

Well Name: GOONCH FED COM 0409	Well Location: T23S / R28E / SEC 4 / LOT 2 / 32.3407664 / -104.0883051	County or Parish/State: EDDY / NM
Well Number: 236H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM013233, NMNM13233	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001547281	Well Status: Approved Application for Permit to Drill	Operator: NOVO OIL AND GAS NORTHERN DELA

Notice of Intent

Type of Submission: Notice of Intent	Type of Action Other
Date Sundry Submitted: 04/22/2021	Time Sundry Submitted: 09:17
Date proposed operation will begin: 04/27/2021	
Procedure Description: Novo Oil & Gas Northern Delaware, LLC respectfully requests to change the intermediate casing size to 8-5/8" from the previously approved 9-5/8". See attachments for technical details.	

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- NOVO_Goonch_Fed_Com_0409_236H_AC_Report_Plan_0_20210422091739.pdf
- NOVO_Goonch_Fed_Com_0409_236H_Plan_0_20210422091733.pdf
- NOVO_Goonch_Fed_Com_0409_236H_Plan_0_20210422091728.xlsx
- NOVO_Goonch_Fed_Com_0409_236H_plot_Plan_0_20210422091721.pdf
- GOONCH_FED_COM_0409_236H_signed_20210422091711.pdf
- 5.500_20_P110EC_DWC_C_IS_PLUS_20210422091702.pdf
- 8.625_32.00_P110HSCY_TLW_20210422091656.pdf
- Drill_Plan_3S_10K_GOONCH_FED_COM_0409_236H_031821_20210422091650.pdf
- Goonch_0409_236H_Change_to_Sundry_Request_v.2_20210422091634.pdf

Received by OCD: 5/25/2021 7:57:31 AM

Page 2 of 58

Well Name: GOONCH FED COM 0409	Well Location: T23S / R28E / SEC 4 / LOT 2 / 32.3407664 / -104.0883051	County or Parish/State: EDDY / NM
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US Well Number: 3001547281	Well Status: Approved Application for Permit to Drill	Operator: NOVO OIL AND GAS NORTHERN DELA

Operator Certification

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

Operator Electronic Signature: JUSTIN CARTER	Signed on: APR 22, 2021 09:17 AM
Name: NOVO OIL AND GAS NORTHERN DELA	
Title: Landman	
Street Address: 1001 West Wilshire Boulevard Suite 206	
City: Oklahoma City	State: OK
Phone: (405) 286-3375	
Email address: JCARTER@NOVOOG.COM	

Field Representative

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

BLM Point of Contact

BLM POC Name: JEROMY PORTER	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752345997	BLM POC Email Address: jjporter@blm.gov
Disposition: Approved	Disposition Date: 04/28/2021
Signature: Jeromy Porter	

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: (505) 748-1283 Fax: (505) 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
copy to appropriate
District Office

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-47281	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp Gas Pool
⁴ Property Code	⁵ Property Name GOONCH FED COM 0409	
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC	
	⁶ Well Number 236H	
	⁹ Elevation 3035.4	

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
2	4	23 S	28 E		386	NORTH	1305	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	9	23 S	28 E		130	SOUTH	2178	EAST	EDDY

¹² Dedicated Acres 640.45	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

NW CORNER SEC. 4
LAT. = 32.3419277°N
LONG. = 104.1004691°W

NMSP EAST (FT)
N = 488203.46
E = 613253.56

W/4 CORNER SEC. 4
LAT. = 32.3345328°N
LONG. = 104.1007792°W

NMSP EAST (FT)
N = 485513.07
E = 613163.63

SW CORNER SEC. 4
LAT. = 32.3271399°N
LONG. = 104.1010900°W

NMSP EAST (FT)
N = 482823.39
E = 613073.47

FIRST TAKE POINT
330° FNL, 2178° FEL
LAT. = 32.3410110°N
LONG. = 104.0909091°W

NMSP EAST (FT)
N = 487876.54
E = 616206.75

LAST TAKE POINT
330° FSL, 2178° FEL
LAT. = 32.3135173°N
LONG. = 104.0908933°W

NMSP EAST (FT)
N = 477874.58
E = 616206.44

SW CORNER SEC. 9
LAT. = 32.3125842°N
LONG. = 104.1011208°W

NMSP EAST (FT)
N = 477528.19
E = 613075.43

N89°56'30"E 2560.08 FT

N/4 CORNER SEC. 4
LAT. = 32.3419193°N
LONG. = 104.0921814°W

NMSP EAST (FT)
N = 488206.06
E = 615813.06

ELEV. = 3035.4'
LAT. = 32.3408553°N (NAD83)
LONG. = 104.0880788°W

NMSP EAST (FT)
N = 487821.85
E = 617080.97

GRID AZ. = S00°00'43"E
HORIZ. DIST. = 10204.21 FT

S/4 CORNER SEC. 4
LAT. = 32.3271360°N
LONG. = 104.0925614°W

NMSP EAST (FT)
N = 482827.80
E = 615707.79

S89°54'14"W 2634.92 FT

S89°55'39"W 2631.64 FT

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.

BOTTOM OF HOLE
LAT. = 32.3129676°N
LONG. = 104.0909770°W

NMSP EAST (FT)
N = 477674.63
E = 616208.86

S89°41'56"W 2656.90 FT

S89°41'56"W 2656.90 FT

N89°56'29"E 2566.32 FT

FTP

1305'

L2

366'

SHL

GRID AZ. = N86°23'25"W
HORIZ. DIST. = 876.38 FT

E/4 CORNER SEC. 4
LAT. = 32.3348965°N
LONG. = 104.0837492°W

NMSP EAST (FT)
N = 485657.22
E = 618423.16

SE CORNER SEC. 4
LAT. = 32.3271286°N
LONG. = 104.0840436°W

NMSP EAST (FT)
N = 482831.13
E = 618338.83

E Q CORNER SEC. 9
LAT. = 32.3199338°N
LONG. = 104.0840079°W

NMSP EAST (FT)
N = 480213.77
E = 618355.92

SE CORNER SEC. 9
LAT. = 32.3126281°N
LONG. = 104.0839243°W

NMSP EAST (FT)
N = 477556.11
E = 618387.96

LTP

BHL

2178'

DNF

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Justin Carter 4/1/2021

Signature Date

Justin Carter

Printed Name

jcarter@novovoog.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.

FEBRUARY 22, 2021

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number: 12797

Professional Surveyor No. 7270D

Intent ☐ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
NOVO OIL & GAS NORTHERN DELAWARE, LLC	GOONCH FED COM 0409	236H

Kick Off Point (KOP)

UL	Section 4	Township 23S	Range 28E	Lot 2	Feet 386	From N/S NORTH	Feet 1305	From E/W EAST	County EDDY
Latitude 32.3408553					Longitude 104.0880788			NAD 83	

First Take Point (FTP)

UL	Section 4	Township 23S	Range 28E	Lot 2	Feet 330	From N/S NORTH	Feet 2178	From E/W EAST	County EDDY
Latitude 32.3410110					Longitude 104.0909091			NAD 83	

Last Take Point (LTP)

UL O	Section 9	Township 23S	Range 28E	Lot	Feet 330	From N/S SOUTH	Feet 2178	From E/W EAST	County EDDY
Latitude 32.3135173					Longitude 104.0909833			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

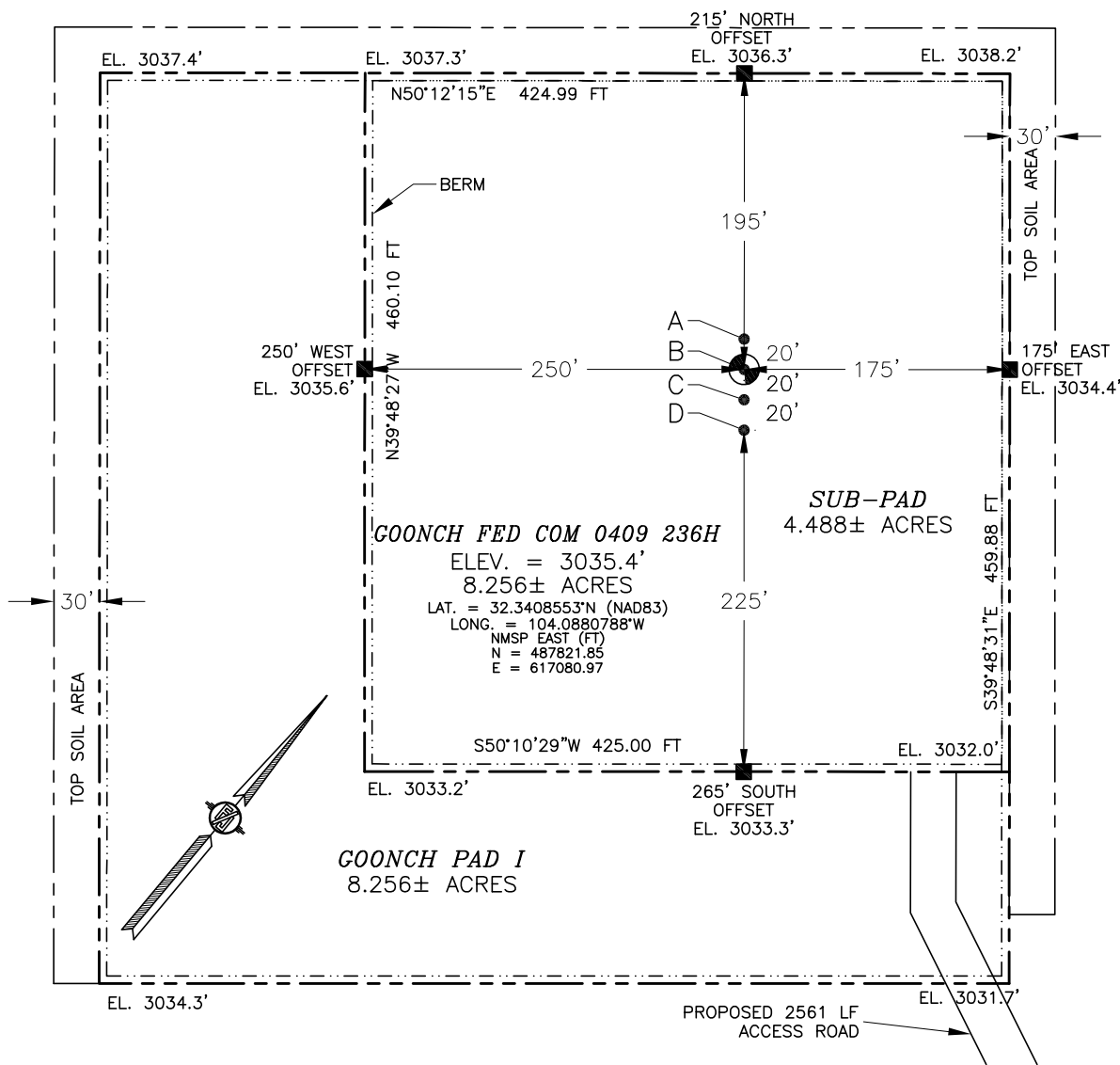
KZ 06/29/2018

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

A - GOONCH FED COM 0409 225H
B - GOONCH FED COM 0409 236H
C - GOONCH FED COM 04 235H
D - GOONCH FED COM 0409 136H

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.

SEC. 33
SEC. 4



0 12 60 120 240

SCALE 1" = 120'

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 PROPOSED ROAD, GO SOUTHWEST-NORTHWEST 2561' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

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 I HAVE COMPLIED WITH THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO PL. 2270

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

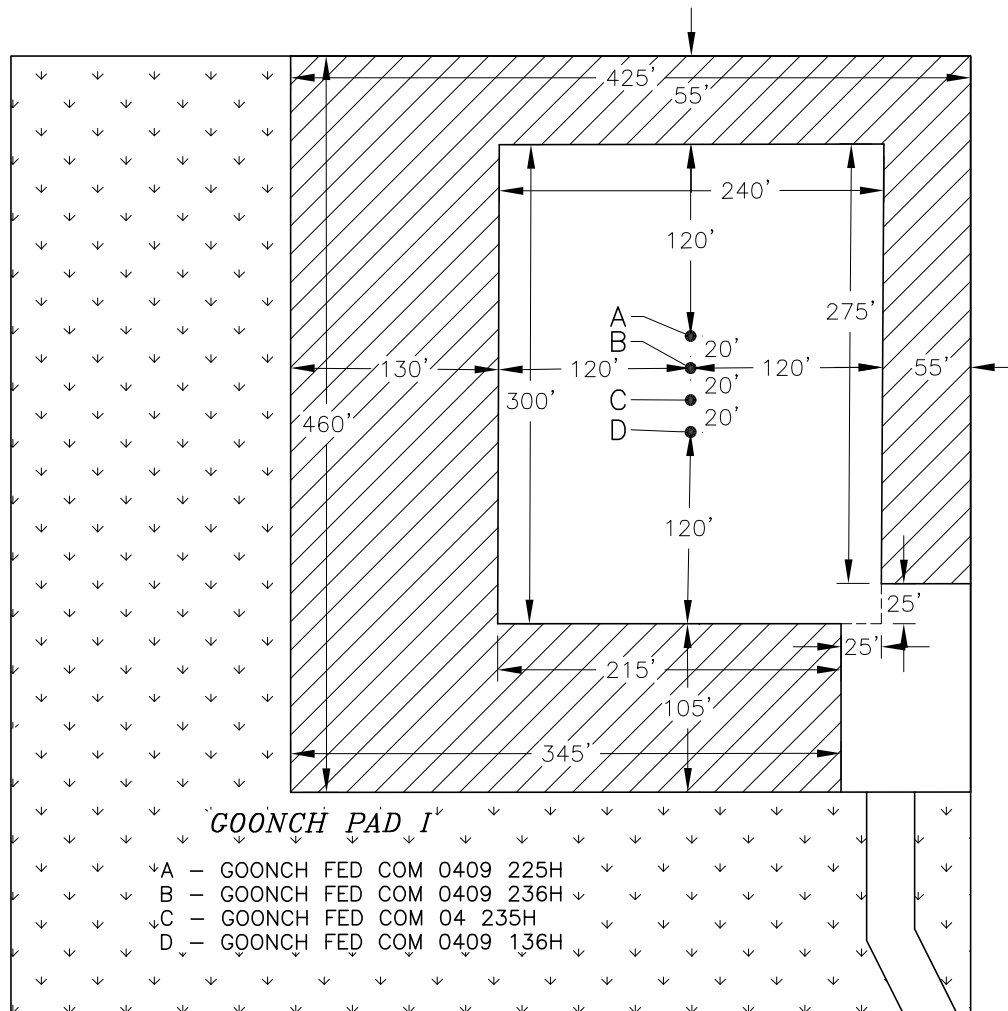
NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 0409 236H
LOCATED 386 FT. FROM THE NORTH LINE
AND 1305 FT. FROM THE EAST LINE OF
SECTION 4, TOWNSHIP 23 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

FEBRUARY 22, 2021

SURVEY NO. 7270D

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



NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 0409 236H
 LOCATED 386 FT. FROM THE NORTH LINE
 AND 1305 FT. FROM THE EAST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

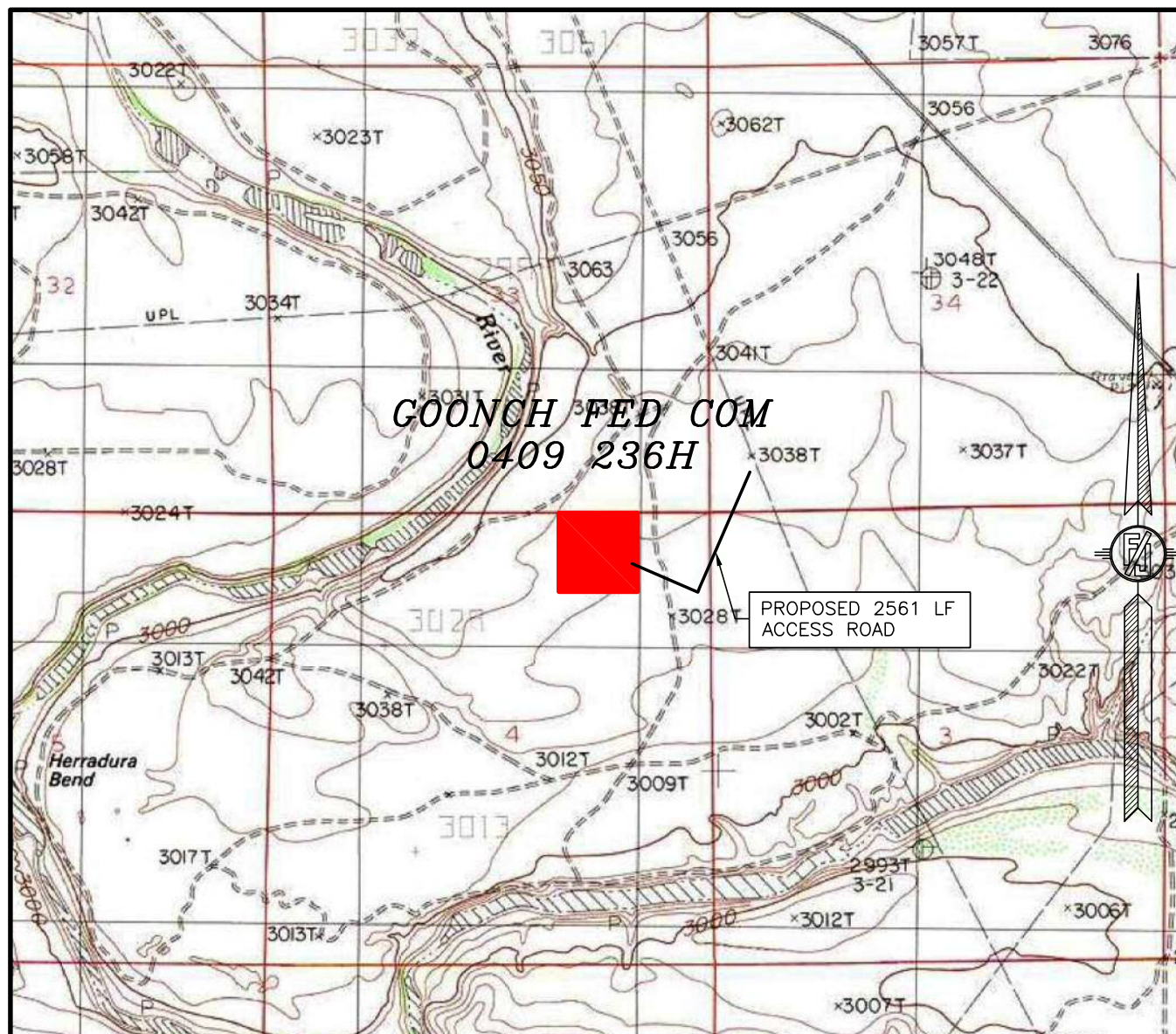
FEBRUARY 22, 2021

SURVEY NO. 7270D

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

CARLSBAD, NEW MEXICO

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 0409 236H
 LOCATED 386 FT. FROM THE NORTH LINE
 AND 1305 FT. FROM THE EAST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

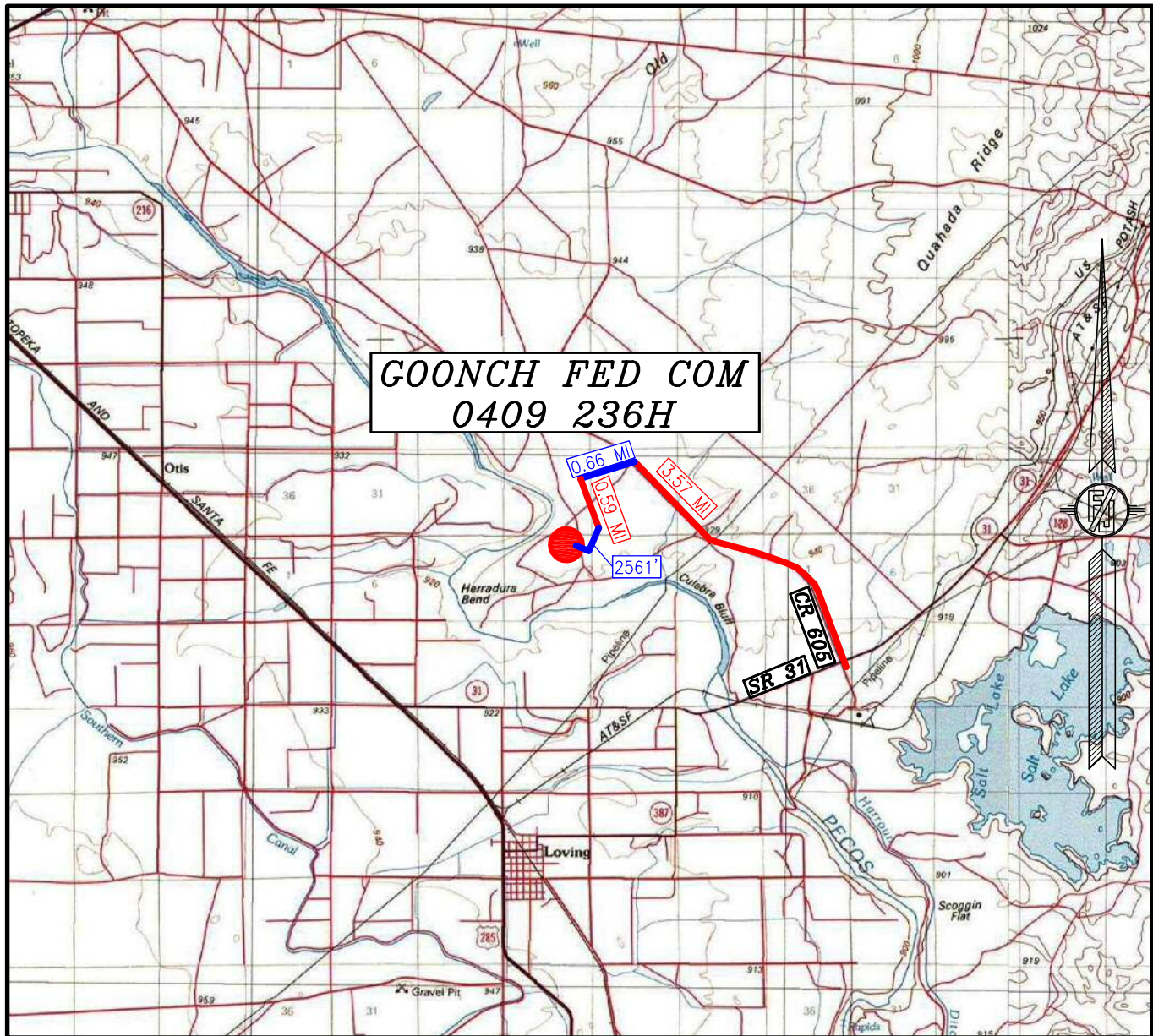
FEBRUARY 22, 2021

MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3341

SURVEY NO. 7270D
 CARLSBAD, NEW MEXICO

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 0409 236H

LOCATED 386 FT. FROM THE NORTH LINE
 AND 1305 FT. FROM THE EAST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

FEBRUARY 22, 2021

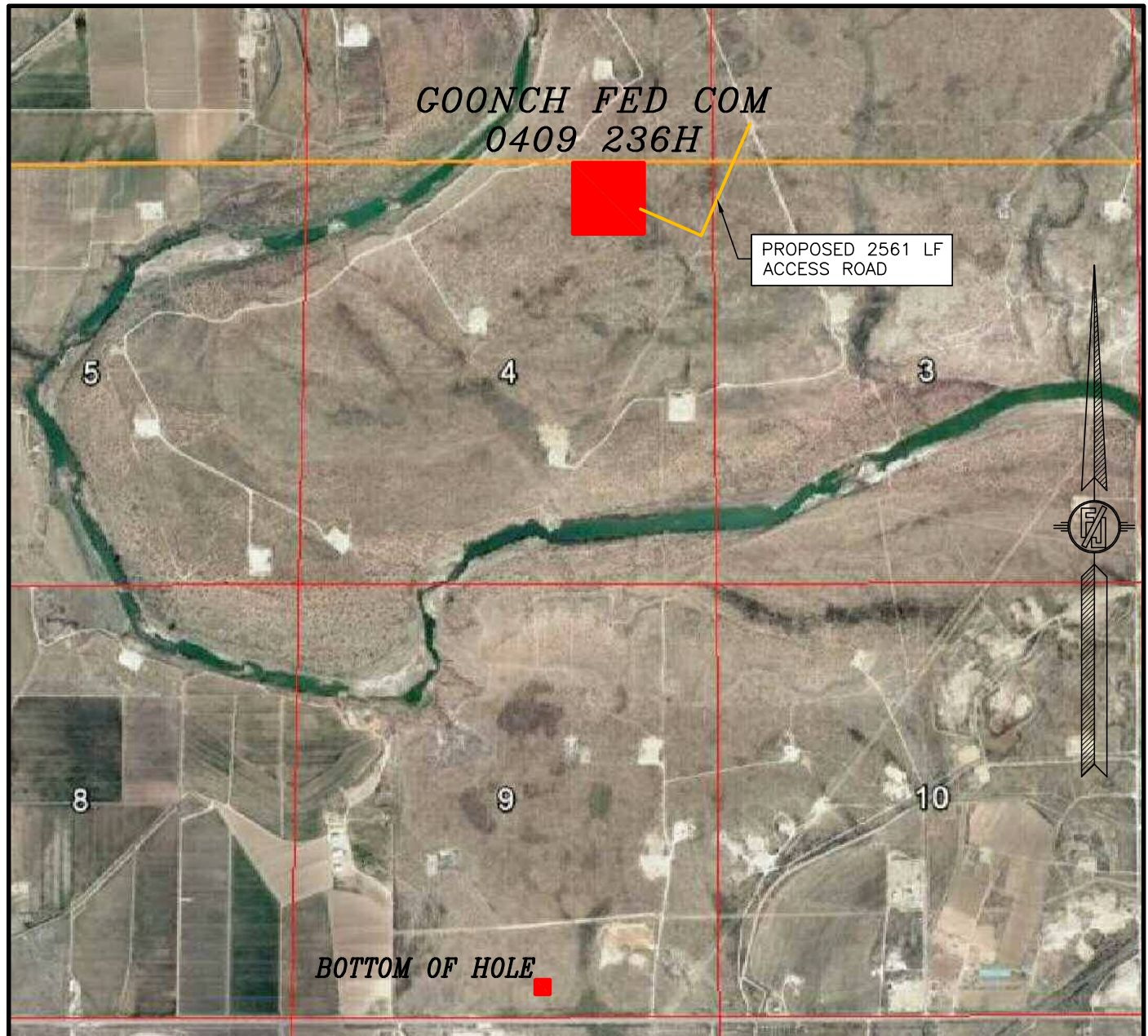
DIRECTIONS TO LOCATION

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 PROPOSED ROAD, GO SOUTHWEST-NORTHWEST 2561'
 TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

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

SURVEY NO. 7270D
 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 0409 236H
 LOCATED 386 FT. FROM THE NORTH LINE
 AND 1305 FT. FROM THE EAST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

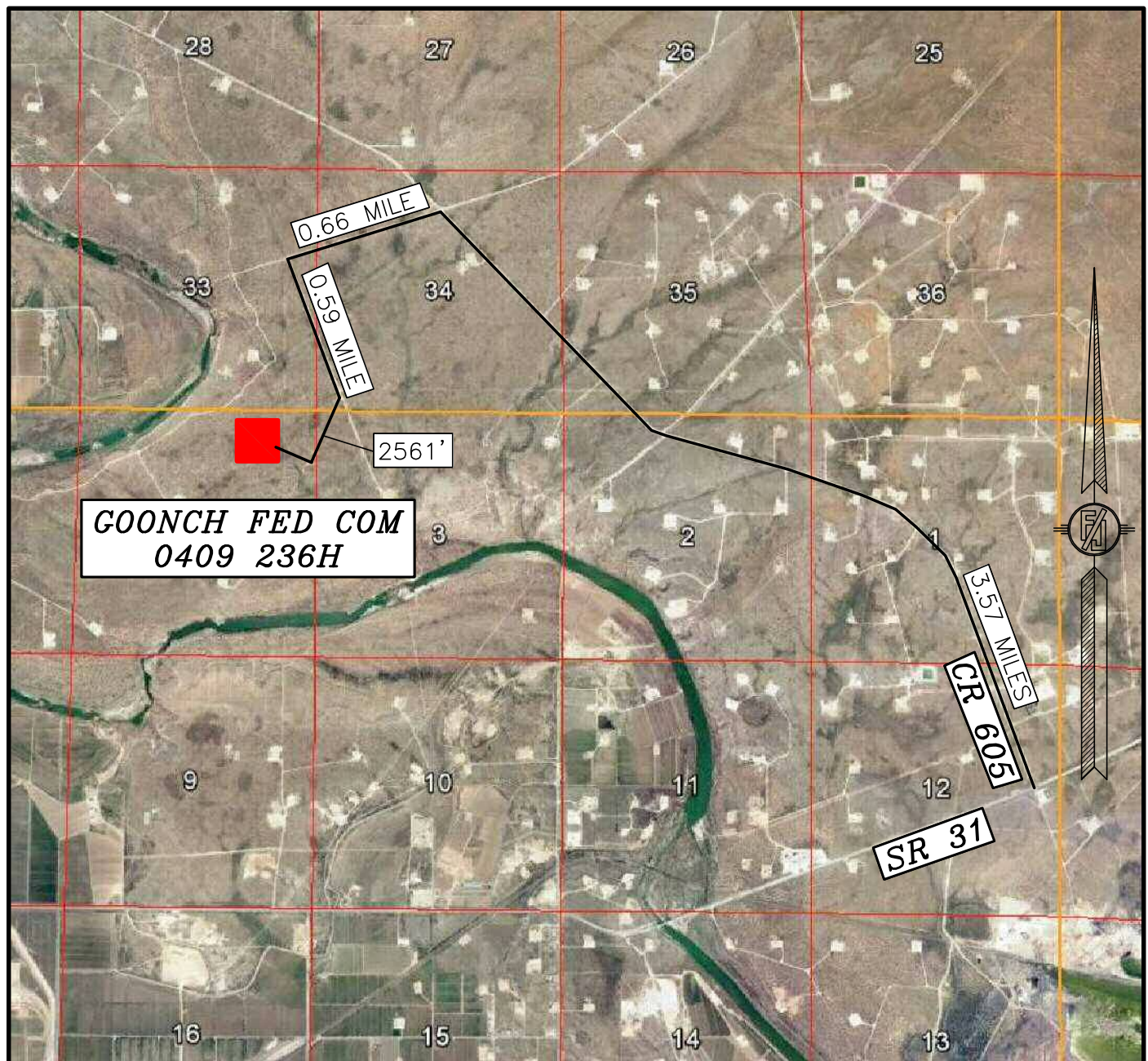
FEBRUARY 22, 2021

MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3341

SURVEY NO. 7270D
 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 0409 236H
 LOCATED 386 FT. FROM THE NORTH LINE
 AND 1305 FT. FROM THE EAST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

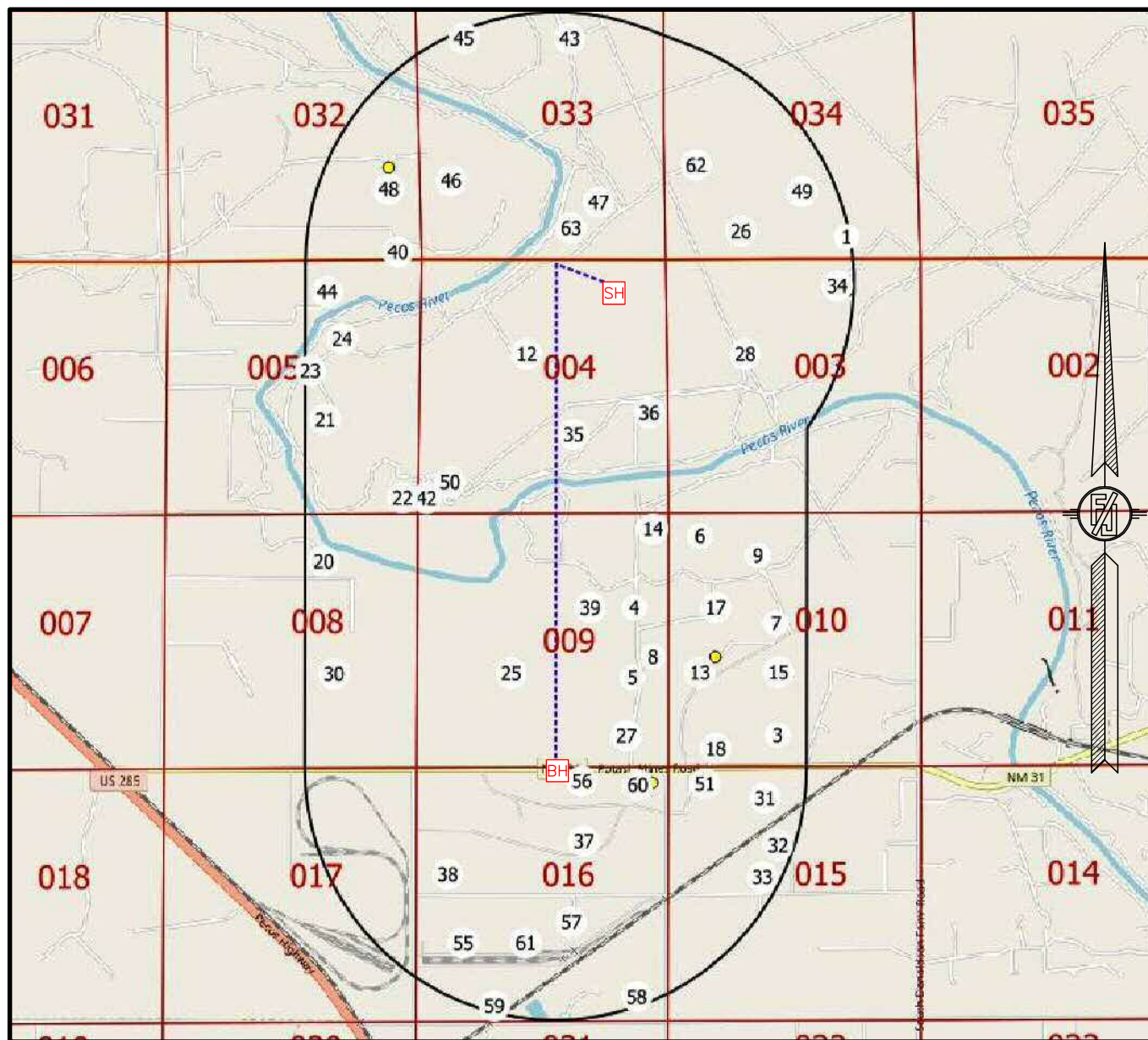
FEBRUARY 22, 2021

MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3341

SURVEY NO. 7270D
 CARLSBAD, NEW MEXICO

1-MILE MAP



NOT TO SCALE

[SH] SURFACE LOCATION

[BH] BOTTOM OF HOLE

[XX] WELLS WITHIN 1 MILE

--- WELL PATH

— 1-MILE BOUNDARY

NOVO OIL & GAS NORTHERN DELAWARE, LLC
GOONCH FED COM 0409 236H
 LOCATED 386 FT. FROM THE NORTH LINE
 AND 1305 FT. FROM THE EAST LINE OF
 SECTION 4, TOWNSHIP 23 SOUTH,
 RANGE 28 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

FEBRUARY 22, 2021

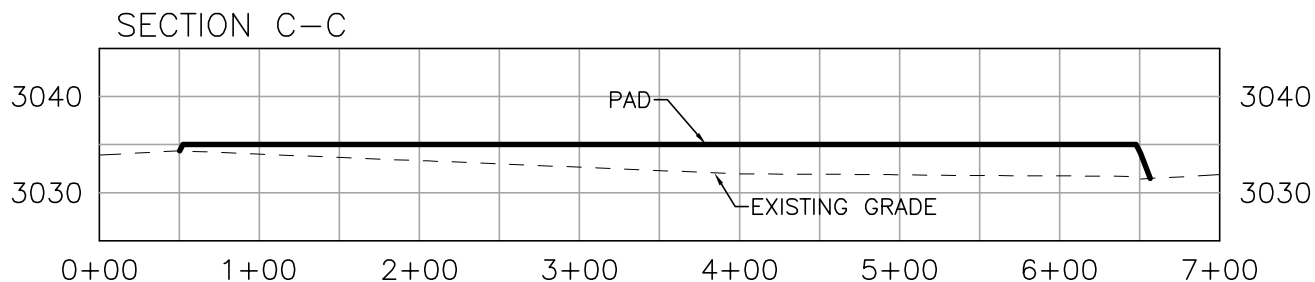
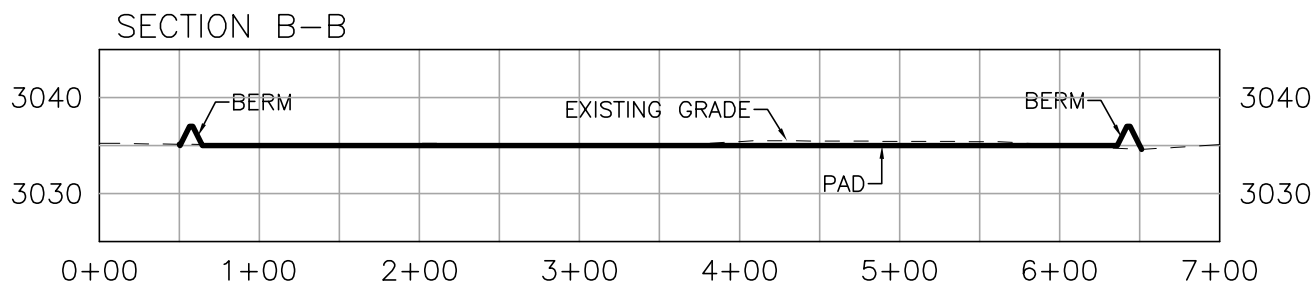
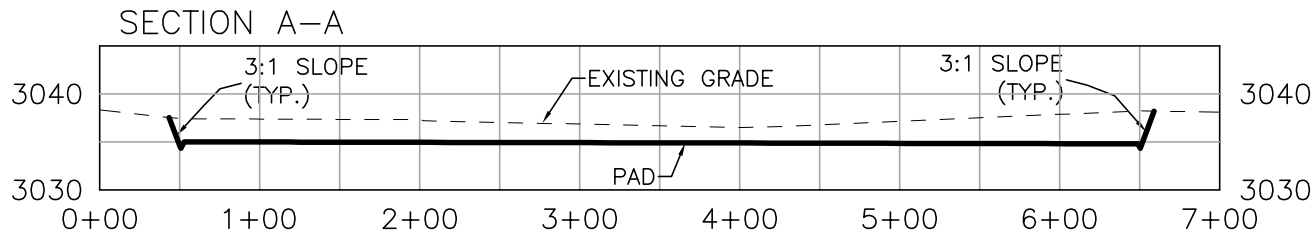
SURVEY NO. 7270D

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

CARLSBAD, NEW MEXICO



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 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 0409 236H
SECTION 4, TOWNSHIP 23 SOUTH,
RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

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

CUT	FILL	NET
6849 CU. YD	7927 CU. YD	1078 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

FEBRUARY 22, 2021

FILIMON F. JARAMILLO, PLS. 12797

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

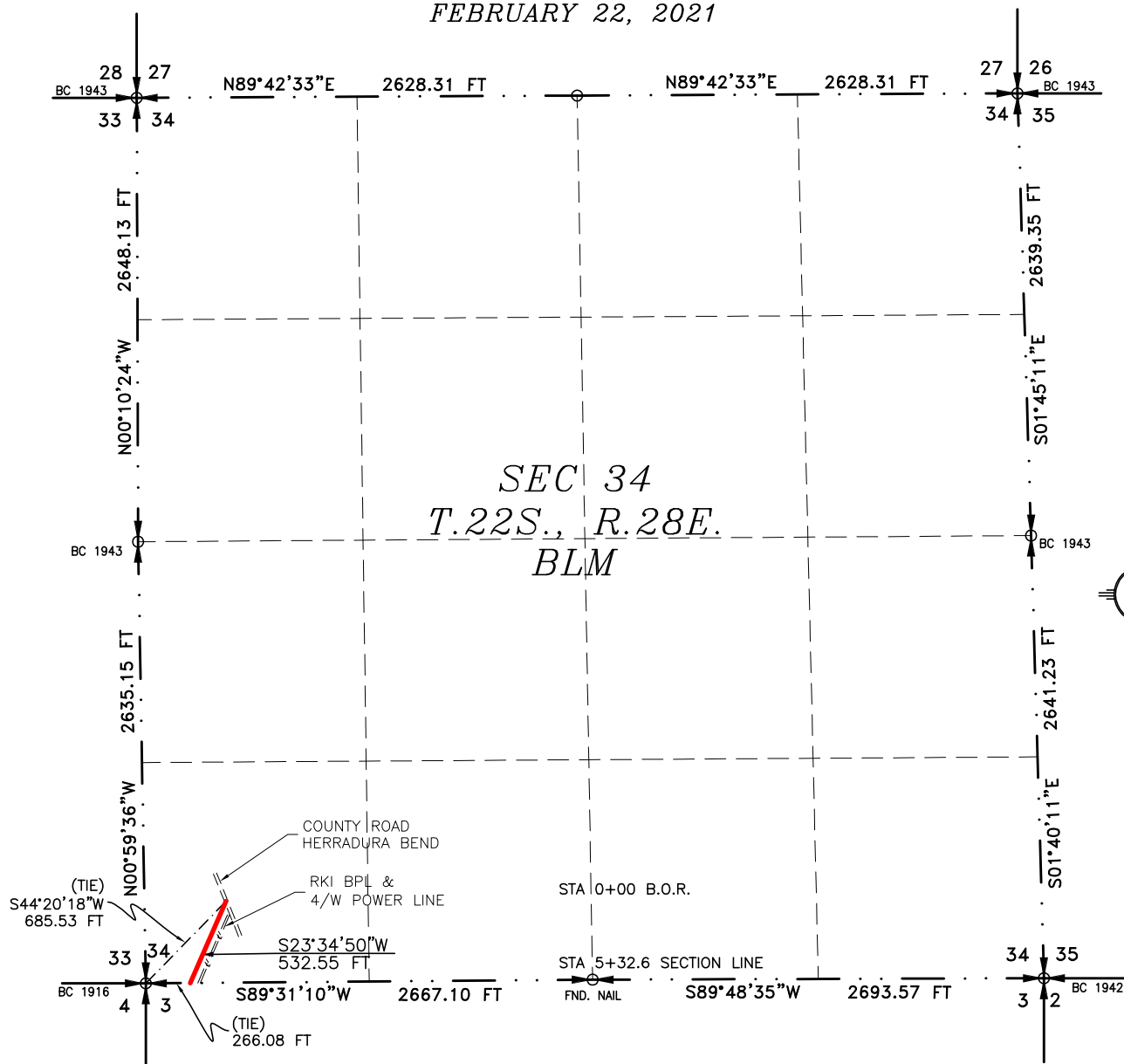
SHEET 2-2
SURVEY NO. 7270D

ACCESS ROAD PLAT

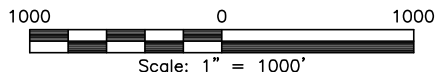
ACCESS ROAD TO THE GOONCH PAD I

(GOONCH FED COM 0409 236H, 136H, 225H AND GOONCH FED COM 04 235H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 34, TOWNSHIP 22 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
FEBRUARY 22, 2021



SEE NEXT SHEET (2-6) 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: 1-6

MADRON SURVEYING, INC.

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 3RD DAY OF MARCH 2021

FILMON F. JARAMILLO, S.S. 12797
 PROFESSIONAL SURVEYOR
 301 SOUTH CANAL
 CARLSBAD, NEW MEXICO 88220
 (575) 234-3341

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

SURVEY NO. 7270D

CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD TO THE GOONCH PAD I

(GOONCH FED COM 0409 236H, 136H, 225H AND GOONCH FED COM 04 235H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 34, TOWNSHIP 22 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
FEBRUARY 22, 2021

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 34, TOWNSHIP 22 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 SW/4 SW/4 OF SAID SECTION 34, TOWNSHIP 22 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE SOUTHWEST CORNER OF SAID SECTION 34, TOWNSHIP 22 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS S44°20'18"W, A DISTANCE OF 685.53 FEET;
 THENCE S23°34'50"W A DISTANCE OF 532.55 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 34, TOWNSHIP 22 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS S89°31'10"W, A DISTANCE OF 266.08 FEET;

SAID STRIP OF LAND BEING 532.55 FEET OR 32.28 RODS IN LENGTH, CONTAINING 0.367 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SW/4 SW/4 532.55 L.F. 32.28 RODS 0.367 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: 2-6

MADRON SURVEYING, INC.

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 03 DAY OF MARCH 2021

(Signature of Filimon F. Jaramillo)
 FILIMON F. JARAMILLO, SLS. 12797

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

SURVEY NO. 7270D

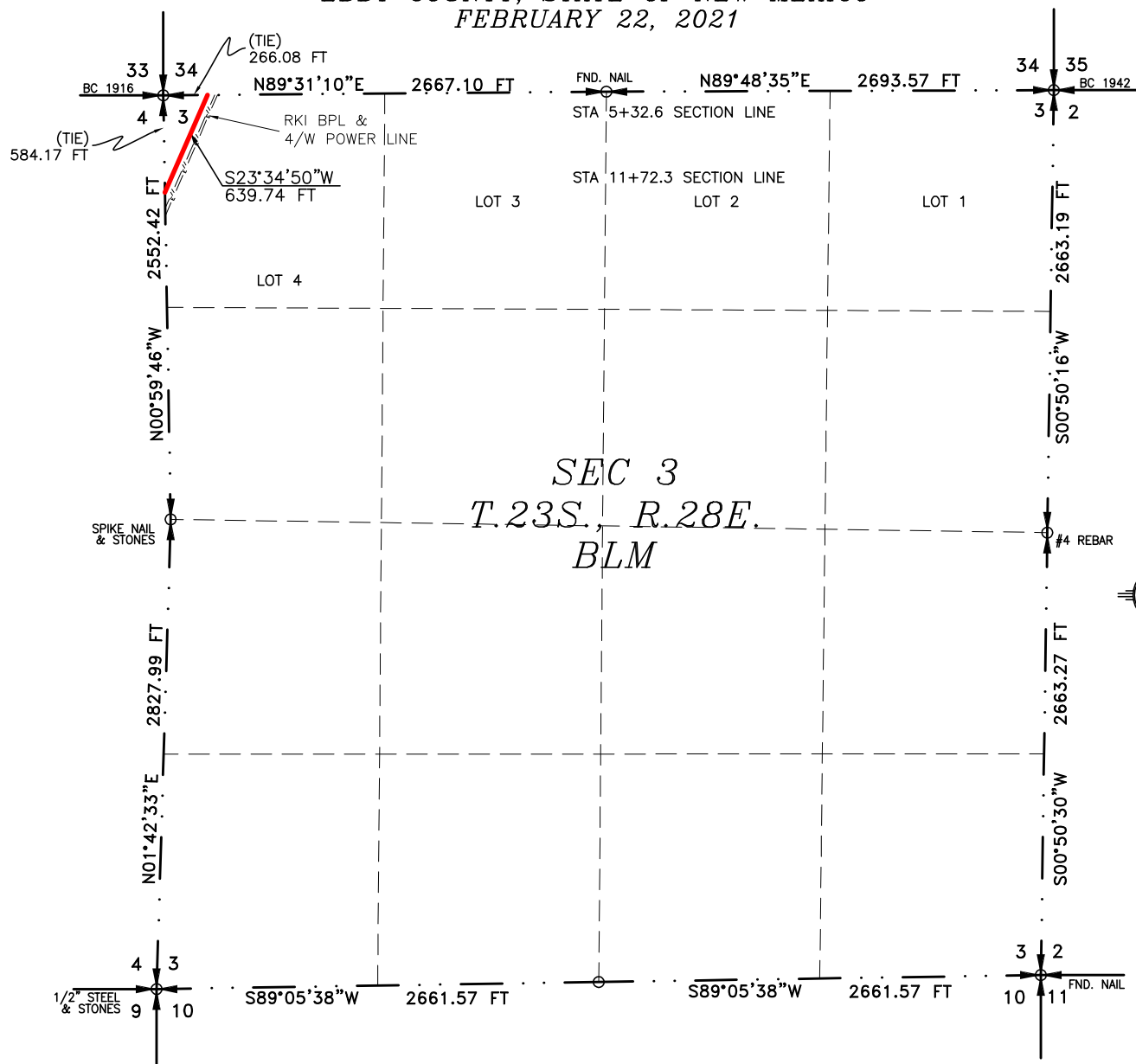
CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

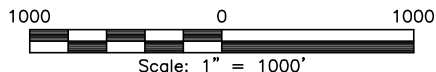
ACCESS ROAD TO THE GOONCH PAD I

(GOONCH FED COM 0409 236H, 136H, 225H AND GOONCH FED COM 04 235H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 3, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
FEBRUARY 22, 2021



SEE NEXT SHEET (4-6) 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: 3-6

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

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 3RD DAY OF MARCH 2021

FILIMON F. JARAMILLO, S.S. 12797
 PROFESSIONAL SURVEYOR
 301 SOUTH CANAL
 CARLSBAD, NEW MEXICO 88220
 (575) 234-3341

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

SURVEY NO. 7270D

ACCESS ROAD PLAT

ACCESS ROAD TO THE GOONCH PAD I

(GOONCH FED COM 0409 236H, 136H, 225H AND GOONCH FED COM 04 235H)

NOVO OIL & GAS NORTHERN DELAWARE, LLC
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 3, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
FEBRUARY 22, 2021

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 3, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN LOT 4 OF SAID SECTION 3, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 3, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS S89°31'10"W, A DISTANCE OF 266.08 FEET; THENCE S23°34'50"W A DISTANCE OF 639.74 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 3, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N00°59'46"W, A DISTANCE OF 584.17 FEET;

SAID STRIP OF LAND BEING 639.74 FEET OR 38.77 RODS IN LENGTH, CONTAINING 0.441 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 4 639.74 L.F. 38.77 RODS 0.441 ACRES

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 03 DAY OF MARCH 2021

(Signature of Filimon F. Jaramillo)
 FILIMON F. JARAMILLO, SLS. 12797

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

SURVEY NO. 7270D

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: 4-6

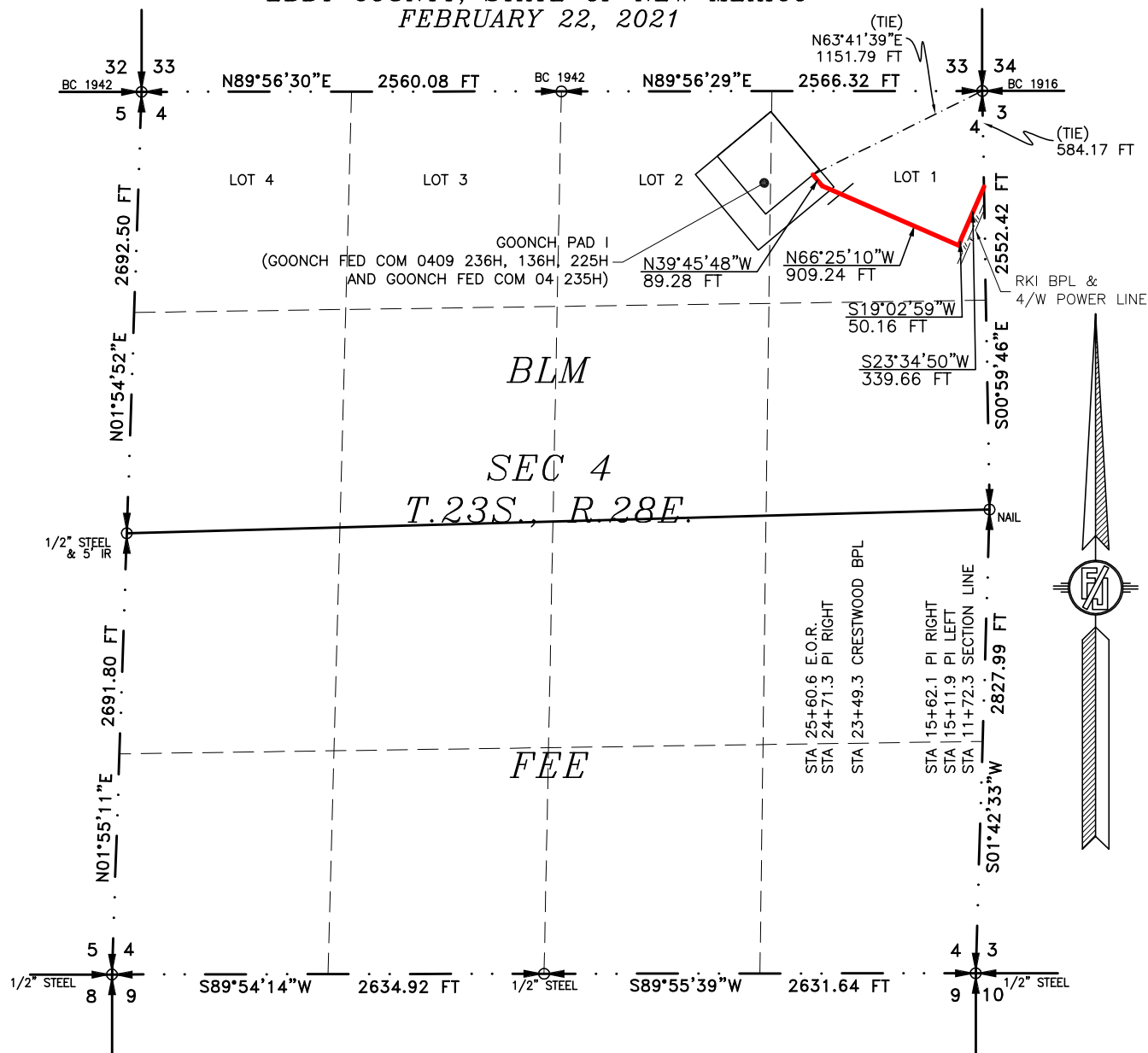
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO (575) 264-3341

ACCESS ROAD PLAT

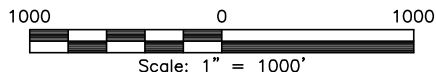
ACCESS ROAD TO THE GOONCH PAD I

(GOONCH FED COM 0409 236H, 136H, 225H AND GOONCH FED COM 04 235H)

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
FEBRUARY 22, 2021



SEE NEXT SHEET (6-6) 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: 5-6

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO 88220 Phone (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 31 DAY OF MARCH 2021

FILIMON F. JARAMILLO, S.S. 12797
 PROFESSIONAL SURVEYOR

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

SURVEY NO. 7270D

ACCESS ROAD PLAT

ACCESS ROAD TO THE GOONCH PAD I

(GOONCH FED COM 0409 236H, 136H, 225H AND GOONCH FED COM 04 235H)

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
FEBRUARY 22, 2021

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT 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 LOT 1 OF SAID SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N00°59'46"W, A DISTANCE OF 584.17 FEET;
 THENCE S23°34'50"W A DISTANCE OF 339.66 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
 THENCE S19°02'59"W A DISTANCE OF 50.16 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
 THENCE N66°25'10"W A DISTANCE OF 909.24 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
 THENCE N39°45'48"W A DISTANCE OF 89.28 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHEAST CORNER OF SAID SECTION 4, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M. BEARS N63°41'39"E, A DISTANCE OF 1151.79 FEET;

SAID STRIP OF LAND BEING 1388.34 FEET OR 84.14 RODS IN LENGTH, CONTAINING 0.956 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 1 1388.34 L.F. 84.14 RODS 0.956 ACRES

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 03 DAY OF MARCH 2021

(Signature of Filimon F. Jaramillo)
 FILIMON F. JARAMILLO, SLS. 12797
 301 SOUTH CANAL, CARLSBAD, NEW MEXICO 88220
 (575) 234-3341

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

SURVEY NO. 7270D

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: 6-6

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

Goonch Fed Com 0409 236H

CHANGE TO PLANS

Casing Substitution

Hole Size: 9-7/8", Casing: 8-5/8", 32 ppf, P-110, TLW to be set at 9,526' TMD.

Design Safety Factors: Burst 5.95, Collapse 1.39, Tension 3.21 (Casing Specification Sheet is attached)

Hole Size: 7-7/8", Casing: 5-1/2", 20 ppf, P-110, DWC/C IS+ to be set at 21,626' TMD.

Design Safety Factors: Burst 1.25, Collapse 2.77, Tension 2.67 (Casing Specification Sheet is attached)

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

Lead: 646 Sacks; 2,311.4 cu. ft.; 100% excess; 3.58 cu.ft./sx; 10 ppg; Class C + retarder + LCM + beads; 900 psi 24-hour compressive strength.

Tail: 130 Sacks; 180.7 cu. ft; 50% excess; 1.39 cu.ft./sx; 13.80 ppg; Class C + retarder + LCM; 1,200 psi 24-hour compressive strength.

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

Lead: 747 Sacks; 1,584.3 cu. ft.; 20% excess; 2.12 cu.ft./sx; 11.91 ppg; Class C + retarder; 1,200 psi 24-hour compressive strength.

Tail: 2,065 Sacks; 2,191 cu. ft; 20% excess; 1.59 cu.ft./sx; 13.20 ppg; Class C + retarder; 1,200 psi 24-hour compressive strength.



NOVO OIL & GAS NORTHERN DELAWARE, LLC

Goonch Fed Com 0409 236H

SHL: 386' FNL & 1305' FEL Section 4-23S-28E

BHL: 130' FSL & 2,178' FEL Section 9-23S-28E

Eddy County, New Mexico

DRILLING OPERATIONS PLAN**Standard Wolfcamp 3-STRING CASING DESIGN (Not Secretary's Potash or R-111-P)****Estimated Drilling Conditions**

Target Formation	Wolfcamp B
Target Depth - TVD (ft)	10226
Planned MD (ft)	21626
Anticipated Bottom-Hole Pressure (psi)	6646.9
Anticipated Maximum Surface Pressure (psi)	4397.18
Abnormal Pressure (Yes/No)	No
Anticipated Bottom-Hole Temperature (deg F)	215 deg F
H2S Contingency Plan Required (Yes/No)	Yes

Geologic Formations

	GR	KB (25')	
Elevation	3,036	3,061	
Formation Tops	TVDss	TVD - KB	Mineral Resources
Rustler	2,639	422	Water
Bell Canyon (base of salt)	500	2,561	Water
Cherry Canyon	-575	3,636	Water
Brushy Canyon	-1,588	4,649	Oil, Gas, Water
Bone Spring Lime	-3,031	6,092	Oil, Gas, Water
Lower Avalon	-3,539	6,600	Oil, Gas, Water
1st Bone Spring Sand	-3,998	7,059	Oil, Gas, Water
2nd Bone Spring Carbonate	-4,211	7,272	Oil, Gas, Water
2nd Bone Spring Sand	-4,746	7,807	Oil, Gas, Water
3rd Bone Spring Carbonate	-5,043	8,104	Oil, Gas, Water
3rd Bone Spring Sand	-6,090	9,151	Oil, Gas, Water
Wolfcamp XY	-6,370	9,431	Oil, Gas, Water
Wolfcamp A	-6,575	9,636	Oil, Gas, Water
Wolfcamp B	-6,780	9,841	Oil, Gas, Water
Wolfcamp B Flow Unit	-7,115	10,176	Oil, Gas, Water
Wolfcamp C	-7,233	10,294	Oil, Gas, Water

Pressure Control Equipment and Pressure Testing Procedure

A 13-5/8" 5M Blowout Preventer system will be installed on a multi-bowl wellhead with a 13-5/8 flanged casing spool.

The top flange of casing spool will be set in a cellar below ground level. The blowout preventor system will consist of a single pipe ram on bottom, mud cross, double pipe ram with blind rams on bottom and pipe rams on top and annular preventer. The blowout preventer will be installed on top of the 13-3/8" surface casing and will remain installed to total depth of the well. Wellhead, blowout preventer and choke manifold diagrams have been included. A co-flex line will be used between the BOP system and the choke manifold. A pressure test certification form for the co-flex hose will be available on the location at the time of the BOP testing.

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 2095.72 psi) high for 30 minutes

Drilling Fluid Program

Depth Interval (ft)	Hole Size (in.)	Fluid Type	Mud Weight (ppg)	Funnel Viscosity (sec/qt)	API Fluid Loss (ml/30min)	Total Solids (%)
0 - 472	17-1/2	Water Based Spud Mud	8.3	30-60	N/C	2.0-8.0
472 - 9,526	9-7/8"	Brine Diesel Emulsion or Brine	8.8-9.6	35-45	N/C	1.0-4.0
9,526 - 21,626	7-7/8"	Oil Based Mud	12-13.3	35-65	4-6 cc's	1.0-8.0
Drilling Fluid System		A closed loop drilling system will be used.				

Casing Program

Depth Interval	Length (ft)	Hole Size	Casing Size	Weight (ppf)	Grade	Coupling	Notes
0' - 472'	472	17-1/2	13-3/8"	54.50	J-55	BTC	
0' - 9,526'	9,526	9-7/8"	8-5/8"	32.00	P-110	TLW	
0' - 21,626'	21,626	7-7/8"	5-1/2"	20.00	P-110	DWC/C IS+	

Casing Centralizers

Surface Casing: Centralizers will be run on the bottom 3 joints of casing and then 1 centralizer per joint to surface.

Casing Performance Properties and Design Criteria

Depth Interval	Collapse (psi)	Burst (psi)	Joint Strength (1000 lbs)	Actual Design Safety Factors			Notes
				Collapse	Burst	Tension	
0' - 472'	1,130	2,730	853	5.53	1.82	6.97	
0' - 9,526'	4,230	8,930	1144	1.39	5.95	3.21	Collapse: 1/3 fluid filled at all times
0' - 21,626'	12,090	14,360	729	2.77	1.25	2.67	
Design Safety Factors		Design safety factors will meet or exceed as shown.					

Surface Casing

Collapse: $DF_C = 1.125$

- Full Internal Evacuation: Collapse force is equal to mud gradient (0.433 psi/ft) in which the casing will be run and internal evacuation of casing.
- Cementing: Collapse force is equal net force of the planned cement slurry gradient (0.718 psi/ft) in which the casing will be run and internal force equivalent to fresh water displacement gradient (0.433 psi/ft).

Burst: $DF_B = 1.125$

- Casing Pressure Test: According to BLM Onshore Order No. 2 with 0.22 psi/ft or 1500 psi, whichever is greater but not to exceed 70 percent of the minimum internal yield.

Tensile: $DF_T = 1.60$

- Overpull: A tensile force of 100,000 lbs over string weight with a bouyancy factor of 0.8727 in water (8.33 ppg).

Intermediate Casing

Collapse: $DF_C = 1.125$

- Partial (2/3rd) Internal Evacuation: Casing will remain greater than 1/3 fluid filled at all times with a mud weight greather than 11 ppg**
- Collapse force is equal to mud gradient (0.531 psi/ft) in which the casing will be run.
- Cementing: Collapse force is equal net force of the planned cement slurry gradient (0.626 psi/ft) in which the casing will be run and internal force equivalent to the displacement fluid gradient.

Burst: $DF_B = 1.125$

- Casing Pressure Test: According to BLM Onshore Order No. 2 with 0.22 psi/ft or 1500 psi, whichever is greater but not to exceed 70 percent of the minimum internal yield.
- Gas Kick: Internal burst load of a 50 bbl gas kick at the casing with drillpipe in the hole. External force will be 10.2 ppg brine water gradient (0.531 psi/ft) and intrenal force will be with 10.0 ppg brine water gradient (0.521 psi/ft) with gas kick.

Tensile: $DF_T = 1.60$

- Overpull: A tensile force of 100,000 lbs over string weight with a bouyancy factor of 0.8441 in brine water (10.2 ppg).

Production CasingCollapse: $DF_C = 1.125$

- a. Full Internal Evacuation: Collapse force is equal to mud gradient (0.531 psi/ft) in which the casing will be run and internal evacuation of casing.
- b. Cementing: Collapse force is equal net force of the planned cement slurry gradient (0.688 psi/ft) in which the casing will be run and internal force equivalent to fresh water displacement gradient (0.433 psi/ft).

Burst: $DF_B = 1.125$

- a. Pressure Test: Pressure test will be to 80% of Internal Yield Pressure of casing intended for fracture stimulation.

Tensile: $DF_T = 1.60$

- a. Overpull: A tensile force of 100,000 lbs over string weight with a bouyancy factor of 0.8472 in oil-based mud (10.0 ppg).

Cementing Program**Surface Casing Cement:**

0' - 472'

Top of Cement: Surface

Cement	Amount (sacks)	Slurry Volume (cu. ft.)	Slurry Volume (bbls)	Weight (ppg)	Yield (cu. ft./sx)	Mix Water (gal/sx)	24hr 115deg Strength (psi)	Excess Cement (%)
Lead								
Tail	404	655.1	116.7	13.80	1.62	7.67	1,200	100.0%

Lead: N/A

Tail: Class C Cement with Gel, Accelerator, LCM

Intermediate Casing Cement:

Top of Lead 0

Top of Tail 8,526

Surface Shoe Depth

472

Intermediate Shoe Depth

9,526

Cement	Amount (sacks)	Slurry Volume (cu. ft.)	Slurry Volume (bbls)	Weight (ppg)	Yield (cu. ft./sx)	Mix Water (gal/sx)	24hr 115deg Strength (psi)	Excess Cement (%)
Lead	646	2311.4	411.7	10.00	3.58	19.15	900	100.0%
Tail	130.0	180.7	32.2	13.80	1.39	6.57	1,200	50.0%

Lead: Class C or H Cement with Fluid Loss, Retarder, LCM, Possibly beaded for desired compressive strength

Tail: Class C or H Cement with Fluid Loss, Retarder, LCM

Production Casing Cement:

0' - 21,626'

Top of Cement/Lead: 0'

Top of Tail: 7,526'

Cement	Amount (sacks)	Slurry Volume (cu. ft.)	Slurry Volume (bbls)	Weight (ppg)	Yield (cu. ft./sx)	Mix Water (gal/sx)	24hr 115deg Strength (psi)	Excess Cement (%)
Lead	747	1584.3	282.1	12.00	2.12	11.91	1,200	20.0%
Tail	2065	3282.6	584.6	13.20	1.59	7.98	1,200	20.0%

Lead: Class H Cement with Fluid Loss, Retarder, LCM

Tail: Class H Cement with Fluid Loss, Retarder, LCM

Logging, Testing & Coring Program

A gamma ray log will be acquired by directional drilling Measure While Drilling tools from the intermediate casing to Total Depth.



TEC-LOCK WEDGE

8.625" 32.00 LB/FT (.352" Wall)
BORUSAN MANNESMANN P110 HSCY

Pipe Body Data

Nominal OD:	8.625	in
Nominal Wall:	.352	in
Nominal Weight:	32.00	lb/ft
Plain End Weight:	31.13	lb/ft
Material Grade:	P110 HSCY	
Mill/Specification:	BORUSAN MANNESMANN	
Yield Strength:	125,000	psi
Tensile Strength:	125,000	psi
Nominal ID:	7.921	in
API Drift Diameter:	7.796	in
Special Drift Diameter:	7.875	in
RBW:	87.5 %	
Body Yield:	1,144,000	lbf
Burst:	8,930	psi
Collapse:	4,230	psi

Connection Data

Standard OD:	9.000	in
Pin Bored ID:	7.921	in
Critical Section Area:	8.61433	in ²
Tensile Efficiency:	94.2 %	
Compressive Efficiency:	100.0 %	
Longitudinal Yield Strength:	1,077,000	lbf
Compressive Limit:	1,144,000	lbf
Internal Pressure Rating:	8,930	psi
External Pressure Rating:	4,230	psi
Maximum Bend:	62.6	°/100

Operational Data

Minimum Makeup Torque:	29,900	ft*lb
Optimum Makeup Torque:	37,375	ft*lb
Maximum Makeup Torque:	80,900	ft*lb
Minimum Yield:	89,900	ft*lb
Makeup Loss:	5.97	in

Notes

Operational Torque is equivalent to the Maximum Make-Up Torque.



Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
DWC/C-IS PLUS Casing STANDARD	5-1/2 in	20.00 lb/ft (0.361 in)	VST P110 EC

	Material
VST P110 EC	Grade
125,000	Minimum Yield Strength (psi.)
135,000	Minimum Ultimate Strength (psi.)

	Pipe Dimensions
5.500	Nominal Pipe Body O.D. (in.)
4.778	Nominal Pipe Body I.D. (in.)
0.361	Nominal Wall Thickness (in.)
20.00	Nominal Weight (lbs./ft.)
19.83	Plain End Weight (lbs./ft.)
5.828	Nominal Pipe Body Area (sq. in.)

	Pipe Body Performance Properties
729,000	Minimum Pipe Body Yield Strength (lbs.)
12,090	Minimum Collapse Pressure (psi.)
14,360	Minimum Internal Yield Pressure (psi.)
13,100	Hydrostatic Test Pressure (psi.)

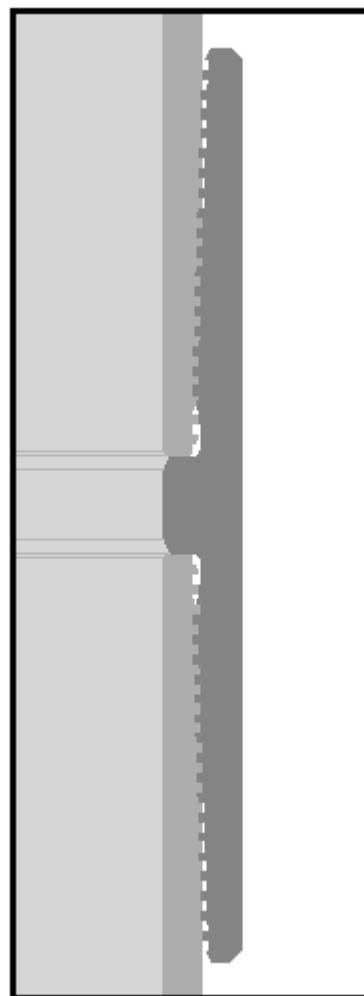
	Connection Dimensions
6.300	Connection O.D. (in.)
4.778	Connection I.D. (in.)
4.653	Connection Drift Diameter (in.)
4.13	Make-up Loss (in.)
5.828	Critical Area (sq. in.)
100.0	Joint Efficiency (%)

	Connection Performance Properties
729,000	Joint Strength (lbs.)
26,040	Reference String Length (ft) 1.4 Design Factor
728,000	API Joint Strength (lbs.)
729,000	Compression Rating (lbs.)
12,090	API Collapse Pressure Rating (psi.)
14,360	API Internal Pressure Resistance (psi.)
104.2	Maximum Uniaxial Bend Rating [degrees/100 ft]

	Approximated Field End Torque Values
16,600	Minimum Final Torque (ft.-lbs.)
19,100	Maximum Final Torque (ft.-lbs.)
21,600	Connection Yield Torque (ft.-lbs.)



VAM USA
4424 W. Sam Houston Pkwy. Suite 150
Houston, TX 77041
Phone: 713-479-3200
Fax: 713-479-3234
E-mail: VAMUSAsales@vam-usa.com



For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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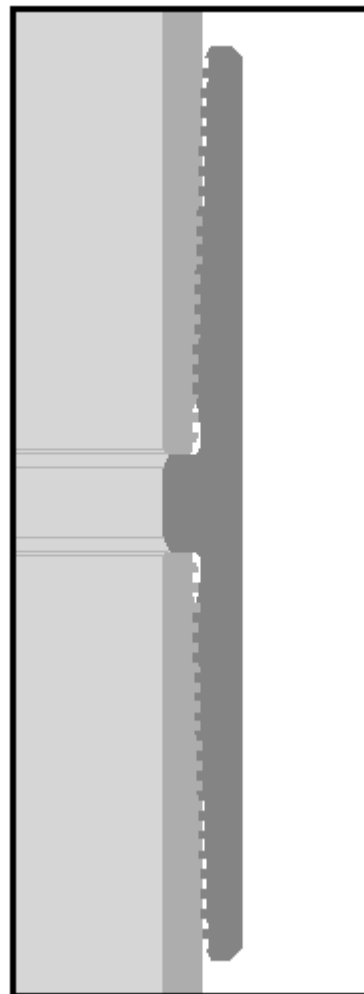
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4424 W. Sam Houston Pkwy. Suite 150
Houston, TX 77041
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Fax: 713-479-3234
E-mail: VAMUSAsales@vam-usa.com

DWC Connection Data Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.



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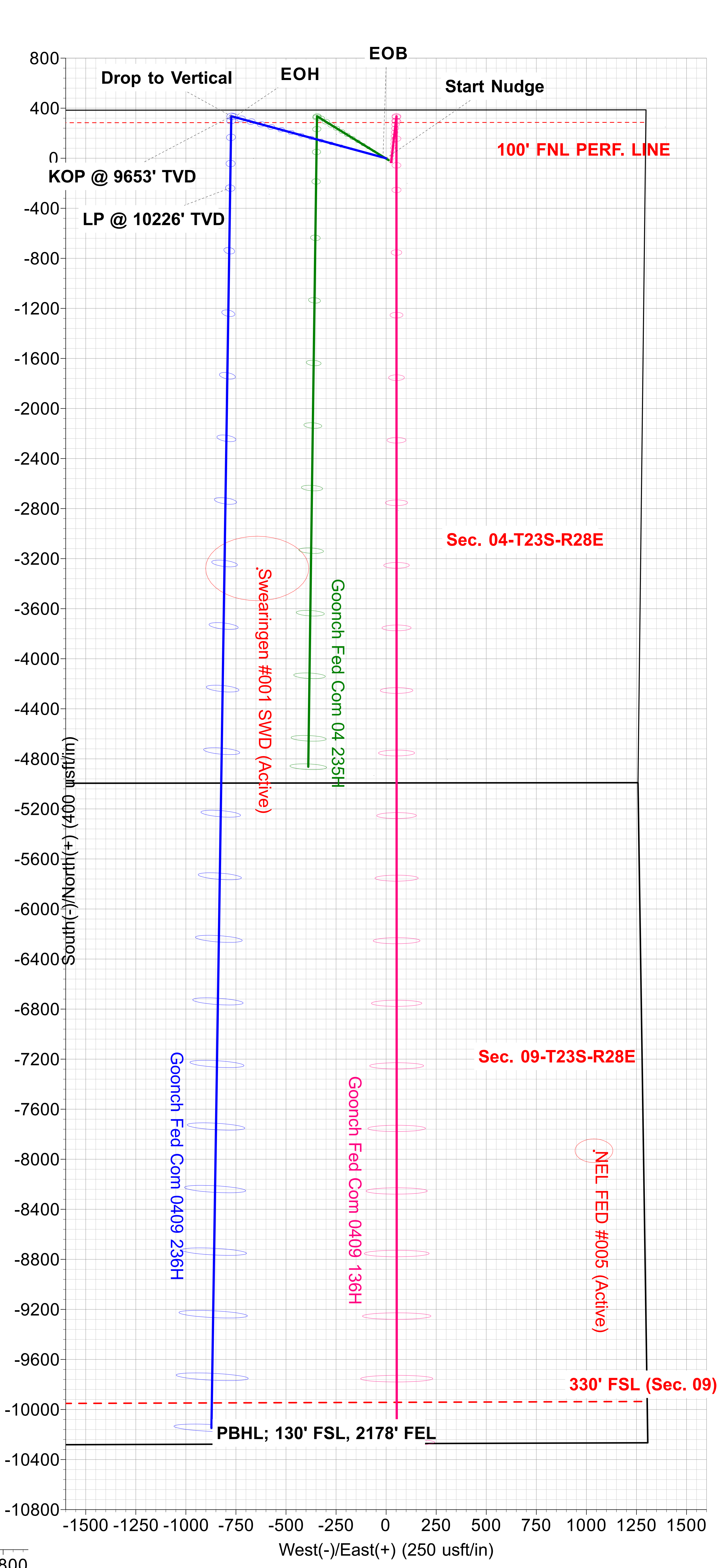
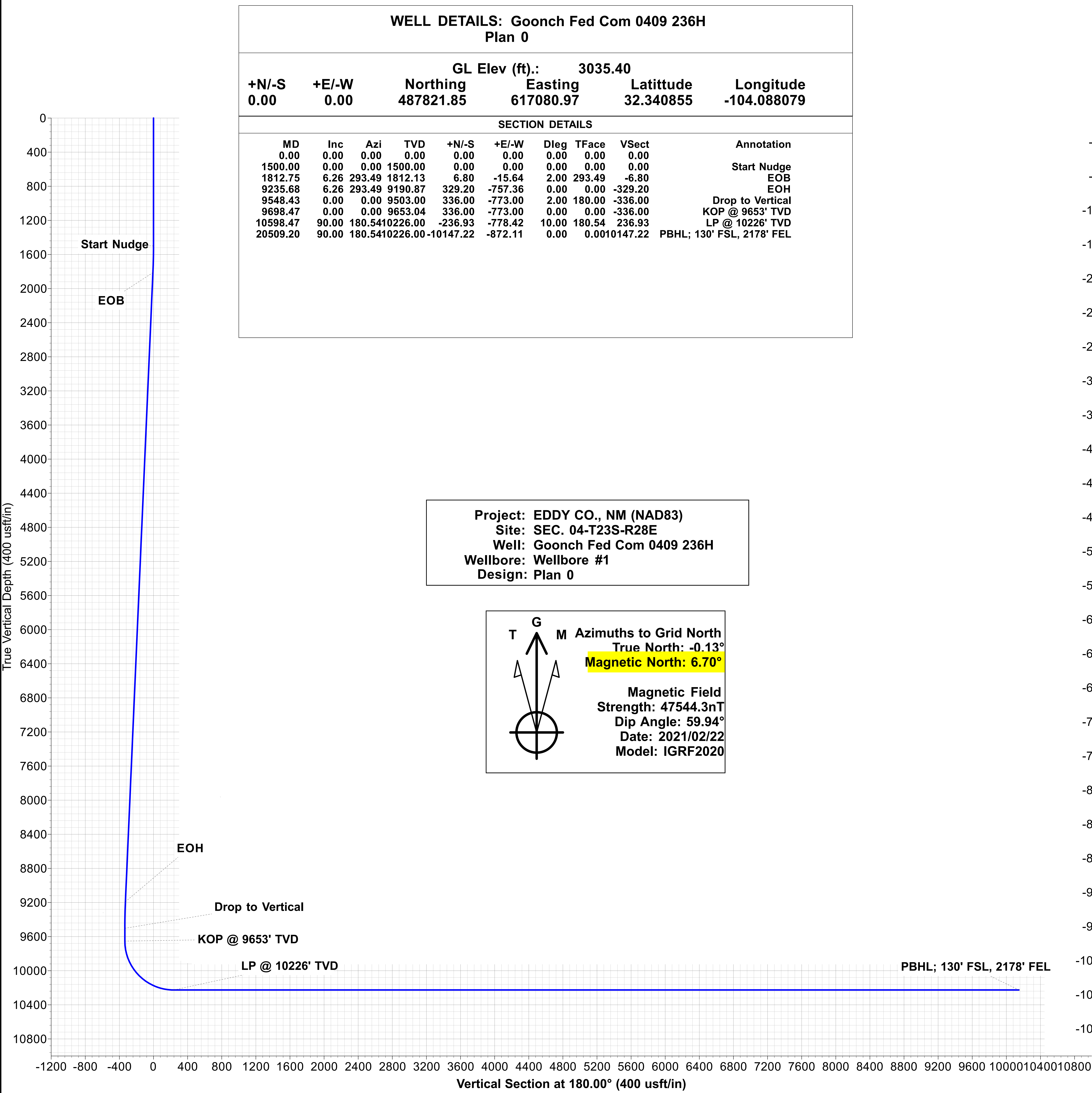
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Goonch Fed Com 0409 236H

RIG: TBD





NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC. 04-T23S-R28E

Goonch Fed Com 0409 236H

Wellbore #1

Plan 0

Anticollision Report

22 February, 2021





SB Directional

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Reference	Plan 0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCSWA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,500.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	2021/02/22		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,509.20	Plan 0 (Wellbore #1)	MWD	MWD - Standard	

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						
Apollo Fee 23-28 4 WA 005H - Wellbore #1 - Wellbore #1						Out of range
Goonch Fed Com 04 132H - Wellbore #1 - Plan 2	10,350.00	15,124.77	885.79	782.58	8.583	ES
Goonch Fed Com 04 132H - Wellbore #1 - Plan 2	10,409.89	15,069.22	885.34	782.93	8.645	CC
Goonch Fed Com 04 132H - Wellbore #1 - Plan 2	15,200.00	10,340.35	977.34	858.23	8.205	SF
Goonch Fed Com 04 211H - Wellbore #1 - Plan 1						Out of range
Goonch Fed Com 04 212H - Wellbore #1 - Plan 1	9,568.83	14,629.92	752.38	648.14	7.218	CC, ES, SF
Goonch Fed Com 04 221H - Wellbore #1 - Plan 1						Out of range
Goonch Fed Com 04 222H - Wellbore #1 - Plan 1	9,734.89	14,710.94	1,410.50	1,304.47	13.303	CC, ES
Goonch Fed Com 04 222H - Wellbore #1 - Plan 1	9,750.00	14,710.94	1,410.57	1,304.52	13.302	SF
Goonch Fed Com 04 231H - Wellbore #1 - Plan 1						Out of range
Goonch Fed Com 04 232H - Wellbore #1 - Plan 1						Out of range
Goonch Fed Com 04 235H - Wellbore #1 - Plan 0	1,500.00	1,500.00	19.99	13.46	3.058	CC, ES, SF
Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0	1,500.00	1,500.00	39.99	33.45	6.115	CC, ES
Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0	20,509.20	20,493.84	925.43	550.37	2.467	SF
Jack Sleeper State Com 9 201H - Wellbore #1 - Wellbore						Out of range
Jack Sleeper State Com 9 215H - Wellbore #1 - Wellbore						Out of range
Jack Sleeper State Com 9 221H - Wellbore #1 - Wellbore						Out of range
Loving Federal Com #001 (Active) - Wellbore #1 - Wellbo	11,966.63	10,211.75	843.49	603.83	3.520	CC
Loving Federal Com #001 (Active) - Wellbore #1 - Wellbo	12,000.00	10,211.75	844.15	603.66	3.510	ES, SF
Swearingen #001 SWD (Active) - Wellbore #1 - Wellbore	13,638.31	10,294.60	163.49	-109.38	0.599	No-Go Zone - Stop Drilling, (
SEC. 09-T23S-R28E						
NEL FED #005 (Active) - Wellbore #1 - Wellbore #1						Out of range

Offset Design:	SEC. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Plan 2												Offset Site Error:	0.00 usft
Survey Program:	0-MWD												Offset Well Error:	0.50 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Rule Assigned:	Offset	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)	Minimum Separation (usft)	Separation Factor		
9,100.00	9,056.00	15,351.16	10,219.00	24.87	85.35	-32.37	253.87	-1,652.95	1,494.72	1,416.10	78.62	19.012		
9,200.00	9,155.40	15,351.16	10,219.00	25.17	85.35	-32.37	253.87	-1,652.95	1,411.08	1,330.45	80.63	17.501		
9,235.68	9,190.87	15,351.16	10,219.00	25.27	85.35	-32.37	253.87	-1,652.95	1,381.76	1,300.37	81.39	16.977		
9,300.00	9,254.88	15,351.16	10,219.00	25.44	85.35	-31.45	253.87	-1,652.95	1,330.07	1,247.23	82.84	16.056		

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Plan 2													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)			
9,400.00	9,354.63	15,351.16	10,219.00	25.63	85.35	-30.23	253.87	-1,652.95	1,253.64	1,168.31	85.33	14.692	
9,500.00	9,454.57	15,351.16	10,219.00	25.80	85.35	-29.24	253.87	-1,652.95	1,182.88	1,094.78	88.11	13.425	
9,548.43	9,503.00	15,351.16	10,219.00	25.87	85.35	-95.33	253.87	-1,652.95	1,151.01	1,061.46	89.55	12.854	
9,600.00	9,554.57	15,351.16	10,219.00	25.96	85.35	-95.33	253.87	-1,652.95	1,118.67	1,027.54	91.13	12.275	
9,698.47	9,653.04	15,351.16	10,219.00	26.13	85.35	-95.33	253.87	-1,652.95	1,061.15	966.94	94.22	11.263	
9,700.00	9,654.57	15,351.16	10,219.00	26.13	85.35	84.23	253.87	-1,652.95	1,060.31	966.04	94.27	11.248	
9,750.00	9,704.50	15,351.16	10,219.00	26.20	85.35	87.42	253.87	-1,652.95	1,033.36	937.51	95.85	10.781	
9,800.00	9,754.04	15,351.16	10,219.00	26.25	85.35	90.36	253.87	-1,652.95	1,008.00	910.55	97.45	10.344	
9,850.00	9,802.81	15,351.16	10,219.00	26.29	85.35	93.02	253.87	-1,652.95	984.55	885.50	99.04	9.940	
9,900.00	9,850.44	15,351.16	10,219.00	26.31	85.35	95.35	253.87	-1,652.95	963.33	862.73	100.60	9.576	
9,950.00	9,896.57	15,351.16	10,219.00	26.33	85.35	97.35	253.87	-1,652.95	944.67	842.59	102.08	9.254	
10,000.00	9,940.84	15,351.16	10,219.00	26.33	85.35	99.00	253.87	-1,652.95	928.86	825.40	103.46	8.978	
10,050.00	9,982.93	15,351.16	10,219.00	26.33	85.35	100.30	253.87	-1,652.95	916.17	811.47	104.70	8.750	
10,100.00	10,022.50	15,321.91	10,219.00	26.32	84.85	99.82	224.64	-1,653.74	906.36	801.42	104.94	8.637	
10,150.00	10,059.26	15,288.05	10,219.00	26.31	84.27	98.99	190.79	-1,654.65	898.81	793.89	104.92	8.567	
10,200.00	10,092.93	15,251.12	10,219.00	26.29	83.63	97.95	153.86	-1,655.64	893.27	788.57	104.70	8.532	
10,250.00	10,123.25	15,211.39	10,219.00	26.28	82.95	96.79	114.15	-1,656.71	889.45	785.13	104.32	8.526	
10,300.00	10,150.00	15,169.16	10,219.00	26.28	82.23	95.57	71.94	-1,657.84	887.06	783.25	103.81	8.545	
10,350.00	10,172.96	15,124.77	10,219.00	26.29	81.47	94.38	27.57	-1,659.04	885.79	782.58	103.21	8.583 ES	
10,400.00	10,191.97	15,078.55	10,219.00	26.31	80.68	93.29	-18.64	-1,660.28	885.35	782.80	102.54	8.634	
10,409.89	10,195.24	15,069.22	10,219.00	26.31	80.53	93.09	-27.96	-1,660.53	885.34	782.93	102.41	8.645 CC	
10,450.00	10,206.87	15,030.85	10,219.00	26.35	79.87	92.35	-66.33	-1,661.56	885.49	783.64	101.85	8.694	
10,500.00	10,217.56	14,982.03	10,219.00	26.41	79.04	91.63	-115.13	-1,662.88	886.00	784.85	101.15	8.759	
10,550.00	10,223.95	14,932.46	10,219.00	26.50	78.20	91.14	-164.68	-1,664.21	886.72	786.26	100.46	8.827	
10,598.47	10,226.00	14,884.05	10,219.00	26.62	77.38	90.93	-213.07	-1,665.51	887.53	787.72	99.82	8.892	
10,600.00	10,226.00	14,882.53	10,219.00	26.62	77.35	90.93	-214.59	-1,665.55	887.56	787.76	99.80	8.894	
10,700.00	10,226.00	14,782.54	10,219.00	26.97	75.66	90.93	-314.54	-1,668.24	889.30	790.73	98.57	9.022	
10,800.00	10,226.00	14,682.56	10,219.00	27.44	73.97	90.93	-414.49	-1,670.93	891.05	793.57	97.48	9.141	
10,900.00	10,226.00	14,582.57	10,219.00	28.04	72.29	90.92	-514.44	-1,673.62	892.79	796.29	96.50	9.251	
11,000.00	10,226.00	14,482.59	10,219.00	28.76	70.62	90.92	-614.39	-1,676.31	894.54	798.89	95.64	9.353	
11,100.00	10,226.00	14,382.60	10,219.00	29.58	68.96	90.92	-714.34	-1,679.00	896.28	801.39	94.89	9.446	
11,200.00	10,226.00	14,282.62	10,219.00	30.50	67.30	90.92	-814.29	-1,681.69	898.02	803.79	94.23	9.530	
11,300.00	10,226.00	14,182.63	10,219.00	31.50	65.65	90.92	-914.23	-1,684.38	899.77	806.11	93.66	9.607	
11,400.00	10,226.00	14,082.65	10,219.00	32.57	64.00	90.92	-1,014.18	-1,687.06	901.51	808.35	93.16	9.677	
11,500.00	10,226.00	13,982.66	10,219.00	33.72	62.37	90.91	-1,114.13	-1,689.75	903.25	810.52	92.74	9.740	
11,600.00	10,226.00	13,882.68	10,219.00	34.92	60.75	90.91	-1,214.08	-1,692.44	905.00	812.62	92.38	9.797	
11,700.00	10,226.00	13,782.69	10,219.00	36.18	59.14	90.91	-1,314.03	-1,695.13	906.74	814.67	92.08	9.848	
11,800.00	10,226.00	13,682.71	10,219.00	37.48	57.53	90.91	-1,413.98	-1,697.82	908.49	816.65	91.83	9.893	
11,900.00	10,226.00	13,582.72	10,219.00	38.83	55.95	90.91	-1,513.93	-1,700.51	910.23	818.59	91.64	9.933	
12,000.00	10,226.00	13,482.74	10,219.00	40.21	54.37	90.90	-1,613.87	-1,703.20	911.97	820.48	91.49	9.968	
12,100.00	10,226.00	13,382.75	10,219.00	41.63	52.81	90.90	-1,713.82	-1,705.89	913.72	822.32	91.39	9.998	
12,200.00	10,226.00	13,282.77	10,219.00	43.08	51.27	90.90	-1,813.77	-1,708.58	915.46	824.12	91.34	10.023	
12,300.00	10,226.00	13,182.78	10,219.00	44.56	49.74	90.90	-1,913.72	-1,711.26	917.21	825.88	91.32	10.043	
12,400.00	10,226.00	13,082.80	10,219.00	46.06	48.23	90.90	-2,013.67	-1,713.95	918.95	827.60	91.35	10.060	
12,500.00	10,226.00	12,982.81	10,219.00	47.58	46.74	90.90	-2,113.62	-1,716.64	920.69	829.27	91.42	10.071	
12,600.00	10,226.00	12,882.83	10,219.00	49.13	45.28	90.89	-2,213.57	-1,719.33	922.44	830.91	91.53	10.078	
12,700.00	10,226.00	12,782.85	10,219.00	50.69	43.84	90.89	-2,313.52	-1,722.02	924.18	832.50	91.68	10.080	
12,800.00	10,226.00	12,682.86	10,219.00	52.27	42.42	90.89	-2,413.46	-1,724.71	925.93	834.05	91.88	10.078	
12,900.00	10,226.00	12,582.88	10,219.00	53.87	41.04	90.89	-2,513.41	-1,727.40	927.67	835.55	92.12	10.070	
13,000.00	10,226.00	12,482.89	10,219.00	55.48	39.68	90.89	-2,613.36	-1,730.09	929.41	837.00	92.41	10.057	
13,100.00	10,226.00	12,382.91	10,219.00	57.11	38.36	90.89	-2,713.31	-1,732.78	931.16	838.40	92.75	10.039	
13,200.00	10,226.00	12,282.92	10,219.00	58.74	37.09	90.88	-2,813.26	-1,735.46	932.90	839.75	93.15	10.015	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 04 132H - Wellbore #1 - Plan 2												Offset Site Error:	0.00 usft				
Survey Program:		0-MWD		Offset				Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Distance	Warning	Offset Well Error:	0.50 usft
Reference	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation					
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)						
13,300.00	10,226.00	12,182.94	10,219.00	60.39	35.85	90.88	-2,913.21	-1,738.15	934.65	841.04	93.60	9.985					
13,400.00	10,226.00	12,082.95	10,219.00	62.05	34.67	90.88	-3,013.16	-1,740.84	936.39	842.27	94.12	9.949					
13,500.00	10,226.00	11,982.97	10,219.00	63.71	33.54	90.88	-3,113.10	-1,743.53	938.13	843.43	94.70	9.906					
13,600.00	10,226.00	11,882.98	10,219.00	65.39	32.48	90.88	-3,213.05	-1,746.22	939.88	844.52	95.36	9.856					
13,700.00	10,226.00	11,783.00	10,219.00	67.07	31.51	90.88	-3,313.00	-1,748.91	941.62	845.52	96.10	9.798					
13,800.00	10,226.00	11,683.01	10,219.00	68.76	30.66	90.87	-3,412.95	-1,751.60	943.37	846.44	96.93	9.733					
13,900.00	10,226.00	11,583.03	10,219.00	70.46	30.01	90.87	-3,512.90	-1,754.29	945.11	847.26	97.85	9.659					
14,000.00	10,226.00	11,483.04	10,219.00	72.16	29.63	90.87	-3,612.85	-1,756.98	946.85	847.98	98.87	9.577					
14,100.00	10,226.00	11,383.06	10,219.00	73.87	29.55	90.87	-3,712.80	-1,759.66	948.60	848.59	100.01	9.485					
14,200.00	10,226.00	11,283.07	10,219.00	75.59	29.63	90.87	-3,812.74	-1,762.35	950.34	849.08	101.26	9.385					
14,300.00	10,226.00	11,183.09	10,219.00	77.31	29.80	90.87	-3,912.69	-1,765.04	952.09	849.45	102.63	9.277					
14,400.00	10,226.00	11,083.10	10,219.00	79.03	30.04	90.87	-4,012.64	-1,767.73	953.83	849.70	104.13	9.160					
14,500.00	10,226.00	10,983.12	10,219.00	80.76	30.34	90.86	-4,112.59	-1,770.42	955.57	849.81	105.76	9.035					
14,600.00	10,226.00	10,883.13	10,219.00	82.49	30.68	90.86	-4,212.54	-1,773.11	957.32	849.79	107.52	8.903					
14,700.00	10,226.00	10,783.15	10,219.00	84.23	31.07	90.86	-4,312.49	-1,775.80	959.06	849.65	109.41	8.765					
14,800.00	10,226.00	10,682.23	10,217.64	85.97	31.51	90.78	-4,413.33	-1,778.51	960.79	849.36	111.43	8.622					
14,900.00	10,226.00	10,582.42	10,202.17	87.72	31.98	89.86	-4,511.78	-1,781.16	962.44	848.89	113.56	8.475					
15,000.00	10,226.00	10,490.47	10,172.99	89.47	32.42	88.12	-4,598.85	-1,783.50	964.80	849.12	115.68	8.340					
15,100.00	10,226.00	10,409.52	10,136.07	91.22	32.80	85.94	-4,670.78	-1,785.44	969.25	851.65	117.59	8.242					
15,200.00	10,226.00	10,340.35	10,096.75	92.97	33.10	83.63	-4,727.61	-1,786.97	977.34	858.23	119.11	8.205 SF					
15,300.00	10,226.00	10,282.17	10,058.56	94.73	33.34	81.41	-4,771.46	-1,788.14	990.41	870.32	120.09	8.247					
15,400.00	10,226.00	10,233.48	10,023.33	96.49	33.52	79.39	-4,805.03	-1,789.05	1,009.42	888.94	120.49	8.378					
15,500.00	10,226.00	10,200.00	9,997.50	98.25	33.64	77.92	-4,826.32	-1,789.62	1,034.97	914.68	120.29	8.604					
15,600.00	10,226.00	10,150.00	9,956.72	100.01	33.79	75.64	-4,855.22	-1,790.40	1,067.14	947.54	119.60	8.922					
15,700.00	10,226.00	10,129.27	9,939.11	101.78	33.84	74.67	-4,866.13	-1,790.69	1,105.78	987.29	118.49	9.332					
15,800.00	10,226.00	10,100.00	9,913.58	103.55	33.91	73.28	-4,880.45	-1,791.08	1,150.70	1,033.63	117.07	9.830					
15,900.00	10,226.00	10,083.00	9,898.44	105.32	33.95	72.46	-4,888.16	-1,791.28	1,201.33	1,085.88	115.45	10.406					
16,000.00	10,226.00	10,050.00	9,868.41	107.09	34.01	70.87	-4,901.84	-1,791.65	1,257.40	1,143.72	113.68	11.061					
16,100.00	10,226.00	10,050.00	9,868.41	108.86	34.01	70.87	-4,901.84	-1,791.65	1,317.77	1,205.82	111.94	11.772					
16,200.00	10,226.00	10,033.88	9,853.46	110.64	34.04	70.08	-4,907.88	-1,791.81	1,382.48	1,272.32	110.17	12.549					
16,300.00	10,226.00	10,021.20	9,841.60	112.42	34.05	69.47	-4,912.34	-1,791.93	1,450.88	1,342.44	108.43	13.380					

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	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													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)			
8,400.00	8,360.16	14,629.92	9,504.00	22.79	85.44	-30.65	254.00	-1,520.90	1,439.48	1,363.56	75.92	18.961	
8,500.00	8,459.57	14,629.92	9,504.00	23.09	85.44	-30.65	254.00	-1,520.90	1,354.35	1,276.40	77.95	17.374	
8,600.00	8,558.97	14,629.92	9,504.00	23.39	85.44	-30.65	254.00	-1,520.90	1,271.38	1,191.18	80.20	15.853	
8,700.00	8,658.38	14,629.92	9,504.00	23.68	85.44	-30.65	254.00	-1,520.90	1,191.03	1,108.36	82.67	14.406	
8,800.00	8,757.78	14,629.92	9,504.00	23.98	85.44	-30.65	254.00	-1,520.90	1,113.87	1,028.48	85.39	13.045	
8,900.00	8,857.19	14,629.92	9,504.00	24.28	85.44	-30.65	254.00	-1,520.90	1,040.60	952.28	88.32	11.782	
9,000.00	8,956.59	14,629.92	9,504.00	24.57	85.44	-30.65	254.00	-1,520.90	972.11	880.67	91.44	10.631	
9,100.00	9,056.00	14,629.92	9,504.00	24.87	85.44	-30.65	254.00	-1,520.90	909.48	814.82	94.65	9.609	
9,200.00	9,155.40	14,629.92	9,504.00	25.17	85.44	-30.65	254.00	-1,520.90	853.99	756.19	97.80	8.732	
9,235.68	9,190.87	14,629.92	9,504.00	25.27	85.44	-30.65	254.00	-1,520.90	836.20	737.34	98.86	8.458	
9,300.00	9,254.88	14,629.92	9,504.00	25.44	85.44	-30.33	254.00	-1,520.90	807.69	707.06	100.63	8.026	
9,400.00	9,354.63	14,629.92	9,504.00	25.63	85.44	-29.97	254.00	-1,520.90	774.34	671.49	102.85	7.529	
9,500.00	9,454.57	14,629.92	9,504.00	25.80	85.44	-29.78	254.00	-1,520.90	755.88	651.79	104.09	7.262	
9,548.43	9,503.00	14,629.92	9,504.00	25.87	85.44	-96.26	254.00	-1,520.90	752.66	648.40	104.26	7.219	
9,568.83	9,523.40	14,629.92	9,504.00	25.91	85.44	-96.26	254.00	-1,520.90	752.38	648.14	104.24	7.218 CC, ES, SF	
9,600.00	9,554.57	14,629.92	9,504.00	25.96	85.44	-96.26	254.00	-1,520.90	753.03	648.92	104.11	7.233	
9,698.47	9,653.04	14,629.92	9,504.00	26.13	85.44	-96.26	254.00	-1,520.90	763.47	660.57	102.89	7.420	
9,700.00	9,654.57	14,629.92	9,504.00	26.13	85.44	83.18	254.00	-1,520.90	763.73	660.86	102.87	7.424	
9,750.00	9,704.50	14,629.92	9,504.00	26.20	85.44	82.18	254.00	-1,520.90	773.61	671.76	101.85	7.596	
9,800.00	9,754.04	14,629.92	9,504.00	26.25	85.44	80.91	254.00	-1,520.90	785.97	685.29	100.69	7.806	
9,850.00	9,802.81	14,629.92	9,504.00	26.29	85.44	79.40	254.00	-1,520.90	800.62	701.21	99.42	8.053	
9,900.00	9,850.44	14,629.92	9,504.00	26.31	85.44	77.67	254.00	-1,520.90	817.32	719.24	98.08	8.333	
9,950.00	9,896.57	14,629.92	9,504.00	26.33	85.44	75.73	254.00	-1,520.90	835.83	739.10	96.73	8.641	
10,000.00	9,940.84	14,629.92	9,504.00	26.33	85.44	73.62	254.00	-1,520.90	855.88	760.49	95.39	8.972	
10,050.00	9,982.93	14,627.52	9,504.00	26.33	85.40	71.23	251.61	-1,520.96	877.24	783.19	94.05	9.327	
10,100.00	10,022.50	14,597.00	9,504.00	26.32	84.88	67.36	221.09	-1,521.79	899.04	806.97	92.07	9.764	
10,150.00	10,059.26	14,563.13	9,504.00	26.31	84.30	63.64	187.24	-1,522.70	920.44	830.23	90.20	10.204	
10,200.00	10,092.93	14,526.20	9,504.00	26.29	83.66	60.20	150.32	-1,523.69	940.95	852.49	88.46	10.637	
10,250.00	10,123.25	14,486.47	9,504.00	26.28	82.98	57.11	110.60	-1,524.76	960.15	873.29	86.86	11.054	
10,300.00	10,150.00	14,444.25	9,504.00	26.28	82.26	54.41	68.40	-1,525.89	977.65	892.24	85.41	11.447	
10,350.00	10,172.96	14,399.85	9,504.00	26.29	81.50	52.14	24.02	-1,527.09	993.11	908.99	84.11	11.807	
10,400.00	10,191.97	14,353.63	9,504.00	26.31	80.71	50.29	-22.19	-1,528.33	1,006.24	923.27	82.97	12.127	
10,450.00	10,206.87	14,305.93	9,504.00	26.35	79.90	48.87	-69.87	-1,529.61	1,016.82	934.83	81.99	12.402	
10,500.00	10,217.56	14,257.11	9,504.00	26.41	79.07	47.87	-118.68	-1,530.93	1,024.66	943.50	81.17	12.624	
10,550.00	10,223.95	14,207.54	9,504.00	26.50	78.22	47.27	-168.22	-1,532.26	1,029.64	949.14	80.50	12.791	
10,598.47	10,226.00	14,159.13	9,504.00	26.62	77.40	47.07	-216.61	-1,533.56	1,031.65	951.66	79.99	12.897	
10,600.00	10,226.00	14,157.61	9,504.00	26.62	77.38	47.07	-218.14	-1,533.60	1,031.67	951.69	79.98	12.899	
10,700.00	10,226.00	14,057.62	9,504.00	26.97	75.68	47.14	-318.09	-1,536.29	1,032.95	953.81	79.14	13.053	
10,800.00	10,226.00	13,957.64	9,504.00	27.44	74.00	47.20	-418.04	-1,538.98	1,034.23	955.85	78.38	13.195	
10,900.00	10,226.00	13,857.65	9,504.00	28.04	72.31	47.27	-517.99	-1,541.67	1,035.51	957.81	77.70	13.327	
11,000.00	10,226.00	13,757.67	9,504.00	28.76	70.64	47.33	-617.93	-1,544.36	1,036.79	959.70	77.09	13.448	
11,100.00	10,226.00	13,657.68	9,504.00	29.58	68.97	47.40	-717.88	-1,547.05	1,038.08	961.52	76.56	13.559	
11,200.00	10,226.00	13,557.70	9,504.00	30.50	67.31	47.46	-817.83	-1,549.74	1,039.36	963.28	76.08	13.661	
11,300.00	10,226.00	13,457.71	9,504.00	31.50	65.66	47.53	-917.78	-1,552.43	1,040.65	964.98	75.67	13.753	
11,400.00	10,226.00	13,357.73	9,504.00	32.57	64.01	47.59	-1,017.73	-1,555.12	1,041.94	966.63	75.31	13.836	
11,500.00	10,226.00	13,257.74	9,504.00	33.72	62.38	47.66	-1,117.68	-1,557.81	1,043.22	968.23	75.00	13.910	
11,600.00	10,226.00	13,157.76	9,504.00	34.92	60.75	47.72	-1,217.63	-1,560.50	1,044.51	969.78	74.73	13.977	
11,700.00	10,226.00	13,057.77	9,504.00	36.18	59.13	47.79	-1,317.57	-1,563.19	1,045.81	971.30	74.51	14.036	
11,800.00	10,226.00	12,957.79	9,504.00	37.48	57.53	47.85	-1,417.52	-1,565.88	1,047.10	972.78	74.32	14.088	
11,900.00	10,226.00	12,857.80	9,504.00	38.83	55.94	47.92	-1,517.47	-1,568.57	1,048.39	974.22	74.18	14.133	
12,000.00	10,226.00	12,757.82	9,504.00	40.21	54.36	47.98	-1,617.42	-1,571.26	1,049.69	975.62	74.07	14.172	
12,100.00	10,226.00	12,657.84	9,504.00	41.63	52.80	48.04	-1,717.37	-1,573.95	1,050.99	976.99	73.99	14.204	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	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												Offset Well Error:	0.50 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,200.00	10,226.00	12,557.85	9,504.00	43.08	51.25	48.11	-1,817.32	-1,576.64	1,052.28	978.33	73.95	14.230	
12,300.00	10,226.00	12,457.87	9,504.00	44.56	49.72	48.17	-1,917.27	-1,579.32	1,053.58	979.64	73.94	14.249	
12,400.00	10,226.00	12,357.88	9,504.00	46.06	48.20	48.23	-2,017.21	-1,582.01	1,054.88	980.92	73.96	14.263	
12,500.00	10,226.00	12,257.90	9,504.00	47.58	46.71	48.30	-2,117.16	-1,584.70	1,056.19	982.17	74.01	14.270	
12,600.00	10,226.00	12,157.91	9,504.00	49.13	45.24	48.36	-2,217.11	-1,587.39	1,057.49	983.39	74.10	14.271	
12,700.00	10,226.00	12,057.93	9,504.00	50.69	43.79	48.42	-2,317.06	-1,590.08	1,058.79	984.57	74.22	14.266	
12,800.00	10,226.00	11,957.94	9,504.00	52.27	42.37	48.48	-2,417.01	-1,592.77	1,060.10	985.73	74.37	14.254	
12,900.00	10,226.00	11,857.96	9,504.00	53.87	40.98	48.55	-2,516.96	-1,595.46	1,061.41	986.84	74.56	14.235	
13,000.00	10,226.00	11,757.97	9,504.00	55.48	39.62	48.61	-2,616.91	-1,598.15	1,062.72	987.93	74.79	14.209	
13,100.00	10,226.00	11,657.99	9,504.00	57.11	38.30	48.67	-2,716.85	-1,600.84	1,064.03	988.97	75.06	14.176	
13,200.00	10,226.00	11,558.00	9,504.00	58.74	37.01	48.73	-2,816.80	-1,603.53	1,065.34	989.97	75.37	14.135	
13,300.00	10,226.00	11,458.02	9,504.00	60.39	35.78	48.79	-2,916.75	-1,606.22	1,066.65	990.92	75.73	14.085	
13,400.00	10,226.00	11,358.03	9,504.00	62.05	34.60	48.86	-3,016.70	-1,608.91	1,067.96	991.82	76.14	14.026	
13,500.00	10,226.00	11,258.05	9,504.00	63.71	33.48	48.92	-3,116.65	-1,611.60	1,069.28	992.67	76.61	13.958	
13,600.00	10,226.00	11,158.06	9,504.00	65.39	32.45	48.98	-3,216.60	-1,614.29	1,070.59	993.45	77.14	13.879	
13,700.00	10,226.00	11,058.08	9,504.00	67.07	31.52	49.04	-3,316.55	-1,616.98	1,071.91	994.17	77.74	13.789	
13,800.00	10,226.00	10,958.09	9,504.00	68.76	30.76	49.10	-3,416.50	-1,619.67	1,073.23	994.82	78.41	13.687	
13,900.00	10,226.00	10,858.11	9,504.00	70.46	30.20	49.16	-3,516.44	-1,622.36	1,074.55	995.38	79.17	13.573	
14,000.00	10,226.00	10,758.12	9,504.00	72.16	29.90	49.22	-3,616.39	-1,625.05	1,075.87	995.86	80.01	13.447	
14,100.00	10,226.00	10,658.14	9,504.00	73.87	29.83	49.28	-3,716.34	-1,627.73	1,077.19	996.23	80.96	13.306	
14,200.00	10,226.00	10,558.15	9,504.00	75.59	29.89	49.34	-3,816.29	-1,630.42	1,078.51	996.52	82.00	13.153	
14,300.00	10,226.00	10,458.17	9,504.00	77.31	30.05	49.40	-3,916.24	-1,633.11	1,079.84	996.69	83.15	12.987	
14,400.00	10,226.00	10,358.19	9,504.00	79.03	30.29	49.46	-4,016.19	-1,635.80	1,081.16	996.75	84.41	12.808	
14,500.00	10,226.00	10,258.20	9,504.00	80.76	30.58	49.52	-4,116.14	-1,638.49	1,082.49	996.70	85.79	12.618	
14,600.00	10,226.00	10,158.22	9,504.00	82.49	30.93	49.58	-4,216.08	-1,641.18	1,083.82	996.53	87.29	12.416	
14,700.00	10,226.00	10,058.23	9,504.00	84.23	31.32	49.64	-4,316.03	-1,643.87	1,085.15	996.24	88.90	12.206	
14,800.00	10,226.00	9,981.43	9,503.69	85.97	31.66	49.68	-4,392.80	-1,645.94	1,086.92	996.38	90.54	12.004	
14,900.00	10,226.00	9,950.00	9,501.79	87.72	31.81	49.62	-4,424.16	-1,646.78	1,093.10	1,001.19	91.91	11.893	
15,000.00	10,226.00	9,900.00	9,495.24	89.47	32.05	49.39	-4,473.69	-1,648.11	1,104.01	1,010.96	93.05	11.864	
15,100.00	10,226.00	9,850.00	9,484.39	91.22	32.29	48.99	-4,522.47	-1,649.43	1,120.04	1,026.12	93.92	11.926	
15,200.00	10,226.00	9,800.00	9,469.33	92.97	32.53	48.43	-4,570.11	-1,650.71	1,141.21	1,046.70	94.51	12.075	
15,300.00	10,226.00	9,770.12	9,458.37	94.73	32.67	48.03	-4,597.90	-1,651.46	1,167.16	1,072.25	94.91	12.298	
15,400.00	10,226.00	9,733.17	9,442.83	96.49	32.85	47.46	-4,631.40	-1,652.36	1,198.06	1,102.98	95.09	12.600	
15,500.00	10,226.00	9,700.00	9,427.07	98.25	33.01	46.89	-4,660.57	-1,653.14	1,233.72	1,138.62	95.10	12.973	
15,600.00	10,226.00	9,666.05	9,409.22	100.01	33.16	46.26	-4,689.43	-1,653.92	1,273.95	1,178.99	94.96	13.416	
15,700.00	10,226.00	9,650.00	9,400.19	101.78	33.23	45.95	-4,702.70	-1,654.28	1,318.78	1,223.99	94.78	13.914	
15,800.00	10,226.00	9,600.00	9,369.74	103.55	33.45	44.91	-4,742.32	-1,655.34	1,367.40	1,273.06	94.34	14.494	
15,900.00	10,226.00	9,581.97	9,357.93	105.32	33.52	44.52	-4,755.93	-1,655.71	1,420.01	1,326.01	94.00	15.107	
16,000.00	10,226.00	9,550.00	9,335.95	107.09	33.65	43.80	-4,779.14	-1,656.33	1,476.39	1,382.88	93.52	15.788	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	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													Offset Well Error: 0.50 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance			Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
9,300.00	9,254.88	14,710.94	9,664.00	25.44	84.25	-27.44	253.33	-2,181.14	1,483.42	1,381.27	102.15	14.522	
9,400.00	9,354.63	14,710.94	9,664.00	25.63	84.25	-27.13	253.33	-2,181.14	1,451.71	1,348.15	103.57	14.017	
9,500.00	9,454.57	14,710.94	9,664.00	25.80	84.25	-26.92	253.33	-2,181.14	1,429.37	1,324.66	104.70	13.652	
9,548.43	9,503.00	14,710.94	9,664.00	25.87	84.25	-93.36	253.33	-2,181.14	1,422.05	1,316.92	105.13	13.526	
9,600.00	9,554.57	14,710.94	9,664.00	25.96	84.25	-93.36	253.33	-2,181.14	1,416.44	1,310.92	105.51	13.424	
9,698.47	9,653.04	14,710.94	9,664.00	26.13	84.25	-93.36	253.33	-2,181.14	1,410.89	1,304.93	105.96	13.315	
9,700.00	9,654.57	14,710.94	9,664.00	26.13	84.25	86.10	253.33	-2,181.14	1,410.86	1,304.89	105.97	13.314	
9,734.89	9,689.44	14,710.94	9,664.00	26.18	84.25	86.14	253.33	-2,181.14	1,410.50	1,304.47	106.03	13.303 CC, ES	
9,750.00	9,704.50	14,710.94	9,664.00	26.20	84.25	86.13	253.33	-2,181.14	1,410.57	1,304.52	106.04	13.302 SF	
9,800.00	9,754.04	14,710.94	9,664.00	26.25	84.25	86.01	253.33	-2,181.14	1,411.75	1,305.72	106.03	13.315	
9,850.00	9,802.81	14,710.94	9,664.00	26.29	84.25	85.75	253.33	-2,181.14	1,414.40	1,308.47	105.93	13.352	
9,900.00	9,850.44	14,710.94	9,664.00	26.31	84.25	85.34	253.33	-2,181.14	1,418.48	1,312.73	105.75	13.414	
9,950.00	9,896.57	14,710.94	9,664.00	26.33	84.25	84.79	253.33	-2,181.14	1,423.96	1,318.46	105.50	13.498	
10,000.00	9,940.84	14,710.94	9,664.00	26.33	84.25	84.11	253.33	-2,181.14	1,430.77	1,325.58	105.19	13.602	
10,050.00	9,982.93	14,710.94	9,664.00	26.33	84.25	83.29	253.33	-2,181.14	1,438.84	1,334.01	104.83	13.725	
10,100.00	10,022.50	14,696.38	9,664.00	26.32	84.00	81.92	238.78	-2,181.53	1,448.03	1,343.86	104.16	13.901	
10,150.00	10,059.26	14,662.52	9,664.00	26.31	83.41	79.96	204.93	-2,182.44	1,457.64	1,354.51	103.13	14.134	
10,200.00	10,092.93	14,625.58	9,664.00	26.29	82.77	78.03	168.01	-2,183.43	1,467.30	1,365.23	102.07	14.375	
10,250.00	10,123.25	14,585.85	9,664.00	26.28	82.08	76.17	128.29	-2,184.50	1,476.72	1,375.70	101.01	14.619	
10,300.00	10,150.00	14,543.63	9,664.00	26.28	81.35	74.45	86.09	-2,185.63	1,485.60	1,385.63	99.97	14.860	
10,350.00	10,172.96	14,499.24	9,664.00	26.29	80.58	72.91	41.71	-2,186.83	1,493.70	1,394.73	98.97	15.092	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 04 235H - Wellbore #1 - Plan 0												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.50 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.50	0.50	140.19	-15.36	12.80	19.99				
100.00	100.00	100.00	100.00	0.51	0.51	140.19	-15.36	12.80	19.99	18.98	1.01	19.716	
200.00	200.00	200.00	200.00	0.59	0.59	140.19	-15.36	12.80	19.99	18.82	1.18	17.008	
300.00	300.00	300.00	300.00	0.73	0.73	140.19	-15.36	12.80	19.99	18.53	1.46	13.668	
400.00	400.00	400.00	400.00	0.91	0.91	140.19	-15.36	12.80	19.99	18.18	1.82	11.003	
500.00	500.00	500.00	500.00	1.10	1.10	140.19	-15.36	12.80	19.99	17.79	2.21	9.062	
600.00	600.00	600.00	600.00	1.31	1.31	140.19	-15.36	12.80	19.99	17.38	2.61	7.646	
700.00	700.00	700.00	700.00	1.52	1.52	140.19	-15.36	12.80	19.99	16.96	3.04	6.587	
800.00	800.00	800.00	800.00	1.73	1.73	140.19	-15.36	12.80	19.99	16.53	3.46	5.774	
900.00	900.00	900.00	900.00	1.95	1.95	140.19	-15.36	12.80	19.99	16.10	3.90	5.133	
1,000.00	1,000.00	1,000.00	1,000.00	2.17	2.17	140.19	-15.36	12.80	19.99	15.66	4.33	4.616	
1,100.00	1,100.00	1,100.00	1,100.00	2.38	2.38	140.19	-15.36	12.80	19.99	15.22	4.77	4.192	
1,200.00	1,200.00	1,200.00	1,200.00	2.61	2.61	140.19	-15.36	12.80	19.99	14.78	5.21	3.837	
1,300.00	1,300.00	1,300.00	1,300.00	2.83	2.83	140.19	-15.36	12.80	19.99	14.34	5.65	3.537	
1,400.00	1,400.00	1,400.00	1,400.00	3.05	3.05	140.19	-15.36	12.80	19.99	13.90	6.10	3.280	
1,500.00	1,500.00	1,500.00	1,500.00	3.27	3.27	140.19	-15.36	12.80	19.99	13.46	6.54	3.058 CC, ES, SF	
1,600.00	1,599.98	1,599.98	1,599.98	3.48	3.49	-155.37	-15.36	12.80	21.57	14.59	6.98	3.092	
1,700.00	1,699.84	1,699.84	1,699.84	3.70	3.71	-160.07	-15.36	12.80	26.42	19.01	7.41	3.566	
1,800.00	1,799.45	1,799.45	1,799.45	3.91	3.94	-164.93	-15.36	12.80	34.74	26.89	7.84	4.429	
1,812.75	1,812.13	1,812.13	1,812.13	3.94	3.96	-165.49	-15.36	12.80	36.05	28.15	7.90	4.563	
1,900.00	1,898.86	1,898.86	1,898.86	4.14	4.16	-168.50	-15.36	12.80	45.32	37.04	8.28	5.474	
2,000.00	1,998.26	2,000.14	2,000.12	4.38	4.38	-171.13	-14.13	11.55	54.36	45.65	8.71	6.242	
2,100.00	2,097.67	2,101.93	2,101.76	4.63	4.60	-173.84	-10.38	7.72	60.06	50.93	9.13	6.577	
2,200.00	2,197.07	2,202.04	2,201.60	4.88	4.82	-176.59	-5.18	2.42	63.80	54.24	9.56	6.671	
2,300.00	2,296.48	2,301.93	2,301.21	5.14	5.05	-179.04	0.02	-2.89	67.66	57.66	10.00	6.765	
2,400.00	2,395.88	2,401.82	2,400.82	5.40	5.28	178.78	5.23	-8.20	71.62	61.18	10.44	6.860	
2,500.00	2,495.29	2,501.70	2,500.43	5.66	5.51	176.83	10.43	-13.50	75.68	64.80	10.88	6.953	
2,600.00	2,594.69	2,601.59	2,600.04	5.93	5.74	175.08	15.63	-18.81	79.82	68.49	11.33	7.044	
2,700.00	2,694.10	2,701.48	2,699.65	6.20	5.98	173.51	20.84	-24.12	84.02	72.24	11.78	7.132	
2,800.00	2,793.50	2,801.36	2,799.26	6.47	6.21	172.08	26.04	-29.42	88.28	76.05	12.23	7.216	
2,900.00	2,892.91	2,901.25	2,898.87	6.75	6.45	170.79	31.24	-34.73	92.59	79.90	12.69	7.296	
3,000.00	2,992.31	3,001.13	2,998.48	7.02	6.69	169.61	36.44	-40.04	96.95	83.80	13.15	7.373	
3,100.00	3,091.72	3,101.02	3,098.09	7.30	6.94	168.54	41.65	-45.34	101.34	87.73	13.61	7.446	
3,200.00	3,191.12	3,200.91	3,197.70	7.58	7.18	167.55	46.85	-50.65	105.76	91.69	14.07	7.514	
3,300.00	3,290.53	3,300.79	3,297.31	7.86	7.42	166.65	52.05	-55.96	110.21	95.67	14.54	7.580	
3,400.00	3,389.93	3,400.68	3,396.91	8.15	7.67	165.81	57.26	-61.27	114.69	99.68	15.01	7.642	
3,500.00	3,489.33	3,500.57	3,496.52	8.43	7.92	165.04	62.46	-66.57	119.19	103.71	15.48	7.700	
3,600.00	3,588.74	3,600.45	3,596.13	8.71	8.16	164.32	67.66	-71.88	123.71	107.76	15.95	7.756	
3,700.00	3,688.14	3,700.34	3,695.74	9.00	8.41	163.65	72.87	-77.19	128.25	111.82	16.43	7.808	
3,800.00	3,787.55	3,800.23	3,795.35	9.29	8.66	163.03	78.07	-82.49	132.80	115.90	16.90	7.858	
3,900.00	3,886.95	3,900.11	3,894.96	9.57	8.91	162.45	83.27	-87.80	137.37	120.00	17.38	7.905	
4,000.00	3,986.36	4,000.00	3,994.57	9.86	9.16	161.91	88.48	-93.11	141.95	124.10	17.86	7.950	
4,100.00	4,085.76	4,099.88	4,094.18	10.15	9.41	161.40	93.68	-98.41	146.55	128.21	18.34	7.992	
4,200.00	4,185.17	4,199.77	4,193.79	10.44	9.66	160.93	98.88	-103.72	151.15	132.34	18.82	8.033	
4,300.00	4,284.57	4,299.66	4,293.40	10.73	9.91	160.48	104.09	-109.03	155.77	136.47	19.30	8.071	
4,400.00	4,383.98	4,399.54	4,393.01	11.02	10.16	160.06	109.29	-114.33	160.39	140.61	19.78	8.108	
4,500.00	4,483.38	4,499.43	4,492.62	11.31	10.42	159.66	114.49	-119.64	165.02	144.76	20.27	8.143	
4,600.00	4,582.79	4,599.32	4,592.23	11.60	10.67	159.28	119.70	-124.95	169.66	148.91	20.75	8.176	
4,700.00	4,682.19	4,699.20	4,691.84	11.89	10.92	158.92	124.90	-130.26	174.31	153.07	21.24	8.208	
4,800.00	4,781.60	4,799.09	4,791.45	12.18	11.18	158.58	130.10	-135.56	178.96	157.24	21.72	8.238	
4,900.00	4,881.00	4,898.97	4,891.06	12.47	11.43	158.26	135.30	-140.87	183.62	161.41	22.21	8.267	
5,000.00	4,980.40	4,998.86	4,990.66	12.77	11.68	157.96	140.51	-146.18	188.28	165.58	22.70	8.294	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 04 235H - Wellbore #1 - Plan 0													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)			
5,100.00	5,079.81	5,098.75	5,090.27	13.06	11.94	157.66	145.71	-151.48	192.95	169.76	23.19	8.321	
5,200.00	5,179.21	5,198.63	5,189.88	13.35	12.19	157.39	150.91	-156.79	197.62	173.95	23.68	8.346	
5,300.00	5,278.62	5,298.52	5,289.49	13.64	12.45	157.12	156.12	-162.10	202.30	178.13	24.17	8.370	
5,400.00	5,378.02	5,398.41	5,389.10	13.94	12.70	156.87	161.32	-167.40	206.98	182.32	24.66	8.394	
5,500.00	5,477.43	5,498.29	5,488.71	14.23	12.96	156.63	166.52	-172.71	211.67	186.52	25.15	8.416	
5,600.00	5,576.83	5,598.18	5,588.32	14.52	13.21	156.40	171.73	-178.02	216.36	190.72	25.64	8.437	
5,700.00	5,676.24	5,698.06	5,687.93	14.82	13.47	156.18	176.93	-183.32	221.05	194.92	26.14	8.458	
5,800.00	5,775.64	5,797.95	5,787.54	15.11	13.72	155.97	182.13	-188.63	225.75	199.12	26.63	8.478	
5,900.00	5,875.05	5,897.84	5,887.15	15.41	13.98	155.76	187.34	-193.94	230.45	203.33	27.12	8.497	
6,000.00	5,974.45	5,997.72	5,986.76	15.70	14.23	155.57	192.54	-199.25	235.15	207.53	27.62	8.515	
6,100.00	6,073.86	6,097.61	6,086.37	15.99	14.49	155.38	197.74	-204.55	239.85	211.75	28.11	8.533	
6,200.00	6,173.26	6,197.50	6,185.98	16.29	14.75	155.20	202.95	-209.86	244.56	215.96	28.60	8.550	
6,300.00	6,272.67	6,297.38	6,285.59	16.58	15.00	155.03	208.15	-215.17	249.27	220.17	29.10	8.566	
6,400.00	6,372.07	6,397.27	6,385.20	16.88	15.26	154.86	213.35	-220.47	253.98	224.39	29.59	8.582	
6,500.00	6,471.48	6,497.15	6,484.81	17.17	15.52	154.70	218.56	-225.78	258.70	228.61	30.09	8.598	
6,600.00	6,570.88	6,597.04	6,584.41	17.47	15.77	154.54	223.76	-231.09	263.41	232.83	30.59	8.612	
6,700.00	6,670.28	6,696.93	6,684.02	17.76	16.03	154.39	228.96	-236.39	268.13	237.05	31.08	8.627	
6,800.00	6,769.69	6,796.81	6,783.63	18.06	16.29	154.25	234.16	-241.70	272.85	241.27	31.58	8.641	
6,900.00	6,869.09	6,896.70	6,883.24	18.35	16.54	154.11	239.37	-247.01	277.57	245.49	32.07	8.654	
7,000.00	6,968.50	6,996.59	6,982.85	18.65	16.80	153.98	244.57	-252.32	282.29	249.72	32.57	8.667	
7,100.00	7,067.90	7,096.47	7,082.46	18.94	17.06	153.85	249.77	-257.62	287.01	253.95	33.07	8.679	
7,200.00	7,167.31	7,196.36	7,182.07	19.24	17.31	153.72	254.98	-262.93	291.74	258.17	33.57	8.692	
7,300.00	7,266.71	7,296.24	7,281.68	19.54	17.57	153.60	260.18	-268.24	296.47	262.40	34.06	8.703	
7,400.00	7,366.12	7,396.13	7,381.29	19.83	17.83	153.48	265.38	-273.54	301.19	266.63	34.56	8.715	
7,500.00	7,465.52	7,496.02	7,480.90	20.13	18.09	153.36	270.59	-278.85	305.92	270.86	35.06	8.726	
7,600.00	7,564.93	7,595.90	7,580.51	20.42	18.34	153.25	275.79	-284.16	310.65	275.10	35.56	8.737	
7,700.00	7,664.33	7,695.79	7,680.12	20.72	18.60	153.15	280.99	-289.46	315.38	279.33	36.06	8.747	
7,800.00	7,763.74	7,795.68	7,779.73	21.02	18.86	153.04	286.20	-294.77	320.12	283.56	36.55	8.757	
7,900.00	7,863.14	7,895.56	7,879.34	21.31	19.12	152.94	291.40	-300.08	324.85	287.80	37.05	8.767	
8,000.00	7,962.55	7,995.45	7,978.95	21.61	19.37	152.84	296.60	-305.38	329.59	292.03	37.55	8.777	
8,100.00	8,061.95	8,095.33	8,078.56	21.90	19.63	152.74	301.81	-310.69	334.32	296.27	38.05	8.786	
8,200.00	8,161.35	8,195.22	8,178.17	22.20	19.89	152.65	307.01	-316.00	339.06	300.51	38.55	8.795	
8,300.00	8,260.76	8,295.11	8,277.77	22.50	20.15	152.56	312.21	-321.31	343.80	304.75	39.05	8.804	
8,400.00	8,360.16	8,394.99	8,377.38	22.79	20.41	152.47	317.42	-326.61	348.53	308.98	39.55	8.813	
8,500.00	8,459.57	8,494.88	8,476.99	23.09	20.66	152.39	322.62	-331.92	353.27	313.22	40.05	8.821	
8,600.00	8,558.97	8,594.77	8,576.60	23.39	20.92	152.30	327.82	-337.23	358.01	317.46	40.55	8.829	
8,700.00	8,658.38	8,690.28	8,671.89	23.68	21.15	152.28	332.47	-341.96	363.09	322.08	41.01	8.853	
8,800.00	8,757.78	8,782.21	8,763.74	23.98	21.32	152.57	335.05	-344.60	370.10	328.72	41.39	8.943	
8,900.00	8,857.19	8,875.67	8,857.19	24.28	21.48	153.19	335.64	-345.20	379.20	337.48	41.72	9.088	
9,000.00	8,956.59	8,975.07	8,956.59	24.57	21.67	153.91	335.64	-345.20	388.97	346.85	42.11	9.237	
9,100.00	9,056.00	9,076.10	9,057.41	24.87	21.83	155.31	330.79	-345.24	398.63	356.22	42.41	9.399	
9,200.00	9,155.40	9,172.15	9,151.16	25.17	21.90	158.78	310.42	-345.41	408.77	366.33	42.44	9.632	
9,235.68	9,190.87	9,204.11	9,181.44	25.27	21.91	160.38	300.20	-345.50	412.99	370.60	42.40	9.741	
9,300.00	9,254.88	9,258.25	9,231.26	25.44	21.92	163.55	279.08	-345.67	421.42	379.17	42.25	9.975	
9,400.00	9,354.63	9,333.35	9,296.62	25.63	21.90	168.70	242.21	-345.98	437.29	395.44	41.85	10.450	
9,500.00	9,454.57	9,400.00	9,350.16	25.80	21.88	173.84	202.57	-346.31	458.69	417.46	41.24	11.123	
9,548.43	9,503.00	9,425.37	9,369.27	25.87	21.86	109.39	185.90	-346.45	471.55	430.74	40.81	11.555	
9,600.00	9,554.57	9,450.00	9,387.11	25.96	21.85	111.40	168.90	-346.59	487.63	447.35	40.28	12.106	
9,698.47	9,653.04	9,500.00	9,420.97	26.13	21.83	115.57	132.14	-346.90	526.28	486.98	39.30	13.391	
9,700.00	9,654.57	9,500.00	9,420.97	26.13	21.83	-64.91	132.14	-346.90	526.96	487.69	39.27	13.419	
9,750.00	9,704.50	9,519.67	9,433.40	26.20	21.81	-61.10	116.89	-347.03	549.51	510.86	38.65	14.217	
9,800.00	9,754.04	9,550.00	9,451.51	26.25	21.80	-56.80	92.57	-347.23	572.58	534.34	38.23	14.975	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 04 235H - Wellbore #1 - Plan 0													Offset Site Error: 0.00 usft
Survey Program: 0-MWD													Offset Well Error: 0.50 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,850.00	9,802.81	9,563.02	9,458.88	26.29	21.79	-53.90	81.84	-347.32	595.41	557.95	37.47	15.892	
9,900.00	9,850.44	9,585.03	9,470.78	26.31	21.78	-50.73	63.34	-347.48	618.01	581.13	36.89	16.755	
9,950.00	9,896.57	9,600.00	9,478.47	26.33	21.78	-48.16	50.49	-347.59	640.05	603.87	36.17	17.693	
10,000.00	9,940.84	9,629.54	9,492.65	26.33	21.77	-45.28	24.58	-347.80	661.06	625.29	35.77	18.479	
10,050.00	9,982.93	9,650.00	9,501.67	26.33	21.77	-43.07	6.21	-347.96	681.08	645.86	35.21	19.342	
10,100.00	10,022.50	9,674.57	9,511.63	26.32	21.77	-41.01	-16.24	-348.14	699.83	665.06	34.77	20.129	
10,150.00	10,059.26	9,700.00	9,520.92	26.31	21.77	-39.21	-39.91	-348.34	717.19	682.84	34.35	20.879	
10,200.00	10,092.93	9,719.99	9,527.48	26.29	21.78	-37.77	-58.80	-348.50	733.01	699.12	33.88	21.632	
10,250.00	10,123.25	9,750.00	9,536.08	26.28	21.80	-36.38	-87.54	-348.74	747.28	713.65	33.63	22.222	
10,300.00	10,150.00	9,765.70	9,539.97	26.28	21.82	-35.42	-102.75	-348.87	759.68	726.46	33.22	22.868	
10,350.00	10,172.96	9,800.00	9,547.03	26.29	21.87	-34.41	-136.31	-349.15	770.55	737.46	33.09	23.286	
10,400.00	10,191.97	9,800.00	9,547.03	26.31	21.87	-33.91	-136.31	-349.15	779.40	746.72	32.68	23.851	
10,450.00	10,206.87	9,834.60	9,552.09	26.35	21.95	-33.28	-170.53	-349.43	786.15	753.49	32.66	24.074	
10,500.00	10,217.56	9,850.00	9,553.68	26.41	21.99	-32.93	-185.85	-349.56	791.23	758.68	32.56	24.303	
10,550.00	10,223.95	9,880.66	9,555.62	26.50	22.09	-32.67	-216.44	-349.82	794.20	761.58	32.62	24.347	
10,598.47	10,226.00	9,904.74	9,556.00	26.62	22.19	-32.60	-240.52	-350.02	795.26	762.55	32.71	24.312	
10,600.00	10,226.00	9,906.27	9,556.00	26.62	22.19	-32.60	-242.04	-350.03	795.26	762.54	32.72	24.307	
10,700.00	10,226.00	10,006.27	9,556.00	26.97	22.69	-32.60	-342.04	-350.87	795.32	762.11	33.21	23.951	
10,800.00	10,226.00	10,106.27	9,556.00	27.44	23.32	-32.61	-442.04	-351.71	795.38	761.53	33.85	23.499	
10,900.00	10,226.00	10,206.27	9,556.00	28.04	24.08	-32.62	-542.03	-352.54	795.44	760.80	34.63	22.967	
11,000.00	10,226.00	10,306.27	9,556.00	28.76	24.94	-32.62	-642.03	-353.38	795.49	759.94	35.56	22.373	
11,100.00	10,226.00	10,406.27	9,556.00	29.58	25.91	-32.63	-742.03	-354.22	795.55	758.95	36.60	21.735	
11,200.00	10,226.00	10,506.27	9,556.00	30.50	26.96	-32.64	-842.02	-355.05	795.61	757.85	37.76	21.068	
11,300.00	10,226.00	10,606.27	9,556.00	31.50	28.09	-32.64	-942.02	-355.89	795.67	756.64	39.03	20.386	
11,400.00	10,226.00	10,706.27	9,556.00	32.57	29.29	-32.65	-1,042.02	-356.73	795.73	755.34	40.39	19.700	
11,500.00	10,226.00	10,806.27	9,556.00	33.72	30.55	-32.66	-1,142.01	-357.56	795.79	753.95	41.84	19.020	
11,600.00	10,226.00	10,906.27	9,556.00	34.92	31.87	-32.66	-1,242.01	-358.40	795.85	752.48	43.36	18.353	
11,700.00	10,226.00	11,006.27	9,556.00	36.18	33.23	-32.67	-1,342.00	-359.24	795.91	750.95	44.96	17.703	
11,800.00	10,226.00	11,106.27	9,556.00	37.48	34.64	-32.67	-1,442.00	-360.07	795.96	749.35	46.61	17.076	
11,900.00	10,226.00	11,206.27	9,556.00	38.83	36.08	-32.68	-1,542.00	-360.91	796.02	747.70	48.33	16.472	
12,000.00	10,226.00	11,306.27	9,556.00	40.21	37.56	-32.69	-1,641.99	-361.74	796.08	745.99	50.09	15.893	
12,100.00	10,226.00	11,406.27	9,556.00	41.63	39.07	-32.69	-1,741.99	-362.58	796.14	744.24	51.90	15.341	
12,200.00	10,226.00	11,506.27	9,556.00	43.08	40.60	-32.70	-1,841.99	-363.42	796.20	742.45	53.75	14.814	
12,300.00	10,226.00	11,606.27	9,556.00	44.56	42.15	-32.71	-1,941.98	-364.25	796.26	740.63	55.63	14.313	
12,400.00	10,226.00	11,706.27	9,556.00	46.06	43.73	-32.71	-2,041.98	-365.09	796.32	738.77	57.55	13.837	
12,500.00	10,226.00	11,806.27	9,556.00	47.58	45.33	-32.72	-2,141.98	-365.93	796.38	736.88	59.50	13.384	
12,600.00	10,226.00	11,906.27	9,556.00	49.13	46.94	-32.73	-2,241.97	-366.76	796.43	734.96	61.48	12.955	
12,700.00	10,226.00	12,006.27	9,556.00	50.69	48.57	-32.73	-2,341.97	-367.60	796.49	733.01	63.48	12.548	
12,800.00	10,226.00	12,106.27	9,556.00	52.27	50.21	-32.74	-2,441.97	-368.44	796.55	731.05	65.50	12.161	
12,900.00	10,226.00	12,206.27	9,556.00	53.87	51.86	-32.75	-2,541.96	-369.27	796.61	729.06	67.55	11.793	
13,000.00	10,226.00	12,306.27	9,556.00	55.48	53.53	-32.75	-2,641.96	-370.11	796.67	727.06	69.61	11.445	
13,100.00	10,226.00	12,406.27	9,556.00	57.11	55.20	-32.76	-2,741.96	-370.95	796.73	725.04	71.69	11.113	
13,200.00	10,226.00	12,506.27	9,556.00	58.74	56.89	-32.77	-2,841.95	-371.78	796.79	723.00	73.79	10.798	
13,300.00	10,226.00	12,606.27	9,556.00	60.39	58.58	-32.77	-2,941.95	-372.62	796.85	720.95	75.90	10.499	
13,400.00	10,226.00	12,706.27	9,556.00	62.05	60.28	-32.78	-3,041.94	-373.46	796.91	718.88	78.02	10.214	
13,500.00	10,226.00	12,806.27	9,556.00	63.71	61.99	-32.79	-3,141.94	-374.29	796.96	716.80	80.16	9.942	
13,600.00	10,226.00	12,906.27	9,556.00	65.39	63.71	-32.79	-3,241.94	-375.13	797.02	714.71	82.31	9.683	
13,700.00	10,226.00	13,006.27	9,556.00	67.07	65.43	-32.80	-3,341.93	-375.97	797.08	712.61	84.47	9.436	
13,800.00	10,226.00	13,106.27	9,556.00	68.76	67.15	-32.81	-3,441.93	-376.80	797.14	710.50	86.64	9.201	
13,900.00	10,226.00	13,206.27	9,556.00	70.46	68.88	-32.81	-3,541.93	-377.64	797.20	708.38	88.82	8.976	
14,000.00	10,226.00	13,306.27	9,556.00	72.16	70.62	-32.82	-3,641.92	-378.48	797.26	706.25	91.00	8.761	
14,100.00	10,226.00	13,406.27	9,556.00	73.87	72.36	-32.83	-3,741.92	-379.31	797.32	704.12	93.20	8.555	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 04 235H - Wellbore #1 - Plan 0												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.50 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
14,200.00	10,226.00	13,506.27	9,556.00	75.59	74.11	-32.83	-3,841.92	-380.15	797.38	701.97	95.40	8.358	
14,300.00	10,226.00	13,606.27	9,556.00	77.31	75.86	-32.84	-3,941.91	-380.99	797.44	699.82	97.61	8.169	
14,400.00	10,226.00	13,706.27	9,556.00	79.03	77.61	-32.85	-4,041.91	-381.82	797.49	697.67	99.83	7.989	
14,500.00	10,226.00	13,806.27	9,556.00	80.76	79.37	-32.85	-4,141.91	-382.66	797.55	695.50	102.05	7.815	
14,600.00	10,226.00	13,906.27	9,556.00	82.49	81.13	-32.86	-4,241.90	-383.50	797.61	693.33	104.28	7.649	
14,700.00	10,226.00	14,006.27	9,556.00	84.23	82.89	-32.87	-4,341.90	-384.33	797.67	691.16	106.51	7.489	
14,800.00	10,226.00	14,106.27	9,556.00	85.97	84.65	-32.87	-4,441.89	-385.17	797.73	688.98	108.75	7.335	
14,900.00	10,226.00	14,206.26	9,556.00	87.72	86.42	-32.88	-4,541.89	-386.00	797.79	686.79	111.00	7.188	
15,000.00	10,226.00	14,306.26	9,556.00	89.47	88.19	-32.89	-4,641.89	-386.84	797.85	684.60	113.25	7.045	
15,100.00	10,226.00	14,406.26	9,556.00	91.22	89.96	-32.89	-4,741.88	-387.68	797.91	682.41	115.50	6.908	
15,200.00	10,226.00	14,506.26	9,556.00	92.97	91.74	-32.90	-4,841.88	-388.51	797.97	680.21	117.76	6.776	
15,300.00	10,226.00	14,527.23	9,556.00	94.73	92.11	-32.90	-4,862.84	-388.69	801.93	684.38	117.56	6.822	
15,400.00	10,226.00	14,527.23	9,556.00	96.49	92.11	-32.90	-4,862.84	-388.69	817.92	702.50	115.42	7.086	
15,500.00	10,226.00	14,527.23	9,556.00	98.25	92.11	-32.90	-4,862.84	-388.69	845.52	733.41	112.11	7.542	
15,600.00	10,226.00	14,527.23	9,556.00	100.01	92.11	-32.90	-4,862.84	-388.69	883.63	775.63	108.00	8.182	
15,700.00	10,226.00	14,527.23	9,556.00	101.78	92.11	-32.90	-4,862.84	-388.69	930.97	827.51	103.46	8.999	
15,800.00	10,226.00	14,527.23	9,556.00	103.55	92.11	-32.90	-4,862.84	-388.69	986.21	887.40	98.80	9.982	
15,900.00	10,226.00	14,527.23	9,556.00	105.32	92.11	-32.90	-4,862.84	-388.69	1,048.10	953.83	94.27	11.118	
16,000.00	10,226.00	14,527.23	9,556.00	107.09	92.11	-32.90	-4,862.84	-388.69	1,115.53	1,025.54	89.99	12.396	
16,100.00	10,226.00	14,527.23	9,556.00	108.86	92.11	-32.90	-4,862.84	-388.69	1,187.57	1,101.51	86.05	13.800	
16,200.00	10,226.00	14,527.23	9,556.00	110.64	92.11	-32.90	-4,862.84	-388.69	1,263.41	1,180.93	82.48	15.318	
16,300.00	10,226.00	14,527.23	9,556.00	112.42	92.11	-32.90	-4,862.84	-388.69	1,342.43	1,263.16	79.27	16.935	
16,400.00	10,226.00	14,527.23	9,556.00	114.20	92.11	-32.90	-4,862.84	-388.69	1,424.09	1,347.68	76.41	18.638	



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.50 usft
Rule Assigned:												Warning	
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.50	0.50	140.19	-30.72	25.60	39.99				
100.00	100.00	100.00	100.00	0.51	0.51	140.19	-30.72	25.60	39.99	38.97	1.01	39.432	
200.00	200.00	200.00	200.00	0.59	0.59	140.19	-30.72	25.60	39.99	38.81	1.18	34.015	
300.00	300.00	300.00	300.00	0.73	0.73	140.19	-30.72	25.60	39.99	38.53	1.46	27.337	
400.00	400.00	400.00	400.00	0.91	0.91	140.19	-30.72	25.60	39.99	38.17	1.82	22.007	
500.00	500.00	500.00	500.00	1.10	1.10	140.19	-30.72	25.60	39.99	37.78	2.21	18.124	
600.00	600.00	600.00	600.00	1.31	1.31	140.19	-30.72	25.60	39.99	37.37	2.61	15.292	
700.00	700.00	700.00	700.00	1.52	1.52	140.19	-30.72	25.60	39.99	36.95	3.04	13.175	
800.00	800.00	800.00	800.00	1.73	1.73	140.19	-30.72	25.60	39.99	36.53	3.46	11.548	
900.00	900.00	900.00	900.00	1.95	1.95	140.19	-30.72	25.60	39.99	36.09	3.90	10.266	
1,000.00	1,000.00	1,000.00	1,000.00	2.17	2.17	140.19	-30.72	25.60	39.99	35.66	4.33	9.232	
1,100.00	1,100.00	1,100.00	1,100.00	2.38	2.38	140.19	-30.72	25.60	39.99	35.22	4.77	8.384	
1,200.00	1,200.00	1,200.00	1,200.00	2.61	2.61	140.19	-30.72	25.60	39.99	34.78	5.21	7.675	
1,300.00	1,300.00	1,300.00	1,300.00	2.83	2.83	140.19	-30.72	25.60	39.99	34.34	5.65	7.075	
1,400.00	1,400.00	1,400.00	1,400.00	3.05	3.05	140.19	-30.72	25.60	39.99	33.89	6.10	6.561	
1,500.00	1,500.00	1,500.00	1,500.00	3.27	3.27	140.19	-30.72	25.60	39.99	33.45	6.54	6.115 CC, ES	
1,600.00	1,599.98	1,599.98	1,599.98	3.48	3.49	-154.37	-30.72	25.60	41.55	34.58	6.98	5.957	
1,700.00	1,699.84	1,699.84	1,699.84	3.70	3.71	-157.13	-30.72	25.60	46.33	38.92	7.41	6.254	
1,800.00	1,799.45	1,799.45	1,799.45	3.91	3.94	-160.64	-30.72	25.60	54.47	46.62	7.84	6.944	
1,812.75	1,812.13	1,812.13	1,812.13	3.94	3.96	-161.09	-30.72	25.60	55.75	47.85	7.90	7.056	
1,900.00	1,898.86	1,898.86	1,898.86	4.14	4.16	-163.82	-30.72	25.60	64.82	56.54	8.28	7.828	
2,000.00	1,998.26	1,998.26	1,998.26	4.38	4.38	-166.13	-30.72	25.60	75.35	66.64	8.72	8.643	
2,100.00	2,097.67	2,097.67	2,097.67	4.63	4.60	-167.87	-30.72	25.60	85.97	76.82	9.16	9.389	
2,200.00	2,197.07	2,197.07	2,197.07	4.88	4.82	-169.22	-30.72	25.60	96.66	87.06	9.60	10.071	
2,300.00	2,296.48	2,296.48	2,296.48	5.14	5.05	-170.31	-30.72	25.60	107.38	97.34	10.04	10.696	
2,400.00	2,395.88	2,395.88	2,395.88	5.40	5.27	-171.20	-30.72	25.60	118.14	107.65	10.48	11.269	
2,500.00	2,495.29	2,495.29	2,495.29	5.66	5.49	-171.94	-30.72	25.60	128.92	117.99	10.93	11.796	
2,600.00	2,594.69	2,594.69	2,594.69	5.93	5.71	-172.57	-30.72	25.60	139.71	128.34	11.37	12.283	
2,700.00	2,694.10	2,694.10	2,694.10	6.20	5.94	-173.10	-30.72	25.60	150.52	138.70	11.82	12.733	
2,800.00	2,793.50	2,793.50	2,793.50	6.47	6.16	-173.57	-30.72	25.60	161.35	149.08	12.27	13.150	
2,900.00	2,892.91	2,892.91	2,892.91	6.75	6.38	-173.97	-30.72	25.60	172.18	159.46	12.72	13.537	
3,000.00	2,992.31	2,992.31	2,992.31	7.02	6.60	-174.33	-30.72	25.60	183.02	169.85	13.17	13.898	
3,100.00	3,091.72	3,091.72	3,091.72	7.30	6.83	-174.65	-30.72	25.60	193.86	180.25	13.62	14.235	
3,200.00	3,191.12	3,191.12	3,191.12	7.58	7.05	-174.93	-30.72	25.60	204.72	190.65	14.07	14.550	
3,300.00	3,290.53	3,290.53	3,290.53	7.86	7.27	-175.19	-30.72	25.60	215.57	201.05	14.52	14.845	
3,400.00	3,389.93	3,389.93	3,389.93	8.15	7.50	-175.42	-30.72	25.60	226.43	211.46	14.97	15.122	
3,500.00	3,489.33	3,489.33	3,489.33	8.43	7.72	-175.63	-30.72	25.60	237.29	221.87	15.43	15.382	
3,600.00	3,588.74	3,591.89	3,591.88	8.71	7.95	-176.14	-29.25	25.70	247.59	231.70	15.89	15.583	
3,700.00	3,688.14	3,694.34	3,694.19	9.00	8.18	-177.36	-24.18	26.06	256.57	240.22	16.34	15.697	
3,800.00	3,787.55	3,793.78	3,793.44	9.29	8.40	-178.72	-17.97	26.51	265.18	248.38	16.79	15.790	
3,900.00	3,886.95	3,893.21	3,892.68	9.57	8.62	-179.99	-11.75	26.95	273.93	256.68	17.25	15.883	
4,000.00	3,986.36	3,992.65	3,991.92	9.86	8.85	178.81	-5.54	27.39	282.80	265.10	17.70	15.977	
4,100.00	4,085.76	4,092.09	4,091.16	10.15	9.07	177.69	0.68	27.83	291.80	273.64	18.16	16.071	
4,200.00	4,185.17	4,191.52	4,190.40	10.44	9.30	176.63	6.90	28.27	300.90	282.28	18.61	16.164	
4,300.00	4,284.57	4,290.96	4,289.64	10.73	9.52	175.64	13.11	28.71	310.09	291.01	19.08	16.256	
4,400.00	4,383.98	4,390.40	4,388.88	11.02	9.75	174.70	19.33	29.16	319.37	299.83	19.54	16.346	
4,500.00	4,483.38	4,489.83	4,488.12	11.31	9.98	173.82	25.54	29.60	328.73	308.73	20.00	16.435	
4,600.00	4,582.79	4,589.27	4,587.36	11.60	10.21	172.99	31.76	30.04	338.16	317.70	20.47	16.522	
4,700.00	4,682.19	4,688.71	4,686.60	11.89	10.44	172.20	37.98	30.48	347.66	326.73	20.94	16.607	
4,800.00	4,781.60	4,788.14	4,785.84	12.18	10.68	171.45	44.19	30.92	357.23	335.82	21.40	16.690	
4,900.00	4,881.00	4,887.58	4,885.09	12.47	10.91	170.74	50.41	31.36	366.85	344.97	21.87	16.770	
5,000.00	4,980.40	4,987.01	4,984.33	12.77	11.14	170.07	56.62	31.80	376.52	354.17	22.35	16.849	

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



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Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD						Rule Assigned:						Offset Well Error:	0.50 usft
Reference	Offset	Semi Maior Axis		Offset Wellbore Centre		Distance				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			
5,100.00	5,079.81	5,086.45	5,083.57	13.06	11.38	169.43	62.84	32.25	386.24	363.42	22.82	16.926			
5,200.00	5,179.21	5,185.89	5,182.81	13.35	11.61	168.83	69.06	32.69	396.01	372.71	23.29	17.000			
5,300.00	5,278.62	5,285.32	5,282.05	13.64	11.84	168.25	75.27	33.13	405.82	382.05	23.77	17.073			
5,400.00	5,378.02	5,384.76	5,381.29	13.94	12.08	167.70	81.49	33.57	415.66	391.42	24.25	17.143			
5,500.00	5,477.43	5,484.20	5,480.53	14.23	12.32	167.18	87.70	34.01	425.55	400.82	24.72	17.211			
5,600.00	5,576.83	5,583.63	5,579.77	14.52	12.55	166.67	93.92	34.45	435.47	410.26	25.20	17.278			
5,700.00	5,676.24	5,683.07	5,679.01	14.82	12.79	166.20	100.14	34.90	445.41	419.73	25.68	17.343			
5,800.00	5,775.64	5,782.51	5,778.25	15.11	13.03	165.74	106.35	35.34	455.39	429.23	26.16	17.405			
5,900.00	5,875.05	5,881.94	5,877.50	15.41	13.26	165.30	112.57	35.78	465.40	438.75	26.65	17.466			
6,000.00	5,974.45	5,981.38	5,976.74	15.70	13.50	164.88	118.78	36.22	475.43	448.30	27.13	17.526			
6,100.00	6,073.86	6,080.81	6,075.98	15.99	13.74	164.48	125.00	36.66	485.49	457.88	27.61	17.583			
6,200.00	6,173.26	6,180.25	6,175.22	16.29	13.98	164.09	131.22	37.10	495.57	467.47	28.09	17.639			
6,300.00	6,272.67	6,279.69	6,274.46	16.58	14.22	163.72	137.43	37.55	505.67	477.09	28.58	17.694			
6,400.00	6,372.07	6,379.12	6,373.70	16.88	14.46	163.37	143.65	37.99	515.79	486.72	29.06	17.747			
6,500.00	6,471.48	6,478.56	6,472.94	17.17	14.69	163.02	149.86	38.43	525.93	496.38	29.55	17.798			
6,600.00	6,570.88	6,578.00	6,572.18	17.47	14.93	162.69	156.08	38.87	536.08	506.05	30.04	17.848			
6,700.00	6,670.28	6,677.43	6,671.42	17.76	15.17	162.38	162.30	39.31	546.26	515.74	30.52	17.897			
6,800.00	6,769.69	6,776.87	6,770.66	18.06	15.41	162.07	168.51	39.75	556.45	525.44	31.01	17.944			
6,900.00	6,869.09	6,876.31	6,869.90	18.35	15.65	161.78	174.73	40.19	566.65	535.16	31.50	17.990			
7,000.00	6,968.50	6,975.74	6,969.15	18.65	15.89	161.49	180.95	40.64	576.87	544.89	31.99	18.035			
7,100.00	7,067.90	7,075.18	7,068.39	18.94	16.14	161.22	187.16	41.08	587.11	554.63	32.47	18.079			
7,200.00	7,167.31	7,174.62	7,167.63	19.24	16.38	160.95	193.38	41.52	597.35	564.39	32.96	18.121			
7,300.00	7,266.71	7,274.05	7,266.87	19.54	16.62	160.70	199.59	41.96	607.61	574.16	33.45	18.163			
7,400.00	7,366.12	7,373.49	7,366.11	19.83	16.86	160.45	205.81	42.40	617.88	583.94	33.94	18.203			
7,500.00	7,465.52	7,472.92	7,465.35	20.13	17.10	160.21	212.03	42.84	628.16	593.73	34.43	18.243			
7,600.00	7,564.93	7,572.36	7,564.59	20.42	17.34	159.98	218.24	43.29	638.45	603.53	34.92	18.281			
7,700.00	7,664.33	7,671.80	7,663.83	20.72	17.58	159.76	224.46	43.73	648.75	613.34	35.42	18.318			
7,800.00	7,763.74	7,771.23	7,763.07	21.02	17.82	159.54	230.67	44.17	659.06	623.16	35.91	18.355			
7,900.00	7,863.14	7,870.67	7,862.31	21.31	18.07	159.33	236.89	44.61	669.38	632.99	36.40	18.390			
8,000.00	7,962.55	7,970.11	7,961.56	21.61	18.31	159.12	243.11	45.05	679.71	642.82	36.89	18.425			
8,100.00	8,061.95	8,069.54	8,060.80	21.90	18.55	158.93	249.32	45.49	690.05	652.67	37.38	18.459			
8,200.00	8,161.35	8,168.98	8,160.04	22.20	18.79	158.73	255.54	45.94	700.40	662.52	37.88	18.492			
8,300.00	8,260.76	8,268.42	8,259.28	22.50	19.04	158.55	261.75	46.38	710.75	672.38	38.37	18.524			
8,400.00	8,360.16	8,367.85	8,358.52	22.79	19.28	158.37	267.97	46.82	721.11	682.25	38.86	18.556			
8,500.00	8,459.57	8,467.29	8,457.76	23.09	19.52	158.19	274.19	47.26	731.47	692.12	39.35	18.587			
8,600.00	8,558.97	8,566.73	8,557.00	23.39	19.76	158.02	280.40	47.70	741.85	702.00	39.85	18.617			
8,700.00	8,658.38	8,666.16	8,656.24	23.68	20.01	157.85	286.62	48.14	752.23	711.88	40.34	18.646			
8,800.00	8,757.78	8,765.60	8,755.48	23.98	20.25	157.69	292.83	48.58	762.61	721.78	40.84	18.675			
8,900.00	8,857.19	8,865.03	8,854.72	24.28	20.49	157.53	299.05	49.03	773.00	731.67	41.33	18.703			
9,000.00	8,956.59	8,964.47	8,953.96	24.57	20.74	157.38	305.27	49.47	783.40	741.58	41.82	18.730			
9,100.00	9,056.00	9,063.91	9,053.21	24.87	20.98	157.23	311.48	49.91	793.80	751.48	42.32	18.757			
9,200.00	9,155.40	9,163.34	9,152.45	25.17	21.22	157.08	317.70	50.35	804.21	761.40	42.81	18.784			
9,235.68	9,190.87	9,198.82	9,187.86	25.27	21.31	157.03	319.92	50.51	807.93	764.94	42.99	18.793			
9,300.00	9,254.88	9,262.84	9,251.75	25.44	21.47	156.97	323.92	50.79	813.96	770.67	43.29	18.801			
9,400.00	9,354.63	9,362.69	9,351.40	25.63	21.71	156.78	330.15	51.24	820.73	777.00	43.73	18.767			
9,500.00	9,454.57	9,464.57	9,453.18	25.80	21.90	156.60	334.43	51.54	824.17	780.05	44.11	18.683			
9,548.43	9,503.00	9,513.98	9,502.59	25.87	21.99	90.06	335.21	51.59	824.60	780.31	44.28	18.621			
9,600.00	9,554.57	9,565.96	9,554.57	25.96	22.08	90.05	335.28	51.60	824.60	780.13	44.47	18.542			
9,698.47	9,653.04	9,664.43	9,653.04	26.13	22.28	90.05	335.28	51.60	824.60	779.73	44.87	18.377			
9,700.00	9,654.57	9,665.96	9,654.57	26.13	22.29	-90.49	335.28	51.60	824.60	779.72	44.88	18.375			
9,750.00	9,704.50	9,715.94	9,704.53	26.20	22.38	-90.59	334.41	51.60	824.62	779.58	45.05	18.306			
9,800.00	9,754.04	9,766.04	9,754.37	26.25	22.43	-90.70	329.48	51.60	824.69	779.52	45.17	18.258			

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Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD						Rule Assigned:						Offset Well Error:	0.50 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Minimum Separation (usft)				
9,850.00	9,802.81	9,816.29	9,803.74	26.29	22.47	-90.81	320.17	51.60	824.80	779.55	45.25	18.226			
9,900.00	9,850.44	9,866.70	9,852.25	26.31	22.50	-90.92	306.53	51.60	824.96	779.65	45.31	18.209			
9,950.00	9,896.57	9,917.25	9,899.51	26.33	22.50	-91.01	288.62	51.61	825.15	779.83	45.33	18.205			
10,000.00	9,940.84	9,967.96	9,945.13	26.33	22.50	-91.10	266.55	51.61	825.39	780.07	45.32	18.211			
10,050.00	9,982.93	10,018.80	9,988.75	26.33	22.48	-91.18	240.45	51.61	825.67	780.37	45.30	18.225			
10,100.00	10,022.50	10,069.79	10,029.99	26.32	22.46	-91.25	210.50	51.62	825.98	780.70	45.28	18.242			
10,150.00	10,059.26	10,120.90	10,068.50	26.31	22.44	-91.32	176.92	51.62	826.33	781.07	45.26	18.259			
10,200.00	10,092.93	10,172.14	10,103.95	26.29	22.43	-91.37	139.94	51.63	826.71	781.46	45.24	18.272			
10,250.00	10,123.25	10,223.49	10,136.02	26.28	22.42	-91.41	99.86	51.63	827.11	781.85	45.26	18.276			
10,300.00	10,150.00	10,274.94	10,164.42	26.28	22.44	-91.44	56.98	51.64	827.53	782.23	45.30	18.268			
10,350.00	10,172.96	10,326.49	10,188.91	26.29	22.47	-91.46	11.64	51.65	827.98	782.59	45.39	18.243			
10,400.00	10,191.97	10,378.11	10,209.25	26.31	22.53	-91.46	-35.79	51.65	828.44	782.92	45.52	18.199			
10,450.00	10,206.87	10,429.80	10,225.26	26.35	22.62	-91.46	-84.92	51.66	828.91	783.20	45.71	18.133			
10,500.00	10,217.56	10,481.54	10,236.78	26.41	22.74	-91.44	-135.34	51.67	829.39	783.43	45.96	18.045			
10,550.00	10,223.95	10,533.32	10,243.72	26.50	22.89	-91.42	-186.63	51.67	829.87	783.60	46.27	17.934			
10,598.47	10,226.00	10,583.54	10,246.00	26.62	23.07	-91.38	-236.78	51.68	830.34	783.71	46.63	17.807			
10,600.00	10,226.00	10,585.09	10,246.00	26.62	23.07	-91.38	-238.34	51.68	830.35	783.71	46.64	17.803			
10,700.00	10,226.00	10,685.09	10,246.00	26.97	23.53	-91.38	-338.34	51.70	831.31	783.75	47.56	17.479			
10,800.00	10,226.00	10,785.09	10,246.00	27.44	24.11	-91.38	-438.33	51.71	832.27	783.54	48.73	17.079			
10,900.00	10,226.00	10,885.08	10,246.00	28.04	24.80	-91.38	-538.33	51.73	833.23	783.09	50.14	16.618			
11,000.00	10,226.00	10,985.08	10,246.00	28.76	25.62	-91.37	-638.32	51.74	834.19	782.42	51.77	16.113			
11,100.00	10,226.00	11,085.07	10,246.00	29.58	26.53	-91.37	-738.32	51.75	835.15	781.55	53.60	15.581			
11,200.00	10,226.00	11,185.07	10,246.00	30.50	27.53	-91.37	-838.31	51.77	836.11	780.50	55.61	15.035			
11,300.00	10,226.00	11,285.06	10,246.00	31.50	28.62	-91.37	-938.31	51.78	837.07	779.29	57.78	14.486			
11,400.00	10,226.00	11,385.06	10,246.00	32.57	29.78	-91.37	-1,038.30	51.80	838.03	777.93	60.10	13.944			
11,500.00	10,226.00	11,485.05	10,246.00	33.72	31.00	-91.37	-1,138.30	51.81	838.99	776.44	62.55	13.414			
11,600.00	10,226.00	11,585.05	10,246.00	34.92	32.28	-91.36	-1,238.30	51.83	839.95	774.84	65.10	12.902			
11,700.00	10,226.00	11,685.04	10,246.00	36.18	33.62	-91.36	-1,338.29	51.84	840.91	773.14	67.76	12.409			
11,800.00	10,226.00	11,785.04	10,246.00	37.48	34.99	-91.36	-1,438.29	51.85	841.87	771.36	70.51	11.939			
11,900.00	10,226.00	11,885.03	10,246.00	38.83	36.41	-91.36	-1,538.28	51.87	842.83	769.49	73.34	11.492			
12,000.00	10,226.00	11,985.03	10,246.00	40.21	37.86	-91.36	-1,638.28	51.88	843.79	767.55	76.24	11.068			
12,100.00	10,226.00	12,085.03	10,246.00	41.63	39.35	-91.36	-1,738.27	51.90	844.75	765.55	79.20	10.666			
12,200.00	10,226.00	12,185.02	10,246.00	43.08	40.86	-91.36	-1,838.27	51.91	845.71	763.49	82.22	10.286			
12,300.00	10,226.00	12,285.02	10,246.00	44.56	42.40	-91.35	-1,938.26	51.93	846.66	761.38	85.29	9.927			
12,400.00	10,226.00	12,385.01	10,246.00	46.06	43.96	-91.35	-2,038.26	51.94	847.62	759.23	88.40	9.589			
12,500.00	10,226.00	12,485.01	10,246.00	47.58	45.54	-91.35	-2,138.25	51.95	848.58	757.03	91.55	9.269			
12,600.00	10,226.00	12,585.00	10,246.00	49.13	47.13	-91.35	-2,238.25	51.97	849.54	754.80	94.74	8.967			
12,700.00	10,226.00	12,685.00	10,246.00	50.69	48.75	-91.35	-2,338.24	51.98	850.50	752.54	97.96	8.682			
12,800.00	10,226.00	12,784.99	10,246.00	52.27	50.38	-91.35	-2,438.24	52.00	851.46	750.25	101.21	8.413			
12,900.00	10,226.00	12,884.99	10,246.00	53.87	52.02	-91.34	-2,538.24	52.01	852.42	747.93	104.49	8.158			
13,000.00	10,226.00	12,984.98	10,246.00	55.48	53.67	-91.34	-2,638.23	52.03	853.38	745.59	107.79	7.917			
13,100.00	10,226.00	13,084.98	10,246.00	57.11	55.34	-91.34	-2,738.23	52.04	854.34	743.22	111.12	7.689			
13,200.00	10,226.00	13,184.97	10,246.00	58.74	57.02	-91.34	-2,838.22	52.06	855.30	740.84	114.46	7.472			
13,300.00	10,226.00	13,284.97	10,246.00	60.39	58.70	-91.34	-2,938.22	52.07	856.26	738.43	117.82	7.267			
13,400.00	10,226.00	13,384.97	10,246.00	62.05	60.39	-91.34	-3,038.21	52.08	857.22	736.01	121.21	7.072			
13,500.00	10,226.00	13,484.96	10,246.00	63.71	62.10	-91.34	-3,138.21	52.10	858.18	733.58	124.60	6.887			
13,600.00	10,226.00	13,584.96	10,246.00	65.39	63.80	-91.33	-3,238.20	52.11	859.14	731.13	128.01	6.711			
13,700.00	10,226.00	13,684.95	10,246.00	67.07	65.52	-91.33	-3,338.20	52.13	860.10	728.66	131.43	6.544			
13,800.00	10,226.00	13,784.95	10,246.00	68.76	67.24	-91.33	-3,438.19	52.14	861.06	726.19	134.87	6.384			
13,900.00	10,226.00	13,884.94	10,246.00	70.46	68.97	-91.33	-3,538.19	52.16	862.02	723.70	138.32	6.232			
14,000.00	10,226.00	13,984.94	10,246.00	72.16	70.70	-91.33	-3,638.18	52.17	862.98	721.20	141.78	6.087			
14,100.00	10,226.00	14,084.93	10,246.00	73.87	72.43	-91.33	-3,738.18	52.18	863.93	718.69	145.24	5.948			

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.50 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
14,200.00	10,226.00	14,184.93	10,246.00	75.59	74.18	-91.33	-3,838.18	52.20	864.89	716.17	148.72	5.816			
14,300.00	10,226.00	14,284.92	10,246.00	77.31	75.92	-91.32	-3,938.17	52.21	865.85	713.65	152.20	5.689			
14,400.00	10,226.00	14,384.92	10,246.00	79.03	77.67	-91.32	-4,038.17	52.23	866.81	711.12	155.70	5.567			
14,500.00	10,226.00	14,484.92	10,246.00	80.76	79.42	-91.32	-4,138.16	52.24	867.77	708.58	159.20	5.451			
14,600.00	10,226.00	14,584.91	10,246.00	82.49	81.18	-91.32	-4,238.16	52.26	868.73	706.03	162.70	5.339			
14,700.00	10,226.00	14,684.91	10,246.00	84.23	82.94	-91.32	-4,338.15	52.27	869.69	703.47	166.22	5.232			
14,800.00	10,226.00	14,784.90	10,246.00	85.97	84.70	-91.32	-4,438.15	52.28	870.65	700.91	169.74	5.129			
14,900.00	10,226.00	14,884.90	10,246.00	87.72	86.47	-91.31	-4,538.14	52.30	871.61	698.35	173.26	5.031			
15,000.00	10,226.00	14,984.89	10,246.00	89.47	88.23	-91.31	-4,638.14	52.31	872.57	695.78	176.79	4.936			
15,100.00	10,226.00	15,084.89	10,246.00	91.22	90.01	-91.31	-4,738.13	52.33	873.53	693.20	180.33	4.844			
15,200.00	10,226.00	15,184.88	10,246.00	92.97	91.78	-91.31	-4,838.13	52.34	874.49	690.62	183.87	4.756			
15,300.00	10,226.00	15,284.88	10,246.00	94.73	93.55	-91.31	-4,938.12	52.36	875.45	688.03	187.41	4.671			
15,400.00	10,226.00	15,384.87	10,246.00	96.49	95.33	-91.31	-5,038.12	52.37	876.41	685.44	190.96	4.589			
15,500.00	10,226.00	15,484.87	10,246.00	98.25	97.11	-91.31	-5,138.12	52.39	877.37	682.85	194.52	4.511			
15,600.00	10,226.00	15,584.86	10,246.00	100.01	98.89	-91.30	-5,238.11	52.40	878.33	680.25	198.07	4.434			
15,700.00	10,226.00	15,684.86	10,246.00	101.78	100.67	-91.30	-5,338.11	52.41	879.29	677.65	201.63	4.361			
15,800.00	10,226.00	15,784.86	10,246.00	103.55	102.46	-91.30	-5,438.10	52.43	880.25	675.05	205.20	4.290			
15,900.00	10,226.00	15,884.85	10,246.00	105.32	104.24	-91.30	-5,538.10	52.44	881.21	672.44	208.76	4.221			
16,000.00	10,226.00	15,984.85	10,246.00	107.09	106.03	-91.30	-5,638.09	52.46	882.16	669.83	212.33	4.155			
16,100.00	10,226.00	16,084.84	10,246.00	108.86	107.82	-91.30	-5,738.09	52.47	883.12	667.22	215.91	4.090			
16,200.00	10,226.00	16,184.84	10,246.00	110.64	109.61	-91.30	-5,838.08	52.49	884.08	664.60	219.48	4.028			
16,300.00	10,226.00	16,284.83	10,246.00	112.42	111.40	-91.29	-5,938.08	52.50	885.04	661.98	223.06	3.968			
16,400.00	10,226.00	16,384.83	10,246.00	114.20	113.19	-91.29	-6,038.07	52.51	886.00	659.36	226.64	3.909			
16,500.00	10,226.00	16,484.82	10,246.00	115.98	114.99	-91.29	-6,138.07	52.53	886.96	656.74	230.23	3.853			
16,600.00	10,226.00	16,584.82	10,246.00	117.76	116.78	-91.29	-6,238.06	52.54	887.92	654.11	233.81	3.798			
16,700.00	10,226.00	16,684.81	10,246.00	119.54	118.58	-91.29	-6,338.06	52.56	888.88	651.48	237.40	3.744			
16,800.00	10,226.00	16,784.81	10,246.00	121.33	120.38	-91.29	-6,438.06	52.57	889.84	648.85	240.99	3.692			
16,900.00	10,226.00	16,884.80	10,246.00	123.11	122.17	-91.29	-6,538.05	52.59	890.80	646.22	244.58	3.642			
17,000.00	10,226.00	16,984.80	10,246.00	124.90	123.97	-91.29	-6,638.05	52.60	891.76	643.58	248.17	3.593			
17,100.00	10,226.00	17,084.80	10,246.00	126.69	125.77	-91.28	-6,738.04	52.61	892.72	640.95	251.77	3.546			
17,200.00	10,226.00	17,184.79	10,246.00	128.48	127.57	-91.28	-6,838.04	52.63	893.68	638.31	255.37	3.500			
17,300.00	10,226.00	17,284.79	10,246.00	130.27	129.38	-91.28	-6,938.03	52.64	894.64	635.67	258.97	3.455			
17,400.00	10,226.00	17,384.78	10,246.00	132.06	131.18	-91.28	-7,038.03	52.66	895.60	633.03	262.57	3.411			
17,500.00	10,226.00	17,484.78	10,246.00	133.85	132.98	-91.28	-7,138.02	52.67	896.56	630.39	266.17	3.368			
17,600.00	10,226.00	17,584.77	10,246.00	135.65	134.79	-91.28	-7,238.02	52.69	897.52	627.74	269.77	3.327			
17,700.00	10,226.00	17,684.77	10,246.00	137.44	136.59	-91.28	-7,338.01	52.70	898.48	625.10	273.38	3.287			
17,800.00	10,226.00	17,784.76	10,246.00	139.24	138.40	-91.27	-7,438.01	52.71	899.44	622.45	276.98	3.247			
17,900.00	10,226.00	17,884.76	10,246.00	141.03	140.20	-91.27	-7,538.00	52.73	900.39	619.80	280.59	3.209			
18,000.00	10,226.00	17,984.75	10,246.00	142.83	142.01	-91.27	-7,638.00	52.74	901.35	617.15	284.20	3.172			
18,100.00	10,226.00	18,084.75	10,246.00	144.63	143.81	-91.27	-7,738.00	52.76	902.31	614.50	287.81	3.135			
18,200.00	10,226.00	18,184.74	10,246.00	146.43	145.62	-91.27	-7,837.99	52.77	903.27	611.85	291.42	3.100			
18,300.00	10,226.00	18,284.74	10,246.00	148.23	147.43	-91.27	-7,937.99	52.79	904.23	609.20	295.03	3.065			
18,400.00	10,226.00	18,384.74	10,246.00	150.03	149.24	-91.27	-8,037.98	52.80	905.19	606.54	298.65	3.031			
18,500.00	10,226.00	18,484.73	10,246.00	151.83	151.05	-91.26	-8,137.98	52.82	906.15	603.89	302.26	2.998			
18,600.00	10,226.00	18,584.73	10,246.00	153.63	152.86	-91.26	-8,237.97	52.83	907.11	601.23	305.88	2.966			
18,700.00	10,226.00	18,684.72	10,246.00	155.43	154.67	-91.26	-8,337.97	52.84	908.07	598.58	309.50	2.934			
18,800.00	10,226.00	18,784.72	10,246.00	157.23	156.48	-91.26	-8,437.96	52.86	909.03	595.92	313.11	2.903			
18,900.00	10,226.00	18,884.71	10,246.00	159.03	158.29	-91.26	-8,537.96	52.87	909.99	593.26	316.73	2.873			
19,000.00	10,226.00	18,984.71	10,246.00	160.84	160.10	-91.26	-8,637.95	52.89	910.95	590.60	320.35	2.844			
19,100.00	10,226.00	19,084.70	10,246.00	162.64	161.91	-91.26	-8,737.95	52.90	911.91	587.94	323.97	2.815			
19,200.00	10,226.00	19,184.70	10,246.00	164.45	163.73	-91.26	-8,837.95	52.92	912.87	585.28	327.59	2.787			
19,300.00	10,226.00	19,284.69	10,246.00	166.25	165.54	-91.25	-8,937.94	52.93	913.83	582.61	331.21	2.759			

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



SB Directional

Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Goonch Fed Com 0409 136H - Wellbore #1 - Plan 0													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	
19,400.00	10,226.00	19,384.69	10,246.00	168.06	167.35	-91.25	-9,037.94	52.94	914.79	579.95	334.84	2.732	
19,500.00	10,226.00	19,484.68	10,246.00	169.86	169.17	-91.25	-9,137.93	52.96	915.75	577.29	338.46	2.706	
19,600.00	10,226.00	19,584.68	10,246.00	171.67	170.98	-91.25	-9,237.93	52.97	916.71	574.62	342.08	2.680	
19,700.00	10,226.00	19,684.68	10,246.00	173.48	172.79	-91.25	-9,337.92	52.99	917.67	571.96	345.71	2.654	
19,800.00	10,226.00	19,784.67	10,246.00	175.28	174.61	-91.25	-9,437.92	53.00	918.62	569.29	349.33	2.630	
19,900.00	10,226.00	19,884.67	10,246.00	177.09	176.42	-91.25	-9,537.91	53.02	919.58	566.63	352.96	2.605	
20,000.00	10,226.00	19,984.66	10,246.00	178.90	178.24	-91.24	-9,637.91	53.03	920.54	563.96	356.59	2.582	
20,100.00	10,226.00	20,084.66	10,246.00	180.71	180.06	-91.24	-9,737.90	53.04	921.50	561.29	360.21	2.558	
20,200.00	10,226.00	20,184.65	10,246.00	182.52	181.87	-91.24	-9,837.90	53.06	922.46	558.62	363.84	2.535	
20,300.00	10,226.00	20,284.65	10,246.00	184.32	183.69	-91.24	-9,937.89	53.07	923.42	555.95	367.47	2.513	
20,400.00	10,226.00	20,384.64	10,246.00	186.13	185.50	-91.24	-10,037.89	53.09	924.38	553.28	371.10	2.491	
20,509.20	10,226.00	20,493.84	10,246.00	188.11	187.49	-91.24	-10,147.09	53.10	925.43	550.37	375.06	2.467 SF	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	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		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)			
10,800.00	10,226.00	10,211.75	10,210.60	27.44	201.71	90.00	-1,597.05	-1,634.80	1,439.61	1,213.92	225.70	6.379	
10,900.00	10,226.00	10,211.75	10,210.60	28.04	201.71	90.00	-1,597.05	-1,634.80	1,359.84	1,134.42	225.42	6.033	
11,000.00	10,226.00	10,211.75	10,210.60	28.76	201.71	90.00	-1,597.05	-1,634.80	1,282.90	1,057.65	225.25	5.695	
11,100.00	10,226.00	10,211.75	10,210.60	29.58	201.71	90.00	-1,597.05	-1,634.80	1,209.34	984.09	225.25	5.369	
11,200.00	10,226.00	10,211.75	10,210.60	30.50	201.71	90.00	-1,597.05	-1,634.80	1,139.82	914.32	225.50	5.055	
11,300.00	10,226.00	10,211.75	10,210.60	31.50	201.71	90.00	-1,597.05	-1,634.80	1,075.11	849.04	226.08	4.756	
11,400.00	10,226.00	10,211.75	10,210.60	32.57	201.71	90.00	-1,597.05	-1,634.80	1,016.14	789.09	227.05	4.475	
11,500.00	10,226.00	10,211.75	10,210.60	33.72	201.71	90.00	-1,597.05	-1,634.80	963.96	735.48	228.48	4.219	
11,600.00	10,226.00	10,211.75	10,210.60	34.92	201.71	90.00	-1,597.05	-1,634.80	919.72	689.35	230.37	3.992	
11,700.00	10,226.00	10,211.75	10,210.60	36.18	201.71	90.00	-1,597.05	-1,634.80	884.63	651.96	232.66	3.802	
11,800.00	10,226.00	10,211.75	10,210.60	37.48	201.71	90.00	-1,597.05	-1,634.80	859.79	624.55	235.24	3.655	
11,900.00	10,226.00	10,211.75	10,210.60	38.83	201.71	90.00	-1,597.05	-1,634.80	846.12	608.21	237.91	3.556	
11,966.63	10,226.00	10,211.75	10,210.60	39.75	201.71	90.00	-1,597.05	-1,634.80	843.49	603.83	239.65	3.520 CC	
12,000.00	10,226.00	10,211.75	10,210.60	40.21	201.71	90.00	-1,597.05	-1,634.80	844.15	603.66	240.49	3.510 ES, SF	
12,100.00	10,226.00	10,211.75	10,210.60	41.63	201.71	90.00	-1,597.05	-1,634.80	853.97	611.17	242.80	3.517	
12,200.00	10,226.00	10,211.75	10,210.60	43.08	201.71	90.00	-1,597.05	-1,634.80	875.18	630.45	244.72	3.576	
12,300.00	10,226.00	10,211.75	10,210.60	44.56	201.71	90.00	-1,597.05	-1,634.80	906.98	660.76	246.22	3.684	
12,400.00	10,226.00	10,211.75	10,210.60	46.06	201.71	90.00	-1,597.05	-1,634.80	948.31	701.02	247.29	3.835	
12,500.00	10,226.00	10,211.75	10,210.60	47.58	201.71	90.00	-1,597.05	-1,634.80	997.98	749.99	247.99	4.024	
12,600.00	10,226.00	10,211.75	10,210.60	49.13	201.71	90.00	-1,597.05	-1,634.80	1,054.81	806.42	248.40	4.247	
12,700.00	10,226.00	10,211.75	10,210.60	50.69	201.71	90.00	-1,597.05	-1,634.80	1,117.72	869.15	248.57	4.497	
12,800.00	10,226.00	10,211.75	10,210.60	52.27	201.71	90.00	-1,597.05	-1,634.80	1,185.74	937.16	248.58	4.770	
12,900.00	10,226.00	10,211.75	10,210.60	53.87	201.71	90.00	-1,597.05	-1,634.80	1,258.04	1,009.57	248.47	5.063	
13,000.00	10,226.00	10,211.75	10,210.60	55.48	201.71	90.00	-1,597.05	-1,634.80	1,333.92	1,085.64	248.28	5.373	
13,100.00	10,226.00	10,211.75	10,210.60	57.11	201.71	90.00	-1,597.05	-1,634.80	1,412.80	1,164.76	248.04	5.696	
13,200.00	10,226.00	10,211.75	10,210.60	58.74	201.71	90.00	-1,597.05	-1,634.80	1,494.22	1,246.44	247.77	6.031	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 04-T23S-R28E - Swearingen #001 SWD (Active) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 10-INC-ONLY												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)			
12,200.00	10,226.00	10,294.60	10,294.60	43.08	207.92	-90.00	-3,278.18	-643.67	1,447.58	1,211.28	236.30	6.126	
12,300.00	10,226.00	10,294.60	10,294.60	44.56	207.92	-90.00	-3,278.18	-643.67	1,348.26	1,111.67	236.59	5.699	
12,400.00	10,226.00	10,294.60	10,294.60	46.06	207.92	-90.00	-3,278.18	-643.67	1,249.06	1,012.13	236.93	5.272	
12,500.00	10,226.00	10,294.60	10,294.60	47.58	207.92	-90.00	-3,278.18	-643.67	1,150.00	912.65	237.34	4.845	
12,600.00	10,226.00	10,294.60	10,294.60	49.13	207.92	-90.00	-3,278.18	-643.67	1,051.11	813.27	237.83	4.419	
12,700.00	10,226.00	10,294.60	10,294.60	50.69	207.92	-90.00	-3,278.18	-643.67	952.45	714.01	238.44	3.995	
12,800.00	10,226.00	10,294.60	10,294.60	52.27	207.92	-90.00	-3,278.18	-643.67	854.11	614.91	239.20	3.571	
12,900.00	10,226.00	10,294.60	10,294.60	53.87	207.92	-90.00	-3,278.18	-643.67	756.20	516.02	240.18	3.148	
13,000.00	10,226.00	10,294.60	10,294.60	55.48	207.92	-90.00	-3,278.18	-643.67	658.92	417.44	241.48	2.729	
13,100.00	10,226.00	10,294.60	10,294.60	57.11	207.92	-90.00	-3,278.18	-643.67	562.59	319.32	243.27	2.313	
13,200.00	10,226.00	10,294.60	10,294.60	58.74	207.92	-90.00	-3,278.18	-643.67	467.81	221.96	245.85	1.903	Collision Risk Procedures Req.
13,300.00	10,226.00	10,294.60	10,294.60	60.39	207.92	-90.00	-3,278.18	-643.67	375.75	126.00	249.74	1.505	Collision Risk Procedures Req.
13,400.00	10,226.00	10,294.60	10,294.60	62.05	207.92	-90.00	-3,278.18	-643.67	289.00	33.16	255.85	1.130	Collision Avoidance Req.
13,500.00	10,226.00	10,294.60	10,294.60	63.71	207.92	-90.00	-3,278.18	-643.67	214.15	-50.90	265.05	0.808	No-Go Zone - Stop Drilling
13,600.00	10,226.00	10,294.60	10,294.60	65.39	207.92	-90.00	-3,278.18	-643.67	167.92	-105.37	273.28	0.614	No-Go Zone - Stop Drilling
13,638.31	10,226.00	10,294.60	10,294.60	66.03	207.92	-90.00	-3,278.18	-643.67	163.49	-109.38	272.87	0.599	No-Go Zone - Stop Drilling, CC, ES, Sf
13,700.00	10,226.00	10,294.60	10,294.60	67.07	207.92	-90.00	-3,278.18	-643.67	174.74	-91.64	266.38	0.656	No-Go Zone - Stop Drilling
13,800.00	10,226.00	10,294.60	10,294.60	68.76	207.92	-90.00	-3,278.18	-643.67	229.94	-21.78	251.72	0.913	No-Go Zone - Stop Drilling
13,900.00	10,226.00	10,294.60	10,294.60	70.46	207.92	-90.00	-3,278.18	-643.67	308.56	66.38	242.18	1.274	Collision Avoidance Req.
14,000.00	10,226.00	10,294.60	10,294.60	72.16	207.92	-90.00	-3,278.18	-643.67	396.92	159.68	237.24	1.673	Collision Risk Procedures Req.
14,100.00	10,226.00	10,294.60	10,294.60	73.87	207.92	-90.00	-3,278.18	-643.67	489.78	255.04	234.74	2.086	
14,200.00	10,226.00	10,294.60	10,294.60	75.59	207.92	-90.00	-3,278.18	-643.67	584.99	351.53	233.46	2.506	
14,300.00	10,226.00	10,294.60	10,294.60	77.31	207.92	-90.00	-3,278.18	-643.67	681.58	448.78	232.81	2.928	
14,400.00	10,226.00	10,294.60	10,294.60	79.03	207.92	-90.00	-3,278.18	-643.67	779.03	546.56	232.48	3.351	
14,500.00	10,226.00	10,294.60	10,294.60	80.76	207.92	-90.00	-3,278.18	-643.67	877.06	644.73	232.32	3.775	
14,600.00	10,226.00	10,294.60	10,294.60	82.49	207.92	-90.00	-3,278.18	-643.67	975.48	743.21	232.27	4.200	
14,700.00	10,226.00	10,294.60	10,294.60	84.23	207.92	-90.00	-3,278.18	-643.67	1,074.20	841.92	232.28	4.625	
14,800.00	10,226.00	10,294.60	10,294.60	85.97	207.92	-90.00	-3,278.18	-643.67	1,173.13	940.81	232.32	5.050	
14,900.00	10,226.00	10,294.60	10,294.60	87.72	207.92	-90.00	-3,278.18	-643.67	1,272.23	1,039.85	232.39	5.475	
15,000.00	10,226.00	10,294.60	10,294.60	89.47	207.92	-90.00	-3,278.18	-643.67	1,371.46	1,139.00	232.46	5.900	
15,100.00	10,226.00	10,294.60	10,294.60	91.22	207.92	-90.00	-3,278.18	-643.67	1,470.80	1,238.26	232.54	6.325	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3060.40usft

Offset Depths are relative to Offset Datum

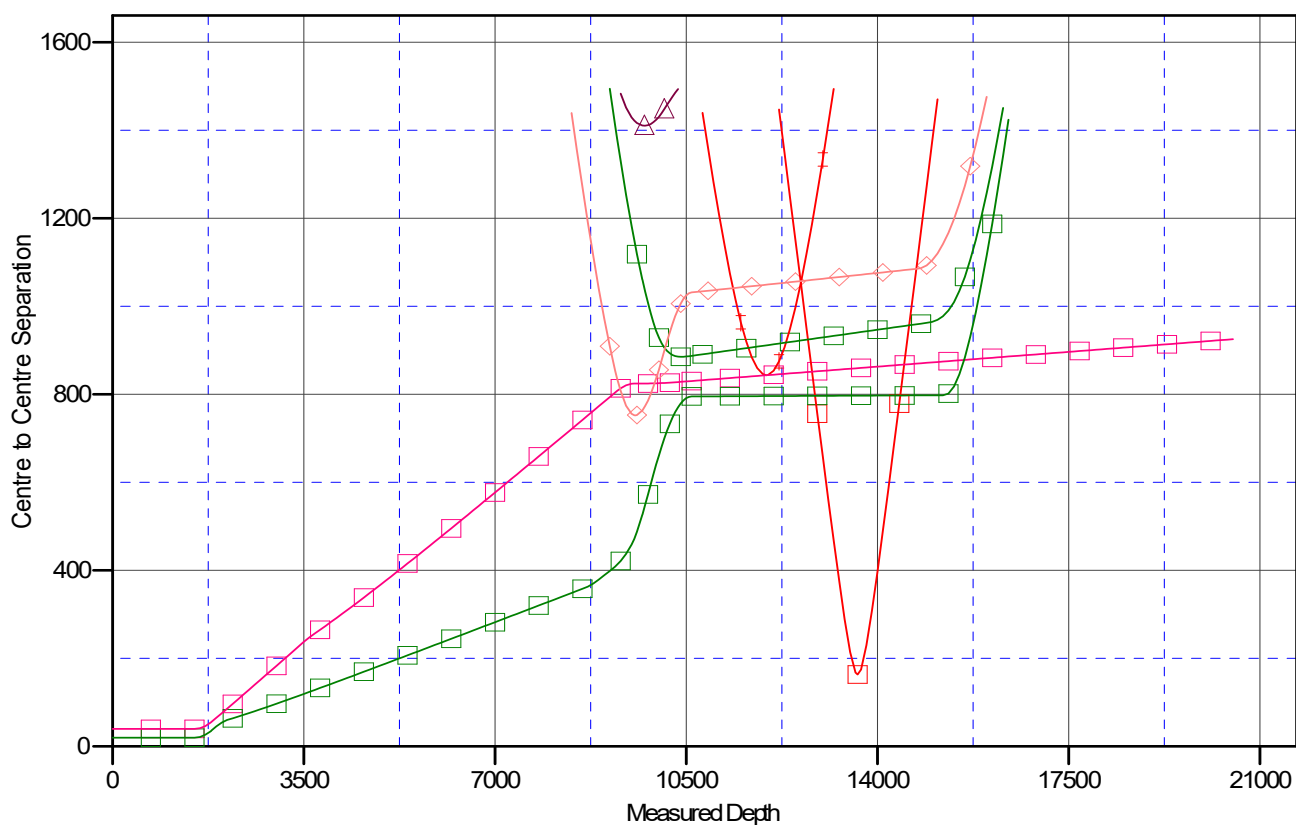
Central Meridian is -104.333334

Coordinates are relative to: Goonch Fed Com 0409 236H

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

Grid Convergence at Surface is: 0.13°

Ladder Plot



LEGEND

Loving Federal Com #001 (Active), Wellbore #1, Wellbore #1 V0	Goonch Fed Com 0409 136H, Wellbore #1, Plan 0 V0	Goonch Fed Com 04212H, Wellbore #1, Plan 1 V0
Swearingen #001 SWD (Active), Wellbore #1, Wellbore #1 V0	Goonch Fed Com 04222H, Wellbore #1, Plan 1 V0	
Goonch Fed Com 04132H, Wellbore #1, Plan 2 V0	Goonch Fed Com 04239H, Wellbore #1, Plan 0 V0	

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



SB Directional Anticollision Report



Company:	NOVO Oil & Gas	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Project:	EDDY CO., NM (NAD83)	TVD Reference:	RKB @ 3060.40usft
Reference Site:	SEC. 04-T23S-R28E	MD Reference:	RKB @ 3060.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3060.40usft

Offset Depths are relative to Offset Datum

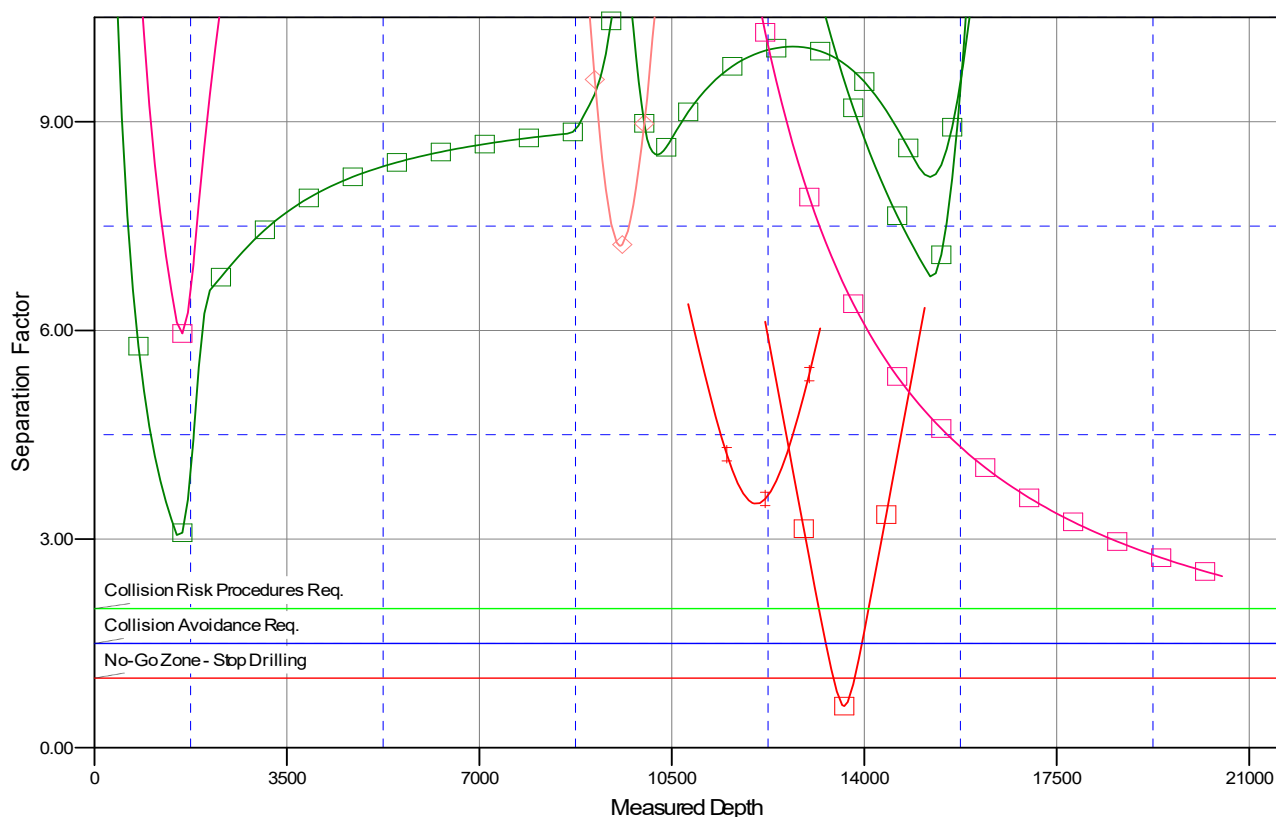
Central Meridian is -104.333334

Coordinates are relative to: Goonch Fed Com 0409 236H

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

Grid Convergence at Surface is: 0.13°

Separation Factor Plot



LEGEND

Loving Fedest Com #001 (Active), Wellbore#1, Wellbore #1 V0	Goonch Fed Qm 0409 136H, Wellbore #1, Plan 0 V0	Goonch Fed Qm 04 212H, Wellbore #1, Plan 1 V0
Swearingen #001 SWD (Active), Wellbore #1, Wellbore #1 V0	Goonch Fed Qm 04 222H, Wellbore #1, Plan 1 V0	
Goonch Fed Qm 04 132H, Wellbore #1, Plan 2 V0	Goonch Fed Qm 04 235H, Wellbore #1, Plan 0 V0	

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



NOVO Oil & Gas

EDDY CO., NM (NAD83)

SEC. 04-T23S-R28E

Goonch Fed Com 0409 236H

Wellbore #1

Plan: Plan 0

Standard Planning Report

22 February, 2021





SB Directional Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Company:	NOVO Oil & Gas	TVD Reference:	RKB @ 3060.40usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB @ 3060.40usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 0		

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	Latitude:	32.341014
From:	Map	Easting:	615,421.32	usft	Longitude:	-104.093453
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well	Goonch Fed Com 0409 236H					
Well Position	+N/-S	0.00 usft	Northing:	487,821.85 usft	Latitude:	32.340855
	+E/-W	0.00 usft	Easting:	617,080.97 usft	Longitude:	-104.088079
Position Uncertainty		0.50 usft	Wellhead Elevation:	usft	Ground Level:	3,035.40 usft
Grid Convergence:		0.13 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2021/02/22	6.83	59.94	47,544.30919560

Design	Plan 0				
Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Plan Survey Tool Program	Date	2021/02/22			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	20,509.20 Plan 0 (Wellbore #1)	MWD		
			MWD - Standard		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,812.75	6.26	293.49	1,812.13	6.80	-15.64	2.00	2.00	0.00	293.49	
9,235.68	6.26	293.49	9,190.87	329.20	-757.36	0.00	0.00	0.00	0.00	
9,548.43	0.00	0.00	9,503.00	336.00	-773.00	2.00	-2.00	0.00	180.00	
9,698.47	0.00	0.00	9,653.04	336.00	-773.00	0.00	0.00	0.00	0.00	
10,598.47	90.00	180.54	10,226.00	-236.93	-778.42	10.00	10.00	0.00	180.54	PBHL - Goonch 0409
20,509.20	90.00	180.54	10,226.00	-10,147.22	-872.11	0.00	0.00	0.00	0.00	PBHL - Goonch 0409



SB Directional Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Company:	NOVO Oil & Gas	TVD Reference:	RKB @ 3060.40usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB @ 3060.40usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Nudge									
1,600.00	2.00	293.49	1,599.98	0.70	-1.60	-0.70	2.00	2.00	0.00
1,700.00	4.00	293.49	1,699.84	2.78	-6.40	-2.78	2.00	2.00	0.00
1,800.00	6.00	293.49	1,799.45	6.26	-14.39	-6.26	2.00	2.00	0.00
1,812.75	6.25	293.49	1,812.13	6.80	-15.64	-6.80	2.00	2.00	0.00
EOB									
1,900.00	6.26	293.49	1,898.86	10.59	-24.36	-10.59	0.00	0.00	0.00
2,000.00	6.26	293.49	1,998.26	14.93	-34.35	-14.93	0.00	0.00	0.00
2,100.00	6.26	293.49	2,097.67	19.27	-44.34	-19.27	0.00	0.00	0.00
2,200.00	6.26	293.49	2,197.07	23.62	-54.34	-23.62	0.00	0.00	0.00
2,300.00	6.26	293.49	2,296.48	27.96	-64.33	-27.96	0.00	0.00	0.00
2,400.00	6.26	293.49	2,395.88	32.30	-74.32	-32.30	0.00	0.00	0.00
2,500.00	6.26	293.49	2,495.29	36.65	-84.31	-36.65	0.00	0.00	0.00
2,600.00	6.26	293.49	2,594.69	40.99	-94.30	-40.99	0.00	0.00	0.00
2,700.00	6.26	293.49	2,694.10	45.33	-104.30	-45.33	0.00	0.00	0.00
2,800.00	6.26	293.49	2,793.50	49.68	-114.29	-49.68	0.00	0.00	0.00
2,900.00	6.26	293.49	2,892.91	54.02	-124.28	-54.02	0.00	0.00	0.00
3,000.00	6.26	293.49	2,992.31	58.36	-134.27	-58.36	0.00	0.00	0.00
3,100.00	6.26	293.49	3,091.72	62.71	-144.27	-62.71	0.00	0.00	0.00
3,200.00	6.26	293.49	3,191.12	67.05	-154.26	-67.05	0.00	0.00	0.00
3,300.00	6.26	293.49	3,290.53	71.39	-164.25	-71.39	0.00	0.00	0.00
3,400.00	6.26	293.49	3,389.93	75.74	-174.24	-75.74	0.00	0.00	0.00
3,500.00	6.26	293.49	3,489.33	80.08	-184.24	-80.08	0.00	0.00	0.00
3,600.00	6.26	293.49	3,588.74	84.42	-194.23	-84.42	0.00	0.00	0.00
3,700.00	6.26	293.49	3,688.14	88.77	-204.22	-88.77	0.00	0.00	0.00
3,800.00	6.26	293.49	3,787.55	93.11	-214.21	-93.11	0.00	0.00	0.00
3,900.00	6.26	293.49	3,886.95	97.45	-224.20	-97.45	0.00	0.00	0.00
4,000.00	6.26	293.49	3,986.36	101.80	-234.20	-101.80	0.00	0.00	0.00
4,100.00	6.26	293.49	4,085.76	106.14	-244.19	-106.14	0.00	0.00	0.00
4,200.00	6.26	293.49	4,185.17	110.48	-254.18	-110.48	0.00	0.00	0.00
4,300.00	6.26	293.49	4,284.57	114.83	-264.17	-114.83	0.00	0.00	0.00
4,400.00	6.26	293.49	4,383.98	119.17	-274.17	-119.17	0.00	0.00	0.00
4,500.00	6.26	293.49	4,483.38	123.51	-284.16	-123.51	0.00	0.00	0.00
4,600.00	6.26	293.49	4,582.79	127.86	-294.15	-127.86	0.00	0.00	0.00
4,700.00	6.26	293.49	4,682.19	132.20	-304.14	-132.20	0.00	0.00	0.00
4,800.00	6.26	293.49	4,781.60	136.54	-314.13	-136.54	0.00	0.00	0.00
4,900.00	6.26	293.49	4,881.00	140.89	-324.13	-140.89	0.00	0.00	0.00



SB Directional

Planning Report

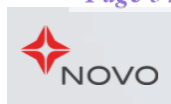


Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Company:	NOVO Oil & Gas	TVD Reference:	RKB @ 3060.40usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB @ 3060.40usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,000.00	6.26	293.49	4,980.40	145.23	-334.12	-145.23	0.00	0.00	0.00	
5,100.00	6.26	293.49	5,079.81	149.57	-344.11	-149.57	0.00	0.00	0.00	
5,200.00	6.26	293.49	5,179.21	153.92	-354.10	-153.92	0.00	0.00	0.00	
5,300.00	6.26	293.49	5,278.62	158.26	-364.10	-158.26	0.00	0.00	0.00	
5,400.00	6.26	293.49	5,378.02	162.60	-374.09	-162.60	0.00	0.00	0.00	
5,500.00	6.26	293.49	5,477.43	166.95	-384.08	-166.95	0.00	0.00	0.00	
5,600.00	6.26	293.49	5,576.83	171.29	-394.07	-171.29	0.00	0.00	0.00	
5,700.00	6.26	293.49	5,676.24	175.63	-404.06	-175.63	0.00	0.00	0.00	
5,800.00	6.26	293.49	5,775.64	179.98	-414.06	-179.98	0.00	0.00	0.00	
5,900.00	6.26	293.49	5,875.05	184.32	-424.05	-184.32	0.00	0.00	0.00	
6,000.00	6.26	293.49	5,974.45	188.66	-434.04	-188.66	0.00	0.00	0.00	
6,100.00	6.26	293.49	6,073.86	193.01	-444.03	-193.01	0.00	0.00	0.00	
6,200.00	6.26	293.49	6,173.26	197.35	-454.03	-197.35	0.00	0.00	0.00	
6,300.00	6.26	293.49	6,272.67	201.69	-464.02	-201.69	0.00	0.00	0.00	
6,400.00	6.26	293.49	6,372.07	206.04	-474.01	-206.04	0.00	0.00	0.00	
6,500.00	6.26	293.49	6,471.48	210.38	-484.00	-210.38	0.00	0.00	0.00	
6,600.00	6.26	293.49	6,570.88	214.72	-494.00	-214.72	0.00	0.00	0.00	
6,700.00	6.26	293.49	6,670.28	219.07	-503.99	-219.07	0.00	0.00	0.00	
6,800.00	6.26	293.49	6,769.69	223.41	-513.98	-223.41	0.00	0.00	0.00	
6,900.00	6.26	293.49	6,869.09	227.75	-523.97	-227.75	0.00	0.00	0.00	
7,000.00	6.26	293.49	6,968.50	232.10	-533.96	-232.10	0.00	0.00	0.00	
7,100.00	6.26	293.49	7,067.90	236.44	-543.96	-236.44	0.00	0.00	0.00	
7,200.00	6.26	293.49	7,167.31	240.78	-553.95	-240.78	0.00	0.00	0.00	
7,300.00	6.26	293.49	7,266.71	245.13	-563.94	-245.13	0.00	0.00	0.00	
7,400.00	6.26	293.49	7,366.12	249.47	-573.93	-249.47	0.00	0.00	0.00	
7,500.00	6.26	293.49	7,465.52	253.81	-583.93	-253.81	0.00	0.00	0.00	
7,600.00	6.26	293.49	7,564.93	258.16	-593.92	-258.16	0.00	0.00	0.00	
7,700.00	6.26	293.49	7,664.33	262.50	-603.91	-262.50	0.00	0.00	0.00	
7,800.00	6.26	293.49	7,763.74	266.84	-613.90	-266.84	0.00	0.00	0.00	
7,900.00	6.26	293.49	7,863.14	271.19	-623.89	-271.19	0.00	0.00	0.00	
8,000.00	6.26	293.49	7,962.55	275.53	-633.89	-275.53	0.00	0.00	0.00	
8,100.00	6.26	293.49	8,061.95	279.87	-643.88	-279.87	0.00	0.00	0.00	
8,200.00	6.26	293.49	8,161.35	284.22	-653.87	-284.22	0.00	0.00	0.00	
8,300.00	6.26	293.49	8,260.76	288.56	-663.86	-288.56	0.00	0.00	0.00	
8,400.00	6.26	293.49	8,360.16	292.90	-673.86	-292.90	0.00	0.00	0.00	
8,500.00	6.26	293.49	8,459.57	297.25	-683.85	-297.25	0.00	0.00	0.00	
8,600.00	6.26	293.49	8,558.97	301.59	-693.84	-301.59	0.00	0.00	0.00	
8,700.00	6.26	293.49	8,658.38	305.93	-703.83	-305.93	0.00	0.00	0.00	
8,800.00	6.26	293.49	8,757.78	310.28	-713.82	-310.28	0.00	0.00	0.00	
8,900.00	6.26	293.49	8,857.19	314.62	-723.82	-314.62	0.00	0.00	0.00	
9,000.00	6.26	293.49	8,956.59	318.96	-733.81	-318.96	0.00	0.00	0.00	
9,100.00	6.26	293.49	9,056.00	323.31	-743.80	-323.31	0.00	0.00	0.00	
9,200.00	6.26	293.49	9,155.40	327.65	-753.79	-327.65	0.00	0.00	0.00	
9,235.68	6.26	293.49	9,190.87	329.20	-757.36	-329.20	0.00	0.00	0.00	
EOH										
9,300.00	4.97	293.49	9,254.88	331.71	-763.13	-331.71	2.00	-2.00	0.00	
9,400.00	2.97	293.49	9,354.63	334.47	-769.47	-334.47	2.00	-2.00	0.00	
9,500.00	0.97	293.49	9,454.57	335.84	-772.62	-335.84	2.00	-2.00	0.00	
9,548.43	0.00	0.00	9,503.00	336.00	-773.00	-336.00	2.00	-2.00	137.33	
Drop to Vertical										
9,600.00	0.00	0.00	9,554.57	336.00	-773.00	-336.00	0.00	0.00	0.00	
9,698.47	0.00	0.00	9,653.04	336.00	-773.00	-336.00	0.00	0.00	0.00	
KOP @ 9653' TVD										



SB Directional Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Company:	NOVO Oil & Gas	TVD Reference:	RKB @ 3060.40usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB @ 3060.40usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 0		

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)
9,700.00	0.15	180.54	9,654.57	336.00	-773.00	-336.00	9.99	9.99	0.00
9,800.00	10.15	180.54	9,754.04	327.03	-773.08	-327.03	10.00	10.00	0.00
9,900.00	20.15	180.54	9,850.44	300.92	-773.33	-300.92	10.00	10.00	0.00
10,000.00	30.15	180.54	9,940.84	258.48	-773.73	-258.48	10.00	10.00	0.00
10,100.00	40.15	180.54	10,022.50	200.98	-774.28	-200.98	10.00	10.00	0.00
10,200.00	50.15	180.54	10,092.93	130.17	-774.95	-130.17	10.00	10.00	0.00
10,300.00	60.15	180.54	10,150.00	48.21	-775.72	-48.21	10.00	10.00	0.00
10,400.00	70.15	180.54	10,191.97	-42.41	-776.58	42.41	10.00	10.00	0.00
10,500.00	80.15	180.54	10,217.56	-138.95	-777.49	138.95	10.00	10.00	0.00
10,598.47	90.00	180.54	10,226.00	-236.93	-778.42	236.93	10.00	10.00	0.00
LP @ 10226' TVD									
10,600.00	90.00	180.54	10,226.00	-238.46	-778.43	238.46	0.01	0.01	0.00
10,700.00	90.00	180.54	10,226.00	-338.46	-779.38	338.46	0.00	0.00	0.00
10,800.00	90.00	180.54	10,226.00	-438.45	-780.32	438.45	0.00	0.00	0.00
10,900.00	90.00	180.54	10,226.00	-538.45	-781.27	538.45	0.00	0.00	0.00
11,000.00	90.00	180.54	10,226.00	-638.44	-782.21	638.44	0.00	0.00	0.00
11,100.00	90.00	180.54	10,226.00	-738.44	-783.16	738.44	0.00	0.00	0.00
11,200.00	90.00	180.54	10,226.00	-838.43	-784.10	838.43	0.00	0.00	0.00
11,300.00	90.00	180.54	10,226.00	-938.43	-785.05	938.43	0.00	0.00	0.00
11,400.00	90.00	180.54	10,226.00	-1,038.42	-785.99	1,038.42	0.00	0.00	0.00
11,500.00	90.00	180.54	10,226.00	-1,138.42	-786.94	1,138.42	0.00	0.00	0.00
11,600.00	90.00	180.54	10,226.00	-1,238.42	-787.88	1,238.42	0.00	0.00	0.00
11,700.00	90.00	180.54	10,226.00	-1,338.41	-788.83	1,338.41	0.00	0.00	0.00
11,800.00	90.00	180.54	10,226.00	-1,438.41	-789.78	1,438.41	0.00	0.00	0.00
11,900.00	90.00	180.54	10,226.00	-1,538.40	-790.72	1,538.40	0.00	0.00	0.00
12,000.00	90.00	180.54	10,226.00	-1,638.40	-791.67	1,638.40	0.00	0.00	0.00
12,100.00	90.00	180.54	10,226.00	-1,738.39	-792.61	1,738.39	0.00	0.00	0.00
12,200.00	90.00	180.54	10,226.00	-1,838.39	-793.56	1,838.39	0.00	0.00	0.00
12,300.00	90.00	180.54	10,226.00	-1,938.38	-794.50	1,938.38	0.00	0.00	0.00
12,400.00	90.00	180.54	10,226.00	-2,038.38	-795.45	2,038.38	0.00	0.00	0.00
12,500.00	90.00	180.54	10,226.00	-2,138.38	-796.39	2,138.38	0.00	0.00	0.00
12,600.00	90.00	180.54	10,226.00	-2,238.37	-797.34	2,238.37	0.00	0.00	0.00
12,700.00	90.00	180.54	10,226.00	-2,338.37	-798.28	2,338.37	0.00	0.00	0.00
12,800.00	90.00	180.54	10,226.00	-2,438.36	-799.23	2,438.36	0.00	0.00	0.00
12,900.00	90.00	180.54	10,226.00	-2,538.36	-800.17	2,538.36	0.00	0.00	0.00
13,000.00	90.00	180.54	10,226.00	-2,638.35	-801.12	2,638.35	0.00	0.00	0.00
13,100.00	90.00	180.54	10,226.00	-2,738.35	-802.07	2,738.35	0.00	0.00	0.00
13,200.00	90.00	180.54	10,226.00	-2,838.34	-803.01	2,838.34	0.00	0.00	0.00
13,300.00	90.00	180.54	10,226.00	-2,938.34	-803.96	2,938.34	0.00	0.00	0.00
13,400.00	90.00	180.54	10,226.00	-3,038.34	-804.90	3,038.34	0.00	0.00	0.00
13,500.00	90.00	180.54	10,226.00	-3,138.33	-805.85	3,138.33	0.00	0.00	0.00
13,600.00	90.00	180.54	10,226.00	-3,238.33	-806.79	3,238.33	0.00	0.00	0.00
13,700.00	90.00	180.54	10,226.00	-3,338.32	-807.74	3,338.32	0.00	0.00	0.00
13,800.00	90.00	180.54	10,226.00	-3,438.32	-808.68	3,438.32	0.00	0.00	0.00
13,900.00	90.00	180.54	10,226.00	-3,538.31	-809.63	3,538.31	0.00	0.00	0.00
14,000.00	90.00	180.54	10,226.00	-3,638.31	-810.57	3,638.31	0.00	0.00	0.00
14,100.00	90.00	180.54	10,226.00	-3,738.30	-811.52	3,738.30	0.00	0.00	0.00
14,200.00	90.00	180.54	10,226.00	-3,838.30	-812.46	3,838.30	0.00	0.00	0.00
14,300.00	90.00	180.54	10,226.00	-3,938.29	-813.41	3,938.29	0.00	0.00	0.00
14,400.00	90.00	180.54	10,226.00	-4,038.29	-814.36	4,038.29	0.00	0.00	0.00
14,500.00	90.00	180.54	10,226.00	-4,138.29	-815.30	4,138.29	0.00	0.00	0.00
14,600.00	90.00	180.54	10,226.00	-4,238.28	-816.25	4,238.28	0.00	0.00	0.00
14,700.00	90.00	180.54	10,226.00	-4,338.28	-817.19	4,338.28	0.00	0.00	0.00
14,800.00	90.00	180.54	10,226.00	-4,438.27	-818.14	4,438.27	0.00	0.00	0.00



SB Directional

Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Company:	NOVO Oil & Gas	TVD Reference:	RKB @ 3060.40usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB @ 3060.40usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,900.00	90.00	180.54	10,226.00	-4,538.27	-819.08	4,538.27	0.00	0.00	0.00
15,000.00	90.00	180.54	10,226.00	-4,638.26	-820.03	4,638.26	0.00	0.00	0.00
15,100.00	90.00	180.54	10,226.00	-4,738.26	-820.97	4,738.26	0.00	0.00	0.00
15,200.00	90.00	180.54	10,226.00	-4,838.25	-821.92	4,838.25	0.00	0.00	0.00
15,300.00	90.00	180.54	10,226.00	-4,938.25	-822.86	4,938.25	0.00	0.00	0.00
15,400.00	90.00	180.54	10,226.00	-5,038.25	-823.81	5,038.25	0.00	0.00	0.00
15,500.00	90.00	180.54	10,226.00	-5,138.24	-824.75	5,138.24	0.00	0.00	0.00
15,600.00	90.00	180.54	10,226.00	-5,238.24	-825.70	5,238.24	0.00	0.00	0.00
15,700.00	90.00	180.54	10,226.00	-5,338.23	-826.65	5,338.23	0.00	0.00	0.00
15,800.00	90.00	180.54	10,226.00	-5,438.23	-827.59	5,438.23	0.00	0.00	0.00
15,900.00	90.00	180.54	10,226.00	-5,538.22	-828.54	5,538.22	0.00	0.00	0.00
16,000.00	90.00	180.54	10,226.00	-5,638.22	-829.48	5,638.22	0.00	0.00	0.00
16,100.00	90.00	180.54	10,226.00	-5,738.21	-830.43	5,738.21	0.00	0.00	0.00
16,200.00	90.00	180.54	10,226.00	-5,838.21	-831.37	5,838.21	0.00	0.00	0.00
16,300.00	90.00	180.54	10,226.00	-5,938.21	-832.32	5,938.21	0.00	0.00	0.00
16,400.00	90.00	180.54	10,226.00	-6,038.20	-833.26	6,038.20	0.00	0.00	0.00
16,500.00	90.00	180.54	10,226.00	-6,138.20	-834.21	6,138.20	0.00	0.00	0.00
16,600.00	90.00	180.54	10,226.00	-6,238.19	-835.15	6,238.19	0.00	0.00	0.00
16,700.00	90.00	180.54	10,226.00	-6,338.19	-836.10	6,338.19	0.00	0.00	0.00
16,800.00	90.00	180.54	10,226.00	-6,438.18	-837.04	6,438.18	0.00	0.00	0.00
16,900.00	90.00	180.54	10,226.00	-6,538.18	-837.99	6,538.18	0.00	0.00	0.00
17,000.00	90.00	180.54	10,226.00	-6,638.17	-838.93	6,638.17	0.00	0.00	0.00
17,100.00	90.00	180.54	10,226.00	-6,738.17	-839.88	6,738.17	0.00	0.00	0.00
17,200.00	90.00	180.54	10,226.00	-6,838.17	-840.83	6,838.17	0.00	0.00	0.00
17,300.00	90.00	180.54	10,226.00	-6,938.16	-841.77	6,938.16	0.00	0.00	0.00
17,400.00	90.00	180.54	10,226.00	-7,038.16	-842.72	7,038.16	0.00	0.00	0.00
17,500.00	90.00	180.54	10,226.00	-7,138.15	-843.66	7,138.15	0.00	0.00	0.00
17,600.00	90.00	180.54	10,226.00	-7,238.15	-844.61	7,238.15	0.00	0.00	0.00
17,700.00	90.00	180.54	10,226.00	-7,338.14	-845.55	7,338.14	0.00	0.00	0.00
17,800.00	90.00	180.54	10,226.00	-7,438.14	-846.50	7,438.14	0.00	0.00	0.00
17,900.00	90.00	180.54	10,226.00	-7,538.13	-847.44	7,538.13	0.00	0.00	0.00
18,000.00	90.00	180.54	10,226.00	-7,638.13	-848.39	7,638.13	0.00	0.00	0.00
18,100.00	90.00	180.54	10,226.00	-7,738.13	-849.33	7,738.13	0.00	0.00	0.00
18,200.00	90.00	180.54	10,226.00	-7,838.12	-850.28	7,838.12	0.00	0.00	0.00
18,300.00	90.00	180.54	10,226.00	-7,938.12	-851.22	7,938.12	0.00	0.00	0.00
18,400.00	90.00	180.54	10,226.00	-8,038.11	-852.17	8,038.11	0.00	0.00	0.00
18,500.00	90.00	180.54	10,226.00	-8,138.11	-853.12	8,138.11	0.00	0.00	0.00
18,600.00	90.00	180.54	10,226.00	-8,238.10	-854.06	8,238.10	0.00	0.00	0.00
18,700.00	90.00	180.54	10,226.00	-8,338.10	-855.01	8,338.10	0.00	0.00	0.00
18,800.00	90.00	180.54	10,226.00	-8,438.09	-855.95	8,438.09	0.00	0.00	0.00
18,900.00	90.00	180.54	10,226.00	-8,538.09	-856.90	8,538.09	0.00	0.00	0.00
19,000.00	90.00	180.54	10,226.00	-8,638.08	-857.84	8,638.08	0.00	0.00	0.00
19,100.00	90.00	180.54	10,226.00	-8,738.08	-858.79	8,738.08	0.00	0.00	0.00
19,200.00	90.00	180.54	10,226.00	-8,838.08	-859.73	8,838.08	0.00	0.00	0.00
19,300.00	90.00	180.54	10,226.00	-8,938.07	-860.68	8,938.07	0.00	0.00	0.00
19,400.00	90.00	180.54	10,226.00	-9,038.07	-861.62	9,038.07	0.00	0.00	0.00
19,500.00	90.00	180.54	10,226.00	-9,138.06	-862.57	9,138.06	0.00	0.00	0.00
19,600.00	90.00	180.54	10,226.00	-9,238.06	-863.51	9,238.06	0.00	0.00	0.00
19,700.00	90.00	180.54	10,226.00	-9,338.05	-864.46	9,338.05	0.00	0.00	0.00
19,800.00	90.00	180.54	10,226.00	-9,438.05	-865.41	9,438.05	0.00	0.00	0.00
19,900.00	90.00	180.54	10,226.00	-9,538.04	-866.35	9,538.04	0.00	0.00	0.00
20,000.00	90.00	180.54	10,226.00	-9,638.04	-867.30	9,638.04	0.00	0.00	0.00
20,100.00	90.00	180.54	10,226.00	-9,738.04	-868.24	9,738.04	0.00	0.00	0.00
20,200.00	90.00	180.54	10,226.00	-9,838.03	-869.19	9,838.03	0.00	0.00	0.00



SB Directional Planning Report



Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Goonch Fed Com 0409 236H
Company:	NOVO Oil & Gas	TVD Reference:	RKB @ 3060.40usft
Project:	EDDY CO., NM (NAD83)	MD Reference:	RKB @ 3060.40usft
Site:	SEC. 04-T23S-R28E	North Reference:	Grid
Well:	Goonch Fed Com 0409 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 0		

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)
20,300.00	90.00	180.54	10,226.00	-9,938.03	-870.13	9,938.03	0.00	0.00	0.00
20,400.00	90.00	180.54	10,226.00	-10,038.02	-871.08	10,038.02	0.00	0.00	0.00
20,500.00	90.00	180.54	10,226.00	-10,138.02	-872.02	10,138.02	0.00	0.00	0.00
20,509.19	90.00	180.54	10,226.00	-10,147.21	-872.11	10,147.21	0.00	0.00	0.00
PBHL; 130' FSL, 2178' FEL									
20,509.20	90.00	180.54	10,226.00	-10,147.22	-872.11	10,147.22	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL - Goonch 0409 23	0.00	0.00	0.00	-10,147.22	-872.11	477,674.63	616,208.86	32.312968	-104.090977
- plan misses target center by 10184.63usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (")	Hole Diameter (")			
20,509.20	10,226.00	20" Casing			20	24			

Plan Annotations									
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment					
		+N/-S (usft)	+E/-W (usft)						
1,500.00	1,500.00	0.00	0.00	Start Nudge					
1,812.75	1,812.13	6.80	-15.64	EOB					
9,235.68	9,190.87	329.20	-757.36	EOH					
9,548.43	9,503.00	336.00	-773.00	Drop to Vertical					
9,698.47	9,653.04	336.00	-773.00	KOP @ 9653' TVD					
10,598.47	10,226.00	-236.93	-778.42	LP @ 10226' TVD					
20,509.19	10,226.00	-10,147.21	-872.11	PBHL; 130' FSL, 2178' FEL					

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 29371

COMMENTS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1001 West Wilshire Blvd Oklahoma City, OK 73116	OGRID: 372920
	Action Number: 29371
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 5/27/2021	5/27/2021

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CONDITIONS

Action 29371

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Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1001 West Wilshire Blvd Oklahoma City, OK 73116	OGRID: 372920
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CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	5/27/2021