ATS-14-340

Form 3160-3
(April 2004)

OCD Hobbs
HOBBS OCD
JUN 18 2014
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. **NMNM-12413A**

6. If Indian, Allotee or Tribe Name **N/A**

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. **SUN MCKAY FEDERAL #3H** (33192)

2. Name of Operator **NADEL AND GUSSMAN PERMIAN, L.L.C.** (155615)

9. API Well No. 30-025-41927

3a. Address **601 N. MARIENFELD, SUITE 508 MIDLAND, TEXAS 79701**

3b. Phone No. *(include area code)* **432-682-4429**

10. Field and Pool, or Exploratory **LUSK; BONE SPRING, EAST** (41442)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface **330' FNL, 1980' FWL - UL C**

At proposed prod. zone **330' FSL, 1980' FWL - UL N**

11. Sec., T. R. M. or Blk. and Survey or Area **SECTION 10, T-19-S, R-32-E**

14. Distance in miles and direction from nearest town or post office* **25 MILES WEST OF HOBBS NM**

12. County or Parish **LEA**

13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
330FT / **330FT**	**640**	**160**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
240ft Sun Mckay #1	**13,912 MD, 9,500 TVD**	**NM# 2812**
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3667 GL	**06/15/2014**	**45 DAYS**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

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 shall 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 required by the authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
	JASON GOSS	**12/12/2013**

Title **DRILLING ENGINEER**

Approved by *(Signature)* **Steve Caffey**	Name *(Printed/Typed)*	Date **JUN - 9 2014**
Title **FIELD MANAGER**	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.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**(Instructions on page 2)*

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 16 2014

KZ 06/18/14

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Capitan Controlled Water Basin

MUST BE IN COMPLIANCE WITH NMOCD RULE 5.9 PRIOR TO PRODUCING WELL.

RECEIVED

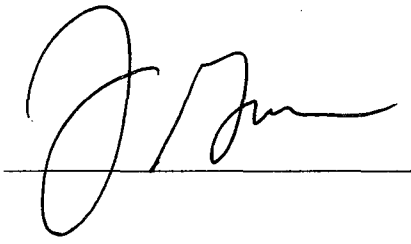
Approval Subject to General Requirements & Special Stipulations Attached

JUN 19 2014

OPERATOR CERTIFICATION

I certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal Laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true, and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed the 10 day of December 2013.

Name: Jason Goss
Position: Drilling Engineer
Address: 601 N. Marienfeld Suite 508
Telephone: 432-682-4429
Email: jgoss@naguss.com

Signed: 

DRILLING AND OPERATIONS PLAN
NADEL AND GUSSMAN PERMIAN, L.L.C.
SUN MCKAY FEDERAL #3H

Surface: 330' FNL & 1980' FWL, UL C
BHL: 330' FSL & 1980' FWL, UL N
Sec 10, T-19-S, R-32-E
Lea County, New Mexico

1. Geological Surface Formation: **Permian and Quaternary Alluvium.**
2. Horizontal Oil well. No pilot hole, depth to Fresh Water 800'. **Elevation 3667'**

3. **TOPS OF IMPORTANT GEOLOGICAL MARKERS:** TVD

Rustler	1100'
Top Salt	1300'
BX (base salt)/Tansill	2700'
Yates	3000'
7 Rivers	3438'
Queen	3850'
Grayburg	3950'
San Andres	4750'
Delaware Mountain Group	5200'
Bone Springs Ls	7150'
1st Bone Springs Sand	7226'
2nd Bone Springs Sand	9200'
Bone Springs Target	9500'

4. **Estimated Depth of Anticipated/Possible Water, Oil or Gas:**

Santa Rosa	0-800'	Fresh Water from WAIDS database
Yates	3000'	Oil, gas and water
Delaware	5200'	Oil, gas and water
Bone Springs	7150'	Oil, gas and water

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water will be protected by setting 13 3/8" casing at ~~1150'~~ 1350' and circulating cement back to surface, all other intervals will be isolated by the 9 5/8 intermediate and 7" production casing.

See COA

5. Proposed Casing Program

HOLE SIZE	CASING SIZE	WT./GRADE	THREAD/COLLAR	SETTING DEPTH	TOP CEMENT
Conductor	20"	94# H-40	8rd STC	60'	Surface
17.5"	13 3/8" (new)	54.5# J-55	8rd STC	~~1150'~~ 1350'	Surface
12.25"	9 5/8" (new)	40# J-55	8rd LTC	~~3,000'~~ 3350'	Surface
8.75"	7" (new)	26# P-110HC	8rd BTC	9,600'	2,500'
6.125"	4 1/2" (new)	13.5# P-110HC	8rd LTC	9,300'-13,900'	N/A**

** Packer Plus completion 20 stages. No cement, packers and frac port open hole completion with liner hanger.

MINIMUM SAFETY FACTORS: **BURST 1.125** **COLLAPSE 1.125** **TENSION 1.8**

ALL CASING WILL BE NEW API APPROVED

CEMENT PROGRAM-ALL CEMENT BLENDS WILL BE TESTED TO BLM MINIMUM REQUIREMENTS.

A. **13 3/8"** **SURFACE** CEMENT TO SURFACE **100% EXCESS OVER CALCULATED**

1200 SACKS CLASS "C"+2%CACL+.25# CELLO-FLAKE+.25% DEFOAMER, 14.8 PPG, 1.35 YIELD, 6.34 GAL/SK

B. **9 5/8"** **INTERMEDIATE** CEMENT TO SURFACE **50% EXCESS OVER CALCULATED**

LEAD 650 SACKS CLASS "C" 35/65 +6% BENTONITE+5% SALT+.25% DEFOAMER 12.8 PPG, 1.9 YIELD, 11.2 GAL/SK

TAIL 200 SACKS CLASS "C" + .25% DEFOAMER, 14.8 PPG, 1.33 YIELD, 6.34 GAL/SK

See COA

C. **7"** **PRODUCTION** CEMENT TO ~~2,500'~~ (WILL RUN FLUID CALIPER) **25% EXCESS OVER FLUID CALIPER, OR 50% OVER CALCULATED.**

LEAD 850 SACKS CLASS C 50/50 +10% BENTONITE +.15% C-20 RETARDER +3# STAR SEAL +.3% C-12 FLUID LOSS+3% SALT+.25% DEFOAMER, 11.8 PPG, 2.37 YIELD, 13.52 GL/SK

TAIL 250 SACKS CLASS "H" STAR BOND+.5% FL-10+.2%C-20, +3# GILSONITE+.25% DEFOAMER+3% SALT 13.2 PPG, 1.6 YIELD, 13.5 GAL/SK

SPECIFICATIONS FOR PRESSURE CONTROL EQUIPMENT: (EXHIBIT #5)

A 2000# WP Annular will be installed after running the 13-3/8" casing. A 3,000# WP Double Ram BOP and 3,000 annular will be installed after running the 9-5/8" and 7" casing. Pressure test will be conducted prior to drilling out under all casing strings. BOP controls will be installed prior to drilling under surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position when the Kelly is not in use. 7" and 9-5/8" BOP will be tested to 3000# and the annular to 1500# with a third party testing company before drilling below each shoe. If operations last more than 30 days from 1st test, will test again as per BLM Onshore Oil and Gas order #2.

MUD PROGRAM:

See COA

Spud and drill 17 ½" surface hole with **fresh water (8.4 to 8.7 ppg)** to a depth of approx ~~1150'~~ 1350'. Control lost circulation with paper and LCM pills. Viscosity 28-55, no fluid loss control. Fresh water gel sweeps.

Drill 12 ¼" hole from ~~1150'~~ 1350' to ~~3,000'~~ 3350' with **Brine (9.5 to 10.0 ppg)** . Control lost circulation with paper and LCM pills. Viscosity 28-30, no fluid loss control. Salt water gel sweeps.

Drill 8 ¾" production hole from ~~3,000'~~ 3350' to **9,600'** (9,022 TD of vertical hole) with **fresh water (8.4 to 8.7 ppg) or cut brine (8.4 to 9.0 ppg)**. Control lost circulation with paper and LCM pills. From 6,000' to TD (8.7 to 9.0 ppg), control filtrate with starch and water loss additives. Clean hole with pre-hydrated freshwater sweeps as necessary. System properties: viscosity 32-24, fluid loss <20 ml/30min.

Drill 6 1/8" horizontal production hole from 9,600'-13,912' with **fresh water (8.4-8.7 ppg)**, control filtrate and increase viscosity with Xanthan gum and Poly Anionic Cellulose. Clean hole with high viscosity sweeps and lubricants as necessary. System Properties viscosity 32-34, fluid loss <20 ml/30min.

All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program subject to change due to hole conditions.

Mud monitoring system: Mud will be maintained and checked daily for mud weight, viscosity, API water loss, pH, etc. Additional electronic monitoring will include a pit volume totalizer to monitor mud volume in active system, pump rate, and mud return flow percentage. H2S monitors and alarms will be located on rig floor, shale shakers, and mud tanks (see rig plat). Gas chromatograph with monitor hydrocarbon gas content of mud from 3,000' to TD. Third party corrosion company will utilize H2S/oxygen scavengers to monitor for corrosion and limit damage to tubulars.

Auxiliary Equipment

A. A Kelly cock will be in the drill string at all times.

See COA

B. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times

C. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 4 ½" liner is run and set and rigging down operations have begun.

TESTING, LOGGING & CORING PROGRAM:

a. Testing: No DST's are expected.
b. Open hole logs are planned for TD of vertical hole (KOP, 9,022).

1. Halliburton Triple Combo: Dual lateral log and gamma ray, compensated neutron, caliper log.

c. Mud logging will take place from 3,000ft to TD 10ft samples
d. Gyro survey will be run at KOP of 9,022'
e. MWD (directional) and LWD (gamma) surveys will be taken from KOP (9022') to TD 13,912ft

POTENTIAL HAZARDS:

See COA

No significant hazards are expected, no abnormal pressures or temperatures are expected, **Expected pressure 4800 psi at 9500 ft from BHP test on Sun McKay Federal #1 7/18/1978. 4800 psi at 9,500 TVD**, expected temperature at 9,500 TVD is **144 deg F**. Lost circulation may occur, no H_2S is expected, but the operator will utilize a 3rd party H_2S monitoring package from 1150' to TD. No losses or H2s occurred in the Sun McKay #1 or the Sun McKay #2. If H2S is encountered the operator will comply with the provisions of onshore oil and gas order no 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

ANTICIPATED STARTING DATE & DURATION:

Nadel & Gussman Permian, LLC anticipates drilling operations to begin around June 15, 2014 and completed in approximately 45 days. An additional 15 days will be needed for completion activities. Road and location construction will begin after the BLM has approved the APD.

1/21/14

Jason Goss, Drilling Engineer Date
Nadel & Gussman Permian, LLC

Collision Report for Sun McKay Federal #3H

Number of wells inside dedicated acreage of Sun McKay Federal #3H: One

Sun McKay Federal #1

Nadel and Gussman Permian, LLC

Sec. 10, T19S, R32E, UL F SHL: 1850 FNL & 1730 FWL

Wolfcamp Vertical Producer

TD: 13,000ft (Morrow), Plugged back to Wolfcamp 10,702ft

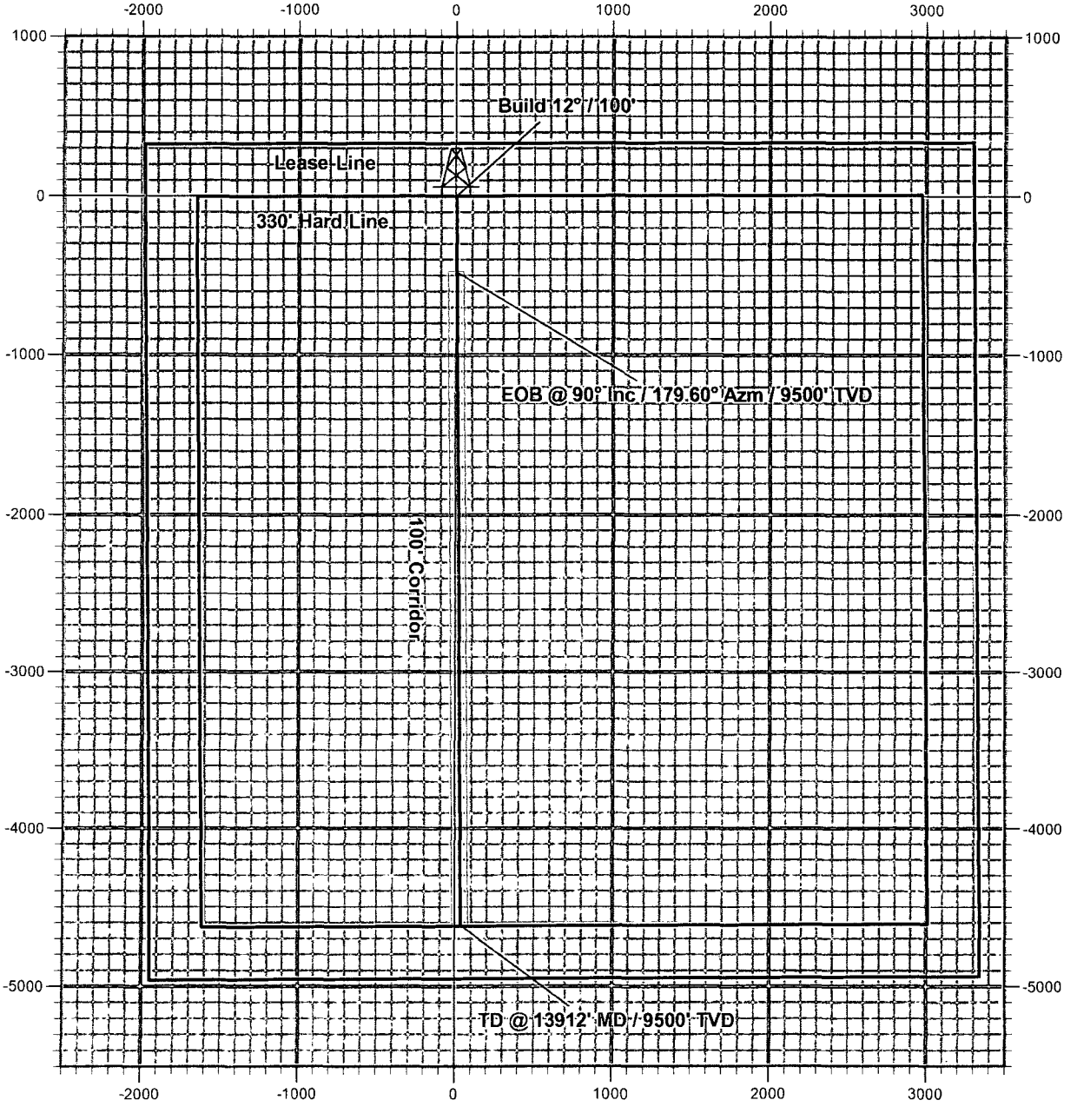
Summary:

Calculated course displacement for the Sun McKay Federal #1 at the target TVD (9,500ft) of the Sun McKay Federal #3H is 190.47ft. Planned horizontal path of Sun McKay Federal #3H will travel 240ft east of #1 surface location. Plan to maintain 25-50ft east of current plan when drilling past Sun McKay Federal #1 to eliminate any collision risk, will maintain a minimum distance of 265ft from the surface location of Sun McKay Federal #1.

Nadel & Gussman Permain, LLC

Lea County, NM (NAD-83)
Sun McKay Federal #3H
Quote 130503
Design #1

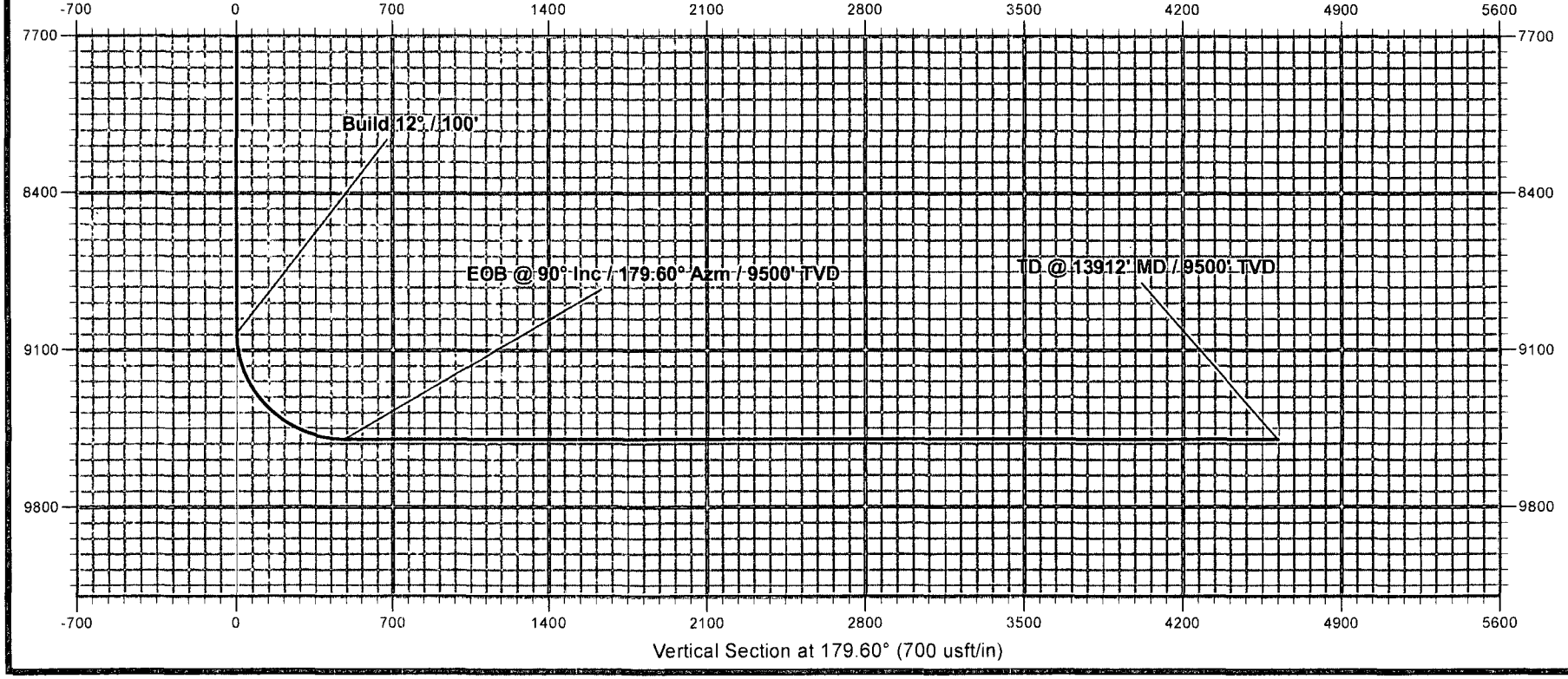
The DIRECTIONAL DRILLING COMPANY



Nadel & Gussman Permain, LLC

Lea County, NM (NAD-83)
Sun McKay Federal #3H
Quote 130503
Design #1

The DIRECTIONAL DRILLING COMPANY



Nadel & Gussman Permian, LLC

Lea County, NM (NAD-83)
Sec 10,T19S, R32E
Sun McKay Federal #3H

Wellbore #1

Plan: Design #1

DDC Curve Report

12 June, 2013

DDC
The DIRECTIONAL DRILLING COMPANY

DDC
Curve Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sun McKay Federal #3H
Company:	Nadel & Gussman Permian, LLC	**TVD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	**MD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Site:	Sec 10,T19S, R32E	**North Reference:**	Grid
Well:	Sun McKay Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, NM (NAD-83)		
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 10,T19S, R32E				
Site Position:		**Northing:**	612,060.76 usft	**Latitude:**	32° 40' 52.580 N
From:	Map	**Easting:**	718,890.08 usft	**Longitude:**	103° 45' 22.527 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well	Sun McKay Federal #3H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	612,060.76 usft	**Latitude:**	32° 40' 52.580 N
	+E/-W	0.0 usft	**Easting:**	718,890.08 usft	**Longitude:**	103° 45' 22.527 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,667.0 usft

Wellbore Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	6/12/2013	7.46	60.53	48,670

Design Design #1

Audit Notes:

Version:	**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.0	0.0	0.0	179.60

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,022.5	0.00	0.00	9,022.5	0.0	0.0	0.00	0.00	0.00	0.00	
9,772.5	90.00	179.60	9,500.0	-477.4	3.3	12.00	12.00	23.95	179.60	
13,912.1	90.00	179.60	9,500.0	-4,616.9	32.3	0.00	0.00	0.00	0.00	PBHL Sun McKay F

DDC
Curve Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sun McKay Federal #3H
Company:	Nadel & Gussman Permian, LLC	**TVD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	**MD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Site:	Sec 10,T19S, R32E	**North Reference:**	Grid
Well:	Sun McKay Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Build 12° / 100'									
9,022.5	0.00	0.00	9,022.5	0.0	0.0	0.0	0.00	0.00	0.00
9,030.0	0.90	179.60	9,030.0	-0.1	0.0	0.1	12.00	12.00	0.00
9,060.0	4.50	179.60	9,060.0	-1.5	0.0	1.5	12.00	12.00	0.00
9,090.0	8.10	179.60	9,089.8	-4.8	0.0	4.8	12.00	12.00	0.00
9,120.0	11.70	179.60	9,119.3	-9.9	0.1	9.9	12.00	12.00	0.00
9,150.0	15.30	179.60	9,148.5	-16.9	0.1	16.9	12.00	12.00	0.00
9,180.0	18.90	179.60	9,177.2	-25.7	0.2	25.7	12.00	12.00	0.00
9,210.0	22.50	179.60	9,205.2	-36.3	0.3	36.3	12.00	12.00	0.00
9,240.0	26.10	179.60	9,232.6	-48.7	0.3	48.7	12.00	12.00	0.00
9,270.0	29.70	179.60	9,259.1	-62.7	0.4	62.7	12.00	12.00	0.00
9,300.0	33.30	179.60	9,284.6	-78.4	0.5	78.4	12.00	12.00	0.00
9,330.0	36.90	179.60	9,309.2	-95.6	0.7	95.6	12.00	12.00	0.00
9,360.0	40.50	179.60	9,332.6	-114.4	0.8	114.4	12.00	12.00	0.00
9,390.0	44.10	179.60	9,354.8	-134.6	0.9	134.6	12.00	12.00	0.00
9,420.0	47.70	179.60	9,375.6	-156.1	1.1	156.1	12.00	12.00	0.00
9,450.0	51.30	179.60	9,395.1	-178.9	1.3	178.9	12.00	12.00	0.00
9,480.0	54.90	179.60	9,413.1	-202.9	1.4	202.9	12.00	12.00	0.00
9,510.0	58.50	179.60	9,429.6	-228.0	1.6	228.0	12.00	12.00	0.00
9,540.0	62.10	179.60	9,444.5	-254.0	1.8	254.0	12.00	12.00	0.00
9,570.0	65.70	179.60	9,457.7	-281.0	2.0	281.0	12.00	12.00	0.00
9,600.0	69.30	179.60	9,469.1	-308.7	2.2	308.7	12.00	12.00	0.00
9,630.0	72.90	179.60	9,478.9	-337.1	2.4	337.1	12.00	12.00	0.00
9,660.0	76.50	179.60	9,486.8	-366.0	2.6	366.0	12.00	12.00	0.00
9,690.0	80.10	179.60	9,492.9	-395.4	2.8	395.4	12.00	12.00	0.00
9,720.0	83.70	179.60	9,497.1	-425.1	3.0	425.1	12.00	12.00	0.00
9,750.0	87.30	179.60	9,499.4	-455.0	3.2	455.0	12.00	12.00	0.00
EOB @ 90° Inc / 179.60° Azm / 9500' TVD									
9,772.5	90.00	179.60	9,500.0	-477.4	3.3	477.5	12.00	12.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Sun McKay Fed	90.00	179.60	9,500.0	-4,616.9	32.3	607,443.85	718,922.42	32° 40' 6.894 N	103° 45' 22.442 W
- plan misses target center by 4139.6usft at 9772.5usft MD (9500.0 TVD, -477.4 N, 3.3 E)									
- Rectangle (sides W100.0 H0.0 D4,144.6)									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,022.5	9,022.5	0.0	0.0	Build 12° / 100'
9,772.5	9,500.0	-477.4	3.3	EOB @ 90° Inc / 179.60° Azm / 9500' TVD
13,912.1	9,500.0	-4,616.9	32.3	TD @ 13912' MD / 9500' TVD

Nadel & Gussman Permian, LLC

Lea County, NM (NAD-83)
Sec 10,T19S, R32E
Sun McKay Federal #3H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

, 12 June, 2013

The DIRECTIONAL DRILLING COMPANY

DDC

Well Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sun McKay Fed
Company:	Nadel & Gussman Permian, LLC	**TVD Reference:**	WELL @ 3667.0usft
Project:	Lea County, NM (NAD-83)	**MD Reference:**	WELL @ 3667.0usft
Site:	Sec 10,T19S, R32E	**North Reference:**	Grid
Well:	Sun McKay Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Lea County, NM (NAD-83)

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 10,T19S, R32E

Site Position:		**Northing:**	612,060.76 usft	**Latitude:**	
From:	Map	**Easting:**	718,890.08 usft	**Longitude:**	
Position Uncertainty:		0.0 usft **Slot Radius:**	13-3/16 "	**Grid Convergence:**	

Well Sun McKay Federal #3H

Well Position	**+N/-S**	0.0 usft	**Northing:**	612,060.76 usft	**Latitude:**	32° 40'
	+E/-W	0.0 usft	**Easting:**	718,890.08 usft	**Longitude:**	103° 45'
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,

Wellbore Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Fi**
	IGRF2010	6/12/2013	7.46	60.53	

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.0	0.0	0.0	179.60

Plan Sections

Measured Depth (usft)	**Inclination (°)**	**Azimuth (°)**	**Vertical Depth (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Dogleg Rate (°/100usft)**
0.0	0.00	0.00	0.0	0.0	0.0	0.00
9,022.5	0.00	0.00	9,022.5	0.0	0.0	0.00
9,772.5	90.00	179.60	9,500.0	-477.4	3.3	12.00
13,912.1	90.00	179.60	9,500.0	-4,616.9	32.3	0.00

Planned Survey

Measured Depth (usft)	**Inclination (°)**	**Azimuth (°)**	**Vertical Depth (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Vert Sect (us**
Build 12° / 100'						
9,022.5	0.00	0.00	9,022.5	0.0	0.0	
9,100.0	9.30	179.60	9,099.7	-6.3	0.0	
9,200.0	21.30	179.60	9,195.9	-32.6	0.2	
9,300.0	33.30	179.60	9,284.6	-78.4	0.5	
9,400.0	45.30	179.60	9,361.9	-141.6	1.0	
9,500.0	57.30	179.60	9,424.3	-219.5	1.5	

9,600.0	69.30	179.60	9,469.1	-308.7	2.2
9,700.0	81.30	179.60	9,494.5	-405.2	2.8
EOB @ 90° Inc / 179.60° Azm / 9500' TVD					
9,772.5	90.00	179.60	9,500.0	-477.4	3.3
9,800.0	90.00	179.60	9,500.0	-505.0	3.5
9,900.0	90.00	179.60	9,500.0	-604.9	4.2
10,000.0	90.00	179.60	9,500.0	-704.9	4.9
10,100.0	90.00	179.60	9,500.0	-804.9	5.6
10,200.0	90.00	179.60	9,500.0	-904.9	6.3
10,300.0	90.00	179.60	9,500.0	-1,004.9	7.0
10,400.0	90.00	179.60	9,500.0	-1,104.9	7.7
10,500.0	90.00	179.60	9,500.0	-1,204.9	8.4
10,600.0	90.00	179.60	9,500.0	-1,304.9	9.1
10,700.0	90.00	179.60	9,500.0	-1,404.9	9.8
10,800.0	90.00	179.60	9,500.0	-1,504.9	10.5
10,900.0	90.00	179.60	9,500.0	-1,604.9	11.2
11,000.0	90.00	179.60	9,500.0	-1,704.9	11.9
11,100.0	90.00	179.60	9,500.0	-1,804.9	12.6
11,200.0	90.00	179.60	9,500.0	-1,904.9	13.3
11,300.0	90.00	179.60	9,500.0	-2,004.9	14.0
11,400.0	90.00	179.60	9,500.0	-2,104.9	14.7
11,500.0	90.00	179.60	9,500.0	-2,204.9	15.4
11,600.0	90.00	179.60	9,500.0	-2,304.9	16.1
11,700.0	90.00	179.60	9,500.0	-2,404.9	16.8
11,800.0	90.00	179.60	9,500.0	-2,504.9	17.5
11,900.0	90.00	179.60	9,500.0	-2,604.9	18.2
12,000.0	90.00	179.60	9,500.0	-2,704.9	18.9
12,100.0	90.00	179.60	9,500.0	-2,804.9	19.6
12,200.0	90.00	179.60	9,500.0	-2,904.9	20.3
12,300.0	90.00	179.60	9,500.0	-3,004.9	21.0
12,400.0	90.00	179.60	9,500.0	-3,104.9	21.7
12,500.0	90.00	179.60	9,500.0	-3,204.9	22.4
12,600.0	90.00	179.60	9,500.0	-3,304.9	23.1
12,700.0	90.00	179.60	9,500.0	-3,404.9	23.8
12,800.0	90.00	179.60	9,500.0	-3,504.9	24.5
12,900.0	90.00	179.60	9,500.0	-3,604.9	25.2
13,000.0	90.00	179.60	9,500.0	-3,704.9	25.9
13,100.0	90.00	179.60	9,500.0	-3,804.9	26.6
13,200.0	90.00	179.60	9,500.0	-3,904.9	27.4
13,300.0	90.00	179.60	9,500.0	-4,004.9	28.1
13,400.0	90.00	179.60	9,500.0	-4,104.9	28.8
13,500.0	90.00	179.60	9,500.0	-4,204.9	29.5
13,600.0	90.00	179.60	9,500.0	-4,304.9	30.2
13,700.0	90.00	179.60	9,500.0	-4,404.9	30.9
13,800.0	90.00	179.60	9,500.0	-4,504.9	31.6
13,900.0	90.00	179.60	9,500.0	-4,604.9	32.3
13,912.1	90.00	179.60	9,500.0	-4,616.9	32.3

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vert Sect (us

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	East (us
PBHL Sun McKay Federal #3H	90.00	179.60	9,500.0	-4,616.9	32.3	607,443.85	7
- plan hits target center							
- Rectangle (sides W100.0 H0.0 D4,144.6)							

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment

9,022.5	9,022.5	0.0	0.0	Build 12° / 100'
9,772.5	9,500.0	-477.4	3.3	EOB @ 90° Inc / 179.60° Azm / 9500' TVD
13,912.1	9,500.0	-4,616.9	32.3	TD @ 13912' MD / 9500' TVD

leral #3H
(Original Well Elev)
(Original Well Elev)

32° 40' 52.580 N
103° 45' 22.527 W
0.31 °

' 52.580 N
22.527 W
667.0 usft

eld Strength (nT)
48,670

Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	
0.00	0.00	0.00	
12.00	23.95	179.60	
0.00	0.00	0.00	PBHL Sun McKay Fe

ical tion ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.00
6.3	12.00	12.00	0.00
32.6	12.00	12.00	0.00
78.4	12.00	12.00	0.00
141.6	12.00	12.00	0.00
219.5	12.00	12.00	0.00

308.7	12.00	12.00	0.00
405.2	12.00	12.00	0.00
477.5	12.00	12.00	0.00
505.0	0.00	0.00	0.00
605.0	0.00	0.00	0.00
705.0	0.00	0.00	0.00
805.0	0.00	0.00	0.00
905.0	0.00	0.00	0.00
1,005.0	0.00	0.00	0.00
1,105.0	0.00	0.00	0.00
1,205.0	0.00	0.00	0.00
1,305.0	0.00	0.00	0.00
1,405.0	0.00	0.00	0.00
1,505.0	0.00	0.00	0.00
1,605.0	0.00	0.00	0.00
1,705.0	0.00	0.00	0.00
1,805.0	0.00	0.00	0.00
1,905.0	0.00	0.00	0.00
2,005.0	0.00	0.00	0.00
2,105.0	0.00	0.00	0.00
2,205.0	0.00	0.00	0.00
2,305.0	0.00	0.00	0.00
2,405.0	0.00	0.00	0.00
2,505.0	0.00	0.00	0.00
2,605.0	0.00	0.00	0.00
2,705.0	0.00	0.00	0.00
2,805.0	0.00	0.00	0.00
2,905.0	0.00	0.00	0.00
3,005.0	0.00	0.00	0.00
3,105.0	0.00	0.00	0.00
3,205.0	0.00	0.00	0.00
3,305.0	0.00	0.00	0.00
3,405.0	0.00	0.00	0.00
3,505.0	0.00	0.00	0.00
3,605.0	0.00	0.00	0.00
3,705.0	0.00	0.00	0.00
3,805.0	0.00	0.00	0.00
3,905.0	0.00	0.00	0.00
4,005.0	0.00	0.00	0.00
4,105.0	0.00	0.00	0.00
4,205.0	0.00	0.00	0.00
4,305.0	0.00	0.00	0.00
4,405.0	0.00	0.00	0.00
4,505.0	0.00	0.00	0.00
4,605.0	0.00	0.00	0.00
4,617.0	0.00	0.00	0.00

ical tion ift)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

ting ift)	Latitude	Longitude
18,922.42	32° 40' 6.894 N	103° 45' 22.442 W

Nadel & Gussman Permian, LLC

Lea County, NM (NAD-83)
Sec 10,T19S, R32E
Sun McKay Federal #3H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

12 June, 2013

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sun McKay Federal #3H
Company:	Nadel & Gussman Permian, LLC	**TVD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	**MD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Site:	Sec 10,T19S, R32E	**North Reference:**	Grid
Well:	Sun McKay Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, NM (NAD-83)		
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 10,T19S, R32E				
Site Position:		**Northing:**	612,060.76 usft	**Latitude:**	32° 40' 52.580 N
From:	Map	**Easting:**	718,890.08 usft	**Longitude:**	103° 45' 22.527 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well	Sun McKay Federal #3H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	612,060.76 usft	**Latitude:**	32° 40' 52.580 N
	+E/-W	0.0 usft	**Easting:**	718,890.08 usft	**Longitude:**	103° 45' 22.527 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,667.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	6/12/2013	7.46	60.53	48,670

Design	Design #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	179.60	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,022.5	0.00	0.00	9,022.5	0.0	0.0	0.00	0.00	0.00	0.00	
9,772.5	90.00	179.60	9,500.0	-477.4	3.3	12.00	12.00	23.95	179.60	
13,912.1	90.00	179.60	9,500.0	-4,616.9	32.3	0.00	0.00	0.00	0.00	PBHL Sun McKay F

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sun McKay Federal #3H
Company:	Nadel & Gussman Permian, LLC	**TVD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	**MD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Site:	Sec 10,T19S, R32E	**North Reference:**	Grid
Well:	Sun McKay Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Build 12° / 100'									
9,022.5	0.00	0.00	9,022.5	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	9.30	179.60	9,099.7	-6.3	0.0	6.3	12.00	12.00	0.00
9,200.0	21.30	179.60	9,195.9	-32.6	0.2	32.6	12.00	12.00	0.00
9,300.0	33.30	179.60	9,284.6	-78.4	0.5	78.4	12.00	12.00	0.00
9,400.0	45.30	179.60	9,361.9	-141.6	1.0	141.6	12.00	12.00	0.00
9,500.0	57.30	179.60	9,424.3	-219.5	1.5	219.5	12.00	12.00	0.00
9,600.0	69.30	179.60	9,469.1	-308.7	2.2	308.7	12.00	12.00	0.00
9,700.0	81.30	179.60	9,494.5	-405.2	2.8	405.2	12.00	12.00	0.00
EOB @ 90° Inc / 179.60° Azm / 9500' TVD									
9,772.5	90.00	179.60	9,500.0	-477.4	3.3	477.5	12.00	12.00	0.00
9,800.0	90.00	179.60	9,500.0	-505.0	3.5	505.0	0.00	0.00	0.00
9,900.0	90.00	179.60	9,500.0	-604.9	4.2	605.0	0.00	0.00	0.00
10,000.0	90.00	179.60	9,500.0	-704.9	4.9	705.0	0.00	0.00	0.00
10,100.0	90.00	179.60	9,500.0	-804.9	5.6	805.0	0.00	0.00	0.00
10,200.0	90.00	179.60	9,500.0	-904.9	6.3	905.0	0.00	0.00	0.00
10,300.0	90.00	179.60	9,500.0	-1,004.9	7.0	1,005.0	0.00	0.00	0.00
10,400.0	90.00	179.60	9,500.0	-1,104.9	7.7	1,105.0	0.00	0.00	0.00
10,500.0	90.00	179.60	9,500.0	-1,204.9	8.4	1,205.0	0.00	0.00	0.00
10,600.0	90.00	179.60	9,500.0	-1,304.9	9.1	1,305.0	0.00	0.00	0.00
10,700.0	90.00	179.60	9,500.0	-1,404.9	9.8	1,405.0	0.00	0.00	0.00
10,800.0	90.00	179.60	9,500.0	-1,504.9	10.5	1,505.0	0.00	0.00	0.00
10,900.0	90.00	179.60	9,500.0	-1,604.9	11.2	1,605.0	0.00	0.00	0.00
11,000.0	90.00	179.60	9,500.0	-1,704.9	11.9	1,705.0	0.00	0.00	0.00
11,100.0	90.00	179.60	9,500.0	-1,804.9	12.6	1,805.0	0.00	0.00	0.00
11,200.0	90.00	179.60	9,500.0	-1,904.9	13.3	1,905.0	0.00	0.00	0.00
11,300.0	90.00	179.60	9,500.0	-2,004.9	14.0	2,005.0	0.00	0.00	0.00
11,400.0	90.00	179.60	9,500.0	-2,104.9	14.7	2,105.0	0.00	0.00	0.00
11,500.0	90.00	179.60	9,500.0	-2,204.9	15.4	2,205.0	0.00	0.00	0.00
11,600.0	90.00	179.60	9,500.0	-2,304.9	16.1	2,305.0	0.00	0.00	0.00
11,700.0	90.00	179.60	9,500.0	-2,404.9	16.8	2,405.0	0.00	0.00	0.00
11,800.0	90.00	179.60	9,500.0	-2,504.9	17.5	2,505.0	0.00	0.00	0.00
11,900.0	90.00	179.60	9,500.0	-2,604.9	18.2	2,605.0	0.00	0.00	0.00
12,000.0	90.00	179.60	9,500.0	-2,704.9	18.9	2,705.0	0.00	0.00	0.00
12,100.0	90.00	179.60	9,500.0	-2,804.9	19.6	2,805.0	0.00	0.00	0.00
12,200.0	90.00	179.60	9,500.0	-2,904.9	20.3	2,905.0	0.00	0.00	0.00
12,300.0	90.00	179.60	9,500.0	-3,004.9	21.0	3,005.0	0.00	0.00	0.00
12,400.0	90.00	179.60	9,500.0	-3,104.9	21.7	3,105.0	0.00	0.00	0.00
12,500.0	90.00	179.60	9,500.0	-3,204.9	22.4	3,205.0	0.00	0.00	0.00
12,600.0	90.00	179.60	9,500.0	-3,304.9	23.1	3,305.0	0.00	0.00	0.00
12,700.0	90.00	179.60	9,500.0	-3,404.9	23.8	3,405.0	0.00	0.00	0.00
12,800.0	90.00	179.60	9,500.0	-3,504.9	24.5	3,505.0	0.00	0.00	0.00
12,900.0	90.00	179.60	9,500.0	-3,604.9	25.2	3,605.0	0.00	0.00	0.00
13,000.0	90.00	179.60	9,500.0	-3,704.9	25.9	3,705.0	0.00	0.00	0.00
13,100.0	90.00	179.60	9,500.0	-3,804.9	26.6	3,805.0	0.00	0.00	0.00
13,200.0	90.00	179.60	9,500.0	-3,904.9	27.4	3,905.0	0.00	0.00	0.00
13,300.0	90.00	179.60	9,500.0	-4,004.9	28.1	4,005.0	0.00	0.00	0.00
13,400.0	90.00	179.60	9,500.0	-4,104.9	28.8	4,105.0	0.00	0.00	0.00
13,500.0	90.00	179.60	9,500.0	-4,204.9	29.5	4,205.0	0.00	0.00	0.00
13,600.0	90.00	179.60	9,500.0	-4,304.9	30.2	4,305.0	0.00	0.00	0.00
13,700.0	90.00	179.60	9,500.0	-4,404.9	30.9	4,405.0	0.00	0.00	0.00
13,800.0	90.00	179.60	9,500.0	-4,504.9	31.6	4,505.0	0.00	0.00	0.00
13,900.0	90.00	179.60	9,500.0	-4,604.9	32.3	4,605.0	0.00	0.00	0.00
13,912.1	90.00	179.60	9,500.0	-4,616.9	32.3	4,617.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Sun McKay Federal #3H
Company:	Nadel & Gussman Permian, LLC	**TVD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	**MD Reference:**	WELL @ 3667.0usft (Original Well Elev)
Site:	Sec 10,T19S, R32E	**North Reference:**	Grid
Well:	Sun McKay Federal #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Sun McKay Fec - plan hits target center - Rectangle (sides W100.0 H0.0 D4,144.6)	90.00	179.60	9,500.0	-4,616.9	32.3	607,443.85	718,922.42	32° 40' 6.894 N	103° 45' 22.442 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,022.5	9,022.5	0.0	0.0	Build 12° / 100'
9,772.5	9,500.0	-477.4	3.3	EOB @ 90° Inc / 179.60° Azm / 9500' TVD
13,912.1	9,500.0	-4,616.9	32.3	TD @ 13912' MD / 9500' TVD

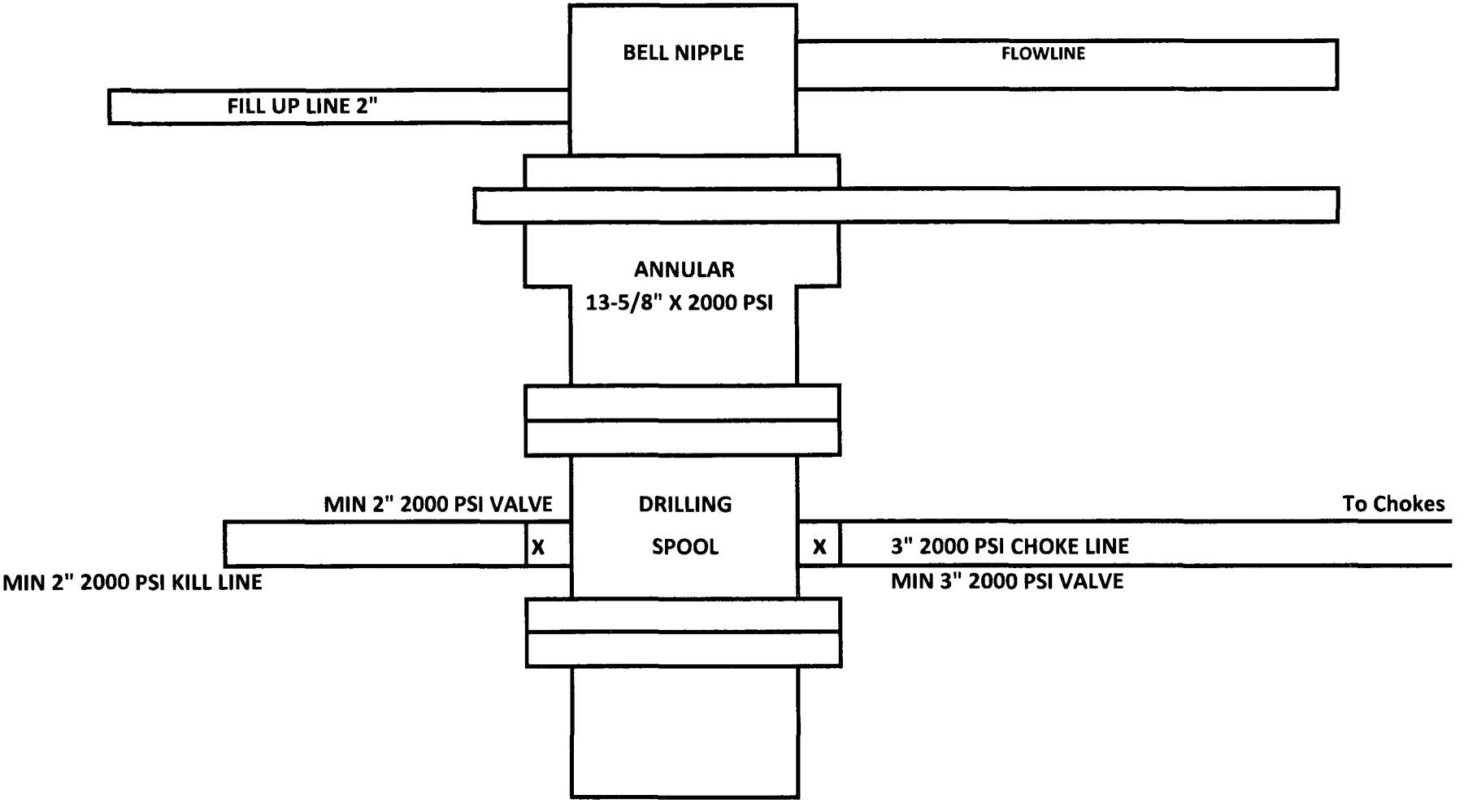
Well Sun McKay Federal #3H

330 FNL, 1980 FWL, Sec. 10, 19S, 32E

Lea County New Mexico

Nadel and Gussman Permian, L.L.C.

BOP Scematic 12.25" hole



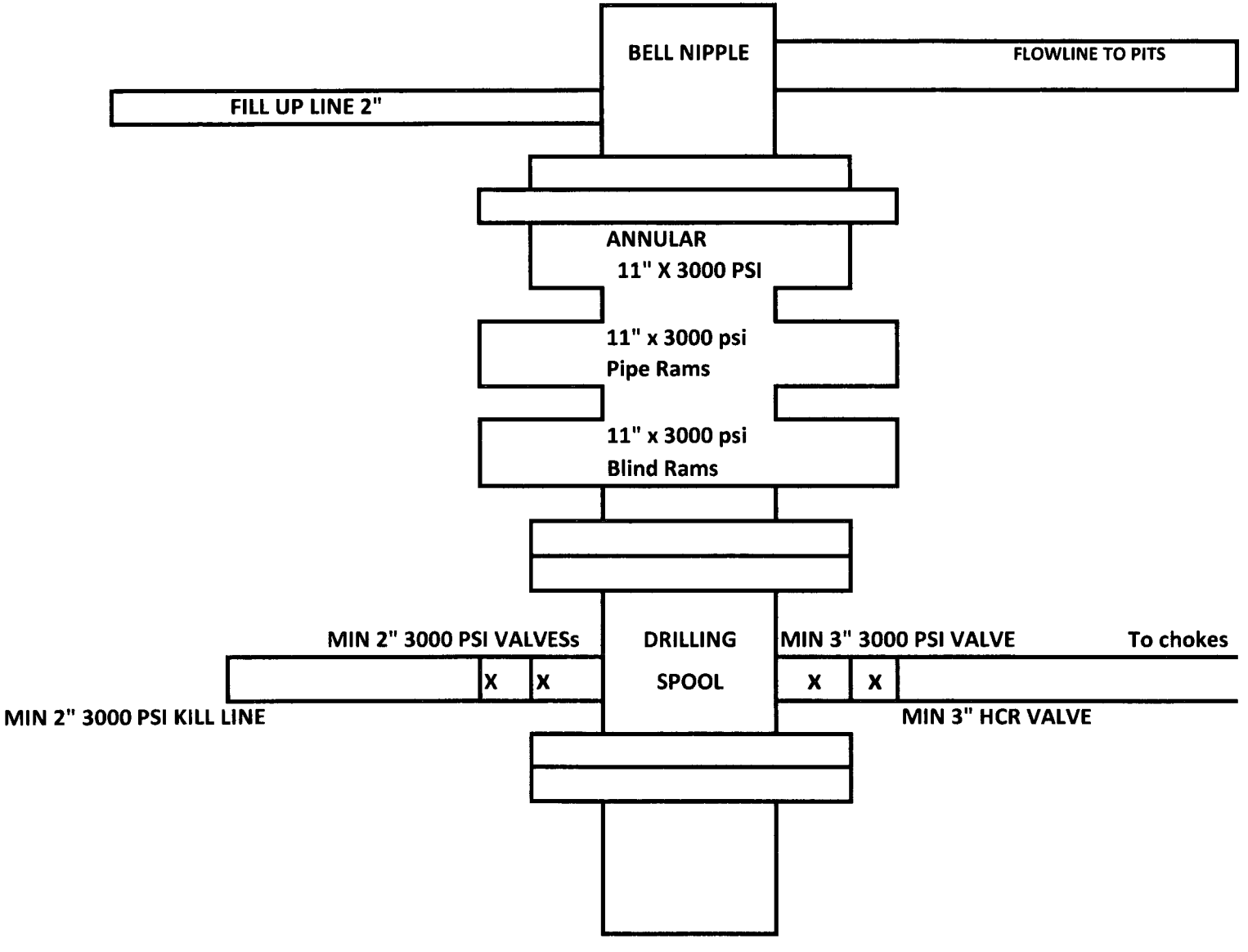
Well Sun McKay Federal #3H

330 FNL, 1980 FWL, Sec. 10, 19S, 32E

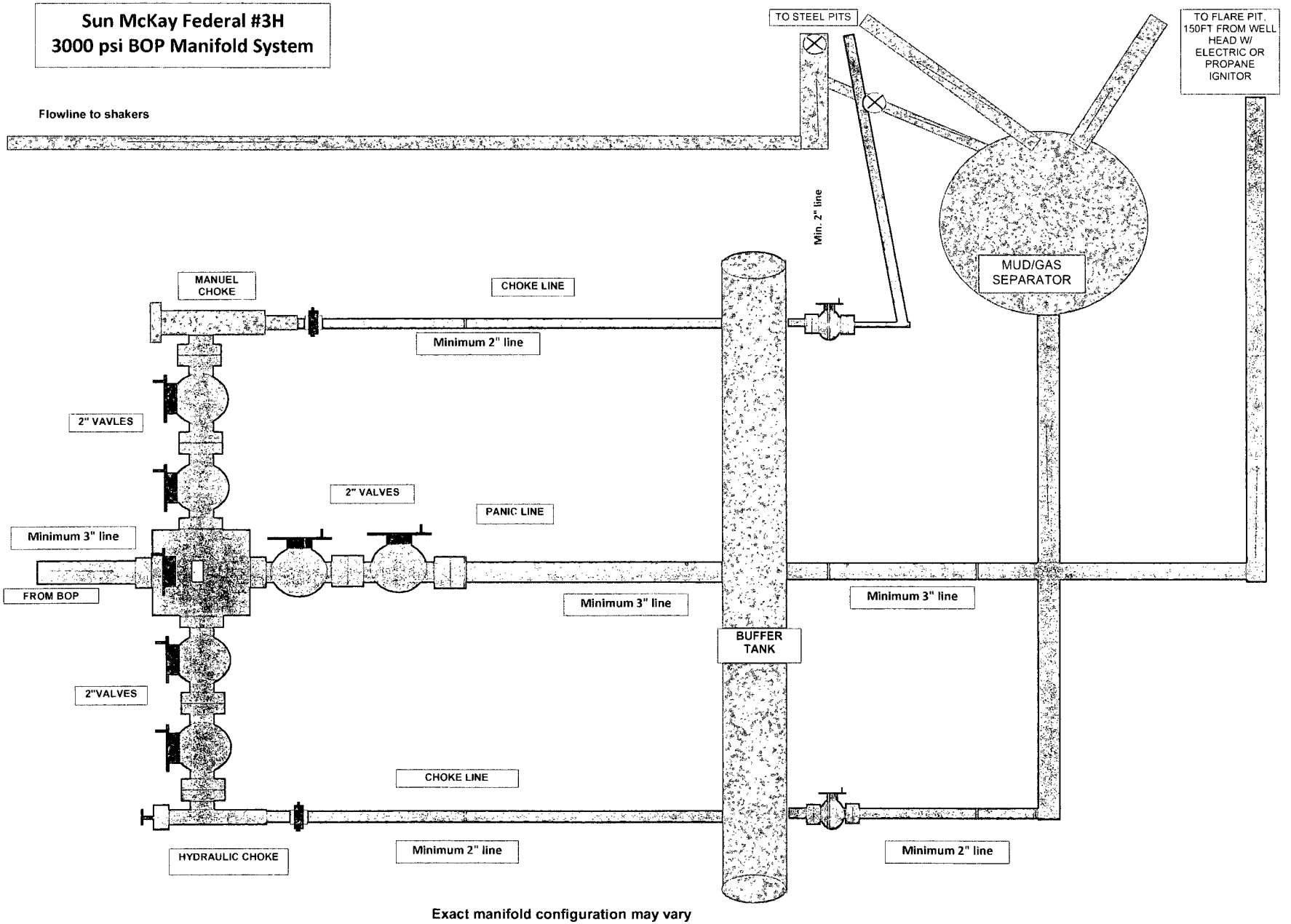
Lea County New Mexico

Nadel and Gussman Permian, L.L.C.

BOP Scematic 8.75" & 6.125" hole



Sun McKay Federal #3H
3000 psi BOP Manifold System

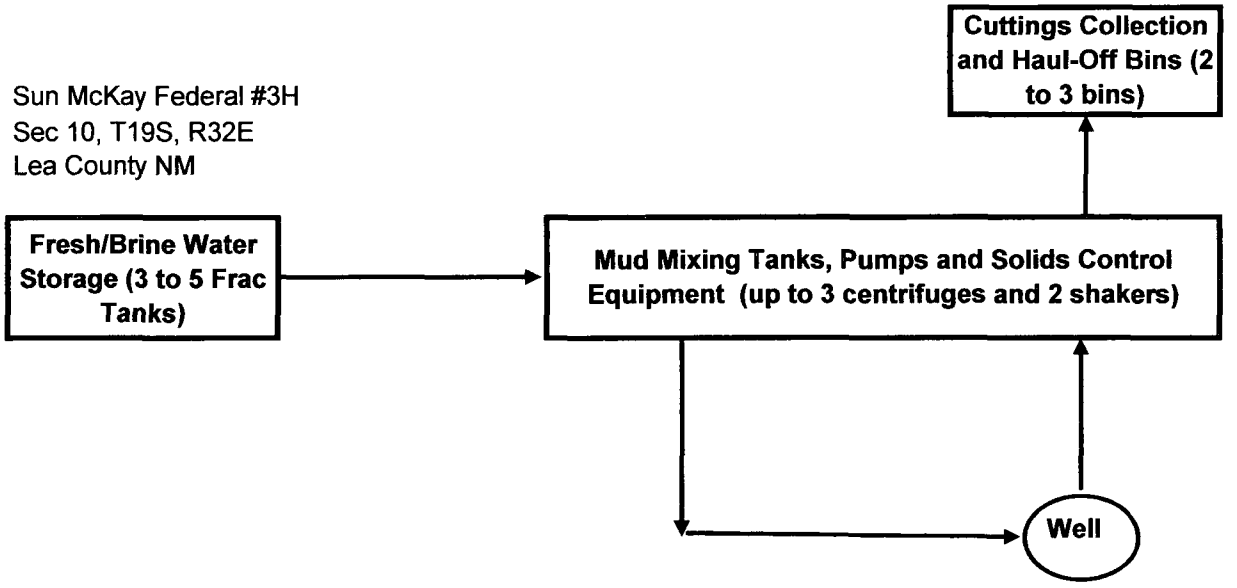


Exact manifold configuration may vary

CLOSED-LOOP SYSTEM

Design Plan:

Sun McKay Federal #3H
Sec 10, T19S, R32E
Lea County NM



Operating and Maintenance Plan:

During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluid and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

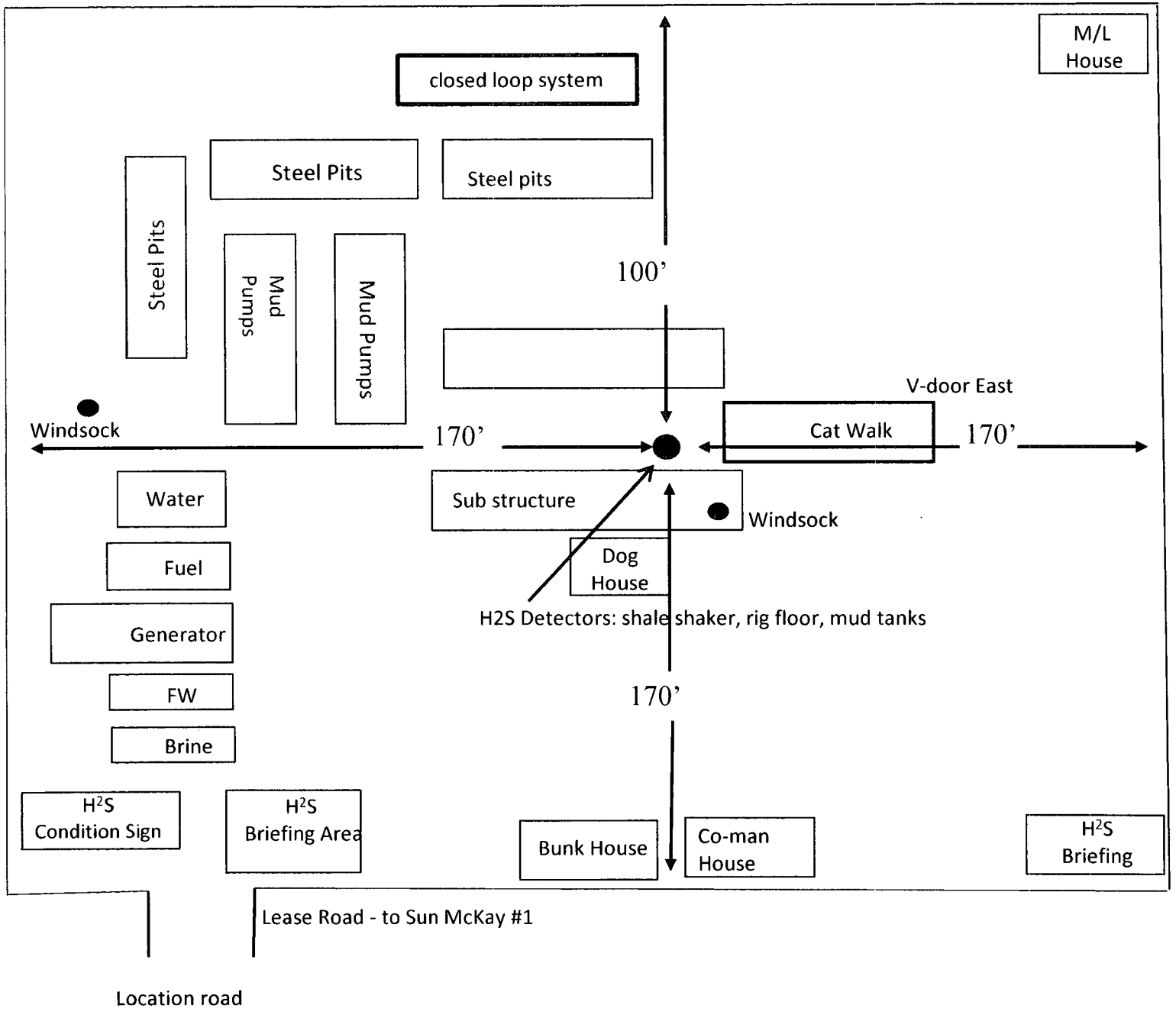
Closure Plan:

During drilling operations, third party service companies will haul-off drill solids and fluids to an approved disposal facility. At the end of the well, all closed loop equipment will be removed from the location.

Closed loop system will but up to the steel pits.
Secondary egress: North to lease road

Prevailing wind out of SW

RIG 3
Patriot Drilling



North

terrain: sandy soil with some flat terrain, graze land, scattered dunes

Sun McKay
Federal #3H
Sec. 10, T19S, R32E
Lea County NM

NADEL AND GUSSMAN PERMIAN, L.L.C.
601 N. MARIENFELD STE. 508
MIDLAND, TX 79701
(432) 682-4429 (Office)
(432) 682-4325 (Fax)

December 10, 2013

Mr. Ingram
Carlsbad BLM Field Office
620 E. Greene St.
Carlsbad, NM 88220

Re: Sun McKay Federal #3H
SHL: 330' FNL & 1980' FWL UL C
Sec. 10, T19S, R32E
Lea County, NM
Rule 118 H2S Exposure

Dear Mr. Ingram,

Nadel and Gussman Permian, LLC have evaluated this well and we do not expect to encounter hydrogen sulfide. However, we will employ a third party monitoring system. We will begin monitoring prior to drilling out the surface casing and will continue monitoring the remainder of the well.

Please contact me if you have any additional questions.

Sincerely,

Jason Goss
Drilling Engineer