

JAN 10 2020

Revised August 1, 2011

District Office

[X] AMENDED REPORT
as drilled

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-9720

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-46085		² Pool Code 98220		³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)					
⁴ Property Code 325746		⁵ Property Name RANA SALADA FED COM 0605						⁶ Well Number 231H	
⁷ OGRID No. 372920		⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC						⁹ Elevation 3089.1	
¹⁰ Surface Location									
UL or lot no. 1	Section 1	Township 23 S	Range 28E	Lot Idn	Feet from the 1127	North/South line NORTH	Feet from the 395	East/West line EAST	County EDDY
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. 1	Section 5	Township 23S	Range 29E	Lot Idn	Feet from the 384	North/South line NORTH	Feet from the 137	East/West line EAST	County EDDY
¹² Dedicated Acres 636.09		¹³ Joint or Infill		¹⁴ Consolidation Code C		¹⁵ Order No.			

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.

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.

Brian Wood **1-2-20**

Signature _____ Date _____

BRIAN WOOD

Printed Name _____

brian@permitswests.com

E-mail Address _____

505 466-8120

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.

APRIL 1, 2019

Date of Survey _____

Signature and Seal of Professional Surveyor: _____

Certificate Number: _____ LS 12797

PROF. 6144C

Intent ☐ As Drilled ☒

API #

Operator Name:	Property Name:	Well Number
NOVO OIL & GAS NORTHERN DELAWARE, LLC	RANA SALADA FED COM 0605	231H

Kick Off Point (KOP)

UL	Section 1	Township 23S	Range 28E	Lot 1	Feet 470	From N/S NORTH	Feet 91	From E/W EAST	County EDDY
Latitude 32.3407574					Longitude 104.0322465			NAD 83	

First Take Point (FTP)

UL	Section 6	Township 23S	Range 29E	Lot 4	Feet 458	From N/S NORTH	Feet 332	From E/W WEST	County EDDY
Latitude 32.3407549					Longitude 104.0308793			NAD 83	

Last Take Point (LTP)

UL	Section 5	Township 23S	Range 29E	Lot 1	Feet 374	From N/S NORTH	Feet 332	From E/W EAST	County EDDY
Latitude 32.3407018					Longitude 104.9993654			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



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 09/10/19 thru 10/17/19 conduct or supervise the taking of a MWD Survey from a depth of 62' to a depth of 10911' and from a depth of 10173' to a depth of 20902'; 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 0605 231H API No. 30-015-46085 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
15:06:43 -06'00'

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

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	VSEC (usft)	DLS (°/100ft)	Map N (usft)	Map E (usft)
10941.00	64.32	68.08	10728.60	904.93	421.42	421.10	19.73	488077.3	634439.7

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 mineral 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.

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	N/S (usft)	E/W (usft)	VSEC (usft)	DLS (°/100ft)	Map N (usft)	Map E (usft)
20902.00	90.73	93.08	10855.37	657.48	10658.78	10679.02	0.00	487829.9	644677.1

SECTION CORNER
LAT. = 32.3420477N
LONG. = 104.0319449W
N = 488299.91
E = 634415.99

SECTION CORNER
LAT. = 32.3417741N
LONG. = 104.0153768W
N = 488215.14
E = 634433.10

NE CORNER SEC. 5
LAT. = 32.3417246N
LONG. = 103.9982714W
N = 488213.27
E = 644815.88

SW CORNER SEC. 1
LAT. = 32.3420546N
LONG. = 104.0406141W
N = 488294.97
E = 631738.67

W/4 CORNER SEC. 1
LAT. = 32.3346587N
LONG. = 104.0492867W
N = 485587.21
E = 629067.40

S/4 CORNER SEC. 1
LAT. = 32.3274077N
LONG. = 104.0406526W
N = 482966.56
E = 631741.32

SW CORNER SEC. 1
LAT. = 32.3273138N
LONG. = 104.0493350W
N = 482925.17
E = 629095.57

RAMA SALADA FED COM 0605 231H
ELEV. = 3089.1'
LAT. = 32.3389517N (NAD83)
LONG. = 104.0332427W
NWSP EAST (FT)
N = 487172.46
E = 634018.37

FIRST TAKE POINT
330' PNL 330' PNL
LAT. = 32.3411074N
LONG. = 104.0308823W
NWSP EAST (FT)
N = 487958.73
E = 634745.14

LAST TAKE POINT
330' PNL 330' FEL
LAT. = 32.3408215N
LONG. = 103.9993556W
NWSP EAST (FT)
N = 487883.69
E = 644482.07

BOTTOM OF HOLE
LAT. = 32.3408193N
LONG. = 103.9987080W
NWSP EAST (FT)
N = 487883.49
E = 644682.08

SE CORNER SEC. 5
LAT. = 32.3270813N
LONG. = 103.9985277W
N = 482885.93
E = 644753.39

SECTION CORNER
LAT. = 32.3269490N
LONG. = 104.0156765W
N = 482821.66
E = 634956.52

S/4 CORNER SEC. 6
LAT. = 32.3272315N
LONG. = 104.0239843W
N = 482916.93
E = 636890.08

S/4 CORNER SEC. 5
LAT. = 32.3270383N
LONG. = 104.0071330W
N = 482862.06
E = 642095.38

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.

APRIL 1, 2019

Date of Survey

MILIMON F. JARAMILLO
NEW MEXICO
12798
Professional Surveyor

Signature and Seal of Professional Surveyor

Certificate Number: T-01 MILIMON F. JARAMILLO, PLS 12797

SURVEY NO. 61-44C



Company: Novo Oil & Gas, LLC
Project: Eddy County, NM (Nad-83 / East Zone)
Site: Rana Salada Fed Com 0605
Well: #231H
Wellbore: ST02
Rig: ICD 205
Design: ST02 / 13:06, October 17 2019

WELL DETAILS: #231H

RKB = 25' @ 3114.10usft (ICD 205)
3089.10
+N-S +E-W Northing Easting Latitude Longitude
0.00 0.00 487172.46 634018.37 32.338952 -104.033243

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
RSFC 231H SBL	0.00	0.00	0.00	487172.46	634018.37	32.338952	-104.033243
RSFC 231H OH BHL	10728.60	904.93	421.42	488077.39	634439.79	32.341436	-104.031870
RSFC 231H ST02 BHL	10855.37	657.48	10658.78	487829.94	644677.15	32.340672	-103.998724
RSFC 231H PBHL	10863.89	660.86	10663.04	487833.32	644681.41	32.340681	-103.998711

ANNOTATION DETAILS

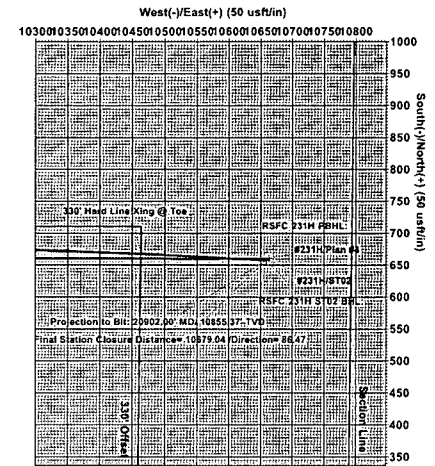
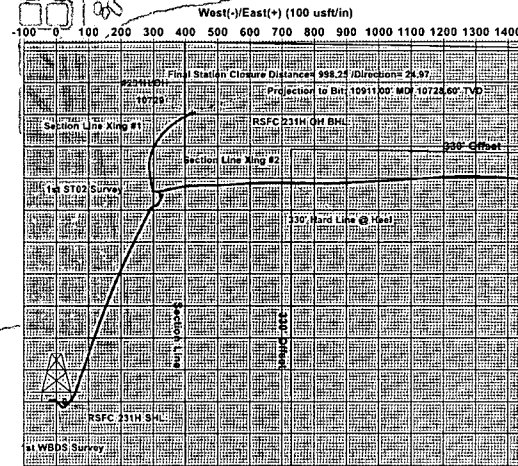
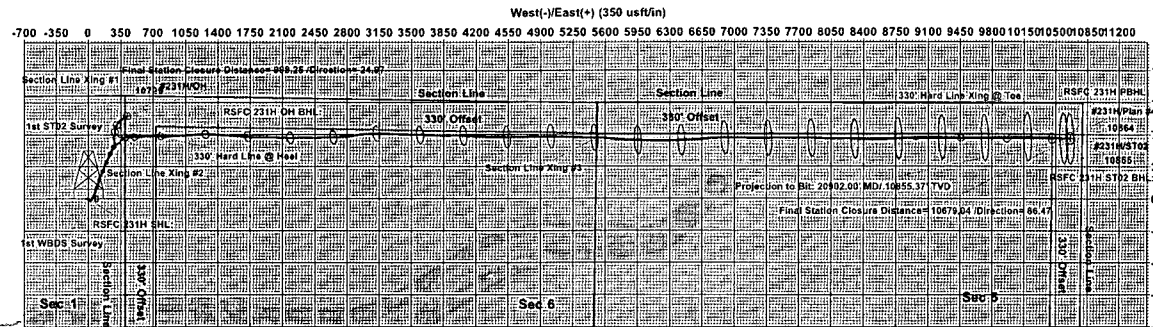
MD	Inc	Azi	TVD	+N-S	+E-W	V-Sect	Departure	Annotation
416.00	0.40	326.34	415.98	2.85	0.76	0.76	3.45	1st WBDS Survey
10881.94	61.91	62.24	10715.45	894.07	397.91	397.59	1153.89	Section Line Xing #1
10911.00	64.32	68.08	10728.60	904.93	421.42	421.10	1179.51	Final Station Closure Distance= 998.25 / Direction= 24.97
10911.00	64.32	68.08	10728.60	904.93	421.42	421.10	1179.51	Projection to Bit: 10911.00' MD/ 10728.60' TVD
10173.00	3.52	92.38	10102.98	657.99	305.87	347.08	873.02	1st ST02 Survey
10506.12	25.77	82.40	10420.11	674.34	398.18	440.24	967.05	Section Line Xing #2
10953.46	73.54	90.87	10701.79	685.26	728.18	770.26	1298.07	330' Hard Line @ Heel
15745.24	87.86	91.59	10783.40	665.91	5509.36	5540.54	6983.40	Section Line Xing #3
20705.38	86.67	92.38	10853.97	667.97	10463.11	10484.40	11940.51	330' Hard Line Xing @ Toe
20902.00	90.73	93.08	10855.37	657.48	10658.78	10679.02	11236.46	Final Station Closure Distance= 10679.04 / Direction= 86.47
20902.00	90.73	93.08	10855.37	657.48	10658.78	10679.02	11236.46	Projection to Bit: 20902.00' MD/ 10855.37' TVD



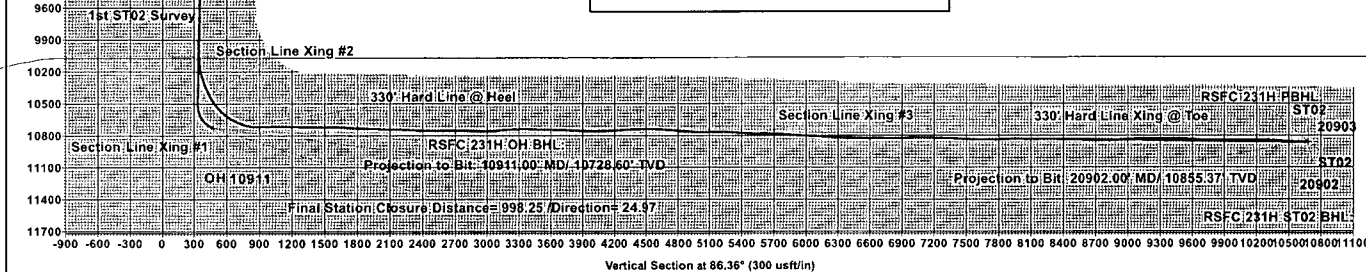
Azimuths to Grid North
True North: -0.16°
Magnetic North: 6.77°
Magnetic Field
Strength: 47726.3anT
Dip Angle: 60.07°
Date: 9/24/2019
Model: IGRF2015

CORRECTION REFERENCE DATA:

To convert a Magnetic Direction to a Grid Direction, Add 6.77°
To convert a True Direction to a Grid Direction, Subtract 0.16°
To convert a Magnetic Direction to a True Direction, Add 6.93° East
Magnetic Declination: 6.93°
Grid Convergence: 0.16° West
Magnetic Dip Angle: 60.06°
Magnetic Field Strength: 47726.31619705nT



True Vertical Depth (300 usft/in)



PROJECT DETAILS: Eddy County, NM (Nad-83 / East Zone)
Geocentric System: US State Plane 1983
Datum: North American Datum 1983
Elevation: GCS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

Disclaimer:
All Plan Details, Boundary
Lines and other well
location/ survey data is
provided by customer and
subject to customer
approval.

Design: ST02 (#231H/ST02) ICD 205

Created By: Kristen Reneau Date: 13:06, October 17 2019



NOVO

Novo Oil & Gas, LLC

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

Rana Salada Fed Com 0605

#231H

ST02

Design: ST02

End Of Well Report

17 October, 2019



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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 0605		
Site Position:		Northing:	487,172.46 usft
From:	Map	Easting:	634,018.37 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32.338952
		Longitude:	-104.033243
		Grid Convergence:	0.161 °

Well	#231H					
Well Position	+N/-S	0.00 usft	Northing:	487,172.46 usft	Latitude:	32.338952
	+E/-W	0.00 usft	Easting:	634,018.37 usft	Longitude:	-104.033243
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,089.10 usft

Wellbore	ST02				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/24/2019	6.931	60.066	47,726.31619705

Design	ST02			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 10,040.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	86.36



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	Database:	WBDS_SQL_2

Survey Program		Date	10/17/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
62.00	318.00	Survey #1 (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM	
416.00	10,040.00	Survey #2 (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM	
10,173.00	20,902.00	Survey #1 (ST02)	MWD+IGRF	OWSG MWD + IGRF or WMM	

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	0.00
62.00	0.30	2.00	62.00	0.16	0.01	0.02	62.00	2.00	0.48	
175.00	0.30	318.00	175.00	0.68	-0.18	-0.14	113.00	340.00	0.20	
236.00	1.00	26.00	235.99	1.27	-0.06	0.03	61.00	11.96	1.52	
318.00	0.60	47.00	317.99	2.21	0.57	0.71	82.00	33.85	0.60	
416.00	0.40	326.34	415.98	2.85	0.76	0.94	98.00	16.31	0.68	
509.00	0.48	3.87	508.98	3.50	0.60	0.83	93.00	346.87	0.32	
600.00	0.62	320.80	599.98	4.27	0.32	0.59	91.00	339.46	0.47	
723.00	0.62	305.16	722.97	5.17	-0.65	-0.32	123.00	312.98	0.14	
815.00	0.48	276.68	814.97	5.50	-1.44	-1.08	92.00	292.77	0.33	
906.00	0.88	272.81	905.96	5.58	-2.51	-2.15	91.00	274.18	0.44	
998.00	0.88	268.77	997.95	5.59	-3.92	-3.56	92.00	270.79	0.07	
1,090.00	1.10	266.05	1,089.93	5.52	-5.51	-5.15	92.00	267.26	0.24	
1,181.00	1.41	262.45	1,180.91	5.31	-7.49	-7.14	91.00	264.03	0.35	
1,273.00	1.41	261.56	1,272.89	5.00	-9.73	-9.40	92.00	262.00	0.02	
1,364.00	1.32	254.80	1,363.86	4.56	-11.85	-11.54	91.00	258.29	0.20	
1,457.00	1.41	260.25	1,456.83	4.08	-14.01	-13.73	93.00	257.61	0.17	
1,547.00	1.58	258.14	1,546.80	3.64	-16.32	-16.06	90.00	259.14	0.20	
1,638.00	1.58	260.16	1,637.77	3.17	-18.78	-18.54	91.00	259.15	0.06	
1,700.00	0.48	289.34	1,699.76	3.11	-19.87	-19.63	62.00	266.84	1.91	



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)	
1,793.00	0.40	298.50	1,792.75	3.39	-20.52	-20.27	93.00	293.50	0.11	
1,888.00	0.70	43.15	1,887.75	3.97	-20.42	-20.13	95.00	10.28	0.94	
1,984.00	1.01	53.96	1,983.74	4.90	-19.33	-18.98	96.00	49.54	0.36	
2,078.00	1.32	87.10	2,077.72	5.44	-17.58	-17.20	94.00	72.80	0.77	
2,173.00	2.51	102.57	2,172.67	5.04	-14.46	-14.11	95.00	97.25	1.35	
2,267.00	2.59	105.38	2,266.58	4.03	-10.40	-10.13	94.00	104.00	0.16	
2,361.00	2.90	111.44	2,360.47	2.60	-6.14	-5.96	94.00	108.58	0.45	
2,456.00	3.60	114.08	2,455.31	0.50	-1.18	-1.15	95.00	112.90	0.75	
2,551.00	2.81	125.77	2,550.17	-2.07	3.43	3.29	95.00	119.20	1.08	
2,645.00	2.68	134.56	2,644.06	-4.96	6.87	6.54	94.00	130.06	0.47	
2,740.00	2.59	136.84	2,738.96	-8.09	9.92	9.38	95.00	135.68	0.15	
2,833.00	2.51	140.18	2,831.87	-11.18	12.66	11.92	93.00	138.48	0.18	
2,935.00	2.29	140.71	2,933.78	-14.48	15.38	14.43	102.00	140.43	0.22	
3,013.00	2.33	137.64	3,011.71	-16.85	17.43	16.33	78.00	139.16	0.17	
3,107.00	2.37	99.41	3,105.64	-18.58	20.64	19.42	94.00	118.36	1.64	
3,202.00	6.20	50.81	3,200.38	-15.66	26.56	25.51	95.00	63.72	5.22	
3,296.00	8.22	41.49	3,293.64	-7.42	34.94	34.40	94.00	45.50	2.48	
3,392.00	8.04	40.44	3,388.67	2.83	43.85	43.94	96.00	40.97	0.24	
3,486.00	8.79	30.42	3,481.66	14.03	51.75	52.53	94.00	35.21	1.75	
3,581.00	9.98	20.57	3,575.40	28.00	58.31	59.98	95.00	25.18	2.10	
3,675.00	9.01	18.90	3,668.11	42.59	63.56	66.14	94.00	19.78	1.07	
3,771.00	8.57	17.50	3,762.98	56.52	68.15	71.60	96.00	18.22	0.51	
3,863.00	9.93	17.94	3,853.78	70.61	72.65	76.99	92.00	17.74	1.48	
3,957.00	11.74	20.13	3,946.10	87.30	78.44	83.83	94.00	19.13	1.97	
4,053.00	11.74	19.87	4,040.09	105.65	85.12	91.66	96.00	20.00	0.06	
4,148.00	11.30	18.90	4,133.18	123.55	91.42	99.09	95.00	19.39	0.51	
4,243.00	11.03	18.29	4,226.38	140.98	97.29	106.05	95.00	18.60	0.31	



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)	
4,337.00	10.42	18.02		4,318.74	157.60	102.74	112.55	94.00	18.16	0.65	
4,431.00	10.20	18.20		4,411.22	173.59	107.97	118.78	94.00	18.11	0.24	
4,526.00	11.56	19.34		4,504.51	190.57	113.75	125.63	95.00	18.81	1.45	
4,620.00	12.57	19.61		4,596.43	209.09	120.30	133.35	94.00	19.48	1.08	
4,714.00	12.92	20.04		4,688.12	228.60	127.33	141.61	94.00	19.83	0.39	
4,809.00	12.84	19.96		4,780.73	248.50	134.58	150.10	95.00	20.00	0.09	
4,905.00	12.48	20.48		4,874.39	268.24	141.85	158.61	96.00	20.22	0.39	
5,000.00	11.47	21.98		4,967.33	286.62	148.97	166.89	95.00	21.20	1.11	
5,094.00	10.59	22.24		5,059.59	303.28	155.74	174.70	94.00	22.10	0.94	
5,189.00	10.55	21.01		5,152.98	319.48	162.16	182.14	95.00	21.63	0.24	
5,284.00	12.84	20.66		5,246.00	337.48	169.01	190.12	95.00	20.82	2.41	
5,378.00	13.93	22.33		5,337.44	357.71	176.99	199.37	94.00	21.53	1.23	
5,473.00	14.02	22.24		5,429.63	378.94	185.69	209.40	95.00	22.28	0.10	
5,568.00	13.54	23.03		5,521.90	399.83	194.40	219.42	95.00	22.63	0.54	
5,663.00	13.01	23.65		5,614.36	419.86	203.04	229.31	95.00	23.33	0.58	
5,756.00	12.70	23.91		5,705.03	438.79	211.38	238.84	93.00	23.78	0.34	
5,852.00	12.31	24.88		5,798.75	457.73	219.96	248.61	96.00	24.39	0.46	
5,947.00	11.82	25.41		5,891.65	475.70	228.40	258.17	95.00	25.14	0.53	
6,043.00	11.34	26.02		5,985.70	493.06	236.76	267.62	96.00	25.71	0.52	
6,137.00	11.21	26.28		6,077.88	509.56	244.86	276.75	94.00	26.15	0.15	
6,232.00	10.33	26.02		6,171.21	525.50	252.68	285.57	95.00	26.16	0.93	
6,325.00	10.07	25.93		6,262.74	540.30	259.90	293.71	93.00	25.98	0.28	
6,419.00	9.89	26.64		6,355.32	554.91	267.11	301.84	94.00	26.28	0.23	
6,513.00	9.23	26.46		6,448.01	568.87	274.09	309.69	94.00	26.55	0.70	
6,607.00	8.40	26.37		6,540.90	581.77	280.50	316.91	94.00	26.42	0.88	
6,701.00	7.38	26.28		6,634.01	593.34	286.22	323.35	94.00	26.33	1.09	
6,796.00	5.67	33.84		6,728.39	602.71	291.54	329.25	95.00	29.57	2.01	



Wellbenders End Of Well Report

Company: Novo Oil & Gas, LLC
Project: Eddy County, NM (Nad-83 / East Zone)
Site: Rana Salada Fed Com 0605
Well: #231H
Wellbore: ST02
Design: ST02

Local Co-ordinate Reference: Well #231H
TVD Reference: RKB = 25' @ 3114.10usft (ICD 205)
MD Reference: RKB = 25' @ 3114.10usft (ICD 205)
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)	
6,890.00	4.40	47.64	6,822.03	608.99	296.79	334.89	94.00	39.87	1.86	
6,984.00	3.56	66.27	6,915.81	612.60	302.12	340.45	94.00	55.96	1.63	
7,078.00	3.87	79.46	7,009.61	614.35	307.91	346.34	94.00	73.14	0.96	
7,174.00	2.73	52.21	7,105.45	616.35	312.91	351.45	96.00	68.23	1.99	
7,267.00	2.86	23.65	7,198.35	619.83	315.59	354.34	93.00	37.59	1.49	
7,361.00	3.08	25.93	7,292.22	624.25	317.63	356.67	94.00	24.83	0.27	
7,457.00	3.34	29.19	7,388.07	629.01	320.12	359.46	96.00	27.63	0.33	
7,553.00	3.08	26.28	7,483.92	633.76	322.63	362.26	96.00	27.79	0.32	
7,648.00	2.90	24.53	7,578.79	638.24	324.76	364.67	95.00	25.43	0.21	
7,742.00	2.42	22.51	7,672.69	642.23	326.50	366.66	94.00	23.61	0.52	
7,837.00	1.80	18.20	7,767.63	645.50	327.74	368.10	95.00	20.67	0.67	
7,931.00	0.84	23.21	7,861.60	647.54	328.47	368.96	94.00	19.79	1.03	
8,025.00	0.35	267.63	7,955.60	648.16	328.45	368.99	94.00	358.59	1.11	
8,118.00	0.75	239.60	8,048.59	647.84	327.65	368.16	93.00	248.43	0.51	
8,212.00	1.01	235.02	8,142.58	647.06	326.44	366.90	94.00	236.97	0.29	
8,306.00	0.79	271.76	8,236.57	646.60	325.11	365.55	94.00	251.07	0.64	
8,401.00	0.79	280.73	8,331.56	646.74	323.81	364.26	95.00	276.24	0.13	
8,494.00	1.05	232.04	8,424.55	646.34	322.51	362.94	93.00	252.73	0.85	
8,589.00	0.57	202.24	8,519.54	645.37	321.64	362.01	95.00	221.65	0.66	
8,685.00	0.97	186.95	8,615.53	644.12	321.37	361.66	96.00	192.60	0.46	
8,779.00	1.58	190.02	8,709.51	642.05	321.04	361.20	94.00	188.85	0.65	
8,873.00	1.10	12.84	8,803.50	641.65	321.02	361.15	94.00	183.60	2.85	
8,967.00	2.42	0.53	8,897.45	644.52	321.24	361.55	94.00	4.37	1.45	
9,063.00	2.90	356.05	8,993.35	648.97	321.09	361.69	96.00	358.09	0.54	
9,157.00	1.80	340.67	9,087.27	652.73	320.44	361.28	94.00	350.17	1.34	
9,251.00	1.63	306.39	9,181.23	654.92	318.87	359.85	94.00	324.41	1.09	
9,346.00	1.32	298.66	9,276.20	656.25	316.82	357.89	95.00	302.93	0.39	



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)	
9,441.00	1.36	289.78	9,371.17	657.15	314.80	355.94	95.00	294.15	0.22	
9,534.00	1.27	290.04	9,464.15	657.88	312.80	353.98	93.00	289.91	0.10	
9,629.00	1.14	283.36	9,559.13	658.46	310.89	352.11	95.00	286.88	0.20	
9,724.00	1.10	283.54	9,654.11	658.89	309.08	350.34	95.00	283.45	0.04	
9,818.00	1.23	284.95	9,748.09	659.36	307.23	348.52	94.00	284.28	0.14	
9,913.00	1.05	259.46	9,843.07	659.47	305.39	346.69	95.00	273.23	0.56	
10,007.00	1.14	252.16	9,937.05	659.02	303.65	344.93	94.00	255.66	0.18	
10,040.00	1.19	243.90	9,970.05	658.77	303.03	344.29	33.00	247.94	0.53	
10,173.00	3.52	92.38	10,102.98	657.99	305.87	347.08	133.00	105.31	3.46	
1st ST02 Survey										
10,193.00	4.57	91.24	10,122.93	657.95	307.28	348.48	20.00	91.74	5.27	
10,224.00	7.78	95.10	10,153.74	657.74	310.61	351.79	31.00	93.67	10.44	
10,256.00	10.24	83.33	10,185.35	657.87	315.59	356.77	32.00	88.42	9.57	
10,288.00	13.98	78.76	10,216.63	658.96	322.21	363.44	32.00	80.70	12.06	
10,319.00	16.79	76.91	10,246.52	660.70	330.25	371.57	31.00	77.75	9.20	
10,351.00	18.33	76.91	10,277.03	662.89	339.65	381.10	32.00	76.91	4.81	
10,382.00	20.70	77.44	10,306.24	665.19	349.75	391.32	31.00	77.19	7.67	
10,414.00	22.42	78.32	10,336.00	667.65	361.24	402.95	32.00	77.90	5.47	
10,446.00	23.56	78.76	10,365.46	670.13	373.49	415.33	32.00	78.55	3.60	
10,477.00	24.62	80.07	10,393.76	672.45	385.93	427.89	31.00	79.43	3.83	
10,506.12	25.77	82.40	10,420.11	674.34	398.18	440.24	29.12	81.26	5.23	
Section Line Xing #2										
10,509.00	25.89	82.62	10,422.70	674.50	399.43	441.49	2.88	82.51	5.23	
10,540.00	28.53	85.79	10,450.27	675.91	413.52	455.65	31.00	84.28	9.71	
10,571.00	31.87	88.42	10,477.06	676.68	429.09	471.24	31.00	87.17	11.59	
10,603.00	35.30	89.13	10,503.72	677.06	446.79	488.92	32.00	88.79	10.79	
10,634.00	39.08	90.01	10,528.41	677.19	465.52	507.62	31.00	89.59	12.31	



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)
10,681.00	44.84	88.07		10,563.34	677.75	496.92	539.00	47.00	88.99	12.56
10,730.00	49.14	86.31		10,596.76	679.52	532.70	574.81	49.00	87.16	9.16
10,777.00	55.30	86.05		10,625.54	682.00	569.75	611.94	47.00	86.17	13.11
10,824.00	61.58	87.72		10,650.13	684.15	609.71	651.97	47.00	86.91	13.70
10,918.00	68.04	90.27		10,690.12	685.60	694.71	736.88	94.00	89.03	7.30
10,953.46	73.54	90.87		10,701.79	685.26	728.18	770.26	35.46	90.58	15.59
330' Hard Line @ Heel										
11,009.00	82.15	91.76		10,713.47	684.00	782.41	824.30	55.54	91.32	15.59
11,128.00	93.10	86.31		10,718.40	686.03	901.06	942.84	119.00	89.02	10.27
11,220.00	91.30	87.54		10,714.87	690.96	992.86	1,034.77	92.00	86.93	2.37
11,312.00	88.04	86.23		10,715.40	695.95	1,084.71	1,126.75	92.00	86.89	3.82
11,403.00	88.75	86.23		10,717.95	701.94	1,175.47	1,217.71	91.00	86.23	0.78
11,495.00	89.49	89.30		10,719.36	705.52	1,267.38	1,309.66	92.00	87.77	3.43
11,586.00	90.68	92.73		10,719.22	703.91	1,358.35	1,400.34	91.00	91.01	3.99
11,679.00	89.19	94.93		10,719.33	697.70	1,451.13	1,492.55	93.00	93.83	2.86
11,769.00	88.26	94.75		10,721.33	690.11	1,540.79	1,581.54	90.00	94.84	1.05
11,861.00	87.74	92.73		10,724.54	684.11	1,632.53	1,672.71	92.00	93.74	2.27
11,953.00	88.31	92.91		10,727.71	679.59	1,724.37	1,764.07	92.00	92.82	0.65
12,045.00	87.96	91.85		10,730.71	675.77	1,816.24	1,855.52	92.00	92.38	1.21
12,136.00	87.12	91.50		10,734.61	673.11	1,907.11	1,946.04	91.00	91.68	1.00
12,227.00	87.38	90.97		10,738.98	671.15	1,997.99	2,036.61	91.00	91.23	0.65
12,319.00	89.93	92.99		10,741.14	667.97	2,089.89	2,128.13	92.00	91.98	3.54
12,413.00	88.04	90.18		10,742.81	665.37	2,183.83	2,221.71	94.00	91.59	3.60
12,507.00	85.36	88.69		10,748.22	666.30	2,277.66	2,315.40	94.00	89.44	3.26
12,600.00	88.18	88.69		10,753.46	668.42	2,370.48	2,408.17	93.00	88.69	3.03
12,694.00	91.60	90.36		10,753.64	669.20	2,464.46	2,502.01	94.00	89.53	4.05
12,788.00	89.36	88.34		10,752.85	670.26	2,558.44	2,595.87	94.00	89.35	3.21



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)
12,882.00	91.08	88.51	10,752.49	672.85	2,652.40	2,689.80	94.00	88.42	1.84
12,977.00	88.09	86.40	10,753.18	677.07	2,747.28	2,784.76	95.00	87.46	3.85
13,071.00	88.66	82.53	10,755.84	686.13	2,840.79	2,878.66	94.00	84.46	4.16
13,166.00	88.97	81.39	10,757.81	699.41	2,934.83	2,973.35	95.00	81.96	1.24
13,260.00	94.42	87.72	10,755.02	708.33	3,028.29	3,067.18	94.00	84.55	8.88
13,353.00	94.55	89.74	10,747.75	710.38	3,120.97	3,159.81	93.00	88.73	2.17
13,448.00	93.49	91.59	10,741.09	709.28	3,215.73	3,254.31	95.00	90.67	2.24
13,543.00	88.53	91.59	10,739.42	706.65	3,310.65	3,348.87	95.00	91.59	5.22
13,637.00	88.04	91.50	10,742.23	704.11	3,404.57	3,442.44	94.00	91.55	0.53
13,731.00	89.10	91.94	10,744.58	701.29	3,498.50	3,536.00	94.00	91.72	1.22
13,826.00	88.84	91.94	10,746.28	698.08	3,593.43	3,630.53	95.00	91.94	0.27
13,920.00	88.26	91.76	10,748.66	695.04	3,687.35	3,724.07	94.00	91.85	0.65
14,014.00	87.34	91.59	10,752.27	692.30	3,781.24	3,817.59	94.00	91.68	1.00
14,108.00	87.16	90.18	10,756.78	690.85	3,875.11	3,911.19	94.00	90.89	1.51
14,203.00	89.36	89.04	10,759.67	691.49	3,970.06	4,005.99	95.00	89.61	2.61
14,298.00	93.67	92.99	10,757.15	689.82	4,064.97	4,100.60	95.00	91.01	6.15
14,393.00	92.00	92.73	10,752.45	685.08	4,159.73	4,194.87	95.00	92.86	1.78
14,486.00	94.20	93.35	10,747.43	680.16	4,252.46	4,287.09	93.00	93.04	2.46
14,580.00	92.40	92.29	10,742.01	675.54	4,346.19	4,380.34	94.00	92.82	2.22
14,675.00	91.08	90.53	10,739.13	673.21	4,441.11	4,474.92	95.00	91.41	2.32
14,770.00	88.35	89.57	10,739.60	673.12	4,536.10	4,569.71	95.00	90.05	3.05
14,864.00	86.64	89.13	10,743.71	674.19	4,630.00	4,663.49	94.00	89.35	1.88
14,958.00	85.32	89.04	10,750.30	675.69	4,723.75	4,757.15	94.00	89.09	1.41
15,053.00	85.23	88.95	10,758.13	677.35	4,818.41	4,851.72	95.00	89.00	0.13
15,148.00	85.19	88.95	10,766.06	679.08	4,913.07	4,946.30	95.00	88.95	0.04
15,248.00	92.53	89.57	10,768.05	680.37	5,012.97	5,046.08	100.00	89.26	7.37
15,343.00	91.38	92.03	10,764.81	679.04	5,107.90	5,140.73	95.00	90.80	2.86



Wellbenders End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)
15,437.00	87.82	92.38	10,765.46	675.43	5,201.81	5,234.22	94.00	92.20	3.81
15,532.00	86.15	92.20	10,770.46	671.64	5,296.60	5,328.58	95.00	92.29	1.77
15,626.00	86.37	91.68	10,776.59	668.46	5,390.34	5,421.93	94.00	91.94	0.60
15,720.00	86.77	90.80	10,782.21	666.43	5,484.15	5,515.42	94.00	91.24	1.03
15,745.24	87.86	91.59	10,783.40	665.91	5,509.36	5,540.54	25.24	91.19	5.31
Section Line Xing #3									
15,813.00	90.77	93.70	10,784.21	662.78	5,577.03	5,607.88	67.76	92.64	5.31
15,907.00	89.32	96.07	10,784.14	654.78	5,670.68	5,700.83	94.00	94.89	2.96
16,002.00	85.71	92.73	10,788.26	647.49	5,765.28	5,794.78	95.00	94.40	5.17
16,096.00	86.02	91.76	10,795.03	643.82	5,858.96	5,888.04	94.00	92.24	1.08
16,191.00	87.38	92.73	10,800.50	640.11	5,953.73	5,982.38	95.00	92.25	1.76
16,286.00	86.55	91.94	10,805.53	636.24	6,048.52	6,076.73	95.00	92.34	1.21
16,381.00	86.99	91.85	10,810.89	633.10	6,143.31	6,171.13	95.00	91.89	0.47
16,477.00	87.78	89.04	10,815.27	632.36	6,239.20	6,266.78	96.00	90.44	3.04
16,571.00	88.79	87.81	10,818.08	634.94	6,333.12	6,360.67	94.00	88.42	1.69
16,665.00	87.65	86.75	10,821.00	639.40	6,426.97	6,454.61	94.00	87.28	1.66
16,760.00	89.98	88.16	10,822.96	643.62	6,521.84	6,549.56	95.00	87.46	2.87
16,855.00	90.07	86.67	10,822.92	647.90	6,616.74	6,644.55	95.00	87.42	1.57
16,950.00	88.22	84.47	10,824.34	655.24	6,711.44	6,739.52	95.00	85.57	3.03
17,043.00	90.33	87.54	10,825.52	661.72	6,804.19	6,832.49	93.00	86.01	4.01
17,136.00	92.48	88.95	10,823.24	664.56	6,897.11	6,925.40	93.00	88.24	2.76
17,230.00	91.74	91.06	10,819.78	664.55	6,991.04	7,019.14	94.00	90.01	2.38
17,325.00	89.45	90.88	10,818.79	662.95	7,086.02	7,113.82	95.00	90.97	2.42
17,418.00	87.52	90.01	10,821.25	662.22	7,178.97	7,206.55	93.00	90.45	2.28
17,512.00	89.45	90.27	10,823.73	661.99	7,272.94	7,300.31	94.00	90.14	2.07
17,607.00	86.15	89.65	10,827.38	662.06	7,367.85	7,395.04	95.00	89.96	3.53
17,700.00	86.29	88.42	10,833.51	663.62	7,460.64	7,487.73	93.00	89.03	1.33



Wellbenders End Of Well Report

Company: Novo Oil & Gas, LLC
Project: Eddy County, NM (Nad-83 / East Zone)
Site: Rana Salada Fed Com 0605
Well: #231H
Wellbore: ST02
Design: ST02

Local Co-ordinate Reference: Well #231H
TVD Reference: RKB = 25' @ 3114.10usft (ICD 205)
MD Reference: RKB = 25' @ 3114.10usft (ICD 205)
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)
17,795.00	88.40	89.21	89.21	10,837.91	665.58	7,555.51	7,582.54	95.00	88.82	2.37
17,889.00	91.12	91.41	91.41	10,838.30	665.08	7,649.49	7,676.30	94.00	90.31	3.72
17,983.00	91.34	90.18	90.18	10,836.29	663.77	7,743.46	7,769.99	94.00	90.80	1.33
18,077.00	91.65	91.15	91.15	10,833.83	662.68	7,837.42	7,863.69	94.00	90.66	1.08
18,172.00	90.07	91.85	91.85	10,832.41	660.19	7,932.37	7,958.29	95.00	91.50	1.82
18,267.00	88.84	90.36	90.36	10,833.31	658.36	8,027.35	8,052.96	95.00	91.11	2.03
18,360.00	90.07	90.09	90.09	10,834.20	658.00	8,120.34	8,145.74	93.00	90.22	1.35
18,456.00	90.46	91.50	91.50	10,833.75	656.67	8,216.33	8,241.45	96.00	90.79	1.52
18,546.00	87.34	92.11	92.11	10,835.48	653.83	8,306.25	8,331.02	90.00	91.80	3.53
18,641.00	90.81	91.94	91.94	10,837.01	650.48	8,401.17	8,425.52	95.00	92.02	3.66
18,736.00	88.75	89.65	89.65	10,837.38	649.16	8,496.15	8,520.23	95.00	90.80	3.24
18,830.00	86.73	88.86	88.86	10,841.09	650.38	8,590.06	8,614.03	94.00	89.26	2.31
18,924.00	91.12	87.02	87.02	10,842.85	653.76	8,683.95	8,707.95	94.00	87.94	5.06
19,017.00	89.85	86.23	86.23	10,842.06	659.23	8,776.79	8,800.94	93.00	86.62	1.61
19,112.00	91.87	86.67	86.67	10,840.64	665.11	8,871.59	8,895.93	95.00	86.45	2.18
19,208.00	94.37	87.02	87.02	10,835.41	670.39	8,967.29	8,991.77	96.00	86.84	2.63
19,302.00	95.08	88.77	88.77	10,827.67	673.83	9,060.91	9,085.41	94.00	87.89	2.00
19,396.00	88.70	90.71	90.71	10,824.57	674.25	9,154.80	9,179.15	94.00	89.74	7.09
19,490.00	88.66	90.88	90.88	10,826.73	672.95	9,248.77	9,272.84	94.00	90.79	0.19
19,586.00	90.81	92.38	92.38	10,827.18	670.22	9,344.72	9,368.42	96.00	91.63	2.73
19,680.00	91.30	92.38	92.38	10,825.45	666.32	9,438.62	9,461.89	94.00	92.38	0.52
19,775.00	82.81	89.83	89.83	10,830.32	664.48	9,533.38	9,556.34	95.00	91.11	9.33
19,871.00	86.42	89.13	89.13	10,839.33	665.35	9,628.94	9,651.76	96.00	89.48	3.83
19,963.00	88.31	88.86	88.86	10,843.56	666.96	9,720.82	9,743.56	92.00	88.99	2.08
20,057.00	90.68	87.63	87.63	10,844.39	669.84	9,814.77	9,837.50	94.00	88.24	2.84
20,152.00	90.37	87.63	87.63	10,843.52	673.77	9,909.68	9,932.47	95.00	87.63	0.33
20,248.00	91.03	88.86	88.86	10,842.35	676.71	10,005.63	10,028.41	96.00	88.24	1.45



Wellbenders

End Of Well Report

Company:	Novo Oil & Gas, LLC	Local Co-ordinate Reference:	Well #231H
Project:	Eddy County, NM (Nad-83 / East Zone)	TVD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Site:	Rana Salada Fed Com 0605	MD Reference:	RKB = 25' @ 3114.10usft (ICD 205)
Well:	#231H	North Reference:	Grid
Wellbore:	ST02	Survey Calculation Method:	Minimum Curvature
Design:	ST02	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)	
20,341.00	88.97	89.21	10,842.35	678.27	10,098.61	10,121.30	93.00	89.03	2.25	
20,436.00	89.93	91.59	10,843.26	677.61	10,193.60	10,216.05	95.00	90.40	2.70	
20,530.00	88.79	92.38	10,844.31	674.36	10,287.53	10,309.59	94.00	91.98	1.48	
20,625.00	85.89	91.85	10,848.72	670.85	10,382.35	10,404.00	95.00	92.12	3.10	
20,705.98	86.67	92.38	10,853.97	667.87	10,463.11	10,484.40	80.98	92.11	1.17	
330' Hard Line Xing @ Toe										
20,720.00	86.81	92.47	10,854.77	667.28	10,477.09	10,498.32	14.02	92.42	1.17	
20,814.00	91.03	93.61	10,856.54	662.30	10,570.92	10,591.64	94.00	93.04	4.65	
20,833.00	90.73	93.08	10,856.24	661.19	10,589.89	10,610.50	19.00	93.34	3.21	
20,902.00	90.73	93.08	10,855.37	657.48	10,658.78	10,679.02	69.00	93.08	0.00	
Final Station Closure Distance= 10679.04 /Direction= 86.47 - Projection to Bit: 20902.00' MD/ 10855.37' TVD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
10,173.00	10,102.98	657.99	305.87	1st ST02 Survey	
10,506.12	10,420.11	674.34	398.18	Section Line Xing #2	
10,953.46	10,701.79	685.26	728.18	330' Hard Line @ Heel	
15,745.24	10,783.40	665.91	5,509.36	Section Line Xing #3	
20,705.98	10,853.97	667.87	10,463.11	330' Hard Line Xing @ Toe	
20,902.00	10,855.37	657.48	10,658.78	Final Station Closure Distance= 10679.04 /Direction= 86.47	
20,902.00	10,855.37	657.48	10,658.78	Projection to Bit: 20902.00' MD/ 10855.37' TVD	

Checked By: _____	Approved By: _____	Date: _____
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