

Well Name: RANA SALADA FED COM 0106	Well Location: T23S / R28E / SEC 1 / NWSW /	County or Parish/State:
Well Number: 213H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM091078	Unit or CA Name:	Unit or CA Number:
US Well Number:	Well Status: Approved Application for Permit to Drill	Operator: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Notice of Intent

Type of Submission: Notice of Intent	Type of Action Other
Date Sundry Submitted: 06/14/2021	Time Sundry Submitted: 01:20
Date proposed operation will begin: 07/09/2021	

Procedure Description: Request to move Surface Hole Location from 2,390' FSL & 125' FWL, Section 1, T-23-S, R-28-E, NWSW, to 2,350' FSL & 25' FEL, Section 2, T-23-S, R-28-E, NESE. No new surface disturbance. See attachment for revised C102, Horizontal Plan, and Anti-Collision Report.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

RSFC_0106_213H_SHL_Sundry_Request_20210614131940.pdf

Well Name: RANA SALADA FED COM 0106	Well Location: T23S / R28E / SEC 1 / NWSW /	County or Parish/State:
Well Number: 213H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM091078	Unit or CA Name:	Unit or CA Number:
US Well Number:	Well Status: Approved Application for Permit to Drill	Operator: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: JUSTIN CARTER	Signed on: JUN 14, 2021 01:20 PM
Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC	
Title: Landman	
Street Address: 1001 West Wilshire Boulevard Suite 206	
City: Oklahoma City	State: OK
Phone: (405) 286-3375	
Email address: JCARTER@NOVOOG.COM	

Field Representative

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 06/17/2021
Signature: Chris Walls	

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

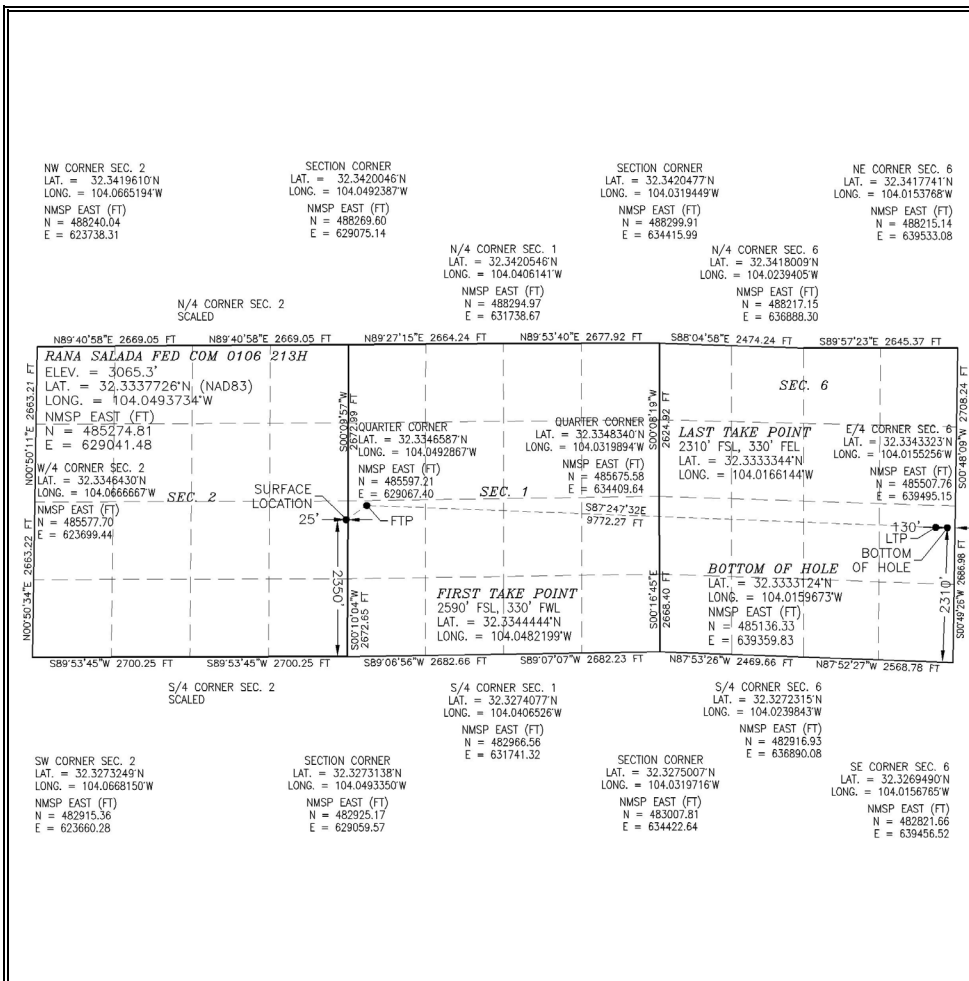
¹ API Number 30-015-48546	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp Gas Pool
⁴ Property Code	⁵ Property Name RANA SALADA FED COM 0106	⁶ Well Number 213H
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC	⁹ Elevation 3065.3

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	2	23 S	28 E		2350	SOUTH	25	EAST	EDDY

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	6	23 S	29 E		2310	SOUTH	130	EAST	EDDY

¹² Dedicated Acres 633.49	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.

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.

Justin Carter 6/2/2021
Signature Date

Justin Carter

Printed Name

jcarter@novoo.com

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 1, 2021

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number: 12797
Surveyor No. 8910C

Intent ☐ As Drilled ☐

API #		
Operator Name: NOVO OIL & GAS NORTHERN DELAWARE, LLC	Property Name: RANA SALADA FED COM 0106	Well Number 213H

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
L	1	23S	28E		2590	SOUTH	330	WEST	EDDY
Latitude 32.3344444					Longitude 104.0482199				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
I	6	23S	29E		2310	SOUTH	330	EAST	EDDY
Latitude 32.3333344					Longitude 104.0166144				NAD 83

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

WELL DETAILS: Rana Salada Fed Com 0106 213H Plan 1

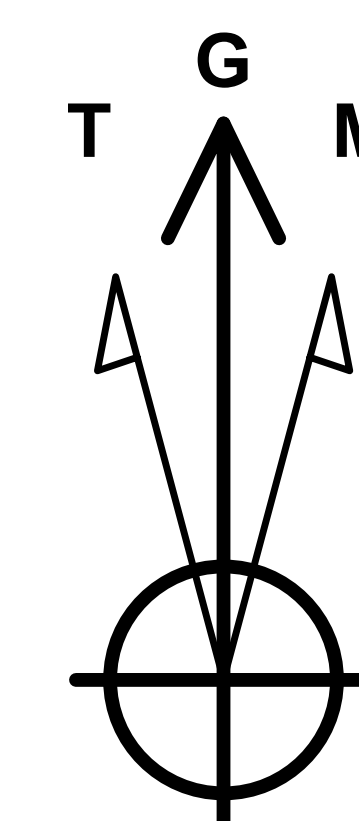
GL Elev (ft.): 3065.3

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	485274.81	629041.48	32° 20' 1.582 N	104° 2' 57.744 W

SECTION DETAILS

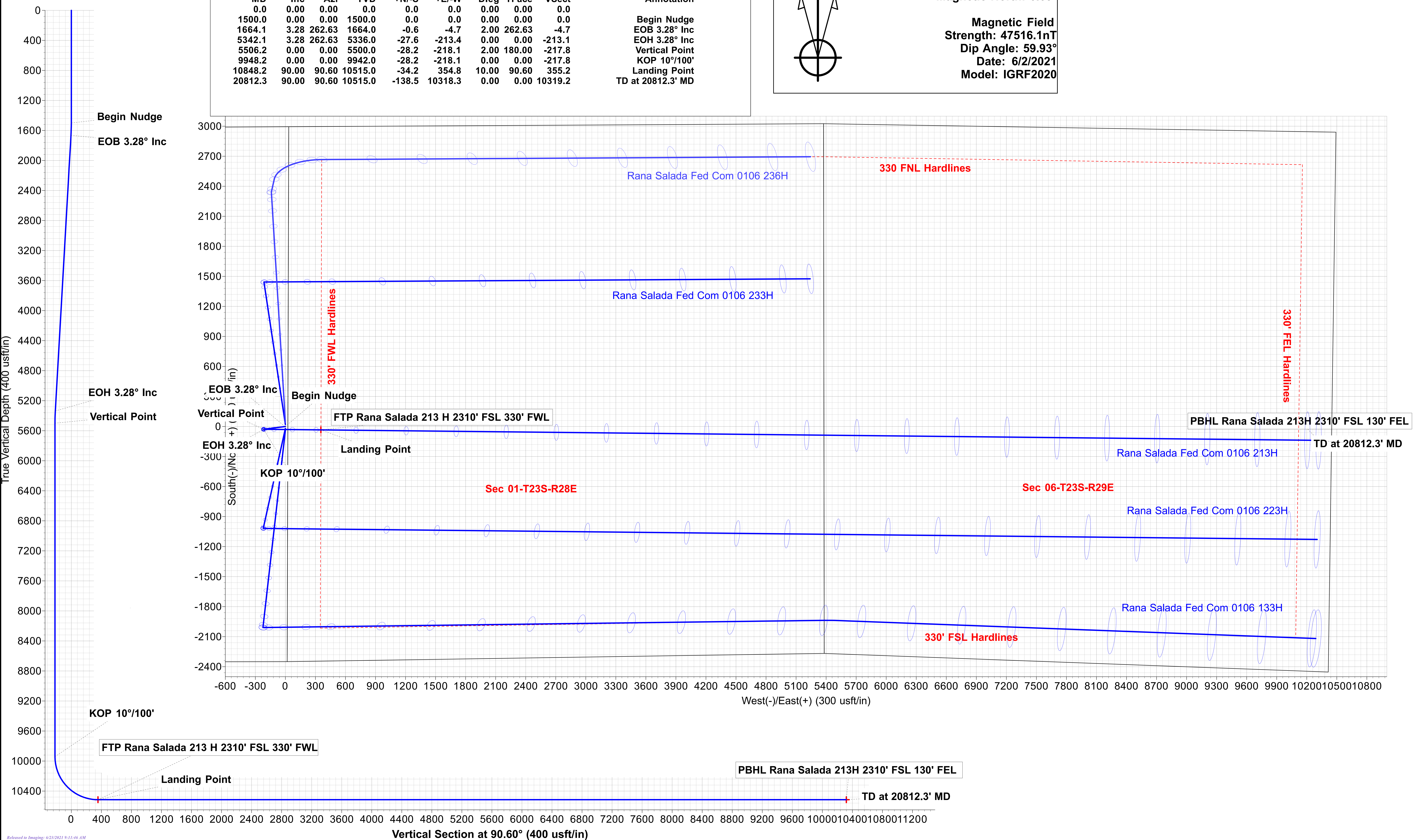
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	Begin Nudge
1664.1	3.28	262.63	1664.0	-0.6	-4.7	2.00	262.63	-4.7	EOB 3.28° Inc
5342.1	3.28	262.63	5336.0	-27.6	-213.4	0.00	0.00	-213.1	EOH 3.28° Inc
5506.2	0.00	0.00	5500.0	-28.2	-218.1	2.00	180.00	-217.8	Vertical Point
9948.2	0.00	0.00	9942.0	-28.2	-218.1	0.00	0.00	-217.8	KOP 10°/100'
10848.2	90.00	90.60	10515.0	-34.2	354.8	10.00	90.60	355.2	Landing Point
20812.3	90.00	90.60	10515.0	-138.5	10318.3	0.00	0.00	10319.2	TD at 20812.3' MD

Project: EDDY CO., NM (NAD83)
Site: SEC 02-T23S-R28E
Well: Rana Salada Fed Com 0106 213H
Wellbore: Wellbore #1
Design: Plan 1



Azimuths to Grid North
True North: -0.15°
Magnetic North: 6.63°

Magnetic Field
Strength: 47516.1nT
Dip Angle: 59.93°
Date: 6/2/2021
Model: IGRF2020





NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC 02-T23S-R28E

Rana Salada Fed Com 0106 213H

Wellbore #1

Plan 1

Anticollision Report

08 June, 2021





SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference	Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0usft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 738.7usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	6/8/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	20,812.3	Plan 1 (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
			Between Centres (usft)	Between Ellipses (usft)		
SEC 02-T23S-R28E						
Rana Salada Fed Com 0106 133H - Wellbore #1 - Plan 1	800.0	799.0	40.0	36.4	11.042	CC, ES
Rana Salada Fed Com 0106 133H - Wellbore #1 - Plan 1	900.0	897.6	41.7	37.7	10.350	SF
Rana Salada Fed Com 0106 223H - Wellbore #1 - Plan 1	1,500.0	1,499.5	20.0	13.3	2.983	CC, ES, SF
Rana Salada Fed Com 0106 233H - Wellbore #1 - Plan 1	1,416.5	1,417.0	20.0	13.7	3.157	CC
Rana Salada Fed Com 0106 233H - Wellbore #1 - Plan 1	1,500.0	1,500.5	20.0	13.3	2.982	ES, SF
Rana Salada Fed Com 0106 236H - Wellbore #1 - Plan 1	616.3	617.3	40.0	37.1	14.070	CC
Rana Salada Fed Com 0106 236H - Wellbore #1 - Plan 1	700.0	701.0	40.0	36.8	12.509	ES
Rana Salada Fed Com 0106 236H - Wellbore #1 - Plan 1	800.0	800.0	41.7	38.1	11.516	SF

Offset Design:	SEC 02-T23S-R28E - Rana Salada Fed Com 0106 133H - Wellbore #1 - Plan 1										Offset Site Error:	0.0 usft
Survey Program:	0-MWD										Offset Well Error:	0.5 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	Minimum	Separation	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.5	0.5	-179.83	-40.0	-0.1	40.0			
100.0	100.0	99.0	99.0	0.5	0.5	-179.83	-40.0	-0.1	40.0	38.9	1.05	37.923
200.0	200.0	199.0	199.0	0.6	0.6	-179.83	-40.0	-0.1	40.0	38.7	1.27	31.472
300.0	300.0	299.0	299.0	0.8	0.8	-179.83	-40.0	-0.1	40.0	38.4	1.59	25.184
400.0	400.0	399.0	399.0	1.0	1.0	-179.83	-40.0	-0.1	40.0	38.0	1.96	20.428
500.0	500.0	499.0	499.0	1.2	1.2	-179.83	-40.0	-0.1	40.0	37.6	2.36	16.979
600.0	600.0	599.0	599.0	1.4	1.4	-179.83	-40.0	-0.1	40.0	37.2	2.77	14.444
700.0	700.0	699.0	699.0	1.6	1.6	-179.83	-40.0	-0.1	40.0	36.8	3.19	12.528
800.0	800.0	799.0	799.0	1.8	1.8	-179.83	-40.0	-0.1	40.0	36.4	3.62	11.042 CC, ES
900.0	900.0	897.6	897.6	2.0	2.0	-179.58	-41.7	-0.3	41.7	37.7	4.03	10.350 SF
1,000.0	1,000.0	996.0	995.8	2.2	2.2	-178.92	-46.7	-0.9	46.8	42.4	4.41	10.599
1,100.0	1,100.0	1,093.9	1,093.4	2.5	2.4	-178.10	-55.0	-1.8	55.3	50.5	4.80	11.506
1,200.0	1,200.0	1,191.1	1,189.9	2.7	2.6	-177.30	-66.5	-3.1	67.2	62.0	5.20	12.920
1,300.0	1,300.0	1,287.4	1,285.1	2.9	2.8	-176.62	-81.1	-4.8	82.4	76.8	5.60	14.730
1,400.0	1,400.0	1,382.6	1,378.6	3.1	3.1	-176.07	-98.7	-6.8	101.0	95.0	5.99	16.848
1,500.0	1,500.0	1,476.6	1,470.3	3.4	3.4	-175.63	-119.0	-9.1	122.8	116.4	6.39	19.211
1,600.0	1,600.0	1,570.1	1,560.9	3.6	3.8	-78.09	-142.2	-11.7	147.3	140.5	6.78	21.728
1,700.0	1,699.9	1,666.9	1,654.4	3.8	4.2	-79.08	-167.0	-14.6	172.2	165.0	7.20	23.910
1,800.0	1,799.7	1,763.7	1,747.9	4.0	4.6	-80.28	-191.9	-17.4	197.1	189.4	7.64	25.792
1,900.0	1,899.5	1,860.5	1,841.4	4.2	5.0	-81.20	-216.8	-20.2	222.0	213.9	8.09	27.446

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



SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 133H - Wellbore #1 - Plan 1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.5 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,000.0	1,999.4	1,957.3	1,934.9	4.4	5.5	-81.94	-241.7	-23.0	246.9	238.4	8.55	28.886	
2,100.0	2,099.2	2,054.1	2,028.4	4.6	5.9	-82.55	-266.6	-25.9	271.9	262.9	9.02	30.157	
2,200.0	2,199.0	2,150.9	2,121.9	4.8	6.4	-83.05	-291.5	-28.7	296.9	287.4	9.49	31.282	
2,300.0	2,298.9	2,247.6	2,215.3	5.0	6.9	-83.48	-316.4	-31.5	322.0	312.0	9.97	32.282	
2,400.0	2,398.7	2,344.4	2,308.8	5.3	7.4	-83.84	-341.2	-34.4	347.0	336.6	10.46	33.174	
2,500.0	2,498.5	2,441.2	2,402.3	5.5	7.8	-84.16	-366.1	-37.2	372.1	361.1	10.95	33.973	
2,600.0	2,598.4	2,538.0	2,495.8	5.7	8.3	-84.43	-391.0	-40.0	397.1	385.7	11.45	34.693	
2,700.0	2,698.2	2,634.8	2,589.3	5.9	8.8	-84.67	-415.9	-42.8	422.2	410.3	11.95	35.342	
2,800.0	2,798.0	2,731.6	2,682.8	6.2	9.3	-84.89	-440.8	-45.7	447.3	434.9	12.45	35.931	
2,900.0	2,897.9	2,828.4	2,776.3	6.4	9.8	-85.08	-465.7	-48.5	472.4	459.4	12.95	36.467	
3,000.0	2,997.7	2,925.2	2,869.8	6.6	10.3	-85.25	-490.5	-51.3	497.5	484.0	13.46	36.956	
3,100.0	3,097.6	3,022.0	2,963.3	6.9	10.8	-85.41	-515.4	-54.1	522.6	508.6	13.97	37.404	
3,200.0	3,197.4	3,118.8	3,056.8	7.1	11.3	-85.55	-540.3	-57.0	547.7	533.2	14.48	37.815	
3,300.0	3,297.2	3,215.6	3,150.3	7.3	11.8	-85.68	-565.2	-59.8	572.8	557.8	15.00	38.194	
3,400.0	3,397.1	3,312.3	3,243.8	7.6	12.3	-85.80	-590.1	-62.6	597.9	582.4	15.51	38.544	
3,500.0	3,496.9	3,409.1	3,337.3	7.8	12.7	-85.91	-615.0	-65.5	623.0	607.0	16.03	38.867	
3,600.0	3,596.7	3,505.9	3,430.8	8.1	13.2	-86.01	-639.9	-68.3	648.1	631.6	16.55	39.168	
3,700.0	3,696.6	3,602.7	3,524.3	8.3	13.7	-86.10	-664.7	-71.1	673.2	656.1	17.07	39.447	
3,800.0	3,796.4	3,699.5	3,617.8	8.5	14.2	-86.19	-689.6	-73.9	698.3	680.7	17.59	39.708	
3,900.0	3,896.2	3,796.3	3,711.3	8.8	14.7	-86.27	-714.5	-76.8	723.4	705.3	18.11	39.951	

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



SB Directional Services

Anticollision Report



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Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 223H - Wellbore #1 - Plan 1													Offset Site Error: 0.0 usft
Survey Program: 0-MWD													Offset Well Error: 0.5 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.5	0.5	-179.83	-20.0	-0.1	20.0				
100.0	100.0	99.5	99.5	0.5	0.5	-179.83	-20.0	-0.1	20.0	18.9	1.06	18.957	
200.0	200.0	199.5	199.5	0.6	0.6	-179.83	-20.0	-0.1	20.0	18.7	1.27	15.728	
300.0	300.0	299.5	299.5	0.8	0.8	-179.83	-20.0	-0.1	20.0	18.4	1.59	12.585	
400.0	400.0	399.5	399.5	1.0	1.0	-179.83	-20.0	-0.1	20.0	18.0	1.96	10.209	
500.0	500.0	499.5	499.5	1.2	1.2	-179.83	-20.0	-0.1	20.0	17.6	2.36	8.486	
600.0	600.0	599.5	599.5	1.4	1.4	-179.83	-20.0	-0.1	20.0	17.2	2.77	7.219	
700.0	700.0	699.5	699.5	1.6	1.6	-179.83	-20.0	-0.1	20.0	16.8	3.19	6.262	
800.0	800.0	799.5	799.5	1.8	1.8	-179.83	-20.0	-0.1	20.0	16.4	3.62	5.520	
900.0	900.0	899.5	899.5	2.0	2.0	-179.83	-20.0	-0.1	20.0	15.9	4.06	4.929	
1,000.0	1,000.0	999.5	999.5	2.2	2.2	-179.83	-20.0	-0.1	20.0	15.5	4.49	4.450	
1,100.0	1,100.0	1,099.5	1,099.5	2.5	2.5	-179.83	-20.0	-0.1	20.0	15.1	4.93	4.054	
1,200.0	1,200.0	1,199.5	1,199.5	2.7	2.7	-179.83	-20.0	-0.1	20.0	14.6	5.37	3.721	
1,300.0	1,300.0	1,299.5	1,299.5	2.9	2.9	-179.83	-20.0	-0.1	20.0	14.2	5.82	3.438	
1,400.0	1,400.0	1,399.5	1,399.5	3.1	3.1	-179.83	-20.0	-0.1	20.0	13.7	6.26	3.195	
1,500.0	1,500.0	1,499.5	1,499.5	3.4	3.4	-179.83	-20.0	-0.1	20.0	13.3	6.70	2.983 CC, ES, SF	
1,600.0	1,600.0	1,598.8	1,598.8	3.6	3.5	-86.05	-21.7	-0.4	21.5	14.4	7.10	3.026	
1,700.0	1,699.9	1,697.8	1,697.7	3.8	3.7	-93.73	-26.7	-1.5	26.4	18.9	7.46	3.533	
1,800.0	1,799.7	1,796.5	1,796.0	4.0	3.9	-97.42	-35.0	-3.4	34.7	26.9	7.83	4.434	
1,900.0	1,899.5	1,894.7	1,893.4	4.2	4.1	-97.57	-46.5	-5.9	46.1	37.9	8.20	5.628	
2,000.0	1,999.4	1,992.0	1,989.6	4.4	4.3	-96.19	-61.1	-9.2	60.6	52.0	8.57	7.069	
2,100.0	2,099.2	2,088.3	2,084.2	4.6	4.5	-94.30	-78.8	-13.1	78.1	69.1	8.94	8.731	
2,200.0	2,199.0	2,184.1	2,177.6	4.8	4.8	-92.36	-99.3	-17.6	98.6	89.3	9.33	10.573	
2,300.0	2,298.9	2,281.7	2,272.6	5.0	5.1	-90.88	-121.2	-22.4	120.1	110.4	9.76	12.313	
2,400.0	2,398.7	2,379.3	2,367.6	5.3	5.5	-89.86	-143.1	-27.3	141.7	131.5	10.20	13.900	
2,500.0	2,498.5	2,476.9	2,462.6	5.5	5.8	-89.10	-165.0	-32.1	163.4	152.7	10.65	15.343	
2,600.0	2,598.4	2,574.5	2,557.6	5.7	6.2	-88.52	-186.8	-37.0	185.0	173.9	11.10	16.661	
2,700.0	2,698.2	2,672.1	2,652.6	5.9	6.5	-88.06	-208.7	-41.8	206.7	195.1	11.57	17.866	
2,800.0	2,798.0	2,769.7	2,747.6	6.2	6.9	-87.69	-230.6	-46.7	228.3	216.3	12.04	18.970	
2,900.0	2,897.9	2,867.4	2,842.6	6.4	7.3	-87.38	-252.5	-51.5	250.0	237.5	12.51	19.983	
3,000.0	2,997.7	2,965.0	2,937.6	6.6	7.7	-87.12	-274.4	-56.4	271.7	258.7	12.99	20.917	
3,100.0	3,097.6	3,062.6	3,032.6	6.9	8.1	-86.90	-296.3	-61.2	293.4	279.9	13.47	21.777	
3,200.0	3,197.4	3,160.2	3,127.6	7.1	8.6	-86.72	-318.2	-66.0	315.1	301.1	13.96	22.573	
3,300.0	3,297.2	3,257.8	3,222.6	7.3	9.0	-86.55	-340.1	-70.9	336.8	322.3	14.45	23.310	
3,400.0	3,397.1	3,355.4	3,317.7	7.6	9.4	-86.40	-361.9	-75.7	358.5	343.5	14.94	23.995	
3,500.0	3,496.9	3,453.0	3,412.7	7.8	9.8	-86.28	-383.8	-80.6	380.2	364.7	15.43	24.632	
3,600.0	3,596.7	3,550.7	3,507.7	8.1	10.3	-86.16	-405.7	-85.4	401.9	385.9	15.93	25.226	
3,700.0	3,696.6	3,648.3	3,602.7	8.3	10.7	-86.06	-427.6	-90.3	423.6	407.2	16.43	25.780	
3,800.0	3,796.4	3,745.9	3,697.7	8.5	11.1	-85.97	-449.5	-95.1	445.3	428.4	16.93	26.299	
3,900.0	3,896.2	3,843.5	3,792.7	8.8	11.6	-85.88	-471.4	-99.9	467.0	449.6	17.43	26.786	
4,000.0	3,996.1	3,941.1	3,887.7	9.0	12.0	-85.80	-493.3	-104.8	488.7	470.8	17.94	27.243	
4,100.0	4,095.9	4,038.7	3,982.7	9.3	12.5	-85.73	-515.2	-109.6	510.4	492.0	18.44	27.672	
4,200.0	4,195.8	4,136.3	4,077.7	9.5	12.9	-85.67	-537.0	-114.5	532.1	513.2	18.95	28.077	
4,300.0	4,295.6	4,233.9	4,172.7	9.7	13.4	-85.61	-558.9	-119.3	553.8	534.4	19.46	28.459	
4,400.0	4,395.4	4,331.6	4,267.7	10.0	13.8	-85.55	-580.8	-124.2	575.5	555.6	19.97	28.819	
4,500.0	4,495.3	4,429.2	4,362.7	10.2	14.3	-85.50	-602.7	-129.0	597.2	576.8	20.48	29.161	
4,600.0	4,595.1	4,526.8	4,457.7	10.5	14.7	-85.46	-624.6	-133.8	618.9	597.9	20.99	29.484	
4,700.0	4,694.9	4,624.4	4,552.7	10.7	15.2	-85.41	-646.5	-138.7	640.6	619.1	21.51	29.791	
4,800.0	4,794.8	4,722.0	4,647.7	11.0	15.6	-85.37	-668.4	-143.5	662.4	640.3	22.02	30.082	
4,900.0	4,894.6	4,819.6	4,742.7	11.2	16.1	-85.33	-690.3	-148.4	684.1	661.5	22.53	30.358	
5,000.0	4,994.4	4,917.2	4,837.7	11.4	16.5	-85.30	-712.2	-153.2	705.8	682.7	23.05	30.622	
5,100.0	5,094.3	5,014.9	4,932.7	11.7	17.0	-85.26	-734.0	-158.1	727.5	703.9	23.56	30.873	

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



SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum



SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 233H - Wellbore #1 - Plan 1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.5 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.5	0.5	0.5	0.5	0.17	20.0	0.1	20.0				
100.0	100.0	100.5	100.5	0.5	0.5	0.17	20.0	0.1	20.0	18.9	1.06	18.945	
200.0	200.0	200.5	200.5	0.6	0.6	0.17	20.0	0.1	20.0	18.7	1.27	15.710	
300.0	300.0	300.5	300.5	0.8	0.8	0.17	20.0	0.1	20.0	18.4	1.59	12.571	
400.0	400.0	400.5	400.5	1.0	1.0	0.17	20.0	0.1	20.0	18.0	1.96	10.199	
500.0	500.0	500.5	500.5	1.2	1.2	0.17	20.0	0.1	20.0	17.6	2.36	8.479	
600.0	600.0	600.5	600.5	1.4	1.4	0.17	20.0	0.1	20.0	17.2	2.77	7.214	
700.0	700.0	700.5	700.5	1.6	1.6	0.17	20.0	0.1	20.0	16.8	3.20	6.258	
800.0	800.0	800.5	800.5	1.8	1.8	0.17	20.0	0.1	20.0	16.4	3.63	5.516	
900.0	900.0	900.5	900.5	2.0	2.0	0.17	20.0	0.1	20.0	15.9	4.06	4.927	
1,000.0	1,000.0	1,000.5	1,000.5	2.2	2.2	0.17	20.0	0.1	20.0	15.5	4.50	4.448	
1,100.0	1,100.0	1,100.5	1,100.5	2.5	2.5	0.17	20.0	0.1	20.0	15.1	4.94	4.052	
1,200.0	1,200.0	1,200.5	1,200.5	2.7	2.7	0.17	20.0	0.1	20.0	14.6	5.38	3.720	
1,300.0	1,300.0	1,300.5	1,300.5	2.9	2.9	0.17	20.0	0.1	20.0	14.2	5.82	3.437	
1,400.0	1,400.0	1,400.5	1,400.5	3.1	3.1	0.17	20.0	0.1	20.0	13.7	6.26	3.194	
1,416.5	1,416.5	1,417.0	1,417.0	3.2	3.2	0.17	20.0	0.1	20.0	13.7	6.34	3.157 CC	
1,500.0	1,500.0	1,500.5	1,500.5	3.4	3.4	0.17	20.0	0.1	20.0	13.3	6.71	2.982 ES, SF	
1,600.0	1,600.0	1,600.0	1,600.0	3.6	3.6	101.31	21.7	-0.2	22.0	14.9	7.13	3.085	
1,700.0	1,699.9	1,698.7	1,698.5	3.8	3.8	108.84	26.8	-1.0	28.3	20.8	7.54	3.755	
1,800.0	1,799.7	1,797.1	1,796.6	4.0	4.0	112.45	35.2	-2.2	38.4	30.4	7.95	4.824	
1,900.0	1,899.5	1,894.8	1,893.6	4.2	4.2	112.92	46.9	-4.0	51.6	43.2	8.36	6.169	
2,000.0	1,999.4	1,991.6	1,989.2	4.4	4.5	112.02	61.6	-6.2	67.9	59.1	8.76	7.742	
2,100.0	2,099.2	2,087.3	2,083.2	4.6	4.8	110.63	79.3	-8.9	87.2	78.0	9.16	9.516	
2,200.0	2,199.0	2,182.0	2,175.6	4.8	5.0	109.14	99.9	-11.9	109.6	100.0	9.56	11.463	
2,300.0	2,298.9	2,279.1	2,270.0	5.0	5.4	107.91	122.3	-15.3	133.4	123.4	10.02	13.314	
2,400.0	2,398.7	2,376.2	2,364.4	5.3	5.7	107.06	144.7	-18.7	157.2	146.7	10.47	15.004	
2,500.0	2,498.5	2,473.3	2,458.8	5.5	6.1	106.43	167.1	-22.0	181.0	170.0	10.94	16.540	
2,600.0	2,598.4	2,570.4	2,553.2	5.7	6.4	105.95	189.6	-25.4	204.8	193.4	11.41	17.945	
2,700.0	2,698.2	2,667.5	2,647.7	5.9	6.8	105.57	212.0	-28.8	228.7	216.8	11.89	19.230	
2,800.0	2,798.0	2,764.6	2,742.1	6.2	7.2	105.26	234.4	-32.1	252.5	240.2	12.37	20.411	
2,900.0	2,897.9	2,861.7	2,836.5	6.4	7.6	105.00	256.8	-35.5	276.4	263.5	12.86	21.497	
3,000.0	2,997.7	2,958.8	2,930.9	6.6	8.0	104.79	279.2	-38.9	300.3	286.9	13.35	22.499	
3,100.0	3,097.6	3,055.9	3,025.3	6.9	8.4	104.60	301.7	-42.3	324.1	310.3	13.84	23.426	
3,200.0	3,197.4	3,153.0	3,119.8	7.1	8.8	104.45	324.1	-45.6	348.0	333.7	14.33	24.285	
3,300.0	3,297.2	3,250.1	3,214.2	7.3	9.2	104.31	346.5	-49.0	371.9	357.1	14.83	25.083	
3,400.0	3,397.1	3,347.2	3,308.6	7.6	9.7	104.19	368.9	-52.4	395.8	380.4	15.32	25.826	
3,500.0	3,496.9	3,444.3	3,403.0	7.8	10.1	104.08	391.3	-55.7	419.6	403.8	15.82	26.519	
3,600.0	3,596.7	3,541.4	3,497.5	8.1	10.5	103.98	413.8	-59.1	443.5	427.2	16.33	27.167	
3,700.0	3,696.6	3,638.5	3,591.9	8.3	10.9	103.90	436.2	-62.5	467.4	450.6	16.83	27.774	
3,800.0	3,796.4	3,735.7	3,686.3	8.5	11.4	103.82	458.6	-65.8	491.3	474.0	17.33	28.343	
3,900.0	3,896.2	3,832.8	3,780.7	8.8	11.8	103.75	481.0	-69.2	515.2	497.3	17.84	28.877	
4,000.0	3,996.1	3,929.9	3,875.1	9.0	12.3	103.68	503.4	-72.6	539.1	520.7	18.35	29.380	
4,100.0	4,095.9	4,027.0	3,969.6	9.3	12.7	103.62	525.9	-75.9	562.9	544.1	18.86	29.855	
4,200.0	4,195.8	4,124.1	4,064.0	9.5	13.1	103.57	548.3	-79.3	586.8	567.5	19.37	30.302	
4,300.0	4,295.6	4,221.2	4,158.4	9.7	13.6	103.52	570.7	-82.7	610.7	590.8	19.88	30.726	
4,400.0	4,395.4	4,318.3	4,252.8	10.0	14.0	103.47	593.1	-86.0	634.6	614.2	20.39	31.127	
4,500.0	4,495.3	4,415.4	4,347.2	10.2	14.5	103.43	615.5	-89.4	658.5	637.6	20.90	31.506	
4,600.0	4,595.1	4,512.5	4,441.7	10.5	14.9	103.39	638.0	-92.8	682.4	660.9	21.41	31.867	
4,700.0	4,694.9	4,609.6	4,536.1	10.7	15.3	103.35	660.4	-96.1	706.2	684.3	21.93	32.210	
4,800.0	4,794.8	4,706.7	4,630.5	11.0	15.8	103.32	682.8	-99.5	730.1	707.7	22.44	32.536	

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



SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 236H - Wellbore #1 - Plan 1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.5 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	Rule Assigned:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.5	0.5	0.17	40.0	0.1	40.0				
100.0	100.0	101.0	101.0	0.5	0.5	0.17	40.0	0.1	40.0	38.9	1.06	37.868	
200.0	200.0	201.0	201.0	0.6	0.6	0.17	40.0	0.1	40.0	38.7	1.27	31.396	
300.0	300.0	301.0	301.0	0.8	0.8	0.17	40.0	0.1	40.0	38.4	1.59	25.123	
400.0	400.0	401.0	401.0	1.0	1.0	0.17	40.0	0.1	40.0	38.0	1.96	20.383	
500.0	500.0	501.0	501.0	1.2	1.2	0.17	40.0	0.1	40.0	37.6	2.36	16.946	
600.0	600.0	601.0	601.0	1.4	1.4	0.17	40.0	0.1	40.0	37.2	2.77	14.418	
616.3	616.3	617.3	617.3	1.4	1.4	0.17	40.0	0.1	40.0	37.1	2.84	14.070 CC	
700.0	700.0	701.0	701.0	1.6	1.6	0.17	40.0	0.1	40.0	36.8	3.20	12.509 ES	
800.0	800.0	800.0	800.0	1.8	1.8	0.02	41.7	0.0	41.7	38.1	3.62	11.516 SF	
900.0	900.0	897.9	897.8	2.0	2.0	-0.36	46.8	-0.3	46.9	42.9	4.05	11.574	
1,000.0	1,000.0	995.8	995.3	2.2	2.3	-0.84	55.2	-0.8	55.5	51.0	4.48	12.383	
1,100.0	1,100.0	1,093.0	1,091.8	2.5	2.5	-1.30	66.9	-1.5	67.5	62.6	4.91	13.746	
1,200.0	1,200.0	1,189.3	1,186.9	2.7	2.7	-1.69	81.6	-2.4	82.8	77.5	5.34	15.527	
1,300.0	1,300.0	1,284.5	1,280.4	2.9	3.0	-2.01	99.3	-3.5	101.5	95.7	5.76	17.627	
1,400.0	1,400.0	1,378.4	1,372.1	3.1	3.4	-2.26	119.8	-4.7	123.3	117.2	6.17	19.976	
1,500.0	1,500.0	1,470.8	1,461.6	3.4	3.7	-2.46	142.9	-6.1	148.3	141.8	6.59	22.519	
1,600.0	1,600.0	1,561.6	1,548.7	3.6	4.1	94.72	168.3	-7.7	176.6	169.6	6.99	25.281	
1,700.0	1,699.9	1,654.1	1,636.7	3.8	4.6	95.51	196.6	-9.4	207.7	200.3	7.41	28.031	
1,800.0	1,799.7	1,748.9	1,726.9	4.0	5.1	96.60	225.9	-11.2	239.2	231.3	7.86	30.442	
1,900.0	1,899.5	1,843.8	1,817.1	4.2	5.6	97.43	255.1	-13.0	270.7	262.4	8.32	32.521	
2,000.0	1,999.4	1,938.6	1,907.3	4.4	6.1	98.09	284.4	-14.7	302.3	293.5	8.80	34.354	
2,100.0	2,099.2	2,033.4	1,997.5	4.6	6.6	98.63	313.6	-16.5	333.9	324.6	9.28	35.974	
2,200.0	2,199.0	2,128.3	2,087.7	4.8	7.1	99.07	342.9	-18.3	365.5	355.8	9.77	37.411	
2,300.0	2,298.9	2,223.1	2,177.9	5.0	7.7	99.44	372.1	-20.1	397.2	386.9	10.27	38.692	
2,400.0	2,398.7	2,317.9	2,268.1	5.3	8.2	99.76	401.4	-21.9	428.9	418.1	10.76	39.838	
2,500.0	2,498.5	2,412.8	2,358.2	5.5	8.7	100.03	430.7	-23.6	460.5	449.3	11.27	40.868	
2,600.0	2,598.4	2,507.6	2,448.4	5.7	9.3	100.27	459.9	-25.4	492.2	480.4	11.78	41.797	
2,700.0	2,698.2	2,602.4	2,538.6	5.9	9.8	100.48	489.2	-27.2	523.9	511.6	12.29	42.638	
2,800.0	2,798.0	2,697.2	2,628.8	6.2	10.4	100.67	518.4	-29.0	555.6	542.8	12.80	43.403	
2,900.0	2,897.9	2,792.1	2,719.0	6.4	10.9	100.83	547.7	-30.8	587.3	574.0	13.32	44.101	
3,000.0	2,997.7	2,886.9	2,809.2	6.6	11.5	100.98	576.9	-32.5	619.0	605.2	13.84	44.740	
3,100.0	3,097.6	2,981.7	2,899.4	6.9	12.0	101.11	606.2	-34.3	650.7	636.4	14.36	45.326	
3,200.0	3,197.4	3,076.6	2,989.6	7.1	12.6	101.24	635.4	-36.1	682.4	667.5	14.88	45.865	
3,300.0	3,297.2	3,171.4	3,079.7	7.3	13.1	101.35	664.7	-37.9	714.1	698.7	15.40	46.363	

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



SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB 25' + GL @ 3090.3usft

Offset Depths are relative to Offset Datum

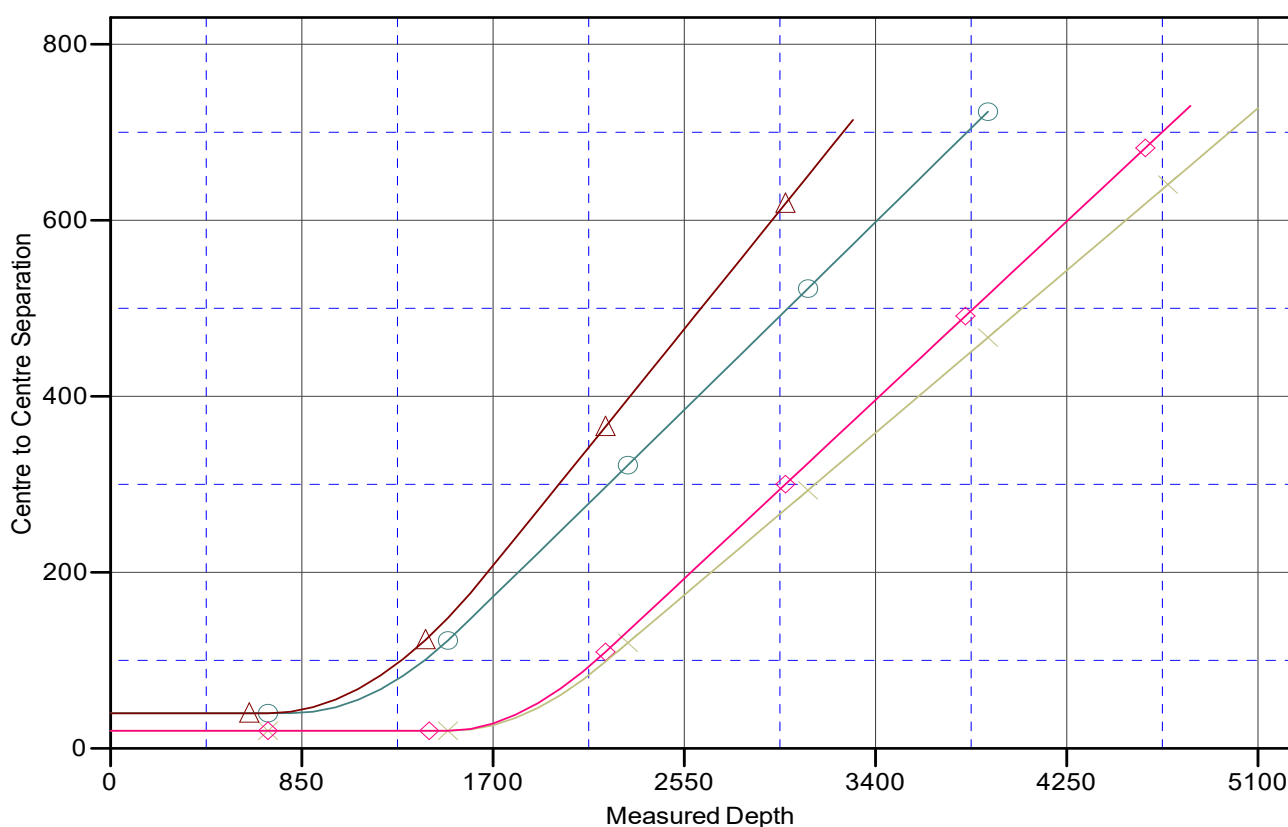
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Rana Salada Fed Com 0106 213H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.15°

Ladder Plot



LEGEND

- Rana Salada FedCom 0106 133H, Wellbore#1, Plan 1 V0
- ◇— Rana Salada FedCom 0106 233H, Wellbore#1, Plan 1 V0
- ×— Rana Salada FedCom 0106 223H, Wellbore#1, Plan 1 V0
- △— Rana Salada FedCom 0106 236H, Wellbore#1, Plan 1 V0

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



SB Directional Services

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL @ 3090.3usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL @ 3090.3usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.5 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB 25' + GL @ 3090.3usft

Offset Depths are relative to Offset Datum

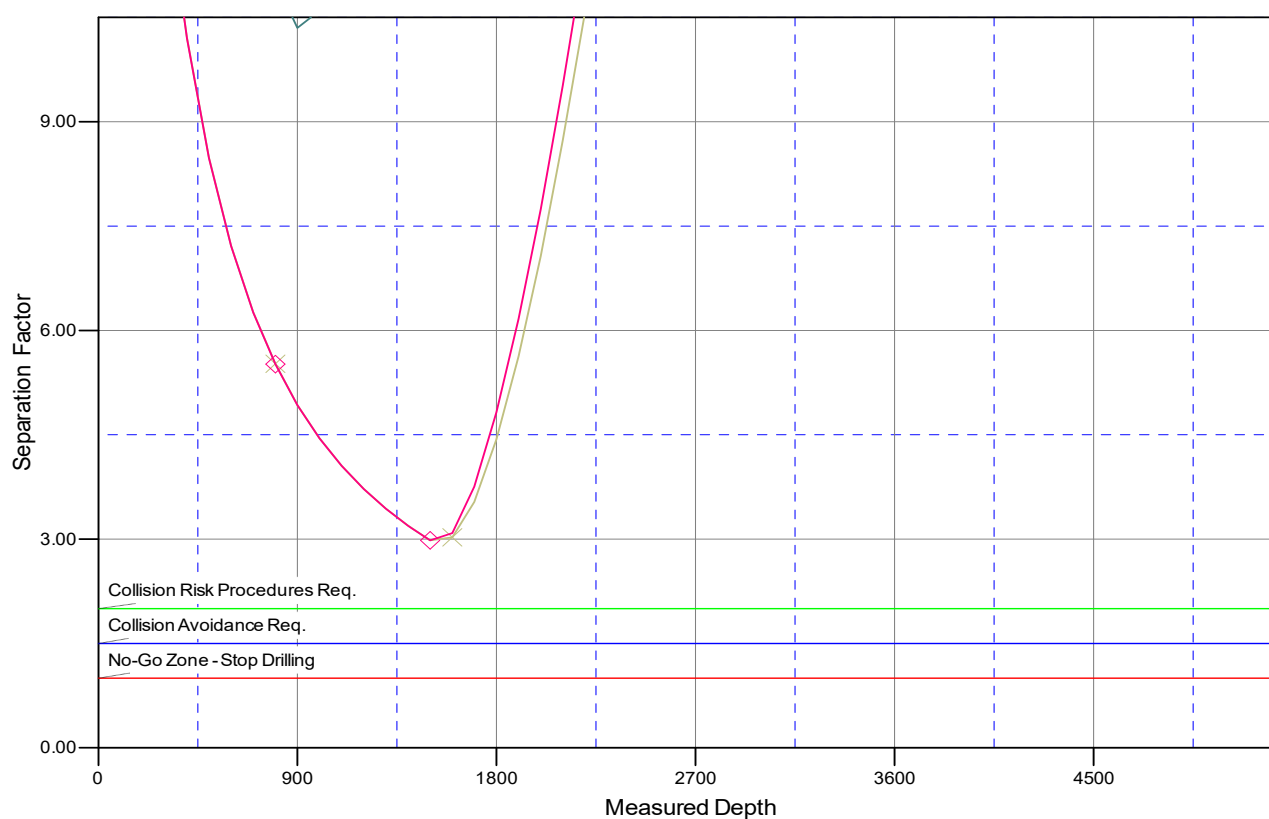
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Rana Salada Fed Com 0106 213H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.15°

Separation Factor Plot



LEGEND

Rana Salada FedCom0106 133H, Wellbore#1, Plan 1 V0
 Rana Salada FedCom0106 233H, Wellbore#1, Plan 1 V0
 Rana Salada FedCom0106 223H, Wellbore#1, Plan 1 V0
 Rana Salada FedCom0106 236H, Wellbore#1, Plan 1 V0

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



NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC 02-T23S-R28E

Rana Salada Fed Com 0106 213H

Wellbore #1

Plan: Plan 1

Standard Planning Report

08 June, 2021





SB Directional Services

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL @ 3090.3usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL @ 3090.3usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Project	EDDY CO., NM (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	SEC 02-T23S-R28E		
Site Position:		Northing:	485,314.80 usft
From:	Map	Easting:	629,041.60 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 20' 1.977 N
		Longitude:	104° 2' 57.742 W

Well	Rana Salada Fed Com 0106 213H		
Well Position	+N/-S	0.0 usft	Northing: 485,274.81 usft
	+E/-W	0.0 usft	Easting: 629,041.48 usft
Position Uncertainty	0.5 usft	Wellhead Elevation:	usft
Grid Convergence:	0.15 °	Ground Level:	3,065.3 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	6/2/2021	6.78	59.93	47,516.05507158

Design	Plan 1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	90.60	

Plan Survey Tool Program	Date	6/8/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	20,812.3 Plan 1 (Wellbore #1)	MWD		
			MWD - Standard		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,664.1	3.28	262.63	1,664.0	-0.6	-4.7	2.00	2.00	0.00	262.63	
5,342.1	3.28	262.63	5,336.0	-27.6	-213.4	0.00	0.00	0.00	0.00	
5,506.2	0.00	0.00	5,500.0	-28.2	-218.1	2.00	-2.00	0.00	180.00	
9,948.2	0.00	0.00	9,942.0	-28.2	-218.1	0.00	0.00	0.00	0.00	
10,848.2	90.00	90.60	10,515.0	-34.2	354.8	10.00	10.00	10.07	90.60	
20,812.3	90.00	90.60	10,515.0	-138.5	10,318.3	0.00	0.00	0.00	0.00	PBHL Rana Salada 2



SB Directional Services

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL @ 3090.3usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL @ 3090.3usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Begin Nudge									
1,600.0	2.00	262.63	1,600.0	-0.2	-1.7	-1.7	2.00	2.00	0.00
1,664.1	3.28	262.63	1,664.0	-0.6	-4.7	-4.7	2.00	2.00	0.00
EOB 3.28° Inc									
1,700.0	3.28	262.63	1,699.9	-0.9	-6.7	-6.7	0.00	0.00	0.00
1,800.0	3.28	262.63	1,799.7	-1.6	-12.4	-12.4	0.00	0.00	0.00
1,900.0	3.28	262.63	1,899.5	-2.3	-18.1	-18.0	0.00	0.00	0.00
2,000.0	3.28	262.63	1,999.4	-3.1	-23.7	-23.7	0.00	0.00	0.00
2,100.0	3.28	262.63	2,099.2	-3.8	-29.4	-29.4	0.00	0.00	0.00
2,200.0	3.28	262.63	2,199.0	-4.5	-35.1	-35.0	0.00	0.00	0.00
2,300.0	3.28	262.63	2,298.9	-5.3	-40.8	-40.7	0.00	0.00	0.00
2,400.0	3.28	262.63	2,398.7	-6.0	-46.4	-46.4	0.00	0.00	0.00
2,500.0	3.28	262.63	2,498.5	-6.7	-52.1	-52.0	0.00	0.00	0.00
2,600.0	3.28	262.63	2,598.4	-7.5	-57.8	-57.7	0.00	0.00	0.00
2,700.0	3.28	262.63	2,698.2	-8.2	-63.5	-63.4	0.00	0.00	0.00
2,800.0	3.28	262.63	2,798.0	-8.9	-69.1	-69.0	0.00	0.00	0.00
2,900.0	3.28	262.63	2,897.9	-9.7	-74.8	-74.7	0.00	0.00	0.00
3,000.0	3.28	262.63	2,997.7	-10.4	-80.5	-80.4	0.00	0.00	0.00
3,100.0	3.28	262.63	3,097.6	-11.1	-86.2	-86.0	0.00	0.00	0.00
3,200.0	3.28	262.63	3,197.4	-11.9	-91.8	-91.7	0.00	0.00	0.00
3,300.0	3.28	262.63	3,297.2	-12.6	-97.5	-97.4	0.00	0.00	0.00
3,400.0	3.28	262.63	3,397.1	-13.3	-103.2	-103.1	0.00	0.00	0.00
3,500.0	3.28	262.63	3,496.9	-14.1	-108.9	-108.7	0.00	0.00	0.00
3,600.0	3.28	262.63	3,596.7	-14.8	-114.6	-114.4	0.00	0.00	0.00
3,700.0	3.28	262.63	3,696.6	-15.5	-120.2	-120.1	0.00	0.00	0.00
3,800.0	3.28	262.63	3,796.4	-16.3	-125.9	-125.7	0.00	0.00	0.00
3,900.0	3.28	262.63	3,896.2	-17.0	-131.6	-131.4	0.00	0.00	0.00
4,000.0	3.28	262.63	3,996.1	-17.7	-137.3	-137.1	0.00	0.00	0.00
4,100.0	3.28	262.63	4,095.9	-18.5	-142.9	-142.7	0.00	0.00	0.00
4,200.0	3.28	262.63	4,195.8	-19.2	-148.6	-148.4	0.00	0.00	0.00
4,300.0	3.28	262.63	4,295.6	-19.9	-154.3	-154.1	0.00	0.00	0.00
4,400.0	3.28	262.63	4,395.4	-20.7	-160.0	-159.7	0.00	0.00	0.00
4,500.0	3.28	262.63	4,495.3	-21.4	-165.6	-165.4	0.00	0.00	0.00
4,600.0	3.28	262.63	4,595.1	-22.2	-171.3	-171.1	0.00	0.00	0.00
4,700.0	3.28	262.63	4,694.9	-22.9	-177.0	-176.7	0.00	0.00	0.00
4,800.0	3.28	262.63	4,794.8	-23.6	-182.7	-182.4	0.00	0.00	0.00
4,900.0	3.28	262.63	4,894.6	-24.4	-188.3	-188.1	0.00	0.00	0.00



SB Directional Services

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL @ 3090.3usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL @ 3090.3usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.0	3.28	262.63	4,994.4	-25.1	-194.0	-193.7	0.00	0.00	0.00
5,100.0	3.28	262.63	5,094.3	-25.8	-199.7	-199.4	0.00	0.00	0.00
5,200.0	3.28	262.63	5,194.1	-26.6	-205.4	-205.1	0.00	0.00	0.00
5,300.0	3.28	262.63	5,293.9	-27.3	-211.0	-210.8	0.00	0.00	0.00
5,342.1	3.28	262.63	5,336.0	-27.6	-213.4	-213.1	0.00	0.00	0.00
EOH 3.28° Inc									
5,400.0	2.12	262.63	5,393.8	-27.9	-216.1	-215.8	2.00	-2.00	0.00
5,506.2	0.00	0.00	5,500.0	-28.2	-218.1	-217.8	2.00	-2.00	0.00
Vertical Point									
5,600.0	0.00	0.00	5,593.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,693.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,793.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,893.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,993.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,093.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,193.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,293.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,393.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,493.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,593.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,693.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,793.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,893.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,993.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,100.0	0.00	0.00	7,093.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,193.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,293.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,393.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,493.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,593.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,700.0	0.00	0.00	7,693.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,793.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
7,900.0	0.00	0.00	7,893.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,000.0	0.00	0.00	7,993.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,100.0	0.00	0.00	8,093.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,200.0	0.00	0.00	8,193.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,300.0	0.00	0.00	8,293.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,400.0	0.00	0.00	8,393.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,500.0	0.00	0.00	8,493.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,600.0	0.00	0.00	8,593.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,700.0	0.00	0.00	8,693.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,800.0	0.00	0.00	8,793.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
8,900.0	0.00	0.00	8,893.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,000.0	0.00	0.00	8,993.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,100.0	0.00	0.00	9,093.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,200.0	0.00	0.00	9,193.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,300.0	0.00	0.00	9,293.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,400.0	0.00	0.00	9,393.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,500.0	0.00	0.00	9,493.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,600.0	0.00	0.00	9,593.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,700.0	0.00	0.00	9,693.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,800.0	0.00	0.00	9,793.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,900.0	0.00	0.00	9,893.8	-28.2	-218.1	-217.8	0.00	0.00	0.00
9,948.2	0.00	0.00	9,942.0	-28.2	-218.1	-217.8	0.00	0.00	0.00



SB Directional Services

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL @ 3090.3usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL @ 3090.3usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
KOP 10°/100'									
9,950.0	0.18	90.60	9,943.8	-28.2	-218.1	-217.8	9.95	9.95	0.00
10,000.0	5.18	90.60	9,993.7	-28.2	-215.8	-215.5	10.00	10.00	0.00
10,050.0	10.18	90.60	10,043.3	-28.3	-209.1	-208.8	10.00	10.00	0.00
10,100.0	15.18	90.60	10,092.0	-28.4	-198.1	-197.8	10.00	10.00	0.00
10,150.0	20.18	90.60	10,139.6	-28.6	-182.9	-182.6	10.00	10.00	0.00
10,200.0	25.18	90.60	10,185.8	-28.8	-163.7	-163.4	10.00	10.00	0.00
10,250.0	30.18	90.60	10,230.0	-29.0	-140.4	-140.1	10.00	10.00	0.00
10,300.0	35.18	90.60	10,272.1	-29.3	-113.5	-113.1	10.00	10.00	0.00
10,350.0	40.18	90.60	10,311.7	-29.6	-82.9	-82.6	10.00	10.00	0.00
10,400.0	45.18	90.60	10,348.4	-30.0	-49.0	-48.7	10.00	10.00	0.00
10,450.0	50.18	90.60	10,382.1	-30.4	-12.1	-11.8	10.00	10.00	0.00
10,500.0	55.18	90.60	10,412.4	-30.8	27.7	28.0	10.00	10.00	0.00
10,550.0	60.18	90.60	10,439.1	-31.2	69.9	70.2	10.00	10.00	0.00
10,600.0	65.18	90.60	10,462.0	-31.7	114.3	114.6	10.00	10.00	0.00
10,650.0	70.18	90.60	10,481.0	-32.2	160.6	160.9	10.00	10.00	0.00
10,700.0	75.18	90.60	10,495.9	-32.7	208.3	208.6	10.00	10.00	0.00
10,750.0	80.18	90.60	10,506.6	-33.2	257.1	257.4	10.00	10.00	0.00
10,800.0	85.18	90.60	10,512.9	-33.7	306.7	307.0	10.00	10.00	0.00
10,848.2	90.00	90.60	10,515.0	-34.2	354.8	355.2	10.00	10.00	0.00
Landing Point									
10,900.0	90.00	90.60	10,515.0	-34.7	406.6	407.0	0.00	0.00	0.00
11,000.0	90.00	90.60	10,515.0	-35.8	506.6	507.0	0.00	0.00	0.00
11,100.0	90.00	90.60	10,515.0	-36.8	606.6	607.0	0.00	0.00	0.00
11,200.0	90.00	90.60	10,515.0	-37.9	706.6	707.0	0.00	0.00	0.00
11,300.0	90.00	90.60	10,515.0	-38.9	806.6	807.0	0.00	0.00	0.00
11,400.0	90.00	90.60	10,515.0	-40.0	906.6	907.0	0.00	0.00	0.00
11,500.0	90.00	90.60	10,515.0	-41.0	1,006.6	1,007.0	0.00	0.00	0.00
11,600.0	90.00	90.60	10,515.0	-42.1	1,106.6	1,107.0	0.00	0.00	0.00
11,700.0	90.00	90.60	10,515.0	-43.1	1,206.6	1,207.0	0.00	0.00	0.00
11,800.0	90.00	90.60	10,515.0	-44.2	1,306.6	1,307.0	0.00	0.00	0.00
11,900.0	90.00	90.60	10,515.0	-45.2	1,406.6	1,407.0	0.00	0.00	0.00
12,000.0	90.00	90.60	10,515.0	-46.3	1,506.6	1,507.0	0.00	0.00	0.00
12,100.0	90.00	90.60	10,515.0	-47.3	1,606.5	1,607.0	0.00	0.00	0.00
12,200.0	90.00	90.60	10,515.0	-48.3	1,706.5	1,707.0	0.00	0.00	0.00
12,300.0	90.00	90.60	10,515.0	-49.4	1,806.5	1,807.0	0.00	0.00	0.00
12,400.0	90.00	90.60	10,515.0	-50.4	1,906.5	1,907.0	0.00	0.00	0.00
12,500.0	90.00	90.60	10,515.0	-51.5	2,006.5	2,007.0	0.00	0.00	0.00
12,600.0	90.00	90.60	10,515.0	-52.5	2,106.5	2,107.0	0.00	0.00	0.00
12,700.0	90.00	90.60	10,515.0	-53.6	2,206.5	2,207.0	0.00	0.00	0.00
12,800.0	90.00	90.60	10,515.0	-54.6	2,306.5	2,307.0	0.00	0.00	0.00
12,900.0	90.00	90.60	10,515.0	-55.7	2,406.5	2,407.0	0.00	0.00	0.00
13,000.0	90.00	90.60	10,515.0	-56.7	2,506.5	2,507.0	0.00	0.00	0.00
13,100.0	90.00	90.60	10,515.0	-57.8	2,606.5	2,607.0	0.00	0.00	0.00
13,200.0	90.00	90.60	10,515.0	-58.8	2,706.5	2,707.0	0.00	0.00	0.00
13,300.0	90.00	90.60	10,515.0	-59.9	2,806.5	2,807.0	0.00	0.00	0.00
13,400.0	90.00	90.60	10,515.0	-60.9	2,906.5	2,907.0	0.00	0.00	0.00
13,500.0	90.00	90.60	10,515.0	-62.0	3,006.5	3,007.0	0.00	0.00	0.00
13,600.0	90.00	90.60	10,515.0	-63.0	3,106.5	3,107.0	0.00	0.00	0.00
13,700.0	90.00	90.60	10,515.0	-64.0	3,206.5	3,207.0	0.00	0.00	0.00
13,800.0	90.00	90.60	10,515.0	-65.1	3,306.5	3,307.0	0.00	0.00	0.00
13,900.0	90.00	90.60	10,515.0	-66.1	3,406.5	3,407.0	0.00	0.00	0.00
14,000.0	90.00	90.60	10,515.0	-67.2	3,506.4	3,507.0	0.00	0.00	0.00
14,100.0	90.00	90.60	10,515.0	-68.2	3,606.4	3,607.0	0.00	0.00	0.00



SB Directional Services

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL @ 3090.3usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL @ 3090.3usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,200.0	90.00	90.60	10,515.0	-69.3	3,706.4	3,707.0	0.00	0.00	0.00
14,300.0	90.00	90.60	10,515.0	-70.3	3,806.4	3,807.0	0.00	0.00	0.00
14,400.0	90.00	90.60	10,515.0	-71.4	3,906.4	3,907.0	0.00	0.00	0.00
14,500.0	90.00	90.60	10,515.0	-72.4	4,006.4	4,007.0	0.00	0.00	0.00
14,600.0	90.00	90.60	10,515.0	-73.5	4,106.4	4,107.0	0.00	0.00	0.00
14,700.0	90.00	90.60	10,515.0	-74.5	4,206.4	4,207.0	0.00	0.00	0.00
14,800.0	90.00	90.60	10,515.0	-75.6	4,306.4	4,307.0	0.00	0.00	0.00
14,900.0	90.00	90.60	10,515.0	-76.6	4,406.4	4,407.0	0.00	0.00	0.00
15,000.0	90.00	90.60	10,515.0	-77.6	4,506.4	4,507.0	0.00	0.00	0.00
15,100.0	90.00	90.60	10,515.0	-78.7	4,606.4	4,607.0	0.00	0.00	0.00
15,200.0	90.00	90.60	10,515.0	-79.7	4,706.4	4,707.0	0.00	0.00	0.00
15,300.0	90.00	90.60	10,515.0	-80.8	4,806.4	4,807.0	0.00	0.00	0.00
15,400.0	90.00	90.60	10,515.0	-81.8	4,906.4	4,907.0	0.00	0.00	0.00
15,500.0	90.00	90.60	10,515.0	-82.9	5,006.4	5,007.0	0.00	0.00	0.00
15,600.0	90.00	90.60	10,515.0	-83.9	5,106.4	5,107.0	0.00	0.00	0.00
15,700.0	90.00	90.60	10,515.0	-85.0	5,206.4	5,207.0	0.00	0.00	0.00
15,800.0	90.00	90.60	10,515.0	-86.0	5,306.3	5,307.0	0.00	0.00	0.00
15,900.0	90.00	90.60	10,515.0	-87.1	5,406.3	5,407.0	0.00	0.00	0.00
16,000.0	90.00	90.60	10,515.0	-88.1	5,506.3	5,507.0	0.00	0.00	0.00
16,100.0	90.00	90.60	10,515.0	-89.2	5,606.3	5,607.0	0.00	0.00	0.00
16,200.0	90.00	90.60	10,515.0	-90.2	5,706.3	5,707.0	0.00	0.00	0.00
16,300.0	90.00	90.60	10,515.0	-91.3	5,806.3	5,807.0	0.00	0.00	0.00
16,400.0	90.00	90.60	10,515.0	-92.3	5,906.3	5,907.0	0.00	0.00	0.00
16,500.0	90.00	90.60	10,515.0	-93.3	6,006.3	6,007.0	0.00	0.00	0.00
16,600.0	90.00	90.60	10,515.0	-94.4	6,106.3	6,107.0	0.00	0.00	0.00
16,700.0	90.00	90.60	10,515.0	-95.4	6,206.3	6,207.0	0.00	0.00	0.00
16,800.0	90.00	90.60	10,515.0	-96.5	6,306.3	6,307.0	0.00	0.00	0.00
16,900.0	90.00	90.60	10,515.0	-97.5	6,406.3	6,407.0	0.00	0.00	0.00
17,000.0	90.00	90.60	10,515.0	-98.6	6,506.3	6,507.0	0.00	0.00	0.00
17,100.0	90.00	90.60	10,515.0	-99.6	6,606.3	6,607.0	0.00	0.00	0.00
17,200.0	90.00	90.60	10,515.0	-100.7	6,706.3	6,707.0	0.00	0.00	0.00
17,300.0	90.00	90.60	10,515.0	-101.7	6,806.3	6,807.0	0.00	0.00	0.00
17,400.0	90.00	90.60	10,515.0	-102.8	6,906.3	6,907.0	0.00	0.00	0.00
17,500.0	90.00	90.60	10,515.0	-103.8	7,006.3	7,007.0	0.00	0.00	0.00
17,600.0	90.00	90.60	10,515.0	-104.9	7,106.2	7,107.0	0.00	0.00	0.00
17,700.0	90.00	90.60	10,515.0	-105.9	7,206.2	7,207.0	0.00	0.00	0.00
17,800.0	90.00	90.60	10,515.0	-107.0	7,306.2	7,307.0	0.00	0.00	0.00
17,900.0	90.00	90.60	10,515.0	-108.0	7,406.2	7,407.0	0.00	0.00	0.00
18,000.0	90.00	90.60	10,515.0	-109.0	7,506.2	7,507.0	0.00	0.00	0.00
18,100.0	90.00	90.60	10,515.0	-110.1	7,606.2	7,607.0	0.00	0.00	0.00
18,200.0	90.00	90.60	10,515.0	-111.1	7,706.2	7,707.0	0.00	0.00	0.00
18,300.0	90.00	90.60	10,515.0	-112.2	7,806.2	7,807.0	0.00	0.00	0.00
18,400.0	90.00	90.60	10,515.0	-113.2	7,906.2	7,907.0	0.00	0.00	0.00
18,500.0	90.00	90.60	10,515.0	-114.3	8,006.2	8,007.0	0.00	0.00	0.00
18,600.0	90.00	90.60	10,515.0	-115.3	8,106.2	8,107.0	0.00	0.00	0.00
18,700.0	90.00	90.60	10,515.0	-116.4	8,206.2	8,207.0	0.00	0.00	0.00
18,800.0	90.00	90.60	10,515.0	-117.4	8,306.2	8,307.0	0.00	0.00	0.00
18,900.0	90.00	90.60	10,515.0	-118.5	8,406.2	8,407.0	0.00	0.00	0.00
19,000.0	90.00	90.60	10,515.0	-119.5	8,506.2	8,507.0	0.00	0.00	0.00
19,100.0	90.00	90.60	10,515.0	-120.6	8,606.2	8,607.0	0.00	0.00	0.00
19,200.0	90.00	90.60	10,515.0	-121.6	8,706.2	8,707.0	0.00	0.00	0.00
19,300.0	90.00	90.60	10,515.0	-122.7	8,806.2	8,807.0	0.00	0.00	0.00
19,400.0	90.00	90.60	10,515.0	-123.7	8,906.1	8,907.0	0.00	0.00	0.00
19,500.0	90.00	90.60	10,515.0	-124.7	9,006.1	9,007.0	0.00	0.00	0.00



SB Directional Services

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Rana Salada Fed Com 0106 213H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL @ 3090.3usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL @ 3090.3usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	Rana Salada Fed Com 0106 213H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,600.0	90.00	90.60	10,515.0	-125.8	9,106.1	9,107.0	0.00	0.00	0.00	
19,700.0	90.00	90.60	10,515.0	-126.8	9,206.1	9,207.0	0.00	0.00	0.00	
19,800.0	90.00	90.60	10,515.0	-127.9	9,306.1	9,307.0	0.00	0.00	0.00	
19,900.0	90.00	90.60	10,515.0	-128.9	9,406.1	9,407.0	0.00	0.00	0.00	
20,000.0	90.00	90.60	10,515.0	-130.0	9,506.1	9,507.0	0.00	0.00	0.00	
20,100.0	90.00	90.60	10,515.0	-131.0	9,606.1	9,607.0	0.00	0.00	0.00	
20,200.0	90.00	90.60	10,515.0	-132.1	9,706.1	9,707.0	0.00	0.00	0.00	
20,300.0	90.00	90.60	10,515.0	-133.1	9,806.1	9,807.0	0.00	0.00	0.00	
20,400.0	90.00	90.60	10,515.0	-134.2	9,906.1	9,907.0	0.00	0.00	0.00	
20,500.0	90.00	90.60	10,515.0	-135.2	10,006.1	10,007.0	0.00	0.00	0.00	
20,600.0	90.00	90.60	10,515.0	-136.3	10,106.1	10,107.0	0.00	0.00	0.00	
20,700.0	90.00	90.60	10,515.0	-137.3	10,206.1	10,207.0	0.00	0.00	0.00	
20,800.0	90.00	90.60	10,515.0	-138.4	10,306.1	10,307.0	0.00	0.00	0.00	
20,812.3	90.00	90.60	10,515.0	-138.5	10,318.3	10,319.2	0.00	0.00	0.00	
TD at 20812.3' MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FTP Rana Salada 213 H - hit/miss target - Shape	0.00	0.00	10,515.0	-34.2	354.8	485,240.63	629,396.32	32° 20' 1.234 N	104° 2' 53.609 W	
PBHL Rana Salada 213I - plan hits target center - Point	0.00	0.00	10,515.0	-138.5	10,318.3	485,136.33	639,359.83	32° 19' 59.925 N	104° 0' 57.482 W	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,500.0	1,500.0	0.0	0.0	Begin Nudge	
1,664.1	1,664.0	-0.6	-4.7	EOB 3.28° Inc	
5,342.1	5,336.0	-27.6	-213.4	EOH 3.28° Inc	
5,506.2	5,500.0	-28.2	-218.1	Vertical Point	
9,948.2	9,942.0	-28.2	-218.1	KOP 10°/100'	
10,848.2	10,515.0	-34.2	354.8	Landing Point	
20,812.3	10,515.0	-138.5	10,318.3	TD at 20812.3' MD	

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

CONDITIONS

Action 32869

CONDITIONS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1001 West Wilshire Blvd Oklahoma City, OK 73116	OGRID: 372920
	Action Number: 32869
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	6/22/2021