operator

ATS-12-705

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM-15003

6. If Indian, Allotee or Tribe Name

TES 11/30/2012

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No. <27657>
GOVERNMENT AB ~~FEDERAL~~ #11

2. Name of Operator OXY USA WTP Limited Partnership

9. API Well No. <192963> 30-015-40853

3a. Address P.O. BOX 4294
HOUSTON, TX 77210

3b. Phone No. *(include area code)*
713-513-6640

10. Field and Pool, or Exploratory
Old Millman Ranch - Bone Spring <48035>

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 2135' FNL & 1725' FWL
At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area
F, SEC 10, T20S, R28E

14. Distance in miles and direction from nearest town or post office*
12 Miles Northeast of Carlsbad, N.M.

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1725'	16. No. of acres in lease 1720	17. Spacing Unit dedicated to this well ~~40~~
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1074'	19. Proposed Depth 6700'	20. BLM/BIA Bond No. on file ES0136
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3290.5' GL	22. Approximate date work will start* 08/19/2012	23. Estimated duration 10 DAYS

operator responsibility

24. Attachments

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

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

25. Signature Jennifer Duarte	Name *(Printed/Typed)* Jennifer Duarte (jennifer_duarte@oxy.com)	Date 05/17/2012
Title Regulatory Analyst		
Approved by *(Signature)* James A. Amos	Name *(Printed/Typed)* James A. Amos	Date 11-23-12
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

RECEIVED
NOV 26 2012
NMOCD ARTESIA

Must be in compliance w/ NMOCD Rule 5.9 before placing well on production

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease- 4 Copies
Fee Lease- 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-40853	048035	Old Millman Ranch - Bone Spring

Property Code	Property Name	Well Number
27657	GOVERNMENT AB ~~FEDERAL~~	11

OGRID No.	Operator Name	Elevation
192463	OXY USA WTP Limited Partnership	3290.5'

Surface Location

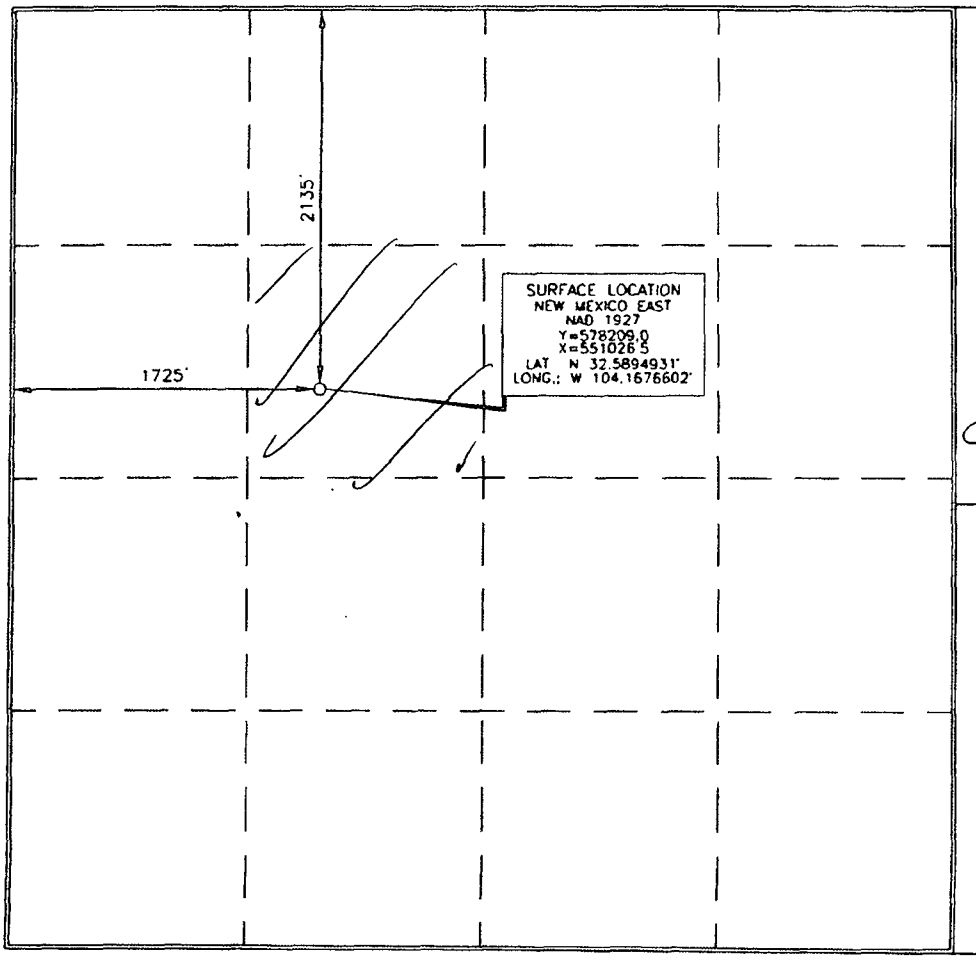
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	10	20 SOUTH	28 EAST, N.M.P.M.		2135'	NORTH	1725'	WEST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
~~40~~ 40			

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.



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 or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date 5/17/12

Jennifer Duarte
Printed Name

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.

SEPTEMBER 20, 2011
Date of Survey

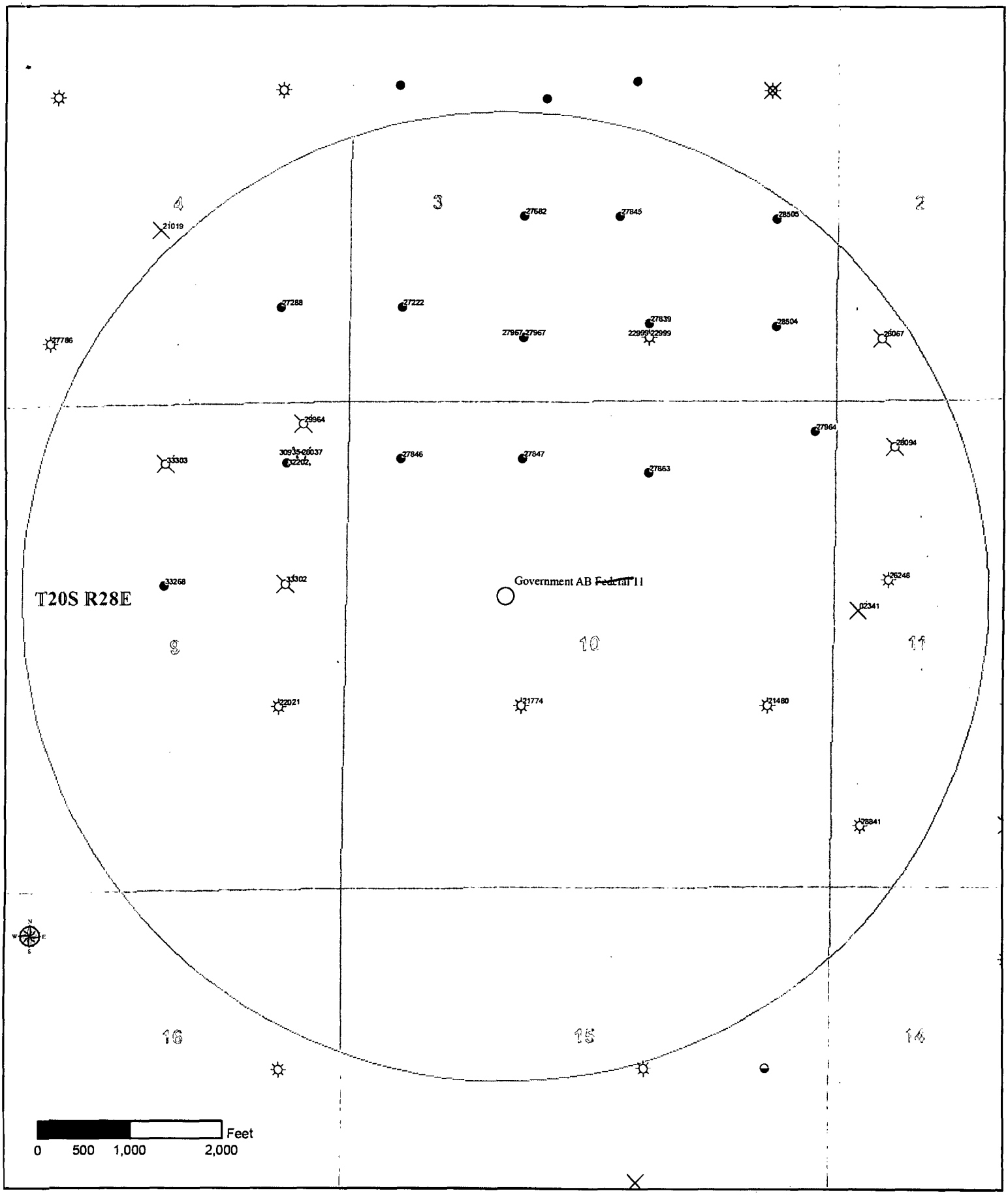
Signature and Seal of Professional Surveyor

NEW MEXICO — GARY L. JONES — 15079 — REGISTERED PROFESSIONAL LAND SURVEYOR

11/22/2011

Certificate Number 15079

WO# 110920WL-b (KA)



Permian Primary

New Mexico
Eddy & Lea Counties
Oxy 2012 Wells with
1 Mile Raduis

DL - 05/1/2012

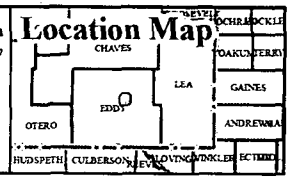
Legend

- OXY WELL
- 1 MILE RADIUS
- GAS
- OIL
- O&G
- GAS SHOWS
- OIL SHOWS
- O&G SHOWS
- LOC
- SUS
- AGW
- AOW
- AO&GW
- ABANDONED LOC
- ABANDONED-NO SHOWS
- INJ-NO SHOWS
- OTHER

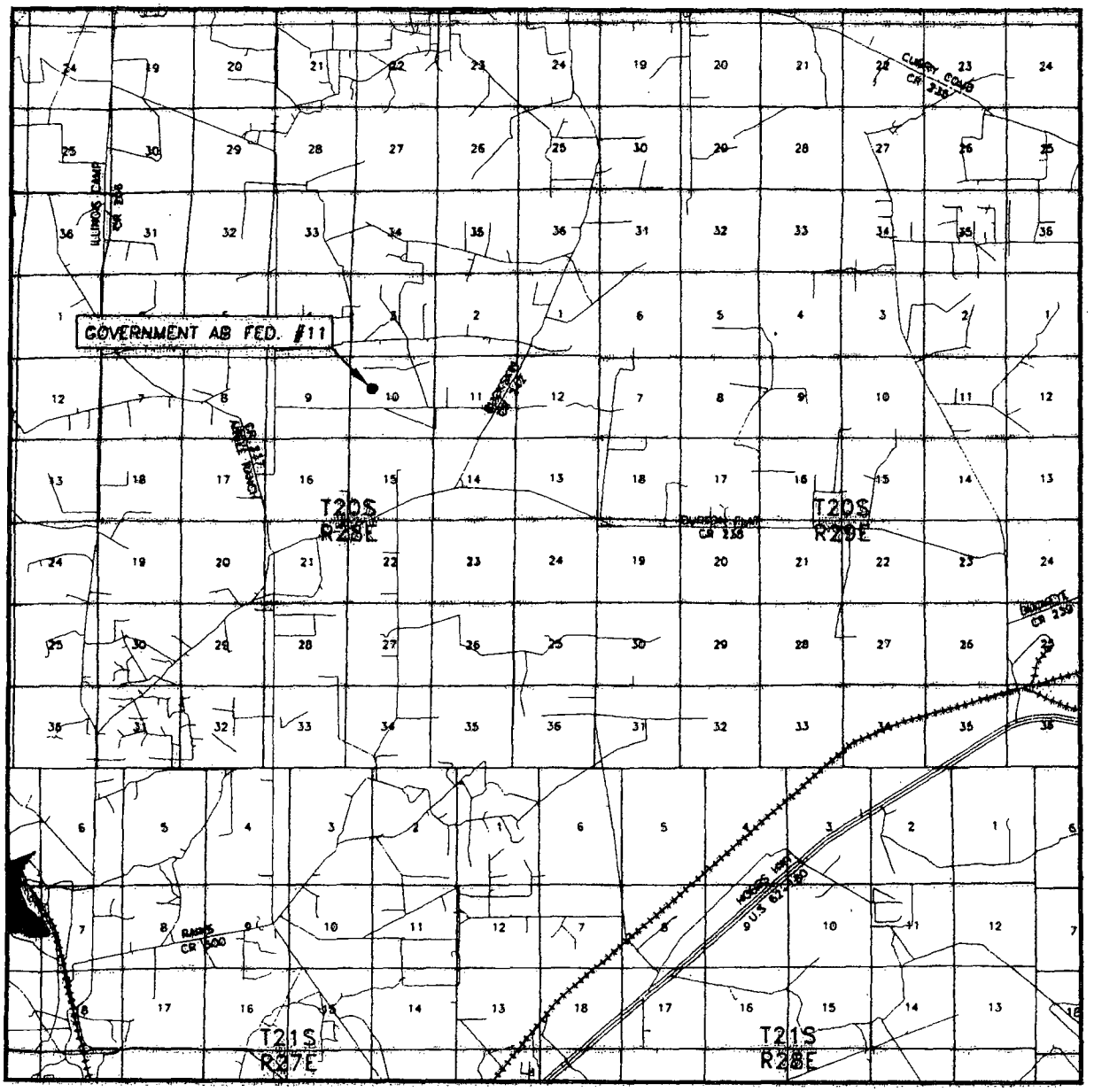
Coordinate System Information

Geographic Coordinate System North American 1927
Datum: North American 1927
NAD 1927 State Plane New Mexico East FIPS 3001
Projection: Transverse Mercator
False Easting: 500000.000000
False Northing: 0.000000
Central Meridian: -104.333333
Scale Factor: 0.999909
Latitude Of Origin: 31.000000
Linear Unit: Foot US

Location Map



VICINITY MAP



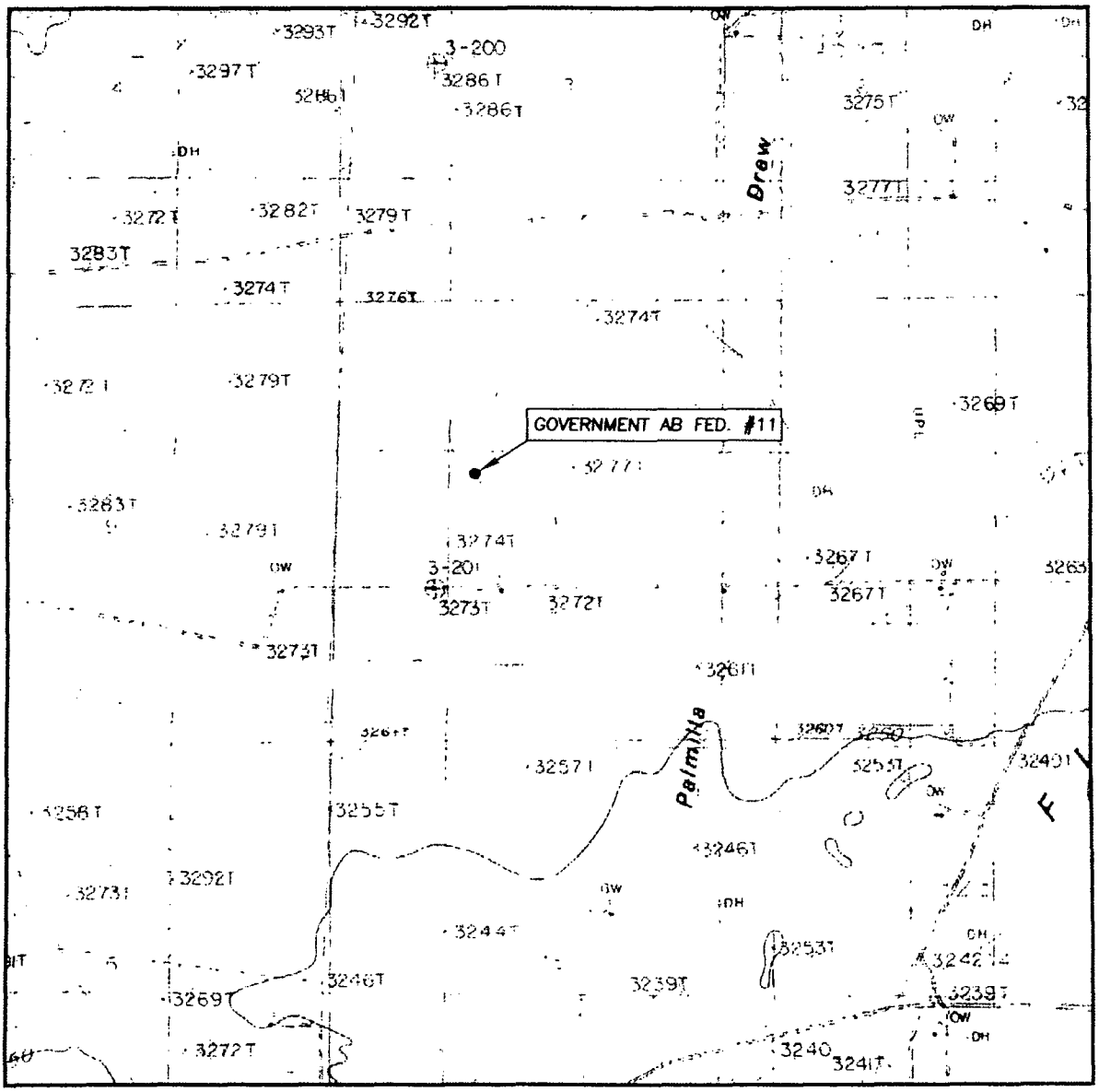
SCALE: 1" = 2 MILES

SEC. 10 TWP. 20-S RGE. 28-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 2135' FNL & 1725' FWL
ELEVATION 3290.5'
OPERATOR OXY USA INC.
LEASE GOVERNMENT AB ~~FED.~~ #11

Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

DIRECTIONS BEGINNING AT THE INTERSECTION OF U.S. HWY. #62 AND EDDY COUNTY ROAD #238 (BURTON FLAT ROAD), GO NORTH ON EDDY COUNTY ROAD #238 FOR 2.1 MILES, GO WEST FOR 6.7 MILES, TURN RIGHT ON EDDY COUNTY ROAD #242 (BUCKSKIN ROAD) AND GO NORTHEAST FOR 1.0 MILES, TURN LEFT ON LEASE ROAD AND GO WEST FOR 0.8 MILES, TURN RIGHT AND GO NORTH FOR 0.5 MILES, TURN LEFT AND GO WEST FOR 0.6 MILES, TURN LEFT ON PROPOSED ROAD AND GO SOUTH AND EAST FOR 2060.0 FEET TO LOCATION.

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 10 TWP. 20-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2135' FNL & 1725' FWL

ELEVATION 3290.5'

OPERATOR OXY USA INC.

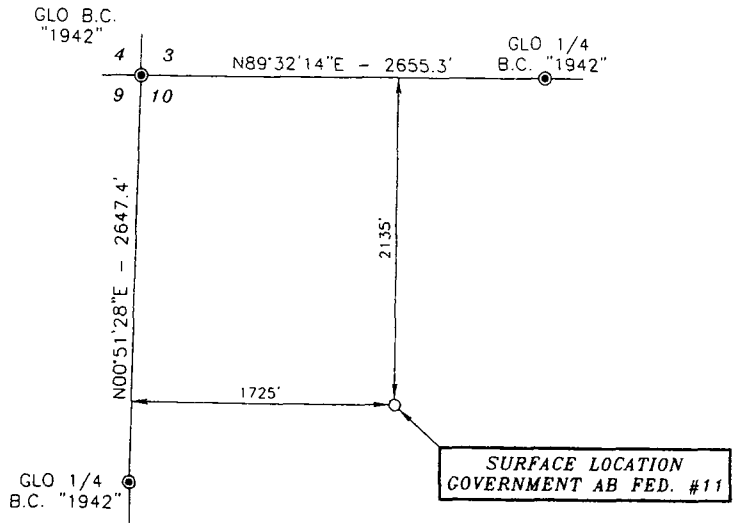
LEASE GOVERNMENT AB FED. #11

U.S.G.S. TOPOGRAPHIC MAP
ANGEL DRAW, N.M.

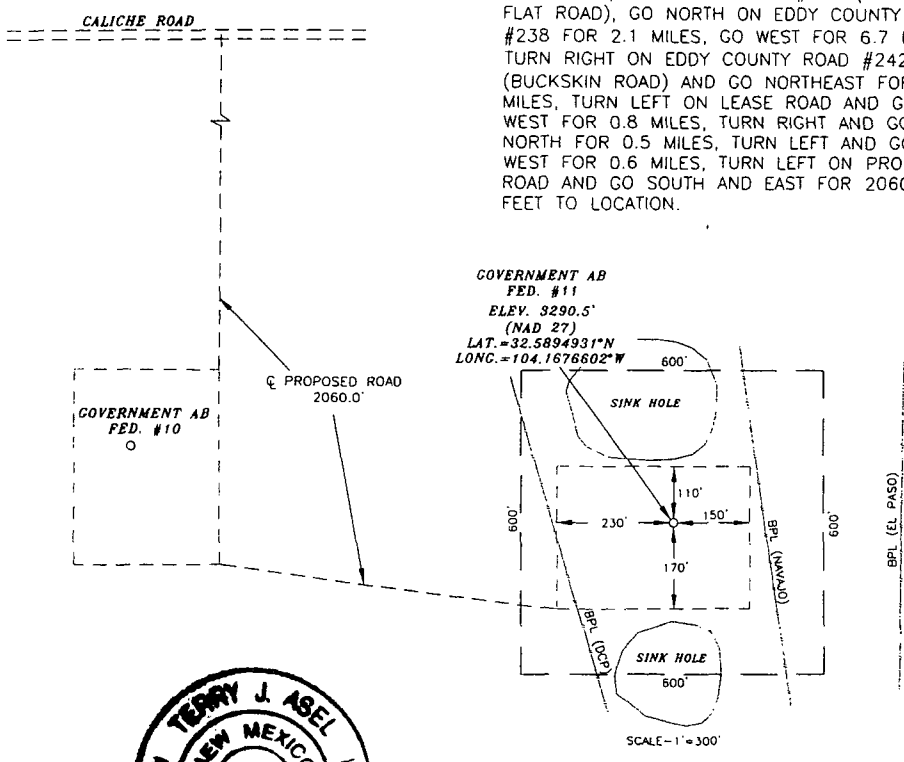
Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

SECTION 10, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY
NEW MEXICO



DRIVING DIRECTIONS:
BEGINNING AT THE INTERSECTION OF U.S. HWY. #62 AND EDDY COUNTY ROAD #238 (BURTON FLAT ROAD), GO NORTH ON EDDY COUNTY ROAD #238 FOR 2.1 MILES, GO WEST FOR 6.7 MILES, TURN RIGHT ON EDDY COUNTY ROAD #242 (BUCKSKIN ROAD) AND GO NORTHEAST FOR 1.0 MILES, TURN LEFT ON LEASE ROAD AND GO WEST FOR 0.8 MILES, TURN RIGHT AND GO NORTH FOR 0.5 MILES, TURN LEFT AND GO WEST FOR 0.6 MILES, TURN LEFT ON PROPOSED ROAD AND GO SOUTH AND EAST FOR 2060.0 FEET TO LOCATION.



TERRY J. ASEL
NEW MEXICO
15079
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 11/22/2011
Terry J. Asel N.M. R.P.S. No. 15079

LEGEND
◉ - DENOTES FOUND MONUMENT AS NOTED

1000' 0 1000' 2000' FEET
SCALE: 1"=1000'

Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA INC.

GOVERNMENT AB FEDERAL #11 LOCATED AT 2135' FNL & 1725' FWL IN SECTION 10, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/20/11	Sheet 1 of 1 Sheets	
W.O. Number: 110920WL-b	Drawn By: KA	Rev:
Date: 11/10/11	110920WL-b	Scale:1"=1000

APD DATA – DRILLING PLAN –

OPERATOR NAME / NUMBER: OXY USA Inc 16696

LEASE NAME / NUMBER: **Government AB Federal #11**

STATE: NM **COUNTY:** Eddy

SURFACE LOCATION: **2135' FNL & 1725' FWL, Sec 10, T20S, R28E**

SL: LAT: 32.5894931 N LONG: 104.1676602 W X: 551026.5' Y: 578209.0' NAD: 27

C-102 PLAT APPROX GR ELEV: 3290.5' **EST KB ELEV:** 3307' (16.5' KB)

1. **GEOLOGIC NAME OF SURFACE FORMATION:**
   a. Permian

2. **ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS (FROM KB):**

Formation	TV Depth Top	Expected Fluids
Salado	410'	---
T. Tansill	968'	---
T. Yates	1145'	---
T. Seven Rivers	1329'	---
T. Queen	1950'	---
T. Capitan Reef	2948'	---
T. Delaware	3090'	---
T. Cherry Canyon	3160'	Poss HC
T. Brushy Canyon	3435'	Poss HC
T. Bone Spring	4780'	Poss HC
T. 1st Bone Spring Sand	6296'	Poss HC
Target 1st Bone Spring Sand	6700'	Poss HC

A. Based on the State Engineer Website (http://nmwrrs.ose.state.nm.us), nearby water wells have been drilled to a depth of less than 200'. Based on offset wells casing programs, a surface casing at 320' should cover any possible fresh water zones above the Salado. See COA

B. Intermediate casing at 3150' will cover the Capitan Reef. This section will be drilled with saturated brine to 2900'. From 2900' to 3150' we will switch to fresh water and drill through the Capitan Reef (2948' to 3090'). Exposure of the Reef to salt water will be minimized this way, as the salt section is above the Reef. See COA

GREATEST PROJECTED TD: 6700' MD/ 6700' TVD **OBJECTIVE:** 1st Bone Spring Sand

3. **CASING PROGRAM: (All casing is in NEW condition)**

Surface Casing: 11.75" casing set at ± 320' MD/ 320' TVD in a 14 ¾" hole filled with 8.40 ppg mud

Interval See 350'	Length COA 350'	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'- 320'	320'	42	H-40	ST&C	1070	1980	307	11.084	10.928	9.93	1.87	26.21

Intermediate Casing: 8.625" casing set at ± 3150'MD / 3150'TVD in a 10 5/8" hole filled with 10 ppg mud

Interval See	Length COA	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'- 3150'	3150'	32	J-55	LT&C	2530	3930	417	7.921	7.875	2.38	1.74	4.75

Production Casing: 5.5" casing set at ± 6700'MD / 6700'TVD in a 7 7/8" hole filled with 8.40 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'- 6700'	6700'	17	L-80	LT&C	6290	7740	338	4.892	4.767	2.15	3.43	3.40

Collapse and burst loads calculated using Stress Check with actual anticipated loads.

4. CEMENT PROGRAM:

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Surface (TOC: 0' –320')							
Lead: 0' – ~~320'~~ 350' (150% Excess) see COA	280'	320'	Premium Plus Cement, with 2% Calcium Chloride.	6.39	14.8	1.35	1708 psi

Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Intermediate (TOC: 0' –3150')							
Lead: 0' –2455' (240%Excess)	490	2455'	Light Premium Plus Cement, with 3% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake, 0.35% Econolite	11.12	12.5	2.07	500 psi
Tail: ~~2455'~~ – ~~3150'~~ (240%Excess) see COA	370	695'	Premium Plus cement with 2% Calcium Chloride	6.39	14.8	1.35	1708 psi

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Production (TOC: 0' - 6700 ')							
Lead: 0' – 4781' (150 %Excess)	630	4781'	Light Premium Plus Cement with 3lb/sk salt, 5lb/sk Kol Seal, 0.35% Econolite, 0.125 lb/sk Poly-E-Flake, 0.4% CFR--3	10.46	12.6	2.00	511 psi
Tail: 4781' – **6700'** (65% Excess)	400	1919'	50/50 Poz Premium Plus, 3lb/sk KCL, 3 lb/sk Kol Seal, 0.25% Econolite, 0.5% LAP1, 0.6% CFR-3, 0.125lb/sk Poly-E-Flake, 0.25% D-Air 5000, 0.2% HR-601	6.38	14	1.4	1500 psi

Description of Cement Additives: Poly-E-Flake (Lost Circulation Additive), Kol-Seal (Lost Circulation Additive), Calcium Chloride - Flake (Accelerator), CFR-3 (Dispersant), Econolite (Light Weight Additive), KCL (Clay Control), LAP1 (Low Fluid Loss Control), D-Air 5000 (Defoamer), HR-601 (Retarder)

5. PRESSURE CONTROL EQUIPMENT:

Surface: **0 – ~~320'~~** None. see COA

Intermediate: **0 - ~~3150'~~** the minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required to drill below the surface casing shoe shall be 3000 (3M) psi. Operator will be using a 11" 5M two ram stack w/ 3M annular preventer, & 5M Choke Manifold.

a. The 11" 3000 psi blowout prevention equipment will be installed and operational after setting the 11 3/4" surface casing and the 11 ¾" SOW x 13 5/8" 3K conventional wellhead; the rotating head body will be installed but the rubber will be installed when it becomes operationally necessary.

b. The BOP and ancillary BOPE will be tested by a third party upon installation to the 11 3/4"H-40 42ppf surface casing. All equipment will be tested to 250/1386 (70% of casing burst) psi for 30 minutes with third party and charted. This is to be in compliance with the Onshore Order # 2 which states the BOPE shall be tested to 70 % of the yield of the casing when the BOP and casing are not isolated.

Production: 0 – 6700' will be drilled with a 11" 5M two ram stack w/ 3M annular preventer, & 5M Choke Manifold.

a. The BOP and ancillary BOPE will be tested by a third party upon installation to the 8 5/8" intermediate casing at 3150'. All equipment will be tested to 3000 psi (high) and 250 psi (low) except the annular, which will be tested to 70% of its rated working pressure or 2100 psi (high) and also to 250 psi (low). All test will performed with the implementation of a test type plug.

b. The pipe rams will be functionally tested during each 24 hour period; the blind rams will be functionally tested on each trip out of the hole. These functional tests will be documented on the Daily Driller's Log. Other accessory equipment (BOPE) will include a safety valve and subs as needed to fit all drill strings, and a 2" kill line and 3 " choke line having a 5000 psi WP rating. Oxy requests that the system be tested at 3,000 psi.

c. Oxy requests a variance if H&P 344 is used to drill this well to use a co-flex line between the BOP and choke manifold. See attached schematic.
Manufacturer: ContiTech Beattie Co.
Serial Number: 60220
Length: 25' Size: 3" Ends: flanges
WP rating: 5000 psi Anchors required by manufacturer: No

d. See attached BOP & Choke manifold diagrams.

6. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0 – 320'	8.4 – 8.8	32 – 38	NC	Fresh Water /Spud Mud
320' – 2900'	9.8 – 10.0	28 – 29	NC	Brine Water
2900' – 3150'	8.4– 8.8	26- 28	NC	Fresh Water
3150' – 6700'	8.4– 8.8	26- 28	NC	Fresh Mud

see COA

Remarks: Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

A. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

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

b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.

c. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. **If Hydrogen Sulfide is encountered , measured amounts and formations will be reported to the BLM**

8. POTENTIAL HAZARDS:

A. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.

B. The bottomhole pressure is anticipated to be **2927 psi.**

C. No abnormal temperatures or pressures are anticipated. **The highest anticipated pressure gradient is 0.44 psi. Max anticipated pressure at surface is 2257 psi.** All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

9. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 35 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

10. MUD AND WIRELINE LOGGING:

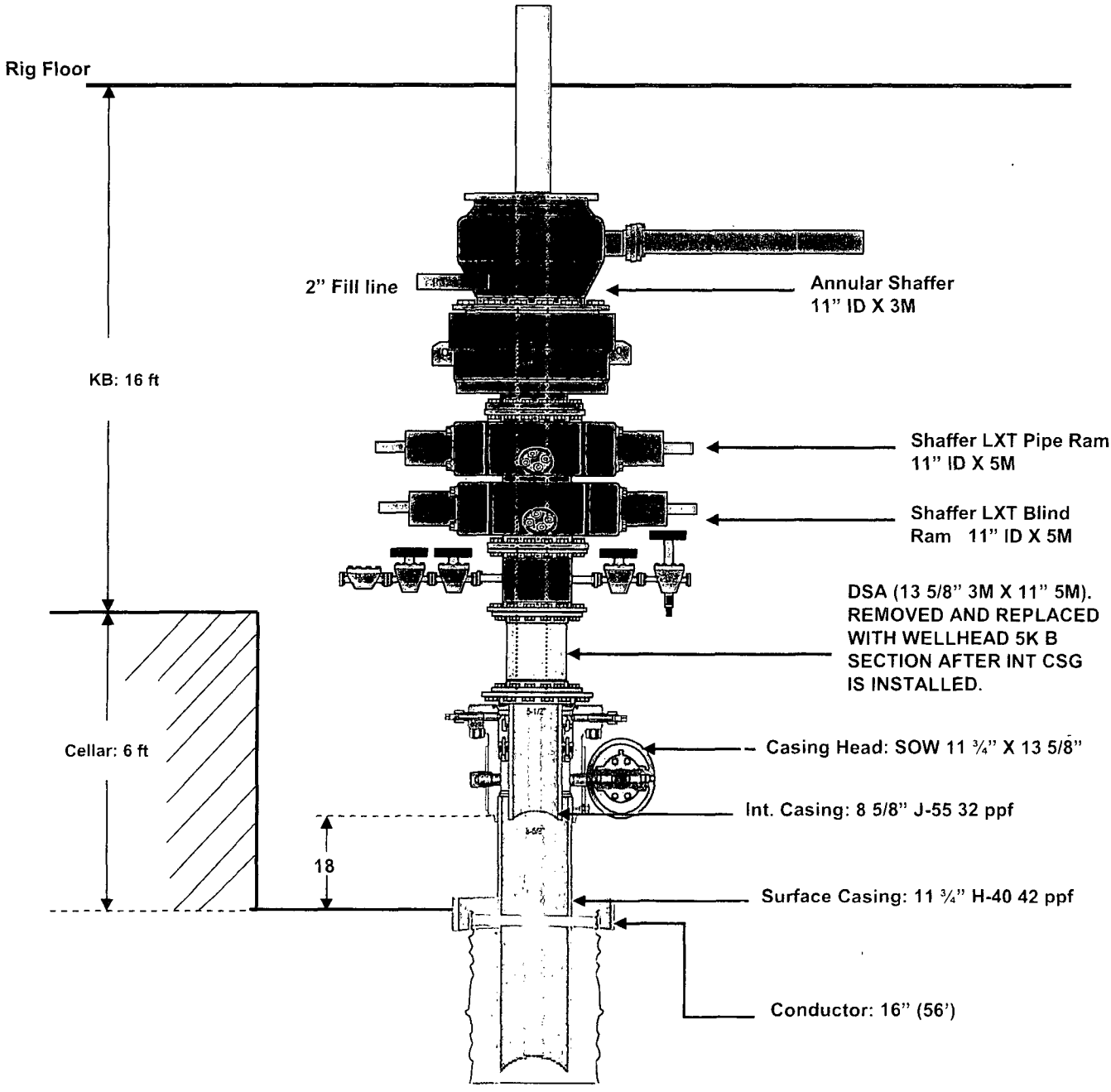
Mud logging from Intermediate casing to TD.

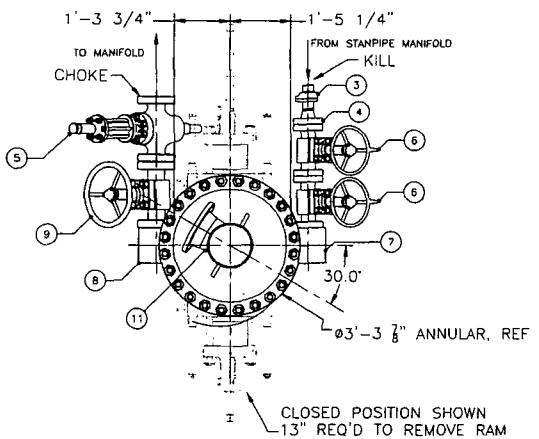
Run Gamma/Neutron/Density/Resistivity from TD to Intermediate casing, with Gamma/Neutron to surface.

COMPANY PERSONNEL:

Name	Title	Office Phone	Mobile Phone
Carlos Mercado	Drilling Engineer	(713)366-5418	(713)455-3481
Sebastian Millan	Drilling Engineer Supervisor	(713)350-4950	(832)528-3268
Roger Allen	Drilling Superintendent	(713)215-7617	(281)682-3919
Douglas Chester	Drilling Manager	(713)366-5194	(713)918-9124

BOP Diagram


Rig Floor
KB: 16 ft
Cellar: 6 ft
18
2" Fill line
Annular Shaffer
11" ID X 3M
Shaffer LXT Pipe Ram
11" ID X 5M
Shaffer LXT Blind
Ram 11" ID X 5M
DSA (13 5/8" 3M X 11" 5M).
REMOVED AND REPLACED
WITH WELLHEAD 5K B
SECTION AFTER INT CSG
IS INSTALLED.
Casing Head: SOW 11 ¾" X 13 5/8"
Int. Casing: 8 5/8" J-55 32 ppf
Surface Casing: 11 ¾" H-40 42 ppf
Conductor: 16" (56')



PROPER TORQUE FOR BOLTS

COMPONENT	FLANGE SIZE & RATING	BOLT SIZE	TORQUE (FT/LBS) CF=0.07	TORQUE (FT/LBS) CF=0.13
SPOOLS, ANNULAR & RAMS	11"x5M	1 7/8" DIA.	1890	3330
BLOCKS	3 1/8x5M	1 1/8" DIA	401	686
CHOKE VALVES	3 1/8x5M	1 1/8" DIA.	401	686
KILL VALVES	2 1/16x5M	7/8" DIA.	188	319

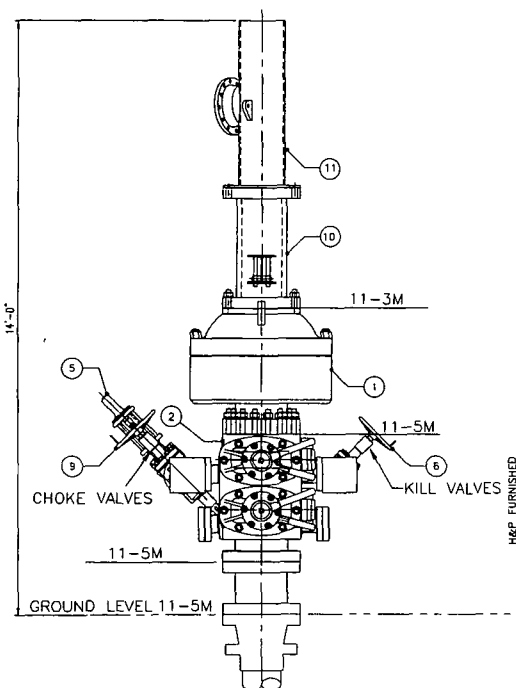
BILL OF MATERIAL

ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WEIGHT
		11-5M BOP ASSEMBLY		
1	1	ANNULAR, 11x3M BOLTED TYPE		6005
2	1	BOP DOUBLE RAM		7600
	4	RAM ELEMENTS		444
3	1	HAMMER UNION, 2-1502# XXH (BW)		5
4	1	FLANGE, WN 2 1/16-5M API		42
5	1	VALVE, GATE FLS-HCR 3 1/8-5M		396
6	2	VALVE, GATE 2 1/16-5M		350
7	1	90° STUDDED BLOCK, 3 1/8-5M X 2 1/16-5M		240
8	1	90° STUDDED BLOCK, 3 1/8-5M X 3 1/8-5M		250
9	2	VALVE, GATE 3 1/8-5M		720
10	1	BELL NIPPLE BOP LIFTING SECTION	MK. F4M-H-318.01A	780
11	1	BELL NIPPLE EXTENSION	MK. F4M-H-318.01A	396
12	1	11"-5M x 11"-5M x 1'-3" LONG SPACER		800
		SPOOL- WORKING PRESSURE 5000 PSI		

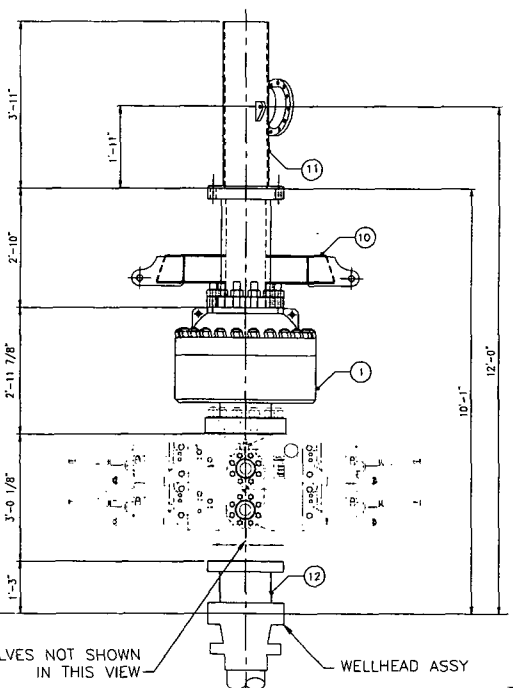
HARDWARE

ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WEIGHT
		RINGS AND BOLTS		400

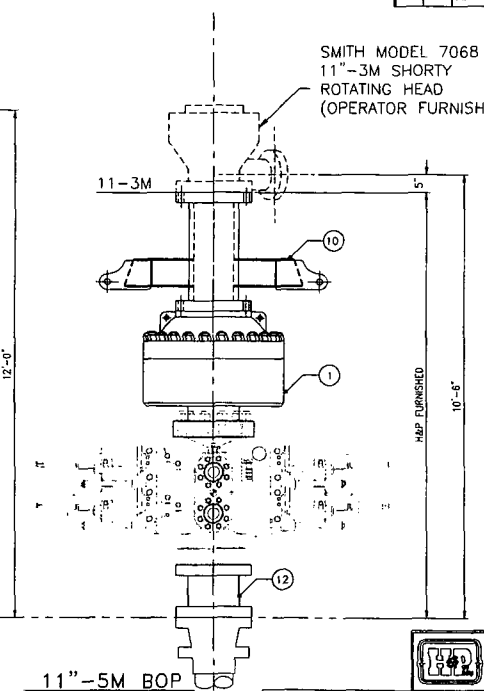
APPROX. TOTAL WEIGHT = 18,228 LBS.



11"-5M BOP
W/ BELL NIPPLE



11"-5M BOP
W/ BELL NIPPLE



11"-5M BOP
W/ ROTATING HEAD

ISSUED FOR FABRICATION
August-03-2008
DRAFTSMAN
ENGINEER

NOTES:
1. ALL BOP RAMS SHOWN ARE SHAFFER MODEL LXT 11-5M PSI WP - FLANGED BOTTOM AND STUDDED TOP

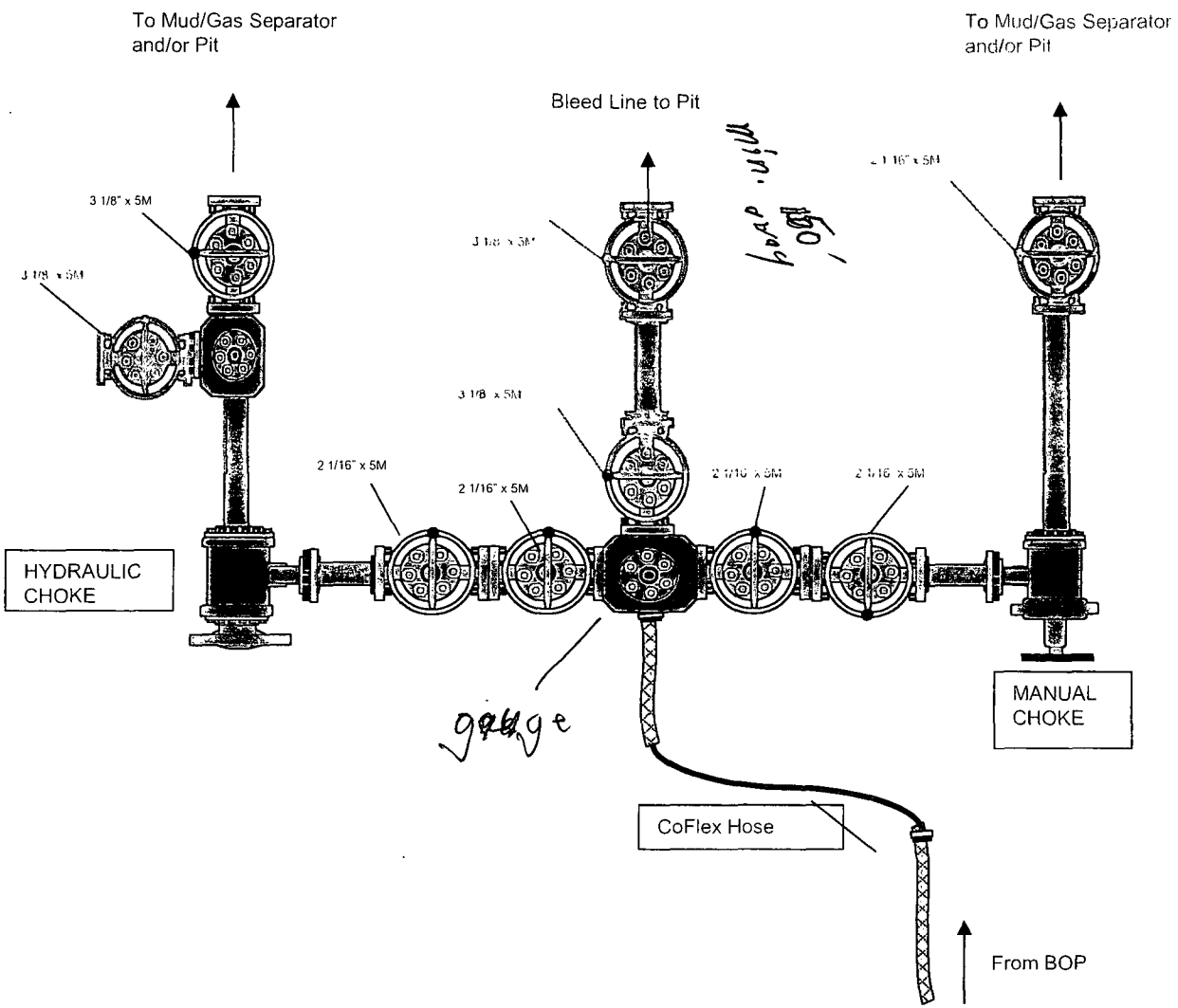
REV	DATE	DESCRIPTION	BY
			ENGINEERING APPROVAL / DATE
B	08/08/08	ADDED 1 OF 4 SHTS WAS 1 OF 3	DRJ
A	07/29/08	SHEET 1 OF 3 WAS 1 OF 5	DRJ

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: 11-5M BOP EQUIPMENT GENERAL ARRANGEMENT

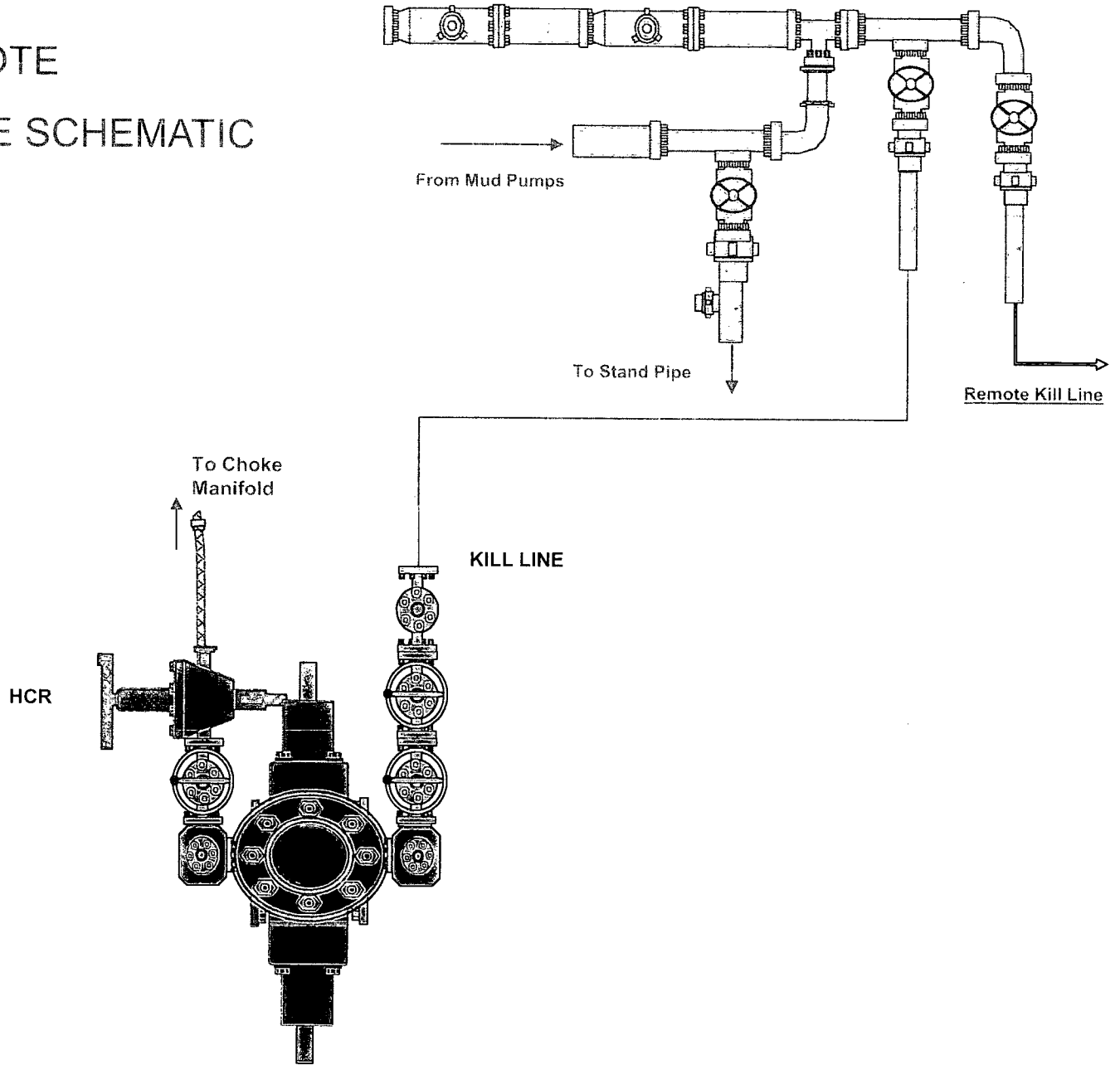
CUSTOMER: OXY-PERMIAN
PROJECT: F4M
DRAWN: DJOHNSON DATE: 07/14/08
SCALE: NTS SHEET: 1 OF 4
DWG. NO.: F4M-H-320
REV: B

5M CHOKE MANIFOLD CONFIGURATION



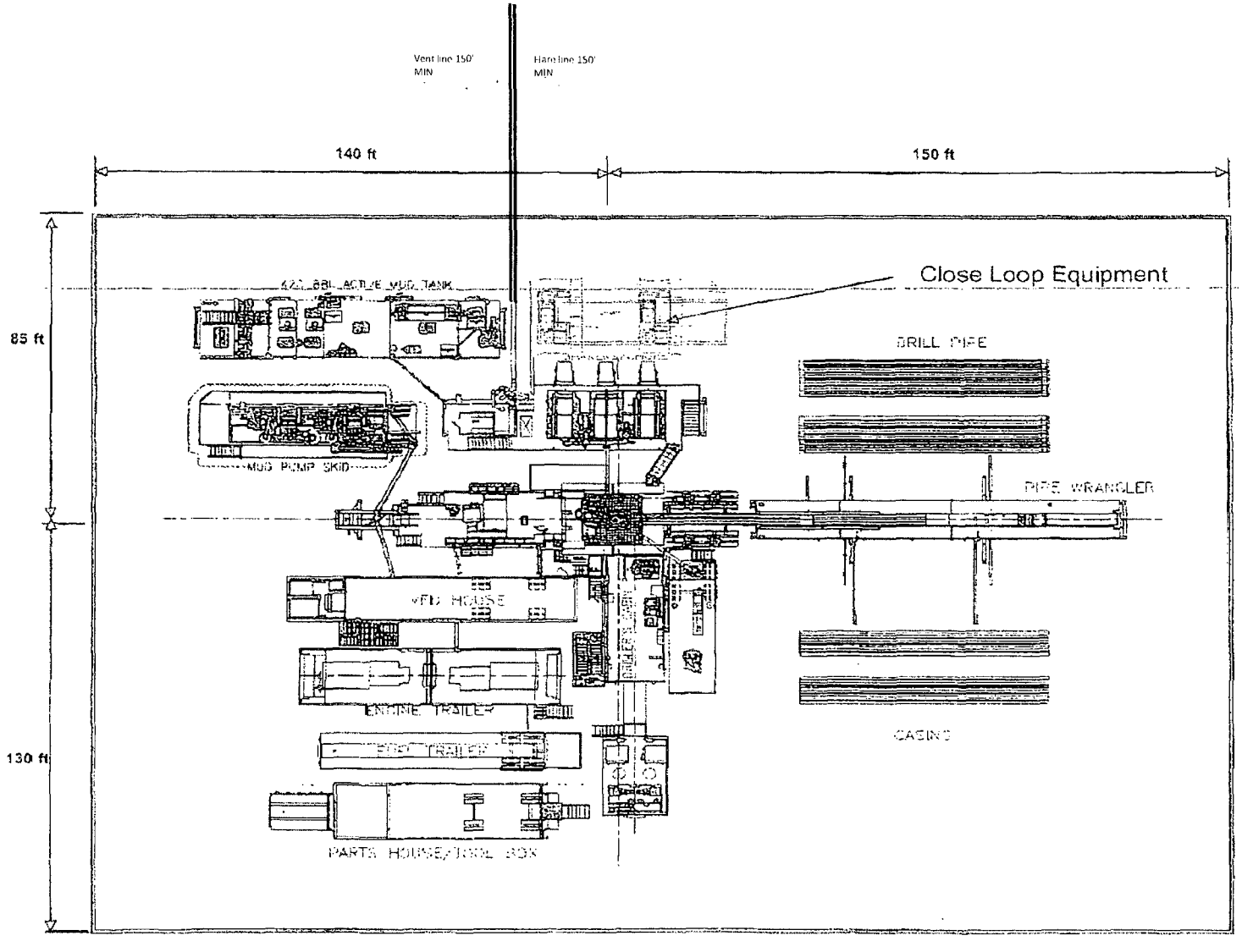
5M REMOTE

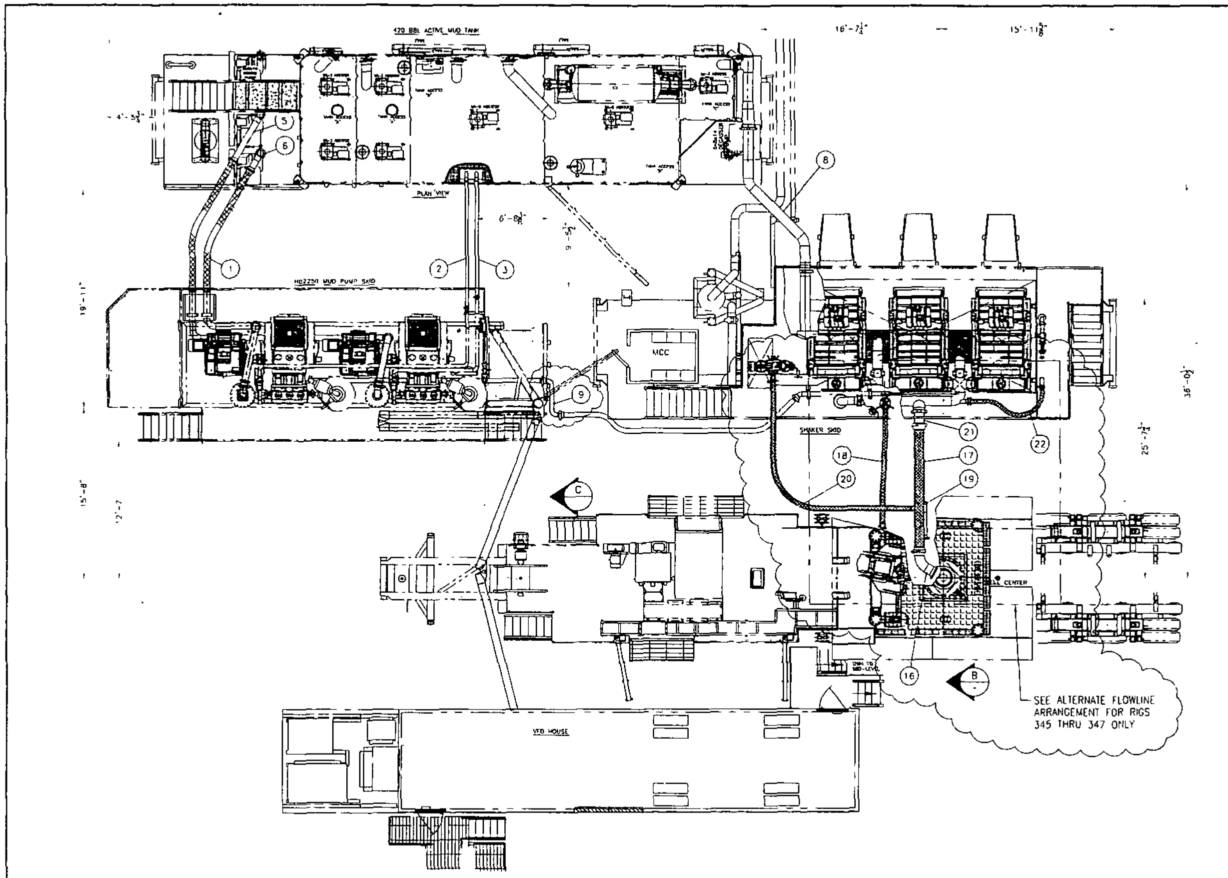
KILL LINE SCHEMATIC



OXY FLEX IV PAD (Closed Loop System)

Revised 05/14/2009





PARTIAL PLAN VIEW

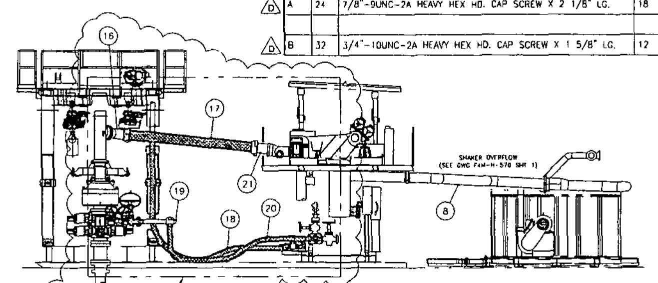
BILL OF MATERIAL

REV	ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WT.
D	1	2	LOW PRESSURE SPOOL #1	MK.F4M-H-570.01F	239
D	2	1	POP-OFF/BLEED SPOOL #1	MK.F4M-H-570.01A	157
D	3	1	POP-OFF/BLEED SPOOL #2	MK.F4M-H-570.01B	140
D	4		DELETED		
D	5	1	LOW PRESSURE SUCTION SPOOL #1	MK.F4M-H-570.01D	199
D	6	1	LOW PRESSURE SUCTION SPOOL #2	MK.F4M-H-570.01H	101
D	7	1	HOSE-HIGH PRESSURE	MK.F4M-H-570.01G	276
D	8	1	OVERFLOW RETURN SPOOL	MK.F4M-H-563.06A	678
D	9	1	MUD PUMP/SHAKER SKID SPOOL	MK.F4M-H-570.01E	181
	10	22FT	TS 1 1/2x1 1/2x3/16 (A500)		150
D	11	1	POP-OFF PIPE HANGER SUPPORT	MK.F4M-H-570.01C	30
	12	1	L3x3x1/4 (1'-6" LG) (A36)		7
	13	1	L3x3x1/4 (1'-6" LG) (A36)		7
	14	1	PLATE, 1/4" THK. 4x2'-3 1/4" (A36)		8
	15	1	L3x3x1/4 (4'-11 3/4" LG) (A36)		25
D	16	1	SHAKER FLOWLINE	MK.F4M-H-562.02A	230
D	17	1	SHAKER FLOWLINE	MK.F4M-H-562.02B	281
D	18	1	HOSE	MK.F4M-H-563.03E	
D	19	1	SPOOL #1	MK.F4M-H-564.02A	182
D	20	1	HIGH PRESSURE HOSE, 3" I.D. x 29'-0" LG.	PHOENIX BEATTY	
			WITH 3 1/8" - 5M FLANGED ENDS		
D	21	1	SHAKER FLOWLINE	MK.F4M-H-562.02C	73
D	22	1	SHAKER SPOOL	MK.F4M-H-562.03B	177

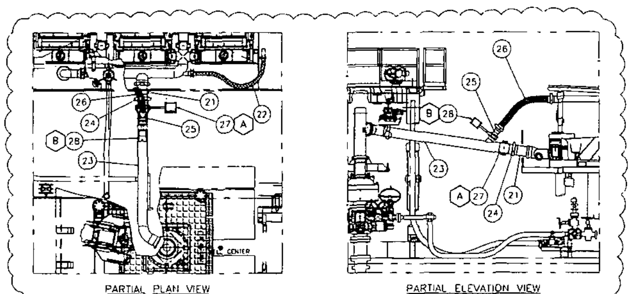
RIGS 345 – 347 ONLY
BILL OF MATERIAL

THESE ITEMS REPLACE ITEMS 16 & 17

REV	ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WT.
D	23	1	SHAKER FLOWLINE	MK.F4M-H-569-04A	656
D	24	1	SHAKER FLOWLINE	MK.F4M-H-569-04B	118
D	25	1	SHAKER FLOWLINE	MK.F4M-H-569-04C	67
D	26	1	SHAKER FLOWLINE HOSE	MK.F4M-H-569-04D	77
D	27	1	FABRI - 10" AIR ACTUATED KNIFE GATE VALVE		66
D	28	1	FABRI - 6" AIR ACTUATED KNIFE GATE VALVE		52
D			HARDWARE		
D	A	24	7/8"-9UNC-2A HEAVY HEX HD. CAP SCREW X 2 1/8" LG.		18
D	B	32	3/4"-10UNC-2A HEAVY HEX HD. CAP SCREW X 1 5/8" LG.		12



SECTION B-B



PARTIAL PLAN VIEW

PARTIAL ELEVATION VIEW

ALTERNATE FLOWLINE ARRANGEMENT
(FOR RIGS 345 THRU 347 ONLY)

ISSUED FOR FABRICATION
October-23-2008
DRAFTSMAN ________
ENGINEER ________

PROPRIETARY

REV	DATE	DESCRIPTION	BY
D	10/23/08	REV'D ITEM 9 WT. PER DCR 344-02; ADD ALT FLOWLINE; ADD ITEMS 18 THRU 28 & HARDWARE A & B; CORRECT WT.'S FOR ITEMS 1 THRU 7, 8 & 11	CC/MWL
C	09/04/08	MOVE MUD TANK CLOSER TO SHAKER UPDATED PIPING	DRJ
B	08/05/08	ADDED SHT 2 & BOM	DRJ
A	07/17/08	ADDED XX-HVY PIPING TO POP-OFF	DRJ

ENGINEERING APPROVAL	DATE

HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

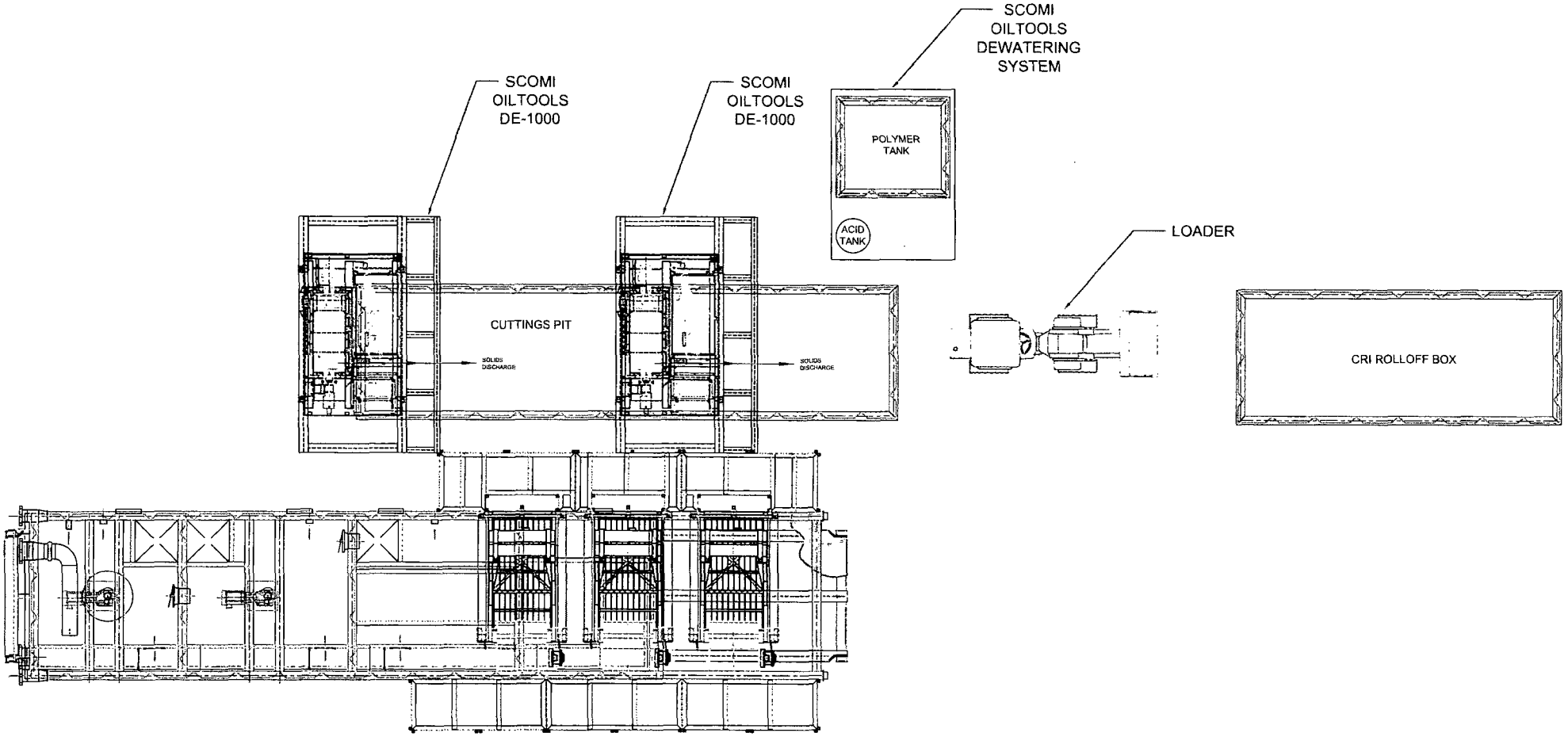
TITLE: MUD SYSTEM INTERCONNECT PIPING ASSEMBLY

CUSTOMER: OXY PERMIAN

PROJECT F4M

DRAWN: DJOHNSON	DATE: 07/08/08	DWG. NO.: F4M-H-568	REV: D
SCALE: 3/16"=1'-0"	SHEET: 1 OF 2		

BILL OF MATERIAL				
ITEM	QTY.	DESCRIPTION	LENGTH	WEIGHT



NO.	REVISIONS	BY	CHK'D	APP'D	DATE

1. ALL STRUCTURAL MATERIAL SHALL BE ASTM – A36.
2. ALL PIPE SCH. 40 MATERIAL SA 106 Gr. B
3. ALL FLANGES SHALL BE SORF. 150# & MATERIAL SA 105.
4. ALL FITTINGS SCH. 40 MATERIAL SHALL BE SA 234 Gr. WPB.
5. TANK FABRICATION SHALL BE IN ACCORDANCE WITH API-650.

TITLE :

CLOSED LOOP SYSTEM
BASIC LAYOUT
OXY - H&P - FLEX 4 M

DRAWN BY	DATE	CHECKED BY	DATE
PDL	3/30/09		
APPROVED	DATE	SCALE	ACAD DWG:
		NTS	D

Scomi
631 N. Sam Houston Parkway East, Suite 300,
Houston, Texas 77060
PHONE: (281)-590-6016, FAX: (281)-590-6060

JOB NO.	DRAWING NO.	REV.
	521S-027	

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	128	
PURCHASER:	ContiTech Beattie Co.			P.O. N°:	004721	
CONTITECH ORDER N°:	490278	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	60220	NOMINAL / ACTUAL LENGTH:		7,62 m / 7,64 m		
W.P. 34,48 MPa	5000 psi	T.P. 68,9 MPa	10000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	160 159	AISI 4130	Y0515A
4 1/16" Flange end		AISI 4130	31694

ASSET NO. : 66-0606

API Spec 16 C

Temperature rate:"B"

All metal parts are flawless

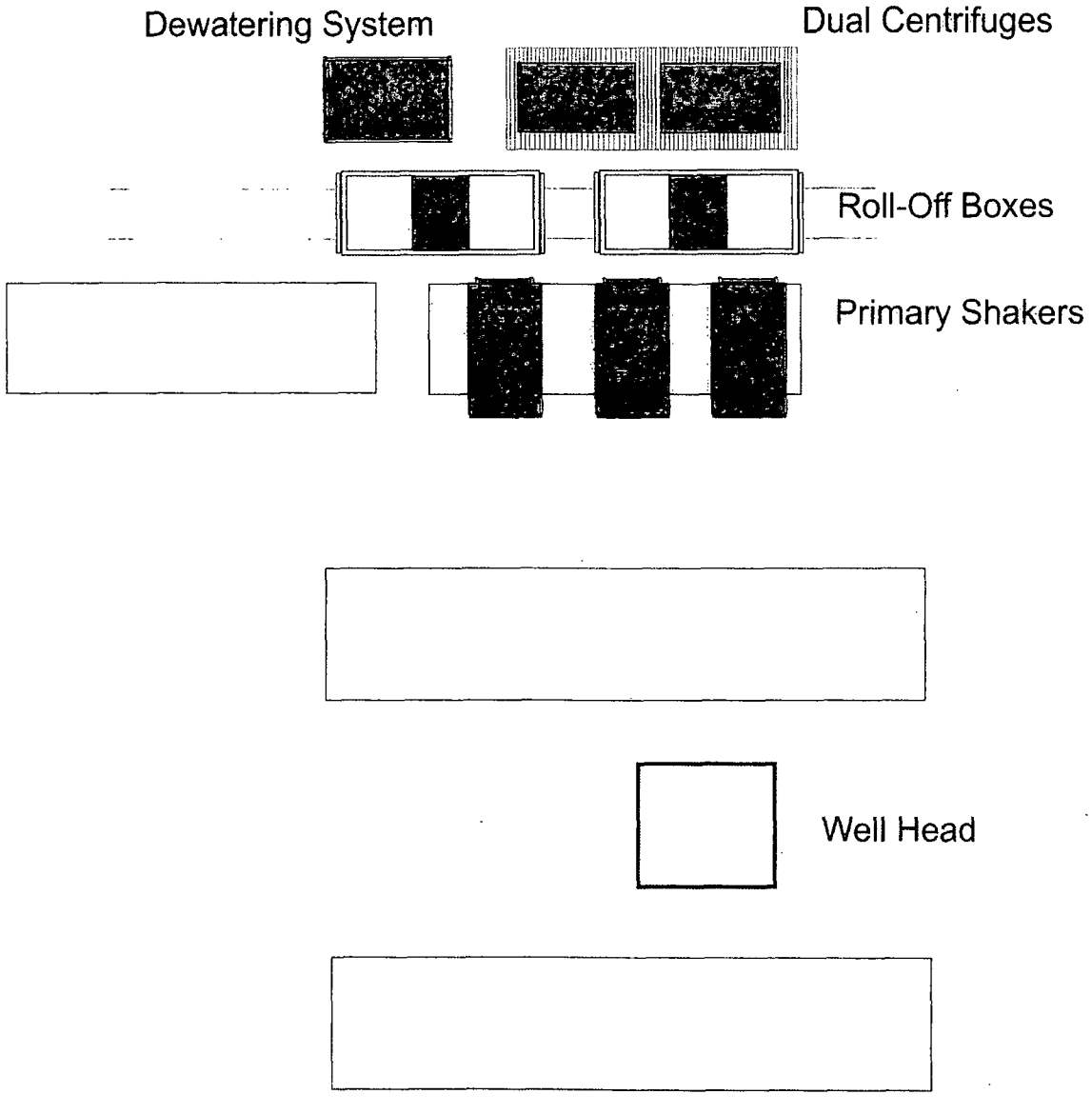
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
07. February 2011.		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

Oxy



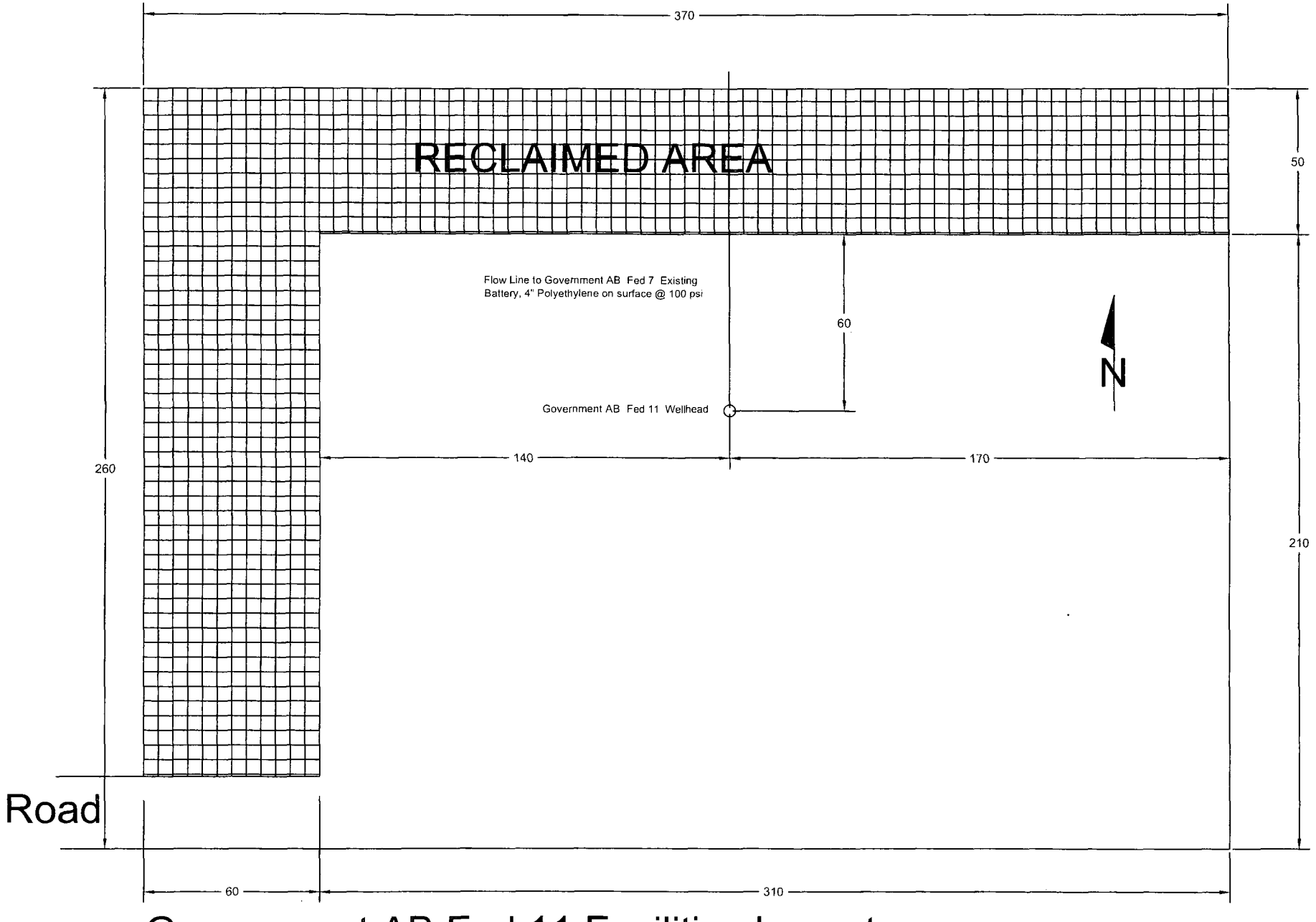
MI SWACO

5950 NORTH COURSE DRIVE, HOUSTON, TX 77072

DESCRIPTION

E. N. Mx. Rig Layout with Closed Loop

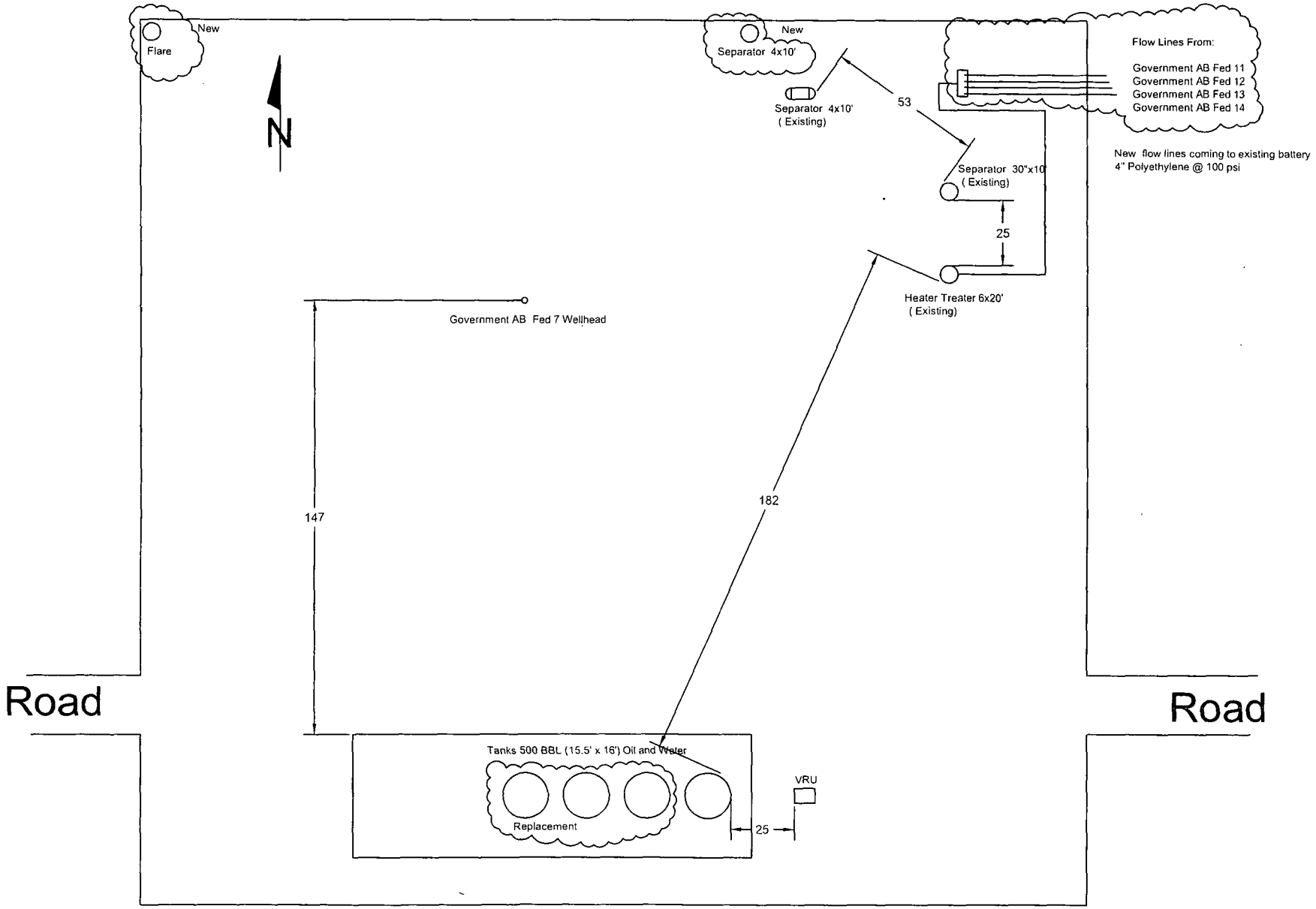
B	09-07-11	WT - 80851	0
		G FOUT	SET: 1 OF 1



Government AB Fed 11 Facilities Layout

All Units in Feet

50



Government AB Fed 7 Existing Facilities

All Units in Feet Unless Noted

50

SURFACE USE PLAN OF OPERATIONS

Operator Name/Number:	**OXY USA WTP Limited Partnership - 192463**
Lease Name/Number:	**GOVERNMENT AB FEDERAL #11**
Pool Name/Number:	**BONE SPRINGS**
Surface Location:	**F,SEC 10, T20S, R 28E; 2135' FNL & 1725' FWL; EDDY COUNTY**
Bottom Hole Location:	

1. Existing Roads

a. A copy of a USGS "_ANGEL DRAW_, NM" quadrangle map is attached showing the proposed location. The well location is spotted on this map, which shows the existing road system.

b. The well was staked by _TERRY J ASEL_Certificate No. _15079__ on _09-20-2011_, certified 11-22-2011_.

c. Directions to Location:
From Carlsbad , New Mexico go northeast on Hwy 62 for 8.6 miles, then north on Magnum Road for 5.8 miles, then west on paved county road for 1.7 miles, then north on caliche road for 1.1 miles, then west on caliche road for 0.8 miles, then northwest on caliche road for 0.6 miles, then west on caliche road for 0.6 miles, then south on caliche road for 0.2 miles, then east on caliche road for 0.1 miles to location.

2. New or Reconstructed Access Roads:

a. A new access road will be built. The access road will run approximately ____2060'_____ from an existing road to the location.

b. The maximum width of the road will be 15'. It will be crowned and made up of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.

c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.

d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

e. Blade, water & repair existing caliche road as required/needed.

3. Location of Existing Wells:

Existing wells within a one mile radius of the proposed well are shown on attached plat.

4. Location of Existing and/or Proposed Production Facilities.

a. In the event the well is found productive, the Government Central tank battery would be utilized and the necessary production equipment will be installed at the well site. See proposed Production Facilities Layout diagram.

b. If necessary, electric power poles will be set along side of the access road.

c. All flowlines will adhere to API Standards.

5. Location and types of Water Supply.

This well will be drilled using a combination of water mud systems. It will be obtained from commercial water stations in the area and will be hauled to location by transport truck using existing and proposed roads.

6. Construction Materials:

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

7. Methods of Handling Waste Material:

a. A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins. Disposal of liquids, drilling fluids and cuttings will be disposed of at an approved facility, see C-144 CLEZ.
   1. Solids - CONTROL RECOVERY INC - R9166
   2. Liquids - SUNDANCE LANDFILL - NM-01-003

b. All trash, junk, and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.

c. The supplier, including broken sacks, will pick up slats remaining after completion of well.

d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

e. Disposal of fluids to be transported will be by the following companies:
   1. Solids - CONTROL RECOVERY INC - R9166
   2. Liquids - SUNDANCE LANDFILL - NM-01-003

8. Ancillary Facilities: None needed

9. Well Site Layout

See attached for the proposed well site layout with dimensions of the pad layout and equipment location.

V-Door EAST CL Tanks 40' X 75' Pad 370' X 260'

10. Plans for Surface Reclamation:

a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.

b. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

11. Surface Ownership

The surface is owned by the U.S. Government and is administered by the BLM. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas. The surface is leased to: _____ MAS O' MENOS LIVESTOCK, INC.
They will be notified of our intention to drill prior to any activity.

12. Other Information

a. The vegetation cover is generally sparse consisting of mesquite, yucca, shinnery oak, sandsage and perennial. native range grass. The topsoil is sandy in nature. Wildlife in the area is also sparse consisting of deer, coyotes, rabbits, rodents, reptiles, dove and quail.

b. There is no permanent or live water in the general proximity of the location.

c. There are no dwellings within 2 miles of the proposed well site.

d. A Cultural Resources Examination will be completed by Boone Archaeological Services, LLC and forwarded to the BLM office in Carlsbad, NM.

13. Bond Coverage:

Bond Coverage is Nationwide Bond No. ____ ES0136

Operators Representatives:

The OXY Permian representatives responsible for ensuring compliance of the surface use plan are listed below.

Kim Moore
Production Coordinator
1017 W. Stanolind Rd.
Hobbs, NM 88240
Office Phone: 575-397-8236
Cellular: 575-706-1219

Charles Wagner
Manager Field Operations
1502 West Commerce Dr.
Carlsbad, NM 88220
Office Phone: 575-628-4151
Cellular: 575-725-8306

Allan Wells
Drilling Superintendent
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-350-4810
Cellular: 713-569-8697

Calvin (Dusty) Weaver
Operation Specialist
P.O. Box 50250
Midland, TX 79710
Office Phone: 432-685-5723
Cellular: 806-893-3067

Juan Pinzon
Drilling Engineering Supervisor
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-366-5058
Cellular: 713-503-3962

Carlos Mercado
Drilling Engineer
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-366-5418
Cellular: 281-455-3481

OPERATOR CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 17th day of May, 2012.

Name: David Schellstede

Position: Reservoir Management Team Leader

Address: 5 Greenway Plaza, Suite 110, Houston, TX 77046

Telephone: 713-366-5013

E-mail: (optional): david_schellstede@oxy.com

Company: OXY USA WTP Limited Partnership

Field Representative (if not above signatory): Dusty Weaver

Address (If different from above): P.O. Box 50250 Midland, TX 79710

Telephone (if different from above): 432-685-5723

E-mail (if different from above): calvin_weaver@oxy.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA WTP, LP
LEASE NO.:	NM15003
WELL NAME & NO.:	11-GOVERNMENT AB FEDERAL
SURFACE HOLE FOOTAGE:	2135'/N. & 1725'/W.
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 10, T. 20 S., R. 28 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.

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)

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

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

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

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 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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 (575) 234-6235 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

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

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

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 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 twenty (20) 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.

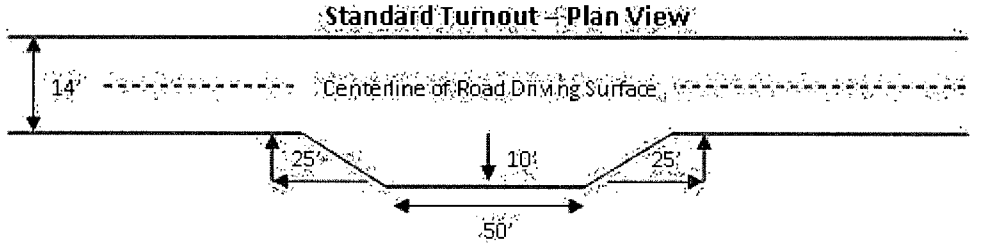
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

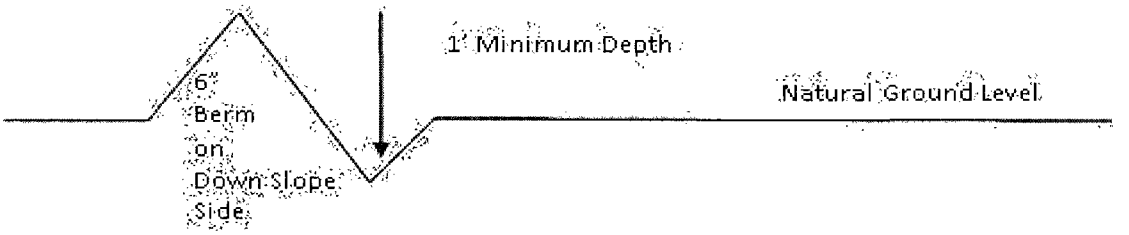
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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

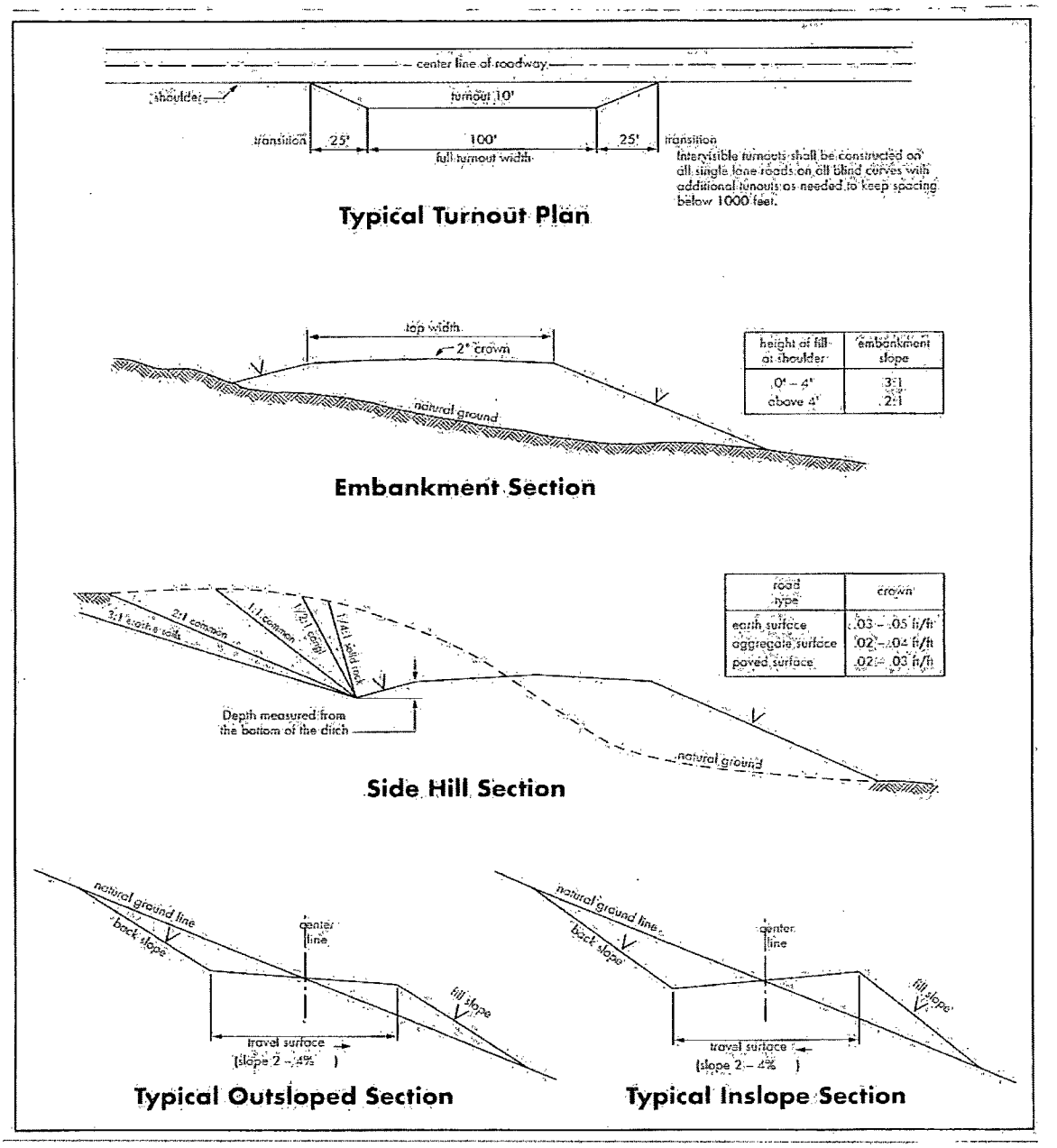
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. **Hydrogen Sulfide has been reported, but no measurements have been recorded. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, please report measurements 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

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 is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out 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 for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

High cave/karst.
Possible lost circulation in the Grayburg, San Andres, Capitan Reef (if encountered), Delaware and Bone Spring formations.

1. The **11-3/4** inch surface casing shall be set at approximately **350** feet (which is the base of the cave depth and above the salt) and cemented to the surface.

    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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    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.

Special Capitan Reef requirements:

If any lost circulation occurs below the Base of the Salt, the operator shall do the following:

- **Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.**

- **Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.**

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing, which shall be set at the base of the Capitan Reef or top of Delaware between **3025-3050 feet**, is:

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

4. 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. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review**. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8"** intermediate casing shoe shall be **3000 (3M)** psi.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. 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.**

f. 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. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

WWI 112112

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

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the

release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

C. ELECTRIC LINES (not applied for in APD)

IX. 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.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation 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 that is free of contaminants 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.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 4, for Gypsum 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 authorized 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:

Species	lb/acre
Alkali Sacaton (Sporobolus airoides)	1.0
DWS Four-wing saltbush (Atriplex canescens)	5.0

DWS: DeWinged Seed

*Pounds of pure live seed:

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