13-386

HOBBS OCD

MAY 21 2014

RECEIVED

OCD Hobbs

SECRETARY'S POTASH

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM-~~73240~~ 073240

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.
~~FEDERAL 30 #3H~~ 313263

2. Name of Operator NADEL AND GUSSMAN HEYCO, LLC (258462)

9. API Well No.
30-025-41882

3a. Address 500 N. MAIN, SUITE ONE
ROSWELL, NM 88202

3b. Phone No. *(include area code)*
575-623-6601

10. Field and Pool, or Exploratory
GEM; BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 330 FNL, 710 FEL- UL A
At proposed prod. zone 330 FSL, 510 FEL - UL P

11. Sec., T. R. M. or Blk. and Survey or Area
SEC. 30, T-19-S, R-33-E

14. Distance in miles and direction from nearest town or post office*
15 MILES SOUTH OF MALJAMAR 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)
330

16. No. of acres in lease
~~320~~ 613

17. Spacing Unit dedicated to this well
160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
2,950 FT FROM FEDERAL 30 #1
approx. 200' along horizontal

19. Proposed Depth
pilot hole TD 11,025, horz: 14,377 MD; 9,960 TVD

20. BLM/BIA Bond No. on file
NM # 000520

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3600 GL

22. Approximate date work will start*
10/01/2013

23. Estimated duration
45 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must 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 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 required by the BLM.

25. Signature
Name *(Printed/Typed)* JASON GOSS
Date 01/15/2013

Title
DRILLING ENGINEER

Approved by *(Signature)* /s/George MacDonell
Name *(Printed/Typed)*
Date MAY 16 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.

(Continued on page 2)

*(Instructions on page 2)

KB 05/20/14

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

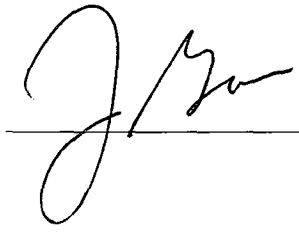
Approval Subject to General Requirements
& Special Stipulations Attached

JUN 02 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 25 day of January 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 HEYCO, L.L.C.
FEDERAL 30 #3H

Surface: 330' FNL & 710' FEL, UL A, Sec 30, T-19-S, R-33-E
BHL: 330' FSL & 510' FEL, UL P, Sec 30, T-19-S, R-33-E
Lea County, New Mexico.

ELEVATION: GL 3,600'

GEOLOGICAL NAME OF SURFACE FORMATION: QAL AND VEGITATED SAND DUNES AT SURFACE

Type of Well: Horizontal Oil Well with pilot hole, drill with rotary tools

DEPTH FRESH WATER: POSSIBLE GROUND WATER IN SANTA ROSA 800-950FT, WATER WELL SEC 18, T19S-R33E.

TOPS OF IMPORTANT GEOLOGICAL MARKERS: TVD

Rustler	1195'
Top Salt	1,400'
BX (base salt)	2745'
Yates	2,940'
Top Capitan Reef	3,260'
Base Capitan Reef	4,900
Delaware	5,300'
Bone Spring Ls	7,835'
1st Bone Spring Sand	9,000
2nd Bone Spring Sand	9,537'
Horizontal Target Pay	**9,940'**
3rd Bone Spring Sand	10,585
TVD Pilot hole (Wolfcamp Top)	**11,025'**

Estimated Depth of Anticipated Water, Oil or Gas:

Santa Rosa	800 '- 950'	Water
Yates - Seven Rivers	2,978' - 3,255'	Oil, Gas and Water
Delaware	5,300 - 7,500'	Oil, Gas and Water
Bone Springs	8,900 - 9,800'	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 20" casing at ~~1250'~~ 1300' and circulating cement back to surface, all other intervals will be isolated by the 13-3/8", 9 5/8 intermediate and 7" production casing.

****NOTE: WILL GYRO FEDERAL 30 #1 AND ISSUE COLLISION REPORT PRIOR TO SPUDDING FEDERAL 30 #3H, THIS IS THE ONLY WELL IN UNIT LETTERS: A, H, I AND P WHICH PENETRATES THE 2ND BONE SPRING SAND.**

CASING PROGRAM

See COA

HOLE SIZE	CASING SIZE	WT./GRADE	THREAD/COLLAR	SETTING DEPTH	TOP CEMENT
	30" conductor			60'	
26"	20" (new)	133# K-55	8rd STC	~~1250'~~ 1300'	Surface
17.5"	13 3/8" (new)	68# J-55	8rd STC	~~2800'~~ 3400'	Surface
12.25"	9 5/8" (new)	40# L-80	8rd LTC	5,000'	Surface
8.75"	7" (new)	26# P-110HC	8rd **BTC**	10,232'	4,500ft
6.125"	4 1/2" (new)	13.5# P-110HC	8rd **BTC**	9,900'-14,377'	N/A*

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

Pilot hole plug back procedure: Vertical hole has been drilled to a TD of 11,025ft. Well will be logged with Halliburton Triple Combo w/ cores and Horizontal target will be revised. Spot 200ft Class H plug on bottom. WOC 12 hours or 500 psi compressive strength and tag plug. Pull up hole to KOP and spot 225 sack Class H plug at least 100ft above and 200ft below KOP at 9,482'. WOC 24 hours, Kick off and continue with plan.

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. **20"** **SURFACE** CEMENT TO SURFACE **100% EXCESS OVER CALCULATED**

LEAD: 2,000 SACKS CLASS "C" +4% BENTONITE +2% CACL +.25# CELLO-FLAKE+.25% DEFOAMER, 13.5 PPG, 1.75 YIELD

TAIL: 250 SACKS CLASS C + .25% DEFOAMER 14.8 PPG, 1.34 YIELD

B. **13 3/8"** **INTERMEDIATE** CEMENT TO SURFACE **50% EXCESS OVER CALCULATED**

LEAD 1,400 SACKS CLASS "C" + 4% BENTONITE +2% CACL +.25# CELLO-FLAKE+.25% DEFOAMER, 13.5 PPG, 1.75 YIELD

TAIL: 250 SACKS CLASS "C"+2%CACL+.25# CELLO-FLAKE+.25% DEFOAMER, 14.8 PPG, 1.35 YIELD

C. **9 5/8"** **2ND INTERMEDIATE** CEMENT TO SURFACE **50% EXCESS OVER CALCULATED**

LEAD 1050 SACKS CLASS "C" 35/65 +6% BENTONITE+5% SALT+.25% DEFOAMER 12.8 PPG, 1.9 YIELD

TAIL 250 SACKS CLASS "C" + .25% DEFOAMER, 14.8 PPG, 1.33 YIELD

See COA

D. **7"** **PRODUCTION** CEMENT TO ~~4,500~~FT (WILL RUN FLUID CALIPER) **25% EXCESS OVER FLUID CALIPER, OR 50% OVER CALCULATED.**

LEAD 850 SACKS CLASS H 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

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

E. BOTTOM HOLE PLUG: 100 SACKS CLASS H NEAT, 15.7 PPG, 1.16 YIELD, **50% EXCESS**

F. KICK OFF PLUG 225 SACKS CLASS H NEAT, 16.9 PPG, 1.0 YIELD. **100% EXCESS**

SPECIFICATIONS FOR PRESSURE CONTROL EQUIPMENT: (EXHIBIT #5)

See Coa

A 2000# WP Annular will be installed after running the 20" and 13-3/8" casing. A 3,000# WP Double Ram BOP and 2,000 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:

Drill 26" surface hole with **fresh water (8.4 to 8.7 ppg)** to a depth of approx 1250'. Control lost circulation with paper and LCM pills. Viscosity 28-55, no fluid loss control. Fresh water gel sweeps.

Drill 17-1/2" hole from 1250' to 2,800' 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 12-1/4" hole from 2,800 to 5,000 with **fresh water (8.4 to 8.7 ppg)** . Control lost circulation with paper and LCM pills. Viscosity 28-55, no fluid loss control. Fresh water gel sweeps.

Drill 8 ¾" production hole from 5,000' to **10,232'** (11,025 TVD of Pilot hole, 10,232' MD of Curve) 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 6300' to TD of pilot and curve (8.7 to 9.0 ppg), control filtrate with starch and water loss additives. Clean hole with pre-hydrated freshwater gel sweeps, as necessary. System properties: viscosity 34-40, fluid loss <20 ml/ 30min.

Drill 6 1/8" production lateral hole from 10,232'-14,377' with **fresh water (8.4-8.7 ppg)**, control filtrate and increase viscosity with Xanthan gum and Poly Anionic Cellulose. Clean hole high with viscosity sweeps and lubricants as necessary. System Properties viscosity 34-40, 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. BOP and fittings must be in good condition with minimum of 2000 psi working pressure on 20" and 13-3/8" casing and 3000 psi working pressure on 9-5/8" and 7"

casing. Accumulator will be at least 40 gallon capacity with 2 independent sources of pressure on closing unit and meet all other API specifications.

B. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times with 3000 psi working pressure.

See COA C. Hydrogen Sulfide detection equipment will be in operation before drilling out the 20" 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 at TD of vertical pilot hole, w/ side wall cores.
    1. Halliburton Triple Combo
c. Mud logging will take place from 3,250ft to TD 10ft samples
d. Gyro survey will be run at KOP of 9,480'
e. MWD (directional) and LWD (gamma) surveys will be taken from KOP (9,480') to TD

POTENTIAL HAZARDS:

as per operator, BHP gradient is 0.433 psi/ft estimated BHP 4773 psi.

No significant hazards are expected to vertical TD of 11,025ft, no abnormal pressures or temperatures are expected. **Expected pressure gradient will be .35 psi/ft, estimated BHP is 3,479 psi at TVD of 9940ft, Estimated BHT is 143 degrees F, estimated from static pressure test conducted on nearby wells.** Lost circulation may occur, no H_2S is expected, but the operator will utilize a 3rd party H_2S monitoring package from 1250' to TD. 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.

See COA

ANTICIPATED STARTING DATE & DURATION:

Nadel & Gussman HEYCO, LLC anticipates drilling operations to begin 1-3 months after receiving approved APD. Expected time to complete is 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.

Jason Goss, Drilling Engineer
Nadel & Gussman HEYCO, LLC

Nadel & Gussman HEYCO, LLC

Lea County, NM
Sec 30, T19S, R33E
Federal 30 #3H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

22 January, 2013

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Sec 30, T19S, R33E
Company:	Nadel & Gussman HEYCO, LLC	**TVD Reference:**	WELL @ 3600.00ft (Patriot)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3600.00ft (Patriot)
Site:	Sec 30, T19S, R33E	**North Reference:**	Grid
Well:	Federal 30 #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Lea County, NM

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Sec 30, T19S, R33E

Site Position:		**Northing:**	596,223.8000 ft	**Latitude:**	32° 38' 14.997 N
From:	Map	**Easting:**	696,288.9000 ft	**Longitude:**	103° 41' 44.489 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.34 °

Well Federal 30 #3H

Well Position	**+N/-S**	0.00 ft	**Northing:**	596,223.8000 ft	**Latitude:**	32° 38' 14.997 N
	+E/-W	0.00 ft	**Easting:**	696,288.9000 ft	**Longitude:**	103° 41' 44.489 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	3,600.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/16/2013	7.48	60.51	48,692

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	177.281

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.000	0.000	0.000	0.00	
9,482.54	0.00	0.000	9,482.54	0.00	0.00	0.000	0.000	0.000	0.00	
10,232.54	90.00	177.281	9,960.01	-476.93	22.65	12.000	12.000	23.637	177.28	
14,377.19	90.00	177.281	9,960.00	-4,616.91	219.27	0.000	0.000	0.000	0.00	PBHL Federal 30 #:

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Sec 30, T19S, R33E
Company:	Nadel & Gussman HEYCO, LLC	**TVD Reference:**	WELL @ 3600.00ft (Patriot)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3600.00ft (Patriot)
Site:	Sec 30, T19S, R33E	**North Reference:**	Grid
Well:	Federal 30 #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Build 12° / 100'									
9,482.54	0.00	0.000	9,482.54	0.00	0.00	0.00	0.000	0.000	0.000
9,500.00	2.10	177.281	9,500.00	-0.32	0.02	0.32	12.000	12.000	0.000
9,525.00	5.10	177.281	9,524.94	-1.88	0.09	1.89	12.000	12.000	0.000
9,550.00	8.10	177.281	9,549.78	-4.75	0.23	4.76	12.000	12.000	0.000
9,575.00	11.10	177.281	9,574.42	-8.91	0.42	8.92	12.000	12.000	0.000
9,600.00	14.10	177.281	9,598.82	-14.36	0.68	14.38	12.000	12.000	0.000
9,625.00	17.10	177.281	9,622.90	-21.07	1.00	21.10	12.000	12.000	0.000
9,650.00	20.10	177.281	9,646.59	-29.03	1.38	29.07	12.000	12.000	0.000
9,675.00	23.10	177.281	9,669.83	-38.22	1.82	38.27	12.000	12.000	0.000
9,700.00	26.10	177.281	9,692.56	-48.62	2.31	48.67	12.000	12.000	0.000
9,725.00	29.10	177.281	9,714.71	-60.18	2.86	60.25	12.000	12.000	0.000
9,750.00	32.10	177.281	9,736.23	-72.89	3.46	72.97	12.000	12.000	0.000
9,775.00	35.10	177.281	9,757.05	-86.71	4.12	86.80	12.000	12.000	0.000
9,800.00	38.10	177.281	9,777.12	-101.59	4.82	101.71	12.000	12.000	0.000
9,825.00	41.10	177.281	9,796.38	-117.51	5.58	117.64	12.000	12.000	0.000
9,850.00	44.10	177.281	9,814.79	-134.41	6.38	134.56	12.000	12.000	0.000
9,875.00	47.10	177.281	9,832.28	-152.24	7.23	152.42	12.000	12.000	0.000
9,900.00	50.10	177.281	9,848.81	-170.97	8.12	171.16	12.000	12.000	0.000
9,925.00	53.10	177.281	9,864.34	-190.54	9.05	190.75	12.000	12.000	0.000
9,950.00	56.10	177.281	9,878.82	-210.89	10.02	211.13	12.000	12.000	0.000
9,975.00	59.10	177.281	9,892.22	-231.97	11.02	232.23	12.000	12.000	0.000
10,000.00	62.10	177.281	9,904.49	-253.72	12.05	254.01	12.000	12.000	0.000
10,025.00	65.10	177.281	9,915.60	-276.09	13.11	276.40	12.000	12.000	0.000
10,050.00	68.10	177.281	9,925.53	-299.00	14.20	299.34	12.000	12.000	0.000
10,075.00	71.10	177.281	9,934.25	-322.40	15.31	322.77	12.000	12.000	0.000
10,100.00	74.10	177.281	9,941.73	-346.23	16.44	346.62	12.000	12.000	0.000
10,125.00	77.10	177.281	9,947.95	-370.41	17.59	370.83	12.000	12.000	0.000
10,150.00	80.10	177.281	9,952.89	-394.89	18.75	395.34	12.000	12.000	0.000
10,175.00	83.10	177.281	9,956.54	-419.59	19.93	420.06	12.000	12.000	0.000
10,200.00	86.10	177.281	9,958.90	-444.45	21.11	444.95	12.000	12.000	0.000
10,225.00	89.10	177.281	9,959.95	-469.40	22.29	469.93	12.000	12.000	0.000
EOB @ 90° Inc / 177.281° Azm / 9960' TVD									
10,232.54	90.00	177.281	9,960.01	-476.93	22.65	477.47	12.000	12.000	0.000
10,300.00	90.00	177.281	9,960.00	-544.31	25.85	544.92	0.000	0.000	0.000
10,400.00	90.00	177.281	9,960.00	-644.20	30.59	644.92	0.000	0.000	0.000
10,500.00	90.00	177.281	9,960.00	-744.09	35.34	744.92	0.000	0.000	0.000
10,600.00	90.00	177.281	9,960.00	-843.97	40.08	844.92	0.000	0.000	0.000
10,700.00	90.00	177.281	9,960.00	-943.86	44.83	944.92	0.000	0.000	0.000
10,800.00	90.00	177.281	9,960.00	-1,043.75	49.57	1,044.92	0.000	0.000	0.000
10,900.00	90.00	177.281	9,960.00	-1,143.64	54.31	1,144.92	0.000	0.000	0.000
11,000.00	90.00	177.281	9,960.00	-1,243.52	59.06	1,244.92	0.000	0.000	0.000
11,100.00	90.00	177.281	9,960.00	-1,343.41	63.80	1,344.92	0.000	0.000	0.000
11,200.00	90.00	177.281	9,960.00	-1,443.30	68.55	1,444.92	0.000	0.000	0.000
11,300.00	90.00	177.281	9,960.00	-1,543.19	73.29	1,544.92	0.000	0.000	0.000
11,400.00	90.00	177.281	9,960.00	-1,643.07	78.03	1,644.92	0.000	0.000	0.000
11,500.00	90.00	177.281	9,960.00	-1,742.96	82.78	1,744.92	0.000	0.000	0.000
11,600.00	90.00	177.281	9,960.00	-1,842.85	87.52	1,844.92	0.000	0.000	0.000
11,700.00	90.00	177.281	9,960.00	-1,942.74	92.27	1,944.92	0.000	0.000	0.000
11,800.00	90.00	177.281	9,960.00	-2,042.62	97.01	2,044.92	0.000	0.000	0.000
11,900.00	90.00	177.281	9,960.00	-2,142.51	101.75	2,144.92	0.000	0.000	0.000
12,000.00	90.00	177.281	9,960.00	-2,242.40	106.50	2,244.92	0.000	0.000	0.000
12,100.00	90.00	177.281	9,960.00	-2,342.28	111.24	2,344.92	0.000	0.000	0.000
12,200.00	90.00	177.281	9,960.00	-2,442.17	115.99	2,444.92	0.000	0.000	0.000

DDC

Well Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Site Sec 30, T19S, R33E
Company:	Nadel & Gussman HEYCO, LLC	**TVD Reference:**	WELL @ 3600.00ft (Patriot)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3600.00ft (Patriot)
Site:	Sec 30, T19S, R33E	**North Reference:**	Grid
Well:	Federal 30 #3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,300.00	90.00	177.281	9,960.00	-2,542.06	120.73	2,544.92	0.000	0.000	0.000
12,400.00	90.00	177.281	9,960.00	-2,641.95	125.47	2,644.92	0.000	0.000	0.000
12,500.00	90.00	177.281	9,960.00	-2,741.83	130.22	2,744.92	0.000	0.000	0.000
12,600.00	90.00	177.281	9,960.00	-2,841.72	134.96	2,844.92	0.000	0.000	0.000
12,700.00	90.00	177.281	9,960.00	-2,941.61	139.71	2,944.92	0.000	0.000	0.000
12,800.00	90.00	177.281	9,960.00	-3,041.50	144.45	3,044.92	0.000	0.000	0.000
12,900.00	90.00	177.281	9,960.00	-3,141.38	149.19	3,144.92	0.000	0.000	0.000
13,000.00	90.00	177.281	9,960.00	-3,241.27	153.94	3,244.92	0.000	0.000	0.000
13,100.00	90.00	177.281	9,960.00	-3,341.16	158.68	3,344.92	0.000	0.000	0.000
13,200.00	90.00	177.281	9,960.00	-3,441.05	163.42	3,444.92	0.000	0.000	0.000
13,300.00	90.00	177.281	9,960.00	-3,540.93	168.17	3,544.92	0.000	0.000	0.000
13,400.00	90.00	177.281	9,960.00	-3,640.82	172.91	3,644.92	0.000	0.000	0.000
13,500.00	90.00	177.281	9,960.00	-3,740.71	177.66	3,744.92	0.000	0.000	0.000
13,600.00	90.00	177.281	9,960.00	-3,840.60	182.40	3,844.92	0.000	0.000	0.000
13,700.00	90.00	177.281	9,960.00	-3,940.48	187.14	3,944.92	0.000	0.000	0.000
13,800.00	90.00	177.281	9,960.00	-4,040.37	191.89	4,044.92	0.000	0.000	0.000
13,900.00	90.00	177.281	9,960.00	-4,140.26	196.63	4,144.92	0.000	0.000	0.000
14,000.00	90.00	177.281	9,960.00	-4,240.15	201.38	4,244.92	0.000	0.000	0.000
14,100.00	90.00	177.281	9,960.00	-4,340.03	206.12	4,344.92	0.000	0.000	0.000
14,200.00	90.00	177.281	9,960.00	-4,439.92	210.86	4,444.92	0.000	0.000	0.000
14,300.00	90.00	177.281	9,960.00	-4,539.81	215.61	4,544.92	0.000	0.000	0.000
TD @ 14377' MD / 9960' TVD									
14,377.19	90.00	177.281	9,960.00	-4,616.91	219.27	4,622.12	0.000	0.000	0.000

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL Federal 30 #3H - plan hits target center - Rectangle (sides W100.00 H0.00 D4,144.65)	90.00	177.281	9,960.00	-4,616.91	219.27	591,606.8877	696,508.1700	32° 37' 29.299 N	103° 41' 42.249 W

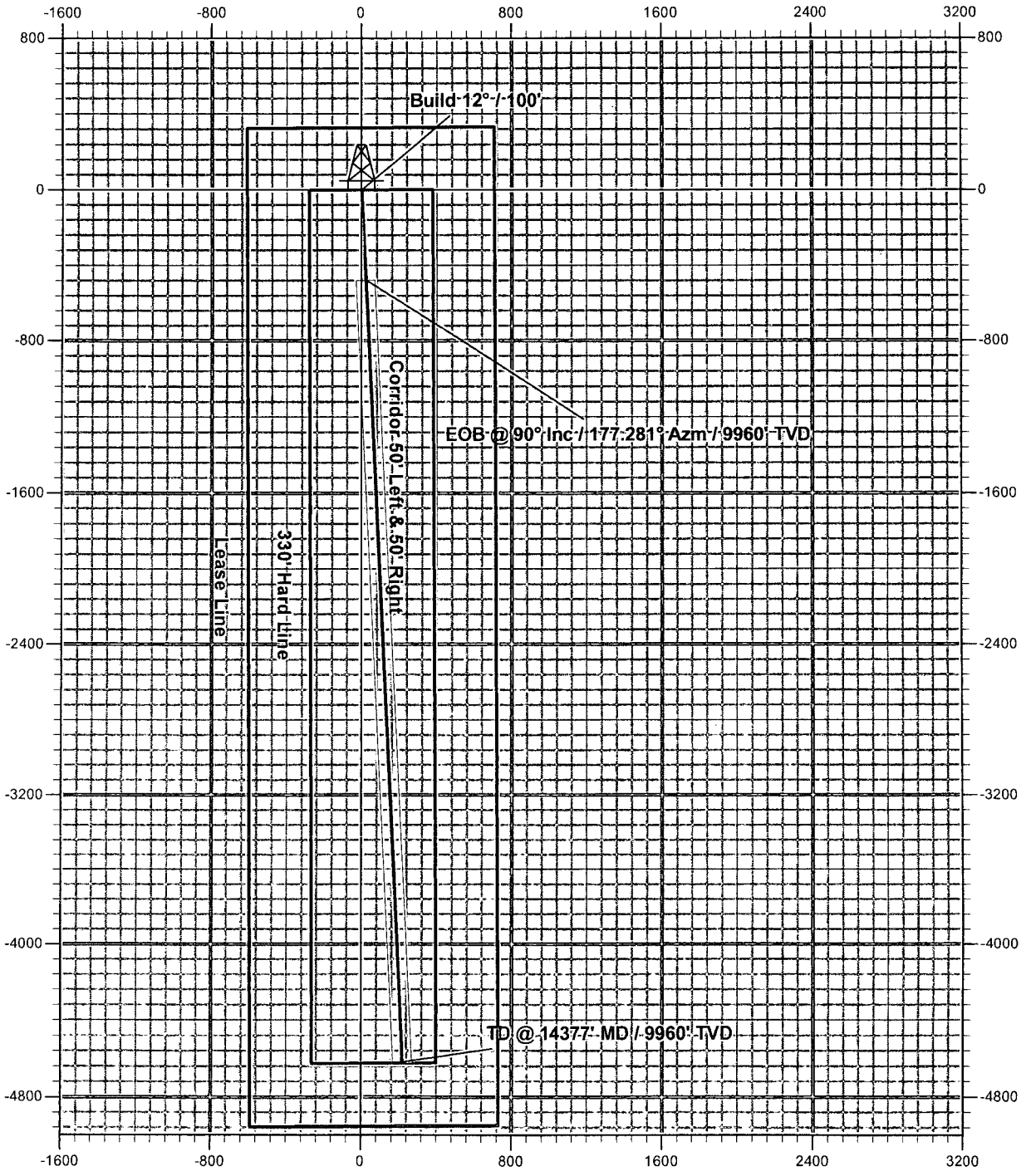
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
9,482.54	9,482.54	0.00	0.00	Build 12° / 100'
10,232.54	9,960.01	-476.93	22.65	EOB @ 90° Inc / 177.281° Azm / 9960' TVD
14,377.19	9,960.00	-4,616.91	219.27	TD @ 14377' MD / 9960' TVD

Nadel and Gussman HEYCO,LLC

Lea County, NM
Federal 30 #3H
Quote 130062
Design #1

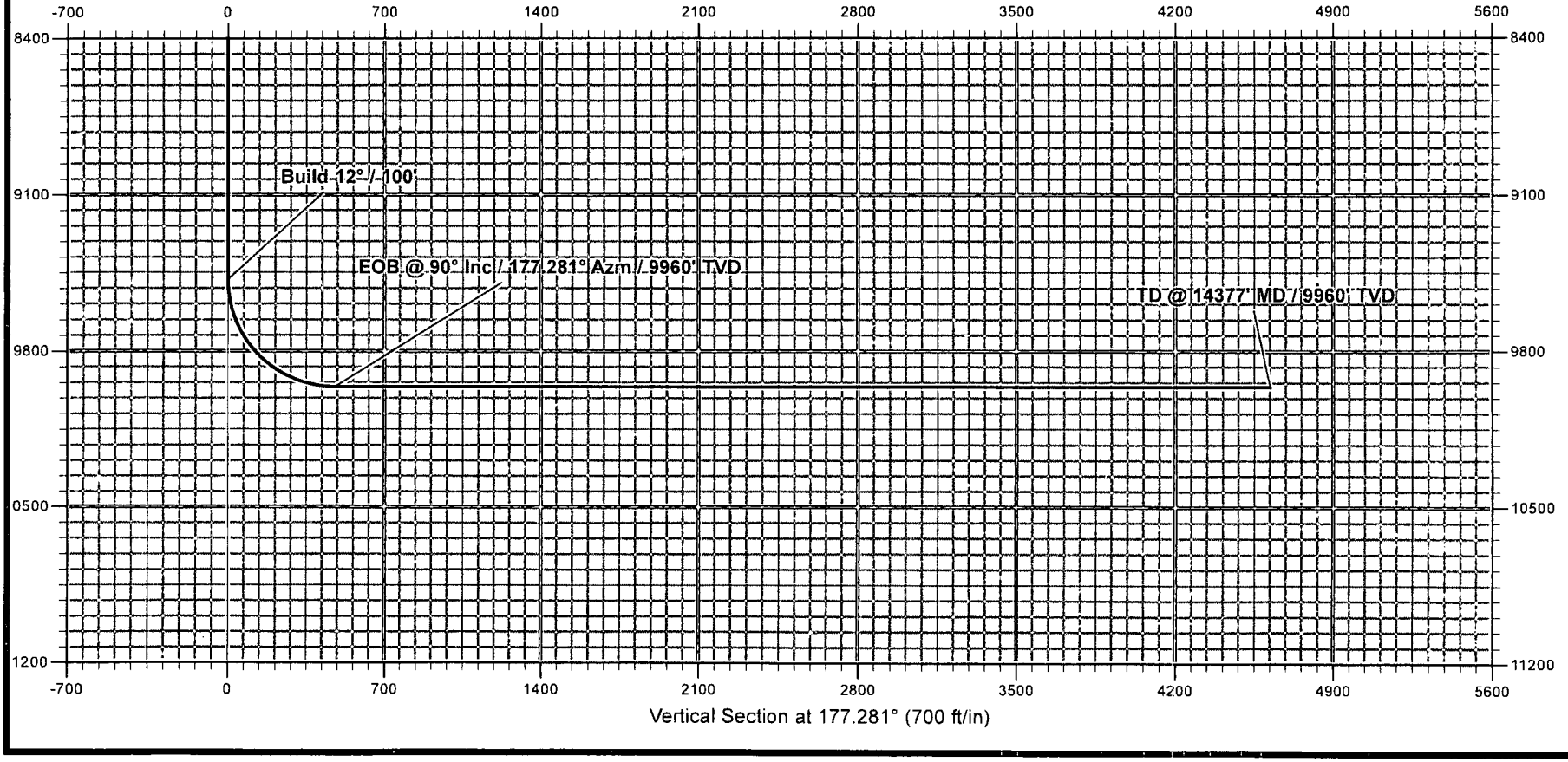
The DIRECTIONAL DRILLING COMPANY



Nadel and Gussman HEYCO, LLC

Lea County, NM
Federal 30 #3H
Quote 130062
Design #1

The DIRECTIONAL DRILLING COMPANY



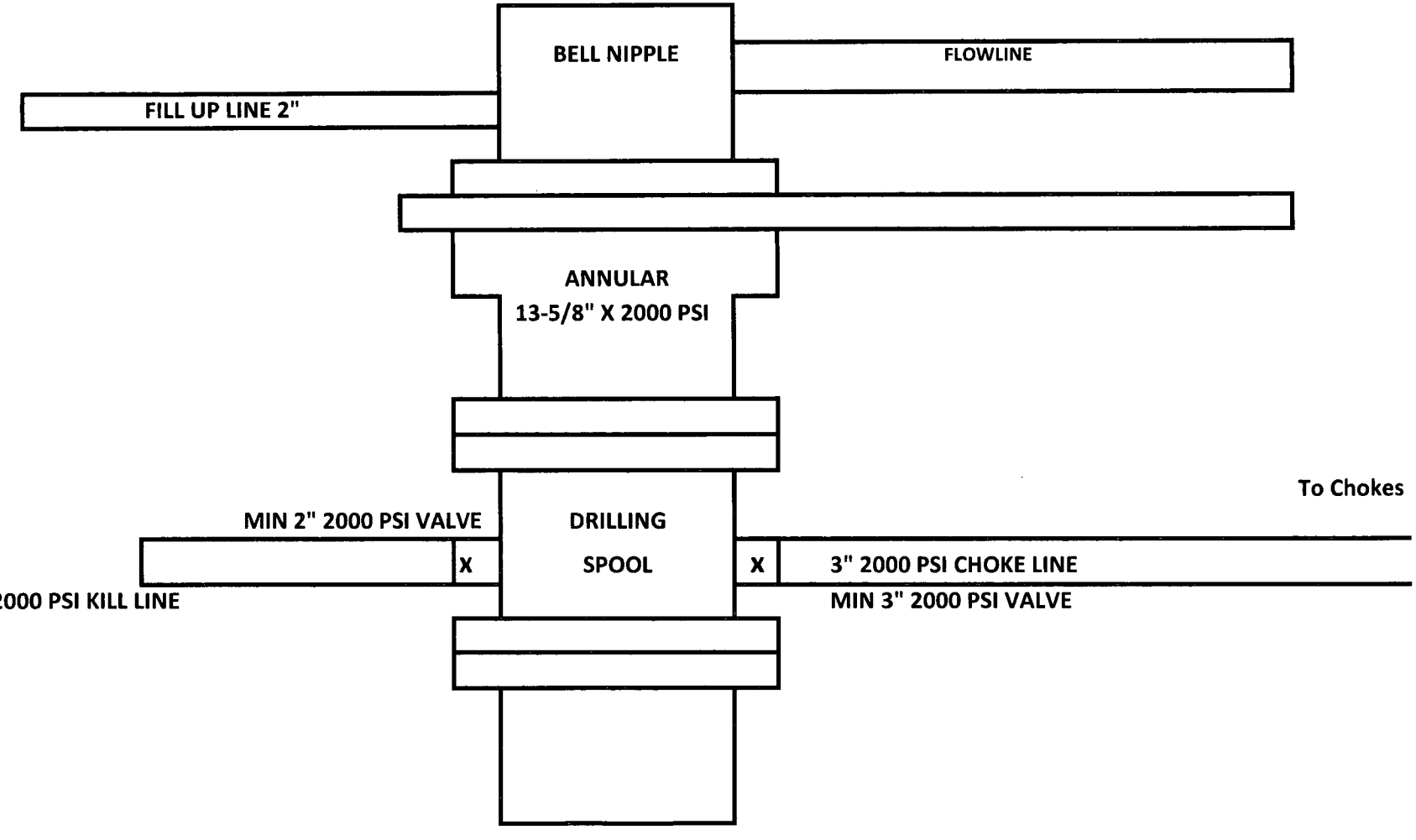
Well Federal 30 #3H

330 FNL, 710 FEL, Sec. 30, 19S, 33E

Lea County New Mexico

Nadel and Gussman Permian, L.L.C.

BOP Scematic 12.25" hole



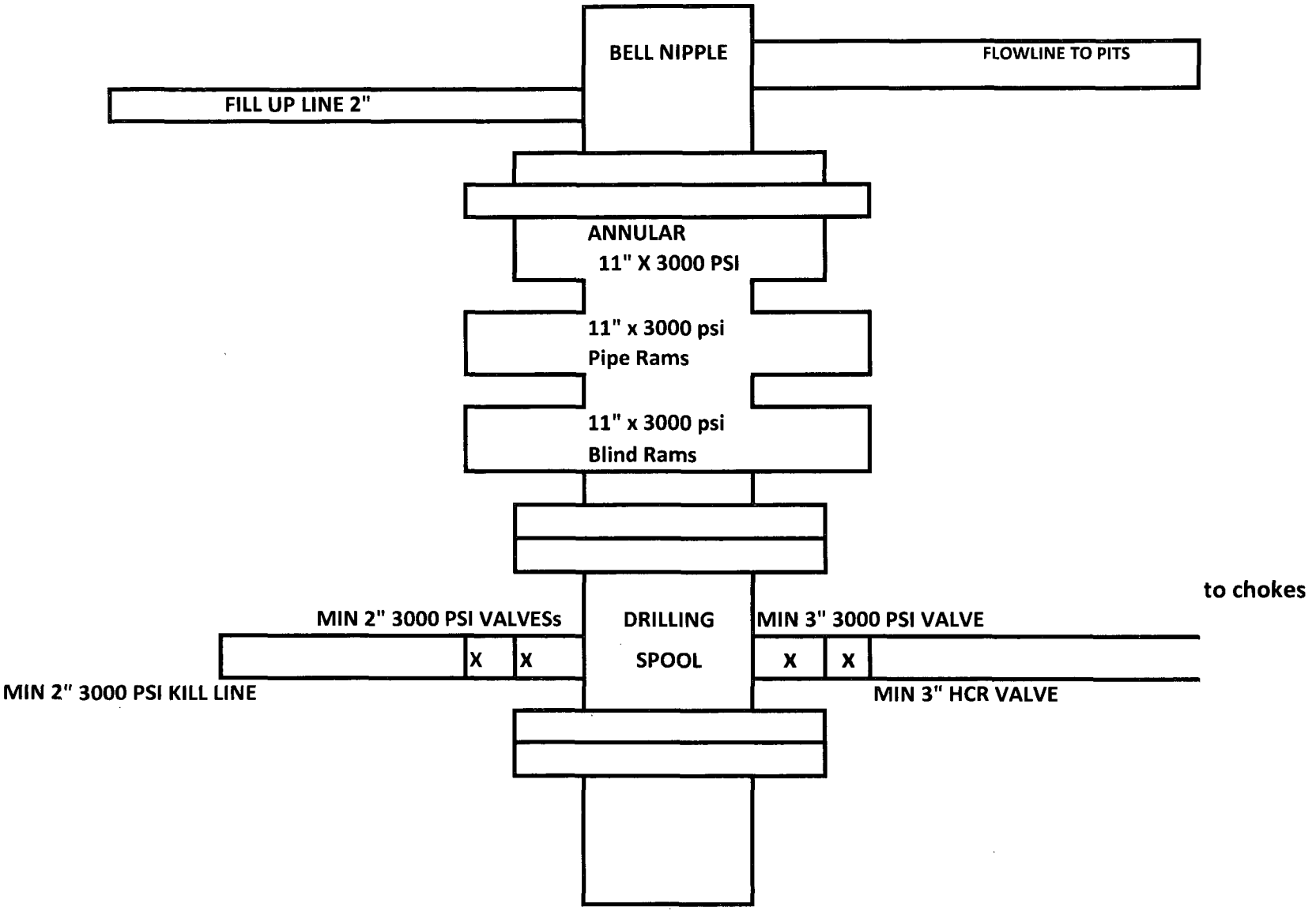
Well Federal 30 #3H

330 FNL, 710 FEL, Sec. 23, 19S, 33E

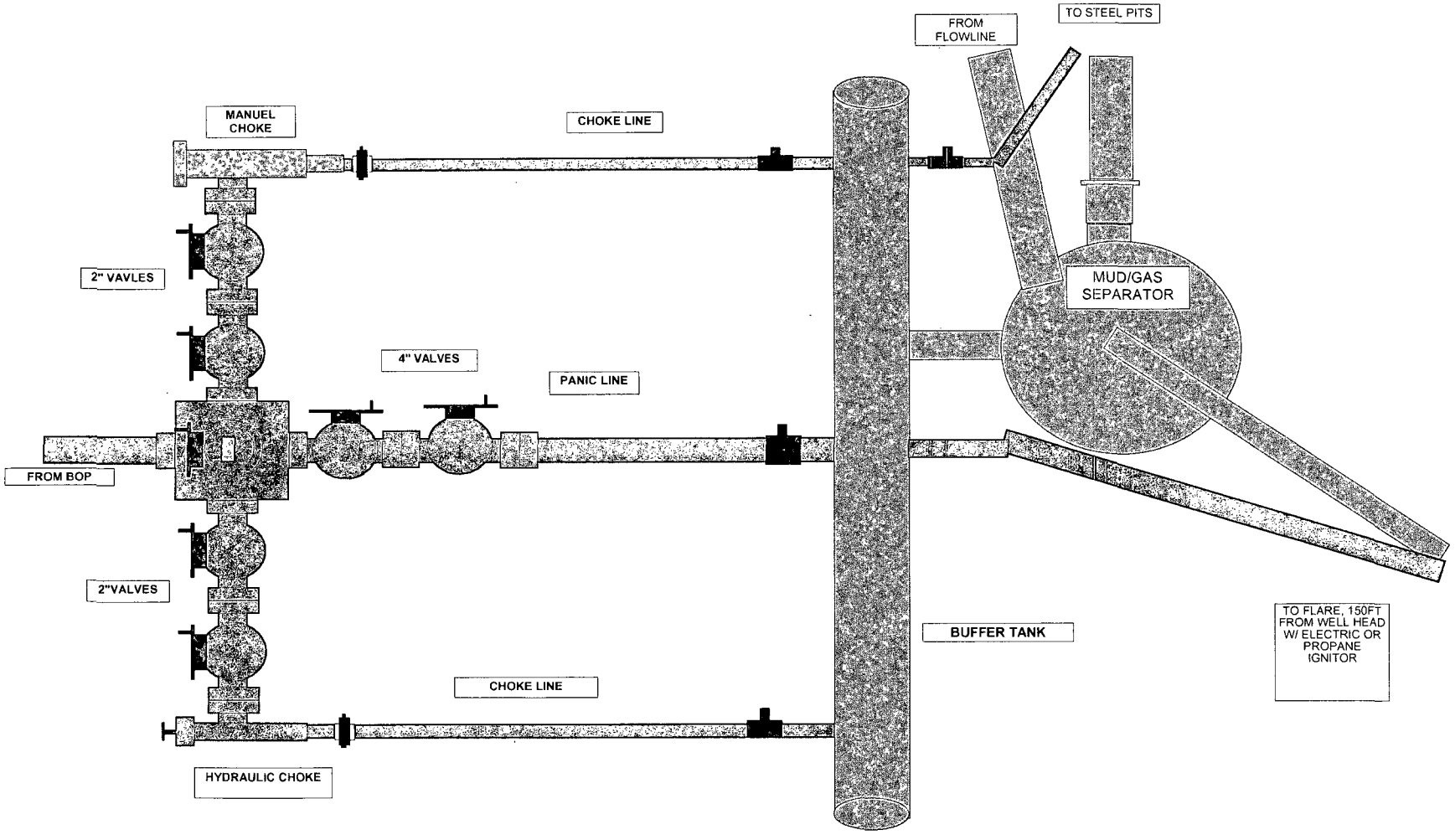
Lea County New Mexico

Nadel and Gussman Permian, L.L.C.

BOP Scematic 8.75" & 6.125" hole



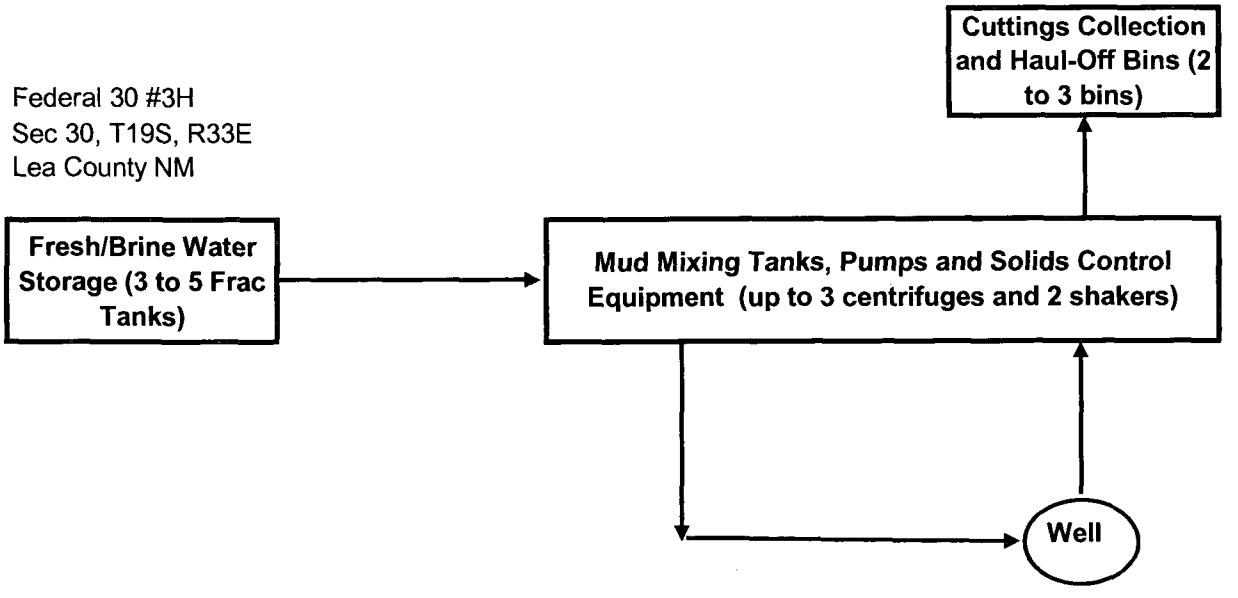
Federal 30 #3H
3000 psi BOP Manifold System



CLOSED-LOOP SYSTEM

Design Plan:

Federal 30 #3H
Sec 30, T19S, R33E
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 as noted on the C-144 form. At the end of the well, all closed loop equipment will be removed from the location.