

Form 3160-5
(June 2019)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021**SUNDRY NOTICES AND REPORTS ON WELLS**
***Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.***

5. Lease Serial No. NMNM91078

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator NOVO OIL AND GAS NORTHERN DELAWARE LLC

3a. Address 1001 West Wilshire Boulevard Suite 206, Oklahoma
3b. Phone No. (include area code)
(405) 404-04144. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC 1/T23S/R28E/NMP

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No. RANA SALADA FED 01/211H

9. API Well No. 3001548581

10. Field and Pool or Exploratory Area
Corral Canyon/Wolfcamp11. Country or Parish, State
EDDY/NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

Novo Oil & Gas Northern Delaware, LLC respectfully request to make the following APD changes:

Change SHL from 104 FNL & 393 FWL to 144 FNL & 547 FWL, Section 1, T-23-S, R-28-E.

Change BHL from 330 FNL & 130 FEL, Section 1 to 2,510 FNL & 1,650 FWL, Section 12, T-23-S, R-28-E. Change Drilling Direction from West to East to North to South direction.

Casing/Cement/Mud Program changes attached.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
JUSTIN CARTER / Ph: (405) 286-3375

Title Landman

Signature Justin Carter

Date 02/28/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved

Title Petroleum Engineer

Date 04/28/2023

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office CARLSBAD

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.

(Instructions on page 2)

Additional Information

Location of Well

0. SHL: LOT 4 / 144 FNL / 547 FWL / TWSP: 23S / RANGE: 28E / SECTION: 1 / LAT: 32.3417261 / LONG: -104.0479683 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 383 FNL / 255 FEL / TWSP: 23S / RANGE: 28E / SECTION: 2 / LAT: 32.3409621 / LONG: -104.0500655 (TVD: 9660 feet, MD: 9823 feet)

BHL: LOT 1 / 330 FNL / 130 FEL / TWSP: 23S / RANGE: 28E / SECTION: 1 / LAT: 32.3411412 / LONG: -104.0323714 (TVD: 9779 feet, MD: 15317 feet)

Well Name: RANA SALADA FED 01	Well Location: T23S / R28E / SEC 1 / LOT 4 /	County or Parish/State:
Well Number: 211H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM91078	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548581	Well Status: Approved Application for Permit to Drill	Operator: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Notice of Intent

Sundry ID: 2718238

Type of Submission: Notice of Intent Type of Action: APD Change

Date Sundry Submitted: 02/28/2023 Time Sundry Submitted: 01:09

Date proposed operation will begin: 03/20/2023

Procedure Description: Novo Oil & Gas Northern Delaware, LLC respectfully request to make the following APD changes: Change SHL from 104' FNL & 393' FWL to 144' FNL & 547' FWL, Section 1, T-23-S, R-28-E. Change BHL from 330' FNL & 130' FEL, Section 1 to 2,510' FNL & 1,650' FWL, Section 12, T-23-S, R-28-E. Change Drilling Direction from West to East to North to South direction. Casing/Cement/Mud Program changes attached.

NOI Attachments

Procedure Description

Change_of_Plans_Rana_Salada_Fed_01_211H_20230228130910.pdf

Well Name: RANA SALADA FED 01	Well Location: T23S / R28E / SEC 1 / LOT 4 /	County or Parish/State:
Well Number: 211H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM91078	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548581	Well Status: Approved Application for Permit to Drill	Operator: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Conditions of Approval

Additional

Sec_1_23S_28E_NMP_Sundry_2718238_Rana_Salada_Fed_01_211H_Eddy_NMNM91078_NOVO_13_22_45042_Allison_Morency_20230428132535.pdf

Sec_1_23S_28E_NMP_Sundry_2718238_Rana_Salada_Fed_01_211H_Eddy_NMNM91078_NOVO_COAs_20230428132535.pdf

Operator

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

Operator Electronic Signature: JUSTIN CARTER	Signed on: FEB 28, 2023 01:09 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 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: 04/28/2023
Signature: Chris Walls	

Rana Salada Fed 01 211H

CHANGE TO PLANS

Move Surface Hole Location

From: 104' FNL & 393' FWL, Section 1, T-23-S, R-28-E

To: 144' FNL & 547' FWL, Section 1, T-23-S, R-28-E

Move Bottom Hole Location

From: 330' FNL & 130' FEL, Section 1, T-23-S, R-28-E

To: 2,510' FNL & 1,650' FWL, Section 12, T-23-S, R-28-E

Drilling Direction Change

From: West to East

To: North to South

Single State Cement Job for 13-3/8" Surface Casing String (TOC = Surface)

Tail: 334 Sacks; 541.9 cu. ft.; 100% excess. 1.62 cu.ft./sx; 13.8 ppg; Class C + Gel + Accelerator + LCM; 1,500 psi 14-hour compressive strength.

Singe Stage Cement Job for 8-5/8" Intermediate Casing String (TOC = Surface)

Lead: 609 Sacks; 2,181 cu. ft.; 100% excess. 3.58 cu.ft./sx; 10 ppg; Class C or H + Fluid Loss + Retarder + LCM + possibly beads; 900 psi 24-hour compressive strength.

Tail: 130 Sacks; 180.7 cu. ft.; 50% excess. 1.39 cu.ft./sx; 13.8 ppg; Class C or H + Fluid Loss + Retarder + LCM; 1,200 psi 14-hour compressive strength.

Single Stage Cement Job for 5-1/2" Production Casing String (TOC = Surface)

Lead: 702 Sacks; 1,488 cu. ft.; 20% excess. 2.12 cu.ft./sx; 12 ppg; Class H + Fluid Loss + Retarder + LCM; 1,200 psi 24-hour compressive strength.

Tail: 1,624 Sacks; 2,582 cu. ft.; 20% excess. 13.2 cu.ft./sx; 13.2 ppg; Class H + Fluid Loss + Retarder + LCM; 1,200 psi 14-hour compressive strength.

Drilling Fluid Program Changes

Water base spud mud: 0 – 390'; 8.30 ppg

Brine: 390' – 9,071'; 8.8-9.6 ppg

Oil Based mud: 9,071' – 17,802'; 11-12.5 ppg

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 30-015-48581	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp Gas Pool
⁴ Property Code	⁵ Property Name RANA SALADA FED 01	⁶ Well Number 211H
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC	⁹ Elevation 3067.1

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
4	1	23S	28E		144	NORTH	547	WEST	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
F	12	23S	28E		2510	NORTH	1650	WEST	EDDY

¹² Dedicated Acres 479.16	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. <i>Justin Carter</i> 11.1.2022 Signature Date Justin Carter Printed Name jcarter@novoog.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. OCTOBER 12, 2022 Date of Survey <i>[Signature]</i> Signature and Seal of Professional Surveyor: LS 12797 Certificate Number: LS 12797 Survey No. 8096B
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Intent ☐ As Drilled ☐

API #		
Operator Name: NOVO OIL & GAS NORTHERN DELAWARE, LLC	Property Name: RANA SALADA FED 01	Well Number 211H

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
	1	23S	28E	3	330	NORTH	1650	WEST	EDDY
Latitude 32.3411286					Longitude 104.0439029				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	12	23S	28E	1	2310	NORTH	1650	WEST	EDDY
Latitude 32.3210219					Longitude 104.0440725				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

[illegible]

012 60 120 240

SCALE 1" = 120'

DIRECTIONS TO LOCATION

FROM ST. HWY. 31 AND CR. 605 (REFINERY ROAD) GO NORTHWEST
ON REFINERY ROAD 1.6 MILES, TURN RIGHT ON CALICHE LEASE ROAD
AND GO NORTH 815', BEND RIGHT AND GO EAST-NORTHEAST 365'
TO A ROAD SURVEY AND FOLLOW EASE NORTH 222' TO THE
SOUTHEAST PAD CORNER FOR THIS LOCATION.

I, FILMON P. JARAMILA, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DREW UP AND RESUBMITTED FOR THIS SURVEY. I HAVE SURVEYED AND BEEN SUBJECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON J. JARAMILLO 05/03/12797

NOVO OIL & GAS NORTHERN DELAWARE, LLC
RANA SALADA FED 01 211H
 LOCATED 144 FT. FROM THE NORTH LINE
 AND 547 FT. FROM THE WEST LINE OF
 SECTION 1, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

OCTOBER 12, 2022

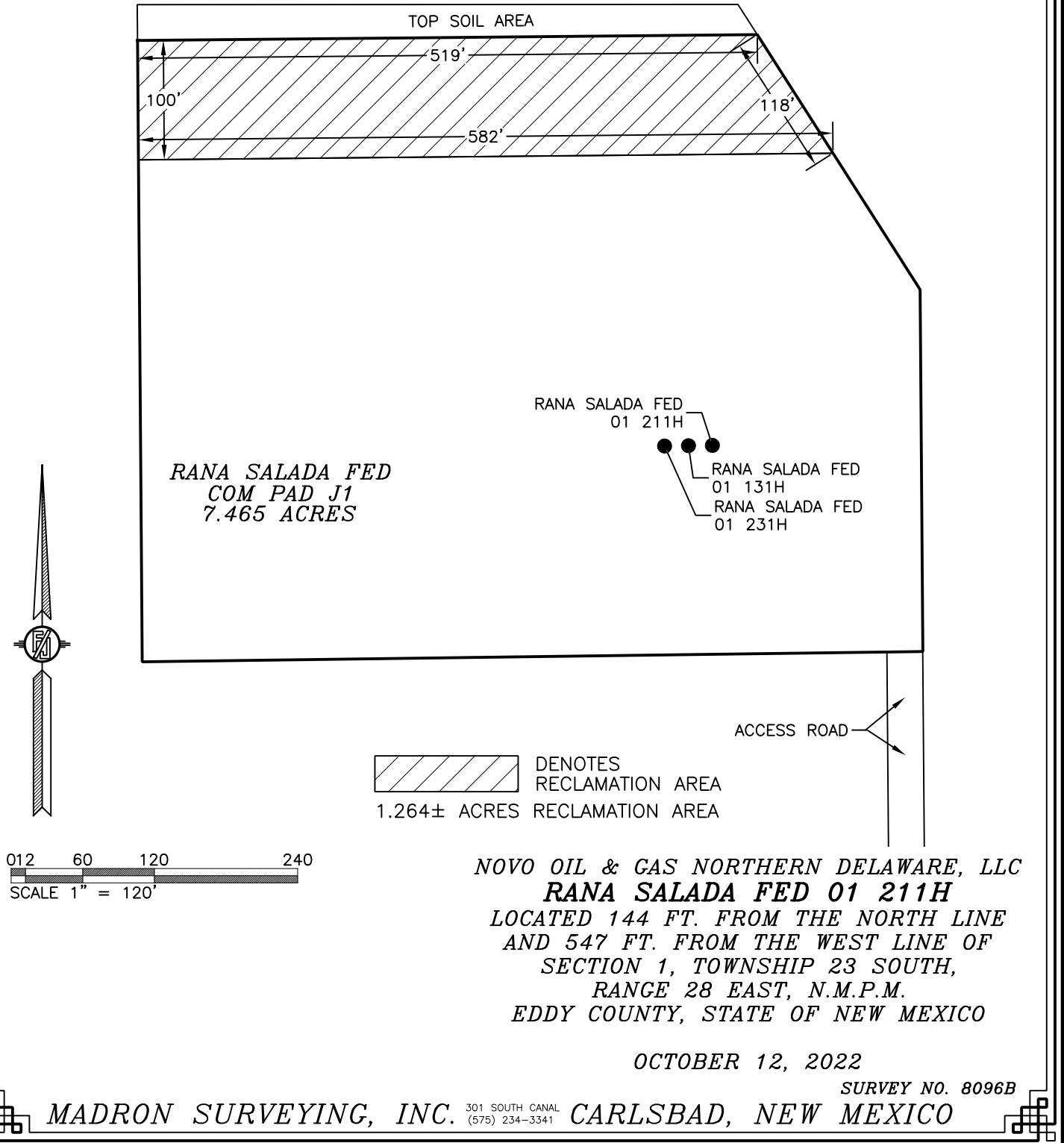
SURVEY NO. 8096B

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 INTERIM SITE RECLAMATION

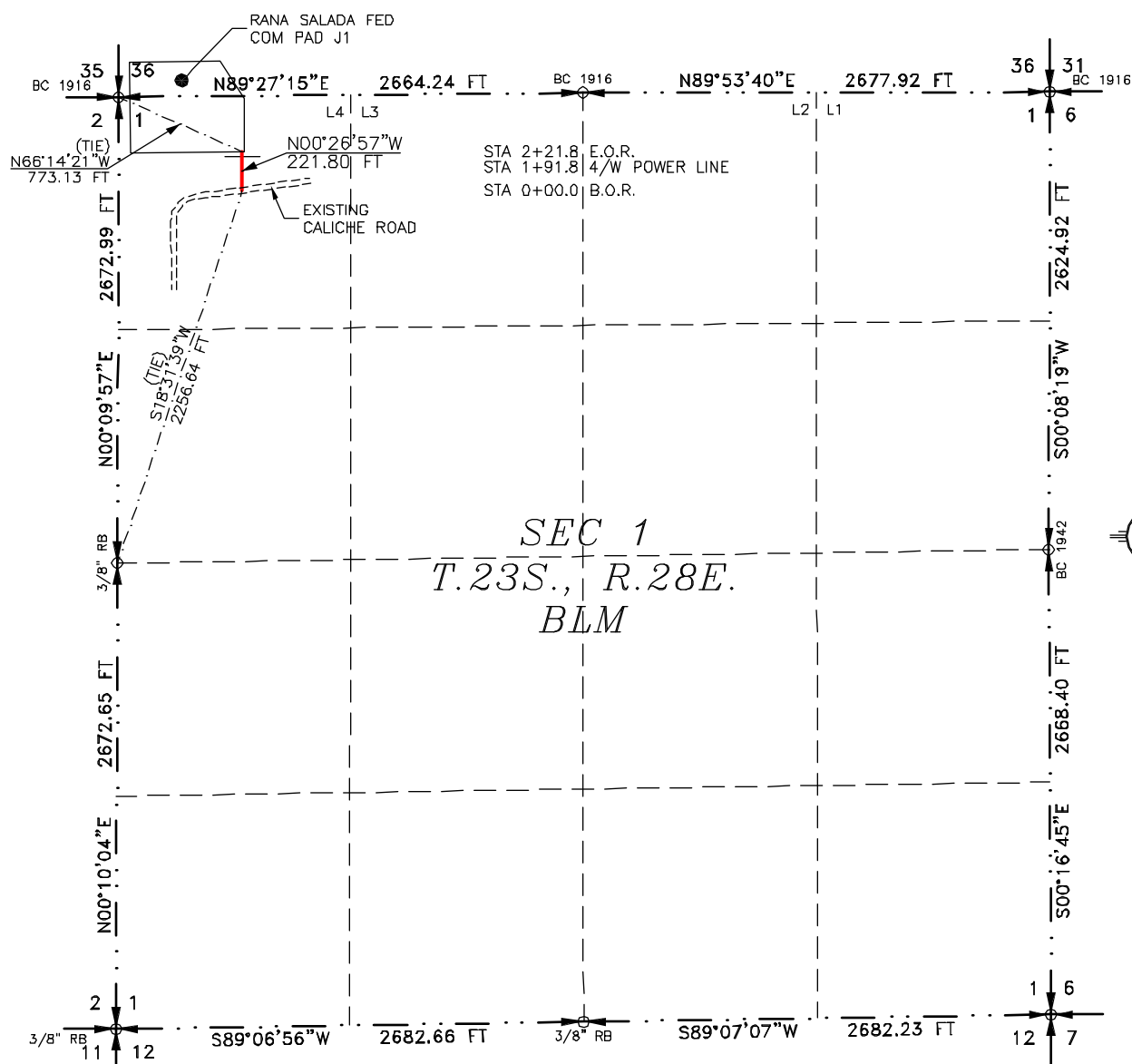




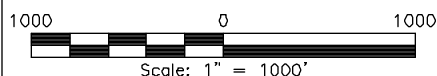
ACCESS ROAD PLAT

ACCESS ROAD FOR RANA SALADA FED COM PAD J1
(RANA SALADA FED 01 231H, 131H, & 211H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
OCTOBER 12, 2022



SEE NEXT SHEET (2-2) FOR DESCRIPTION

**GENERAL NOTES**

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

SHEET: 1-2

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

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 24th DAY OF APRIL 2020

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

SURVEY NO. 8096B

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

ACCESS ROAD PLAT

ACCESS ROAD FOR RANA SALADA FED COM PAD J1
(RANA SALADA FED 01 231H, 131H, & 211H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
OCTOBER 12, 2022

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN LOT 4 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE WEST QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS S18°31'39"W, A DISTANCE OF 2256.64 FEET;
THENCE N00°26'57"W A DISTANCE OF 221.80 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N66°14'21"W, A DISTANCE OF 773.13 FEET;

SAID STRIP OF LAND BEING 221.80 FEET OR 13.44 RODS IN LENGTH, CONTAINING 0.153 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 4 221.80 L.F. 13.44 RODS 0.153 ACRES

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 21ST DAY OF APRIL 2120

FILIMON F. JARAMILLO
FILIMON F. JARAMILLO, PLS
301 SOUTH CANAL
(575) 234-3341
CARLSBAD, NEW MEXICO

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

SURVEY NO. 8096B

GENERAL NOTES

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

SHEET: 2-2

MADRON SURVEYING, INC.

NOVO OIL & GAS NORTHERN DELAWARE, LLC
Rana Salada Fed 01 211H
 SHL: 144' FNL & 547' FWL of Section 01-23S-28E
 BHL: 2,510' FNL & 1,650' FWL Section 12-23S-28E
Eddy County, New Mexico



Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD KB	MD'	Bearing
Quaternary	0	-	Water
Rustler anhydrite (surface csg @ 390' MD)	310	310	N/A
Salado salt	564	574	N/A
Lamar limestone	2,880	2,900	N/A
Bell Canyon sandstone	2,880	2,910	Hydrocarbons
Cherry Canyon sandstone	3,930	3,970	Hydrocarbons
Brushy Canyon sandstone	5,375	5,425	Hydrocarbons
Bone Spring limestone	6,465	6,525	Hydrocarbons
Avalon shale	6,963	7,033	Hydrocarbons
1st Bone Spring sandstone	7,540	7,620	Hydrocarbons
2nd Bone Spring carbonate	7,820	7,910	Hydrocarbons
2nd Bone Spring sandstone	8,290	8,390	Hydrocarbons
3rd Bone Spring carbonate	8,655	8,765	Hydrocarbons
Wolfcamp XY	9,710	9,830	Hydrocarbons
Wolfcamp A	9,900	10,030	Hydrocarbons
Wolfcamp B	10,205	10,345	Hydrocarbons
Wolfcamp B Flow Unit	10,520	10,670	Hydrocarbons
Wolfcamp C	10,650	10,650	Hydrocarbons
Intermediate Casing Point	9,071	9,191	
KOP	9,171	9,301	
TD	9,771	17,802	

2. NOTABLE ZONES

3. PRESSURE CONTROL

A 13.625" 5M Blowout Preventer system will be installed on a multi-bowl (speed head) wellhead with a 13.625" flanged casing spool.

Top flange of casing spool will be set in a cellar below ground level. BOP system will consist of a single pipe ram on the bottom, mud cross, double pipe ram with blind rams on bottom and pipe rams on top, and annular preventer. Blowout preventer will be installed on top of the 13.375" surface casing and will remain installed to TD of the well. Wellhead, blowout preventer, and choke manifold diagram are included.

Variance is requested to use a co-flex hose between the BOP system and choke manifold. A typical co-flex pressure test certificate is attached. An equipment specific co-flex pressure test certificate will be on site when testing the BOP.

All casing strings will be tested in accordance with Onshore Order 2 III.B.1.h.

The BOP system will be isolated with a test plug and tested by an independent tester to 250 psi low and 5,000 psi high for 10 minutes.

The Surface Casing will be pressure tested to 250 psi low and 1500 psi high. Intermediate Casing will be pressure tested to 250 psi low and (.22 psi x Shoe TVD, which is equivalent to 1995.62 psi) high for 30 minutes

NOVO OIL & GAS NORTHERN DELAWARE, LLC
Rana Salada Fed 01 211H
 SHL: 144' FNL & 547' FWL' of Section 01-23S-28E
 BHL: 2,510' FNL & 1,650' FWL Section 12-23S-28E
Eddy County, New Mexico



4. CASING & CEMENT

Variance is requested for an option to use a surface rig to drill the surface hole, set the surface casing, and cement the surface casing. If the schedule between rigs would preclude presetting the surface casing, then the primary rig will MIRU and drill all of the well.

All casing will be API and new. See attached casing assumption worksheet.

Casing Details

Name	Hole Size	Casing Size	Standard	Tapered	Top MD	BTM MD	Top TVD	BTM TVD	Grade	Weight	Thread	Collapse	Burst	Tension
Surface	17 1/2	13 3/8	API	No	0	390	0	390	J-55	54.5	BTC	1.125	1.125	1.6
Intermediate	9 7/8	8 5/8	API	No	0	9,221	0	9,071	P-110 HP	32	Talon HTQ	1.125	1.125	1.6
Production	7 7/8	5 1/2	API	No	0	17,802	0	9,771	P-110 EC	20	DWC/C- IS +	1.125	1.125	1.6

Alternate grades and/or higher weights could be substituted to meet maximum stimulation pressures or due to coupling availability.

Name	Hole Size	Casing Size	Standard	Tapered	Top MD	BTM MD	Top TVD	BTM TVD	Grade	Weight	Thread	Collapse	Burst	Tension
Intermediate	9 7/8	8 5/8	API	No	0	9,221	0	9071	P-110 HP	32	TLW	1.125	1.125	1.6
Production	7 7/8	5 1/2	API	No	0	17,802	0	9771	P-110 EC	17	DWC/C- IS +	1.125	1.125	1.6

Cement Details

Name	Type	Top MD	Sacks	Yield	Cu. Ft	Weight	Excess	Cement	Additives
Surface	Tail	0	334	1.62	541.9	13.8	100%	C	Gel, Accelerator, LCM
Intermediate	Lead	0	609	3.58	2181.3	10	100%	C or H	Fluid Loss, Retarder, LCM, Possibly beads
	Tail	8071	130	1.39	180.7	13.8	50%	C or H	Fluid Loss, Retarder, LCM
Production	Lead	0	702	2.12	1488.5	12	20%	H	Fluid Loss, Retarder, LCM
	Tail	7071	1624	1.59	2582.1	13.2	20%	H	Fluid Loss, Retarder, LCM

5. MUD PROGRAM

An electronic PVT mud system will monitor flow rate, pump pressure, stroke rate, and volume. All necessary mud products (barite, bentonite, LCM) to control weight and fluid loss will be on site at all times. Mud program may change due to hole conditions. A closed loop system will be used.

Name	Top	Bottom	Type	Mud Weight	Visc	Fluid Loss
Surface	0	390'	Water Based Spud Mud	8.30	30-60	NC
Intermediate	390	9071	Brine Diesel Emulsion	8.8-9.6	35-45	NC
Production	9071	17802	Oil Based Mud	11-12.5	35-65	4-6

6. CORES, TEST, & LOGS

No core or drill stem test is planned. A 2-person mud logging program will be used from ≈3000' to TD. GR log will be acquired by MWD tools from the intermediate casing to TD.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum anticipated surface pressure is ≈3757 psi. Anticipated bottom hole pressure is ≈5679 psi. Expected bottom hole temperature is ≈215° F.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈3 months to drill and complete the well.

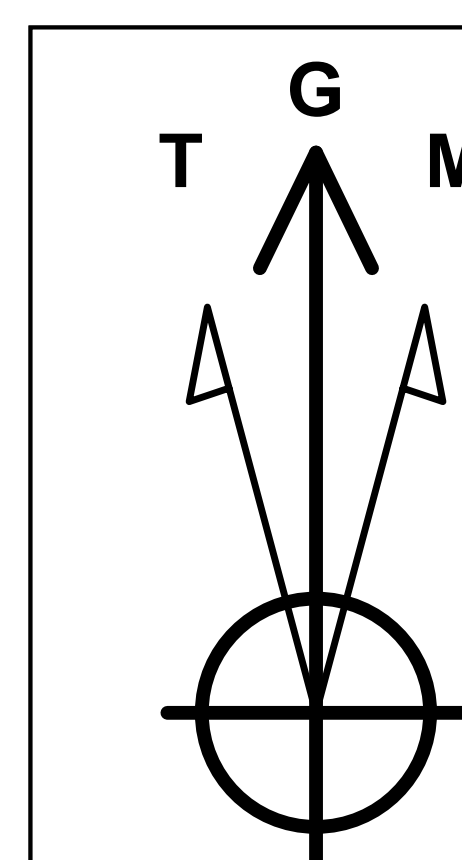
WELL DETAILS: RANA-SALADA-FED-01-211H Plan 1

GL Elev (ft).: 3067.10
+N/-S 0.00 +E/-W 0.00 Northing 488131.04 Easting 629621.35 Latitude 32.34161969 Longitude -104.04747128

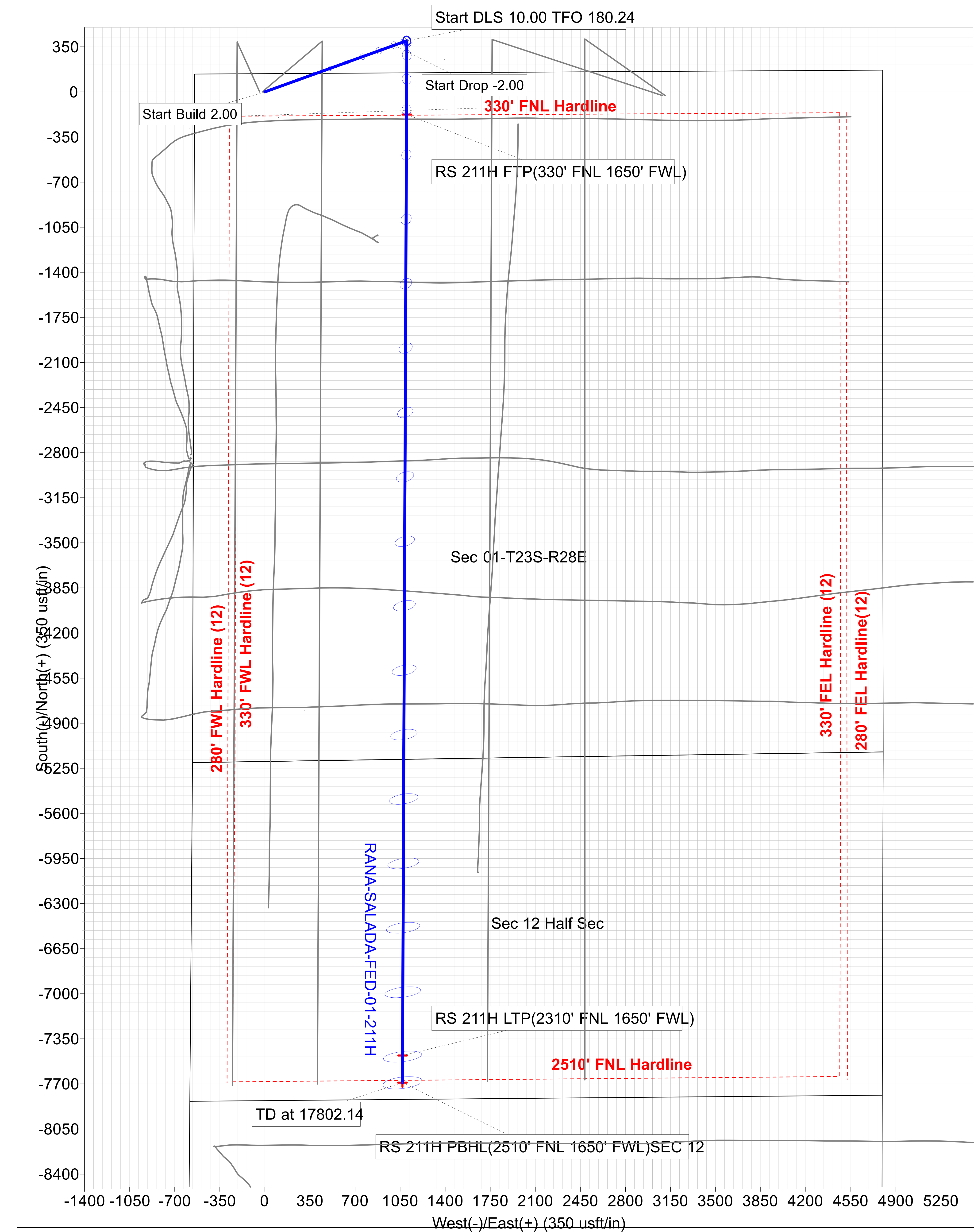
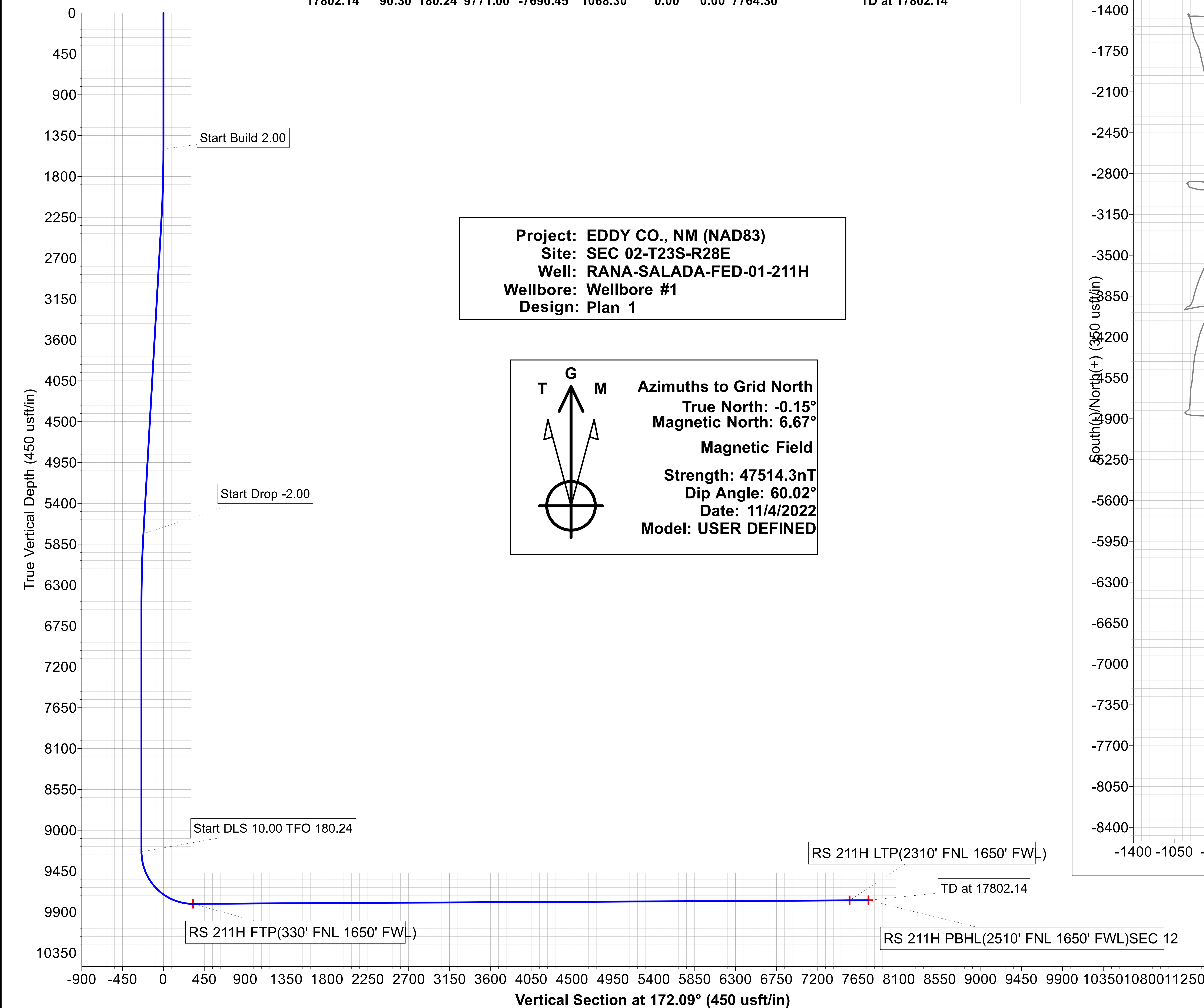
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
2276.18	15.52	70.18	2266.72	35.43	98.32	2.00	70.18	-21.56	Start 3597.81 hold at 2276.18 MD
5873.99	15.52	70.18	5733.28	361.83	1004.21	0.00	0.00	-220.24	Start Drop -2.00
6650.17	0.00	0.00	6500.00	397.26	1102.52	2.00	180.00	-241.80	Start 2737.05 hold at 6650.17 MD
9387.22	0.00	0.00	9237.05	397.26	1102.52	0.00	0.00	-241.80	Start DLS 10.00 TFO 180.24
10290.19	90.30	180.24	9810.00	-178.67	1100.09	10.00	180.24	328.31	Start 7511.95 hold at 10290.19 MD
17802.14	90.30	180.24	9771.00	-7690.45	1068.30	0.00	0.00	7764.30	TD at 17802.14

Project: EDDY CO., NM (NAD83)
Site: SEC 02-T23S-R28E
Well: RANA-SALADA-FED-01-211H
Wellbore: Wellbore #1
Design: Plan 1



Azimuths to Grid North
True North: -0.15°
Magnetic North: 6.67°
Magnetic Field
Strength: 47514.3nT
Dip Angle: 60.02°
Date: 11/4/2022
Model: USER DEFINED





NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC 02-T23S-R28E

RANA-SALADA-FED-01-211H

Wellbore #1

Plan: Plan 1

Standard Planning Report

04 November, 2022





Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	RANA-SALADA-FED-01-211H	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	Latitude:	32.33388258
From:	Map	Easting:	629,041.60 usft	Longitude:	-104.04937266
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well	RANA-SALADA-FED-01-211H					
Well Position	+N/-S	0.00 usft	Northing:	488,131.04 usft	Latitude:	32.34161968
	+E/-W	0.00 usft	Easting:	629,621.35 usft	Longitude:	-104.04747129
Position Uncertainty		0.50 usft	Wellhead Elevation:	usft	Ground Level:	3,067.10 usft
Grid Convergence:		0.15 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/3/2022	6.61	59.89	47,372.56471590

Design	Plan 1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	172.09	

Plan Survey Tool Program	Date	11/4/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,802.14 Plan 1 (Wellbore #1)	MWD+IGRF		
			OWSG MWD + IGRF or WMM		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,276.18	15.52	70.18	2,266.72	35.43	98.32	2.00	2.00	0.00	70.18	
5,873.99	15.52	70.18	5,733.28	361.83	1,004.21	0.00	0.00	0.00	0.00	
6,650.17	0.00	0.00	6,500.00	397.26	1,102.52	2.00	-2.00	0.00	180.00	
9,387.22	0.00	0.00	9,237.05	397.26	1,102.52	0.00	0.00	0.00	0.00	
10,290.19	90.30	180.24	9,810.00	-178.67	1,100.09	10.00	10.00	-19.91	180.24	
17,802.15	90.30	180.24	9,771.00	-7,690.45	1,068.30	0.00	0.00	0.00	0.00	



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	RANA-SALADA-FED-01-211H	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,600.00	2.00	70.18	1,599.98	0.59	1.64	-0.36	2.00	2.00	0.00
1,700.00	4.00	70.18	1,699.84	2.37	6.57	-1.44	2.00	2.00	0.00
1,800.00	6.00	70.18	1,799.45	5.32	14.76	-3.24	2.00	2.00	0.00
1,900.00	8.00	70.18	1,898.70	9.45	26.23	-5.75	2.00	2.00	0.00
2,000.00	10.00	70.18	1,997.47	14.75	40.95	-8.98	2.00	2.00	0.00
2,100.00	12.00	70.18	2,095.62	21.22	58.90	-12.92	2.00	2.00	0.00
2,200.00	14.00	70.18	2,193.06	28.85	80.06	-17.56	2.00	2.00	0.00
2,276.18	15.52	70.18	2,266.72	35.43	98.32	-21.56	2.00	2.00	0.00
Start 3597.81 hold at 2276.18 MD									
2,300.00	15.52	70.18	2,289.67	37.59	104.32	-22.88	0.00	0.00	0.00
2,400.00	15.52	70.18	2,386.02	46.66	129.50	-28.40	0.00	0.00	0.00
2,500.00	15.52	70.18	2,482.37	55.73	154.67	-33.92	0.00	0.00	0.00
2,600.00	15.52	70.18	2,578.73	64.80	179.85	-39.44	0.00	0.00	0.00
2,700.00	15.52	70.18	2,675.08	73.88	205.03	-44.97	0.00	0.00	0.00
2,800.00	15.52	70.18	2,771.43	82.95	230.21	-50.49	0.00	0.00	0.00
2,900.00	15.52	70.18	2,867.78	92.02	255.39	-56.01	0.00	0.00	0.00
3,000.00	15.52	70.18	2,964.13	101.09	280.57	-61.53	0.00	0.00	0.00
3,100.00	15.52	70.18	3,060.49	110.17	305.75	-67.06	0.00	0.00	0.00
3,200.00	15.52	70.18	3,156.84	119.24	330.93	-72.58	0.00	0.00	0.00
3,300.00	15.52	70.18	3,253.19	128.31	356.10	-78.10	0.00	0.00	0.00
3,400.00	15.52	70.18	3,349.54	137.38	381.28	-83.62	0.00	0.00	0.00
3,500.00	15.52	70.18	3,445.89	146.46	406.46	-89.14	0.00	0.00	0.00
3,600.00	15.52	70.18	3,542.25	155.53	431.64	-94.67	0.00	0.00	0.00
3,700.00	15.52	70.18	3,638.60	164.60	456.82	-100.19	0.00	0.00	0.00
3,800.00	15.52	70.18	3,734.95	173.67	482.00	-105.71	0.00	0.00	0.00
3,900.00	15.52	70.18	3,831.30	182.75	507.18	-111.23	0.00	0.00	0.00
4,000.00	15.52	70.18	3,927.65	191.82	532.36	-116.75	0.00	0.00	0.00
4,100.00	15.52	70.18	4,024.01	200.89	557.54	-122.28	0.00	0.00	0.00
4,200.00	15.52	70.18	4,120.36	209.96	582.71	-127.80	0.00	0.00	0.00
4,300.00	15.52	70.18	4,216.71	219.04	607.89	-133.32	0.00	0.00	0.00
4,400.00	15.52	70.18	4,313.06	228.11	633.07	-138.84	0.00	0.00	0.00
4,500.00	15.52	70.18	4,409.41	237.18	658.25	-144.37	0.00	0.00	0.00
4,600.00	15.52	70.18	4,505.77	246.25	683.43	-149.89	0.00	0.00	0.00
4,700.00	15.52	70.18	4,602.12	255.32	708.61	-155.41	0.00	0.00	0.00
4,800.00	15.52	70.18	4,698.47	264.40	733.79	-160.93	0.00	0.00	0.00
4,900.00	15.52	70.18	4,794.82	273.47	758.97	-166.45	0.00	0.00	0.00



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	RANA-SALADA-FED-01-211H	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)	
5,000.00	15.52	70.18	4,891.18	282.54	784.15	-171.98	0.00	0.00	0.00	
5,100.00	15.52	70.18	4,987.53	291.61	809.32	-177.50	0.00	0.00	0.00	
5,200.00	15.52	70.18	5,083.88	300.69	834.50	-183.02	0.00	0.00	0.00	
5,300.00	15.52	70.18	5,180.23	309.76	859.68	-188.54	0.00	0.00	0.00	
5,400.00	15.52	70.18	5,276.58	318.83	884.86	-194.06	0.00	0.00	0.00	
5,500.00	15.52	70.18	5,372.94	327.90	910.04	-199.59	0.00	0.00	0.00	
5,600.00	15.52	70.18	5,469.29	336.98	935.22	-205.11	0.00	0.00	0.00	
5,700.00	15.52	70.18	5,565.64	346.05	960.40	-210.63	0.00	0.00	0.00	
5,800.00	15.52	70.18	5,661.99	355.12	985.58	-216.15	0.00	0.00	0.00	
5,873.99	15.52	70.18	5,733.28	361.83	1,004.21	-220.24	0.00	0.00	0.00	
Start Drop -2.00										
5,900.00	15.00	70.18	5,758.37	364.16	1,010.65	-221.65	2.00	-2.00	0.00	
6,000.00	13.00	70.18	5,855.40	372.36	1,033.41	-226.64	2.00	-2.00	0.00	
6,100.00	11.00	70.18	5,953.21	379.41	1,052.98	-230.94	2.00	-2.00	0.00	
6,200.00	9.00	70.18	6,051.68	385.29	1,069.32	-234.52	2.00	-2.00	0.00	
6,300.00	7.00	70.18	6,150.70	390.01	1,082.42	-237.39	2.00	-2.00	0.00	
6,400.00	5.00	70.18	6,250.15	393.56	1,092.25	-239.55	2.00	-2.00	0.00	
6,500.00	3.00	70.18	6,349.90	395.93	1,098.82	-240.99	2.00	-2.00	0.00	
6,600.00	1.00	70.18	6,449.83	397.11	1,102.11	-241.71	2.00	-2.00	0.00	
6,650.17	0.00	0.00	6,500.00	397.26	1,102.52	-241.80	2.00	-2.00	0.00	
Start 2737.05 hold at 6650.17 MD										
6,700.00	0.00	0.00	6,549.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,649.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,749.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,849.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,949.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,049.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,149.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,249.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,349.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,449.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,549.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,649.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,749.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,849.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,949.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,049.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,149.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,249.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,349.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,449.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,549.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,649.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,749.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,849.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,949.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,049.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,149.83	397.26	1,102.52	-241.80	0.00	0.00	0.00	
9,387.22	0.00	0.00	9,237.05	397.26	1,102.52	-241.80	0.00	0.00	0.00	
Start DLS 10.00 TFO 180.24										
9,400.00	1.28	180.24	9,249.83	397.12	1,102.52	-241.66	10.00	10.00	0.00	
9,450.00	6.28	180.24	9,299.71	393.82	1,102.51	-238.40	10.00	10.00	0.00	
9,500.00	11.28	180.24	9,349.10	386.20	1,102.48	-230.85	10.00	10.00	0.00	



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	RANA-SALADA-FED-01-211H	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)	
9,550.00	16.28	180.24	9,397.65	374.29	1,102.43	-219.07	10.00	10.00	0.00	
9,600.00	21.28	180.24	9,444.97	358.20	1,102.36	-203.14	10.00	10.00	0.00	
9,650.00	26.28	180.24	9,490.71	338.05	1,102.27	-183.19	10.00	10.00	0.00	
9,700.00	31.28	180.24	9,534.53	313.99	1,102.17	-159.37	10.00	10.00	0.00	
9,750.00	36.28	180.24	9,576.07	286.20	1,102.05	-131.86	10.00	10.00	0.00	
9,800.00	41.28	180.24	9,615.04	254.89	1,101.92	-100.87	10.00	10.00	0.00	
9,850.00	46.28	180.24	9,651.13	220.31	1,101.78	-66.64	10.00	10.00	0.00	
9,900.00	51.28	180.24	9,684.07	182.71	1,101.62	-29.42	10.00	10.00	0.00	
9,950.00	56.28	180.24	9,713.60	142.39	1,101.45	10.50	10.00	10.00	0.00	
10,000.00	61.28	180.24	9,739.51	99.64	1,101.26	52.81	10.00	10.00	0.00	
10,050.00	66.28	180.24	9,761.60	54.81	1,101.08	97.20	10.00	10.00	0.00	
10,100.00	71.28	180.24	9,779.69	8.21	1,100.88	143.32	10.00	10.00	0.00	
10,150.00	76.28	180.24	9,793.65	-39.78	1,100.67	190.83	10.00	10.00	0.00	
10,200.00	81.28	180.24	9,803.38	-88.81	1,100.47	239.36	10.00	10.00	0.00	
10,250.00	86.28	180.24	9,808.80	-138.50	1,100.26	288.55	10.00	10.00	0.00	
10,290.19	90.30	180.24	9,810.00	-178.67	1,100.09	328.31	10.00	10.00	0.00	
Start 7511.95 hold at 10290.19 MD										
10,300.00	90.30	180.24	9,809.95	-188.47	1,100.05	338.02	0.00	0.00	0.00	
10,400.00	90.30	180.24	9,809.43	-288.47	1,099.62	437.01	0.00	0.00	0.00	
10,500.00	90.30	180.24	9,808.91	-388.47	1,099.20	536.00	0.00	0.00	0.00	
10,600.00	90.30	180.24	9,808.39	-488.47	1,098.78	634.99	0.00	0.00	0.00	
10,700.00	90.30	180.24	9,807.87	-588.46	1,098.35	733.98	0.00	0.00	0.00	
10,800.00	90.30	180.24	9,807.35	-688.46	1,097.93	832.96	0.00	0.00	0.00	
10,900.00	90.30	180.24	9,806.83	-788.46	1,097.51	931.95	0.00	0.00	0.00	
11,000.00	90.30	180.24	9,806.32	-888.46	1,097.08	1,030.94	0.00	0.00	0.00	
11,100.00	90.30	180.24	9,805.80	-988.46	1,096.66	1,129.93	0.00	0.00	0.00	
11,200.00	90.30	180.24	9,805.28	-1,088.45	1,096.24	1,228.92	0.00	0.00	0.00	
11,300.00	90.30	180.24	9,804.76	-1,188.45	1,095.81	1,327.91	0.00	0.00	0.00	
11,400.00	90.30	180.24	9,804.24	-1,288.45	1,095.39	1,426.90	0.00	0.00	0.00	
11,500.00	90.30	180.24	9,803.72	-1,388.45	1,094.97	1,525.89	0.00	0.00	0.00	
11,600.00	90.30	180.24	9,803.20	-1,488.44	1,094.54	1,624.87	0.00	0.00	0.00	
11,700.00	90.30	180.24	9,802.68	-1,588.44	1,094.12	1,723.86	0.00	0.00	0.00	
11,800.00	90.30	180.24	9,802.16	-1,688.44	1,093.70	1,822.85	0.00	0.00	0.00	
11,900.00	90.30	180.24	9,801.64	-1,788.44	1,093.28	1,921.84	0.00	0.00	0.00	
12,000.00	90.30	180.24	9,801.12	-1,888.44	1,092.85	2,020.83	0.00	0.00	0.00	
12,100.00	90.30	180.24	9,800.60	-1,988.43	1,092.43	2,119.82	0.00	0.00	0.00	
12,200.00	90.30	180.24	9,800.09	-2,088.43	1,092.01	2,218.81	0.00	0.00	0.00	
12,300.00	90.30	180.24	9,799.57	-2,188.43	1,091.58	2,317.79	0.00	0.00	0.00	
12,400.00	90.30	180.24	9,799.05	-2,288.43	1,091.16	2,416.78	0.00	0.00	0.00	
12,500.00	90.30	180.24	9,798.53	-2,388.42	1,090.74	2,515.77	0.00	0.00	0.00	
12,600.00	90.30	180.24	9,798.01	-2,488.42	1,090.31	2,614.76	0.00	0.00	0.00	
12,700.00	90.30	180.24	9,797.49	-2,588.42	1,089.89	2,713.75	0.00	0.00	0.00	
12,800.00	90.30	180.24	9,796.97	-2,688.42	1,089.47	2,812.74	0.00	0.00	0.00	
12,900.00	90.30	180.24	9,796.45	-2,788.42	1,089.04	2,911.73	0.00	0.00	0.00	
13,000.00	90.30	180.24	9,795.93	-2,888.41	1,088.62	3,010.72	0.00	0.00	0.00	
13,100.00	90.30	180.24	9,795.41	-2,988.41	1,088.20	3,109.70	0.00	0.00	0.00	
13,200.00	90.30	180.24	9,794.89	-3,088.41	1,087.77	3,208.69	0.00	0.00	0.00	
13,300.00	90.30	180.24	9,794.37	-3,188.41	1,087.35	3,307.68	0.00	0.00	0.00	
13,400.00	90.30	180.24	9,793.85	-3,288.40	1,086.93	3,406.67	0.00	0.00	0.00	
13,500.00	90.30	180.24	9,793.34	-3,388.40	1,086.50	3,505.66	0.00	0.00	0.00	
13,600.00	90.30	180.24	9,792.82	-3,488.40	1,086.08	3,604.65	0.00	0.00	0.00	
13,700.00	90.30	180.24	9,792.30	-3,588.40	1,085.66	3,703.64	0.00	0.00	0.00	
13,800.00	90.30	180.24	9,791.78	-3,688.39	1,085.24	3,802.62	0.00	0.00	0.00	
13,900.00	90.30	180.24	9,791.26	-3,788.39	1,084.81	3,901.61	0.00	0.00	0.00	



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	RANA-SALADA-FED-01-211H	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)	
14,000.00	90.30	180.24	9,790.74	-3,888.39	1,084.39	4,000.60	0.00	0.00	0.00	
14,100.00	90.30	180.24	9,790.22	-3,988.39	1,083.97	4,099.59	0.00	0.00	0.00	
14,200.00	90.30	180.24	9,789.70	-4,088.39	1,083.54	4,198.58	0.00	0.00	0.00	
14,300.00	90.30	180.24	9,789.18	-4,188.38	1,083.12	4,297.57	0.00	0.00	0.00	
14,400.00	90.30	180.24	9,788.66	-4,288.38	1,082.70	4,396.56	0.00	0.00	0.00	
14,500.00	90.30	180.24	9,788.14	-4,388.38	1,082.27	4,495.55	0.00	0.00	0.00	
14,600.00	90.30	180.24	9,787.62	-4,488.38	1,081.85	4,594.53	0.00	0.00	0.00	
14,700.00	90.30	180.24	9,787.11	-4,588.37	1,081.43	4,693.52	0.00	0.00	0.00	
14,800.00	90.30	180.24	9,786.59	-4,688.37	1,081.00	4,792.51	0.00	0.00	0.00	
14,900.00	90.30	180.24	9,786.07	-4,788.37	1,080.58	4,891.50	0.00	0.00	0.00	
15,000.00	90.30	180.24	9,785.55	-4,888.37	1,080.16	4,990.49	0.00	0.00	0.00	
15,100.00	90.30	180.24	9,785.03	-4,988.37	1,079.73	5,089.48	0.00	0.00	0.00	
15,200.00	90.30	180.24	9,784.51	-5,088.36	1,079.31	5,188.47	0.00	0.00	0.00	
15,300.00	90.30	180.24	9,783.99	-5,188.36	1,078.89	5,287.46	0.00	0.00	0.00	
15,400.00	90.30	180.24	9,783.47	-5,288.36	1,078.46	5,386.44	0.00	0.00	0.00	
15,500.00	90.30	180.24	9,782.95	-5,388.36	1,078.04	5,485.43	0.00	0.00	0.00	
15,600.00	90.30	180.24	9,782.43	-5,488.35	1,077.62	5,584.42	0.00	0.00	0.00	
15,700.00	90.30	180.24	9,781.91	-5,588.35	1,077.20	5,683.41	0.00	0.00	0.00	
15,800.00	90.30	180.24	9,781.39	-5,688.35	1,076.77	5,782.40	0.00	0.00	0.00	
15,900.00	90.30	180.24	9,780.88	-5,788.35	1,076.35	5,881.39	0.00	0.00	0.00	
16,000.00	90.30	180.24	9,780.36	-5,888.35	1,075.93	5,980.38	0.00	0.00	0.00	
16,100.00	90.30	180.24	9,779.84	-5,988.34	1,075.50	6,079.36	0.00	0.00	0.00	
16,200.00	90.30	180.24	9,779.32	-6,088.34	1,075.08	6,178.35	0.00	0.00	0.00	
16,300.00	90.30	180.24	9,778.80	-6,188.34	1,074.66	6,277.34	0.00	0.00	0.00	
16,400.00	90.30	180.24	9,778.28	-6,288.34	1,074.23	6,376.33	0.00	0.00	0.00	
16,500.00	90.30	180.24	9,777.76	-6,388.33	1,073.81	6,475.32	0.00	0.00	0.00	
16,600.00	90.30	180.24	9,777.24	-6,488.33	1,073.39	6,574.31	0.00	0.00	0.00	
16,700.00	90.30	180.24	9,776.72	-6,588.33	1,072.96	6,673.30	0.00	0.00	0.00	
16,800.00	90.30	180.24	9,776.20	-6,688.33	1,072.54	6,772.29	0.00	0.00	0.00	
16,900.00	90.30	180.24	9,775.68	-6,788.33	1,072.12	6,871.27	0.00	0.00	0.00	
17,000.00	90.30	180.24	9,775.16	-6,888.32	1,071.69	6,970.26	0.00	0.00	0.00	
17,100.00	90.30	180.24	9,774.65	-6,988.32	1,071.27	7,069.25	0.00	0.00	0.00	
17,200.00	90.30	180.24	9,774.13	-7,088.32	1,070.85	7,168.24	0.00	0.00	0.00	
17,300.00	90.30	180.24	9,773.61	-7,188.32	1,070.42	7,267.23	0.00	0.00	0.00	
17,400.00	90.30	180.24	9,773.09	-7,288.31	1,070.00	7,366.22	0.00	0.00	0.00	
17,500.00	90.30	180.24	9,772.57	-7,388.31	1,069.58	7,465.21	0.00	0.00	0.00	
17,600.00	90.30	180.24	9,772.05	-7,488.31	1,069.16	7,564.20	0.00	0.00	0.00	
17,700.00	90.30	180.24	9,771.53	-7,588.31	1,068.73	7,663.18	0.00	0.00	0.00	
17,802.15	90.30	180.24	9,771.00	-7,690.45	1,068.30	7,764.30	0.00	0.00	0.00	
TD at 17802.14										



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site:	SEC 02-T23S-R28E	North Reference:	Grid
Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
RS 211H PBHL(2510' F)	0.00	0.00	0.00	-7,690.45	1,068.30	480,440.59	630,689.65	32.32047210	-104.04407941
- plan misses target center by 7764.30usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
RS 211H LTP(2310' FNL	0.00	0.00	0.00	-7,479.52	1,069.87	480,651.52	630,691.22	32.32105190	-104.04407250
- plan misses target center by 7555.65usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
RS 211H FTP(330' FNL	0.00	0.00	9,810.00	-175.69	1,102.52	487,955.35	630,723.88	32.34112860	-104.04390290
- plan misses target center by 2.42usft at 10287.21usft MD (9810.01 TVD, -175.68 N, 1100.10 E)									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	(")
17,803.00	9,771.00	20" Casing	20	24

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
1,500.00	1,500.00	0.00	0.00	Start Build 2.00
2,276.18	2,266.72	35.43	98.32	Start 3597.81 hold at 2276.18 MD
5,873.99	5,733.28	361.83	1,004.21	Start Drop -2.00
6,650.17	6,500.00	397.26	1,102.52	Start 2737.05 hold at 6650.17 MD
9,387.22	9,237.05	397.26	1,102.52	Start DLS 10.00 TFO 180.24
10,290.19	9,810.00	-178.67	1,100.09	Start 7511.95 hold at 10290.19 MD
17,802.15	9,771.00	-7,690.45	1,068.30	TD at 17802.14



NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC 02-T23S-R28E

RANA-SALADA-FED-01-211H

Wellbore #1

Plan 1

Anticollision Report

04 November, 2022





Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference	Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 2,199.98usft
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	11/4/2022
From (usft)	To (usft)	Survey (Wellbore)
0.00	17,802.14	Plan 1 (Wellbore #1)
		Tool Name
		MWD+IGRF
		Description
		OWSG MWD + IGRF or WMM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SEC 02-T23S-R28E						
Offset- Longview 12 Federal 15H - Wellbore #1 - Wellbor	8,562.05	14,000.00	1,079.25	960.50	9.089	CC, ES
Offset- Longview 12 Federal 15H - Wellbore #1 - Wellbor	8,600.00	14,000.00	1,079.92	961.06	9.086	SF
Offset-Lentini Fed 1-002 (P/A) - Wellbore #1 - Wellbore #	5,999.13	5,844.45	632.36	595.87	17.330	CC
Offset-Lentini Fed 1-002 (P/A) - Wellbore #1 - Wellbore #	6,100.00	5,943.11	632.71	595.57	17.037	ES
Offset-Lentini Fed 1-002 (P/A) - Wellbore #1 - Wellbore #	6,600.00	6,400.00	637.83	598.39	16.175	SF
Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1	2,481.34	2,361.55	1,391.09	1,377.00	98.730	CC
Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1	5,100.00	5,097.89	1,395.92	1,361.35	40.379	ES
Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1	16,600.00	13,690.00	1,751.07	1,597.30	11.388	SF
Rana Salada Fed Com 0106 133H - Wellbore #1 - FINAL	14,859.00	12,555.25	798.34	728.61	11.449	CC, ES
Rana Salada Fed Com 0106 133H - Wellbore #1 - FINAL	15,200.00	12,552.00	868.11	789.23	11.005	SF
Rana Salada Fed Com 0106 213H - Wellbore #1 - FINAL	12,500.00	12,339.14	916.10	848.00	13.453	SF
Rana Salada Fed Com 0106 213H - Wellbore #1 - FINAL	12,971.19	12,317.09	785.85	732.05	14.607	CC, ES
Rana Salada Fed Com 0106 223H - Wellbore #1 - FINAL	13,978.96	12,393.57	801.47	739.41	12.914	CC, ES
Rana Salada Fed Com 0106 223H - Wellbore #1 - FINAL	14,400.00	12,420.10	904.91	830.84	12.217	SF
Rana Salada Fed Com 0106 233H - Wellbore #1 - FINAL	11,000.00	12,552.87	1,015.10	945.18	14.517	SF
Rana Salada Fed Com 0106 233H - Wellbore #1 - FINAL	11,583.55	12,569.67	830.78	783.50	17.573	CC, ES
Rana Salada Fed Com 0106 236H - Wellbore #1 - FINAL	10,300.00	12,690.71	801.75	756.80	17.837	ES
Rana Salada Fed Com 0106 236H - Wellbore #1 - FINAL	10,318.88	12,690.73	801.52	756.98	17.993	CC
Rana Salada Fed Com 0106 236H - Wellbore #1 - FINAL	11,000.00	12,691.36	1,051.84	986.09	15.998	SF
RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1	1,500.00	1,500.00	20.00	10.12	2.024	CC
RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1	1,600.00	1,600.54	20.31	9.84	1.940	Collision Risk Procedures R
RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1	1,700.00	1,701.05	21.30	10.10	1.901	Collision Risk Procedures R
RANA-SALADA-FED-01-231H - Wellbore #1 - Plan 1	1,500.00	1,500.00	40.00	30.12	4.048	CC, ES, SF
RANA-SALADA-FED-COM-0112-213H - Wellbore #1 - PI	6,696.29	6,651.47	1,381.42	1,334.20	29.255	CC
RANA-SALADA-FED-COM-0112-213H - Wellbore #1 - PI	17,803.00	17,750.39	1,416.75	1,149.61	5.303	ES, SF
RANA-SALADA-FED-COM-0112-222H - Wellbore #1 - PI	9,300.00	9,378.19	662.56	598.10	10.279	CC
RANA-SALADA-FED-COM-0112-222H - Wellbore #1 - PI	17,803.00	18,071.00	687.09	422.97	2.601	ES, SF
Sec 14-T23S-28E						
CB Boba Fett 14 11 Fed 09 403H Package 9 - Wellbore #	17,803.00	15,424.15	1,926.08	1,672.86	7.606	CC, ES, SF
Valkyrie Pad (Grid)						
Valkyrie 12 WXY Federal Com 11H - Wellbore #1 - Final S	17,803.00	11,267.00	1,782.41	1,694.31	20.231	CC, ES, SF
Valkyrie 12 WXY Federal Com 7H - Wellbore #1 - Final S	17,803.00	10,957.07	475.18	387.98	5.449	CC, ES, SF

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset- Longview 12 Federal 15H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 7793-MWD													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,700.00	6,549.83	14,000.00	8,393.78	32.66	99.98	126.84	-249.76	1,966.32	2,152.21	2,079.58	72.63	29.634		
6,800.00	6,649.83	14,000.00	8,393.78	32.92	99.98	126.84	-249.76	1,966.32	2,066.30	1,992.04	74.26	27.824		
6,900.00	6,749.83	14,000.00	8,393.78	33.17	99.98	126.84	-249.76	1,966.32	1,981.71	1,905.68	76.04	26.062		
7,000.00	6,849.83	14,000.00	8,393.78	33.43	99.98	126.84	-249.76	1,966.32	1,898.62	1,820.66	77.97	24.352		
7,100.00	6,949.83	14,000.00	8,393.78	33.68	99.98	126.84	-249.76	1,966.32	1,817.24	1,737.18	80.06	22.699		
7,200.00	7,049.83	14,000.00	8,393.78	33.94	99.98	126.84	-249.76	1,966.32	1,737.80	1,655.48	82.33	21.109		
7,300.00	7,149.83	14,000.00	8,393.78	34.21	99.98	126.84	-249.76	1,966.32	1,660.59	1,575.81	84.78	19.587		
7,400.00	7,249.83	14,000.00	8,393.78	34.47	99.98	126.84	-249.76	1,966.32	1,585.92	1,498.49	87.42	18.141		
7,500.00	7,349.83	14,000.00	8,393.78	34.73	99.98	126.84	-249.76	1,966.32	1,514.18	1,423.92	90.26	16.776		
7,600.00	7,449.83	14,000.00	8,393.78	35.00	99.98	126.84	-249.76	1,966.32	1,445.79	1,352.52	93.27	15.501		
7,700.00	7,549.83	14,000.00	8,393.78	35.27	99.98	126.84	-249.76	1,966.32	1,381.27	1,284.83	96.45	14.322		
7,800.00	7,649.83	14,000.00	8,393.78	35.54	99.98	126.84	-249.76	1,966.32	1,321.17	1,221.43	99.74	13.246		
7,900.00	7,749.83	14,000.00	8,393.78	35.81	99.98	126.84	-249.76	1,966.32	1,266.13	1,163.04	103.09	12.281		
8,000.00	7,849.83	14,000.00	8,393.78	36.08	99.98	126.84	-249.76	1,966.32	1,216.83	1,110.40	106.43	11.434		
8,100.00	7,949.83	14,000.00	8,393.78	36.36	99.98	126.84	-249.76	1,966.32	1,174.00	1,064.37	109.62	10.709		
8,200.00	8,049.83	14,000.00	8,393.78	36.63	99.98	126.84	-249.76	1,966.32	1,138.36	1,025.80	112.56	10.114		
8,300.00	8,149.83	14,000.00	8,393.78	36.91	99.98	126.84	-249.76	1,966.32	1,110.61	995.53	115.07	9.651		
8,400.00	8,249.83	14,000.00	8,393.78	37.19	99.98	126.84	-249.76	1,966.32	1,091.35	974.31	117.04	9.325		
8,500.00	8,349.83	14,000.00	8,393.78	37.47	99.98	126.84	-249.76	1,966.32	1,081.03	962.71	118.32	9.136		
8,562.05	8,411.88	14,000.00	8,393.78	37.65	99.98	126.84	-249.76	1,966.32	1,079.25	960.50	118.75	9.089 CC, ES		
8,600.00	8,449.83	14,000.00	8,393.78	37.75	99.98	126.84	-249.76	1,966.32	1,079.92	961.06	118.86	9.086 SF		
8,700.00	8,549.83	14,000.00	8,393.78	38.04	99.98	126.84	-249.76	1,966.32	1,088.03	969.40	118.63	9.172		
8,800.00	8,649.83	14,000.00	8,393.78	38.32	99.98	126.84	-249.76	1,966.32	1,105.17	987.49	117.68	9.391		
8,900.00	8,749.83	14,000.00	8,393.78	38.60	99.98	126.84	-249.76	1,966.32	1,130.92	1,014.81	116.11	9.740		
9,000.00	8,849.83	14,000.00	8,393.78	38.89	99.98	126.84	-249.76	1,966.32	1,164.72	1,050.67	114.05	10.212		
9,100.00	8,949.83	14,000.00	8,393.78	39.18	99.98	126.84	-249.76	1,966.32	1,205.89	1,094.25	111.64	10.801		
9,200.00	9,049.83	14,000.00	8,393.78	39.47	99.98	126.84	-249.76	1,966.32	1,253.70	1,144.67	109.03	11.499		
9,300.00	9,149.83	14,000.00	8,393.78	39.76	99.98	126.84	-249.76	1,966.32	1,307.42	1,201.10	106.32	12.297		
9,400.00	9,249.83	14,000.00	8,393.78	40.05	99.98	-52.63	-249.76	1,966.32	1,366.29	1,262.67	103.62	13.186		
9,500.00	9,349.10	14,000.00	8,393.78	40.28	99.98	-47.17	-249.76	1,966.32	1,424.45	1,323.37	101.08	14.092		
9,600.00	9,444.97	14,000.00	8,393.78	40.46	99.98	-42.73	-249.76	1,966.32	1,477.61	1,378.80	98.81	14.953		
9,700.00	9,534.53	14,000.00	8,393.78	40.57	99.98	-39.22	-249.76	1,966.32	1,524.76	1,427.94	96.82	15.748		
9,800.00	9,615.04	14,000.00	8,393.78	40.62	99.98	-36.52	-249.76	1,966.32	1,565.07	1,469.96	95.11	16.455		
9,900.00	9,684.07	14,000.00	8,393.78	40.63	99.98	-34.50	-249.76	1,966.32	1,597.87	1,504.17	93.71	17.052		
10,000.00	9,739.51	14,000.00	8,393.78	40.60	99.98	-33.08	-249.76	1,966.32	1,622.66	1,530.02	92.63	17.517		
10,100.00	9,779.69	14,000.00	8,393.78	40.57	99.98	-32.18	-249.76	1,966.32	1,639.04	1,547.12	91.91	17.832		
10,200.00	9,803.38	14,000.00	8,393.78	40.56	99.98	-31.77	-249.76	1,966.32	1,646.78	1,555.20	91.58	17.982		
10,300.00	9,809.95	14,000.00	8,393.78	40.60	99.98	-31.80	-249.76	1,966.32	1,645.84	1,554.19	91.65	17.958		
10,364.88	9,809.61	14,000.00	8,393.78	40.66	99.98	-31.80	-249.76	1,966.32	1,644.56	1,552.75	91.81	17.912		
10,400.00	9,809.43	13,965.59	8,393.60	40.72	99.38	-31.80	-284.18	1,966.20	1,644.57	1,553.02	91.55	17.963		
10,500.00	9,808.91	13,883.58	8,392.60	40.93	97.95	-31.78	-366.18	1,965.77	1,645.12	1,554.11	91.02	18.075		
10,600.00	9,808.39	13,768.40	8,389.43	41.23	95.98	-31.69	-481.29	1,963.71	1,646.38	1,556.29	90.09	18.275		
10,700.00	9,807.87	13,586.34	8,391.42	41.63	92.84	-31.55	-663.16	1,956.43	1,642.33	1,553.99	88.34	18.591		
10,800.00	9,807.35	13,508.66	8,392.27	42.13	91.49	-31.45	-740.70	1,951.92	1,638.17	1,550.27	87.90	18.638		
10,900.00	9,806.83	13,371.17	8,392.08	42.73	89.13	-31.20	-877.88	1,942.82	1,634.99	1,548.42	86.57	18.887		
11,000.00	9,806.32	13,270.62	8,393.67	43.42	87.42	-31.00	-978.07	1,934.42	1,629.08	1,543.28	85.81	18.986		
11,100.00	9,805.80	13,163.11	8,395.76	44.19	85.58	-30.80	-1,085.21	1,925.82	1,623.06	1,538.07	84.99	19.097		
11,200.00	9,805.28	13,073.20	8,397.33	45.04	84.03	-30.63	-1,174.82	1,918.56	1,617.20	1,532.72	84.49	19.142		
11,300.00	9,804.76	12,956.80	8,398.56	45.97	82.04	-30.35	-1,290.71	1,907.84	1,611.41	1,527.90	83.51	19.295		
11,400.00	9,804.24	12,807.11	8,403.10	46.96	79.54	-29.96	-1,439.44	1,891.62	1,602.99	1,521.05	81.94	19.563		
11,500.00	9,803.72	12,724.08	8,407.62	48.02	78.13	-29.84	-1,522.03	1,884.36	1,593.69	1,511.99	81.70	19.506		
11,600.00	9,803.20	12,639.09	8,411.89	49.13	76.66	-29.75	-1,606.70	1,878.42	1,585.61	1,504.10	81.51	19.453		

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset- Longview 12 Federal 15H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program:		7793-MWD		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
11,700.00	9,802.68	12,565.95	8,414.78	50.29	75.39	-29.65	-1,679.61	1,873.34	1,578.56	1,497.02	81.54	19.359			
11,800.00	9,802.16	12,509.00	8,415.91	51.50	74.40	-29.58	-1,736.44	1,869.89	1,573.73	1,491.84	81.88	19.219			
11,900.00	9,801.64	12,436.05	8,416.03	52.76	73.15	-29.49	-1,809.30	1,866.41	1,571.07	1,489.09	81.98	19.164			
11,988.64	9,801.18	12,372.07	8,415.24	53.90	72.07	-29.42	-1,873.24	1,864.40	1,570.42	1,488.31	82.12	19.124			
12,000.00	9,801.12	12,363.52	8,415.10	54.05	71.93	-29.42	-1,881.79	1,864.22	1,570.43	1,488.30	82.13	19.121			
12,100.00	9,800.60	12,278.62	8,413.58	55.38	70.49	-29.38	-1,966.67	1,863.43	1,571.27	1,489.12	82.15	19.126			
12,200.00	9,800.09	12,168.16	8,411.91	56.75	68.60	-29.37	-2,077.12	1,863.28	1,572.29	1,490.48	81.81	19.218			
12,300.00	9,799.57	12,001.89	8,412.56	58.15	65.73	-29.30	-2,243.32	1,859.30	1,570.45	1,489.97	80.48	19.515			
12,400.00	9,799.05	11,885.11	8,414.75	59.58	63.72	-29.20	-2,359.96	1,854.04	1,566.40	1,486.48	79.92	19.599			
12,500.00	9,798.53	11,767.89	8,417.75	61.03	61.69	-29.04	-2,476.92	1,846.81	1,560.89	1,481.58	79.31	19.682			
12,600.00	9,798.01	11,693.47	8,419.11	62.51	60.39	-28.91	-2,551.13	1,841.50	1,555.63	1,476.13	79.50	19.569			
12,700.00	9,797.49	11,614.10	8,418.83	64.02	59.02	-28.74	-2,630.30	1,835.83	1,552.19	1,472.62	79.57	19.507			
12,800.00	9,796.97	11,521.23	8,417.81	65.54	57.44	-28.53	-2,722.93	1,829.27	1,549.51	1,470.13	79.39	19.519			
12,900.00	9,796.45	11,375.41	8,417.48	67.09	54.96	-28.23	-2,868.40	1,819.18	1,546.44	1,468.28	78.16	19.785			
13,000.00	9,795.93	11,300.74	8,418.04	68.65	53.68	-28.07	-2,942.83	1,813.34	1,541.82	1,463.44	78.39	19.670			
13,100.00	9,795.41	11,219.80	8,417.60	70.24	52.31	-27.89	-3,023.56	1,807.63	1,538.71	1,460.22	78.49	19.603			
13,200.00	9,794.89	11,098.99	8,417.05	71.83	50.27	-27.66	-3,144.14	1,800.01	1,536.00	1,458.16	77.84	19.733			
13,300.00	9,794.37	10,996.00	8,417.48	73.45	48.56	-27.43	-3,246.83	1,792.29	1,531.88	1,454.35	77.53	19.758			
13,400.00	9,793.85	10,902.00	8,418.22	75.08	46.97	-27.28	-3,340.66	1,786.72	1,528.18	1,450.71	77.47	19.725			
13,500.00	9,793.34	10,799.59	8,419.39	76.72	45.18	-27.15	-3,442.93	1,781.58	1,524.61	1,447.33	77.27	19.730			
13,600.00	9,792.82	10,713.00	8,419.87	78.37	43.68	-27.01	-3,529.37	1,776.42	1,521.13	1,443.77	77.37	19.661			
13,700.00	9,792.30	10,633.57	8,419.47	80.04	42.33	-26.87	-3,608.68	1,771.95	1,518.78	1,441.16	77.62	19.567			
13,800.00	9,791.78	10,487.95	8,419.99	81.72	39.86	-26.63	-3,754.04	1,763.54	1,515.55	1,439.00	76.55	19.799			
13,900.00	9,791.26	10,372.79	8,421.64	83.41	37.91	-26.39	-3,868.86	1,755.02	1,510.71	1,434.66	76.05	19.864			
14,000.00	9,790.74	10,270.20	8,424.43	85.10	36.16	-26.21	-3,971.14	1,747.46	1,504.72	1,428.86	75.86	19.835			
14,100.00	9,790.22	10,172.96	8,426.56	86.81	34.51	-26.01	-4,068.07	1,740.07	1,499.12	1,423.34	75.78	19.783			
14,200.00	9,789.70	10,085.98	8,428.60	88.53	33.01	-25.87	-4,154.84	1,734.27	1,493.82	1,417.87	75.95	19.667			
14,300.00	9,789.18	10,005.97	8,429.40	90.25	31.66	-25.71	-4,234.66	1,728.92	1,489.74	1,413.46	76.27	19.531			
14,400.00	9,788.66	9,911.81	8,430.03	91.98	30.09	-25.60	-4,328.73	1,724.65	1,486.87	1,410.48	76.38	19.466			
14,500.00	9,788.14	9,791.72	8,431.67	93.72	28.05	-25.44	-4,448.65	1,718.65	1,483.19	1,407.21	75.97	19.523			
14,600.00	9,787.62	9,683.82	8,433.54	95.47	26.23	-25.25	-4,556.29	1,711.50	1,478.49	1,402.71	75.77	19.512			
14,700.00	9,787.11	9,598.49	8,434.96	97.22	24.79	-25.12	-4,641.47	1,706.59	1,474.22	1,398.14	76.09	19.375			
14,800.00	9,786.59	9,473.22	8,440.06	98.98	22.72	-25.08	-4,766.54	1,702.22	1,468.58	1,392.80	75.78	19.380			
14,900.00	9,786.07	9,382.45	8,444.83	100.74	21.17	-25.17	-4,857.18	1,701.88	1,463.37	1,387.10	76.27	19.187			
15,000.00	9,785.55	9,304.20	8,448.23	102.51	19.77	-25.23	-4,935.36	1,701.52	1,458.99	1,382.02	76.96	18.957			
15,100.00	9,785.03	9,250.96	8,448.74	104.28	18.86	-25.22	-4,988.59	1,700.63	1,457.10	1,379.05	78.05	18.669			
15,200.00	9,784.51	9,109.54	8,448.41	106.07	16.57	-25.06	-5,129.90	1,695.29	1,455.43	1,377.93	77.50	18.780			
15,300.00	9,783.99	9,028.26	8,447.88	107.85	15.18	-24.90	-5,211.03	1,690.43	1,453.15	1,375.15	78.00	18.629			
15,400.00	9,783.47	8,938.47	8,446.35	109.64	13.74	-24.66	-5,300.56	1,683.97	1,451.41	1,373.07	78.34	18.527			
15,477.79	9,783.07	8,877.00	8,444.63	111.03	12.69	-24.48	-5,361.84	1,679.31	1,450.77	1,372.01	78.75	18.422			
15,500.00	9,782.95	8,862.71	8,444.06	111.43	12.43	-24.44	-5,376.07	1,678.27	1,450.83	1,371.90	78.93	18.381			
15,600.00	9,782.43	8,798.43	8,440.60	113.23	11.27	-24.24	-5,440.11	1,673.84	1,452.61	1,372.91	79.71	18.225			
15,700.00	9,781.91	8,749.16	8,436.74	115.03	10.39	-24.07	-5,489.13	1,670.74	1,457.15	1,376.46	80.69	18.058			
15,800.00	9,781.39	8,706.00	8,431.13	116.84	9.63	-23.91	-5,531.85	1,668.39	1,466.00	1,384.32	81.68	17.948			
15,900.00	9,780.88	8,675.00	8,425.48	118.65	9.08	-23.79	-5,562.31	1,667.24	1,479.39	1,396.67	82.72	17.885			
16,000.00	9,780.36	8,658.35	8,421.85	120.46	8.79	-23.72	-5,578.55	1,666.88	1,497.29	1,413.54	83.76	17.877			
16,100.00	9,779.84	8,627.10	8,413.88	122.27	8.25	-23.59	-5,608.76	1,666.60	1,519.93	1,435.46	84.47	17.993			
16,200.00	9,779.32	8,582.00	8,400.80	124.09	7.47	-23.39	-5,651.92	1,666.30	1,546.20	1,461.24	84.96	18.199			
16,300.00	9,778.80	8,550.00	8,390.70	125.92	6.92	-23.23	-5,682.28	1,666.09	1,575.69	1,490.26	85.42	18.446			
16,400.00	9,778.28	8,518.00	8,379.28	127.74	6.39	-23.06	-5,712.17	1,665.70	1,608.94	1,523.19	85.75	18.764			
16,500.00	9,777.76	8,488.00	8,366.94	129.57	5.90	-22.86	-5,739.50	1,665.17	1,646.32	1,560.38	85.94	19.156			
16,600.00	9,777.24	8,473.49	8,360.31	131.40	5.67	-22.76	-5,752.41	1,664.91	1,687.66	1,601.62	86.04	19.614			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset- Longview 12 Federal 15H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 7793-MWD													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,700.00	9,776.72	8,456.00	8,351.75	133.23	5.40	-22.63	-5,767.65	1,664.56	1,732.86	1,646.86	86.00	20.149	
16,800.00	9,776.20	8,425.00	8,335.19	135.06	4.93	-22.36	-5,793.83	1,663.67	1,781.64	1,695.80	85.85	20.754	
16,900.00	9,775.68	8,412.23	8,327.92	136.90	4.74	-22.25	-5,804.32	1,663.18	1,833.46	1,747.86	85.60	21.418	
17,000.00	9,775.16	8,393.00	8,316.56	138.74	4.47	-22.06	-5,819.82	1,662.34	1,888.29	1,803.01	85.28	22.142	
17,100.00	9,774.65	8,362.00	8,297.20	140.58	4.04	-21.76	-5,843.99	1,661.05	1,946.03	1,861.10	84.93	22.913	
17,200.00	9,774.13	8,362.00	8,297.20	142.43	4.04	-21.76	-5,843.99	1,661.05	2,006.21	1,921.75	84.46	23.754	
17,300.00	9,773.61	8,343.62	8,285.05	144.27	3.80	-21.58	-5,857.77	1,660.48	2,069.00	1,985.00	84.00	24.630	
17,400.00	9,773.09	8,330.00	8,275.69	146.12	3.62	-21.45	-5,867.65	1,660.19	2,134.23	2,050.72	83.51	25.557	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset-Lentini Fed 1-002 (P/A) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 6400-MWD													Offset Well Error: 0.00 usft
Reference	Offset	Rule Assigned:											Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.50	0.00	100.12	-222.63	1,247.59	1,267.34				
100.00	100.00	89.90	89.90	0.52	0.10	100.12	-222.63	1,247.59	1,267.30	1,266.68	0.62	2,048.660	
200.00	200.00	189.90	189.90	0.70	0.21	100.12	-222.63	1,247.59	1,267.30	1,266.38	0.92	1,384.845	
300.00	300.00	289.90	289.90	0.99	0.33	100.12	-222.63	1,247.59	1,267.30	1,265.99	1.31	965.543	
400.00	400.00	389.90	389.90	1.31	0.44	100.12	-222.63	1,247.59	1,267.30	1,265.55	1.75	725.642	
500.00	500.00	489.90	489.90	1.65	0.55	100.12	-222.63	1,247.59	1,267.30	1,265.10	2.20	577.193	
600.00	600.00	589.90	589.90	1.99	0.66	100.12	-222.63	1,247.59	1,267.30	1,264.65	2.65	477.810	
700.00	700.00	689.90	689.90	2.34	0.77	100.12	-222.63	1,247.59	1,267.30	1,264.18	3.11	407.073	
800.00	800.00	789.90	789.90	2.69	0.89	100.12	-222.63	1,247.59	1,267.30	1,263.72	3.58	354.326	
900.00	900.00	889.90	889.90	3.04	1.00	100.12	-222.63	1,247.59	1,267.30	1,263.26	4.04	313.550	
1,000.00	1,000.00	989.90	989.90	3.40	1.11	100.12	-222.63	1,247.59	1,267.30	1,262.79	4.51	281.118	
1,100.00	1,100.00	1,089.90	1,089.90	3.75	1.22	100.12	-222.63	1,247.59	1,267.30	1,262.32	4.98	254.725	
1,200.00	1,200.00	1,189.90	1,189.90	4.11	1.33	100.12	-222.63	1,247.59	1,267.30	1,261.85	5.44	232.835	
1,300.00	1,300.00	1,289.90	1,289.90	4.46	1.45	100.12	-222.63	1,247.59	1,267.30	1,261.39	5.91	214.393	
1,400.00	1,400.00	1,389.90	1,389.90	4.82	1.56	100.12	-222.63	1,247.59	1,267.30	1,260.92	6.38	198.647	
1,500.00	1,500.00	1,489.90	1,489.90	5.18	1.67	100.12	-222.63	1,247.59	1,267.30	1,260.45	6.85	185.048	
1,600.00	1,599.98	1,589.88	1,589.88	5.53	1.78	29.99	-222.63	1,247.59	1,265.79	1,258.47	7.31	173.120	
1,700.00	1,699.84	1,689.74	1,689.74	5.88	1.90	30.15	-222.63	1,247.59	1,261.25	1,253.48	7.77	162.313	
1,800.00	1,799.45	1,789.35	1,789.35	6.23	2.01	30.43	-222.63	1,247.59	1,253.72	1,245.49	8.23	152.317	
1,900.00	1,898.70	1,888.60	1,888.60	6.59	2.12	30.82	-222.63	1,247.59	1,243.21	1,234.52	8.69	143.003	
2,000.00	1,997.47	1,987.37	1,987.37	6.97	2.23	31.33	-222.63	1,247.59	1,229.77	1,220.61	9.16	134.263	
2,100.00	2,095.62	2,085.52	2,085.52	7.36	2.34	31.97	-222.63	1,247.59	1,213.45	1,203.82	9.63	126.005	
2,200.00	2,193.06	2,182.96	2,182.96	7.78	2.45	32.75	-222.63	1,247.59	1,194.31	1,184.20	10.11	118.152	
2,300.00	2,289.67	2,279.57	2,279.57	8.23	2.56	33.61	-222.63	1,247.59	1,172.51	1,161.91	10.60	110.639	
2,400.00	2,386.02	2,375.92	2,375.92	8.71	2.67	34.34	-222.63	1,247.59	1,150.07	1,138.97	11.09	103.665	
2,500.00	2,482.37	2,472.27	2,472.27	9.21	2.77	35.10	-222.63	1,247.59	1,127.81	1,116.20	11.60	97.203	
2,600.00	2,578.73	2,568.63	2,568.63	9.72	2.88	35.89	-222.63	1,247.59	1,105.75	1,093.63	12.12	91.211	
2,700.00	2,675.08	2,664.98	2,664.98	10.24	2.99	36.71	-222.63	1,247.59	1,083.90	1,071.25	12.65	85.650	
2,800.00	2,771.43	2,761.33	2,761.33	10.78	3.10	37.56	-222.63	1,247.59	1,062.28	1,049.08	13.20	80.485	
2,900.00	2,867.78	2,857.68	2,857.68	11.33	3.21	38.44	-222.63	1,247.59	1,040.90	1,027.14	13.75	75.683	
3,000.00	2,964.13	2,954.03	2,954.03	11.88	3.31	39.36	-222.63	1,247.59	1,019.77	1,005.45	14.32	71.213	
3,100.00	3,060.49	3,050.39	3,050.39	12.44	3.42	40.32	-222.63	1,247.59	998.91	984.01	14.90	67.048	
3,200.00	3,156.84	3,146.74	3,146.74	13.01	3.53	41.32	-222.63	1,247.59	978.34	962.85	15.49	63.164	
3,300.00	3,253.19	3,243.09	3,243.09	13.59	3.64	42.36	-222.63	1,247.59	958.07	941.98	16.09	59.538	
3,400.00	3,349.54	3,339.44	3,339.44	14.17	3.75	43.44	-222.63	1,247.59	938.13	921.43	16.71	56.152	
3,500.00	3,445.89	3,435.79	3,435.79	14.75	3.85	44.57	-222.63	1,247.59	918.54	901.21	17.34	52.986	
3,600.00	3,542.25	3,532.15	3,532.15	15.34	3.96	45.75	-222.63	1,247.59	899.32	881.34	17.98	50.025	
3,700.00	3,638.60	3,628.50	3,628.50	15.93	4.07	46.97	-222.63	1,247.59	880.49	861.86	18.63	47.254	
3,800.00	3,734.95	3,724.85	3,724.85	16.52	4.18	48.24	-222.63	1,247.59	862.08	842.78	19.30	44.661	
3,900.00	3,831.30	3,821.20	3,821.20	17.12	4.29	49.57	-222.63	1,247.59	844.12	824.13	19.99	42.234	
4,000.00	3,927.65	3,917.55	3,917.55	17.72	4.39	50.95	-222.63	1,247.59	826.63	805.95	20.69	39.962	
4,100.00	4,024.01	4,013.91	4,013.91	18.32	4.50	52.39	-222.63	1,247.59	809.66	788.26	21.40	37.836	
4,200.00	4,120.36	4,110.26	4,110.26	18.92	4.61	53.88	-222.63	1,247.59	793.22	771.09	22.13	35.847	
4,300.00	4,216.71	4,206.61	4,206.61	19.53	4.72	55.44	-222.63	1,247.59	777.35	754.48	22.87	33.988	
4,400.00	4,313.06	4,302.96	4,302.96	20.13	4.83	57.05	-222.63	1,247.59	762.10	738.47	23.63	32.252	
4,500.00	4,409.41	4,399.31	4,399.31	20.74	4.93	58.73	-222.63	1,247.59	747.49	723.09	24.40	30.633	
4,600.00	4,505.77	4,495.67	4,495.67	21.35	5.04	60.47	-222.63	1,247.59	733.57	708.38	25.19	29.124	
4,700.00	4,602.12	4,592.02	4,592.02	21.96	5.15	62.27	-222.63	1,247.59	720.38	694.39	25.99	27.722	
4,800.00	4,698.47	4,688.37	4,688.37	22.57	5.26	64.13	-222.63	1,247.59	707.95	681.15	26.80	26.420	
4,900.00	4,794.82	4,784.72	4,784.72	23.19	5.37	66.05	-222.63	1,247.59	696.32	668.71	27.61	25.216	
5,000.00	4,891.18	4,881.08	4,881.08	23.80	5.48	68.03	-222.63	1,247.59	685.55	657.11	28.44	24.104	
5,100.00	4,987.53	4,977.43	4,977.43	24.41	5.58	70.07	-222.63	1,247.59	675.67	646.39	29.27	23.080	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset-Lentini Fed 1-002 (P/A) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft								
Survey Program: 6400-MWD				Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Rule Assigned:		Distance		Warning		Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor									
5,200.00	5,083.88	5,073.78	5,073.78	25.03	5.69	72.16	-222.63	1,247.59	666.71	636.60	30.11	22.142									
5,300.00	5,180.23	5,170.13	5,170.13	25.65	5.80	74.30	-222.63	1,247.59	658.72	627.77	30.95	21.286									
5,400.00	5,276.58	5,266.48	5,266.48	26.26	5.91	76.49	-222.63	1,247.59	651.73	619.95	31.78	20.508									
5,500.00	5,372.94	5,362.84	5,362.84	26.88	6.02	78.72	-222.63	1,247.59	645.78	613.17	32.61	19.805									
5,600.00	5,469.29	5,459.19	5,459.19	27.50	6.12	80.98	-222.63	1,247.59	640.89	607.46	33.42	19.174									
5,700.00	5,565.64	5,555.54	5,555.54	28.12	6.23	83.27	-222.63	1,247.59	637.08	602.85	34.23	18.612									
5,800.00	5,661.99	5,651.89	5,651.89	28.74	6.34	85.59	-222.63	1,247.59	634.39	599.37	35.02	18.116									
5,900.00	5,758.37	5,748.27	5,748.27	29.36	6.45	87.90	-222.63	1,247.59	632.82	597.03	35.79	17.683									
5,999.13	5,854.55	5,844.45	5,844.45	29.94	6.56	90.00	-222.63	1,247.59	632.36	595.87	36.49	17.330 CC									
6,000.00	5,855.40	5,845.30	5,845.30	29.94	6.56	90.02	-222.63	1,247.59	632.36	595.87	36.50	17.327									
6,100.00	5,953.21	5,943.11	5,943.11	30.47	6.67	91.87	-222.63	1,247.59	632.71	595.57	37.14	17.037 ES									
6,200.00	6,051.68	6,041.58	6,041.58	30.95	6.78	93.43	-222.63	1,247.59	633.52	595.81	37.72	16.796									
6,300.00	6,150.70	6,140.60	6,140.60	31.39	6.89	94.69	-222.63	1,247.59	634.52	596.27	38.24	16.591									
6,400.00	6,250.15	6,240.05	6,240.05	31.77	7.00	95.64	-222.63	1,247.59	635.47	596.74	38.72	16.410									
6,500.00	6,349.90	6,339.80	6,339.80	32.11	7.11	96.28	-222.63	1,247.59	636.19	597.03	39.16	16.245									
6,600.00	6,449.83	6,400.00	6,400.00	32.41	7.18	96.54	-222.63	1,247.59	637.83	598.39	39.43	16.175 SF									
6,700.00	6,549.83	6,400.00	6,400.00	32.66	7.18	166.83	-222.63	1,247.59	651.79	612.80	38.99	16.716									
6,800.00	6,649.83	6,400.00	6,400.00	32.92	7.18	166.83	-222.63	1,247.59	680.28	642.31	37.97	17.916									
6,900.00	6,749.83	6,400.00	6,400.00	33.17	7.18	166.83	-222.63	1,247.59	721.61	685.03	36.58	19.727									
7,000.00	6,849.83	6,400.00	6,400.00	33.43	7.18	166.83	-222.63	1,247.59	773.74	738.70	35.03	22.085									
7,100.00	6,949.83	6,400.00	6,400.00	33.68	7.18	166.83	-222.63	1,247.59	834.64	801.15	33.49	24.922									
7,200.00	7,049.83	6,400.00	6,400.00	33.94	7.18	166.83	-222.63	1,247.59	902.53	870.48	32.05	28.163									
7,300.00	7,149.83	6,400.00	6,400.00	34.21	7.18	166.83	-222.63	1,247.59	975.97	945.21	30.75	31.735									
7,400.00	7,249.83	6,400.00	6,400.00	34.47	7.18	166.83	-222.63	1,247.59	1,053.78	1,024.15	29.63	35.569									
7,500.00	7,349.83	6,400.00	6,400.00	34.73	7.18	166.83	-222.63	1,247.59	1,135.08	1,106.42	28.66	39.602									
7,600.00	7,449.83	6,400.00	6,400.00	35.00	7.18	166.83	-222.63	1,247.59	1,219.16	1,191.31	27.85	43.777									
7,700.00	7,549.83	6,400.00	6,400.00	35.27	7.18	166.83	-222.63	1,247.59	1,305.49	1,278.31	27.17	48.045									
7,800.00	7,649.83	6,400.00	6,400.00	35.54	7.18	166.83	-222.63	1,247.59	1,393.64	1,367.03	26.61	52.364									
7,900.00	7,749.83	6,400.00	6,400.00	35.81	7.18	166.83	-222.63	1,247.59	1,483.30	1,457.14	26.16	56.699									
8,000.00	7,849.83	6,400.00	6,400.00	36.08	7.18	166.83	-222.63	1,247.59	1,574.21	1,548.41	25.80	61.021									
8,100.00	7,949.83	6,400.00	6,400.00	36.36	7.18	166.83	-222.63	1,247.59	1,666.16	1,640.64	25.51	65.307									
8,200.00	8,049.83	6,400.00	6,400.00	36.63	7.18	166.83	-222.63	1,247.59	1,758.98	1,733.69	25.30	69.538									
8,300.00	8,149.83	6,400.00	6,400.00	36.91	7.18	166.83	-222.63	1,247.59	1,852.56	1,827.42	25.14	73.701									
8,400.00	8,249.83	6,400.00	6,400.00	37.19	7.18	166.83	-222.63	1,247.59	1,946.77	1,921.74	25.03	77.783									
8,500.00	8,349.83	6,400.00	6,400.00	37.47	7.18	166.83	-222.63	1,247.59	2,041.53	2,016.57	24.96	81.778									
8,600.00	8,449.83	6,400.00	6,400.00	37.75	7.18	166.83	-222.63	1,247.59	2,136.78	2,111.84	24.94	85.679									

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 2-MWD													Offset Well Error: 0.00 usft
Rule Assigned:													
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
0.00	0.00	0.00	0.00	0.50	0.00	141.84	-1,117.25	877.85	1,421.30				
100.00	100.00	70.66	70.66	0.52	0.16	141.84	-1,117.09	877.81	1,420.73	1,420.06	0.67	2,106.111	
200.00	200.00	181.20	181.20	0.70	0.41	141.82	-1,116.20	877.59	1,419.97	1,418.87	1.11	1,281.652	
300.00	300.00	279.23	279.22	0.99	0.61	141.81	-1,115.01	877.27	1,418.82	1,417.22	1.59	890.388	
400.00	400.00	383.59	383.57	1.31	0.82	141.79	-1,113.81	876.93	1,417.72	1,415.60	2.13	666.275	
500.00	500.00	482.39	482.36	1.65	1.03	141.77	-1,112.52	876.47	1,416.40	1,413.73	2.67	530.407	
600.00	600.00	573.44	573.41	1.99	1.21	141.77	-1,111.83	875.93	1,415.45	1,412.25	3.20	442.493	
700.00	700.00	670.10	670.06	2.34	1.41	141.78	-1,111.76	875.39	1,415.04	1,411.29	3.75	377.743	
800.00	800.00	770.18	770.14	2.69	1.62	141.83	-1,112.13	874.33	1,414.68	1,410.37	4.31	328.251	
900.00	900.00	867.95	867.90	3.04	1.83	141.90	-1,112.93	872.80	1,414.36	1,409.48	4.87	290.207	
1,000.00	1,000.00	969.58	969.49	3.40	2.05	141.99	-1,114.25	870.76	1,414.15	1,408.70	5.45	259.494	
1,100.00	1,100.00	1,072.50	1,072.35	3.75	2.28	142.13	-1,116.04	867.74	1,413.71	1,407.68	6.03	234.324	
1,200.00	1,200.00	1,174.62	1,174.38	4.11	2.51	142.31	-1,118.19	863.96	1,413.11	1,406.49	6.62	213.474	
1,300.00	1,300.00	1,274.23	1,273.88	4.46	2.73	142.50	-1,120.47	859.91	1,412.43	1,405.24	7.19	196.396	
1,400.00	1,400.00	1,373.25	1,372.80	4.82	2.94	142.68	-1,122.78	855.91	1,411.84	1,404.08	7.76	181.921	
1,500.00	1,500.00	1,473.44	1,472.87	5.18	3.17	142.88	-1,125.27	851.73	1,411.29	1,402.94	8.34	169.138	
1,600.00	1,599.98	1,571.22	1,570.53	5.53	3.38	72.97	-1,127.70	847.67	1,410.26	1,401.35	8.91	158.270	
1,700.00	1,699.84	1,669.02	1,668.24	5.88	3.59	73.38	-1,130.04	844.02	1,408.43	1,398.97	9.46	148.872	
1,800.00	1,799.45	1,766.28	1,765.42	6.23	3.79	73.91	-1,132.13	840.89	1,405.80	1,395.79	10.01	140.404	
1,900.00	1,898.70	1,856.28	1,855.37	6.59	3.97	74.53	-1,134.06	838.46	1,402.64	1,392.08	10.56	132.835	
2,000.00	1,997.47	1,939.14	1,938.20	6.97	4.14	75.18	-1,135.92	837.37	1,399.62	1,388.52	11.10	126.061	
2,100.00	2,095.62	2,020.80	2,019.83	7.36	4.31	75.87	-1,137.98	837.85	1,397.20	1,385.54	11.66	119.837	
2,200.00	2,193.06	2,110.93	2,109.91	7.78	4.49	76.72	-1,140.29	839.58	1,395.01	1,382.76	12.26	113.813	
2,300.00	2,289.67	2,200.00	2,198.93	8.23	4.68	77.65	-1,142.65	841.72	1,392.78	1,379.89	12.89	108.086	
2,400.00	2,386.02	2,287.94	2,286.79	8.71	4.86	78.57	-1,145.32	844.29	1,391.35	1,377.81	13.54	102.763	
2,481.34	2,464.39	2,361.55	2,360.30	9.11	5.02	79.32	-1,147.84	847.01	1,391.09	1,377.00	14.09	98.730 CC	
2,500.00	2,482.37	2,378.74	2,377.47	9.21	5.05	79.50	-1,148.43	847.69	1,391.10	1,376.88	14.22	97.846	
2,600.00	2,578.73	2,471.76	2,470.35	9.72	5.25	80.44	-1,151.71	851.63	1,391.61	1,376.69	14.92	93.289	
2,700.00	2,675.08	2,572.94	2,571.37	10.24	5.46	81.45	-1,155.28	856.04	1,392.61	1,376.96	15.65	88.986	
2,800.00	2,771.43	2,685.41	2,683.70	10.78	5.69	82.58	-1,158.54	860.54	1,393.34	1,376.92	16.42	84.870	
2,900.00	2,867.78	2,792.20	2,790.40	11.33	5.90	83.65	-1,160.65	864.38	1,393.50	1,376.32	17.18	81.098	
3,000.00	2,964.13	2,896.72	2,894.86	11.88	6.12	84.72	-1,162.43	867.31	1,393.53	1,375.57	17.96	77.612	
3,010.71	2,974.45	2,907.59	2,905.73	11.94	6.14	84.83	-1,162.59	867.59	1,393.53	1,375.49	18.04	77.256	
3,100.00	3,060.49	2,997.21	2,995.32	12.44	6.33	85.75	-1,163.87	869.73	1,393.61	1,374.88	18.73	74.416	
3,200.00	3,156.84	3,106.41	3,104.49	13.01	6.55	86.89	-1,164.87	872.01	1,393.56	1,374.04	19.53	71.370	
3,234.15	3,189.74	3,138.49	3,136.56	13.21	6.62	87.22	-1,165.07	872.59	1,393.52	1,373.73	19.79	70.417	
3,300.00	3,253.19	3,200.29	3,198.35	13.59	6.75	87.87	-1,165.57	873.59	1,393.67	1,373.37	20.30	68.660	
3,400.00	3,349.54	3,305.03	3,303.08	14.17	6.97	88.98	-1,166.23	875.04	1,394.03	1,372.94	21.10	66.071	
3,500.00	3,445.89	3,395.41	3,393.44	14.75	7.16	89.93	-1,166.77	876.28	1,394.84	1,372.97	21.87	63.774	
3,600.00	3,542.25	3,499.58	3,497.61	15.34	7.38	91.04	-1,167.45	877.45	1,396.10	1,373.42	22.68	61.561	
3,700.00	3,638.60	3,596.63	3,594.66	15.93	7.58	92.08	-1,167.82	878.35	1,397.54	1,374.07	23.47	59.547	
3,800.00	3,734.95	3,692.10	3,690.12	16.52	7.78	93.09	-1,168.16	879.40	1,399.48	1,375.22	24.26	57.692	
3,900.00	3,831.30	3,787.09	3,785.10	17.12	7.98	94.10	-1,168.64	880.29	1,401.99	1,376.94	25.05	55.973	
4,000.00	3,927.65	3,889.44	3,887.45	17.72	8.19	95.20	-1,169.12	880.92	1,404.87	1,379.02	25.85	54.341	
4,100.00	4,024.01	3,988.11	3,986.12	18.32	8.40	96.26	-1,169.36	881.08	1,407.94	1,381.29	26.65	52.830	
4,200.00	4,120.36	4,087.55	4,085.56	18.92	8.61	97.35	-1,169.54	880.68	1,411.32	1,383.87	27.45	51.417	
4,300.00	4,216.71	4,201.10	4,199.10	19.53	8.85	98.63	-1,169.31	879.32	1,414.74	1,386.46	28.27	50.037	
4,400.00	4,313.06	4,327.20	4,325.10	20.13	9.11	100.13	-1,167.23	874.93	1,416.92	1,387.81	29.11	48.668	
4,500.00	4,409.41	4,495.03	4,492.31	20.74	9.46	102.31	-1,159.50	863.24	1,416.56	1,386.58	29.98	47.250	
4,600.00	4,505.77	4,647.10	4,642.43	21.35	9.78	104.61	-1,145.64	843.56	1,411.56	1,380.78	30.78	45.861	
4,700.00	4,602.12	4,743.04	4,736.33	21.96	10.00	106.24	-1,135.84	826.56	1,406.39	1,374.84	31.55	44.571	
4,800.00	4,698.47	4,840.54	4,831.51	22.57	10.24	107.95	-1,125.58	808.04	1,402.08	1,369.75	32.33	43.373	

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



Anticollision Report



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Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 2-MWD													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,900.00	4,794.82	4,934.93	4,923.56	23.19	10.47	109.62	-1,115.21	789.92	1,398.66	1,365.57	33.09	42.268	
5,000.00	4,891.18	5,024.75	5,011.16	23.80	10.70	111.21	-1,105.25	772.77	1,396.48	1,362.64	33.84	41.266	
5,067.88	4,956.58	5,077.00	5,062.17	24.22	10.84	112.12	-1,099.49	763.03	1,395.83	1,361.49	34.34	40.648	
5,100.00	4,987.53	5,097.89	5,082.59	24.41	10.89	112.49	-1,097.32	759.22	1,395.92	1,361.35	34.57	40.379 ES	
5,200.00	5,083.88	5,148.97	5,132.70	25.03	11.02	113.36	-1,093.03	750.25	1,398.78	1,363.53	35.25	39.680	
5,300.00	5,180.23	5,229.77	5,212.20	25.65	11.24	114.71	-1,088.16	736.68	1,404.92	1,368.96	35.95	39.077	
5,400.00	5,276.58	5,333.28	5,313.87	26.26	11.53	116.46	-1,081.20	718.54	1,411.73	1,375.03	36.69	38.474	
5,500.00	5,372.94	5,426.26	5,404.95	26.88	11.80	118.05	-1,074.26	701.22	1,419.22	1,381.82	37.40	37.945	
5,600.00	5,469.29	5,518.49	5,495.36	27.50	12.07	119.61	-1,067.38	684.27	1,427.91	1,389.81	38.10	37.481	
5,700.00	5,565.64	5,611.89	5,586.87	28.12	12.36	121.18	-1,060.21	667.02	1,437.64	1,398.85	38.79	37.061	
5,800.00	5,661.99	5,706.17	5,679.17	28.74	12.66	122.75	-1,052.71	649.38	1,448.36	1,408.88	39.48	36.684	
5,900.00	5,758.37	5,799.94	5,770.97	29.36	12.96	124.34	-1,044.99	631.82	1,459.96	1,419.80	40.16	36.357	
6,000.00	5,855.40	5,892.61	5,861.77	29.94	13.25	125.94	-1,037.33	614.97	1,471.06	1,430.27	40.80	36.060	
6,100.00	5,953.21	5,994.27	5,961.28	30.47	13.59	127.53	-1,028.59	596.11	1,480.89	1,439.45	41.44	35.737	
6,200.00	6,051.68	6,097.16	6,061.63	30.95	13.95	129.05	-1,018.52	575.76	1,488.73	1,446.67	42.06	35.395	
6,300.00	6,150.70	6,184.50	6,148.80	31.39	14.25	130.24	-1,009.83	558.47	1,495.01	1,452.40	42.61	35.089	
6,400.00	6,250.15	6,277.13	6,237.17	31.77	14.57	131.36	-1,001.11	540.07	1,500.16	1,457.02	43.14	34.775	
6,500.00	6,349.90	6,363.46	6,321.55	32.11	14.86	132.28	-993.42	523.53	1,503.76	1,460.13	43.63	34.469	
6,600.00	6,449.83	6,460.52	6,416.77	32.41	15.18	133.12	-986.07	506.29	1,506.05	1,461.92	44.13	34.127	
6,700.00	6,549.83	6,555.76	6,510.50	32.66	15.49	-156.04	-979.22	490.84	1,506.28	1,461.66	44.62	33.760	
6,800.00	6,649.83	6,652.99	6,606.12	32.92	15.81	-155.37	-972.42	474.54	1,506.81	1,461.69	45.12	33.396	
6,900.00	6,749.83	6,752.23	6,703.58	33.17	16.15	-154.66	-965.08	457.34	1,507.44	1,461.81	45.63	33.035	
7,000.00	6,849.83	6,838.97	6,788.86	33.43	16.44	-154.06	-959.09	442.66	1,508.57	1,462.47	46.10	32.727	
7,100.00	6,949.83	6,929.04	6,877.19	33.68	16.76	-153.39	-953.09	426.09	1,510.77	1,464.19	46.58	32.434	
7,200.00	7,049.83	7,023.65	6,969.79	33.94	17.11	-152.66	-946.63	407.84	1,513.49	1,466.40	47.09	32.143	
7,300.00	7,149.83	7,131.18	7,075.23	34.21	17.49	-151.88	-939.68	387.94	1,516.45	1,468.80	47.65	31.824	
7,400.00	7,249.83	7,250.34	7,192.02	34.47	17.92	-150.99	-930.55	366.12	1,518.51	1,470.23	48.28	31.453	
7,500.00	7,349.83	7,343.72	7,283.45	34.73	18.26	-150.27	-922.66	348.81	1,520.28	1,471.49	48.79	31.158	
7,600.00	7,449.83	7,456.38	7,393.93	35.00	18.66	-149.45	-913.25	328.89	1,521.96	1,472.57	49.39	30.814	
7,700.00	7,549.83	7,560.76	7,496.31	35.27	19.04	-148.68	-903.99	310.82	1,523.28	1,473.32	49.96	30.490	
7,800.00	7,649.83	7,675.73	7,609.24	35.54	19.45	-147.87	-893.52	291.95	1,524.19	1,473.61	50.58	30.136	
7,881.02	7,730.85	7,763.47	7,695.37	35.76	19.76	-147.25	-884.51	277.91	1,524.11	1,473.06	51.05	29.854	
7,900.00	7,749.83	7,773.91	7,705.64	35.81	19.79	-147.17	-883.49	276.28	1,524.17	1,473.05	51.12	29.815	
8,000.00	7,849.83	7,819.00	7,749.77	36.08	19.96	-146.83	-879.71	267.91	1,526.91	1,475.49	51.41	29.698	
8,100.00	7,949.83	7,838.92	7,769.02	36.36	20.05	-146.65	-878.35	262.99	1,534.03	1,482.53	51.50	29.789	
8,200.00	8,049.83	7,866.18	7,795.01	36.63	20.18	-146.36	-876.68	254.93	1,545.84	1,494.31	51.53	29.998	
8,300.00	8,149.83	7,882.00	7,809.93	36.91	20.26	-146.19	-876.06	249.70	1,562.54	1,511.17	51.38	30.414	
8,400.00	8,249.83	7,913.00	7,838.98	37.19	20.42	-145.86	-876.28	238.91	1,583.96	1,532.68	51.28	30.889	
8,500.00	8,349.83	7,945.00	7,868.84	37.47	20.58	-145.57	-878.89	227.72	1,610.18	1,559.05	51.13	31.490	
8,600.00	8,449.83	7,964.32	7,886.82	37.75	20.66	-145.43	-881.54	221.17	1,640.36	1,589.58	50.78	32.300	
8,700.00	8,549.83	8,008.00	7,927.42	38.04	20.84	-145.19	-889.91	207.44	1,674.19	1,623.50	50.69	33.028	
8,800.00	8,649.83	8,048.45	7,964.91	38.32	20.97	-145.08	-900.51	196.64	1,710.88	1,660.35	50.53	33.861	
8,900.00	8,749.83	8,102.00	8,014.16	38.60	21.11	-145.14	-918.59	186.01	1,749.93	1,699.42	50.51	34.645	
9,000.00	8,849.83	8,134.00	8,043.19	38.89	21.17	-145.24	-931.03	180.84	1,791.40	1,741.19	50.21	35.678	
9,100.00	8,949.83	8,175.67	8,080.37	39.18	21.24	-145.43	-948.88	174.91	1,835.41	1,785.38	50.02	36.691	
9,200.00	9,049.83	8,197.00	8,099.04	39.47	21.27	-145.54	-958.78	172.05	1,882.32	1,832.74	49.57	37.970	
9,300.00	9,149.83	8,228.00	8,125.54	39.76	21.32	-145.74	-974.37	168.14	1,932.08	1,882.84	49.25	39.231	
9,400.00	9,249.83	8,244.50	8,139.24	40.05	21.34	33.46	-983.37	166.19	1,984.73	1,935.99	48.73	40.725	
9,500.00	9,349.10	8,260.00	8,151.80	40.28	21.37	30.49	-992.27	164.44	2,032.44	1,984.31	48.13	42.227	
9,600.00	9,444.97	8,291.00	8,175.98	40.46	21.41	28.44	-1,011.33	160.89	2,069.89	2,022.24	47.65	43.435	
9,700.00	9,534.53	8,291.00	8,175.98	40.57	21.41	27.17	-1,011.33	160.89	2,096.18	2,049.49	46.69	44.895	
9,800.00	9,615.04	8,323.00	8,199.67	40.62	21.45	26.54	-1,032.45	156.83	2,110.83	2,064.71	46.12	45.770	

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Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 2-MWD													Offset Well Error: 0.00 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre	Distance	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,900.00	9,684.07	8,354.00	8,221.43	40.63	21.50	26.54	-1,054.09	152.49	2,113.85	2,068.34	45.52	46.443	
10,000.00	9,739.51	8,368.61	8,231.32	40.60	21.53	27.04	-1,064.64	150.37	2,104.70	2,060.01	44.69	47.097	
10,100.00	9,779.69	8,386.00	8,242.82	40.57	21.56	28.16	-1,077.42	147.81	2,083.81	2,039.86	43.95	47.414	
10,200.00	9,803.38	8,417.00	8,262.52	40.56	21.62	30.12	-1,100.90	143.16	2,051.36	2,007.87	43.49	47.165	
10,300.00	9,809.95	8,449.00	8,281.64	40.60	21.69	32.76	-1,126.14	138.53	2,008.33	1,965.15	43.18	46.508	
10,400.00	9,809.43	8,466.25	8,291.42	40.72	21.72	32.99	-1,140.16	136.24	1,962.78	1,920.05	42.73	45.931	
10,500.00	9,808.91	8,491.77	8,305.18	40.93	21.78	33.32	-1,161.41	133.07	1,920.35	1,877.90	42.44	45.247	
10,600.00	9,808.39	8,512.00	8,315.58	41.23	21.83	33.58	-1,178.58	130.52	1,881.14	1,839.00	42.14	44.642	
10,700.00	9,807.87	8,543.00	8,330.51	41.63	21.91	33.96	-1,205.44	126.51	1,845.34	1,803.26	42.08	43.852	
10,800.00	9,807.35	8,575.00	8,344.61	42.13	22.01	34.33	-1,233.88	122.44	1,813.07	1,770.94	42.13	43.039	
10,900.00	9,806.83	8,606.00	8,357.27	42.73	22.11	34.67	-1,261.93	118.74	1,784.06	1,741.80	42.25	42.222	
11,000.00	9,806.32	8,650.96	8,373.92	43.42	22.26	35.12	-1,303.43	114.10	1,758.09	1,715.41	42.68	41.189	
11,100.00	9,805.80	8,685.33	8,385.02	44.19	22.40	35.42	-1,335.80	110.95	1,735.62	1,692.56	43.06	40.305	
11,200.00	9,805.28	8,720.31	8,394.83	45.04	22.55	35.70	-1,369.23	107.85	1,716.78	1,673.22	43.56	39.415	
11,300.00	9,804.76	8,764.00	8,404.96	45.97	22.77	36.00	-1,411.57	104.25	1,701.58	1,657.32	44.26	38.442	
11,400.00	9,804.24	8,796.00	8,410.82	46.96	22.93	36.17	-1,442.96	102.28	1,689.73	1,644.81	44.92	37.617	
11,500.00	9,803.72	8,848.79	8,418.01	48.02	23.23	36.38	-1,495.20	99.85	1,681.01	1,635.11	45.90	36.626	
11,600.00	9,803.20	8,891.00	8,421.82	49.13	23.50	36.51	-1,537.20	98.08	1,675.65	1,628.82	46.82	35.788	
11,691.87	9,802.72	8,923.00	8,423.47	50.20	23.71	36.58	-1,569.12	96.66	1,673.88	1,626.21	47.67	35.110	
11,700.00	9,802.68	8,923.00	8,423.47	50.29	23.71	36.58	-1,569.12	96.66	1,673.90	1,626.18	47.73	35.074	
11,800.00	9,802.16	8,974.54	8,423.62	51.50	24.09	36.65	-1,620.60	94.23	1,675.82	1,626.95	48.87	34.291	
11,900.00	9,801.64	9,056.66	8,421.42	52.76	24.76	36.70	-1,702.61	90.73	1,679.82	1,629.48	50.34	33.371	
12,000.00	9,801.12	9,214.72	8,417.02	54.05	26.14	36.72	-1,860.54	86.62	1,683.18	1,630.70	52.48	32.075	
12,100.00	9,800.60	9,355.95	8,420.41	55.38	27.49	36.87	-2,001.69	83.47	1,681.50	1,626.86	54.64	30.773	
12,200.00	9,800.09	9,490.00	8,424.16	56.75	28.92	36.96	-2,135.67	82.92	1,678.78	1,621.93	56.84	29.534	
12,300.00	9,799.57	9,616.52	8,428.60	58.15	30.33	37.00	-2,262.09	84.93	1,674.30	1,615.32	58.99	28.383	
12,400.00	9,799.05	9,703.13	8,431.83	59.58	31.37	37.01	-2,348.62	87.09	1,669.22	1,608.43	60.79	27.459	
12,500.00	9,798.53	9,758.43	8,433.10	61.03	32.04	37.02	-2,403.89	87.67	1,666.18	1,603.88	62.29	26.747	
12,559.25	9,798.22	9,791.06	8,433.01	61.91	32.46	37.01	-2,436.52	87.76	1,665.76	1,602.57	63.19	26.360	
12,600.00	9,798.01	9,829.04	8,432.62	62.51	32.95	37.00	-2,474.50	87.71	1,665.86	1,601.88	63.97	26.040	
12,700.00	9,797.49	9,959.82	8,431.84	64.02	34.63	36.96	-2,605.27	88.79	1,665.19	1,598.90	66.29	25.120	
12,771.56	9,797.12	10,003.39	8,432.12	65.11	35.22	36.97	-2,648.83	88.50	1,664.61	1,597.14	67.47	24.671	
12,800.00	9,796.97	10,026.00	8,432.11	65.54	35.53	36.98	-2,671.45	88.20	1,664.66	1,596.66	68.00	24.479	
12,900.00	9,796.45	10,123.91	8,431.04	67.09	36.89	36.99	-2,769.34	86.86	1,665.67	1,595.58	70.09	23.765	
13,000.00	9,795.93	10,232.88	8,431.47	68.65	38.35	37.07	-2,878.27	84.28	1,666.14	1,593.80	72.34	23.032	
13,017.36	9,795.84	10,249.23	8,431.65	68.93	38.58	37.09	-2,894.62	83.87	1,666.13	1,593.42	72.71	22.913	
13,100.00	9,795.41	10,322.06	8,431.51	70.24	39.67	37.11	-2,967.44	82.87	1,666.38	1,591.96	74.43	22.390	
13,200.00	9,794.89	10,408.74	8,429.57	71.83	40.98	37.07	-3,054.09	83.00	1,667.40	1,590.97	76.43	21.816	
13,300.00	9,794.37	10,491.86	8,427.44	73.45	42.21	37.03	-3,137.19	82.55	1,669.14	1,590.75	78.39	21.293	
13,400.00	9,793.85	10,591.00	8,425.36	75.08	43.65	37.02	-3,236.29	81.46	1,670.82	1,590.26	80.55	20.742	
13,500.00	9,793.34	10,685.00	8,422.74	76.72	45.04	37.01	-3,330.23	79.82	1,673.43	1,590.76	82.67	20.242	
13,600.00	9,792.82	10,811.29	8,419.60	78.37	46.91	36.99	-3,456.46	78.25	1,675.50	1,590.32	85.18	19.669	
13,700.00	9,792.30	10,883.29	8,417.33	80.04	48.00	36.95	-3,528.43	77.87	1,677.64	1,590.61	87.04	19.275	
13,800.00	9,791.78	10,980.38	8,414.59	81.72	49.48	36.96	-3,625.44	75.59	1,680.64	1,591.38	89.26	18.828	
13,900.00	9,791.26	11,063.00	8,413.33	83.41	50.71	37.02	-3,707.98	72.08	1,683.84	1,592.48	91.36	18.431	
14,000.00	9,790.74	11,158.00	8,411.01	85.10	52.19	37.10	-3,802.84	67.60	1,687.96	1,594.30	93.66	18.022	
14,100.00	9,790.22	11,339.29	8,407.60	86.81	54.97	37.16	-3,984.01	62.77	1,690.76	1,593.75	97.01	17.428	
14,160.83	9,789.90	11,393.19	8,408.02	87.85	55.81	37.19	-4,037.90	61.96	1,690.54	1,592.17	98.37	17.185	
14,200.00	9,789.70	11,424.29	8,407.98	88.53	56.30	37.20	-4,069.00	61.54	1,690.64	1,591.45	99.19	17.044	
14,300.00	9,789.18	11,499.26	8,406.90	90.25	57.52	37.20	-4,143.96	60.67	1,691.82	1,590.60	101.23	16.713	
14,400.00	9,788.66	11,607.77	8,403.86	91.98	59.27	37.17	-4,252.41	59.52	1,694.07	1,590.44	103.63	16.347	
14,500.00	9,788.14	11,738.12	8,402.41	93.72	61.32	37.15	-4,382.74	59.13	1,694.42	1,588.12	106.30	15.940	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Offset-Longview Fed 1-21H - Wellbore #1 - Wellbore #1											Offset Site Error: 0.00 usft
Survey Program: 2-MWD											Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	
14,543.80	9,787.92	11,776.29	8,401.62	94.48	61.95	37.11	-4,420.90	59.85	1,694.35	1,587.13	15.802
14,600.00	9,787.62	11,822.00	8,400.16	95.47	62.70	37.04	-4,466.57	61.14	1,694.47	1,586.14	15.642
14,700.00	9,787.11	11,901.35	8,397.23	97.22	63.99	36.94	-4,545.85	62.67	1,695.61	1,585.33	15.376
14,800.00	9,786.59	11,990.13	8,394.47	98.98	65.40	36.90	-4,634.58	62.03	1,697.86	1,585.44	15.104
14,900.00	9,786.07	12,060.38	8,392.35	100.74	66.53	36.90	-4,704.78	60.37	1,701.08	1,586.72	14.875
15,000.00	9,785.55	12,136.18	8,388.14	102.51	67.77	36.87	-4,780.44	58.44	1,706.30	1,589.98	14.669
15,100.00	9,785.03	12,268.92	8,382.84	104.28	69.90	36.91	-4,912.95	52.99	1,711.38	1,592.19	14.358
15,200.00	9,784.51	12,360.74	8,381.05	106.07	71.38	36.98	-5,004.66	48.84	1,715.02	1,593.46	14.109
15,300.00	9,783.99	12,505.65	8,377.46	107.85	73.75	37.02	-5,149.45	44.69	1,718.11	1,593.50	13.788
15,400.00	9,783.47	12,590.04	8,374.99	109.64	75.14	36.99	-5,233.80	43.85	1,720.34	1,593.60	13.574
15,500.00	9,782.95	12,715.49	8,373.03	111.43	77.20	36.98	-5,359.23	42.84	1,721.23	1,591.79	13.298
15,600.00	9,782.43	12,807.58	8,370.84	113.23	78.71	36.95	-5,451.29	42.17	1,722.87	1,591.19	13.084
15,700.00	9,781.91	12,908.59	8,369.14	115.03	80.37	36.93	-5,552.28	41.58	1,723.88	1,589.83	12.860
15,800.00	9,781.39	12,990.02	8,366.38	116.84	81.73	36.88	-5,633.66	41.52	1,725.95	1,589.84	12.681
15,900.00	9,780.88	13,082.49	8,364.24	118.65	83.28	36.90	-5,726.07	39.13	1,728.68	1,590.23	12.486
16,000.00	9,780.36	13,223.75	8,361.29	120.46	85.63	36.93	-5,867.26	35.83	1,731.36	1,589.90	12.239
16,100.00	9,779.84	13,316.17	8,360.79	122.27	87.16	36.94	-5,959.67	34.83	1,731.80	1,588.00	12.043
16,200.00	9,779.32	13,391.24	8,359.01	124.09	88.44	36.92	-6,034.72	34.29	1,733.47	1,587.61	11.885
16,300.00	9,778.80	13,480.27	8,355.56	125.92	89.95	36.87	-6,123.67	33.44	1,736.45	1,588.41	11.730
16,400.00	9,778.28	13,564.10	8,352.96	127.74	91.35	36.87	-6,207.44	31.52	1,739.69	1,589.47	11.581
16,500.00	9,777.76	13,631.64	8,349.74	129.57	92.48	36.86	-6,274.88	29.52	1,744.60	1,592.50	11.470
16,600.00	9,777.24	13,690.00	8,346.20	131.40	93.48	36.84	-6,333.10	27.69	1,751.07	1,597.30	11.388 SF
16,700.00	9,776.72	13,690.00	8,346.20	133.23	93.48	36.84	-6,333.10	27.69	1,762.09	1,607.92	11.430
16,800.00	9,776.20	13,690.00	8,346.20	135.06	93.48	36.84	-6,333.10	27.69	1,778.67	1,624.51	11.538
16,900.00	9,775.68	13,690.00	8,346.20	136.90	93.48	36.84	-6,333.10	27.69	1,800.66	1,646.90	11.711
17,000.00	9,775.16	13,690.00	8,346.20	138.74	93.48	36.84	-6,333.10	27.69	1,827.87	1,674.86	11.946
17,100.00	9,774.65	13,690.00	8,346.20	140.58	93.48	36.84	-6,333.10	27.69	1,860.06	1,708.12	12.242
17,200.00	9,774.13	13,690.00	8,346.20	142.43	93.48	36.84	-6,333.10	27.69	1,896.98	1,746.39	12.597
17,300.00	9,773.61	13,690.00	8,346.20	144.27	93.48	36.84	-6,333.10	27.69	1,938.36	1,789.34	13.007
17,400.00	9,773.09	13,690.00	8,346.20	146.12	93.48	36.84	-6,333.10	27.69	1,983.92	1,836.66	13.472
17,500.00	9,772.57	13,690.00	8,346.20	147.97	93.48	36.84	-6,333.10	27.69	2,033.39	1,888.02	13.988
17,600.00	9,772.05	13,690.00	8,346.20	149.82	93.48	36.84	-6,333.10	27.69	2,086.47	1,943.12	14.554
17,700.00	9,771.53	13,690.00	8,346.20	151.67	93.48	36.84	-6,333.10	27.69	2,142.91	2,001.63	15.167

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 133H - Wellbore #1 - FINAL SURVEYS													Offset Site Error:	0.00 usft
Survey Program:		179-MWD, 498-MWD <th colspan="2">Rule Assigned:</th> <th colspan="4"></th> <th>Offset Well Error:</th> <td>0.50 usft</td>					Rule Assigned:						Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,900.00	9,796.45	12,574.04	10,582.04	67.09	58.61	179.96	-4,751.32	1,080.23	2,115.33	2,023.40	91.92	23.012		
13,000.00	9,795.93	12,573.18	10,582.02	68.65	58.59	179.90	-4,751.32	1,079.37	2,023.08	1,931.48	91.59	22.087		
13,100.00	9,795.41	12,572.31	10,581.99	70.24	58.57	179.84	-4,751.33	1,078.51	1,931.60	1,840.38	91.22	21.174		
13,200.00	9,794.89	12,571.43	10,581.97	71.83	58.55	179.78	-4,751.33	1,077.63	1,841.01	1,750.21	90.80	20.275		
13,300.00	9,794.37	12,570.54	10,581.95	73.45	58.53	179.71	-4,751.34	1,076.74	1,751.44	1,661.12	90.32	19.391		
13,400.00	9,793.85	12,569.64	10,581.93	75.08	58.51	179.65	-4,751.34	1,075.84	1,663.07	1,573.29	89.77	18.525		
13,500.00	9,793.34	12,568.73	10,581.90	76.72	58.49	179.58	-4,751.35	1,074.93	1,576.08	1,486.94	89.14	17.681		
13,600.00	9,792.82	12,567.82	10,581.88	78.37	58.47	179.52	-4,751.35	1,074.01	1,490.72	1,402.32	88.40	16.863		
13,700.00	9,792.30	12,566.88	10,581.86	80.04	58.45	179.45	-4,751.36	1,073.08	1,407.29	1,319.75	87.54	16.075		
13,800.00	9,791.78	12,565.94	10,581.84	81.72	58.43	179.38	-4,751.36	1,072.14	1,326.16	1,239.62	86.54	15.324		
13,900.00	9,791.26	12,564.99	10,581.81	83.41	58.40	179.31	-4,751.37	1,071.19	1,247.76	1,162.41	85.36	14.618		
14,000.00	9,790.74	12,564.03	10,581.79	85.10	58.38	179.25	-4,751.37	1,070.22	1,172.66	1,088.69	83.97	13.965		
14,100.00	9,790.22	12,563.05	10,581.76	86.81	58.36	179.18	-4,751.38	1,069.25	1,101.52	1,019.18	82.34	13.377		
14,200.00	9,789.70	12,562.06	10,581.74	88.53	58.34	179.10	-4,751.39	1,068.26	1,035.17	954.72	80.45	12.868		
14,300.00	9,789.18	12,561.06	10,581.72	90.25	58.31	179.03	-4,751.39	1,067.26	974.57	896.29	78.28	12.450		
14,400.00	9,788.66	12,560.05	10,581.69	91.98	58.29	178.96	-4,751.40	1,066.25	920.87	844.99	75.88	12.136		
14,500.00	9,788.14	12,559.03	10,581.67	93.72	58.27	178.89	-4,751.41	1,065.23	875.33	801.95	73.39	11.928		
14,600.00	9,787.62	12,557.99	10,581.64	95.47	58.24	178.81	-4,751.41	1,064.19	839.29	768.19	71.10	11.804		
14,700.00	9,787.11	12,556.94	10,581.62	97.22	58.22	178.74	-4,751.42	1,063.14	814.02	744.49	69.53	11.708		
14,800.00	9,786.59	12,555.88	10,581.59	98.98	58.20	178.66	-4,751.43	1,062.08	800.51	731.31	69.20	11.567		
14,859.00	9,786.28	12,555.25	10,581.57	100.02	58.18	178.62	-4,751.43	1,061.45	798.34	728.61	69.73	11.449	CC, ES	
14,900.00	9,786.07	12,554.80	10,581.56	100.74	58.17	178.58	-4,751.43	1,061.01	799.39	729.00	70.39	11.357		
15,000.00	9,785.55	12,553.72	10,581.54	102.51	58.15	178.51	-4,751.44	1,059.92	810.69	737.92	72.78	11.140		
15,100.00	9,785.03	12,552.00	10,581.50	104.28	58.11	178.38	-4,751.45	1,058.20	833.92	758.15	75.77	11.006		
15,200.00	9,784.51	12,552.00	10,581.50	106.07	58.11	178.38	-4,751.45	1,058.20	868.11	789.23	78.88	11.005	SF	
15,300.00	9,783.99	12,552.00	10,581.50	107.85	58.11	178.38	-4,751.45	1,058.20	912.03	830.25	81.79	11.151		
15,400.00	9,783.47	12,552.00	10,581.50	109.64	58.11	178.38	-4,751.45	1,058.20	964.36	880.03	84.34	11.435		
15,500.00	9,782.95	12,552.00	10,581.50	111.43	58.11	178.38	-4,751.45	1,058.20	1,023.81	937.31	86.50	11.836		
15,600.00	9,782.43	12,552.00	10,581.50	113.23	58.11	178.38	-4,751.45	1,058.20	1,089.21	1,000.90	88.31	12.334		
15,700.00	9,781.91	12,552.00	10,581.50	115.03	58.11	178.38	-4,751.45	1,058.20	1,159.56	1,069.76	89.80	12.913		
15,800.00	9,781.39	12,552.00	10,581.50	116.84	58.11	178.38	-4,751.45	1,058.20	1,234.01	1,142.98	91.03	13.556		
15,900.00	9,780.88	12,552.00	10,581.50	118.65	58.11	178.38	-4,751.45	1,058.20	1,311.85	1,219.81	92.04	14.253		
16,000.00	9,780.36	12,552.00	10,581.50	120.46	58.11	178.38	-4,751.45	1,058.20	1,392.54	1,299.65	92.88	14.992		
16,100.00	9,779.84	12,552.00	10,581.50	122.27	58.11	178.38	-4,751.45	1,058.20	1,475.58	1,382.00	93.59	15.767		
16,200.00	9,779.32	12,552.00	10,581.50	124.09	58.11	178.38	-4,751.45	1,058.20	1,560.62	1,466.45	94.18	16.571		
16,300.00	9,778.80	12,552.00	10,581.50	125.92	58.11	178.38	-4,751.45	1,058.20	1,647.34	1,552.66	94.68	17.400		
16,400.00	9,778.28	12,552.00	10,581.50	127.74	58.11	178.38	-4,751.45	1,058.20	1,735.49	1,640.38	95.11	18.248		
16,500.00	9,777.76	12,540.45	10,581.23	129.57	57.84	177.55	-4,751.53	1,046.66	1,824.81	1,729.89	94.92	19.225		
16,600.00	9,777.24	12,539.67	10,581.22	131.40	57.82	177.50	-4,751.53	1,045.88	1,915.23	1,820.03	95.21	20.117		
16,700.00	9,776.72	12,538.90	10,581.20	133.23	57.81	177.44	-4,751.54	1,045.11	2,006.56	1,911.10	95.45	21.021		
16,800.00	9,776.20	12,538.14	10,581.18	135.06	57.79	177.39	-4,751.54	1,044.34	2,098.68	2,003.00	95.67	21.936		
16,900.00	9,775.68	12,537.38	10,581.17	136.90	57.77	177.33	-4,751.55	1,043.59	2,191.48	2,095.62	95.86	22.860		

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 213H - Wellbore #1 - FINAL SURVEYS													Offset Site Error:	0.00 usft	
Survey Program:		179-MWD, 509-MWD		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
11,000.00	9,806.32	12,386.01	10,579.13	43.42	56.18	-175.10	-2,862.09	1,156.02	2,121.02	2,029.21	91.82	23.101			
11,100.00	9,805.80	12,382.87	10,579.22	44.19	56.11	-175.33	-2,862.15	1,152.89	2,028.51	1,937.21	91.30	22.218			
11,200.00	9,805.28	12,380.48	10,579.29	45.04	56.04	-175.50	-2,862.19	1,150.50	1,936.74	1,846.00	90.74	21.343			
11,300.00	9,804.76	12,378.01	10,579.36	45.97	55.98	-175.68	-2,862.24	1,148.03	1,845.83	1,755.72	90.11	20.484			
11,400.00	9,804.24	12,375.44	10,579.43	46.96	55.92	-175.87	-2,862.28	1,145.46	1,755.90	1,666.50	89.40	19.641			
11,500.00	9,803.72	12,372.77	10,579.49	48.02	55.85	-176.06	-2,862.34	1,142.79	1,667.11	1,578.53	88.58	18.820			
11,600.00	9,803.20	12,370.00	10,579.56	49.13	55.78	-176.26	-2,862.39	1,140.02	1,579.66	1,492.02	87.64	18.024			
11,700.00	9,802.68	12,367.12	10,579.63	50.29	55.71	-176.47	-2,862.45	1,137.14	1,493.78	1,407.22	86.56	17.258			
11,800.00	9,802.16	12,364.12	10,579.69	51.50	55.63	-176.69	-2,862.51	1,134.14	1,409.76	1,324.46	85.30	16.527			
11,900.00	9,801.64	12,360.99	10,579.75	52.76	55.55	-176.92	-2,862.58	1,131.02	1,327.95	1,244.12	83.83	15.841			
12,000.00	9,801.12	12,357.74	10,579.81	54.05	55.47	-177.16	-2,862.65	1,127.77	1,248.79	1,166.68	82.10	15.210			
12,100.00	9,800.60	12,354.34	10,579.87	55.38	55.38	-177.40	-2,862.72	1,124.37	1,172.80	1,092.72	80.08	14.646			
12,200.00	9,800.09	12,350.79	10,579.92	56.75	55.29	-177.66	-2,862.80	1,120.82	1,100.65	1,022.95	77.70	14.165			
12,300.00	9,799.57	12,347.09	10,579.97	58.15	55.20	-177.93	-2,862.89	1,117.12	1,033.15	958.22	74.92	13.789			
12,400.00	9,799.05	12,343.21	10,580.01	59.58	55.10	-178.21	-2,862.98	1,113.24	971.25	899.53	71.72	13.543			
12,500.00	9,798.53	12,339.14	10,580.05	61.03	55.00	-178.51	-2,863.08	1,109.18	916.10	848.00	68.09	13.453 SF			
12,600.00	9,798.01	12,334.88	10,580.08	62.51	54.89	-178.82	-2,863.19	1,104.92	868.98	804.81	64.16	13.543			
12,700.00	9,797.49	12,330.41	10,580.10	64.02	54.78	-179.15	-2,863.31	1,100.45	831.25	771.07	60.19	13.811			
12,800.00	9,796.97	12,325.71	10,580.12	65.54	54.66	-179.49	-2,863.43	1,095.75	804.25	747.59	56.66	14.194			
12,900.00	9,796.45	12,320.77	10,580.12	67.09	54.53	-179.85	-2,863.57	1,090.81	789.06	734.74	54.32	14.526			
12,971.19	9,796.08	12,317.09	10,580.12	68.20	54.44	179.88	-2,863.67	1,087.13	785.85	732.05	53.80	14.607 CC, ES			
13,000.00	9,795.93	12,315.56	10,580.11	68.65	54.40	179.77	-2,863.72	1,085.60	786.38	732.48	53.90	14.591			
13,100.00	9,795.41	12,310.06	10,580.09	70.24	54.26	179.37	-2,863.88	1,080.10	796.32	740.78	55.54	14.339			
13,200.00	9,794.89	12,304.25	10,580.05	71.83	54.12	178.95	-2,864.05	1,074.30	818.42	759.77	58.66	13.953			
13,300.00	9,794.37	12,298.10	10,579.99	73.45	53.96	178.50	-2,864.25	1,068.15	851.75	789.30	62.44	13.640			
13,400.00	9,793.85	12,291.58	10,579.91	75.08	53.79	178.03	-2,864.45	1,061.64	895.03	828.75	66.28	13.504			
13,500.00	9,793.34	12,286.35	10,579.82	76.72	53.66	177.64	-2,864.63	1,056.41	946.91	877.06	69.85	13.557			
13,600.00	9,792.82	12,282.04	10,579.75	78.37	53.55	177.33	-2,864.77	1,052.10	1,006.07	933.05	73.02	13.778			
13,700.00	9,792.30	12,277.70	10,579.68	80.04	53.45	177.02	-2,864.92	1,047.77	1,071.29	995.56	75.73	14.145			
13,800.00	9,791.78	12,273.33	10,579.60	81.72	53.34	176.70	-2,865.06	1,043.40	1,141.55	1,063.53	78.02	14.631			
13,900.00	9,791.26	12,268.93	10,579.52	83.41	53.23	176.38	-2,865.21	1,039.00	1,215.96	1,136.04	79.93	15.214			
14,000.00	9,790.74	12,264.50	10,579.44	85.10	53.11	176.06	-2,865.36	1,034.57	1,293.82	1,212.31	81.51	15.873			
14,100.00	9,790.22	12,260.03	10,579.35	86.81	53.00	175.73	-2,865.51	1,030.11	1,374.53	1,291.71	82.82	16.597			
14,200.00	9,789.70	12,255.53	10,579.26	88.53	52.89	175.40	-2,865.67	1,025.61	1,457.62	1,373.71	83.90	17.372			
14,300.00	9,789.18	12,250.99	10,579.17	90.25	52.78	175.07	-2,865.82	1,021.08	1,542.71	1,457.90	84.80	18.191			
14,400.00	9,788.66	12,246.42	10,579.07	91.98	52.66	174.74	-2,865.98	1,016.51	1,629.48	1,543.93	85.55	19.047			
14,500.00	9,788.14	12,241.82	10,578.97	93.72	52.55	174.41	-2,866.14	1,011.91	1,717.68	1,631.51	86.17	19.933			
14,600.00	9,787.62	12,237.18	10,578.87	95.47	52.43	174.07	-2,866.30	1,007.28	1,807.10	1,720.41	86.69	20.845			
14,700.00	9,787.11	12,232.51	10,578.76	97.22	52.31	173.74	-2,866.46	1,002.61	1,897.57	1,810.44	87.12	21.780			
14,800.00	9,786.59	12,227.80	10,578.65	98.98	52.19	173.40	-2,866.63	997.90	1,988.94	1,901.46	87.48	22.735			
14,900.00	9,786.07	12,223.05	10,578.53	100.74	52.07	173.05	-2,866.79	993.16	2,081.09	1,993.31	87.78	23.708			
15,000.00	9,785.55	12,218.27	10,578.41	102.51	51.95	172.71	-2,866.96	988.39	2,173.93	2,085.91	88.03	24.696			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 223H - Wellbore #1 - FINAL SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 129-MWD, 416-MWD												Offset Well Error:	0.50 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,000.00	9,801.12	12,272.72	10,585.56	54.05	51.86	169.52	-3,862.69	937.10	2,130.94	2,041.93	89.00	23.942	
12,100.00	9,800.60	12,277.52	10,585.74	55.38	51.98	169.86	-3,863.00	941.88	2,038.80	1,949.94	88.86	22.945	
12,200.00	9,800.09	12,282.45	10,585.92	56.75	52.10	170.20	-3,863.32	946.79	1,947.42	1,858.76	88.66	21.965	
12,300.00	9,799.57	12,287.51	10,586.10	58.15	52.23	170.56	-3,863.65	951.84	1,856.92	1,768.51	88.41	21.003	
12,400.00	9,799.05	12,292.70	10,586.28	59.58	52.36	170.92	-3,864.00	957.02	1,767.42	1,679.33	88.10	20.062	
12,500.00	9,798.53	12,298.04	10,586.47	61.03	52.49	171.30	-3,864.36	962.34	1,679.09	1,591.39	87.70	19.146	
12,600.00	9,798.01	12,303.53	10,586.66	62.51	52.63	171.68	-3,864.73	967.81	1,592.12	1,504.92	87.20	18.258	
12,700.00	9,797.49	12,309.17	10,586.86	64.02	52.77	172.08	-3,865.12	973.44	1,506.74	1,420.16	86.58	17.403	
12,800.00	9,796.97	12,314.98	10,587.05	65.54	52.91	172.49	-3,865.53	979.23	1,423.24	1,337.43	85.81	16.585	
12,900.00	9,796.45	12,320.95	10,587.25	67.09	53.06	172.91	-3,865.96	985.18	1,341.97	1,257.11	84.86	15.814	
13,000.00	9,795.93	12,327.10	10,587.45	68.65	53.21	173.35	-3,866.40	991.31	1,263.36	1,179.67	83.69	15.096	
13,100.00	9,795.41	12,333.44	10,587.66	70.24	53.37	173.80	-3,866.87	997.63	1,187.94	1,105.68	82.25	14.443	
13,200.00	9,794.89	12,339.96	10,587.87	71.83	53.54	174.26	-3,867.35	1,004.13	1,116.34	1,035.84	80.50	13.868	
13,300.00	9,794.37	12,346.70	10,588.08	73.45	53.70	174.74	-3,867.86	1,010.84	1,049.35	970.97	78.38	13.388	
13,400.00	9,793.85	12,355.00	10,588.33	75.08	53.91	175.33	-3,868.49	1,019.12	987.90	912.05	75.85	13.024	
13,500.00	9,793.34	12,360.82	10,588.51	76.72	54.06	175.74	-3,868.94	1,024.91	933.10	860.12	72.98	12.785	
13,600.00	9,792.82	12,367.90	10,588.73	78.37	54.23	176.25	-3,869.48	1,031.97	886.17	816.36	69.81	12.694	
13,700.00	9,792.30	12,374.85	10,588.95	80.04	54.41	176.74	-3,870.01	1,038.90	848.42	781.81	66.61	12.737	
13,800.00	9,791.78	12,381.67	10,589.17	81.72	54.58	177.23	-3,870.52	1,045.70	821.12	757.27	63.85	12.860	
13,900.00	9,791.26	12,388.37	10,589.39	83.41	54.75	177.71	-3,871.02	1,052.37	805.33	743.14	62.19	12.949	
13,978.96	9,790.85	12,393.57	10,589.56	84.75	54.88	178.08	-3,871.40	1,057.56	801.47	739.41	62.06	12.914 CC, ES	
14,000.00	9,790.74	12,394.94	10,589.60	85.10	54.91	178.17	-3,871.50	1,058.93	801.75	739.53	62.22	12.886	
14,100.00	9,790.22	12,401.40	10,589.82	86.81	55.08	178.63	-3,871.97	1,065.36	810.52	746.55	63.96	12.671	
14,200.00	9,789.70	12,407.74	10,590.03	88.53	55.24	179.09	-3,872.43	1,071.69	831.26	764.33	66.93	12.420	
14,300.00	9,789.18	12,413.98	10,590.25	90.25	55.39	179.53	-3,872.88	1,077.90	863.11	792.66	70.46	12.250	
14,400.00	9,788.66	12,420.10	10,590.46	91.98	55.55	179.97	-3,873.32	1,084.00	904.91	830.84	74.07	12.217 SF	
14,500.00	9,788.14	12,426.12	10,590.67	93.72	55.70	-179.60	-3,873.74	1,090.00	955.33	877.86	77.47	12.331	
14,600.00	9,787.62	12,432.03	10,590.88	95.47	55.85	-179.18	-3,874.16	1,095.90	1,013.11	932.57	80.54	12.578	
14,700.00	9,787.11	12,437.84	10,591.09	97.22	55.99	-178.77	-3,874.56	1,101.69	1,077.05	993.81	83.24	12.939	
14,800.00	9,786.59	12,443.56	10,591.30	98.98	56.14	-178.36	-3,874.96	1,107.39	1,146.13	1,060.56	85.58	13.393	
14,900.00	9,786.07	12,450.00	10,591.54	100.74	56.30	-177.91	-3,875.40	1,113.81	1,219.48	1,131.85	87.63	13.917	
15,000.00	9,785.55	12,457.14	10,591.80	102.51	56.48	-177.40	-3,875.88	1,120.93	1,296.36	1,206.92	89.43	14.495	
15,100.00	9,785.03	12,465.63	10,592.09	104.28	56.70	-176.80	-3,876.47	1,129.39	1,376.17	1,285.10	91.08	15.110	
15,200.00	9,784.51	12,474.22	10,592.37	106.07	56.91	-176.19	-3,877.06	1,137.97	1,458.44	1,365.91	92.54	15.761	
15,300.00	9,783.99	12,482.94	10,592.64	107.85	57.13	-175.58	-3,877.67	1,146.65	1,542.77	1,448.93	93.84	16.440	
15,400.00	9,783.47	12,491.77	10,592.89	109.64	57.36	-174.95	-3,878.29	1,155.46	1,628.84	1,533.82	95.02	17.142	
15,500.00	9,782.95	12,500.72	10,593.12	111.43	57.59	-174.33	-3,878.92	1,164.38	1,716.38	1,620.29	96.10	17.861	
15,600.00	9,782.43	12,509.79	10,593.34	113.23	57.82	-173.69	-3,879.56	1,173.43	1,805.19	1,708.11	97.08	18.594	
15,700.00	9,781.91	12,518.98	10,593.54	115.03	58.05	-173.05	-3,880.21	1,182.60	1,895.08	1,797.08	98.00	19.337	
15,800.00	9,781.39	12,528.30	10,593.73	116.84	58.29	-172.40	-3,880.88	1,191.89	1,985.91	1,887.05	98.86	20.088	
15,900.00	9,780.88	12,537.76	10,593.89	118.65	58.52	-171.74	-3,881.56	1,201.32	2,077.54	1,977.88	99.67	20.845	
16,000.00	9,780.36	12,547.81	10,594.05	120.46	58.78	-171.05	-3,882.30	1,211.35	2,169.89	2,069.43	100.46	21.599	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 233H - Wellbore #1 - FINAL SURVEYS													Offset Site Error:	0.00 usft
Survey Program:		137-MWD		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,600.00	9,444.97	12,522.97	10,633.49	40.46	55.98	1.50	-1,474.74	1,061.18	2,185.64	2,101.10	84.54	25.853		
9,700.00	9,534.53	12,522.59	10,633.50	40.57	55.97	2.02	-1,474.72	1,060.80	2,100.42	2,014.83	85.59	24.539		
9,800.00	9,615.04	12,522.81	10,633.49	40.62	55.98	3.06	-1,474.73	1,061.02	2,008.27	1,921.88	86.40	23.245		
9,900.00	9,684.07	12,523.64	10,633.47	40.63	56.00	6.33	-1,474.76	1,061.85	1,911.19	1,824.26	86.93	21.986		
10,000.00	9,739.51	12,525.06	10,633.45	40.60	56.03	132.19	-1,474.81	1,063.27	1,811.57	1,724.41	87.17	20.783		
10,100.00	9,779.69	12,527.02	10,633.41	40.57	56.08	174.97	-1,474.88	1,065.23	1,712.27	1,625.20	87.08	19.664		
10,200.00	9,803.38	12,529.47	10,633.36	40.56	56.14	177.48	-1,474.96	1,067.67	1,616.64	1,530.04	86.60	18.667		
10,300.00	9,809.95	12,532.30	10,633.31	40.60	56.21	178.34	-1,475.06	1,070.51	1,528.48	1,442.79	85.68	17.839		
10,400.00	9,809.43	12,535.27	10,633.25	40.72	56.28	178.54	-1,475.17	1,073.47	1,445.60	1,361.15	84.45	17.118		
10,500.00	9,808.91	12,538.23	10,633.19	40.93	56.35	178.75	-1,475.27	1,076.43	1,365.01	1,282.04	82.96	16.453		
10,600.00	9,808.39	12,541.17	10,633.14	41.23	56.42	178.95	-1,475.38	1,079.37	1,287.14	1,205.95	81.18	15.855		
10,700.00	9,807.87	12,544.11	10,633.09	41.63	56.49	179.15	-1,475.48	1,082.31	1,212.51	1,133.46	79.05	15.339		
10,800.00	9,807.35	12,547.04	10,633.03	42.13	56.56	179.35	-1,475.58	1,085.24	1,141.76	1,065.26	76.50	14.926		
10,900.00	9,806.83	12,549.96	10,632.98	42.73	56.63	179.56	-1,475.68	1,088.15	1,075.65	1,002.19	73.47	14.641		
11,000.00	9,806.32	12,552.87	10,632.93	43.42	56.70	179.76	-1,475.79	1,091.06	1,015.10	945.18	69.92	14.517	SF	
11,100.00	9,805.80	12,555.77	10,632.88	44.19	56.77	179.96	-1,475.89	1,093.96	961.15	895.29	65.87	14.592		
11,200.00	9,805.28	12,558.66	10,632.83	45.04	56.84	-179.84	-1,475.99	1,096.85	914.98	853.58	61.39	14.904		
11,300.00	9,804.76	12,561.55	10,632.78	45.97	56.91	-179.65	-1,476.09	1,099.73	877.80	821.06	56.73	15.472		
11,400.00	9,804.24	12,564.42	10,632.73	46.96	56.98	-179.45	-1,476.19	1,102.60	850.80	798.45	52.34	16.254		
11,500.00	9,803.72	12,567.28	10,632.69	48.02	57.05	-179.25	-1,476.29	1,105.46	834.97	786.08	48.89	17.079		
11,583.55	9,803.29	12,569.67	10,632.65	48.94	57.10	-179.09	-1,476.37	1,107.84	830.78	783.50	47.28	17.573	CC, ES	
11,600.00	9,803.20	12,570.14	10,632.64	49.13	57.11	-179.05	-1,476.39	1,108.31	830.94	783.81	47.13	17.631		
11,700.00	9,802.68	12,572.98	10,632.59	50.29	57.18	-178.86	-1,476.48	1,111.16	838.89	791.34	47.55	17.641		
11,800.00	9,802.16	12,575.82	10,632.55	51.50	57.25	-178.66	-1,476.58	1,113.99	858.49	808.48	50.01	17.168		
11,900.00	9,801.64	12,578.65	10,632.51	52.76	57.32	-178.47	-1,476.68	1,116.82	888.96	835.15	53.80	16.522		
12,000.00	9,801.12	12,583.00	10,632.44	54.05	57.42	-178.17	-1,476.83	1,121.17	929.23	871.03	58.20	15.966		
12,100.00	9,800.60	12,583.00	10,632.44	55.38	57.42	-178.17	-1,476.83	1,121.17	978.10	915.50	62.60	15.625		
12,200.00	9,800.09	12,583.00	10,632.44	56.75	57.42	-178.17	-1,476.83	1,121.17	1,034.35	967.64	66.71	15.505		
12,300.00	9,799.57	12,589.75	10,632.34	58.15	57.59	-177.70	-1,477.06	1,127.91	1,096.83	1,026.33	70.50	15.558		
12,400.00	9,799.05	12,592.48	10,632.30	59.58	57.65	-177.51	-1,477.15	1,130.64	1,164.56	1,090.77	73.79	15.783		
12,500.00	9,798.53	12,595.21	10,632.26	61.03	57.72	-177.33	-1,477.25	1,133.37	1,236.67	1,160.02	76.64	16.135		
12,600.00	9,798.01	12,597.93	10,632.23	62.51	57.78	-177.14	-1,477.34	1,136.08	1,312.43	1,233.32	79.11	16.589		
12,700.00	9,797.49	12,600.64	10,632.19	64.02	57.85	-176.95	-1,477.43	1,138.79	1,391.25	1,310.01	81.24	17.124		
12,800.00	9,796.97	12,603.34	10,632.16	65.54	57.91	-176.77	-1,477.52	1,141.49	1,472.64	1,389.56	83.09	17.724		
12,900.00	9,796.45	12,606.03	10,632.12	67.09	57.98	-176.58	-1,477.62	1,144.18	1,556.20	1,471.51	84.68	18.376		
13,000.00	9,795.93	12,608.72	10,632.09	68.65	58.05	-176.40	-1,477.71	1,146.86	1,641.59	1,555.51	86.08	19.071		
13,100.00	9,795.41	12,611.39	10,632.06	70.24	58.11	-176.21	-1,477.80	1,149.54	1,728.54	1,641.24	87.30	19.800		
13,200.00	9,794.89	12,614.06	10,632.02	71.83	58.17	-176.03	-1,477.89	1,152.21	1,816.84	1,728.46	88.38	20.558		
13,300.00	9,794.37	12,616.72	10,631.99	73.45	58.24	-175.85	-1,477.98	1,154.86	1,906.28	1,816.95	89.33	21.340		
13,400.00	9,793.85	12,619.37	10,631.96	75.08	58.30	-175.66	-1,478.07	1,157.51	1,996.72	1,906.54	90.18	22.141		
13,500.00	9,793.34	12,622.02	10,631.93	76.72	58.37	-175.48	-1,478.16	1,160.16	2,088.03	1,997.09	90.95	22.959		
13,600.00	9,792.82	12,624.65	10,631.91	78.37	58.43	-175.30	-1,478.25	1,162.79	2,180.10	2,088.47	91.64	23.791		

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - Rana Salada Fed Com 0106 236H - Wellbore #1 - FINAL SURVEYS												Offset Site Error:	0.00 usft
Survey Program: 260-MWD												Offset Well Error:	0.50 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,700.00	8,549.83	12,678.20	10,610.42	38.04	63.79	-177.88	-211.41	1,080.02	2,149.49	2,098.87	50.61	42.468	
8,800.00	8,649.83	12,679.10	10,610.43	38.32	63.81	-177.97	-211.41	1,080.92	2,053.78	2,002.24	51.55	39.844	
8,900.00	8,749.83	12,680.01	10,610.43	38.60	63.82	-178.05	-211.42	1,081.83	1,958.50	1,905.95	52.56	37.265	
9,000.00	8,849.83	12,680.92	10,610.44	38.89	63.84	-178.14	-211.42	1,082.74	1,863.72	1,810.06	53.66	34.733	
9,100.00	8,949.83	12,681.84	10,610.45	39.18	63.86	-178.23	-211.43	1,083.66	1,769.51	1,714.65	54.87	32.251	
9,200.00	9,049.83	12,682.77	10,610.46	39.47	63.88	-178.31	-211.44	1,084.59	1,675.97	1,619.78	56.20	29.823	
9,300.00	9,149.83	12,683.70	10,610.47	39.76	63.89	-178.40	-211.44	1,085.52	1,583.23	1,525.56	57.67	27.454	
9,400.00	9,249.83	12,684.64	10,610.48	40.05	63.91	1.34	-211.45	1,086.46	1,491.36	1,432.05	59.30	25.149	
9,500.00	9,349.10	12,685.60	10,610.48	40.28	63.93	2.11	-211.45	1,087.42	1,396.61	1,335.88	60.73	22.998	
9,600.00	9,444.97	12,686.57	10,610.49	40.46	63.95	6.13	-211.46	1,088.39	1,298.08	1,236.48	61.60	21.072	
9,700.00	9,534.53	12,687.49	10,610.50	40.57	63.96	174.47	-211.47	1,089.31	1,198.21	1,136.44	61.78	19.396	
9,800.00	9,615.04	12,688.35	10,610.51	40.62	63.98	178.17	-211.47	1,090.17	1,100.08	1,039.01	61.08	18.011	
9,900.00	9,684.07	12,689.10	10,610.52	40.63	63.99	178.92	-211.47	1,090.92	1,007.62	948.28	59.33	16.983	
10,000.00	9,739.51	12,689.73	10,610.52	40.60	64.00	179.22	-211.48	1,091.55	925.71	869.29	56.43	16.406	
10,100.00	9,779.69	12,690.22	10,610.53	40.57	64.01	179.37	-211.48	1,092.04	860.21	807.70	52.51	16.382	
10,200.00	9,803.38	12,690.55	10,610.53	40.56	64.02	179.44	-211.48	1,092.36	817.25	768.99	48.25	16.937	
10,300.00	9,809.95	12,690.71	10,610.53	40.60	64.02	179.47	-211.48	1,092.53	801.75	756.80	44.95	17.837 ES	
10,318.88	9,809.85	12,690.73	10,610.53	40.61	64.02	179.47	-211.48	1,092.55	801.52	756.98	44.55	17.993 CC	
10,400.00	9,809.43	12,690.81	10,610.53	40.72	64.02	179.48	-211.48	1,092.63	805.62	761.82	43.80	18.394	
10,500.00	9,808.91	12,690.91	10,610.53	40.93	64.03	179.48	-211.48	1,092.73	821.73	776.64	45.09	18.223	
10,600.00	9,808.39	12,691.01	10,610.53	41.23	64.03	179.49	-211.48	1,092.83	849.39	801.06	48.33	17.575	
10,700.00	9,807.87	12,691.10	10,610.53	41.63	64.03	179.50	-211.49	1,092.92	887.52	834.88	52.64	16.861	
10,800.00	9,807.35	12,691.19	10,610.54	42.13	64.03	179.50	-211.49	1,093.01	934.84	877.58	57.25	16.328	
10,900.00	9,806.83	12,691.27	10,610.54	42.73	64.03	179.51	-211.49	1,093.09	990.02	928.32	61.70	16.045	
11,000.00	9,806.32	12,691.36	10,610.54	43.42	64.03	179.52	-211.49	1,093.18	1,051.84	986.09	65.75	15.998 SF	
11,100.00	9,805.80	12,691.44	10,610.54	44.19	64.04	179.52	-211.49	1,093.26	1,119.19	1,049.88	69.31	16.147	
11,200.00	9,805.28	12,691.52	10,610.54	45.04	64.04	179.53	-211.49	1,093.34	1,191.14	1,118.74	72.40	16.451	
11,300.00	9,804.76	12,691.60	10,610.54	45.97	64.04	179.53	-211.49	1,093.42	1,266.90	1,191.84	75.06	16.879	
11,400.00	9,804.24	12,691.68	10,610.54	46.96	64.04	179.54	-211.49	1,093.50	1,345.83	1,268.50	77.33	17.404	
11,500.00	9,803.72	12,691.75	10,610.54	48.02	64.04	179.54	-211.49	1,093.57	1,427.40	1,348.13	79.28	18.006	
11,600.00	9,803.20	12,691.83	10,610.54	49.13	64.04	179.55	-211.49	1,093.65	1,511.19	1,430.25	80.95	18.669	
11,700.00	9,802.68	12,691.90	10,610.54	50.29	64.04	179.55	-211.49	1,093.72	1,596.85	1,514.46	82.39	19.382	
11,800.00	9,802.16	12,691.97	10,610.54	51.50	64.04	179.56	-211.49	1,093.79	1,684.09	1,600.45	83.64	20.136	
11,900.00	9,801.64	12,692.04	10,610.54	52.76	64.05	179.56	-211.49	1,093.86	1,772.68	1,687.95	84.72	20.924	
12,000.00	9,801.12	12,702.00	10,610.64	54.05	64.23	-179.72	-211.53	1,103.82	1,862.45	1,776.63	85.82	21.702	
12,100.00	9,800.60	12,702.00	10,610.64	55.38	64.23	-179.72	-211.53	1,103.82	1,953.19	1,866.52	86.67	22.537	
12,200.00	9,800.09	12,702.00	10,610.64	56.75	64.23	-179.72	-211.53	1,103.82	2,044.79	1,957.38	87.41	23.393	
12,300.00	9,799.57	12,702.00	10,610.64	58.15	64.23	-179.72	-211.53	1,103.82	2,137.15	2,049.07	88.07	24.265	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.50 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 (usft)		
0.00	0.00	0.00	0.00	0.50	0.50	-90.69	-0.24	-20.00	20.00	18.83	1.18	17.003	
100.00	100.00	100.00	100.00	0.52	0.66	-90.69	-0.24	-20.00	20.00	17.95	2.05	9.753	
200.00	200.00	200.00	200.00	0.70	1.35	-90.69	-0.24	-20.00	20.00	17.20	2.80	7.132	
300.00	300.00	300.00	300.00	0.99	1.82	-90.69	-0.24	-20.00	20.00	16.50	3.50	5.715	
400.00	400.00	400.00	400.00	1.31	2.19	-90.69	-0.24	-20.00	20.00	15.84	4.16	4.811	
500.00	500.00	500.00	500.00	1.65	2.51	-90.69	-0.24	-20.00	20.00	15.21	4.79	4.177	
600.00	600.00	600.00	600.00	1.99	2.80	-90.69	-0.24	-20.00	20.00	14.60	5.40	3.704	
700.00	700.00	700.00	700.00	2.34	3.06	-90.69	-0.24	-20.00	20.00	14.01	5.99	3.337	
800.00	800.00	800.00	800.00	2.69	3.30	-90.69	-0.24	-20.00	20.00	13.43	6.58	3.042	
900.00	900.00	900.00	900.00	3.04	3.53	-90.69	-0.24	-20.00	20.00	12.85	7.15	2.799	
1,000.00	1,000.00	1,000.00	1,000.00	3.40	3.75	-90.69	-0.24	-20.00	20.00	12.29	7.71	2.595	
1,100.00	1,100.00	1,100.00	1,100.00	3.75	3.96	-90.69	-0.24	-20.00	20.00	11.74	8.26	2.421	
1,200.00	1,200.00	1,200.00	1,200.00	4.11	4.15	-90.69	-0.24	-20.00	20.00	11.19	8.81	2.271	
1,300.00	1,300.00	1,300.00	1,300.00	4.46	4.34	-90.69	-0.24	-20.00	20.00	10.65	9.35	2.140	
1,400.00	1,400.00	1,400.00	1,400.00	4.82	4.53	-90.69	-0.24	-20.00	20.00	10.12	9.88	2.024 CC	
1,500.00	1,500.00	1,500.00	1,500.00	5.18	4.70	-90.69	-0.24	-20.00	20.00	9.84	10.47	1.940 Collision Risk Procedures Req., ES	
1,600.00	1,599.98	1,600.54	1,600.52	5.53	5.04	-159.32	0.90	-18.65	20.31	10.10	11.21	1.901 Collision Risk Procedures Req., SF	
1,700.00	1,699.84	1,701.05	1,700.88	5.88	5.68	-154.95	4.32	-14.62	21.30	11.38	11.82	1.963 Collision Risk Procedures Req.	
1,800.00	1,799.45	1,801.52	1,800.96	6.23	6.28	-148.56	10.01	-7.91	23.20	11.82	12.22	2.154	
1,900.00	1,898.70	1,901.79	1,900.49	6.59	6.60	-141.54	17.87	1.37	26.31	14.09	12.68	2.511	
2,000.00	1,997.47	2,001.62	1,999.46	6.97	6.80	-138.85	26.31	11.33	31.85	19.17	13.27	3.020	
2,100.00	2,095.62	2,101.27	2,098.26	7.36	7.03	-140.31	34.74	21.27	40.06	26.80	13.91	3.671	
2,200.00	2,193.06	2,200.62	2,196.75	7.78	7.28	-143.67	43.13	31.18	51.06	37.15	14.58	4.456	
2,300.00	2,289.67	2,299.57	2,294.85	8.23	7.54	-147.49	51.50	41.05	64.98	50.40	15.25	5.243	
2,400.00	2,386.02	2,398.37	2,392.80	8.71	7.82	-150.40	59.85	50.91	79.97	64.72	15.92	5.974	
2,500.00	2,482.37	2,497.17	2,490.76	9.21	8.10	-152.39	68.21	60.77	95.10	79.18	16.58	6.651	
2,600.00	2,578.73	2,595.98	2,588.71	9.72	8.40	-153.83	76.56	70.63	110.31	93.73	17.25	7.278	
2,700.00	2,675.08	2,694.78	2,686.67	10.24	8.71	-154.92	84.91	80.48	125.57	108.32	17.93	7.857	
2,800.00	2,771.43	2,793.58	2,784.63	10.78	9.03	-155.78	93.27	90.34	140.87	122.94	18.61	8.393	
2,900.00	2,867.78	2,892.39	2,882.58	11.33	9.36	-156.46	101.62	100.20	156.19	137.58	19.30	8.889	
3,000.00	2,964.13	2,991.19	2,980.54	11.88	9.70	-157.03	109.97	110.05	171.53	152.23	19.99	9.349	
3,100.00	3,060.49	3,089.99	3,078.49	12.44	10.04	-157.50	118.33	119.91	186.89	166.90	20.69	9.776	
3,200.00	3,156.84	3,188.80	3,176.45	13.01	10.38	-157.90	126.68	129.77	202.25	181.56	21.39	10.174	
3,300.00	3,253.19	3,287.60	3,274.40	13.59	10.74	-158.24	135.03	139.62	217.62	196.23	22.10	10.544	
3,400.00	3,349.54	3,386.40	3,372.36	14.17	11.09	-158.54	143.39	149.48	233.00	210.90	22.81	10.890	
3,500.00	3,445.89	3,485.21	3,470.31	14.75	11.46	-158.80	151.74	159.34	248.38	225.58	23.52	11.213	
3,600.00	3,542.25	3,584.01	3,568.27	15.34	11.82	-159.03	160.09	169.20	263.77	240.25	24.24	11.515	
3,700.00	3,638.60	3,682.82	3,666.22	15.93	12.19	-159.24	168.45	179.05	279.16	254.92	24.97	11.799	
3,800.00	3,734.95	3,781.62	3,764.18	16.52	12.56	-159.42	176.80	188.91	294.56	269.59	25.69	12.065	
3,900.00	3,831.30	3,880.42	3,862.13	17.12	12.94	-159.59	185.15	198.77	309.96	284.27	26.42	12.315	
4,000.00	3,927.65	3,979.23	3,960.09	17.72	13.32	-159.74	193.51	208.62	325.36	298.94	27.15	12.550	
4,100.00	4,024.01	4,078.03	4,058.04	18.32	13.70	-159.87	201.86	218.48	340.76	313.61	27.89	12.772	
4,200.00	4,120.36	4,176.83	4,156.00	18.92	14.08	-160.00	210.21	228.34	356.16	328.28	28.62	12.982	
4,300.00	4,216.71	4,275.64	4,253.95	19.53	14.47	-160.11	218.57	238.19	371.57	342.95	29.36	13.180	
4,400.00	4,313.06	4,374.44	4,351.91	20.13	14.86	-160.22	226.92	248.05	386.98	357.62	30.10	13.367	
4,500.00	4,409.41	4,473.24	4,449.86	20.74	15.25	-160.32	235.27	257.91	402.38	372.28	30.84	13.545	
4,600.00	4,505.77	4,572.05	4,547.82	21.35	15.64	-160.41	243.63	267.77	417.79	386.95	31.59	13.714	
4,700.00	4,602.12	4,670.85	4,645.77	21.96	16.03	-160.49	251.98	277.62	433.20	401.61	32.34	13.874	
4,800.00	4,698.47	4,769.66	4,743.73	22.57	16.42	-160.57	260.33	287.48	448.61	416.28	33.08	14.026	
4,900.00	4,794.82	4,868.46	4,841.68	23.19	16.82	-160.64	268.69	297.34	464.03	430.94	33.83	14.171	
5,000.00	4,891.18	4,967.26	4,939.64	23.80	17.22	-160.71	277.04	307.19	479.44	445.61	34.58	14.309	
5,100.00	4,987.53	5,066.07	5,037.59	24.41	17.61	-160.77	285.39	317.05	494.85	460.27			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM													Offset Well Error: 0.50 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,083.88	5,164.87	5,135.55	25.03	18.01	-160.83	293.75	326.91	510.26	474.93	35.33	14.441	
5,300.00	5,180.23	5,263.67	5,233.50	25.65	18.41	-160.89	302.10	336.77	525.68	489.59	36.09	14.567	
5,400.00	5,276.58	5,362.48	5,331.46	26.26	18.81	-160.94	310.45	346.62	541.09	504.25	36.84	14.687	
5,500.00	5,372.94	5,461.28	5,429.41	26.88	19.22	-160.99	318.81	356.48	556.51	518.91	37.60	14.802	
5,600.00	5,469.29	5,560.08	5,527.37	27.50	19.62	-161.04	327.16	366.34	571.92	533.57	38.35	14.912	
5,700.00	5,565.64	5,658.89	5,625.33	28.12	20.02	-161.08	335.51	376.19	587.34	548.23	39.11	15.017	
5,800.00	5,661.99	5,757.69	5,723.28	28.74	20.43	-161.13	343.87	386.05	602.75	562.89	39.87	15.118	
5,900.00	5,758.37	5,856.51	5,821.25	29.36	20.83	-161.19	352.22	395.91	618.06	577.43	40.63	15.213	
6,000.00	5,855.40	5,955.67	5,919.56	29.94	21.24	-161.23	360.60	405.80	630.99	589.61	41.38	15.250	
6,100.00	5,953.21	6,055.18	6,018.22	30.47	21.65	-161.16	369.02	415.73	640.64	598.53	42.11	15.214	
6,200.00	6,051.68	6,154.94	6,117.12	30.95	22.05	-160.96	377.45	425.68	647.00	604.19	42.82	15.112	
6,300.00	6,150.70	6,241.19	6,202.75	31.39	22.41	-160.76	384.06	433.48	651.04	607.63	43.42	14.995	
6,400.00	6,250.15	6,326.21	6,287.44	31.77	22.79	-160.62	388.95	439.26	654.08	610.08	44.00	14.866	
6,500.00	6,349.90	6,411.25	6,372.32	32.11	23.17	-160.52	392.22	443.11	656.11	611.56	44.55	14.728	
6,600.00	6,449.83	6,500.00	6,461.03	32.41	23.53	-160.47	393.89	445.08	657.14	612.07	45.07	14.580	
6,600.73	6,450.56	6,500.00	6,461.03	32.41	23.53	-160.47	393.89	445.08	657.14	612.07	45.07	14.581	
6,700.00	6,549.83	6,588.80	6,549.83	32.66	23.60	-90.28	394.06	445.28	657.25	611.90	45.36	14.491	
6,800.00	6,649.83	6,688.80	6,649.83	32.92	23.64	-90.28	394.06	445.28	657.25	611.54	45.71	14.377	
6,900.00	6,749.83	6,788.80	6,749.83	33.17	23.69	-90.28	394.06	445.28	657.25	611.17	46.08	14.263	
7,000.00	6,849.83	6,888.80	6,849.83	33.43	23.73	-90.28	394.06	445.28	657.25	610.80	46.45	14.150	
7,100.00	6,949.83	6,988.80	6,949.83	33.68	23.78	-90.28	394.06	445.28	657.25	610.44	46.82	14.039	
7,200.00	7,049.83	7,088.80	7,049.83	33.94	23.82	-90.28	394.06	445.28	657.25	610.07	47.19	13.929	
7,300.00	7,149.83	7,188.80	7,149.83	34.21	23.87	-90.28	394.06	445.28	657.25	609.70	47.56	13.820	
7,400.00	7,249.83	7,288.80	7,249.83	34.47	23.91	-90.28	394.06	445.28	657.25	609.32	47.93	13.713	
7,500.00	7,349.83	7,388.80	7,349.83	34.73	23.96	-90.28	394.06	445.28	657.25	608.95	48.30	13.607	
7,600.00	7,449.83	7,488.80	7,449.83	35.00	24.00	-90.28	394.06	445.28	657.25	608.58	48.68	13.503	
7,700.00	7,549.83	7,588.80	7,549.83	35.27	24.05	-90.28	394.06	445.28	657.25	608.20	49.05	13.399	
7,800.00	7,649.83	7,688.80	7,649.83	35.54	24.10	-90.28	394.06	445.28	657.25	607.82	49.43	13.297	
7,900.00	7,749.83	7,788.80	7,749.83	35.81	24.14	-90.28	394.06	445.28	657.25	607.45	49.81	13.196	
8,000.00	7,849.83	7,888.80	7,849.83	36.08	24.19	-90.28	394.06	445.28	657.25	607.07	50.18	13.097	
8,100.00	7,949.83	7,988.80	7,949.83	36.36	24.24	-90.28	394.06	445.28	657.25	606.69	50.56	12.999	
8,200.00	8,049.83	8,088.80	8,049.83	36.63	24.28	-90.28	394.06	445.28	657.25	606.31	50.94	12.902	
8,300.00	8,149.83	8,188.80	8,149.83	36.91	24.33	-90.28	394.06	445.28	657.25	605.93	51.32	12.806	
8,400.00	8,249.83	8,288.80	8,249.83	37.19	24.38	-90.28	394.06	445.28	657.25	605.55	51.71	12.711	
8,500.00	8,349.83	8,388.80	8,349.83	37.47	24.42	-90.28	394.06	445.28	657.25	605.16	52.09	12.618	
8,600.00	8,449.83	8,488.80	8,449.83	37.75	24.47	-90.28	394.06	445.28	657.25	604.78	52.47	12.526	
8,700.00	8,549.83	8,588.80	8,549.83	38.04	24.52	-90.28	394.06	445.28	657.25	604.40	52.86	12.435	
8,800.00	8,649.83	8,688.80	8,649.83	38.32	24.57	-90.28	394.06	445.28	657.25	604.01	53.24	12.345	
8,900.00	8,749.83	8,788.80	8,749.83	38.60	24.62	-90.28	394.06	445.28	657.25	603.62	53.63	12.256	
9,000.00	8,849.83	8,888.80	8,849.83	38.89	24.67	-90.28	394.06	445.28	657.25	603.24	54.01	12.168	
9,100.00	8,949.83	8,988.80	8,949.83	39.18	24.71	-90.28	394.06	445.28	657.25	602.85	54.40	12.081	
9,200.00	9,049.83	9,088.80	9,049.83	39.47	24.76	-90.28	394.06	445.28	657.25	602.46	54.79	11.996	
9,300.00	9,149.83	9,188.80	9,149.83	39.76	24.81	-90.28	394.06	445.28	657.25	602.07	55.18	11.911	
9,400.00	9,249.83	9,288.80	9,249.83	40.05	24.86	-89.49	394.06	445.28	657.25	601.68	55.57	11.828	
9,470.08	9,319.63	9,358.60	9,319.63	40.21	24.90	90.00	394.06	445.28	657.22	601.47	55.76	11.788	
9,500.00	9,349.10	9,388.07	9,349.10	40.28	24.91	90.43	394.06	445.28	657.24	601.42	55.82	11.774	
9,600.00	9,444.97	9,485.03	9,446.05	40.46	24.93	92.69	393.74	445.28	658.04	602.16	55.88	11.776	
9,700.00	9,534.53	9,588.31	9,548.41	40.57	24.82	95.40	381.06	445.22	660.51	604.65	55.86	11.825	
9,800.00	9,615.04	9,698.89	9,653.56	40.62	24.67	98.04	347.39	445.07	664.45	608.62	55.83	11.902	
9,900.00	9,684.07	9,817.83	9,757.16	40.63	24.50	100.52	289.41	444.80	669.43	613.61	55.81	11.995	
10,000.00	9,739.51	9,945.82	9,852.71	40.60	24.34	102.72	204.64	444.42	674.75	618.87	55.88	12.075	
10,100.00	9,779.69	10,082.74	9,931.39	40.57	24.27	104.50	92.99	443.91	679.57	623.36	56.21	12.090	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,200.00	9,803.38	10,227.09	9,983.25	40.56	24.35	105.68	-41.32	443.29	683.00	626.01	56.99	11.984			
10,300.00	9,809.95	10,373.61	9,999.98	40.60	24.64	106.12	-186.48	442.63	684.33	626.06	58.27	11.744			
10,400.00	9,809.43	10,473.61	9,999.44	40.72	24.94	106.12	-286.48	442.17	684.36	625.32	59.04	11.592			
10,500.00	9,808.91	10,573.61	9,998.91	40.93	25.29	106.12	-386.48	441.72	684.39	624.41	59.97	11.411			
10,600.00	9,808.39	10,673.61	9,998.38	41.23	25.70	106.12	-486.48	441.26	684.41	623.35	61.07	11.207			
10,700.00	9,807.87	10,773.61	9,997.85	41.63	26.15	106.11	-586.47	440.81	684.44	622.13	62.32	10.984			
10,800.00	9,807.35	10,873.61	9,997.32	42.13	26.67	106.11	-686.47	440.35	684.47	620.77	63.70	10.745			
10,900.00	9,806.83	10,973.61	9,996.78	42.73	27.24	106.11	-786.47	439.89	684.50	619.28	65.22	10.495			
11,000.00	9,806.32	11,073.61	9,996.25	43.42	27.86	106.11	-886.47	439.44	684.53	617.66	66.86	10.237			
11,100.00	9,805.80	11,173.61	9,995.72	44.19	28.55	106.11	-986.47	438.98	684.56	615.93	68.62	9.976			
11,200.00	9,805.28	11,273.61	9,995.19	45.04	29.28	106.11	-1,086.46	438.52	684.58	614.10	70.49	9.712			
11,300.00	9,804.76	11,373.61	9,994.66	45.97	30.07	106.10	-1,186.46	438.07	684.61	612.17	72.45	9.450			
11,400.00	9,804.24	11,473.61	9,994.12	46.96	30.91	106.10	-1,286.46	437.61	684.64	610.14	74.50	9.190			
11,500.00	9,803.72	11,573.61	9,993.59	48.02	31.79	106.10	-1,386.46	437.16	684.67	608.04	76.63	8.935			
11,600.00	9,803.20	11,673.61	9,993.06	49.13	32.72	106.10	-1,486.45	436.70	684.70	605.86	78.84	8.684			
11,700.00	9,802.68	11,773.61	9,992.53	50.29	33.69	106.10	-1,586.45	436.24	684.73	603.60	81.12	8.441			
11,800.00	9,802.16	11,873.61	9,992.00	51.50	34.69	106.10	-1,686.45	435.79	684.75	601.29	83.47	8.204			
11,900.00	9,801.64	11,973.61	9,991.46	52.76	35.73	106.09	-1,786.45	435.33	684.78	598.91	85.87	7.975			
12,000.00	9,801.12	12,073.61	9,990.93	54.05	36.80	106.09	-1,886.44	434.87	684.81	596.48	88.33	7.753			
12,100.00	9,800.60	12,173.61	9,990.40	55.38	37.89	106.09	-1,986.44	434.42	684.84	594.00	90.84	7.539			
12,200.00	9,800.09	12,273.61	9,989.87	56.75	39.01	106.09	-2,086.44	433.96	684.87	591.48	93.39	7.333			
12,300.00	9,799.57	12,373.61	9,989.34	58.15	40.16	106.09	-2,186.44	433.51	684.89	588.91	95.99	7.135			
12,400.00	9,799.05	12,473.61	9,988.80	59.58	41.32	106.08	-2,286.43	433.05	684.92	586.30	98.62	6.945			
12,500.00	9,798.53	12,573.61	9,988.27	61.03	42.51	106.08	-2,386.43	432.59	684.95	583.65	101.30	6.762			
12,600.00	9,798.01	12,673.61	9,987.74	62.51	43.71	106.08	-2,486.43	432.14	684.98	580.98	104.00	6.586			
12,700.00	9,797.49	12,773.61	9,987.21	64.02	44.93	106.08	-2,586.43	431.68	685.01	578.27	106.74	6.418			
12,800.00	9,796.97	12,873.61	9,986.68	65.54	46.16	106.08	-2,686.42	431.22	685.04	575.53	109.50	6.256			
12,900.00	9,796.45	12,973.61	9,986.14	67.09	47.40	106.08	-2,786.42	430.77	685.06	572.77	112.29	6.101			
13,000.00	9,795.93	13,073.61	9,985.61	68.65	48.66	106.07	-2,886.42	430.31	685.09	569.98	115.11	5.952			
13,100.00	9,795.41	13,173.61	9,985.08	70.24	49.93	106.07	-2,986.42	429.86	685.12	567.17	117.95	5.809			
13,200.00	9,794.89	13,273.61	9,984.55	71.83	51.21	106.07	-3,086.41	429.40	685.15	564.34	120.81	5.671			
13,300.00	9,794.37	13,373.61	9,984.02	73.45	52.49	106.07	-3,186.41	428.94	685.18	561.49	123.69	5.540			
13,400.00	9,793.85	13,473.61	9,983.48	75.08	53.79	106.07	-3,286.41	428.49	685.21	558.62	126.59	5.413			
13,500.00	9,793.34	13,573.61	9,982.95	76.72	55.09	106.06	-3,386.41	428.03	685.23	555.73	129.50	5.291			
13,600.00	9,792.82	13,673.61	9,982.42	78.37	56.40	106.06	-3,486.40	427.57	685.26	552.83	132.43	5.174			
13,700.00	9,792.30	13,773.61	9,981.89	80.04	57.72	106.06	-3,586.40	427.12	685.29	549.91	135.38	5.062			
13,800.00	9,791.78	13,873.61	9,981.36	81.72	59.04	106.06	-3,686.40	426.66	685.32	546.98	138.34	4.954			
13,900.00	9,791.26	13,973.61	9,980.82	83.41	60.37	106.06	-3,786.40	426.21	685.35	544.03	141.31	4.850			
14,000.00	9,790.74	14,073.61	9,980.29	85.10	61.71	106.06	-3,886.39	425.75	685.38	541.08	144.30	4.750			
14,100.00	9,790.22	14,173.61	9,979.76	86.81	63.05	106.05	-3,986.39	425.29	685.40	538.11	147.30	4.653			
14,200.00	9,789.70	14,273.61	9,979.23	88.53	64.39	106.05	-4,086.39	424.84	685.43	535.13	150.30	4.560			
14,300.00	9,789.18	14,373.61	9,978.70	90.25	65.74	106.05	-4,186.39	424.38	685.46	532.14	153.32	4.471			
14,400.00	9,788.66	14,473.61	9,978.16	91.98	67.10	106.05	-4,286.38	423.92	685.49	529.14	156.35	4.384			
14,500.00	9,788.14	14,573.61	9,977.63	93.72	68.45	106.05	-4,386.38	423.47	685.52	526.13	159.39	4.301			
14,600.00	9,787.62	14,673.61	9,977.10	95.47	69.81	106.04	-4,486.38	423.01	685.54	523.11	162.44	4.220			
14,700.00	9,787.11	14,773.61	9,976.57	97.22	71.18	106.04	-4,586.38	422.56	685.57	520.08	165.49	4.143			
14,800.00	9,786.59	14,873.61	9,976.04	98.98	72.55	106.04	-4,686.37	422.10	685.60	517.05	168.55	4.068			
14,900.00	9,786.07	14,973.61	9,975.50	100.74	73.92	106.04	-4,786.37	421.64	685.63	514.01	171.62	3.995			
15,000.00	9,785.55	15,073.61	9,974.97	102.51	75.29	106.04	-4,886.37	421.19	685.66	510.96	174.70	3.925			
15,100.00	9,785.03	15,173.61	9,974.44	104.28	76.66	106.04	-4,986.37	420.73	685.69	507.90	177.78	3.857			
15,200.00	9,784.51	15,273.61	9,973.91	106.07	78.04	106.03	-5,086.36	420.27	685.71	504.84	180.87	3.791			
15,300.00	9,783.99	15,373.61	9,973.38	107.85	79.42	106.03	-5,186.36	419.82	685.74	501.78	183.97	3.728			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-131H - Wellbore #1 - Plan 1											Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM											Offset Well Error:	0.50 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		Minimum		Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor	
15,400.00	9,783.47	15,473.61	9,972.84	109.64	80.80	106.03	-5,286.36	419.36	685.77	498.70	187.07	3.666
15,500.00	9,782.95	15,573.61	9,972.31	111.43	82.19	106.03	-5,386.36	418.91	685.80	495.63	190.17	3.606
15,600.00	9,782.43	15,673.61	9,971.78	113.23	83.58	106.03	-5,486.35	418.45	685.83	492.54	193.28	3.548
15,700.00	9,781.91	15,773.61	9,971.25	115.03	84.96	106.03	-5,586.35	417.99	685.86	489.46	196.40	3.492
15,800.00	9,781.39	15,873.61	9,970.72	116.84	86.36	106.02	-5,686.35	417.54	685.88	486.36	199.52	3.438
15,900.00	9,780.88	15,973.61	9,970.18	118.65	87.75	106.02	-5,786.35	417.08	685.91	483.27	202.65	3.385
16,000.00	9,780.36	16,073.61	9,969.65	120.46	89.14	106.02	-5,886.34	416.62	685.94	480.16	205.78	3.333
16,100.00	9,779.84	16,173.61	9,969.12	122.27	90.54	106.02	-5,986.34	416.17	685.97	477.06	208.91	3.284
16,200.00	9,779.32	16,273.61	9,968.59	124.09	91.93	106.02	-6,086.34	415.71	686.00	473.95	212.05	3.235
16,300.00	9,778.80	16,373.61	9,968.06	125.92	93.33	106.01	-6,186.34	415.26	686.03	470.84	215.19	3.188
16,400.00	9,778.28	16,473.61	9,967.52	127.74	94.73	106.01	-6,286.33	414.80	686.05	467.72	218.33	3.142
16,500.00	9,777.76	16,573.61	9,966.99	129.57	96.13	106.01	-6,386.33	414.34	686.08	464.60	221.48	3.098
16,600.00	9,777.24	16,673.61	9,966.46	131.40	97.53	106.01	-6,486.33	413.89	686.11	461.48	224.63	3.054
16,700.00	9,776.72	16,773.61	9,965.93	133.23	98.94	106.01	-6,586.33	413.43	686.14	458.35	227.79	3.012
16,800.00	9,776.20	16,873.61	9,965.40	135.06	100.34	106.01	-6,686.32	412.98	686.17	455.22	230.94	2.971
16,900.00	9,775.68	16,973.61	9,964.86	136.90	101.75	106.00	-6,786.32	412.52	686.20	452.09	234.10	2.931
17,000.00	9,775.16	17,073.61	9,964.33	138.74	103.15	106.00	-6,886.32	412.06	686.22	448.96	237.27	2.892
17,100.00	9,774.65	17,173.61	9,963.80	140.58	104.56	106.00	-6,986.32	411.61	686.25	445.82	240.43	2.854
17,200.00	9,774.13	17,273.61	9,963.27	142.43	105.97	106.00	-7,086.31	411.15	686.28	442.68	243.60	2.817
17,300.00	9,773.61	17,373.61	9,962.74	144.27	107.38	106.00	-7,186.31	410.69	686.31	439.54	246.77	2.781
17,400.00	9,773.09	17,473.61	9,962.20	146.12	108.79	105.99	-7,286.31	410.24	686.34	436.39	249.95	2.746
17,500.00	9,772.57	17,573.61	9,961.67	147.97	110.20	105.99	-7,386.31	409.78	686.36	433.24	253.12	2.712
17,600.00	9,772.05	17,673.61	9,961.14	149.82	111.61	105.99	-7,486.31	409.33	686.39	430.09	256.30	2.678
17,700.00	9,771.53	17,773.61	9,960.61	151.67	113.02	105.99	-7,586.30	408.87	686.42	426.94	259.48	2.645
17,800.00	9,771.01	17,873.61	9,960.08	153.53	114.44	105.99	-7,686.30	408.41	686.45	423.81	262.64	2.614
17,803.00	9,771.00	17,876.62	9,960.06	153.62	114.49	105.99	-7,689.30	408.40	686.45	423.72	262.73	2.613



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-231H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.50 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.50	0.50	-90.80	-0.56	-40.00	40.00				
100.00	100.00	100.00	100.00	0.52	0.66	-90.80	-0.56	-40.00	40.00	38.83	1.18	34.007	
200.00	200.00	200.00	200.00	0.70	1.35	-90.80	-0.56	-40.00	40.00	37.95	2.05	19.507	
300.00	300.00	300.00	300.00	0.99	1.82	-90.80	-0.56	-40.00	40.00	37.20	2.80	14.265	
400.00	400.00	400.00	400.00	1.31	2.19	-90.80	-0.56	-40.00	40.00	36.50	3.50	11.431	
500.00	500.00	500.00	500.00	1.65	2.51	-90.80	-0.56	-40.00	40.00	35.85	4.16	9.622	
600.00	600.00	600.00	600.00	1.99	2.80	-90.80	-0.56	-40.00	40.00	35.21	4.79	8.353	
700.00	700.00	700.00	700.00	2.34	3.06	-90.80	-0.56	-40.00	40.00	34.60	5.40	7.408	
800.00	800.00	800.00	800.00	2.69	3.30	-90.80	-0.56	-40.00	40.00	34.01	5.99	6.673	
900.00	900.00	900.00	900.00	3.04	3.53	-90.80	-0.56	-40.00	40.00	33.43	6.58	6.083	
1,000.00	1,000.00	1,000.00	1,000.00	3.40	3.75	-90.80	-0.56	-40.00	40.00	32.86	7.15	5.598	
1,100.00	1,100.00	1,100.00	1,100.00	3.75	3.96	-90.80	-0.56	-40.00	40.00	32.30	7.71	5.190	
1,200.00	1,200.00	1,200.00	1,200.00	4.11	4.15	-90.80	-0.56	-40.00	40.00	31.74	8.26	4.842	
1,300.00	1,300.00	1,300.00	1,300.00	4.46	4.34	-90.80	-0.56	-40.00	40.00	31.20	8.81	4.542	
1,400.00	1,400.00	1,400.00	1,400.00	4.82	4.53	-90.80	-0.56	-40.00	40.00	30.66	9.35	4.280	
1,500.00	1,500.00	1,500.00	1,500.00	5.18	4.70	-90.80	-0.56	-40.00	40.00	30.12	9.88	4.048 CC, ES, SF	
1,600.00	1,599.98	1,599.38	1,599.36	5.53	5.05	-159.60	1.01	-40.71	42.36	31.93	10.42	4.063	
1,700.00	1,699.84	1,698.38	1,698.22	5.88	5.69	-156.22	5.70	-42.82	49.52	38.47	11.05	4.481	
1,800.00	1,799.45	1,797.07	1,796.56	6.23	5.90	-152.56	13.21	-46.20	61.54	49.98	11.55	5.326	
1,900.00	1,898.70	1,895.84	1,894.94	6.59	6.09	-150.94	21.25	-49.82	77.05	64.97	12.08	6.379	
2,000.00	1,997.47	1,994.10	1,992.81	6.97	6.31	-150.84	29.25	-53.42	95.59	82.98	12.61	7.581	
2,100.00	2,095.62	2,091.73	2,090.05	7.36	6.54	-151.54	37.20	-57.00	117.13	103.99	13.13	8.918	
2,200.00	2,193.06	2,188.62	2,186.55	7.78	6.78	-152.60	45.09	-60.55	141.69	128.04	13.66	10.377	
2,300.00	2,289.67	2,284.67	2,282.22	8.23	7.04	-153.85	52.91	-64.07	169.25	155.07	14.18	11.938	
2,400.00	2,386.02	2,380.45	2,377.62	8.71	7.30	-155.03	60.71	-67.59	197.76	183.06	14.70	13.453	
2,500.00	2,482.37	2,476.24	2,473.02	9.21	7.57	-155.90	68.50	-71.10	226.33	211.09	15.23	14.859	
2,600.00	2,578.73	2,572.02	2,568.42	9.72	7.85	-156.58	76.30	-74.61	254.93	239.16	15.77	16.165	
2,700.00	2,675.08	2,667.80	2,663.82	10.24	8.14	-157.13	84.10	-78.12	283.56	267.25	16.31	17.381	
2,800.00	2,771.43	2,763.59	2,759.22	10.78	8.43	-157.57	91.90	-81.63	312.21	295.35	16.86	18.514	
2,900.00	2,867.78	2,859.37	2,854.62	11.33	8.73	-157.94	99.70	-85.14	340.87	323.46	17.42	19.571	
3,000.00	2,964.13	2,955.15	2,950.02	11.88	9.04	-158.25	107.50	-88.65	369.55	351.57	17.97	20.560	
3,100.00	3,060.49	3,050.93	3,045.42	12.44	9.35	-158.52	115.30	-92.16	398.23	379.70	18.53	21.486	
3,200.00	3,156.84	3,146.72	3,140.82	13.01	9.66	-158.75	123.10	-95.68	426.92	407.82	19.10	22.354	
3,300.00	3,253.19	3,242.50	3,236.22	13.59	9.98	-158.95	130.89	-99.19	455.62	435.95	19.66	23.170	
3,400.00	3,349.54	3,338.28	3,331.62	14.17	10.31	-159.13	138.69	-102.70	484.32	464.08	20.23	23.938	
3,500.00	3,445.89	3,434.07	3,427.02	14.75	10.63	-159.29	146.49	-106.21	513.02	492.22	20.80	24.661	
3,600.00	3,542.25	3,529.85	3,522.42	15.34	10.96	-159.43	154.29	-109.72	541.73	520.35	21.38	25.344	
3,700.00	3,638.60	3,625.63	3,617.82	15.93	11.29	-159.55	162.09	-113.23	570.44	548.49	21.95	25.989	
3,800.00	3,734.95	3,721.41	3,713.22	16.52	11.63	-159.67	169.89	-116.74	599.15	576.62	22.53	26.599	
3,900.00	3,831.30	3,817.20	3,808.62	17.12	11.97	-159.77	177.69	-120.26	627.86	604.76	23.10	27.177	
4,000.00	3,927.65	3,912.98	3,904.02	17.72	12.31	-159.87	185.48	-123.77	656.58	632.90	23.68	27.726	
4,100.00	4,024.01	4,008.76	3,999.42	18.32	12.65	-159.96	193.28	-127.28	685.30	661.04	24.26	28.247	
4,200.00	4,120.36	4,104.54	4,094.82	18.92	12.99	-160.04	201.08	-130.79	714.02	689.17	24.84	28.742	
4,300.00	4,216.71	4,200.33	4,190.22	19.53	13.33	-160.11	208.88	-134.30	742.74	717.31	25.42	29.213	
4,400.00	4,313.06	4,296.11	4,285.62	20.13	13.68	-160.18	216.68	-137.81	771.46	745.45	26.01	29.662	
4,500.00	4,409.41	4,391.89	4,381.02	20.74	14.03	-160.24	224.48	-141.32	800.18	773.59	26.59	30.091	
4,600.00	4,505.77	4,487.68	4,476.42	21.35	14.38	-160.30	232.28	-144.84	828.90	801.73	27.18	30.500	
4,700.00	4,602.12	4,583.46	4,571.82	21.96	14.73	-160.36	240.07	-148.35	857.63	829.86	27.76	30.890	
4,800.00	4,698.47	4,679.24	4,667.22	22.57	15.08	-160.41	247.87	-151.86	886.35	858.00	28.35	31.264	
4,900.00	4,794.82	4,775.02	4,762.62	23.19	15.43	-160.46	255.67	-155.37	915.08	886.14	28.94	31.622	
5,000.00	4,891.18	4,870.81	4,858.02	23.80	15.79	-160.50	263.47	-158.88	943.80	914.28	29.53	31.965	
5,100.00	4,987.53	4,966.59	4,953.42	24.41	16.14	-160.55	271.27	-162.39	972.53	942.41	30.12	32.294	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-231H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.50 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.00	5,083.88	5,062.37	5,048.82	25.03	16.49	-160.59	279.07	-165.90	1,001.25	970.55	30.70	32.609	
5,300.00	5,180.23	5,158.16	5,144.22	25.65	16.85	-160.62	286.87	-169.42	1,029.98	998.69	31.29	32.912	
5,400.00	5,276.58	5,253.94	5,239.63	26.26	17.21	-160.66	294.67	-172.93	1,058.71	1,026.82	31.89	33.203	
5,500.00	5,372.94	5,349.72	5,335.03	26.88	17.56	-160.69	302.46	-176.44	1,087.44	1,054.96	32.48	33.483	
5,600.00	5,469.29	5,445.50	5,430.43	27.50	17.92	-160.73	310.26	-179.95	1,116.16	1,083.10	33.07	33.753	
5,700.00	5,565.64	5,541.29	5,525.83	28.12	18.28	-160.76	318.06	-183.46	1,144.89	1,111.23	33.66	34.012	
5,800.00	5,661.99	5,637.07	5,621.23	28.74	18.64	-160.79	325.86	-186.97	1,173.62	1,139.37	34.25	34.262	
5,900.00	5,758.37	5,732.88	5,716.66	29.36	19.00	-160.86	333.66	-190.48	1,202.24	1,167.40	34.85	34.500	
6,000.00	5,855.40	5,829.35	5,812.74	29.94	19.36	-161.03	341.52	-194.02	1,228.56	1,193.12	35.44	34.664	
6,100.00	5,953.21	5,926.63	5,909.63	30.47	19.73	-161.11	349.44	-197.59	1,251.68	1,215.64	36.04	34.731	
6,200.00	6,051.68	6,024.59	6,007.20	30.95	20.10	-161.12	357.41	-201.18	1,271.58	1,234.94	36.64	34.706	
6,300.00	6,150.70	6,123.12	6,105.33	31.39	20.47	-161.07	365.43	-204.79	1,288.24	1,251.00	37.24	34.594	
6,400.00	6,250.15	6,222.10	6,203.92	31.77	20.84	-160.94	373.49	-208.42	1,301.65	1,263.81	37.84	34.403	
6,500.00	6,349.90	6,324.66	6,316.10	32.11	21.26	-160.75	381.83	-212.17	1,311.51	1,273.04	38.47	34.090	
6,600.00	6,449.83	6,424.10	6,408.42	32.41	21.74	-160.64	386.62	-214.33	1,316.53	1,277.42	39.11	33.659	
6,700.00	6,549.83	6,524.51	6,508.83	32.66	21.95	-90.44	387.22	-214.60	1,317.16	1,277.59	39.57	33.285	
6,800.00	6,649.83	6,624.51	6,608.83	32.92	22.00	-90.44	387.22	-214.60	1,317.16	1,277.21	39.96	32.965	
6,900.00	6,749.83	6,724.51	6,708.83	33.17	22.05	-90.44	387.22	-214.60	1,317.16	1,276.81	40.35	32.645	
7,000.00	6,849.83	6,824.51	6,808.83	33.43	22.10	-90.44	387.22	-214.60	1,317.16	1,276.42	40.74	32.330	
7,100.00	6,949.83	6,924.51	6,908.83	33.68	22.15	-90.44	387.22	-214.60	1,317.16	1,276.03	41.14	32.020	
7,200.00	7,049.83	7,024.51	7,008.83	33.94	22.21	-90.44	387.22	-214.60	1,317.16	1,275.63	41.53	31.715	
7,300.00	7,149.83	7,124.51	7,108.83	34.21	22.26	-90.44	387.22	-214.60	1,317.16	1,275.24	41.93	31.416	
7,400.00	7,249.83	7,224.51	7,208.83	34.47	22.31	-90.44	387.22	-214.60	1,317.16	1,274.84	42.32	31.120	
7,500.00	7,349.83	7,324.51	7,308.83	34.73	22.36	-90.44	387.22	-214.60	1,317.16	1,274.44	42.72	30.830	
7,600.00	7,449.83	7,424.51	7,408.83	35.00	22.42	-90.44	387.22	-214.60	1,317.16	1,274.04	43.12	30.545	
7,700.00	7,549.83	7,524.51	7,508.83	35.27	22.47	-90.44	387.22	-214.60	1,317.16	1,273.64	43.52	30.264	
7,800.00	7,649.83	7,624.51	7,608.83	35.54	22.52	-90.44	387.22	-214.60	1,317.16	1,273.24	43.92	29.987	
7,900.00	7,749.83	7,724.51	7,708.83	35.81	22.58	-90.44	387.22	-214.60	1,317.16	1,272.84	44.33	29.715	
8,000.00	7,849.83	7,824.51	7,808.83	36.08	22.63	-90.44	387.22	-214.60	1,317.16	1,272.43	44.73	29.448	
8,100.00	7,949.83	7,924.51	7,908.83	36.36	22.68	-90.44	387.22	-214.60	1,317.16	1,272.03	45.13	29.184	
8,200.00	8,049.83	8,024.51	8,008.83	36.63	22.74	-90.44	387.22	-214.60	1,317.16	1,271.63	45.54	28.925	
8,300.00	8,149.83	8,124.51	8,108.83	36.91	22.79	-90.44	387.22	-214.60	1,317.16	1,271.22	45.94	28.670	
8,400.00	8,249.83	8,224.51	8,208.83	37.19	22.85	-90.44	387.22	-214.60	1,317.16	1,270.81	46.35	28.419	
8,500.00	8,349.83	8,324.51	8,308.83	37.47	22.90	-90.44	387.22	-214.60	1,317.16	1,270.41	46.76	28.171	
8,600.00	8,449.83	8,424.51	8,408.83	37.75	22.96	-90.44	387.22	-214.60	1,317.16	1,270.00	47.16	27.928	
8,700.00	8,549.83	8,524.51	8,508.83	38.04	23.01	-90.44	387.22	-214.60	1,317.16	1,269.59	47.57	27.689	
8,800.00	8,649.83	8,624.51	8,608.83	38.32	23.07	-90.44	387.22	-214.60	1,317.16	1,269.18	47.98	27.453	
8,900.00	8,749.83	8,724.51	8,708.83	38.60	23.12	-90.44	387.22	-214.60	1,317.16	1,268.77	48.39	27.221	
9,000.00	8,849.83	8,824.51	8,808.83	38.89	23.18	-90.44	387.22	-214.60	1,317.16	1,268.36	48.80	26.992	
9,100.00	8,949.83	8,924.51	8,908.83	39.18	23.23	-90.44	387.22	-214.60	1,317.16	1,267.95	49.21	26.767	
9,200.00	9,049.83	9,024.51	9,008.83	39.47	23.29	-90.44	387.22	-214.60	1,317.16	1,267.54	49.62	26.545	
9,300.00	9,149.83	9,124.51	9,108.83	39.76	23.34	-90.44	387.22	-214.60	1,317.16	1,267.13	50.03	26.327	
9,388.49	9,238.32	9,216.71	9,198.03	40.01	23.37	89.35	387.11	-214.60	1,317.15	1,266.78	50.38	26.146	
9,400.00	9,249.83	9,227.89	9,209.20	40.05	23.35	89.31	386.79	-214.60	1,317.17	1,266.76	50.40	26.133	
9,500.00	9,349.10	9,327.48	9,308.44	40.28	23.29	89.25	374.86	-214.66	1,317.19	1,266.58	50.60	26.029	
9,600.00	9,444.97	9,423.12	9,404.12	40.46	23.22	89.21	346.93	-214.78	1,317.21	1,266.51	50.70	25.979	
9,700.00	9,534.53	9,512.72	9,493.70	40.57	23.11	89.19	303.84	-214.98	1,317.23	1,266.51	50.72	25.969	
9,800.00	9,615.04	9,593.23	9,574.29	40.62	22.99	89.20	246.81	-215.24	1,317.25	1,266.54	50.71	25.977	
9,900.00	9,684.07	9,662.24	9,643.24	40.63	22.86	89.23	177.40	-215.56	1,317.26	1,266.55	50.71	25.976	
10,000.00	9,739.51	9,717.50	9,698.50	40.60	22.75	89.29	97.04	-215.93	1,317.27	1,266.49	50.78	25.939	
10,000.38	9,739.69	9,717.69	9,698.69	40.60	22.75	89.29	97.04	-215.93	1,317.27	1,266.48	50.79	25.938	
10,100.00	9,779.69	9,757.68	9,738.68	40.57	22.67	89.36	9.21	-216.33	1,317.28	1,266.30	50.98	25.837	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-231H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM								Rule Assigned:				Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,200.00	9,803.38	10,044.46	9,791.08	40.56	22.65	89.46	-84.99	-216.76	1,317.29	1,265.95	51.34	25.659			
10,300.00	9,809.95	10,142.51	9,800.00	40.60	22.69	89.57	-182.51	-217.20	1,317.30	1,265.44	51.86	25.401			
10,400.00	9,809.43	10,242.40	9,799.51	40.72	22.80	89.57	-282.40	-217.66	1,317.33	1,264.74	52.59	25.049			
10,500.00	9,808.91	10,342.40	9,799.00	40.93	22.93	89.57	-382.40	-218.12	1,317.37	1,263.84	53.52	24.612			
10,600.00	9,808.39	10,442.40	9,798.48	41.23	23.10	89.57	-482.39	-218.57	1,317.40	1,262.75	54.66	24.103			
10,700.00	9,807.87	10,542.40	9,797.96	41.63	23.31	89.57	-582.39	-219.03	1,317.44	1,261.47	55.97	23.538			
10,800.00	9,807.35	10,642.40	9,797.44	42.13	23.57	89.57	-682.39	-219.49	1,317.47	1,260.02	57.45	22.932			
10,900.00	9,806.83	10,742.40	9,796.92	42.73	23.90	89.57	-782.39	-219.95	1,317.50	1,258.42	59.08	22.299			
11,000.00	9,806.32	10,842.40	9,796.40	43.42	24.32	89.57	-882.38	-220.40	1,317.54	1,256.68	60.86	21.650			
11,100.00	9,805.80	10,942.40	9,795.89	44.19	24.84	89.57	-982.38	-220.86	1,317.57	1,254.81	62.76	20.995			
11,200.00	9,805.28	11,042.40	9,795.37	45.04	25.46	89.57	-1,082.38	-221.32	1,317.60	1,252.83	64.77	20.342			
11,300.00	9,804.76	11,142.40	9,794.85	45.97	26.19	89.57	-1,182.38	-221.77	1,317.64	1,250.74	66.89	19.697			
11,400.00	9,804.24	11,242.40	9,794.33	46.96	27.02	89.57	-1,282.38	-222.23	1,317.67	1,248.56	69.11	19.066			
11,500.00	9,803.72	11,342.40	9,793.81	48.02	27.94	89.57	-1,382.37	-222.69	1,317.71	1,246.29	71.41	18.452			
11,600.00	9,803.20	11,442.40	9,793.29	49.13	28.93	89.57	-1,482.37	-223.14	1,317.74	1,243.95	73.79	17.857			
11,700.00	9,802.68	11,542.40	9,792.77	50.29	29.98	89.57	-1,582.37	-223.60	1,317.77	1,241.53	76.24	17.284			
11,800.00	9,802.16	11,642.40	9,792.26	51.50	31.08	89.57	-1,682.37	-224.06	1,317.81	1,239.05	78.76	16.732			
11,900.00	9,801.64	11,742.40	9,791.74	52.76	32.23	89.57	-1,782.36	-224.52	1,317.84	1,236.51	81.34	16.202			
12,000.00	9,801.12	11,842.40	9,791.22	54.05	33.40	89.57	-1,882.36	-224.97	1,317.88	1,233.91	83.97	15.695			
12,100.00	9,800.60	11,942.40	9,790.70	55.38	34.61	89.57	-1,982.36	-225.43	1,317.91	1,231.27	86.64	15.211			
12,200.00	9,800.09	12,042.40	9,790.18	56.75	35.84	89.57	-2,082.36	-225.89	1,317.94	1,228.58	89.37	14.748			
12,300.00	9,799.57	12,142.40	9,789.66	58.15	37.09	89.57	-2,182.35	-226.34	1,317.98	1,225.85	92.13	14.306			
12,400.00	9,799.05	12,242.40	9,789.15	59.58	38.36	89.57	-2,282.35	-226.80	1,318.01	1,223.08	94.93	13.884			
12,500.00	9,798.53	12,342.40	9,788.63	61.03	39.64	89.57	-2,382.35	-227.26	1,318.05	1,220.28	97.76	13.482			
12,600.00	9,798.01	12,442.40	9,788.11	62.51	40.93	89.57	-2,482.35	-227.71	1,318.08	1,217.45	100.63	13.098			
12,700.00	9,797.49	12,542.40	9,787.59	64.02	42.24	89.57	-2,582.34	-228.17	1,318.11	1,214.59	103.52	12.732			
12,800.00	9,796.97	12,642.40	9,787.07	65.54	43.56	89.57	-2,682.34	-228.63	1,318.15	1,211.70	106.45	12.383			
12,900.00	9,796.45	12,742.40	9,786.55	67.09	44.88	89.57	-2,782.34	-229.09	1,318.18	1,208.79	109.39	12.050			
13,000.00	9,795.93	12,842.40	9,786.03	68.65	46.22	89.57	-2,882.34	-229.54	1,318.21	1,205.85	112.36	11.732			
13,100.00	9,795.41	12,942.40	9,785.52	70.24	47.56	89.57	-2,982.33	-230.00	1,318.25	1,202.90	115.35	11.428			
13,200.00	9,794.89	13,042.40	9,785.00	71.83	48.91	89.57	-3,082.33	-230.46	1,318.28	1,199.92	118.36	11.138			
13,300.00	9,794.37	13,142.40	9,784.48	73.45	50.26	89.57	-3,182.33	-230.91	1,318.32	1,196.93	121.39	10.860			
13,400.00	9,793.85	13,242.40	9,783.96	75.08	51.62	89.57	-3,282.33	-231.37	1,318.35	1,193.92	124.43	10.595			
13,500.00	9,793.34	13,342.40	9,783.44	76.72	52.98	89.57	-3,382.33	-231.83	1,318.38	1,190.89	127.49	10.341			
13,600.00	9,792.82	13,442.40	9,782.92	78.37	54.35	89.57	-3,482.32	-232.28	1,318.42	1,187.85	130.57	10.098			
13,700.00	9,792.30	13,542.40	9,782.41	80.04	55.73	89.57	-3,582.32	-232.74	1,318.45	1,184.80	133.65	9.865			
13,800.00	9,791.78	13,642.40	9,781.89	81.72	57.10	89.57	-3,682.32	-233.20	1,318.49	1,181.73	136.75	9.641			
13,900.00	9,791.26	13,742.40	9,781.37	83.41	58.48	89.57	-3,782.32	-233.66	1,318.52	1,178.65	139.87	9.427			
14,000.00	9,790.74	13,842.40	9,780.85	85.10	59.86	89.57	-3,882.31	-234.11	1,318.55	1,175.56	142.99	9.221			
14,100.00	9,790.22	13,942.40	9,780.33	86.81	61.25	89.57	-3,982.31	-234.57	1,318.59	1,172.46	146.12	9.024			
14,200.00	9,789.70	14,042.40	9,779.81	88.53	62.64	89.57	-4,082.31	-235.03	1,318.62	1,169.35	149.27	8.834			
14,300.00	9,789.18	14,142.40	9,779.29	90.25	64.03	89.57	-4,182.31	-235.48	1,318.65	1,166.24	152.42	8.652			
14,400.00	9,788.66	14,242.40	9,778.78	91.98	65.42	89.57	-4,282.30	-235.94	1,318.69	1,163.11	155.58	8.476			
14,500.00	9,788.14	14,342.40	9,778.26	93.72	66.81	89.57	-4,382.30	-236.40	1,318.72	1,159.97	158.75	8.307			
14,600.00	9,787.62	14,442.40	9,777.74	95.47	68.21	89.57	-4,482.30	-236.85	1,318.76	1,156.83	161.92	8.144			
14,700.00	9,787.11	14,542.40	9,777.22	97.22	69.61	89.57	-4,582.30	-237.31	1,318.79	1,153.68	165.11	7.987			
14,800.00	9,786.59	14,642.40	9,776.70	98.98	71.01	89.57	-4,682.29	-237.77	1,318.82	1,150.52	168.30	7.836			
14,900.00	9,786.07	14,742.40	9,776.18	100.74	72.41	89.57	-4,782.29	-238.23	1,318.86	1,147.36	171.50	7.690			
15,000.00	9,785.55	14,842.40	9,775.67	102.51	73.82	89.57	-4,882.29	-238.68	1,318.89	1,144.19	174.70	7.549			
15,100.00	9,785.03	14,942.40	9,775.15	104.28	75.22	89.57	-4,982.29	-239.14	1,318.93	1,141.02	177.91	7.414			
15,200.00	9,784.51	15,042.40	9,774.63	106.07	76.63	89.57	-5,082.28	-239.60	1,318.96	1,137.84	181.12	7.282			
15,300.00	9,783.99	15,142.40	9,774.11	107.85	78.04	89.57	-5,182.28	-240.05	1,318.99	1,134.65	184.34	7.155			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-01-231H - Wellbore #1 - Plan 1													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HRGM													Offset Well Error: 0.50 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.00	9,783.47	15,242.40	9,773.59	109.64	79.45	89.57	-5,282.28	-240.51	1,319.03	1,131.46	187.57	7.032	
15,500.00	9,782.95	15,342.40	9,773.07	111.43	80.86	89.57	-5,382.28	-240.97	1,319.06	1,128.27	190.79	6.914	
15,600.00	9,782.43	15,442.40	9,772.55	113.23	82.27	89.57	-5,482.27	-241.42	1,319.09	1,125.07	194.03	6.798	
15,700.00	9,781.91	15,542.40	9,772.04	115.03	83.68	89.57	-5,582.27	-241.88	1,319.13	1,121.86	197.27	6.687	
15,800.00	9,781.39	15,642.40	9,771.52	116.84	85.10	89.57	-5,682.27	-242.34	1,319.16	1,118.66	200.51	6.579	
15,900.00	9,780.88	15,742.40	9,771.00	118.65	86.51	89.57	-5,782.27	-242.80	1,319.20	1,115.44	203.75	6.475	
16,000.00	9,780.36	15,842.40	9,770.48	120.46	87.93	89.57	-5,882.27	-243.25	1,319.23	1,112.23	207.00	6.373	
16,100.00	9,779.84	15,942.40	9,769.96	122.27	89.34	89.57	-5,982.26	-243.71	1,319.26	1,109.01	210.25	6.275	
16,200.00	9,779.32	16,042.40	9,769.44	124.09	90.76	89.57	-6,082.26	-244.17	1,319.30	1,105.79	213.51	6.179	
16,300.00	9,778.80	16,142.40	9,768.93	125.92	92.18	89.57	-6,182.26	-244.62	1,319.33	1,102.56	216.77	6.086	
16,400.00	9,778.28	16,242.40	9,768.41	127.74	93.59	89.57	-6,282.26	-245.08	1,319.37	1,099.33	220.03	5.996	
16,500.00	9,777.76	16,342.40	9,767.89	129.57	95.01	89.57	-6,382.25	-245.54	1,319.40	1,096.10	223.30	5.909	
16,600.00	9,777.24	16,442.40	9,767.37	131.40	96.43	89.57	-6,482.25	-246.00	1,319.43	1,092.87	226.56	5.824	
16,700.00	9,776.72	16,542.40	9,766.85	133.23	97.85	89.57	-6,582.25	-246.45	1,319.47	1,089.63	229.83	5.741	
16,800.00	9,776.20	16,642.40	9,766.33	135.06	99.28	89.57	-6,682.25	-246.91	1,319.50	1,086.39	233.11	5.661	
16,900.00	9,775.68	16,742.40	9,765.81	136.90	100.70	89.57	-6,782.24	-247.37	1,319.53	1,083.15	236.38	5.582	
17,000.00	9,775.16	16,842.40	9,765.30	138.74	102.12	89.57	-6,882.24	-247.82	1,319.57	1,079.91	239.66	5.506	
17,100.00	9,774.65	16,942.40	9,764.78	140.58	103.54	89.57	-6,982.24	-248.28	1,319.60	1,076.66	242.94	5.432	
17,200.00	9,774.13	17,042.40	9,764.26	142.43	104.96	89.57	-7,082.24	-248.74	1,319.64	1,073.42	246.22	5.360	
17,300.00	9,773.61	17,142.40	9,763.74	144.27	106.39	89.57	-7,182.23	-249.19	1,319.67	1,070.17	249.50	5.289	
17,400.00	9,773.09	17,242.40	9,763.22	146.12	107.81	89.57	-7,282.23	-249.65	1,319.70	1,066.91	252.79	5.221	
17,500.00	9,772.57	17,342.40	9,762.70	147.97	109.24	89.57	-7,382.23	-250.11	1,319.74	1,063.66	256.08	5.154	
17,600.00	9,772.05	17,442.40	9,762.19	149.82	110.66	89.57	-7,482.23	-250.57	1,319.77	1,060.40	259.37	5.088	
17,700.00	9,771.53	17,542.40	9,761.67	151.67	112.09	89.57	-7,582.22	-251.02	1,319.81	1,057.15	262.66	5.025	
17,800.00	9,771.01	17,642.40	9,761.15	153.53	113.51	89.57	-7,682.22	-251.48	1,319.84	1,053.89	265.95	4.963	
17,803.00	9,771.00	17,645.41	9,761.13	153.62	113.56	89.57	-7,685.22	-251.49	1,319.84	1,053.79	266.05	4.961	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-COM-0112-213H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
4,200.00	4,120.36	4,496.37	4,458.87	18.92	15.99	20.57	235.38	2,733.42	2,171.01	2,141.51	29.50	73.585			
4,300.00	4,216.71	4,588.81	4,550.01	19.53	16.38	20.56	244.25	2,720.81	2,132.86	2,102.63	30.23	70.545			
4,400.00	4,313.06	4,681.24	4,641.16	20.13	16.76	20.56	253.12	2,708.20	2,094.72	2,063.75	30.97	67.644			
4,500.00	4,409.41	4,773.68	4,732.30	20.74	17.15	20.55	262.00	2,695.59	2,056.57	2,024.87	31.70	64.872			
4,600.00	4,505.77	4,866.12	4,823.44	21.35	17.54	20.54	270.87	2,682.98	2,018.42	1,985.98	32.44	62.223			
4,700.00	4,602.12	4,958.56	4,914.59	21.96	17.93	20.53	279.74	2,670.37	1,980.27	1,947.10	33.18	59.688			
4,800.00	4,698.47	5,050.99	5,005.73	22.57	18.32	20.52	288.61	2,657.76	1,942.13	1,908.21	33.92	57.261			
4,900.00	4,794.82	5,143.43	5,096.87	23.19	18.72	20.51	297.48	2,645.14	1,903.98	1,869.32	34.66	54.935			
5,000.00	4,891.18	5,235.87	5,188.01	23.80	19.11	20.51	306.35	2,632.53	1,865.83	1,830.43	35.40	52.705			
5,100.00	4,987.53	5,328.31	5,279.16	24.41	19.50	20.50	315.22	2,619.92	1,827.69	1,791.54	36.15	50.564			
5,200.00	5,083.88	5,420.74	5,370.30	25.03	19.90	20.49	324.09	2,607.31	1,789.54	1,752.65	36.89	48.508			
5,300.00	5,180.23	5,513.18	5,461.44	25.65	20.30	20.48	332.96	2,594.70	1,751.39	1,713.76	37.64	46.532			
5,400.00	5,276.58	5,605.62	5,552.58	26.26	20.70	20.46	341.84	2,582.09	1,713.25	1,674.86	38.39	44.632			
5,500.00	5,372.94	5,698.06	5,643.73	26.88	21.09	20.45	350.71	2,569.48	1,675.10	1,635.97	39.13	42.803			
5,600.00	5,469.29	5,790.50	5,734.87	27.50	21.49	20.44	359.58	2,556.87	1,636.95	1,597.07	39.88	41.042			
5,700.00	5,565.64	5,882.93	5,826.01	28.12	21.89	20.43	368.45	2,544.26	1,598.81	1,558.17	40.64	39.345			
5,800.00	5,661.99	5,975.37	5,917.16	28.74	22.29	20.41	377.32	2,531.64	1,560.66	1,519.27	41.39	37.709			
5,900.00	5,758.37	6,067.85	6,008.34	29.36	22.69	20.33	386.19	2,519.03	1,522.62	1,480.48	42.13	36.139			
6,000.00	5,855.40	6,137.65	6,077.25	29.94	23.00	20.04	392.58	2,509.94	1,487.41	1,444.53	42.88	34.687			
6,100.00	5,953.21	6,200.00	6,139.01	30.47	23.28	19.80	397.49	2,502.97	1,457.08	1,413.46	43.62	33.401			
6,200.00	6,051.68	6,273.47	6,212.01	30.95	23.65	19.60	402.28	2,496.16	1,431.73	1,387.35	44.38	32.263			
6,300.00	6,150.70	6,343.27	6,281.53	31.39	23.98	19.45	405.83	2,491.11	1,411.50	1,366.41	45.09	31.303			
6,400.00	6,250.15	6,400.00	6,338.13	31.77	24.25	19.34	408.00	2,488.03	1,396.57	1,350.82	45.75	30.528			
6,500.00	6,349.90	6,485.35	6,423.41	32.11	24.60	19.28	410.04	2,485.13	1,386.70	1,340.31	46.39	29.891			
6,600.00	6,449.83	6,561.95	6,500.00	32.41	24.77	19.26	410.63	2,484.29	1,382.26	1,335.38	46.88	29.486			
6,696.29	6,546.12	6,651.47	6,589.52	32.65	24.79	19.27	410.63	2,484.29	1,381.42	1,334.20	47.22	29.255	CC		
6,700.00	6,549.83	6,655.18	6,593.23	32.66	24.79	89.45	410.63	2,484.29	1,381.83	1,334.60	47.23	29.257			
6,800.00	6,649.83	6,755.18	6,693.23	32.92	24.83	89.45	410.63	2,484.29	1,381.83	1,334.24	47.59	29.037			
6,900.00	6,749.83	6,855.18	6,793.23	33.17	24.88	89.45	410.63	2,484.29	1,381.83	1,333.88	47.95	28.818			
7,000.00	6,849.83	6,955.18	6,893.23	33.43	24.92	89.45	410.63	2,484.29	1,381.83	1,333.52	48.31	28.602			
7,100.00	6,949.83	7,055.18	6,993.23	33.68	24.96	89.45	410.63	2,484.29	1,381.83	1,333.15	48.68	28.388			
7,200.00	7,049.83	7,155.18	7,093.23	33.94	25.00	89.45	410.63	2,484.29	1,381.83	1,332.79	49.04	28.176			
7,300.00	7,149.83	7,255.18	7,193.23	34.21	25.04	89.45	410.63	2,484.29	1,381.83	1,332.42	49.41	27.968			
7,400.00	7,249.83	7,355.18	7,293.23	34.47	25.09	89.45	410.63	2,484.29	1,381.83	1,332.05	49.78	27.761			
7,500.00	7,349.83	7,455.18	7,393.23	34.73	25.13	89.45	410.63	2,484.29	1,381.83	1,331.69	50.14	27.557			
7,600.00	7,449.83	7,555.18	7,493.23	35.00	25.17	89.45	410.63	2,484.29	1,381.83	1,331.32	50.51	27.355			
7,700.00	7,549.83	7,655.18	7,593.23	35.27	25.22	89.45	410.63	2,484.29	1,381.83	1,330.95	50.88	27.156			
7,800.00	7,649.83	7,755.18	7,693.23	35.54	25.26	89.45	410.63	2,484.29	1,381.83	1,330.57	51.26	26.959			
7,900.00	7,749.83	7,855.18	7,793.23	35.81	25.30	89.45	410.63	2,484.29	1,381.83	1,330.20	51.63	26.765			
8,000.00	7,849.83	7,955.18	7,893.23	36.08	25.35	89.45	410.63	2,484.29	1,381.83	1,329.83	52.00	26.572			
8,100.00	7,949.83	8,055.18	7,993.23	36.36	25.39	89.45	410.63	2,484.29	1,381.83	1,329.45	52.38	26.382			
8,200.00	8,049.83	8,155.18	8,093.23	36.63	25.43	89.45	410.63	2,484.29	1,381.83	1,329.08	52.75	26.194			
8,300.00	8,149.83	8,255.18	8,193.23	36.91	25.48	89.45	410.63	2,484.29	1,381.83	1,328.70	53.13	26.009			
8,400.00	8,249.83	8,355.18	8,293.23	37.19	25.52	89.45	410.63	2,484.29	1,381.83	1,328.32	53.51	25.825			
8,500.00	8,349.83	8,455.18	8,393.23	37.47	25.57	89.45	410.63	2,484.29	1,381.83	1,327.95	53.89	25.644			
8,600.00	8,449.83	8,555.18	8,493.23	37.75	25.61	89.45	410.63	2,484.29	1,381.83	1,327.57	54.26	25.465			
8,700.00	8,549.83	8,655.18	8,593.23	38.04	25.66	89.45	410.63	2,484.29	1,381.83	1,327.19	54.64	25.288			
8,800.00	8,649.83	8,755.18	8,693.23	38.32	25.70	89.45	410.63	2,484.29	1,381.83	1,326.81	55.02	25.113			
8,900.00	8,749.83	8,855.18	8,793.23	38.60	25.75	89.45	410.63	2,484.29	1,381.83	1,326.42	55.41	24.940			
9,000.00	8,849.83	8,955.18	8,893.23	38.89	25.79	89.45	410.63	2,484.29	1,381.83	1,326.04	55.79	24.769			
9,100.00	8,949.83	9,055.18	8,993.23	39.18	25.84	89.45	410.63	2,484.29	1,381.83	1,325.66	56.17	24.600			
9,200.00	9,049.83	9,155.18	9,093.23	39.47	25.89	89.45	410.63	2,484.29	1,381.83	1,325.28	56.55	24.434			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-COM-0112-213H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
9,300.00	9,149.83	9,255.18	9,193.23	39.76	25.93	89.45	410.63	2,484.29	1,381.83	1,324.89	56.94	24.269			
9,305.06	9,154.89	9,260.24	9,198.29	39.77	25.93	-90.80	410.63	2,484.29	1,381.83	1,324.87	56.96	24.260			
9,400.00	9,249.83	9,355.45	9,293.50	40.05	25.95	-90.80	410.52	2,484.29	1,381.83	1,324.53	57.31	24.113			
9,500.00	9,349.10	9,457.83	9,395.13	40.28	25.84	-90.79	399.36	2,484.29	1,381.88	1,324.34	57.54	24.015			
9,600.00	9,444.97	9,560.18	9,493.14	40.46	25.70	-90.77	370.33	2,484.29	1,382.00	1,324.32	57.68	23.962			
9,700.00	9,534.53	9,662.43	9,584.33	40.57	25.55	-90.71	324.40	2,484.30	1,382.18	1,324.45	57.73	23.943			
9,800.00	9,615.04	9,764.48	9,665.79	40.62	25.41	-90.64	263.14	2,484.30	1,382.42	1,324.68	57.74	23.942			
9,900.00	9,684.07	9,866.29	9,734.95	40.63	25.31	-90.55	188.61	2,484.31	1,382.72	1,324.97	57.76	23.941			
10,000.00	9,739.51	9,967.80	9,789.71	40.60	25.28	-90.44	103.30	2,484.31	1,383.07	1,325.24	57.83	23.918			
10,100.00	9,779.69	10,068.96	9,828.48	40.57	25.34	-90.31	10.01	2,484.32	1,383.45	1,325.46	57.99	23.856			
10,200.00	9,803.38	10,169.73	9,850.20	40.56	25.51	-90.18	-88.27	2,484.33	1,383.86	1,325.58	58.28	23.745			
10,300.00	9,809.95	10,270.06	9,854.88	40.60	25.78	-90.06	-188.38	2,484.33	1,384.29	1,325.58	58.70	23.581			
10,400.00	9,809.43	10,370.06	9,854.36	40.72	26.12	-90.06	-288.38	2,484.34	1,384.72	1,325.41	59.30	23.350			
10,500.00	9,808.91	10,470.06	9,853.84	40.93	26.51	-90.06	-388.38	2,484.35	1,385.15	1,325.06	60.09	23.053			
10,600.00	9,808.39	10,570.06	9,853.32	41.23	26.95	-90.06	-488.38	2,484.35	1,385.58	1,324.53	61.04	22.698			
10,700.00	9,807.87	10,670.05	9,852.80	41.63	27.44	-90.06	-588.37	2,484.36	1,386.01	1,323.84	62.17	22.294			
10,800.00	9,807.35	10,770.05	9,852.28	42.13	27.99	-90.06	-688.37	2,484.37	1,386.44	1,322.99	63.45	21.850			
10,900.00	9,806.83	10,870.05	9,851.76	42.73	28.58	-90.06	-788.37	2,484.37	1,386.87	1,321.98	64.88	21.374			
11,000.00	9,806.32	10,970.05	9,851.24	43.42	29.22	-90.06	-888.37	2,484.38	1,387.30	1,320.84	66.46	20.875			
11,100.00	9,805.80	11,070.05	9,850.72	44.19	29.92	-90.06	-988.37	2,484.39	1,387.73	1,319.57	68.16	20.361			
11,200.00	9,805.28	11,170.05	9,850.20	45.04	30.66	-90.06	-1,088.36	2,484.40	1,388.16	1,318.18	69.98	19.837			
11,300.00	9,804.76	11,270.05	9,849.68	45.97	31.45	-90.06	-1,188.36	2,484.40	1,388.59	1,316.68	71.91	19.310			
11,400.00	9,804.24	11,370.05	9,849.16	46.96	32.28	-90.06	-1,288.36	2,484.41	1,389.02	1,315.08	73.94	18.785			
11,500.00	9,803.72	11,470.05	9,848.64	48.02	33.15	-90.06	-1,388.36	2,484.42	1,389.45	1,313.38	76.07	18.265			
11,600.00	9,803.20	11,570.05	9,848.12	49.13	34.06	-90.06	-1,488.35	2,484.42	1,389.88	1,311.60	78.28	17.754			
11,700.00	9,802.68	11,670.04	9,847.60	50.29	35.01	-90.06	-1,588.35	2,484.43	1,390.31	1,309.73	80.58	17.254			
11,800.00	9,802.16	11,770.04	9,847.08	51.50	35.99	-90.06	-1,688.35	2,484.44	1,390.74	1,307.80	82.94	16.767			
11,900.00	9,801.64	11,870.04	9,846.56	52.76	37.01	-90.06	-1,788.35	2,484.45	1,391.17	1,305.80	85.37	16.295			
12,000.00	9,801.12	11,970.04	9,846.04	54.05	38.05	-90.06	-1,888.34	2,484.45	1,391.60	1,303.73	87.87	15.837			
12,100.00	9,800.60	12,070.04	9,845.52	55.38	39.12	-90.06	-1,988.34	2,484.46	1,392.03	1,301.61	90.42	15.396			
12,200.00	9,800.09	12,170.04	9,845.00	56.75	40.21	-90.06	-2,088.34	2,484.47	1,392.46	1,299.44	93.02	14.970			
12,300.00	9,799.57	12,270.04	9,844.49	58.15	41.33	-90.06	-2,188.34	2,484.47	1,392.89	1,297.23	95.67	14.560			
12,400.00	9,799.05	12,370.04	9,843.97	59.58	42.47	-90.06	-2,288.34	2,484.48	1,393.32	1,294.97	98.36	14.166			
12,500.00	9,798.53	12,470.04	9,843.45	61.03	43.63	-90.06	-2,388.33	2,484.49	1,393.75	1,292.66	101.09	13.787			
12,600.00	9,798.01	12,570.04	9,842.93	62.51	44.80	-90.06	-2,488.33	2,484.49	1,394.18	1,290.33	103.86	13.424			
12,700.00	9,797.49	12,670.04	9,842.41	64.02	45.99	-90.06	-2,588.33	2,484.50	1,394.61	1,287.95	106.66	13.075			
12,800.00	9,796.97	12,770.03	9,841.89	65.54	47.20	-90.06	-2,688.33	2,484.51	1,395.04	1,285.55	109.49	12.741			
12,900.00	9,796.45	12,870.03	9,841.37	67.09	48.42	-90.06	-2,788.32	2,484.52	1,395.47	1,283.12	112.35	12.420			
13,000.00	9,795.93	12,970.03	9,840.85	68.65	49.65	-90.06	-2,888.32	2,484.52	1,395.90	1,280.66	115.24	12.113			
13,100.00	9,795.41	13,070.03	9,840.33	70.24	50.90	-90.06	-2,988.32	2,484.53	1,396.33	1,278.17	118.16	11.817			
13,200.00	9,794.89	13,170.03	9,839.81	71.83	52.15	-90.06	-3,088.32	2,484.54	1,396.76	1,275.67	121.10	11.534			
13,300.00	9,794.37	13,270.03	9,839.29	73.45	53.42	-90.06	-3,188.32	2,484.54	1,397.19	1,273.14	124.05	11.263			
13,400.00	9,793.85	13,370.03	9,838.77	75.08	54.69	-90.06	-3,288.31	2,484.55	1,397.62	1,270.59	127.03	11.002			
13,500.00	9,793.34	13,470.03	9,838.25	76.72	55.98	-90.06	-3,388.31	2,484.56	1,398.05	1,268.02	130.03	10.752			
13,600.00	9,792.82	13,570.03	9,837.73	78.37	57.27	-90.06	-3,488.31	2,484.57	1,398.48	1,265.44	133.05	10.511			
13,700.00	9,792.30	13,670.03	9,837.21	80.04	58.57	-90.06	-3,588.31	2,484.57	1,398.91	1,262.84	136.08	10.280			
13,800.00	9,791.78	13,770.03	9,836.69	81.72	59.87	-90.06	-3,688.30	2,484.58	1,399.34	1,260.22	139.12	10.058			
13,900.00	9,791.26	13,870.02	9,836.17	83.41	61.19	-90.06	-3,788.30	2,484.59	1,399.78	1,257.59	142.18	9.845			
14,000.00	9,790.74	13,970.02	9,835.65	85.10	62.51	-90.06	-3,888.30	2,484.59	1,400.21	1,254.95	145.26	9.639			
14,100.00	9,790.22	14,070.02	9,835.13	86.81	63.83	-90.06	-3,988.30	2,484.60	1,400.64	1,252.29	148.34	9.442			
14,200.00	9,789.70	14,170.02	9,834.61	88.53	65.16	-90.06	-4,088.29	2,484.61	1,401.07	1,249.62	151.44	9.252			
14,300.00	9,789.18	14,270.02	9,834.09	90.25	66.50	-90.06	-4,188.29	2,484.61	1,401.50	1,246.95	154.55	9.068			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-COM-0112-213H - Wellbore #1 - Plan 1											Offset Site Error: 0.00 usft		
Survey Program: 0-MWD+HRGM										Offset Well Error: 0.50 usft			
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
14,400.00	9,788.66	14,370.02	9,833.57	91.98	67.83	-90.06	-4,288.29	2,484.62	1,401.93	1,244.26	157.67	8.892	
14,500.00	9,788.14	14,470.02	9,833.05	93.72	69.18	-90.06	-4,388.29	2,484.63	1,402.36	1,241.56	160.80	8.721	
14,600.00	9,787.62	14,570.02	9,832.53	95.47	70.53	-90.06	-4,488.29	2,484.64	1,402.79	1,238.85	163.94	8.557	
14,700.00	9,787.11	14,670.02	9,832.01	97.22	71.88	-90.06	-4,588.28	2,484.64	1,403.22	1,236.13	167.08	8.398	
14,800.00	9,786.59	14,770.02	9,831.49	98.98	73.23	-90.06	-4,688.28	2,484.65	1,403.65	1,233.41	170.24	8.245	
14,900.00	9,786.07	14,870.02	9,830.97	100.74	74.59	-90.06	-4,788.28	2,484.66	1,404.08	1,230.68	173.40	8.097	
15,000.00	9,785.55	14,970.01	9,830.45	102.51	75.95	-90.06	-4,888.28	2,484.66	1,404.51	1,227.94	176.57	7.954	
15,100.00	9,785.03	15,070.01	9,829.93	104.28	77.32	-90.06	-4,988.27	2,484.67	1,404.94	1,225.19	179.75	7.816	
15,200.00	9,784.51	15,170.01	9,829.41	106.07	78.69	-90.06	-5,088.27	2,484.68	1,405.37	1,222.44	182.93	7.682	
15,300.00	9,783.99	15,270.01	9,828.89	107.85	80.06	-90.06	-5,188.27	2,484.69	1,405.80	1,219.68	186.12	7.553	
15,400.00	9,783.47	15,370.01	9,828.37	109.64	81.43	-90.06	-5,288.27	2,484.69	1,406.23	1,216.91	189.32	7.428	
15,500.00	9,782.95	15,470.01	9,827.85	111.43	82.81	-90.06	-5,388.27	2,484.70	1,406.66	1,214.14	192.52	7.307	
15,600.00	9,782.43	15,570.01	9,827.33	113.23	84.18	-90.06	-5,488.26	2,484.71	1,407.09	1,211.36	195.73	7.189	
15,700.00	9,781.91	15,670.01	9,826.81	115.03	85.56	-90.06	-5,588.26	2,484.71	1,407.52	1,208.58	198.94	7.075	
15,800.00	9,781.39	15,770.01	9,826.29	116.84	86.95	-90.06	-5,688.26	2,484.72	1,407.95	1,205.79	202.15	6.965	
15,900.00	9,780.88	15,870.01	9,825.77	118.65	88.33	-90.06	-5,788.26	2,484.73	1,408.38	1,203.00	205.38	6.858	
16,000.00	9,780.36	15,970.01	9,825.25	120.46	89.72	-90.06	-5,888.25	2,484.73	1,408.81	1,200.21	208.60	6.754	
16,100.00	9,779.84	16,070.00	9,824.73	122.27	91.10	-90.06	-5,988.25	2,484.74	1,409.24	1,197.41	211.83	6.653	
16,200.00	9,779.32	16,170.00	9,824.21	124.09	92.49	-90.06	-6,088.25	2,484.75	1,409.67	1,194.60	215.07	6.555	
16,300.00	9,778.80	16,270.00	9,823.69	125.92	93.88	-90.06	-6,188.25	2,484.76	1,410.10	1,191.80	218.30	6.459	
16,400.00	9,778.28	16,370.00	9,823.17	127.74	95.28	-90.06	-6,288.24	2,484.76	1,410.53	1,188.99	221.54	6.367	
16,500.00	9,777.76	16,470.00	9,822.66	129.57	96.67	-90.06	-6,388.24	2,484.77	1,410.96	1,186.17	224.79	6.277	
16,600.00	9,777.24	16,570.00	9,822.14	131.40	98.07	-90.06	-6,488.24	2,484.78	1,411.39	1,183.35	228.04	6.189	
16,700.00	9,776.72	16,670.00	9,821.62	133.23	99.46	-90.06	-6,588.24	2,484.78	1,411.82	1,180.53	231.29	6.104	
16,800.00	9,776.20	16,770.00	9,821.10	135.06	100.86	-90.06	-6,688.24	2,484.79	1,412.25	1,177.71	234.54	6.021	
16,900.00	9,775.68	16,870.00	9,820.58	136.90	102.26	-90.06	-6,788.23	2,484.80	1,412.68	1,174.88	237.80	5.941	
17,000.00	9,775.16	16,970.00	9,820.06	138.74	103.66	-90.06	-6,888.23	2,484.80	1,413.11	1,172.05	241.06	5.862	
17,100.00	9,774.65	17,070.00	9,819.54	140.58	105.07	-90.06	-6,988.23	2,484.81	1,413.54	1,169.22	244.33	5.785	
17,200.00	9,774.13	17,169.99	9,819.02	142.43	106.47	-90.06	-7,088.23	2,484.82	1,413.97	1,166.38	247.59	5.711	
17,300.00	9,773.61	17,269.99	9,818.50	144.27	107.87	-90.06	-7,188.22	2,484.83	1,414.40	1,163.54	250.86	5.638	
17,400.00	9,773.09	17,369.99	9,817.98	146.12	109.28	-90.06	-7,288.22	2,484.83	1,414.83	1,160.70	254.13	5.567	
17,500.00	9,772.57	17,469.99	9,817.46	147.97	110.68	-90.06	-7,388.22	2,484.84	1,415.26	1,157.86	257.40	5.498	
17,600.00	9,772.05	17,569.99	9,816.94	149.82	112.09	-90.06	-7,488.22	2,484.85	1,415.69	1,155.01	260.68	5.431	
17,700.00	9,771.53	17,669.99	9,816.42	151.67	113.50	-90.06	-7,588.22	2,484.85	1,416.12	1,152.17	263.96	5.365	
17,800.00	9,771.01	17,750.39	9,816.00	153.53	114.63	-90.06	-7,668.61	2,484.86	1,416.69	1,149.62	267.07	5.305	
17,803.00	9,771.00	17,750.39	9,816.00	153.62	114.63	-90.06	-7,668.61	2,484.86	1,416.75	1,149.61	267.14	5.303 ES, SF	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-COM-0112-222H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
3,500.00	3,445.89	4,136.66	4,056.19	14.75	15.74	21.63	162.51	2,506.69	2,175.27	2,147.71	27.56	78.933			
3,600.00	3,542.25	4,223.56	4,139.78	15.34	16.12	21.67	169.95	2,484.10	2,125.81	2,097.49	28.32	75.068			
3,700.00	3,638.60	4,310.47	4,223.36	15.93	16.51	21.71	177.38	2,461.51	2,076.35	2,047.27	29.08	71.394			
3,800.00	3,734.95	4,397.37	4,306.95	16.52	16.90	21.75	184.81	2,438.91	2,026.90	1,997.05	29.85	67.898			
3,900.00	3,831.30	4,484.28	4,390.54	17.12	17.29	21.80	192.24	2,416.32	1,977.45	1,946.82	30.63	64.569			
4,000.00	3,927.65	4,571.18	4,474.13	17.72	17.68	21.85	199.68	2,393.73	1,927.99	1,896.59	31.40	61.396			
4,100.00	4,024.01	4,658.09	4,557.71	18.32	18.08	21.90	207.11	2,371.14	1,878.54	1,846.36	32.18	58.370			
4,200.00	4,120.36	4,744.99	4,641.30	18.92	18.47	21.95	214.54	2,348.55	1,829.09	1,796.12	32.97	55.482			
4,300.00	4,216.71	4,831.89	4,724.89	19.53	18.87	22.01	221.98	2,325.96	1,779.64	1,745.89	33.75	52.723			
4,400.00	4,313.06	4,918.80	4,808.47	20.13	19.27	22.07	229.41	2,303.37	1,730.20	1,695.65	34.55	50.085			
4,500.00	4,409.41	5,005.70	4,892.06	20.74	19.68	22.13	236.84	2,280.78	1,680.75	1,645.41	35.34	47.561			
4,600.00	4,505.77	5,092.61	4,975.65	21.35	20.08	22.20	244.28	2,258.19	1,631.30	1,595.17	36.14	45.144			
4,700.00	4,602.12	5,179.51	5,059.24	21.96	20.49	22.27	251.71	2,235.60	1,581.86	1,544.93	36.94	42.828			
4,800.00	4,698.47	5,266.42	5,142.82	22.57	20.89	22.34	259.14	2,213.01	1,532.42	1,494.68	37.74	40.607			
4,900.00	4,794.82	5,353.32	5,226.41	23.19	21.30	22.42	266.57	2,190.41	1,482.98	1,444.44	38.54	38.475			
5,000.00	4,891.18	5,440.23	5,310.00	23.80	21.71	22.51	274.01	2,167.82	1,433.55	1,394.19	39.35	36.428			
5,100.00	4,987.53	5,527.13	5,393.59	24.41	22.12	22.60	281.44	2,145.23	1,384.11	1,343.95	40.16	34.462			
5,200.00	5,083.88	5,614.04	5,477.17	25.03	22.53	22.70	288.87	2,122.64	1,334.68	1,293.70	40.98	32.570			
5,300.00	5,180.23	5,700.94	5,560.76	25.65	22.95	22.81	296.31	2,100.05	1,285.26	1,243.46	41.80	30.751			
5,400.00	5,276.58	5,787.85	5,644.35	26.26	23.36	22.92	303.74	2,077.46	1,235.83	1,193.21	42.62	28.998			
5,500.00	5,372.94	5,874.75	5,727.93	26.88	23.77	23.05	311.17	2,054.87	1,186.41	1,142.97	43.44	27.311			
5,600.00	5,469.29	5,961.66	5,811.52	27.50	24.19	23.18	318.61	2,032.28	1,137.00	1,092.73	44.27	25.684			
5,700.00	5,565.64	6,048.56	5,895.11	28.12	24.61	23.33	326.04	2,009.69	1,087.59	1,042.49	45.10	24.114			
5,800.00	5,661.99	6,135.46	5,978.70	28.74	25.02	23.50	333.47	1,987.10	1,038.18	992.25	45.94	22.600			
5,900.00	5,758.37	6,222.42	6,062.34	29.36	25.44	23.55	340.91	1,964.49	988.88	942.10	46.78	21.141			
6,000.00	5,855.40	6,310.53	6,147.08	29.94	25.86	23.25	348.44	1,941.59	941.62	894.01	47.61	19.778			
6,100.00	5,953.21	6,400.12	6,233.25	30.47	26.30	22.90	356.11	1,918.30	897.21	848.79	48.43	18.526			
6,200.00	6,051.68	6,491.09	6,320.75	30.95	26.74	22.49	363.89	1,894.65	855.71	806.48	49.23	17.381			
6,300.00	6,150.70	6,583.33	6,409.46	31.39	27.18	22.00	371.78	1,870.67	817.17	767.15	50.01	16.339			
6,400.00	6,250.15	6,658.76	6,482.24	31.77	27.55	21.52	377.98	1,851.82	782.63	731.73	50.90	15.376			
6,500.00	6,349.90	6,734.82	6,556.11	32.11	27.95	21.04	383.63	1,834.65	753.57	701.78	51.79	14.552			
6,600.00	6,449.83	6,812.64	6,632.17	32.41	28.37	20.55	388.78	1,819.01	730.15	677.51	52.65	13.869			
6,700.00	6,549.83	6,900.00	6,718.05	32.66	28.84	20.28	393.78	1,803.81	712.19	658.76	53.43	13.329			
6,800.00	6,649.83	6,971.86	6,789.03	32.92	29.21	20.00	397.28	1,793.17	697.16	642.95	54.21	12.860			
6,900.00	6,749.83	7,052.54	6,869.02	33.17	29.61	19.72	400.54	1,783.24	684.86	629.92	54.94	12.466			
7,000.00	6,849.83	7,133.74	6,949.81	33.43	29.99	19.50	403.12	1,775.42	675.23	619.61	55.62	12.139			
7,100.00	6,949.83	7,215.36	7,031.20	33.68	30.35	19.34	404.98	1,769.75	668.31	612.04	56.26	11.878			
7,200.00	7,049.83	7,300.00	7,115.76	33.94	30.69	19.23	406.15	1,766.20	664.09	607.22	56.87	11.678			
7,300.00	7,149.83	7,384.26	7,200.00	34.21	30.85	19.20	406.54	1,765.02	662.59	605.31	57.27	11.569			
7,335.49	7,185.32	7,413.67	7,229.42	34.30	30.85	19.20	406.54	1,765.02	662.56	605.19	57.37	11.549			
7,400.00	7,249.83	7,478.19	7,293.93	34.47	30.87	19.20	406.54	1,765.02	662.56	604.97	57.59	11.504			
7,500.00	7,349.83	7,578.19	7,393.93	34.73	30.90	19.20	406.54	1,765.02	662.56	604.62	57.95	11.434			
7,600.00	7,449.83	7,678.19	7,493.93	35.00	30.93	19.20	406.54	1,765.02	662.56	604.26	58.30	11.365			
7,700.00	7,549.83	7,778.19	7,593.93	35.27	30.96	19.20	406.54	1,765.02	662.56	603.91	58.65	11.296			
7,800.00	7,649.83	7,878.19	7,693.93	35.54	30.99	19.20	406.54	1,765.02	662.56	603.55	59.01	11.228			
7,900.00	7,749.83	7,978.19	7,793.93	35.81	31.02	19.20	406.54	1,765.02	662.56	603.19	59.37	11.160			
8,000.00	7,849.83	8,078.19	7,893.93	36.08	31.06	19.20	406.54	1,765.02	662.56	602.83	59.73	11.093			
8,100.00	7,949.83	8,178.19	7,993.93	36.36	31.09	19.20	406.54	1,765.02	662.56	602.48	60.09	11.027			
8,200.00	8,049.83	8,278.19	8,093.93	36.63	31.12	19.20	406.54	1,765.02	662.56	602.12	60.45	10.961			
8,300.00	8,149.83	8,378.19	8,193.93	36.91	31.15	19.20	406.54	1,765.02	662.56	601.75	60.81	10.896			
8,400.00	8,249.83	8,478.19	8,293.93	37.19	31.19	19.20	406.54	1,765.02	662.56	601.39	61.17	10.832			
8,500.00	8,349.83	8,578.19	8,393.93	37.47	31.22	19.20	406.54	1,765.02	662.56	601.03	61.53	10.768			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-COM-0112-222H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HRGM		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Distance Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
8,600.00	8,449.83	8,678.19	8,493.93	37.75	31.25	89.20	406.54	1,765.02	662.56	600.67	61.89	10.705			
8,700.00	8,549.83	8,778.19	8,593.93	38.04	31.28	89.20	406.54	1,765.02	662.56	600.30	62.26	10.642			
8,800.00	8,649.83	8,878.19	8,693.93	38.32	31.32	89.20	406.54	1,765.02	662.56	599.94	62.62	10.580			
8,900.00	8,749.83	8,978.19	8,793.93	38.60	31.35	89.20	406.54	1,765.02	662.56	599.57	62.99	10.519			
9,000.00	8,849.83	9,078.19	8,893.93	38.89	31.38	89.20	406.54	1,765.02	662.56	599.20	63.36	10.458			
9,100.00	8,949.83	9,178.19	8,993.93	39.18	31.42	89.20	406.54	1,765.02	662.56	598.84	63.72	10.397			
9,200.00	9,049.83	9,278.19	9,093.93	39.47	31.45	89.20	406.54	1,765.02	662.56	598.47	64.09	10.338			
9,300.00	9,149.83	9,378.19	9,193.93	39.76	31.49	89.20	406.54	1,765.02	662.56	598.10	64.46	10.279	CC		
9,306.26	9,156.10	9,384.45	9,200.20	39.78	31.49	-91.05	406.54	1,765.02	662.56	598.08	64.48	10.275			
9,400.00	9,249.83	9,478.19	9,293.93	40.05	31.52	-91.06	406.54	1,765.02	662.56	597.74	64.83	10.221			
9,500.00	9,349.10	9,577.46	9,393.20	40.28	31.56	-91.96	406.54	1,765.02	662.85	597.86	65.00	10.198			
9,600.00	9,444.97	9,675.00	9,490.74	40.46	31.57	-94.14	406.24	1,765.02	664.40	599.49	64.91	10.236			
9,700.00	9,534.53	9,782.15	9,596.89	40.57	31.48	-96.82	392.77	1,764.96	667.70	602.91	64.79	10.306			
9,800.00	9,615.04	9,897.28	9,705.98	40.62	31.34	-99.38	356.61	1,764.79	672.26	607.55	64.72	10.388			
9,900.00	9,684.07	10,021.31	9,812.86	40.63	31.21	-101.73	294.16	1,764.51	677.51	612.84	64.67	10.476			
10,000.00	9,739.51	10,154.57	9,909.84	40.60	31.13	-103.73	203.21	1,764.10	682.64	617.96	64.69	10.553			
10,100.00	9,779.69	10,296.23	9,986.99	40.57	31.17	-105.21	84.82	1,763.56	686.77	621.91	64.86	10.589			
10,200.00	9,803.38	10,443.93	10,034.02	40.56	31.41	-106.00	-54.76	1,762.92	689.06	623.70	65.36	10.542			
10,300.00	9,809.95	10,582.37	10,044.88	40.60	31.84	-106.07	-192.47	1,762.30	689.21	623.05	66.16	10.418			
10,400.00	9,809.43	10,682.37	10,044.36	40.72	32.25	-106.08	-292.47	1,761.84	689.18	622.40	66.78	10.320			
10,500.00	9,808.91	10,782.37	10,043.84	40.93	32.71	-106.08	-392.47	1,761.39	689.15	621.59	67.56	10.201			
10,600.00	9,808.39	10,882.37	10,043.32	41.23	33.21	-106.08	-492.47	1,760.93	689.12	620.63	68.49	10.062			
10,700.00	9,807.87	10,982.37	10,042.80	41.63	33.75	-106.08	-592.47	1,760.48	689.09	619.53	69.56	9.907			
10,800.00	9,807.35	11,082.37	10,042.28	42.13	34.34	-106.08	-692.46	1,760.02	689.06	618.30	70.76	9.738			
10,900.00	9,806.83	11,182.37	10,041.76	42.73	34.96	-106.08	-792.46	1,759.57	689.03	616.93	72.10	9.557			
11,000.00	9,806.32	11,282.37	10,041.25	43.42	35.63	-106.08	-892.46	1,759.12	689.00	615.44	73.56	9.367			
11,100.00	9,805.80	11,382.37	10,040.73	44.19	36.32	-106.08	-992.46	1,758.66	688.97	613.84	75.13	9.170			
11,200.00	9,805.28	11,482.37	10,040.21	45.04	37.05	-106.08	-1,092.45	1,758.21	688.94	612.12	76.81	8.969			
11,300.00	9,804.76	11,582.37	10,039.69	45.97	37.82	-106.08	-1,192.45	1,757.75	688.91	610.31	78.60	8.765			
11,400.00	9,804.24	11,682.37	10,039.17	46.96	38.61	-106.08	-1,292.45	1,757.30	688.88	608.40	80.47	8.560			
11,500.00	9,803.72	11,782.37	10,038.65	48.02	39.43	-106.08	-1,392.45	1,756.84	688.85	606.41	82.44	8.356			
11,600.00	9,803.20	11,882.37	10,038.13	49.13	40.29	-106.08	-1,492.44	1,756.39	688.82	604.33	84.48	8.153			
11,700.00	9,802.68	11,982.37	10,037.61	50.29	41.17	-106.08	-1,592.44	1,755.93	688.79	602.18	86.61	7.953			
11,800.00	9,802.16	12,082.37	10,037.09	51.50	42.08	-106.09	-1,692.44	1,755.48	688.76	599.96	88.80	7.757			
11,900.00	9,801.64	12,182.37	10,036.57	52.76	43.01	-106.09	-1,792.44	1,755.02	688.73	597.67	91.05	7.564			
12,000.00	9,801.12	12,282.37	10,036.05	54.05	43.97	-106.09	-1,892.43	1,754.57	688.70	595.33	93.37	7.376			
12,100.00	9,800.60	12,382.37	10,035.53	55.38	44.95	-106.09	-1,992.43	1,754.12	688.67	592.93	95.74	7.193			
12,200.00	9,800.09	12,482.37	10,035.01	56.75	45.95	-106.09	-2,092.43	1,753.66	688.64	590.47	98.16	7.015			
12,300.00	9,799.57	12,582.37	10,034.50	58.15	46.97	-106.09	-2,192.43	1,753.21	688.61	587.97	100.63	6.843			
12,400.00	9,799.05	12,682.37	10,033.98	59.58	48.01	-106.09	-2,292.42	1,752.75	688.58	585.43	103.14	6.676			
12,500.00	9,798.53	12,782.37	10,033.46	61.03	49.07	-106.09	-2,392.42	1,752.30	688.55	582.85	105.70	6.514			
12,600.00	9,798.01	12,882.37	10,032.94	62.51	50.15	-106.09	-2,492.42	1,751.84	688.51	580.22	108.29	6.358			
12,700.00	9,797.49	12,982.37	10,032.42	64.02	51.24	-106.09	-2,592.42	1,751.39	688.48	577.57	110.92	6.207			
12,800.00	9,796.97	13,082.37	10,031.90	65.54	52.35	-106.09	-2,692.41	1,750.93	688.45	574.88	113.58	6.061			
12,900.00	9,796.45	13,182.37	10,031.38	67.09	53.48	-106.09	-2,792.41	1,750.48	688.42	572.15	116.27	5.921			
13,000.00	9,795.93	13,282.37	10,030.86	68.65	54.62	-106.09	-2,892.41	1,750.02	688.39	569.41	118.99	5.785			
13,100.00	9,795.41	13,382.37	10,030.34	70.24	55.77	-106.09	-2,992.41	1,749.57	688.36	566.63	121.73	5.655			
13,200.00	9,794.89	13,482.37	10,029.82	71.83	56.93	-106.10	-3,092.41	1,749.11	688.33	563.83	124.50	5.529			
13,300.00	9,794.37	13,582.37	10,029.30	73.45	58.11	-106.10	-3,192.40	1,748.66	688.30	561.01	127.30	5.407			
13,400.00	9,793.85	13,682.37	10,028.78	75.08	59.30	-106.10	-3,292.40	1,748.21	688.27	558.16	130.11	5.290			
13,500.00	9,793.34	13,782.37	10,028.26	76.72	60.49	-106.10	-3,392.40	1,747.75	688.24	555.30	132.95	5.177			
13,600.00	9,792.82	13,882.37	10,027.75	78.37	61.70	-106.10	-3,492.40	1,747.30	688.21	552.41	135.80	5.068			

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: SEC 02-T23S-R28E - RANA-SALADA-FED-COM-0112-222H - Wellbore #1 - Plan 1											Offset Site Error: 0.00 usft		
Survey Program: 0-MWD+HRGM								Rule Assigned:				Offset Well Error: 0.50 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Minimum Separation (usft)
13,700.00	9,792.30	13,982.37	10,027.23	80.04	62.92	-106.10	-3,592.39	1,746.84	688.18	549.51	138.67	4.963	
13,800.00	9,791.78	14,082.37	10,026.71	81.72	64.14	-106.10	-3,692.39	1,746.39	688.15	546.59	141.56	4.861	
13,900.00	9,791.26	14,182.37	10,026.19	83.41	65.38	-106.10	-3,792.39	1,745.93	688.12	543.66	144.47	4.763	
14,000.00	9,790.74	14,282.37	10,025.67	85.10	66.62	-106.10	-3,892.39	1,745.48	688.09	540.71	147.38	4.669	
14,100.00	9,790.22	14,382.37	10,025.15	86.81	67.87	-106.10	-3,992.38	1,745.02	688.06	537.75	150.32	4.577	
14,200.00	9,789.70	14,482.37	10,024.63	88.53	69.13	-106.10	-4,092.38	1,744.57	688.03	534.77	153.26	4.489	
14,300.00	9,789.18	14,582.37	10,024.11	90.25	70.39	-106.10	-4,192.38	1,744.11	688.00	531.78	156.22	4.404	
14,400.00	9,788.66	14,682.37	10,023.59	91.98	71.67	-106.10	-4,292.38	1,743.66	687.97	528.78	159.19	4.322	
14,500.00	9,788.14	14,782.37	10,023.07	93.72	72.94	-106.10	-4,392.37	1,743.21	687.94	525.77	162.17	4.242	
14,600.00	9,787.62	14,882.37	10,022.55	95.47	74.23	-106.11	-4,492.37	1,742.75	687.91	522.75	165.16	4.165	
14,700.00	9,787.11	14,982.37	10,022.03	97.22	75.52	-106.11	-4,592.37	1,742.30	687.88	519.72	168.16	4.091	
14,800.00	9,786.59	15,082.37	10,021.51	98.98	76.81	-106.11	-4,692.37	1,741.84	687.85	516.68	171.17	4.018	
14,900.00	9,786.07	15,182.37	10,021.00	100.74	78.11	-106.11	-4,792.36	1,741.39	687.82	513.63	174.19	3.949	
15,000.00	9,785.55	15,282.37	10,020.48	102.51	79.41	-106.11	-4,892.36	1,740.93	687.79	510.57	177.22	3.881	
15,100.00	9,785.03	15,382.37	10,019.96	104.28	80.72	-106.11	-4,992.36	1,740.48	687.76	507.51	180.25	3.816	
15,200.00	9,784.51	15,482.37	10,019.44	106.07	82.03	-106.11	-5,092.36	1,740.02	687.73	504.43	183.30	3.752	
15,300.00	9,783.99	15,582.37	10,018.92	107.85	83.35	-106.11	-5,192.36	1,739.57	687.70	501.35	186.35	3.690	
15,400.00	9,783.47	15,682.37	10,018.40	109.64	84.67	-106.11	-5,292.35	1,739.11	687.67	498.27	189.40	3.631	
15,500.00	9,782.95	15,782.37	10,017.88	111.43	86.00	-106.11	-5,392.35	1,738.66	687.64	495.17	192.47	3.573	
15,600.00	9,782.43	15,882.37	10,017.36	113.23	87.33	-106.11	-5,492.35	1,738.21	687.61	492.07	195.54	3.517	
15,700.00	9,781.91	15,982.37	10,016.84	115.03	88.66	-106.11	-5,592.35	1,737.75	687.58	488.97	198.61	3.462	
15,800.00	9,781.39	16,082.37	10,016.32	116.84	89.99	-106.11	-5,692.34	1,737.30	687.55	485.85	201.69	3.409	
15,900.00	9,780.88	16,182.37	10,015.80	118.65	91.33	-106.11	-5,792.34	1,736.84	687.52	482.74	204.78	3.357	
16,000.00	9,780.36	16,282.37	10,015.28	120.46	92.67	-106.12	-5,892.34	1,736.39	687.49	479.62	207.87	3.307	
16,100.00	9,779.84	16,382.37	10,014.76	122.27	94.02	-106.12	-5,992.34	1,735.93	687.46	476.49	210.97	3.259	
16,200.00	9,779.32	16,482.37	10,014.25	124.09	95.37	-106.12	-6,092.33	1,735.48	687.43	473.36	214.07	3.211	
16,300.00	9,778.80	16,582.37	10,013.73	125.92	96.72	-106.12	-6,192.33	1,735.02	687.40	470.22	217.18	3.165	
16,400.00	9,778.28	16,682.37	10,013.21	127.74	98.07	-106.12	-6,292.33	1,734.57	687.37	467.08	220.29	3.120	
16,500.00	9,777.76	16,782.37	10,012.69	129.57	99.42	-106.12	-6,392.33	1,734.11	687.34	463.94	223.40	3.077	
16,600.00	9,777.24	16,882.37	10,012.17	131.40	100.78	-106.12	-6,492.32	1,733.66	687.31	460.79	226.52	3.034	
16,700.00	9,776.72	16,982.37	10,011.65	133.23	102.14	-106.12	-6,592.32	1,733.21	687.28	457.63	229.64	2.993	
16,800.00	9,776.20	17,082.37	10,011.13	135.06	103.50	-106.12	-6,692.32	1,732.75	687.25	454.48	232.77	2.952	
16,900.00	9,775.68	17,182.37	10,010.61	136.90	104.87	-106.12	-6,792.32	1,732.30	687.22	451.32	235.90	2.913	
17,000.00	9,775.16	17,282.37	10,010.09	138.74	106.23	-106.12	-6,892.31	1,731.84	687.19	448.16	239.03	2.875	
17,100.00	9,774.65	17,382.37	10,009.57	140.58	107.60	-106.12	-6,992.31	1,731.39	687.16	444.99	242.17	2.838	
17,200.00	9,774.13	17,482.37	10,009.05	142.43	108.97	-106.12	-7,092.31	1,730.93	687.13	441.82	245.31	2.801	
17,300.00	9,773.61	17,582.37	10,008.53	144.27	110.34	-106.13	-7,192.31	1,730.48	687.10	438.65	248.45	2.766	
17,400.00	9,773.09	17,682.37	10,008.01	146.12	111.71	-106.13	-7,292.31	1,730.02	687.07	435.47	251.59	2.731	
17,500.00	9,772.57	17,782.37	10,007.50	147.97	113.09	-106.13	-7,392.30	1,729.57	687.04	432.29	254.74	2.697	
17,600.00	9,772.05	17,882.37	10,006.98	149.82	114.47	-106.13	-7,492.30	1,729.11	687.01	429.11	257.89	2.664	
17,700.00	9,771.53	17,982.37	10,006.46	151.67	115.84	-106.13	-7,592.30	1,728.66	686.98	425.93	261.04	2.632	
17,787.47	9,771.08	18,069.84	10,006.00	153.29	117.05	-106.13	-7,679.77	1,728.26	686.95	423.14	263.80	2.604	
17,800.00	9,771.01	18,071.00	10,006.00	153.53	117.13	-106.13	-7,680.93	1,728.26	687.04	422.98	264.06	2.602	
17,803.00	9,771.00	18,071.00	10,006.00	153.62	117.13	-106.13	-7,680.93	1,728.26	687.09	422.97	264.12	2.601 ES, SF	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Sec 14-T23S-28E - CB Boba Fett 14 11 Fed 09 403H Package 9 - Wellbore #1 - Design #1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HRGM												Offset Well Error:	0.50 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,000.00	8,849.83	23,214.85	9,716.92	38.89	211.49	-98.64	99.49	-857.38	2,188.93	1,957.78	231.15	9.470	
9,100.00	8,949.83	23,214.85	9,716.92	39.18	211.49	-98.64	99.49	-857.38	2,148.44	1,914.76	233.68	9.194	
9,200.00	9,049.83	23,214.85	9,716.92	39.47	211.49	-98.64	99.49	-857.38	2,111.91	1,875.90	236.01	8.948	
9,300.00	9,149.83	23,214.85	9,716.92	39.76	211.49	-98.64	99.49	-857.38	2,079.55	1,841.47	238.08	8.735	
9,400.00	9,249.83	23,214.85	9,716.92	40.05	211.49	81.46	99.49	-857.38	2,051.54	1,811.67	239.87	8.553	
9,500.00	9,349.10	23,214.85	9,716.92	40.28	211.49	84.01	99.49	-857.38	2,026.63	1,785.17	241.46	8.393	
9,600.00	9,444.97	23,214.85	9,716.92	40.46	211.49	86.26	99.49	-857.38	2,004.60	1,761.67	242.94	8.252	
9,700.00	9,534.53	23,214.85	9,716.92	40.57	211.49	88.13	99.49	-857.38	1,986.24	1,742.00	244.24	8.132	
9,800.00	9,615.04	23,214.85	9,716.92	40.62	211.49	89.55	99.49	-857.38	1,972.20	1,726.87	245.33	8.039	
9,900.00	9,684.07	23,214.85	9,716.92	40.63	211.49	90.47	99.49	-857.38	1,963.02	1,716.88	246.14	7.975	
10,000.00	9,739.51	23,214.77	9,716.92	40.60	211.49	90.87	99.42	-857.38	1,959.03	1,712.41	246.61	7.944	
10,100.00	9,779.69	23,123.58	9,716.38	40.57	210.19	89.86	8.22	-857.38	1,958.26	1,713.11	245.15	7.988	
10,200.00	9,803.38	23,026.70	9,715.80	40.56	208.80	89.20	-88.65	-857.38	1,958.03	1,714.31	243.72	8.034	
10,300.00	9,809.95	22,927.08	9,715.21	40.60	207.38	89.02	-188.27	-857.38	1,957.72	1,715.28	242.44	8.075	
10,400.00	9,809.43	22,827.08	9,714.62	40.72	205.95	89.01	-288.27	-857.38	1,957.30	1,716.00	241.30	8.111	
10,500.00	9,808.91	22,727.08	9,714.02	40.93	204.52	89.01	-388.27	-857.38	1,956.87	1,716.62	240.26	8.145	
10,600.00	9,808.39	22,627.08	9,713.43	41.23	203.10	89.01	-488.27	-857.38	1,956.45	1,717.14	239.32	8.175	
10,700.00	9,807.87	22,527.08	9,712.84	41.63	201.67	89.01	-588.26	-857.38	1,956.03	1,717.57	238.46	8.203	
10,800.00	9,807.35	22,427.08	9,712.24	42.13	200.24	89.00	-688.26	-857.38	1,955.61	1,717.91	237.70	8.227	
10,900.00	9,806.83	22,327.08	9,711.65	42.73	198.81	89.00	-788.26	-857.38	1,955.19	1,718.17	237.02	8.249	
11,000.00	9,806.32	22,227.09	9,711.06	43.42	197.39	89.00	-888.25	-857.38	1,954.77	1,718.34	236.42	8.268	
11,100.00	9,805.80	22,127.09	9,710.46	44.19	195.96	89.00	-988.25	-857.38	1,954.34	1,718.45	235.90	8.285	
11,200.00	9,805.28	22,027.09	9,709.87	45.04	194.53	89.00	-1,088.25	-857.38	1,953.92	1,718.48	235.44	8.299	
11,300.00	9,804.76	21,927.09	9,709.28	45.97	193.11	88.99	-1,188.25	-857.38	1,953.50	1,718.45	235.05	8.311	
11,400.00	9,804.24	21,827.09	9,708.68	46.96	191.68	88.99	-1,288.24	-857.38	1,953.08	1,718.36	234.72	8.321	
11,500.00	9,803.72	21,727.09	9,708.09	48.02	190.25	88.99	-1,388.24	-857.38	1,952.66	1,718.21	234.45	8.329	
11,600.00	9,803.20	21,627.09	9,707.50	49.13	188.83	88.99	-1,488.24	-857.38	1,952.24	1,718.01	234.22	8.335	
11,700.00	9,802.68	21,527.09	9,706.90	50.29	187.40	88.98	-1,588.24	-857.38	1,951.81	1,717.76	234.05	8.339	
11,800.00	9,802.16	21,427.09	9,706.31	51.50	185.98	88.98	-1,688.23	-857.38	1,951.39	1,717.47	233.92	8.342	
11,900.00	9,801.64	21,327.09	9,705.71	52.76	184.55	88.98	-1,788.23	-857.38	1,950.97	1,717.14	233.83	8.344	
12,000.00	9,801.12	21,227.09	9,705.12	54.05	183.13	88.98	-1,888.23	-857.38	1,950.55	1,716.77	233.78	8.344	
12,100.00	9,800.60	21,127.10	9,704.53	55.38	181.70	88.97	-1,988.23	-857.38	1,950.13	1,716.37	233.76	8.343	
12,200.00	9,800.09	21,027.10	9,703.93	56.75	180.28	88.97	-2,088.22	-857.38	1,949.70	1,715.93	233.77	8.340	
12,300.00	9,799.57	20,927.10	9,703.34	58.15	178.85	88.97	-2,188.22	-857.38	1,949.28	1,715.47	233.81	8.337	
12,400.00	9,799.05	20,827.10	9,702.75	59.58	177.43	88.97	-2,288.22	-857.38	1,948.86	1,714.98	233.88	8.333	
12,500.00	9,798.53	20,727.10	9,702.15	61.03	176.00	88.96	-2,388.21	-857.38	1,948.44	1,714.46	233.98	8.327	
12,600.00	9,798.01	20,627.10	9,701.56	62.51	174.58	88.96	-2,488.21	-857.38	1,948.02	1,713.92	234.10	8.321	
12,700.00	9,797.49	20,527.10	9,700.97	64.02	173.16	88.96	-2,588.21	-857.38	1,947.60	1,713.36	234.24	8.315	
12,800.00	9,796.97	20,427.10	9,700.37	65.54	171.73	88.96	-2,688.21	-857.38	1,947.17	1,712.78	234.39	8.307	
12,900.00	9,796.45	20,327.10	9,699.78	67.09	170.31	88.95	-2,788.20	-857.38	1,946.75	1,712.18	234.57	8.299	
13,000.00	9,795.93	20,227.10	9,699.19	68.65	168.89	88.95	-2,888.20	-857.38	1,946.33	1,711.56	234.77	8.290	
13,100.00	9,795.41	20,127.11	9,698.59	70.24	167.47	88.95	-2,988.20	-857.38	1,945.91	1,710.93	234.98	8.281	
13,200.00	9,794.89	20,027.11	9,698.00	71.83	166.05	88.95	-3,088.20	-857.38	1,945.49	1,710.28	235.20	8.271	
13,300.00	9,794.37	19,927.11	9,697.41	73.45	164.62	88.94	-3,188.19	-857.38	1,945.07	1,709.62	235.44	8.261	
13,400.00	9,793.85	19,827.11	9,696.81	75.08	163.20	88.94	-3,288.19	-857.38	1,944.64	1,708.95	235.70	8.251	
13,500.00	9,793.34	19,727.11	9,696.22	76.72	161.78	88.94	-3,388.19	-857.38	1,944.22	1,708.26	235.96	8.240	
13,600.00	9,792.82	19,627.11	9,695.63	78.37	160.36	88.94	-3,488.19	-857.38	1,943.80	1,707.56	236.24	8.228	
13,700.00	9,792.30	19,527.11	9,695.03	80.04	158.94	88.93	-3,588.18	-857.38	1,943.38	1,706.85	236.53	8.216	
13,800.00	9,791.78	19,427.11	9,694.44	81.72	157.52	88.93	-3,688.18	-857.38	1,942.96	1,706.13	236.82	8.204	
13,900.00	9,791.26	19,327.11	9,693.85	83.41	156.10	88.93	-3,788.18	-857.38	1,942.54	1,705.41	237.13	8.192	
14,000.00	9,790.74	19,227.11	9,693.25	85.10	154.68	88.93	-3,888.17	-857.38	1,942.11	1,704.67	237.44	8.179	
14,100.00	9,790.22	19,127.11	9,692.66	86.81	153.27	88.93	-3,988.17	-857.38	1,941.69	1,703.92	237.77	8.166	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Sec 14-T23S-28E - CB Boba Fett 14 11 Fed 09 403H Package 9 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program:		0-MWD+HRGM					Rule Assigned:				Offset Well Error:		0.50 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
14,200.00	9,789.70	19,027.12	9,692.07	88.53	151.85	88.92	-4,088.17	-857.38	1,941.27	1,703.17	238.10	8.153		
14,300.00	9,789.18	18,927.12	9,691.47	90.25	150.43	88.92	-4,188.17	-857.38	1,940.85	1,702.41	238.44	8.140		
14,400.00	9,788.66	18,827.12	9,690.88	91.98	149.01	88.92	-4,288.16	-857.38	1,940.43	1,701.64	238.78	8.126		
14,500.00	9,788.14	18,727.12	9,690.29	93.72	147.60	88.92	-4,388.16	-857.38	1,940.01	1,700.87	239.14	8.113		
14,600.00	9,787.62	18,627.12	9,689.69	95.47	146.18	88.91	-4,488.16	-857.38	1,939.58	1,700.09	239.50	8.099		
14,700.00	9,787.11	18,527.12	9,689.10	97.22	144.76	88.91	-4,588.16	-857.38	1,939.16	1,699.30	239.86	8.085		
14,800.00	9,786.59	18,427.12	9,688.51	98.98	143.35	88.91	-4,688.15	-857.38	1,938.74	1,698.51	240.23	8.070		
14,900.00	9,786.07	18,327.12	9,687.91	100.74	141.93	88.91	-4,788.15	-857.38	1,938.32	1,697.71	240.61	8.056		
15,000.00	9,785.55	18,227.12	9,687.32	102.51	140.52	88.90	-4,888.15	-857.38	1,937.90	1,696.91	240.99	8.041		
15,100.00	9,785.03	18,127.12	9,686.73	104.28	139.11	88.90	-4,988.14	-857.38	1,937.48	1,696.10	241.38	8.027		
15,200.00	9,784.51	18,027.12	9,686.13	106.07	137.69	88.90	-5,088.14	-857.38	1,937.05	1,695.29	241.77	8.012		
15,300.00	9,783.99	17,927.13	9,685.54	107.85	136.28	88.90	-5,188.14	-857.38	1,936.63	1,694.47	242.16	7.997		
15,400.00	9,783.47	17,827.13	9,684.95	109.64	134.87	88.89	-5,288.14	-857.38	1,936.21	1,693.65	242.56	7.982		
15,500.00	9,782.95	17,727.13	9,684.35	111.43	133.45	88.89	-5,388.13	-857.38	1,935.79	1,692.82	242.97	7.967		
15,600.00	9,782.43	17,627.13	9,683.76	113.23	132.04	88.89	-5,488.13	-857.38	1,935.37	1,691.99	243.38	7.952		
15,700.00	9,781.91	17,527.13	9,683.17	115.03	130.63	88.89	-5,588.13	-857.38	1,934.95	1,691.16	243.79	7.937		
15,800.00	9,781.39	17,427.13	9,682.57	116.84	129.22	88.88	-5,688.13	-857.38	1,934.52	1,690.32	244.21	7.922		
15,900.00	9,780.88	17,327.13	9,681.98	118.65	127.81	88.88	-5,788.12	-857.38	1,934.10	1,689.48	244.63	7.906		
16,000.00	9,780.36	17,227.13	9,681.39	120.46	126.41	88.88	-5,888.12	-857.38	1,933.68	1,688.63	245.05	7.891		
16,100.00	9,779.84	17,127.13	9,680.79	122.27	125.00	88.88	-5,988.12	-857.38	1,933.26	1,687.78	245.48	7.876		
16,200.00	9,779.32	17,027.13	9,680.20	124.09	123.59	88.87	-6,088.12	-857.38	1,932.84	1,686.93	245.91	7.860		
16,300.00	9,778.80	16,927.13	9,679.61	125.92	122.18	88.87	-6,188.11	-857.38	1,932.42	1,686.08	246.34	7.844		
16,400.00	9,778.28	16,827.14	9,679.01	127.74	120.78	88.87	-6,288.11	-857.38	1,931.99	1,685.22	246.78	7.829		
16,500.00	9,777.76	16,727.14	9,678.42	129.57	119.37	88.87	-6,388.11	-857.38	1,931.57	1,684.36	247.22	7.813		
16,600.00	9,777.24	16,627.14	9,677.83	131.40	117.97	88.86	-6,488.10	-857.38	1,931.15	1,683.49	247.66	7.798		
16,700.00	9,776.72	16,527.14	9,677.23	133.23	116.57	88.86	-6,588.10	-857.38	1,930.73	1,682.62	248.11	7.782		
16,800.00	9,776.20	16,427.14	9,676.64	135.06	115.16	88.86	-6,688.10	-857.38	1,930.31	1,681.75	248.56	7.766		
16,900.00	9,775.68	16,327.14	9,676.04	136.90	113.76	88.86	-6,788.10	-857.38	1,929.89	1,680.88	249.01	7.750		
17,000.00	9,775.16	16,227.14	9,675.45	138.74	112.36	88.85	-6,888.09	-857.38	1,929.46	1,680.00	249.46	7.734		
17,100.00	9,774.65	16,127.14	9,674.86	140.58	110.96	88.85	-6,988.09	-857.38	1,929.04	1,679.12	249.92	7.719		
17,200.00	9,774.13	16,027.14	9,674.26	142.43	109.56	88.85	-7,088.09	-857.38	1,928.62	1,678.24	250.38	7.703		
17,300.00	9,773.61	15,927.14	9,673.67	144.27	108.17	88.85	-7,188.09	-857.38	1,928.20	1,677.36	250.84	7.687		
17,400.00	9,773.09	15,827.14	9,673.08	146.12	106.77	88.84	-7,288.08	-857.38	1,927.78	1,676.47	251.31	7.671		
17,500.00	9,772.57	15,727.15	9,672.48	147.97	105.37	88.84	-7,388.08	-857.38	1,927.36	1,675.58	251.78	7.655		
17,600.00	9,772.05	15,627.15	9,671.89	149.82	103.98	88.84	-7,488.08	-857.38	1,926.94	1,674.68	252.25	7.639		
17,700.00	9,771.53	15,527.15	9,671.30	151.67	102.59	88.84	-7,588.08	-857.38	1,926.51	1,673.79	252.73	7.623		
17,800.00	9,771.01	15,427.15	9,670.70	153.53	101.20	88.83	-7,688.07	-857.38	1,926.09	1,672.89	253.20	7.607		
17,803.00	9,771.00	15,424.15	9,670.69	153.62	101.15	88.83	-7,691.07	-857.38	1,926.08	1,672.86	253.22	7.606	CC, ES, SF	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Valkyrie Pad (Grid) - Valkyrie 12 WXY Federal Com 11H - Wellbore #1 - Final Surveys													Offset Site Error: 0.00 usft
Survey Program: 237-													Offset Well Error: 0.50 usft
Reference	Rule Assigned:												
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,400.00	9,773.09	11,267.00	9,727.60	146.12	45.45	-96.91	-9,453.33	1,336.06	2,181.41	2,098.65	82.75	26.360	
17,500.00	9,772.57	11,267.00	9,727.60	147.97	45.45	-96.91	-9,453.33	1,336.06	2,082.26	1,999.49	82.77	25.157	
17,600.00	9,772.05	11,267.00	9,727.60	149.82	45.45	-96.91	-9,453.33	1,336.06	1,983.19	1,900.38	82.81	23.948	
17,700.00	9,771.53	11,267.00	9,727.60	151.67	45.45	-96.91	-9,453.33	1,336.06	1,884.23	1,801.33	82.90	22.729	
17,800.00	9,771.01	11,267.00	9,727.60	153.53	45.45	-96.91	-9,453.33	1,336.06	1,785.38	1,702.34	83.04	21.501	
17,803.00	9,771.00	11,267.00	9,727.60	153.62	45.45	-96.91	-9,453.33	1,336.06	1,782.41	1,694.31	88.10	20.231	CC, ES, SF

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Offset Design: Valkyrie Pad (Grid) - Valkyrie 12 WXY Federal Com 7H - Wellbore #1 - Final Surveys												Offset Site Error:	0.00 usft
Survey Program: 237-												Offset Well Error:	0.50 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,100.00	9,779.84	11,017.16	9,728.79	122.27	42.84	-110.47	-8,163.97	1,140.92	2,176.67	2,094.77	81.90	26.577	
16,200.00	9,779.32	11,013.41	9,728.72	124.09	42.78	-111.40	-8,164.08	1,137.17	2,076.74	1,994.86	81.88	25.363	
16,300.00	9,778.80	11,009.69	9,728.64	125.92	42.73	-112.41	-8,164.19	1,133.45	1,976.81	1,894.94	81.86	24.147	
16,400.00	9,778.28	11,006.00	9,728.56	127.74	42.67	-113.52	-8,164.30	1,129.76	1,876.87	1,795.02	81.85	22.930	
16,500.00	9,777.76	11,002.33	9,728.48	129.57	42.62	-114.73	-8,164.41	1,126.10	1,776.94	1,695.10	81.84	21.712	
16,600.00	9,777.24	10,998.69	9,728.40	131.40	42.57	-116.05	-8,164.52	1,122.46	1,677.01	1,595.18	81.83	20.493	
16,700.00	9,776.72	10,995.09	9,728.32	133.23	42.51	-117.51	-8,164.63	1,118.86	1,577.08	1,495.25	81.83	19.273	
16,800.00	9,776.20	10,991.51	9,728.23	135.06	42.46	-119.13	-8,164.73	1,115.28	1,477.15	1,395.33	81.83	18.052	
16,900.00	9,775.68	10,987.95	9,728.15	136.90	42.41	-120.91	-8,164.84	1,111.73	1,377.23	1,295.40	81.83	16.830	
17,000.00	9,775.16	10,984.43	9,728.06	138.74	42.36	-122.91	-8,164.94	1,108.21	1,277.30	1,195.46	81.84	15.607	
17,100.00	9,774.65	10,980.93	9,727.97	140.58	42.30	-125.13	-8,165.04	1,104.71	1,177.38	1,095.52	81.85	14.384	
17,200.00	9,774.13	10,977.46	9,727.88	142.43	42.25	-127.63	-8,165.14	1,101.24	1,077.46	995.58	81.88	13.160	
17,300.00	9,773.61	10,974.01	9,727.79	144.27	42.20	-130.44	-8,165.24	1,097.80	977.55	895.64	81.91	11.935	
17,400.00	9,773.09	10,970.59	9,727.70	146.12	42.15	-133.61	-8,165.34	1,094.38	877.64	795.69	81.95	10.709	
17,500.00	9,772.57	10,967.20	9,727.61	147.97	42.10	-137.19	-8,165.43	1,090.99	777.74	695.73	82.01	9.483	
17,600.00	9,772.05	10,963.83	9,727.51	149.82	42.05	-141.24	-8,165.53	1,087.63	677.86	595.77	82.09	8.257	
17,700.00	9,771.53	10,960.49	9,727.42	151.67	42.00	-145.80	-8,165.62	1,084.29	578.00	495.79	82.21	7.031	
17,800.00	9,771.01	10,957.17	9,727.32	153.53	41.96	-150.91	-8,165.71	1,080.97	478.17	395.79	82.39	5.804	
17,803.00	9,771.00	10,957.07	9,727.32	153.62	41.95	-151.07	-8,165.72	1,080.87	475.18	387.98	87.20	5.449 CC, ES, SF	

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



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB 25' + GL 3067.10 @ 3092.10usft

Offset Depths are relative to Offset Datum

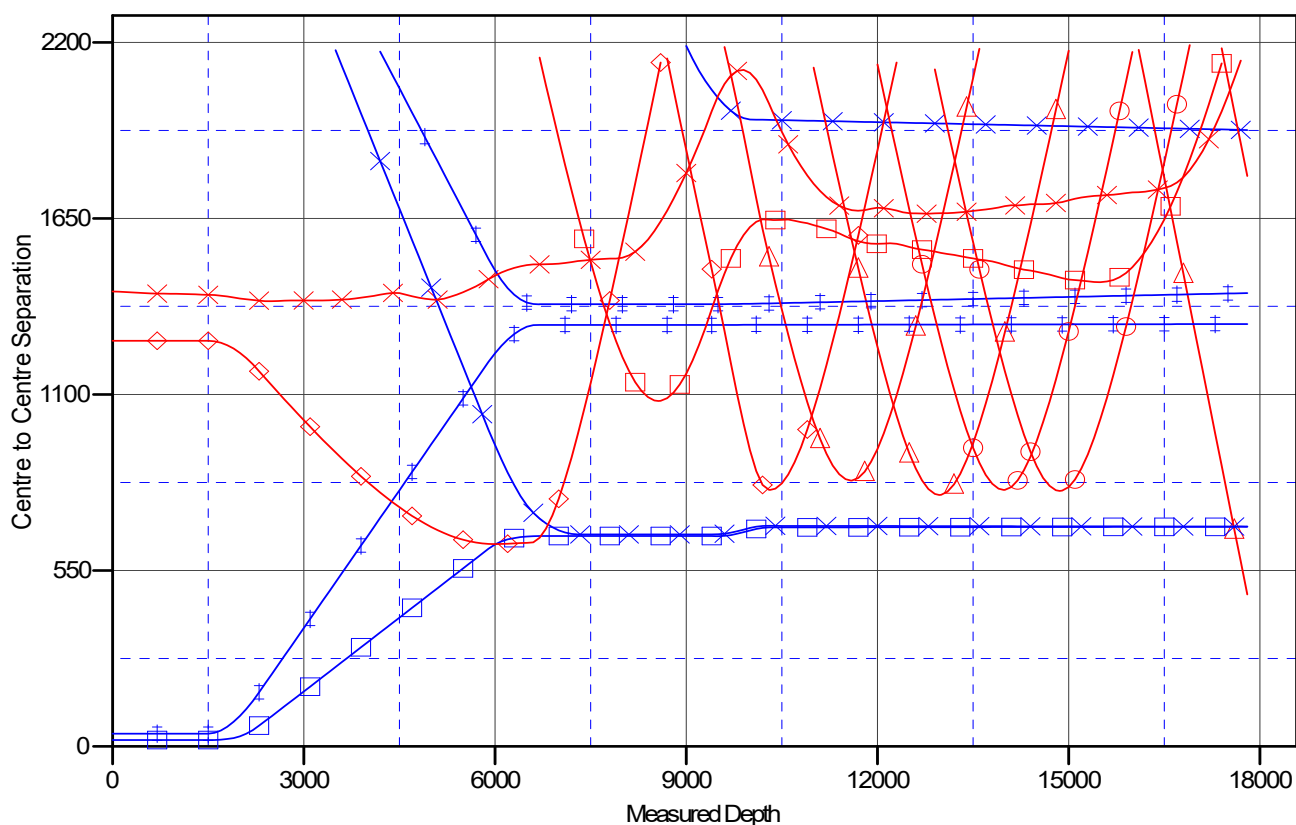
Central Meridian is -104.33333334

Coordinates are relative to: RANA-SALADA-FED-01-211H

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

Grid Convergence at Surface is: 0.15°

Ladder Plot



LEGEND

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> CB Boba Fed 14 11 Fed 09 403H Package 9, Wellbore #1, Design #1 V0 Valkyrie 12 WXY Fed Com 7H, Wellbore #1, Final Surveys V0 Valkyrie 12 WXY Fed Com 11H, Wellbore #1, Final Surveys V0 Rana Salada Fed Com 0106 213H, Wellbore #1, Final Surveys V0 RANA-SALADA-FED-COM-0112213H, Wellbore #1, Plan 1 V0 | <ul style="list-style-type: none"> RANA-SALADA-FED-COM-0112222H, Wellbore #1, Plan 1 V0 Rana Salada Fed Com 0106 233H, Wellbore #1, Final Surveys V0 RANA-SALADA-FED-01-231H, Wellbore #1, Plan 1 V0 RANA-SALADA-FED-01-131H, Wellbore #1, Plan 1 V0 Rana Salada Fed Com 0106 223H, Wellbore #1, Final Surveys V0 | <ul style="list-style-type: none"> Offset-Longview 12 Fed 15H, Wellbore #1, Wellbore #1 V0 Rana Salada Fed Com 0106 236H, Wellbore #1, Final Surveys V0 Rana Salada Fed Com 0106 133H, Wellbore #1, Final Surveys V0 Offset-Lentini Fed 1-002 (P/A), Wellbore #1, Wellbore #1 V0 Offset-Longview Fed 1-21H, Wellbore #1, Wellbore #1 V0 |
|---|--|--|

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



Anticollision Report

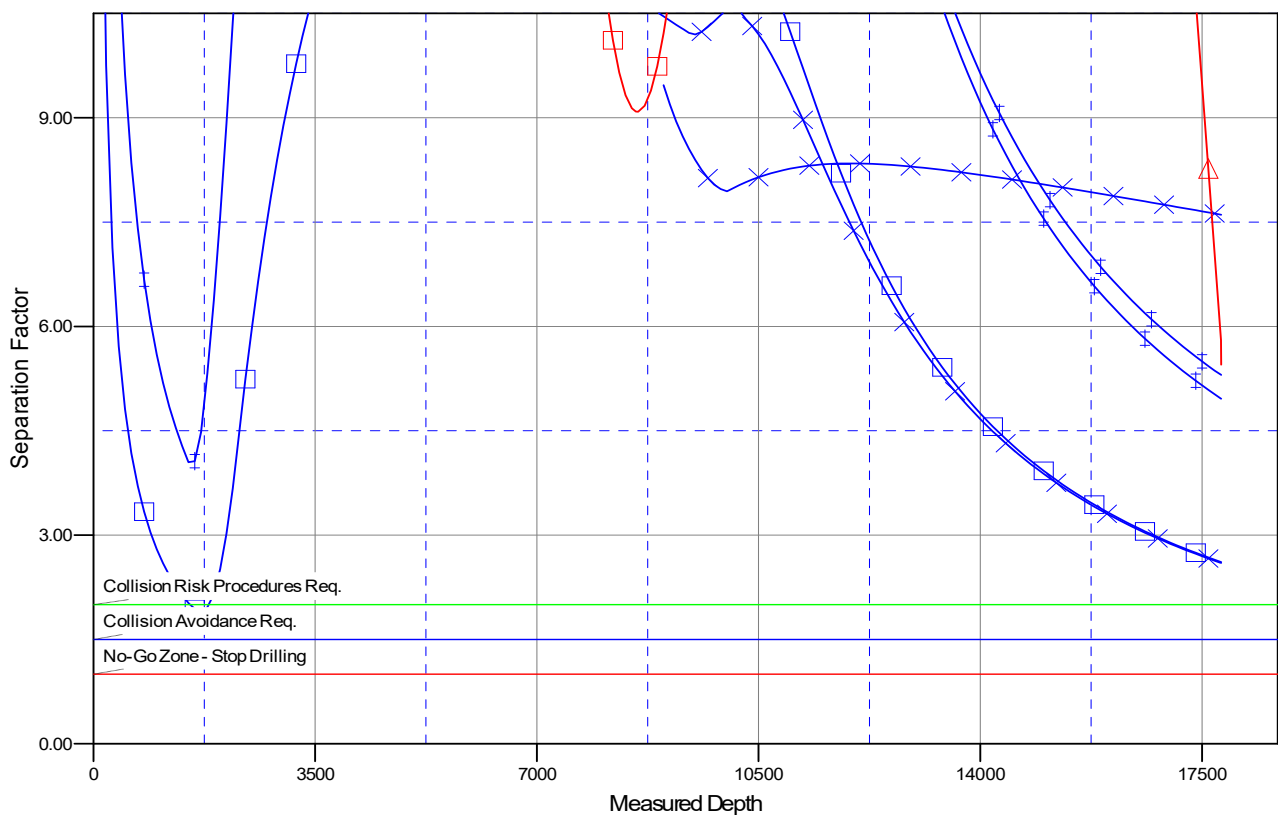


Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well RANA-SALADA-FED-01-211H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Reference Site:	SEC 02-T23S-R28E	MD Reference:	RKB 25' + GL 3067.10 @ 3092.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	RANA-SALADA-FED-01-211H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	1 - EDM Production
Reference Design:	Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB 25' + GL 3067.10 @ 3092.10usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.33333334

Coordinates are relative to: RANA-SALADA-FED-01-211H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.15°

Separation Factor Plot



LEGEND

- CB Boba Fed 14 11 Fed 09 403H Package 9, Wellbore #1, Design #1 V0 - Valkyrie 12 WXY Federal Com 7H, Wellbore #1, Final Surveys V0 - Valkyrie 12 WXY Federal Com 11H, Wellbore #1, Final Surveys V0 - Rana Salada Fed Com 0106 213H, Wellbore #1, FINAL SURVEYS V0 - RANA-SALADA-FED-COM-0112 213H, Wellbore #1, Plan 1 V0	- RANA-SALADA-FED-COM-0112 222H, Wellbore #1, Plan 1 V0 - Rana Salada Fed Com 0106 233H, Wellbore #1, FINAL SURVEYS V0 - RANA-SALADA-FED-01 231H, Wellbore #1, Plan 1 V0 - RANA-SALADA-FED-01 131H, Wellbore #1, Plan 1 V0 - Rana Salada Fed Com 0106 233H, Wellbore #1, FINAL SURVEYS V0	- Offset-Longview 12 Federal 15H, Wellbore #1, Wellbore #1 V0 - Rana Salada Fed Com 0106 236H, Wellbore #1, FINAL SURVEYS V0 - Rana Salada Fed Com 0106 133H, Wellbore #1, FINAL SURVEYS V0 - Offset-Lentini Fed 1-002 (P/A), Wellbore #1, Wellbore #1 V0 - Offset-Longview Fed 1-21H, Wellbore #1, Wellbore #1 V0
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CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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 30-015-48581	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp Gas Pool
⁴ Property Code 330695	⁵ Property Name RANA SALADA FED 01	⁶ Well Number 211H
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC	⁹ Elevation 3067.1

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
4	1	23S	28E		144	NORTH	547	WEST	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
F	12	23S	28E		2510	NORTH	1650	WEST	EDDY

¹² Dedicated Acres 479.16	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. <i>Justin Carter</i> 11.1.2022 Signature Date Justin Carter Printed Name jcarter@novoog.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. OCTOBER 12, 2022 Date of Survey <i>Justin Carter</i> Signature and Seal of Professional Surveyor: LS 12797 Certificate Number: LS 12797 Survey No. 8096B
--	---

Intent ☐ As Drilled ☐

API #		
Operator Name: NOVO OIL & GAS NORTHERN DELAWARE, LLC	Property Name: RANA SALADA FED 01	Well Number 211H

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
	1	23S	28E	3	330	NORTH	1650	WEST	EDDY
Latitude 32.3411286					Longitude 104.0439029				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	12	23S	28E	1	2310	NORTH	1650	WEST	EDDY
Latitude 32.3210219					Longitude 104.0440725				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

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

CONDITIONS

Action 212528

CONDITIONS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1001 West Wilshire Blvd Oklahoma City, OK 73116	OGRID: 372920
	Action Number: 212528
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Original COA's still apply	10/13/2023