

1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

STATE OF NEW MEXICO
Energy, Minerals & Natural Resources

Form C-107
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address MANZANO, LLC PO BOX 1737 ROSWELL, NM		² OGRID Number 231429
		³ Reason for Filing Code/ Effective Date NW
⁴ API Number 30 – 025-49781	⁵ Pool Name WC-025 G-09 S173615C;UPPER PENN	⁶ Pool Code 98333
⁷ Property Code 330293	⁸ Property Name VINDICATOR CANYON STATE UNIT	⁹ Well Number 152H

II. ¹⁰ Surface Location

Ul or lot no. O	Section 10	Township 17S	Range 36E	Lot Idn	Feet from the 200	North/South Line S	Feet from the 1420	East/West line E	County LEA
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¹¹ Bottom Hole Location

UL or lot no. G	Section 22	Township 17S	Range 36E	Lot Idn	Feet from the 2615	North/South line N	Feet from the 1416	East/West line E	County LEA
¹² Lse Code S	¹³ Producing Method Code F	¹⁴ Gas Connection Date 1/6/22	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
33479	HOLLY FRONTIER REFINING & MARKETING, LLC	O
36785	DCP MIDSTREAM SERVICES	G

IV. Well Completion Data

²¹ Spud Date 3/5/22	²² Ready Date 6/7/22	²³ TD 19908	²⁴ PBDT 19899	²⁵ Perforations 12265-19815	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
12.25	9.625	2106	820		
8.75	7.625	11230	1600		
6.75	5.5	19904	1625		

V. Well Test Data

³¹ Date New Oil 6/12/22	³² Gas Delivery Date 6/12/22	³³ Test Date 6/21/22	³⁴ Test Length 24	³⁵ Tbg. Pressure 1150	³⁶ Csg. Pressure 0
³⁷ Choke Size 20/64	³⁸ Oil 550	³⁹ Water 1584	⁴⁰ Gas 614		⁴¹ Test Method F

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.
Signature:

Printed name:
MIKE HANAGAN

Title:
MANAGING MEMBER

E-mail Address:
mike@manzanoenergy.com

Date: 6/22/22
Phone: 575-623-1996

OIL CONSERVATION DIVISION

Approved by: PATRICIA MARTINEZ

Title: PETROLEUM SPECIALIST

Approval Date: 9/29/2023

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-8161 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) 334-8178 Fax: (505) 334-8170

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 and 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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-49781	Pool Code 98333	Pool Name WC-025 G-09 S173615C; UPPER PENN
Property Code 330293	Property Name VINDICATOR CANYON STATE UNIT	Well Number 152H
OGRID No. 231429	Operator Name MANZANO LLC	Elevation 3848'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	10	17 S	36 E		200	SOUTH	1420	EAST	LEA

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
G	22	17 S	36 E		2615	NORTH	1416	EAST	LEA

Dedicated Acres 480	Joint or Infill	Consolidation Code UNITIZED	Order No. R-21572 VINDICATOR CANYON State Unit
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

SURFACE LOCATION
Lat - N 32.842871°
Long - W 103.338300°
NMSPCE- N 671809.0
E 846937.4
(NAD-83)

FIRST TAKE POINT
102' FNL & 1399' FEL
Lat - N 32.842051°
Long - W 103.338231°
NMSPCE- N 671510.7
E 846961.4
(NAD-83)

LAST TAKE POINT
2525' FNL & 1417' FEL
Lat - N 32.820804°
Long - W 103.338385°
NMSPCE- N 663779.7
E 846986.8
(NAD-83)

BOTTOM HOLE LOCATION
Lat - N 32.820556°
Long - W 103.338382°
NMSPCE- N 663689.6
E 846988.6
(NAD-83)

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.

Michael G. Hagan 6/20/22
Signature Date
Michael G. Hagan
Printed Name
mike@manzanenergy.com
Email 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.

JUNE 19, 2022
Date Surveyed
Signature & Seal of Professional Surveyor
Certificate No. Gary L. Jones 7977
Basin Surveyors

0' 1500' 3000' 4500' 6000'
SCALE: 1" = 3000'
WO Num.: 35787



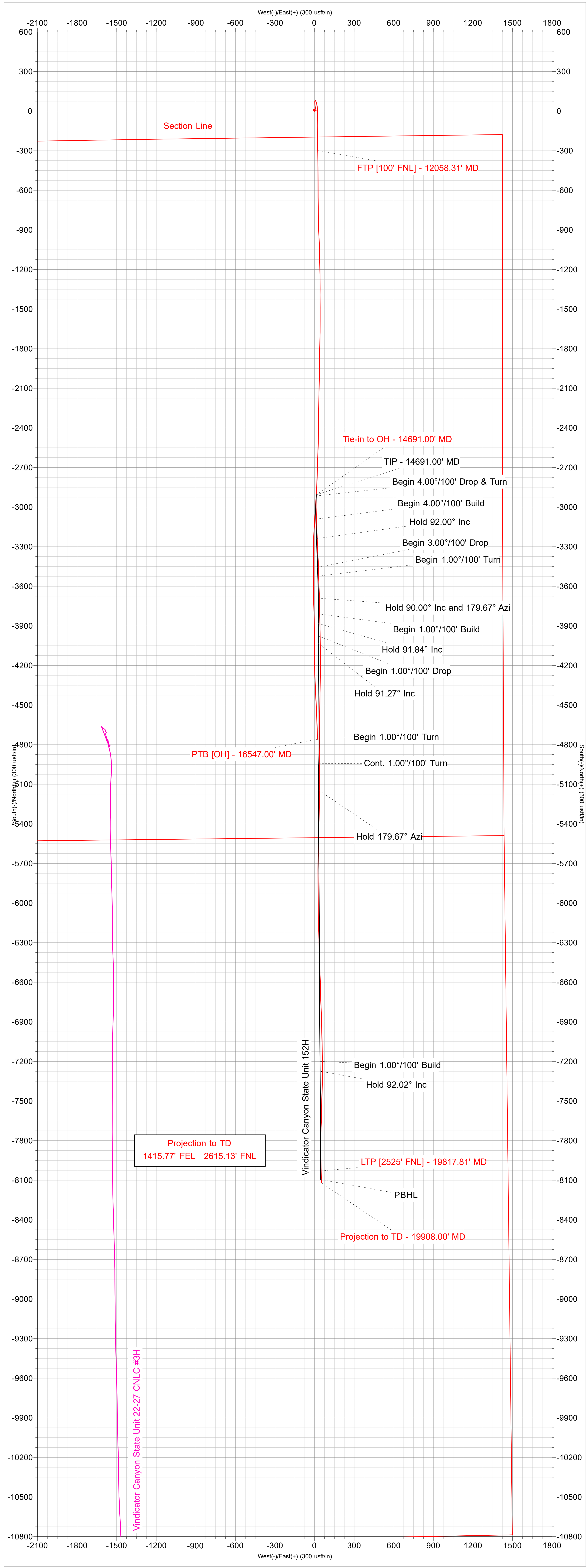
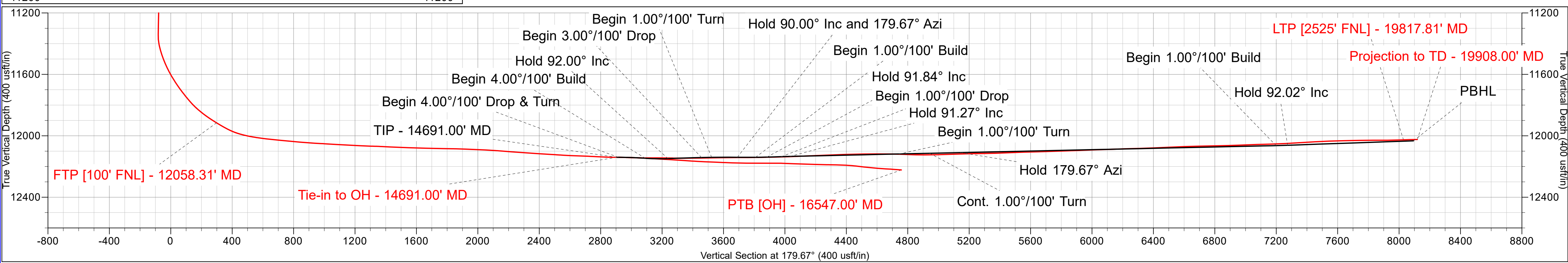
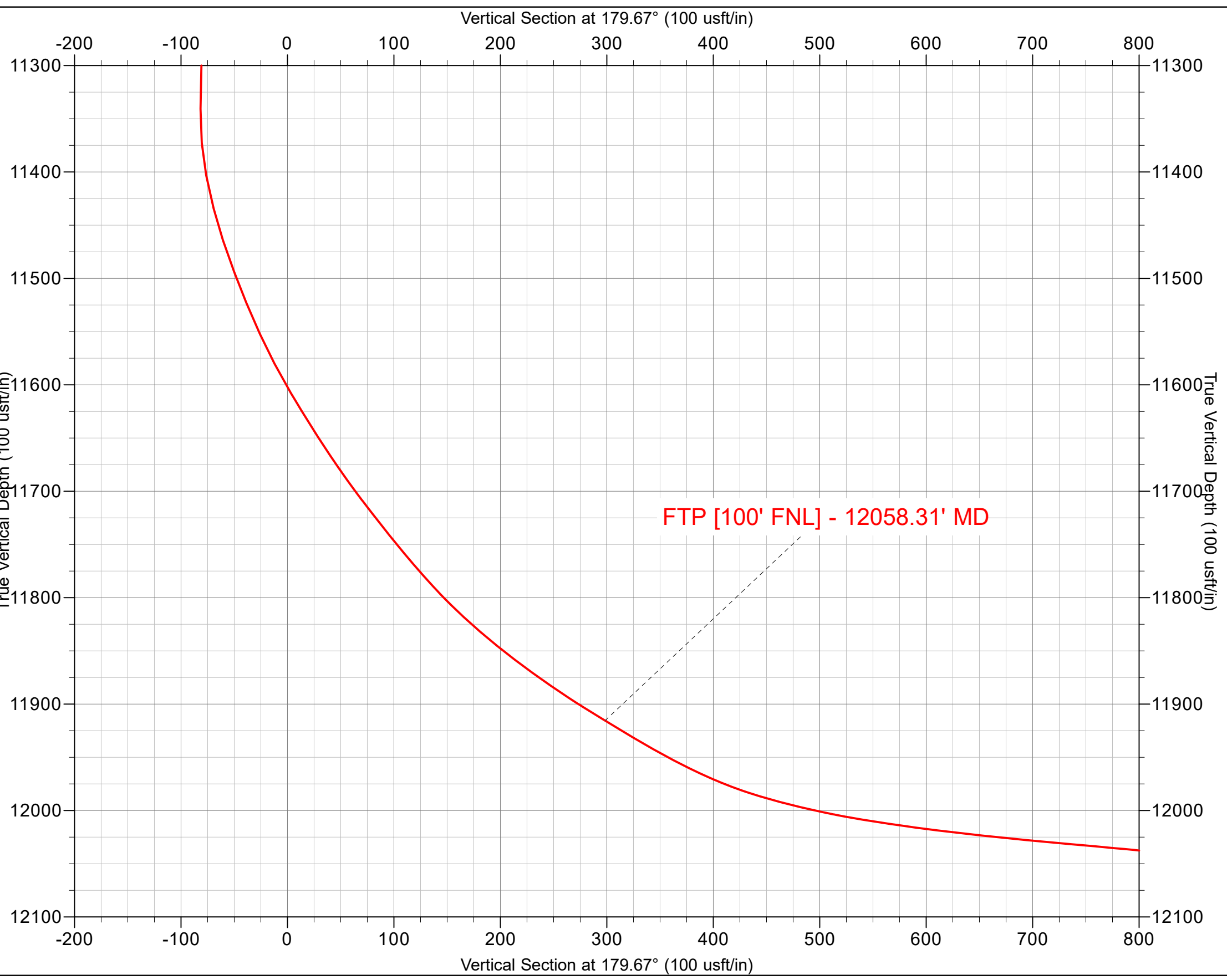
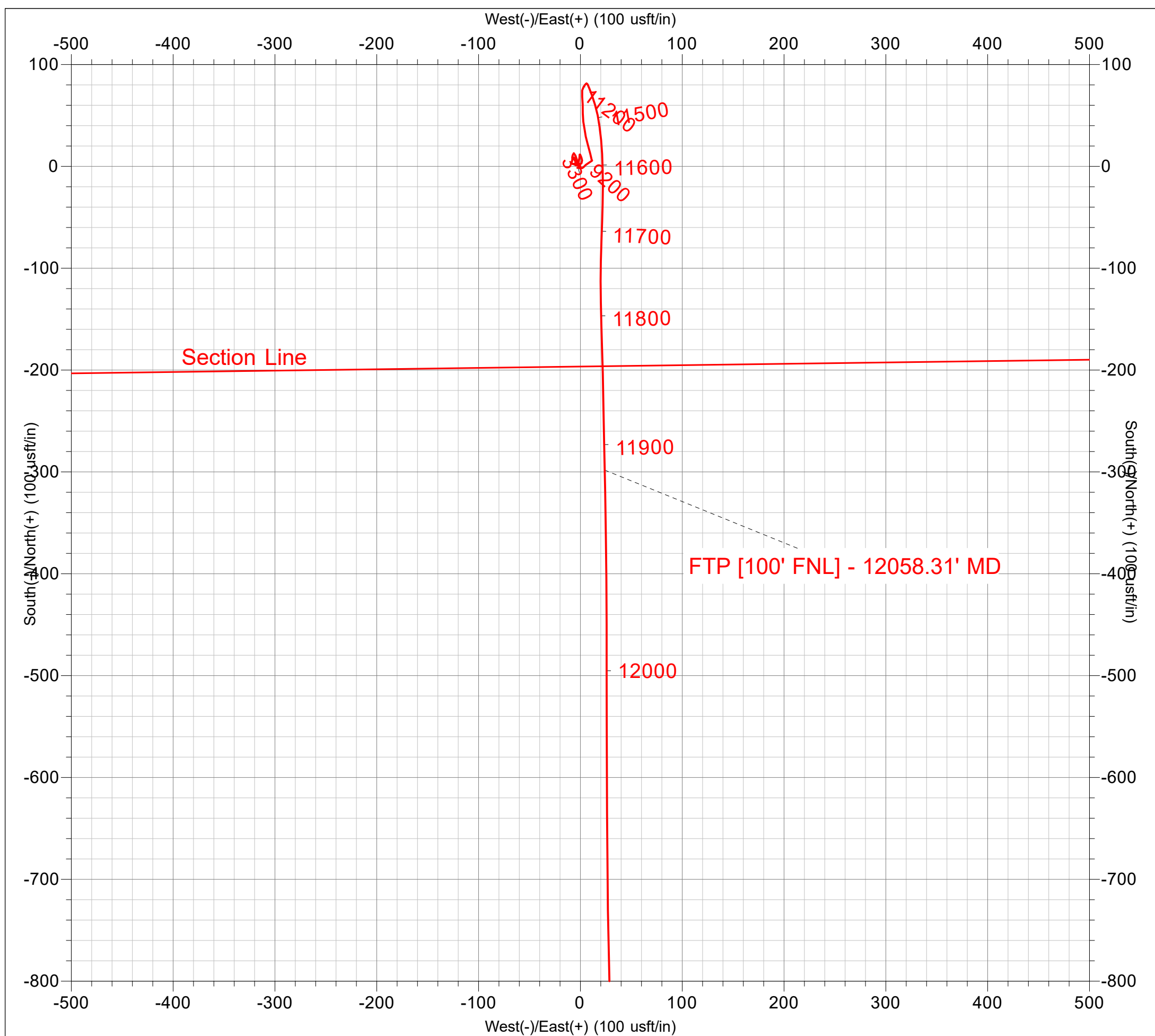
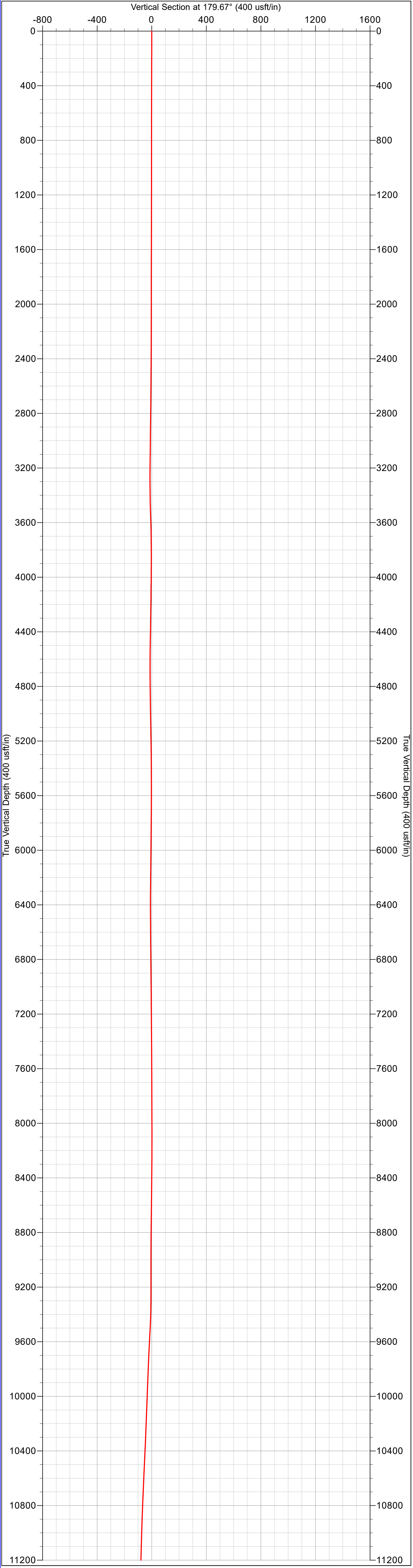
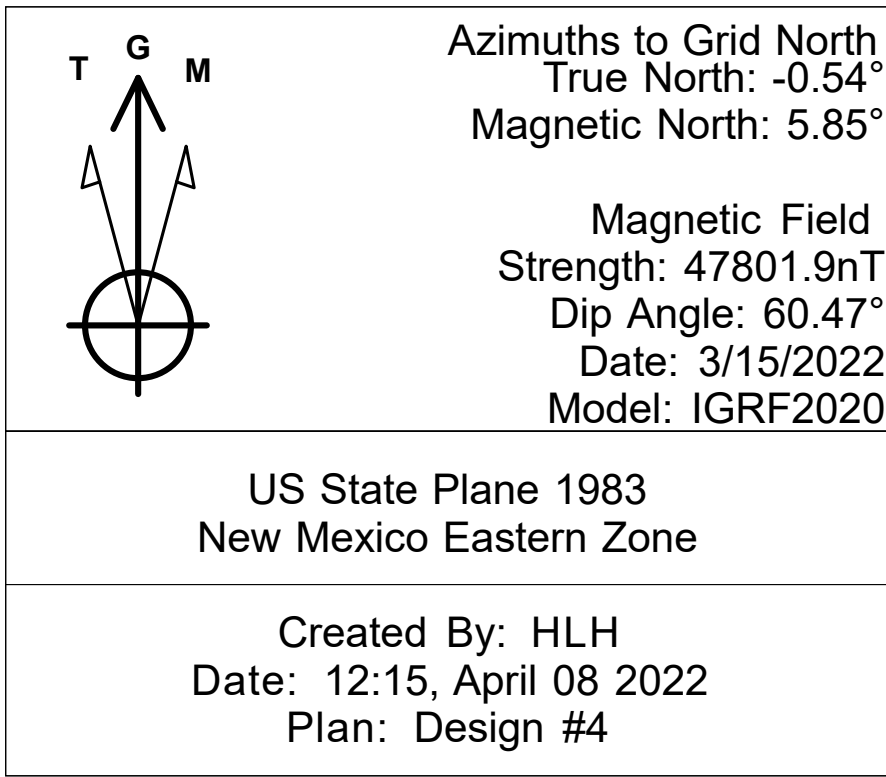
Company: Manzano
 Site: Vindicator Canyon State Unit 152H
 Well: Vindicator Canyon State Unit 152H
 Project: Lea County, NM (NAD 83)
 Rig: Latshaw 11



ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
14691.00	90.07	183.92	12140.25	-2906.32	13.20	2906.35	0.00	TIP - 14691.00' MD
14700.00	89.88	183.92	12140.25	-2915.30	12.58	2915.33	9.00	Begin 4.00°/100' Drop & Turn
14875.90	86.07	178.00	12146.47	-3090.96	9.63	3090.96	184.76	Begin 4.00°/100' Build
15024.15	92.00	178.00	12148.97	-3239.03	14.80	3239.06	332.92	Hold 92.00° Inc
15241.75	92.00	178.00	12141.37	-3456.37	22.39	3456.44	550.39	Begin 3.00°/100' Drop
15308.42	90.00	178.00	12140.21	-3522.98	24.72	3523.06	617.04	Begin 1.00°/100' Turn
15475.42	90.00	179.67	12140.21	-3689.94	28.11	3690.04	784.04	Hold 90.00° Inc and 179.67° Azi
15594.38	90.00	179.67	12140.21	-3808.90	28.80	3809.00	903.01	Begin 1.00°/100' Build
15667.85	91.84	179.67	12139.03	-3882.35	29.22	3882.46	976.46	Hold 91.84° Inc
15762.43	91.84	179.67	12136.00	-3976.89	29.76	3977.00	1071.00	Begin 1.00°/100' Drop
15818.62	91.27	179.67	12134.47	-4033.05	30.08	4033.16	1127.16	Hold 91.27° Inc
16528.62	91.27	179.67	12118.68	-4742.86	34.17	4742.98	1836.98	Begin 1.00°/100' Turn
16729.57	91.27	181.68	12114.21	-4943.74	31.80	4943.84	2037.88	Cont. 1.00°/100' Turn
16930.17	91.27	179.67	12109.74	-5144.26	29.44	5144.35	2238.43	Hold 179.67° Azi
18986.32	91.27	179.67	12064.00	-7199.88	41.15	7200.00	4294.08	Begin 1.00°/100' Build
19060.41	92.02	179.67	12061.87	-7273.94	41.57	7274.06	4368.14	Hold 92.02° Inc
19881.31	92.02	179.67	12033.00	-8094.31	46.26	8094.44	5188.53	PBHL

Grid North is 0.54° East of True North (Grid Convergence)
 To convert a Magnetic Direction to a Grid Direction, Add 5.85°
 To convert a Magnetic Direction to a True Direction, Add 6.39° East





Manzano

Lea County, NM (NAD 83)

Vindicator Canyon State Unit 152H

Vindicator Canyon State Unit 152H

Wellbore #1

Design: Surveys

Final Surveys

08 April, 2022





Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Vindicator Canyon State Unit 152H		
Site Position:		Northing:	671,809.0000 usft
From:	Map	Easting:	846,937.4000 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 34.337 N
		Longitude:	103° 20' 17.879 W
		Grid Convergence:	0.54 °

Well		Vindicator Canyon State Unit 152H				
Well Position	+N/-S	0.00 usft	Northing:	671,808.9929 usft	Latitude:	32° 50' 34.337 N
	+E/-W	0.00 usft	Easting:	846,937.4001 usft	Longitude:	103° 20' 17.879 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,848.00 usft

Wellbore	Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)	
	IGRF2020	3/15/2022	6.39	60.47	47,801.90777971	

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.67	

Survey Program	Date 4/8/2022				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
148.00	16,547.00	Stryker MWD (Wellbore #1)	MWD	OWSG MWD - Standard	



Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
0.00	0.00	0.00	0.00	0.00	0.00	671,808.9929	846,937.4001	0.00	0.00	0.00
148.00	0.00	0.00	148.00	0.00	0.00	671,808.9929	846,937.4001	0.00	0.00	0.00
327.00	0.18	322.26	327.00	0.22	-0.17	671,809.2153	846,937.2280	0.10	0.00	-0.22
522.00	0.26	351.35	522.00	0.90	-0.43	671,809.8949	846,936.9739	0.04	14.92	-0.90
714.00	0.44	263.90	714.00	1.25	-1.22	671,810.2472	846,936.1754	0.09	-45.55	-1.26
906.00	0.48	254.14	905.99	0.96	-2.73	671,809.9491	846,934.6687	0.02	-5.08	-0.97
1,098.00	0.48	294.57	1,097.98	1.07	-4.24	671,810.0637	846,933.1637	0.00	21.06	-1.10
1,289.00	0.48	301.43	1,288.98	1.82	-5.65	671,810.8136	846,931.7534	0.00	3.59	-1.85
1,480.00	0.40	279.89	1,479.97	2.35	-6.99	671,811.3453	846,930.4139	-0.04	-11.28	-2.39
1,670.00	0.35	283.06	1,669.97	2.60	-8.20	671,811.5903	846,929.1952	-0.03	1.67	-2.64
1,860.00	0.22	345.26	1,859.97	3.08	-8.86	671,812.0743	846,928.5371	-0.07	32.74	-3.13
1,975.00	0.18	239.29	1,974.96	3.20	-9.07	671,812.1955	846,928.3256	-0.03	-92.15	-3.25
2,132.00	0.04	332.36	2,131.96	3.13	-9.31	671,812.1181	846,928.0882	-0.09	59.28	-3.18
2,322.00	0.35	53.66	2,321.96	3.53	-8.88	671,812.5208	846,928.5249	0.16	42.79	-3.58
2,511.00	0.48	14.20	2,510.96	4.64	-8.22	671,813.6303	846,929.1841	0.07	-20.88	-4.68
2,701.00	0.66	2.77	2,700.95	6.50	-7.97	671,815.4949	846,929.4322	0.09	-6.02	-6.55
2,890.00	0.62	1.46	2,889.94	8.61	-7.89	671,817.6044	846,929.5109	-0.02	-0.69	-8.66
3,080.00	0.70	16.31	3,079.92	10.75	-7.54	671,819.7459	846,929.8630	0.04	7.82	-10.80
3,270.00	0.79	33.01	3,269.91	12.97	-6.50	671,821.9582	846,930.9025	0.05	8.79	-13.00
3,459.00	2.20	163.00	3,458.87	10.59	-4.73	671,819.5812	846,932.6733	0.75	68.78	-10.62
3,649.00	1.67	159.13	3,648.76	4.51	-2.67	671,813.5068	846,934.7258	-0.28	-2.04	-4.53
3,838.00	0.35	350.82	3,837.74	2.51	-1.79	671,811.5031	846,935.6149	-0.70	-89.05	-2.52
4,028.00	0.53	14.20	4,027.73	3.93	-1.66	671,812.9279	846,935.7379	0.09	12.31	-3.94
4,217.00	0.84	3.74	4,216.72	6.16	-1.36	671,815.1578	846,936.0427	0.16	-5.53	-6.17
4,407.00	0.84	15.43	4,406.70	8.90	-0.90	671,817.8901	846,936.5041	0.00	6.15	-8.90
4,596.00	0.88	354.69	4,595.68	11.68	-0.66	671,820.6707	846,936.7384	0.02	-10.97	-11.68
4,786.00	1.01	155.44	4,785.67	11.61	-0.10	671,820.6004	846,937.2995	0.07	84.61	-11.61



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
4,976.00	0.92	162.56	4,975.64	8.63	1.05	671,817.6221	846,938.4526	-0.05	3.75	-8.62
5,165.00	0.84	171.70	5,164.62	5.81	1.71	671,814.8036	846,939.1074	-0.04	4.84	-5.80
5,355.00	0.88	209.40	5,354.60	3.16	1.19	671,812.1544	846,938.5922	0.02	19.84	-3.15
5,545.00	0.44	284.02	5,544.59	2.07	-0.23	671,811.0599	846,937.1681	-0.23	39.27	-2.07
5,734.00	0.79	304.77	5,733.58	2.99	-2.01	671,811.9788	846,935.3937	0.19	10.98	-3.00
5,924.00	0.75	318.21	5,923.56	4.66	-3.91	671,813.6529	846,933.4891	-0.02	7.07	-4.68
6,113.00	0.79	324.54	6,112.54	6.64	-5.49	671,815.6365	846,931.9089	0.02	3.35	-6.68
6,303.00	0.75	323.22	6,302.52	8.71	-7.00	671,817.6993	846,930.4045	-0.02	-0.69	-8.75
6,492.00	0.53	151.05	6,491.52	8.93	-7.31	671,817.9252	846,930.0869	-0.12	-91.10	-8.97
6,682.00	0.62	147.00	6,681.51	7.30	-6.33	671,816.2941	846,931.0722	0.05	-2.13	-7.34
6,871.00	0.57	149.46	6,870.50	5.63	-5.29	671,814.6268	846,932.1068	-0.03	1.30	-5.66
7,061.00	0.53	165.11	7,060.49	3.97	-4.59	671,812.9636	846,932.8129	-0.02	8.24	-4.00
7,250.00	0.62	151.31	7,249.48	2.23	-3.87	671,811.2217	846,933.5284	0.05	-7.30	-2.25
7,439.00	0.62	128.72	7,438.47	0.69	-2.58	671,809.6851	846,934.8171	0.00	-11.95	-0.71
7,629.00	0.48	120.64	7,628.46	-0.36	-1.10	671,808.6365	846,936.3039	-0.07	-4.25	0.35
7,818.00	0.44	118.17	7,817.46	-1.10	0.22	671,807.8904	846,937.6248	-0.02	-1.31	1.10
8,007.00	0.26	135.23	8,006.45	-1.75	1.17	671,807.2434	846,938.5665	-0.10	9.03	1.76
8,197.00	0.40	51.55	8,196.45	-1.64	1.99	671,807.3497	846,939.3895	0.07	-44.04	1.65
8,386.00	0.66	47.77	8,385.44	-0.50	3.31	671,808.4916	846,940.7122	0.14	-2.00	0.52
8,576.00	1.14	45.31	8,575.42	1.56	5.47	671,810.5563	846,942.8662	0.25	-1.29	-1.53
8,765.00	1.32	66.14	8,764.38	3.77	8.79	671,812.7591	846,946.1937	0.10	11.02	-3.72
8,955.00	0.57	28.17	8,954.35	5.48	11.24	671,814.4775	846,948.6414	-0.39	-19.98	-5.42
9,144.00	0.35	189.45	9,143.35	5.74	11.59	671,814.7369	846,948.9904	-0.12	85.33	-5.68
9,334.00	0.53	345.46	9,333.35	6.02	11.27	671,815.0150	846,948.6745	0.09	82.11	-5.96
9,524.00	3.47	347.31	9,523.21	12.48	9.79	671,821.4766	846,947.1904	1.55	0.97	-12.43
9,713.00	2.37	340.45	9,711.96	21.75	7.23	671,830.7394	846,944.6262	-0.58	-3.63	-21.70
9,903.00	2.29	351.88	9,901.81	29.21	5.38	671,838.1994	846,942.7754	-0.04	6.02	-29.17



Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
10,092.00	2.20	348.98	10,090.66	36.51	4.15	671,845.4982	846,941.5487	-0.05	-1.53	-36.48
10,282.00	2.37	352.49	10,280.51	43.98	2.94	671,852.9726	846,940.3381	0.09	1.85	-43.96
10,471.00	2.64	0.58	10,469.33	52.21	2.47	671,861.1994	846,939.8714	0.14	4.28	-52.19
10,661.00	2.51	357.15	10,659.14	60.74	2.31	671,869.7302	846,939.7088	-0.07	-1.81	-60.72
10,850.00	2.15	356.09	10,847.98	68.41	1.86	671,877.4006	846,939.2613	-0.19	-0.56	-68.40
11,040.00	1.63	5.41	11,037.88	74.65	1.87	671,883.6466	846,939.2731	-0.27	4.91	-74.64
11,179.00	1.58	36.70	11,176.83	78.16	3.20	671,887.1513	846,940.6047	-0.04	22.51	-78.14
11,280.00	1.54	36.44	11,277.79	80.37	4.84	671,889.3595	846,942.2430	-0.04	-0.26	-80.34
11,343.00	1.58	52.17	11,340.76	81.58	6.03	671,890.5732	846,943.4318	0.06	24.97	-81.54
11,375.00	5.49	150.25	11,372.71	80.52	7.14	671,889.5139	846,944.5409	12.22	306.50	-80.48
11,406.00	11.52	159.31	11,403.36	76.33	8.97	671,885.3265	846,946.3722	19.45	29.23	-76.28
11,438.00	15.65	160.19	11,434.46	69.28	11.56	671,878.2734	846,948.9650	12.91	2.75	-69.21
11,469.00	18.55	162.82	11,464.08	60.63	14.44	671,869.6266	846,951.8392	9.35	8.48	-60.55
11,501.00	21.23	169.24	11,494.18	50.08	17.03	671,859.0684	846,954.4252	8.37	20.06	-49.98
11,532.00	22.51	171.88	11,522.95	38.69	18.91	671,847.6790	846,956.3113	4.13	8.52	-38.58
11,564.00	24.79	174.34	11,552.26	25.94	20.44	671,834.9369	846,957.8384	7.12	7.69	-25.83
11,595.00	27.74	177.15	11,580.05	12.27	21.44	671,821.2603	846,958.8384	9.52	9.06	-12.14
11,627.00	30.51	178.91	11,608.01	-3.30	21.96	671,805.6973	846,959.3633	8.66	5.50	3.42
11,659.00	32.18	179.87	11,635.34	-19.94	22.14	671,789.0532	846,959.5372	5.22	3.00	20.07
11,690.00	33.32	181.10	11,661.41	-36.71	21.99	671,772.2847	846,959.3924	3.68	3.97	36.83
11,722.00	35.52	182.16	11,687.80	-54.79	21.47	671,754.2057	846,958.8733	6.87	3.31	54.91
11,753.00	37.54	182.16	11,712.71	-73.23	20.78	671,735.7672	846,958.1778	6.52	0.00	73.34
11,785.00	38.55	181.28	11,737.91	-92.94	20.19	671,716.0557	846,957.5876	3.16	-2.75	93.05
11,816.00	40.00	180.05	11,761.91	-112.56	19.96	671,696.4340	846,957.3631	4.68	-3.97	112.67
11,848.00	42.20	179.17	11,786.02	-133.59	20.11	671,675.4003	846,957.5099	6.87	-2.75	133.71
11,880.00	45.71	178.20	11,809.06	-155.79	20.63	671,653.1993	846,958.0255	10.97	-3.03	155.91
11,911.00	49.27	178.12	11,830.00	-178.63	21.36	671,630.3628	846,958.7596	11.48	-0.26	178.75



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
11,943.00	51.60	178.82	11,850.38	-203.29	22.02	671,605.7047	846,959.4156	7.28	2.19	203.41
11,988.00	54.90	178.99	11,877.30	-239.33	22.70	671,569.6598	846,960.1034	7.33	0.38	239.46
12,038.00	58.02	178.56	11,904.92	-280.99	23.60	671,527.9997	846,960.9971	6.24	-0.86	281.12
12,058.31	58.53	178.72	11,915.60	-298.26	24.01	671,510.7289	846,961.4072	2.53	0.78	298.40
FTP [100' FNL] - 12058.31' MD										
12,083.00	59.16	178.91	11,928.38	-319.39	24.44	671,489.6041	846,961.8442	2.53	0.77	319.52
12,133.00	61.93	179.52	11,952.96	-362.92	25.04	671,446.0755	846,962.4375	5.54	1.22	363.06
12,178.00	67.21	179.17	11,972.28	-403.54	25.50	671,405.4527	846,962.9046	11.73	-0.78	403.68
12,227.00	74.15	179.96	11,988.48	-449.75	25.85	671,359.2421	846,963.2487	14.16	1.61	449.89
12,272.00	77.32	179.96	11,999.57	-493.36	25.88	671,315.6352	846,963.2791	7.04	0.00	493.50
12,322.00	80.88	179.79	12,009.02	-542.45	25.99	671,266.5453	846,963.3867	7.12	-0.34	542.59
12,416.00	83.60	179.87	12,021.71	-635.58	26.26	671,173.4153	846,963.6628	2.89	0.09	635.72
12,511.00	84.97	179.17	12,031.17	-730.10	27.06	671,078.8936	846,964.4554	1.44	-0.74	730.24
12,605.00	84.40	178.38	12,039.88	-823.67	29.06	670,985.3203	846,966.4560	-0.61	-0.84	823.83
12,700.00	86.68	178.12	12,047.26	-918.33	31.95	670,890.6585	846,969.3485	2.40	-0.27	918.50
12,795.00	86.33	177.50	12,053.06	-1,013.09	35.57	670,795.9051	846,972.9719	-0.37	-0.65	1,013.28
12,889.00	87.30	179.17	12,058.28	-1,106.90	38.30	670,702.0943	846,975.6982	1.03	1.78	1,107.10
12,984.00	86.64	178.47	12,063.30	-1,201.74	40.25	670,607.2484	846,977.6516	-0.69	-0.74	1,201.96
13,079.00	88.40	180.14	12,067.41	-1,296.64	41.40	670,512.3514	846,978.8018	1.85	1.76	1,296.86
13,174.00	87.38	179.87	12,070.91	-1,391.58	41.39	670,417.4172	846,978.7935	-1.07	-0.28	1,391.79
13,269.00	87.25	179.70	12,075.36	-1,486.47	41.75	670,322.5222	846,979.1496	-0.14	-0.18	1,486.69
13,363.00	88.62	180.23	12,078.75	-1,580.41	41.81	670,228.5858	846,979.2068	1.46	0.56	1,580.62
13,458.00	88.13	179.96	12,081.44	-1,675.37	41.65	670,133.6245	846,979.0493	-0.52	-0.28	1,675.58
13,553.00	89.32	181.81	12,083.55	-1,770.33	40.18	670,038.6652	846,977.5820	1.25	1.95	1,770.53
13,647.00	88.44	181.02	12,085.39	-1,864.28	37.86	669,944.7135	846,975.2612	-0.94	-0.84	1,864.47
13,742.00	87.78	181.19	12,088.53	-1,959.21	36.03	669,849.7834	846,973.4302	-0.69	0.18	1,959.38
13,837.00	86.95	180.84	12,092.89	-2,054.09	34.35	669,754.8997	846,971.7491	-0.87	-0.37	2,054.26



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
13,932.00	85.76	180.66	12,098.93	-2,148.89	33.11	669,660.1018	846,970.5080	-1.25	-0.19	2,149.05
14,027.00	85.41	180.58	12,106.25	-2,243.60	32.08	669,565.3894	846,969.4830	-0.37	-0.08	2,243.75
14,122.00	86.37	181.02	12,113.05	-2,338.35	30.76	669,470.6443	846,968.1598	1.01	0.46	2,338.49
14,217.00	86.64	181.37	12,118.85	-2,433.15	28.78	669,375.8418	846,966.1822	0.28	0.37	2,433.28
14,312.00	85.98	181.10	12,124.96	-2,527.93	26.74	669,281.0614	846,964.1389	-0.69	-0.28	2,528.04
14,406.00	88.00	182.07	12,129.90	-2,621.76	24.14	669,187.2330	846,961.5419	2.15	1.03	2,621.86
14,501.00	87.60	181.89	12,133.54	-2,716.63	20.86	669,092.3599	846,958.2620	-0.42	-0.19	2,716.71
14,596.00	87.12	181.72	12,137.92	-2,811.48	17.87	668,997.5082	846,955.2728	-0.51	-0.18	2,811.54
14,691.00	90.07	183.92	12,140.25	-2,906.32	13.20	668,902.6681	846,950.6000	3.11	2.32	2,906.35
14,786.00	88.04	183.92	12,141.81	-3,001.08	6.71	668,807.9082	846,944.1067	-2.14	0.00	3,001.07
14,880.00	86.51	183.83	12,146.28	-3,094.76	0.36	668,714.2320	846,937.7615	-1.63	-0.10	3,094.71
14,975.00	86.90	182.42	12,151.74	-3,189.46	-4.81	668,619.5326	846,932.5916	0.41	-1.48	3,189.38
15,070.00	86.29	180.40	12,157.39	-3,284.26	-7.14	668,524.7344	846,930.2577	-0.64	-2.13	3,284.16
15,165.00	86.02	180.49	12,163.76	-3,379.04	-7.88	668,429.9512	846,929.5215	-0.28	0.09	3,378.94
15,260.00	87.65	180.93	12,169.00	-3,473.89	-9.05	668,335.1069	846,928.3459	1.72	0.46	3,473.78
15,354.00	87.52	179.87	12,172.96	-3,567.80	-9.71	668,241.1940	846,927.6902	-0.14	-1.13	3,567.68
15,449.00	88.31	178.47	12,176.42	-3,662.72	-8.33	668,146.2700	846,929.0656	0.83	-1.47	3,662.61
15,544.00	88.70	177.94	12,178.90	-3,757.64	-5.36	668,051.3494	846,932.0404	0.41	-0.56	3,757.55
15,638.00	91.25	179.52	12,178.94	-3,851.61	-3.28	667,957.3833	846,934.1235	2.71	1.68	3,851.53
15,733.00	89.23	179.70	12,178.54	-3,946.60	-2.63	667,862.3913	846,934.7701	-2.13	0.19	3,946.52
15,778.00	88.00	179.70	12,179.63	-3,991.59	-2.39	667,817.4059	846,935.0057	-2.73	0.00	3,991.51
15,828.00	87.60	179.52	12,181.55	-4,041.55	-2.05	667,767.4440	846,935.3458	-0.80	-0.36	4,041.47
15,923.00	88.40	178.99	12,184.86	-4,136.48	-0.82	667,672.5110	846,936.5803	0.84	-0.56	4,136.41
16,018.00	88.48	178.99	12,187.45	-4,231.43	0.85	667,577.5610	846,938.2543	0.08	0.00	4,231.37
16,113.00	89.10	177.24	12,189.46	-4,326.36	3.98	667,482.6377	846,941.3785	0.65	-1.84	4,326.31
16,207.00	86.15	177.32	12,193.35	-4,420.16	8.43	667,388.8347	846,945.8350	-3.14	0.09	4,420.13
16,249.00	83.82	177.15	12,197.02	-4,461.95	10.45	667,347.0471	846,947.8531	-5.55	-0.40	4,461.93



Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
16,302.00	83.16	177.06	12,203.03	-4,514.54	13.11	667,294.4563	846,950.5126	-1.25	-0.17	4,514.54
16,397.00	85.58	178.12	12,212.35	-4,608.99	17.09	667,200.0065	846,954.4859	2.55	1.12	4,609.01
16,439.00	86.90	178.29	12,215.10	-4,650.87	18.40	667,158.1184	846,955.7985	3.14	0.40	4,650.90
16,492.00	85.76	178.38	12,218.50	-4,703.74	19.94	667,105.2503	846,957.3353	-2.15	0.17	4,703.78
16,547.00	85.76	178.38	12,222.56	-4,758.57	21.49	667,050.4228	846,958.8860	0.00	0.00	4,758.61
PTB [OH] - 16547.00' MD										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,058.31	11,915.60	-298.26	24.01	FTP [100' FNL] - 12058.31' MD
16,547.00	12,222.56	-4,758.57	21.49	PTB [OH] - 16547.00' MD

Checked By: _____ Approved By: _____ Date: _____



Manzano

Lea County, NM (NAD 83)

Vindicator Canyon State Unit 152H

Vindicator Canyon State Unit 152H

Wellbore #2

Design: Surveys

Final Surveys

08 April, 2022





Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Project		Lea County, NM (NAD 83)	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Vindicator Canyon State Unit 152H			
Site Position:		Northing:	671,809.0000 usft	Latitude:	32° 50' 34.337 N
From:	Map	Easting:	846,937.4000 usft	Longitude:	103° 20' 17.879 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54 °

Well		Vindicator Canyon State Unit 152H				
Well Position	+N/-S	0.00 usft	Northing:	671,808.9929 usft	Latitude:	32° 50' 34.337 N
	+E/-W	0.00 usft	Easting:	846,937.4001 usft	Longitude:	103° 20' 17.879 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,848.00 usft	

Wellbore	Wellbore #2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/15/2022	6.39	60.47	47,801.92237429

Design		Surveys			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	14,691.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.67	



Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey Program	Date	4/8/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
148.00	14,691.00	Stryker MWD (Wellbore #1)	MWD	OWSG MWD - Standard	
14,722.00	19,908.00	Stryker MWD (Wellbore #2)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
0.00	0.00	0.00	0.00	0.00	0.00	671,808.9929	846,937.4001	0.00	0.00	0.00
148.00	0.00	0.00	148.00	0.00	0.00	671,808.9929	846,937.4001	0.00	0.00	0.00
327.00	0.18	322.26	327.00	0.22	-0.17	671,809.2153	846,937.2280	0.10	0.00	-0.22
522.00	0.26	351.35	522.00	0.90	-0.43	671,809.8949	846,936.9739	0.04	14.92	-0.90
714.00	0.44	263.90	714.00	1.25	-1.22	671,810.2472	846,936.1754	0.09	-45.55	-1.26
906.00	0.48	254.14	905.99	0.96	-2.73	671,809.9491	846,934.6687	0.02	-5.08	-0.97
1,098.00	0.48	294.57	1,097.98	1.07	-4.24	671,810.0637	846,933.1637	0.00	21.06	-1.10
1,289.00	0.48	301.43	1,288.98	1.82	-5.65	671,810.8136	846,931.7534	0.00	3.59	-1.85
1,480.00	0.40	279.89	1,479.97	2.35	-6.99	671,811.3453	846,930.4139	-0.04	-11.28	-2.39
1,670.00	0.35	283.06	1,669.97	2.60	-8.20	671,811.5903	846,929.1952	-0.03	1.67	-2.64
1,860.00	0.22	345.26	1,859.97	3.08	-8.86	671,812.0743	846,928.5371	-0.07	32.74	-3.13
1,975.00	0.18	239.29	1,974.96	3.20	-9.07	671,812.1955	846,928.3256	-0.03	-92.15	-3.25
2,132.00	0.04	332.36	2,131.96	3.13	-9.31	671,812.1181	846,928.0882	-0.09	59.28	-3.18
2,322.00	0.35	53.66	2,321.96	3.53	-8.88	671,812.5208	846,928.5249	0.16	42.79	-3.58
2,511.00	0.48	14.20	2,510.96	4.64	-8.22	671,813.6303	846,929.1841	0.07	-20.88	-4.68
2,701.00	0.66	2.77	2,700.95	6.50	-7.97	671,815.4949	846,929.4322	0.09	-6.02	-6.55
2,890.00	0.62	1.46	2,889.94	8.61	-7.89	671,817.6044	846,929.5109	-0.02	-0.69	-8.66
3,080.00	0.70	16.31	3,079.92	10.75	-7.54	671,819.7459	846,929.8630	0.04	7.82	-10.80
3,270.00	0.79	33.01	3,269.91	12.97	-6.50	671,821.9582	846,930.9025	0.05	8.79	-13.00
3,459.00	2.20	163.00	3,458.87	10.59	-4.73	671,819.5812	846,932.6733	0.75	68.78	-10.62
3,649.00	1.67	159.13	3,648.76	4.51	-2.67	671,813.5068	846,934.7258	-0.28	-2.04	-4.53



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
3,838.00	0.35	350.82	3,837.74	2.51	-1.79	671,811.5031	846,935.6149	-0.70	-89.05	-2.52
4,028.00	0.53	14.20	4,027.73	3.93	-1.66	671,812.9279	846,935.7379	0.09	12.31	-3.94
4,217.00	0.84	3.74	4,216.72	6.16	-1.36	671,815.1578	846,936.0427	0.16	-5.53	-6.17
4,407.00	0.84	15.43	4,406.70	8.90	-0.90	671,817.8901	846,936.5041	0.00	6.15	-8.90
4,596.00	0.88	354.69	4,595.68	11.68	-0.66	671,820.6707	846,936.7384	0.02	-10.97	-11.68
4,786.00	1.01	155.44	4,785.67	11.61	-0.10	671,820.6004	846,937.2995	0.07	84.61	-11.61
4,976.00	0.92	162.56	4,975.64	8.63	1.05	671,817.6221	846,938.4526	-0.05	3.75	-8.62
5,165.00	0.84	171.70	5,164.62	5.81	1.71	671,814.8036	846,939.1074	-0.04	4.84	-5.80
5,355.00	0.88	209.40	5,354.60	3.16	1.19	671,812.1544	846,938.5922	0.02	19.84	-3.15
5,545.00	0.44	284.02	5,544.59	2.07	-0.23	671,811.0599	846,937.1681	-0.23	39.27	-2.07
5,734.00	0.79	304.77	5,733.58	2.99	-2.01	671,811.9788	846,935.3937	0.19	10.98	-3.00
5,924.00	0.75	318.21	5,923.56	4.66	-3.91	671,813.6529	846,933.4891	-0.02	7.07	-4.68
6,113.00	0.79	324.54	6,112.54	6.64	-5.49	671,815.6365	846,931.9089	0.02	3.35	-6.68
6,303.00	0.75	323.22	6,302.52	8.71	-7.00	671,817.6993	846,930.4045	-0.02	-0.69	-8.75
6,492.00	0.53	151.05	6,491.52	8.93	-7.31	671,817.9252	846,930.0869	-0.12	-91.10	-8.97
6,682.00	0.62	147.00	6,681.51	7.30	-6.33	671,816.2941	846,931.0722	0.05	-2.13	-7.34
6,871.00	0.57	149.46	6,870.50	5.63	-5.29	671,814.6268	846,932.1068	-0.03	1.30	-5.66
7,061.00	0.53	165.11	7,060.49	3.97	-4.59	671,812.9636	846,932.8129	-0.02	8.24	-4.00
7,250.00	0.62	151.31	7,249.48	2.23	-3.87	671,811.2217	846,933.5284	0.05	-7.30	-2.25
7,439.00	0.62	128.72	7,438.47	0.69	-2.58	671,809.6851	846,934.8171	0.00	-11.95	-0.71
7,629.00	0.48	120.64	7,628.46	-0.36	-1.10	671,808.6365	846,936.3039	-0.07	-4.25	0.35
7,818.00	0.44	118.17	7,817.46	-1.10	0.22	671,807.8904	846,937.6248	-0.02	-1.31	1.10
8,007.00	0.26	135.23	8,006.45	-1.75	1.17	671,807.2434	846,938.5665	-0.10	9.03	1.76
8,197.00	0.40	51.55	8,196.45	-1.64	1.99	671,807.3497	846,939.3895	0.07	-44.04	1.65
8,386.00	0.66	47.77	8,385.44	-0.50	3.31	671,808.4916	846,940.7122	0.14	-2.00	0.52
8,576.00	1.14	45.31	8,575.42	1.56	5.47	671,810.5563	846,942.8662	0.25	-1.29	-1.53
8,765.00	1.32	66.14	8,764.38	3.77	8.79	671,812.7591	846,946.1937	0.10	11.02	-3.72



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
8,955.00	0.57	28.17	8,954.35	5.48	11.24	671,814.4775	846,948.6414	-0.39	-19.98	-5.42
9,144.00	0.35	189.45	9,143.35	5.74	11.59	671,814.7369	846,948.9904	-0.12	85.33	-5.68
9,334.00	0.53	345.46	9,333.35	6.02	11.27	671,815.0150	846,948.6745	0.09	82.11	-5.96
9,524.00	3.47	347.31	9,523.21	12.48	9.79	671,821.4766	846,947.1904	1.55	0.97	-12.43
9,713.00	2.37	340.45	9,711.96	21.75	7.23	671,830.7394	846,944.6262	-0.58	-3.63	-21.70
9,903.00	2.29	351.88	9,901.81	29.21	5.38	671,838.1994	846,942.7754	-0.04	6.02	-29.17
10,092.00	2.20	348.98	10,090.66	36.51	4.15	671,845.4982	846,941.5487	-0.05	-1.53	-36.48
10,282.00	2.37	352.49	10,280.51	43.98	2.94	671,852.9726	846,940.3381	0.09	1.85	-43.96
10,471.00	2.64	0.58	10,469.33	52.21	2.47	671,861.1994	846,939.8714	0.14	4.28	-52.19
10,661.00	2.51	357.15	10,659.14	60.74	2.31	671,869.7302	846,939.7088	-0.07	-1.81	-60.72
10,850.00	2.15	356.09	10,847.98	68.41	1.86	671,877.4006	846,939.2613	-0.19	-0.56	-68.40
11,040.00	1.63	5.41	11,037.88	74.65	1.87	671,883.6466	846,939.2731	-0.27	4.91	-74.64
11,179.00	1.58	36.70	11,176.83	78.16	3.20	671,887.1513	846,940.6047	-0.04	22.51	-78.14
11,280.00	1.54	36.44	11,277.79	80.37	4.84	671,889.3595	846,942.2430	-0.04	-0.26	-80.34
11,343.00	1.58	52.17	11,340.76	81.58	6.03	671,890.5732	846,943.4318	0.06	24.97	-81.54
11,375.00	5.49	150.25	11,372.71	80.52	7.14	671,889.5139	846,944.5409	12.22	306.50	-80.48
11,406.00	11.52	159.31	11,403.36	76.33	8.97	671,885.3265	846,946.3722	19.45	29.23	-76.28
11,438.00	15.65	160.19	11,434.46	69.28	11.56	671,878.2734	846,948.9650	12.91	2.75	-69.21
11,469.00	18.55	162.82	11,464.08	60.63	14.44	671,869.6266	846,951.8392	9.35	8.48	-60.55
11,501.00	21.23	169.24	11,494.18	50.08	17.03	671,859.0684	846,954.4252	8.37	20.06	-49.98
11,532.00	22.51	171.88	11,522.95	38.69	18.91	671,847.6790	846,956.3113	4.13	8.52	-38.58
11,564.00	24.79	174.34	11,552.26	25.94	20.44	671,834.9369	846,957.8384	7.12	7.69	-25.83
11,595.00	27.74	177.15	11,580.05	12.27	21.44	671,821.2603	846,958.8384	9.52	9.06	-12.14
11,627.00	30.51	178.91	11,608.01	-3.30	21.96	671,805.6973	846,959.3633	8.66	5.50	3.42
11,659.00	32.18	179.87	11,635.34	-19.94	22.14	671,789.0532	846,959.5372	5.22	3.00	20.07
11,690.00	33.32	181.10	11,661.41	-36.71	21.99	671,772.2847	846,959.3924	3.68	3.97	36.83
11,722.00	35.52	182.16	11,687.80	-54.79	21.47	671,754.2057	846,958.8733	6.87	3.31	54.91



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
11,753.00	37.54	182.16	11,712.71	-73.23	20.78	671,735.7672	846,958.1778	6.52	0.00	73.34
11,785.00	38.55	181.28	11,737.91	-92.94	20.19	671,716.0557	846,957.5876	3.16	-2.75	93.05
11,816.00	40.00	180.05	11,761.91	-112.56	19.96	671,696.4340	846,957.3631	4.68	-3.97	112.67
11,848.00	42.20	179.17	11,786.02	-133.59	20.11	671,675.4003	846,957.5099	6.87	-2.75	133.71
11,880.00	45.71	178.20	11,809.06	-155.79	20.63	671,653.1993	846,958.0255	10.97	-3.03	155.91
11,911.00	49.27	178.12	11,830.00	-178.63	21.36	671,630.3628	846,958.7596	11.48	-0.26	178.75
11,943.00	51.60	178.82	11,850.38	-203.29	22.02	671,605.7047	846,959.4156	7.28	2.19	203.41
11,988.00	54.90	178.99	11,877.30	-239.33	22.70	671,569.6598	846,960.1034	7.33	0.38	239.46
12,038.00	58.02	178.56	11,904.92	-280.99	23.60	671,527.9997	846,960.9971	6.24	-0.86	281.12
12,058.31	58.53	178.72	11,915.60	-298.26	24.01	671,510.7289	846,961.4072	2.53	0.78	298.40
FTP [100' FNL] - 12058.31' MD										
12,083.00	59.16	178.91	11,928.38	-319.39	24.44	671,489.6041	846,961.8442	2.53	0.77	319.52
12,133.00	61.93	179.52	11,952.96	-362.92	25.04	671,446.0755	846,962.4375	5.54	1.22	363.06
12,178.00	67.21	179.17	11,972.28	-403.54	25.50	671,405.4527	846,962.9046	11.73	-0.78	403.68
12,227.00	74.15	179.96	11,988.48	-449.75	25.85	671,359.2421	846,963.2487	14.16	1.61	449.89
12,272.00	77.32	179.96	11,999.57	-493.36	25.88	671,315.6352	846,963.2791	7.04	0.00	493.50
12,322.00	80.88	179.79	12,009.02	-542.45	25.99	671,266.5453	846,963.3867	7.12	-0.34	542.59
12,416.00	83.60	179.87	12,021.71	-635.58	26.26	671,173.4153	846,963.6628	2.89	0.09	635.72
12,511.00	84.97	179.17	12,031.17	-730.10	27.06	671,078.8936	846,964.4554	1.44	-0.74	730.24
12,605.00	84.40	178.38	12,039.88	-823.67	29.06	670,985.3203	846,966.4560	-0.61	-0.84	823.83
12,700.00	86.68	178.12	12,047.26	-918.33	31.95	670,890.6585	846,969.3485	2.40	-0.27	918.50
12,795.00	86.33	177.50	12,053.06	-1,013.09	35.57	670,795.9051	846,972.9719	-0.37	-0.65	1,013.28
12,889.00	87.30	179.17	12,058.28	-1,106.90	38.30	670,702.0943	846,975.6982	1.03	1.78	1,107.10
12,984.00	86.64	178.47	12,063.30	-1,201.74	40.25	670,607.2484	846,977.6516	-0.69	-0.74	1,201.96
13,079.00	88.40	180.14	12,067.41	-1,296.64	41.40	670,512.3514	846,978.8018	1.85	1.76	1,296.86
13,174.00	87.38	179.87	12,070.91	-1,391.58	41.39	670,417.4172	846,978.7935	-1.07	-0.28	1,391.79
13,269.00	87.25	179.70	12,075.36	-1,486.47	41.75	670,322.5222	846,979.1496	-0.14	-0.18	1,486.69



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
13,363.00	88.62	180.23	12,078.75	-1,580.41	41.81	670,228.5858	846,979.2068	1.46	0.56	1,580.62
13,458.00	88.13	179.96	12,081.44	-1,675.37	41.65	670,133.6245	846,979.0493	-0.52	-0.28	1,675.58
13,553.00	89.32	181.81	12,083.55	-1,770.33	40.18	670,038.6652	846,977.5820	1.25	1.95	1,770.53
13,647.00	88.44	181.02	12,085.39	-1,864.28	37.86	669,944.7135	846,975.2612	-0.94	-0.84	1,864.47
13,742.00	87.78	181.19	12,088.53	-1,959.21	36.03	669,849.7834	846,973.4302	-0.69	0.18	1,959.38
13,837.00	86.95	180.84	12,092.89	-2,054.09	34.35	669,754.8997	846,971.7491	-0.87	-0.37	2,054.26
13,932.00	85.76	180.66	12,098.93	-2,148.89	33.11	669,660.1018	846,970.5080	-1.25	-0.19	2,149.05
14,027.00	85.41	180.58	12,106.25	-2,243.60	32.08	669,565.3894	846,969.4830	-0.37	-0.08	2,243.75
14,122.00	86.37	181.02	12,113.05	-2,338.35	30.76	669,470.6443	846,968.1598	1.01	0.46	2,338.49
14,217.00	86.64	181.37	12,118.85	-2,433.15	28.78	669,375.8418	846,966.1822	0.28	0.37	2,433.28
14,312.00	85.98	181.10	12,124.96	-2,527.93	26.74	669,281.0614	846,964.1389	-0.69	-0.28	2,528.04
14,406.00	88.00	182.07	12,129.90	-2,621.76	24.14	669,187.2330	846,961.5419	2.15	1.03	2,621.86
14,501.00	87.60	181.89	12,133.54	-2,716.63	20.86	669,092.3599	846,958.2620	-0.42	-0.19	2,716.71
14,596.00	87.12	181.72	12,137.92	-2,811.48	17.87	668,997.5082	846,955.2728	-0.51	-0.18	2,811.54
14,691.00	90.07	183.92	12,140.25	-2,906.32	13.20	668,902.6681	846,950.6000	3.11	2.32	2,906.35
Tie-in to OH - 14691.00' MD										
14,722.00	88.26	183.48	12,140.70	-2,937.26	11.20	668,871.7374	846,948.5998	-5.84	-1.42	2,937.27
14,786.00	88.04	177.41	12,142.77	-3,001.19	10.70	668,807.8027	846,948.1030	-0.34	-9.48	3,001.20
14,880.00	90.33	178.03	12,144.10	-3,095.10	14.44	668,713.8933	846,951.8418	2.44	0.66	3,095.13
14,975.00	89.49	178.03	12,144.25	-3,190.04	17.71	668,618.9504	846,955.1075	-0.88	0.00	3,190.09
15,070.00	88.57	177.85	12,145.86	-3,284.97	21.12	668,524.0265	846,958.5218	-0.97	-0.19	3,285.03
15,165.00	90.95	176.62	12,146.26	-3,379.85	25.70	668,429.1465	846,963.1042	2.51	-1.29	3,379.94
15,260.00	91.25	178.56	12,144.44	-3,474.74	29.70	668,334.2527	846,967.0981	0.32	2.04	3,474.85
15,354.00	90.55	178.29	12,142.96	-3,568.69	32.28	668,240.3005	846,969.6815	-0.74	-0.29	3,568.82
15,449.00	89.93	178.12	12,142.56	-3,663.64	35.26	668,145.3484	846,972.6572	-0.65	-0.18	3,663.79
15,544.00	90.86	178.64	12,141.91	-3,758.60	37.94	668,050.3900	846,975.3428	0.98	0.55	3,758.76
15,638.00	90.64	178.82	12,140.68	-3,852.57	40.03	667,956.4213	846,977.4260	-0.23	0.19	3,852.74



Stryker Directional Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
15,733.00	91.87	179.35	12,138.59	-3,947.53	41.54	667,861.4583	846,978.9428	1.29	0.56	3,947.71
15,828.00	92.13	179.52	12,135.28	-4,042.47	42.48	667,766.5209	846,979.8790	0.27	0.18	4,042.65
15,923.00	91.87	179.35	12,131.96	-4,137.41	43.42	667,671.5835	846,980.8152	-0.27	-0.18	4,137.59
16,018.00	92.79	180.84	12,128.10	-4,232.33	43.26	667,576.6659	846,980.6583	0.97	1.57	4,232.51
16,113.00	92.22	180.66	12,123.95	-4,327.23	42.02	667,481.7653	846,979.4160	-0.60	-0.19	4,327.40
16,207.00	91.60	180.75	12,120.82	-4,421.17	40.86	667,387.8251	846,978.2600	-0.66	0.10	4,421.33
16,302.00	90.77	180.58	12,118.85	-4,516.14	39.76	667,292.8526	846,977.1577	-0.87	-0.18	4,516.29
16,397.00	89.89	180.66	12,118.30	-4,611.13	38.73	667,197.8607	846,976.1297	-0.93	0.08	4,611.28
16,492.00	88.97	180.66	12,119.25	-4,706.12	37.64	667,102.8728	846,975.0355	-0.97	0.00	4,706.26
16,587.00	87.38	180.05	12,122.28	-4,801.07	37.05	667,007.9263	846,974.4470	-1.67	-0.64	4,801.20
16,682.00	90.02	180.58	12,124.43	-4,896.03	36.52	666,912.9609	846,973.9247	2.78	0.56	4,896.16
16,776.00	91.91	179.87	12,122.85	-4,990.01	36.16	666,818.9798	846,973.5554	2.01	-0.76	4,990.14
16,871.00	91.30	179.70	12,120.19	-5,084.97	36.51	666,724.0182	846,973.9118	-0.64	-0.18	5,085.10
16,966.00	91.69	180.93	12,117.71	-5,179.94	35.99	666,629.0540	846,973.3898	0.41	1.29	5,180.06
17,060.00	90.73	180.40	12,115.72	-5,273.91	34.90	666,535.0827	846,972.2991	-1.02	-0.56	5,274.02
17,155.00	91.69	181.02	12,113.72	-5,368.88	33.72	666,440.1128	846,971.1223	1.01	0.65	5,368.99
17,250.00	92.35	181.19	12,110.37	-5,463.80	31.89	666,345.1900	846,969.2914	0.69	0.18	5,463.90
17,345.00	92.00	181.46	12,106.76	-5,558.71	29.70	666,250.2841	846,967.0963	-0.37	0.28	5,558.79
17,440.00	91.21	181.89	12,104.10	-5,653.63	26.92	666,155.3629	846,964.3205	-0.83	0.45	5,653.69
17,534.00	92.18	179.61	12,101.32	-5,747.57	25.69	666,061.4194	846,963.0902	1.03	-2.43	5,747.63
17,629.00	91.47	179.70	12,098.30	-5,842.52	26.26	665,966.4700	846,963.6619	-0.75	0.09	5,842.58
17,724.00	92.75	179.70	12,094.80	-5,937.46	26.76	665,871.5377	846,964.1590	1.35	0.00	5,937.51
17,819.00	91.52	179.70	12,091.26	-6,032.39	27.26	665,776.6067	846,964.6561	-1.29	0.00	6,032.44
17,914.00	92.35	178.12	12,088.05	-6,127.31	29.06	665,681.6819	846,966.4618	0.87	-1.66	6,127.38
18,009.00	91.78	178.56	12,084.63	-6,222.21	31.81	665,586.7841	846,969.2119	-0.60	0.46	6,222.29
18,104.00	91.08	178.64	12,082.26	-6,317.15	34.13	665,491.8426	846,971.5322	-0.74	0.08	6,317.24
18,198.00	93.10	177.94	12,078.83	-6,411.04	36.93	665,397.9524	846,974.3349	2.15	-0.74	6,411.15



Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Build (°/100usft)	Turn (°/100usft)	V. Sec (usft)
18,293.00	92.22	178.12	12,074.42	-6,505.88	40.20	665,303.1118	846,977.5970	-0.93	0.19	6,506.00
18,388.00	92.18	178.47	12,070.77	-6,600.77	43.02	665,208.2240	846,980.4215	-0.04	0.37	6,600.91
18,482.00	91.38	178.12	12,067.85	-6,694.68	45.82	665,114.3119	846,983.2170	-0.85	-0.37	6,694.83
18,577.00	90.95	177.85	12,065.92	-6,789.60	49.16	665,019.3906	846,986.5566	-0.45	-0.28	6,789.77
18,671.00	91.52	178.12	12,063.90	-6,883.52	52.46	664,925.4710	846,989.8610	0.61	0.29	6,883.71
18,766.00	92.62	178.91	12,060.46	-6,978.43	54.92	664,830.5671	846,992.3215	1.16	0.83	6,978.63
18,860.00	91.74	178.73	12,056.89	-7,072.34	56.86	664,736.6560	846,994.2559	-0.94	-0.19	7,072.55
18,955.00	91.43	179.43	12,054.26	-7,167.29	58.38	664,641.7053	846,995.7806	-0.33	0.74	7,167.50
19,050.00	93.14	179.61	12,050.47	-7,262.21	59.18	664,546.7877	846,996.5759	1.80	0.19	7,262.43
19,145.00	93.41	181.19	12,045.05	-7,357.04	58.51	664,451.9483	846,995.9140	0.28	1.66	7,357.26
19,240.00	93.41	181.98	12,039.40	-7,451.84	55.89	664,357.1535	846,993.2910	0.00	0.83	7,452.04
19,334.00	91.96	181.19	12,034.99	-7,545.70	53.29	664,263.2959	846,990.6943	-1.54	-0.84	7,545.88
19,429.00	91.30	181.46	12,032.29	-7,640.63	51.10	664,168.3604	846,988.4984	-0.69	0.28	7,640.80
19,524.00	91.38	182.42	12,030.07	-7,735.55	47.88	664,073.4419	846,985.2833	0.08	1.01	7,735.70
19,619.00	89.49	179.61	12,029.35	-7,830.52	46.20	663,978.4734	846,983.6010	-1.99	-2.96	7,830.66
19,714.00	90.46	178.82	12,029.39	-7,925.51	47.50	663,883.4842	846,984.9026	1.02	-0.83	7,925.65
19,808.00	92.22	179.08	12,027.19	-8,019.46	49.22	663,789.5294	846,986.6246	1.87	0.28	8,019.61
19,817.81	92.10	179.03	12,026.82	-8,029.27	49.39	663,779.7278	846,986.7866	-1.19	-0.54	8,029.42
LTP [2525' FNL] - 19817.81' MD										
19,856.00	91.65	178.82	12,025.57	-8,067.43	50.10	663,741.5651	846,987.5037	-1.19	-0.54	8,067.58
19,908.00	91.65	178.82	12,024.07	-8,119.40	51.17	663,689.5977	846,988.5742	0.00	0.00	8,119.56
Projection to TD - 19908.00' MD										



Stryker Directional

Final Surveys



Company:	Manzano	Local Co-ordinate Reference:	Well Vindicator Canyon State Unit 152H
Project:	Lea County, NM (NAD 83)	TVD Reference:	RKB @ 3873.00usft (Latshaw 11)
Site:	Vindicator Canyon State Unit 152H	MD Reference:	RKB @ 3873.00usft (Latshaw 11)
Well:	Vindicator Canyon State Unit 152H	North Reference:	Grid
Wellbore:	Wellbore #2	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM5000

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,058.31	11,915.60	-298.26	24.01	FTP [100' FNL] - 12058.31' MD
14,691.00	12,140.25	-2,906.32	13.20	Tie-in to OH - 14691.00' MD
19,817.81	12,026.82	-8,029.27	49.39	LTP [2525' FNL] - 19817.81' MD
19,908.00	12,024.07	-8,119.40	51.17	Projection to TD - 19908.00' MD

Checked By: _____ Approved By: _____ Date: _____

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

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

Submit To Appropriate District Office Two Copies District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV 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		Form C-105 Revised April 3, 2017							
		1. WELL API NO. 30-025-49781									
		2. Type of Lease ☒ STATE ☐ FEE ☐ FED/INDIAN									
		3. State Oil & Gas Lease No.									
WELL COMPLETION OR RECOMPLETION REPORT AND LOG											
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)				5. Lease Name or Unit Agreement Name VINDICATOR CANYON STATE UNIT							
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER				6. Well Number: 152H							
8. Name of Operator MANZANO, LLC				9. OGRID 231429							
10. Address of Operator P.O. BOX 1737 - ROSWELL, NM 88202-1737				11. Pool name or Wildcat WC-025 G-09 S173615C; UPPER PENN							
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County	
Surface:	O	10	17S	36E		200	S	1420	E	LEA	
BH:	G	22	17S	36E		2615	N	1416	E	LEA	
13. Date Spudded 3/5/22	14. Date T.D. Reached 4/8/22	15. Date Rig Released 4/11/22		16. Date Completed (Ready to Produce) 6/7/22		17. Elevations (DF and RKB, RT, GR, etc.) 3848' gl & 3873' RKB					
18. Total Measured Depth of Well 19908		19. Plug Back Measured Depth 19899		20. Was Directional Survey Made? YES		21. Type Electric and Other Logs Run GAMMA RAY					
22. Producing Interval(s), of this completion - Top, Bottom, Name 12265, 19815. CANYON SHALE											
23. CASING RECORD (Report all strings set in well)											
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED	
9.625		40.0		2106		12.25		0		0	
7.625		29.7		11230		8.75		1600		0	
5.5		20.0		19904		6.75		1625		0	
24. LINER RECORD						25. TUBING RECORD					
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET				
					2.875	11050	11050				
26. Perforation record (interval, size, and number) 12265-19815, 0.39", 1260 HOLES						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL 12265-19815 AMOUNT AND KIND MATERIAL USED 18,826,964#s SAND + 380,802bbl SW + 1415BBL 10% ACID					
28. PRODUCTION											
Date First Production 6/7/22		Production Method (Flowing, gas lift, pumping - Size and type pump) FLOWING				Well Status (Prod. or Shut-in) PRODUCING					
Date of Test 6/21/22	Hours Tested 24	Choke Size 20/64	Prod'n For Test Period	Oil - Bbl 550	Gas - MCF 614	Water - Bbl. 1584	Gas - Oil Ratio 1116:1				
Flow Tubing Press. 1150	Casing Pressure 0	Calculated 24- Hour Rate	Oil - Bbl. 550	Gas - MCF 614	Water - Bbl. 1584	Oil Gravity - API - (Corr.) 47					
29. Disposition of Gas (Sold, used for fuel, vented, etc.) SOLD						30. Test Witnessed By					
31. List Attachments DIRECTIONAL SURVEY, GAMMA RAY LOG, C-104, C-103, C102 "AS DRILLED", ADDITIONAL POINTS											
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.						33. Rig Release Date: 4/11/22					
34. If an on-site burial was used at the well, report the exact location of the on-site burial:											
Latitude						Longitude		NAD83			
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief											
Signature Mike Hanagan		Printed Name Mike Hanagan		Title Managing Member		Date 6/21/22					
E-mail Address mike@manzanoenergy.com											

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

ACKNOWLEDGMENTS

Action 119491

ACKNOWLEDGMENTS

Operator: MANZANO LLC P.O. Box 1737 Roswell, NM 88202	OGRID: 231429
	Action Number: 119491
	Action Type: [C-104] Completion Packet (C-104C)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

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

CONDITIONS

Action 119491

CONDITIONS

Operator: MANZANO LLC P.O. Box 1737 Roswell, NM 88202	OGRID: 231429
	Action Number: 119491
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	None	9/29/2023