13-257

Form 3160-3
(March 2012)

OCD Artesia

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

JES 8/20/2013

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

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.
GOVERNMENT AB FEDERAL #16 <39572>

2. Name of Operator OXY USA WTP Limited Partnership <192463>

9. API Well No.
30-015-41613

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 2060' FSL & 1980' FEL
At proposed prod. zone 2060' FSL & 1980' FEL

11. Sec., T. R. M. or Blk.and Survey or Area
J, 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) 1980'	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. 1268'	19. Proposed Depth 6700' MD / 6700' TVD	20. BLM/BIA Bond No. on file ESB000226
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3283.4' GL	22. Approximate date work will start* 10/29/2013	23. Estimated duration 16 DAYS

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
	JENNIFER DUARTE (jennifer_duarte@oxy.com)	04/11/2013
Title: REGULATORY ANALYST		

Approved by *(Signature)* /s/George MacDonell	Name *(Printed/Typed)* /s/George MacDonell	Date AUG 14 2013
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)

Capitan Controlled Water Basin

(Continued on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

RECEIVED
AUG 16 2013
NMOCD ARTESIA

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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 August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-41613	0480 35	Old Millman Ranch; Bone Spring

Property Code	Property Name	Well Number
27054 39592	GOVERNMENT AB FEDERAL	16

OGRID No.	Operator Name	Elevation
192463	OXY USA WTP LP	3283.4'

Surface Location

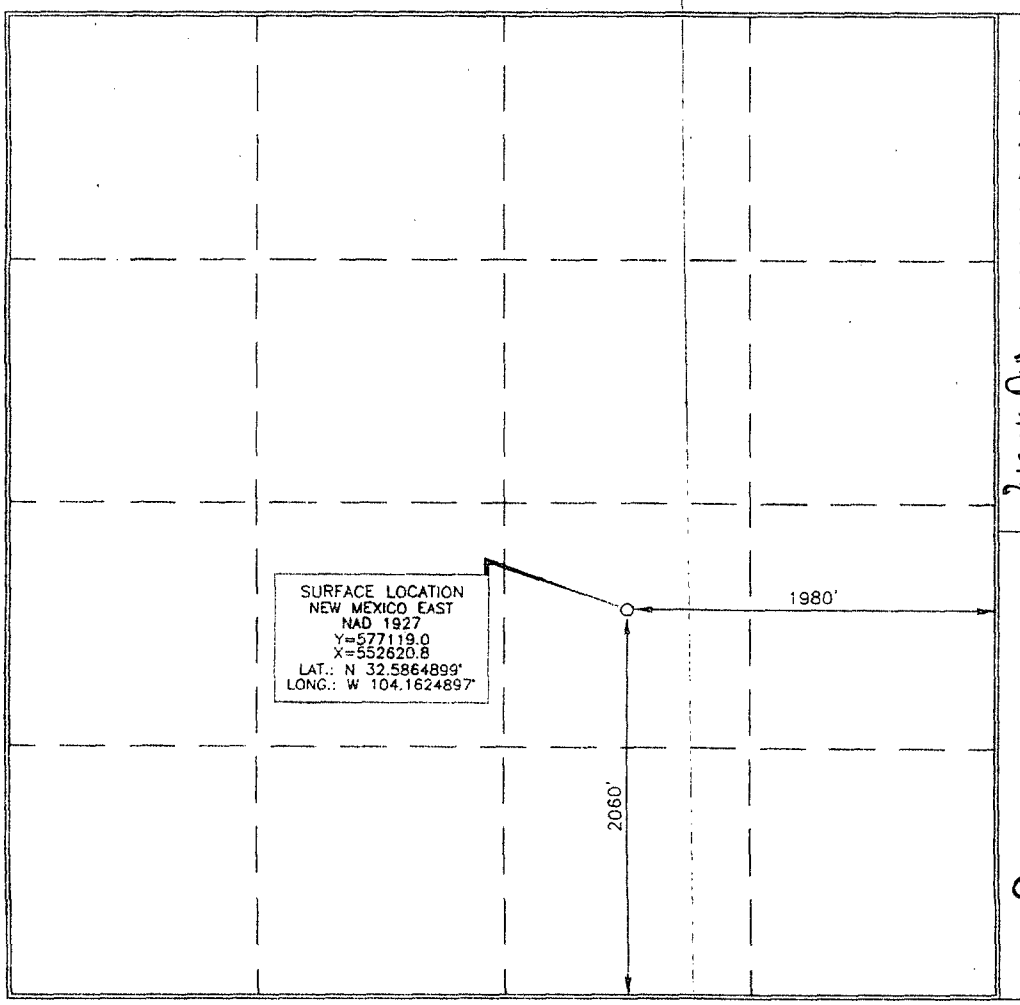
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	10	20 SOUTH	28 EAST, N.M.P.M.		2060'	SOUTH	1980'	EAST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
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 03/01/13 Date

Jennifer Duarte
Printed Name

jennifer_duarte@oxy.com
E-mail Address

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.

JERRY JASE
NEW MEXICO
15079
PROFESSIONAL LAND SURVEYOR

FEBRUARY 5, 2013
Date of Survey

Signature and Seal of Professional Surveyor

2/8/2013

15079
Certificate Number

WO# 130205WL-b (KA)

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 13th day of March, 2013.

Name: Anthony D'Addieco

Position: Reservoir Management Team Leader

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

Telephone: 713-350-4964

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

Company: Occidental Permian LP / OXY USA Inc / OXY USA WTP LP

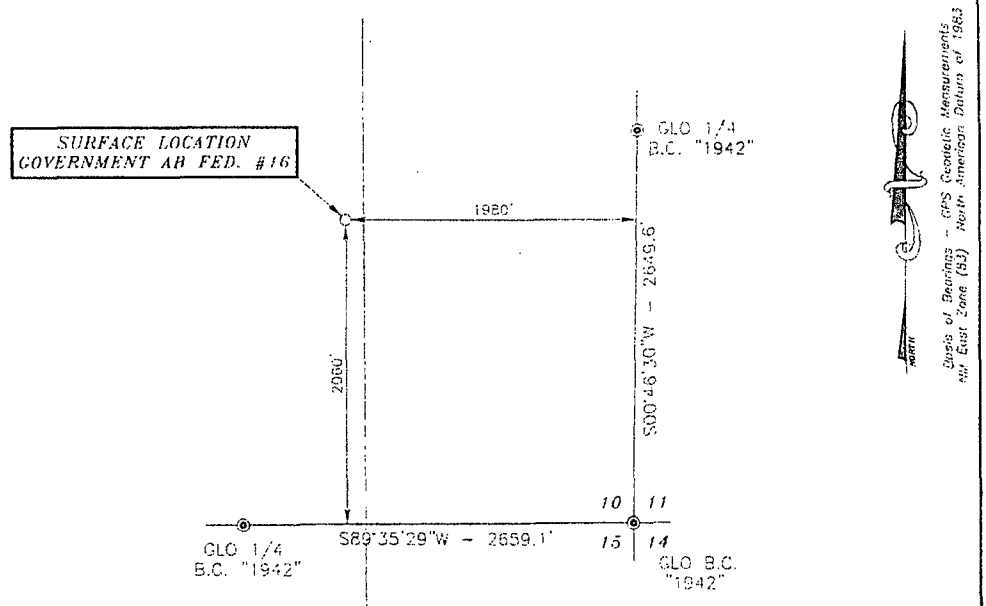
Field Representative (if not above signatory): Dusty Weaver

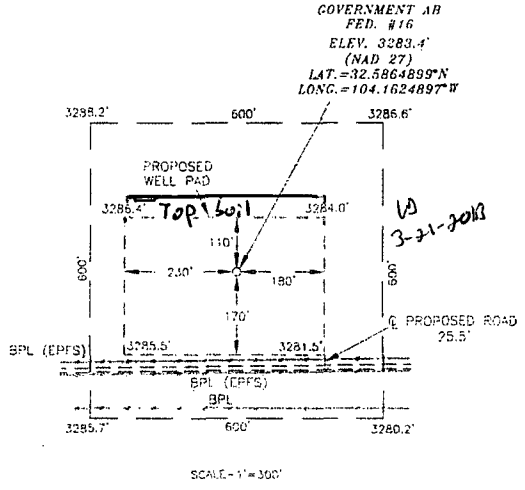
Address (If different from above): P.O. Box 50250 Midland, TX 79710

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

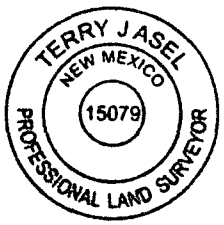
E-mail (if different from above): calvin_weaver@oxy.com

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 1.1 MILES, TURN LEFT ON LEASE ROAD AND GO WEST FOR 1.1 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 25.5 FEET TO LOCATION.



LD 3-21-2013

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 2/8/2013
Terry J. Asel, N.M. R.P.L.S. No. 15079

Asel Surveying

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

LEGEND

◉ - DENOTES FOUND MONUMENT AS NOTED

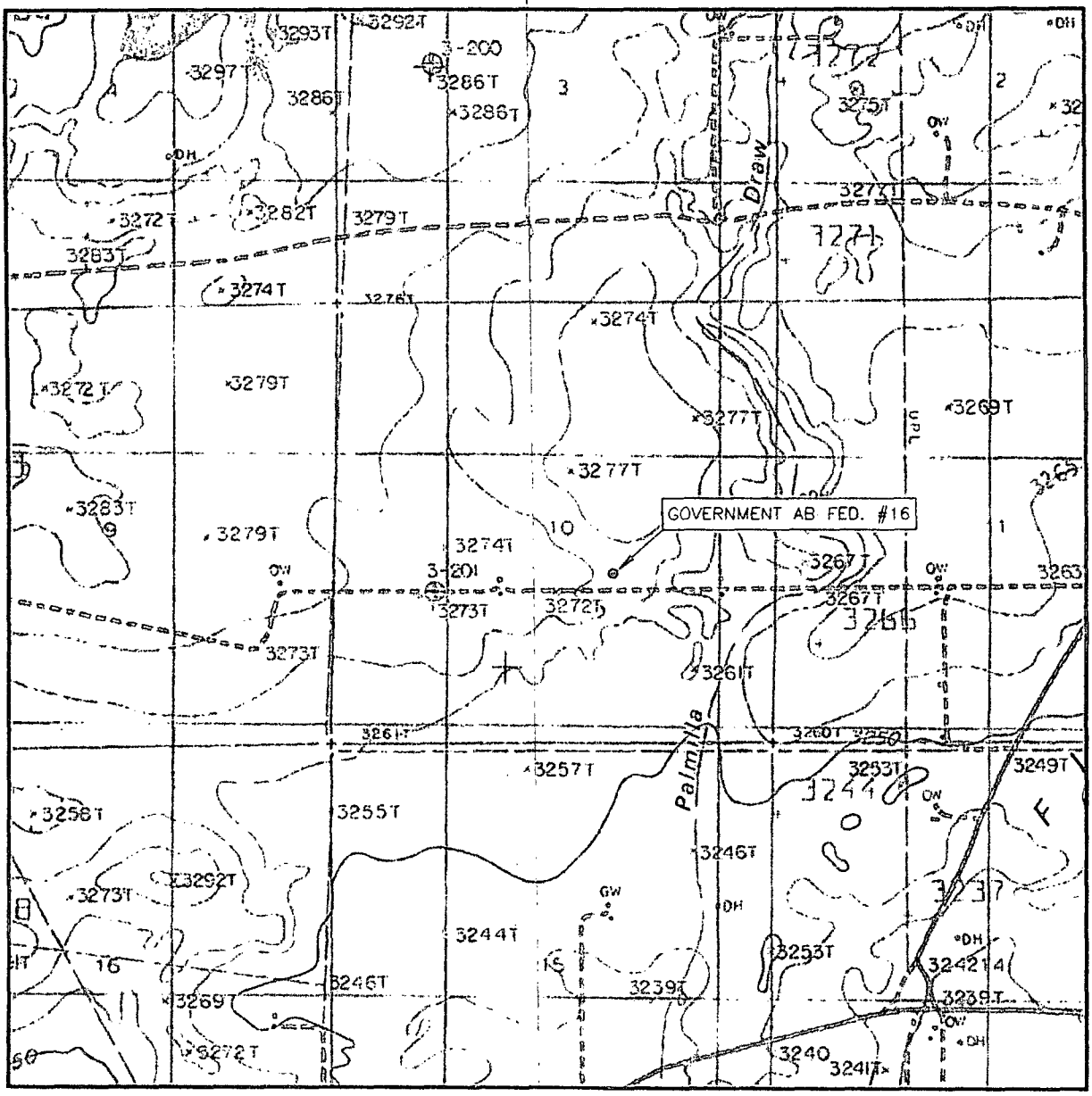
1000' 0 1000' 2000' FEET
SCALE: 1"=1000'

OXY USA WTP LP

GOVERNMENT AB FEDERAL #16 LOCATED AT 2060' FSL & 1980' FEL IN SECTION 10, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 02/05/13	Sheet 1 of 1 Sheets	
W.O. Number: 130205WL-b	Drawn By: KA	Rev:
Date: 02/06/13	130205WL-b	Scale:1"=1000'

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 2060' FSL & 1980' FEL

ELEVATION 3283.4'

OPERATOR OXY USA WTP LP

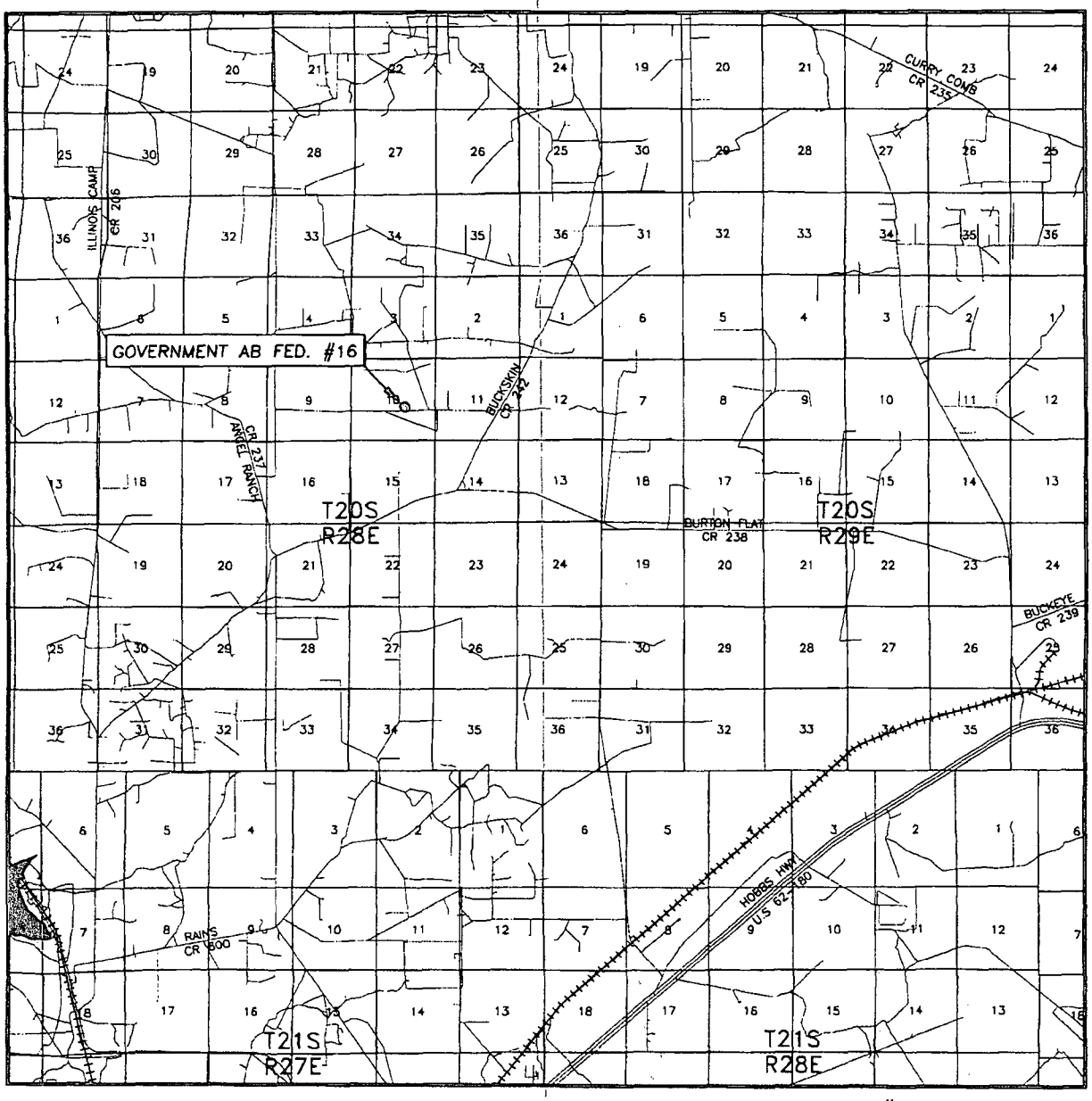
LEASE GOVERNMENT AB FED. #16

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

VICINITY MAP



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

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2060' FSL & 1980' FEL

ELEVATION 3283.4'

OPERATOR OXY USA WTP LP

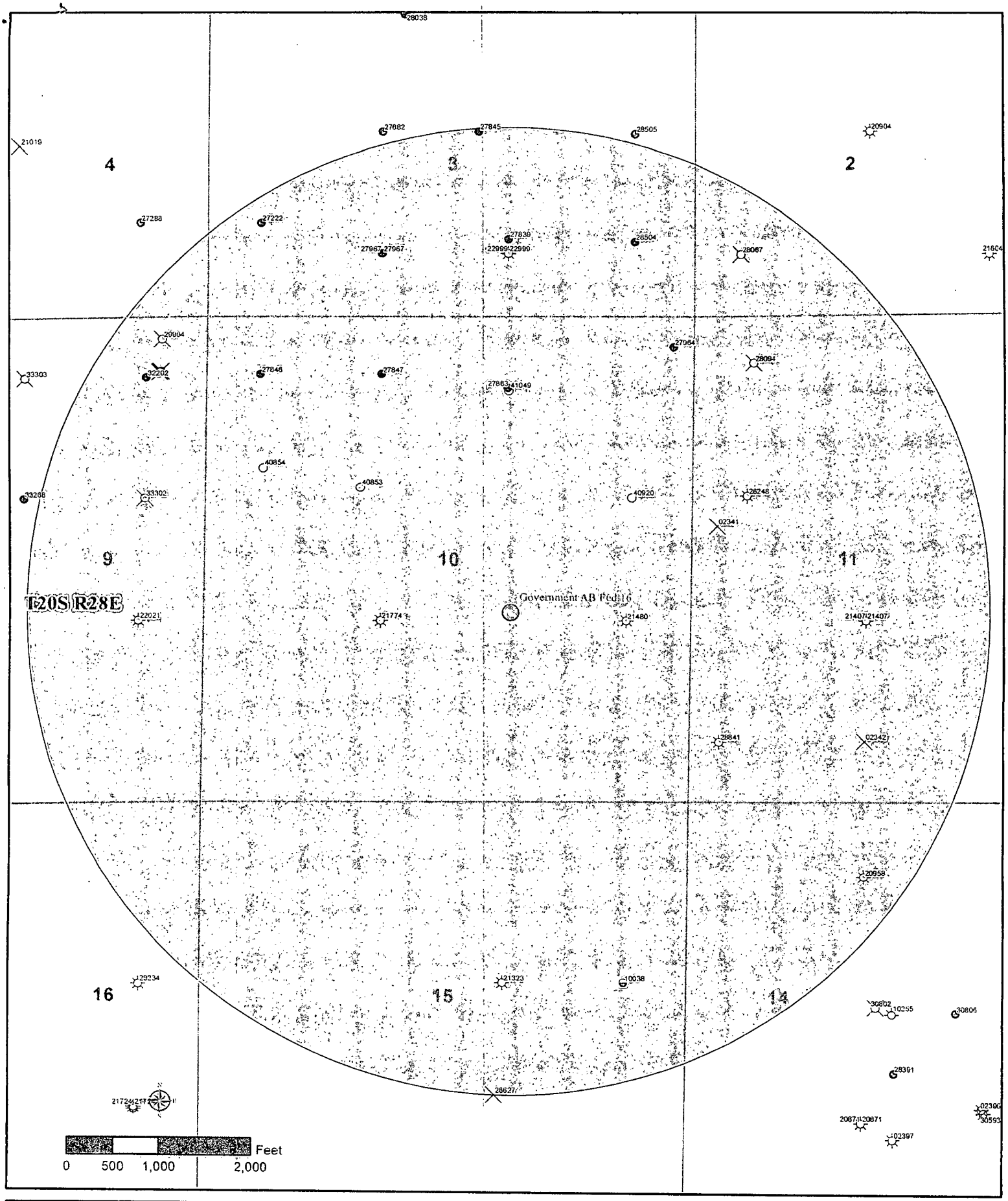
LEASE GOVERNMENT AB FED. #16

SCALE: 1" = 2 MILES

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 1.1 MILES, TURN LEFT ON LEASE ROAD AND GO WEST FOR 1.1 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 25.5 FEET TO LOCATION.



Permian Primary

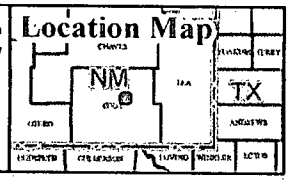
New Mexico
Eddy & Lea Counties
Oxy Wells with
1 Mile Raduis

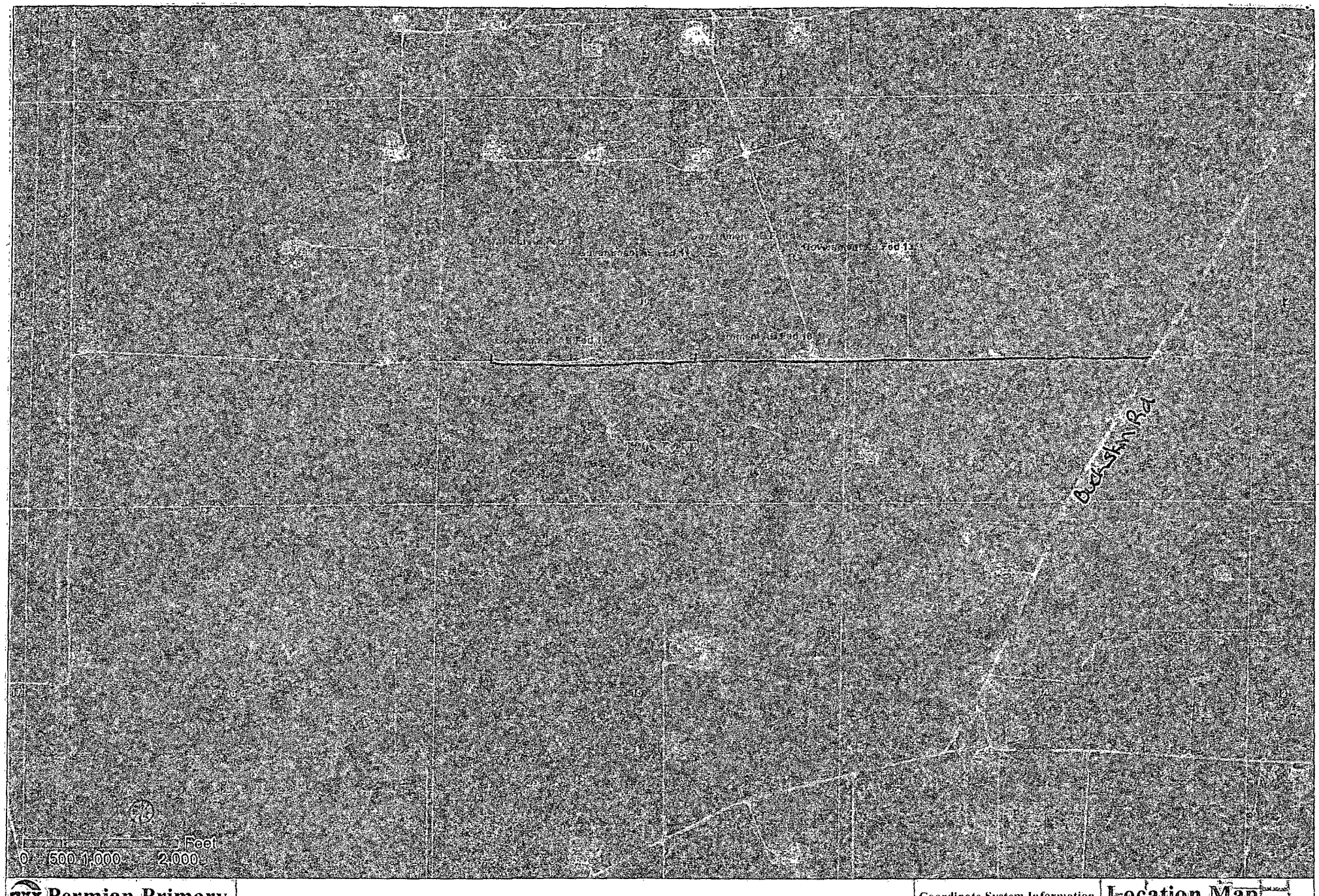
OXY WELL
IHS Well
GAS
OIL
O&G
GAS SHOWS
OIL SHOWS
O&G SHOWS
LOC
SUS
AGW
AOW
AO&GW
ABANDONED LOC
ABANDONED-NO SHOWS
INJ-NO SHOWS
OTHER
1 MILE RADIUS

Coordinate System Information

Geographic Coordinate System North American 1927
Datum: North American 1927
NAD 1927 State Plane New Mexico East FIPS 3301
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





Permian Primary

New Mexico
Eddy & Lea Counties
Oxy Wells
Public Access Points

DL - 03/05/2013

OXY WELL

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
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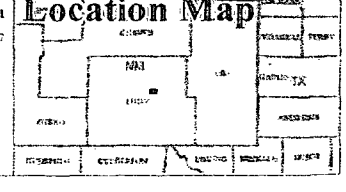
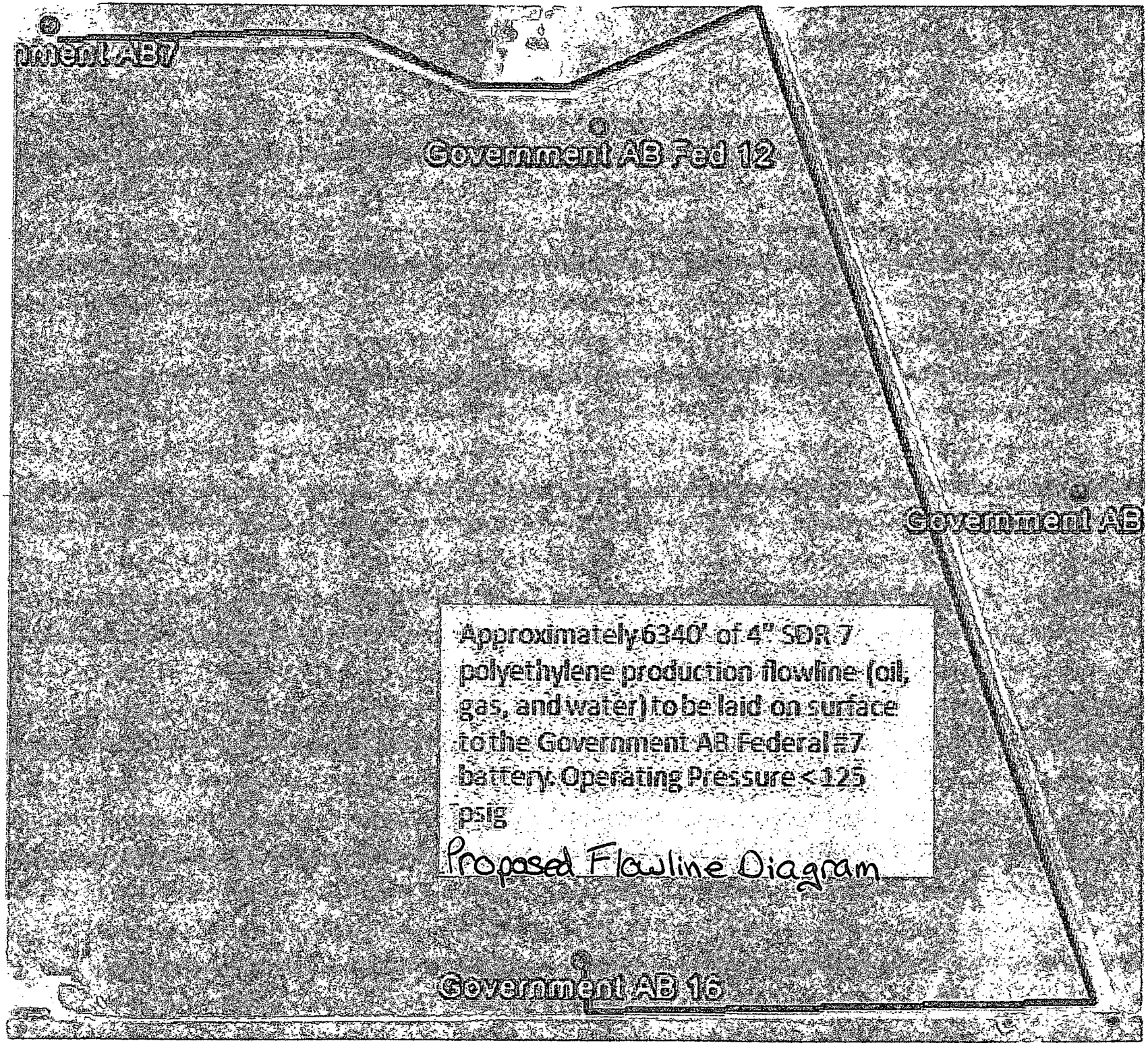
Location Map





Proposed Flowline Diagram

APD DATA – DRILLING PLAN –

OPERATOR NAME / NUMBER: OXY USA 16696

LEASE NAME / NUMBER: Government AB 16

STATE: NM **COUNTY:** Eddy

SURFACE LOCATION: 2060' FSL & 1980' FEL, Sec 10, T20S, R28E

Surface Location: LAT: 32.5864899 N LONG: 104.1624897 W X: 552620.8 Y: 577119.0 NAD: 27

C-102 PLAT APPROX GR ELEV: 3283.4' **EST KB ELEV:** 3299.9 (16.5' KB)

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

2. **ESTIMATED FOMATION TOPS (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	3210'	Poss HC
T. Brushy Canyon	3412'	HC
T. Bone Spring	4790'	HC
T. 1st Bone Spring Sand	6303'	HC
Target 1st Bone Spring Sand	6700'	HC

A. Based on the State Engineer Website nearby water wells have been drilled to a depth of less than 200'. Based on offset wells casing programs, a surface casing at 350' should cover any possible fresh water zones above the Salado.

B. Intermediate casing at 3050' (3150') will cover the Capitan Reef. If any lost circulation occurs below the Base of the Salt drilling fluid will be switched to fresh water until setting the intermediate casing. 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 ± 350' MD/ 350' TVD in a 14 ¾" 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'- 350'	350'	42	H-40	ST&C	1070	1980	307	11.084	10.928	9.08	1.93	23.96

Intermediate Casing: 8.625" casing set at ± 3050'MD / 3050'TVD in a 10 5/8" hole filled with 10 ppg mud/ fresh water

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'- 3050' (3150')	3050' (3150')	32	J-55	LT&C	2530	3930	417	7.921	7.875	2.46	1.74	4.90

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:**

4. CEMENT PROGRAM:

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Surface (TOC: 0' – 350')							
Lead: 0' – **350'** (300% Excess)	480	350'	Premium Plus Cement: 2% Calcium Chloride	6.37	14.8	1.35	1326 psi

Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Stage 1: Intermediate (TOC: 0' – 3050')							
Lead: 0' – 1782' (200%Excess)	1400	1782'	Light Premium Plus Cement: 3 lbm/sk Salt, 0.125 lb/sk Poly-E-Flake, 5 lbm/sk Kol-Seal	9.48	12.9	1.86	500 psi
Tail: 1782' – **3050'** (200%Excess)	210	1268'	Premium Plus Cement: 1% Calcium Chloride	6.36	14.8	1.34	1650 psi
DV TOOL @ 1750' **If cement returns during first stage; DV cancellation tool will be used and second stage cancelled.**							
Stage 2: Intermediate (TOC: 0' – 1750')							
Lead: 0' – 1538' (200%Excess)	460	1538'	Light Premium Plus Cement: 3 lbm/sk Salt, 0.125 lb/sk Poly-E-Flake, 5 lb/sk Kol-Seal	9.48	12.9	1.86	500 psi
Tail: 1538' – **1750'** (200%Excess)	100	212'	Premium Plus Cement: 1% Calcium Chloride	6.36	14.8	1.34	1650 psi

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Stage 1: Production (TOC: 3500' - 6700 ')							
Lead: 3500' – 5500' (85 %Excess)	270	2000'	50/50 Poz Premium Plus: 8 % Bentonite, 0.125 lbm/sk Poly-E-Flake, 5 % Salt, 2 lbm/sk Kol-Seal	13.96	11.8	2.45	332 psi
Tail: 5500' – **6700'** (85% Excess)	260	1342'	Premium Plus Cement: 0.3 % CFR-3, 0.3 % Econolite, 5 lbm/sk Microbond, 0.2 % WellLife 734, 0.5 % Halad(R)-344	7.72	14.2	1.55	1914 psi
DV TOOL @ 3500'							
Stage 2: Production (TOC: 0' – 3500')							
Lead: 0' – 3086' (85 %Excess)	300	3086'	Light Premium Plus Cement: 3 % Salt, 3 lb/sk Kol Seal	11.26	12.4	2.07	447 psi
Tail: 3086' – **3500'** (85% Excess)	100	414'	Premium Plus Cement	6.34	14.8	1.33	1692 psi

See COA

Description of Cement Additives: Calcium Chloride - Flake (Accelerator), Poly-E-Flake (Lost Circulation Additive), Kol-Seal (Lost Circulation Additive), Bentonite (Light Weight Additive), CFR-3 (Dispersant), Econolite (Light Weight Additive), Microbond (Expander), WellLife 734 (Cement Enhancer), Halad(R)-344 (Low Fluid Loss Control)

5. DIRECTIONAL PLAN

Please see attached directional plan.

6. PRESSURE CONTROL EQUIPMENT:

Surface: 0 – 350' None.

Intermediate: 0 - 3050' 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 an 11" 5M two ram stack with 5M annular preventer and 5M Choke Manifold.

a. The 11" 5000 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. All equipment will be tested to 250/1386 against the surface casing (70% of casing burst) psi for 30 minutes by a third party and charted.

c. The pipe rams will be function tested every 24 hours; the blind rams will be function tested on every trip out of the hole. These tests will be documented on the Daily Driller's Log.

d. 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, tested to 3000 psi.

Production: 0 – 6700' will be drilled with an 11" 5M two ram stack with a 5M annular preventer and 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. All equipment will be tested to 250 psi (low) and 5000 psi (high) except the annular, which will be tested to 70% of its rated working pressure, 250 psi (low) and 3500 psi (high) for ten minutes each. All test will performed against a test plug with the Section B Wellhead valve open to assure that the test is not being performed against the casing.

e. The pipe rams will be function tested every 24 hours; the blind rams will be function tested on every trip out of the hole. These tests will be documented on the Daily Driller's Log.

b. Same "c" ands "d" as above

c. Oxy requests a variance to use a co-flex line between the BOP and choke manifold. (schematic attached)
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.

7. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0 – 350'	8.4 – 8.8	32 – 38	NC	Fresh Water /Spud Mud
350' – 2900' 3150'	9.8 – 10.0	28 – 29	NC	Brine Water
2900' – 3050'	8.4– 8.8	26- 28	NC	Fresh Water
3050' – 6700'	8.4– 8.8	26- 28	NC	Fresh Mud

See COA

8. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

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

b. 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**

See COA

9. POTENTIAL HAZARDS:

a. H2S

b. The bottomhole pressure is anticipated to be 2950 psi. (0.44 psi/ft)

c. No abnormal temperatures or pressures are anticipated.

d. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

10. 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 location is built. Move in operations and drilling is expected to take 18 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:

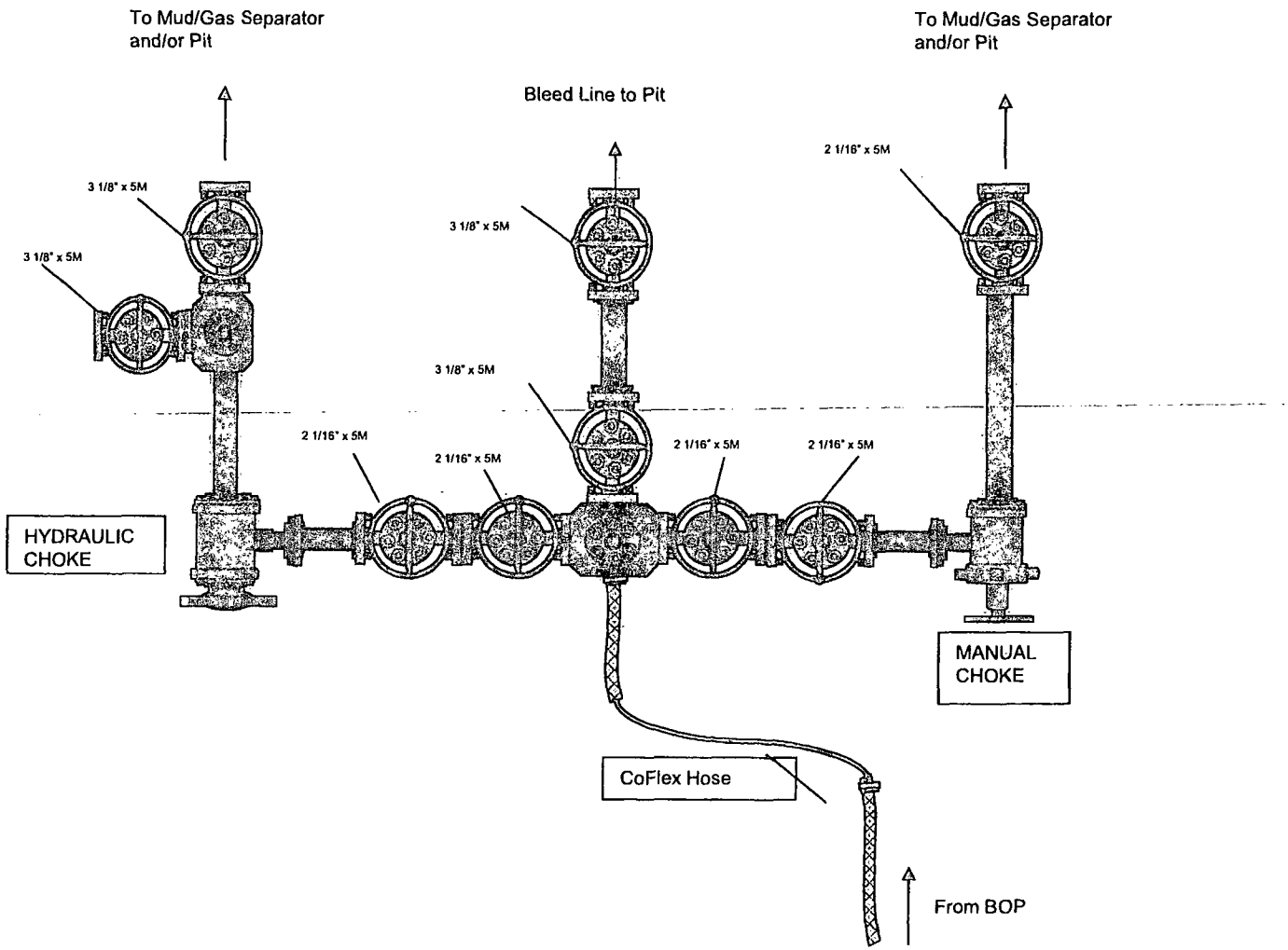
a. Mud logging from Intermediate casing to TD.

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

COMPANY PERSONNEL:

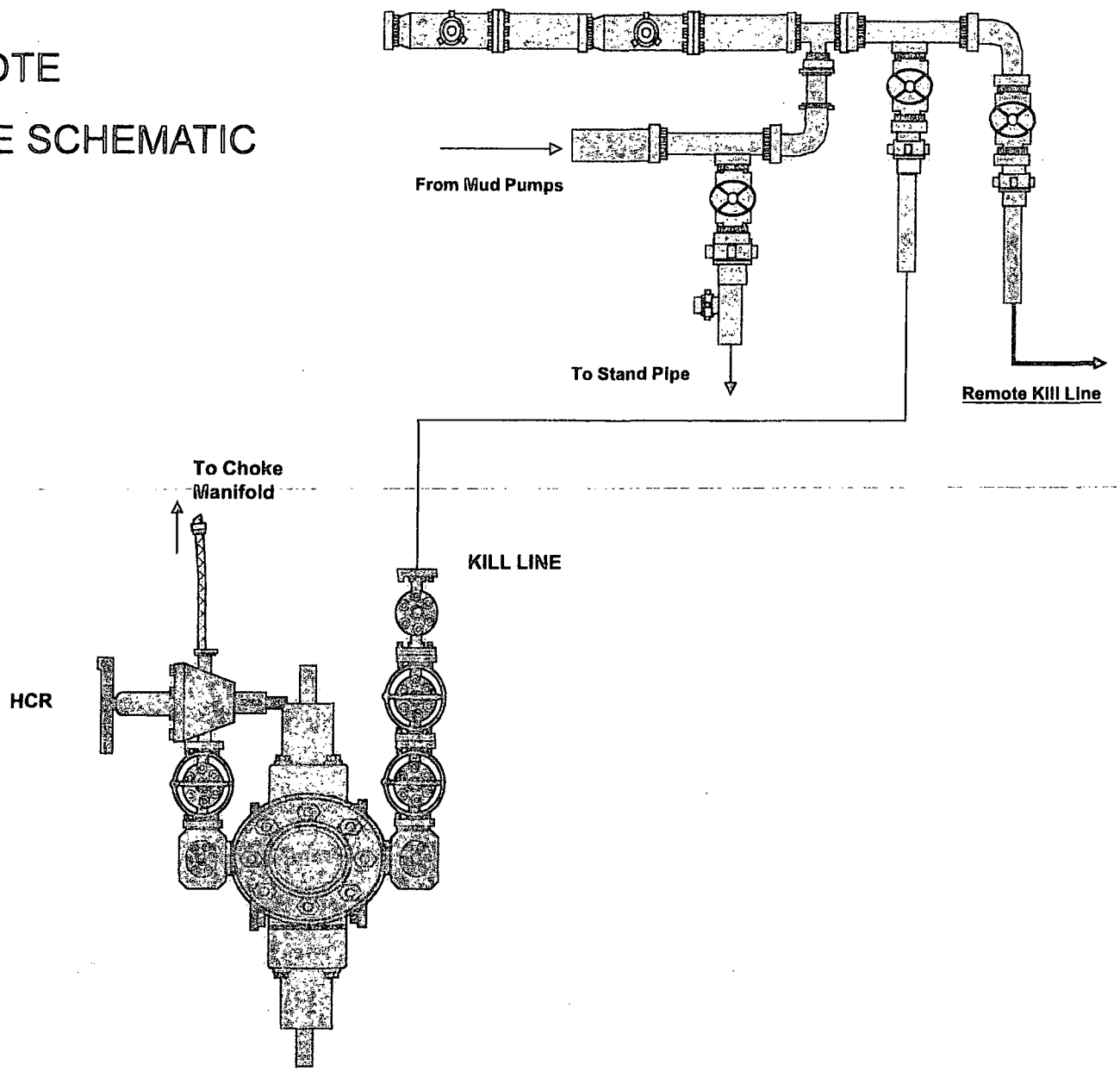
Name	Title	Office Phone	Mobile Phone
Anthony Tschacher	Drilling Engineer	(713)985-6949	(832)270-6883
Sebastian Millan	Drilling Engineer Supervisor	(713)350-4950	(832)528-3268
Roger Allen	Drilling Superintendent	(713)215-7617	(281)682-3919
Douglas Chester	Drilling Manager	(713)366-5194	(713)918-9124

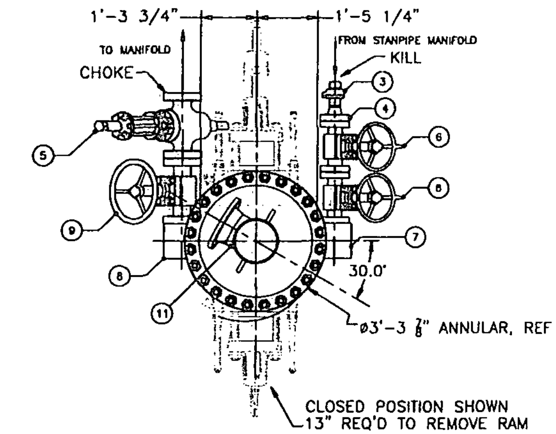
5M CHOKE MANIFOLD CONFIGURATION



5M REMOTE

KILL LINE SCHEMATIC





PROPER TORQUE FOR BOLTS				
COMPONENT	FLANGE SIZE & RATING	BOLT SIZE	TORQUE CF=0.07	(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

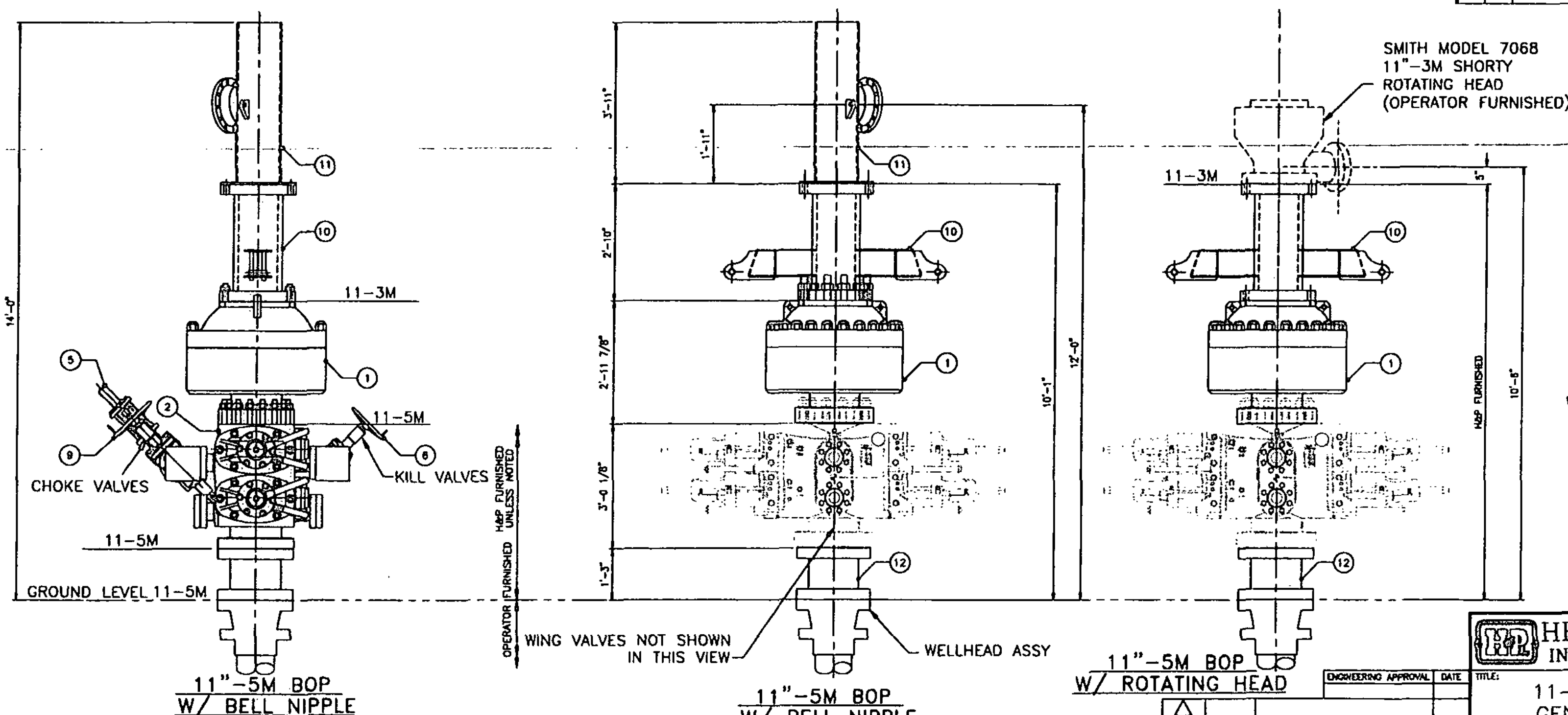
BILL OF MATERIAL

ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WEIGHT
		11-5M BOP ASSEMBLY		
1	1	ANNULAR, 11x5M 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, RN 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	DX. F4M-H-310.01A	780
11	1	BELL NIPPLE EXTENSION	DX. F4M-H-310.01A	398
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.



ISSUED FOR FABRICATION
August-08-2008
DRAFTSMAN ______
ENGINEER ______

PROPRIETARY

NOTES:

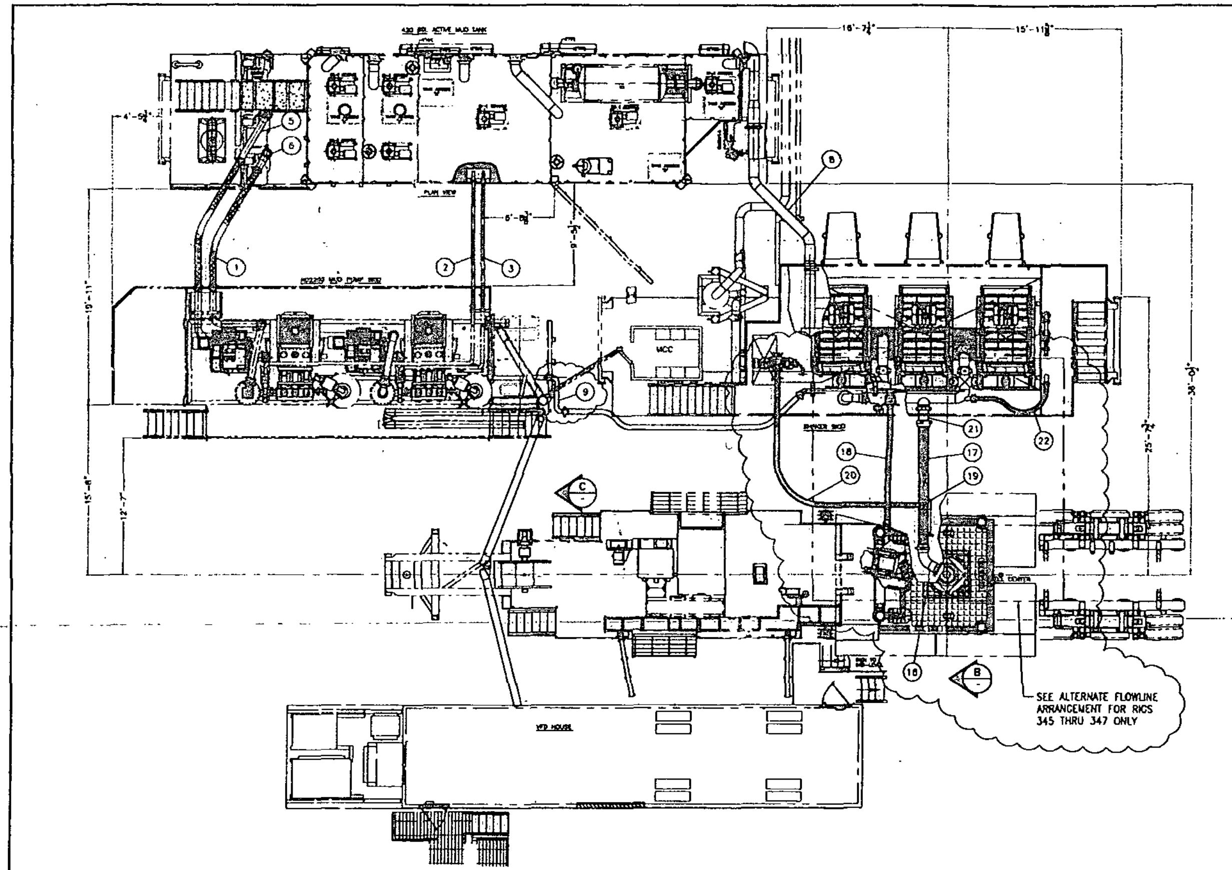
1. ALL BOP RAMS SHOWN ARE SHAFFER MODEL LXT 11-5M PSI WP - FLANGED BOTTOM AND STUDDED TOP

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

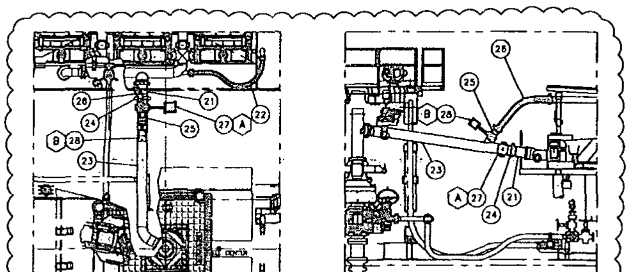
ENGINEERING APPROVAL	DATE

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



PARTIAL PLAN VIEW

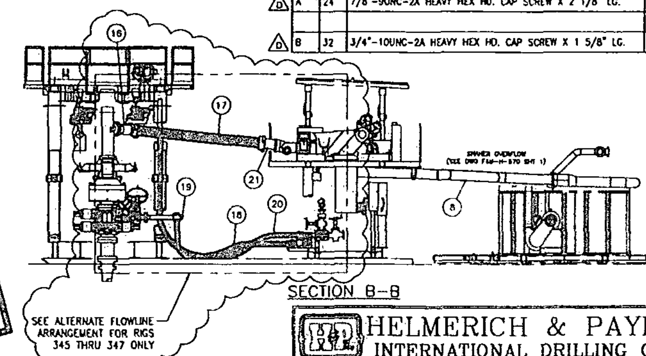


PARTIAL PLAN VIEW

PARTIAL ELEVATION VIEW

ALTERNATE FLOWLINE ARRANGEMENT
(FOR RIGS 345 THRU 347 ONLY)

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



SECTION B-B

BILL OF MATERIAL					
	ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WT.
D	1	2	LOW PRESSURE SPOOL #1	MKF4M-H-570.01F	239
D	2	1	POP-OFF/BLEED SPOOL #1	MKF4M-H-570.01A	157
D	3	1	POP-OFF/BLEED SPOOL #2	MKF4M-H-570.01B	140
D	4		DELETED		
D	5	1	LOW PRESSURE SUCTION SPOOL #1	MKF4M-H-570.01D	199
D	6	1	LOW PRESSURE SUCTION SPOOL #2	MKF4M-H-570.01H	101
D	7	1	HOSE-HIGH PRESSURE	MKF4M-H-570.01G	276
D	8	1	OVERFLOW RETURN SPOOL	MKF4M-H-563.06A	678
D	9	1	MUD PUMP/SHAKER SKID SPOOL	MKF4M-H-570.01E	181
	10	22FT	TS 1 1/2x1 1/2x3/16 (A500)		150
D	11	1	POP-OFF PIPE HANGER SUPPORT	MKF4M-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	MKF4M-H-562.02A	230
D	17	1	SHAKER FLOWLINE	MKF4M-H-562.02B	281
D	18	1	HOSE	MKF4M-H-563.03E	
D	19	1	SPOOL #1	MKF4M-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	MKF4M-H-562.02C	73
D	22	1	SHAKER SPOOL	MKF4M-H-562.03B	177

THESE ITEMS REPLACE ITEMS 16 & 17 (items 23–28)

RIGS 345 - 347 ONLY BILL OF MATERIAL					
	ITEM NO.	QUAN.	DESCRIPTION	PART NUMBER	WT.
D	23	1	SHAKER FLOWLINE	MKF4M-H-569-04A	656
D	24	1	SHAKER FLOWLINE	MKF4M-H-569-04B	118
D	25	1	SHAKER FLOWLINE	MKF4M-H-569-04C	67
D	26	1	SHAKER FLOWLINE HOSE	MKF4M-H-569-04G	77
D	27	1	FABRI - 10" AIR ACTUATED KNIFE GATE VALVE		66
D	28	1	FABRI - 6" AIR ACTUATED KNIFE GATE VALVE		52

			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

HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

ENGINEERING APPROVAL	DATE

REV	DATE	DESCRIPTION	BY
D	10/23/08	[illegible]	CC/MWL
C	09/04/08	[illegible]	DRJ
B	08/05/08	ADDED SHT 2 & BOM	DRJ
A	07/17/08	ADDED XX-HVY PIPING TO POP-OFF	DRJ

TITLE: MUD SYSTEM INTERCONNECT PIPING ASSEMBLY

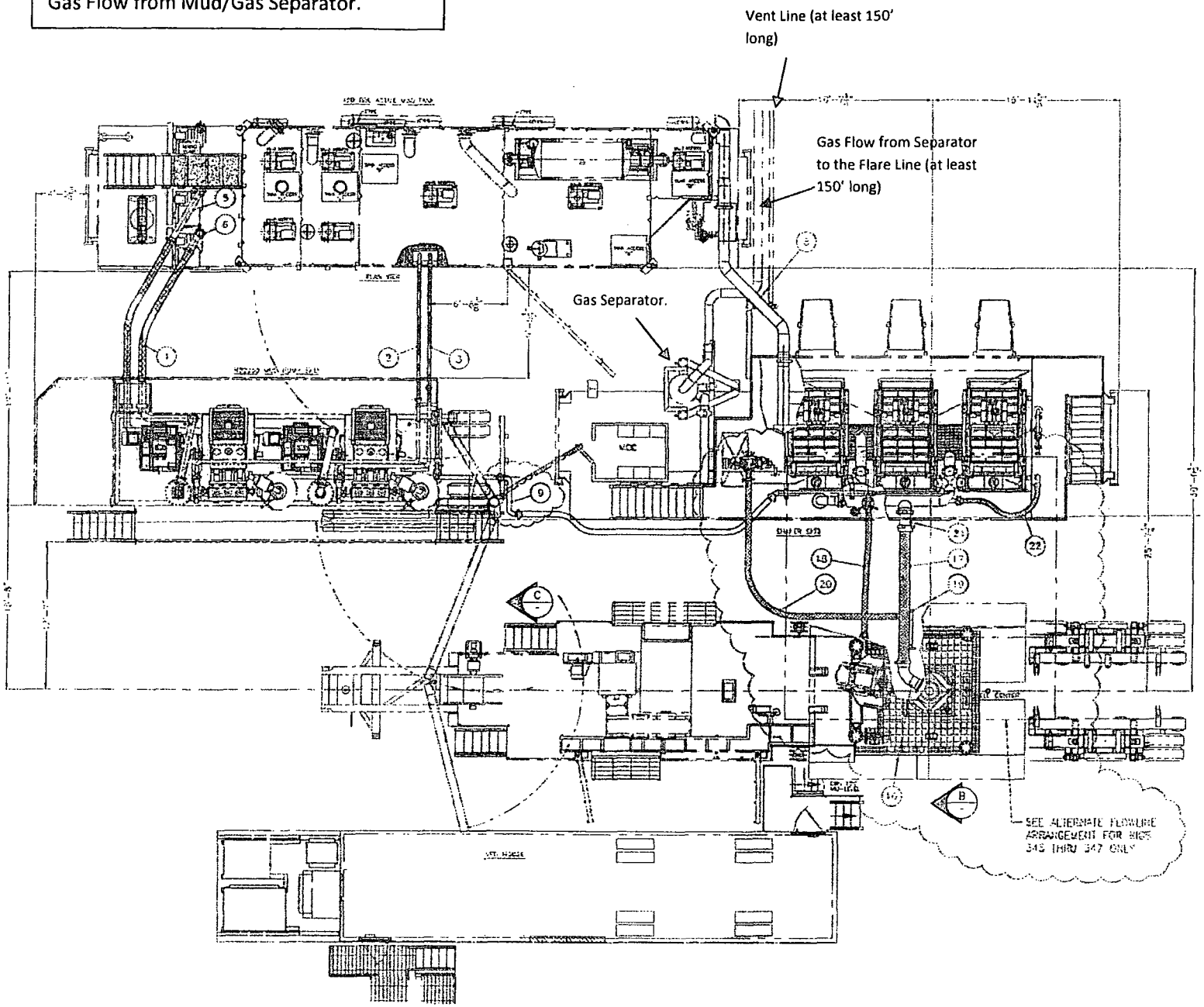
CUSTOMER: OXY PERMIAN

PROJECT: F4M

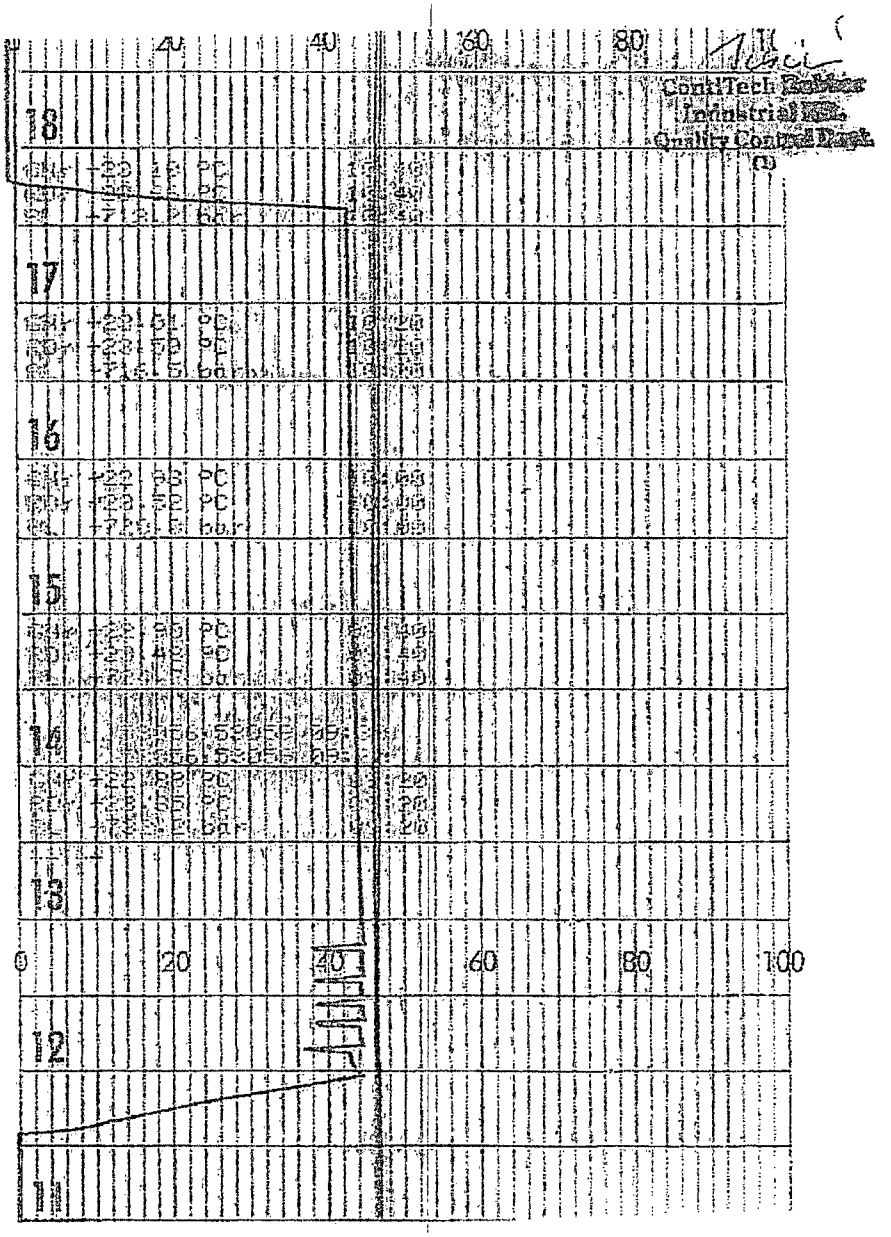
DRAWN: DJOHNSON | DATE: 07/08/08 | DWG. NO.: F4M-H-568 | REV: D

SCALE: 3/16"=1'-0" | SHEET: 1 OF 2

Gas Flow from Mud/Gas Separator.



ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No 1051,1053



ContiTech Rubber
Industrial
Quality Control Dept.

Continental CONTITECH

Fluid Technology

Quality Document

CERTIFICATE OF CONFORMITY

Supplier : CONTITECH RUBBER INDUSTRIAL KFT.
Equipment : 8 pcs. Choke and Kill Hose with installed couplings
Type : **3" x 8,84 m WP: 5000 psi /Fire rated/**
Supplier File Number : 415347
Date of Shipment : May. 2008
Customer : Phoenix Beattie Co.
Customer P.o. : 002523
Referenced Standards / Codes / Specifications : API Spec. 16 C
Serial No.: 53053,53054,53055,53056,53057,53058,53059,53060

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

Signed : .....

ContiTech Rubber Industrial Kft. Quality Control Dept. (1)

Date: 22. May. 2008

Position: Q.C. Manager

ContiTech Rubber Industrial Kft.
Budapest út 10., Szeged H 6728
P.O.Box 152 Szeged H-6701
Hungary

Phone: +36 62 566 737
Fax: +36 62 566 738
e-mail: info@fluid.contitech.hu
internet: www.contitech-rubber.hu

The Court of Csongrad County as Registry Court
Registry Court No: HU 06-09-002502
EU VAT No: HU11087209

Bank data
Commerzbank Zrt.
Budapest
14220108-25630003

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

CERT. N°: 1051

PURCHASER:	Phoenix Beattie Co.				P.O. N°:	002523	
CONTITECH ORDER N°:	415347	HOSE TYPE:	3"	ID	Choke and Kill Hose		
HOSE SERIAL N°:	53059	NOMINAL / ACTUAL LENGTH:			8,84 m		
W.P. 34,48 MPa	5000 psi	T.P. 68,96 MPa	10000 psi		Duration: 60 min.		

Pressure test with water at ambient temperature

See attachment (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 16 MPa

COUPLINGS

Type	Serial N°	Quality	Heat N°
3" coupling with	1304 1302	AISI 4130	9882
3 1/8" Flange end		AISI 4130	9553

INFOCHIP INSTALLED

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 AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

Date:	Inspector	Quality Control
20. May. 2008		ContiTech Rubber Industrial Kft. Quality Control Dept. (I)

ContiTech Rubber Industrial Kft.
Budapesti út. 10., Szeged H-6726
P.O.Box 152 Szeged H-6701
Hungary

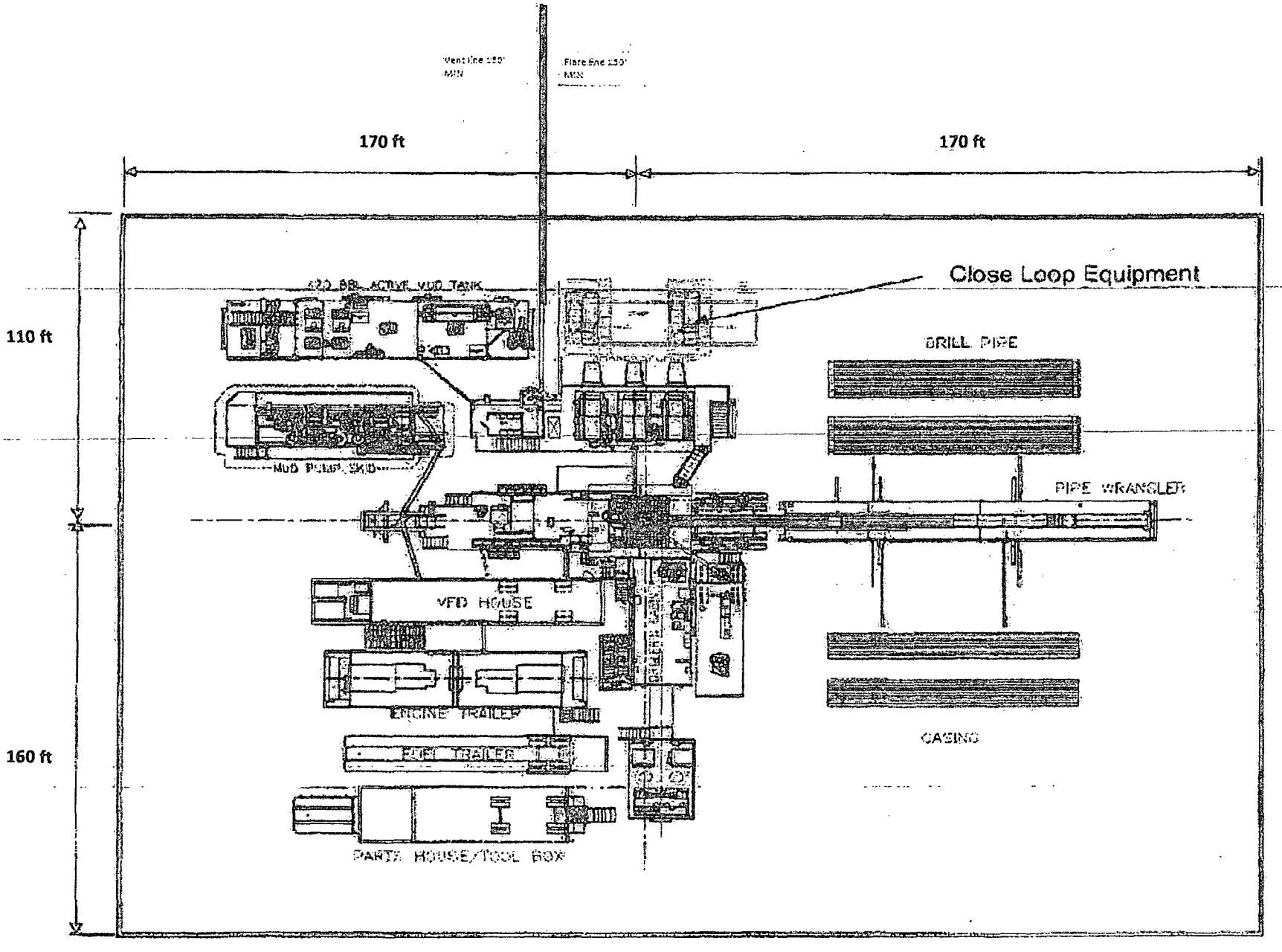
Phone: +36 62 566 737
Fax: +36 62 566 738
e-mail: info@fluid.contitech.hu
Internet: www.contitech-rubber.hu

The Court of Csongrad County as Registry Court
Registry Court No: HU 06-09-002502
EU VAT No: HU 10872209

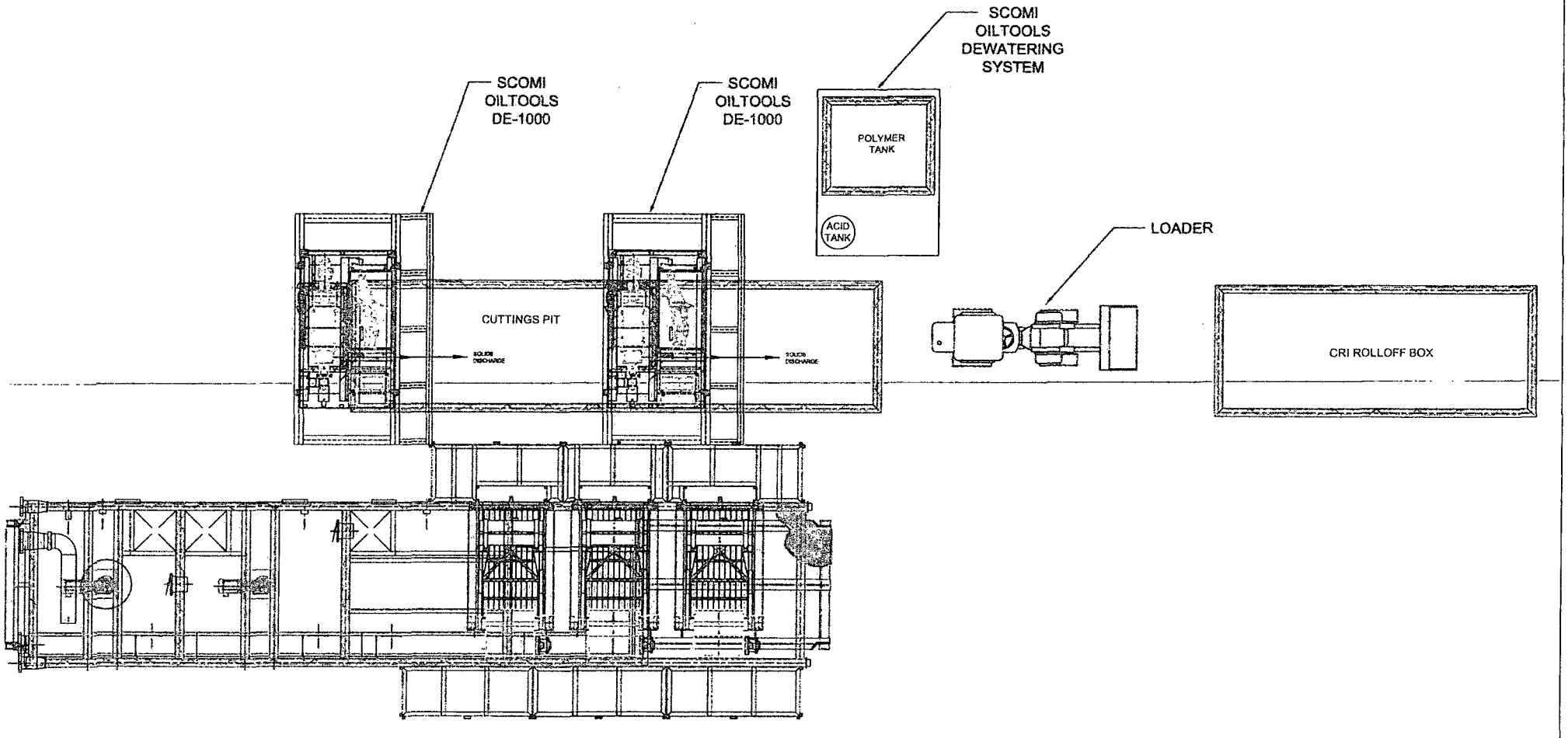
Bank data
Commerzbank Zrt.
Budapest
14220109-25830003

OXY FLEX IV PAD (Closed Loop System)

Revised 05/14/2015



BILL OF MATERIAL				
ITEM	QTY.	DESCRIPTION	LENGTH	WEIGHT



NO.	REVISIONS	BY	DATE	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 DOC
		NTS	D

Scomi
821 N. Sam Houston Parkway East, Suite 800,
Houston, Texas 77060
PHONE (281)-820-2114, FAX (281)-820-2820

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

OXY USA INC/ OXY USA WTP LP/ OCCIDENTAL PERMIAN LP

NEW MEXICO STAKING FORM

DATE STAKED: 12-04-2012

LEASE/WELL NAME & #: GOVERNMENT AB FEDERAL #16

LEGAL DESCRIPTION: 2060 FSL & 1980 FEL SEC 10 T20S R28E

LAT/LONG:

MOVE INFORMATION: 80' NORTH – PIPELINE

COUNTY: EDDY, NM

SURFACE OWNER: BLM

NEAREST RESIDENCE:

NEAREST WATER WELL:

V-DOOR: EAST

ROAD DESCRIPTION: ROAD INTO 0 CORNER FROM

RECLAMATION:

SOURCE OF CALICHE:

Surface Use Plan of Operations

Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soils storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

1. Existing Roads

a. The existing access road route to the proposed project is depicted on Public Access Point. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan.

b. The existing access road route to the proposed project does not cross lease or unit boundaries, so a BLM right-of-way grant will not be acquired for this proposed road route.

c. Existing oil and gas roads utilized to access the proposed project will be maintained by blade, water and/or repair as required/needed. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.

c. Existing oil and gas roads utilized to access the proposed project will be maintained by blade, water and/or repair as required/needed. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.

2. New or Reconstructed Access Roads

a. An access road will be needed for this proposed project. See the survey plat for the location of the access road.

b. The length of access road needed to be constructed for this proposed project is about 26 feet.

c. The maximum driving width of the access road will be 15 feet. The maximum width of surface disturbance when constructing the access road will not exceed 25 feet. All areas outside of the driving surface will be revegetated.

d. The access road will be constructed with 6 inches of compacted caliche.

e. The proposed access road will be constructed to BLM Gold Book standards and/or BLM CFO Specifications.

f. The access road will be constructed with a ditch on each side of the road.

g. The maximum grade for the access road will be 1 percent.

h. No turnouts will be constructed on the proposed access road.

i. No cattleguards will be installed for this proposed access road.

j. No BLM right-of-way grant is needed for the construction of this access road.

k. No culverts will be constructed for this proposed access road.

l. No low water crossings will be constructed for the access road.

m. Since the access road is on level ground, no lead-off ditches will be constructed for the proposed access road.

n. Newly constructed or reconstructed roads, on surface under the jurisdiction of the Bureau of Land Management, will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road.

3. Location of Existing Wells

a. 1 Mile Radius of the APD depicts all known wells within a one mile radius of the proposed well.

b. There is no other information regarding wells within a one mile radius.

4. Location of Existing and/or Proposed Production Facilities

a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, meter housing that are not subject to safety requirements will be painted a non-reflective paint color that blends in with the surrounding landscape. The paint color will be one of the colors from the BLM Standard Environmental Colors chart selected by the BLM authorized officer.

b. If production facilities are located on the well pad, they will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.

c. Production from the proposed well will be transported to the production facility located on the Government AB Federal 7. The location of the well is as follows: C, Sec 10 - T20S - R28E, 660 FNL & 1980 FWL.

d. A pipeline to transport production will be installed from the proposed well to the existing production facility.

i. We plan to install a 4 inch surface polyethylene pipeline from the proposed well to the offsite production facility. The working pressure of the pipeline will be < 125 psi. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed

surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

ii. Flow Line Diagram depicts the proposed production pipeline route from the well to the existing production facility.

iii. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation of construction.

Electric Line(s)

a. An electric line will be applied for through a sundry notice or BLM right of way at a later date.

5. Location and Types of Water

a. The source and location of the water supply are as follows: This well will be drilled using a combination of water mud system. It will be obtained from commercial water stations in the area.

b. The water will be hauled to location by transport truck using existing and proposed roads.

6. Construction Materials

a. Construction material that will be used to build the well pad and road will be caliche.

b. You, the operator must provide a map or plat or description depicting the location of the source of construction material.

c. The location of the source of construction material that will be used to construct the proposed project is located will be obtained from an existing BLM approved pit or from the prevailing deposits found under the location.

7. Methods for Handling Waste

a. Drilling fluids and produced oil and water from the well during completion operations will be stored safely and disposed of properly in an NMOCD approved deposal facility.

b. Garbage and trash produced during drilling and completion operations will be collected in a trash bin and disposed of properly at a state approved site. All trash on and around the well site will be collected for disposal.

c. Human waste and grey water will be properly contained and disposed of properly at a disposal facility.

d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a disposal site.

e. The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

9. Well Site Layout

a. Make sure that the survey plat or other diagrams have the following necessary information for the BLM:

i. reasonable scale (near 1":50')

ii. well pad dimensions

iii. well pad orientation

iv. drilling rig components

v. proposed access road

vi. elevations of all points

vii. topsoil stockpile

viii. reserve pit location/dimensions if applicable

ix. other disturbances needed (flare pit, stinger, frac farm pad, etc.)

x. existing structures within a 600' x 600' area (pipelines, electric lines, well pads, etc.)

c. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.

d. A title of a well site diagram is H&P 344 Rig Diagram. This diagram depicts the reclaimed area and dimensions of pad.

e. Topsoil Salvaging

i. Grass, forbs, and small woody vegetation, such as sagebrush will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

10. Plans for Surface Reclamation

a. Reclamation Objectives

i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient

to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities. The long-term objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

ii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.

iii. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.

iv. Interim Reclamation

1. Interim reclamation will be performed on the well site after the well is drilled and completed. H&P 344 Rig Diagram depicts the location and dimensions of the planned interim reclamation for the well site.

2. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.

3. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

4. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

5. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

6. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

7. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

iv. Final Reclamation (well pad, buried pipelines, etc.)

1. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.

2. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or

build roads and well pads.

3. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

4. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

6. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

7. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

11. Surface Ownership

a. The surface ownership of the proposed project is BLM.

12. Other Information

a. No other information is needed at this time.

13. Maps and Diagrams

Public Access Point - Existing Road
1 Mile Radius - Wells Within One Mile
Flow Line Diagram - Production Pipeline
H&P 344 Rig Diagram - Well Site Diagram
H&P 344 Rig Diagram - Interim Reclamation

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**OXY USA WTP Limited Partnership**
LEASE NO.:	**NMNM-15003**
WELL NAME & NO.:	**Government AB Federal 16**
SURFACE HOLE FOOTAGE:	**2060' FSL & 1980' FEL**
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) 234-5909 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 6 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-five (25) 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.

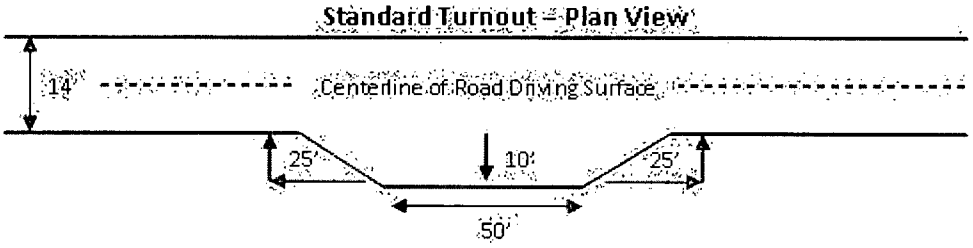
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

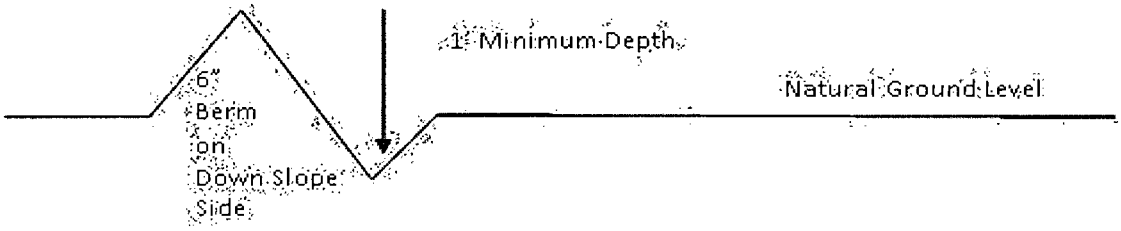
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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:

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

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

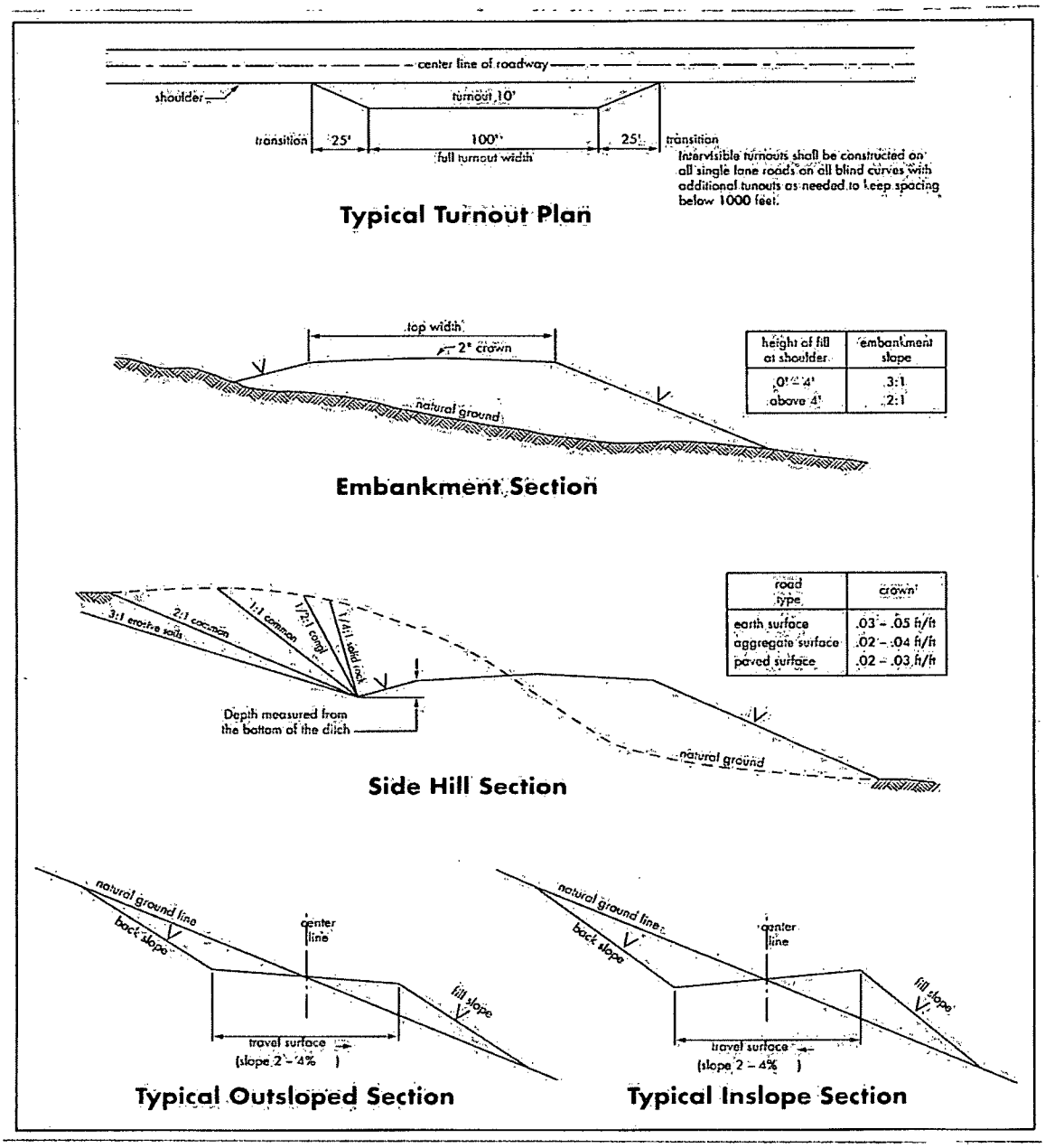
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ **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
Possibility of lost circulation in the Grayburg, San Andres, Capitan Reef (if encountered), Delaware, and Bone Springs

1. The **11-3/4** inch surface casing shall be set at approximately **350** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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 approximately **3150** feet (**at the base on the Capitan Reef**), 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 or potash.**

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

Operator has proposed DV tool at depth of 3500'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to 22% - Additional cement may be required.**

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. These documents shall be posted in the company man's trailer and on the rig floor.** 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 **3000 (3M)** 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 **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

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**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M 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.

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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 from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD/Sundry Notice 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