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OCD Hobbs HOBBS OCD

MAR 30 2015

RECEIVED

Form 3160-3
(August 2007)

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM-67988, NMNM-0556094

6. If Indian, Allotee or Tribe Name

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.
Wizard 34 Federal Com #1H (314344)

2. Name of Operator
Nadel and Gussman HEYCO, LLC (258462)

9. API Well No.
30-025-42497

3a. Address
P.O. Box 1936
Roswell N.M. 88202

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

10. Field and Pool, or Exploratory
QUAHADA RIDGE; LOWER 1BS (60510)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SHL: 510' FSL & 150' FWL
At proposed prod. zone BHL: 510' FSL & 330' FEL

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 34, T18S, R32E

14. Distance in miles and direction from nearest town or post office*
15 miles South Maljamar, N.M.

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
150'	360	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**
660'	MD 13920' TVD 9475'	NMB000520
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3688' GL	09/15/2013	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)*	Date
Keith Cannon	Keith Cannon	01/20/2014

Title
Drilling Superintendent

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Steve Caffey		MAR 24 2015
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)

KZ 03/30/15

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DRILLING AND OPERATIONS PLAN
NADEL AND GUSSMAN HEYCO, L.L.C.
WIZARD 34 FEDERAL COM 1H

Surface: 510' FSL & 150' FWL
UL M Sec 34, T-18-S, R-32-E
BHL: 510' FSL & 330' FEL
UL P Sec 34, T-18-S, R-32-E
Lea County, New Mexico.

ELEVATION: GL 3688'

Field / Pool: Lusk, East Bone Spring

GEOLOGICAL NAME OF SURFACE FORMATION: PERMIAN

Type of Well: Oil Horizontal

PROPOSED DRILLING DEPTH: 13920' MD, 9475' TVD, Kick off point at 8850', drill lateral 4800' see directional plan: Exhibit #2, No pilot hole will be drilled

TOPS OF IMPORTANT GEOLOGICAL MARKERS: TVD

			MD	TVD
Rustler	1250'	Kick Off Point	8850'	8850'
Top Salt	1375 '	BSpg 2nd Pay Inter	9520'	9375'
Tansill (base salt)	2675	BSpg 2nd Target line	9750'	9425'
Yates	2910'	BHL-PTD	13920'	9475'
Seven Rivers	3340'			
Queen	3895'			
Penrose	4140'			
Grayburg	4415'			
Delware	4830'			
Bone Spring	7125'			
1st BSS	8380'			
2nd BSS	8830'			

*Finial depths may be revised slightly based on vendor Hz plan.

Estimated Depth of Anticipated Water, Oil or Gas:

Fresh Water	223'	Water
Delaware	5427'	Oil
1st BBS	8389'	Oil
2nd BBS	9217'	Oil

*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 1300' and circulating cement back to surface, all other intervals will be isolated by the 9 5/8" intermediate and 5 1/2" production casing.

CASING PROGRAM:

1. **Proposed Casing Program**

HOLE SIZE	CASING SIZE	WT./GRADE	THREAD/COLLAR	SETTING DEPTH (MD)	TOP CEMENT
17.5"	13 3/8" (New API)	54.5# J-55	8rd STC	1300' See COA	Surface
12.25"	9 5/8" (New API)	36# J-55	8rd STC	~~3025'~~	Surface
7.875"	5 1/2" (New API)	17# P110HC	8rd LTC	13920'	2825'

While running all casing string, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.

MINIMUM SAFETY FACTORS: **BURST 1.125** **COLLAPSE 1.125** **TENSION 1.6**

ALL CASING WILL BE NEW API APPROVED

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

A. **13 3/8"** **SURFACE** CEMENT TO SURFACE **100% EXCESS OVER CALCULATED**
LEAD: 800 SACKS CLASS "C" +4% PF020 +2% PF001 (13.5 PPG, 1.74 YIELD, WTR 9.11 GAL/SKS)
TAIL: 200 SACKS CLASS "C"+2%PF001 (14.8 PPG, 1.34 YIELD, WTR 6.30 GAL/SKS)

B. **9 5/8"** **INTERMEDIATE** CEMENT TO SURFACE **50% EXCESS OVER CALCULATED**
LEAD:575SACKSCLASS"C"+5%PF044BWOW+6%PF020+1%PF001 (12.9 PPG, 1.92 YIELD, WTR 9.95 GAL/SKS)
TAIL: 200 SACKS CLASS "C" +.2%PF013 (14.8 PPG, 1.33 YIELD WTR 6.32 GAL/SKS)

C. **5 1/2"** **PRODUCTION** CEMENT TO 2825" (WILL RUN FLUID CALIPER) **25% EXCESS OVER FLUID CALIPER, OR 50% OVER CALCULATED.**
See COA
LEAD: 410 SX 50/50 POZ H + 5%PF044BWOW+.10%PF020+.2%PF153+.2%PF013 (11.9 PPG, 2.48 YIELD, WTR 13.877 GAL/SKS)
TAIL: 1300 SX 50:50:POZ H+2%PF020+.7%PF606A+.2%PF65 (14.4 PPG, 1.26 YIELD, WTR 5.559 GAL/SKS)

EXCESS AND ADDITIVES AS RECOMMENDED BY CEMENT COMPANY DETERMINED BY WELLBORE CONDITIONS

SPECIFICATIONS FOR PRESSURE CONTROL EQUIPMENT: (EXHIBIT #5) * See COA

See COA A 2000# WP Annular will be installed after running the 13-3/8" casing. A 3000# WP Double Ram BOP and 3,000 annular will be installed after running the 9-5/8" 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. BOP will be tested to 3000# and the annular to 1500# with a third party testing company before drilling below each shoe. A 2" kill line and 3" choke line will be included in the drilling spool location below the ram-type BOP See COA

MUD PROGRAM:

Spud and drill 17 ½" surface hole with **fresh water (8.4 to 8.7 ppg)** to a depth of approx 1,300'. Control lost circulation with paper and LCM pills. Viscosity 28-55, no fluid loss control. Fresh water gel sweeps.

Drill 12 ¼" hole from 1300' to 3025' 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 7 7/8" production hole from 3025' to 13,920' 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 8100' to TD (8.7 to 9.0 ppg), control filtrate with starch and water loss additives. Clean hole with pre-hydrated saltwater gel sweeps, as necessary. System properties: viscosity 32-24, fluid loss <20 ml/30min.

Drill 6 1/8" production hole from 11,100'-TD' 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. A PVT will be used to monitor the mud system

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 will be located on rig floor, shale shakers, and mud tanks. Gas chromatograph with monitor hydrocarbon gas content of mud from 1300' to TD.

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 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.

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

See COA

TESTING, LOGGING & CORING PROGRAM:

a. Testing: No DST's are expected.
b. Open hole logs are planned at KOP (8,850) TD
    1. Halliburton Triple Combo
c. Mud logging will take place from 4,000ft to TD 10ft samples
d. Gyro survey will be run at KOP of 8,850'
e. MWD (directional) and LWD (gamma) surveys will be taken from KOP (8,850') to TD (MD 13,920')

POTENTIAL HAZARDS:

No significant hazards are expected to MD of 13,920ft, no abnormal pressures or temperatures are expected, **Expected pressure gradient will be that of .433 psi/ft (8.33 PPG FW) or lessgine expected temp & pressure 130 deg, 4140psi..** Lost circulation may occur, H_2S is expected in the Queen, NGH will utilize a 3rd party H_2S monitoring package from 1855' 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.

ANTICIPATED STARTING DATE & DURATION:

Nadel & Gussman HEYCO, LLC anticipates drilling operations to begin ASAP 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.

1/20/2014

Keith Cannon, Drilling Superintendent Date
Nadel & Gussman HEYCO, LLC

Nadel and Gussman HEYCO
HORIZONTAL WORKSHEET

DATE 11/12/13

WELL NAME: Wizard 34 Fed Com 31H
SURFACE LOCATION: 510 FSL 150 FWL
SEC TOWNSHIP RANGE 34

TARGET DEPTH: 9475 FT TVD @TD
TARGET ANGLE: 89.30 DEGREES
PLANNED HZ LENGTH: 4800 FT
PLANNED KOP: 9025 FT TVD

COUNTY: Lea
STATE: NM
FORMATION: Bone Spring 2nd Sd
MAXIMUM ROB: 10 DEG/100 FT
FORMATION DIP: 1 DEGREES
DIRECTION: 150 AZIMUTH
DECLINATION: N9E DEGREES
STARTING PT: 0.001 DEGREES
AT 1300 FEET

BEGINNING SURVEY

COMPANY: 0 SURVEY TYPE: 0

DEPTH FROM 0 FT
TO 0 FT

	MD (Ft)	INCL (deg)	AZIMUTH (deg)	TVD (Ft)	COORDINATES (N+/S-)	(E+/W-)	VERT.SEC (Ft)
TIE IN POINT	3025.00	0.20	150.00	3025.00	-0.01	0.01	0.01

MEASURED DEPTH (ft)	INCL ANGLE (degrees)	HOLE AZIMUTH (degrees)	COURSE LENGTH (ft)	T.V.D. (ft)	TOTAL VERT.SEC (ft)	COORDINATES (N+/S-) (ft)	(E+/W-) (ft)	CLOSURE DISTANCE (ft)	DOGLEG SEVERITY (deg/100)	BUILD RATE (deg/100)
3250.0	0.3	110.0	225.0	3250.0	0.7	-0.6	0.7	0.9	0.1	0.0
3500.0	0.3	109.0	250.0	3500.0	1.8	-1.0	1.8	2.0	0.0	0.0
4000.0	0.4	108.0	500.0	4000.0	4.5	-1.9	4.5	4.9	0.0	0.0
4500.0	0.4	107.0	500.0	4500.0	7.6	-2.9	7.6	8.1	0.0	0.0
5000.0	0.5	106.0	500.0	5000.0	11.1	-3.9	11.2	11.8	0.0	0.0
5500.0	0.5	105.0	500.0	5499.9	15.1	-5.0	15.2	16.0	0.0	0.0
6000.0	0.6	104.0	500.0	5999.9	19.5	-6.2	19.6	20.5	0.0	0.0
6500.0	0.6	103.0	500.0	6499.9	24.4	-7.3	24.5	25.6	0.0	0.0
7000.0	0.7	102.0	500.0	6999.9	29.7	-8.5	29.8	31.0	0.0	0.0
7500.0	0.7	101.0	500.0	7499.8	35.5	-9.7	35.6	36.9	0.0	0.0
8000.0	0.8	100.0	500.0	7999.8	41.7	-10.8	41.8	43.2	0.0	0.0
8500.0	0.8	95.0	500.0	8499.7	48.4	-11.7	48.5	49.9	0.0	0.0
8850.0	0.9	90.0	350.0	8849.7	53.4	-11.9	53.5	54.8	0.0	0.0
8950.0	10.0	90.0	100.0	8949.2	62.8	-11.9	63.0	64.1	9.2	9.2
9050.0	20.0	90.0	100.0	9045.6	88.7	-11.9	88.8	89.6	10.0	10.0
9150.0	30.0	90.0	100.0	9136.1	130.9	-11.9	131.0	131.6	10.0	10.0
9250.0	40.0	90.0	100.0	9218.0	188.2	-11.9	188.3	188.7	10.0	10.0

MEASURED DEPTH (ft)	INCL ANGLE (degrees)	HOLE AZIMUTH (degrees)	COURSE LENGTH (ft)	T.V.D. (ft)	TOTAL VERT.SEC (ft)	COORDINATES (N+/S-) (ft)	(E+/W-) (ft)	CLOSURE DISTANCE (ft)	DOGLEG SEVERITY (deg/100)	BUILD RATE (deg/100)
9350.0	50.0	90.0	100.0	9288.6	258.8	-11.9	258.9	259.2	10.0	10.0
9450.0	60.0	90.0	100.0	9345.9	340.6	-11.9	340.8	341.0	10.0	10.0
9550.0	70.0	90.0	100.0	9388.1	431.1	-11.9	431.3	431.4	10.0	10.0
9650.0	80.0	90.0	100.0	9413.9	527.6	-11.9	527.7	527.9	10.0	10.0
9750.0	89.3	90.0	100.0	9423.2	627.0	-11.9	627.2	627.3	9.3	9.3
10000.0	89.3	90.0	250.0	9426.4	877.0	-12.0	877.2	877.3	0.0	0.0
10500.0	89.3	90.0	500.0	9432.6	1376.9	-11.9	1377.1	1377.2	0.0	0.0
11000.0	89.3	90.0	500.0	9438.8	1876.8	-11.9	1877.1	1877.1	0.0	0.0
11500.0	89.3	90.0	500.0	9445.1	2376.7	-11.9	2377.1	2377.1	0.0	0.0
12000.0	89.3	90.0	500.0	9451.3	2876.7	-12.0	2877.0	2877.0	0.0	0.0
12500.0	89.3	90.0	500.0	9457.6	3376.6	-11.9	3377.0	3377.0	0.0	0.0
13000.0	89.3	90.0	500.0	9463.8	3876.5	-11.9	3876.9	3877.0	0.0	0.0
13500.0	89.3	90.0	500.0	9470.0	4376.4	-11.9	4376.9	4376.9	0.0	0.0
13920.0	89.3	90.0	420.0	9475.3	4796.4	-12.0	4796.9	4796.9	0.0	0.0

FOR GRAPHING

MD	VERT	TVD	ROB	+E/-W	+N/-S
3025	0	-3025	0.0	0	0
3250	1	-3250	0.0	1	-1
3500	2	-3500	0.0	2	-1
4000	4	-4000	0.0	4	-2
4500	8	-4500	0.0	8	-3
5000	11	-5000	0.0	11	-4
5500	15	-5500	0.0	15	-5
6000	20	-6000	0.0	20	-6
6500	24	-6500	0.0	24	-7
7000	30	-7000	0.1	30	-9
7500	35	-7500	0.1	36	-10
8000	42	-8000	0.1	42	-11
8500	48	-8500	0.4	48	-12
8850	53	-8850	10.4	54	-12
8950	63	-8949	12.0	63	-12
9050	89	-9046	12.0	89	-12
9150	131	-9136	12.0	131	-12
9250	188	-9218	12.0	188	-12
9350	259	-9289	12.0	259	-12
9450	341	-9346	12.0	341	-12
9550	431	-9388	12.0	431	-12
9650	528	-9414	2.3	528	-12
9750	627	-9423	0.0	627	-12
10000	877	-9426	0.0	877	-12
10500	1377	-9433	0.0	1377	-12
11000	1877	-9439	0.0	1877	-12
11500	2377	-9445	0.0	2377	-12
12000	2877	-9451	0.0	2877	-12
12500	3377	-9458	0.0	3377	-12
13000	3877	-9464	0.0	3877	-12
13500	4376	-9470	0.0	4377	-12
13920	4796	-9475	0.0	4797	-12
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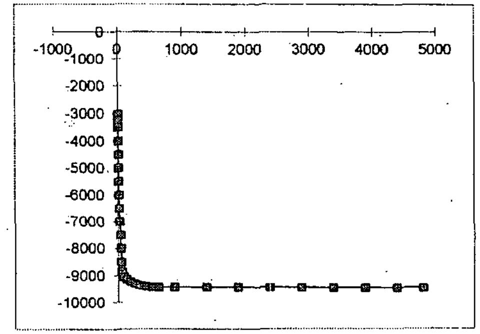
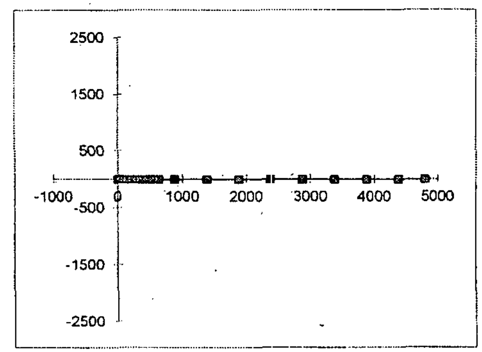
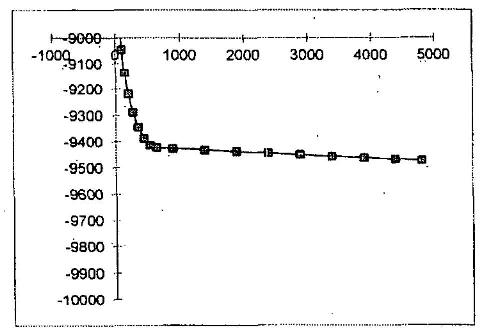






Well: Wizard 34 Federal Com 1H

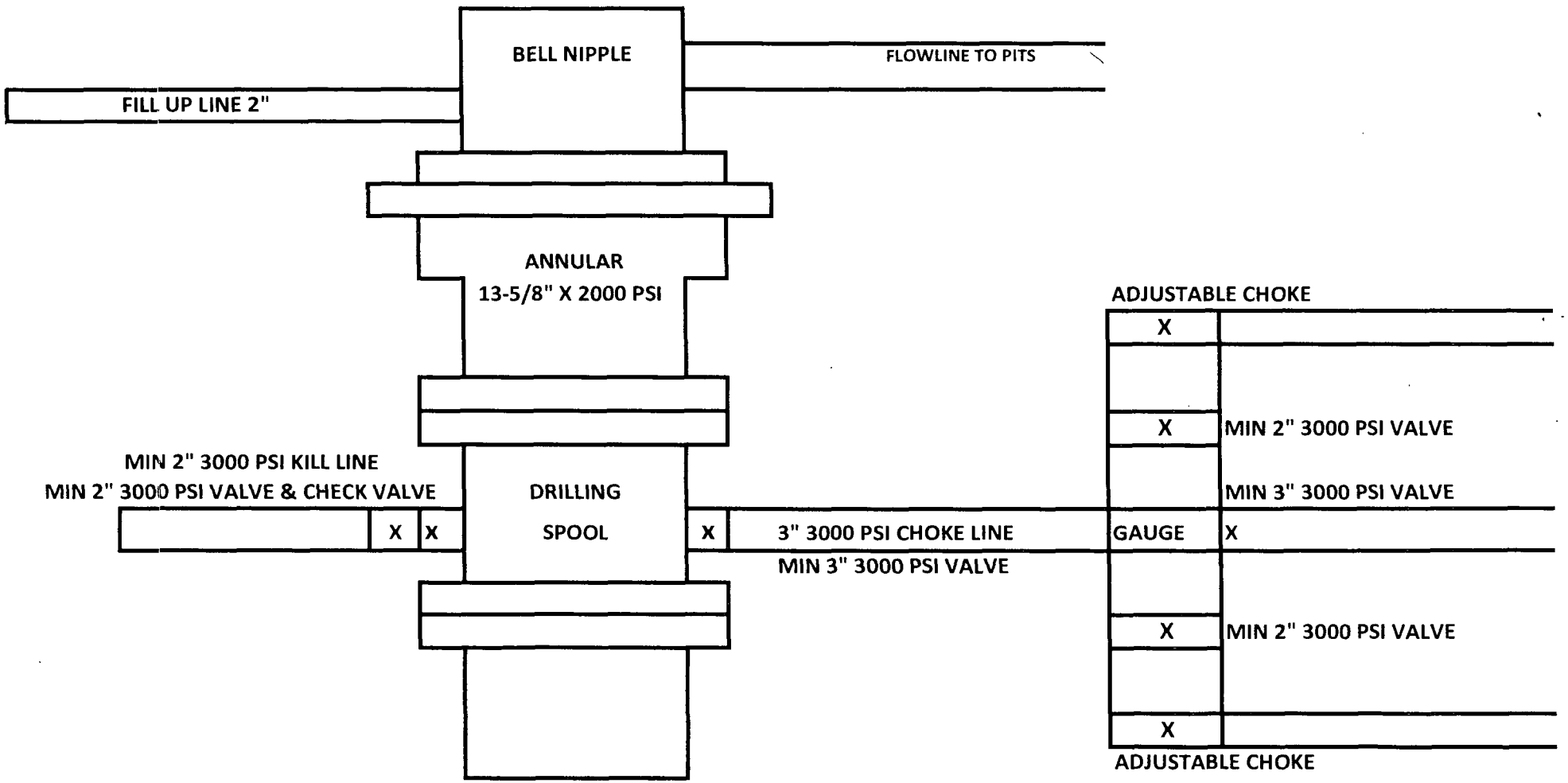
UL; M, Sec. 34, 18S, 32E

510' FSL & 150' FWL

Lea County New Mexico

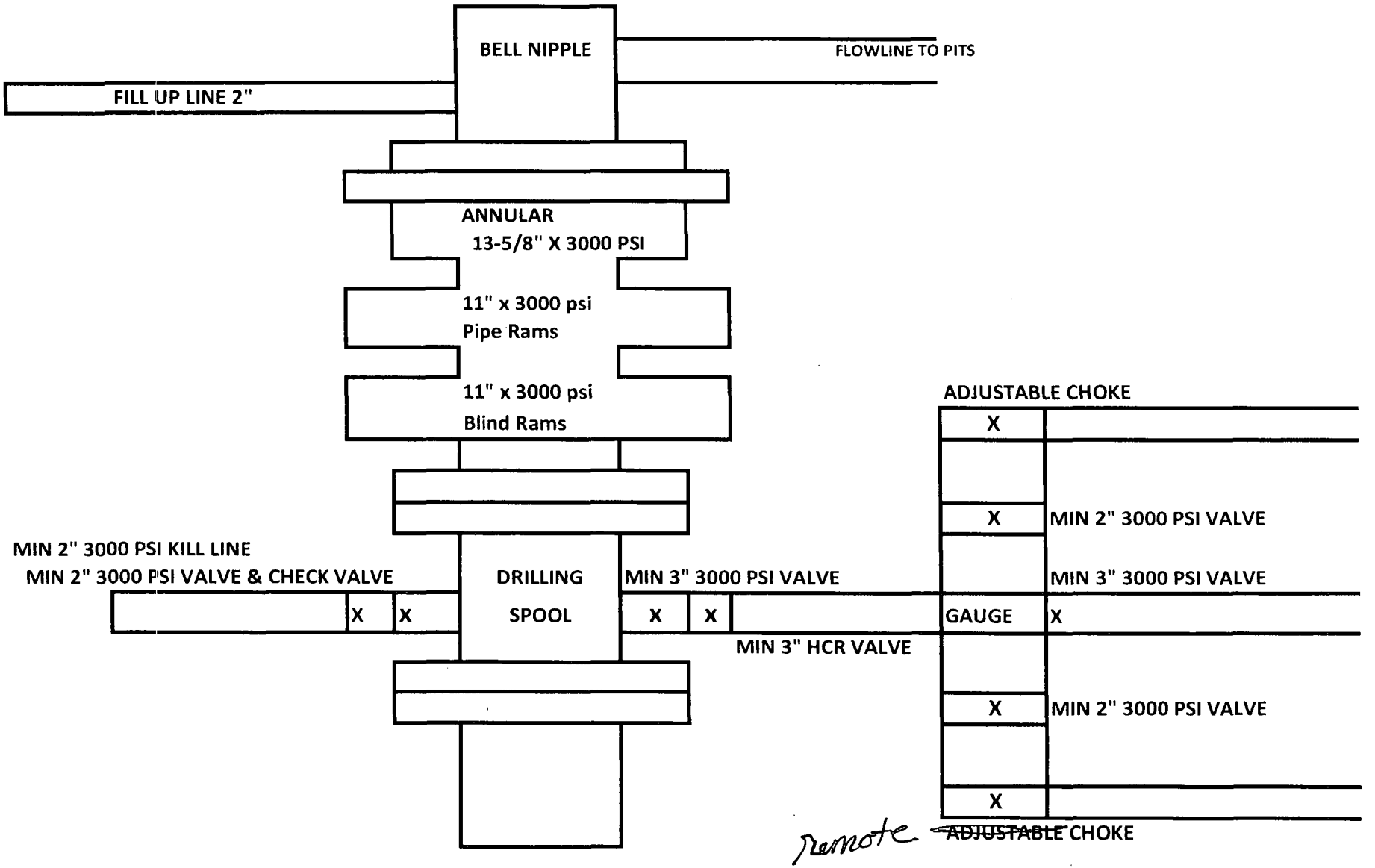
Nadel and Gussman HEYCO, L.L.C.

BOP Scematic 12.25" hole

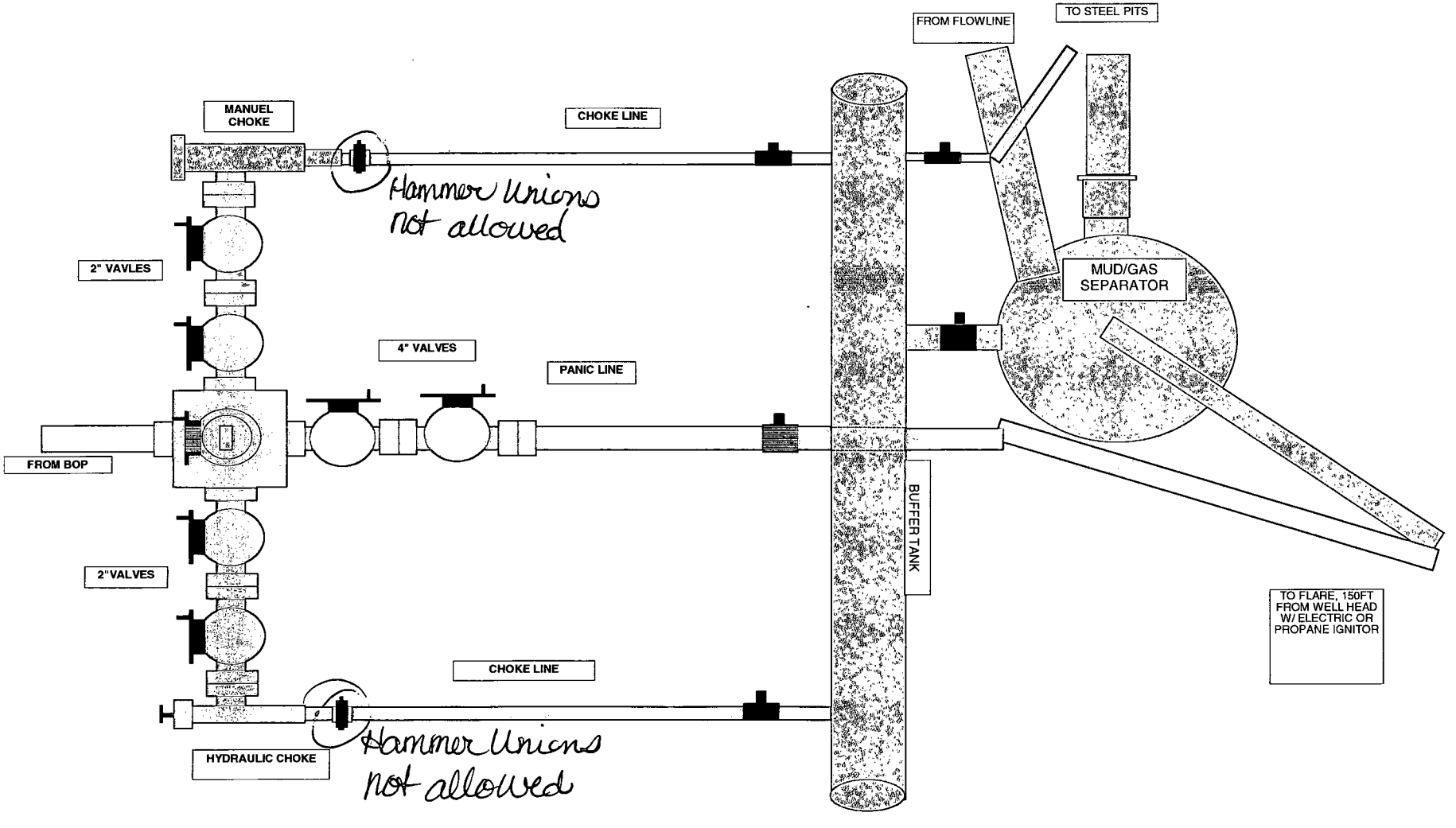


WELL: Wizard 34 Federal Com 1H
UL; M SEC 34, T18S, R32E
510' FSL, 150' FWL
Lea County New Mexico

Nadel and Gussman HEYCO, L.L.C.
BOP Scematic 7 7/8" hole



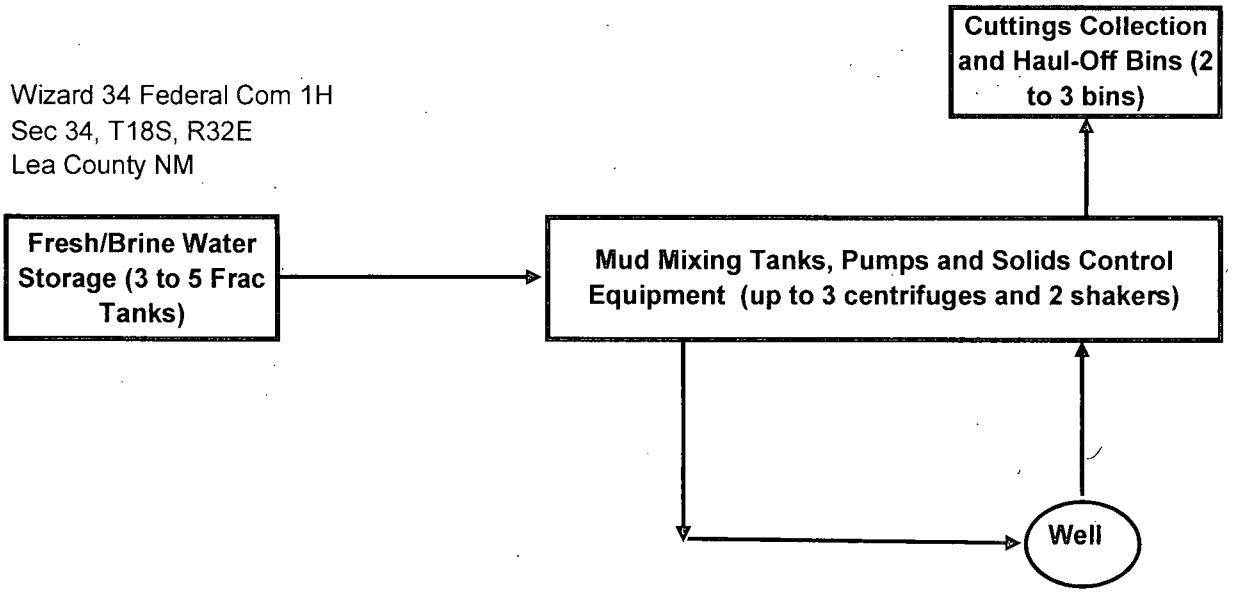
Wizard 34 Federal Com #1H
3000 psi BOP Manifold System



CLOSED-LOOP SYSTEM

Design Plan:

Wizard 34 Federal Com 1H
Sec 34, T18S, R32E
Lea County NM

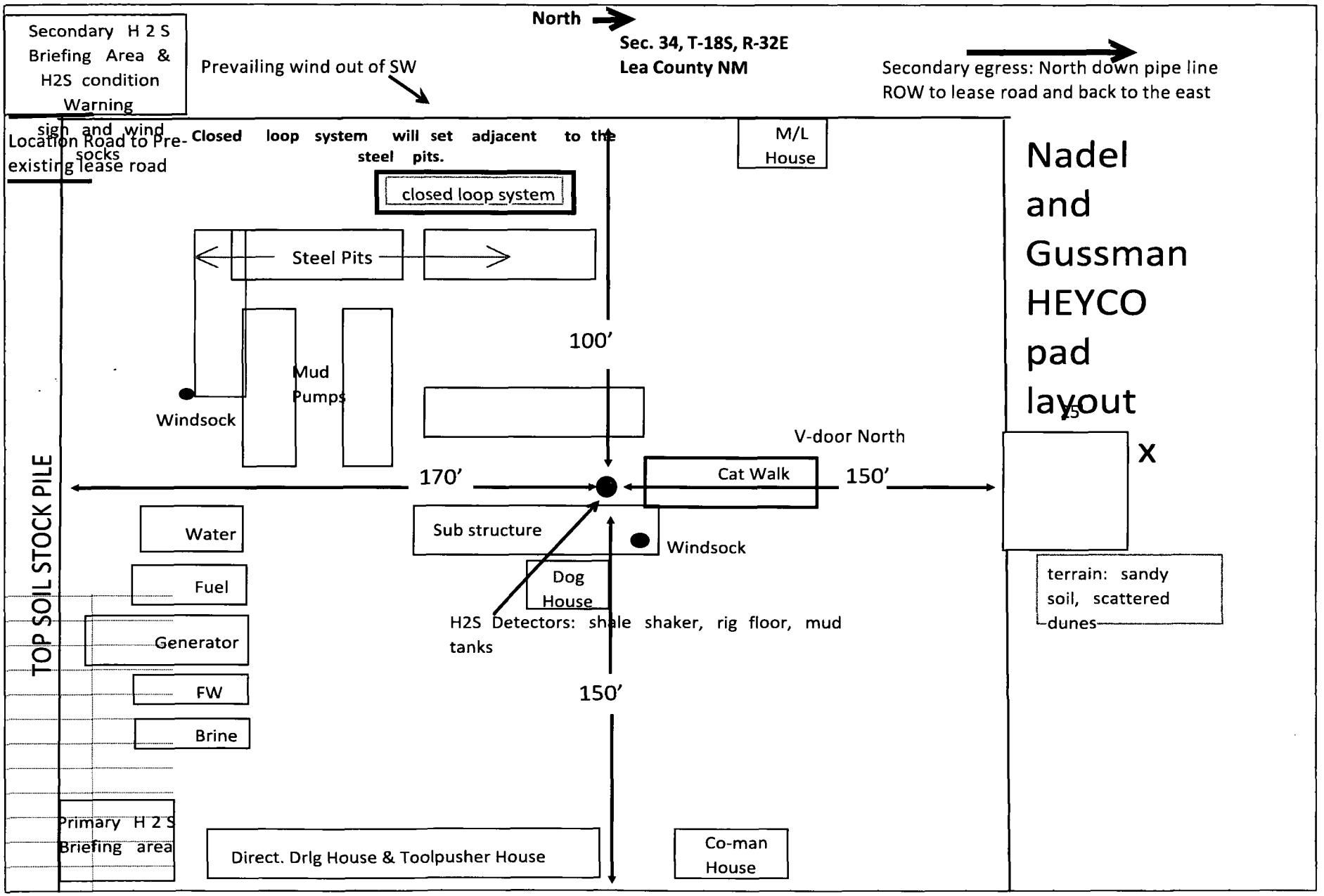


Operating and Maintenance Plan:

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:

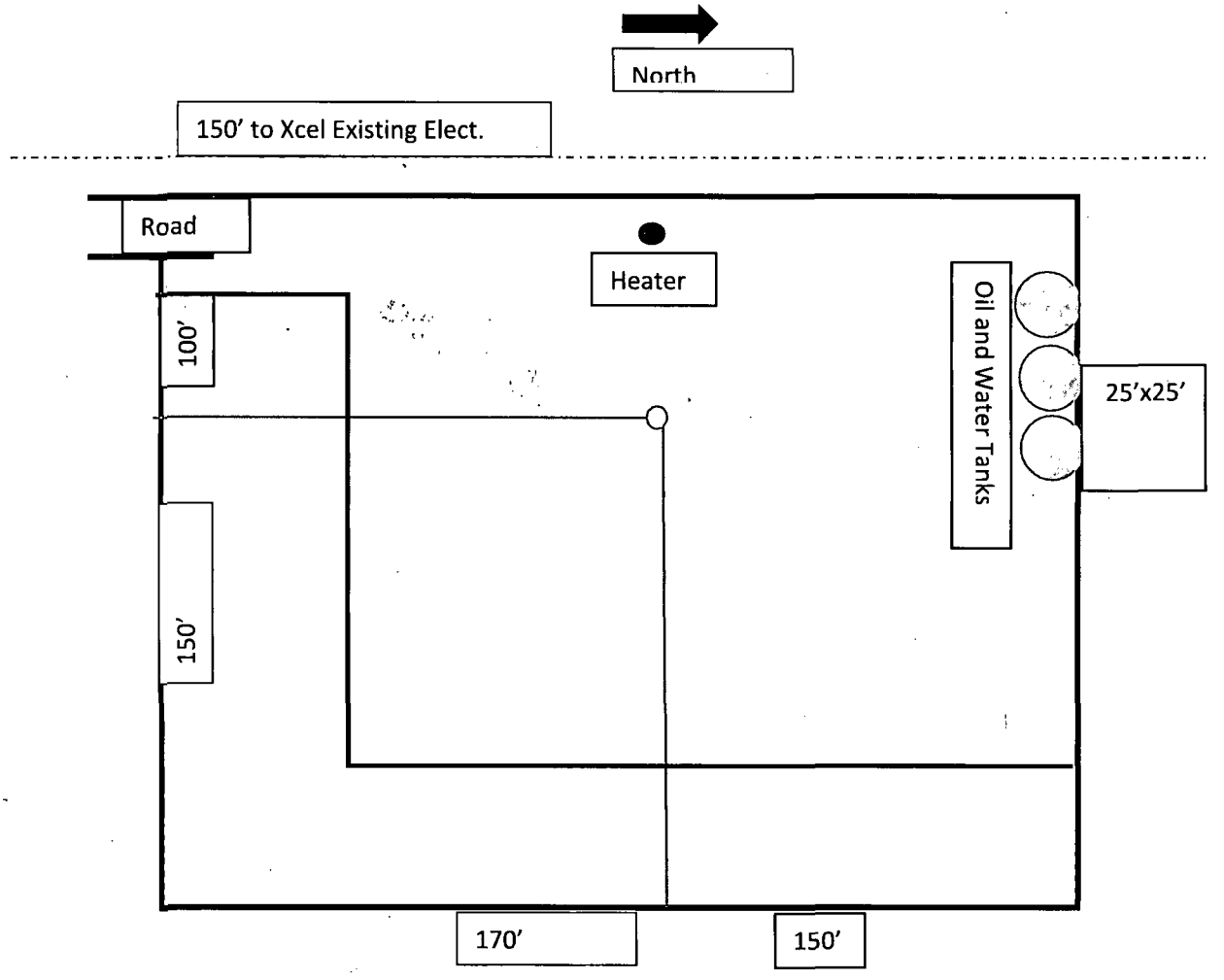
During drilling operations, third party service companies will haul-off drill solids and fluids to an approved disposal facility. At the end of the well, all closed loop equipment will be removed from the location.


Secondary H 2 S Briefing Area & H2S condition Warning sign and wind socks
North
Sec. 34, T-18S, R-32E
Lea County NM
Prevailing wind out of SW
Secondary egress: North down pipe line ROW to lease road and back to the east
Location Road to Pre-existing lease road
Closed loop system will set adjacent to the steel pits.
M/L House
Nadel and Gussman HEYCO pad layout
closed loop system
Steel Pits
100'
Mud Pumps
Windsock
V-door North
170'
Cat Walk
150'
x
Water
Sub structure
Windsock
Fuel
Dog House
terrain: sandy soil, scattered dunes
H2S Detectors: shale shaker, rig floor, mud tanks
TOP SOIL STOCK PILE
Generator
FW
Brine
150'
Primary H 2 S Briefing area
Direct. Drlg House & Toolpusher House
Co-man House

Wizard 34 Federal 1H

SHL: UL. M, Sec 34, T18S, R32E
510' FSL & 150' FWL
BHL: UL. P, Sec 34, T18S, R32E
510' FSL & 330' FEL
Lea Co. N.M

1. V-Door to the North
2. Top soil pile on the South side of location.
3. Road coming into the Southwest corner of location.
4. Tank Battery, Heater to the West side and oil & water tanks on the North side of location.
5. Down size location to 250' x 225'



FEB 2 0 2015

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 11 day of December 2013.

Name: Keith Cannon
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Signed: