OCD Artesia

Potash

AT5-09-390 RM

Form 3160-3
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

AUG 21 2009

FORM APPROVED
OMB NO. 1004-0136
Expires. November 30, 2000

R-111-POTASH

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: [X] DRILL [ ] REENTER	5 Lease Serial No: NMNM86024
1b. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator: OXY USA Inc. 16696	7. Unit or CA Agreement Name and No
3a. Address: P.O. Box 50250 Midland, TX 79710-0250	3b. Phone No. (include area code): 432-685-5717
4. Location of Well (*Report location clearly and in accordance with any State equirements*)*	8. Lease Name and Well No.: Cypress 28 Federal #1H
	9 API Well No: 30-015- 37249
At surface: 330 FSL 440 FWL SWSW(M)	10. Field and Pool, or Exploratory: Laguna Salado Bone Spring, S.
At proposed prod zone: 660 FSL 1700 FEL SWSE(O)	11 Sec., T., R., M., or Blk. and Survey or Area: Sec 28 T23S R29E
14. Distance in miles and direction from nearest town or post office*: 6 miles northeast from Loving, NM	12. County or Parish: Eddy; 13 State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any): 440'	16. No. of Acres in lease: 120	17. Spacing Unit dedicated to this well: 120
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft: N/A	19. Proposed Depth: 10600'M 7800'V	20. BLM/BIA Bond No. on file: ES0136
21 Elevations (Show whether DF, KDB, RT, GL, etc.): 3004.5' GL	22 Approximate date work will start*: 6/1/09	23. Estimated duration: 45

24. Attachments

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

1. Well plat certified by a registered surveyor
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
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 authorized officer

25. Signature: David Stewart	Name (*Printed/Typed*): David Stewart	Date: 4/21/09
Title: Sr. Regulatory Analyst		
Approved by (Signautre): /s/ Jesse J. Juen	Name (*Printed/Typed*)	Date: AUG 19 2009
Title: ACTING STATE DIRECTOR	Office: NM STATE OFFICE	

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

APPROVAL FOR TWO YEARS

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

(Instructions on Reverse)

CARLSBAD CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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

Attention: Linda Denniston

RE: Cypress 28 Federal # 1H

Eddy County, New Mexico

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

OPERATOR NAME:	OXY USA Inc.
ADDRESS:	P.O. Box 4294 Houston, Texas 77210-4294

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

LEASE NO.:	**NMNM 86024**
LEGAL DESCRIPTION:	
Surface Location:	330' FSL & 440' FWL
Bottom Hole Location:	660' FSL & 1,700' FEL Section 28-T23S-R29E Eddy County, New Mexico
FORMATIONS:	None
BOND COVERAGE:	Nationwide
BLM BOND FILE NO.:	ES 0136

OXY USA Inc.

AUTHORIZED SIGNATURE: 

Patrick S. Sparks

TITLE: Land Negotiator

DATE: April 8, 2009

cc: David Stewart

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
30-015-37249	96857	South Laguna Salado Bone Spring

Property Code	Property Name	Well Number
37803	CYPRESS 28 FED.	1H

OGRID No.	Operator Name	Elevation
16696	OXY USA	3004.5'

Surface Location

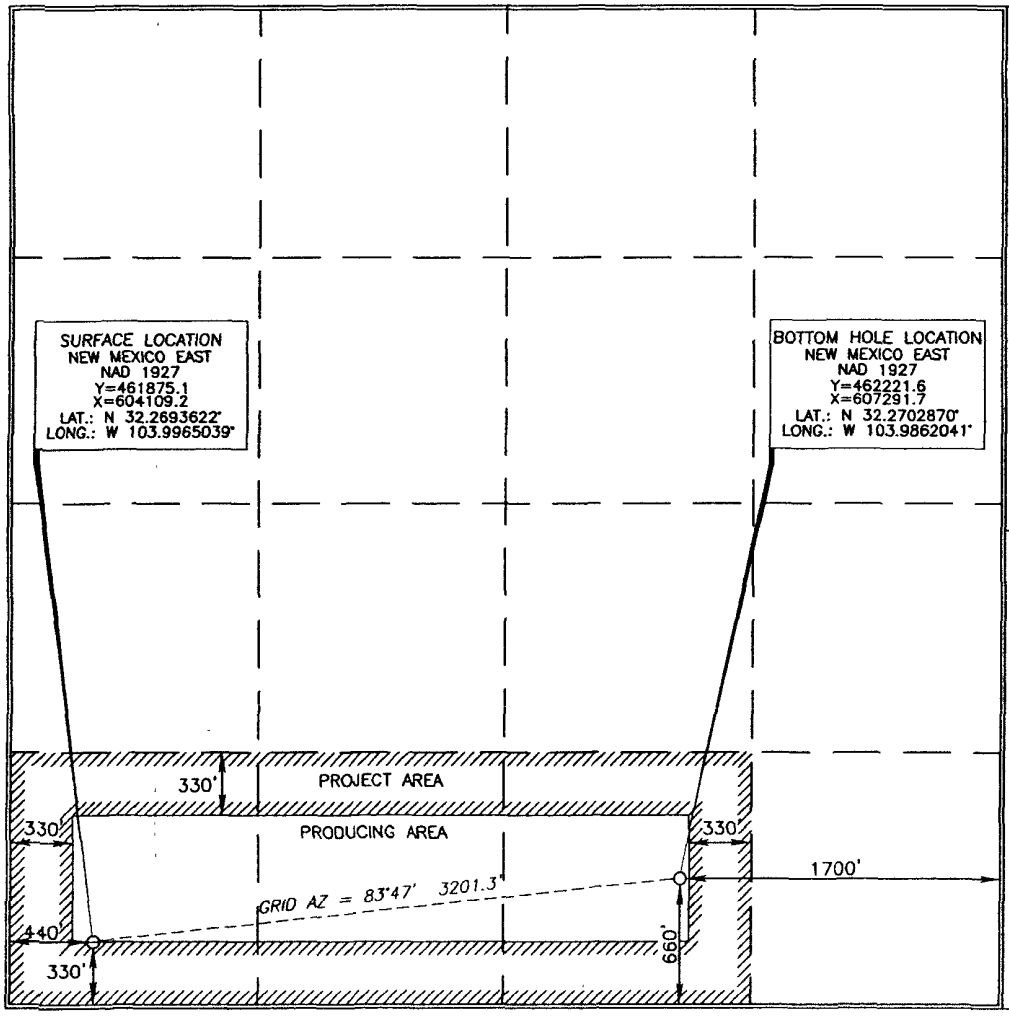
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	28	23 SOUTH	29 EAST, N.M.P.M.		330'	SOUTH	440'	WEST	EDDY

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
O	28	23 SOUTH	29 EAST, N.M.P.M.		660'	SOUTH	1700'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
120	N		

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: 4/21/09

David Stewart Sr. Reg. Analyst
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.

JUNE 16, 2008
Date of Survey

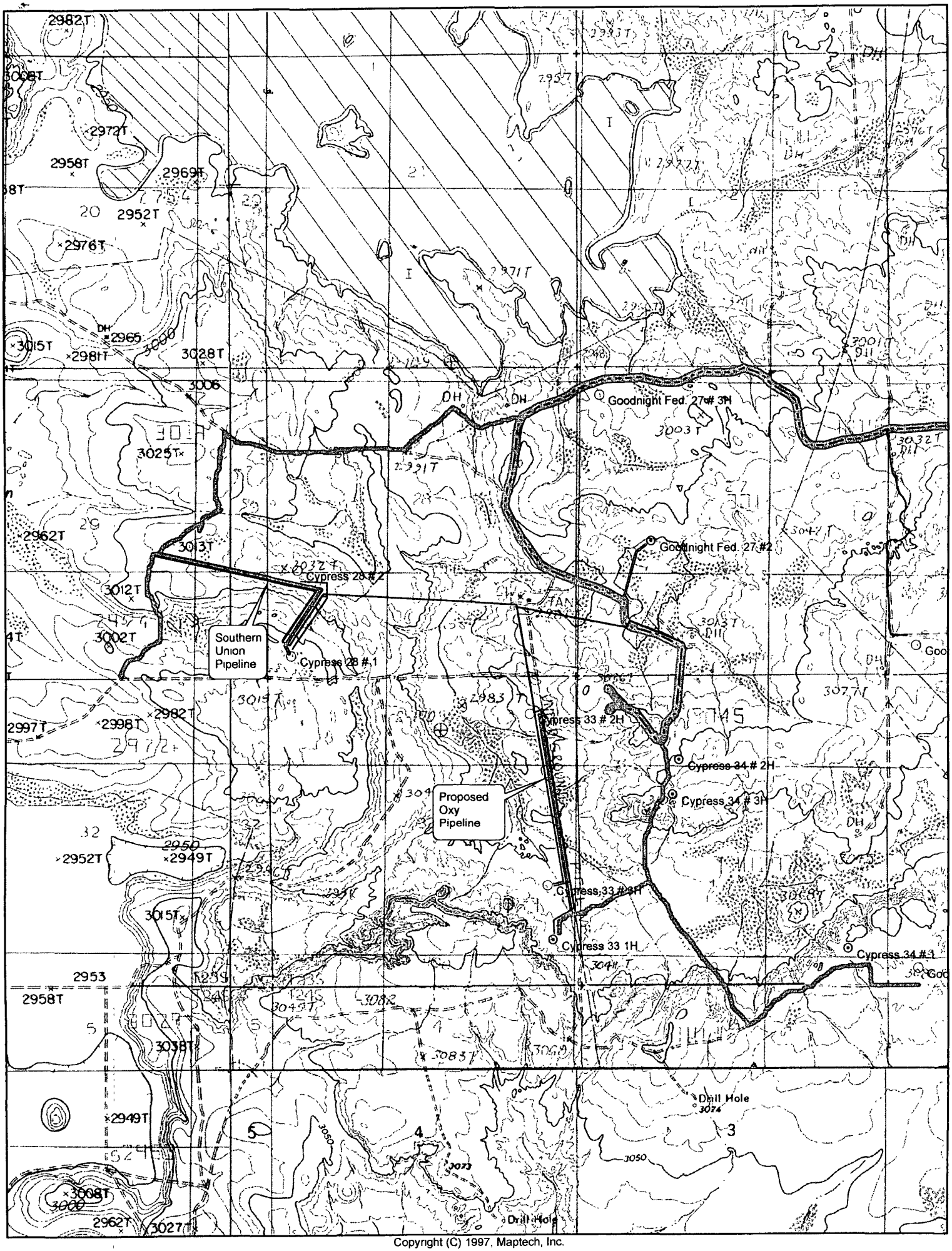
Signature and Seal of Professional Surveyor:

NEW MEXICO — 15079 — PROFESSIONAL LAND SURVEYOR

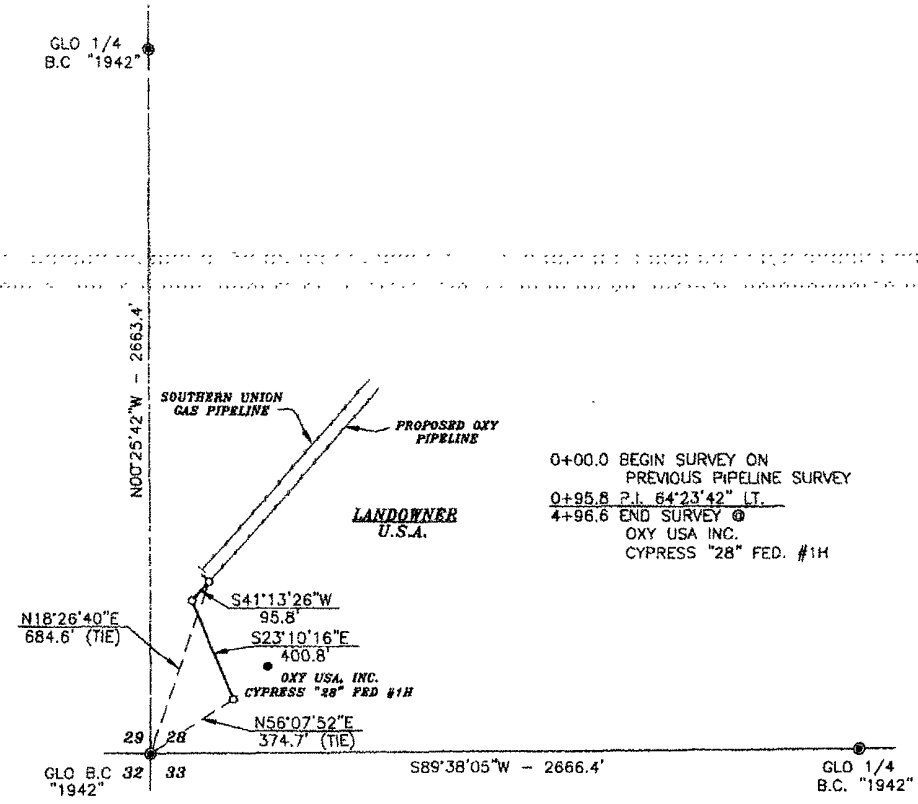
6/19/2008

Certificate Number 15079

WO# 080616WL-a (KA)



SECTION 28, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY NEW MEXICO



DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 496.6 FEET OR 0.094 MILES IN LENGTH CROSSING U.S.A. LAND IN SECTION 28, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

TERRY J. ASEL
NEW MEXICO
15079
REGISTERED PROFESSIONAL LAND SURVEYOR

LEGEND

⊕ - DENOTES FOUND MONUMENT AS NOTED

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 4/20/2009

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

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

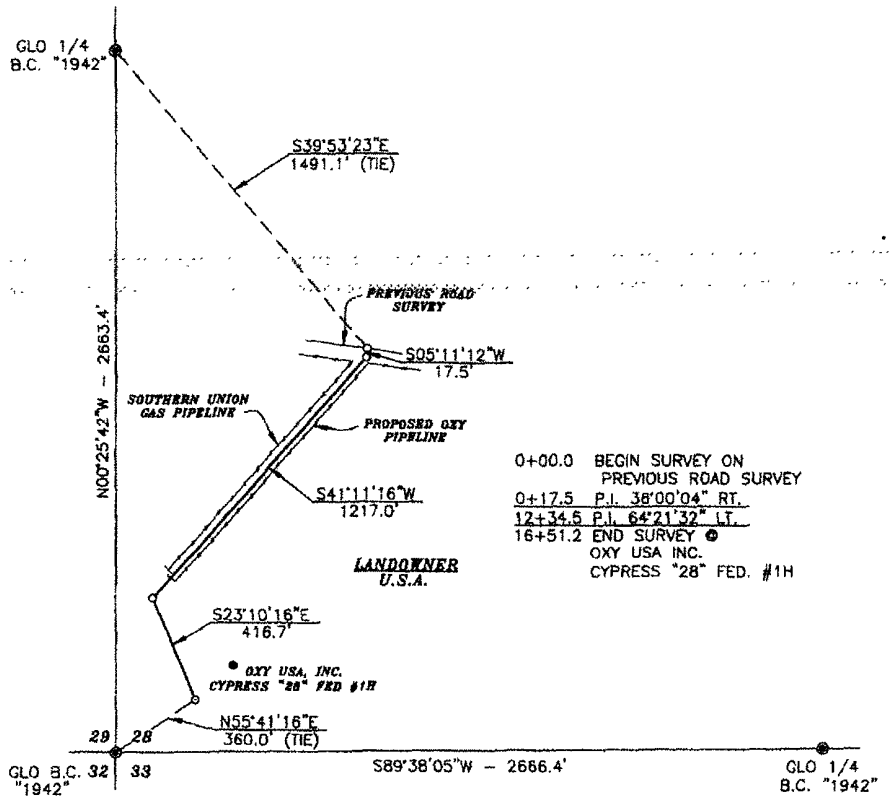
500' 0 500' 1000' FEET
SCALE: 1"=500'

OXY USA INC.

SURVEY FOR A PIPELINE EASEMENT IN SECTION 28, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 04/08/09	Sheet 1 of 1 Sheets		
W.O. Number: 090408PL	Drawn By: KA		
Date: 04/20/09	090408PL.DWG	Scale: 1"=500'	

SECTION 28, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY NEW MEXICO



0+00.0 BEGIN SURVEY ON PREVIOUS ROAD SURVEY
0+17.5 P.I. 38°00'04" RT.
12+34.6 P.I. 64°21'32" LT.
16+51.2 END SURVEY
OXY USA INC.
CYPRESS "28" FED. #1H

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 1651.2 FEET OR 0.313 MILES IN LENGTH CROSSING U.S.A. LAND IN SECTION 28, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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 4/20/09

Terry J. Asel, N.M. R.P.S. No. 15079

Asel Surveying
P.O. BOX 393 - 310 N. TAYLOR
HOBBS, NEW MEXICO - 575-393-9148

LEGEND

● - DENOTES FOUND MONUMENT AS NOTED

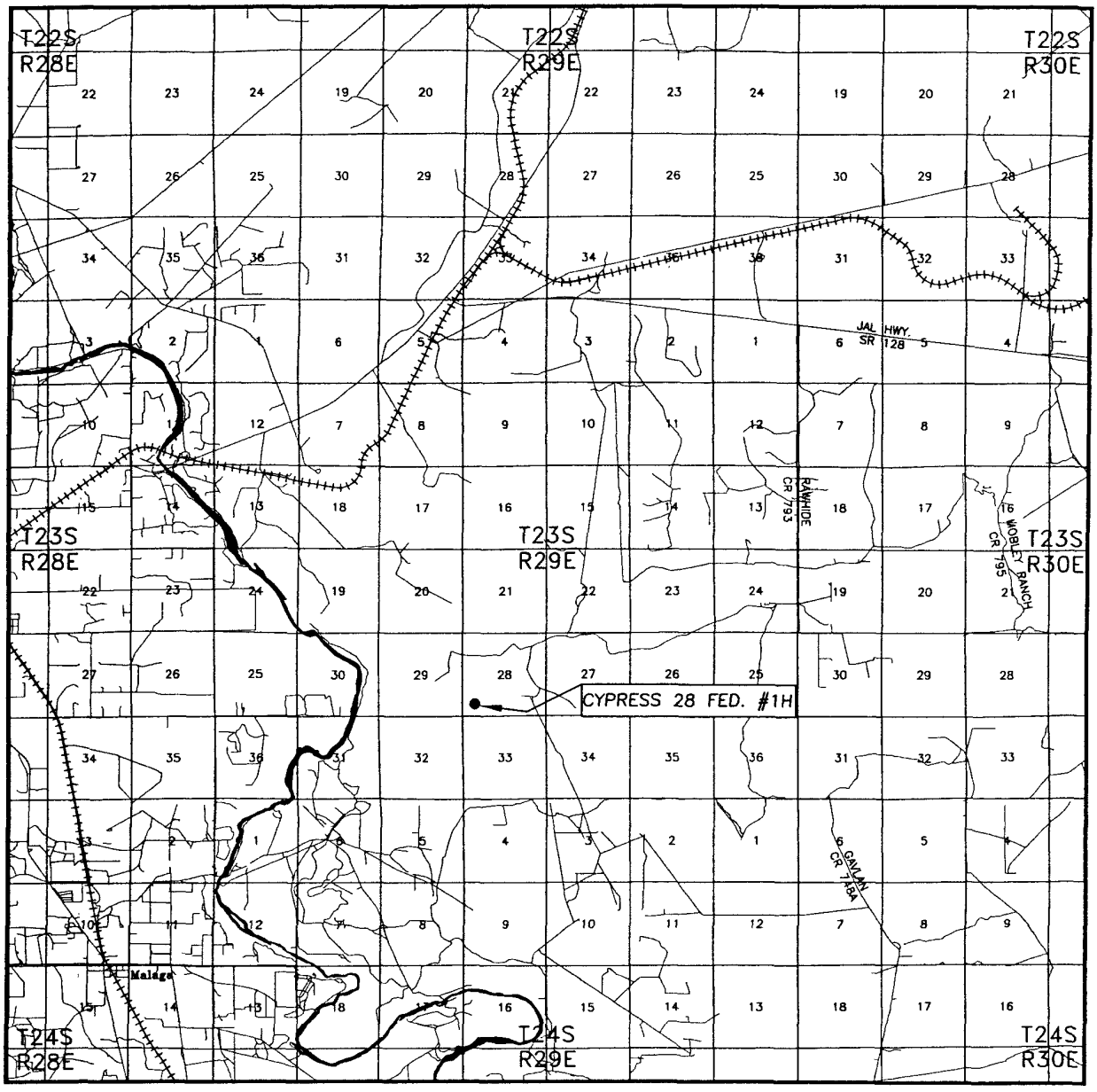
500' 0 500' 1000' FEET
SCALE: 1"=500'

OXY USA INC.

SURVEY FOR A ROAD EASEMENT IN SECTION 28, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 04/08/09	Sheet 1 of 1 Sheets	
W.O. Number: 090408RD	Drawn By: KA	
Date: 04/20/09	090408RD.DWG	Scale: 1"=500'

VICINITY MAP



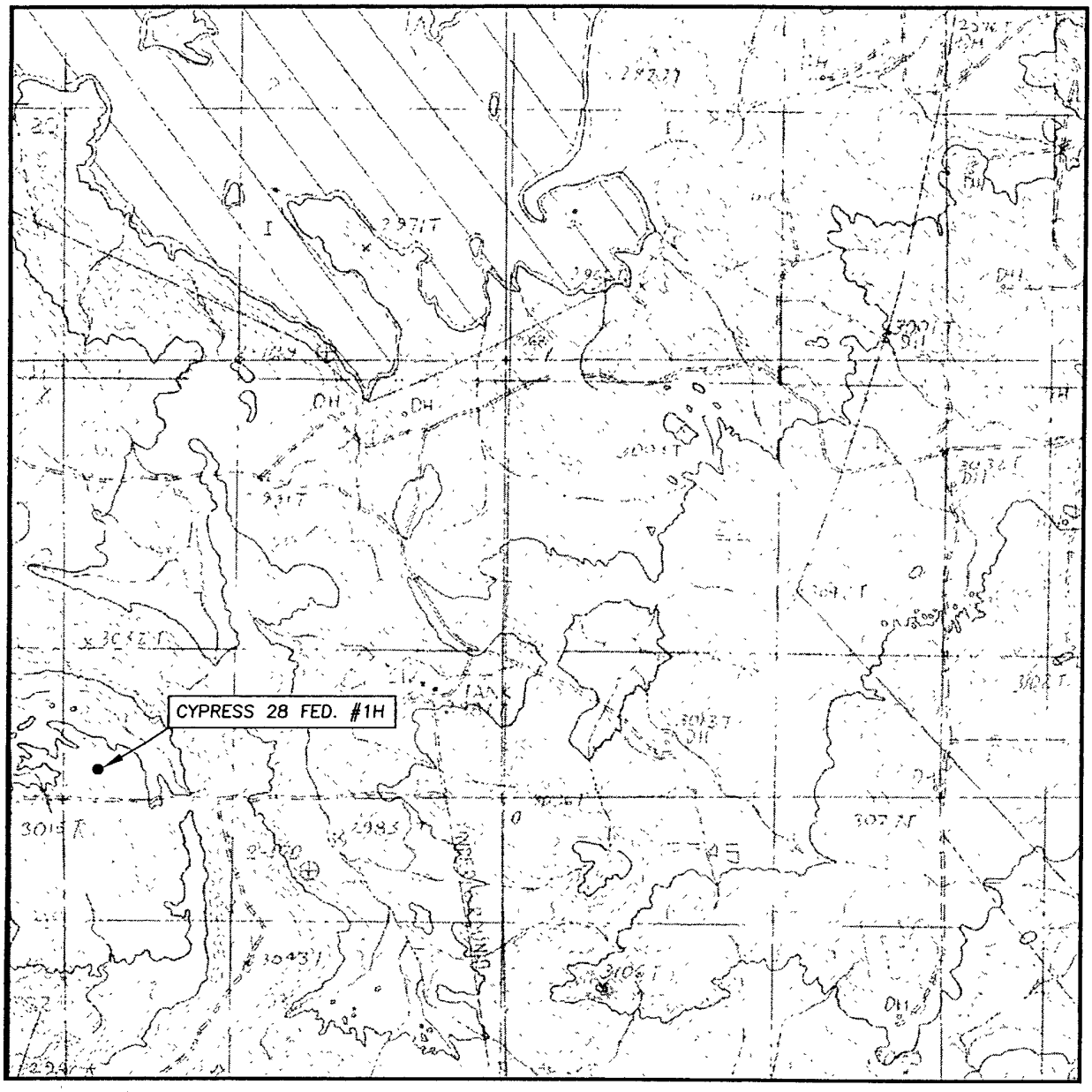
SCALE: 1" = 2 MILES

SEC. 28 TWP. 23-S RGE. 29-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 330' FSL & 440' FWL
ELEVATION 3004.5'
OPERATOR OXY USA WTP LP
LEASE CYPRESS 28 FED. #1H

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

DIRECTIONS BEGINNING IN JAL AT THE INTERSECTION OF HWY. #128 AND HWY. #18, GO WEST ON HWY. #128 FOR APPX. 48.1 MILES, TURN SOUTH ON EDDY CO. ROAD #793 (RAWHIDE ROAD) FOR 3.5 MILES, TURN WEST ON LEASE ROAD FOR 4.6 MILES, TURN SOUTH ON LEASE ROAD FOR 0.5 MILES, TURN EAST SOUTHEAST AND GO ALONG PIPELINE ROAD FOR 0.6 MILES, TURN SOUTH ON TRAIL ROAD FOR 0.3 MILES, TURN WEST ON TRAIL ROAD FOR 0.2 MILES TO LOCATION.

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 28 TWP. 23-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 330' FSL & 440' FWL

ELEVATION 3004.5'

OPERATOR OXY USA WTP LP

LEASE CYPRESS 28 FED. #1H

U.S.G.S. TOPOGRAPHIC MAP
REMUDA BASIN, N.M.

Asel Surveying

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

DRILLING PROGRAM

Operator Name/Number:	**OXY USA Inc. 16696**
Lease Name/Number:	**Cypress 28 Federal #1H Federal Lease No. NMNM86024**
Pool Name/Number:	**South Laguna Salado Bone Spring - 96857**
Surface Location:	**330 FSL 440 FWL SWSW(M) Sec 28 T23S R29E**
Bottom Hole Location:	**660 FSL 1700 FEL SWSE(O) Sec 28 T23S R29E**

Proposed TD: 7800' TVD 10600' TMD Elevation: 3004.5' GR
SL - Lat: 32.2693622 Long: 103.96965039 X=604109.2 Y=461875.1 NAD - 1927
BH - Lat: 32.2702870 Long: 103.9862041 X=607291.7 Y=462221.6 NAD - 1927

1. Geologic Name of Surface Formation:

a. Permian

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

Geological Marker	Depth	Type
a. Upper Permian Sand	170'	Water
b. Top Salt	550'	---
c. Bottom Salt	2727'	---
d. Delaware	2950'	Oil
e. Cherry Canyon	3800'	Oil
f. Brushy Canyon	5040'	Oil
g. Bone Springs	6700'	Oil

3. Casing Program:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Condition	Collapse Design Factor	Burst Design Factor	Tension Design Factor
	See COA								
17-1/2"	~~550'~~	13-3/8"	48#	STC	H40	New	2.63	3.97	4.24
	See COA								
12-1/4"	~~3000'~~	9-5/8"	47#	BTC	~~J55~~ N80	New	1.83	1.44	1.77
8-1/2"	10520'M	5-1/2"	17#	LTC	N80	New	1.26	1.21	2.28
	DVT-4800'								
	DVT-3050'								

4. Cement Program

a. 13-3/8" Surface Circulate cement to Surface w/ 605sx PP w/ 4% Bentonite + .25#/sx PhenoSeal + 2% CaCl2, 13.5 ppg 1.75 yield

If cement is not circulated, the BLM will be notified, a temperature survey will be run and will be immediately followed by top jobs as necessary to circulate cement to surface.

b. 9-5/8" Intermediate Circulate cement to surface w/ 720sx HES light PP w/ 1#/sx PhenoSeal, 12.4ppg 2.11 yield followed by 200sx PP w/ 1% CaCl2, 14 8ppg 1.34 yield.

Intermediate -- Contingency
In the event that air pockets are encountered the following alternate cement design will be utilized. Circulate cement to surface w/DV & ECP tool @ +/-600'.

	Stage 1:	Lead:	620sx Light PP w/ 5% Salt + .25#/sx Pol-E-Flake + 5#/sx Gilsonite Gilsonite 12.4ppg 2.12 yield
		Tail	200sx PP w/ 1% CaCl2 @ 14.8ppg 1.33 yield
	Stage 2:	Lead:	200sx Light PP w/ 5% Salt + .25#/sx Pol-E-Flake + 5#/sx Gilsonite 12.4ppg 2.12 yield

c. 5-1/2" Production Cement 1st stage w/ 1650sx Super H w/ .5% LAP-1 + .4% CFR-3 + .25#/sx D-AIR 1 + .3% HR-601, 13.2ppg 1.59 yield
Cement 2nd stage w/ 180sx IFC w/ .5% LAP-1 + .25#/sx D-AIR 1 + .125#/sx Pol-E-Flake 11.7ppg 2.61 yield followed by 100sx PP w/ 1% CaCl2 14.8ppg 1.34 yield
Cement 3rd stage w/ ~~250~~ 300sx IFC w/ .5% LAP-1 + .25#/sx D-AIR 1 + .125#/sx Pol-E-Flake 11.7ppg 2.61 yield followed by ~~100~~ 150sx PP w/ 1% CaCl2 14.8ppg 1.34 yield
Estimated TOC @ Surface.

See E Mail

The above cement volumes could be revised pending the caliper measurement.

5. Pressure Control Equipment:

Surface 0-550' None

Production 3000-10600' 13-5/8" 10M two ram stack w/ 5M annular preventor, 10M Choke Manifold

All BOP's and associated equipment will be tested to ~~1200psi with the rig pump~~ See COA before drilling out the 13-3/8" casing shoe. Prior to drilling out the 9-5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2.

Pipe Rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having a 5000 psi WP rating.
OXY requests that the entire system be tested as a 5000psi WP rating.

Request variance to connect BOP outlet to the choke manifold a flex line that is manufactured by Contitech Rubber Industrial KFT. It is a 3" ID X 35' flexible hose rated to 10000psi working pressure. It has been tested to 15000psi and is built to API Spec 16C. Once the flex line is installed, it will be tied down with safety clamps, certification attached.

6. Proposed Mud Circulation System

See COA

Depth	Mud Wt. ppg	Visc sec	Fluid Loss	Type System
0-550'	8.4-8.9	32-34	NC	Fresh Water/MI Gel Spud Mud
550-3000'	9.8-10.0	28-29	NC	Brine Water
3000-6700'	8.8-9.0	28-29	NC	Fresh Water
6700'-TD	9.0-9.8	32-36	10-15	Duo Vis/Poly Pac R

The necessary mud products for weight additional and fluid loss control will be on location at all times.

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 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.

<David_Stewart@oxy.com>
06/26/2009 02:27 PM

To <paul_swartz@nm.blm.gov>, <Wesley_Ingram@nm.blm.gov>
cc <Melissa_Schaaf@oxy.com>
bcc

Subject RE: OXY USA Inc. - Cypress 28 Fed #1H - 28-23S-29E - 5-1/2" cementing

Paul just to confirm, we will change our cementing program for the 3rd stage to the following. Again, I appreciate the help.

5-1/2" Production Cement 1st stage w/ 1650sx Super H w/ .5% LAP-1 + .4% CFR-3 + .25#/sx D-AIR 1 +
.3% HR-601, 13.2ppg 1.59 yield
Cement 2nd stage w/ 180sx IFC w/ .5% LAP-1 + .25#/sx D-AIR 1 + .125#/sx Pol-E-Flake
11.7ppg 2.61 yield followed by 100sx PP w/ 1% CaCl2 14.8ppg 1.34 yield
Cement 3rd stage w/ 300sx IFC w/ .5% LAP-1 + .25#/sx D-AIR 1 + .125#/sx Pol-E-Flake
11.7ppg 2.61 yield followed by 150sx PP w/ 1% CaCl2 14.8ppg 1.34 yield

Thanks, David S.
432-685-5717

From: Stewart, David
Sent: Friday, June 26, 2009 2:57 PM
To: Paul Swartz; Wesley Ingram
Subject: OXY USA Inc. - Cypress 28 Fed #1H - 28-23S-29E - 9-5/8" 47# N80 Intermediate Casing

Paul, just to confirm our phone conversation, the intermediate casing string on the Cypress 28 Federal #1H will be 9-5/8" 47# N80 BTC new casing, please see below. I apologize for any inconvenience and appreciate the help.

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Condition	Collapse	Burst	Tension
							Design Factor	Design Factor	Design Factor
12-1/4"	3000'	9-5/8"	47#	BTC	N80	New	7.78	1.8	4.85

Thanks, David S.
432-685-5717

8. Logging, Coring and Testing Program: ← See COA

a. Drill stem tests are not anticipated but if done will be based on geological sample shows.
b. The open hole logging program will consist of LWD Gamma Ray from 6800' to 8300'.
c. No coring program is planned but if done will be sidewall rotary cores.
d. No mudloggers are currently programmed for this well.

9. Potential Hazards:

No abnormal pressures, temperatures or H_2S gas are expected. The highest anticipated pressure gradient would be .53 psi/ft or 4120psi. If H_2S is encountered the operator will comply with the provisions of Onshore Oil & Gas Order No.6. No lost circulation is expected to occur. 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.

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 BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 45 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.

ENGINEERING CALCS

Permian
Cypress 28 Federal #1H
Cypress 28 Federal #1H
Cypress 28 Federal #1H

Plan: Permitted Wellbore

Standard Planning Report

16 April, 2009

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cypress 28 Federal #1H
Company:	ENGINEERING CALCS	**TVD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Project:	Permian	**MD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Site:	Cypress 28 Federal #1H	**North Reference:**	True
Well:	Cypress 28 Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Cypress 28 Federal #1H		
Design:	Permitted Wellbore		

Project Permian

Map System:	Flat Earth	**System Datum:**	Mean Sea Level
Geo Datum:	WGS 1984		
Map Zone:	No Conversions		

Site Cypress 28 Federal #1H, T23S, R29E

Site Position:		**Northing:**	461,875.10 ft	**Latitude:**	
From:	Map	**Easting:**	604,109.20 ft	**Longitude:**	
Position Uncertainty:	0.0 ft	**Slot Radius:**	in	**Grid Convergence:**	0.00 °

Well Cypress 28 Federal #1H, Horizontal First Bone Springs Well

Well Position	**+N/-S**	0.0 ft	**Northing:**	461,875.10 ft	**Latitude:**	
	+E/-W	0.0 ft	**Easting:**	604,109.20 ft	**Longitude:**	
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	3,004.5 ft	**Ground Level:**	3,004.5 ft

Wellbore Cypress 28 Federal #1H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	4/7/2009	0.00	0.00	0

Design Permitted Wellbore

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	83.79

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,767.1	0 00	0.00	6,767.1	0.0	0.0	0.00	0.00	0.00	0.00	
8,267.1	90.00	83.79	7,722.0	103.4	949.3	6.00	6.00	0.00	83.79	
10,513.4	90.00	83.79	7,722.0	346.5	3,182.5	0.00	0 00	0.00	0.00	Cypress 28 Federal #

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cypress 28 Federal #1H
Company:	ENGINEERING CALCS	**TVD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Project:	Permian	**MD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Site:	Cypress 28 Federal #1H	**North Reference:**	True
Well:	Cypress 28 Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Cypress 28 Federal #1H		
Design:	Permitted Wellbore		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,755.0	0.00	0.00	2,755.0	0.0	0.0	0.0	0.00	0.00	0.00
Anhydrite									
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,970.0	0.00	0.00	2,970.0	0.0	0.0	0.0	0.00	0.00	0.00
Lamar									
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
3,030.0	0.00	0.00	3,030.0	0.0	0.0	0.0	0.00	0.00	0.00
Bell Canyon									
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,909.0	0.00	0.00	3,909.0	0.0	0.0	0.0	0.00	0.00	0.00
Cherry Canyon									
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cypress 28 Federal #1H
Company:	ENGINEERING CALCS	**TVD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Project:	Permian	**MD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Site:	Cypress 28 Federal #1H	**North Reference:**	True
Well:	Cypress 28 Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Cypress 28 Federal #1H		
Design:	Permitted Wellbore		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0 00	0.00
4,400 0	0.00	0 00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0 00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,089.0	0.00	0.00	5,089.0	0.0	0.0	0.0	0.00	0.00	0.00
Brushy Canyon									
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0 00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0 00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0 0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0 00
6,300.0	0.00	0 00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400 0	0 0	0.0	0.0	0.00	0.00	0 00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,699.0	0.00	0.00	6,699.0	0.0	0.0	0.0	0.00	0.00	0.00
Bone Spring									
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,767.1	0.00	0.00	6,767.1	0.0	0.0	0 0	0.00	0 00	0.00
6,800.0	1.98	83.79	6,800.0	0.1	0.6	0.6	6.00	6.00	0.00
6,850.0	4.98	83.79	6,849.9	0 4	3.6	3.6	6 00	6.00	0.00
6,900.0	7.98	83.79	6,899 6	1.0	9.2	9.2	6.00	6.00	0.00
6,950.0	10.98	83 79	6,948.9	1.9	17.4	17.5	6 00	6.00	0.00
7,000.0	13.98	83.79	6,997 7	3.1	28.1	28.3	6.00	6.00	0.00
7,050 0	16.98	83 79	7,045.9	4 5	41.4	41.6	6.00	6.00	0.00
7,100.0	19.98	83.79	7,093.3	6.2	57.1	57 5	6.00	6.00	0 00
7,150.0	22.98	83 79	7,139 8	8.2	75.3	75.8	6.00	6.00	0.00
7,200.0	25.98	83.79	7,185.3	10.4	95.9	96 5	6.00	6.00	0.00
7,250.0	28.98	83.79	7,229.7	12 9	118.8	119.5	6.00	6.00	0.00
7,300 0	31 98	83.79	7,272 8	15.7	144.0	144.9	6.00	6.00	0.00
7,350.0	34.98	83.79	7,314.5	18.7	171.5	172.5	6.00	6.00	0.00
7,400.0	37.98	83 79	7,354.7	21.9	201.0	202.2	6.00	6.00	0 00
7,450.0	40.98	83.79	7,393.3	25.3	232.6	234.0	6.00	6.00	0.00
7,500.0	43.98	83.79	7,430.1	29.0	266.2	267 7	6.00	6 00	0.00
7,550.0	46.98	83 79	7,465.2	32.8	301.6	303.4	6.00	6.00	0.00
7,600 0	49 98	83.79	7,498 3	36.9	338.8	340.8	6.00	6.00	0 00
7,650 0	52.98	83 79	7,529.5	41.1	377.7	379.9	6.00	6.00	0.00
7,700.0	55.98	83.79	7,558 5	45.5	418.1	420 6	6.00	6.00	0.00
7,750 0	58.98	83.79	7,585.4	50.1	460.0	462.8	6.00	6.00	0.00
7,800.0	61.98	83.79	7,610.0	54 8	503.3	506.3	6.00	6.00	0 00
7,850.0	64.98	83 79	7,632.4	59.6	547.8	551.0	6.00	6.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cypress 28 Federal #1H
Company:	ENGINEERING CALCS	**TVD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Project:	Permian	**MD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Site:	Cypress 28 Federal #1H	**North Reference:**	True
Well:	Cypress 28 Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Cypress 28 Federal #1H		
Design:	Permitted Wellbore		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,900.0	67.98	83.79	7,652.3	64.6	593.3	596.8	6.00	6.00	0.00
7,950.0	70.98	83.79	7,669.8	69.7	639 9	643.7	6.00	6.00	0.00
8,000.0	73.98	83.79	7,684.9	74.8	687.3	691.3	6.00	6.00	0.00
8,000.4	74.00	83.79	7,685.0	74.9	687.6	691.7	6.00	6.00	0.00
First Bone Spring Sand Top									
8,050.0	76.98	83.79	7,697.4	80.1	735.4	739.7	6.00	6.00	0.00
8,100.0	79.98	83.79	7,707.4	85.4	784.1	788.7	6.00	6.00	0.00
8,150.0	82.98	83.79	7,714.8	90.7	833.2	838.2	6.00	6.00	0.00
8,200.0	85.98	83.79	7,719.6	96.1	882.7	887 9	6.00	6.00	0.00
8,250.0	88.98	83.79	7,721.8	101.5	932.4	937.9	6.00	6.00	0.00
8,267.1	90.00	83.79	7,722.0	103.4	949.3	954.9	6.00	6.00	0.00
First Bone Spring Sand Target									
8,300.0	90.00	83.79	7,722.0	106.9	982.1	987.9	0.00	0.00	0.00
8,400.0	90.00	83.79	7,722.0	117.7	1,081.5	1,087.9	0.00	0.00	0.00
8,500.0	90.00	83.79	7,722.0	128.6	1,180.9	1,187.9	0 00	0.00	0.00
8,600.0	90.00	83.79	7,722 0	139.4	1,280.3	1,287.9	0.00	0.00	0.00
8,700.0	90.00	83 79	7,722.0	150.2	1,379.7	1,387.9	0.00	0.00	0.00
8,800.0	90.00	83.79	7,722.0	161.0	1,479.1	1,487.9	0.00	0.00	0.00
8,900.0	90.00	83.79	7,722.0	171.9	1,578.5	1,587.9	0.00	0.00	0.00
9,000.0	90.00	83.79	7,722.0	182.7	1,677.9	1,687.9	0.00	0.00	0.00
9,100.0	90.00	83.79	7,722.0	193.5	1,777.4	1,787.9	0.00	0.00	0.00
9,200.0	90.00	83.79	7,722.0	204.3	1,876.8	1,887.9	0.00	0.00	0.00
9,300.0	90.00	83.79	7,722.0	215.2	1,976.2	1,987.9	0.00	0.00	0.00
9,400.0	90.00	83.79	7,722.0	226.0	2,075.6	2,087.9	0.00	0.00	0.00
9,500.0	90.00	83.79	7,722.0	236.8	2,175.0	2,187.9	0.00	0.00	0 00
9,600.0	90.00	83.79	7,722.0	247.6	2,274.4	2,287.9	0.00	0.00	0.00
9,700.0	90.00	83.79	7,722.0	258.5	2,373.8	2,387.9	0.00	0.00	0.00
9,800.0	90.00	83.79	7,722.0	269.3	2,473.2	2,487.9	0.00	0.00	0.00
9,900.0	90.00	83.79	7,722.0	280.1	2,572.7	2,587.9	0.00	0.00	0.00
10,000 0	90.00	83.79	7,722.0	290.9	2,672.1	2,687.9	0.00	0.00	0.00
10,100.0	90.00	83.79	7,722.0	301 7	2,771.5	2,787.9	0.00	0.00	0.00
10,200.0	90.00	83.79	7,722.0	312.6	2,870.9	2,887.9	0.00	0.00	0.00
10,300.0	90.00	83.79	7,722.0	323.4	2,970 3	2,987.9	0.00	0.00	0.00
10,400.0	90.00	83.79	7,722.0	334.2	3,069.7	3,087.9	0.00	0.00	0.00
10,500.0	90 00	83.79	7,722.0	345.0	3,169.1	3,187 9	0.00	0.00	0.00
10,513.0	90.00	83.79	7,722.0	346.5	3,182.1	3,200.9	0.00	0.00	0.00
5 1/2"									
10,513.4	90.00	83.79	7,722.0	346.5	3,182.5	3,201.3	0.00	0.00	0.00
Cypress 28 Federal #1H – Requested BHL									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Cypress 28 Federal #1H - plan hits target - Rectangle (sides W40.0 H40 0 D20.0)	0.00	0.00	7,722.0	346.5	3,182.5	462,221.60	607,291.70	0.000	0.000

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cypress 28 Federal #1H
Company:	ENGINEERING CALCS	**TVD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Project:	Permian	**MD Reference:**	Rig KB @ 3029.5ft (H&P 370)
Site:	Cypress 28 Federal #1H	**North Reference:**	True
Well:	Cypress 28 Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Cypress 28 Federal #1H		
Design:	Permitted Wellbore		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
550.0	550.0	13 3/8"	13.375	17.500
3,000.0	3,000.0	9 5/8"	9.625	12.250
10,513.0	7,722.0	5 1/2"	5.500	7.875

Formations

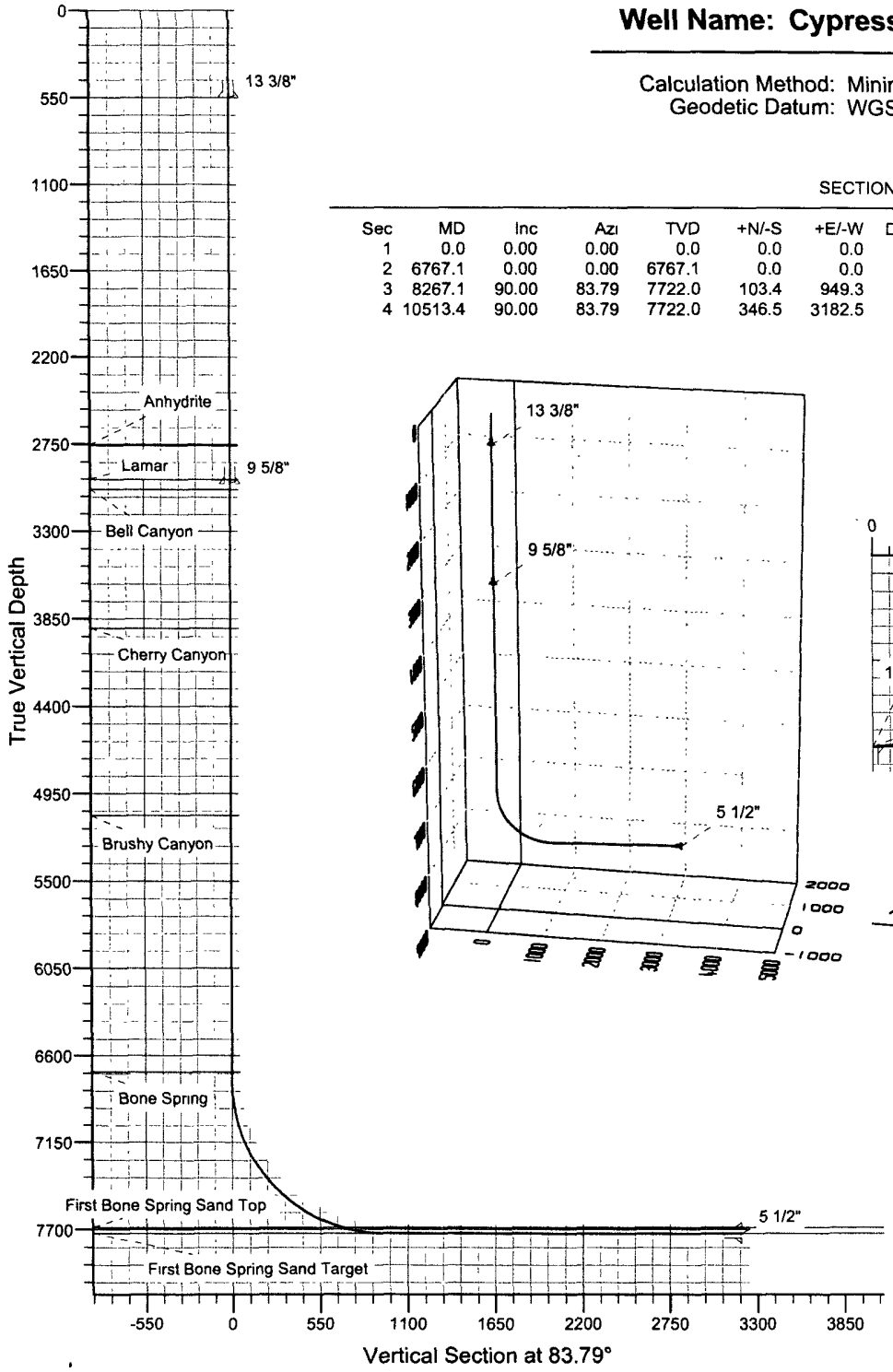
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,755.0	2,755.0	Anhydrite	ANHYDRITE	0.00	
2,970.0	2,970.0	Lamar		0.00	
3,030.0	3,030 0	Bell Canyon		0.00	
3,909.0	3,909.0	Cherry Canyon		0.00	
5,089.0	5,089.0	Brushy Canyon		0.00	
6,699.0	6,699.0	Bone Spring		0.00	
8,000.4	7,685.0	First Bone Spring Sand Top		0.00	
8,267.1	7,722 0	First Bone Spring Sand Target		0.00	

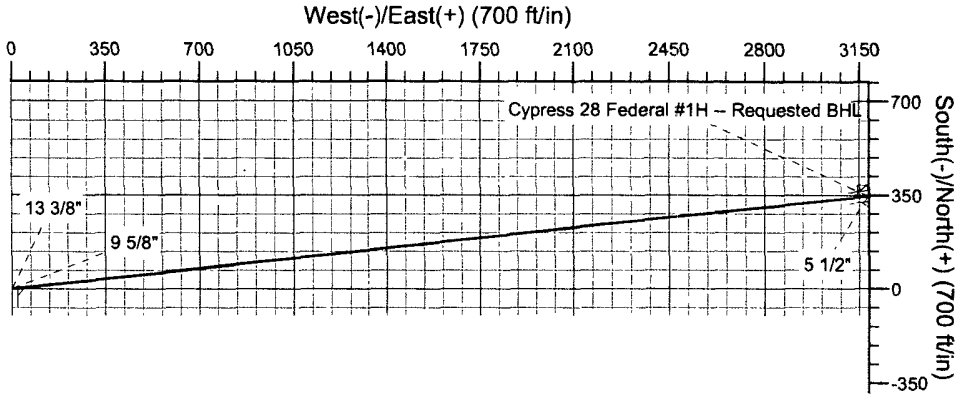
Well Name: Cypress 28 Federal #1H

Calculation Method: Minimum Curvature
Geodetic Datum: WGS 1984

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	6767.1	0.00	0.00	6767.1	0.0	0.0	0.00	0.00	0 0	
3	8267.1	90.00	83.79	7722.0	103.4	949.3	6.00	83.79	954.9	
4	10513.4	90.00	83.79	7722.0	346.5	3182.5	0.00	0.00	3201.3	Cypress 28 Federal #1H -- Requested BHL





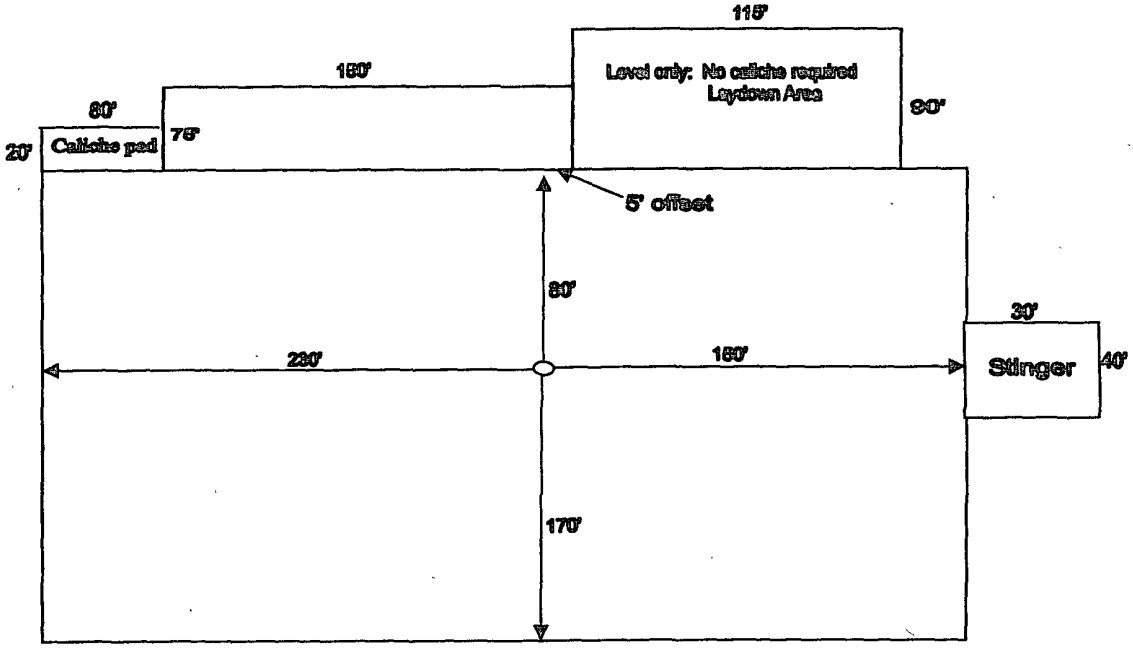
FORMATION TOP DETAILS

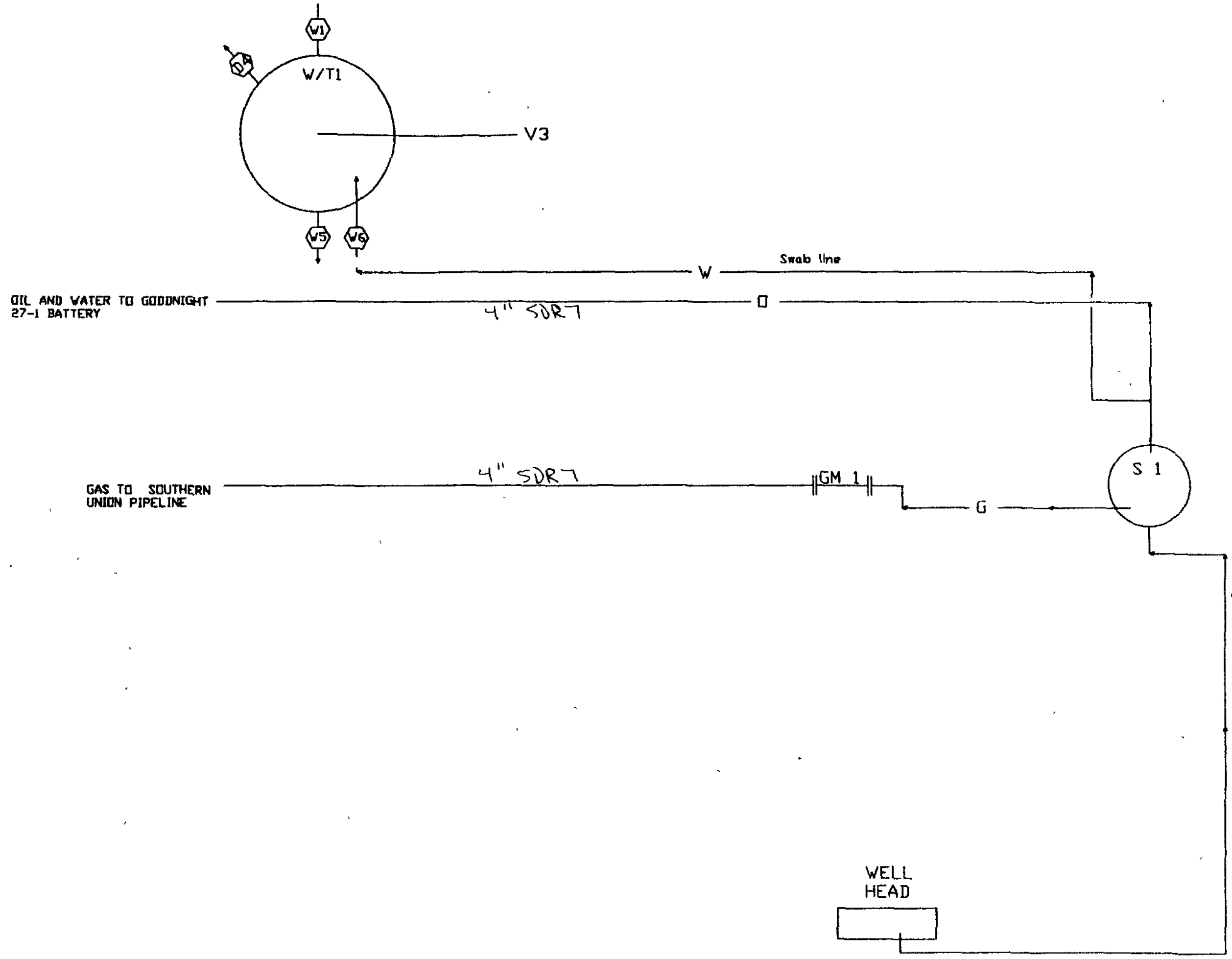
TVDPath	MDPath	Formation
2755.0	2755.0	Anhydrite
2970.0	2970.0	Lamar
3030.0	3030.0	Bell Canyon
3909.0	3909.0	Cherry Canyon
5089.0	5089.0	Brushy Canyon
6699.0	6699.0	Bone Spring
7685.0	8000.4	First Bone Spring Sand Top
7722.0	8267.1	First Bone Spring Sand Target

CASING DETAILS

TVD	MD	Name	Size
550.0	550.0	13 3/8"	13.375
3000.0	3000.0	9 5/8"	9.625
7722.0	10513.0	5 1/2"	5 500

Flex 3 Rig- H & P 212
(Oil Based)
(Closed loop)





Lease: Cypress 28-1
Located at: Section 28 T23 S R29 E
330 FSL, 440 FWL

This lease is subject to the security plan for the Carlsbad Operation. The plan is located at:
102 S Main Street, Carlsbad, NM

REFERENCE DRAWINGS		REVISIONS						ENGINEERING RECORD		
NO.	TITLE	NO.	DATE	DESCRIPTION	BY	CHK.	APP.		BY	DATE
								DRN:		12.22.00
								DES:		
								CHK:		
								APP:		
								AFE No.		
								OXY ENGR.		
								PROJ. ENGR:	R. Gonzales	
								SCALE:	NONE	

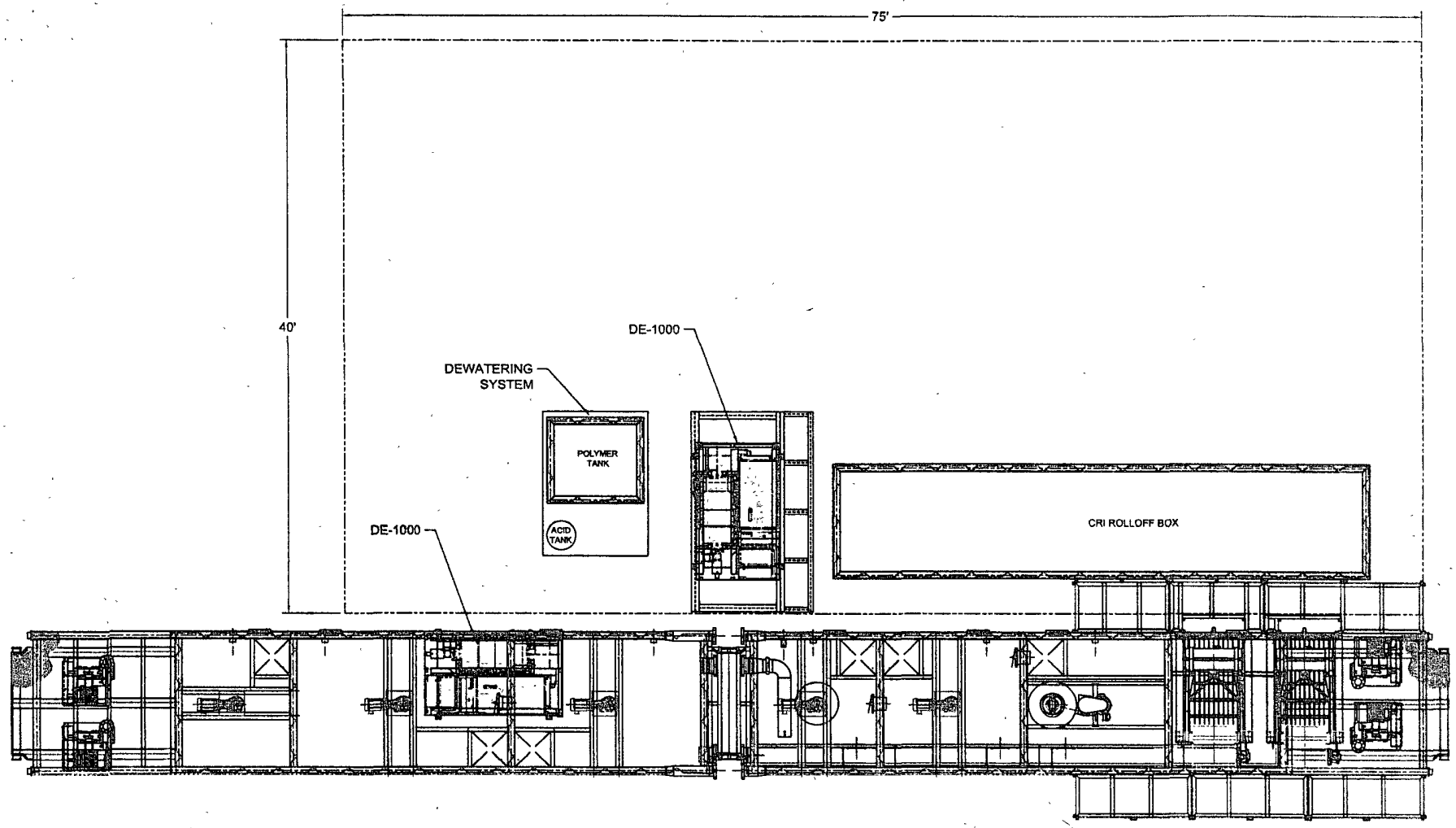
Occidental PERMIAN LTD.

SITE FACILITY DIAGRAM
CYPRESS 28-1 WELL SITE
EDDY COUNTY, NEW MEXICO

PLOT SCALE | CAD NO. | DWG. NO. 001 | REV A

ocuments and Settings\gonzalr\My Documents\Permian\Nls Projects\Out Of Compliance DWGs\Mertha Creek Battery.dwg20080403.09310273

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 300#, 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 :

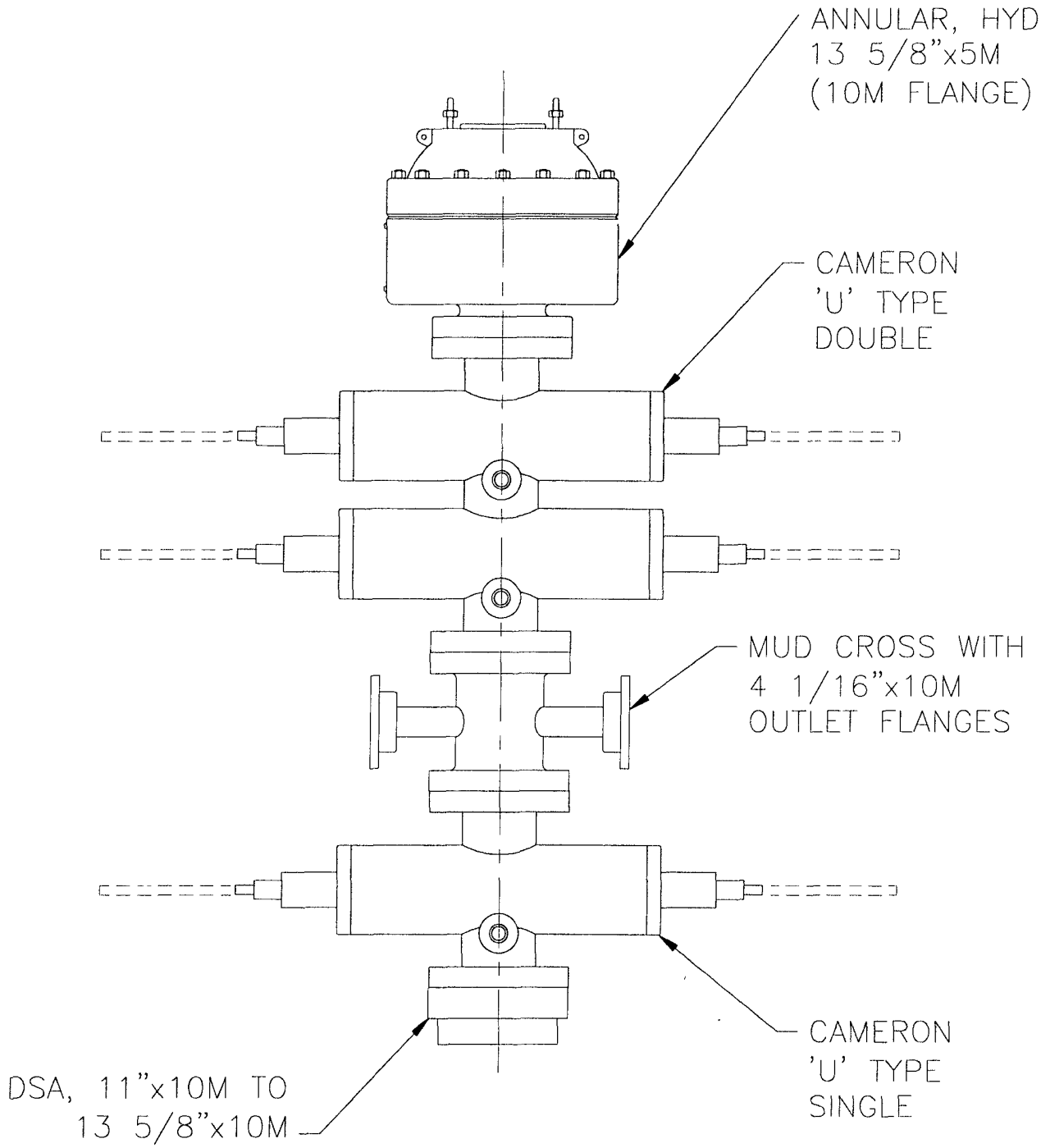
CLOSED LOOP SYSTEM BASIC LAYOUT AND TIE IN OXY - H&P 370

DRAWN BY	DATE	CHECKED BY	DATE
PDL	8/4/06		
APPROVED	DATE	SCALE	ACAD REV.
		NTS	D

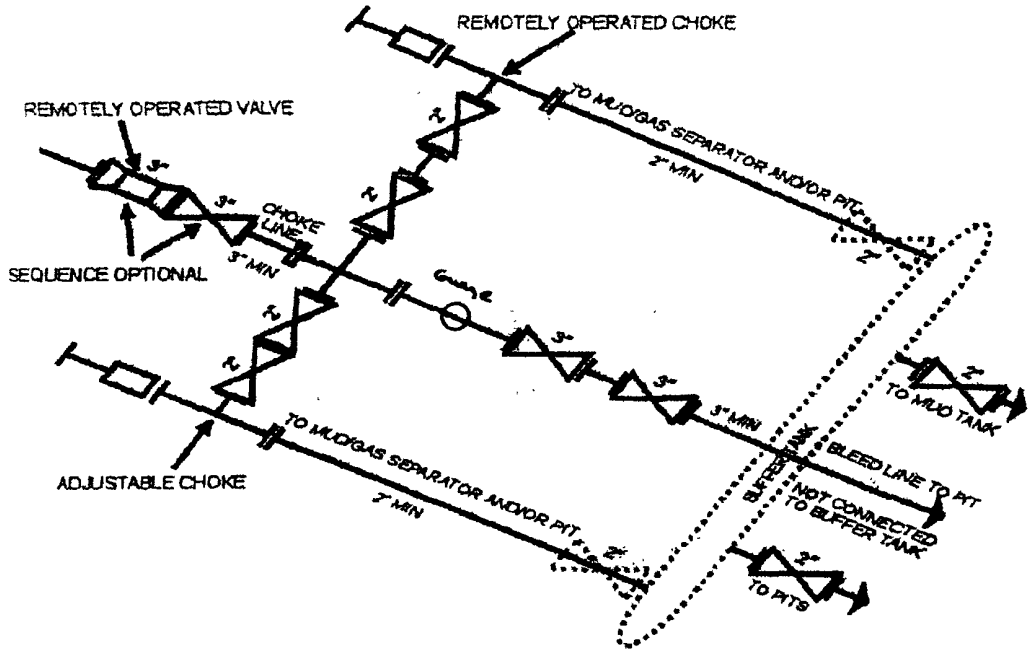
Scomi

251 N. Sam Houston Parkway East, Suite 250,
Houston, Texas 77060
PHONE (281)-539-5216, FAX (281)-853-5269

JOB NO.	DRAWING NO.	REV.
	521S-002	


ANNULAR, HYDRIL GK
13 5/8"x5M
(10M FLANGE)
CAMERON
'U' TYPE
DOUBLE
MUD CROSS WITH
4 1/16"x10M
OUTLET FLANGES
CAMERON
'U' TYPE
SINGLE
DSA, 11"x10M TO
13 5/8"x10M

BOP STACK



5M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

Although not required for any of the choke manifold systems, buffer tanks are sometimes installed downstream of the choke assemblies for the purpose of manifolding the bleed lines together. When buffer tanks are employed, valves shall be installed upstream to isolate a failure or malfunction without interrupting flow control. Though not shown on 2M, 3M, 10M, OR 15M drawings, it would also be applicable to those situations.

[54 FR 39528, Sept. 27, 1989]

Attachment I - 2

Continental CONTITECH

Fluid Technology

Quality Document

CERTIFICATE OF CONFORMITY

Supplier : CONTITECH RUBBER INDUSTRIAL KFT.
Equipment : 6 pcs. Choke and Kill Hose with installed couplings
Type : **3" x 10,67 m WP: 10000 psi**
Supplier File Number : 412638
Date of Shipment : April. 2008
Customer : Phoenix Beattie Co.
Customer P.o. : 002491
Referenced Standards / Codes / Specifications : API Spec 16 C
Serial No.: 52754,52755,52776,52777,52778,52782

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: 04. April. 2008

Position: Q.C. Manager

PHOENIX Beattie

Material Identification Certificate

PA No	006330	Client	HELMERICH & PAYNE INT'L DRILLING	Client Ref	370-369-001	Page	1

Part No	Description	Material Desc	Material Spec	Qty	WO No	Batch No	Test Cert No	Bin No	Drg No	Issue No
HP10CK3A-35-4F1	3" 10K 16C C&K HOSE x 35ft OAL			1	2491	52777/H884		WATER		
SECK3-HPF3	LIFTING & SAFETY EQUIPMENT TO			1	2440	002440		W/STK		
SC725-200CS	SAFETY CLAMP 200MM 7.25T	CARBON STEEL		1	2519	H666		22C		
SC725-132CS	SAFETY CLAMP 132MM 7.25T	CARBON STEEL		1	2242	H139		22		

We hereby certify that these goods have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industry standards within the requirements of the purchase order as issued to Phoenix Beattie Corporation.

05/12/08

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 746	
PURCHASER: Phoenix Beattie Co.				P.O. N°: 002491	
CONTITECH ORDER N°: 412638		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 52777		NOMINAL / ACTUAL LENGTH:		10,67 m	
W.P. 68,96 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration: 60 ~	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS

Type	Serial N°	Quality	Heat N°
3" coupling with	917 913	AISI 4130	T7998A
4 1/16" Flange end		AISI 4130	26984

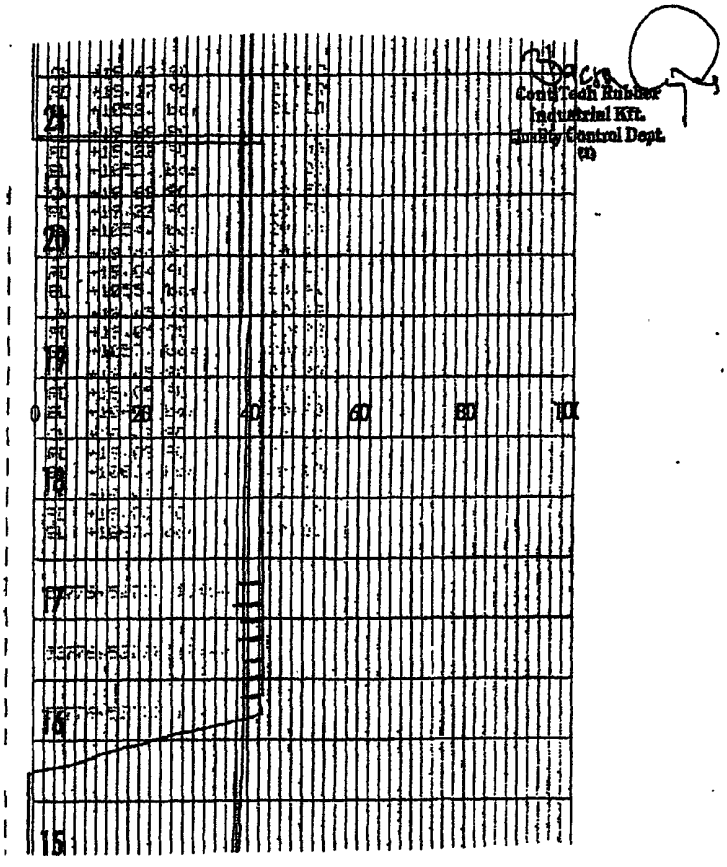
INFOCHIP INSTALLED

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
04. April. 2008		ContiTech Rubber Industrial Kft. Quality Control Dept. (1)


Conti Tech Rubber
Industrial Kft.
Quality Control Dept.
0
20
40
60
80
100
25
20
19
18
17
16
15

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11535 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
E-mail mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	1
Customer / Invoice Address HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119		**Delivery / Address** HELMERICH & PAYNE IDC ATTN: JOE STEPHENSON - RIG 370 13609 INDUSTRIAL ROAD HOUSTON, TX 77015			

Customer Acc No	Phoenix Beattie Contract Manager	Phoenix Beattie Reference	Date
H01	JJL	006330	05/23/2008

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
1	HP10CK3A-35-4F1 3" 10K 16C C&K HOSE x 35ft OAL CW 4.1/16" API SPEC FLANGE E/ End 1: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End 2: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange c/w BX155 Standard ring groove at each end Suitable for H2S Service Working pressure: 10,000psi Test pressure: 15,000psi Standard: API 16C Full specification Armor Guarding: Included Fire Rating: Not Included Temperature rating: -20 Deg C to +100 Deg C	1	1	0
2	SECK3-HPF3 LIFTING & SAFETY EQUIPMENT TO SUIT HP10CK3-35-F1 2 x 160mm ID Safety Clamps 2 x 244mm ID Lifting Collars & element C's 2 x 7ft Stainless Steel wire rope 3/4" OD 4 x 7.75t Shackles	1	1	0
3	SC725-200CS SAFETY CLAMP 200MM 7.25T C/S GALVANISED	1	1	0

Continued...

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11536 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
E-mail mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	2

Customer / Invoice Address
HELMERICH & PAYNE INT'L DRILLING CO
1437 SOUTH BOULDER
TULSA, OK
74119

Delivery / Address
HELMERICH & PAYNE IDC
ATTN: JOE STEPHENSON - RIG 370
13609 INDUSTRIAL ROAD
HOUSTON, TX
77015

Customer Acc No	Phoenix Beattie Contract Manager	Phoenix Beattie Reference	Date
H01	JJL	006330	05/23/2008

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
4	SC725-132CS SAFETY CLAMP 132MM 7.25T C/S GALVANIZED C/W BOLTS	1	1	0
5	00CERT-HYDRO HYDROSTATIC PRESSURE TEST CERTIFICATE	1	1	0
6	00CERT-LOAD LOAD TEST CERTIFICATES	1	1	0
7	00FREIGHT INBOUND / OUTBOUND FREIGHT PRE-PAY & ADD TO FINAL INVOICE NOTE: MATERIAL MUST BE ACCOMPANIED BY PAPERWORK INCLUDING THE PURCHASE ORDER, RIG NUMBER TO ENSURE PROPER PAYMENT	1	1	0

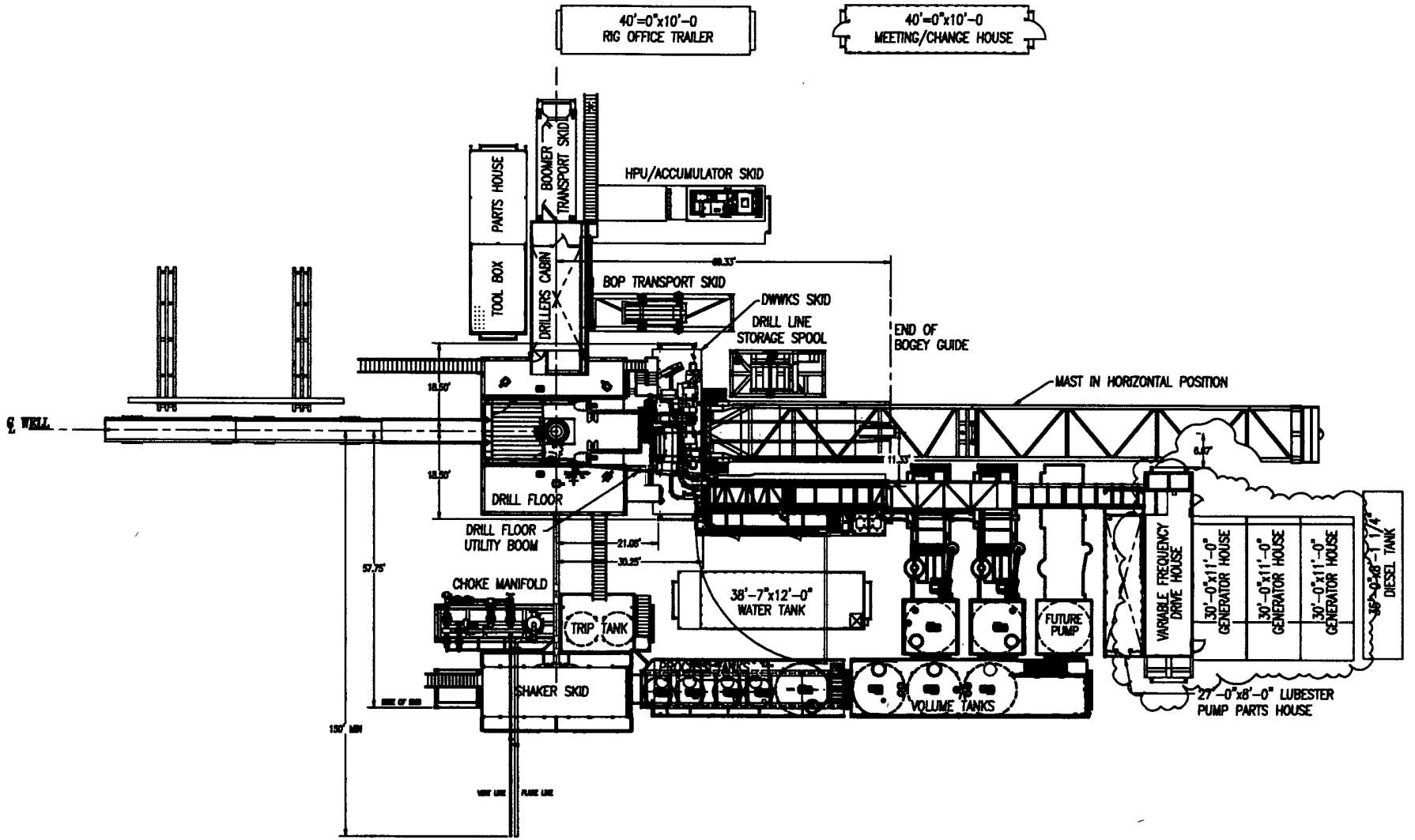
Phoenix Beattie Inspection Signature :

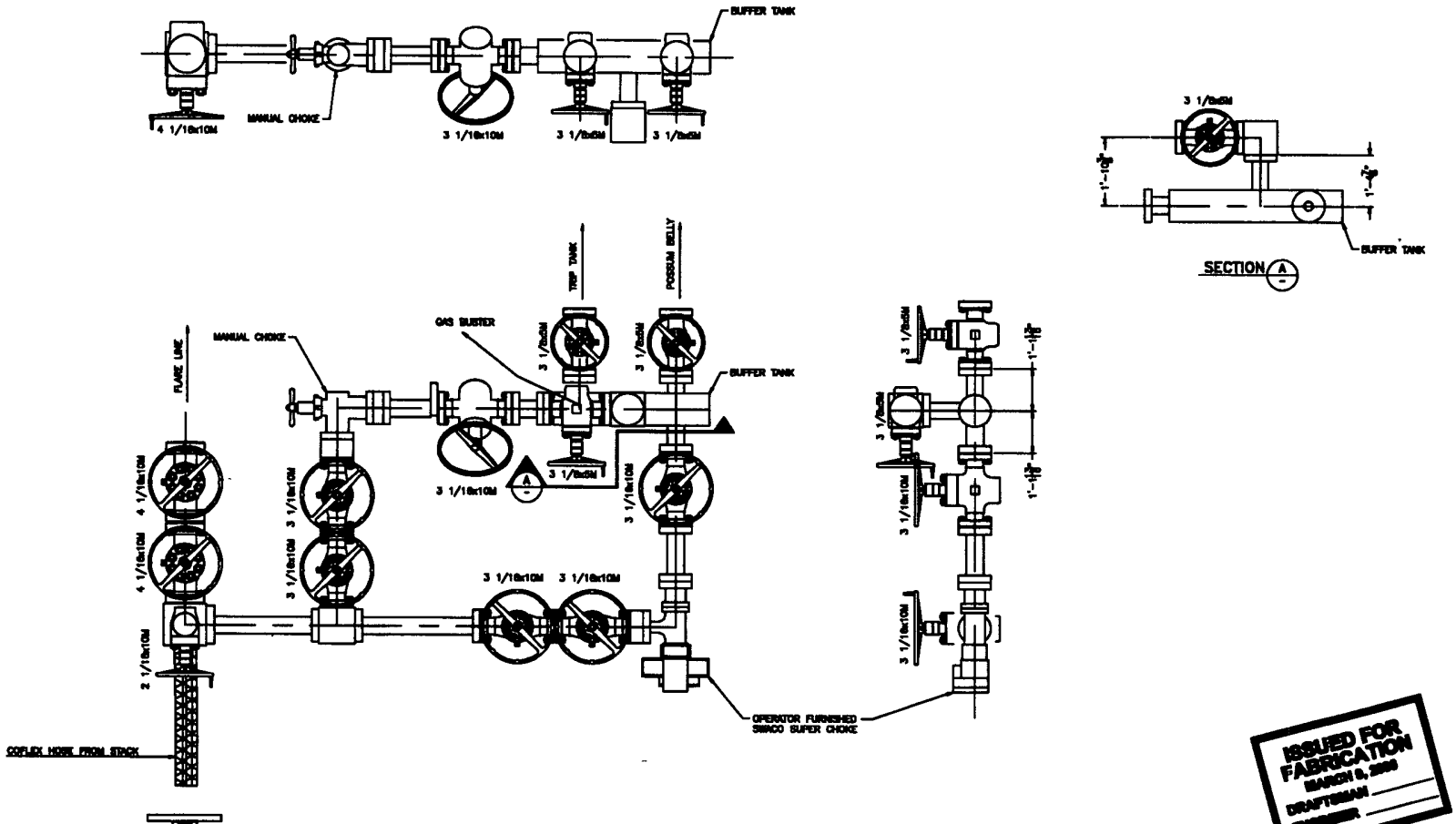
Received in Good Condition : Signature

Print Name

Date

All goods remain the property of Phoenix Beattie until paid for in full. Any damage or shortage on this delivery must be advised within 5 days. Returns may be subject to a handling charge.


40'=0"x10'-0
RIG OFFICE TRAILER
40'=0"x10'-0
MEETING/CHANGE HOUSE
PARTS HOUSE
TOOL BOX
BOOMER TRANSPORT SKID
DRILLERS CABIN
HPU/ACCUMULATOR SKID
BOP TRANSPORT SKID
DWWKS SKID
DRILL LINE STORAGE SPOOL
END OF BOGEY GUIDE
MAST IN HORIZONTAL POSITION
℄ WELL
DRILL FLOOR
DRILL FLOOR UTILITY BOOM
CHOKE MANIFOLD
TRIP TANK
38'-7"x12'-0" WATER TANK
FUTURE PUMP
SHAKER SKID
VOLUME TANKS
VARIABLE FREQUENCY DRIVE HOUSE
30'-0"x11'-0" GENERATOR HOUSE
30'-0"x11'-0" GENERATOR HOUSE
30'-0"x11'-0" GENERATOR HOUSE
DIESEL TANK
27'-0"x8'-0" LUBESTER PUMP PARTS HOUSE



ISSUED FOR FABRICATION
MARCH 6, 2003
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY
A	10/15/02	ADJUST DIM TO FIELD CONFIRMED DIM	RKY

ENGINEERING APPROVAL / DATE

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE MANIFOLD

CUSTOMER: H&P
PROJECT: FLEX0803
DRAWN: MTS | DATE: 2-28-02 | DWG. NO.: 216-P1-05 | REV: A
SCALE: 3/4"=1' | SHEET 1 OF 1

OXY Permian

EMERGENCY ACTION PLAN

Cypress 28 Federal #1H

DRILLING/WORKOVER

DRILLING AND CRITICAL WELL OPERATIONS

DRILLING/WORKOVER
DRILLING AND CRITICAL WELL OPERATIONS

EMERGENCY ACTION PLAN

TABLE OF CONTENTS

PREFACE

An effective and viable Emergency Action Plan (EAP) is intended to provide prior planning and guidance in responding to emergency incidents. The primary considerations in its development are protection of personnel, the public, company and public property, and the environment.

Although the plan addresses varied emergency situations that may occur, it recognizes that flexibility and the use of the organization's knowledge and experience is critical to safe resolution of emergency incidents. Response actions outlined in the plan provide a framework, which may be placed into operation without confusion. These actions should promote quick and decisive actions during the critical initial period and immediately following an emergency. As the response progresses, additional guidelines and procedures may need to be implemented as the situation dictates. In addition, all emergency incidents must be properly reported per the Oxy Incident Reporting and Notification Policy, state and federal requirements, etc.

The following procedures are provided as Oxy Permian's minimum expectations. The Contractor's own procedures may be utilized in lieu of Oxy Permian's, provided that it meets or exceeds the minimum deliverables. It should be understood that this list is not all-inclusive, but the overall plan should assist in lateral application to similar incidents.

This EAP is intended for use on Oxy Drilling/Workover projects and the operations within their area of responsibility, such as drilling, critical well work, etc.

EMERGENCY RESPONSE ACTIVATION AND GENERAL RESPONSIBILITIES

Activation of the Emergency Action Plan

A. In the event of any emergency situation, all personnel on location should first ensure that the following items are initiated. After that, they should refer to the appropriate Specific Emergency Guidance sections on pages five (5) through nine (9) in this document for further responsibilities:

1. Notify the senior ranking contract representative on site.
2. Notify Oxy representative in charge.
3. Notify civil authorities if the Oxy Representative cannot be contacted and the situation dictates.
4. Perform rescue and first aid as required (without jeopardizing additional personnel).

General Responsibilities

Oxy Permian Personnel:

A. Drill Site Manager: The Oxy Drilling/Critical Well Servicing Operations Specialist or contract personnel serving in that capacity will serve as Operations Chief Officer for all emergency incidents. The Operations Chief Officer is responsible for:

1. Notification to the Drilling/Workover Team Leader of the incident occurrence.
2. Notification to the local RMT/PMT leader of the incident occurrence, and the need for the designated local RMT/PMT Incident Commander to act in that capacity for the response effort.
3. Sole control of all tactical activities directed toward reducing the immediate hazard, establishing situational control and restoring the operations to a non-emergency state.

B. Local RMT/PMT Designated Incident Commander: The Oxy local RMT/PMT Designated Incident Commander will serve as the overall Incident Commander for the drilling or critical well servicing emergency incident. The Incident Commander is responsible for:

1. Coordinating with the Drilling Manager for notification to the Oxy Crisis Management team of the incident occurrence.
2. Establishing and managing the overall incident command structure and response from inception through restoration of normal activities in the area.

C. Drilling/Workover HES Tech: The Drilling/Workover HES Tech (or his designate) is responsible for reporting to the incident as soon as reasonably possible, to provide support to the response effort as required by the Operations Chief Officer or the Incident Commander.

Contract Drilling Personnel will immediately report to their assigned stations and perform their duties as outlined in the appropriate Specific Emergency Guidance sections on pages five (5) through nine (9) in this document.

Other Contractor Personnel will report to the safe briefing area to assist Oxy personnel and civil authorities as requested when it is safe to do so and if they have been adequately trained in their assigned duties.

Civil Authorities (Law Enforcement, Fire, and EMS) will be responsible for:

1. Establishing membership in the Unified Incident Command.
2. As directed by the Incident Commander and the Unified Command, control site access, re-route traffic, and provide escort services for response personnel.
3. Perform all fire control activities in coordination with the Unified Command.
4. Initiate public evacuation plans as instructed by the Incident Commander.
5. Perform rescue or recovery activities with coordination from the Unified Command.
6. Provide medical assistance as dictated by the situation at hand.

The following procedures will be implemented when a loss of primary control is indicated. Indicators of loss of primary control are flow from the well, an increase in pit volume, or when the drilling fluid used to fill the hole on trips is less than the calculated pipe displacement volume. The emergency signal for well control procedures will be a single long blast of the rig air horn.

Kick While Drilling - Procedures And Responsibilities

Driller:

1. Stop the rotary and hoist the kelly above the rotary table.
2. Stop the mud pump(s).
3. Check for flow.
4. If flowing, sound the alarm immediately.
5. Ensure that all crew members fill their responsibilities to secure the well.
6. Record drill pipe and casing shut-in pressures and pit volume increase and begin kill sheet.

Derrickman:

1. Go to BOP/choke manifold area.
2. Open choke line valve on BOP.
3. Signal to Floorman #1 that the choke line is open.
4. Close chokes after annular or pipe rams are closed.
5. Record shut-in casing pressure and pit volume increase.
6. Report readings and observations to Driller.
7. Verify actual mud weight in suction pit and report to Driller.
8. Be readily available as required for additional tasks.

Floorman # 1:

1. Go to accumulator control station and await signal from Derrickman.
2. Close annular preventer and HCR on signal (if available, if not then close pipe rams).
3. Record accumulator pressures and check for leaks in the BOP or accumulator system.
4. Report to Driller, and be readily available as required for additional tasks.

Floorman # 2:

1. Start water on motor exhausts.
2. Notify Contractor Tool Pusher or Rig Manager of well control situation.
3. Check location for ignition sources and extinguish or turn off, and stop any welding in progress.
4. Report to Driller, and be readily available as required for additional tasks.

Floorman # 3:

1. Stand-by with Driller, and be readily available as required for additional tasks.

Tool Pusher/Rig Manager:

1. Notify Oxy Representative and report to rig floor.
2. Review and verify all pertinent information.
3. Communicate information to Oxy Representative, and confer on an action plan.
4. Finalize well control worksheets, calculations and preparatory work for action plan.
5. Initiate and ensure the action plan is carried out.
6. Communicate any changes in well or site conditions, or any indications that the action plan needs to be revised to the Oxy representative.

Oxy Representative:

1. Notify Drilling Superintendent or Drilling Manager and RMT Leader or Local Incident Commander, and Police, Fire Department, or other local emergency services as required.

Kick While Tripping - Procedures and Responsibilities

Driller:

1. Sound the alarm immediately when pipe displacement volume is less than 75% of calculated.
2. Position the upper tool joint just above rotary table and set slips.
3. Check for flow.
4. Ensure that all crew members fill their responsibilities to secure the well.
5. Record drill pipe and casing shut-in pressures and pit volume increase, and begin kill sheets.

Derrickman: (same as while drilling)

Floor Man # 1:

1. Install full opening valve (with help from Floorman #2) in top drill string connection.
2. Tighten valve with make up tongs.
3. Go to accumulator control station and await signal from Derrickman.
4. Close annular preventer and HCR valve on signal (if available, if not then close pipe rams).
5. Record accumulator pressures and check for leaks in the BOP and accumulator system.
6. Report to Driller, and be readily available as required for additional tasks.

Floor Man # 2:

1. Assist installing full opening valve in drill string.
2. Position back-up tongs for valve make-up.
3. Start water on motor exhausts.
4. Notify Contractor Tool Pusher or Rig Manager of well control situation.
5. Check location for ignition sources and extinguish or turn off, and stop any welding in progress.
6. Report to Driller, and be readily available as required for additional tasks.

Floorman # 3, Rig Manager/Tool Pusher, and Oxy Representative: (same as while drilling)

H2S RELEASE

The following procedures and responsibilities will be implemented on activation of the H2S siren and lights.

All Personnel:

1. On alarm, don escape unit (if available) and report to upwind briefing area.

Rig Manager/Tool Pusher:

1. Check that all personnel are accounted for and their condition.
2. Administer or arrange for first aid treatment, and /or call EMTs as needed.
3. Identify two people best suited to secure well and perform rescue, and instruct them to don SCBA.
4. Notify Contractor management and Oxy Representative.
5. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.

Two People Responsible For Shut-in and Rescue:

1. Don SCBA and acquire tools to secure well and perform rescue, i.e., wrenches, retrieval ropes, etc.
2. Utilize the buddy system to secure well and perform rescue(s).
3. Return to the briefing area and stand by for further instructions.

All Other Personnel:

1. Remain at the briefing area and await further instructions - do not leave unless instructed.

Oxy Representative:

1. Remain at the briefing area, assess and monitor personnel and overall situation for hazards or conditions that might warrant a change in the action plan.
2. Notify Drilling Superintendent or Drilling Manager and RMT Leader or Local Incident Commander, and Police, Fire Department, or other local emergency services as required.

PERSONAL INJURY OR DEATH

Call for assistance, and then administer first aid for the injured. Treatment should be prioritized by life-threatening conditions.

A. Do not move injured personnel unless they are in imminent danger. An ambulance should be summoned for any injury that appears to be serious.

FIRE OR EXPLOSION

Fire Fighting Philosophy

It is Oxy Permian's intent that Oxy and contract personnel will only extinguish incipient or beginning stage fires and perform or assist in initial non-threatening rescue operations. The responding fire department will be given primacy when they arrive to control a fire on any Oxy property. Any Oxy or contract employee who participates in a fire response must be fully trained and qualified as such, and must be utilizing appropriate Personal Protective Equipment.

Contract and Oxy Personnel Deployment

In the event of a fire or explosion all personnel will report to the safe briefing area. The Senior Contract Representative on site will designate personnel for rescue as appropriate depending on their qualifications and the risks of the rescue. Any rescue which involves significant risk to those performing the rescue should be deferred to professional response personnel.

No personnel will leave the area without direction / permission from the Senior Contract Representative on-site.

The Senior Contract Representative on site will notify local emergency response personnel as required, along with the Contract Company management and the Oxy Representative as soon as reasonably possible.

SPILLS

In the event of a significant spill of any substance, the person discovering it should immediately notify the rig supervisor and the Oxy Representative. Personnel onsite should **NOT** attempt identification, control or containment unless they are absolutely sure of the product spilled, are fully aware of the hazard characteristics, and are equipped with the appropriate personal protective equipment.

HYDROCARBON VAPOR CLOUD RELEASE

Upon discovery of a Hydrocarbon Vapor Cloud (NGL) release, take immediate safety precautions to protect any company personnel or others that might be in the area. Other emergency actions should be initiated only by trained expert personnel from the appropriate pipeline company.

The following guidelines should be followed:

1. Immediately notify the rig supervisor and the Oxy Representative.
2. Determine wind direction, and evacuate upwind or at 90 degrees to the release.
3. Maintain a safe distance from the cloud.
4. Render first aid and call for an ambulance as necessary.
5. Attempt to warn approaching individuals of the hazard.

BOMB THREAT

In the event of a bomb threat, the person receiving the call, on or off site, should try to get as much information as possible from the caller. The person receiving the call should immediately contact the supervisor in charge. Evacuation of the field should be considered at this time. Roadblocks may need to be installed. The supervisor in charge should make all appropriate contacts.

The Supervisor contacted should:

a. Realize that every bomb threat is serious.

b. Notify Corporate Security

c. Inform Police/Sheriff's Department and Fire Department

d. Contact RMT Leader or his designated relief to coordinate search efforts with the assistance of the local law enforcement agencies.

BOMB THREAT CHECKLIST

Date_____ Name of person taking call_____ Phone # call came on _____

FILL OUT COMPLETELY IMMEDIATELY AFTER BOMB THREAT

1. When is the bomb set to explode?_____
2. Where is the bomb located?_____
3. What does the bomb look like?_____
4. What type of bomb is it?_____
5. What will cause the bomb to explode?_____
6. Did the caller place the bomb?_____
7. Why did the caller place the bomb?_____
8. What is the caller's name and address?_____

Callers: Sex___ Age___Race___Length of call_____

DESCRIPTION OF CALLER'S VOICE (Check all that apply)

___Calm	___Rapid	___Laughing	___Lisp	___Disguised
___Angry	___Crying	___Raspy	___Accent	___Familiar? Who did
___Excited	___Normal	___Deep	___Stutter	it sound like?
___Slow	___Distinct	___Ragged	___Deep	___Deep Breathing
___Loud	___Slurred	___Nasal	___Clearing Throat	

BACKGROUND SOUNDS:

___Street Noises	___House Noises	___Factory	___Music	___Local Call
		___Machinery	___Static	___Long Distance
___Voices	___Motor	___Animals	___PA System	___Phone Booth
___Office	___Clear	___Other		

THREAT LANGUAGE:

___Well-Spoken	___Foul	___Incoherent	___Irrational	___Taped
___Message Read by Threat Maker				

REMARKS:

NATURAL DISASTERS

Tornadoes

These general procedures should be followed by everyone seeking shelter from a severe storm or tornado:

Indoors:

1. Protect yourself from flying glass and debris.
2. Take refuge near the core of the building for maximum protection.
3. Do not smoke while taking shelter.
4. Shut all doors to offices, if time permits.

In the field:

1. Seek cover in a low-lying area, such as a culvert, ditch, pit, or water injection valve box.
2. Get out of and away from your vehicle.
3. Stay away from power lines.
4. Cover your head with your arms and clothing.

Thunderstorms

Indoors:

1. Avoid water pipes, sinks, showers, tubs, etc.
2. Stay away from doors and windows.
3. Do not use the telephone.
4. Take off head sets.
5. Turn off, unplug, and stay away from appliances, computers, power tools, & TV sets.

In the field:

1. Avoid water.
2. Avoid high ground and open spaces.
3. Avoid all metal objects including electric wires, fences, machinery, motors, power tools, etc. Unsafe places include underneath canopies, small picnic or rain shelters, or near trees. Where possible, find shelter in a substantial building or in a fully enclosed metal vehicle such as a car, truck or a van with the windows completely shut. If lightning is striking nearby when you are outside, you should:
    a. Crouch down, feet together, hands over ears
    b. Avoid proximity (minimum of 15 ft.) to other people.
4. SUSPEND ACTIVITIES for 30 minutes after the last observed lightning or thunder.

PUBLIC RELATIONS

Oxy recognizes that the news media have a legitimate interest in incidents at Oxy facilities that could affect the public. It is to the company's benefit to cooperate with the news media when incidents occur because these media are our best liaison with the public.

Our objective is to see that all reports of any emergency are factual and represent the company's position fairly and accurately. Cooperation with news media representatives is the most reliable guarantee that this objective will be met.

All contract and Oxy employees are instructed **NOT** to make any statement to the media concerning the emergency incident. If a media representative contacts any employee, they should refer them to the designated Emergency Command Center where they should contact the Incident Commander or his designated relief for any information concerning the incident.

Drilling Dept. Emergency Contact list

Drilling Manager	**Scott Cooper**	**713-366-5325 office** **281-352-5865 cell**
Drilling Superintendent	**Festus Hagan**	**713-366-5946 office** **432-894-5352 cell**
Drilling Eng. Supervisor	**Richard Jackson**	**713-215-7235 office** **281-467-6383 cell**
HES Specialist-Drilling	**Brian Bielss**	**432-685-5719 office** **432-813-6335 cell**
Drilling Coordinator	**Drue Dunaway**	**432-685-5715 office** **432-556-3288 cell**
Drilling Coordinator	**Kevin Videtich**	**806-592-6213 office** **806-891-2000 cell**

OXY Permian Incident Reporting Phone List

OXY Permian Crisis Team Hotline Notification (713) 935-7210

Person	Location	Office Phone	Cell/Mobile Phone
Asset Management-Operations Areas			
OXY Permian President & General Manager: Ken Dillon	Houston	(713) 366-5140	(661) 333-9315
Operations Support Manager: Rick Callahan	Houston	(713)-215-7578	(281) 389-1141
Asset Development Manager-Jeff Simmons	Houston	(713) 366-5124	(713) 560-8073
Public Affairs: Stacey Crews	Houston	(713) 366-5304	(713) 416-8381
Operations South-Frontier			
RMT Lead Frontier-Barry Beresik	Houston	(713) 366-5016	(713) 560-8061
RMT Lead South-Keith Brown	Houston	(713) 366-5354	(713) 264-1114
Surface Operations Team Lead-Bill Elliott	Midland	(432) 685-5845	(432) 557-6736
Well Operations Team Lead-Leamon Hood	Midland	(432) 685-5794	(432) 634-4486
Well Servicing Team Lead-Vicki Hollub	Houston	(713) 215-7332	(713) 885-6347
WST Coord Frontier-Kirk Hobbs	Midland	(432) 685-5951	(432) 634-3890
WST Coord South-Robert Ricks	Midland	(432) 685-5821	(432) 634-8791
NM Frontier Oper Coord -Larry Sammons	Carlsbad	(575) 887-8337	(575) 390-8397
NM-South Oper Coord-Gilbert Williams	Seminole	(432) 385-2778	(806) 215-0009
NM Frontier Oper Coord -Van Barton	Carlsbad	(575) 887-8337	
Completion Specialist-Dale Redding	Hobbs	(432) 385-3206	
HES Staff & Areas of First Contact Support			
HES Manager: John Kirby	Houston	(713) 366-5460	(281) 974-9523
Environmental Engineer, Air: Peggy Waisanen	Midland	(432) 685-5673	(432) 894-1968
Administrative Assistant: Judy Browning	Midland	(432) 685 5692	(432) 661 1048
Environmental Consultant: Dennis Newman	Houston	(713) 366-5485	(713) 560-8060
Safety Engineer: Derek Purvis	Houston	(713) 366-5932	(713) 582-1848
Pipeline Safety: Don Bales	Midland	(432) 685-5844	(432) 894-1960
HES Lead-Pete Maciula	Midland	(432) 685-5667	(432) 557-2450
HES Specialist: Eddie Gonzales	Midland	(432) 685-5929	(432) 556-6790
HES Specialist-Drilling: Robert Lovelady	Midland	(432) 685-5630	(432) 813-6332
HES Tech & Area of Responsibility			
Wasson San Andres RMT: Mark Andersen	Denver City	(806) 592-6299	(806) 215-0077
Hobbs RMT: Steve Bishop	Hobbs	(575) 397-8251	(575) 390-4784
Frontier-New Mexico: Rick Kerby	Carlsbad	(575) 887-8337	(575) 631-4972
South-New Mexico-CJ Summers	Hobbs	(575) 397-8236	(575) 390-9228
Regulatory Affairs			
Lead-Liz Bush-Ivie	Houston	(713) 366-5303	832-474-3701

Regulatory Analyst-David Stewart	Midland	(432) 685-5717	
Regulatory Analyst-Elizabeth Casbeer	Midland	(432) 685-5755	
Regulatory Analyst-Mark Stephens	Houston	(713) 366-5158	

DOT-Pipeline Response Numbers

N. Hobbs Unit: Steve Bishop	Hobbs	(575) 397-8251	(575) 390-4784
Wasson PMT: Todd King	Denver City	(806) 592-6274	(806) 215-0183
Bravo/Slaughter PMT: Gary Polk	Levelland	(806) 229-9708	(806) 638-2425
Cogdell RMT: Dean Peevy	Cogdell	(325) 573-7272	(325) 207-3367
Sharon Ridge: Carl Morales	Sharon Ridge	(325) 573-6341	(325) 207-3374
All DOT Pipeline Support: Donald Bales	Midland	(432) 685-5844	(432) 894-1960

OOGC HES Contacts

Manager HES: Wes Scott	OOGC – Houston	(713) 215-7171	(713) 203-4050
Worldwide Safety Mgr: Greg Hardin alternate	OOGC – Houston	(713) 366-5324	(713) 560-8037
Worldwide Environ. Mgr: Ravi Ravishankar	OOGC – Houston	(713) 366-5039	(832) 863-2240

OOGC Risk Management

Jim Garrett	Los Angeles	(310) 443-6588	(310) 710-3233
Greg LaSalle, alternate	Los Angeles	(310) 443-6542	(310) 710-2255

OSI

Workers Comp. Claim Manager: Steve Jones	Dallas	(972) 404-3542	
Workers Comp. Claims: Mark Ryan	Dallas	(972) 404-3974	
Auto Claims: Steve Jones	Dallas	(972) 404-3542	

Gallagher Bassett

Workers Comp. & Property Damage Claims- OXY Permian Ltd.: Danny Ross		(972) 728-3600 X252	(800) 349-8492

Axiom Medical Consulting

Medical Case Management		(877) 502-9466	

OXY Permian Legal

Tom Janiszewski	Houston	(713) 366-5529	(713) 560-8049

Human Resources

H.R. Manager: Barbara Bernhard	Houston	(713) 215-7150	(713) 702-7949
H.R. Consultant: Amy Thompson	Houston	(713) 215-7863	(281) 799-7348
H.R. Consultant: Laura Matthews	Houston	(713) 366-5137	(713) 569-0386
H.R. Consultant: Jill Williams	Midland	(432) 685-5818	(432) 661-4581

Corporate Security

Frank Zapalac	Houston	(713) 215-7157	(713) 829-5753
Hugh Moreno, alternate	Houston	(713) 215-7162	(713) 817-3322

Regulatory Agencies

Bureau of Land Management	Carlsbad, NM	(575) 887-6544	
Bureau of Land Management	Hobbs, NM	(575) 393-3612	
Bureau of Land Management	Roswell, NM	(575) 393-3612	
Bureau of Land Management	Santa Fe, NM	(505) 988-6030	
DOT Juisdictional Pipelines-Incident Reporting New Mexico Public Regulation Commission	Santa Fe, NM	(505) 827-3549 (505) 490-2375	
DOT Juisdictional Pipelines-Incident Reporting Texas Railroad Commission	Austin, TX	(512) 463-6788	
EPA Hot Line	Dallas, Texas	(214) 665-6444	
Federal OSHA, Area Office	Lubbock, Texas	(806) 472-7681	
National Response Center	Washington, D. C.	(800) 424-8802	
National Infrastructure Coordinator Center		(202) 282-9201	
New Mexico Air Quality Bureau	Santa Fe, NM	(505) 827-1494	
New Mexico Oil Conservation Division	Artesia, NM	(575) 748-1283	
New Mexico Oil Conservation Division	Hobbs, NM	(575) 393-6161	
New Mexico Oil Conservation Division	Santa Fe, NM	(505) 471-1068	
New Mexico OCD Environmental Bureau	Santa Fe, NM	(505) 827-7152 (505) 476-3470	
New Mexico Environmental Department	Hobbs, NM	(575) 827-9329	
NM State Emergency Response Center	Santa Fe, NM	(505) 827-9222	
Railroad Commission of TX	District 8, 8A Midland, TX	(432) 684-5581	
Texas Emergency Response Center	Austin, TX	(512) 463-7727	
TCEQ Air	Region 2 Lubbock, TX	(806) 796-3494	
TCEQ Water/Waste/Air	Region 7 Midland, TX	(432) 570-1359	

Medical Facilities

Artesia General Hospital	Artesia, NM	(575) 748-3333	
Guadalupe Medical Center	Carlsbad, NM	(575) 887-6633	
Lea Regional Hospital	Hobbs, NM	(575) 492-5000	
Medical Arts Hospital	Lamesa, TX	(806) 872-2183	
Medical Center Hospital	Odessa, TX	(432) 640-4000	
Memorial Hospital	Seminole, TX	(432) 758-5811	
Midland Memorial Hospital	Midland, TX	(432) 685-1111	
Nor-Lea General Hospital	Lovington, NM	(575) 396-6611	
Odessa Regional Hospital	Odessa, TX	(432) 334-8200	
St. Mary's Hospital	Lubbock, TX	(806) 796-6000	
Union County General Hospital	Clayton, NM	(575) 374-2585	
University Medical Center	Lubbock, TX	(806) 743-3111	

Local Emergency Planning Comm.

Richard H. Dolgener	Andrews County, TX	(432) 524-1401	
Joel Arnwine	Eddy County, NM	(575) 887-9511	
County Judge Judy House	Gaines County, TX	(432) 758-5411	
Myra Sande	Harding County, NM	(575) 673-2231	
Jerry Reynolds	Lea County, NM	(575) 396-8600	(575) 399-2376

Royce Creager	Loving County, TX	(432) 377-2231	
Mike Cherry	Quay County, NM	(575) 461-2476	
Della Wetsel	Union County, NM	(575) 374-8896	
Bonnie Leck	Winkler County, TX	(432) 586-6658	
Carl Whitaker	Yoakum County, TX	(806) 456-7491	

Law Enforcement - Sheriff

Andrews Cty Sheriff's Department	Andrews County	(432) 523-5545	
Eddy Cty Sheriff's Department	Eddy County (Artesia)	(575) 746-2704	
Eddy Cty Sheriff's Department	Eddy County (Carlsbad)	(575) 887-7551	
Gaines Cty Sheriff's Department	Gaines County (Seminole)	(432) 758-9871	
Lea Cty Sheriff's Department	Lea County (Eunice)	(575) 384-2020	
Lea Cty Sheriff's Department	Lea County (Hobbs)	(575) 393-2515	
Lea Cty Sheriff's Department	Lea County (Lovington)	(575) 396-3611	
Union Cty Sheriff's Department	Union County (Clayton)	(505) 374-2583	
Yoakum City Sheriff's Department	Yoakum Co.	(806) 456-2377	

Law Enforcement - Police

Andrews City Police	Andrews, TX	(432) 523-5675	
Artesia City Police	Artesia, NM	(575) 746-2704	
Carlsbad City Police	Carlsbad, NM	(575) 885-2111	
Clayton City Police	Clayton, NM	(575) 374-2504	
Denver City Police	Denver City, TX	(806) 592-3516	
Eunice City Police	Eunice, NM	(575) 394-2112	
Hobbs City Police	Hobbs, NM	(575) 397-9265 (575) 393-2677	
Jal City Police	Jal, NM	(575) 395-2501	
Lovington City Police	Lovington, NM	(575) 396-2811	
Seminole City Police	Seminole, TX	(432) 758-9871	

Law Enforcement - FBI

FBI	Alburqueque, NM	(505) 224-2000	
FBI	Midland, TX	(432) 570-0255	

Law Enforcement - DPS

NM State Police	Artesia, NM	(575) 746-2704	
NM State Police	Carlsbad, NM	(575) 885-3137	
NM State Police	Eunice, NM	(575) 392-5588	
NM State Police	Hobbs, NM	(575) 392-5588	
NM State Police	Clayton, NM	(575) 374-2473; 911	
TX Dept of Public Safety	Andrews, TX	(432) 524-1443	
TX Dept of Public Safety	Seminole, TX	(432) 758-4041	
TX Dept of Public Safety	Yoakum County TX	(806) 456-2377	

Firefighting & Rescue

Amistad/Rosebud	Amistad/Rosebud, NM	(505) 633-9113	

Andrews	Andrews, TX	(432) 523-4820 (432) 523-3111	
Artesia	Artesia, NM	(575) 746-5051	
Carlsbad	Carlsbad, NM	(575) 885-3125	
Clayton	Clayton, NM	(575) 374-2435	
Denver City	Denver City, TX	(806) 592-5426	
Eunice	Eunice, NM	(575) 394-2111	
Hobbs	Hobbs, NM	(575) 397-9308	
Jal	Jal, NM	(575) 395-2221	
Kermit	Kermit, TX	(432) 586-3468	
Lovington	Lovington, NM	(575) 396-2359	
Maljamar	Maljamar, NM	(575) 676-4100	
Monahans	Monahans, TX	(432) 943-4343	
Nara Visa	Nara Visa, NM	(575) 461-3300	
Pecos	Pecos, TX	(432) 445-2421	
Seminole	Seminole, TX	(432) 758-3676 (432) 758-9871	

Ambulance

Amistad/Rosebud	Amistad/Rosebud, NM	(575) 633-9113	
Andrews Ambulance	Andrews, TX	(432) 523-5675	
Artesia Ambulance	Artesia, NM	(575) 746-2701	
Carlsbad Ambulance	Carlsbad, NM	(575) 885-2111; 911	
Clayton, NM	Clayton, NM	(575) 374-2501	
Denver City Ambulance	Denver City, TX	(806) 592-3516	
Eunice Ambulance	Eunice, NM	(575) 394-3258	
Hobbs, NM	Hobbs, NM	(575) 397-9308	
Jal, NM	Jal, NM	(575) 395-2501	
Lovington Ambulance	Lovington, NM	(575) 396-2811	
Nara Visa, NM	Nara Visa, NM	(575) 461-3300	
Pecos Ambulance	Pecos, TX	(432) 445-4444	
Seminole Ambulance	Seminole, TX	(432) 758-8816 (432) 758-9871	

Medical Air Ambulance Service

AEROCARE - Methodist Hospital	Lubbock, TX	(800) 627-2376	
San Angelo Med-Vac Air Ambulance	San Angelo, TX	(800) 277-4354	
Southwest Air Ambulance Service	Stanford, TX	(800) 242-6199	
Southwest MediVac	Snyder, TX	(800) 242-6199	
Southwest MediVac	Hobbs, NM	(800) 242-6199	
Odessa Care Star	Odessa, TX	(888) 624-3571	
NWTH Medivac	Amarillo, TX	(800) 692-1331	

SURFACE USE PLAN OF OPERATIONS

Operator Name/Number:	**OXY USA Inc.**	**16696**
Lease Name/Number:	**Cypress 28 Federal #1H**	**Federal Lease No. NMNM86024**
Pool Name/Number:	**South Laguna Salado Bone Spring - 96857**	
Surface Location:	**330 FSL 440 FWL SWSW(M) Sec 28 T23S R29E**	
Bottom Hole Location:	**660 FSL 1700 FEL SWSE(O) Sec 28 T23S R29E**	

1. Existing Roads

a. A copy of a USGS "Remuda Basin, New Mexico" 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 6/16/08

c. At the intersection of Hwy 128 and Hwy 18, go west on Hwy 128 for 48.1 miles. Turn south on CR 793 (Rawhide) for 3.5 miles, turn west on lease road for 4.6 miles. Turn south on lease road for 0.5 miles. Turn east/southeast and go along pipeline road for 0.5 miles. Turn south/southwest on trail road for 0.2 miles to loc.

2. New or Reconstructed Access Roads:

a. A new access road will be built. The access road will run approximately 2650' east/southeast then 1550' south/southwest from an existing road to the location. See Exhibit #2.

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.

3. Location of Existing Wells:

Existing wells within a one mile radius of the proposed well are shown on Exhibit #3.

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

a. In the event the well is found productive, the Goodnight 27 Federal tank battery would be utilized and the necessary production equipment will be installed at the well site and the tank battery. See proposed Production Facilities Layout diagrams, Exhibit #4.

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

c. All flowlines will adhere to API Standards, see Exhibit #4.

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 - CRI
   2. Liquids - Laguna

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:
   TFH Ltd. - Laguna SWD Facility

8. Ancillary Facilities: None needed

9. Well Site Layout

Exhibit #5 shows the proposed well site layout with dimensions of the pad layout and equipment location.

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: Tyson Mahaffey P.O. Box 161 Loving, NM 88256
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.

Larry Sammons
Production Coordinator
P.O. Box 1988
Carlsbad, NM 88220
Office Phone: 575-887-8337
Cellular: 575-390-8397

Van Barton
Production Coordinator
P.O. Box 1988
Carlsbad, NM 88220
Office Phone: 575-887-8337
Cellular: 575-706-7671

Fetus Hagan
Drilling Superintendent
P.O. Box 50250
Midland, TX 79710
Office Phone: 432-685-5719
Cellular: 432-894-5352

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

Richard Jackson
Drilling Engineering Supervisor
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-215-7235
Cellular: 281-467-6383

John Egleston
Drilling Engineer
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-215-7849
Cellular: 713-303-7298

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 24th day of November, 2008.

Name: Barry J Beresik

Position: Reservoir Management Team Leader

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

Telephone: (713) 366-5016

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

Company: OXY USA Inc.

Field Representative (if not above signatory): Larry Sammons

Address (If different from above): 102 S. Main St., Carlsbad, NM 88220

Telephone (if different from above): (575) 887-8337

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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA, Inc.
LEASE NO.:	NM86024
WELL NAME & NO.:	Cypress 28 Federal – 1H
SURFACE HOLE FOOTAGE:	330' FSL & 440' FWL
BOTTOM HOLE FOOTAGE	660' FSL & 1700' FEL
LOCATION:	Section 28, T. 23 S., R 29 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) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 4 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (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 thirty (30) feet.

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

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

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

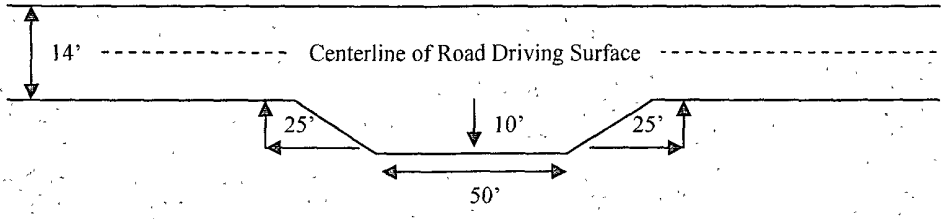
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on 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:

Standard Turnout – Plan View

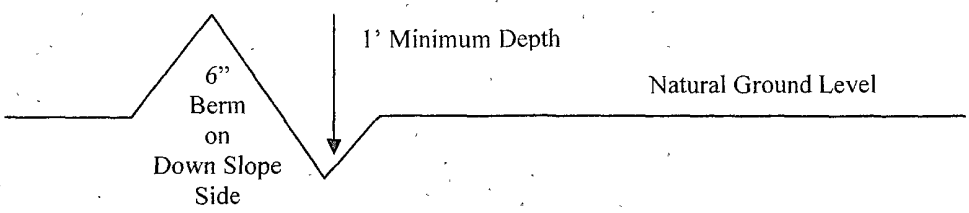


Drainage

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.

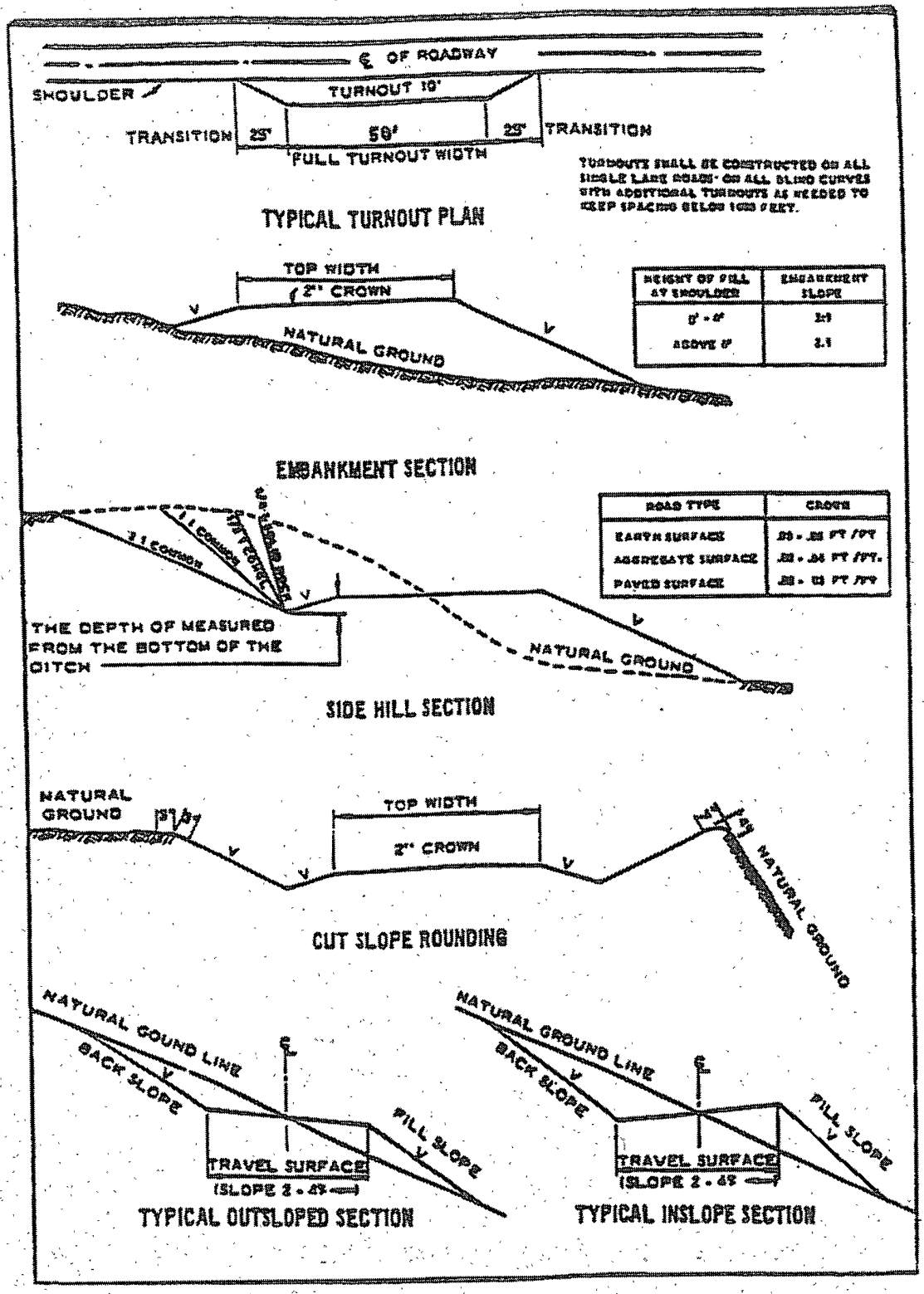
A gate shall be constructed and fastened securely to H-braces.

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. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Bone Spring** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufacturer of the logging tools recommended speed. (R-111-P area only)**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. 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.

R-111-P Potash
High cave/karst
Possible lost circulation in the Delaware Mountain Group and the Bone Spring formations.

1. The **13-3/8** inch surface casing shall be set **at approximately 385 feet (in the lower part of the Rustler Anhydrite and above the salt)** and cemented to the surface. **If the salt is encountered at a shallower depth, the casing is to be set 25' 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

    b. Wait on cement (WOC) time for a primary cement job 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.

Brine water mud to be used after setting the surface casing.

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

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Casing to be set in the Lamar Limestone, BLM pick is 2820-2930'. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash and high cave/karst..**

Formation below the 9-5/8" 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.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

Second DV tool to be set a minimum of 50 feet below the intermediate casing shoe. Seal is required across the shoe due to potash.

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

   a. First stage to DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

   b. Second stage above DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with third stage cement job.

   c. Third stage above DV tool, cement shall:

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

CONTINGENCY CEMENTING PROGRAM FOR INTERMEDIATE CASING

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

   DV tool to be set a minimum of 50 feet below the surface casing shoe.

   Casing to be set in the Lamar Limestone. BLM geologist picks the Lamar Limestone at a depth of 2920-2930'.

   a. First stage to DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job. **In addition, if the cement does not circulate, a CBL will be required prior to drilling out of the intermediate casing.**

b. Second stage above DV tool, cement shall:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash and high cave/karst.**

Formation below the 9-5/8" 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.

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

6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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 3" x 35' 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. Hose to be anchored per manufacturer's recommendations.**

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.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi. **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. The tests shall be done by an independent service company. **Operator to submit copies of test done for each casing string with the subsequent sundry detailing the casing/cementing details.**

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

   c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

   d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

   e. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILL STEM TEST

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

WWI 071109

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

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

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

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

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

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

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the 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
Plains Bristlegrass (*Setaria magrostachya*)	1.0
Green Spangletop (*Leptochloa dubia*)	2.0
Side oats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

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

(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

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

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