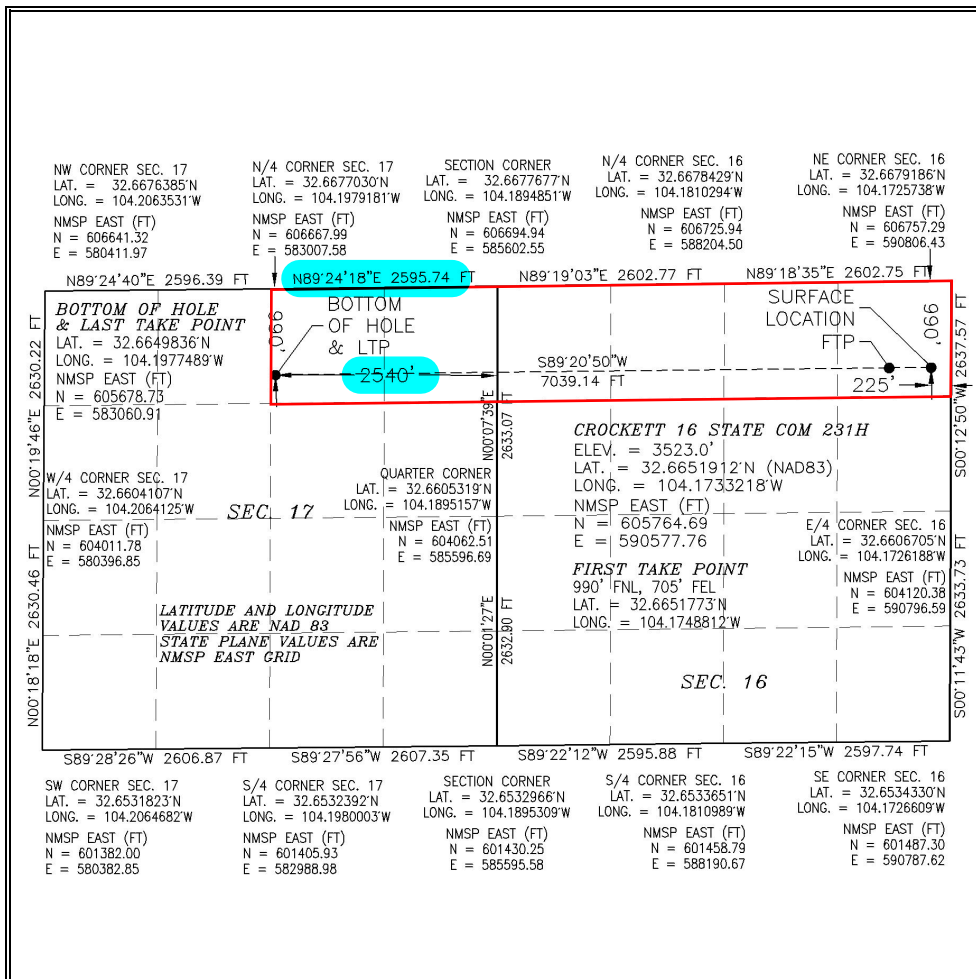
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	19 S	28 E		990	NORTH	225	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	17	19 S	28 E		990	NORTH	2540	EAST	EDDY

¹² Dedicated Acres 240	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.
Will require an NSL



¹⁷ OPERATOR CERTIFICATION

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

Signature: *Jason J. Lodge* Date: 7/14/20
Printed Name: Jason J. Lodge
E-mail Address: Jason@vfpetroleum.com

¹⁸ SURVEYOR CERTIFICATION

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

JANUARY 23, 2020

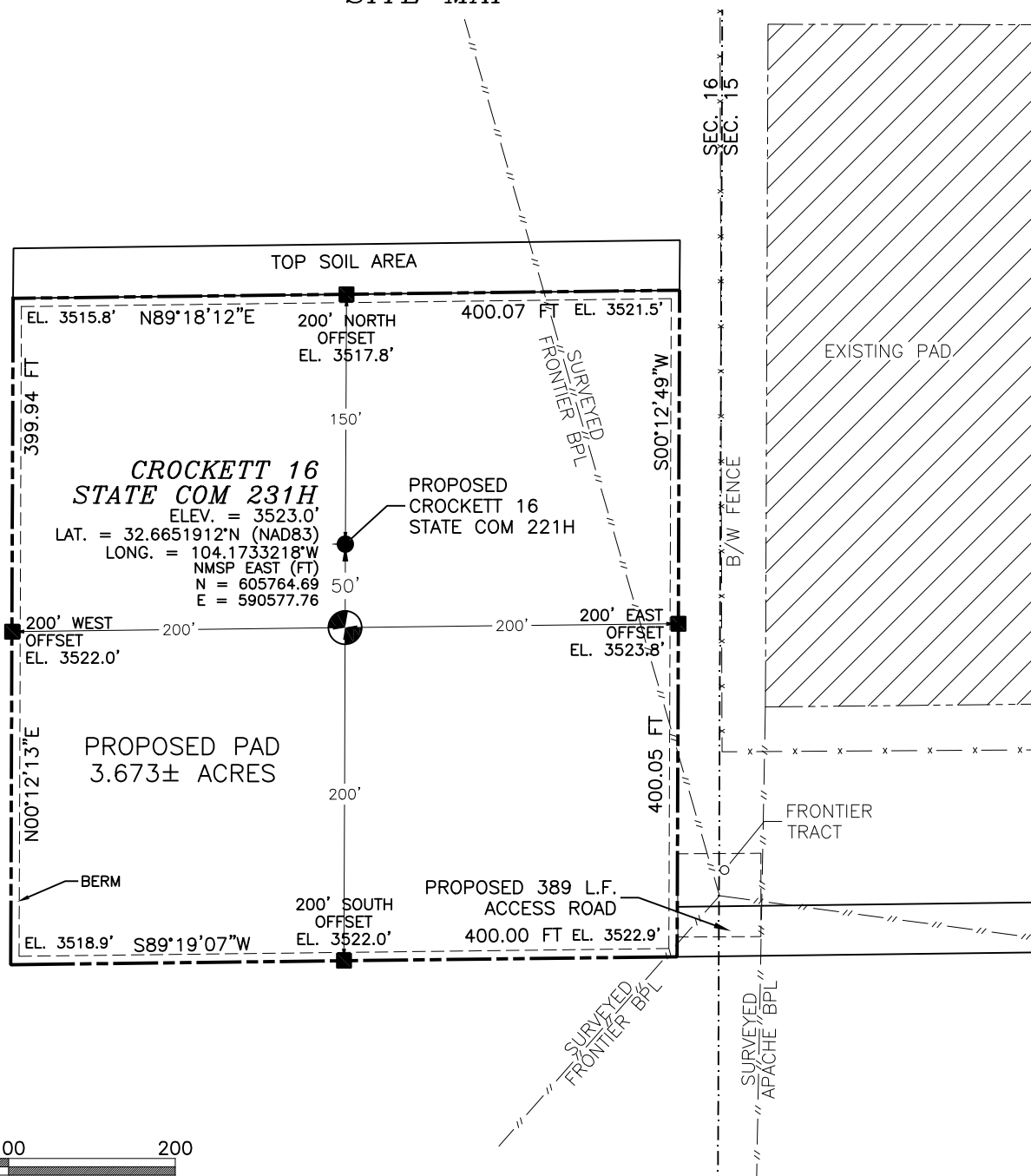
Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number: FIRMON F. JARAMILLO, SLS 12797

SURVEY NO. 7151A

SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. 206 (ILLINOIS CAMP) & ANGEL RANCH ROAD, GO NORTH ON CO. RD. 206 APPROX. 5.0 MILES, TURN RIGHT AND GO EAST ON CALICHE LEASE ROAD APPROX. 2.0 MILES, TURN RIGHT AND GO SOUTH ON CALICHE LEASE ROAD APPROX. 0.4 OF A MILE, TURN LEFT AND GO EAST ON CALICHE LEASE ROAD APPROX. 1.3 MILES, TURN LEFT AND GO NORTH APPROX. 1.1 MILES TO BEGIN ROAD SURVEY, FOLLOW ROAD SURVEY WEST APPROX. .389' TO THE SOUTHEAST CORNER OF THIS LOCATION.

I, FILMON F. JARAMILL, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUTHFULLY CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT I AM AWARE OF THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

V-F PETROLEUM INC.
CROCKETT 16 STATE COM 231H
LOCATED 990 FT. FROM THE NORTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 16, TOWNSHIP 19 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JANUARY 23, 2019

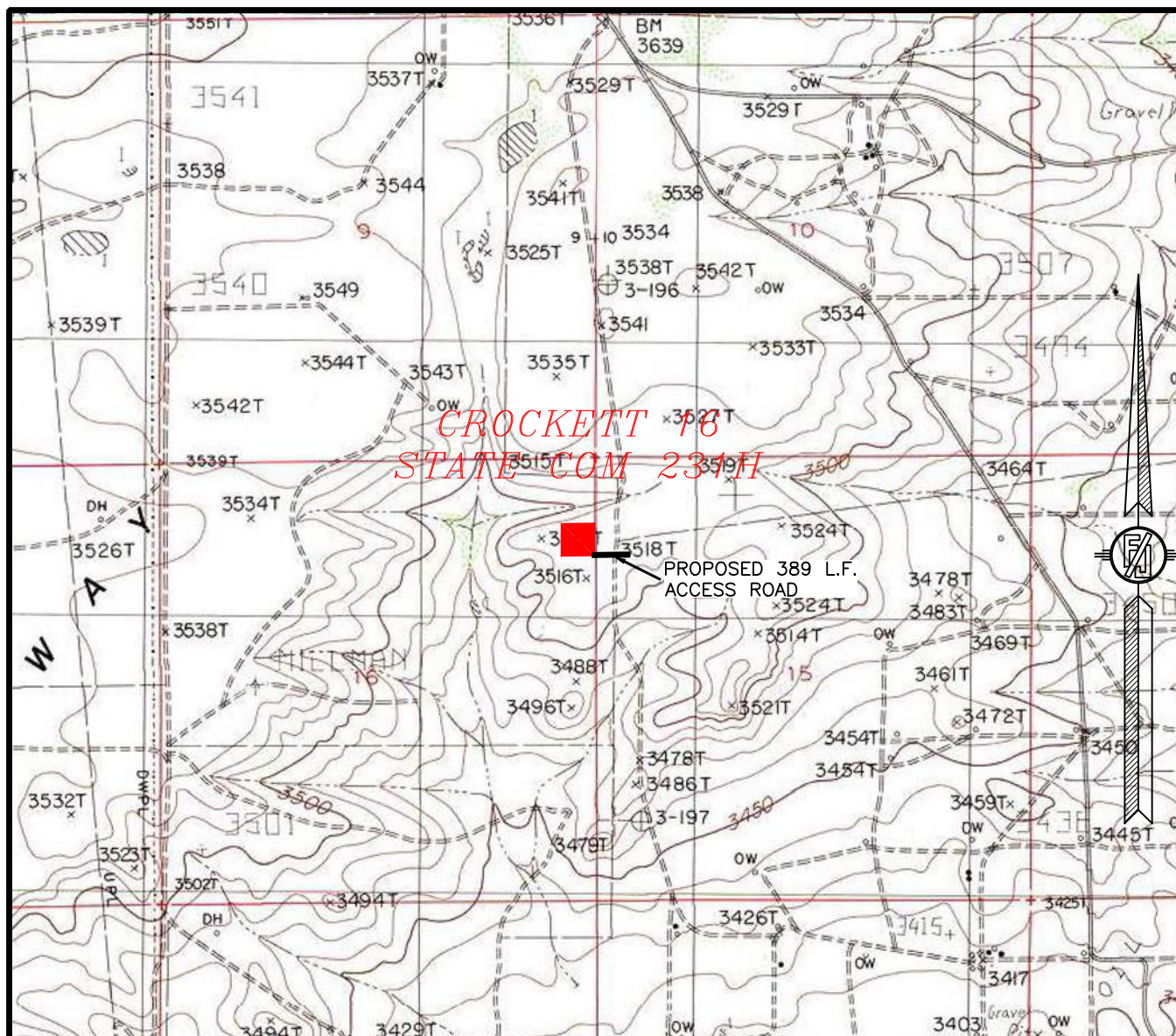
SURVEY NO. 7151A

~~MADRON SURVEYING, INC.~~

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
ILLINOIS CAMP

NOT TO SCALE

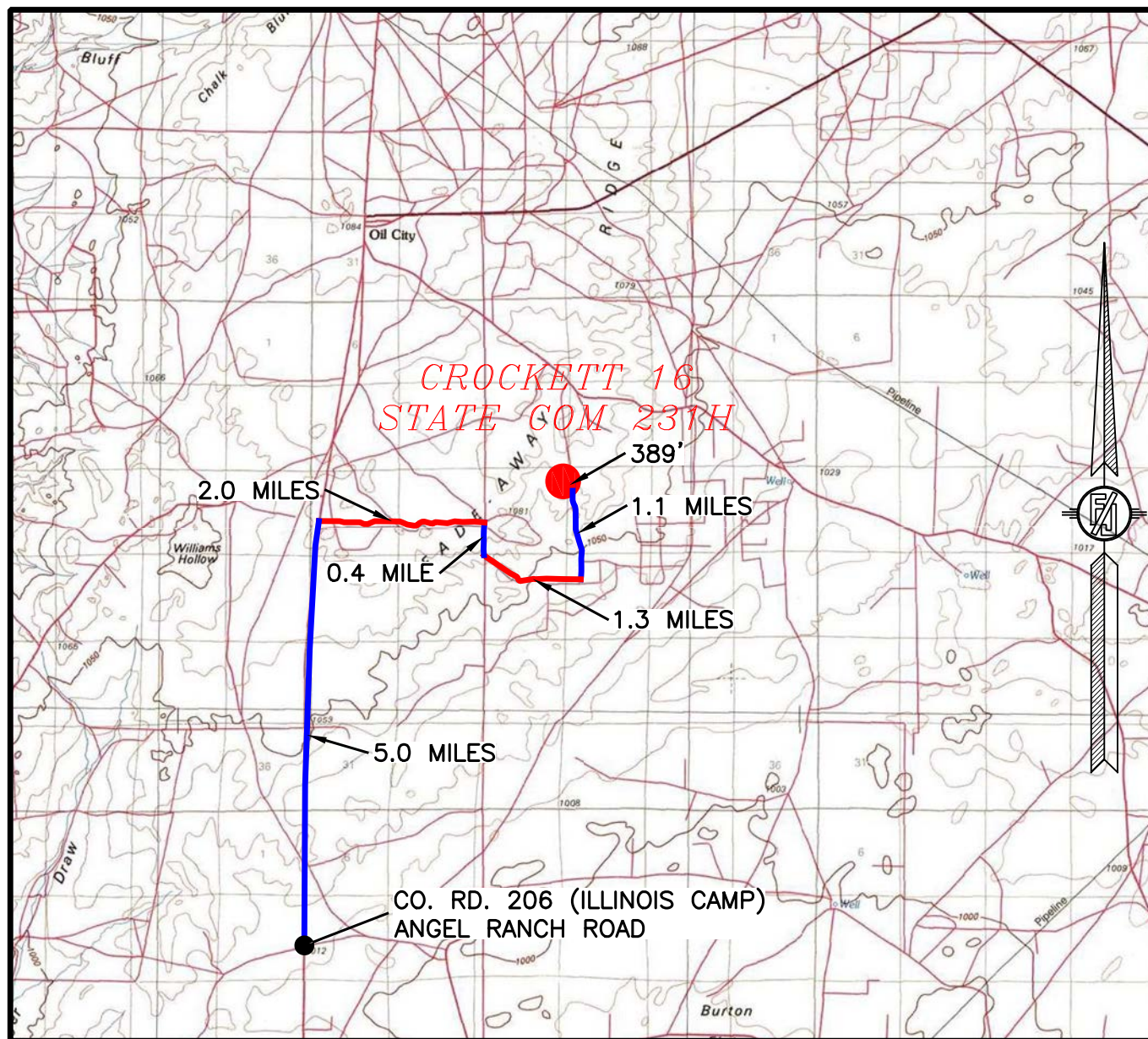
V-F PETROLEUM INC.
CROCKETT 16 STATE COM 231H
LOCATED 990 FT. FROM THE NORTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 16, TOWNSHIP 19 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JANUARY 23, 2019

MADRON SURVEYING, INC. 301 SOUTH CANAL
(575) 234-3341

SURVEY NO. 7151A
CARLSBAD, NEW MEXICO

SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. 206 (ILLINOIS CAMP) & ANGEL RANCH ROAD, GO NORTH ON CO. RD. 206 APPROX. 5.0 MILES, TURN RIGHT AND GO EAST ON CALICHE LEASE ROAD APPROX. 2.0 MILES, TURN RIGHT AND GO SOUTH ON CALICHE LEASE ROAD APPROX. 0.4 OF A MILE, TURN LEFT AND GO EAST ON CALICHE LEASE ROAD APPROX 1.3 MILES, TURN LEFT AND GO NORTH APPROX. 1.1 MILES TO BEGIN ROAD SURVEY, FOLLOW ROAD SURVEY WEST APPROX. 389' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

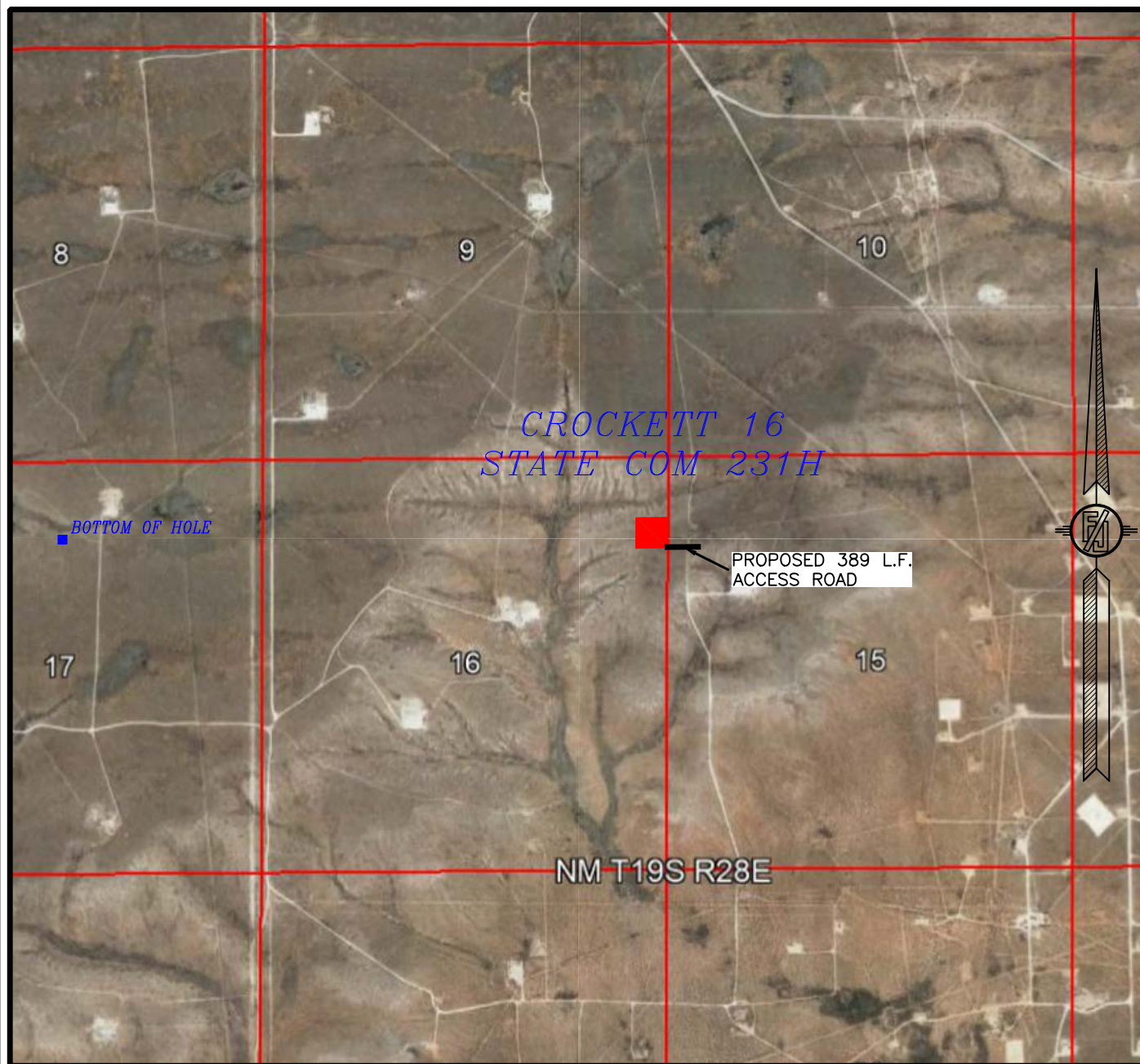
V-F PETROLEUM INC.
CROCKETT 16 STATE COM 231H
LOCATED 990 FT. FROM THE NORTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 16, TOWNSHIP 19 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JANUARY 23, 2019

MADRON SURVEYING, INC. 301 SOUTH CANAL
(575) 234-3341

SURVEY NO. 7151A
CARLSBAD, NEW MEXICO

SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MAR. 2016

V-F PETROLEUM INC.
CROCKETT 16 STATE COM 231H
LOCATED 990 FT. FROM THE NORTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 16, TOWNSHIP 19 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

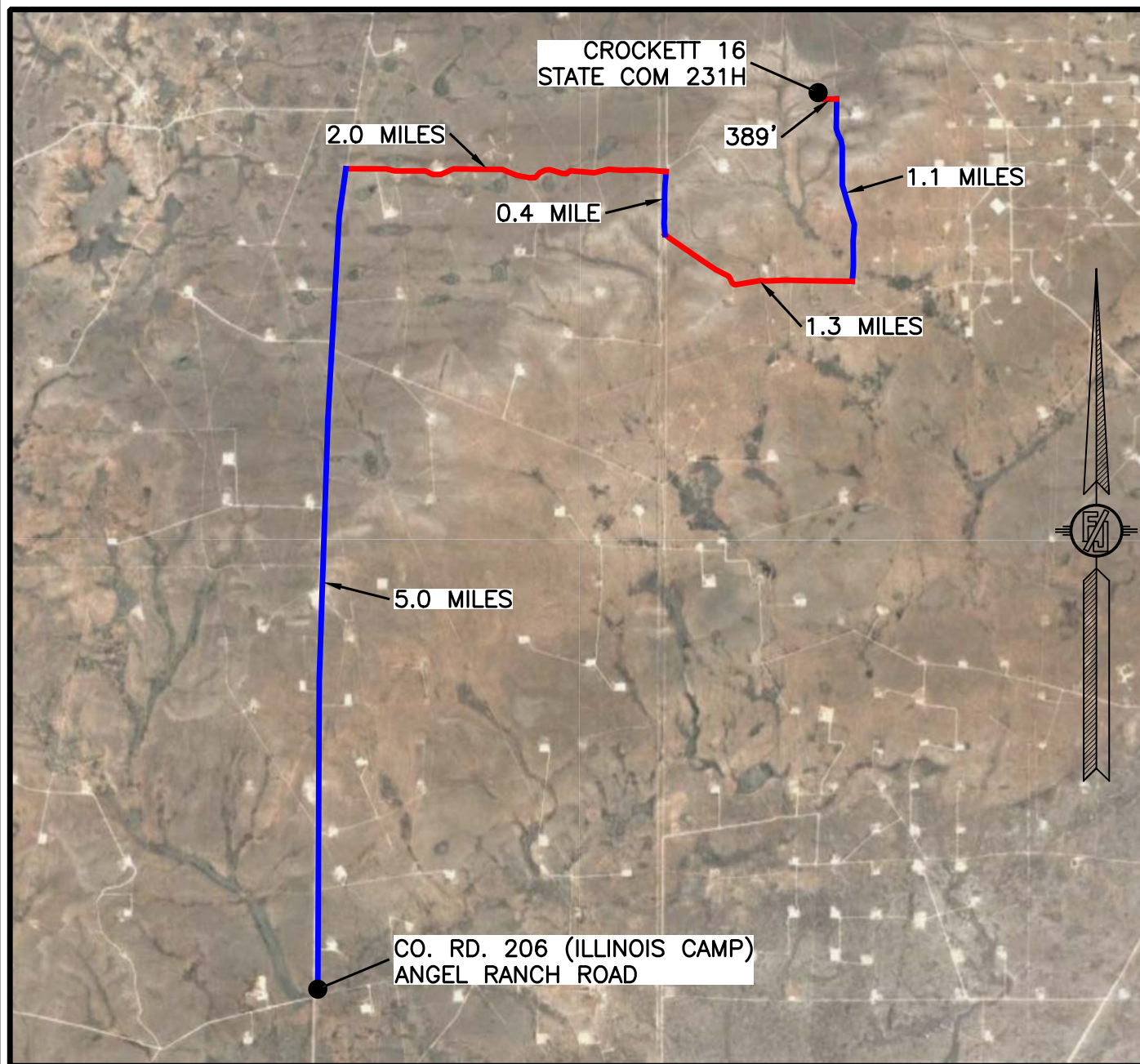
JANUARY 23, 2019

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

SURVEY NO. 7151A
CARLSBAD, NEW MEXICO

SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MAR. 2016

V-F PETROLEUM INC.
CROCKETT 16 STATE COM 231H
LOCATED 990 FT. FROM THE NORTH LINE
AND 225 FT. FROM THE EAST LINE OF
SECTION 16, TOWNSHIP 19 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

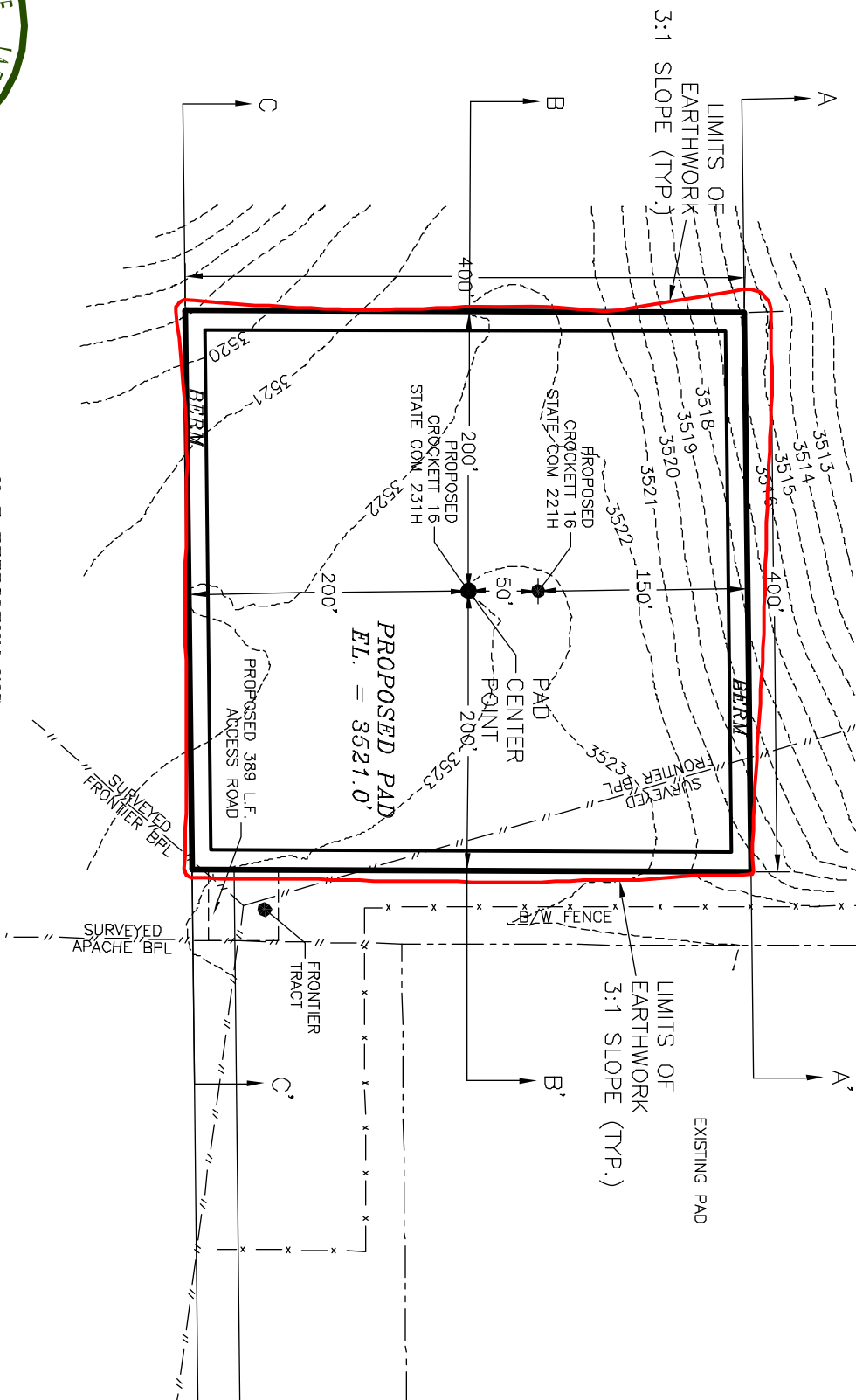
JANUARY 23, 2019

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

SURVEY NO. 7151A
CARLSBAD, NEW MEXICO

PLAN VIEW



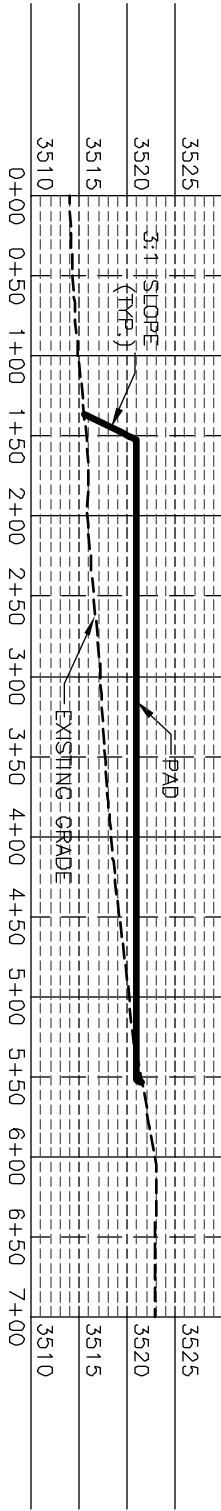
I, FILMON E. JARVIS, NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFICATE NO. 11787, HEREBY CERTIFY THAT THIS SURVEY WAS MADE AND RESPONSIBLE FOR THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THE SURVEY AND PLAT MEET THE REQUIREMENTS FOR A SURVEY IN NEW MEXICO.

V-F PETROLEUM INC.
PAD GRADING AND CROSS SECTIONS
FOR CROCKETT 16 STATE COM 231H
SECTION 16, TOWNSHIP 19 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

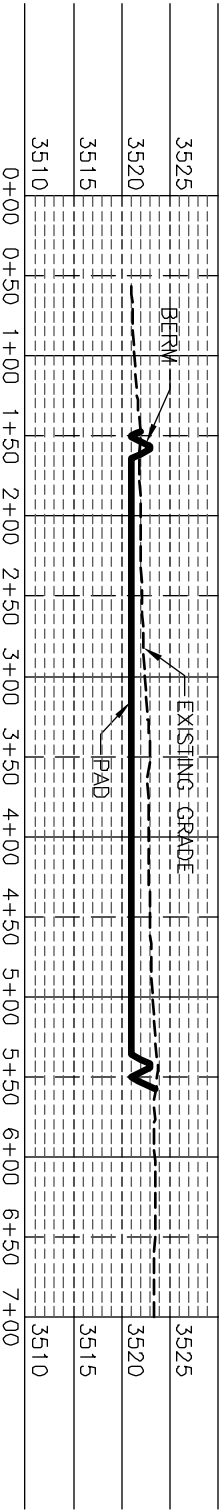
JANUARY 23, 2019
301 SOUTH CANAL
CARLSBAD, NEW MEXICO
SURVEY NO. 7151A

CROSS-SECTIONS

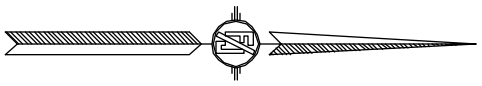
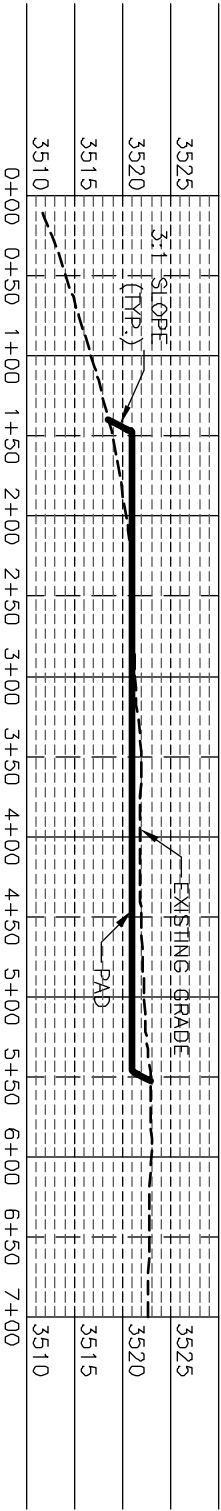
SECTION A-A'



SECTION B-B'

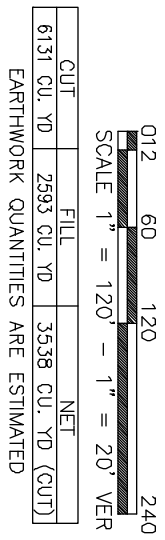


SECTION C-C'



I, FILMON E. JARAMILLO, NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFICATE NO. 12787, AM RESPONSIBLE FOR THIS SURVEY, THAT THE SURVEY WAS MADE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THE SURVEY MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

V-F PETROLEUM INC.
 PAD GRADING AND CROSS SECTIONS
 FOR CROCKETT 16 STATE COM 231H
 SECTION 16, TOWNSHIP 19 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

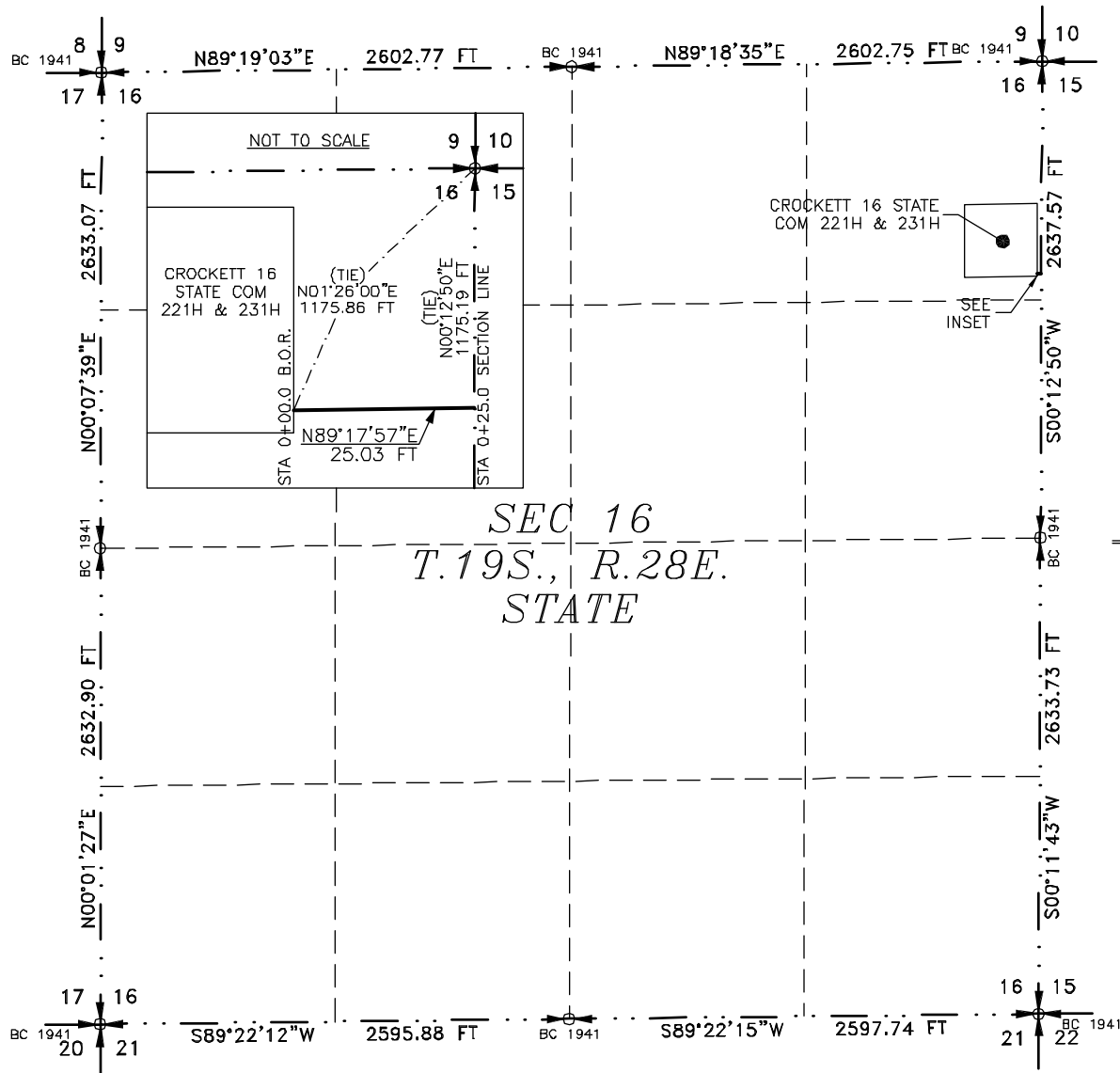


ACCESS ROAD PLAT

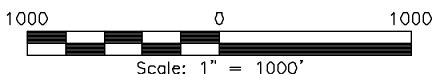
ACCESS ROAD FOR CROCKETT 16 STATE COM 221H & 231H

V-F PETROLEUM INC.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JANUARY 23, 2019



SEE NEXT SHEET (2-4) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO (575) 234-3341

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 23rd DAY OF JANUARY 2019.

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7151A

ACCESS ROAD PLAT

ACCESS ROAD FOR CROCKETT 16 STATE COM 221H & 231H

V-F PETROLEUM INC.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JANUARY 23, 2019

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N01°26'00"E, A DISTANCE OF 1175.86 FEET;
THENCE N89°17'57"E A DISTANCE OF 25.03 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHEAST CORNER OF SAID SECTION 16, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N00°12'50"E, A DISTANCE OF 1175.19 FEET;

SAID STRIP OF LAND BEING 25.03 FEET OR 1.52 RODS IN LENGTH, CONTAINING 0.017 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 25.03 L.F. 1.52 RODS 0.017 ACRES

GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO 88220
(575) 234-3341

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 24th DAY OF JANUARY 2019

FILIMON F. JARAMILLO
12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

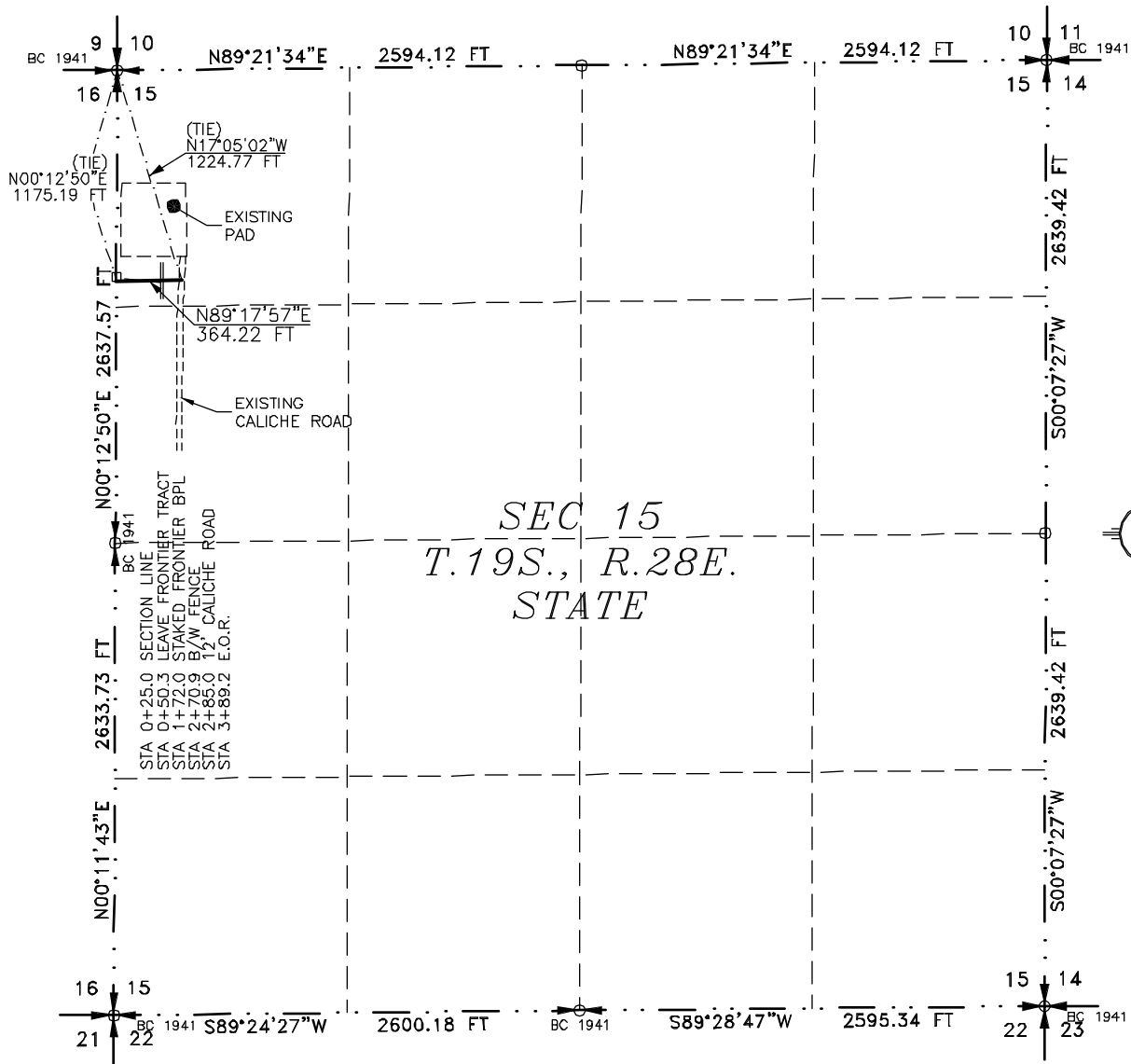
SURVEY NO. 7151A

ACCESS ROAD PLAT

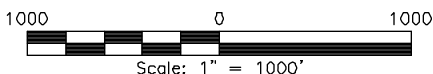
ACCESS ROAD FOR CROCKETT 16 STATE COM 221H & 231H

V-F PETROLEUM INC.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 15, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JANUARY 23, 2019



SEE NEXT SHEET (4-4) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 3-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO (575) 234-3341

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 24th DAY OF JANUARY 2019.

FILMON F. JARAMILLO, PLS. 12797
NEW MEXICO PROFESSIONAL SURVEYOR

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7151A

ACCESS ROAD PLAT

ACCESS ROAD FOR CROCKETT 16 STATE COM 221H & 231H

V-F PETROLEUM INC.

**CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 15, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JANUARY 23, 2019**

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 15, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 15, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 15, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N00°12'50"E, A DISTANCE OF 1175.19 FEET;
THENCE N89°17'57"E A DISTANCE OF 364.22 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 15, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N17°05'02"W, A DISTANCE OF 1224.77 FEET;

SAID STRIP OF LAND BEING 364.22 FEET OR 22.07 RODS IN LENGTH, CONTAINING 0.251 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 364.22 L.F. 22.07 RODS 0.251 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 23rd DAY OF JANUARY 2019.

FILIMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7151A

SHEET: 4-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO (575) 234-3341

Intent ☒ As Drilled ☐

API # 30-015-45952			
Operator Name: V-F PETROLEUM INC.		Property Name: CROCKETT 16 STATE COM	Well Number 231H

Kick Off Point (KOP)

UL A	Section 16	Township 19S	Range 28E	Lot	Feet 990	From N/S NORTH	Feet 225	From E/W EAST	County EDDY
Latitude 32.6651912					Longitude 104.1733218				NAD 83

First Take Point (FTP)

UL A	Section 16	Township 19S	Range 28E	Lot	Feet 990	From N/S NORTH	Feet 705	From E/W EAST	County EDDY
Latitude 32.6651773					Longitude 104.1748812				NAD 83

Last Take Point (LTP)

UL B	Section 17	Township 19S	Range 28E	Lot	Feet 990	From N/S NORTH	Feet 2540	From E/W EAST	County EDDY
Latitude 32.6649836					Longitude 104.1977489				NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☐ YES

Is this well an infill well? ☐ NO

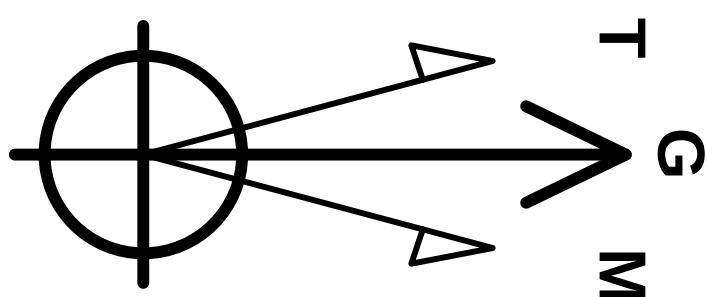
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #			
Operator Name:		Property Name:	Well Number

KZ 06/29/2018

V-F Petroleum, Inc.

Company: V-F Petroleum Inc.
Field: Eddy County, NM
Location: Crockett 16 State Comm
Well: 231H
OH
Plan: Plan 1
GL 3523 + 20' KB @ 35.43.00usft



Azimuths to Grid North
True North: -0.09°
Magnetic North: 6.89°

Magnetic Field
Strength: 47789.4nT
Dip Angle: 60.24°
Date: 7/14/2020
Model: WMM2020

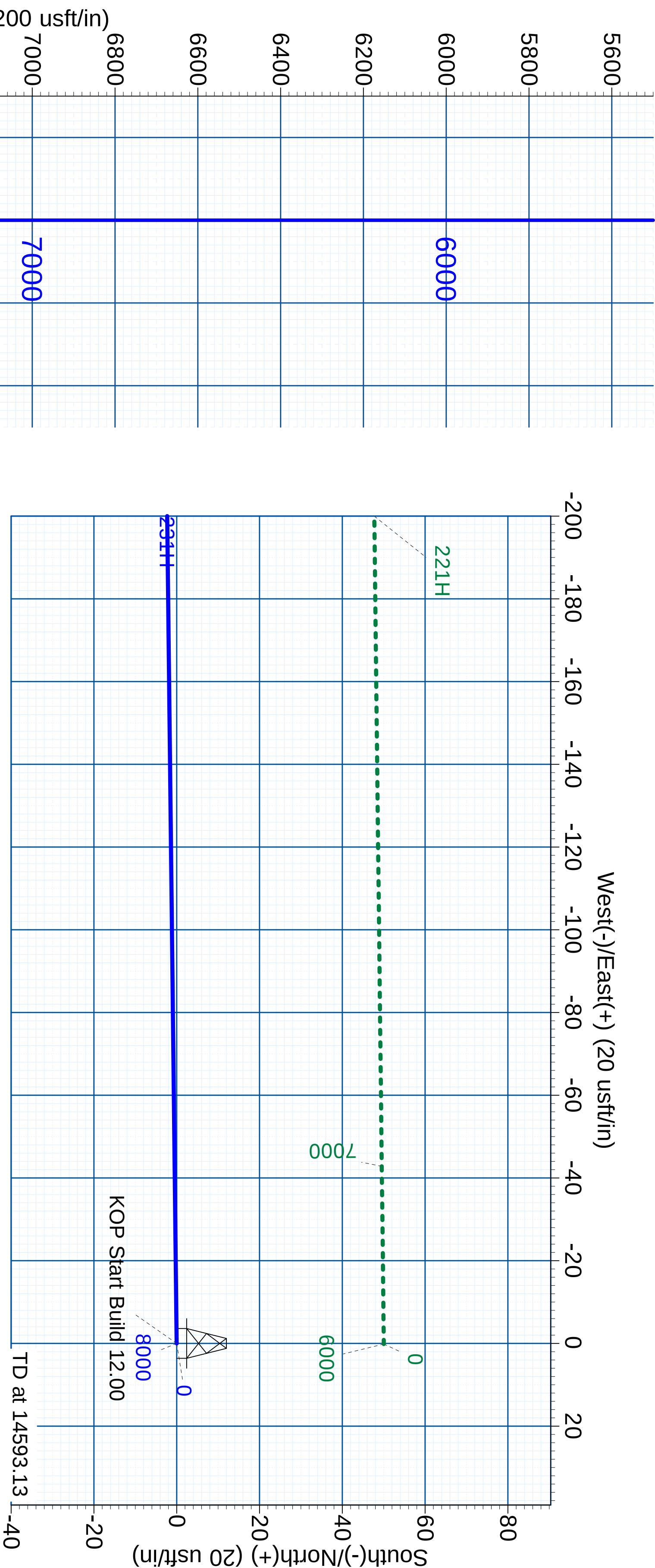
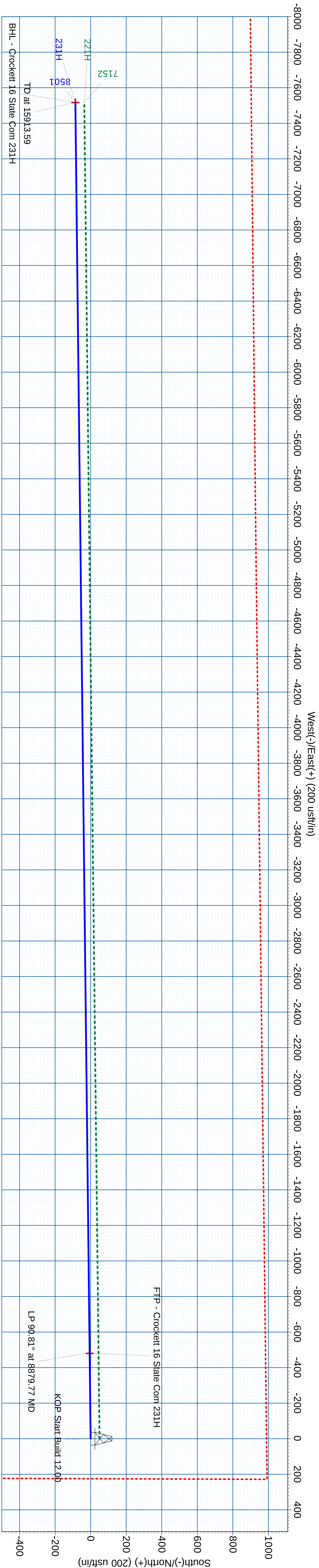
To convert a Magnetic Direction to a Grid Direction, Add 6.89°

PROJECT DETAILS: Eddy County, NM



LEGACY DIRECTIONAL

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level



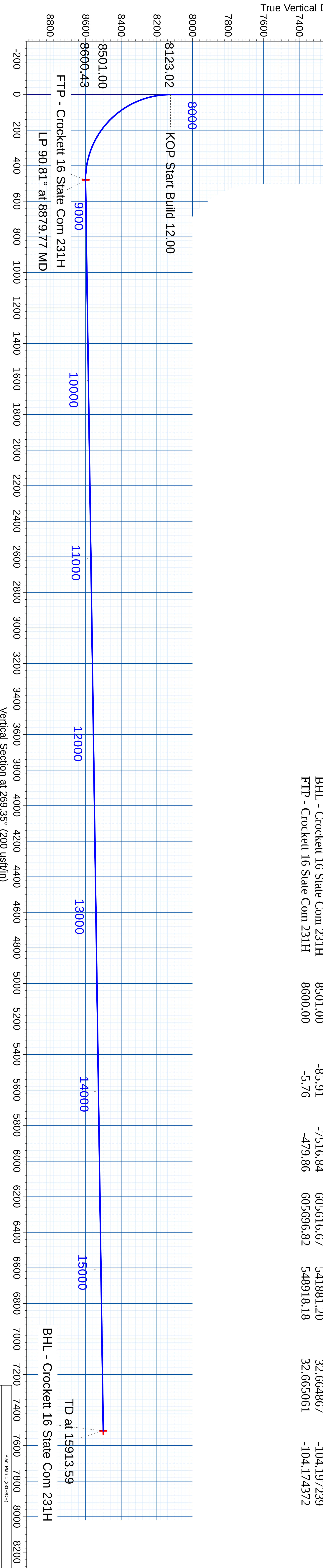
+N/-S	+E/-W	GL 3523 + 20° KB @ 3543.00u5ft	3523.00
0.00	0.00	Northing	32.665074
		Easting	-104.172813
		Latitude	
		Longitude	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8123.02	0.00	0.00	8123.02	0.00	0.00	0.00	0.00	0.00	
3	8879.77	90.81	269.35	8600.43	-5.53	-484.18	12.00	269.35	484.21	
4	15913.59	90.81	269.35	8501.00	-85.91	-7516.84	0.00	0.00	7517.33	BHL - Crockett 16 State Com 231H

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - Crockett 16 State Com 231H	8501.00	-85.91	-75.16.84	605616.67	541881.20	32.664867	-104.197239
FTP - Crockett 16 State Com 231H	8600.00	-5.76	-479.86	605696.82	548918.18	32.665061	-104.174372



V-F Petroleum Inc.

**Eddy County, NM
Crockett 16 State Com
231H**

OH

Plan: Plan 1

Standard Planning Report

14 July, 2020

Legacy Directional

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well 231H
Company:	V-F Petroleum Inc.	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Project:	Eddy County, NM	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site:	Crockett 16 State Com	North Reference:	Grid
Well:	231H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Project	Eddy County, NM		
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		Crockett 16 State Com			
Site Position:		Northing:	605,752.62 usft	Latitude:	32.665212
From:	Map	Easting:	549,398.20 usft	Longitude:	-104.172812
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.09 °

Well	231H					
Well Position	+N/-S	-50.04 usft	Northing:	605,702.58 usft	Latitude:	32.665075
	+E/-W	-0.16 usft	Easting:	549,398.04 usft	Longitude:	-104.172813
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,523.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM2020	7/14/2020	6.98	60.24	47,789.41289747

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.35

Plan Survey Tool Program	Date	7/14/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,913.59 Plan 1 (OH)	MWD+IGRF+FDIR	
			OWSG MWD + IGRF or WMM	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,123.02	0.00	0.00	8,123.02	0.00	0.00	0.00	0.00	0.00	0.00	
8,879.77	90.81	269.35	8,600.44	-5.53	-484.18	12.00	12.00	0.00	269.35	
15,913.59	90.81	269.35	8,501.00	-85.91	-7,516.84	0.00	0.00	0.00	0.00	BHL - Crockett 16 Sta

Legacy Directional

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well 231H
Company:	V-F Petroleum Inc.	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Project:	Eddy County, NM	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site:	Crockett 16 State Com	North Reference:	Grid
Well:	231H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,123.02	0.00	0.00	8,123.02	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 12.00									
8,200.00	9.24	269.35	8,199.67	-0.07	-6.19	6.19	12.00	12.00	0.00
8,300.00	21.24	269.35	8,295.98	-0.37	-32.43	32.43	12.00	12.00	0.00
8,400.00	33.24	269.35	8,384.72	-0.89	-78.11	78.11	12.00	12.00	0.00
8,500.00	45.24	269.35	8,462.04	-1.61	-141.24	141.25	12.00	12.00	0.00
8,600.00	57.24	269.35	8,524.53	-2.50	-219.07	219.08	12.00	12.00	0.00
8,700.00	69.24	269.35	8,569.48	-3.52	-308.19	308.21	12.00	12.00	0.00
8,800.00	81.24	269.35	8,594.91	-4.63	-404.70	404.73	12.00	12.00	0.00
8,875.43	90.29	269.35	8,600.48	-5.48	-479.84	479.87	12.00	12.00	0.00
FTP - Crockett 16 State Com 231H									
8,879.77	90.81	269.35	8,600.44	-5.53	-484.18	484.21	12.00	12.00	0.00
LP 90.81° at 8879.77 MD									
8,900.00	90.81	269.35	8,600.15	-5.76	-504.41	504.44	0.00	0.00	0.00
9,000.00	90.81	269.35	8,598.74	-6.91	-604.40	604.43	0.00	0.00	0.00
9,100.00	90.81	269.35	8,597.32	-8.05	-704.38	704.42	0.00	0.00	0.00
9,200.00	90.81	269.35	8,595.91	-9.19	-804.36	804.41	0.00	0.00	0.00
9,300.00	90.81	269.35	8,594.49	-10.34	-904.35	904.40	0.00	0.00	0.00
9,400.00	90.81	269.35	8,593.08	-11.48	-1,004.33	1,004.39	0.00	0.00	0.00
9,500.00	90.81	269.35	8,591.67	-12.62	-1,104.31	1,104.38	0.00	0.00	0.00
9,600.00	90.81	269.35	8,590.25	-13.76	-1,204.30	1,204.37	0.00	0.00	0.00
9,700.00	90.81	269.35	8,588.84	-14.91	-1,304.28	1,304.36	0.00	0.00	0.00
9,800.00	90.81	269.35	8,587.43	-16.05	-1,404.26	1,404.35	0.00	0.00	0.00
9,900.00	90.81	269.35	8,586.01	-17.19	-1,504.25	1,504.34	0.00	0.00	0.00
10,000.00	90.81	269.35	8,584.60	-18.33	-1,604.23	1,604.33	0.00	0.00	0.00
10,100.00	90.81	269.35	8,583.19	-19.48	-1,704.21	1,704.32	0.00	0.00	0.00
10,200.00	90.81	269.35	8,581.77	-20.62	-1,804.20	1,804.31	0.00	0.00	0.00
10,300.00	90.81	269.35	8,580.36	-21.76	-1,904.18	1,904.30	0.00	0.00	0.00
10,400.00	90.81	269.35	8,578.94	-22.91	-2,004.16	2,004.29	0.00	0.00	0.00
10,500.00	90.81	269.35	8,577.53	-24.05	-2,104.15	2,104.28	0.00	0.00	0.00
10,600.00	90.81	269.35	8,576.12	-25.19	-2,204.13	2,204.27	0.00	0.00	0.00
10,700.00	90.81	269.35	8,574.70	-26.33	-2,304.11	2,304.26	0.00	0.00	0.00
10,800.00	90.81	269.35	8,573.29	-27.48	-2,404.10	2,404.25	0.00	0.00	0.00
10,900.00	90.81	269.35	8,571.88	-28.62	-2,504.08	2,504.24	0.00	0.00	0.00
11,000.00	90.81	269.35	8,570.46	-29.76	-2,604.06	2,604.23	0.00	0.00	0.00
11,100.00	90.81	269.35	8,569.05	-30.90	-2,704.05	2,704.22	0.00	0.00	0.00
11,200.00	90.81	269.35	8,567.63	-32.05	-2,804.03	2,804.21	0.00	0.00	0.00
11,300.00	90.81	269.35	8,566.22	-33.19	-2,904.02	2,904.20	0.00	0.00	0.00
11,400.00	90.81	269.35	8,564.81	-34.33	-3,004.00	3,004.19	0.00	0.00	0.00
11,500.00	90.81	269.35	8,563.39	-35.48	-3,103.98	3,104.18	0.00	0.00	0.00
11,600.00	90.81	269.35	8,561.98	-36.62	-3,203.97	3,204.18	0.00	0.00	0.00
11,700.00	90.81	269.35	8,560.57	-37.76	-3,303.95	3,304.17	0.00	0.00	0.00
11,800.00	90.81	269.35	8,559.15	-38.90	-3,403.93	3,404.16	0.00	0.00	0.00
11,900.00	90.81	269.35	8,557.74	-40.05	-3,503.92	3,504.15	0.00	0.00	0.00
12,000.00	90.81	269.35	8,556.33	-41.19	-3,603.90	3,604.14	0.00	0.00	0.00
12,100.00	90.81	269.35	8,554.91	-42.33	-3,703.88	3,704.13	0.00	0.00	0.00
12,200.00	90.81	269.35	8,553.50	-43.47	-3,803.87	3,804.12	0.00	0.00	0.00
12,300.00	90.81	269.35	8,552.08	-44.62	-3,903.85	3,904.11	0.00	0.00	0.00
12,400.00	90.81	269.35	8,550.67	-45.76	-4,003.83	4,004.10	0.00	0.00	0.00
12,500.00	90.81	269.35	8,549.26	-46.90	-4,103.82	4,104.09	0.00	0.00	0.00
12,600.00	90.81	269.35	8,547.84	-48.05	-4,203.80	4,204.08	0.00	0.00	0.00
12,700.00	90.81	269.35	8,546.43	-49.19	-4,303.78	4,304.07	0.00	0.00	0.00

Legacy Directional

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well 231H
Company:	V-F Petroleum Inc.	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Project:	Eddy County, NM	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site:	Crockett 16 State Com	North Reference:	Grid
Well:	231H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,800.00	90.81	269.35	8,545.02	-50.33	-4,403.77	4,404.06	0.00	0.00	0.00
12,900.00	90.81	269.35	8,543.60	-51.47	-4,503.75	4,504.05	0.00	0.00	0.00
13,000.00	90.81	269.35	8,542.19	-52.62	-4,603.73	4,604.04	0.00	0.00	0.00
13,100.00	90.81	269.35	8,540.78	-53.76	-4,703.72	4,704.03	0.00	0.00	0.00
13,200.00	90.81	269.35	8,539.36	-54.90	-4,803.70	4,804.02	0.00	0.00	0.00
13,300.00	90.81	269.35	8,537.95	-56.04	-4,903.68	4,904.01	0.00	0.00	0.00
13,400.00	90.81	269.35	8,536.53	-57.19	-5,003.67	5,004.00	0.00	0.00	0.00
13,500.00	90.81	269.35	8,535.12	-58.33	-5,103.65	5,103.99	0.00	0.00	0.00
13,600.00	90.81	269.35	8,533.71	-59.47	-5,203.64	5,203.98	0.00	0.00	0.00
13,700.00	90.81	269.35	8,532.29	-60.62	-5,303.62	5,303.97	0.00	0.00	0.00
13,800.00	90.81	269.35	8,530.88	-61.76	-5,403.60	5,403.96	0.00	0.00	0.00
13,900.00	90.81	269.35	8,529.47	-62.90	-5,503.59	5,503.95	0.00	0.00	0.00
14,000.00	90.81	269.35	8,528.05	-64.04	-5,603.57	5,603.94	0.00	0.00	0.00
14,100.00	90.81	269.35	8,526.64	-65.19	-5,703.55	5,703.93	0.00	0.00	0.00
14,200.00	90.81	269.35	8,525.22	-66.33	-5,803.54	5,803.92	0.00	0.00	0.00
14,300.00	90.81	269.35	8,523.81	-67.47	-5,903.52	5,903.91	0.00	0.00	0.00
14,400.00	90.81	269.35	8,522.40	-68.61	-6,003.50	6,003.90	0.00	0.00	0.00
14,500.00	90.81	269.35	8,520.98	-69.76	-6,103.49	6,103.89	0.00	0.00	0.00
14,600.00	90.81	269.35	8,519.57	-70.90	-6,203.47	6,203.88	0.00	0.00	0.00
14,700.00	90.81	269.35	8,518.16	-72.04	-6,303.45	6,303.87	0.00	0.00	0.00
14,800.00	90.81	269.35	8,516.74	-73.18	-6,403.44	6,403.86	0.00	0.00	0.00
14,900.00	90.81	269.35	8,515.33	-74.33	-6,503.42	6,503.85	0.00	0.00	0.00
15,000.00	90.81	269.35	8,513.92	-75.47	-6,603.40	6,603.84	0.00	0.00	0.00
15,100.00	90.81	269.35	8,512.50	-76.61	-6,703.39	6,703.83	0.00	0.00	0.00
15,200.00	90.81	269.35	8,511.09	-77.76	-6,803.37	6,803.82	0.00	0.00	0.00
15,300.00	90.81	269.35	8,509.67	-78.90	-6,903.35	6,903.81	0.00	0.00	0.00
15,400.00	90.81	269.35	8,508.26	-80.04	-7,003.34	7,003.80	0.00	0.00	0.00
15,500.00	90.81	269.35	8,506.85	-81.18	-7,103.32	7,103.79	0.00	0.00	0.00
15,600.00	90.81	269.35	8,505.43	-82.33	-7,203.30	7,203.78	0.00	0.00	0.00
15,700.00	90.81	269.35	8,504.02	-83.47	-7,303.29	7,303.77	0.00	0.00	0.00
15,800.00	90.81	269.35	8,502.61	-84.61	-7,403.27	7,403.76	0.00	0.00	0.00
15,900.00	90.81	269.35	8,501.19	-85.75	-7,503.26	7,503.75	0.00	0.00	0.00
15,913.59	90.81	269.35	8,501.00	-85.91	-7,516.84	7,517.33	0.00	0.00	0.00
TD at 15913.59 - BHL - Crockett 16 State Com 231H									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL - Crockett 16 State - hit/miss target - Shape - Point	0.00	0.00	8,501.00	-85.91	-7,516.84	605,616.67	541,881.20	32.664867	-104.197240
FTP - Crockett 16 State - plan misses target center by 0.55usft at 8875.46usft MD (8600.48 TVD, -5.48 N, -479.87 E) - Point	0.00	0.00	8,600.00	-5.76	-479.86	605,696.82	548,918.18	32.665061	-104.174372

Legacy Directional

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well 231H
Company:	V-F Petroleum Inc.	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Project:	Eddy County, NM	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site:	Crockett 16 State Com	North Reference:	Grid
Well:	231H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,123.02	8,123.02	0.00	0.00	KOP Start Build 12.00	
8,879.77	8,600.44	-5.53	-484.18	LP 90.81° at 8879.77 MD	
15,913.59	8,501.00	-85.91	-7,516.84	TD at 15913.59	

V-F Petroleum Inc.

**Eddy County, NM
Crockett 16 State Com
231H**

**OH
Plan 1**

Anticollision Report

14 July, 2020

Legacy Directional

Anticollision Report

Company:	V-F Petroleum Inc.	Local Co-ordinate Reference:	Well 231H
Project:	Eddy County, NM	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Reference Site:	Crockett 16 State Com	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	231H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14 Single User Db
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 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,791.36usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	7/14/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,913.59	Plan 1 (OH)	MWD+IGRF+FDIR	OWSG MWD + IGRF or WMM + FDIR Correction	

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						
Crockett 16 State Com						
221H - OH - Plan 1	6,828.47	6,828.68	50.03	25.77	2.062	CC, ES, SF

Offset Design: Crockett 16 State Com - 221H - OH - Plan 1													Offset Site Error:	0.00 usft
Survey Program: Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Rule Assigned:				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.20	0.20	0.00	0.00	0.18	50.04	0.16	50.04					
100.00	100.00	100.20	100.20	0.14	0.00	0.18	50.04	0.16	50.04	49.90	0.14	348.492		
200.00	200.00	200.20	200.20	0.50	0.00	0.18	50.04	0.16	50.04	49.54	0.50	99.669		
300.00	300.00	300.20	300.20	0.86	0.00	0.18	50.04	0.16	50.04	49.18	0.86	58.150		
400.00	400.00	400.20	400.20	1.22	0.00	0.18	50.04	0.16	50.04	48.82	1.22	41.050		
500.00	500.00	500.20	500.20	1.58	0.00	0.18	50.04	0.16	50.04	48.46	1.58	31.721		
600.00	600.00	600.20	600.20	1.94	0.00	0.18	50.04	0.16	50.04	48.10	1.94	25.848		
700.00	700.00	700.20	700.20	2.29	0.00	0.18	50.04	0.16	50.04	47.75	2.29	21.809		
800.00	800.00	800.20	800.20	2.65	0.00	0.18	50.04	0.16	50.04	47.39	2.65	18.862		
900.00	900.00	900.20	900.20	3.01	0.00	0.18	50.04	0.16	50.04	47.03	3.01	16.617		
1,000.00	1,000.00	1,000.20	1,000.20	3.37	0.00	0.18	50.04	0.16	50.04	46.67	3.37	14.849		
1,100.00	1,100.00	1,100.20	1,100.20	3.73	0.00	0.18	50.04	0.16	50.04	46.31	3.73	13.422		
1,200.00	1,200.00	1,200.20	1,200.20	4.09	0.00	0.18	50.04	0.16	50.04	45.95	4.09	12.244		
1,300.00	1,300.00	1,300.20	1,300.20	4.45	0.00	0.18	50.04	0.16	50.04	45.59	4.45	11.257		
1,400.00	1,400.00	1,400.20	1,400.20	4.80	0.00	0.18	50.04	0.16	50.04	45.24	4.80	10.417		
1,500.00	1,500.00	1,500.20	1,500.20	5.16	0.00	0.18	50.04	0.16	50.04	44.88	5.16	9.693		
1,600.00	1,600.00	1,600.20	1,600.20	5.52	0.00	0.18	50.04	0.16	50.04	44.52	5.52	9.064		
1,700.00	1,700.00	1,700.20	1,700.20	5.88	0.00	0.18	50.04	0.16	50.04	44.16	5.88	8.511		
1,800.00	1,800.00	1,800.20	1,800.20	6.24	0.00	0.18	50.04	0.16	50.04	43.80	6.24	8.022		
1,900.00	1,900.00	1,900.20	1,900.20	6.60	0.00	0.18	50.04	0.16	50.04	43.44	6.60	7.586		
2,000.00	2,000.00	2,000.20	2,000.20	6.95	0.00	0.18	50.04	0.16	50.04	43.09	6.95	7.195		
2,100.00	2,100.00	2,100.20	2,100.20	7.31	0.00	0.18	50.04	0.16	50.04	42.73	7.31	6.843		
2,200.00	2,200.00	2,200.20	2,200.20	7.67	0.00	0.18	50.04	0.16	50.04	42.37	7.67	6.523		
2,300.00	2,300.00	2,300.20	2,300.20	8.03	0.00	0.18	50.04	0.16	50.04	42.01	8.03	6.232		
2,400.00	2,400.00	2,400.20	2,400.20	8.39	0.00	0.18	50.04	0.16	50.04	41.65	8.39	5.965		
2,500.00	2,500.00	2,500.20	2,500.20	8.75	0.00	0.18	50.04	0.16	50.04	41.29	8.75	5.721		

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

Legacy Directional

Anticollision Report

Company:	V-F Petroleum Inc.	Local Co-ordinate Reference:	Well 231H
Project:	Eddy County, NM	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Reference Site:	Crockett 16 State Com	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	231H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Crockett 16 State Com - 221H - OH - Plan 1												Offset Site Error:	0.00 usft
Survey Program: 0-												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,600.00	2,600.00	2,600.20	2,600.20	9.11	0.00	0.18	50.04	0.16	50.04	40.93	9.11	5.496	
2,700.00	2,700.00	2,700.20	2,700.20	9.46	0.00	0.18	50.04	0.16	50.04	40.58	9.46	5.287	
2,800.00	2,800.00	2,800.20	2,800.20	9.82	0.00	0.18	50.04	0.16	50.04	40.22	9.82	5.094	
2,900.00	2,900.00	2,900.20	2,900.20	10.18	0.00	0.18	50.04	0.16	50.04	39.86	10.18	4.915	
3,000.00	3,000.00	3,000.20	3,000.20	10.54	0.00	0.18	50.04	0.16	50.04	39.50	10.54	4.748	
3,100.00	3,100.00	3,100.20	3,100.20	10.90	0.00	0.18	50.04	0.16	50.04	39.14	10.90	4.592	
3,200.00	3,200.00	3,200.20	3,200.20	11.26	0.00	0.18	50.04	0.16	50.04	38.78	11.26	4.446	
3,300.00	3,300.00	3,300.20	3,300.20	11.61	0.00	0.18	50.04	0.16	50.04	38.42	11.61	4.308	
3,400.00	3,400.00	3,400.20	3,400.20	11.97	0.00	0.18	50.04	0.16	50.04	38.07	11.97	4.179	
3,500.00	3,500.00	3,500.20	3,500.20	12.33	0.00	0.18	50.04	0.16	50.04	37.71	12.33	4.058	
3,600.00	3,600.00	3,600.20	3,600.20	12.69	0.00	0.18	50.04	0.16	50.04	37.35	12.69	3.943	
3,700.00	3,700.00	3,700.20	3,700.20	13.05	0.00	0.18	50.04	0.16	50.04	36.99	13.05	3.835	
3,800.00	3,800.00	3,800.20	3,800.20	13.41	0.00	0.18	50.04	0.16	50.04	36.63	13.41	3.732	
3,900.00	3,900.00	3,900.20	3,900.20	13.77	0.00	0.18	50.04	0.16	50.04	36.27	13.77	3.635	
4,000.00	4,000.00	4,000.20	4,000.20	14.12	0.00	0.18	50.04	0.16	50.04	35.92	14.12	3.543	
4,100.00	4,100.00	4,100.20	4,100.20	14.48	0.00	0.18	50.04	0.16	50.04	35.56	14.48	3.455	
4,200.00	4,200.00	4,200.20	4,200.20	14.84	0.00	0.18	50.04	0.16	50.04	35.20	14.84	3.372	
4,300.00	4,300.00	4,300.20	4,300.20	15.20	0.00	0.18	50.04	0.16	50.04	34.84	15.20	3.292	
4,400.00	4,400.00	4,400.20	4,400.20	15.56	0.00	0.18	50.04	0.16	50.04	34.48	15.56	3.216	
4,500.00	4,500.00	4,500.20	4,500.20	15.92	0.00	0.18	50.04	0.16	50.04	34.12	15.92	3.144	
4,600.00	4,600.00	4,600.20	4,600.20	16.27	0.00	0.18	50.04	0.16	50.04	33.76	16.27	3.075	
4,700.00	4,700.00	4,700.20	4,700.20	16.63	0.00	0.18	50.04	0.16	50.04	33.41	16.63	3.008	
4,800.00	4,800.00	4,800.20	4,800.20	16.99	0.00	0.18	50.04	0.16	50.04	33.05	16.99	2.945	
4,900.00	4,900.00	4,900.20	4,900.20	17.35	0.00	0.18	50.04	0.16	50.04	32.69	17.35	2.884	
5,000.00	5,000.00	5,000.20	5,000.20	17.71	0.00	0.18	50.04	0.16	50.04	32.33	17.71	2.826	
5,100.00	5,100.00	5,100.20	5,100.20	18.07	0.00	0.18	50.04	0.16	50.04	31.97	18.07	2.770	
5,200.00	5,200.00	5,200.20	5,200.20	18.43	0.00	0.18	50.04	0.16	50.04	31.61	18.43	2.716	
5,300.00	5,300.00	5,300.20	5,300.20	18.78	0.00	0.18	50.04	0.16	50.04	31.26	18.78	2.664	
5,400.00	5,400.00	5,400.20	5,400.20	19.14	0.00	0.18	50.04	0.16	50.04	30.90	19.14	2.614	
5,500.00	5,500.00	5,500.20	5,500.20	19.50	0.00	0.18	50.04	0.16	50.04	30.54	19.50	2.566	
5,600.00	5,600.00	5,600.20	5,600.20	19.86	0.00	0.18	50.04	0.16	50.04	30.18	19.86	2.520	
5,700.00	5,700.00	5,700.20	5,700.20	20.22	0.00	0.18	50.04	0.16	50.04	29.82	20.22	2.475	
5,800.00	5,800.00	5,800.20	5,800.20	20.58	0.00	0.18	50.04	0.16	50.04	29.46	20.58	2.432	
5,900.00	5,900.00	5,900.20	5,900.20	20.93	0.00	0.18	50.04	0.16	50.04	29.10	20.93	2.390	
6,000.00	6,000.00	6,000.20	6,000.20	21.29	0.00	0.18	50.04	0.16	50.04	28.75	21.29	2.350	
6,100.00	6,100.00	6,100.20	6,100.20	21.65	0.00	0.18	50.04	0.16	50.04	28.39	21.65	2.311	
6,200.00	6,200.00	6,200.20	6,200.20	22.01	0.00	0.18	50.04	0.16	50.04	28.03	22.01	2.273	
6,300.00	6,300.00	6,300.20	6,300.20	22.37	0.00	0.18	50.04	0.16	50.04	27.67	22.37	2.237	
6,400.00	6,400.00	6,400.20	6,400.20	22.73	0.00	0.18	50.04	0.16	50.04	27.31	22.73	2.202	
6,500.00	6,500.00	6,500.20	6,500.20	23.09	0.00	0.18	50.04	0.16	50.04	26.95	23.09	2.168	
6,600.00	6,600.00	6,600.20	6,600.20	23.44	0.00	0.18	50.04	0.16	50.04	26.60	23.44	2.134	
6,700.00	6,700.00	6,700.20	6,700.20	23.80	0.00	0.18	50.04	0.16	50.04	26.24	23.80	2.102	
6,800.00	6,800.00	6,800.20	6,800.20	24.16	0.00	0.18	50.04	0.16	50.04	25.88	24.16	2.071	
6,828.47	6,828.47	6,828.68	6,828.67	24.26	0.00	-0.65	50.03	-0.57	50.03	25.77	24.26	2.062 CC, ES, SF	
6,900.00	6,900.00	6,899.00	6,898.34	24.52	0.00	-10.89	49.93	-9.61	50.88	26.37	24.51	2.076	
7,000.00	7,000.00	6,990.16	6,985.35	24.88	0.00	-36.21	49.62	-36.34	63.27	38.95	24.32	2.601	
7,100.00	7,100.00	7,068.96	7,055.30	25.24	0.00	-55.80	49.21	-72.41	98.39	75.35	23.04	4.270	
7,200.00	7,200.00	7,134.36	7,108.22	25.59	0.00	-66.23	48.77	-110.75	152.00	130.46	21.54	7.058	
7,300.00	7,300.00	7,187.64	7,147.14	25.95	0.00	-71.80	48.36	-147.10	217.73	197.50	20.22	10.767	
7,400.00	7,400.00	7,230.88	7,175.59	26.31	0.00	-75.04	47.99	-179.64	291.59	272.44	19.15	15.226	
7,500.00	7,500.00	7,266.13	7,196.52	26.67	0.00	-77.09	47.66	-207.99	371.15	352.84	18.31	20.276	
7,600.00	7,600.00	7,300.00	7,214.62	27.03	0.00	-78.69	47.34	-236.61	454.86	437.05	17.81	25.542	

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

Legacy Directional Anticollision Report

Company:	V-F Petroleum Inc.	Local Co-ordinate Reference:	Well 231H
Project:	Eddy County, NM	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Reference Site:	Crockett 16 State Com	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	231H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Crockett 16 State Com - 221H - OH - Plan 1													Offset Site Error: 0.00 usft
Survey Program: 0-													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,700.00	7,700.00	7,325.00	7,226.65	27.39	0.00	-79.68	47.09	-258.52	541.57	524.25	17.32	31.272	
7,800.00	7,800.00	7,339.47	7,233.08	27.75	0.00	-80.19	46.94	-271.47	630.49	613.68	16.81	37.508	
7,900.00	7,900.00	7,350.00	7,237.52	28.10	0.00	-80.54	46.83	-281.03	721.33	704.89	16.43	43.891	
8,000.00	8,000.00	7,375.00	7,247.19	28.46	0.00	-81.29	46.57	-304.07	813.42	796.96	16.45	49.438	
8,100.00	8,100.00	7,384.19	7,250.44	28.82	0.00	-81.55	46.47	-312.67	906.64	890.34	16.30	55.618	
8,200.00	8,199.67	7,400.00	7,255.65	29.17	0.00	6.10	46.30	-327.60	998.50	982.26	16.24	61.487	
8,300.00	8,295.98	7,414.23	7,259.91	29.51	0.00	4.32	46.14	-341.17	1,082.28	1,066.26	16.02	67.539	
8,400.00	8,384.72	7,434.45	7,265.26	29.85	0.00	3.37	45.92	-360.67	1,155.72	1,139.92	15.79	73.178	
8,500.00	8,462.04	7,450.00	7,268.81	30.21	0.00	2.83	45.75	-375.81	1,217.18	1,201.69	15.49	78.573	
8,600.00	8,524.53	7,475.00	7,273.48	30.61	0.00	2.49	45.47	-400.36	1,265.22	1,249.95	15.27	82.847	
8,700.00	8,569.48	7,500.00	7,276.86	31.06	0.00	2.29	45.18	-425.13	1,299.00	1,283.90	15.11	85.995	
8,800.00	8,594.91	7,525.00	7,278.94	31.57	0.00	2.19	44.90	-450.04	1,317.88	1,302.84	15.04	87.606	
8,900.00	8,600.15	7,560.92	7,279.64	32.14	0.00	2.17	44.49	-485.94	1,321.79	1,306.67	15.13	87.378	
9,000.00	8,598.74	7,655.99	7,277.92	32.80	0.00	2.17	43.41	-580.99	1,322.18	1,306.87	15.31	86.359	
9,100.00	8,597.32	7,755.99	7,276.10	33.56	0.00	2.17	42.26	-680.96	1,322.59	1,307.05	15.53	85.153	
9,200.00	8,595.91	7,855.99	7,274.29	34.43	0.00	2.17	41.12	-780.94	1,322.99	1,307.20	15.79	83.787	
9,300.00	8,594.49	7,955.99	7,272.47	35.38	0.00	2.17	39.98	-880.92	1,323.39	1,307.31	16.08	82.288	
9,400.00	8,593.08	8,055.99	7,270.66	36.42	0.00	2.17	38.84	-980.89	1,323.79	1,307.38	16.41	80.681	
9,500.00	8,591.67	8,155.99	7,268.84	37.54	0.00	2.17	37.70	-1,080.87	1,324.19	1,307.43	16.76	78.992	
9,600.00	8,590.25	8,255.99	7,267.03	38.73	0.00	2.17	36.56	-1,180.84	1,324.59	1,307.44	17.15	77.242	
9,700.00	8,588.84	8,355.99	7,265.21	39.98	0.00	2.16	35.42	-1,280.82	1,324.99	1,307.43	17.56	75.454	
9,800.00	8,587.43	8,455.98	7,263.40	41.29	0.00	2.16	34.28	-1,380.80	1,325.39	1,307.40	18.00	73.644	
9,900.00	8,586.01	8,555.98	7,261.58	42.65	0.00	2.16	33.13	-1,480.77	1,325.80	1,307.34	18.46	71.829	
10,000.00	8,584.60	8,655.98	7,259.77	44.07	0.00	2.16	31.99	-1,580.75	1,326.20	1,307.26	18.94	70.023	
10,100.00	8,583.19	8,755.98	7,257.95	45.52	0.00	2.16	30.85	-1,680.73	1,326.60	1,307.16	19.44	68.235	
10,200.00	8,581.77	8,855.98	7,256.14	47.01	0.00	2.16	29.71	-1,780.70	1,327.00	1,307.04	19.96	66.476	
10,300.00	8,580.36	8,955.98	7,254.32	48.54	0.00	2.16	28.57	-1,880.68	1,327.40	1,306.90	20.50	64.753	
10,400.00	8,578.94	9,055.98	7,252.51	50.11	0.00	2.16	27.43	-1,980.65	1,327.80	1,306.75	21.05	63.070	
10,500.00	8,577.53	9,155.98	7,250.69	51.70	0.00	2.16	26.29	-2,080.63	1,328.20	1,306.58	21.62	61.432	
10,600.00	8,576.12	9,255.98	7,248.88	53.32	0.00	2.16	25.15	-2,180.61	1,328.60	1,306.40	22.20	59.841	
10,700.00	8,574.70	9,355.98	7,247.06	54.96	0.00	2.16	24.00	-2,280.58	1,329.00	1,306.21	22.80	58.300	
10,800.00	8,573.29	9,455.98	7,245.25	56.63	0.00	2.16	22.86	-2,380.56	1,329.41	1,306.00	23.40	56.809	
10,900.00	8,571.88	9,555.98	7,243.43	58.32	0.00	2.16	21.72	-2,480.54	1,329.81	1,305.79	24.02	55.369	
11,000.00	8,570.46	9,655.98	7,241.62	60.02	0.00	2.16	20.58	-2,580.51	1,330.21	1,305.57	24.64	53.979	
11,100.00	8,569.05	9,755.97	7,239.80	61.74	0.00	2.16	19.44	-2,680.49	1,330.61	1,305.33	25.28	52.639	
11,200.00	8,567.63	9,855.97	7,237.99	63.48	0.00	2.16	18.30	-2,780.46	1,331.01	1,305.09	25.92	51.349	
11,300.00	8,566.22	9,955.97	7,236.17	65.24	0.00	2.16	17.16	-2,880.44	1,331.41	1,304.84	26.57	50.105	
11,400.00	8,564.81	10,055.97	7,234.36	67.00	0.00	2.15	16.02	-2,980.42	1,331.81	1,304.58	27.23	48.909	
11,500.00	8,563.39	10,155.97	7,232.54	68.78	0.00	2.15	14.87	-3,080.39	1,332.21	1,304.32	27.90	47.757	
11,600.00	8,561.98	10,255.97	7,230.73	70.57	0.00	2.15	13.73	-3,180.37	1,332.62	1,304.05	28.57	46.649	
11,700.00	8,560.57	10,355.97	7,228.91	72.37	0.00	2.15	12.59	-3,280.34	1,333.02	1,303.77	29.24	45.583	
11,800.00	8,559.15	10,455.97	7,227.10	74.19	0.00	2.15	11.45	-3,380.32	1,333.42	1,303.49	29.93	44.556	
11,900.00	8,557.74	10,555.97	7,225.28	76.01	0.00	2.15	10.31	-3,480.30	1,333.82	1,303.20	30.61	43.569	
12,000.00	8,556.33	10,655.97	7,223.46	77.83	0.00	2.15	9.17	-3,580.27	1,334.22	1,302.91	31.31	42.618	
12,100.00	8,554.91	10,755.97	7,221.65	79.67	0.00	2.15	8.03	-3,680.25	1,334.62	1,302.62	32.00	41.702	
12,200.00	8,553.50	10,855.97	7,219.83	81.52	0.00	2.15	6.89	-3,780.23	1,335.02	1,302.32	32.70	40.821	
12,300.00	8,552.08	10,955.96	7,218.02	83.37	0.00	2.15	5.74	-3,880.20	1,335.42	1,302.01	33.41	39.972	
12,400.00	8,550.67	11,055.96	7,216.20	85.22	0.00	2.15	4.60	-3,980.18	1,335.83	1,301.71	34.12	39.153	
12,500.00	8,549.26	11,155.96	7,214.39	87.09	0.00	2.15	3.46	-4,080.15	1,336.23	1,301.40	34.83	38.365	
12,600.00	8,547.84	11,255.96	7,212.57	88.96	0.00	2.15	2.32	-4,180.13	1,336.63	1,301.08	35.54	37.604	
12,700.00	8,546.43	11,355.96	7,210.76	90.83	0.00	2.15	1.18	-4,280.11	1,337.03	1,300.77	36.26	36.870	
12,800.00	8,545.02	11,455.96	7,208.94	92.71	0.00	2.15	0.04	-4,380.08	1,337.43	1,300.45	36.98	36.162	

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

Legacy Directional

Anticollision Report

Company:	V-F Petroleum Inc.	Local Co-ordinate Reference:	Well 231H
Project:	Eddy County, NM	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Reference Site:	Crockett 16 State Com	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	231H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Crockett 16 State Com - 221H - OH - Plan 1													Offset Site Error:	0.00 usft
Survey Program:		0-											Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance			Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
12,900.00	8,543.60	11,555.96	7,207.13	94.59	0.00	2.15	-1.10	-4,480.06	1,337.83	1,300.12	37.71	35.479		
13,000.00	8,542.19	11,655.96	7,205.31	96.48	0.00	2.15	-2.24	-4,580.04	1,338.23	1,299.80	38.43	34.819		
13,100.00	8,540.78	11,755.96	7,203.50	98.37	0.00	2.14	-3.39	-4,680.01	1,338.63	1,299.47	39.16	34.181		
13,200.00	8,539.36	11,855.96	7,201.68	100.27	0.00	2.14	-4.53	-4,779.99	1,339.03	1,299.14	39.89	33.565		
13,300.00	8,537.95	11,955.96	7,199.87	102.17	0.00	2.14	-5.67	-4,879.96	1,339.44	1,298.81	40.63	32.970		
13,400.00	8,536.53	12,055.96	7,198.05	104.07	0.00	2.14	-6.81	-4,979.94	1,339.84	1,298.48	41.36	32.393		
13,500.00	8,535.12	12,155.96	7,196.24	105.98	0.00	2.14	-7.95	-5,079.92	1,340.24	1,298.14	42.10	31.836		
13,600.00	8,533.71	12,255.95	7,194.42	107.89	0.00	2.14	-9.09	-5,179.89	1,340.64	1,297.80	42.84	31.296		
13,700.00	8,532.29	12,355.95	7,192.61	109.80	0.00	2.14	-10.23	-5,279.87	1,341.04	1,297.46	43.58	30.774		
13,800.00	8,530.88	12,455.95	7,190.79	111.72	0.00	2.14	-11.37	-5,379.85	1,341.44	1,297.12	44.32	30.267		
13,900.00	8,529.47	12,555.95	7,188.98	113.64	0.00	2.14	-12.52	-5,479.82	1,341.84	1,296.78	45.06	29.777		
14,000.00	8,528.05	12,655.95	7,187.16	115.56	0.00	2.14	-13.66	-5,579.80	1,342.24	1,296.44	45.81	29.301		
14,100.00	8,526.64	12,755.95	7,185.35	117.48	0.00	2.14	-14.80	-5,679.77	1,342.65	1,296.09	46.56	28.840		
14,200.00	8,525.22	12,855.95	7,183.53	119.41	0.00	2.14	-15.94	-5,779.75	1,343.05	1,295.74	47.30	28.392		
14,300.00	8,523.81	12,955.95	7,181.72	121.34	0.00	2.14	-17.08	-5,879.73	1,343.45	1,295.40	48.05	27.958		
14,400.00	8,522.40	13,055.95	7,179.90	123.27	0.00	2.14	-18.22	-5,979.70	1,343.85	1,295.05	48.80	27.536		
14,500.00	8,520.98	13,155.95	7,178.09	125.20	0.00	2.14	-19.36	-6,079.68	1,344.25	1,294.70	49.55	27.127		
14,600.00	8,519.57	13,255.95	7,176.27	127.13	0.00	2.14	-20.50	-6,179.65	1,344.65	1,294.34	50.31	26.729		
14,700.00	8,518.16	13,355.95	7,174.46	129.07	0.00	2.14	-21.65	-6,279.63	1,345.05	1,293.99	51.06	26.342		
14,800.00	8,516.74	13,455.94	7,172.64	131.00	0.00	2.13	-22.79	-6,379.61	1,345.45	1,293.64	51.82	25.966		
14,900.00	8,515.33	13,555.94	7,170.83	132.94	0.00	2.13	-23.93	-6,479.58	1,345.86	1,293.28	52.57	25.600		
15,000.00	8,513.92	13,655.94	7,169.01	134.88	0.00	2.13	-25.07	-6,579.56	1,346.26	1,292.93	53.33	25.245		
15,100.00	8,512.50	13,755.94	7,167.20	136.83	0.00	2.13	-26.21	-6,679.54	1,346.66	1,292.57	54.09	24.898		
15,200.00	8,511.09	13,855.94	7,165.38	138.77	0.00	2.13	-27.35	-6,779.51	1,347.06	1,292.21	54.84	24.561		
15,300.00	8,509.67	13,955.94	7,163.57	140.71	0.00	2.13	-28.49	-6,879.49	1,347.46	1,291.86	55.60	24.233		
15,400.00	8,508.26	14,055.94	7,161.75	142.66	0.00	2.13	-29.64	-6,979.46	1,347.86	1,291.50	56.36	23.914		
15,500.00	8,506.85	14,155.94	7,159.94	144.61	0.00	2.13	-30.78	-7,079.44	1,348.26	1,291.14	57.12	23.602		
15,600.00	8,505.43	14,255.94	7,158.12	146.56	0.00	2.13	-31.92	-7,179.42	1,348.66	1,290.78	57.89	23.298		
15,700.00	8,504.02	14,355.94	7,156.31	148.51	0.00	2.13	-33.06	-7,279.39	1,349.06	1,290.42	58.65	23.002		
15,800.00	8,502.61	14,455.94	7,154.49	150.46	0.00	2.13	-34.20	-7,379.37	1,349.47	1,290.05	59.41	22.714		
15,900.00	8,501.19	14,555.94	7,152.68	152.41	0.00	2.13	-35.34	-7,479.35	1,349.87	1,289.69	60.18	22.432		
15,913.59	8,501.00	14,569.52	7,152.43	152.68	0.00	2.13	-35.50	-7,492.93	1,349.92	1,289.64	60.28	22.395		

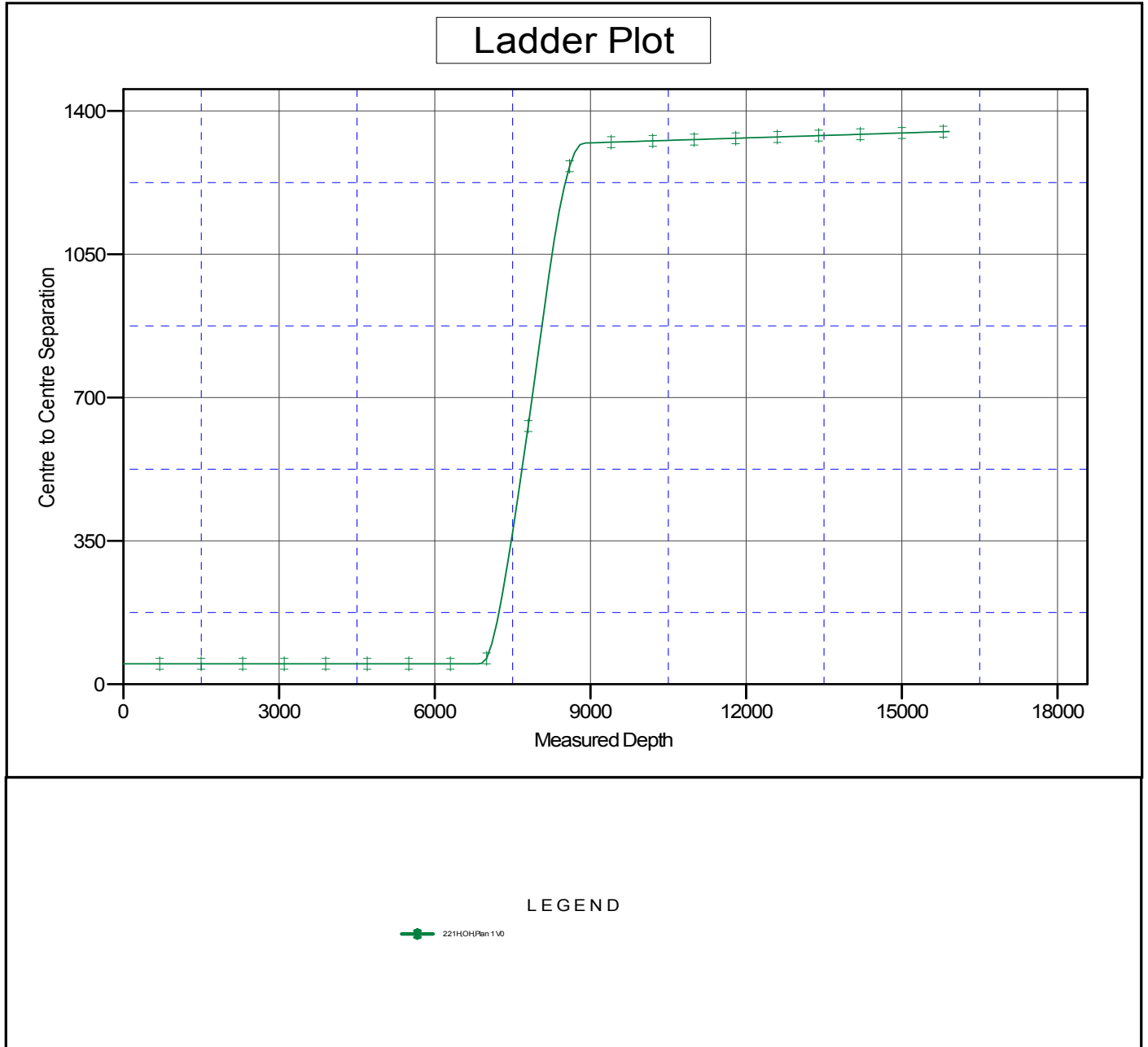
Legacy Directional

Anticollision Report

Company:	V-F Petroleum Inc.	Local Co-ordinate Reference:	Well 231H
Project:	Eddy County, NM	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Reference Site:	Crockett 16 State Com	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	231H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 3523 + 20' KB @ 3543.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: 231H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 300
Grid Convergence at Surface is: 0.09°



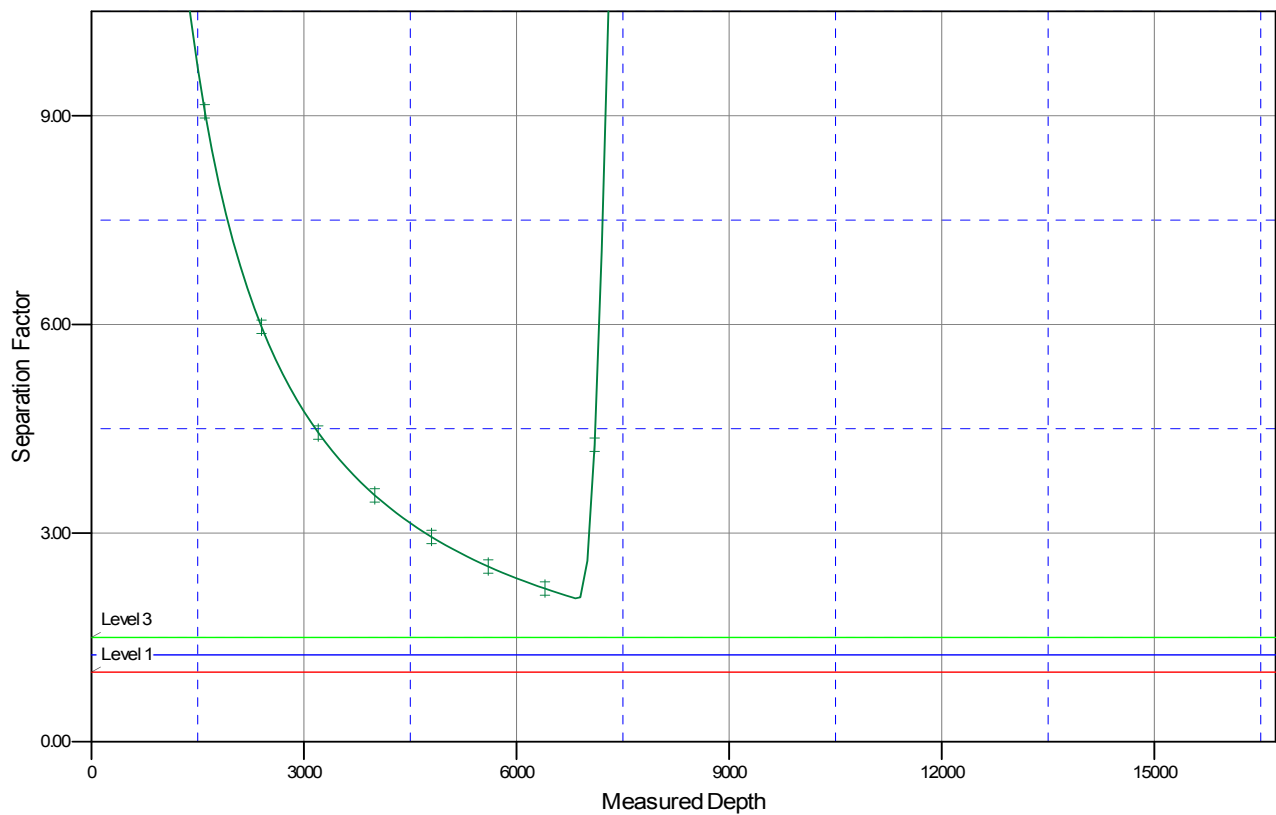
Legacy Directional Anticollision Report

Company:	V-F Petroleum Inc.	Local Co-ordinate Reference:	Well 231H
Project:	Eddy County, NM	TVD Reference:	GL 3523 + 20' KB @ 3543.00usft
Reference Site:	Crockett 16 State Com	MD Reference:	GL 3523 + 20' KB @ 3543.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	231H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.14 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 3523 + 20' KB @ 3543.00usft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: 231H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 300
Grid Convergence at Surface is: 0.09°

Separation Factor Plot



LEGEND

221H(OH)Plan 1V0