

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.

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

3a. Address

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

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

8. Well Name and No.

9. API Well No.

10. Field and Pool or Exploratory Area

11. Country or Parish, State

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	
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
☐ Final Abandonment Notice	☐ 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.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

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)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: LOT 2 / 592 FNL / 1494 FEL / TWSP: 23S / RANGE: 28E / SECTION: 4 / LAT: 32.3402886 / LONG: -104.0886817 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 3 / 138 FSL / 2256 FWL / TWSP: 23S / RANGE: 28E / SECTION: 3 / LAT: 32.34165 / LONG: -104.09363 (TVD: 8104 feet, MD: 8306 feet)

BHL: SESW / 10 FSL / 1914 FWL / TWSP: 23S / RANGE: 28E / SECTION: 4 / LAT: 32.3271646 / LONG: -104.0948899 (TVD: 9349 feet, MD: 14629 feet)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
Goonch Fed Com 04 135H
 SHL: 1,280' FSL & 1,115' FWL' of Section 4-23S-28E
 BHL: 1,870' FWL & 10' FNL Section 4-23S-28E
Eddy County, New Mexico
FBSG



Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD KB	MD'	Bearing
Quaternary	0	-	Water
Rustler anhydrite (surface csg @ 410' MD)	330	330	N/A
Salado salt	564	574	N/A
Lamar limestone	2725	2,745	N/A
Bell Canyon sandstone	2765	2,795	Hydrocarbons
Cherry Canyon sandstone	3792	3,832	Hydrocarbons
Brushy Canyon sandstone	5245	5,295	Hydrocarbons
Bone Spring limestone	6315	6,375	Hydrocarbons
Avalon shale	6995	7,065	Hydrocarbons
1st Bone Spring sandstone	7000	7,080	Hydrocarbons
2nd Bone Spring carbonate	7665	7,755	Hydrocarbons
2nd Bone Spring sandstone	8000	8,100	Hydrocarbons
3rd Bone Spring carbonate	8485	8,595	Hydrocarbons
Wolfcamp XY	9650	9,770	Hydrocarbons
Wolfcamp A	9820	9,950	Hydrocarbons
Wolfcamp B	10080	10,220	Hydrocarbons
Wolfcamp B Flow Unit	10350	10,500	Hydrocarbons
Wolfcamp C	10625	10,625	Hydrocarbons
Intermediate Casing Point	3,325	3,445	
KOP	6,509	6,639	
TD	7,109	13,101	

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 731.5 psi) high for 30 minutes

NOVO OIL & GAS NORTHERN DELAWARE, LLC
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 SHL: 1,280' FSL & 1,115' FWL' of Section 4-23S-28E
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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	410	0	410	J-55	54.5	BTC	1.125	1.125	1.6
Intermediate	9 7/8	8 5/8	API	No	0	3,475	0	3,325	P-110 HP	32	Talon HTQ	1.125	1.125	1.6
Production	7 7/8	5 1/2	API	No	0	13,101	0	7,109	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	3,475	0	3,325	P-110 HP	32	TLW	1.125	1.125	1.6
Production	7 7/8	5 1/2	API	No	0	13,101	0	7,109	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	352	1.62	569.7	13.8	100%	C	Gel, Accelerator, LCM
Intermediate	Lead	0	205	3.58	735.5	10	100%	C or H	Fluid Loss, Retarder, LCM, Possibly beads
	Tail	2325	130	1.39	180.7	13.8	50%	C or H	Fluid Loss, Retarder, LCM
Production	Lead	0	132	2.12	278.9	12	20%	H	Fluid Loss, Retarder, LCM
	Tail	1325	1761	1.59	2799.4	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	410'	Water Based Spud Mud	8.30	30-60	NC
Intermediate	410	3325	Brine	8.8-9.6	35-45	NC
Production	3325	13101	WBM or OBM	9.2-9.9	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 ≈3056.87 psi. Anticipated bottom hole pressure is ≈4620.85 psi. Expected bottom hole temperature is ≈215 deg F.

An H2S plan is attached.

8. OTHER INFORMATION

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

CHANGE TO PLANSMove Bottom Hole Location

From: 10' FSL & 1,494' FWL, Section 4, T-23-S, R-28-E, SESW

To: 10' FNL & 1,870' FWL, Section 4, T-23-S, R-28-E, NENW

Change Target Formation

From: Third Bone Spring

To: First Bone Spring

Casing Depth Interval Change (TMD)

Surface Casing (13-3/8"): 0' – 410'

Intermediate Casing (8-5/8"): 0' – 3,475'

Production Casing (5-1/2"): 0' – 13,101'

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

Tail: 352 Sacks; 569.7 cu. ft.; 100% excess; 1.62 cu. ft./sx; 13.8 ppg; Class C cement + Gel + Accelerator, + LCM; 1,200 psi 24-hour comprehensive strength.

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

Lead: 205 Sacks; 735.5 cu. ft.; 100% excess; 3.58 cu.ft./sx; 10 ppg; Class C or H + retarder + LCM + 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 + retarder + LCM; 1,200 psi 24-hour compressive strength.

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

Lead: 132 Sacks; 278.9 cu. ft.; 20% excess; 2.12 cu.ft./sx; 12 ppg; Class H + retarder; 1,200 psi 24-hour compressive strength.

Tail: 1,761 Sacks; 2,799.4 cu. ft; 20% excess; 1.59 cu.ft./sx; 13.20 ppg; Class H + retarder; 1,200 psi 24-hour compressive strength.

Drilling Fluid Program Changes

Fresh Water Spud Mud:	0' – 410';	8.3 ppg
Brine Diesel Emulsion:	410' – 3,325';	8.8-9.6 ppg
Oil Based Mud:	3,325 – 13,101';	9.2-9.9 ppg



NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC. 04-T23S-R28E

GOONCH FED COM 04 135H

Wellbore #1

Plan: Plan 1

Standard Planning Report

15 December, 2021





Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	GOONCH FED COM 04 135H	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. 04-T23S-R28E		
Site Position:		Northing:	487,875.76 usft
From:	Map	Easting:	615,421.32 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.34101377
		Longitude:	-104.09345229

Well	GOONCH FED COM 04 135H		
Well Position	+N/-S	0.00 usft	Northing: 484,105.04 usft
	+E/-W	0.00 usft	Easting: 614,231.80 usft
Position Uncertainty	0.33 usft	Wellhead Elevation:	usft
Grid Convergence:	0.13 °	Ground Level:	3,016.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/13/2021	6.74	59.90	47,453.74335840

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	0.00

Plan Survey Tool Program	Date	12/15/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,100.89	Plan 1 (Wellbore #1)	MWD+IGRF
				OWSG MWD + IGRF or WMM



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,250.00	5.00	90.00	1,249.68	0.00	10.90	2.00	2.00	0.00	90.00	
2,432.27	25.15	157.26	2,389.87	-235.08	161.69	2.00	1.70	5.69	77.80	
5,657.62	25.15	157.26	5,309.37	-1,499.45	691.61	0.00	0.00	0.00	0.00	
6,915.31	0.00	0.00	6,527.04	-1,750.00	796.62	2.00	-2.00	0.00	180.00	
7,814.31	89.90	350.00	7,100.00	-1,186.73	697.30	10.00	10.00	0.00	350.00	
8,589.31	89.90	5.50	7,101.36	-414.69	666.97	2.00	0.00	2.00	90.01	
9,689.31	89.90	5.50	7,103.28	680.24	772.40	0.00	0.00	0.00	0.00	
9,868.50	89.90	1.92	7,103.58	859.03	783.98	2.00	0.00	-2.00	-89.94	
13,101.63	89.90	1.92	7,109.00	4,090.35	892.09	0.00	0.00	0.00	0.00	



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	GOONCH FED COM 04 135H	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	2.00	90.00	1,099.98	0.00	1.75	0.00	2.00	2.00	0.00
1,200.00	4.00	90.00	1,199.84	0.00	6.98	0.00	2.00	2.00	0.00
1,250.00	5.00	90.00	1,249.68	0.00	10.90	0.00	2.00	2.00	0.00
1,300.00	5.30	100.64	1,299.48	-0.43	15.35	-0.43	2.00	0.60	21.28
1,400.00	6.35	117.55	1,398.97	-3.84	24.80	-3.84	2.00	1.05	16.91
1,500.00	7.78	129.00	1,498.21	-10.66	34.96	-10.66	2.00	1.43	11.46
1,600.00	9.42	136.72	1,597.09	-20.87	45.83	-20.87	2.00	1.64	7.72
1,700.00	11.17	142.10	1,695.48	-34.47	57.39	-34.47	2.00	1.76	5.38
1,800.00	13.00	146.01	1,793.26	-51.44	69.63	-51.44	2.00	1.83	3.91
1,900.00	14.87	148.96	1,890.32	-71.77	82.53	-71.77	2.00	1.87	2.95
2,000.00	16.77	151.27	1,986.52	-95.41	96.08	-95.41	2.00	1.90	2.30
2,100.00	18.69	153.11	2,081.77	-122.35	110.26	-122.35	2.00	1.92	1.84
2,200.00	20.62	154.62	2,175.94	-152.55	125.06	-152.55	2.00	1.93	1.51
2,300.00	22.57	155.88	2,268.92	-185.98	140.45	-185.98	2.00	1.95	1.26
2,400.00	24.52	156.95	2,360.59	-222.59	156.42	-222.59	2.00	1.95	1.07
2,432.27	25.15	157.26	2,389.87	-235.08	161.69	-235.08	2.00	1.96	0.97
2,500.00	25.15	157.26	2,451.18	-261.63	172.82	-261.63	0.00	0.00	0.00
2,600.00	25.15	157.26	2,541.70	-300.83	189.25	-300.83	0.00	0.00	0.00
2,700.00	25.15	157.26	2,632.22	-340.03	205.68	-340.03	0.00	0.00	0.00
2,800.00	25.15	157.26	2,722.73	-379.23	222.11	-379.23	0.00	0.00	0.00
2,900.00	25.15	157.26	2,813.25	-418.43	238.54	-418.43	0.00	0.00	0.00
3,000.00	25.15	157.26	2,903.77	-457.63	254.97	-457.63	0.00	0.00	0.00
3,100.00	25.15	157.26	2,994.28	-496.84	271.40	-496.84	0.00	0.00	0.00
3,200.00	25.15	157.26	3,084.80	-536.04	287.83	-536.04	0.00	0.00	0.00
3,300.00	25.15	157.26	3,175.32	-575.24	304.26	-575.24	0.00	0.00	0.00
3,400.00	25.15	157.26	3,265.84	-614.44	320.69	-614.44	0.00	0.00	0.00
3,500.00	25.15	157.26	3,356.35	-653.64	337.12	-653.64	0.00	0.00	0.00
3,600.00	25.15	157.26	3,446.87	-692.84	353.55	-692.84	0.00	0.00	0.00
3,700.00	25.15	157.26	3,537.39	-732.04	369.98	-732.04	0.00	0.00	0.00
3,800.00	25.15	157.26	3,627.90	-771.24	386.41	-771.24	0.00	0.00	0.00
3,900.00	25.15	157.26	3,718.42	-810.44	402.84	-810.44	0.00	0.00	0.00
4,000.00	25.15	157.26	3,808.94	-849.64	419.27	-849.64	0.00	0.00	0.00
4,100.00	25.15	157.26	3,899.45	-888.85	435.70	-888.85	0.00	0.00	0.00
4,200.00	25.15	157.26	3,989.97	-928.05	452.13	-928.05	0.00	0.00	0.00
4,300.00	25.15	157.26	4,080.49	-967.25	468.56	-967.25	0.00	0.00	0.00
4,400.00	25.15	157.26	4,171.01	-1,006.45	484.99	-1,006.45	0.00	0.00	0.00
4,500.00	25.15	157.26	4,261.52	-1,045.65	501.42	-1,045.65	0.00	0.00	0.00
4,600.00	25.15	157.26	4,352.04	-1,084.85	517.85	-1,084.85	0.00	0.00	0.00
4,700.00	25.15	157.26	4,442.56	-1,124.05	534.28	-1,124.05	0.00	0.00	0.00
4,800.00	25.15	157.26	4,533.07	-1,163.25	550.70	-1,163.25	0.00	0.00	0.00
4,900.00	25.15	157.26	4,623.59	-1,202.45	567.13	-1,202.45	0.00	0.00	0.00
5,000.00	25.15	157.26	4,714.11	-1,241.66	583.56	-1,241.66	0.00	0.00	0.00
5,100.00	25.15	157.26	4,804.63	-1,280.86	599.99	-1,280.86	0.00	0.00	0.00



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	GOONCH FED COM 04 135H	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)
5,200.00	25.15	157.26	4,895.14	-1,320.06	616.42	-1,320.06	0.00	0.00	0.00
5,300.00	25.15	157.26	4,985.66	-1,359.26	632.85	-1,359.26	0.00	0.00	0.00
5,400.00	25.15	157.26	5,076.18	-1,398.46	649.28	-1,398.46	0.00	0.00	0.00
5,500.00	25.15	157.26	5,166.69	-1,437.66	665.71	-1,437.66	0.00	0.00	0.00
5,600.00	25.15	157.26	5,257.21	-1,476.86	682.14	-1,476.86	0.00	0.00	0.00
5,657.62	25.15	157.26	5,309.37	-1,499.45	691.61	-1,499.45	0.00	0.00	0.00
5,700.00	24.31	157.26	5,347.86	-1,515.80	698.46	-1,515.80	2.00	-2.00	0.00
5,800.00	22.31	157.26	5,439.70	-1,552.29	713.76	-1,552.29	2.00	-2.00	0.00
5,900.00	20.31	157.26	5,532.86	-1,585.80	727.80	-1,585.80	2.00	-2.00	0.00
6,000.00	18.31	157.26	5,627.23	-1,616.29	740.58	-1,616.29	2.00	-2.00	0.00
6,100.00	16.31	157.26	5,722.70	-1,643.72	752.08	-1,643.72	2.00	-2.00	0.00
6,200.00	14.31	157.26	5,819.14	-1,668.07	762.28	-1,668.07	2.00	-2.00	0.00
6,300.00	12.31	157.26	5,916.45	-1,689.29	771.18	-1,689.29	2.00	-2.00	0.00
6,400.00	10.31	157.26	6,014.51	-1,707.37	778.75	-1,707.37	2.00	-2.00	0.00
6,500.00	8.31	157.26	6,113.19	-1,722.29	785.00	-1,722.29	2.00	-2.00	0.00
6,600.00	6.31	157.26	6,212.37	-1,734.01	789.92	-1,734.01	2.00	-2.00	0.00
6,700.00	4.31	157.26	6,311.94	-1,742.54	793.49	-1,742.54	2.00	-2.00	0.00
6,800.00	2.31	157.26	6,411.77	-1,747.86	795.72	-1,747.86	2.00	-2.00	0.00
6,900.00	0.31	157.26	6,511.73	-1,749.96	796.60	-1,749.96	2.00	-2.00	0.00
6,915.31	0.00	0.00	6,527.04	-1,750.00	796.62	-1,750.00	2.00	-2.00	0.00
6,950.00	3.47	350.00	6,561.71	-1,748.97	796.44	-1,748.97	10.00	10.00	0.00
7,000.00	8.47	350.00	6,611.43	-1,743.85	795.54	-1,743.85	10.00	10.00	0.00
7,050.00	13.47	350.00	6,660.50	-1,734.48	793.88	-1,734.48	10.00	10.00	0.00
7,100.00	18.47	350.00	6,708.55	-1,720.94	791.50	-1,720.94	10.00	10.00	0.00
7,150.00	23.47	350.00	6,755.23	-1,703.32	788.39	-1,703.32	10.00	10.00	0.00
7,200.00	28.47	350.00	6,800.16	-1,681.77	784.59	-1,681.77	10.00	10.00	0.00
7,250.00	33.47	350.00	6,843.02	-1,656.44	780.12	-1,656.44	10.00	10.00	0.00
7,300.00	38.47	350.00	6,883.48	-1,627.52	775.02	-1,627.52	10.00	10.00	0.00
7,350.00	43.47	350.00	6,921.22	-1,595.25	769.33	-1,595.25	10.00	10.00	0.00
7,400.00	48.47	350.00	6,955.96	-1,559.86	763.09	-1,559.86	10.00	10.00	0.00
7,450.00	53.47	350.00	6,987.43	-1,521.62	756.35	-1,521.62	10.00	10.00	0.00
7,500.00	58.47	350.00	7,015.41	-1,480.83	749.16	-1,480.83	10.00	10.00	0.00
7,550.00	63.47	350.00	7,039.66	-1,437.79	741.57	-1,437.79	10.00	10.00	0.00
7,600.00	68.47	350.00	7,060.02	-1,392.83	733.64	-1,392.83	10.00	10.00	0.00
7,650.00	73.47	350.00	7,076.32	-1,346.29	725.44	-1,346.29	10.00	10.00	0.00
7,700.00	78.47	350.00	7,088.43	-1,298.54	717.01	-1,298.54	10.00	10.00	0.00
7,750.00	83.47	350.00	7,096.28	-1,249.92	708.44	-1,249.92	10.00	10.00	0.00
7,800.00	88.47	350.00	7,099.79	-1,200.82	699.78	-1,200.82	10.00	10.00	0.00
7,814.31	89.90	350.00	7,100.00	-1,186.73	697.30	-1,186.73	10.00	10.00	0.00
7,900.00	89.90	351.71	7,100.15	-1,102.13	683.68	-1,102.13	2.00	0.00	2.00
8,000.00	89.90	353.71	7,100.32	-1,002.94	671.00	-1,002.94	2.00	0.00	2.00
8,100.00	89.90	355.71	7,100.50	-903.37	661.79	-903.37	2.00	0.00	2.00
8,200.00	89.90	357.71	7,100.67	-803.54	656.06	-803.54	2.00	0.00	2.00
8,300.00	89.90	359.71	7,100.85	-703.57	653.81	-703.57	2.00	0.00	2.00
8,400.00	89.90	1.71	7,101.03	-603.59	655.06	-603.59	2.00	0.00	2.00
8,500.00	89.90	3.71	7,101.20	-503.70	659.79	-503.70	2.00	0.00	2.00
8,589.31	89.90	5.50	7,101.36	-414.69	666.97	-414.69	2.00	0.00	2.00
8,600.00	89.90	5.50	7,101.38	-404.04	667.99	-404.04	0.00	0.00	0.00
8,700.00	89.90	5.50	7,101.55	-304.51	677.58	-304.51	0.00	0.00	0.00
8,800.00	89.90	5.50	7,101.73	-204.97	687.16	-204.97	0.00	0.00	0.00
8,900.00	89.90	5.50	7,101.90	-105.43	696.75	-105.43	0.00	0.00	0.00
9,000.00	89.90	5.50	7,102.07	-5.89	706.33	-5.89	0.00	0.00	0.00
9,100.00	89.90	5.50	7,102.25	93.65	715.91	93.65	0.00	0.00	0.00
9,200.00	89.90	5.50	7,102.42	193.19	725.50	193.19	0.00	0.00	0.00



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	GOONCH FED COM 04 135H	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)
9,300.00	89.90	5.50	7,102.60	292.73	735.08	292.73	0.00	0.00	0.00
9,400.00	89.90	5.50	7,102.77	392.27	744.67	392.27	0.00	0.00	0.00
9,500.00	89.90	5.50	7,102.95	491.81	754.25	491.81	0.00	0.00	0.00
9,600.00	89.90	5.50	7,103.12	591.35	763.84	591.35	0.00	0.00	0.00
9,689.31	89.90	5.50	7,103.28	680.24	772.40	680.24	0.00	0.00	0.00
9,700.00	89.90	5.29	7,103.30	690.89	773.40	690.89	2.00	0.00	-2.00
9,800.00	89.90	3.29	7,103.47	790.61	780.88	790.61	2.00	0.00	-2.00
9,868.50	89.90	1.92	7,103.58	859.03	783.98	859.03	2.00	0.00	-2.00
9,900.00	89.90	1.92	7,103.64	890.52	785.04	890.52	0.00	0.00	0.00
10,000.00	89.90	1.92	7,103.80	990.46	788.38	990.46	0.00	0.00	0.00
10,100.00	89.90	1.92	7,103.97	1,090.40	791.72	1,090.40	0.00	0.00	0.00
10,200.00	89.90	1.92	7,104.14	1,190.35	795.07	1,190.35	0.00	0.00	0.00
10,300.00	89.90	1.92	7,104.31	1,290.29	798.41	1,290.29	0.00	0.00	0.00
10,400.00	89.90	1.92	7,104.47	1,390.24	801.76	1,390.24	0.00	0.00	0.00
10,500.00	89.90	1.92	7,104.64	1,490.18	805.10	1,490.18	0.00	0.00	0.00
10,600.00	89.90	1.92	7,104.81	1,590.12	808.44	1,590.12	0.00	0.00	0.00
10,700.00	89.90	1.92	7,104.98	1,690.07	811.79	1,690.07	0.00	0.00	0.00
10,800.00	89.90	1.92	7,105.14	1,790.01	815.13	1,790.01	0.00	0.00	0.00
10,900.00	89.90	1.92	7,105.31	1,889.96	818.47	1,889.96	0.00	0.00	0.00
11,000.00	89.90	1.92	7,105.48	1,989.90	821.82	1,989.90	0.00	0.00	0.00
11,100.00	89.90	1.92	7,105.65	2,089.84	825.16	2,089.84	0.00	0.00	0.00
11,200.00	89.90	1.92	7,105.81	2,189.79	828.51	2,189.79	0.00	0.00	0.00
11,300.00	89.90	1.92	7,105.98	2,289.73	831.85	2,289.73	0.00	0.00	0.00
11,400.00	89.90	1.92	7,106.15	2,389.68	835.19	2,389.68	0.00	0.00	0.00
11,500.00	89.90	1.92	7,106.32	2,489.62	838.54	2,489.62	0.00	0.00	0.00
11,600.00	89.90	1.92	7,106.48	2,589.56	841.88	2,589.56	0.00	0.00	0.00
11,700.00	89.90	1.92	7,106.65	2,689.51	845.22	2,689.51	0.00	0.00	0.00
11,800.00	89.90	1.92	7,106.82	2,789.45	848.57	2,789.45	0.00	0.00	0.00
11,900.00	89.90	1.92	7,106.99	2,889.40	851.91	2,889.40	0.00	0.00	0.00
12,000.00	89.90	1.92	7,107.15	2,989.34	855.25	2,989.34	0.00	0.00	0.00
12,100.00	89.90	1.92	7,107.32	3,089.28	858.60	3,089.28	0.00	0.00	0.00
12,200.00	89.90	1.92	7,107.49	3,189.23	861.94	3,189.23	0.00	0.00	0.00
12,300.00	89.90	1.92	7,107.66	3,289.17	865.29	3,289.17	0.00	0.00	0.00
12,400.00	89.90	1.92	7,107.82	3,389.12	868.63	3,389.12	0.00	0.00	0.00
12,500.00	89.90	1.92	7,107.99	3,489.06	871.97	3,489.06	0.00	0.00	0.00
12,600.00	89.90	1.92	7,108.16	3,589.00	875.32	3,589.00	0.00	0.00	0.00
12,700.00	89.90	1.92	7,108.33	3,688.95	878.66	3,688.95	0.00	0.00	0.00
12,800.00	89.90	1.92	7,108.49	3,788.89	882.00	3,788.89	0.00	0.00	0.00
12,900.00	89.90	1.92	7,108.66	3,888.83	885.35	3,888.83	0.00	0.00	0.00
13,000.00	89.90	1.92	7,108.83	3,988.78	888.69	3,988.78	0.00	0.00	0.00
13,064.21	89.90	1.92	7,108.94	4,052.95	890.84	4,052.95	0.00	0.00	0.00
20" Casing									
13,101.63	89.90	1.92	7,109.00	4,090.35	892.09	4,090.35	0.00	0.00	0.00



Planning Report



Database:	1 - EDM Production	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Company:	NOVO Oil & Gas	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GOONCH 135H FTP (10' FNL 18' E) - plan misses target center by 19.59usft at 7819.48usft MD (7100.01 TVD, -1181.63 N, 696.41 E) - Point	0.00	0.00	7,100.00	-1,178.52	715.75	482,926.52	614,947.55	32.32741203	-104.09502198
GOONCH 135H LTP (10' FNL 18' E) - plan hits target center - Point	0.00	0.00	7,108.85	4,000.37	889.08	488,105.41	615,120.88	32.34164688	-104.09442343
PBHL 135H (10' FNL 18' E) - plan hits target center - Point	0.00	0.00	7,109.00	4,090.35	892.09	488,195.39	615,123.89	32.34189420	-104.09441304

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
13,064.21	7,108.94	20" Casing	20	24	



NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC. 04-T23S-R28E

GOONCH FED COM 04 135H

Wellbore #1

Plan 1

Anticollision Report

15 December, 2021





Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 398.70usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	12/15/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	13,100.89	Plan 1 (Wellbore #1)	MWD+IGRF	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. 04-T23S-R28E						
GOONCH FED COM 04 131H - Wellbore #1 - Plan 1	1,000.00	1,000.00	40.02	33.27	5.925	CC, ES
GOONCH FED COM 04 131H - Wellbore #1 - Plan 1	1,100.00	1,099.98	41.77	34.31	5.599	SF
Goonch Fed Com 04 132H - Wellbore #1 - Plan 8	2,757.01	2,719.84	43.53	26.07	2.494	CC, ES
Goonch Fed Com 04 132H - Wellbore #1 - Plan 8	7,900.00	7,231.89	131.33	67.74	2.065	SF
Goonch Fed Com 04 132H - Wellbore #1 - Wellbore #1	2,757.01	2,719.84	43.53	26.07	2.494	CC, ES
Goonch Fed Com 04 132H - Wellbore #1 - Wellbore #1	7,900.00	7,231.89	131.33	67.74	2.065	SF
Goonch Fed Com 04 211H - Wellbore #1 - Plan 5	0.00	0.00	201.77			
Goonch Fed Com 04 211H - Wellbore #1 - Plan 5	4,100.00	4,006.46	219.26	179.51	5.517	ES
Goonch Fed Com 04 211H - Wellbore #1 - Plan 5	4,300.00	4,201.75	225.73	183.82	5.386	SF
Goonch Fed Com 04 211H - Wellbore #1 - Wellbore #1	0.00	0.00	201.77			
Goonch Fed Com 04 211H - Wellbore #1 - Wellbore #1	4,100.00	4,006.46	219.26	179.51	5.517	ES
Goonch Fed Com 04 211H - Wellbore #1 - Wellbore #1	4,300.00	4,201.75	225.73	183.82	5.386	SF
GOONCH FED COM 04 212H - Wellbore #1 - Plan 1	1,000.00	1,000.00	20.01	13.26	2.963	CC, ES
GOONCH FED COM 04 212H - Wellbore #1 - Plan 1	7,232.16	7,132.63	140.79	55.03	1.642	Collision Risk Procedures R
Goonch Fed Com 04 221H - Wellbore #1 - Plan 5	0.00	1.47	210.89			
Goonch Fed Com 04 221H - Wellbore #1 - Plan 5	1,700.00	1,636.01	388.19	378.65	40.680	SF
Goonch Fed Com 04 221H - Wellbore #1 - Wellbore #1	0.00	1.47	210.89			
Goonch Fed Com 04 221H - Wellbore #1 - Wellbore #1	1,700.00	1,651.66	393.51	383.98	41.291	SF
GOONCH FED COM 04 222H - Wellbore #1 - Plan 1	1,000.00	1,000.00	60.02	53.27	8.886	CC, ES
GOONCH FED COM 04 222H - Wellbore #1 - Plan 1	1,100.00	1,099.98	61.77	54.31	8.280	SF
Goonch Fed Com 04 231H - Wellbore #1 - Plan 6	0.00	1.48	205.41			
Goonch Fed Com 04 231H - Wellbore #1 - Plan 6	2,600.00	2,497.07	396.40	379.55	23.534	SF
Goonch Fed Com 04 231H - Wellbore #1 - Wellbore #1	0.00	1.48	205.41			
Goonch Fed Com 04 231H - Wellbore #1 - Wellbore #1	2,600.00	2,497.07	396.40	379.55	23.534	SF
Goonch Fed Com 04 232H - Wellbore #1 - Plan 4	2,264.94	2,240.25	139.18	125.72	10.336	CC
Goonch Fed Com 04 232H - Wellbore #1 - Plan 4	7,640.58	7,252.14	172.14	103.35	2.502	ES, SF
Goonch Fed Com 04 232H - Wellbore #1 - Wellbore #1	2,744.58	2,711.90	65.31	47.41	3.649	CC
Goonch Fed Com 04 232H - Wellbore #1 - Wellbore #1	7,934.72	7,232.75	106.67	45.14	1.734	Collision Risk Procedures R
Goonch Fed Com 0409 225H - Wellbore #1 - Plan 3						Out of range
Goonch Fed Com 0409 225H - Wellbore #1 - Wellbore #1						Out of range
Goonch Fed Com 0409 236H - Wellbore #1 - Plan 5						Out of range
Goonch Fed Com 0409 236H - Wellbore #1 - Wellbore #1						Out of range
Jack Sleeper State Com 9 215H - Wellbore #1 - Wellbore						Out of range
Loving Federal Com #001 (Active) - Wellbore #1 - Wellbo	11,143.60	7,110.28	387.97	190.92	1.969	Collision Risk Procedures R

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - GOONCH FED COM 04 131H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF													Offset Well Error:	0.33 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		
0.00	0.00	0.00	0.00	0.33	0.33	-90.10	-0.07	-40.02	40.02					
100.00	100.00	100.00	100.00	0.36	0.36	-90.10	-0.07	-40.02	40.02	39.30	0.72	55.673		
200.00	200.00	200.00	200.00	0.60	0.60	-90.10	-0.07	-40.02	40.02	38.83	1.19	33.629		
300.00	300.00	300.00	300.00	0.91	0.91	-90.10	-0.07	-40.02	40.02	38.19	1.83	21.886		
400.00	400.00	400.00	400.00	1.25	1.25	-90.10	-0.07	-40.02	40.02	37.51	2.51	15.945		
500.00	500.00	500.00	500.00	1.60	1.60	-90.10	-0.07	-40.02	40.02	36.81	3.21	12.480		
600.00	600.00	600.00	600.00	1.96	1.96	-90.10	-0.07	-40.02	40.02	36.11	3.91	10.233		
700.00	700.00	700.00	700.00	2.31	2.31	-90.10	-0.07	-40.02	40.02	35.40	4.62	8.664		
800.00	800.00	800.00	800.00	2.66	2.66	-90.10	-0.07	-40.02	40.02	34.69	5.33	7.509		
900.00	900.00	900.00	900.00	3.02	3.02	-90.10	-0.07	-40.02	40.02	33.98	6.04	6.624		
1,000.00	1,000.00	1,000.00	1,000.00	3.38	3.38	-90.10	-0.07	-40.02	40.02	33.27	6.75	5.925 CC, ES		
1,100.00	1,099.98	1,099.98	1,099.98	3.73	3.73	179.90	-0.07	-40.02	41.77	34.31	7.46	5.599 SF		
1,200.00	1,199.84	1,199.79	1,199.77	4.07	4.07	177.79	-1.81	-40.02	47.03	38.89	8.14	5.777		
1,300.00	1,299.48	1,299.19	1,299.02	4.42	4.40	162.52	-6.99	-40.02	55.76	46.95	8.81	6.328		
1,400.00	1,398.97	1,397.96	1,397.43	4.78	4.73	141.98	-15.53	-40.14	66.00	56.52	9.48	6.959		
1,500.00	1,498.21	1,496.00	1,494.75	5.14	5.07	128.19	-27.22	-41.16	77.97	67.81	10.17	7.669		
1,600.00	1,597.09	1,593.55	1,591.16	5.52	5.43	119.07	-41.99	-43.18	91.67	80.80	10.87	8.435		
1,700.00	1,695.48	1,690.59	1,686.50	5.91	5.80	112.91	-59.77	-46.20	107.01	95.41	11.60	9.226		
1,800.00	1,793.26	1,787.08	1,780.65	6.33	6.21	108.63	-80.48	-50.20	123.93	111.56	12.37	10.020		
1,900.00	1,890.32	1,882.99	1,873.49	6.77	6.64	105.59	-104.05	-55.14	142.40	129.21	13.19	10.798		
2,000.00	1,986.52	1,978.30	1,964.89	7.25	7.10	103.36	-130.38	-61.00	162.38	148.31	14.07	11.544		
2,100.00	2,081.77	2,074.47	2,056.29	7.78	7.61	101.81	-159.53	-67.77	183.65	168.62	15.03	12.219		
2,200.00	2,175.94	2,172.05	2,148.89	8.35	8.15	101.34	-189.49	-74.77	205.00	188.91	16.09	12.741		
2,300.00	2,268.92	2,269.45	2,241.31	8.97	8.71	101.77	-219.40	-81.75	226.39	209.17	17.22	13.148		
2,400.00	2,360.59	2,366.54	2,333.45	9.64	9.28	102.83	-249.22	-88.71	248.06	229.65	18.41	13.475		
2,500.00	2,451.18	2,463.32	2,425.30	10.37	9.86	105.07	-278.94	-95.65	270.27	250.62	19.65	13.757		
2,600.00	2,541.70	2,560.08	2,517.12	11.12	10.46	107.37	-308.66	-102.59	292.97	272.07	20.91	14.014		
2,700.00	2,632.22	2,656.84	2,608.94	11.89	11.06	109.33	-338.38	-109.52	316.06	293.88	22.18	14.249		
2,800.00	2,722.73	2,753.60	2,700.76	12.68	11.67	111.03	-368.09	-116.46	339.46	315.99	23.47	14.463		
2,900.00	2,813.25	2,850.36	2,792.58	13.48	12.28	112.52	-397.81	-123.40	363.11	338.34	24.77	14.658		
3,000.00	2,903.77	2,947.12	2,884.40	14.30	12.91	113.82	-427.52	-130.33	386.96	360.88	26.08	14.837		

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Plan 8													Offset Site Error: 0.00 usft
Survey Program: 178-MWD, 504-MWD, 13091-MWD													Offset Well Error: 0.50 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		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	1.48	1.48	0.33	0.50	176.19	-199.92	13.31	200.36				
100.00	100.00	100.24	100.24	0.36	0.51	176.08	-200.21	13.71	200.68	199.81	0.87	230.947	
200.00	200.00	200.53	200.51	0.60	0.55	175.75	-200.98	14.95	201.54	200.40	1.14	176.481	
300.00	300.00	303.83	303.76	0.91	0.67	174.85	-200.00	18.03	200.82	199.23	1.59	126.544	
373.43	373.43	375.08	374.93	1.16	0.79	173.93	-199.08	21.19	200.20	198.25	1.95	102.487	
400.00	400.00	399.55	399.37	1.25	0.83	173.58	-199.08	22.40	200.35	198.26	2.09	95.908	
500.00	500.00	500.38	500.08	1.60	0.94	172.16	-199.34	27.45	201.23	198.69	2.54	79.071	
600.00	600.00	601.17	600.76	1.96	1.01	170.84	-199.20	32.13	201.77	198.80	2.97	67.982	
700.00	700.00	702.42	701.91	2.31	1.13	169.59	-198.65	36.48	201.97	198.53	3.44	58.783	
800.00	800.00	809.35	808.74	2.66	1.28	168.40	-195.78	40.19	199.99	196.05	3.95	50.690	
900.00	900.00	911.28	910.54	3.02	1.44	168.20	-190.91	39.88	195.24	190.79	4.45	43.850	
1,000.00	1,000.00	1,006.24	1,005.43	3.38	1.57	168.87	-188.47	37.06	192.12	187.18	4.94	38.859	
1,100.00	1,099.98	1,104.38	1,103.50	3.73	1.71	80.37	-187.61	33.67	190.32	184.88	5.43	35.018	
1,200.00	1,199.84	1,203.27	1,202.33	4.07	1.87	82.97	-187.36	30.22	188.80	182.86	5.94	31.806	
1,300.00	1,299.48	1,302.38	1,301.38	4.42	2.04	75.90	-187.33	26.89	187.26	180.80	6.46	29.002	
1,400.00	1,398.97	1,400.77	1,399.72	4.78	2.22	62.90	-187.41	23.73	183.58	176.59	6.99	26.258	
1,500.00	1,498.21	1,496.63	1,495.56	5.14	2.39	55.16	-188.45	22.32	178.29	170.76	7.53	23.680	
1,600.00	1,597.09	1,591.56	1,590.41	5.52	2.58	50.73	-192.05	23.55	172.81	164.74	8.07	21.403	
1,700.00	1,695.48	1,688.49	1,687.07	5.91	2.77	48.32	-198.08	27.43	166.62	157.98	8.65	19.273	
1,800.00	1,793.26	1,786.76	1,784.88	6.33	2.97	47.42	-205.45	33.24	158.55	149.30	9.25	17.137	
1,900.00	1,890.32	1,884.42	1,881.80	6.77	3.19	47.33	-214.05	41.56	148.40	138.51	9.89	15.002	
2,000.00	1,986.52	1,979.96	1,976.22	7.25	3.43	47.85	-224.65	51.67	137.17	126.60	10.57	12.974	
2,100.00	2,081.77	2,076.46	2,070.91	7.78	3.71	48.84	-238.74	63.68	125.97	114.65	11.32	11.125	
2,200.00	2,175.94	2,173.12	2,164.94	8.35	4.04	49.85	-255.57	78.40	113.78	101.62	12.16	9.358	
2,300.00	2,268.92	2,270.69	2,258.76	8.97	4.43	50.66	-275.86	95.92	100.99	87.89	13.10	7.712	
2,400.00	2,360.59	2,369.70	2,353.69	9.64	4.84	53.20	-297.24	114.19	86.17	72.02	14.16	6.087	
2,500.00	2,451.18	2,468.29	2,448.75	10.37	5.23	60.84	-317.08	131.17	69.46	54.08	15.38	4.517	
2,600.00	2,541.70	2,566.11	2,543.52	11.12	5.62	75.03	-335.48	146.99	54.65	37.96	16.69	3.274	
2,700.00	2,632.22	2,664.07	2,638.49	11.89	6.02	97.34	-353.53	162.81	45.20	27.64	17.56	2.574	
2,757.01	2,683.82	2,719.84	2,692.51	12.34	6.27	112.85	-363.78	172.13	43.53	26.07	17.46	2.494 CC, ES	
2,800.00	2,722.73	2,761.86	2,733.20	12.68	6.45	124.64	-371.51	179.23	44.49	27.38	17.11	2.600	
2,900.00	2,813.25	2,859.75	2,827.92	13.48	6.90	147.83	-389.56	196.04	53.04	36.70	16.34	3.246	
3,000.00	2,903.77	2,957.30	2,922.29	14.30	7.35	163.31	-407.41	213.18	67.52	51.13	16.39	4.120	
3,100.00	2,994.28	3,055.21	3,016.96	15.13	7.80	173.29	-425.15	230.76	85.08	68.06	17.02	4.999	
3,200.00	3,084.80	3,153.02	3,111.43	15.96	8.28	179.96	-442.99	248.75	104.00	86.10	17.90	5.809	
3,300.00	3,175.32	3,250.72	3,205.75	16.80	8.76	-175.42	-460.95	266.84	123.69	104.82	18.87	6.554	
3,400.00	3,265.84	3,346.27	3,298.18	17.65	9.20	-172.25	-477.92	284.11	144.66	124.82	19.84	7.290	
3,500.00	3,356.35	3,441.98	3,391.06	18.50	9.62	-170.00	-493.90	300.78	167.15	146.37	20.79	8.042	
3,600.00	3,446.87	3,539.35	3,485.63	19.36	10.06	-168.20	-509.61	317.82	190.37	168.63	21.74	8.758	
3,700.00	3,537.39	3,641.87	3,584.84	20.22	10.54	-166.67	-527.70	336.23	212.15	189.42	22.72	9.336	
3,800.00	3,627.90	3,740.92	3,680.41	21.08	11.03	-165.49	-546.64	354.12	232.58	208.89	23.69	9.818	
3,900.00	3,718.42	3,838.01	3,773.97	21.95	11.51	-164.38	-565.12	372.30	253.06	228.38	24.67	10.257	
4,000.00	3,808.94	3,933.60	3,866.18	22.82	11.96	-163.49	-583.06	389.98	273.92	248.29	25.63	10.688	
4,100.00	3,899.45	4,026.22	3,955.94	23.69	12.38	-162.87	-599.02	406.32	296.45	269.93	26.53	11.176	
4,200.00	3,989.97	4,123.47	4,050.35	24.57	12.82	-162.38	-615.23	423.09	319.63	292.19	27.44	11.649	
4,300.00	4,080.49	4,220.81	4,144.81	25.44	13.27	-161.91	-631.45	440.12	342.81	314.45	28.36	12.086	
4,400.00	4,171.01	4,318.31	4,239.41	26.32	13.72	-161.49	-647.71	457.22	365.98	336.68	29.29	12.493	
4,500.00	4,261.52	4,417.71	4,335.71	27.20	14.19	-161.01	-664.43	475.31	388.96	358.69	30.27	12.850	
7,600.00	7,060.02	7,198.88	7,061.05	41.75	24.74	47.44	-1,055.91	804.37	344.26	289.29	54.97	6.263	
7,700.00	7,088.43	7,224.78	7,086.89	41.11	24.78	69.86	-1,056.23	806.05	258.17	200.33	57.84	4.463	
7,800.00	7,099.79	7,233.70	7,095.79	40.50	24.80	86.14	-1,056.33	806.65	179.80	117.52	62.28	2.887	
7,900.00	7,100.15	7,231.89	7,093.98	39.94	24.80	86.56	-1,056.31	806.53	131.33	67.74	63.60	2.065 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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Plan 8													Offset Site Error: 0.00 usft
Survey Program: 178-MWD, 504-MWD, 13091-MWD													Offset Well Error: 0.50 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	
7,928.93	7,100.20	7,231.34	7,093.44	39.80	24.80	86.31	-1,056.30	806.49	128.25	67.11	61.15	2.098	
8,000.00	7,100.32	7,230.09	7,092.19	39.45	24.79	85.77	-1,056.29	806.41	145.85	94.28	51.57	2.828	
8,100.00	7,100.50	7,228.49	7,090.60	39.02	24.79	85.21	-1,056.27	806.30	210.69	166.13	44.56	4.728	
8,200.00	7,100.67	7,227.11	7,089.21	38.65	24.79	84.89	-1,056.25	806.21	294.24	250.43	43.81	6.716	
8,300.00	7,100.85	7,225.94	7,088.05	38.32	24.79	84.81	-1,056.24	806.13	384.42	339.95	44.47	8.644	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 178-MWD, 504-MWD												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	
0.00	0.00	1.48	1.48	0.33	0.50	176.19	-199.92	13.31	200.36				
100.00	100.00	100.24	100.24	0.36	0.51	176.08	-200.21	13.71	200.68	199.81	0.87	230.947	
200.00	200.00	200.53	200.51	0.60	0.55	175.75	-200.98	14.95	201.54	200.40	1.14	176.481	
300.00	300.00	303.83	303.76	0.91	0.67	174.85	-200.00	18.03	200.82	199.23	1.59	126.544	
373.43	373.43	375.08	374.93	1.16	0.79	173.93	-199.08	21.19	200.20	198.25	1.95	102.487	
400.00	400.00	399.55	399.37	1.25	0.83	173.58	-199.08	22.40	200.35	198.26	2.09	95.908	
500.00	500.00	500.38	500.08	1.60	0.94	172.16	-199.34	27.45	201.23	198.69	2.54	79.071	
600.00	600.00	601.17	600.76	1.96	1.01	170.84	-199.20	32.13	201.77	198.80	2.97	67.982	
700.00	700.00	702.42	701.91	2.31	1.13	169.59	-198.65	36.48	201.97	198.53	3.44	58.783	
800.00	800.00	809.35	808.74	2.66	1.28	168.40	-195.78	40.19	199.99	196.05	3.95	50.690	
900.00	900.00	911.28	910.54	3.02	1.44	168.20	-190.91	39.88	195.24	190.79	4.45	43.850	
1,000.00	1,000.00	1,006.24	1,005.43	3.38	1.57	168.87	-188.47	37.06	192.12	187.18	4.94	38.859	
1,100.00	1,099.98	1,104.38	1,103.50	3.73	1.71	80.37	-187.61	33.67	190.32	184.88	5.43	35.018	
1,200.00	1,199.84	1,203.27	1,202.33	4.07	1.87	82.97	-187.36	30.22	188.80	182.86	5.94	31.806	
1,300.00	1,299.48	1,302.38	1,301.38	4.42	2.04	75.90	-187.33	26.89	187.26	180.80	6.46	29.002	
1,400.00	1,398.97	1,400.77	1,399.72	4.78	2.22	62.90	-187.41	23.73	183.58	176.59	6.99	26.258	
1,500.00	1,498.21	1,496.63	1,495.56	5.14	2.39	55.16	-188.45	22.32	178.29	170.76	7.53	23.680	
1,600.00	1,597.09	1,591.56	1,590.41	5.52	2.58	50.73	-192.05	23.55	172.81	164.74	8.07	21.403	
1,700.00	1,695.48	1,688.49	1,687.07	5.91	2.77	48.32	-198.08	27.43	166.62	157.98	8.65	19.273	
1,800.00	1,793.26	1,786.76	1,784.88	6.33	2.97	47.42	-205.45	33.24	158.55	149.30	9.25	17.137	
1,900.00	1,890.32	1,884.42	1,881.80	6.77	3.19	47.33	-214.05	41.56	148.40	138.51	9.89	15.002	
2,000.00	1,986.52	1,979.96	1,976.22	7.25	3.43	47.85	-224.65	51.67	137.17	126.60	10.57	12.974	
2,100.00	2,081.77	2,076.46	2,070.91	7.78	3.71	48.84	-238.74	63.68	125.97	114.65	11.32	11.125	
2,200.00	2,175.94	2,173.12	2,164.94	8.35	4.04	49.85	-255.57	78.40	113.78	101.62	12.16	9.358	
2,300.00	2,268.92	2,270.69	2,258.76	8.97	4.43	50.66	-275.86	95.92	100.99	87.89	13.10	7.712	
2,400.00	2,360.59	2,369.70	2,353.69	9.64	4.84	53.20	-297.24	114.19	86.17	72.02	14.16	6.087	
2,500.00	2,451.18	2,468.29	2,448.75	10.37	5.23	60.84	-317.08	131.17	69.46	54.08	15.38	4.517	
2,600.00	2,541.70	2,566.11	2,543.52	11.12	5.62	75.03	-335.48	146.99	54.65	37.96	16.69	3.274	
2,700.00	2,632.22	2,664.07	2,638.49	11.89	6.02	97.34	-353.53	162.81	45.20	27.64	17.56	2.574	
2,757.01	2,683.82	2,719.84	2,692.51	12.34	6.27	112.85	-363.78	172.13	43.53	26.07	17.46	2.494 CC, ES	
2,800.00	2,722.73	2,761.86	2,733.20	12.68	6.45	124.64	-371.51	179.23	44.49	27.38	17.11	2.600	
2,900.00	2,813.25	2,859.75	2,827.92	13.48	6.90	147.83	-389.56	196.04	53.04	36.70	16.34	3.246	
3,000.00	2,903.77	2,957.30	2,922.29	14.30	7.35	163.31	-407.41	213.18	67.52	51.13	16.39	4.120	
3,100.00	2,994.28	3,055.21	3,016.96	15.13	7.80	173.29	-425.15	230.76	85.08	68.06	17.02	4.999	
3,200.00	3,084.80	3,153.02	3,111.43	15.96	8.28	179.96	-442.99	248.75	104.00	86.10	17.90	5.809	
3,300.00	3,175.32	3,250.72	3,205.75	16.80	8.76	-175.42	-460.95	266.84	123.69	104.82	18.87	6.554	
3,400.00	3,265.84	3,346.27	3,298.18	17.65	9.20	-172.25	-477.92	284.11	144.66	124.82	19.84	7.290	
3,500.00	3,356.35	3,441.98	3,391.06	18.50	9.62	-170.00	-493.90	300.78	167.15	146.37	20.79	8.042	
3,600.00	3,446.87	3,539.35	3,485.63	19.36	10.06	-168.20	-509.61	317.82	190.37	168.63	21.74	8.758	
3,700.00	3,537.39	3,641.87	3,584.84	20.22	10.54	-166.67	-527.70	336.23	212.15	189.42	22.72	9.336	
3,800.00	3,627.90	3,740.92	3,680.41	21.08	11.03	-165.49	-546.64	354.12	232.58	208.89	23.69	9.818	
3,900.00	3,718.42	3,838.01	3,773.97	21.95	11.51	-164.38	-565.12	372.30	253.06	228.38	24.67	10.257	
4,000.00	3,808.94	3,933.60	3,866.18	22.82	11.96	-163.49	-583.06	389.98	273.92	248.29	25.63	10.688	
4,100.00	3,899.45	4,026.22	3,955.94	23.69	12.38	-162.87	-599.02	406.32	296.45	269.93	26.53	11.176	
4,200.00	3,989.97	4,123.47	4,050.35	24.57	12.82	-162.38	-615.23	423.09	319.63	292.19	27.44	11.649	
4,300.00	4,080.49	4,220.81	4,144.81	25.44	13.27	-161.91	-631.45	440.12	342.81	314.45	28.36	12.086	
4,400.00	4,171.01	4,318.31	4,239.41	26.32	13.72	-161.49	-647.71	457.22	365.98	336.68	29.29	12.493	
4,500.00	4,261.52	4,417.71	4,335.71	27.20	14.19	-161.01	-664.43	475.31	388.96	358.69	30.27	12.850	
7,600.00	7,060.02	7,198.88	7,061.05	41.75	24.74	47.44	-1,055.91	804.37	344.26	289.29	54.97	6.263	
7,700.00	7,088.43	7,224.78	7,086.89	41.11	24.78	69.86	-1,056.23	806.05	258.17	200.33	57.84	4.463	
7,800.00	7,099.79	7,233.70	7,095.79	40.50	24.80	86.14	-1,056.33	806.65	179.80	117.52	62.28	2.887	
7,900.00	7,100.15	7,231.89	7,093.98	39.94	24.80	86.56	-1,056.31	806.53	131.33	67.74	63.60	2.065 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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 178-MWD, 504-MWD													Offset Well Error: 0.50 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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	
7,928.93	7,100.20	7,231.34	7,093.44	39.80	24.80	86.31	-1,056.30	806.49	128.25	67.11	61.15	2.098	
8,000.00	7,100.32	7,230.09	7,092.19	39.45	24.79	85.77	-1,056.29	806.41	145.85	94.28	51.57	2.828	
8,100.00	7,100.50	7,228.49	7,090.60	39.02	24.79	85.21	-1,056.27	806.30	210.69	166.13	44.56	4.728	
8,200.00	7,100.67	7,227.11	7,089.21	38.65	24.79	84.89	-1,056.25	806.21	294.24	250.43	43.81	6.716	
8,300.00	7,100.85	7,225.94	7,088.05	38.32	24.79	84.81	-1,056.24	806.13	384.42	339.95	44.47	8.644	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 211H - Wellbore #1 - Plan 5													Offset Site Error: 0.00 usft
Survey Program: 70-MWD, 10633-MWD													Offset Well Error: 0.50 usft
Reference													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.33	0.50	-172.40	-199.99	-26.70	201.77				
100.00	100.00	99.50	99.50	0.36	0.51	-172.28	-200.82	-27.23	202.66	201.79	0.87	232.125	
200.00	200.00	202.18	202.15	0.60	0.60	-172.79	-201.25	-25.46	202.85	201.66	1.19	170.187	
300.00	300.00	302.24	302.20	0.91	0.73	-173.31	-201.00	-23.59	202.38	200.74	1.65	122.845	
400.00	400.00	401.96	401.89	1.25	0.90	-173.87	-201.09	-21.60	202.24	200.09	2.15	93.899	
441.85	441.85	443.43	443.35	1.40	0.97	-174.10	-201.08	-20.77	202.15	199.78	2.37	85.178	
500.00	500.00	498.99	498.90	1.60	1.08	-174.46	-201.57	-19.55	202.53	199.85	2.68	75.555	
600.00	600.00	591.86	591.71	1.96	1.26	-174.51	-204.35	-19.62	205.52	202.31	3.21	64.029	
700.00	700.00	685.79	685.43	2.31	1.46	-174.87	-210.59	-18.89	212.05	208.30	3.75	56.528	
800.00	800.00	784.51	783.83	2.66	1.68	-175.14	-218.41	-18.58	219.91	215.61	4.31	51.062	
900.00	900.00	885.84	884.87	3.02	1.90	-175.13	-226.17	-19.27	227.59	222.73	4.87	46.771	
1,000.00	1,000.00	979.00	977.73	3.38	2.11	-175.08	-233.52	-20.12	235.59	230.18	5.41	43.567	
1,100.00	1,099.98	1,073.00	1,071.11	3.73	2.35	95.00	-244.17	-20.67	247.07	241.12	5.95	41.515	
1,200.00	1,199.84	1,156.92	1,153.93	4.07	2.61	95.37	-257.72	-20.62	263.49	257.04	6.45	40.823	
1,300.00	1,299.48	1,246.13	1,241.35	4.42	2.92	85.45	-275.43	-19.43	283.54	276.55	6.99	40.590	
1,400.00	1,398.97	1,340.63	1,333.37	4.78	3.28	69.13	-296.59	-15.91	303.09	295.54	7.55	40.130	
1,500.00	1,498.21	1,434.47	1,424.32	5.14	3.67	57.94	-318.92	-10.06	320.52	312.39	8.14	39.399	
1,600.00	1,597.09	1,533.30	1,519.75	5.52	4.08	50.43	-343.51	-2.57	335.64	326.87	8.77	38.285	
1,700.00	1,695.48	1,637.94	1,620.97	5.91	4.50	45.43	-368.73	5.77	346.65	337.20	9.45	36.680	
1,800.00	1,793.26	1,735.00	1,714.71	6.33	4.94	41.84	-392.17	14.86	354.26	344.14	10.12	34.992	
1,900.00	1,890.32	1,834.17	1,810.03	6.77	5.42	39.03	-416.96	26.38	359.17	348.31	10.85	33.100	
2,000.00	1,986.52	1,942.37	1,914.44	7.25	5.92	37.10	-442.21	39.31	359.04	347.38	11.66	30.796	
2,100.00	2,081.77	2,039.26	2,008.14	7.78	6.36	35.91	-464.29	50.41	355.17	342.75	12.42	28.587	
2,200.00	2,175.94	2,134.23	2,099.66	8.35	6.83	35.17	-486.97	61.65	349.15	335.92	13.22	26.401	
2,300.00	2,268.92	2,228.50	2,190.16	8.97	7.30	34.91	-511.00	72.58	341.60	327.53	14.07	24.283	
2,400.00	2,360.59	2,330.05	2,287.65	9.64	7.80	35.35	-537.26	83.46	331.49	316.47	15.02	22.070	
2,500.00	2,451.18	2,432.58	2,386.74	10.37	8.27	37.09	-561.76	93.10	317.46	301.41	16.05	19.777	
2,600.00	2,541.70	2,529.50	2,480.51	11.12	8.72	39.38	-584.94	101.02	304.03	286.91	17.12	17.759	
2,700.00	2,632.22	2,626.55	2,574.49	11.89	9.17	41.93	-607.90	108.69	290.98	272.71	18.27	15.926	
2,800.00	2,722.73	2,720.78	2,665.48	12.68	9.62	44.64	-631.42	115.58	280.00	260.51	19.49	14.366	
2,900.00	2,813.25	2,816.84	2,757.92	13.48	10.12	47.44	-656.48	122.88	270.69	249.88	20.81	13.007	
3,000.00	2,903.77	2,914.52	2,851.58	14.30	10.63	50.30	-683.09	130.66	262.99	240.78	22.21	11.839	
3,100.00	2,994.28	3,014.35	2,947.38	15.13	11.13	53.40	-710.02	138.65	255.76	232.05	23.71	10.789	
3,200.00	3,084.80	3,112.71	3,041.79	15.96	11.64	56.61	-736.46	146.71	249.12	223.87	25.26	9.864	
3,300.00	3,175.32	3,212.16	3,137.06	16.80	12.16	59.87	-763.66	155.24	243.50	216.63	26.87	9.062	
3,400.00	3,265.84	3,314.11	3,235.01	17.65	12.67	63.51	-790.52	164.05	237.88	209.32	28.55	8.331	
3,500.00	3,356.35	3,417.23	3,334.75	18.50	13.15	67.84	-815.19	172.76	231.62	201.32	30.30	7.644	
3,600.00	3,446.87	3,514.68	3,429.32	19.36	13.60	72.37	-837.18	181.15	225.65	193.61	32.03	7.044	
3,700.00	3,537.39	3,610.86	3,522.08	20.22	14.09	76.49	-860.93	190.11	221.91	188.20	33.71	6.583	
3,800.00	3,627.90	3,710.19	3,617.49	21.08	14.61	80.50	-886.83	199.80	219.83	184.48	35.35	6.219	
3,900.00	3,718.42	3,809.05	3,712.38	21.95	15.13	84.49	-912.68	209.78	218.58	181.66	36.92	5.920	
3,976.39	3,787.57	3,884.82	3,785.11	22.61	15.52	87.55	-932.48	217.49	218.32	180.25	38.07	5.735	
4,000.00	3,808.94	3,908.22	3,807.59	22.82	15.65	88.52	-938.53	219.86	218.34	179.94	38.41	5.685	
4,100.00	3,899.45	4,006.46	3,902.18	23.69	16.13	92.76	-963.24	229.45	219.26	179.51	39.74	5.517 ES	
4,200.00	3,989.97	4,104.80	3,997.34	24.57	16.59	97.41	-986.39	238.44	221.59	180.68	40.90	5.417	
4,300.00	4,080.49	4,201.75	4,091.01	25.44	17.06	101.72	-1,009.84	247.06	225.73	183.82	41.91	5.386 SF	
4,400.00	4,171.01	4,298.24	4,183.81	26.32	17.56	105.39	-1,035.00	255.13	231.90	189.05	42.85	5.412	
4,500.00	4,261.52	4,397.30	4,278.72	27.20	18.09	108.63	-1,062.19	263.21	239.29	195.52	43.78	5.466	
4,600.00	4,352.04	4,496.32	4,373.32	28.08	18.64	111.45	-1,090.27	271.42	247.27	202.59	44.69	5.533	
4,700.00	4,442.56	4,594.95	4,467.48	28.96	19.18	114.02	-1,118.49	279.52	255.89	210.35	45.55	5.618	
4,800.00	4,533.07	4,692.71	4,560.91	29.85	19.69	116.47	-1,146.13	287.44	265.13	218.81	46.32	5.724	
4,900.00	4,623.59	4,787.31	4,652.00	30.73	20.16	119.13	-1,170.72	294.26	276.03	229.15	46.87	5.889	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 211H - Wellbore #1 - Plan 5												Offset Site Error:	0.00 usft
Survey Program: 70-MWD, 10633-MWD												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)			
5,000.00	4,714.11	4,881.81	4,743.76	31.62	20.58	122.12	-1,192.52	300.19	288.98	241.78	47.20	6.122	
5,100.00	4,804.63	4,975.95	4,835.71	32.51	20.98	125.24	-1,212.00	305.45	303.93	256.59	47.34	6.420	
5,200.00	4,895.14	5,068.69	4,926.74	33.39	21.33	128.37	-1,229.12	309.98	321.06	273.75	47.32	6.786	
5,300.00	4,985.66	5,160.75	5,017.47	34.28	21.65	131.44	-1,244.25	313.76	340.54	293.37	47.17	7.219	
5,400.00	5,076.18	5,253.08	5,108.68	35.17	21.96	134.33	-1,258.24	316.93	362.06	315.06	47.00	7.704	
5,500.00	5,166.69	5,343.94	5,198.64	36.06	22.24	137.00	-1,270.78	319.33	385.69	338.89	46.80	8.242	
7,600.00	7,060.02	7,211.33	7,056.06	41.75	26.80	-88.35	-1,443.93	347.63	389.41	322.28	67.13	5.801	
7,615.27	7,065.43	7,216.04	7,060.76	41.65	26.81	-89.03	-1,444.12	347.59	389.15	321.76	67.39	5.775	
7,700.00	7,088.43	7,235.86	7,080.56	41.11	26.84	-91.00	-1,444.89	347.40	397.65	329.83	67.82	5.864	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 211H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 70-MWD												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	
0.00	0.00	0.00	0.00	0.33	0.50	-172.40	-199.99	-26.70	201.77				
100.00	100.00	99.50	99.50	0.36	0.51	-172.28	-200.82	-27.23	202.66	201.79	0.87	232.125	
200.00	200.00	202.18	202.15	0.60	0.60	-172.79	-201.25	-25.46	202.85	201.66	1.19	170.187	
300.00	300.00	302.24	302.20	0.91	0.73	-173.31	-201.00	-23.59	202.38	200.74	1.65	122.845	
400.00	400.00	401.96	401.89	1.25	0.90	-173.87	-201.09	-21.60	202.24	200.09	2.15	93.899	
441.85	441.85	443.43	443.35	1.40	0.97	-174.10	-201.08	-20.77	202.15	199.78	2.37	85.178	
500.00	500.00	498.99	498.90	1.60	1.08	-174.46	-201.57	-19.55	202.53	199.85	2.68	75.555	
600.00	600.00	591.86	591.71	1.96	1.26	-174.51	-204.35	-19.62	205.52	202.31	3.21	64.029	
700.00	700.00	685.79	685.43	2.31	1.46	-174.87	-210.59	-18.89	212.05	208.30	3.75	56.528	
800.00	800.00	784.51	783.83	2.66	1.68	-175.14	-218.41	-18.58	219.91	215.61	4.31	51.062	
900.00	900.00	885.84	884.87	3.02	1.90	-175.13	-226.17	-19.27	227.59	222.73	4.87	46.771	
1,000.00	1,000.00	979.00	977.73	3.38	2.11	-175.08	-233.52	-20.12	235.59	230.18	5.41	43.567	
1,100.00	1,099.98	1,073.00	1,071.11	3.73	2.35	95.00	-244.17	-20.67	247.07	241.12	5.95	41.515	
1,200.00	1,199.84	1,156.92	1,153.93	4.07	2.61	95.37	-257.72	-20.62	263.49	257.04	6.45	40.823	
1,300.00	1,299.48	1,246.13	1,241.35	4.42	2.92	85.45	-275.43	-19.43	283.54	276.55	6.99	40.590	
1,400.00	1,398.97	1,340.63	1,333.37	4.78	3.28	69.13	-296.59	-15.91	303.09	295.54	7.55	40.130	
1,500.00	1,498.21	1,434.47	1,424.32	5.14	3.67	57.94	-318.92	-10.06	320.52	312.39	8.14	39.399	
1,600.00	1,597.09	1,533.30	1,519.75	5.52	4.08	50.43	-343.51	-2.57	335.64	326.87	8.77	38.285	
1,700.00	1,695.48	1,637.94	1,620.97	5.91	4.50	45.43	-368.73	5.77	346.65	337.20	9.45	36.680	
1,800.00	1,793.26	1,735.00	1,714.71	6.33	4.94	41.84	-392.17	14.86	354.26	344.14	10.12	34.992	
1,900.00	1,890.32	1,834.17	1,810.03	6.77	5.42	39.03	-416.96	26.38	359.17	348.31	10.85	33.100	
2,000.00	1,986.52	1,942.37	1,914.44	7.25	5.92	37.10	-442.21	39.31	359.04	347.38	11.66	30.796	
2,100.00	2,081.77	2,039.26	2,008.14	7.78	6.36	35.91	-464.29	50.41	355.17	342.75	12.42	28.587	
2,200.00	2,175.94	2,134.23	2,099.66	8.35	6.83	35.17	-486.97	61.65	349.15	335.92	13.22	26.401	
2,300.00	2,268.92	2,228.50	2,190.16	8.97	7.30	34.91	-511.00	72.58	341.60	327.53	14.07	24.283	
2,400.00	2,360.59	2,330.05	2,287.65	9.64	7.80	35.35	-537.26	83.46	331.49	316.47	15.02	22.070	
2,500.00	2,451.18	2,432.58	2,386.74	10.37	8.27	37.09	-561.76	93.10	317.46	301.41	16.05	19.777	
2,600.00	2,541.70	2,529.50	2,480.51	11.12	8.72	39.38	-584.94	101.02	304.03	286.91	17.12	17.759	
2,700.00	2,632.22	2,626.55	2,574.49	11.89	9.17	41.93	-607.90	108.69	290.98	272.71	18.27	15.926	
2,800.00	2,722.73	2,720.78	2,665.48	12.68	9.62	44.64	-631.42	115.58	280.00	260.51	19.49	14.366	
2,900.00	2,813.25	2,816.84	2,757.92	13.48	10.12	47.44	-656.48	122.88	270.69	249.88	20.81	13.007	
3,000.00	2,903.77	2,914.52	2,851.58	14.30	10.63	50.30	-683.09	130.66	262.99	240.78	22.21	11.839	
3,100.00	2,994.28	3,014.35	2,947.38	15.13	11.13	53.40	-710.02	138.65	255.76	232.05	23.71	10.789	
3,200.00	3,084.80	3,112.71	3,041.79	15.96	11.64	56.61	-736.46	146.71	249.12	223.87	25.26	9.864	
3,300.00	3,175.32	3,212.16	3,137.06	16.80	12.16	59.87	-763.66	155.24	243.50	216.63	26.87	9.062	
3,400.00	3,265.84	3,314.11	3,235.01	17.65	12.67	63.51	-790.52	164.05	237.88	209.32	28.55	8.331	
3,500.00	3,356.35	3,417.23	3,334.75	18.50	13.15	67.84	-815.19	172.76	231.62	201.32	30.30	7.644	
3,600.00	3,446.87	3,514.68	3,429.32	19.36	13.60	72.37	-837.18	181.15	225.65	193.61	32.03	7.044	
3,700.00	3,537.39	3,610.86	3,522.08	20.22	14.09	76.49	-860.93	190.11	221.91	188.20	33.71	6.583	
3,800.00	3,627.90	3,710.19	3,617.49	21.08	14.61	80.50	-886.83	199.80	219.83	184.48	35.35	6.219	
3,900.00	3,718.42	3,809.05	3,712.38	21.95	15.13	84.49	-912.68	209.78	218.58	181.66	36.92	5.920	
3,976.39	3,787.57	3,884.82	3,785.11	22.61	15.52	87.55	-932.48	217.49	218.32	180.25	38.07	5.735	
4,000.00	3,808.94	3,908.22	3,807.59	22.82	15.65	88.52	-938.53	219.86	218.34	179.94	38.41	5.685	
4,100.00	3,899.45	4,006.46	3,902.18	23.69	16.13	92.76	-963.24	229.45	219.26	179.51	39.74	5.517 ES	
4,200.00	3,989.97	4,104.80	3,997.34	24.57	16.59	97.41	-986.39	238.44	221.59	180.68	40.90	5.417	
4,300.00	4,080.49	4,201.75	4,091.01	25.44	17.06	101.72	-1,009.84	247.06	225.73	183.82	41.91	5.386 SF	
4,400.00	4,171.01	4,298.24	4,183.81	26.32	17.56	105.39	-1,035.00	255.13	231.90	189.05	42.85	5.412	
4,500.00	4,261.52	4,397.30	4,278.72	27.20	18.09	108.63	-1,062.19	263.21	239.29	195.52	43.78	5.466	
4,600.00	4,352.04	4,496.32	4,373.32	28.08	18.64	111.45	-1,090.27	271.42	247.27	202.59	44.69	5.533	
4,700.00	4,442.56	4,594.95	4,467.48	28.96	19.18	114.02	-1,118.49	279.52	255.89	210.35	45.55	5.618	
4,800.00	4,533.07	4,692.71	4,560.91	29.85	19.69	116.47	-1,146.13	287.44	265.13	218.81	46.32	5.724	
4,900.00	4,623.59	4,787.31	4,652.00	30.73	20.16	119.13	-1,170.72	294.26	276.03	229.15	46.87	5.889	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 211H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 70-MWD													Offset Well Error: 0.50 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	
5,000.00	4,714.11	4,881.81	4,743.76	31.62	20.58	122.12	-1,192.52	300.19	288.98	241.78	47.20	6.122	
5,100.00	4,804.63	4,975.95	4,835.71	32.51	20.98	125.24	-1,212.00	305.45	303.93	256.59	47.34	6.420	
5,200.00	4,895.14	5,068.69	4,926.74	33.39	21.33	128.37	-1,229.12	309.98	321.06	273.75	47.32	6.786	
5,300.00	4,985.66	5,160.75	5,017.47	34.28	21.65	131.44	-1,244.25	313.76	340.54	293.37	47.17	7.219	
5,400.00	5,076.18	5,253.08	5,108.68	35.17	21.96	134.33	-1,258.24	316.93	362.06	315.06	47.00	7.704	
5,500.00	5,166.69	5,343.94	5,198.64	36.06	22.24	137.00	-1,270.78	319.33	385.69	338.89	46.80	8.242	
7,600.00	7,060.02	7,211.33	7,056.06	41.75	26.80	-88.35	-1,443.93	347.63	389.41	322.28	67.13	5.801	
7,615.27	7,065.43	7,216.04	7,060.76	41.65	26.81	-89.03	-1,444.12	347.59	389.15	321.76	67.39	5.775	
7,700.00	7,088.43	7,235.86	7,080.56	41.11	26.84	-91.00	-1,444.89	347.40	397.65	329.83	67.82	5.864	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - GOONCH FED COM 04 212H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												Offset Well Error:	0.33 usft
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	Warning
0.00	0.00	0.00	0.00	0.33	0.33	-90.11	-0.04	-20.01	20.01				
100.00	100.00	100.00	100.00	0.36	0.36	-90.11	-0.04	-20.01	20.01	19.29	0.72	27.837	
200.00	200.00	200.00	200.00	0.60	0.60	-90.11	-0.04	-20.01	20.01	18.82	1.19	16.814	
300.00	300.00	300.00	300.00	0.91	0.91	-90.11	-0.04	-20.01	20.01	18.18	1.83	10.943	
400.00	400.00	400.00	400.00	1.25	1.25	-90.11	-0.04	-20.01	20.01	17.50	2.51	7.973	
500.00	500.00	500.00	500.00	1.60	1.60	-90.11	-0.04	-20.01	20.01	16.80	3.21	6.240	
600.00	600.00	600.00	600.00	1.96	1.96	-90.11	-0.04	-20.01	20.01	16.10	3.91	5.117	
700.00	700.00	700.00	700.00	2.31	2.31	-90.11	-0.04	-20.01	20.01	15.39	4.62	4.332	
800.00	800.00	800.00	800.00	2.66	2.66	-90.11	-0.04	-20.01	20.01	14.68	5.33	3.755	
900.00	900.00	900.00	900.00	3.02	3.02	-90.11	-0.04	-20.01	20.01	13.97	6.04	3.312	
1,000.00	1,000.00	1,000.00	1,000.00	3.38	3.38	-90.11	-0.04	-20.01	20.01	13.26	6.75	2.963 CC, ES	
1,100.00	1,099.98	1,099.98	1,099.98	3.73	3.73	179.89	-0.04	-20.01	21.76	14.30	7.46	2.916	
1,200.00	1,199.84	1,199.80	1,199.78	4.07	4.07	176.22	-1.78	-20.01	27.05	18.91	8.14	3.322	
1,300.00	1,299.48	1,299.46	1,299.30	4.42	4.40	158.78	-6.94	-19.83	35.78	26.96	8.81	4.059	
1,400.00	1,398.97	1,399.32	1,398.80	4.78	4.73	137.39	-15.29	-18.34	44.63	35.14	9.49	4.702	
1,500.00	1,498.21	1,499.22	1,497.98	5.14	5.08	122.97	-26.77	-15.37	52.85	42.66	10.19	5.186	
1,600.00	1,597.09	1,599.14	1,596.72	5.52	5.45	113.08	-41.37	-10.91	60.33	49.41	10.92	5.524	
1,700.00	1,695.48	1,699.08	1,694.90	5.91	5.84	105.98	-59.07	-4.97	67.04	55.35	11.69	5.733	
1,800.00	1,793.26	1,799.02	1,792.37	6.33	6.26	100.63	-79.86	2.44	72.95	60.43	12.53	5.825	
1,900.00	1,890.32	1,898.96	1,889.01	6.77	6.71	96.41	-103.70	11.32	78.05	64.63	13.42	5.815	
2,000.00	1,986.52	1,998.88	1,984.70	7.25	7.21	92.94	-130.55	21.65	82.33	67.93	14.40	5.717	
2,100.00	2,081.77	2,098.79	2,079.31	7.78	7.75	90.00	-160.38	33.41	85.78	70.31	15.47	5.545	
2,200.00	2,175.94	2,198.75	2,173.54	8.35	8.33	88.78	-191.40	45.75	88.35	71.73	16.62	5.315	
2,300.00	2,268.92	2,298.66	2,267.71	8.97	8.94	89.95	-222.41	58.08	90.07	72.23	17.84	5.048	
2,400.00	2,360.59	2,398.40	2,361.72	9.64	9.56	93.36	-253.36	70.39	91.37	72.26	19.11	4.781	
2,500.00	2,451.18	2,497.93	2,455.54	10.37	10.19	98.97	-284.25	82.67	93.04	72.67	20.37	4.568	
2,600.00	2,541.70	2,597.45	2,549.34	11.12	10.84	104.72	-315.13	94.96	95.68	74.11	21.57	4.436	
2,700.00	2,632.22	2,696.96	2,643.13	11.89	11.49	110.11	-346.02	107.24	99.23	76.53	22.70	4.371	
2,800.00	2,722.73	2,796.47	2,736.93	12.68	12.16	115.09	-376.90	119.52	103.59	79.84	23.76	4.361	
2,900.00	2,813.25	2,895.98	2,830.73	13.48	12.83	119.64	-407.78	131.80	108.68	83.94	24.74	4.392	
3,000.00	2,903.77	2,995.50	2,924.53	14.30	13.51	123.76	-438.67	144.08	114.40	88.72	25.67	4.456	
3,100.00	2,994.28	3,095.01	3,018.33	15.13	14.19	127.47	-469.55	156.36	120.65	94.09	26.56	4.543	
3,200.00	3,084.80	3,194.52	3,112.13	15.96	14.88	130.81	-500.43	168.65	127.35	99.95	27.40	4.648	
3,300.00	3,175.32	3,294.04	3,205.93	16.80	15.57	133.81	-531.32	180.93	134.45	106.22	28.22	4.764	
3,400.00	3,265.84	3,393.55	3,299.73	17.65	16.26	136.50	-562.20	193.21	141.87	112.85	29.03	4.888	
3,500.00	3,356.35	3,493.06	3,393.53	18.50	16.96	138.92	-593.08	205.49	149.58	119.76	29.82	5.017	
3,600.00	3,446.87	3,592.58	3,487.32	19.36	17.66	141.10	-623.97	217.77	157.53	126.93	30.60	5.148	
3,700.00	3,537.39	3,692.09	3,581.12	20.22	18.36	143.07	-654.85	230.06	165.68	134.30	31.38	5.280	
3,800.00	3,627.90	3,791.60	3,674.92	21.08	19.07	144.85	-685.73	242.34	174.01	141.85	32.16	5.411	
3,900.00	3,718.42	3,891.11	3,768.72	21.95	19.78	146.47	-716.61	254.62	182.49	149.55	32.94	5.540	
4,000.00	3,808.94	3,990.63	3,862.52	22.82	20.48	147.95	-747.50	266.90	191.10	157.38	33.72	5.667	
4,100.00	3,899.45	4,090.14	3,956.32	23.69	21.19	149.29	-778.38	279.18	199.83	165.32	34.51	5.791	
4,200.00	3,989.97	4,189.65	4,050.12	24.57	21.91	150.53	-809.26	291.46	208.66	173.36	35.30	5.912	
4,300.00	4,080.49	4,289.17	4,143.92	25.44	22.62	151.66	-840.15	303.75	217.58	181.49	36.09	6.029	
4,400.00	4,171.01	4,388.68	4,237.72	26.32	23.33	152.70	-871.03	316.03	226.57	189.69	36.89	6.142	
4,500.00	4,261.52	4,488.19	4,331.51	27.20	24.05	153.67	-901.91	328.31	235.64	197.95	37.69	6.252	
4,600.00	4,352.04	4,587.71	4,425.31	28.08	24.76	154.56	-932.80	340.59	244.76	206.27	38.49	6.359	
4,700.00	4,442.56	4,687.22	4,519.11	28.96	25.48	155.39	-963.68	352.87	253.94	214.64	39.30	6.461	
4,800.00	4,533.07	4,786.73	4,612.91	29.85	26.20	156.16	-994.56	365.16	263.17	223.06	40.11	6.560	
4,900.00	4,623.59	4,886.24	4,706.71	30.73	26.91	156.88	-1,025.45	377.44	272.44	231.51	40.93	6.656	
5,000.00	4,714.11	4,985.76	4,800.51	31.62	27.63	157.55	-1,056.33	389.72	281.76	240.00	41.75	6.748	
5,100.00	4,804.63	5,085.27	4,894.31	32.51	28.35	158.17	-1,087.21	402.00	291.11	248.53	42.58	6.837	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - GOONCH FED COM 04 212H - Wellbore #1 - Plan 1												Offset Site Error: 0.00 usft	
Survey Program: 0-MWD+IGRF										Rule Assigned:		Offset Well Error: 0.33 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
5,200.00	4,895.14	5,184.78	4,988.11	33.39	29.07	158.76	-1,118.09	414.28	300.49	257.08	43.40	6.923	
5,300.00	4,985.66	5,284.30	5,081.91	34.28	29.79	159.32	-1,148.98	426.56	309.90	265.66	44.23	7.006	
5,400.00	5,076.18	5,383.81	5,175.70	35.17	30.51	159.84	-1,179.86	438.85	319.34	274.27	45.07	7.086	
5,500.00	5,166.69	5,483.32	5,269.50	36.06	31.23	160.33	-1,210.74	451.13	328.80	282.89	45.90	7.163	
5,600.00	5,257.21	5,582.83	5,363.30	36.95	31.95	160.79	-1,241.63	463.41	338.28	291.54	46.74	7.237	
5,700.00	5,347.86	5,682.38	5,457.13	37.84	32.68	161.24	-1,272.52	475.70	347.49	299.90	47.59	7.302	
5,800.00	5,439.70	5,782.15	5,551.17	38.67	33.40	161.53	-1,303.48	488.01	353.97	305.49	48.47	7.302	
5,900.00	5,532.86	5,882.09	5,645.38	39.46	34.13	161.61	-1,334.50	500.34	357.14	307.73	49.40	7.229	
6,000.00	5,627.23	5,982.09	5,739.63	40.19	34.85	161.50	-1,365.53	512.69	357.00	306.62	50.38	7.087	
6,100.00	5,722.70	6,082.01	5,833.81	40.85	35.58	161.19	-1,396.54	525.02	353.55	302.15	51.40	6.878	
6,200.00	5,819.14	6,181.73	5,927.81	41.47	36.31	160.66	-1,427.49	537.33	346.83	294.34	52.48	6.608	
6,300.00	5,916.45	6,281.14	6,021.51	42.02	37.03	159.88	-1,458.34	549.59	336.86	283.22	53.64	6.280	
6,400.00	6,014.51	6,380.11	6,114.80	42.52	37.75	158.82	-1,489.06	561.81	323.70	268.81	54.90	5.896	
6,500.00	6,113.19	6,478.52	6,207.56	42.96	38.47	157.40	-1,519.60	573.96	307.46	251.16	56.29	5.462	
6,600.00	6,212.37	6,576.26	6,299.68	43.35	39.18	155.51	-1,549.93	586.02	288.25	230.36	57.89	4.980	
6,700.00	6,311.94	6,673.19	6,391.05	43.68	39.88	153.02	-1,580.01	597.98	266.27	206.50	59.77	4.455	
6,800.00	6,411.77	6,766.45	6,479.03	43.96	40.56	149.80	-1,608.73	609.40	242.07	180.00	62.07	3.900	
6,900.00	6,511.73	6,856.19	6,564.45	44.18	41.17	145.94	-1,634.30	619.57	217.94	153.15	64.79	3.364	
7,000.00	6,611.43	6,945.22	6,649.99	44.28	41.73	-54.27	-1,657.19	628.68	191.93	123.32	68.61	2.797	
7,100.00	6,708.55	7,030.01	6,732.15	44.19	42.23	-67.73	-1,676.69	636.43	162.97	87.68	75.29	2.165	
7,200.00	6,800.16	7,108.84	6,809.05	43.92	42.67	-86.82	-1,692.79	642.83	142.46	58.58	83.88	1.698 Collision Risk Procedures Req.	
7,232.16	6,827.99	7,132.63	6,832.34	43.79	42.79	-93.38	-1,697.26	644.61	140.79	55.03	85.76	1.642 Collision Risk Procedures Req., SF	
7,300.00	6,883.48	7,179.89	6,878.74	43.51	43.03	-106.08	-1,705.60	647.93	149.24	63.34	85.89	1.737 Collision Risk Procedures Req.	
7,400.00	6,955.96	7,241.16	6,939.11	42.98	43.31	-119.13	-1,715.36	651.81	191.96	113.05	78.91	2.433	
7,500.00	7,015.41	7,290.49	6,987.86	42.38	43.53	-124.35	-1,722.35	654.59	260.84	189.02	71.82	3.632	
7,600.00	7,060.02	7,325.53	7,022.56	41.75	43.68	-121.12	-1,726.84	656.37	344.87	277.62	67.25	5.128	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 221H - Wellbore #1 - Plan 5												Offset Site Error:	0.00 usft
Survey Program: 71-MWD, 369-MWD												Offset Well Error:	0.50 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		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
0.00	0.00	1.47	1.47	0.33	0.50	-161.56	-200.06	-66.71	210.89				
100.00	100.00	99.45	99.44	0.36	0.51	-161.26	-200.23	-67.91	211.44	210.57		0.87	242.369
200.00	200.00	197.88	197.86	0.60	0.60	-160.93	-201.03	-69.49	212.73	211.54		1.19	178.499
300.00	300.00	296.04	295.98	0.91	0.74	-160.58	-202.66	-71.43	214.95	213.30		1.65	130.273
400.00	400.00	396.56	396.46	1.25	0.90	-160.10	-204.33	-73.99	217.37	215.22		2.15	100.954
500.00	500.00	496.52	496.38	1.60	1.10	-159.69	-205.98	-76.24	219.70	217.01		2.69	81.600
600.00	600.00	596.48	596.30	1.96	1.31	-159.29	-207.63	-78.49	222.03	218.79		3.25	68.383
700.00	700.00	689.88	689.61	2.31	1.51	-158.80	-210.21	-81.55	225.79	221.99		3.80	59.439
800.00	800.00	782.69	782.15	2.66	1.73	-158.05	-214.97	-86.64	232.58	228.22		4.36	53.397
900.00	900.00	874.95	873.87	3.02	1.98	-157.10	-221.87	-93.73	242.44	237.52		4.91	49.329
1,000.00	1,000.00	966.48	964.51	3.38	2.25	-156.01	-230.85	-102.75	255.38	249.90		5.47	46.656
1,100.00	1,099.98	1,056.87	1,053.58	3.73	2.55	115.16	-241.79	-113.58	272.14	266.12		6.02	45.195
1,200.00	1,199.84	1,151.90	1,146.82	4.07	2.89	116.90	-254.88	-126.45	292.82	286.23		6.59	44.438
1,300.00	1,299.48	1,248.57	1,241.64	4.42	3.26	108.37	-268.28	-139.62	315.09	307.92		7.17	43.959
1,400.00	1,398.97	1,345.35	1,336.58	4.78	3.64	93.78	-281.69	-152.79	335.89	328.14		7.74	43.376
1,500.00	1,498.21	1,442.26	1,431.64	5.14	4.02	84.76	-295.11	-165.99	354.87	346.54		8.33	42.626
1,600.00	1,597.09	1,539.19	1,526.73	5.52	4.41	79.61	-308.54	-179.19	372.23	363.30		8.92	41.715
1,700.00	1,695.48	1,636.01	1,621.71	5.91	4.80	76.95	-321.96	-192.37	388.19	378.65		9.54	40.680 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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 221H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 71-MWD												Offset Well Error:	0.50 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
0.00	0.00	1.47	1.47	0.33	0.50	-161.56	-200.06	-66.71	210.89				
100.00	100.00	99.45	99.44	0.36	0.51	-161.26	-200.23	-67.91	211.44	210.57	0.87	242.369	
200.00	200.00	197.88	197.86	0.60	0.60	-160.93	-201.03	-69.49	212.73	211.54	1.19	178.499	
300.00	300.00	296.04	295.98	0.91	0.74	-160.58	-202.66	-71.43	214.95	213.30	1.65	130.273	
400.00	400.00	396.57	396.46	1.25	0.90	-160.09	-204.32	-74.01	217.37	215.22	2.15	100.981	
500.00	500.00	496.53	496.38	1.60	1.09	-159.55	-205.80	-76.74	219.70	217.02	2.68	81.958	
600.00	600.00	591.41	591.15	1.96	1.28	-158.80	-207.76	-80.57	223.07	219.85	3.22	69.238	
700.00	700.00	684.85	684.32	2.31	1.50	-157.70	-211.39	-86.68	229.12	225.34	3.78	60.675	
800.00	800.00	776.45	775.31	2.66	1.74	-156.19	-216.71	-95.65	238.32	233.99	4.34	54.940	
900.00	900.00	872.93	870.77	3.02	2.02	-154.22	-223.54	-107.95	250.13	245.21	4.92	50.817	
1,000.00	1,000.00	965.45	962.08	3.38	2.32	-152.39	-231.00	-120.83	263.66	258.16	5.50	47.964	
1,100.00	1,099.98	1,059.37	1,054.48	3.73	2.65	119.29	-240.37	-134.81	280.42	274.35	6.07	46.190	
1,200.00	1,199.84	1,154.49	1,147.88	4.07	3.00	121.28	-250.76	-149.49	300.37	293.72	6.64	45.214	
1,300.00	1,299.48	1,249.36	1,240.96	4.42	3.36	112.86	-261.68	-164.27	322.68	315.47	7.21	44.734	
1,400.00	1,398.97	1,348.45	1,338.18	4.78	3.72	98.43	-273.14	-179.59	343.77	335.99	7.78	44.175	
1,500.00	1,498.21	1,447.99	1,436.00	5.14	4.05	89.62	-283.93	-194.51	362.48	354.14	8.34	43.452	
1,600.00	1,597.09	1,547.06	1,533.48	5.52	4.38	84.71	-294.08	-209.00	379.24	370.32	8.91	42.540	
1,700.00	1,695.48	1,651.66	1,636.69	5.91	4.72	82.24	-304.94	-222.00	393.51	383.98	9.53	41.291 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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - GOONCH FED COM 04 222H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IGRF												Offset Well Error:	0.33 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.33	0.33	-90.10	-0.10	-60.02	60.02				
100.00	100.00	100.00	100.00	0.36	0.36	-90.10	-0.10	-60.02	60.02	59.30	0.72	83.496	
200.00	200.00	200.00	200.00	0.60	0.60	-90.10	-0.10	-60.02	60.02	58.83	1.19	50.435	
300.00	300.00	300.00	300.00	0.91	0.91	-90.10	-0.10	-60.02	60.02	58.19	1.83	32.823	
400.00	400.00	400.00	400.00	1.25	1.25	-90.10	-0.10	-60.02	60.02	57.51	2.51	23.914	
500.00	500.00	500.00	500.00	1.60	1.60	-90.10	-0.10	-60.02	60.02	56.81	3.21	18.717	
600.00	600.00	600.00	600.00	1.96	1.96	-90.10	-0.10	-60.02	60.02	56.11	3.91	15.347	
700.00	700.00	700.00	700.00	2.31	2.31	-90.10	-0.10	-60.02	60.02	55.40	4.62	12.995	
800.00	800.00	800.00	800.00	2.66	2.66	-90.10	-0.10	-60.02	60.02	54.69	5.33	11.262	
900.00	900.00	900.00	900.00	3.02	3.02	-90.10	-0.10	-60.02	60.02	53.98	6.04	9.935	
1,000.00	1,000.00	1,000.00	1,000.00	3.38	3.38	-90.10	-0.10	-60.02	60.02	53.27	6.75	8.886 CC, ES	
1,100.00	1,099.98	1,099.98	1,099.98	3.73	3.73	179.91	-0.10	-60.02	61.77	54.31	7.46	8.280 SF	
1,200.00	1,199.84	1,199.16	1,199.14	4.07	4.07	178.51	-1.75	-60.49	67.50	59.36	8.14	8.292	
1,300.00	1,299.48	1,297.76	1,297.60	4.42	4.39	164.65	-6.66	-61.90	77.52	68.71	8.81	8.802	
1,400.00	1,398.97	1,395.87	1,395.34	4.78	4.72	145.13	-14.78	-64.22	89.76	80.28	9.47	9.473	
1,500.00	1,498.21	1,493.51	1,492.28	5.14	5.06	131.85	-26.04	-67.44	103.72	93.57	10.15	10.217	
1,600.00	1,597.09	1,590.66	1,588.26	5.52	5.42	122.89	-40.40	-71.54	119.31	108.47	10.85	11.000	
1,700.00	1,695.48	1,687.27	1,683.17	5.91	5.80	116.67	-57.77	-76.51	136.47	124.90	11.57	11.794	
1,800.00	1,793.26	1,783.33	1,776.87	6.33	6.20	112.22	-78.09	-82.32	155.13	142.80	12.33	12.578	
1,900.00	1,890.32	1,878.82	1,869.27	6.77	6.63	108.93	-101.26	-88.95	175.27	162.12	13.15	13.331	
2,000.00	1,986.52	1,973.72	1,960.24	7.25	7.10	106.44	-127.21	-96.37	196.82	182.81	14.02	14.041	
2,100.00	2,081.77	2,068.02	2,049.70	7.78	7.60	104.50	-155.85	-104.56	219.77	204.82	14.96	14.693	
2,200.00	2,175.94	2,161.69	2,137.55	8.35	8.14	102.95	-187.09	-113.50	244.08	228.11	15.97	15.282	
2,300.00	2,268.92	2,254.74	2,223.72	8.97	8.72	101.69	-220.84	-123.15	269.71	252.64	17.07	15.804	
2,400.00	2,360.59	2,350.13	2,311.20	9.64	9.36	100.83	-257.43	-133.61	296.26	277.97	18.29	16.197	
2,500.00	2,451.18	2,446.37	2,399.42	10.37	10.03	101.41	-294.42	-144.19	322.87	303.27	19.61	16.468	
2,600.00	2,541.70	2,542.61	2,487.62	11.12	10.72	102.32	-331.41	-154.76	349.58	328.61	20.96	16.675	
2,700.00	2,632.22	2,638.84	2,575.83	11.89	11.42	103.10	-368.40	-165.34	376.35	354.00	22.36	16.835	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 231H - Wellbore #1 - Plan 6													Offset Site Error: 0.00 usft
Survey Program: 82-MWD, 10538-MWD													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)			
0.00	0.00	1.48	1.48	0.33	0.50	-166.86	-200.03	-46.71	205.41				
100.00	100.00	100.28	100.27	0.36	0.51	-167.02	-200.54	-46.21	205.80	204.93	0.87	236.593	
200.00	200.00	200.97	200.97	0.60	0.59	-167.17	-201.07	-45.79	206.22	205.04	1.18	174.344	
300.00	300.00	300.97	300.96	0.91	0.72	-166.90	-201.05	-46.79	206.43	204.79	1.64	126.132	
400.00	400.00	400.02	399.98	1.25	0.89	-166.31	-201.10	-48.99	206.98	204.84	2.14	96.548	
500.00	500.00	499.88	499.82	1.60	1.07	-165.76	-201.37	-51.10	207.76	205.08	2.67	77.769	
600.00	600.00	600.72	600.64	1.96	1.26	-165.21	-201.47	-53.20	208.38	205.17	3.21	64.853	
700.00	700.00	701.16	701.05	2.31	1.46	-164.55	-201.07	-55.56	208.61	204.84	3.77	55.363	
800.00	800.00	796.01	795.84	2.66	1.66	-163.73	-201.61	-58.83	210.09	205.77	4.32	48.658	
900.00	900.00	892.48	892.21	3.02	1.86	-162.98	-203.97	-62.45	213.52	208.65	4.87	43.845	
1,000.00	1,000.00	979.00	978.55	3.38	2.04	-162.57	-208.60	-65.49	219.84	214.44	5.39	40.767	
1,100.00	1,099.98	1,073.00	1,072.00	3.73	2.27	108.08	-217.38	-70.28	230.89	224.96	5.93	38.929	
1,200.00	1,199.84	1,166.00	1,163.90	4.07	2.52	109.55	-229.71	-77.40	247.56	241.10	6.47	38.274	
1,300.00	1,299.48	1,256.35	1,252.81	4.42	2.80	100.85	-243.65	-85.33	267.61	260.61	7.00	38.249	
1,400.00	1,398.97	1,359.93	1,354.85	4.78	3.11	86.48	-258.98	-94.39	285.28	277.70	7.58	37.621	
1,500.00	1,498.21	1,459.00	1,452.66	5.14	3.39	77.59	-272.45	-102.48	299.40	291.25	8.15	36.737	
1,600.00	1,597.09	1,552.73	1,545.11	5.52	3.69	72.43	-285.82	-110.26	312.12	303.41	8.71	35.828	
1,700.00	1,695.48	1,653.39	1,644.33	5.91	4.01	69.83	-301.02	-117.83	323.30	313.96	9.33	34.634	
1,800.00	1,793.26	1,757.83	1,747.36	6.33	4.34	68.49	-317.52	-122.03	331.32	321.32	10.00	33.122	
1,900.00	1,890.32	1,858.67	1,846.85	6.77	4.65	67.89	-333.92	-122.74	335.98	325.29	10.69	31.415	
2,000.00	1,986.52	1,951.20	1,938.19	7.25	4.94	68.44	-348.47	-125.52	340.04	328.65	11.40	29.837	
2,100.00	2,081.77	2,044.46	2,030.14	7.78	5.25	70.02	-363.29	-130.14	344.48	332.32	12.16	28.322	
2,200.00	2,175.94	2,135.76	2,120.08	8.35	5.56	72.38	-377.70	-136.42	349.79	336.81	12.99	26.935	
2,300.00	2,268.92	2,224.19	2,207.11	8.97	5.87	75.69	-389.87	-146.19	357.41	343.55	13.86	25.790	
2,400.00	2,360.59	2,318.26	2,299.71	9.64	6.18	80.05	-401.00	-158.40	367.20	352.36	14.84	24.751	
2,500.00	2,451.18	2,409.45	2,389.54	10.37	6.48	85.16	-411.23	-170.35	379.65	363.80	15.85	23.960	
2,600.00	2,541.70	2,497.07	2,475.70	11.12	6.79	90.02	-421.97	-182.10	396.40	379.55	16.84	23.534 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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 231H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 82-MWD													Offset Well Error: 0.50 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	
0.00	0.00	1.48	1.48	0.33	0.50	-166.86	-200.03	-46.71	205.41				
100.00	100.00	100.28	100.27	0.36	0.51	-167.02	-200.54	-46.21	205.80	204.93	0.87	236.593	
200.00	200.00	200.97	200.97	0.60	0.59	-167.17	-201.07	-45.79	206.22	205.04	1.18	174.344	
300.00	300.00	300.97	300.96	0.91	0.72	-166.90	-201.05	-46.79	206.43	204.79	1.64	126.132	
400.00	400.00	400.02	399.98	1.25	0.89	-166.31	-201.10	-48.99	206.98	204.84	2.14	96.548	
500.00	500.00	499.88	499.82	1.60	1.07	-165.76	-201.37	-51.10	207.76	205.08	2.67	77.769	
600.00	600.00	600.72	600.64	1.96	1.26	-165.21	-201.47	-53.20	208.38	205.17	3.21	64.853	
700.00	700.00	701.16	701.05	2.31	1.46	-164.55	-201.07	-55.56	208.61	204.84	3.77	55.363	
800.00	800.00	796.01	795.84	2.66	1.66	-163.73	-201.61	-58.83	210.09	205.77	4.32	48.658	
900.00	900.00	892.48	892.21	3.02	1.86	-162.98	-203.97	-62.45	213.52	208.65	4.87	43.845	
1,000.00	1,000.00	979.00	978.55	3.38	2.04	-162.57	-208.60	-65.49	219.84	214.44	5.39	40.767	
1,100.00	1,099.98	1,073.00	1,072.00	3.73	2.27	108.08	-217.38	-70.28	230.89	224.96	5.93	38.929	
1,200.00	1,199.84	1,166.00	1,163.90	4.07	2.52	109.55	-229.71	-77.40	247.56	241.10	6.47	38.274	
1,300.00	1,299.48	1,256.35	1,252.81	4.42	2.80	100.85	-243.65	-85.33	267.61	260.61	7.00	38.249	
1,400.00	1,398.97	1,359.93	1,354.85	4.78	3.11	86.48	-258.98	-94.39	285.28	277.70	7.58	37.621	
1,500.00	1,498.21	1,459.00	1,452.66	5.14	3.39	77.59	-272.45	-102.48	299.40	291.25	8.15	36.737	
1,600.00	1,597.09	1,552.73	1,545.11	5.52	3.69	72.43	-285.82	-110.26	312.12	303.41	8.71	35.828	
1,700.00	1,695.48	1,653.39	1,644.33	5.91	4.01	69.83	-301.02	-117.83	323.30	313.96	9.33	34.634	
1,800.00	1,793.26	1,757.83	1,747.36	6.33	4.34	68.49	-317.52	-122.03	331.32	321.32	10.00	33.122	
1,900.00	1,890.32	1,858.67	1,846.85	6.77	4.65	67.89	-333.92	-122.74	335.98	325.29	10.69	31.415	
2,000.00	1,986.52	1,951.20	1,938.19	7.25	4.94	68.44	-348.47	-125.52	340.04	328.65	11.40	29.837	
2,100.00	2,081.77	2,044.46	2,030.14	7.78	5.25	70.02	-363.29	-130.14	344.48	332.32	12.16	28.322	
2,200.00	2,175.94	2,135.76	2,120.08	8.35	5.56	72.38	-377.70	-136.42	349.79	336.81	12.99	26.935	
2,300.00	2,268.92	2,224.19	2,207.11	8.97	5.87	75.69	-389.87	-146.19	357.41	343.55	13.86	25.790	
2,400.00	2,360.59	2,318.26	2,299.71	9.64	6.18	80.05	-401.00	-158.40	367.20	352.36	14.84	24.751	
2,500.00	2,451.18	2,409.45	2,389.54	10.37	6.48	85.16	-411.23	-170.35	379.65	363.80	15.85	23.960	
2,600.00	2,541.70	2,497.07	2,475.70	11.12	6.79	90.02	-421.97	-182.10	396.40	379.55	16.84	23.534 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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 232H - Wellbore #1 - Plan 4													Offset Site Error: 0.00 usft
Survey Program: 0-MWD													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)			
0.00	0.00	1.50	1.50	0.33	0.50	-178.08	-199.96	-6.69	200.07				
100.00	100.00	101.50	101.50	0.36	0.51	-178.08	-199.96	-6.69	200.07	199.21	0.87	230.828	
200.00	200.00	201.50	201.50	0.60	0.59	-178.08	-199.96	-6.69	200.07	198.89	1.18	169.019	
300.00	300.00	301.50	301.50	0.91	0.73	-178.08	-199.96	-6.69	200.07	198.42	1.65	121.481	
400.00	400.00	401.50	401.50	1.25	0.91	-178.08	-199.96	-6.69	200.07	197.91	2.16	92.417	
500.00	500.00	501.50	501.50	1.60	1.10	-178.08	-199.96	-6.69	200.07	197.36	2.71	73.881	
600.00	600.00	601.50	601.50	1.96	1.31	-178.08	-199.96	-6.69	200.07	196.81	3.26	61.288	
700.00	700.00	701.50	701.50	2.31	1.52	-178.08	-199.96	-6.69	200.07	196.24	3.83	52.257	
800.00	800.00	801.50	801.50	2.66	1.73	-178.08	-199.96	-6.69	200.07	195.67	4.40	45.495	
900.00	900.00	901.50	901.50	3.02	1.95	-178.08	-199.96	-6.69	200.07	195.10	4.97	40.256	
1,000.00	1,000.00	1,001.50	1,001.50	3.38	2.17	-178.08	-199.96	-6.69	200.07	194.53	5.54	36.085	
1,100.00	1,099.98	1,101.48	1,101.48	3.73	2.39	92.41	-199.96	-6.69	200.14	194.03	6.11	32.743	
1,200.00	1,199.84	1,201.34	1,201.34	4.07	2.61	93.90	-199.96	-6.69	200.43	193.75	6.68	30.018	
1,300.00	1,299.48	1,300.98	1,300.98	4.42	2.83	85.68	-199.96	-6.69	200.75	193.50	7.25	27.693	
1,400.00	1,398.97	1,400.47	1,400.47	4.78	3.05	71.68	-199.96	-6.69	198.63	190.81	7.83	25.381	
1,500.00	1,498.21	1,499.71	1,499.71	5.14	3.27	63.61	-199.96	-6.69	193.83	185.42	8.41	23.047	
1,600.00	1,597.09	1,598.59	1,598.59	5.52	3.49	59.96	-199.96	-6.69	186.63	177.63	9.00	20.725	
1,700.00	1,695.48	1,696.98	1,696.98	5.91	3.71	59.55	-199.96	-6.69	177.46	167.84	9.62	18.456	
1,800.00	1,793.26	1,794.76	1,794.76	6.33	3.92	61.81	-199.96	-6.69	166.98	156.73	10.25	16.293	
1,900.00	1,890.32	1,889.37	1,889.35	6.77	4.11	65.95	-201.22	-6.09	156.90	146.02	10.88	14.422	
2,000.00	1,986.52	1,984.53	1,984.40	7.25	4.28	71.46	-205.32	-4.14	148.79	137.26	11.53	12.907	
2,100.00	2,081.77	2,080.42	2,079.98	7.78	4.45	78.08	-212.34	-0.80	142.99	130.76	12.22	11.699	
2,200.00	2,175.94	2,177.07	2,175.99	8.35	4.64	85.51	-222.34	3.95	139.78	126.82	12.96	10.784	
2,264.94	2,236.47	2,240.25	2,238.52	8.75	4.77	90.61	-230.45	7.81	139.18	125.72	13.47	10.336 CC	
2,300.00	2,268.92	2,274.49	2,272.32	8.97	4.85	93.41	-235.36	10.15	139.36	125.63	13.73	10.148	
2,400.00	2,360.59	2,372.67	2,368.87	9.64	5.08	101.40	-251.48	17.81	141.75	127.23	14.51	9.766	
2,500.00	2,451.18	2,471.81	2,465.67	10.37	5.35	109.51	-270.77	26.99	146.69	131.41	15.28	9.598	
2,600.00	2,541.70	2,571.93	2,562.64	11.12	5.67	116.29	-293.27	37.69	152.99	136.94	16.04	9.538	
2,700.00	2,632.22	2,670.39	2,657.69	11.89	6.02	122.00	-316.47	48.73	160.51	143.73	16.78	9.566	
2,800.00	2,722.73	2,768.85	2,752.73	12.68	6.39	127.17	-339.67	59.76	169.51	152.04	17.48	9.700	
2,900.00	2,813.25	2,867.31	2,847.78	13.48	6.78	131.80	-362.87	70.79	179.77	161.63	18.14	9.911	
3,000.00	2,903.77	2,965.77	2,942.83	14.30	7.19	135.91	-386.07	81.83	191.08	172.30	18.77	10.177	
3,100.00	2,994.28	3,064.23	3,037.88	15.13	7.61	139.55	-409.27	92.86	203.26	183.87	19.39	10.481	
3,200.00	3,084.80	3,162.69	3,132.93	15.96	8.05	142.78	-432.47	103.89	216.17	196.18	20.00	10.809	
3,300.00	3,175.32	3,261.15	3,227.98	16.80	8.49	145.64	-455.67	114.93	229.69	209.09	20.60	11.151	
3,400.00	3,265.84	3,359.61	3,323.03	17.65	8.95	148.18	-478.87	125.96	243.72	222.52	21.20	11.497	
3,500.00	3,356.35	3,458.07	3,418.08	18.50	9.41	150.44	-502.07	137.00	258.16	236.37	21.80	11.843	
3,600.00	3,446.87	3,556.53	3,513.13	19.36	9.88	152.47	-525.27	148.03	272.97	250.56	22.40	12.185	
3,700.00	3,537.39	3,654.99	3,608.18	20.22	10.36	154.28	-548.47	159.06	288.07	265.06	23.01	12.519	
3,800.00	3,627.90	3,753.45	3,703.23	21.08	10.84	155.91	-571.67	170.10	303.43	279.80	23.63	12.843	
3,900.00	3,718.42	3,851.91	3,798.27	21.95	11.32	157.39	-594.87	181.13	319.01	294.76	24.25	13.157	
4,000.00	3,808.94	3,950.37	3,893.32	22.82	11.81	158.73	-618.07	192.17	334.77	309.90	24.87	13.460	
4,100.00	3,899.45	4,048.83	3,988.37	23.69	12.30	159.94	-641.27	203.20	350.70	325.20	25.50	13.751	
4,200.00	3,989.97	4,147.29	4,083.42	24.57	12.79	161.05	-664.47	214.23	366.77	340.63	26.14	14.029	
4,300.00	4,080.49	4,245.75	4,178.47	25.44	13.29	162.07	-687.67	225.27	382.97	356.18	26.79	14.297	
7,300.00	6,883.48	7,128.12	6,961.55	43.51	28.19	-43.87	-1,364.90	547.36	355.90	308.39	47.51	7.491	
7,400.00	6,955.96	7,179.31	7,011.56	42.98	28.37	-59.22	-1,374.80	552.07	285.84	235.67	50.17	5.698	
7,500.00	7,015.41	7,219.16	7,050.61	42.38	28.51	-77.09	-1,381.94	555.47	220.06	164.03	56.03	3.927	
7,600.00	7,060.02	7,245.66	7,076.64	41.75	28.59	-90.18	-1,386.42	557.60	176.80	111.06	65.74	2.689	
7,640.58	7,073.56	7,252.14	7,083.02	41.49	28.61	-92.78	-1,387.49	558.11	172.14	103.35	68.79	2.502 ES, SF	
7,700.00	7,088.43	7,256.79	7,087.59	41.11	28.63	-93.28	-1,388.24	558.47	182.18	112.55	69.63	2.617	
7,800.00	7,099.79	7,250.62	7,081.52	40.50	28.61	-84.84	-1,387.24	557.99	235.05	170.38	64.67	3.635	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 232H - Wellbore #1 - Plan 4													Offset Site Error: 0.00 usft
Survey Program: 0-MWD													Offset Well Error: 0.50 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	
7,900.00	7,100.15	7,232.29	7,063.50	39.94	28.55	-77.24	-1,384.19	556.54	311.73	252.04	59.69	5.222	



Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 232H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 177-MWD												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	1.53	1.53	0.33	0.50	-178.08	-199.96	-6.69	200.07				
100.00	100.00	103.82	103.81	0.36	0.51	-177.99	-199.35	-7.01	199.48	198.61	0.87	229.202	
175.44	175.44	177.57	177.55	0.52	0.53	-177.80	-198.17	-7.61	198.32	197.26	1.05	188.114	
200.00	200.00	200.99	200.97	0.60	0.55	-177.91	-198.33	-7.23	198.46	197.32	1.14	173.756	
300.00	300.00	304.66	304.58	0.91	0.67	-178.80	-197.33	-4.12	197.40	195.82	1.58	124.912	
385.76	385.76	387.42	387.26	1.21	0.80	-179.89	-196.39	-0.39	196.39	194.39	2.00	97.993	
400.00	400.00	400.69	400.51	1.25	0.82	179.92	-196.43	0.27	196.43	194.36	2.08	94.612	
500.00	500.00	501.50	501.19	1.60	1.01	178.45	-196.69	5.33	196.76	194.15	2.61	75.401	
600.00	600.00	602.12	601.70	1.96	1.21	177.09	-196.54	9.99	196.79	193.63	3.16	62.265	
700.00	700.00	703.40	702.88	2.31	1.42	175.81	-195.98	14.34	196.51	192.79	3.73	52.744	
800.00	800.00	809.73	809.11	2.66	1.65	174.67	-193.11	18.02	194.10	189.79	4.31	45.056	
900.00	900.00	910.74	909.99	3.02	1.85	174.63	-188.28	17.71	189.30	184.44	4.86	38.914	
1,000.00	1,000.00	1,005.47	1,004.64	3.38	2.03	175.41	-185.82	14.91	186.45	181.05	5.40	34.547	
1,100.00	1,099.98	1,103.61	1,102.72	3.73	2.21	86.99	-184.96	11.52	185.22	179.30	5.92	31.266	
1,200.00	1,199.84	1,202.51	1,201.56	4.07	2.39	89.67	-184.71	8.06	184.71	178.25	6.45	28.615	
1,300.00	1,299.48	1,301.64	1,300.64	4.42	2.59	82.68	-184.67	4.74	184.55	177.55	7.00	26.365	
1,400.00	1,398.97	1,400.23	1,399.17	4.78	2.78	69.84	-184.76	1.56	182.41	174.86	7.55	24.148	
1,500.00	1,498.21	1,496.66	1,495.59	5.14	2.98	62.30	-185.79	0.14	178.61	170.50	8.11	22.024	
1,600.00	1,597.09	1,592.28	1,591.12	5.52	3.17	58.05	-189.43	1.39	174.48	165.80	8.67	20.115	
1,700.00	1,695.48	1,689.77	1,688.33	5.91	3.38	55.86	-195.51	5.31	169.47	160.21	9.26	18.292	
1,800.00	1,793.26	1,788.58	1,786.69	6.33	3.59	55.24	-202.94	11.19	162.57	152.68	9.89	16.435	
1,900.00	1,890.32	1,886.78	1,884.14	6.77	3.81	55.55	-211.63	19.61	153.55	143.00	10.55	14.550	
2,000.00	1,986.52	1,982.73	1,978.93	7.25	4.06	56.55	-222.36	29.81	143.49	132.23	11.26	12.744	
2,100.00	2,081.77	2,079.90	2,074.28	7.78	4.34	58.07	-236.63	41.97	133.43	121.39	12.04	11.081	
2,200.00	2,175.94	2,177.29	2,168.96	8.35	4.66	59.74	-253.73	56.93	122.27	109.36	12.91	9.467	
2,300.00	2,268.92	2,275.36	2,263.22	8.97	5.04	61.47	-274.22	74.60	110.34	96.44	13.90	7.939	
2,400.00	2,360.59	2,374.25	2,358.05	9.64	5.43	65.28	-295.53	92.82	96.86	81.87	14.99	6.463	
2,500.00	2,451.18	2,472.48	2,452.80	10.37	5.80	74.02	-315.23	109.68	82.82	66.68	16.14	5.132	
2,600.00	2,541.70	2,570.14	2,547.42	11.12	6.17	87.42	-333.57	125.45	71.84	54.64	17.20	4.176	
2,700.00	2,632.22	2,668.26	2,642.55	11.89	6.57	104.56	-351.64	141.32	65.99	48.16	17.83	3.701	
2,744.58	2,672.57	2,711.90	2,684.82	12.24	6.75	112.79	-359.66	148.62	65.31	47.41	17.90	3.649 CC	
2,800.00	2,722.73	2,766.12	2,737.32	12.68	6.99	122.96	-369.64	157.77	66.36	48.54	17.82	3.724	
2,900.00	2,813.25	2,864.13	2,832.16	13.48	7.43	139.65	-387.72	174.63	73.01	55.50	17.52	4.168	
3,000.00	2,903.77	2,961.70	2,926.54	14.30	7.86	152.93	-405.55	191.77	84.61	67.17	17.44	4.851	
3,100.00	2,994.28	3,059.77	3,021.36	15.13	8.31	162.98	-423.33	209.41	99.50	81.77	17.73	5.611	
3,200.00	3,084.80	3,157.62	3,115.86	15.96	8.78	170.42	-441.18	227.42	116.28	97.96	18.32	6.346	
3,300.00	3,175.32	3,255.22	3,210.09	16.80	9.25	175.95	-459.12	245.49	134.33	115.24	19.09	7.036	
3,400.00	3,265.84	3,350.57	3,302.34	17.65	9.68	-179.99	-476.00	262.69	154.12	134.18	19.94	7.728	
3,500.00	3,356.35	3,446.23	3,395.19	18.50	10.09	-176.92	-491.93	279.34	175.73	154.91	20.82	8.441	
3,600.00	3,446.87	3,543.98	3,490.12	19.36	10.53	-174.38	-507.71	296.46	198.18	176.45	21.73	9.121	
3,700.00	3,537.39	3,646.46	3,589.27	20.22	11.01	-172.27	-525.90	314.88	219.24	196.57	22.67	9.671	
3,800.00	3,627.90	3,745.46	3,684.78	21.08	11.49	-170.66	-544.86	332.77	239.15	215.55	23.60	10.132	
3,900.00	3,718.42	3,842.67	3,778.46	21.95	11.96	-169.17	-563.35	350.99	259.17	234.61	24.56	10.551	
4,000.00	3,808.94	3,937.80	3,870.24	22.82	12.41	-167.96	-581.17	368.56	279.69	254.19	25.50	10.967	
4,100.00	3,899.45	4,030.51	3,960.10	23.69	12.83	-167.04	-597.08	384.88	302.00	275.60	26.40	11.440	
4,200.00	3,989.97	4,127.76	4,054.51	24.57	13.26	-166.26	-613.29	401.66	324.95	297.64	27.31	11.898	
4,300.00	4,080.49	4,225.15	4,149.02	25.44	13.70	-165.54	-629.51	418.70	347.91	319.68	28.24	12.321	
4,400.00	4,171.01	4,322.74	4,243.70	26.32	14.15	-164.90	-645.80	435.83	370.88	341.72	29.17	12.716	
4,500.00	4,261.52	4,422.51	4,340.35	27.20	14.63	-164.22	-662.61	454.02	393.64	363.50	30.14	13.060	
7,600.00	7,060.02	7,200.31	7,062.47	41.75	25.13	41.99	-1,053.27	782.28	343.02	289.06	53.96	6.356	
7,700.00	7,088.43	7,226.26	7,088.36	41.11	25.18	66.38	-1,053.59	783.97	253.94	197.44	56.50	4.495	
7,800.00	7,099.79	7,235.19	7,097.28	40.50	25.20	86.07	-1,053.69	784.57	169.86	108.83	61.02	2.783	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Goonch Fed Com 04 232H - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 177-MWD													Offset Well Error: 0.50 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	
7,900.00	7,100.15	7,233.39	7,095.48	39.94	25.20	86.66	-1,053.67	784.45	111.98	47.49	64.49	1.736	Collision Risk Procedures Req.
7,934.72	7,100.21	7,232.75	7,094.83	39.77	25.20	86.31	-1,053.66	784.40	106.67	45.14	61.53	1.734	Collision Risk Procedures Req., ES, Sf
8,000.00	7,100.32	7,231.60	7,093.69	39.45	25.19	85.72	-1,053.65	784.33	124.42	73.19	51.23	2.429	
8,100.00	7,100.50	7,230.02	7,092.11	39.02	25.19	85.05	-1,053.63	784.22	194.07	149.43	44.65	4.347	
8,200.00	7,100.67	7,228.65	7,090.74	38.65	25.19	84.68	-1,053.61	784.13	281.19	236.62	44.57	6.309	
8,300.00	7,100.85	7,227.49	7,089.59	38.32	25.19	84.60	-1,053.60	784.05	373.69	328.25	45.44	8.223	

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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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. 04-T23S-R28E - Loving Federal Com #001 (Active) - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft	
Survey Program: 125-INC-ONLY												Offset Well Error: 0.50 usft		
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			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	
11,100.00	7,105.65	7,110.31	7,109.72	60.79	135.73	90.00	2,120.44	1,214.37	390.41	194.74	195.66	1.995	Collision Risk Procedures Req.	
11,143.60	7,105.72	7,110.28	7,109.69	61.47	135.73	90.00	2,120.44	1,214.37	387.97	190.92	197.05	1.969	Collision Risk Procedures Req., CC, E!	
11,200.00	7,105.81	7,110.23	7,109.65	62.36	135.73	89.99	2,120.44	1,214.37	392.05	194.04	198.01	1.980	Collision Risk Procedures Req.	



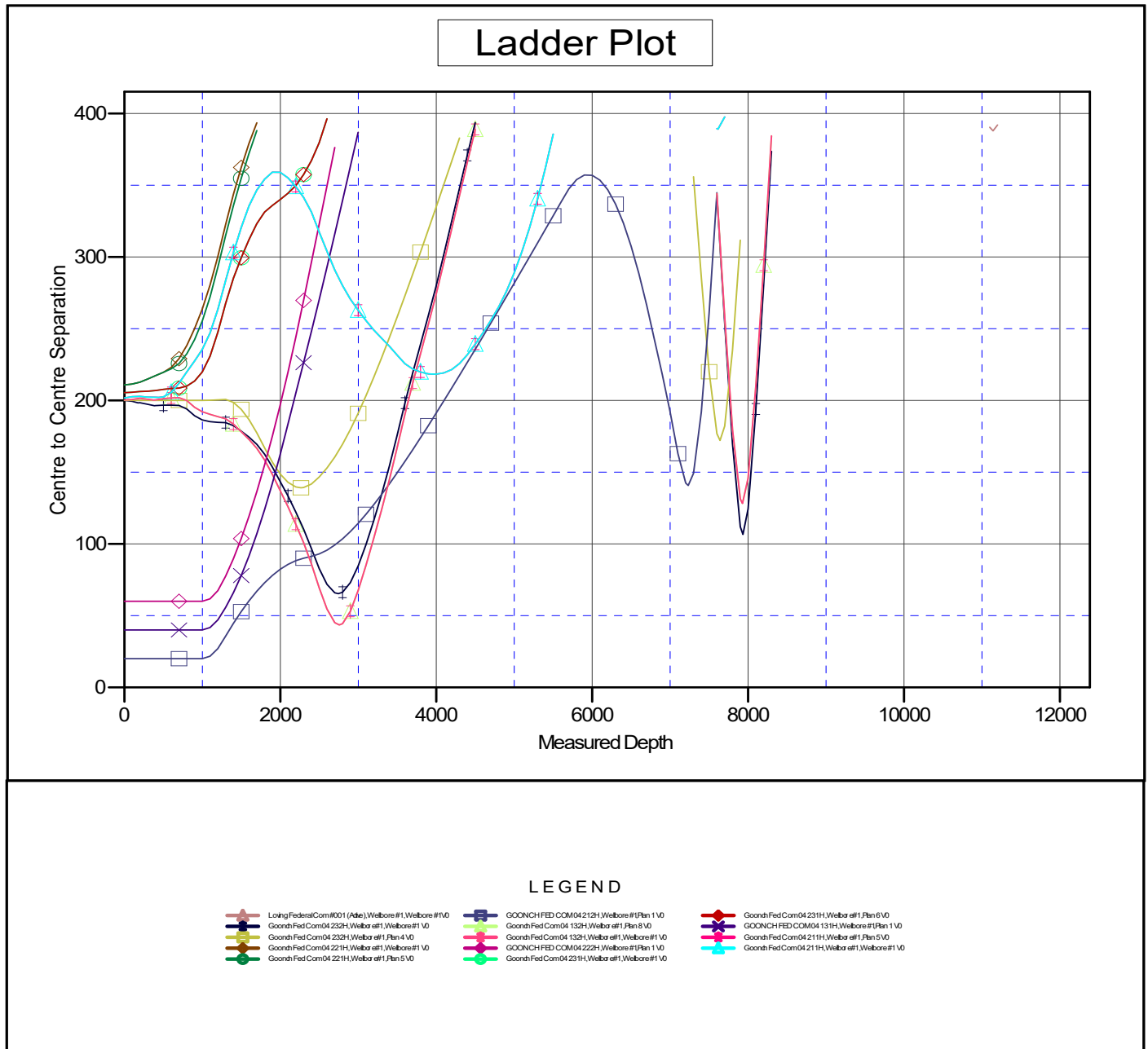
Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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 3016' @ 3041.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.3333334

Coordinates are relative to: GOONCH FED COM 04 135H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.13°



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 GOONCH FED COM 04 135H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB 25' + GL 3016' @ 3041.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	GOONCH FED COM 04 135H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.33 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 3016' @ 3041.00usft

Offset Depths are relative to Offset Datum

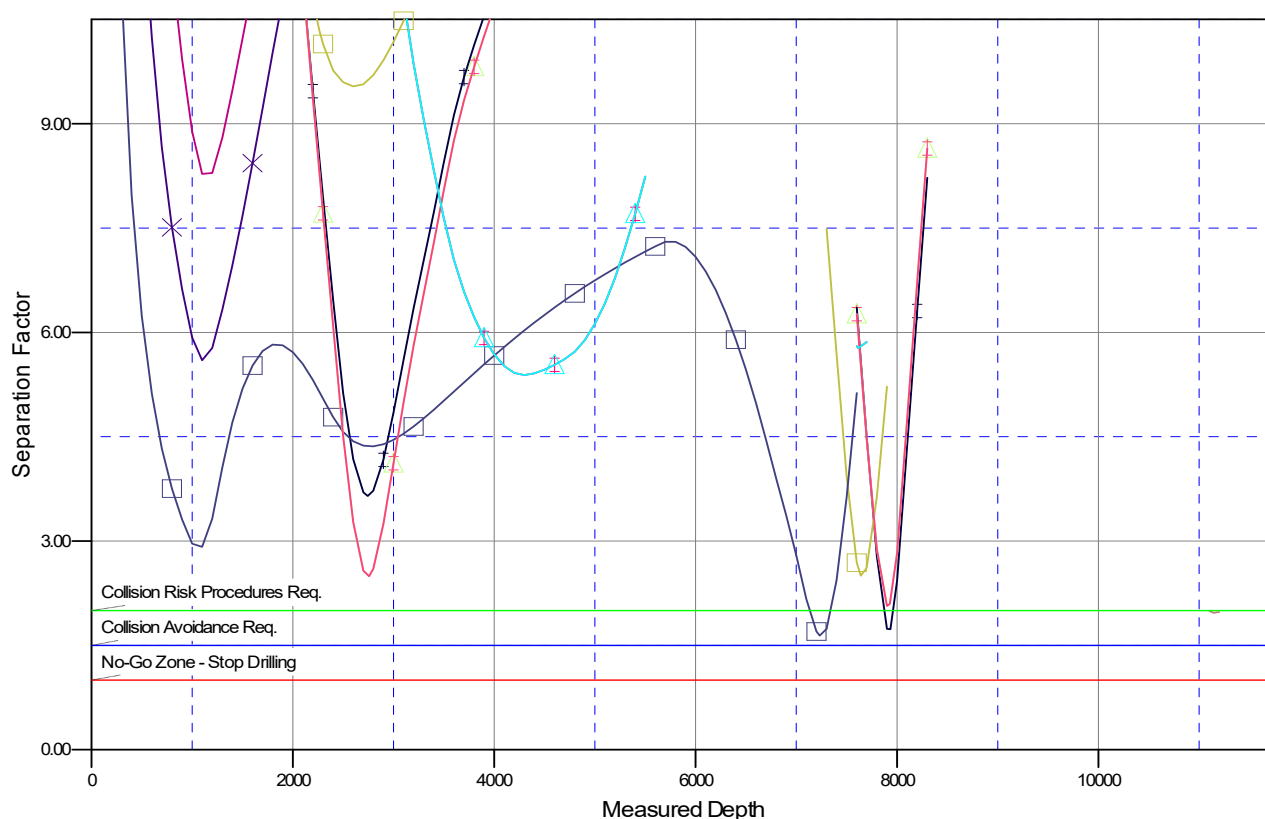
Central Meridian is -104.33333334

Coordinates are relative to: GOONCH FED COM 04 135H

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

Grid Convergence at Surface is: 0.13°

Separation Factor Plot



LEGEND

Loving Federal Com#001 (Ade) Wellbore #1, Wellbore #1 V0 Goonch Fed Com 04 232H, Wellbore #1, Wellbore #1 V0 Goonch Fed Com 04 232H, Wellbore #1, Plan 4 V0 Goonch Fed Com 04 221H, Wellbore #1, Wellbore #1 V0 Goonch Fed Com 04 221H, Wellbore #1, Plan 5 V0	GOONCH FED COM 04 212H, Wellbore #1, Plan 1 V0 Goonch Fed Com 04 132H, Wellbore #1, Plan 8 V0 Goonch Fed Com 04 132H, Wellbore #1, Wellbore #1 V0 GOONCH FED COM 04 222H, Wellbore #1, Plan 1 V0 Goonch Fed Com 04 231H, Wellbore #1, Wellbore #1 V0	Goonch Fed Com 04 231H, Wellbore #1, Plan 6 V0 GOONCH FED COM 04 131H, Wellbore #1, Plan 1 V0 Goonch Fed Com 04 211H, Wellbore #1, Plan 5 V0 Goonch Fed Com 04 211H, 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

GOONCH FED COM 04 135H

WELL DETAILS: GOONCH FED COM 04 135H Plan 1

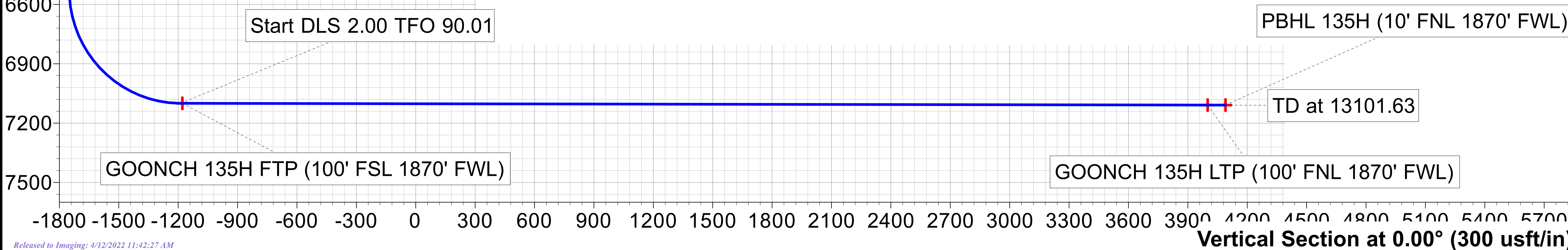
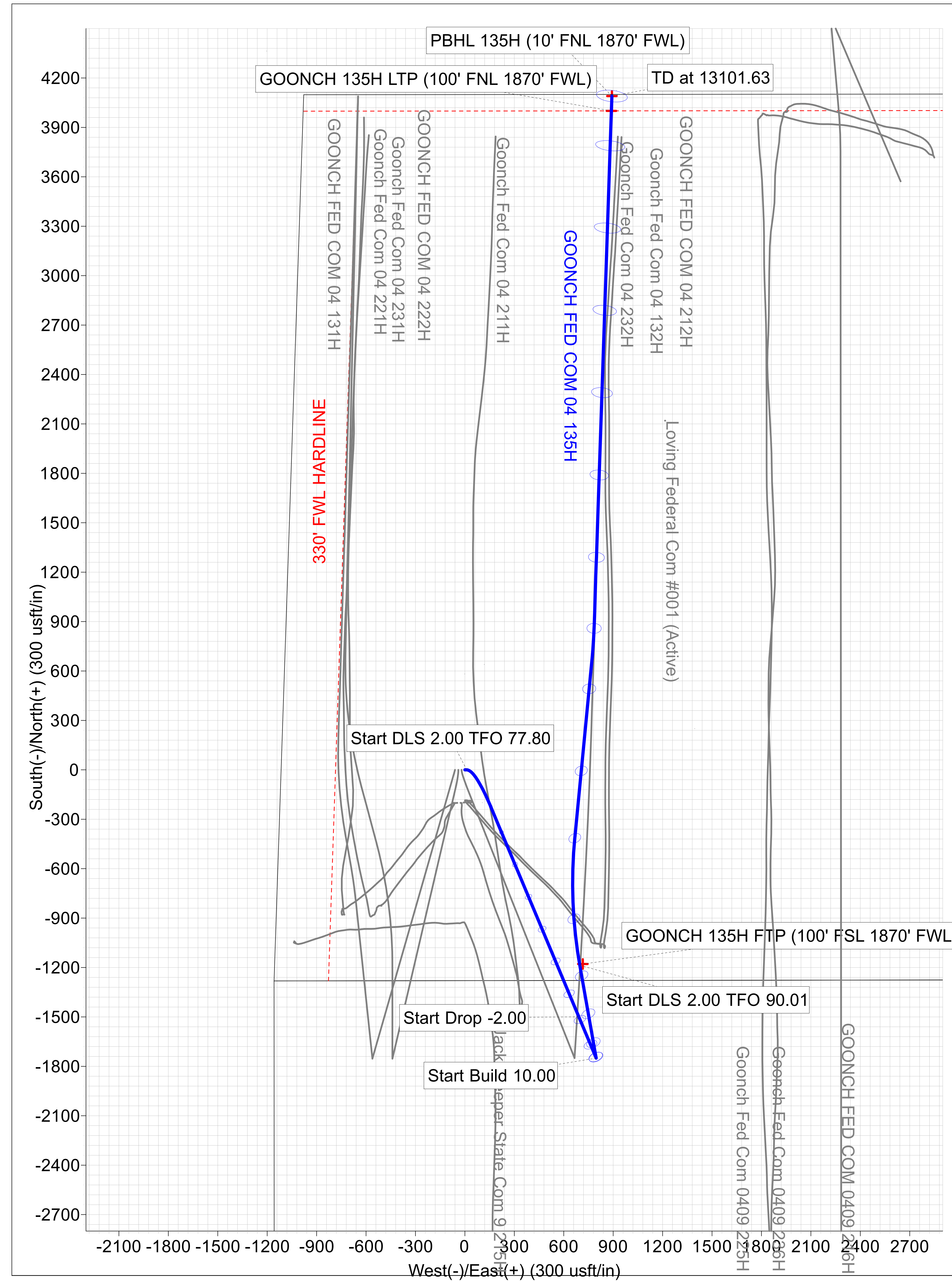
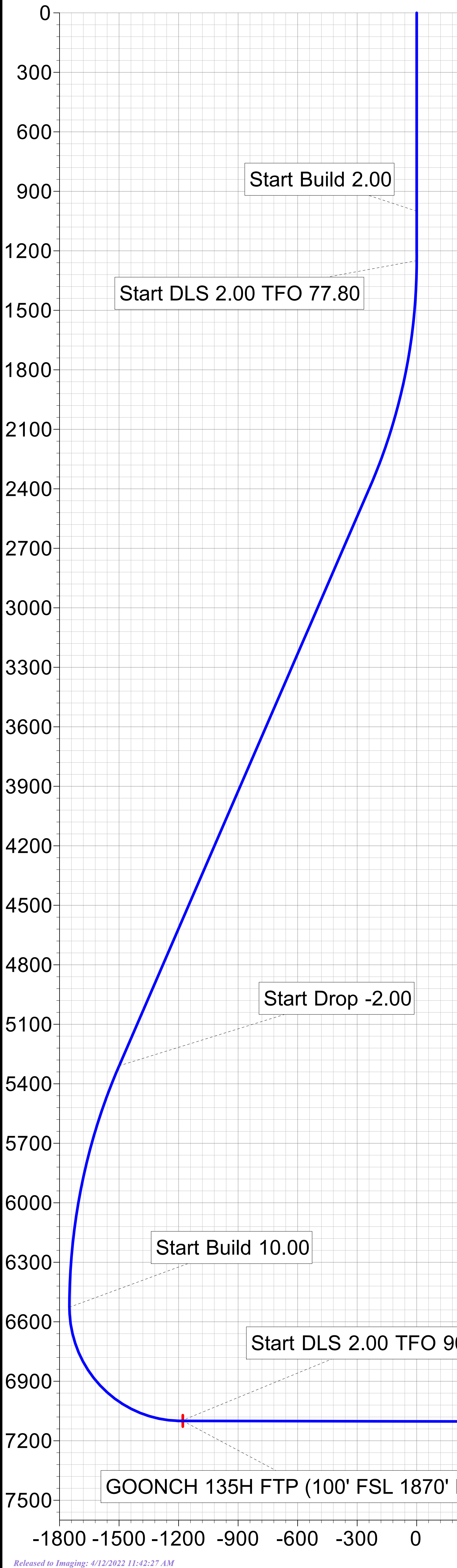
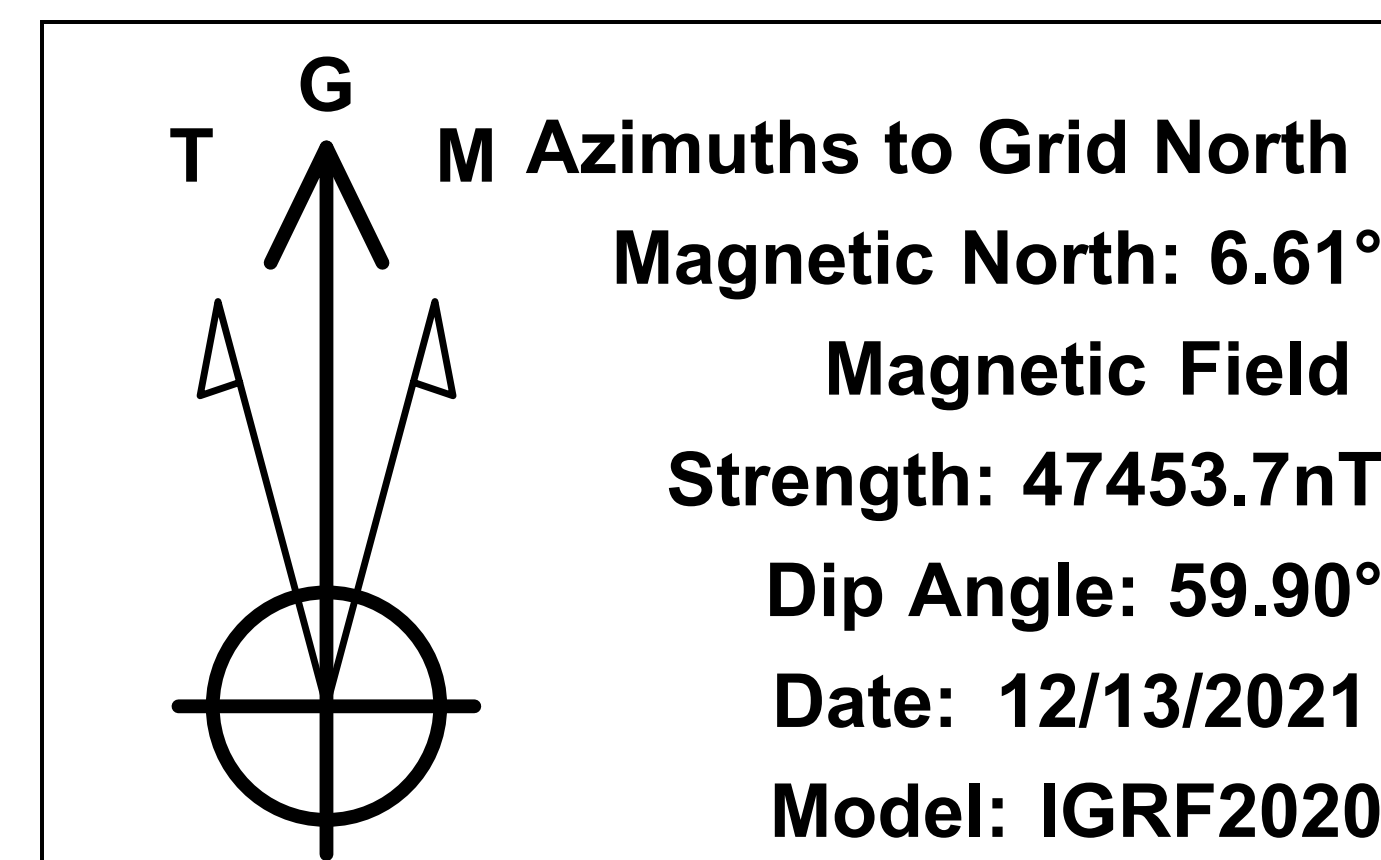
GL Elev (ft).: 3016.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	484105.04	614231.80	32.33065595	-104.09733078

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
1250.00	5.00	90.00	1249.68	0.00	10.90	2.00	90.00	0.00	
2432.27	25.15	157.26	2389.87	-235.08	161.69	2.00	77.80	-235.08	
5657.62	25.15	157.26	5309.37	-1499.45	691.61	0.00	0.00	-1499.45	
6915.31	0.00	0.00	6527.04	-1750.00	796.62	2.00	180.00	-1750.00	
7814.31	89.90	350.00	7100.00	-1186.73	697.30	10.00	350.00	-1186.73	
8589.30	89.90	5.50	7101.36	-414.69	666.97	2.00	90.01	-414.69	
9689.30	89.90	5.50	7103.28	680.24	772.40	0.00	0.00	680.24	
9868.50	89.90	1.92	7103.58	859.03	783.98	2.00	-89.94	859.03	
13101.63	89.90	1.92	7109.00	4090.35	892.09	0.00	0.00	4090.35	

Project: EDDY CO., NM (NAD83)
Site: SEC. 04-T23S-R28E
Well: GOONCH FED COM 04 135H
Wellbore: Wellbore #1
Design: Plan 1



042328 LOT 2 Sundry 2650942GOONCH FED COM 04 135H EDDY NMNM18038 NOVO OIL AND GAS 13.22 02152022
RI

GOONCH FED COM 04 135H

13 3/8	surface csg in a	17 1/2	inch hole.	Design Factors					Surface		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	54.50	J 55	BTC	38.18	6.39	1.65	410	15	2.95	13.05	22,345
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500				Tail Cmt	does not	circ to sfc.	Totals:	410			22,345
Comparison of Proposed to Minimum Required Cement Volumes											
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg
17 1/2	0.6946	352	570	285	100	8.30	927	2M			1.56

Class 'C' tail cmt yield above 1.35.

8 5/8	casing inside the	13 3/8		Design Factors					Int 1		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	32.00	P HP 110	Talon HTQ	10.75	2.73	2.44	3,475	5	4.27	4.89	111,200
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	3,475			111,200
The cement volume(s) are intended to achieve a top of				0	ft from surface or a	410				overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg
9 7/8	0.1261	335	915	576	59	9.60	2092	3M			0.44

Class 'C' tail cmt yld > 1.35

#VALUE!

5 1/2	casing inside the	8 5/8		Design Factors					Prod 1		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00	VST P EC 110	DWC/C-IS PLUS	2.08	2.25	3.93	13,101	4	6.86	5.78	262,020
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,564							Totals:	13,101			262,020
The cement volume(s) are intended to achieve a top of				3275	ft from surface or a	200				overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Hole-Cplg
7 7/8	0.1733	1893	#VALUE!	1703	#VALUE!	9.90					0.79

Class 'C' tail cmt yld > 1.35

#N/A

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 30-015-48242	² Pool Code 15011	³ Pool Name Culebra Bluff; Bone Spring, South
⁴ Property Code	⁵ Property Name GOONCH FED COM 04	⁶ Well Number 135H
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC	⁹ Elevation 3016.2

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
M	4	23 S	28 E		1280	SOUTH	1115	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
3	4	23 S	28 E		10	NORTH	1870	WEST	EDDY

¹² Dedicated Acres 160.21	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
--	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

LAST TAKE POINT 100' FNL, 1870' FWL LAT. = 32.3416469°N LONG. = 104.0944234°W NMSP EAST (FT) N = 488105.41 E = 615120.88 N89°56'30"E 2560.08 FT 1870' FT NW CORNER SEC. 4 LAT. = 32.3419277°N LONG. = 104.1004691°W NMSP EAST (FT) N = 488203.46 E = 613253.56 N89°56'29"E 2566.32 FT NE CORNER SEC. 4 LAT. = 32.3419104°N LONG. = 104.0838736°W NMSP EAST (FT) N = 488206.06 E = 615813.06 NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88. GRID AZ. = N01°55'01"E HORIZ. DIST. = 5273.00 FT GRID AZ. = S31°16'29"E HORIZ. DIST. = 1379.10 FT GOONCH FED COM 04 135H ELEV. = 3016.2' LAT. = 32.3306559°N (NAD83) LONG. = 104.0973308°W NMSP EAST (FT) N = 484105.04 E = 614231.80 W/4 CORNER SEC. 4 LAT. = 32.3345328°N LONG. = 104.1007792°W NMSP EAST (FT) N = 485513.07 E = 613163.63 E/4 CORNER SEC. 4 LAT. = 32.3348965°N LONG. = 104.0837492°W NMSP EAST (FT) N = 485657.22 E = 618423.16 SW CORNER SEC. 4 LAT. = 32.3271399°N LONG. = 104.1010900°W NMSP EAST (FT) N = 482823.39 E = 613073.47 S/4 CORNER SEC. 4 LAT. = 32.3271360°N LONG. = 104.0925614°W NMSP EAST (FT) N = 482827.80 E = 615707.79 SE CORNER SEC. 4 LAT. = 32.3271286°N LONG. = 104.0840436°W NMSP EAST (FT) N = 482831.13 E = 618338.83 FIRST TAKE POINT 100' FSL, 1870' FWL LAT. = 32.3274120°N LONG. = 104.0950220°W NMSP EAST (FT) N = 482926.52 E = 614947.55 SHL FTP LOT 4 LOT 3 LOT 2 LOT 1 BOTTOM OF HOLE LAT. = 32.3418942°N LONG. = 104.0944131°W NMSP EAST (FT) N = 48195.39 E = 61523.89 2562.50 FT 2692.50 FT 2691.80 FT 2634.92 FT 2631.64 FT	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> 12.7.2021 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. DECEMBER 6, 2021 Date of Survey <i>[Signature]</i> Signature and Seal of Professional Surveyor Certificate Number: FRANCO FERRANDELLO, PLS 12797 SURVEY NO. 9179
---	--

Intent ☐ As Drilled ☐

API #		
Operator Name: NOVO OIL & GAS NORTHERN DELAWARE, LLC	Property Name: GOONCH FED COM 04	Well Number 135H

Kick Off Point (KOP)

UL M	Section 4	Township 23S	Range 28E	Lot	Feet 1280	From N/S SOUTH	Feet 1115	From E/W WEST	County EDDY
Latitude 32.3306559					Longitude 104.0973308			NAD 83	

First Take Point (FTP)

UL N	Section 4	Township 23S	Range 28E	Lot	Feet 100	From N/S SOUTH	Feet 1870	From E/W WEST	County EDDY
Latitude 32.3274120					Longitude 104.0950220			NAD 83	

Last Take Point (LTP)

UL	Section 4	Township 23S	Range 28E	Lot 3	Feet 100	From N/S NORTH	Feet 1870	From E/W WEST	County EDDY
Latitude 32.3416469					Longitude 104.0944234			NAD 83	

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

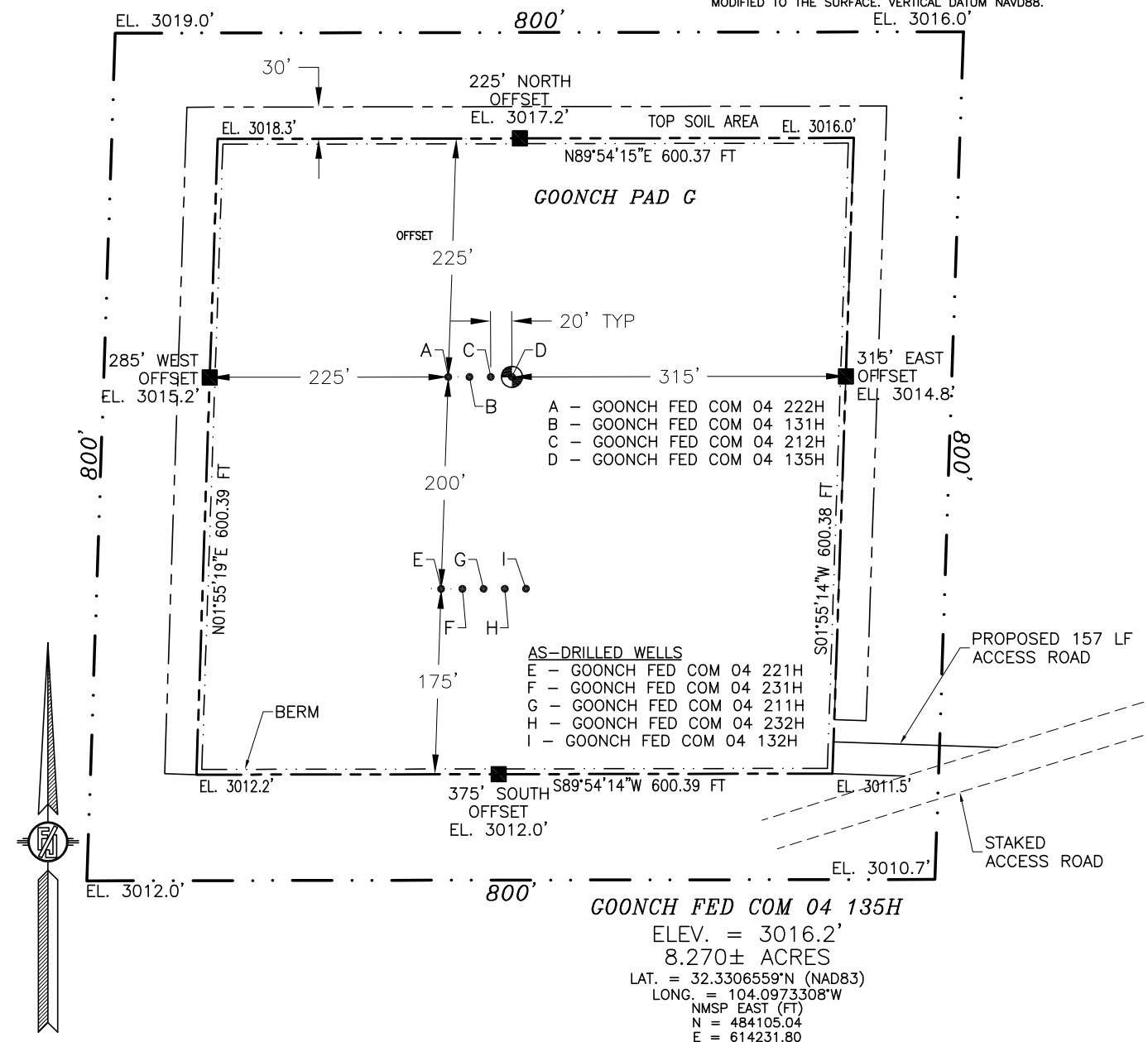
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88.



DIRECTIONS TO LOCATION

FROM STATE ROAD 31 (POTASH MINES) & CR 605 (REFINERY) GO NORTHWEST ON REFINERY ROAD APPROX 3.57 MILES TO HERRADURA BEND ROAD, TURN LEFT AND GO WEST--SOUTHWEST ON HERRADURA BEND ROAD APPROX. 0.66 OF A MILE, TURN LEFT AND GO SOUTH--SOUTHEAST APPROX. 0.59 OF A MILE TO A STAKED ACCESS ROAD ON RIGHT (WEST), FOLLOW STAKED ROAD SOUTH--SOUTHWEST 1000' TO CULEBRA BLUFF CTB 1, FROM THE SOUTHEAST CORNER OF THE CTB PAD, GO SOUTH--SOUTHWEST ALONG THE POWER LINE ROAD APPROX. 0.64 OF A MILE TO A STAKED ACCESS ROAD (HERRADURA BEND) AND 1537' TO THE SOUTHWEST PAD. FOLLOW STAKED ACCESS ROAD SOUTHWEST 0.39 OF A MILE, GO WEST 157' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

I, FILMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I CREATED 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 MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. PARAMILLO PES. 2797

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H
 LOCATED 1280 FT. FROM THE SOUTH LINE
 AND 1115 FT. FROM THE WEST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

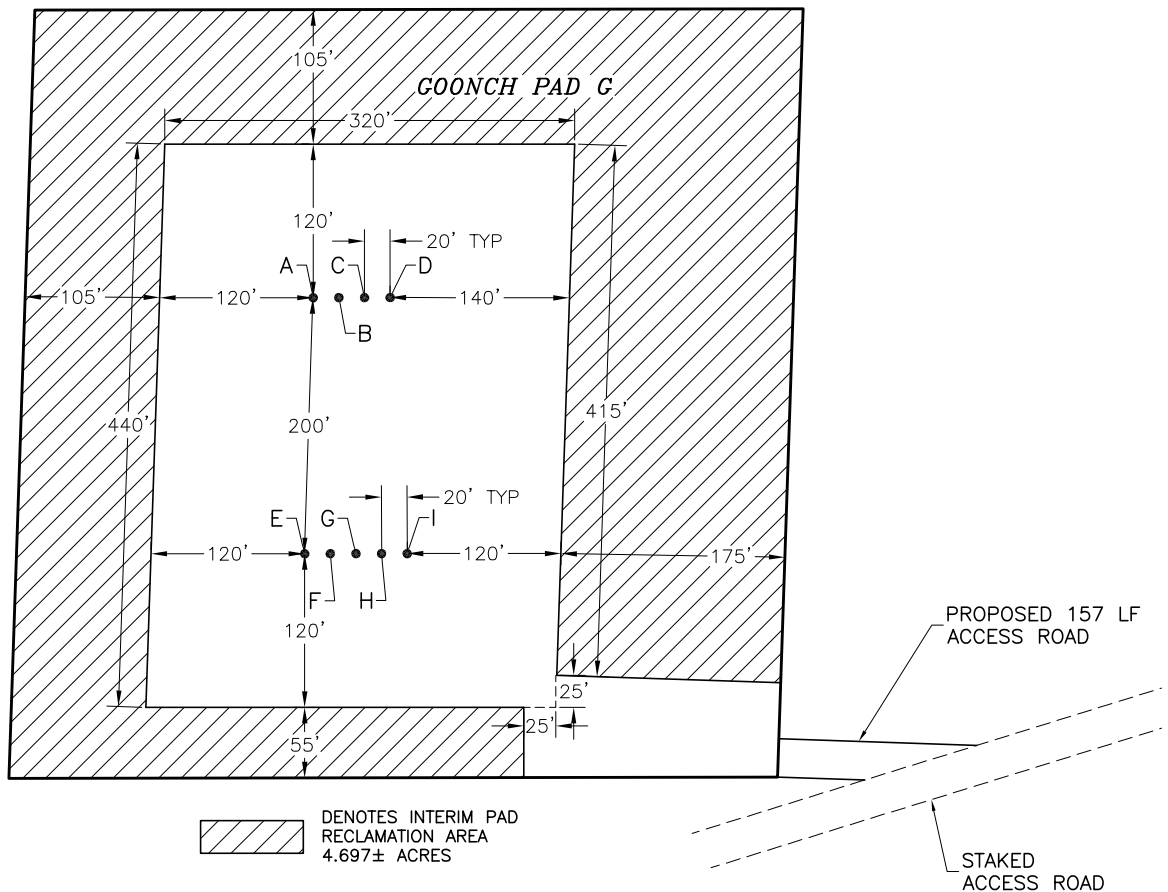
DECEMBER 6, 2021

SURVEY NO. 9179

CARLSBAD, NEW MEXICO

SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 INTERIM SITE BUILD PLAN

A - GOONCH FED COM 04 222H	AS-DRILLED WELLS
B - GOONCH FED COM 04 131H	E - GOONCH FED COM 04 221H
C - GOONCH FED COM 04 212H	F - GOONCH FED COM 04 231H
D - GOONCH FED COM 04 135H	G - GOONCH FED COM 04 211H
	H - GOONCH FED COM 04 232H
	I - GOONCH FED COM 04 132H



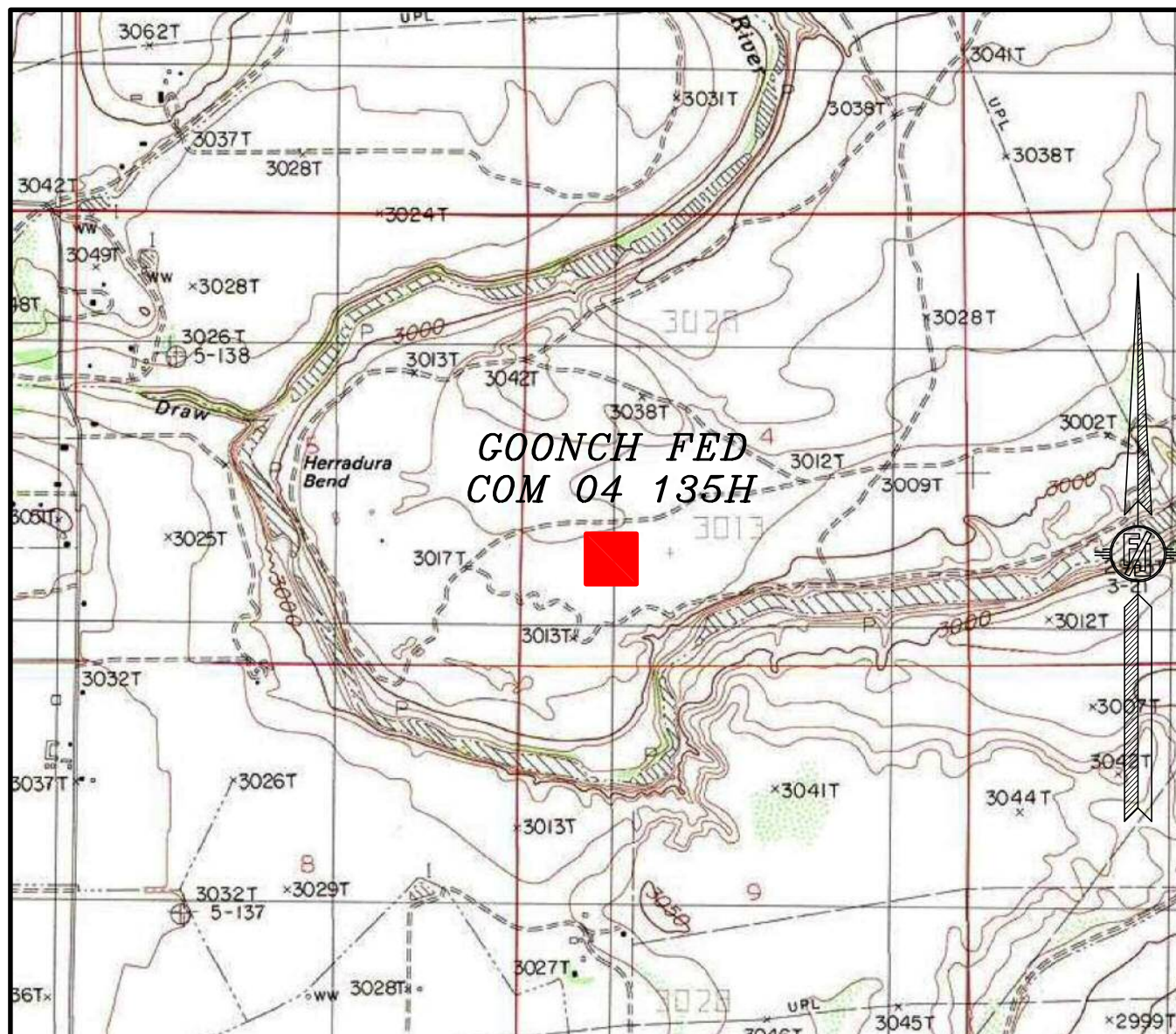
NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H
 LOCATED 1280 FT. FROM THE SOUTH LINE
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 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 6, 2021

SURVEY NO. 9179

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

SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



USGS QUAD MAP:
 LOVING

NOT TO SCALE

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H
 LOCATED 1280 FT. FROM THE SOUTH LINE
 AND 1115 FT. FROM THE WEST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 6, 2021

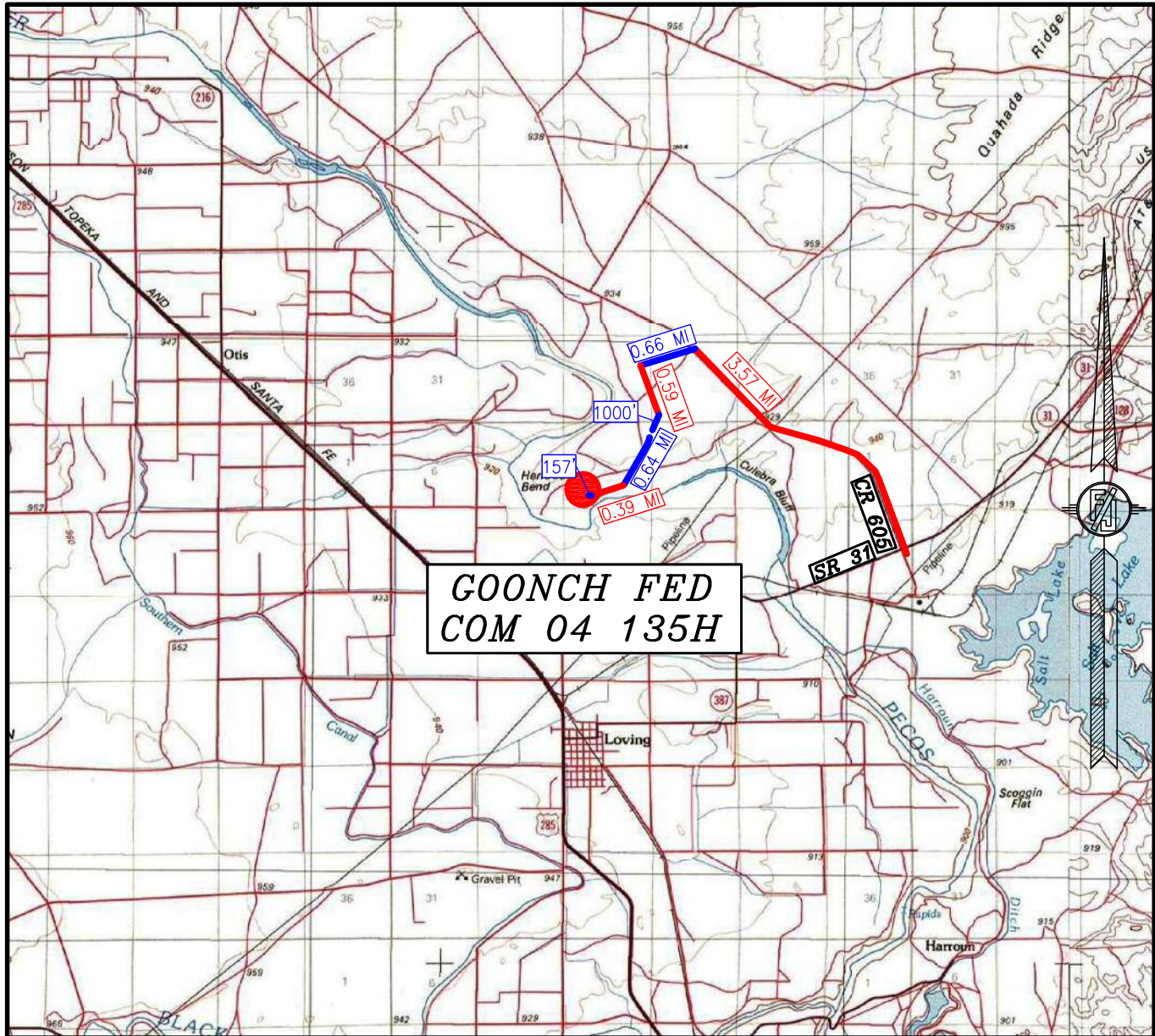
MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3341

CARLSBAD, NEW MEXICO

SURVEY NO. 9179

SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H

LOCATED 1280 FT. FROM THE SOUTH LINE
 AND 1115 FT. FROM THE WEST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 6, 2021

DIRECTIONS TO LOCATION

FROM STATE ROAD 31 (POTASH MINES) & CR 605 (REFINERY) GO NORTHWEST ON REFINERY ROAD APPROX 3.57 MILES TO HERRADURA BEND ROAD, TURN LEFT AND GO WEST-SOUTHWEST ON HERRADURA BEND ROAD APPROX. 0.66 OF A MILE, TURN LEFT AND GO SOUTH-SOUTHEAST APPROX. 0.59 OF A MILE TO A STAKED ACCESS ROAD ON RIGHT (WEST), FOLLOW STAKED ROAD SOUTH-SOUTHWEST 1000' TO CULEBRA BLUFF CTB 1, FROM THE SOUTHEAST CORNER OF THE CTB PAD, GO SOUTH-SOUTHWEST ALONG THE POWER LINE ROAD APPROX. 0.64 OF A MILE TO AN EXISTING CALICHE ROAD (HERRADURA BEND) AND STAKED ACCESS ROAD, FOLLOW STAKED ACCESS ROAD SOUTHWEST 0.39 OF A MILE, GO WEST 157' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

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

SURVEY NO. 9179
 CARLSBAD, NEW MEXICO

SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 AERIAL PHOTO



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 MARCH 2016

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H
 LOCATED 1280 FT. FROM THE SOUTH LINE
 AND 1115 FT. FROM THE WEST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

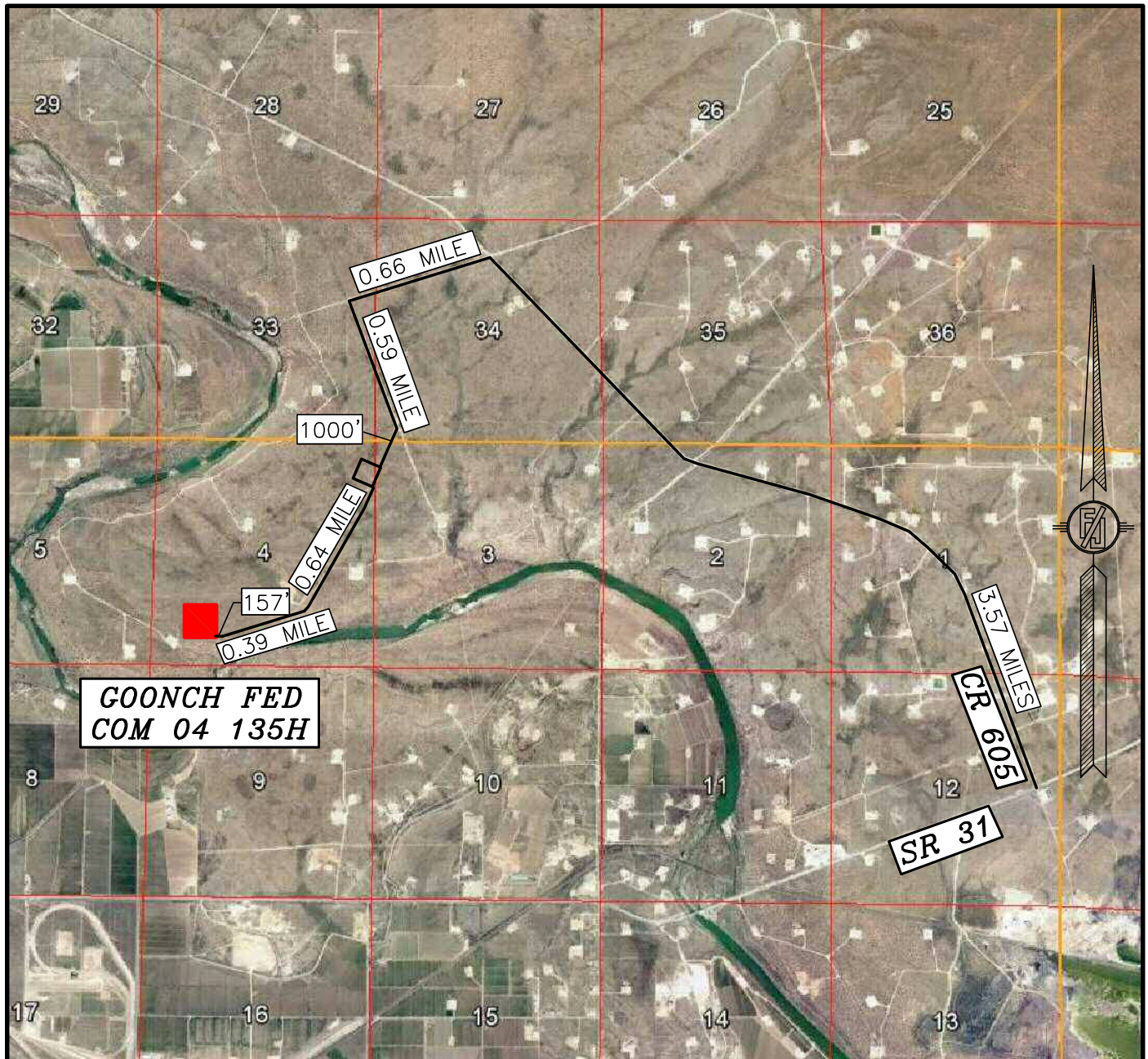
DECEMBER 6, 2021

MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3341

SURVEY NO. 9179
 CARLSBAD, NEW MEXICO

SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 ACCESS AERIAL ROUTE MAP



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 MARCH 2016

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H
 LOCATED 1280 FT. FROM THE SOUTH LINE
 AND 1115 FT. FROM THE WEST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

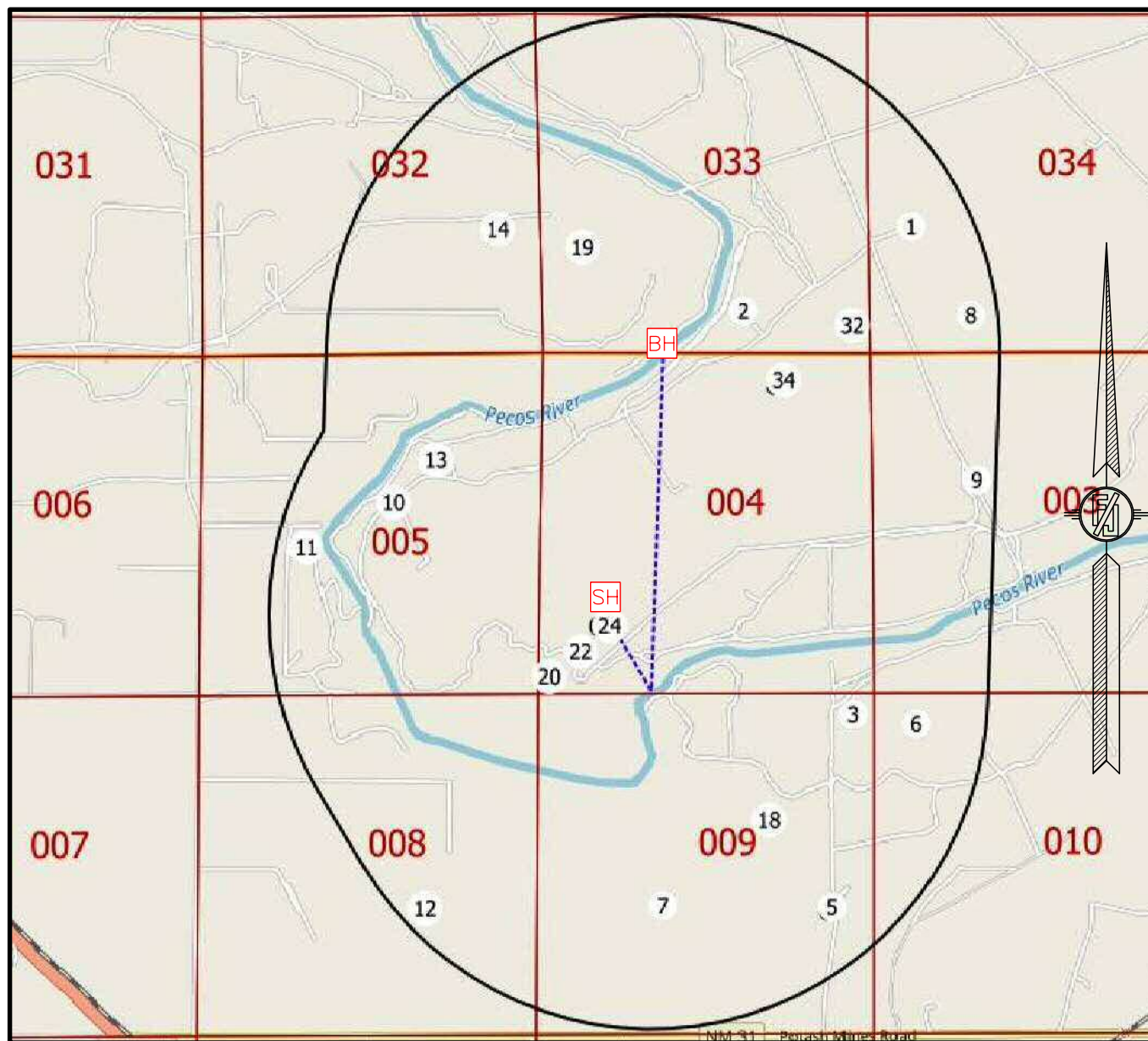
DECEMBER 6, 2021

MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3341

SURVEY NO. 9179
 CARLSBAD, NEW MEXICO

1-MILE MAP



NOT TO SCALE

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 04 135H

LOCATED 1280 FT. FROM THE SOUTH LINE
 AND 1115 FT. FROM THE WEST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

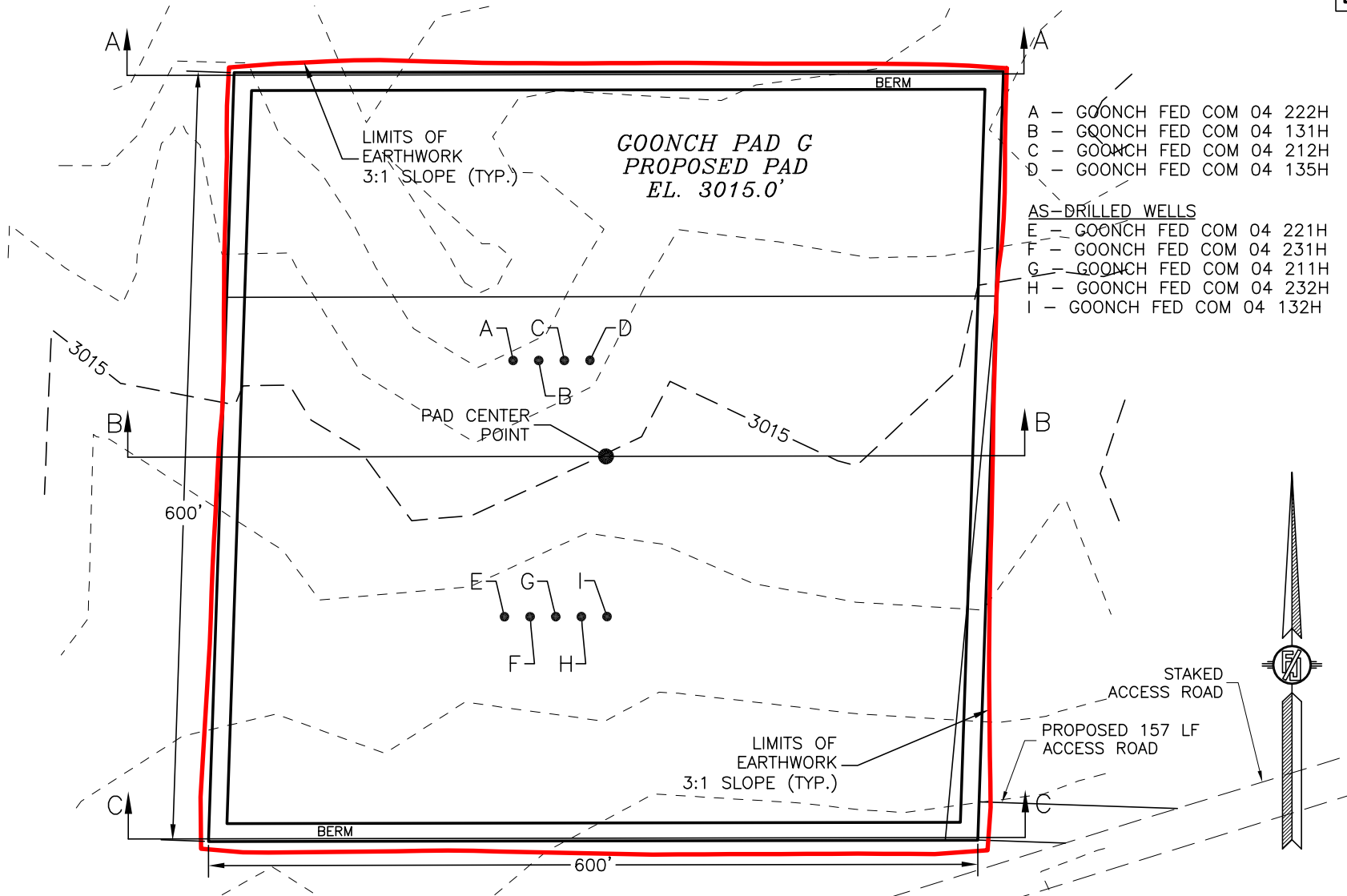
DECEMBER 6, 2021

SURVEY NO. 9179

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

CARLSBAD, NEW MEXICO

PLAN VIEW



I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

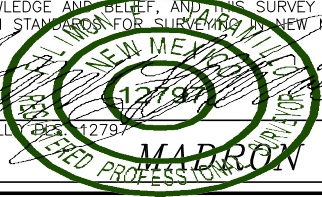
NOVO OIL & GAS NORTHERN DELAWARE, LLC
GRADING PLAN AND CROSS SECTIONS
FOR GOONCH FED COM 04 135H
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 6, 2021

CUT	FILL	NET
8362 CU. YD	11692 CU. YD	3330 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

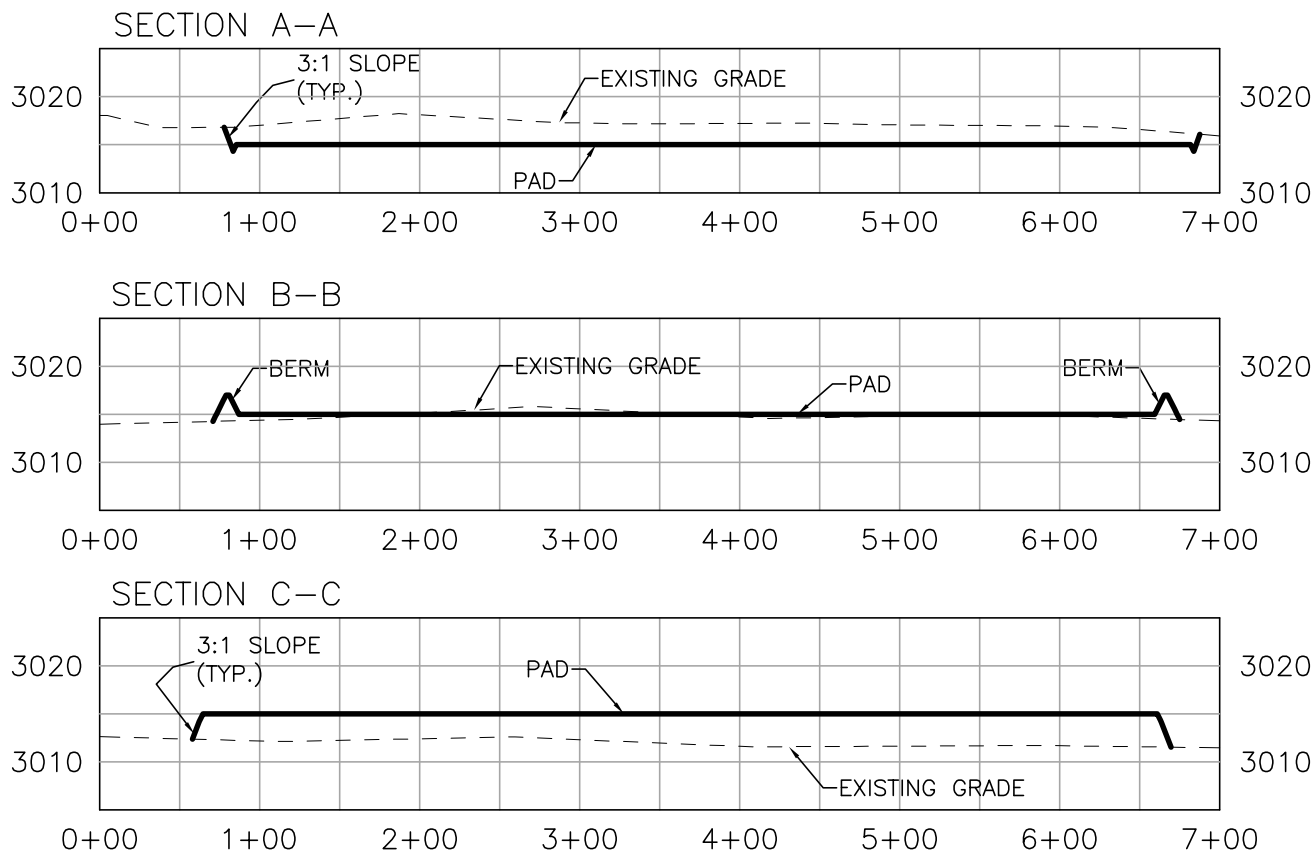
FILIMON F. JARAMILLO 12797



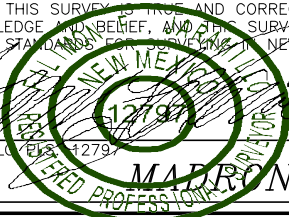
MADRON SURVEYING, INC. 301 SOUTH CANAL
 (575) 234-3341 CARLSBAD, NEW MEXICO

SHEET 1-2
 SURVEY NO. 9179

CROSS SECTIONS



I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THE SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



NOVO OIL & GAS NORTHERN DELAWARE, LLC
GRADING PLAN AND CROSS SECTIONS
FOR GOONCH FED COM 04 135H
SECTION 4, TOWNSHIP 23 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 6, 2021

FILIMON F. JARAMILLO, PLS. #12797

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

012 60 120 240
 SCALE 1" = 120' - 1" = 20' VER

CUT	FILL	NET
8362 CU. YD	11692 CU. YD	3330 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

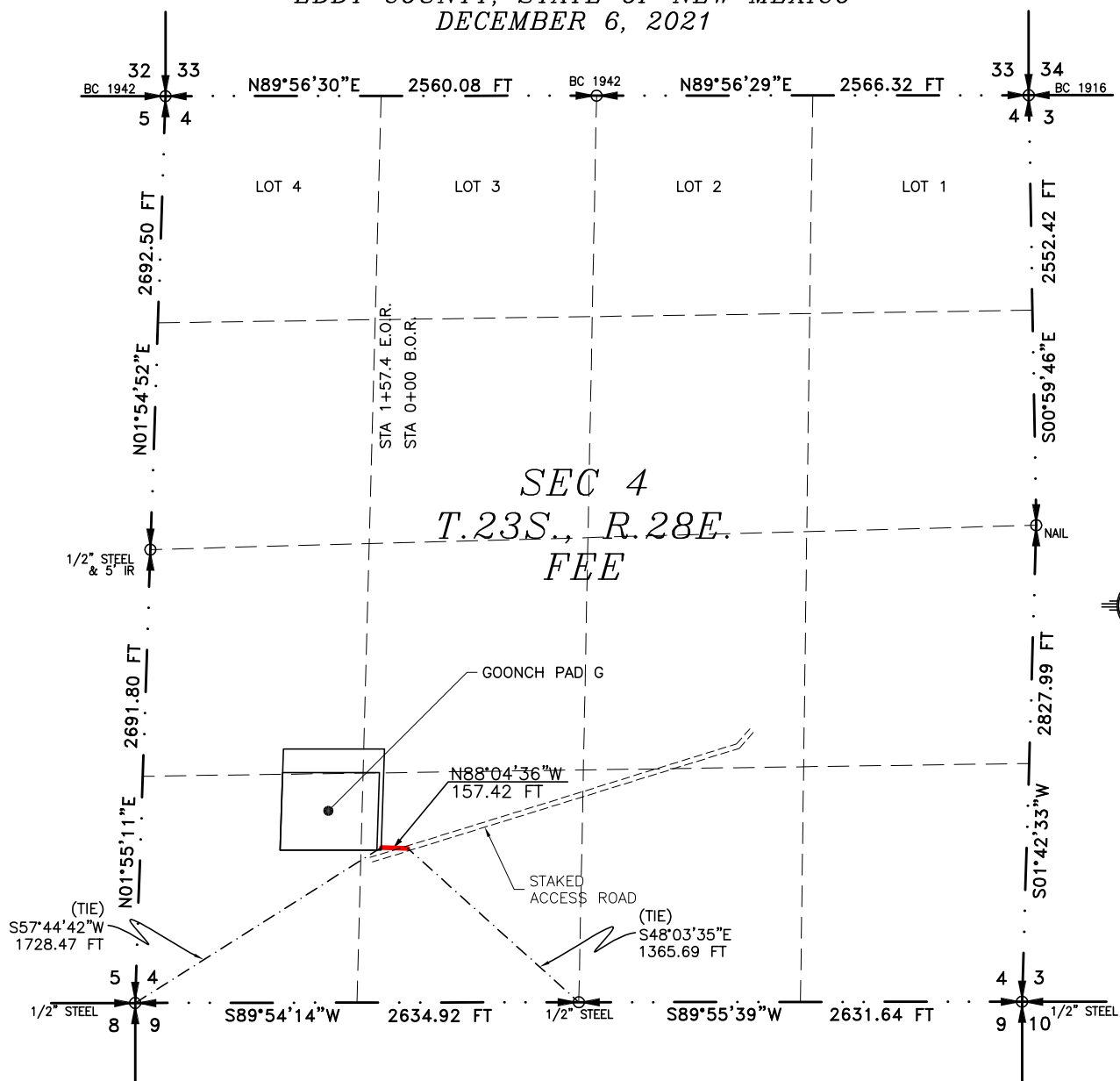
SHEET 2-2
SURVEY NO. 9179

ACCESS ROAD PLAT

ACCESS ROAD TO THE GOONCH PAD G

(GOONCH FED COM 04 221H, 231H, 211H, 232H, 132H, 222H, 131H, 212H, 135H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 6, 2021



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, 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 7TH DAY OF DECEMBER 2021

FILIMON F. JARAMILLO, PLS. 12797
 NEW MEXICO PROFESSIONAL SURVEYOR

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

SURVEY NO. 9179

ACCESS ROAD PLAT

ACCESS ROAD TO THE GOONCH PAD G

(GOONCH FED COM 04 221H, 231H, 211H, 232H, 132H, 222H, 131H, 212H, 135H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
DECEMBER 6, 2021

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING FEE LAND IN SECTION 4, 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 THE SE/4 SW/4 OF SAID SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS S48°03'35"E, A DISTANCE OF 1365.69 FEET;

THENCE N88°04'36"W A DISTANCE OF 157.42 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS S57°44'42"W, A DISTANCE OF 1728.47 FEET;

SAID STRIP OF LAND BEING 157.42 FEET OR 9.54 RODS IN LENGTH, CONTAINING 0.108 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4 157.42 L.F. 9.54 RODS 0.108 ACRES

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. 301 SOUTH CANAL CARLSBAD, NEW MEXICO 88220
 (575) 234-3341

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 7TH DAY OF DECEMBER 2021

FILIMON F. JARAMILLO, PLS. 12797
 301 SOUTH CANAL
 (575) 234-3341
 PROFESSIONAL SURVEYOR

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

SURVEY NO. 9179

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	NOVO OIL AND GAS LLC
LEASE NO.:	NMNM18038
WELL NAME & NO.:	GOONCH FED COM 04 135H
SURFACE HOLE FOOTAGE:	1280'S/ & 1115'/W
BOTTOM HOLE FOOTAGE:	10'/N & 1870'/W
LOCATION:	Section 04, T.23 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

Primary Casing Design/Alternate Casing Design:

1. The 13-3/8 inch surface casing shall be set at approximately **410** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after

- completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The 8-5/8 inch Intermediate casing shall be set at approximately **3475** feet. minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

RI02152022

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1625 N. French Dr., Hobbs, NM 88240
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District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 96781

CONDITIONS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1001 West Wilshire Blvd Oklahoma City, OK 73116	OGRID: 372920
	Action Number: 96781
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	4/12/2022