

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. NMNM013233 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. GOONCH FED COM 0409 133H
2. Name of Operator NOVO OIL AND GAS NORTHERN DELAWARE LLC		9. API Well No. 30 015 48268
3a. Address 1001 West Wilshire Boulevard Suite 206, Oklahoma City, OK	3b. Phone No. (include area code) (405) 404-0414	10. Field and Pool, or Exploratory Purple Sage/Wolfcamp
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESE / 395 FSL / 485 FEL / LAT 32.3429977 / LONG -104.0854631 At proposed prod. zone SWSE / 10 FSL / 1518 FEL / LAT 32.3126433 / LONG -104.0888372		11. Sec., T. R. M. or Blk. and Survey or Area SEC 33/T22S/R28E/NMP
14. Distance in miles and direction from nearest town or post office* 4 miles		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 395 feet		16. No of acres in lease 17. Spacing Unit dedicated to this well 320.22
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20 feet		20. BLM/BIA Bond No. in file FED: NMB001536
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3039 feet	22. Approximate date work will start* 03/01/2020	23. Estimated duration 90 days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

25. Signature (Electronic Submission)	Name (Printed/Typed) BRIAN WOOD / Ph: (405) 404-0414	Date 01/10/2020
Title President		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 04/28/2021
Title Assistant Field Manager Lands & Minerals		
Office Carlsbad Field Office		

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

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.

(Continued on page 2)

*(Instructions on page 2)



INSTRUCTIONS

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

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

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

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

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

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

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Additional Operator Remarks

Location of Well

0. SHL: SESE / 395 FSL / 485 FEL / TWSP: 22S / RANGE: 28E / SECTION: 33 / LAT: 32.3429977 / LONG: -104.0854631 (TVD: 0 feet, MD: 0 feet)
PPP: NWNE / 0 FNL / 1518 FEL / TWSP: 23S / RANGE: 28E / SECTION: 9 / LAT: 32.327405 / LONG: -104.088852 (TVD: 9405 feet, MD: 14959 feet)
PPP: NWSE / 2640 FSL / 1518 FEL / TWSP: 23S / RANGE: 28E / SECTION: 4 / LAT: 32.334646 / LONG: -104.088796 (TVD: 9414 feet, MD: 12315 feet)
PPP: LOT 2 / 0 FNL / 1518 FEL / TWSP: 23S / RANGE: 28E / SECTION: 4 / LAT: 32.34193 / LONG: -104.088749 (TVD: 9418 feet, MD: 9673 feet)
PPP: SWSE / 377 FSL / 1292 FEL / TWSP: 22S / RANGE: 28E / SECTION: 33 / LAT: 32.3429484 / LONG: -104.0880749 (TVD: 8254 feet, MD: 8302 feet)
BHL: SWSE / 10 FSL / 1518 FEL / TWSP: 23S / RANGE: 28E / SECTION: 9 / LAT: 32.3126433 / LONG: -104.0888372 (TVD: 9386 feet, MD: 20315 feet)

BLM Point of Contact

Name: Gavin Mickwee
Title: Land Law Examiner
Phone: (575) 234-5972
Email: gmickwee@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-48268	² Pool Code 15011	³ Pool Name CULEBRA BLUFF; BONE SPRING, SOUTH
⁴ Property Code 326983	⁵ Property Name GOONCH FED COM 0409	
⁷ OGRID No. 372920	⁸ Operator Name NOVO OIL & GAS NORTHERN DELAWARE, LLC	⁶ Well Number 133H
		⁹ Elevation 3038.8

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
P	33	22 S	28 E		395	SOUTH	485	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		10	SOUTH	1518	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320.22		C	

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.

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>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.</p> <p>Signature: <i>Brian Wood</i> Date: 1-1-20</p> <p>Printed Name: BRIAN WOOD</p> <p>E-mail Address: brian@permitswest.com</p> <p>E-mail Address: 505 466-8120</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>JUNE 5, 2019</p> <p>Date of Survey: 12797</p> <p>Signature and Seal of Professional Surveyor: <i>William F. Jaramillo</i></p> <p>Certificate Number: WILLIAM F. JARAMILLO, PLS 12797</p> <p>SURVEY NO. 7258</p>

Intent ☒ YES As Drilled ☐

API #

Operator Name: NOVO OIL & GAS NORTHERN DELAWARE, LLC	Property Name: GOONCH FED COM 0409	Well Number 133H
------------------------------------------------------------	---------------------------------------	---------------------

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude			NAD	

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	4	23S	28E		100	NORTH	1518	EAST	EDDY
Latitude 32.3416409					Longitude 104.0887835			NAD 83	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
0	9	23S	28E		100	SOUTH	1518	EAST	EDDY
Latitude 32.3128906					Longitude 104.0888401			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☒ YESIs this well an infill well? ☐ NO

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

API #

Operator Name:	Property Name:	Well Number
----------------	----------------	-------------

KZ 06/29/2018

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 1/1/2020

X Original Operator & OGRID No.: Novo Oil & Gas Northern Delaware, LLC (372920)

☐ Amended - Reason for Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: A C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule 19.15.18.12.A

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Goonch Fed Com 0409 133H	30-015-	P-33-22S-28E	395 FSL & 485 FEL	375	30 days	Time depends on well clean up
Goonch Fed Com 0409 214H	30-015-	P-33-22S-28E	475 FSL & 485 FEL	4000	30 days	Time depends on well clean up
Goonch Fed Com 0409 233H	30-015-	P-33-22S-28E	455 FSL & 485 FEL	4000	30 days	Time depends on well clean up
Goonch Fed Com 0409 234H	30-015-	P-33-22S-28E	475 FSL & 285 FEL	4000	30 days	Time depends on well clean up

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is not yet dedicated. However, negotiations are underway. One possible connection is an existing Enterprise line that is <1/4 mile northwest. Novo Oil & Gas Northern Delaware, LLC will provide (periodically) to its Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Novo Oil & Gas Northern Delaware, LLC and its Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at an as yet undetermined Gas Transporter Processing Plant located in Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on its Gas Transporter system at that time. Based on current information, it is Novo Oil & Gas Northern Delaware, LLC's belief an existing or new system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report

04/24/2021

APD ID: 10400052962

Submission Date: 01/10/2020

Highlighted data
reflects the most
recent changes

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: GOONCH FED COM 0409

Well Number: 133H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
626631	QUATERNARY	3039	0	0	OTHER : None	USEABLE WATER	N
626632	RUSTLER ANHYDRITE	2731	308	308	ANHYDRITE	NONE	N
626622	SALADO	2305	734	734	SALT	NONE	N
626633	CASTILE	2069	970	970	ANHYDRITE	NONE	N
1241052	BASE OF SALT	316	2723	2729	SALT	NONE	N
626630	BELL CANYON	315	2724	2730	SANDSTONE	NATURAL GAS, OIL	N
626634	CHERRY CANYON	-700	3739	3755	SANDSTONE	NATURAL GAS, OIL	N
626627	BRUSHY CANYON	-2155	5194	5219	SANDSTONE	NATURAL GAS, OIL	N
626628	BONE SPRING	-3230	6269	6302	LIMESTONE	NATURAL GAS, OIL	N
626635	BONE SPRING 1ST	-4330	7369	7410	SANDSTONE	NATURAL GAS, OIL	N
626623	BONE SPRING 2ND	-4345	7384	7425	OTHER : Carbonate	NATURAL GAS, OIL	N
626624	BONE SPRING 2ND	-4855	7894	7939	SANDSTONE	NATURAL GAS, OIL	N
626625	BONE SPRING 3RD	-5215	8254	8302	OTHER : Carbonate	NATURAL GAS, OIL	N
626626	BONE SPRING 3RD	-6115	9154	9210	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC**Well Name:** GOONCH FED COM 0409**Well Number:** 133H**Pressure Rating (PSI):** 5M**Rating Depth:** 12000

Equipment: A 13.625" 5,000-psi BOP system will be installed on a multi-bowl (speed head) wellhead with a 13.625 flanged casing spool. Top flange of casing spool will be set in a cellar below ground level. BOP system will consist of a single pipe ram on the bottom, mud cross, double pipe ram with blind rams on bottom and pipe rams on top, and annular preventer. Blowout preventer will be installed on top of the 13.375" surface casing and will remain installed to TD of the well. Wellhead, blowout preventer, and choke manifold diagram are included.

Requesting Variance? YES

Variance request: Variance is requested to use a co-flex hose between the BOP system and choke manifold. A co-flex pressure test certificate will be on the location when testing the BOP.

Testing Procedure: BOP system will be isolated with a test plug and tested by an independent tester to 250-psi low and 5000-psi high for 10 minutes. 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 1946-psi (0.22 psi x shoe TVD) high for 30 minutes.

Choke Diagram Attachment:

Goonch_0409_133H_Choke_20200106144446.pdf

BOP Diagram Attachment:

Goonch_0409_133H_BOP_20200106144457.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	380	0	380	3039	2659	380	J-55	54.5	BUTT	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	9.875	8.625	NEW	NON API	N	0	8844	0	8795	3041	-5756	8844	P-110	32	OTHER - TLW	1.125	1.125	DRY	1.6	DRY	1.6
3	PRODUCTION	7.875	5.5	NEW	NON API	N	0	20315	0	9386	3041	-6347	20315	P-110	20	OTHER - DWC/C IS+	1.125	1.125	DRY	1.6	DRY	1.6

Casing Attachments

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC**Well Name:** GOONCH FED COM 0409**Well Number:** 133H**Casing Attachments**

Casing ID: 1 **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Goonch_0409_133H_Casing_Design_Assumptions_20200106145039.pdf

Casing ID: 2 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:**

8.625in_TLW_Casing_Spec_20201217091037.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**Goonch_0409_133H_Casing_Design_Assumptions_20200106151435.pdf

Casing ID: 3 **String Type:** PRODUCTION**Inspection Document:****Spec Document:**

5.5in_DWC_Casing_Spec_20201217090927.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**Goonch_0409_133H_Casing_Design_Assumptions_20200106145221.pdf

Section 4 - Cement

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC**Well Name:** GOONCH FED COM 0409**Well Number:** 133H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Tail		0	380	327	1.62	13.8	529	100	Class C	gel + accelerator + LCM
INTERMEDIATE	Lead		0	8844	591	3.58	10	2115	50	Class C or H	Fluid loss + retarder + LCM; may bead for compressive strength
INTERMEDIATE	Tail		0	8844	130	1.39	13.8	180	50	Class C or H	Fluid loss + retarder + LCM
PRODUCTION	Lead		0	2031 5	680	2.12	12	1441	20	Class H	Fluid loss + retarder + LCM
PRODUCTION	Tail		0	2031 5	1982	1.59	13.2	3151	20	Class H	Fluid loss + retarder + LCM

Section 5 - Circulating Medium

Mud System Type: Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

Describe what will be on location to control well or mitigate other conditions: All necessary mud products (barite, bentonite, LCM) to control weight and fluid loss will be on site at all times. Mud program may change due to hole conditions.

Describe the mud monitoring system utilized: An electronic PVT mud system will monitor flow rate, pump pressure, stroke rate, and volume.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
380	8844	OTHER : Brine or cut brine	8.8	9.6							
8844	2031 5	OIL-BASED MUD	12	13.5							

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC**Well Name:** GOONCH FED COM 0409**Well Number:** 133H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	380	OTHER : Fresh water spud	8.3	8.3							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

A 2-person mud logging program will be used from 3000' to TD.

GR log will be acquired by MDW tools from the intermediate casing to TD.

List of open and cased hole logs run in the well:

GAMMA RAY LOG, MUD LOG/GEOLOGIC LITHOLOGY LOG,

Coring operation description for the well:

No core or drill stem test is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6610

Anticipated Surface Pressure: 4538

Anticipated Bottom Hole Temperature(F): 215

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Goonch_0409_133H_H2S_Plan_20200106150138.pdf

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: GOONCH FED COM 0409

Well Number: 133H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Goonch_0409_133H_Horizontal_Drill_Plan_20200106144841.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CoFlex_Certs_20200106144917.pdf

Goonch_0409_133H_Anti_Collision_Report_20200106144949.pdf

Goonch_0409_133H_Drill_Plan_20201217091425.pdf

Goonch_0409_133H_Speedhead_Specs_20201217091434.pdf

Other Variance attachment:

Goonch_0409_133H_Casing_Cementing_Variance_20200106144821.pdf

Goonch_0409_133H_Alternative_Casing__Spec_Request_20200714134817.pdf

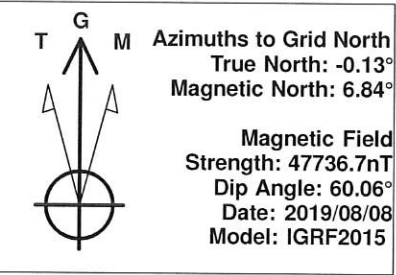


GOONCH FED COM 0409 133H

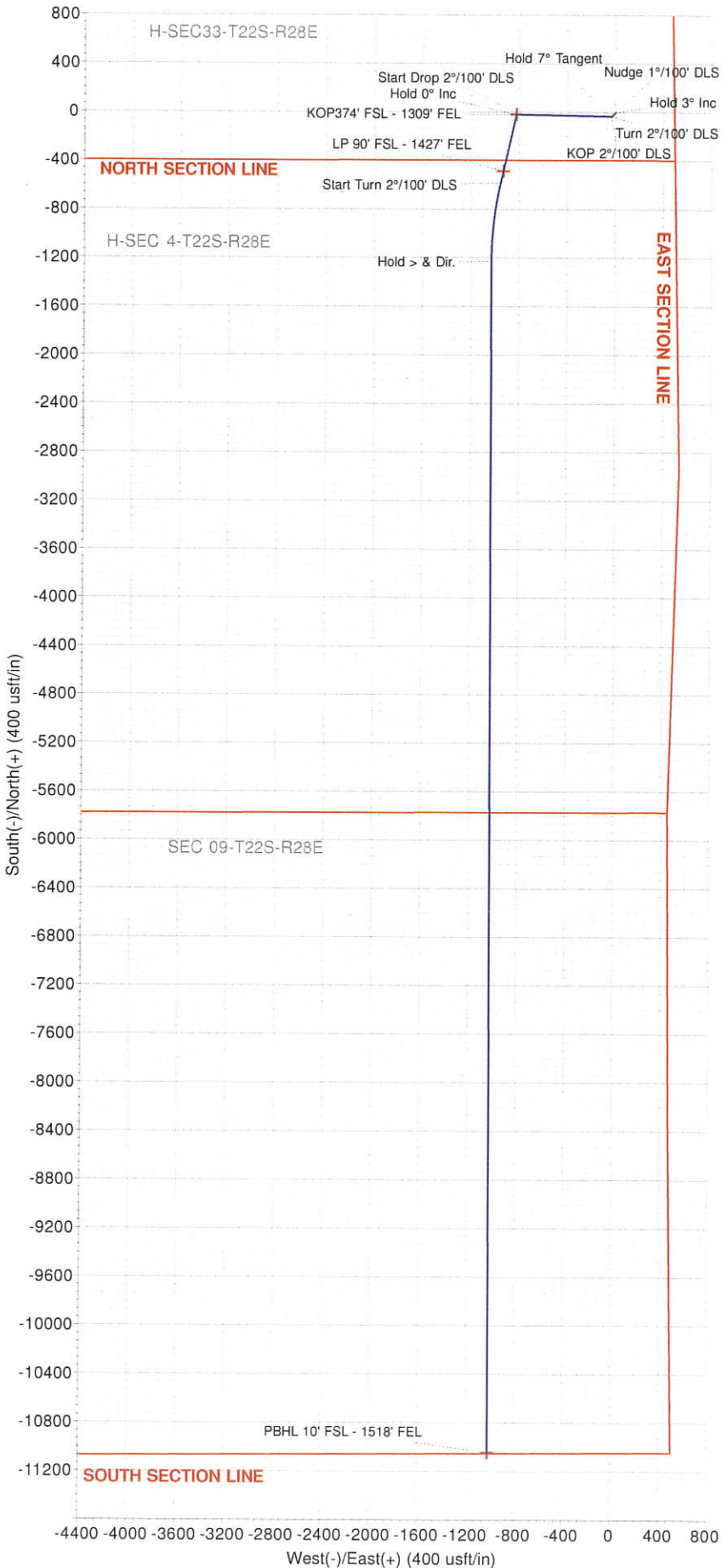
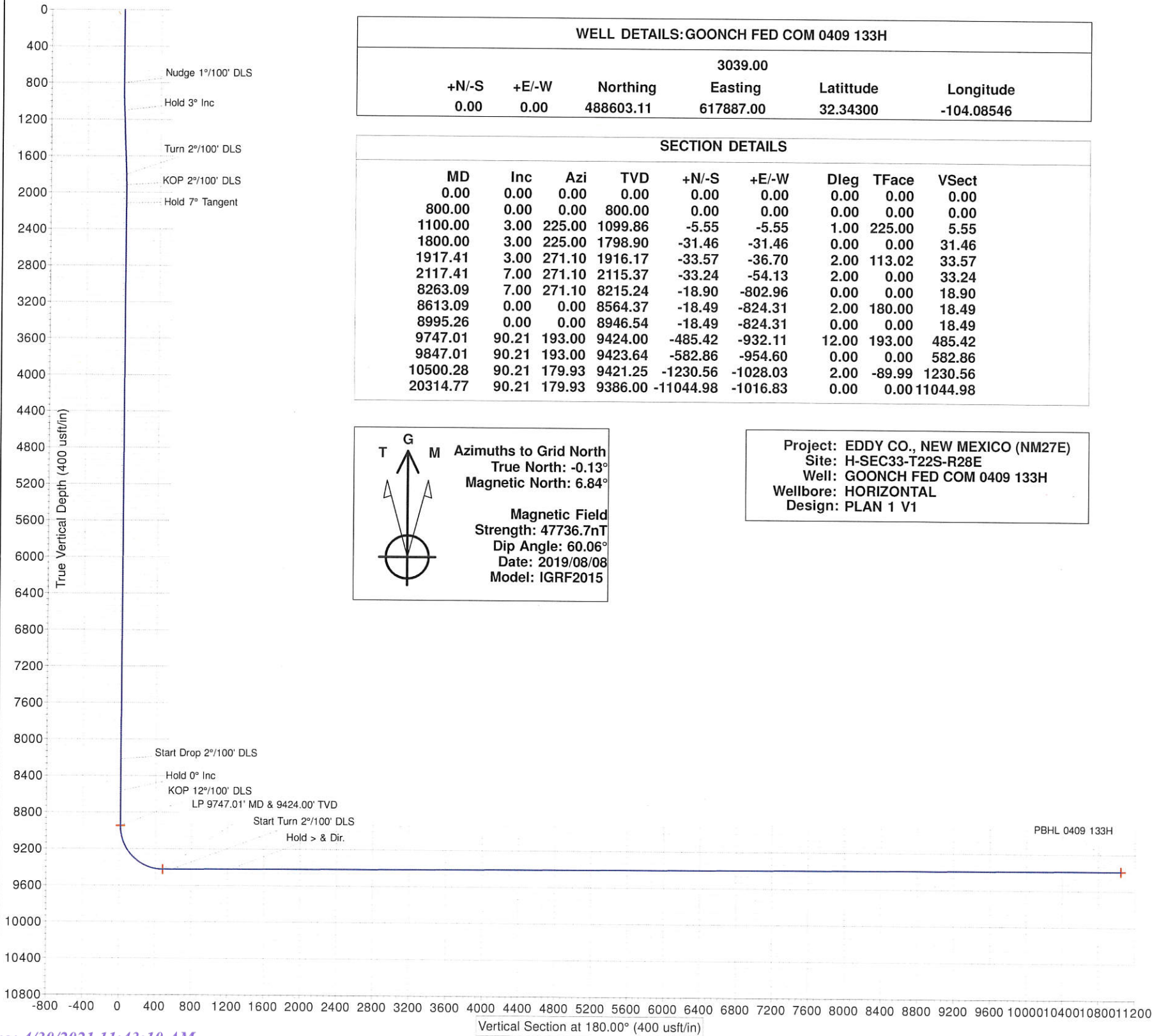
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP 0409 133H	8946.54	-18.49	-824.31	488584.62	617062.69	32.34295	-104.08813
PBHL 0409 133H	9386.00	-11044.98	-1016.83	477558.13	616870.17	32.31264	-104.08884
LP 0409 133H	9424.00	-485.42	-932.11	488117.69	616954.89	32.34167	-104.08848

WELL DETAILS: GOONCH FED COM 0409 133H						
				3039.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	488603.11	617887.00	32.34300	-104.08546	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
0.00	0.00	0.00	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	
1100.00	3.00	225.00	1099.86	-5.55	-5.55	1.00	225.00	5.55	
1800.00	3.00	225.00	1798.90	-31.46	-31.46	0.00	0.00	31.46	
1917.41	3.00	271.10	1916.17	-33.57	-36.70	2.00	113.02	33.57	
2117.41	7.00	271.10	2115.37	-33.24	-54.13	2.00	0.00	33.24	
8263.09	7.00	271.10	8215.24	-18.90	-802.96	0.00	0.00	18.90	
8613.09	0.00	0.00	8564.37	-18.49	-824.31	2.00	180.00	18.49	
8995.26	0.00	0.00	8946.54	-18.49	-824.31	0.00	0.00	18.49	
9747.01	90.21	193.00	9424.00	-485.42	-932.11	12.00	193.00	485.42	
9847.01	90.21	193.00	9423.64	-582.86	-954.60	0.00	0.00	582.86	
10500.28	90.21	179.93	9421.25	-1230.56	-1028.03	2.00	-89.99	1230.56	
20314.77	90.21	179.93	9386.00	-11044.98	-1016.83	0.00	0.00	11044.98	



Project: EDDY CO., NEW MEXICO (NM27E)
Site: H-SEC33-T22S-R28E
Well: GOONCH FED COM 0409 133H
Wellbore: HORIZONTAL
Design: PLAN 1 V1



Project	EDDY CO., NEW MEXICO (NM27E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	H-SEC33-T22S-R28E				
Site Position:		Northing:	488,683.10 _{usft}	Latitude:	32.34322
From:	Lat/Long	Easting:	617,885.58 _{usft}	Longitude:	-104.08547
Position Uncertainty:	0.00 _{usft}	Slot Radius:	13-3/16"	Grid Convergence:	0.13 °

Well	GOONCH FED COM 0409 133H					
Well Position	+N/-S	0.00 usft	Northing:	488,603.11usft	Latitude:	32.34300
	+E/-W	0.00 usft	Easting:	617,887.00 usft	Longitude:	-104.08546
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,039.00 usft	Ground Level:	3,039.00 usft

Wellbore	HORIZONTAL				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2019/08/08	6.97	60.06	47,736.67906606

Design	PLAN 1 V1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.00

Survey Tool Program	Date	2019/08/08			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,314.58	PLAN 1 V1 (HORIZONTAL)	MWD	OWSG MWD - Standard	

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00
Nudge 1°/100' DLS							
900.00	1.00	225.00	899.99	-0.62	-0.62	0.62	1.00
1,000.00	2.00	225.00	999.96	-2.47	-2.47	2.47	1.00
1,100.00	3.00	225.00	1,099.86	-5.55	-5.55	5.55	1.00
Hold 3° Inc							
1,200.00	3.00	225.00	1,199.73	-9.25	-9.25	9.25	0.00
1,300.00	3.00	225.00	1,299.59	-12.95	-12.95	12.95	0.00
1,400.00	3.00	225.00	1,399.45	-16.65	-16.65	16.65	0.00
1,500.00	3.00	225.00	1,499.31	-20.36	-20.36	20.36	0.00
1,600.00	3.00	225.00	1,599.18	-24.06	-24.06	24.06	0.00
1,700.00	3.00	225.00	1,699.04	-27.76	-27.76	27.76	0.00

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
1,800.00	3.00	225.00	1,798.90	-31.46	-31.46	31.46	0.00
Turn 2°/100' DLS							
1,900.00	2.88	264.71	1,898.78	-33.54	-35.81	33.54	2.00
1,917.41	3.00	271.10	1,916.17	-33.57	-36.70	33.57	2.00
KOP 2°/100' DLS							
2,000.00	4.65	271.10	1,998.57	-33.47	-42.21	33.47	2.00
2,100.00	6.65	271.10	2,098.08	-33.28	-52.06	33.28	2.00
2,117.41	7.00	271.10	2,115.37	-33.24	-54.13	33.24	2.00
Hold 7° Tangent							
2,200.00	7.00	271.10	2,197.34	-33.04	-64.19	33.04	0.00
2,300.00	7.00	271.10	2,296.60	-32.81	-76.38	32.81	0.00
2,400.00	7.00	271.10	2,395.85	-32.58	-88.56	32.58	0.00
2,500.00	7.00	271.10	2,495.11	-32.34	-100.74	32.34	0.00
2,600.00	7.00	271.10	2,594.36	-32.11	-112.93	32.11	0.00
2,700.00	7.00	271.10	2,693.62	-31.88	-125.11	31.88	0.00
2,800.00	7.00	271.10	2,792.87	-31.65	-137.30	31.65	0.00
2,900.00	7.00	271.10	2,892.12	-31.41	-149.48	31.41	0.00
3,000.00	7.00	271.10	2,991.38	-31.18	-161.67	31.18	0.00
3,100.00	7.00	271.10	3,090.63	-30.95	-173.85	30.95	0.00
3,200.00	7.00	271.10	3,189.89	-30.71	-186.04	30.71	0.00
3,300.00	7.00	271.10	3,289.14	-30.48	-198.22	30.48	0.00
3,400.00	7.00	271.10	3,388.40	-30.25	-210.41	30.25	0.00
3,500.00	7.00	271.10	3,487.65	-30.01	-222.59	30.01	0.00
3,600.00	7.00	271.10	3,586.91	-29.78	-234.78	29.78	0.00
3,700.00	7.00	271.10	3,686.16	-29.55	-246.96	29.55	0.00
3,800.00	7.00	271.10	3,785.42	-29.31	-259.15	29.31	0.00
3,900.00	7.00	271.10	3,884.67	-29.08	-271.33	29.08	0.00
4,000.00	7.00	271.10	3,983.93	-28.85	-283.51	28.85	0.00
4,100.00	7.00	271.10	4,083.18	-28.61	-295.70	28.61	0.00
4,200.00	7.00	271.10	4,182.43	-28.38	-307.88	28.38	0.00
4,300.00	7.00	271.10	4,281.69	-28.15	-320.07	28.15	0.00
4,400.00	7.00	271.10	4,380.94	-27.91	-332.25	27.91	0.00
4,500.00	7.00	271.10	4,480.20	-27.68	-344.44	27.68	0.00
4,600.00	7.00	271.10	4,579.45	-27.45	-356.62	27.45	0.00
4,700.00	7.00	271.10	4,678.71	-27.21	-368.81	27.21	0.00
4,800.00	7.00	271.10	4,777.96	-26.98	-380.99	26.98	0.00
4,900.00	7.00	271.10	4,877.22	-26.75	-393.18	26.75	0.00
5,000.00	7.00	271.10	4,976.47	-26.51	-405.36	26.51	0.00
5,100.00	7.00	271.10	5,075.73	-26.28	-417.55	26.28	0.00
5,200.00	7.00	271.10	5,174.98	-26.05	-429.73	26.05	0.00
5,300.00	7.00	271.10	5,274.24	-25.81	-441.92	25.81	0.00
5,400.00	7.00	271.10	5,373.49	-25.58	-454.10	25.58	0.00
5,500.00	7.00	271.10	5,472.74	-25.35	-466.29	25.35	0.00
5,600.00	7.00	271.10	5,572.00	-25.11	-478.47	25.11	0.00
5,700.00	7.00	271.10	5,671.25	-24.88	-490.65	24.88	0.00
5,800.00	7.00	271.10	5,770.51	-24.65	-502.84	24.65	0.00
5,900.00	7.00	271.10	5,869.76	-24.41	-515.02	24.41	0.00
6,000.00	7.00	271.10	5,969.02	-24.18	-527.21	24.18	0.00
6,100.00	7.00	271.10	6,068.27	-23.95	-539.39	23.95	0.00
6,200.00	7.00	271.10	6,167.53	-23.71	-551.58	23.71	0.00
6,300.00	7.00	271.10	6,266.78	-23.48	-563.76	23.48	0.00
6,400.00	7.00	271.10	6,366.04	-23.25	-575.95	23.25	0.00
6,500.00	7.00	271.10	6,465.29	-23.01	-588.13	23.01	0.00
6,600.00	7.00	271.10	6,564.55	-22.78	-600.32	22.78	0.00

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,700.00	7.00	271.10	6,663.80	-22.55	-612.50	22.55	0.00
6,800.00	7.00	271.10	6,763.05	-22.31	-624.69	22.31	0.00
6,900.00	7.00	271.10	6,862.31	-22.08	-636.87	22.08	0.00
7,000.00	7.00	271.10	6,961.56	-21.85	-649.06	21.85	0.00
7,100.00	7.00	271.10	7,060.82	-21.61	-661.24	21.61	0.00
7,200.00	7.00	271.10	7,160.07	-21.38	-673.43	21.38	0.00
7,300.00	7.00	271.10	7,259.33	-21.15	-685.61	21.15	0.00
7,400.00	7.00	271.10	7,358.58	-20.91	-697.79	20.91	0.00
7,500.00	7.00	271.10	7,457.84	-20.68	-709.98	20.68	0.00
7,600.00	7.00	271.10	7,557.09	-20.45	-722.16	20.45	0.00
7,700.00	7.00	271.10	7,656.35	-20.21	-734.35	20.21	0.00
7,800.00	7.00	271.10	7,755.60	-19.98	-746.53	19.98	0.00
7,900.00	7.00	271.10	7,854.86	-19.75	-758.72	19.75	0.00
8,000.00	7.00	271.10	7,954.11	-19.51	-770.90	19.51	0.00
8,100.00	7.00	271.10	8,053.36	-19.28	-783.09	19.28	0.00
8,200.00	7.00	271.10	8,152.62	-19.05	-795.27	19.05	0.00
8,263.09	7.00	271.10	8,215.24	-18.90	-802.96	18.90	0.00
Start Drop 2°/100' DLS							
8,300.00	6.26	271.10	8,251.90	-18.82	-807.22	18.82	2.00
8,400.00	4.26	271.10	8,351.47	-18.64	-816.39	18.64	2.00
8,500.00	2.26	271.10	8,451.31	-18.53	-822.08	18.53	2.00
8,600.00	0.26	271.10	8,551.28	-18.49	-824.28	18.49	2.00
8,613.09	0.00	271.10	8,564.37	-18.49	-824.31	18.49	2.00
Hold 0° Inc							
8,700.00	0.00	0.00	8,651.28	-18.49	-824.31	18.49	0.00
8,800.00	0.00	0.00	8,751.28	-18.49	-824.31	18.49	0.00
8,900.00	0.00	0.00	8,851.28	-18.49	-824.31	18.49	0.00
8,995.26	0.00	0.00	8,946.54	-18.49	-824.31	18.49	0.00
KOP 12°/100' DLS - KOP 0409 133H							
9,000.00	0.57	193.00	8,951.28	-18.51	-824.32	18.51	12.00
9,025.00	3.57	193.00	8,976.26	-19.39	-824.52	19.39	12.00
9,050.00	6.57	193.00	9,001.16	-21.54	-825.02	21.54	12.00
9,075.00	9.57	193.00	9,025.91	-24.96	-825.80	24.96	12.00
9,100.00	12.57	193.00	9,050.44	-29.64	-826.88	29.64	12.00
9,125.00	15.57	193.00	9,074.69	-35.56	-828.25	35.56	12.00
9,150.00	18.57	193.00	9,098.58	-42.71	-829.90	42.71	12.00
9,175.00	21.57	193.00	9,122.06	-51.07	-831.83	51.07	12.00
9,200.00	24.57	193.00	9,145.06	-60.61	-834.03	60.61	12.00
9,225.00	27.57	193.00	9,167.52	-71.31	-836.51	71.31	12.00
9,250.00	30.57	193.00	9,189.36	-83.15	-839.24	83.15	12.00
9,275.00	33.57	193.00	9,210.55	-96.08	-842.22	96.08	12.00
9,300.00	36.57	193.00	9,231.01	-110.07	-845.45	110.07	12.00
9,325.00	39.57	193.00	9,250.69	-125.09	-848.92	125.09	12.00
9,350.00	42.57	193.00	9,269.53	-141.09	-852.62	141.09	12.00
9,375.00	45.57	193.00	9,287.49	-158.03	-856.53	158.03	12.00
9,400.00	48.57	193.00	9,304.52	-175.87	-860.64	175.87	12.00
9,425.00	51.57	193.00	9,320.56	-194.54	-864.96	194.54	12.00
9,450.00	54.57	193.00	9,335.58	-214.01	-869.45	214.01	12.00
9,475.00	57.57	193.00	9,349.54	-234.22	-874.12	234.22	12.00
9,500.00	60.57	193.00	9,362.39	-255.11	-878.94	255.11	12.00
9,525.00	63.57	193.00	9,374.09	-276.63	-883.91	276.63	12.00
9,550.00	66.57	193.00	9,384.63	-298.72	-889.01	298.72	12.00
9,575.00	69.57	193.00	9,393.97	-321.31	-894.22	321.31	12.00
9,600.00	72.57	193.00	9,402.08	-344.35	-899.54	344.35	12.00

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
9,625.00	75.57	193.00	9,408.94	-367.77	-904.95	367.77	12.00
9,650.00	78.57	193.00	9,414.53	-391.51	-910.43	391.51	12.00
9,675.00	81.57	193.00	9,418.84	-415.50	-915.97	415.50	12.00
9,700.00	84.57	193.00	9,421.86	-439.68	-921.55	439.68	12.00
9,725.00	87.57	193.00	9,423.57	-463.98	-927.16	463.98	12.00
9,747.01	90.21	193.00	9,424.00	-485.42	-932.11	485.42	12.00
LP 9747.01' MD & 9424.00' TVD - LP 0409 133H							
9,800.00	90.21	193.00	9,423.81	-537.05	-944.03	537.05	0.00
9,847.01	90.21	193.00	9,423.64	-582.86	-954.60	582.86	0.00
Start Turn 2°/100' DLS							
9,900.00	90.21	191.94	9,423.44	-634.60	-966.05	634.60	2.00
10,000.00	90.21	189.94	9,423.07	-732.77	-985.02	732.77	2.00
10,100.00	90.21	187.94	9,422.71	-831.55	-1,000.56	831.55	2.00
10,200.00	90.21	185.94	9,422.34	-930.81	-1,012.65	930.81	2.00
10,300.00	90.21	183.94	9,421.98	-1,030.44	-1,021.26	1,030.44	2.00
10,400.00	90.21	181.94	9,421.62	-1,130.30	-1,026.39	1,130.30	2.00
10,500.28	90.21	179.93	9,421.25	-1,230.56	-1,028.03	1,230.56	2.00
Hold > & Dir.							
10,600.00	90.21	179.93	9,420.90	-1,330.28	-1,027.91	1,330.28	0.00
10,700.00	90.21	179.93	9,420.54	-1,430.28	-1,027.80	1,430.28	0.00
10,800.00	90.21	179.93	9,420.18	-1,530.28	-1,027.68	1,530.28	0.00
10,900.00	90.21	179.93	9,419.82	-1,630.28	-1,027.57	1,630.28	0.00
11,000.00	90.21	179.93	9,419.46	-1,730.28	-1,027.46	1,730.28	0.00
11,100.00	90.21	179.93	9,419.10	-1,830.28	-1,027.34	1,830.28	0.00
11,200.00	90.21	179.93	9,418.74	-1,930.28	-1,027.23	1,930.28	0.00
11,300.00	90.21	179.93	9,418.38	-2,030.28	-1,027.11	2,030.28	0.00
11,400.00	90.21	179.93	9,418.02	-2,130.27	-1,027.00	2,130.27	0.00
11,500.00	90.21	179.93	9,417.66	-2,230.27	-1,026.89	2,230.27	0.00
11,600.00	90.21	179.93	9,417.30	-2,330.27	-1,026.77	2,330.27	0.00
11,700.00	90.21	179.93	9,416.94	-2,430.27	-1,026.66	2,430.27	0.00
11,800.00	90.21	179.93	9,416.59	-2,530.27	-1,026.54	2,530.27	0.00
11,900.00	90.21	179.93	9,416.23	-2,630.27	-1,026.43	2,630.27	0.00
12,000.00	90.21	179.93	9,415.87	-2,730.27	-1,026.32	2,730.27	0.00
12,100.00	90.21	179.93	9,415.51	-2,830.27	-1,026.20	2,830.27	0.00
12,200.00	90.21	179.93	9,415.15	-2,930.27	-1,026.09	2,930.27	0.00
12,300.00	90.21	179.93	9,414.79	-3,030.27	-1,025.97	3,030.27	0.00
12,400.00	90.21	179.93	9,414.43	-3,130.27	-1,025.86	3,130.27	0.00
12,500.00	90.21	179.93	9,414.07	-3,230.27	-1,025.75	3,230.27	0.00
12,600.00	90.21	179.93	9,413.71	-3,330.27	-1,025.63	3,330.27	0.00
12,700.00	90.21	179.93	9,413.35	-3,430.27	-1,025.52	3,430.27	0.00
12,800.00	90.21	179.93	9,412.99	-3,530.26	-1,025.40	3,530.26	0.00
12,900.00	90.21	179.93	9,412.63	-3,630.26	-1,025.29	3,630.26	0.00
13,000.00	90.21	179.93	9,412.28	-3,730.26	-1,025.17	3,730.26	0.00
13,100.00	90.21	179.93	9,411.92	-3,830.26	-1,025.06	3,830.26	0.00
13,200.00	90.21	179.93	9,411.56	-3,930.26	-1,024.95	3,930.26	0.00
13,300.00	90.21	179.93	9,411.20	-4,030.26	-1,024.83	4,030.26	0.00
13,400.00	90.21	179.93	9,410.84	-4,130.26	-1,024.72	4,130.26	0.00
13,500.00	90.21	179.93	9,410.48	-4,230.26	-1,024.60	4,230.26	0.00
13,600.00	90.21	179.93	9,410.12	-4,330.26	-1,024.49	4,330.26	0.00
13,700.00	90.21	179.93	9,409.76	-4,430.26	-1,024.38	4,430.26	0.00
13,800.00	90.21	179.93	9,409.40	-4,530.26	-1,024.26	4,530.26	0.00
13,900.00	90.21	179.93	9,409.04	-4,630.26	-1,024.15	4,630.26	0.00
14,000.00	90.21	179.93	9,408.68	-4,730.26	-1,024.03	4,730.26	0.00
14,100.00	90.21	179.93	9,408.32	-4,830.26	-1,023.92	4,830.26	0.00

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,200.00	90.21	179.93	9,407.96	-4,930.25	-1,023.81	4,930.25	0.00
14,300.00	90.21	179.93	9,407.61	-5,030.25	-1,023.69	5,030.25	0.00
14,400.00	90.21	179.93	9,407.25	-5,130.25	-1,023.58	5,130.25	0.00
14,500.00	90.21	179.93	9,406.89	-5,230.25	-1,023.46	5,230.25	0.00
14,600.00	90.21	179.93	9,406.53	-5,330.25	-1,023.35	5,330.25	0.00
14,700.00	90.21	179.93	9,406.17	-5,430.25	-1,023.24	5,430.25	0.00
14,800.00	90.21	179.93	9,405.81	-5,530.25	-1,023.12	5,530.25	0.00
14,900.00	90.21	179.93	9,405.45	-5,630.25	-1,023.01	5,630.25	0.00
15,000.00	90.21	179.93	9,405.09	-5,730.25	-1,022.89	5,730.25	0.00
15,100.00	90.21	179.93	9,404.73	-5,830.25	-1,022.78	5,830.25	0.00
15,200.00	90.21	179.93	9,404.37	-5,930.25	-1,022.67	5,930.25	0.00
15,300.00	90.21	179.93	9,404.01	-6,030.25	-1,022.55	6,030.25	0.00
15,400.00	90.21	179.93	9,403.65	-6,130.25	-1,022.44	6,130.25	0.00
15,500.00	90.21	179.93	9,403.29	-6,230.25	-1,022.32	6,230.25	0.00
15,600.00	90.21	179.93	9,402.94	-6,330.24	-1,022.21	6,330.24	0.00
15,700.00	90.21	179.93	9,402.58	-6,430.24	-1,022.09	6,430.24	0.00
15,800.00	90.21	179.93	9,402.22	-6,530.24	-1,021.98	6,530.24	0.00
15,900.00	90.21	179.93	9,401.86	-6,630.24	-1,021.87	6,630.24	0.00
16,000.00	90.21	179.93	9,401.50	-6,730.24	-1,021.75	6,730.24	0.00
16,100.00	90.21	179.93	9,401.14	-6,830.24	-1,021.64	6,830.24	0.00
16,200.00	90.21	179.93	9,400.78	-6,930.24	-1,021.52	6,930.24	0.00
16,300.00	90.21	179.93	9,400.42	-7,030.24	-1,021.41	7,030.24	0.00
16,400.00	90.21	179.93	9,400.06	-7,130.24	-1,021.30	7,130.24	0.00
16,500.00	90.21	179.93	9,399.70	-7,230.24	-1,021.18	7,230.24	0.00
16,600.00	90.21	179.93	9,399.34	-7,330.24	-1,021.07	7,330.24	0.00
16,700.00	90.21	179.93	9,398.98	-7,430.24	-1,020.95	7,430.24	0.00
16,800.00	90.21	179.93	9,398.63	-7,530.24	-1,020.84	7,530.24	0.00
16,900.00	90.21	179.93	9,398.27	-7,630.24	-1,020.73	7,630.24	0.00
17,000.00	90.21	179.93	9,397.91	-7,730.23	-1,020.61	7,730.23	0.00
17,100.00	90.21	179.93	9,397.55	-7,830.23	-1,020.50	7,830.23	0.00
17,200.00	90.21	179.93	9,397.19	-7,930.23	-1,020.38	7,930.23	0.00
17,300.00	90.21	179.93	9,396.83	-8,030.23	-1,020.27	8,030.23	0.00
17,400.00	90.21	179.93	9,396.47	-8,130.23	-1,020.16	8,130.23	0.00
17,500.00	90.21	179.93	9,396.11	-8,230.23	-1,020.04	8,230.23	0.00
17,600.00	90.21	179.93	9,395.75	-8,330.23	-1,019.93	8,330.23	0.00
17,700.00	90.21	179.93	9,395.39	-8,430.23	-1,019.81	8,430.23	0.00
17,800.00	90.21	179.93	9,395.03	-8,530.23	-1,019.70	8,530.23	0.00
17,900.00	90.21	179.93	9,394.67	-8,630.23	-1,019.59	8,630.23	0.00
18,000.00	90.21	179.93	9,394.31	-8,730.23	-1,019.47	8,730.23	0.00
18,100.00	90.21	179.93	9,393.96	-8,830.23	-1,019.36	8,830.23	0.00
18,200.00	90.21	179.93	9,393.60	-8,930.23	-1,019.24	8,930.23	0.00
18,300.00	90.21	179.93	9,393.24	-9,030.23	-1,019.13	9,030.23	0.00
18,400.00	90.21	179.93	9,392.88	-9,130.22	-1,019.01	9,130.22	0.00
18,500.00	90.21	179.93	9,392.52	-9,230.22	-1,018.90	9,230.22	0.00
18,600.00	90.21	179.93	9,392.16	-9,330.22	-1,018.79	9,330.22	0.00
18,700.00	90.21	179.93	9,391.80	-9,430.22	-1,018.67	9,430.22	0.00
18,800.00	90.21	179.93	9,391.44	-9,530.22	-1,018.56	9,530.22	0.00
18,900.00	90.21	179.93	9,391.08	-9,630.22	-1,018.44	9,630.22	0.00
19,000.00	90.21	179.93	9,390.72	-9,730.22	-1,018.33	9,730.22	0.00
19,100.00	90.21	179.93	9,390.36	-9,830.22	-1,018.22	9,830.22	0.00
19,200.00	90.21	179.93	9,390.00	-9,930.22	-1,018.10	9,930.22	0.00
19,300.00	90.21	179.93	9,389.65	-10,030.22	-1,017.99	10,030.22	0.00
19,400.00	90.21	179.93	9,389.29	-10,130.22	-1,017.87	10,130.22	0.00
19,500.00	90.21	179.93	9,388.93	-10,230.22	-1,017.76	10,230.22	0.00

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
19,600.00	90.21	179.93	9,388.57	-10,330.22	-1,017.65	10,330.22	0.00
19,700.00	90.21	179.93	9,388.21	-10,430.22	-1,017.53	10,430.22	0.00
19,800.00	90.21	179.93	9,387.85	-10,530.21	-1,017.42	10,530.21	0.00
19,900.00	90.21	179.93	9,387.49	-10,630.21	-1,017.30	10,630.21	0.00
20,000.00	90.21	179.93	9,387.13	-10,730.21	-1,017.19	10,730.21	0.00
20,100.00	90.21	179.93	9,386.77	-10,830.21	-1,017.08	10,830.21	0.00
20,200.00	90.21	179.93	9,386.41	-10,930.21	-1,016.96	10,930.21	0.00
20,300.00	90.21	179.93	9,386.05	-11,030.21	-1,016.85	11,030.21	0.00
20,314.77	90.21	179.93	9,386.00	-11,044.98	-1,016.83	11,044.98	0.00

PBHL 20314.77' MD & 9386.00' TVD - PBHL 0409 133H

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
800.00	800.00	0.00	0.00	Nudge 1°/100' DLS
1,100.00	1,099.86	-5.55	-5.55	Hold 3° Inc
1,800.00	1,798.90	-31.46	-31.46	Turn 2°/100' DLS
1,917.41	1,916.17	-33.57	-36.70	KOP 2°/100' DLS
2,117.41	2,115.37	-33.24	-54.13	Hold 7° Tangent
8,263.09	8,215.24	-18.90	-802.96	Start Drop 2°/100' DLS
8,613.09	8,564.37	-18.49	-824.31	Hold 0° Inc
8,995.26	8,946.54	-18.49	-824.31	KOP 12°/100' DLS
9,747.01	9,424.00	-485.42	-932.11	LP 9747.01' MD & 9424.00' TVD
9,847.01	9,423.64	-582.86	-954.60	Start Turn 2°/100' DLS
10,500.28	9,421.25	-1,230.56	-1,028.03	Hold > & Dir.
20,314.77	9,386.00	-11,044.98	-1,016.83	PBHL 20314.77' MD & 9386.00' TVD

Checked By: _____ Approved By: _____ Date: _____



H₂S Drilling Operations Plan

- a. All personnel will be trained in H₂S working conditions as required by Onshore Order 6 before drilling out of the surface casing.
- b. Two briefing areas will be established. Each will be at least 150' from the wellhead, perpendicular from one another, and easily entered and exited. See H₂S page 5 for more details.
- c. H₂S Safety Equipment/Systems:
 - i. Well Control Equipment
 - Flare line will be $\geq 150'$ from the wellhead and ignited by a pilot light.
 - Beware of SO₂ created by flaring.
 - Choke manifold will include a remotely operated choke.
 - Mud gas separator
 - ii. Protective Equipment for Essential Personnel
 - Every person on site will be required to wear a personal H₂S and SO₂ monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the chest.
 - One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
 - Four work/escape packs will be on the rig floor. Each pack will have a long enough hose to allow unimpaired work activity.
 - Four emergency escape packs will be in the doghouse for emergency evacuation.
 - Hand signals will be used when wearing protective breathing apparatus.
 - Stokes litter or stretcher
 - Two full OSHA compliant body harnesses
 - A 100-foot long x 5/8" OSHA compliant rope
 - One 20-pound ABC fire extinguisher

iii. H₂S Detection & Monitoring Equipment

- Every person on site will be required to wear a personal H₂S and SO₂ monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the chest.
- A stationary detector with three sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- Color-coded H₂S condition sign will be set at the entrance to the pad.
- Color-coded condition flag will be installed to indicate current H₂S conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program

- A water based mud with a pH of ≥ 10 will be maintained to control corrosion, H₂S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H₂S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H₂S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H₂S will be suitable for H₂S service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site

- Cell phones and/or two-way radios will be used to communicate from the well site.

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H₂S.

Company Personnel to be Notified

Kurt Shipley, Vice-President - Operations Office: (405) 609-1596

Local & County Agencies

Loving Fire Department 911 or (575) 745-3600

Eddy County Sheriff (Carlsbad) 911 (575) 887-7551

Eddy County Emergency Management (Carlsbad) (575) 887-9511

Carlsbad Medical Center Hospital (575) 887-4100

Eddy County South Road Department (Carlsbad) (575) 885-4835

State Agencies

NM State Police (Carlsbad) (575) 885-3138

NM Oil Conservation (Artesia) (575) 748-1283

NM Oil Conservation (Santa Fe) (505) 476-3440

NM Dept. of Transportation (Roswell) (575) 637-7201

Federal Agencies

BLM Carlsbad Field Office (575) 234-5972

National Response Center (800) 424-8802

US EPA Region 6 (Dallas) (800) 887-6063

(214) 665-6444

Residents within 2 miles

none

Air Evacuation

Med Flight Air Ambulance (Albuquerque) (800) 842-4431

Lifeguard (Albuquerque) (888) 866-7256

Veterinarians

Desert Willow Veterinary Services (Carlsbad) (575) 885-3399

Animal Care Center (Carlsbad) (575) 885-5352

SITE MAP

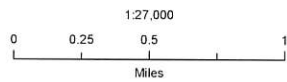


Novo Oil and Gas Northern Delaware, LLC

Goonch Fed Com 0409 Pad H
H₂S Contingency Plan:
Radius Map

Section 33, Township 22S, Range 28E
Eddy County, New Mexico

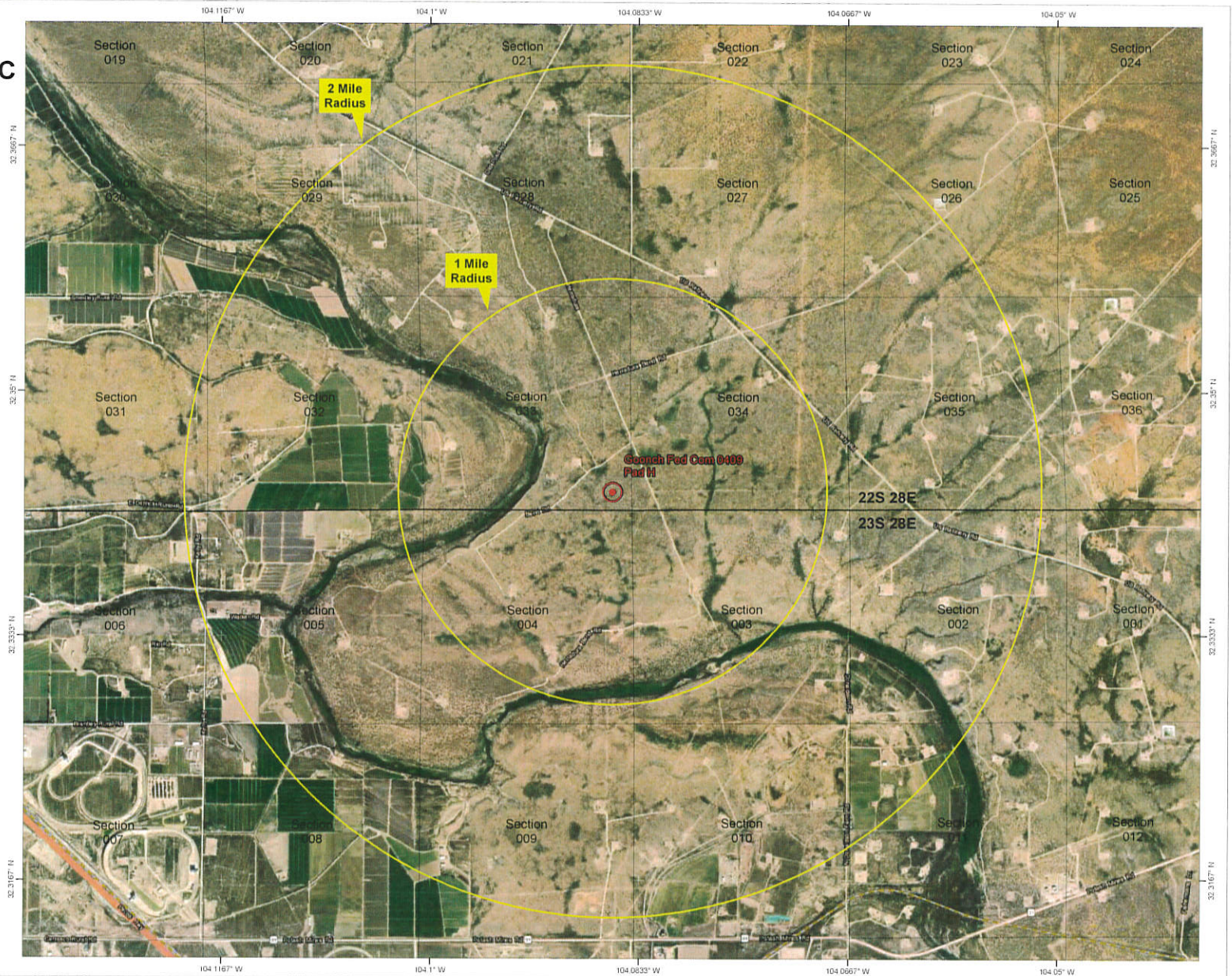
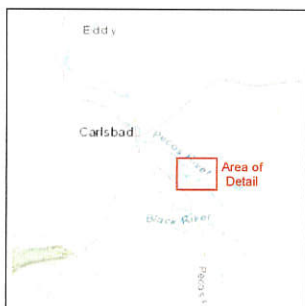
⊙ Surface Hole Location



NAD 1983 New Mexico State Plane East
FIPS 3001 Feet



Prepared by Permits West, Inc., November 18, 2019
for Novo Oil and Gas Northern Delaware, LLC





Schematic Closed Loop Drilling Rig*

1. Pipe Rack
2. Drill Rig
3. House Trailers/ Offices
4. Generator/Fuel/Storage
5. Overflow-Frac Tank
6. Skids
7. Roll Offs
8. Hopper or Centrifuge
9. Mud Tanks
10. Loop Drive
11. Generator (only for use with centrifuge)

*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

PERMITS WEST, INC.
 PROVIDING PERMITS for LAND USERS
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120



Above: Centrifugal Closed Loop System



Closed Loop Drilling System: Mud tanks to right (1)
 Hopper in air to settle out solids (2)
 Water return pipe (3)
 Shaker between hopper and mud tanks (4)
 Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil
 Field Service

PERMITS WEST, INC.
 PROVIDING PERMITS for LAND USERS
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

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 26096

COMMENTS

Operator: NOVO OIL & GAS NORTHERN DELAWA Suite 206 Oklahoma City, OK73116		1001 West Wilshire Blvd	OGRID: 372920	Action Number: 26096	Action Type: FORM 3160-3
Created By kpickford	Comment KP GEO Review 4/30/2021			Comment Date 04/30/2021	

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

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

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

CONDITIONS

Action 26096

CONDITIONS OF APPROVAL

Operator:	NOVO OIL & GAS NORTHERN DELAWA	1001 West Wilshire Blvd	OGRID:	372920	Action Number:	26096	Action Type:	FORM 3160-3
	Suite 206	Oklahoma City, OK73116						

OCD Reviewer	Condition
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system