

RECEIVED

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 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

JAN 10 2020

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

X AMENDED REPORT
as drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-46088		2 Pool Code 98220		3 Pool Name PURPLE SAGE; WOLFCAMP (GAS)	
4 Property Code 325748		5 Property Name RANA SALADA FED COM 0504			6 Well Number 234H
7 OGRID No. 372920		8 Operator Name NOVO OIL AND GAS NORTHERN DELAWARE, LLC			9 Elevation 3039.1

10 Surface Location

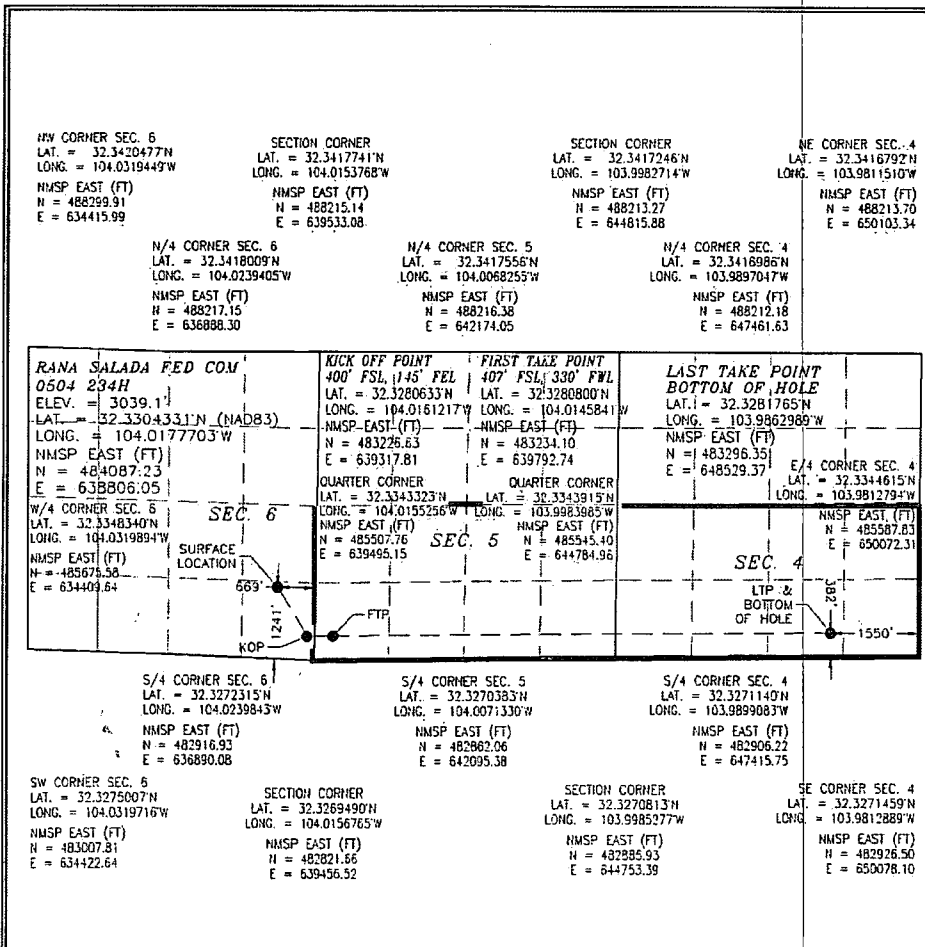
UL or lot no. P	Section 6	Township 23 S	Range 29 E	Lot Idn	Feet from the 1241	North/South line SOUTH	Feet from the 669	East/West line EAST	County EDDY
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11 Bottom Hole Location If Different From Surface

UL or lot no. P	Section 4	Township 23 S	Range 29 E	Lot Idn	Feet from the 382	North/South line SOUTH	Feet from the 1550	East/ West line EAST	County EDDY
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12 Dedicated Acres 640.00	13 Joint or Infill	14 Consolidation Code C	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.



16 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: *Brian Wood* Date: 1-2-20

BRIAN WOOD

Printed Name:

brian@permitswest.com

E-mail Address:

505 466-8120

17 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.

APRIL 1, 2019

Date of Survey

Signature and Seal of Professional Surveyor
Certificate Number FLMON 12797
SURVEY NO. 6289B

Intent ☐ As Drilled ☒ XX

API #
30-015-46088

Operator Name:
NOVO OIL & GAS NORTHERN
DELAWARE, LLC

Property Name:
RANA SALADA FED COM 0504

Well Number
234H

Kick Off Point (KOP)

UL P	Section 6	Township 23S	Range 29E	Lot	Feet 400	From N/S SOUTH	Feet 145	From E/W EAST	County EDDY
Latitude 32.3280633					Longitude 104.0161217			NAD 83	

First Take Point (FTP)

UL M	Section 5	Township 23S	Range 29E	Lot	Feet 407	From N/S SOUTH	Feet 330	From E/W WEST	County EDDY
Latitude 32.3280800					Longitude 104.0145841			NAD 83	

Last Take Point (LTP)

UL P	Section 4	Township 23S	Range 29E	Lot	Feet 382	From N/S SOUTH	Feet 1550	From E/W EAST	County EDDY
Latitude 32.3281765					Longitude 103.9862989			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

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Phone: (505) 476-3460 Fax: (505) 476-3462State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

EMNRD-OCD ARTESIA

Submittal for review by appropriate
District Office☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name RANA SALADA FED COM 0504	⁶ Well Number 234H
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL AND GAS NORTHERN DELAWARE, LLC	⁹ Elevation 3039.1

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
P	6	23 S	29 E		1241	SOUTH	669	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
P	4	23 S	29 E		330	SOUTH	330	EAST	EDDY

¹² Dedicated Acres	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.

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	VSEC (usft)	DLS (°/100ft)	Map N (usft)	Map E (usft)
19892.00	86.59	87.90	10932.20	-790.88	9723.32	9714.98	0.00	483296.35	648529.37

NW CORNER SEC. 6
LAT. = 32.3420477°N
LONG. = 104.0319449°W
NMSP EAST (FT)
N = 488299.91
E = 634413.99

SECTION CORNER
LAT. = 32.3417741°N
LONG. = 104.0153768°W
NMSP EAST (FT)
N = 488215.14
E = 639533.08

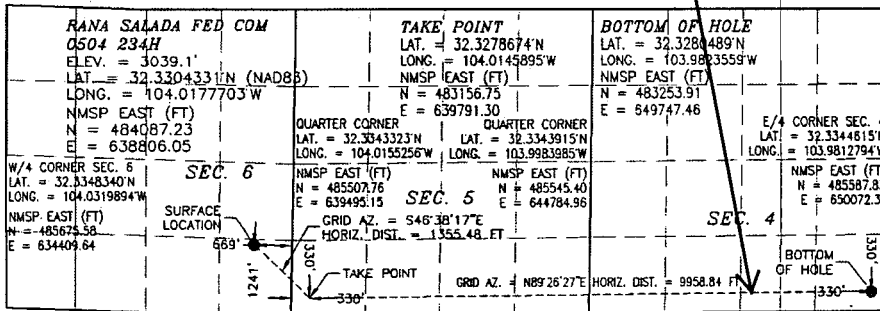
SECTION CORNER
LAT. = 32.3417246°N
LONG. = 103.9882714°W
NMSP EAST (FT)
N = 488213.27
E = 644815.88

NE CORNER SEC. 4
LAT. = 32.3416792°N
LONG. = 103.9811510°W
NMSP EAST (FT)
N = 488213.70
E = 650103.34

N/4 CORNER SEC. 6
LAT. = 32.3418009°N
LONG. = 104.0239405°W
NMSP EAST (FT)
N = 488217.15
E = 636888.30

N/4 CORNER SEC. 5
LAT. = 32.3417556°N
LONG. = 104.0068255°W
NMSP EAST (FT)
N = 488216.38
E = 642174.05

N/4 CORNER SEC. 4
LAT. = 32.3416986°N
LONG. = 103.9897047°W
NMSP EAST (FT)
N = 488212.18
E = 647461.63



SW CORNER SEC. 6
LAT. = 32.3275007°N
LONG. = 104.0319716°W
NMSP EAST (FT)
N = 483007.81
E = 634422.64

SECTION CORNER
LAT. = 32.3269490°N
LONG. = 104.0156765°W
NMSP EAST (FT)
N = 482821.86
E = 639456.32

SECTION CORNER
LAT. = 32.3270813°N
LONG. = 103.985277°W
NMSP EAST (FT)
N = 482885.93
E = 644753.39

SE CORNER SEC. 4
LAT. = 32.3271459°N
LONG. = 103.9812889°W
NMSP EAST (FT)
N = 482926.50
E = 650078.10

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

Date

Printed Name

E-mail Address

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.

JUNE 26, 2018

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number: NULIMON F. JARAMILLO, PLS 12797

SURVEY NO. 6289A



RECEIVED

JAN 10 2020

EMNRD-OCD ARTESIA

I Larry Wright, certify that I am employed by Wellbenders Directional Services. That I did on the day(s) of 07/31/19 thru 09/02/19 conduct or supervise the taking of a MWD Survey from a depth of 171' to a depth of 19892'; that the data is true, correct, complete and within the limitations of the tool as set forth by Wellbenders Directional Services; that I am authorized and qualified to make this report; that this survey was conducted at the request of Novo Oil & Gas, LLC for the Rana Salada Fed Com 0504 234H API No. 30-015-46088 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Wellbenders Directional Services.

Larry Wright

Larry
Wright

Digitally signed
by Larry Wright
Date:
2019.11.25
15:15:38 -06'00'

13901 Hwy 105W, Conroe, Texas
77304
PH 936-539-9602



Created By: Kriston Reneau Date: 12:30, September 03 2019



Novo Oil & Gas, LLC

Eddy County, NM (Nad-83 / East Zone)

Rana Salada Fed Com 0504

#234H

OH

Design: OH

End of Well Report

03 September, 2019





End of Well Report



Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #234H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3064.10usft
Site:	Rana Salada Fed Com 0504	MD Reference:	RKB = 25' @ 3064.10usft
Well:	#234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Project	Eddy County, NM (Nad-83 / East Zone)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Rana Salada Fed Com 0504		
Site Position:		Northing:	484,087.23 usft
From:	Map	Easting:	638,806.05 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32.330433
		Longitude:	-104.017770
		Grid Convergence:	0.169 °

Well	#234H					
Well Position	+N/-S	0.00 usft	Northing:	484,087.23 usft	Latitude:	32.330433
	+E/-W	0.00 usft	Easting:	638,806.05 usft	Longitude:	-104.017770
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,039.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/16/2019	6.944	60.063	47,742.98126413

Design		OH		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	89.43

Survey Program		Date 9/3/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
171.00	19,892.00	Survey #1 (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM



End of Well Report



Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #234H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3064.10usft
Site:	Rana Salada Fed Com 0504	MD Reference:	RKB = 25' @ 3064.10usft
Well:	#234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS 0504 #234H: SHL									
25.98	0.09	30.99	25.98	0.02	0.01	0.01	25.98	30.99	0.35
RS 0504 #234H: PBHL-Platted (380' FSL & 330' FEL)									
171.00	0.60	30.99	171.00	0.77	0.46	0.47	145.02	30.99	0.35
213.00	0.70	167.99	213.00	0.71	0.63	0.63	42.00	110.54	2.88
335.00	0.20	68.60	334.99	0.05	0.98	0.98	122.00	151.52	0.62
419.00	0.20	132.40	418.99	0.01	1.23	1.23	84.00	100.50	0.25
510.00	0.20	162.94	509.99	-0.25	1.39	1.39	91.00	147.67	0.12
602.00	0.48	174.98	601.99	-0.79	1.47	1.46	92.00	171.45	0.31
694.00	0.48	170.59	693.99	-1.55	1.57	1.55	92.00	172.78	0.04
784.00	0.78	186.50	783.98	-2.53	1.56	1.53	90.00	180.45	0.38
875.00	1.01	204.95	874.97	-3.88	1.15	1.11	91.00	196.92	0.40
966.00	1.10	218.93	965.95	-5.28	0.26	0.21	91.00	212.24	0.30
1,059.00	1.58	225.17	1,058.93	-6.88	-1.21	-1.27	93.00	222.61	0.54
1,151.00	1.89	224.12	1,150.89	-8.86	-3.16	-3.25	92.00	224.60	0.34
1,243.00	2.11	226.14	1,242.83	-11.13	-5.44	-5.55	92.00	225.19	0.25
1,336.00	1.58	216.21	1,335.78	-13.35	-7.43	-7.56	93.00	221.89	0.66
1,427.00	1.41	198.10	1,426.75	-15.42	-8.52	-8.67	91.00	207.67	0.55
1,519.00	1.41	207.42	1,518.72	-17.50	-9.39	-9.57	92.00	202.76	0.25
1,612.00	0.70	201.62	1,611.71	-19.05	-10.13	-10.32	93.00	205.50	0.77
1,703.00	0.48	179.38	1,702.70	-19.95	-10.33	-10.53	91.00	192.60	0.34
1,799.00	0.62	208.91	1,798.70	-20.80	-10.58	-10.78	96.00	196.07	0.32
1,893.00	0.22	185.53	1,892.70	-21.43	-10.84	-11.05	94.00	202.85	0.45
1,988.00	1.01	57.92	1,987.69	-21.16	-10.15	-10.36	95.00	69.18	1.22
2,082.00	0.79	76.37	2,081.68	-20.57	-8.82	-9.02	94.00	66.01	0.38
2,178.00	1.32	101.42	2,177.66	-20.63	-7.09	-7.29	96.00	92.09	0.72



End of Well Report



Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #234H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3064.10usft
Site:	Rana Salada Fed Com 0504	MD Reference:	RKB = 25' @ 3064.10usft
Well:	#234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)	
2,273.00	2.20	109.51	2,272.62	-21.46	-4.30	-4.51	95.00	106.48	0.96	
2,368.00	2.20	107.14	2,367.55	-22.61	-0.84	-1.06	95.00	108.33	0.10	
2,463.00	2.29	77.87	2,462.48	-22.74	2.76	2.53	95.00	92.21	1.20	
2,559.00	2.29	69.08	2,558.40	-21.66	6.43	6.21	96.00	73.47	0.37	
2,654.00	2.20	88.68	2,653.33	-20.94	10.02	9.81	95.00	78.68	0.81	
2,749.00	2.29	84.28	2,748.26	-20.71	13.74	13.53	95.00	86.44	0.20	
2,844.00	2.11	83.14	2,843.19	-20.31	17.36	17.16	95.00	83.73	0.19	
2,938.00	2.20	70.40	2,937.12	-19.50	20.78	20.58	94.00	76.64	0.52	
3,119.00	2.46	75.15	3,117.97	-17.34	27.81	27.63	181.00	72.91	0.18	
3,212.00	1.89	92.73	3,210.91	-16.90	31.27	31.10	93.00	82.78	0.94	
3,307.00	0.75	110.05	3,305.88	-17.18	33.42	33.24	95.00	97.63	1.26	
3,402.00	0.75	119.45	3,400.87	-17.70	34.54	34.36	95.00	114.75	0.13	
3,496.00	0.84	99.94	3,494.86	-18.12	35.76	35.57	94.00	109.14	0.30	
3,592.00	0.62	93.87	3,590.85	-18.28	36.97	36.78	96.00	97.36	0.24	
3,688.00	0.44	113.30	3,686.85	-18.46	37.82	37.64	96.00	101.92	0.26	
3,782.00	0.53	132.63	3,780.85	-18.90	38.47	38.28	94.00	123.87	0.20	
3,876.00	0.26	107.85	3,874.85	-19.26	39.00	38.80	94.00	124.53	0.33	
3,972.00	0.44	156.54	3,970.84	-19.66	39.35	39.15	96.00	138.83	0.35	
4,068.00	0.31	171.22	4,066.84	-20.26	39.54	39.33	96.00	162.60	0.17	
4,163.00	0.26	110.22	4,161.84	-20.59	39.78	39.57	95.00	143.68	0.31	
4,258.00	0.26	203.47	4,256.84	-20.86	39.90	39.69	95.00	156.84	0.40	
4,354.00	0.18	152.06	4,352.84	-21.19	39.88	39.67	96.00	182.77	0.21	
4,448.00	0.70	159.53	4,446.84	-21.86	40.15	39.93	94.00	158.00	0.56	
4,543.00	2.24	163.66	4,541.80	-24.19	40.88	40.63	95.00	162.68	1.62	
4,638.00	3.82	154.78	4,636.67	-28.83	42.75	42.46	95.00	158.06	1.73	
4,731.00	5.36	158.03	4,729.37	-35.66	45.69	45.33	93.00	156.68	1.68	
4,825.00	6.86	159.44	4,822.83	-44.99	49.31	48.86	94.00	158.82	1.60	



End of Well Report



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Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)	
4,920.00	8.75	159.97	4,916.94	-57.09	53.77	53.20	95.00	159.74	1.99	
5,015.00	10.24	156.28	5,010.64	-71.61	59.65	58.93	95.00	157.98	1.69	
5,109.00	10.24	156.45	5,103.14	-86.92	66.35	65.48	94.00	156.37	0.03	
5,204.00	9.58	155.40	5,196.73	-101.85	73.01	71.99	95.00	155.94	0.72	
5,298.00	9.14	153.73	5,289.47	-115.66	79.57	78.42	94.00	154.58	0.55	
5,392.00	9.98	154.26	5,382.17	-129.69	86.41	85.12	94.00	154.01	0.90	
5,486.00	11.12	154.08	5,474.58	-145.18	93.91	92.46	94.00	154.17	1.21	
5,579.00	12.00	153.55	5,565.69	-161.90	102.14	100.52	93.00	153.81	0.95	
5,674.00	11.78	154.96	5,658.65	-179.53	110.64	108.85	95.00	154.25	0.38	
5,767.00	12.44	154.26	5,749.58	-197.15	119.01	117.04	93.00	154.60	0.73	
5,861.00	12.88	154.34	5,841.30	-215.72	127.94	125.79	94.00	154.30	0.47	
5,954.00	13.10	155.13	5,931.92	-234.62	136.87	134.52	93.00	154.74	0.30	
6,048.00	12.44	149.77	6,023.59	-253.04	146.44	143.92	94.00	152.52	1.44	
6,143.00	11.82	153.99	6,116.48	-270.62	155.86	153.16	95.00	151.83	1.14	
6,237.00	10.95	154.34	6,208.62	-287.32	163.95	161.08	94.00	154.16	0.93	
6,331.00	10.95	154.96	6,300.91	-303.46	171.59	168.57	94.00	154.65	0.13	
6,425.00	11.21	153.55	6,393.16	-319.73	179.44	176.25	94.00	154.25	0.40	
6,519.00	10.07	155.13	6,485.54	-335.36	186.97	183.62	94.00	154.30	1.25	
6,614.00	9.32	154.69	6,579.19	-349.85	193.75	190.26	95.00	154.92	0.79	
6,708.00	7.78	152.67	6,672.14	-362.39	199.93	196.31	94.00	153.77	1.67	
6,802.00	6.33	150.21	6,765.43	-372.54	205.42	201.71	94.00	151.57	1.58	
6,897.00	4.92	155.93	6,859.97	-380.80	209.69	205.89	95.00	152.71	1.60	
6,990.00	3.91	161.90	6,952.69	-387.46	212.30	208.43	93.00	158.57	1.19	
7,085.00	4.62	152.23	7,047.43	-393.92	215.09	211.16	95.00	156.66	1.06	
7,179.00	7.38	149.86	7,140.90	-402.50	219.88	215.87	94.00	150.77	2.95	
7,274.00	9.27	151.71	7,234.90	-414.51	226.57	222.44	95.00	150.89	2.01	
7,369.00	11.08	151.71	7,328.40	-429.29	234.53	230.24	95.00	151.71	1.91	



End of Well Report



Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #234H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3064.10usft
Site:	Rana Salada Fed Com 0504	MD Reference:	RKB = 25' @ 3064.10usft
Well:	#234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey										
MD. (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)	
7,463.00	10.95	151.88	7,420.67	-445.12	243.02	238.58	94.00	151.79	0.14	
7,553.00	10.81	150.83	7,509.05	-460.02	251.16	246.57	90.00	151.36	0.27	
7,648.00	13.36	146.70	7,601.94	-476.98	261.53	256.77	95.00	148.55	2.83	
7,742.00	12.75	148.89	7,693.51	-494.94	272.85	267.91	94.00	147.77	0.84	
7,837.00	11.38	149.42	7,786.41	-511.98	283.03	277.93	95.00	149.14	1.45	
7,931.00	11.25	148.72	7,878.58	-527.80	292.51	287.25	94.00	149.07	0.20	
8,026.00	12.22	144.68	7,971.60	-543.93	303.14	297.71	95.00	146.62	1.34	
8,122.00	12.48	143.53	8,065.38	-560.56	315.18	309.59	96.00	144.10	0.37	
8,217.00	13.10	143.09	8,158.02	-577.42	327.75	321.98	95.00	143.30	0.66	
8,312.00	12.22	148.72	8,250.71	-594.62	339.43	333.50	95.00	145.81	1.59	
8,407.00	11.16	149.60	8,343.74	-611.15	349.30	343.21	95.00	149.14	1.13	
8,502.00	11.47	148.10	8,436.89	-627.09	358.95	352.69	95.00	148.84	0.45	
8,596.00	11.60	146.87	8,528.99	-642.94	369.05	362.64	94.00	147.48	0.30	
8,689.00	12.00	149.42	8,620.03	-659.10	379.08	372.51	93.00	148.17	0.71	
8,784.00	11.03	152.59	8,713.12	-675.67	388.29	381.55	95.00	150.94	1.22	
8,880.00	10.51	154.26	8,807.43	-691.71	396.32	389.42	96.00	153.41	0.63	
8,975.00	9.36	148.54	8,901.00	-706.10	404.11	397.07	95.00	151.56	1.59	
9,068.00	11.60	136.59	8,992.46	-719.35	414.49	407.31	93.00	141.93	3.34	
9,163.00	11.56	139.14	9,085.52	-733.49	427.28	419.96	95.00	137.86	0.54	
9,258.00	10.81	143.18	9,178.72	-747.82	438.85	431.39	95.00	141.09	1.14	
9,352.00	10.29	144.41	9,271.13	-761.70	449.02	441.42	94.00	143.78	0.60	
9,446.00	9.49	145.99	9,363.73	-774.95	458.24	450.50	94.00	145.17	0.90	
9,541.00	8.66	143.01	9,457.54	-787.16	466.92	459.07	95.00	144.57	1.00	
9,635.00	8.09	147.31	9,550.54	-798.38	474.75	466.79	94.00	145.09	0.90	
9,729.00	7.08	148.37	9,643.72	-808.88	481.36	473.29	94.00	147.80	1.08	
9,822.00	6.29	148.10	9,736.08	-818.08	487.06	478.90	93.00	148.24	0.85	
9,917.00	5.54	145.29	9,830.58	-826.27	492.42	484.18	95.00	146.78	0.85	



End of Well Report



Company: Novo Oil & Gas, LLC
Project: Eddy County, NM (Nad-83 / East Zone)
Site: Rana Salada Fed Com 0504
Well: #234H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #234H
TVD Reference: RKB = 25' @ 3064.10usft
MD Reference: RKB = 25' @ 3064.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)	
10,012.00	4.79	152.67	9,925.19	-833.56	496.85	488.54	95.00	148.71	1.05	
10,119.00	4.57	155.05	10,031.84	-841.40	500.70	492.31	107.00	153.83	0.27	
10,185.00	4.66	150.83	10,097.62	-846.12	503.12	494.68	66.00	152.92	0.53	
10,280.00	5.19	149.95	10,192.27	-853.21	507.15	498.64	95.00	150.37	0.56	
10,374.00	5.45	146.26	10,285.87	-860.60	511.76	503.17	94.00	148.06	0.46	
10,470.00	10.02	94.40	10,381.07	-865.04	522.64	514.00	96.00	112.20	8.23	
10,517.00	13.71	88.07	10,427.06	-865.17	532.28	523.65	47.00	90.75	8.31	
10,565.00	17.49	85.26	10,473.28	-864.38	545.16	536.54	48.00	86.50	8.03	
10,597.00	21.89	83.50	10,503.40	-863.31	555.89	547.27	32.00	84.29	13.87	
10,628.00	26.24	82.45	10,531.70	-861.75	568.43	559.83	31.00	82.93	14.10	
10,660.00	31.60	82.27	10,559.70	-859.69	583.76	575.18	32.00	82.35	16.75	
10,705.00	38.42	87.19	10,596.55	-857.42	609.44	600.88	45.00	84.94	16.39	
10,756.00	43.82	90.45	10,634.96	-856.78	642.95	634.40	51.00	88.91	11.39	
10,774.90	46.50	90.76	10,648.28	-856.92	656.35	647.80	18.90	90.61	14.22	
Unit Line Xing #1 @ 10774' MD										
10,801.00	50.20	91.15	10,665.62	-857.25	675.85	667.29	26.10	90.96	14.22	
10,845.00	56.04	90.45	10,692.02	-857.73	711.02	702.46	44.00	90.79	13.33	
10,890.00	61.85	87.72	10,715.23	-857.09	749.55	740.98	45.00	89.04	13.92	
10,936.00	65.41	86.49	10,735.65	-855.00	790.70	782.16	46.00	87.10	8.10	
11,028.00	72.70	88.34	10,768.52	-851.16	876.47	867.96	92.00	87.44	8.14	
11,120.00	89.41	93.17	10,782.79	-852.44	967.00	958.47	92.00	90.81	18.88	
11,139.45	89.66	92.88	10,782.94	-853.47	986.42	977.88	19.45	93.03	1.94	
330' Offset Xing @ 11139' MD										
11,140.31	89.67	92.87	10,782.95	-853.51	987.28	978.74	0.86	92.88	1.94	
RS 0504 #234H: LP/ FTP (380' FSL & 330' FWL)										
11,210.00	90.55	91.85	10,782.82	-856.39	1,056.91	1,048.33	69.69	92.36	1.94	
11,301.00	90.15	91.33	10,782.26	-858.91	1,147.87	1,139.27	91.00	91.59	0.72	



End of Well Report



Company: Novo Oil & Gas, LLC
Project: Eddy County, NM (Nad-83 / East Zone)
Site: Rana Salada Fed Com 0504
Well: #234H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #234H
TVD Reference: RKB = 25' @ 3064.10usft
MD Reference: RKB = 25' @ 3064.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)
11,393.00	90.37	91.68		10,781.84	-861.33	1,239.84	1,231.21	92.00	91.50	0.45
11,485.00	90.68	91.15		10,781.00	-863.60	1,331.80	1,323.15	92.00	91.42	0.67
11,578.00	91.69	90.80		10,779.08	-865.18	1,424.77	1,416.09	93.00	90.98	1.15
11,669.00	89.27	88.78		10,778.31	-864.85	1,515.75	1,507.07	91.00	89.79	3.46
11,762.00	89.58	87.90		10,779.25	-862.15	1,608.71	1,600.05	93.00	88.34	1.00
11,854.00	88.88	86.49		10,780.48	-857.65	1,700.59	1,691.97	92.00	87.20	1.71
11,946.00	89.14	86.40		10,782.07	-851.95	1,792.40	1,783.83	92.00	86.44	0.30
12,038.00	90.20	85.96		10,782.60	-845.82	1,884.19	1,875.68	92.00	86.18	1.25
12,130.00	91.96	88.60		10,780.87	-841.45	1,976.06	1,967.59	92.00	87.28	3.45
12,224.00	91.08	92.20		10,778.38	-842.11	2,070.01	2,061.53	94.00	90.40	3.94
12,319.00	88.75	92.64		10,778.52	-846.12	2,164.91	2,156.39	95.00	92.42	2.50
12,413.00	90.11	92.91		10,779.45	-850.67	2,258.80	2,250.22	94.00	92.78	1.48
12,506.00	88.26	90.62		10,780.77	-853.54	2,351.73	2,343.13	93.00	91.77	3.17
12,600.00	86.24	88.78		10,785.28	-853.05	2,445.61	2,437.01	94.00	89.70	2.91
12,694.00	94.37	88.07		10,784.78	-850.46	2,539.50	2,530.91	94.00	88.43	8.68
12,788.00	92.88	89.04		10,778.84	-848.10	2,633.28	2,624.71	94.00	88.56	1.89
12,882.00	93.36	89.83		10,773.72	-847.17	2,727.13	2,718.57	94.00	89.43	0.98
12,976.00	91.25	92.20		10,769.94	-848.84	2,821.03	2,812.44	94.00	91.02	3.37
13,071.00	89.14	93.79		10,769.62	-853.80	2,915.89	2,907.25	95.00	93.00	2.78
13,166.00	88.44	94.58		10,771.63	-860.73	3,010.61	3,001.90	95.00	94.18	1.11
13,262.00	85.32	93.52		10,776.85	-867.50	3,106.22	3,097.44	96.00	94.05	3.43
13,355.00	85.76	91.33		10,784.08	-871.43	3,198.85	3,190.02	93.00	92.42	2.39
13,450.00	85.41	88.07		10,791.40	-870.93	3,293.55	3,284.73	95.00	89.70	3.44
13,544.00	85.45	86.93		10,798.89	-866.84	3,387.16	3,378.37	94.00	87.50	1.21
13,638.00	88.09	87.63		10,804.18	-862.39	3,480.90	3,472.15	94.00	87.28	2.91
13,730.00	91.38	87.81		10,804.61	-858.73	3,572.81	3,564.09	92.00	87.72	3.58
13,825.00	90.99	88.78		10,802.65	-855.91	3,667.75	3,659.05	95.00	88.30	1.10



End of Well Report



Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #234H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3064.10usft
Site:	Rana Salada Fed Com 0504	MD Reference:	RKB = 25' @ 3064.10usft
Well:	#234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)
13,920.00	89.01	88.78	10,802.65	-853.88	3,762.72	3,754.04	95.00	88.78	2.08
14,015.00	88.79	87.90	10,804.47	-851.13	3,857.66	3,849.01	95.00	88.34	0.95
14,109.00	89.45	86.67	10,805.91	-846.68	3,951.55	3,942.93	94.00	87.28	1.48
14,203.00	88.35	86.76	10,807.72	-841.29	4,045.37	4,036.80	94.00	86.71	1.17
14,298.00	91.56	88.78	10,807.79	-837.60	4,140.28	4,131.75	95.00	87.77	3.99
14,392.00	92.48	93.00	10,804.48	-839.06	4,234.19	4,225.63	94.00	90.89	4.59
14,486.00	88.84	96.25	10,803.39	-846.63	4,327.85	4,319.21	94.00	94.63	5.19
14,581.00	86.90	98.18	10,806.93	-858.55	4,422.02	4,413.26	95.00	97.21	2.88
14,674.00	85.71	95.90	10,812.92	-869.93	4,514.12	4,505.25	93.00	97.04	2.76
14,768.00	83.87	91.50	10,821.46	-875.97	4,607.51	4,598.57	94.00	93.70	5.06
14,862.00	83.87	89.13	10,831.50	-876.49	4,700.97	4,692.01	94.00	90.31	2.51
14,955.00	86.24	88.25	10,839.51	-874.37	4,793.59	4,784.65	93.00	88.69	2.72
15,050.00	87.69	88.16	10,844.54	-871.40	4,888.41	4,879.49	95.00	88.20	1.53
15,145.00	88.18	90.10	10,847.97	-869.96	4,983.33	4,974.43	95.00	89.13	2.10
15,239.00	87.96	88.43	10,851.13	-868.75	5,077.26	5,068.37	94.00	89.27	1.79
15,333.00	86.02	89.13	10,856.07	-866.75	5,171.11	5,162.23	94.00	88.78	2.19
15,428.00	87.60	87.72	10,861.36	-864.14	5,265.92	5,257.06	95.00	88.42	2.23
15,523.00	89.32	87.19	10,863.91	-859.93	5,360.79	5,351.97	95.00	87.45	1.89
15,617.00	89.10	87.19	10,865.21	-855.32	5,454.67	5,445.89	94.00	87.19	0.23
15,711.00	90.24	88.07	10,865.75	-851.43	5,548.58	5,539.84	94.00	87.63	1.53
15,806.00	91.82	89.83	10,864.04	-849.69	5,643.54	5,634.81	95.00	88.95	2.49
15,900.00	89.23	91.24	10,863.18	-850.57	5,737.52	5,728.78	94.00	90.54	3.14
15,994.00	87.38	90.89	10,865.96	-852.32	5,831.46	5,822.70	94.00	91.07	2.00
16,089.00	88.48	90.18	10,869.39	-853.20	5,926.39	5,917.61	95.00	90.53	1.38
16,114.08	88.55	89.95	10,870.04	-853.23	5,951.47	5,942.68	25.08	90.06	0.97
Unit Line Xing #2 @ 16114' MD									
16,184.00	88.75	89.30	10,871.69	-852.77	6,021.36	6,012.58	69.92	89.62	0.97



End of Well Report



Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #234H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3064.10usft
Site:	Rana Salada Fed Com 0504	MD Reference:	RKB = 25' @ 3064.10usft
Well:	#234H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)	
16,277.00	89.80	89.22	10,872.86	-851.57	6,114.35	6,105.57	93.00	89.26	1.13	
16,372.00	84.31	89.39	10,877.74	-850.42	6,209.18	6,200.41	95.00	89.30	5.78	
16,467.00	88.31	88.16	10,883.85	-848.39	6,303.94	6,295.19	95.00	88.77	4.40	
16,562.00	86.02	87.37	10,888.55	-844.69	6,398.74	6,390.02	95.00	87.77	2.55	
16,657.00	87.34	89.04	10,894.05	-841.72	6,493.53	6,484.84	95.00	88.21	2.24	
16,751.00	88.92	88.69	10,897.12	-839.86	6,587.46	6,578.78	94.00	88.86	1.72	
16,846.00	89.67	87.63	10,898.29	-836.81	6,682.40	6,673.75	95.00	88.16	1.37	
16,940.00	89.54	86.05	10,898.94	-831.63	6,776.25	6,767.65	94.00	86.84	1.69	
17,035.00	86.64	83.50	10,902.11	-822.99	6,870.79	6,862.26	95.00	84.78	4.06	
17,130.00	88.09	86.14	10,906.47	-814.42	6,965.29	6,956.84	95.00	84.82	3.17	
17,224.00	86.51	84.12	10,910.90	-806.45	7,058.84	7,050.47	94.00	85.13	2.73	
17,320.00	88.31	87.81	10,915.24	-799.71	7,154.48	7,146.17	96.00	85.97	4.27	
17,415.00	87.74	87.46	10,918.52	-795.79	7,249.35	7,241.07	95.00	87.64	0.70	
17,511.00	91.56	90.53	10,919.10	-794.11	7,345.30	7,337.04	96.00	89.00	5.10	
17,605.00	92.75	90.62	10,915.57	-795.05	7,439.23	7,430.95	94.00	90.57	1.27	
17,700.00	92.70	89.22	10,911.05	-794.92	7,534.12	7,525.84	95.00	89.92	1.47	
17,795.00	92.04	87.11	10,907.12	-791.88	7,628.98	7,620.73	95.00	88.16	2.33	
17,889.00	93.58	86.58	10,902.51	-786.71	7,722.72	7,714.51	94.00	86.85	1.73	
17,982.00	94.15	88.51	10,896.24	-782.73	7,815.42	7,807.25	93.00	87.54	2.16	
18,076.00	91.52	90.62	10,891.59	-782.02	7,909.29	7,901.12	94.00	89.57	3.59	
18,171.00	90.33	93.61	10,890.06	-785.53	8,004.20	7,995.99	95.00	92.12	3.39	
18,267.00	87.47	92.47	10,891.90	-790.62	8,100.04	8,091.77	96.00	93.04	3.21	
18,362.00	90.46	93.26	10,893.62	-795.37	8,194.89	8,186.57	95.00	92.87	3.26	
18,456.00	89.67	93.00	10,893.51	-800.50	8,288.75	8,280.38	94.00	93.13	0.88	
18,551.00	92.04	93.79	10,892.10	-806.12	8,383.56	8,375.13	95.00	93.39	2.63	
18,647.00	87.65	90.80	10,892.36	-809.97	8,479.45	8,470.98	96.00	92.30	5.53	
18,740.00	88.84	90.36	10,895.20	-810.91	8,572.40	8,563.91	93.00	90.58	1.36	



End of Well Report



Company: Novo Oil & Gas, LLC
Project: Eddy County, NM (Nad-83 / East Zone)
Site: Rana Salada Fed Com 0504
Well: #234H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #234H
TVD Reference: RKB = 25' @ 3064.10usft
MD Reference: RKB = 25' @ 3064.10usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WBDS_SQL_2

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	CL (usft)	CL Azi (°)	DLeg (°/100ft)
18,834.00	90.24	90.27	10,895.96	-811.42	8,666.40	8,657.89	94.00	90.31	1.49
18,927.00	88.97	89.83	10,896.60	-811.51	8,759.39	8,750.89	93.00	90.05	1.45
19,022.00	88.97	88.43	10,898.31	-810.06	8,854.36	8,845.87	95.00	89.13	1.47
19,116.00	90.33	88.25	10,898.88	-807.34	8,948.32	8,939.85	94.00	88.34	1.46
19,210.00	87.43	88.60	10,900.72	-804.76	9,042.26	9,033.80	94.00	88.42	3.11
19,304.00	88.04	88.78	10,904.43	-802.61	9,136.16	9,127.72	94.00	88.69	0.68
19,399.00	88.18	89.57	10,907.57	-801.24	9,231.09	9,222.67	95.00	89.18	0.84
19,493.00	87.56	89.04	10,911.06	-800.10	9,325.02	9,316.60	94.00	89.31	0.87
19,587.00	86.51	88.60	10,915.92	-798.17	9,418.88	9,410.47	94.00	88.82	1.21
19,681.00	87.96	89.74	10,920.46	-796.81	9,512.75	9,504.35	94.00	89.17	1.96
19,774.00	86.33	88.16	10,925.09	-795.11	9,605.61	9,597.23	93.00	88.95	2.44
19,814.00	86.59	87.90	10,927.56	-793.74	9,645.51	9,637.14	40.00	88.03	0.92
19,892.00	86.59	87.90	10,932.20	-790.88	9,723.32	9,714.97	78.00	87.90	0.00

Final Station Closure Distance= 9755.44 /Direction= 94.65 - Projection to Bit: 19892.00' MD/ 10932.20' TVD - RS 0504 #234H: PBHL-EXT - RS 0504 #234H: BHL

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,774.90	10,648.28	-856.92	656.35	Unit Line Xing #1 @ 10774' MD
11,139.45	10,782.94	-853.47	986.42	330' Offset Xing @ 11139' MD
16,114.08	10,870.04	-853.23	5,951.47	Unit Line Xing #2 @ 16114' MD
19,892.00	10,932.20	-790.88	9,723.32	Final Station Closure Distance= 9755.44 /Direction= 94.65
19,892.00	10,932.20	-790.88	9,723.32	Projection to Bit: 19892.00' MD/ 10932.20' TVD

Checked By: _____ Approved By: _____ Date: _____