

ATS-08-245

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Form 3160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

412

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM 100541
1b. Type of Well. <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator OGX Resources, LLC		7. If Unit or CA Agreement, Name and No N/A
3a. Address POB 2064 Midland, TX 79701		8. Lease Name and Well No Purdy 8 Federal #1
3b. Phone No. (include area code) 432-685-1287		9. API Well No. 37109
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1140' FNL & 1240' FEL At proposed prod zone 720' FEL & 1980' FSL		10. Field and Pool, or Exploratory Carlsbad South Morrow
14. Distance in miles and direction from nearest town or post office* 2.5 miles southwest of Carlsbad, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec 8, T-23S, R-26E
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 1140'	16. No. of acres in lease 640 acres	17. Spacing Unit dedicated to this well EV2 NE 1/4 of Sec. 8
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 12,500' MD 12,018	19. Proposed Depth TVD 11,800 MD 12,018	20. BLM/BIA Bond No. on file NMB 000244
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3369' GL	22. Approximate date work will start* 04/01/2008	23. Estimated duration 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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2. A Drilling Plan | 5. Operator certification |
| 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) | 6. Such other site specific information and/or plans as may be required by the authorized officer |

25. Signature <i>Angela Lightner</i>	Name (Printed/Typed) Angela Lightner angela@rkford.com	Date 01/23/2008
Title Consultant 432-682-0440 office		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date APR 01 2008
Title FOR 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)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, New Mexico 88220

Statement Accepting Responsibility for Operations

Operator Name: OGX Resources LLC
Street or Box: P.O. Box 2064
City, State: Midland, Texas
Zip Code: 79702

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No: ~~NM~~100541

Legal Description of Land: 1140' FNL & 1240' FEL

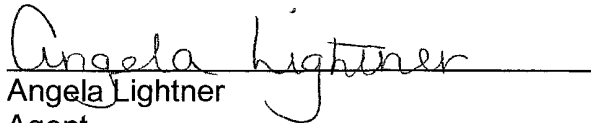
Township 23 South, Range 26 East, Eddy Co., New Mexico

~~E 1/2~~
~~NE 1/4~~ of Section 8

Bond Coverage:

Statewide Oil and Gas Surety Bond, OGX Resources, LLC

BLM Bond File No.: NMB-000244


Angela Lightner
Agent

January 23, 2008

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 73960	Pool Name Carlsbad; Morrow South (Gas)
Property Code	Property Name PURDY "8" FEDERAL	Well Number 1
OGRID No. 217955	Operator Name OGX RESOURCES, L.L.C.	Elevation 3369'

Surface Location

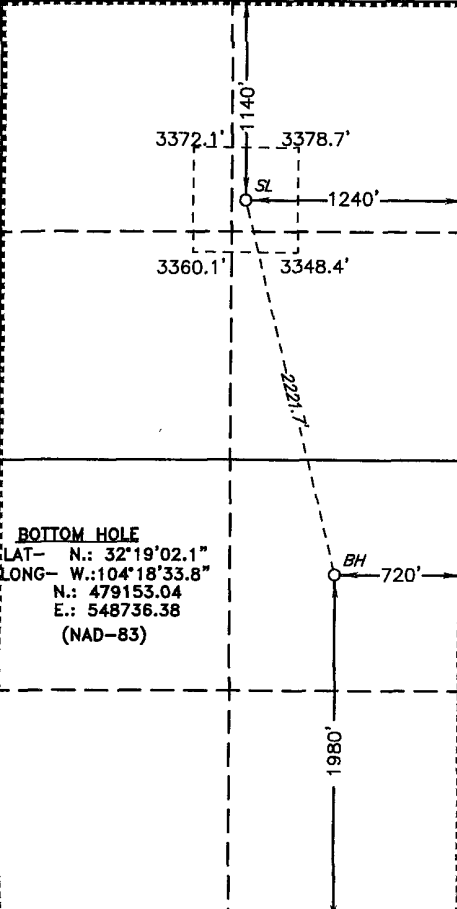
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	8	23 S	26 E		1140	NORTH	1240	EAST	EDDY

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
I	8	23 S	26 E		1980	SOUTH	720	EAST	EDDY

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>SURFACE LOCATION LAT- N.: 32°19'23.54" LONG- W.: 104°18'39.85" SPC- N.: 481313.043 E.: 548216.384 (NAD-83)</p>		<p>OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location 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>Angela Lightner 1-27-08 Signature Date</p> <p>Angela Lightner Printed Name</p>
<p>BOTTOM HOLE LAT- N.: 32°19'02.1" LONG- W.: 104°18'33.8" N.: 479153.04 E.: 548736.38 (NAD-83)</p>		<p>SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JANUARY 18, 2008 Date Surveyed</p> <p>GARY L. JONES Signature Professional Seal Professional Seal W. No. 18283</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>

DRILLING PROGRAM

OGX Resources, LLC

Purdy 8 Federal #1

Section 8, T-23-S, R-26-E

Eddy County, New Mexico

The following items supplement Form 3160-3 in accordance with instructions contained in Onshore Oil and Gas Orders #1 and #2, and all other applicable federal and state regulations.

1. ESTIMATED TOPS OF GEOLOGIC MARKERS (TVD):

Delaware	1,650'
Bone Spring	5,000'
Wolfcamp	8,900'
Strawn	10,100'
Morrow	12,500 TD

2. ESTIMATED DEPTHS TO WATER, OIL, OR GAS FORMATIONS:

Delaware Group:	
Delaware	Oil/Gas/Water
Bone Spring LM	Oil/Gas/Water
3 rd BS Sand	Oil/Gas/Water
Wolfcamp	Gas
Strawn	Gas
Atoka	Gas
Morrow	Gas

3. Pressure control equipment: The blow out preventer equipment (BOP) shown in Exhibit #1 will consist of a 3000 psi double ram type preventer for drilling the 12-1/4" hole. The blowout preventer stack for the production (9-5/8") hole as shown on Exhibit #2 will consist of at least a double-ram blowout preventer and annular preventer rated to 5000 psi working pressure. Exhibit #3 will consist of at least a rotating head, double-ram blowout preventer and annular preventer rated to 10,000 psi working pressure. A diagram of all BOPs and choke manifold is attached. All BOPs and accessory equipment will be tested to full working pressure or according to Onshore Order #2 before drilling out.

4. PROPOSED CASING PROGRAM:

<u>Hole Sz</u>	<u>Interval</u>	<u>Casing Sz</u>	<u>Wt</u>	<u>Grade, Jt</u>	<u>Coll</u>	<u>Burst</u>	<u>N-U</u>	<u>Tension</u>
20"	0 - 40'	20"	94#	K-55, STC			N	
17-1/2"	0 - 500'	13-3/8"	48#	H-40, STC	2.96	6.65	N	15.83
12-1/4"	0 - 2,500'	9 5/8"	36#	J-55, STC	1.55	2.71	N	5.16
8 3/4"	0 - 9,750'	7"	26#	P-110, LTC	1.68	1.96	N	3.23
6-1/8"	0 - 12,500'	4-1/2"	11.6#	P-110, LTC	1.15	1.63	N	2.27

↑
*does not meet BLM requirements
(see sundry) 13.35#*

Equivalent or adequate grades and weights of casing may be substituted at time casing is run, depending on availability. Changes will be relayed to BLM prior to running.

5. PROPOSED CEMENTING PROGRAM

20" conductor	cemented with ready mix to surface
13-3/8" surface	Scavenger: 200 sks Premium cement + 1% calcium chloride + 10 lbm/sk Gilsonite + 0.25 lbm/sk Poly-E-Flake, Yield= 1.40 ft ³ /sk Lead: 300 sks Light Premium Plus cement + 2% Calcium Chloride + 0.25 lbm/sk Poly-E-Flake, Yield= 1.90 ft ³ /sk, Tail: 200 sks Premium Plus cement + 2% calcium chloride, Yield= 1.35 ft ³ /sk, TOC - Surface
9-5/8" intermediate	Lead: 660 sks 50/50 POZ Premium Plus cement + 10% Bentonite + 5% Salt + 5 lbm/sk Gilsonite + 0.25 lbm/sk Poly-E-Flake, Yield= 2.49 ft ³ /sk Tail: 200 sks Premium Plus cement + 2% Calcium Chloride, Yield= 1.35 ³ /sk, TOC - Surface
7" 2 nd intermediate	Lead: 840 sks 50/50 POZ Premium cement +10% Bentonite + 0.3% Halad-9 + 5 % Salt + 0.125 lbm/sk Poly-E-Flake, Yield= 2.50 ft ³ /sk Tail: 200 sks Premium cement + 0.5% Halad-9, Yield= 1.19 ft ³ /sk, TOC - Surface
4 1/2" Production	360 sks Premium cement + 0.5% LAP-1 + 0.4% CFR-3 + 0.25 lbm/sk D-AIR 3000 + 0.2% HR-5, Yield= 1.20 ft ³ /sk, TOC 9700'

6. PROPOSED MUD SYSTEM:

<u>DEPTH</u>	<u>DESCRIPTION</u>	<u>MUD WEIGHT</u>	<u>VISCOSITY</u>	<u>WATER LOSS</u>
0 – 500'	spud mud paper	8.6 – 8.8 ppg	36 – 38	NC
500' – 2,500'	brine water	10.0 – 10.1 ppg	29 – 30	NC
2,500' – 9,750'	fresh /brine	8.4 – 10.0 ppg	28 – 29	NC
9,750' – 10,000'	fresh/brine	10.0 – 10.1 ppg	28 – 29	NC
10,000'-12,500'	dynazan/starch	10.1 - 13.5 ppg	38 – 45	10-6 cc

*calcium carbonate

7. TESTING, LOGGING AND CORING PROGRAM:

Samples	10' Samples from 8,900'
DST's	Possible Wolfcamp, Strawn, Atoka, Morrow
Logging	Density, Lateral, Resistivity
Coring	Possible sidewall core

8. ABNORMAL PRESSURES AND TEMPERATURES:

None anticipated. Maximum bottom hole pressure should not exceed 5100 psi.

Maximum bottom hole pressure should not exceed 200°.

This area has a potential H2S hazard. An H2S drilling plan is attached. An H2S contingency plan has been done and on file with the BLM.

ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

It is planned that operations will commence on April 1, 2008. Drilling should be completed within 45 days followed by completion operations.

**OGX Resources
Well Prognosis
Purdy 8 Federal #1**

API # 30-015

Surface Location: 1140' FNL & 1240' FEL
Sec. 8, T23S, R26E
Eddy County, New Mexico

Proposed Bottom Hole Location: 720' FEL & 1980' FSL

Planned AFE Total Depth: ~~12,500~~ TVD / ~~12,500~~ MD

Contractor: Rig: 11,800' 12,018'
Permian Drilling Rig 3

Prepared By: Randell Ford & R. K. Ford & Associates

Proposed Drilling and Completion Summary

The Purdy Federal #1 well is planned as a 12,500' TVD / 12,500' MD. The Morrow is the primary objective.

This project is located approximately 3 miles Southwest of Carlsbad, Eddy County, New Mexico. Casing includes 20" structural/conductor, 13 3/8" surface, 9 5/8" intermediate, 7" intermediate, and 4 1/2" production liner. The well is planned to be drilled as a directional well to TD. Formation evaluation will be performed using open-hole logging tools. A well completion procedure will be prepared by engineering after the well is evaluated. Production tubing will be 2 3/8" to handle anticipated production rates.

DIRECTIONS

From the junction of US Hwy 62-180 and Hildalgo, go southwest on Hildalgo for 4.8 miles to lease road, on lease road go south winding west 1.0 miles to Devon location. Just before Devon location follow two track road southerly 0.6 miles to proposed location road.

ESTIMATED RIG ELEVATION: 3,402' K.B. 3,369' G.L.

ESTIMATED FORMATION TOPS: (These Tops Are Only ESTIMATED)

<u>Formation</u>	<u>TVD</u>	<u>Subsea</u>
Delaware	1,650'	
Bone Spring	5,000'	
Wolfcamp	8,900'	
Strawn	10,100'	
Morrow	12,500' TD	

CASING PROGRAM:

<u>SIZE</u>	<u>WEIGHT</u>	<u>GRADE</u>	<u>COUPLING</u>	<u>(MD-RKB)</u>	<u>TORQUE</u>
20"	Structural Pipe	LP			0-40'
13 3/8"	48.0 ppf	J-55	ST&C		0-500'
9 5/8"	36.0 ppf	J-55	ST&C		0-2,500'
7"	26.0 ppf	P-110	LT&C		0-9,750'
4 1/2"	11.6 ppf	P-110	LT&C		9,750 – 12,000'

LOGGING PROGRAM:

8 3/4" Hole, 2,500' – 9,750', Gamma Ray, Dual Lateralog, Micro Lateralog, Photo Density, Comp/Neutron only back to surface.

6 1/8" Hole, Gamma Ray, Dual Laterolog, Micro Lateralog, Photo Density, Comp/Neutron logged from TD – casing at 9,750' (Tie-in to previous run). Possible HMI-Imager.

MUD PROGRAM:

<u>DEPTH</u>	<u>MW</u>	<u>Viscosity</u>	<u>WL</u>	<u>Synopsis</u>
0'- 520'	8.6-8.8	36-38 vis	NC	Spud mud, paper
500'- 2,500'	10.0-10.1	29-30 vis	NC	Brine
2,500' – 9750'	8.4-10.0	28-29 vis	NC	Fresh to Brine
9,750'-10,000'	10.0-10.1	28-29 vis	NC	Fresh to Brine
10,000'-12,000'	10.1-13.5	38-45 vis	10-6	Dynazan/Starch
				*Calcium Carbonate

See attached mud program for additional specifications.

MUD LOGGING:

Mud logging unit is rigged up and logging at 1600'. Collect 10' samples from 2,500' to TD. **Note: Mud logger to pick 9 5/8" & 7" casing points.**

DRILLSTEM TESTS/ CORES:

None planned

DRILLING PROCEDURE

I. LOCATION PRE-SPUD

1. Set 40' of 20" conductor prior to rig up.
2. Review Permit, offset well data, procedure, formation depths and BOP/casing testing requirements. Hold pre-spud meeting with vendors and operator. Rig up Permian Rig 3, prepare to spud well. Visually inspect rig's 13 5/8" 5M BOP's (replace and repair as required). Record and report fuel on location at spud.

II. SURFACE HOLE INTERVAL 40' - 500'

10. Spud with a 17-1/2" rental mill tooth bit and BHA with sufficient 8" drill collars to supply necessary bit weights. Stabilizers as needed to ensure a straight hole. (Record time and date of spud on morning report.) Pump gel sweeps as needed and before and after any trips. Survey as required to monitor deviation.
2. Surface hole to be drilled with a fresh water gel/soda ash spud mud with following properties: MW 8.6-8.8 VISC 36-38, API-FL N/C. A non-dispersed NewGel system with pre-hydrated NewGel and Soda Ash for rheological control. Pump a paper sweep to aid in seepage control. If losses are encountered batch treat with 12-15 ppb Fiber Seal in a 50 bbl premix with 36-38 sec/1000cc viscosity. Circulate hole clean prior to running casing. Add 4-5 ppb of LCM in the sweep for total depth. .
3. Strap DP and DCs out of hole. Rig up casing tools and run casing as follows:
 - 13-3/8" Texas Pattern Guide Shoe
 - 1 Joint 13-3/8", 48.0 ppf, J-55, STC Casing
 - 13-3/8" Float Collar
 - +/- 500' 13-3/8", 48.0 ppf, J-55, STC Casing
4. Centralize with (6) centralizers placed as follows: middle of shoe jt., top of 2nd jt., top of 4th jt., then every third jt. Thread lock all float equipment (top & bottom).

5. Pump capacity of casing prior to commencing any cementing operations. Tag and land casing on bottom. Hold running weight tension while WOC. Pump a 20 bbl Fresh water spacer and 30 bbl Mud Flush. Cement: scavenger slurry- 200 sxs Premium cmt + 1% CaCl + 10/lbm.sk Gilsonite + 0.25 lbm.sk Poly-E-Flake. Lead Slurry- 300 sxs Light Presmium Plus cmt. + 2% CaCl + 0.25 lbm/sk Poly-E-Flake. Tail slurry- 200 sxs Premium Plus cmt + 2% CaCl. (Volumes based on 100% excess of calculated volume for gauge hole). WOC total of 2 - 4 hours or until tail slurry has attained 500 psi compressive strength (use location water sample to get lab results).
6. Cut off 13-3/8" to weld on 13-5/8" 3M SOW casinghead and test to 70% of collapse. Ensure wellhead height matches production requirements and BOPs heights.

III. INTERMEDIATE HOLE SECTION INTERVAL 500' – 2,500'

1. Nipple up 13-5/8" 5M BOP equipment. Test BOP and choke manifold to 5000 psi. Check gauge on choke panel for accurate pressures, replace it if required. RIH with 12 1/4" insert bit and BHA with sufficient 8" drill collars to supply necessary bit weights. Stabilizers as needed to ensure a straight hole. Test 13-3/8" casing to 500 psi.
2. Drill float collar, pump a 10 bbl fresh water spacer, 30 bbl Mud Flush and a 10 bbl fresh water spacer. Cement with lead slurry- 660 sxs (50:50) Poz Premium Plus + 10% Bentonite + 5% Salt + 5lb/sk Gilsonite + 0.25 lb/sx Poly-E-Flake. Tail slurry- 200 sxs Premium Plus cmt + 2% CaCl. Float shoe. If first 20' of float shoe joint drills with wet cement, WOC prior to drilling remainder of joint and notify office.
3. Drill and survey a straight hole. Survey every 300' or more often as required to monitor deviation. Circulation rates as needed to ensure good hole cleaning.

4. This interval to be drilled with brine water having the following properties: MW 10.0-10.1, VISC 29-30, API-FL N/C. Circulate a controlled portion of the reserve pit for gravitational solids control. Utilize paper sweeps to aid in seepage control. The pH should be maintained at 9.0-10.0 with additions of Caustic Soda. New-55 sweeps will aid in cuttings removal. Sweep the hole with 100 bbls of fresh water and NewGel for an 80-90 sec/1000cc viscosity and 0.25-lbs of Super Sweep every 500 feet drilled to aid in cutting removals. If losses are encountered batch treat with 12-15 ppb Fiber Seal in a 50 bbl premix with 36-40 sec/1000cc viscosity.
5. At total depth, sweep the hole with 100 bbls of fresh water and New Gel for an 80-90 sec/1000cc viscosity and 0.25-ppb Super Sweep. Circulate hole clean prior to running casing.
6. Rig up casing tools and run casing as follows:
 - 9-5/8" Float Shoe
 - (1) Joint 9-5/8", 36.0 ppf, J-55, ST&C Casing
 - 9-5/8" Float Collar
 - +/- 2,500', 9-5/8", 36.0 ppf, J-55, ST&C Casing
7. Centralize with (5) centralizers placed as follows: middle of shoe jt., top of 2nd jt., top of 4th jt., then every fourth jt. Thread lock all float equipment (top & bottom).
8. Cement per cement prognosis (volumes based on fluid caliper results). Pump capacity of casing prior to commencing any cementing operations. Tag and land casing on bottom, hold running weight tension while WOC. WOC total of 24 hours or until tail slurry has attained 500 psi compressive strength (use location water sample to get lab results).
9. Cut off 9-5/8" and set in 13-3/8" casinghead bowl. Nipple up 13-5/8" 3M x 11" 5M casing spool (Test casing to 70% of collapse) and BOP equipment. Test BOP and choke manifold to 5,000 psi or full working pressure. Check gauge on choke panel for accurate pressures, replace it if required. Ensure wellhead height matches production requirements and BOPs heights. Install dual super chokes, PVT and flow sensors, mud-gas separator and bar bins.

IV. INTERMEDIATE HOLE SECTION INTERVAL 2,500' – 9,750' TD

1. RIH with 8 3/4" insert button bit and BHA with sufficient 6 1/2" drill collars to supply necessary bit weights. Stabilizers as needed to ensure a straight hole. Test 9-5/8" casing to 1500 psi.
2. Drill float collar, pump a 10 bbl fresh water spacer, 30 bbl mud flush and a 10 bbl fresh water spacer. Cement with Lead slurry- 840 sxs 50:50 Poz Premium + 10% Bentonite + 0.3% Halad-9 + 5% Salt + 0.125 lb/sx Poly-E-Flake. Tail slurry- 200 sxs Premium cmt + 0.5% Halad-9. Float shoe. If first 20' of float shoe joint drills with wet cement, WOC prior to drilling remainder of joint and notify office.
3. Drill and survey a straight hole to \pm 7,000 T.D. Survey every 500' or more often as required to monitor deviation. Circulation rates as needed to ensure good hole cleaning. Directional kickoff point will be approximately 7086' and continue to approximately 10,000'.
4. Drill out casing with mud wt. 8.4-10.0, vis. 28-29, API-FL N/C, fresh to brine, circulating the remaining portion of the reserve. The pH should be maintained at 9.0-10.0 with additions of Caustic Soda. Sweep the hole with 100 bbls of fresh water and NewGel for an 80-90 sec/1000cc viscosity and 0.25-lbs of Super Sweep every 500 feet drilled to aid in cuttings removal. If losses are encountered batch treat with 12-15 ppb Fiber Seal in a 50 bbl premix with 36-40 sec/1000cc viscosity.
5. Maintain sufficient brine on location to raise the mud weight in the event of abnormal pressure in the Bone Springs. At total depth, fill premix pit with 100 bbls fresh water and NewGel for 80-90 sec/1000cc viscosity and 0.25-lbs of Super Sweep. **Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases. Absolutely no Barite will be used.**
6. OH (strapping DP and DCs). Rig up loggers and run wireline logs as proposed or as dictated by the office. Trip in hole. Sweep prior to casing operations.

7. Trip out of hole. Lay down DP and DC's Rig up casing tools and run 7" casing as follows:

7" Float Shoe
(1) Joint 7" 26.0 ppf, P-110, LT&C
7" Float Collar
±9,750', 7" 26.0 ppf, P-110, LT&C

8. Pump capacity of casing prior to commencing any cementing operations.

V. FINAL HOLE SECTION INTERVAL 9,750' – 12,500' TD

1. Nipple Up 7 1/16" 10M BOP and Choke manifold. Test to full working pressure. RIH with 6-1/8" insert button bit and BHA with sufficient drill collars to supply necessary bit weights. Test 7" casing to 2,000 psi.
2. Drill float collar, and run a 10 bbl 10# brine spacer. Cement with 360 sxs Premium cmt + 0.5% LAP-1 + 0.4% CFR-3 + 0.25% lb/sx D-AIR 3000 + 0.2% HR-5. Float shoe. If first 20' of float shoe joint drills with wet cement, WOC prior to drilling remainder of joint and notify office.
3. At approximately 10,000' the hole will be drilled vertical to 12,500' TD. Survey to ±12,500' T.D. Survey every 500' or more often as required to monitor deviation. Circulation rates as needed to ensure good hole cleaning. Record slow pump rates everyday and every time mud proportion changes.
4. Drill out casing with existing mud; mud wt. 10.0-10.1, vis. 28-30 API-FL N/C, brine, circulating through the reserve pits. The pH should be maintained at 9.0-10.0 with additions of Caustic Soda. Sweep the hole with 100 bbls of fresh water and NewGel for an 80-90 sec/1000cc viscosity and 0.25-lbs of Super Sweep every 500 feet drilled to aid in cuttings removal. If losses are encountered batch treat with 12-15 ppb Fiber Seal in a 50 bbl premix with 36-40 sec/1000cc viscosity. **Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases.**

5. Mud up at 10,000' to confine circulation to steel pits with 10.1-13.5, vis. 38-45, with Dynazan/Starch adding Calcium Carbonate as needed to increase fluid density to balance formation pressures up to 12.0 ppg. Treat the system with Newcide to prevent bacterial degradation of organic materials. Adjust and maintain pH with Caustic Soda. Add Starch to control API filtrate at <10cc. Mix Dynazan to increase the viscosity to 38-40 sec/1000cc. Use S-10 Defoamer to reduce foaming.
6. At 11,000' reduce API filtrate to <6cc with Starch. If abnormal pressures are encountered mix Calcium Carbonate to increase mud weight. Raise viscosity to 45+ sec/1000cc with Dynazan.
7. Circulate and condition mud and hole, short trip, circulate and condition, POH (strapping DP and DCs). Rig up loggers and run wire line logs as proposed or as dictated by the office.
8. Trip in hole. Circulate and condition mud and hole in preparation to run production liner.
9. Trip out of hole with drill pipe. Prepare to run liner.
10. Rig up casing tools and run 4 1/2" liner as follows:
 - 4 1/2" Dual Valve Float Shoe
 - (1) Joint 4 1/2" 11.6 ppf, P-110, LT&C
 - 4 1/2" Landing Collar
 - ±3,650' 4 1/2" 11.6 ppf, P-110, LT&C
 - 7" x 4 1/2" liner hanger assembly
 - 8,000# liner top packer & tieback
11. Check and record liner weight before tripping in the hole. Trip in hole with liner under full hydromatic. Fill drill string every 10 stands while tripping in the hole with liner. Pick up manifold and wash liner to bottom. Circulate liner for 15 minutes. Hang liner off. Rotate out of liner. Pickup drill string and check weight to make sure liner is hung off. Pump capacity of liner and drill string prior to commencing any cementing operations.
12. Cement per cement prognosis. Displace liner with fresh water and drill string with drilling mud. Do not over displace. Pickup drill string approx. 12', set back down and set liner top packer with 30,000# or more. Pull 10 stands of drill pipe. Pickup Kelly. Circulate annulus 150% and rotate drill string while circulating. TOOH with liner stinger and lay down.

string approx. 12', set back down and set liner top packer with 30,000# or more. Pull 10 stands of drill pipe. Pickup Kelly. Circulate annulus 150% and rotate drill string while circulating. TOOH with liner stinger and lay down.

13. Lay down drill string. Nipple down BOP's. Nipple up wellhead. Clean pits. Release drilling rig and all rental equipment. Record and report fuel on location at rig release.
14. Refer to completion procedure.

OGX Resources

Purdy 8 Federal #1

Purdy 8 Federal #1

Purdy 8 Federal #1

Original Hole

Plan: Plan #1

Standard Planning Report

18 January, 2008

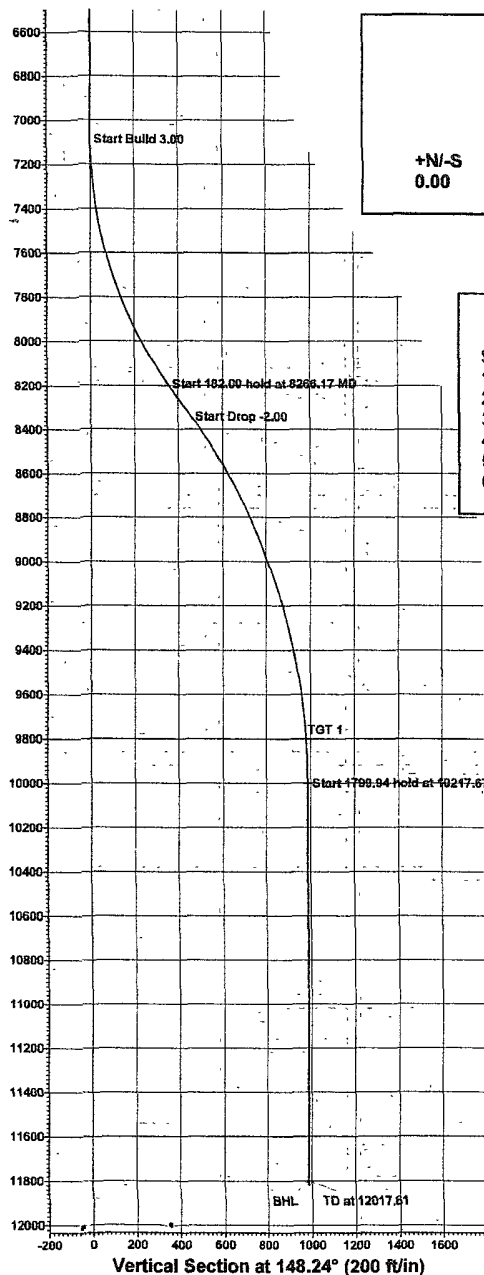
OGX Resources



Azimuths to Grid North
True North: 0.82°
Magnetic North: 0.82°

Magnetic Field
Strength: 0.0snT
Dip Angle: 0.00°
Date: 1/18/2008
Model: USER DEFINED

PROJECT DETAILS: Purdy 8 Federal #1
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid



WELL DETAILS: Purdy 8 Federal #1

Ground Elevation:: 0.00
RKB Elevation: EST RKB @ 0.00ft
Rig Name:

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	0.000	0.000	30° 59' 24.512 N	105° 55' 44.137 W	

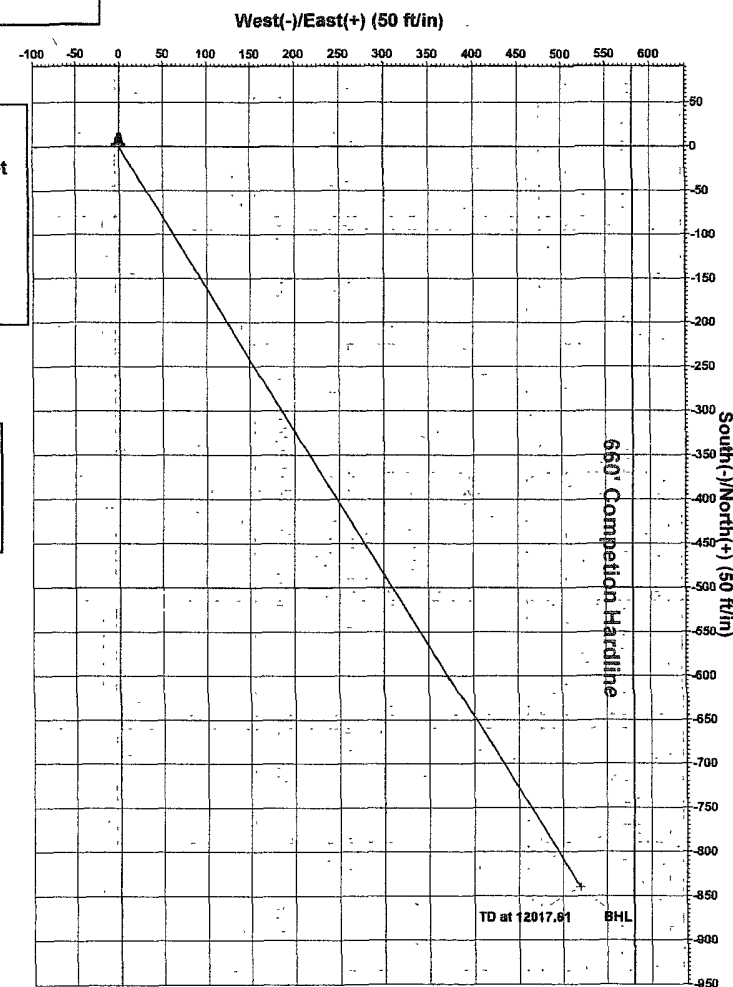
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7086.50	0.00	0.00	7086.50	0.00	0.00	0.00	0.00	0.00	
3	8266.17	35.39	148.24	8192.57	-300.05	185.75	3.00	148.24	352.89	
4	8448.17	35.39	148.24	8340.95	-389.67	241.23	0.00	0.00	458.29	
5	10217.67	0.00	0.00	10000.06	-839.73	519.85	2.00	-180.00	987.62	
6	12017.61	0.00	0.00	11800.00	-839.73	519.85	0.00	0.00	987.62	BHL

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
TGT 1	10000.00	-840.00	520.00	-840.000	520.000	Point
BHL	11800.00	-840.00	520.00	-840.000	520.000	Point

Project: Purdy 8 Federal #1
Site: Purdy 8 Federal #1
Well: Purdy 8 Federal #1
Wellbore: Original Hole
Plan: Plan #1 (Purdy 8 Federal #1/Original Hole)



Plan: Plan #1 (Purdy 8 Federal #1/Original Hole)

Created By: Mark Freeman Date: 10/23, January 21 2008

Checked: _____ Date: _____

WHS

Planning Report

Database: EDM 2003.16 Single User Db
Company: OGX Resources
Project: Purdy 8 Federal #1
Site: Purdy 8 Federal #1
Well: Purdy 8 Federal #1
Wellbore: Original Hole
Design: Plan #1

Local Co-ordinate Reference: Well Purdy 8 Federal #1
TVD Reference: EST RKB @ 0.00ft
MD Reference: EST RKB @ 0.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Purdy 8 Federal #1		
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 Purdy 8 Federal #1

Site Position: **Northing:** ft **Latitude:**
From: None **Easting:** ft **Longitude:**
Position Uncertainty: 0.00 ft **Slot Radius:** " **Grid Convergence:** 0.00 °

Well Purdy 8 Federal #1

Well Position **+N/-S** 0.00 ft **Northing:** 0.000 ft **Latitude:** 30° 59' 24.512 N
 +E/-W 0.00 ft **Easting:** 0.000 ft **Longitude:** 105° 55' 44.137 W
Position Uncertainty 0.00 ft **Wellhead Elevation:** ft **Ground Level:** 0.00 ft

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	1/18/2008	0.00	0.00	0

Design Plan #1

Audit Notes:

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

Vertical Section: **Depth From (TVD)** **+N/-S** **+E/-W** **Direction**
 (ft) (ft) (ft) (°)
 0.00 0.00 0.00 148.24

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,086.50	0.00	0.00	7,086.50	0.00	0.00	0.00	0.00	0.00	0.00	
8,266.17	35.39	148.24	8,192.57	-300.05	185.75	3.00	3.00	0.00	148.24	
8,448.17	35.39	148.24	8,340.95	-389.67	241.23	0.00	0.00	0.00	0.00	
10,217.67	0.00	0.00	10,000.06	-839.73	519.85	2.00	-2.00	0.00	180.00	
12,017.61	0.00	0.00	11,800.00	-839.73	519.85	0.00	0.00	0.00	0.00	BHL

WHS

Planning Report

Database: EDM 2003.16 Single User Db
Company: OGX Resources
Project: Purdy 8 Federal #1
Site: Purdy 8 Federal #1
Well: Purdy 8 Federal #1
Wellbore: Original Hole
Design: Plan #1

Local Co-ordinate Reference: Well Purdy 8 Federal #1
TVD Reference: EST RKB @ 0.00ft
MD Reference: EST RKB @ 0.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

WHS

Planning Report

Database: EDM 2003.16 Single User Db
Company: OGX Resources
Project: Purdy 8 Federal #1
Site: Purdy 8 Federal #1
Well: Purdy 8 Federal #1
Wellbore: Original Hole
Design: Plan #1

Local Co-ordinate Reference: Well Purdy 8 Federal #1
TVD Reference: EST RKB @ 0.00ft
MD Reference: EST RKB @ 0.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,086.50	0.00	0.00	7,086.50	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.41	148.24	7,100.00	-0.04	0.03	0.05	3.00	3.00	0.00
7,200.00	3.41	148.24	7,199.93	-2.87	1.77	3.37	3.00	3.00	0.00
7,300.00	6.41	148.24	7,299.56	-10.14	6.27	11.92	3.00	3.00	0.00
7,400.00	9.41	148.24	7,398.59	-21.83	13.51	25.67	3.00	3.00	0.00
7,500.00	12.41	148.24	7,496.78	-37.91	23.47	44.59	3.00	3.00	0.00
7,600.00	15.41	148.24	7,593.84	-58.34	36.12	68.62	3.00	3.00	0.00
7,700.00	18.41	148.24	7,689.50	-83.06	51.42	97.69	3.00	3.00	0.00
7,800.00	21.41	148.24	7,783.52	-112.01	69.34	131.73	3.00	3.00	0.00
7,900.00	24.41	148.24	7,875.62	-145.10	89.82	170.65	3.00	3.00	0.00
8,000.00	27.41	148.24	7,965.56	-182.24	112.82	214.33	3.00	3.00	0.00
8,100.00	30.41	148.24	8,053.10	-223.33	138.26	262.66	3.00	3.00	0.00
8,200.00	33.41	148.24	8,137.98	-268.26	166.07	315.51	3.00	3.00	0.00
8,266.17	35.39	148.24	8,192.57	-300.05	185.75	352.89	3.00	3.00	0.00
8,300.00	35.39	148.24	8,220.16	-316.71	196.06	372.48	0.00	0.00	0.00
8,400.00	35.39	148.24	8,301.68	-365.95	226.54	430.39	0.00	0.00	0.00
8,448.17	35.39	148.24	8,340.95	-389.67	241.23	458.29	0.00	0.00	0.00
8,500.00	34.35	148.24	8,383.47	-414.86	256.83	487.92	2.00	-2.00	0.00
8,600.00	32.35	148.24	8,467.00	-461.61	285.76	542.90	2.00	-2.00	0.00
8,700.00	30.35	148.24	8,552.39	-505.85	313.15	594.93	2.00	-2.00	0.00
8,800.00	28.35	148.24	8,639.55	-547.52	338.95	643.95	2.00	-2.00	0.00
8,900.00	26.35	148.24	8,728.36	-586.59	363.13	689.89	2.00	-2.00	0.00
9,000.00	24.35	148.24	8,818.72	-623.00	385.67	732.71	2.00	-2.00	0.00
9,100.00	22.35	148.24	8,910.53	-656.70	406.54	772.35	2.00	-2.00	0.00
9,200.00	20.35	148.24	9,003.66	-687.66	425.70	808.76	2.00	-2.00	0.00
9,300.00	18.35	148.24	9,098.00	-715.83	443.14	841.90	2.00	-2.00	0.00
9,400.00	16.35	148.24	9,193.45	-741.19	458.84	871.72	2.00	-2.00	0.00
9,500.00	14.35	148.24	9,289.87	-763.70	472.78	898.20	2.00	-2.00	0.00
9,600.00	12.35	148.24	9,387.16	-783.34	484.93	921.29	2.00	-2.00	0.00
9,700.00	10.35	148.24	9,485.20	-800.07	495.29	940.98	2.00	-2.00	0.00
9,800.00	8.35	148.24	9,583.87	-813.89	503.85	957.23	2.00	-2.00	0.00
9,900.00	6.35	148.24	9,683.04	-824.77	510.59	970.03	2.00	-2.00	0.00
10,000.00	4.35	148.24	9,782.60	-832.71	515.50	979.36	2.00	-2.00	0.00
10,100.00	2.35	148.24	9,882.42	-837.68	518.57	985.20	2.00	-2.00	0.00
10,200.00	0.35	148.24	9,982.39	-839.69	519.82	987.57	2.00	-2.00	0.00
10,217.67	0.00	0.00	10,000.06	-839.73	519.85	987.62	2.00	-2.00	0.00

WHS

Planning Report

Database: EDM 2003.16 Single User Db
Company: OGX Resources
Project: Purdy 8 Federal #1
Site: Purdy 8 Federal #1
Well: Purdy 8 Federal #1
Wellbore: Original Hole
Design: Plan #1

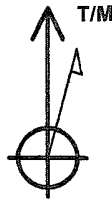
Local Co-ordinate Reference: Well Purdy 8 Federal #1
TVD Reference: EST RKB @ 0.00ft
MD Reference: EST RKB @ 0.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
10,300.00	0.00	0.00	10,082.39	-839.73	519.85	987.62	0.00	0.00	0.00
10,400.00	0.00	0.00	10,182.39	-839.73	519.85	987.62	0.00	0.00	0.00
10,500.00	0.00	0.00	10,282.39	-839.73	519.85	987.62	0.00	0.00	0.00
10,600.00	0.00	0.00	10,382.39	-839.73	519.85	987.62	0.00	0.00	0.00
10,700.00	0.00	0.00	10,482.39	-839.73	519.85	987.62	0.00	0.00	0.00
10,800.00	0.00	0.00	10,582.39	-839.73	519.85	987.62	0.00	0.00	0.00
10,900.00	0.00	0.00	10,682.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,000.00	0.00	0.00	10,782.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,100.00	0.00	0.00	10,882.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,200.00	0.00	0.00	10,982.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,300.00	0.00	0.00	11,082.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,400.00	0.00	0.00	11,182.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,500.00	0.00	0.00	11,282.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,600.00	0.00	0.00	11,382.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,700.00	0.00	0.00	11,482.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,800.00	0.00	0.00	11,582.39	-839.73	519.85	987.62	0.00	0.00	0.00
11,900.00	0.00	0.00	11,682.39	-839.73	519.85	987.62	0.00	0.00	0.00
12,000.00	0.00	0.00	11,782.39	-839.73	519.85	987.62	0.00	0.00	0.00
12,017.61	0.00	0.00	11,800.00	-839.73	519.85	987.62	0.00	0.00	0.00

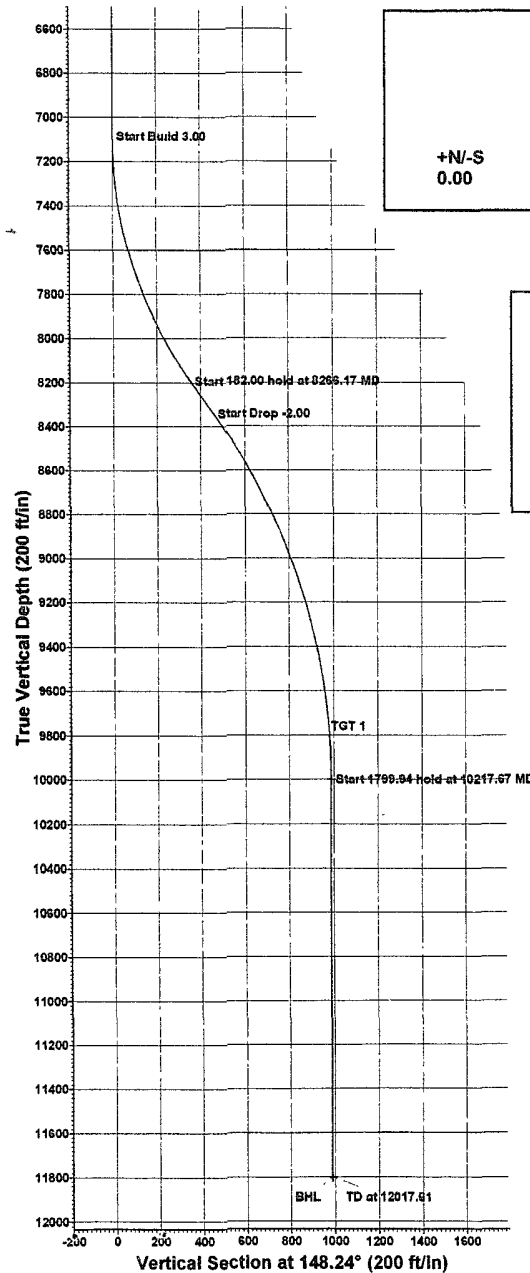
Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TGT 1 - plan hits target - Point	0.00	360.00	10,000.00	-840.00	520.00	-840.000	520.000	30° 59' 16.274 N	105° 55' 38.027 W
BHL - plan hits target - Point	0.00	360.00	11,800.00	-840.00	520.00	-840.000	520.000	30° 59' 16.274 N	105° 55' 38.027 W



Azimuths to Grid North
 True North: 0.82°
 Magnetic North: 0.82°
 Magnetic Field
 Strength: 0.0snT
 Dip Angle: 0.00°
 Date: 1/18/2008
 Model: USER DEFINED

PROJECT DETAILS: Purdy 8 Federal #1
 Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1886
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level
 Local North: Grid

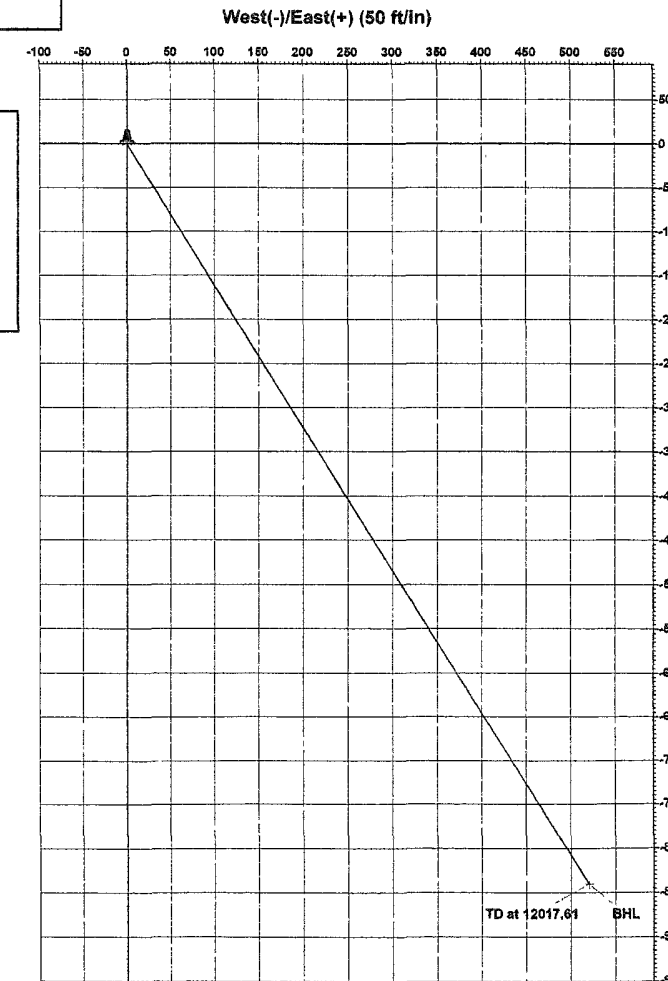


WELL DETAILS: Purdy 8 Federal #1						
Ground Elevation:: 0.00						
RKB Elevation: EST RKB @ 0.00ft						
Rig Name:						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	0.000	0.000	30° 59' 24.512 N	105° 55' 44.137 W	

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7086.50	0.00	0.00	7086.50	0.00	0.00	0.00	0.00	0.00	
3	8266.17	35.39	148.24	8192.57	-300.05	185.75	3.00	148.24	352.89	
4	8448.17	35.39	148.24	8340.95	-389.67	241.23	0.00	0.00	458.29	
5	10217.67	0.00	0.00	10000.06	-839.73	519.85	2.00	180.00	987.62	
6	12017.61	0.00	0.00	11800.00	-839.73	519.85	0.00	0.00	987.62	BHL

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
TGT 1	10000.00	-840.00	520.00	-840.000	520.000	Point
BHL	11800.00	-840.00	520.00	-840.000	520.000	Point

Project: Purdy 8 Federal #1
 Site: Purdy 8 Federal #1
 Well: Purdy 8 Federal #1
 Wellbore: Original Hole
 Plan: Plan #1 (Purdy 8 Federal #1/Original Hole)



Plan: Plan #1 (Purdy 8 Federal #1/Original Hole)	
Created By: Mark Freeman	Date: 14:59, January 18 2008
Checked: _____	Date: _____



Newpark Drilling Fluids, LLC



DRILLING FLUIDS PROGRAM

PREPARED FOR:

Purdy Fed #1

*Section 8, T-23-S, R-26-E
Eddy County, New Mexico*

SUBMITTED TO:

Mr. Kip Agar

*OGX Resources, LLC
P.O. Box 2064
Midland, Texas 79702*

PREPARED BY:

Ken Anthony



Newpark Drilling Fluids, LLC



January 6, 2008

Mr. Kip Agar
OGX Resources, LLC
P.O. Box 2064
Midland, Texas 79702

Dear Mr. Agar,

Enclosed are our drilling fluids recommendations for your Purdy Fed #1 well in section 8, T-23-S, R-26-E, Eddy County, New Mexico. They are derived from information from your office, offset well data, and our knowledge of the area.

Estimated mud cost is \$ 210,000.00 to \$220,000.00 based on 38 to 42 total days with ideal conditions. Severe losses, excessive pressure, stuck pipe or extended days on the well could raise the estimate considerably. Offset wells in this area have experienced abnormal pressures in the 12.5-13.5 pound per gallon range.

***Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases. ABOSULTLEY NO BARITE WILL BE USED. If weights are needed above 12.0 ppg, Barite will only be used after a thorough discussion with the operator.**

For questions or comments call (800) 592-4627 or (432) 697-8661. Both are 24-hour numbers.

Sincerely,

Ken Anthony



Newpark Drilling Fluids, LLC



OGX Resources, LLC

Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

PROGRAM HIGHLIGHTS:

TOTAL DEPTH	:	12,000'
CASING REQUIREMENTS	:	Interval 1: 17-1/2" hole to 520', set 13-3/8" casing. Interval 2: 12-1/4" hole to 2,490', set 9-5/8" casing. Interval 3: 8-3/4" hole to 9,550', set 7" casing. Interval 4: 6-1/8" hole to 12,000', set 4-1/2" casing.
MUD WEIGHT REQUIREMENTS	:	8.6 – 8.8 ppg @ 520' 10.0 – 10.1 ppg @ 2,490' 8.4 – 10.1 ppg @ 9,550' 10.1 – 13.5 ppg @ 12,000'
DAYS TO REACH TD	:	38 – 42
COST ESTIMATE	:	\$210,000.00 to \$220,000.00
WAREHOUSE	:	Midland, Texas (800) 592-4627 David Volz, Distribution Manager
PERMIAN BASIN PERSONNEL	:	Midland, Texas (800) 592-4627 Joe Henderson, Permian Basin Business Unit Manager Al Boudreaux, Sales Manager Doug Thomas, Sales Ken Anthony, Technical Engineer Mike Davis, Technical Engineer

MUD PROPERTIES SUMMARY:

Depth (feet)	Weight (ppg)	Viscosity (sec/1000cc)	Fluid Loss (cc/30min)	PV (cps)	YP (lb/100ft ²)	Mud Type
0' – ⁵⁰⁰ 520' Set 13-3/8" Casing	8.6 – 8.8	36 – 38	N/C	6 – 10	6 – 20	Spud Mud
520' – ²⁵⁰⁰ 2,490' Set 9-5/8" Casing	10.0 – 10.1	29 – 30	N/C	0 – 1	0 – 1	Brine
2,490' – ⁹⁷⁵⁰ 9,550' Set 7" Liner	8.4 – 10.0	28 – 29	N/C	0 – 1	0 – 1	Fresh Water to Brine
⁹⁴⁵⁰ 9,550' – 10,000'	10.0 – 10.1	29 – 30	N/C	0 – 1	0 – 1	Brine
10,000' – 12,000' Set 4-1/2"	10.1 – 13.5	38 – 45	10 – 6 cc	6 – 30	8 – 24	Dynazan / Starch *Calcium Carbonate

Note: The mud weight schedule is intended as a guideline only. Actual mud weights used should be determined by hole conditions and drilling parameters.

*Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases.

ABOSULTLEY NO BARITE WILL BE USED. If weights are needed above 12.0 ppg, Barite will only be used after a thorough discussion with the operator.



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

PROGRAM HIGHLIGHTS (CONT'D):

HOLE & CASING DESIGN:

INTERVAL	DEPTH (feet)	BIT SIZE	CASING (OD)	ANTICIPATED MUD WT. (ppg)
INTERVAL 1	520'	17-1/2"	13-3/8"	8.6 – 8.8
INTERVAL 2	2,490'	12-1/4"	9-5/8"	10.0 – 10.1
INTERVAL 3	9,550'	8-3/4"	7"	8.4 – 10.1
INTERVAL 4	12,000'	6-1/8"	4-1/2"	10.1 – 13.5

SOLIDS CONTROL:

INTERVAL	RECOMMENDED SOLIDS CONTROL EQUIPMENT
INTERVAL 1	Two linear motion shale shakers and one desander.
INTERVAL 2	Reserve.
INTERVAL 3	Reserve.
INTERVAL 4	Two linear motion shale shakers, and centrifuges.

ESTIMATED FORMATION TOPS:

FORMATION	DEPTH
Delaware Sand	1,900
Bone Spring	5,150'
Wolfcamp	8,600'
Strawn	10,100'
Atoka	10,550'
Morrow	11,000'
Lower Morrow	11,600'
Total Depth	12,000'



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Interval 1: 17-1/2" Hole
Interval : 0' – 520' *500'*
Casing: 13-3/8
Days: 2

Drilling Fluid Properties:

Depth	Weight	Viscosity	PV	YP	pH	Fluid Loss	LG Solids
(feet)	(ppg)	(sec/1000cc)	(cps)	(lb/100ft ²)	(value)	(cc/30min)	(%)
0' – 520'	8.6 – 8.8	36 – 38	6-10	6-20	9.0-10.0	No Control	<6

Drilling Fluid Recommendations:

A non-dispersed **NewGel** system is recommended for this interval, with pre-hydrated **NewGel** and **Soda Ash** as the primary system components for rheological control. Utilize **Paper** sweeps to aid in seepage control. If losses occur batch treat with 12-15 ppb **Fiber Seal** in a 50 bbl premix with 36-38 sec/1000cc viscosity.

At total depth, sweep the hole with 100-barrels of fresh water and **New Gel** for a 80-90 sec/1000cc viscosity and 0.25-ppb **Super Sweep**. Circulate hole clean prior to running casing. Add 4-5 ppb of LCM in the sweep for total depth.

Materials Consumption

175 sx New Gel
10 sx Soda Ash
10 sx Paper
1 bx Super Sweep



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Interval 2: 12-1/4" Hole
Interval: 520' – 2,490' 2500
Casing: 9-5/8"
Days: 5

Drilling Fluid Properties:

Depth	Weight	Viscosity	PV	YP	pH	Fluid Loss	LG Solids
(feet)	(ppg)	(sec/1000cc)	(cps)	(lb/100ft ²)	(value)	(cc/30min)	(%)
530' – 2,490'	10.0 – 10.1	29 – 30	0-1	0-1	9.0-10.0	No Control	<6

Drilling Fluid Recommendations:

Drill out from the 13-3/8" casing with brine water circulating a controlled portion of the reserve pit for gravitational solids control. Utilize **Paper** sweeps to aid in seepage control. The pH should be maintained at 9.0-10.0 with additions of **Caustic Soda**. Utilize **New-55** sweeps (2-3 quarts per connection) to aid in cuttings removal. Sweep the hole with 100 barrels of fresh water and **New Gel** for a 80-90 sec/1000cc viscosity and 0.25-lbs of **Super Sweep** every 500 feet drilled to aid in cuttings removal. If losses occur batch treat with 12-15 ppb **Fiber Seal** in a 50 bbl premix with 36-40 sec/1000cc viscosity.

At total depth, sweep the hole with 100-barrels of fresh water and **New Gel** for a 80-90 sec/1000cc viscosity and 0.25-ppb **Super Sweep**. Circulate hole clean prior to running casing.

Materials Consumption

150 sx New Gel
30 sx Paper
20 sx Caustic Soda
4 pl New-55
2 bx Super Sweep



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Interval 3: 8-3/4" Hole
Interval: 2,490' - 9,550' 9750
Casing: 7"
Days: 16

Drilling Fluid Properties:

Depth	Weight	Viscosity	PV	YP	pH	Fluid Loss	LG Solids
(feet)	(ppg)	(sec/1000cc)	(cps)	(lb/100ft ²)	(value)	(cc/30min)	(%)
2,490' - 9,550'	8.4 - 10.0	28 - 29	0 - 1	0 - 1	9.0-10.0	N/C	<6

Drilling Fluid Recommendations:

Drill out from the 9-5/8" casing with fresh water circulating the remaining portion of the reserve. The pH should be maintained at 9.0-10.0 with additions of **Caustic Soda**. Sweep the hole with 100 barrels of fresh water and **New Gel** for a 80-90 sec/1000cc viscosity and 0.25-lbs of **Super Sweep** every 500 feet drilled to aid in cuttings removal. If losses occur batch treat with 12-15 ppb **Fiber Seal** in a 50 bbl premix with 36-40 sec/1000cc viscosity.

Maintain sufficient brine on location to raise the mud weight in the event of abnormal pressure in the Bone Springs. At total depth fill premix pit with 100 barrels of fresh water and **New Gel** for a 80-90 sec/1000cc viscosity and 0.25-lbs of **Super Sweep**. Sweep prior to casing operations.

*Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases. ABOSULTLEY NO BARITE WILL BE USED. If weights are needed above 12.0 ppg, Barite will only be used after a thorough discussion with the operator.

Materials Consumption

200 sx New Gel
60 sx Paper
40 sx Caustic Soda
2 bx Super Sweep



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Interval 4a: 6-1/8" Hole
Interval: 9,550' – 10,000'
Casing: -
Days: 5

Drilling Fluid Properties:

Depth	Weight	Viscosity	PV	YP	API Fluid Loss	pH	LG Solids
(feet)	(ppg)	(sec/1000cc)	(cps)	(lb/100ft ²)	(cc/30min)	(value)	(%)
9,550' – 10,000'	10.0 – 10.1	29 – 30	0 – 1	0 – 1	N/C	9 – 10	<6

Drilling Fluid Recommendations:

Drill out from the 7" casing with fluid from the previous interval. Continue circulating the remaining portion of the reserve. The pH should be maintained at 9.0-10.0 with additions of **Caustic Soda**. Sweep the hole with 100 barrels of fresh water and **New Gel** for a 80-90 sec/1000cc viscosity and 0.25-lbs of **Super Sweep** every 500 feet drilled to aid in cuttings removal. If losses occur batch treat with 12-15 ppb **Fiber Seal** in a 50 bbl premix with 36-40 sec/1000cc viscosity

*Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases. **ABOSULTLEY NO BARITE WILL BE USED.** If weights are needed above 12.0 ppg, Barite will only be used after a thorough discussion with the operator.

Materials Consumption

300 sx NewGel
30 sx Paper
15 sx Caustic Soda
1 bx Super Sweep

Interval 4b: 6-1/8" Hole



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Interval: 10,000' – 12,000'
Casing: 4-1/2"
Days: 10

Drilling Fluid Properties:

Depth	Weight	Viscosity	PV	YP	API Fluid Loss	pH	LG Solids
(feet)	(ppg)	(sec/1000cc)	(cps)	(lb/100ft ²)	(cc/30min)	(value)	(%)
10,000' – 12,000'	10.1 – 13.5	38 – 45	6 – 20	8 – 30	10 – 6 cc	9 – 10	<6

Drilling Fluid Recommendations:

At 10,000' confine circulation to steel pits. Treat the system with **Newcide** to prevent bacterial degradation of organic materials. Adjust and maintain pH with **Caustic Soda**. Add **Starch** (White) to control API filtrate at <10cc. Mix **Dynazan** to increase the viscosity to 38-40 sec/1000cc. Use **S-10 Defoamer** to reduce foaming. Mix ***Calcium Carbonate** to increase fluid density to balance formation pressures up to 12.0 ppg.

At 11,000', prior to drilling Morrow, reduce API filtrate to <6cc with **Starch** (White). If abnormal pressures are encountered mix **Calcium Carbonate** to increase mud weight. Raise viscosity to 45+ sec/1000cc with **Dynazan**.

***Calcium Carbonate will be used as the weighting agent in all pipe slugs, and mud weight increases. ABOSULTLEY NO BARITE WILL BE USED.** If weights are needed above 12.0 ppg, Barite will only be used after a thorough discussion with the operator.

Materials Consumption:

185 tn Calcium Carbonate (bulk)
150 sx White Starch
100 tn Barite (bulk)
100 sx Dyna Fiber
80 sx Dynazan
40 sx Caustic Soda
30 cn S-10 Defoamer
25 cn Newcide



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

ENGINEER / WAREHOUSE INFORMATION

WELL NAME: Purdy Fed #1

LOCATION: Section 8, T-23-S, R-26-E

Eddy County, New Mexico

MUD ENGINEER: Lynn Pearson Carlsbad, New Mexico

Wally Pearson Artesia, New Mexico

(800) 592-4627 or (432) 697-8661. Both 24 hours.

WAREHOUSE: Artesia & Lovington, New Mexico

(800) 592-4627 or (432) 697-8661. Both 24 hours.



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Lost Circulation Procedures

Seepage Losses – Mud consumed at the rate of 18.5± barrels of mud per 100' of 8-3/4" hole drilled can be expected. This is due to mud retained on cuttings and filtration losses down hole. Volumes in excess of 20 bbls per 100' of hole should be considered seepage losses and the following remedial action taken:

1. Discontinue drilling and circulate cuttings out of the hole at a reduced rate for 5 minutes. Pull one stand and stop pumps to see if the hole is standing full. Keep pipe moving while checking fluid level.
2. If the hole is standing full while static, the seepage losses may be from excessive cuttings, out of gauge hole or circulating pressure losses (ECD). Break circulation slowly and return to drilling, carefully monitoring mud consumption rates and static hole conditions on connections.
3. If the hole is taking fluid while static, prepare a 50-60 bbl pill of 45-50 viscosity mud with 10-20 ppb of Fiber-Plug and 10-20 ppb of Fiber-Seal, and spot near bottom. Pull five stands and check static level of fluid in the hole. Keep hole full at all times and monitor the mud loss rate.
4. If little or no improvement is noted after pumping the 50-60 barrel LCM pill, prepare a balanced, high-filtrate (50cc/30min@100psi) water based pill (40 bbls). This pill can be formulated with Dynazan or New Gel (flocculated with CaCl₂ or Lime) and Barite. Pull pipe above the suspected loss zone and spot the pill outside the drill pipe at 1 barrel per minute. Pull out of the pill, close the hydril and if a float collar is in the string, pump down the annulus until sufficient backpressure is established. Hold the maximum allowable backpressure (300-900 psi) for 2-4 hours, open the hydril and establish full circulation before going to bottom.



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Severe Losses:

1. Should complete returns be lost, stop the pumps and pull the pipe into the casing while pumping through the fill-up line to keep the hole full.
2. Allow the hole to remain static while filling with mud on the annulus side, monitoring the rate of mud loss.
3. Build 50-60 bbl pill of 45-50-viscosity mud with 10-20 ppb of Fiber-Plug and 10-20 ppb of Fiber-Seal, and spot near bottom. Pull five stands and check static level of fluid in the hole. Keep hole full at all times and monitor the mud loss rate. Should the hole stand full, allow 4-6 hours of healing time before staging back to bottom slowly and resuming drilling.
4. Should only partial returns be established, repeat the LCM pill once more. If complete loss of circulation persist, or if only partial returns can be established after the 2nd LCM pill, prepare a balanced, high-filtrate (50cc/30min@100psi) water based pill (40 bbls). Pull pipe above the suspected loss zone and spot the pill outside the drill pipe at 1 barrel per minute. Pull out of the pill, close the hydril and if a float collar is in the string, pump down the annulus until sufficient backpressure is established. Hold the maximum allowable backpressure (300-900 psi) for 2-4 hours, open the hydril and establish full circulation before going to bottom.
5. Should the LCM pills fail to establish returns, be prepared to squeeze cement into loss zone.

Loss of circulation is a possibility on any well. Although each well is different, there are some basic procedures and drilling practices that can aid in reducing the severity and in some, cases prevent lost circulation. Below is a list of several parameters, which may prove helpful.

1. Maintain viscosities as low as possible and still clean the hole.
2. Maintain mud weights as low as possible without jeopardizing safety.
3. Use slower tripping speeds to prevent swabbing and surging.
4. Break circulation in stages while tripping in the hole.
5. Rotate pipe while breaking circulation.



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Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Solids Control

The most important contributing factor to good mud properties is a low native solids content. Conventional means of solids control (dilution, desanders, and desilters), used for water based muds are not economical because these methods can cause loss of liquid portion of the mud and increase chemical consumption. The solids control equipment for this well should include:

- High Speed shale shaker with fine mesh screens.
- Mud Cleaners

Shale Shaker

Use a high-speed shale shaker with fine mesh screens. It is imperative to remove cuttings as quickly as possible before they have a chance to mechanically break up in the circulating system.

Mud Cleaner

Use a mud cleaner using the smallest screen possible (200 mesh). Monitor the discharge to avoid stripping excess amounts of product from the mud.



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Section 8, T-23-S, R-26-E

Eddy County, New Mexico

Hydraulics

While drilling the deep mature shales in the Permian Basin, it is important to maintain an API filtrate to prevent hydration of the clays contained in those shales. Equally important is to maintain a Laminar Hydraulic Profile in the annulus while drilling those shales. These shale exhibit a high degree of erosion when the annular profile is in turbulent flow.

The annular velocity in the well bore is a measure to control hole cleaning and to determine the annular hydraulic profile. Critical velocity is the point at which flow transitions from laminar to turbulent flow. Mud weight, Plastic Viscosity, Yield Point, Pump Rate, Hole Diameter and tool diameter all are factors in determining critical velocity.

If adjusting the pump rate will affect the bit nozzle optimization, then the rheology can be adjusted to bring the annular profile into laminar flow.

$$\tau_C = \frac{1.08 PV + 1.08 \sqrt{PV^2 + 9.26(dh-dp)^2 YP M}}{M (dh-dp)}$$

PV = Plastic Viscosity

YP = Yield Point

M = Mud Weight (ppg)

Dh = Diameter of hole (inches)

Dp = Diameter of pipe (inches)

τ_C = Critical Velocity in feet per second.



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Purdy Fed #1

Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Filtration Control & Filter Cake Quality:

Sealing permeable zones in the well bore has long been accepted as a major function of a drilling fluid. The cost of the filtration control represents a major portion of the mud cost. Traditionally, most of this cost has resulted from controlling the filtration rate as opposed to controlling the filter cake quality. This is understandable since a definitive number is more a comfortable target than a subjective evaluation of a filter cake.

The primary objectives of filtration are:

- Minimize damage to the production zones.
- Optimize formation evaluation.
- Avoid differential pressure sticking of the pipe.
- Avoid under gauged holes due to thick filter cakes.

These objectives are achieved by focusing on important design factors:

- Compatibility of filtrate with formation solids.
- Thin, impermeable, and deformable filter cakes.
- Lubricious and shearable filter cakes.

Filtration Control Mechanisms:

There are four basic mechanisms for controlling filtration control and reducing the filter cake permeability. Understanding these mechanisms along with how filtration control products function is important.

1. **Bridging-** Bridging reduces filtration rates and permeability by plugging or blocking the pore spaces at the face of the filter medium. It generally requires solids about one-third the diameter of the pore space to form a bridge. New Gel, Calcium Carbonate, Lost Circulation Materials, Starch, and Soltex (LST-MD) are primary bridging materials.
2. **Bonding-** Bonding is the connecting or binding of solids together. New Pac, Dynazan, WL-100 and other high molecular weight polymers function as bonding materials. Secondly, these materials function as bridging materials as well as increasing the viscosity of the filtrate.
3. **Deflocculation-** Deflocculants reduce the electro-chemical attraction between solids. This allows solids to be filtered individually, as opposed to flocs, and also reduces the void spaces in the cake created by flocs of solids. Lignite, Chrome Ligno-Sulphonates, Desco, and other low molecular weight polymers perform as deflocculants.
4. **Viscosity-** Fluid loss decreases proportional to the increase in viscosity of the filtrate. Temperature alone will change the filtrate viscosity. Therefore, filtration control is more difficult at high temperatures. Any soluble material added to the fluid will viscosify the filtrate.



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Section 8, T-23-S, R-26-E
Eddy County, New Mexico

Hydration, Flocculation, and Deflocculation

The degree of hydration and flocculation of the filtered solids influence filter cake permeability. The effectiveness in permeability reduction may be demonstrated by ranking of clay solids according to their surface characteristics:

- | | |
|---------------------------------------|-----------------------|
| 1. Dehydration/Aggregated/Flocculated | (high permeability) |
| 2. Hydrated/Flocculated | (medium permeability) |
| 3. Hydrated/Deflocculated | (low permeability) |

Since fluid loss and filter cake quality are important design factors, it is important to understand the predominate electro-chemical state of the solids. Initially, cake permeability is reduced as pre-hydrated bentonite is added to the system. When flocculated, these hydrated solids promote deformability or permeability reduction with increased pressure. This results from the compaction of hydrated flocs. With deflocculation, permeability is further decreased, as the void spaces created by the flocs diminish.

During drilling operations, hydrated solids are eventually dehydrated as the solids content increases and/or the system is converted to an inhibitive fluid. At this point, a decision must be made on the basis of economic and operational objectives. More pre-hydrated bentonite and/or other products may be added. These other products include New Pac, Calcium Carbonate, CMC, starch, or one of the new generation polymers.

Fluid loss control is a very complex process. The major factors that affect the process include time, pressure, temperature, filtrate viscosity, solids hydration, flocculation and filter cake erodability. Effective evaluation of the process requires that all factors be given strong consideration. Testing the fluids relative to the various factors is necessary to understand how a fluid may perform under down-hole conditions.

HALLIBURTON

**OGX Resources LLC
PO Box 11148
Midland, Texas 79702**

Purdy Fed 1

Eddy County, New Mexico
United States of America
S:8 T:23S R:26E

Cementing Recommendation

Prepared for: Randy Ford
January 2, 2008
Version: 1

Submitted by:
Dennis Page

Halliburton
4000 N. Big Spring, Ste. 200
Midland, Texas 79705
432.683.0210

HALLIBURTON

HALLIBURTON

*Halliburton appreciates the opportunity to present
this proposal and looks forward to being of service to you.*

Foreword

Halliburton Energy Services is pleased to have this opportunity to present this proposal for your consideration. We earnestly request the service work to be performed on this well.

These Service Coordinators can be reached in our District, at the following phone numbers:

MIDLAND SALES OFFICE

1-800-844-8451

ODESSA DISTRICT

1-800-417-5096

CEMENTING:

Scott Kerby / Joe Briseno
BJ Wheeler

STIMULATION:

Rick Russell / Larry Staples
Basil Hacker

LOGGING & PERFORATING

Mike Wood / Joe Kirby

COILED TUBING & NITROGEN

Michael Ybaben

TOOLS & TESTING, PROD. SVCS., TCP, COMPL. PRODUCTS

Steve Engleman

BAROID

Fernando Arizpe

PREPARED BY: Bruce Day

HOBBS DISTRICT

1-800-416-6081

CEMENTING

Pete Garza / Ronald Arnold
Jaime Gonzales

STIMULATION:

Willie Stoker / Jerry Thurman
Travis Laman

LOGGING & PERFORATING

Josh Mount / Vernon Reeve

TOOLS & TESTING, PROD. SVCS., TCP, COMPL. PRODUCTS

Mike McWilliams

BAROID

Freddy Redmon

We look forward to working with you to provide the very best quality services available in the Permian Basin.

Dennis Page, Sr. Technical Advisor

Cementing Best Practices

1. **Cement quality and weight:** You must choose cement slurry that is designed to solve the problems specific to each string of pipe.
2. **Waiting time:** You must hold the cement slurry in place and under pressure until it hardens. A cement slurry is a time-dependent liquid and must be allowed to undergo a hydration reaction to produce a competent cement sheath. A fresh cement slurry can be worked (thickening or pump time) as long as it is plastic, and the initial set of cement occurs during the rapid reaction stage. If the cement is not allowed to hydrate; it will be subject to changes in density, dilution, settling, water separation, and gas cutting that can lead to lack of zonal isolation with resultant bridging in the annulus.
3. **Pipe movement:** Pipe movement may be one of the single most influential factors in mud removal. Reciprocation and/or rotation mechanically breaks up gelled mud and constantly changes the flow patterns in the annulus for better cement bonding.
4. **Mud properties:** Plastic viscosity (PV) should be less than 15 centipoise (cp), and less than 10 cp, if possible, yield point (YP) should be less than 10 pound/100-square feet (lb/100ft²) decreasing down to about 5 lb/100 ft².
5. **Mud gel strength:** A nonthixotropic mud is desirable for good mud removal. Mud left in the hole prior to running casing should have 10-second/10-minute/30-minute gel strength such that the 10-minute is less than double the 10-second and the 30-minute is less than 20 lb/100 ft²). Sufficient shear strength may not be achieved on a primary cement job to remove mud left in the hole should the mud develop more than 25 lb/100 ft².
6. **Mud fluid loss:** Decreasing the filtrate loss into a permeable zone enhances the creation of a thin filter cake. This increases the fluid mud in the hole, which is more easily removed. Generally, an API fluid loss of 7 or 8 milliliter (ml) is sufficient with high-temperature/high-pressure fluid loss (HTHP) no more than double this amount.
7. **Circulation:** Circulate bottoms up twice, or until well conditioned mud is being returned to the surface. There should be no cutting in the mud returns. An annular velocity of 260 feet per minute is optimum (SPE/IADC 18617), if possible.
8. **Flow rate:** Turbulent flow is more desirable flow regime for mud removal. If turbulence cannot be achieved, better mud removal is found when maximum flow energy is used. The maximum pump rate should be determined to obtain the best flow regime.
9. **Hole size:** The optimum hole size recommended for good mud removal is 1.5 to 2 inches larger than the casing or liner size. Hole sizes larger than 2 inches annular space can be dealt with, but those that are smaller than 1.5 inches present difficult problems.
10. **Pipe Centralization:** This helps to create a uniform flow area perpendicular to flow direction. Cement will take the path of least resistance so that centralization is important in keeping the pipe off the walls of the hole. At least a 70 percent standoff should be achieved for centralization.
11. **Rat hole:** When applicable, a weighted viscous pill in the rat hole prevents cement from swapping with lighter weight mud when displacement stops.
12. **Shoe joint:** A shoe joint is recommended on all primary casings and liners. The length of the shoe joint will vary, although the absolute minimum length is one joint of pipe. If conditions exist, such as not running a bottom plug, two joints should be the minimum length.

Job Information**Surface Casing**

Purdy Fed

1

17-1/2" Hole

0 - 520 ft (MD)

Inner Diameter

17.500 in

Job Excess

100 %

Surface Casing

0 - 520 ft (MD)

Outer Diameter

13.375 in

Inner Diameter

12.715 in

Linear Weight

48 lbm/ft

Job Recommendation**Surface Casing**

Install floating equipment, run casing to bottom, and circulate a minimum of 2-3 hole volumes prior to cementing as follows:

Fluid Instructions

Fluid 1: Pump 20 bbl
Fresh Water

Fluid Volume: 20 bbl

Fluid 2: Pump 30 bbl
MUD FLUSH
3.3 lbm/bbl Gilsonite (Lost Circulation Additive)

Fluid Volume: 30 bbl

Fluid 3: Pump 10 bbl
Fresh Water

Fluid Volume: 10 bbl

Fluid 4: Scavenger Cement - 200 sks

Premium Cement

94 lbm/sk Premium Cement (Cement)
1 % Calcium Chloride (Accelerator)
10 lbm/sk Gilsonite (Lost Circulation Additive)
0.25 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 14.60 lbm/gal
Slurry Yield: 1.40 ft³/sk
Total Mixing Fluid: 5.76 Gal/sk
Volume: 49.80 bbl
Proposed Sacks: 200 sks

Fluid 5: Lead with 300 sks

Halliburton Light Premium Plus

2 % Calcium Chloride (Accelerator)
0.25 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 12.70 lbm/gal
Slurry Yield: 1.90 ft³/sk
Total Mixing Fluid: 10.33 Gal/sk
Volume: 101.36 bbl
Proposed Sacks: 300 sks

Fluid 6: Tail-in with 200 sks

Premium Plus Cement

94 lbm/sk Premium Plus Cement (Cement)
2 % Calcium Chloride (Accelerator)

Fluid Weight 14.80 lbm/gal
Slurry Yield: 1.35 ft³/sk
Total Mixing Fluid: 6.39 Gal/sk
Volume: 47.98 bbl
Proposed Sacks: 200 sks

Job Information**1st Intermediate Casing**

Purdy Fed	1
Surface Casing	0 - 520 ft (MD)
Outer Diameter	13.375 in
Inner Diameter	12.715 in
Linear Weight	48 lbm/ft
12-1/4" Hole	520 - 2460 ft (MD)
Inner Diameter	12.250 in
Job Excess	175 %
1st Intermediate Casing	0 - 2460 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Thread	LTC
Casing Grade	J-55

Calculations

Cement : (2167.00 ft fill)
520.00 ft * 0.3765 ft³/ft * 10 % = 215.36 ft³
1647.00 ft * 0.3132 ft³/ft * 175 % = 1418.51 ft³
Total Lead Cement = 1633.87 ft³
= 291.00 bbl
Sacks of Cement = 656 sks

Cement : (293.00 ft fill)
293.00 ft * 0.3132 ft³/ft * 175 % = 252.35 ft³
Tail Cement = 252.35 ft³
= 44.95 bbl

Shoe Joint Volume: (40.00 ft fill)
40.00 ft * 0.4341 ft³/ft = 17.36 ft³
= 3.09 bbl
Tail plus shoe joint = 269.71 ft³
= 48.04 bbl
Total Tail = 200 sks

Job Recommendation**1st Intermediate Casing**

Install floating equipment, run casing to bottom, and circulate a minimum of 2-3 hole volumes prior to cementing as follows:

Fluid Instructions

Fluid 1: Pump 10 bbl
Fresh Water

Fluid Volume: 10 bbl

Fluid 2: Pump 30 bbl
MUD FLUSH
3.3 lbm/bbl Gilsonite (Lost Circulation Additive)

Fluid Volume: 30 bbl

Fluid 3: Pump 10 bbl
Fresh Water

Fluid Volume: 10 bbl

Fluid 4: Lead with 660 sks
50/50 Poz Premium Plus
10 % Total Bentonite (Light Weight Additive)
5 % Salt (Salt)
5 lbm/sk Gilsonite (Low Fluid Loss Control)
0.25 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 11.80 lbm/gal
Slurry Yield: 2.49 ft³/sk
Total Mixing Fluid: 13.97 Gal/sk
Top of Fluid: 0 ft
Calculated Fill: 2167 ft
Volume: 291.06 bbl
Calculated Sacks: 656.03 sks
Proposed Sacks: 660 sks

Fluid 5: Tail-in with 200 sks
Premium Plus Cement
94 lbm/sk Premium Plus Cement (Cement)
2 % Calcium Chloride (Accelerator)

Fluid Weight 14.80 lbm/gal
Slurry Yield: 1.35 ft³/sk
Total Mixing Fluid: 6.39 Gal/sk
Top of Fluid: 2167 ft
Calculated Fill: 293 ft
Volume: 47.98 bbl
Calculated Sacks: 200 sks
Proposed Sacks: 200 sks

Job Information**2nd Intermediate Casing**

Purdy Fed	1
1st Intermediate Casing	0 - 2460 ft (MD)
Outer Diameter	9.625 in
Inner Diameter	8.921 in
Linear Weight	36 lbm/ft
Thread	LTC
Casing Grade	J-55
8-1/2" Hole	2460 - 9500 ft (MD)
Inner Diameter	8.500 in
Job Excess	130 %
2nd Intermediate Casing	0 - 9500 ft (MD)
Outer Diameter	7.000 in
Inner Diameter	6.276 in
Linear Weight	26 lbm/ft
Thread	LTC
Casing Grade	P-110
BHST	150 degF

Calculations

Cement : (7712.00 ft fill)	
1460.00 ft * 0.1668 ft ³ /ft * 10 %	= 267.90 ft ³
6252.00 ft * 0.1268 ft ³ /ft * 130 %	= 1823.46 ft ³
Total Lead Cement	= 2091.36 ft ³
	= 372.49 bbl
Sacks of Cement	= 837 sks
Cement : (788.00 ft fill)	
788.00 ft * 0.1268 ft ³ /ft * 130 %	= 229.83 ft ³
Tail Cement	= 229.83 ft ³
	= 40.93 bbl
Shoe Joint Volume: (40.00 ft fill)	
40.00 ft * 0.2148 ft ³ /ft	= 8.59 ft ³
	= 1.53 bbl
Tail plus shoe joint	= 238.42 ft ³
	= 42.46 bbl
Total Tail	= 200 sks

Job Recommendation**2nd Intermediate Casing**

Install floating equipment, run casing to bottom, and circulate a minimum of 2-3 hole volumes prior to cementing as follows:

Fluid Instructions

Fluid 1: Pump 10 bbl
Fresh Water

Fluid Volume: 10 bbl

Fluid 2: Pump 30 bbl
MUD FLUSH
3.3 lbm/bbl Gilsonite (Lost Circulation Additive)

Fluid Volume: 30 bbl

Fluid 3: Pump 10 bbl
Fresh Water

Fluid Volume: 10 bbl

Fluid 4: Lead with 840 sks
50/50 Poz Premium
10 % Total Bentonite (Light Weight Additive)
0.3 % Halad®-9 (Low Fluid Loss Control)
5 % Salt (Salt)
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Fluid Weight 11.80 lbm/gal
Slurry Yield: 2.50 ft³/sk
Total Mixing Fluid: 14.60 Gal/sk
Top of Fluid: 1000 ft
Calculated Fill: 7712 ft
Volume: 372.49 bbl
Calculated Sacks: 837.22 sks
Proposed Sacks: 840 sks

Fluid 5: Tail-in with 200 sks
Premium Cement
94 lbm/sk Premium Cement (Cement)
0.5 % Halad®-9 (Low Fluid Loss Control)

Fluid Weight 15.60 lbm/gal
Slurry Yield: 1.19 ft³/sk
Total Mixing Fluid: 5.35 Gal/sk
Top of Fluid: 8712 ft
Calculated Fill: 788 ft
Volume: 42.46 bbl
Calculated Sacks: 200 sks
Proposed Sacks: 200 sks

Job Information**Production Liner**

Purdy Fed	1
2nd Intermediate Casing	0 - 9500 ft (MD)
Outer Diameter	7.000 in
Inner Diameter	6.276 in
Linear Weight	26 lbm/ft
Thread	LTC
Casing Grade	P-110
6-1/8" Hole	9500 - 12000 ft (MD)
Inner Diameter	6.125 in
Job Excess	35 %
Production Liner	9200 - 12000 ft (MD)
Outer Diameter	4.500 in
Inner Diameter	4.000 in
Linear Weight	11.60 lbm/ft
Casing Grade	N-80
Mud Type	Water Based Mud
Mud Weight	10 lbm/gal
BHST	180 degF

Calculations

Cement : (3100.00 ft fill)	
300.00 ft * 0.2148 ft ³ /ft * 10 %	= 70.89 ft ³
300.00 ft * 0.1044 ft ³ /ft * 10 %	= 34.45 ft ³
2500.00 ft * 0.0942 ft ³ /ft * 35 %	= 317.82 ft ³
Primary Cement	= 423.16 ft ³
	= 75.37 bbl
Shoe Joint Volume: (40.00 ft fill)	
40.00 ft * 0.0873 ft ³ /ft	= 3.49 ft ³
	= 0.62 bbl
Tail plus shoe joint	= 426.65 ft ³
	= 75.99 bbl
Total Tail	= 356 sks

Job Recommendation**Production Liner**

Install floating equipment, run casing to bottom, and circulate a minimum of 2-3 hole volumes prior to cementing as follows:

Fluid Instructions

Fluid 1: Pump 10 bbl
10# Brine

Fluid Volume: 10 bbl

Fluid 2: Mix and pump 360 sks
Premium Cement

94 lbm/sk	Premium Cement (Cement)
0.5 %	LAP-1 (Low Fluid Loss Control)
0.4 %	CFR-3 (Dispersant)
0.25 lbm/sk	D-AIR 3000 (Defoamer)
0.2 %	HR-5 (Retarder)

Fluid Weight	15.60 lbm/gal
Slurry Yield:	1.20 ft ³ /sk
Total Mixing Fluid:	5.33 Gal/sk
Top of Fluid:	8900 ft
Calculated Fill:	3100 ft
Volume:	75.99 bbl
Calculated Sacks:	356.43 sks
Proposed Sacks:	360 sks

Conditions

NOTE

The cost in this analysis is good for the materials and/or services outlined within and shall be valid for 30 days from the date of this proposal. In order to meet your needs under this proposal with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations. Accordingly, the discounts reflected in this proposal are available only for materials and services awarded on a first-call basis. Alternate pricing may apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at:

http://www.halliburton.com/hes/general_terms_conditions.pdf for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.

Any terms and conditions contained in purchase orders or other documents issued by the customer shall be of no effect except to confirm the type and quantity of services, equipment, and materials to be supplied to the customer.

If customer does not have an approved open account with Halliburton or a mutually executed written contract with Halliburton, which dictates payment terms different than those set forth in this clause, all sums due are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice.

Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

DRILLING RIG LAYOUT
OGX Resources, LLC.
Purdy 8 Federal #1

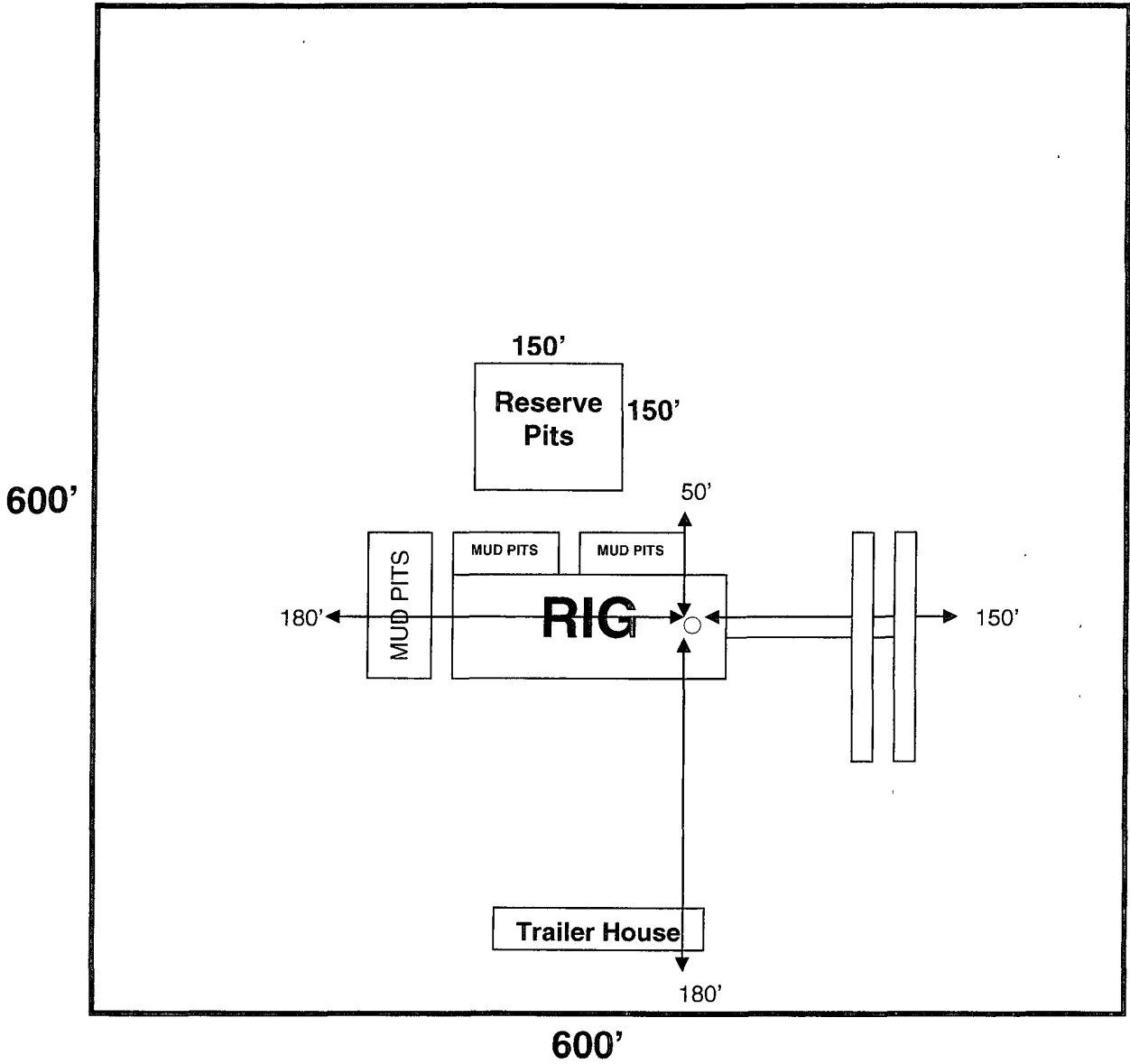
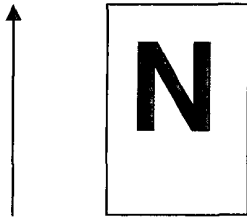
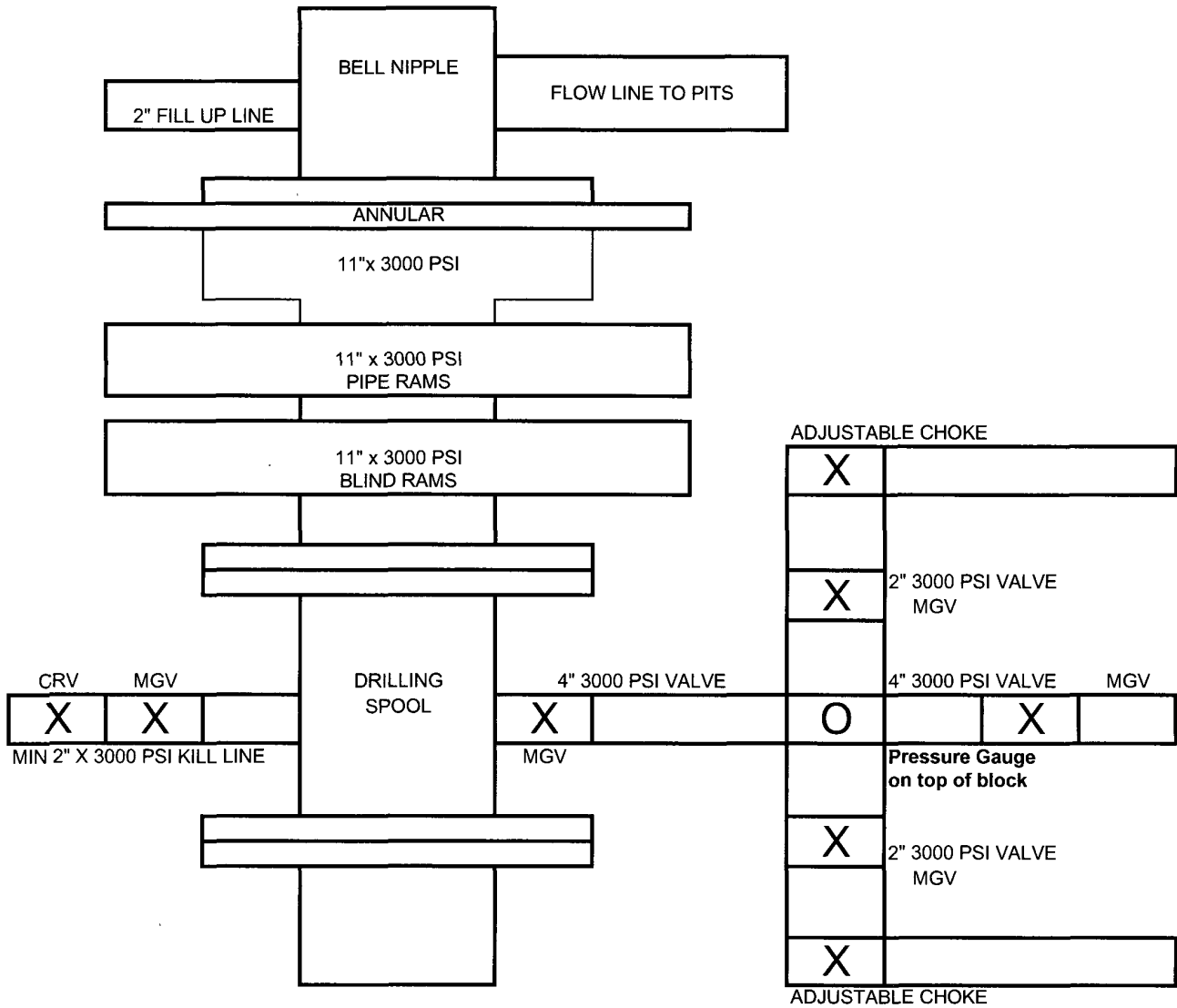


Exhibit "D"

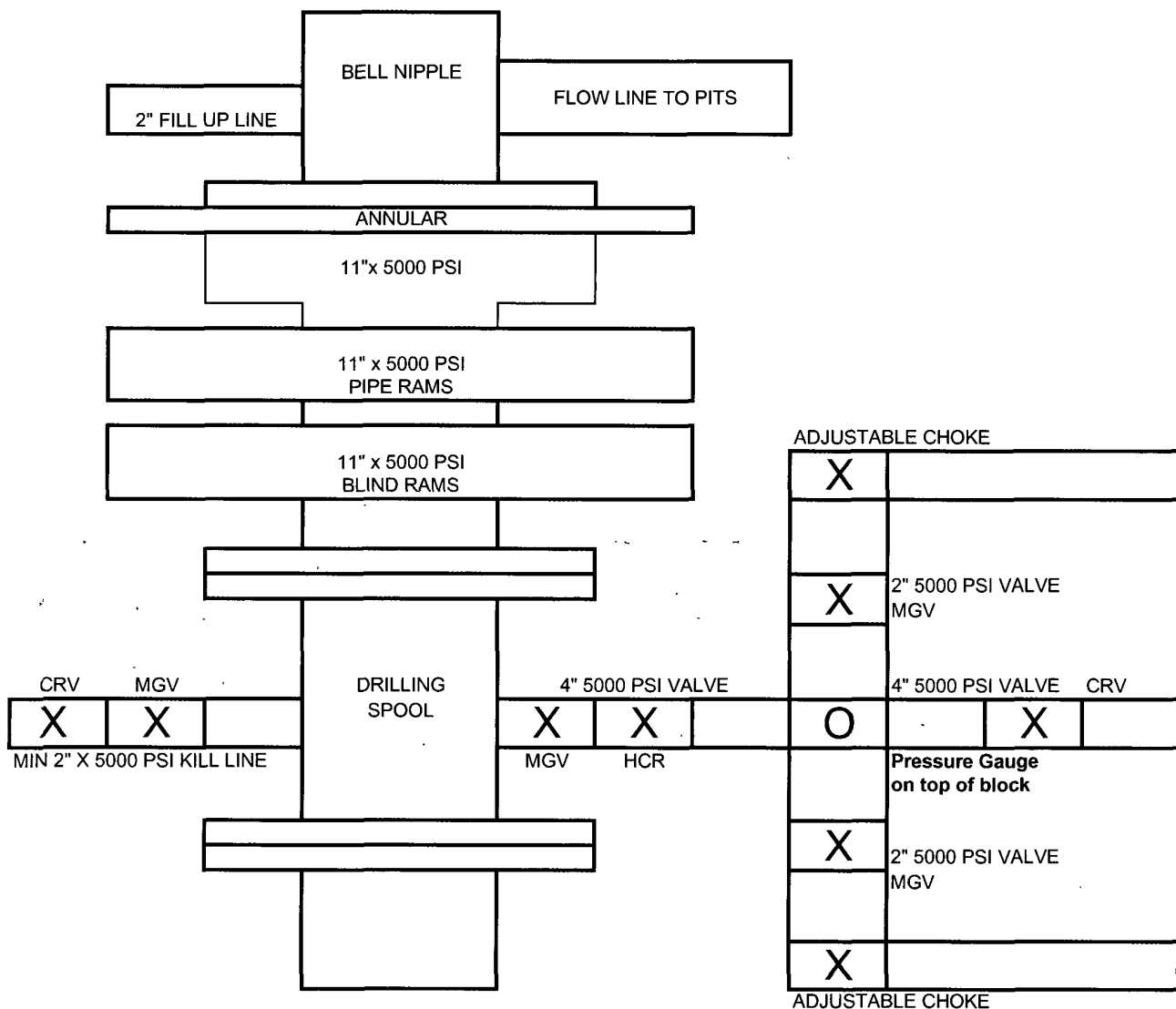
BOP SCHEMATIC FOR
12-1/4" HOLE



OGX Resources, LLC
Purdy 8 Federal #1
Eddy County, New Mexico

Exhibit 1





BOP SCHEMATIC FOR
8-3/4" HOLE



OGX Resources, LLC
Purdy 8 Federal #1
Eddy County, New Mexico

The diagram illustrates a wellhead assembly with the following components and connections:

- ROT HEAD**: The topmost component.
- 2" FILL-UP LINE**: A line connected to the left side of the ROT HEAD.
- FLOW LINE TO PITS**: A line connected to the right side of the ROT HEAD.
- ANNULAR 7 1/16" 10M**: A component located below the ROT HEAD.
- 7 1/16" 10M PIPE RAMS**: A component located below the ANNULAR.
- 7 1/16" 10M BLIND RAMS**: A component located below the PIPE RAMS.
- 7 1/16" 10M PIPE RAMS**: A second component located below the BLIND RAMS.
- 10M MGVS**: A component located below the second PIPE RAMS.
- DRILLING SPOOL**: The central component of the wellhead.
- 10M MGVS**: A component located to the right of the DRILLING SPOOL.
- (SEQUENCE OPT)**: A label indicating an optional sequence.
- 10M MGVS 10M HCR**: A component located to the right of the DRILLING SPOOL.
- 10M KILL LINE**: A line connected to the left side of the DRILLING SPOOL.
- MIN 3" NOM 10M CHOKE LINE**: A line connected to the right side of the DRILLING SPOOL.

		10M ADJUSTABLE CHOKE		
				
10M MGVS	X	10M REMOTE OPER CHOKE		
		X		
10M MGVS	X	10M MGVS		
		10M MGVS 10M MGVS		
		X	X	
CHOKE LINE		10M MGVS W/ PRES GAUGE ON TOP OF BLOCK		
10M MGVS	X			
10M MGVS	X			
				
		10M ADJUSTABLE CHOKE		

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

EDGE PETROLEUM OPERATING COMPANY, INC.

Purdy 8 Federal #1

I. HYDROGEN SULFIDE TRAINING

- A.** All regularly assigned personnel, contracted or employed by OGX Resources, will receive training from a qualified instructor in the following areas prior to commencing drilling potential hydrogen sulfide bearing formations in this well:
 - 1.** The hazards and characteristics of hydrogen sulfide (H₂S).
 - 2.** The proper use and maintenance of personal protective equipment and life support systems.
 - 3.** The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
 - 4.** The proper techniques for first aid and rescue procedures.
- B.** In addition, supervisory personnel will be trained in the following areas:
 - 1.** The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
 - 2.** Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
 - 3.** The contents and requirements of the H₂S Drilling Operations Plan.
- C.** There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

A. Well Control Equipment.

1. Flare line with continuous pilot.
2. Choke manifold with a minimum of one remote choke.
3. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
4. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head and flare.

B. Protective Equipment for Essential Personnel:

Mark II Surviveair 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

C. H₂S Detection and Monitoring Equipment:

1. Two portable H₂S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 ppm are reached.
2. One portable SO₂ monitor positioned near flare line.

D. Visual Warning Systems

1. Wind direction indicators are shown on well site diagram.
2. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate. See example attached.

E. Mud Program

1. The Mud Program has been designed to minimize the volume of H₂S circulated to the surface. Proper mud weights, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.
2. A mud-gas separator will be utilized as needed.

F. Metallurgy:

All drill strings, casing, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and line and valves shall be suitable for H₂S service.

G. Communication:

Cellular telephone communications in company vehicles, rig floor and mud logging trailer.

H. Well Testing:

Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing and an H₂S environment will be conducted during the daylight hours.

MULTI POINT SURFACE USE AND OPERATIONS PLAN FOR

OGX Resources LLC

Purdy 8 Federal #1

Surface Location: 1140' FNL & 1240' FEL

Section 8, T-23-S, R-26-E

Eddy County, New Mexico

Lease No.: 100541

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well; the proposed construction activities and operations plan to be followed in rehabilitating the surface and environmental effects associated with the operation.

1. EXISTING ROADS:

- A. Exhibit "A" is a location verification map showing the location of the proposed well as staked.
- B. Directions: From the junction of US Hwy 62-180 and Hildalgo, go southwest on Hildalgo for 4.8 miles to lease road, on lease road go south winding west 1.0 miles to Devon location. Just before Devon location follow two track road southerly 0.6 miles to proposed location road.

2. PLANNED ACCESS ROAD:

- A. Length and Width: Exhibit "C" is the proposed access road. It will be approximately 285.0' long and 20' wide and run West to the East from an existing lease road.
- B. Construction: The proposed access road will be constructed by grading and topping with compacted caliche. The surface will be properly drained.
- C. Turnouts: None required.
- D. Culverts: None necessary.
- E. Cuts and Fills: 1' cut to North with 1' fill to South.
- F. Gates and Cattle Guards: None
- G. Off lease right of way: None required.

2-1. PLANNED PIPELINE

A. There is no pipeline planned from this well at this time.

3. LOCATION OF EXISTING WELLS:

Existing wells in the immediate area are shown on the Vicinity Map, Exhibit "B".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. OGX Resources, LLC. has no production facility on this lease at this time.

B. If the well proves to be commercial, the necessary production facilities, gas separation-process equipment and tank battery, if required, will be installed on the drilling pad.

5. LOCATION AND TYPE OF WATER SUPPLY:

It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads.

6. SOURCE OF CONSTRUCTION MATERIAL:

Caliche for surfacing the proposed access road and well site pad will be obtained from the location, if available, or from an approved Federal pit. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access road.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. Drill cuttings will be disposed of in the reserve pits.

B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.

C. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.

D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.

- E. Oil Produced during tests will be stored in test tanks.
 - F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
 - G. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.
8. ANCILLARY FACILITIES:
- None required.
9. WELL SITE LAYOUT:
- A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged 600' x 600'.
 - B. Mat Size: 225' x 300', plus 150' x 150' reserve pit on the north.
 - C. Cut & Fill: 1' cut to North with 1' fill to South
 - D. The surface will be topped with compacted caliche and the reserve pits will be plastic lined.
10. PLANS FOR RESTORATION OF THE SURFACE:
- A. After completion of drilling and/or completion operations, all equipment and other material unnecessary for operations will be removed. The well site will be cleaned of trash leaving the site aesthetically pleasing to the extent possible.
 - B. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled as soon as they are dry enough to be worked.
11. OTHER INFORMATION:
- A. Surface Ownership – Federal Land
 - B. No significant archaeological resources were found in the area of the planned access road or of the proposed well site.

C. Oil & Gas Lease:
NM

Township 23 South, Range 26 East
NE 1/4 of Section 8

D. RECORD LESSEE:

OGX Resources, LLC	50%
EOG Resources, Inc.	50%

E. BOND COVERAGE:

\$25,000 Statewide Oil & Gas Surety Bond
BLM Bond #: NMB 000244

12. OPERATOR'S REPRESENTATIVE:

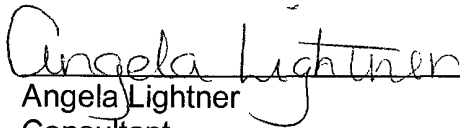
The field representative for assuring compliance with the approved use and operations plan is as follows:

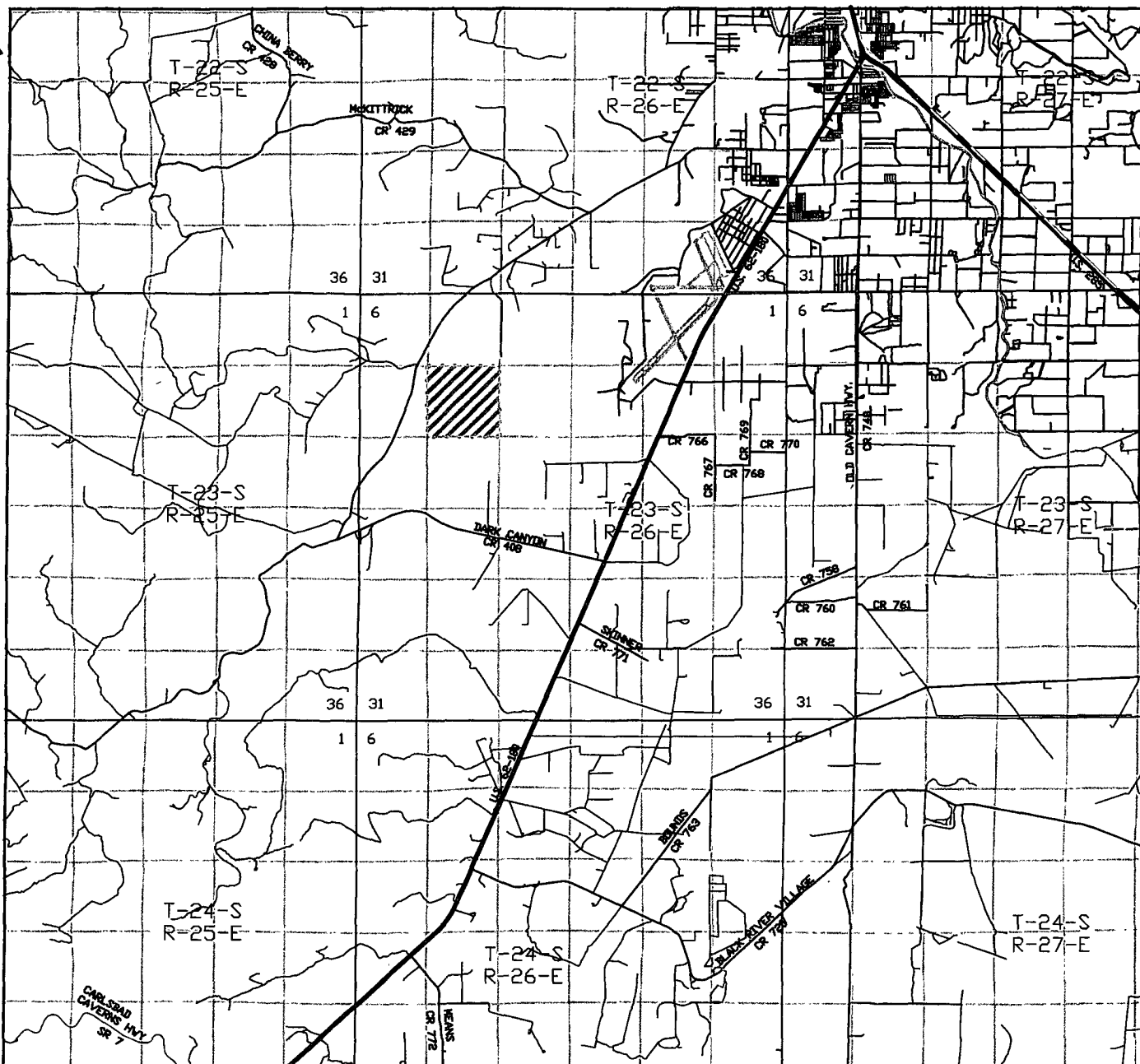
R. K. Ford & Associates
415 West Wall, Suite 1700
Midland, Texas 79701
432-682-0440 (Office)
432-682-0441 (Fax)
432-570-7216 (Home)
432-559-2222 (Cell)
Randell@rkford.com (E-mail)

13. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by OGX Resources, LLC and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

January 23, 2008


Angela Lightner
Consultant



PURDY "8" FEDERAL #1
 Located at 1140' FNL and 1240' FEL
 Section 8, Township 23 South, Range 26 East,
 N.M.P.M., Eddy County, New Mexico.

basin
surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number: JMS 18993TR

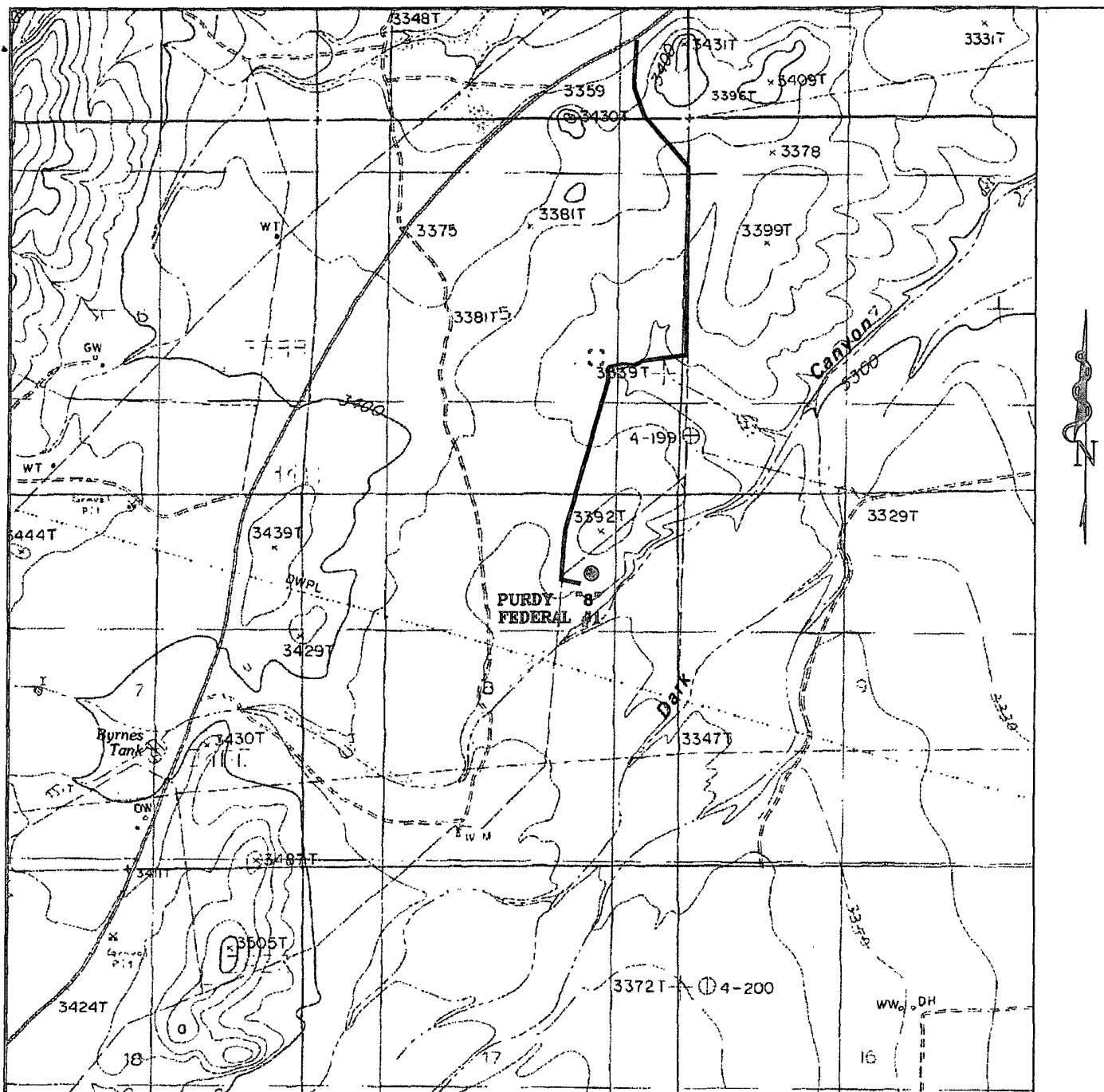
Survey Date: 01-18-2008

Scale: 1" = 2 MILES

Date: 01-21-2008

OGX
RESOURCES,
L.L.C.

Exhibit A



PURDY "8" FEDERAL #1
 Located at 1140' FNL and 1240' FEL
 Section 8, Township 23 South, Range 26 East,
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
 basinsurveys.com

W.O. Number: 18993T

Survey Date: 01-18-2008

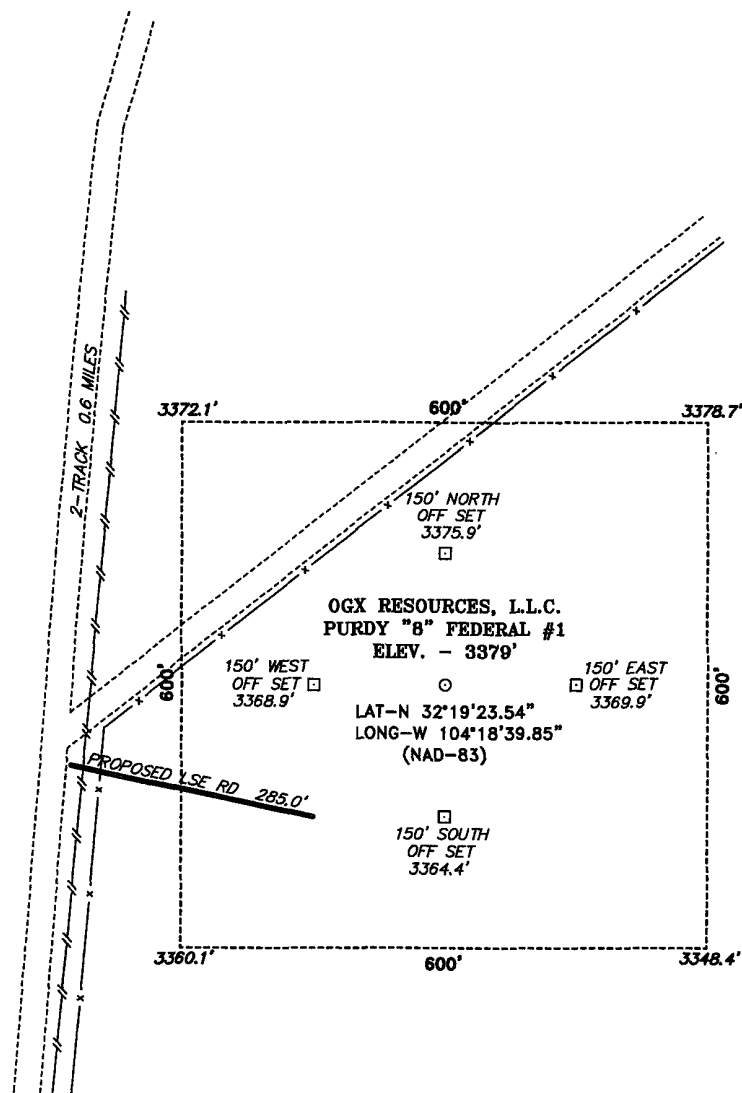
Scale: 1" = 2000'

Date: 01-21-2008

**OGX
 RESOURCES,
 L.L.C.**

Exhibit B

SECTION 8, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



SCALE: 1" = 200'

DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF US HWY 62-180 AND HILDALGO, GO SOUTHWEST ON HILDALGO FOR 4.8 MILES TO LEASE ROAD ON LEASE ROAD GO SOUTH WINDING WEST 1.0 MILES TO DEVON LOCATION, JUST BEFORE DEVON LOCATION FOLLOW TWO TRACK SOUTHERLY 0.6 MILES TO PROPOSED LOCATION.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 18993 Drawn By: J. M. SMALL

Date: 01-21-2008 Disk: JMS 18993W

OGX RESOURCES, L.L.C.

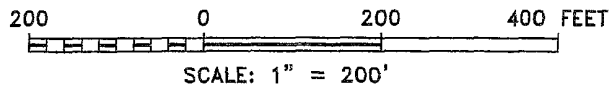
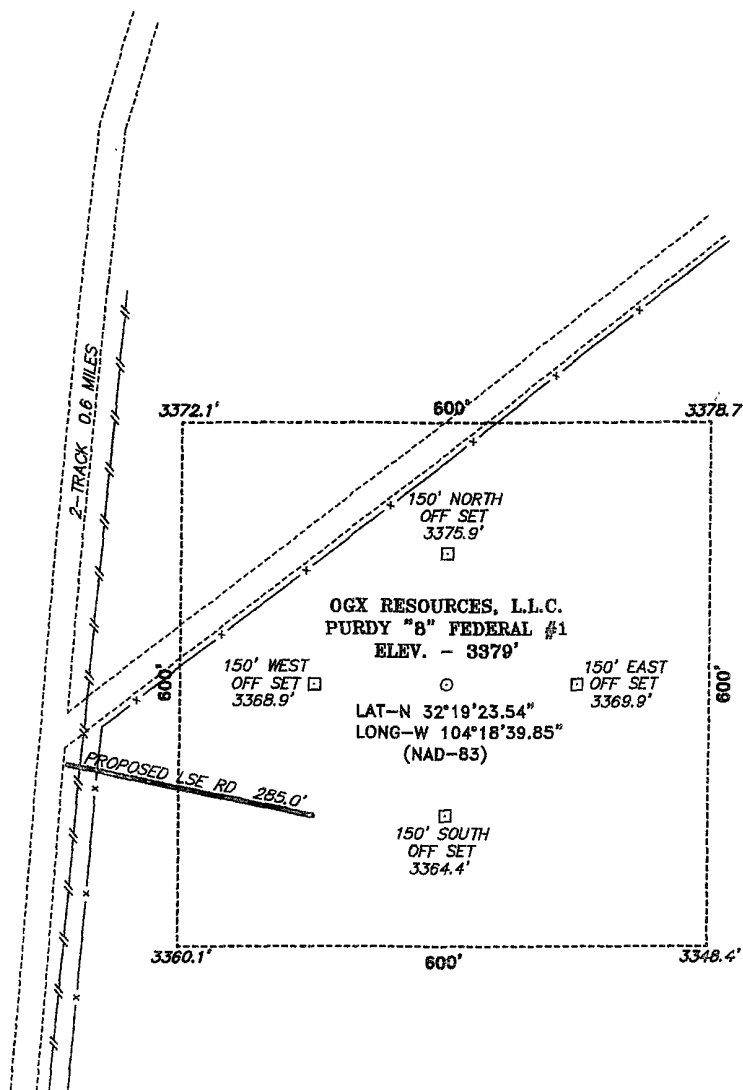
REF: PURDY "8" FEDERAL #1 / Well Pad Topo

THE PURDY "8" FEDERAL #1 LOCATED 1140' FROM THE NORTH LINE AND 1240' FROM THE EAST LINE OF SECTION 8, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-18-2008 Sheet 1 of 1 Sheets

Exhibit C

SECTION 8, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF US HWY 62-180 AND HILDALGO, GO SOUTHWEST ON HILDALGO FOR 4.8 MILES TO LEASE ROAD ON LEASE ROAD GO SOUTH WINDING WEST 1.0 MILES TO DEVON LOCATION, JUST BEFORE DEVON LOCATION FOLLOW TWO TRACK SOUTHERLY 0.6 MILES TO PROPOSED LOCATION.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 18993

Drawn By: J. M. SMALL

Date: 01-21-2008

Disk: JMS 18993W

REF: PURDY "8" FEDERAL #1 / Well Pad Topo

THE PURDY "8" FEDERAL #1 LOCATED 1140' FROM
THE NORTH LINE AND 1240' FROM THE EAST LINE OF
SECTION 8, TOWNSHIP 23 SOUTH, RANGE 26 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-18-2008

Sheet 1 of 1 Sheets

Exhibit D

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OGX Resources, LLC
LEASE NO.:	NMNM100541
WELL NAME & NO.:	Purdy 8 Federal No 1
SURFACE HOLE FOOTAGE:	1140' FNL & 1240' FEL
BOTTOM HOLE FOOTAGE:	1980' FSL & 720' FEL
LOCATION:	Section 8, T. 23 S., R 26 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Closed Loop System**
 - Cave/Karst
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System**
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**

 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Closed Loop System

V-door South No reserve pits are allowed due to high cave/karst area and this location is within the Carlsbad water well protection area. Due to the close proximity to the floodplain and being in the Carlsbad water well protection area, it is required that the entire location be bermed.

Cave and Karst

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Berming:

Tank batteries will be bermed to contain 1 ½ times the content of the largest tank.

Bermed areas will be lined with a permanent 20 mil plastic liner and then lined with a 4 oz. felt liner to prevent tears or punctures in liner.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 100 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Record Keeping:

The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

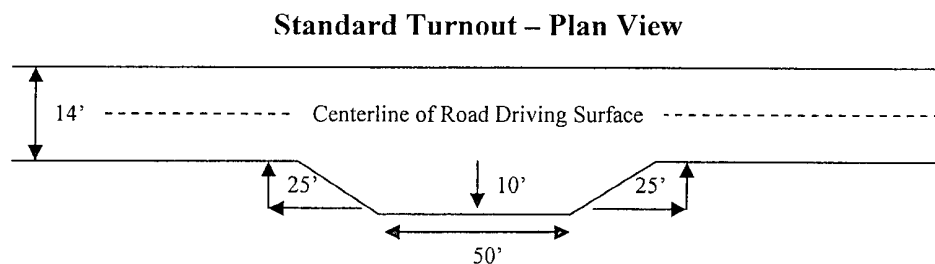
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on the uphill side of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

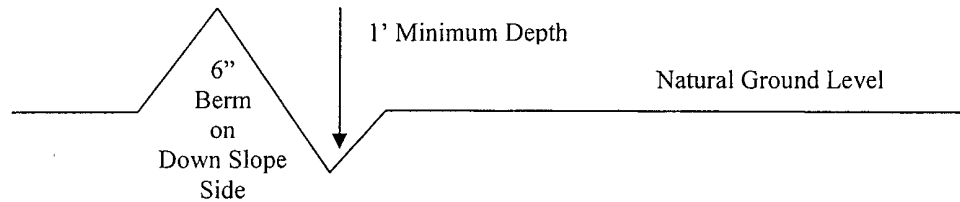


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill out sloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for

the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

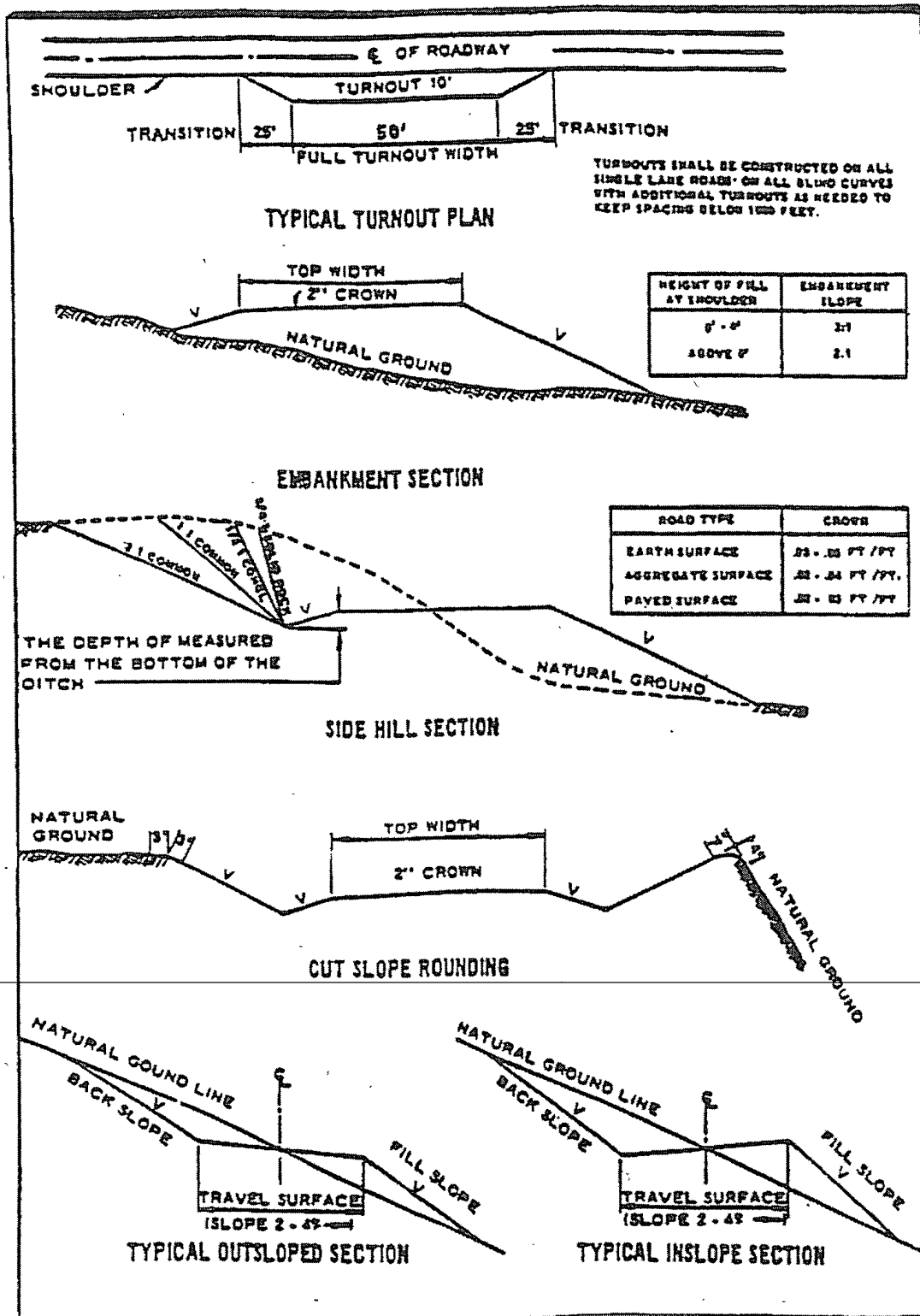
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The 13-3/8 inch surface casing shall be set **at approximately 500 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

High cave/karst.

Possible lost circulation in the Quaternary alluviums and the Castile formation.

Near city of Carlsbad water field.

The BLM geologist has noted that the Wolfcamp can be extremely unstable in this area with potential pressures approaching 10000 psi. Mud sufficient to control higher pressure must be onsite since the casing depth of the string prior to drilling into the Wolfcamp will not be adequate to control a pressure kick of this magnitude and could result in an underground blowout.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

3. The minimum required fill of cement behind the 7 inch second intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries. Remedial cementing, if required, will be difficult with the small annulus space between the 7" and the 9-5/8".**

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i.

4. The minimum required fill of cement behind the 4-1/2 inch production casing is:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Casing would have to be 13.5 ppf to meet BLM requirements.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7"** intermediate casing shoe shall be **10,000 (10M)** psi.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
 - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

WWI 031508

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

VRM Facility Requirement

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorised officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

	<u>Species</u> <u>lb/acre</u>
Plains Bristlegrass (<i>Setaria magrostachya</i>)	1.0
Green Spangletop (<i>Leptochloa dubia</i>)	2.0
Side oats Grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.