

Form 3160-3
(April 2004)**RECEIVED**

OCT 01 2012

NMOC D-ARTESIA**R-111-POTASH**

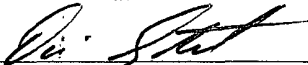
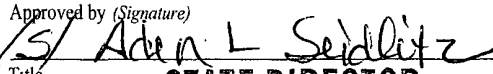
OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No.	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8. Lease Name and Well No. Lost Tank 3 Federal #26 <304876>	
2. Name of Operator OXY USA Inc.		9. API Well No. 30-015 40769	
3a. Address P.O. Box 50250 Midland, TX 79710	3b. Phone No. (include area code) 432-685-5717	10. Field and Pool, or Exploratory Lost Tank Wolfcamp <97573>	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 845 FNL 887 FWL NWNW(Ø) 4 At proposed prod. zone 680 FSL 1957 FEL SWSE(O)		11. Sec., T. R. M. or Blk. and Survey or Area Sec 3 T22S R31E	
14. Distance in miles and direction from nearest town or post office* 20 miles NE 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 drig. unit line, if any) 887'S 680'B	16. No. of acres in lease 1238.63 640ac	17. Spacing Unit dedicated to this well 639.38 640ac	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1-562' 23-616' 27-50'	19. Proposed Depth 13685'M 12465'V	20. BLM/BIA Bond No. on file ESB006226	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3471.4' GL	22. Approximate date work will start* 09/01/2012	23. Estimated duration 45 days	
24. Attachments			

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

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

25. Signature 	Name (Printed/Typed) David Stewart	Date 6/19/12
Title Regulatory Advisor david_stewart@oxy.com		
Approved by (Signature) 	Name (Printed/Typed) NM STATE OFFICE	Date SEP 24 2012
Title STATE DIRECTOR		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

Carlsbad Controlled Water Basin**SEE ATTACHED FOR
CONDITIONS OF APPROVAL****Approval Subject to General Requirements
& Special Stipulations Attached.**

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	40769	Pool Code 97573	Pool Name LOST TANK WOLFCAMP
Property Code 304876	Property Name LOST TANK "3" FEDERAL		Well Number 26
OGRID No. 16696	Operator Name OXY USA INC.		Elevation 3471.4'

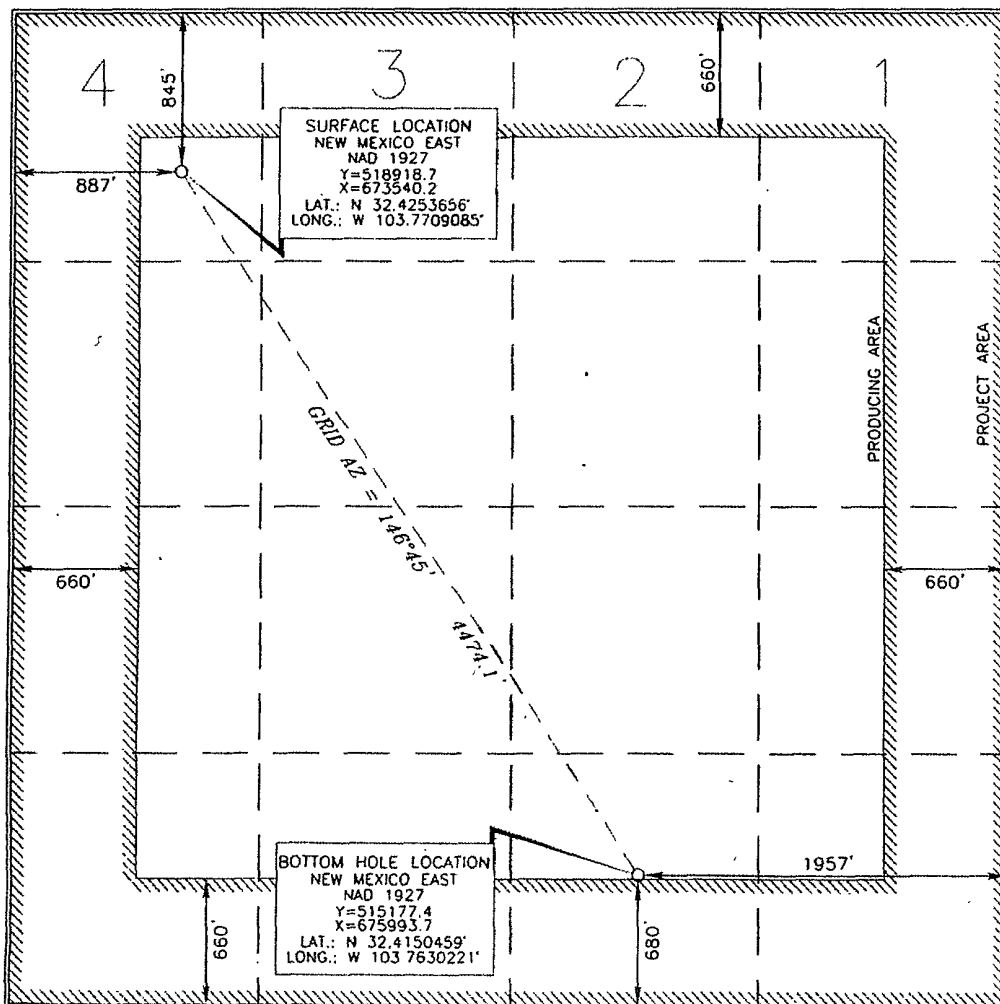
Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	3	22 SOUTH	31 EAST, N.M.P.M		845'	NORTH	887'	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
0	3	22 SOUTH	31 EAST, N.M.P.M.		680'	SOUTH	1957'	EAST	EDDY
Dedicated Acres 639.4		Joint or Infill Y	Consolidation Code	Order No					

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.

David Stewart 7/25/12
Signature Date
David Stewart Reg. Adu.
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was located from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.

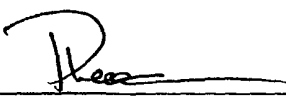
SEPTEMBER 16, 2012
Date of Survey
Signature and Seal of Professional Surveyor.

Jerry J. Paul 7/19/2012
Certificate Number 15079

WO# 110916WL-e (Rev. B) (KA)

OPERATOR CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 19th day of June, 2012.



Name: Peter Lawrence
Position: Reservoir Management Team Leader
Address: 5 Greenway Plaza, Suite 110, Houston, TX 77046
Telephone: 713-215-7644
E-mail: (optional): peter_lawrence@oxy.com
Company: OXY USA Inc.
Field Representative (if not above signatory): Dusty Weaver
Address (if different from above): P.O. Box 50250 Midland, TX 79710
Telephone (if different from above): 432-685-5723
E-mail (if different from above): calvin_weaver@oxy.com

DRILLING PROGRAM with CORRECTIONS

Operator Name/Number: **OXY USA Inc.** 1669
 Lease Name/Number: **Lost Tank 3 Federal #26** 304876 Federal Lse No. **NMNM0417696**
 Pool Name/Number: **Lost Tank Wolfcamp** 9757
 Surface Location: **845 FNL 887 FWL NWNW(D) Sec 3 T22S R31E**
 Bottom Hole Location: **680 FSL 1957 FEL SWSE(O) Sec 3 T22S R31E**

Proposed TD: **13685' TMD** **12465' TVD**
 SL - Lat: **32.4253656** Long: **103.7709085** X= **673540.2** Y= **518918.7** NAD - 1927
 BH - Lat: **32.4150459** Long: **103.7630221** X= **675993.7** Y= **515177.4** NAD - 1927
 Elevation: **3471.4' GL**

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. Water Table	*surface	Water
b. Rustler Anhydrite	657'	Formation
c. Top Salt	919'	Formation
d. Bottom Salt	4151'	Formation
e. Delaware	4157'	Oil/Gas
f. Bell Canyon	4168'	Oil/Gas
g. Cherry Canyon	5163'	Oil/Gas
h. Brushy Canyon	6205'	Oil/Gas
i. Bone Spring	8092'	Oil/Gas
j. Wolfcamp	11254'	Oil/Gas

*Fresh water is expected above the Rustler. Nearest water wells have found fresh water as deep as 450'

3. Casing Program: *See COA

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Condition	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17-1/2"	0-680'	13-3/8"	48	ST&C	H-40	New	2.3	1.71	2.46
				Hole filled with 8.6# Mud			770#	1730#	
12-1/4"	0-4250'	9-5/8"	40	LT&C	L-80	New	1.61	2.21	2.96
				Hole filled with 10.2# Mud			3090#	5750#	
8-3/4"	0-12585'	7"	29	BT&C	P-110	New	1.6	1.25	2.4
DVT @ 7000' - POST @ 4300'				Hole filled with 9.0# Mud			8510#	11220#	
6-1/8"	0-13685'	4-1/2"	15.1	UFJ	P-110	New	1.57	1.32	2.32
ECP @ 12700'				Hole filled with 14.5# Mud			14320#	14420#	

* Collapse and burst loads calculated using Stress Check with anticipated loads

4. Cement Program See COA

a. 13-3/8" Surface Circulate cement to surface w/ 890sx PP cmt w/ 2% CaCl₂, 14.8ppg 1.35 yield
 1100# 24hr CS 150% Excess

- b. 9-5/8" Intermediate Circulate cement to surface w/ 1340sx HES light PP cmt w/ 5% Salt + .125#/sx Poly-E-Flake + 5#/sx Kol-Seal + .5% Halad-344, 12.9ppg 1.91 yield 851# 24hr CS 125% Excess followed by 200sx PP cmt w/ 1% CaCl₂ + .5% WellLife-734, 14.8ppg 1.33 yield 2850# 24hr CS 125% Excess
- c. 7" Intermediate Cement 1st stage w/ 790sx Super H w/ .5% Halad-344 + .4% CFR-3 + 3#/sx Kol-Seal + .3% HR-800 + .125#/sx Poly-E-Flake, 13.2ppg 1.63 yield 1950# 24hr CS 100% Excess, Calc TOC-6990'
 Cement 2nd stage w/ 530sx Super H w/ .5% Halad-344 + .4% CFR-3 + 3#/sx Kol-Seal + .3% HR-800 + .125#/sx Poly-E-Flake, 13.2ppg 1.63 yield 1950# 24hr CS 150% Excess, Calc TOC-4290'
 Cement 3rd stage w/ 350sx HES Light PP cmt w/ 3#/sx Salt, 12.4ppg 2.08 yield 560# 24hr CS 35% Excess followed by 150sx PP cmt w/ 3#/sx Kol-Seal + .125#/sx Poly-E-Flake, 14.8ppg 1.34 yield 2025# 24hr CS 35% Excess, Circ Surface
- d. 4-1/2" Production Cement w/ 420sx CL H cmt w/ 3#/sx Kol-Seal + .5% Halad-344 + 0.5% CFR-3 + 0.3% Super CBL + 0.2% HR-601, 15.6ppg 1.21 yield 1760# 24hr CS 75% excess, Calc TOC-1000
- The above cement volumes could be revised pending the caliper measurement.

5. Pressure Control Equipment:

Surface

None

Production

13-5/8" 10M three ram stack w/ 10M annular preventer, 10M Choke Manifold

All BOP's and associated equipment will be tested in accordance with Onshore Order #2 (250/10000 psi on rams for 10 minutes each and 250/7000 for 10 minutes for annular preventer, equal to 70% of working pressure) with a third party BOP testing service before drilling out the 13-3/8" casing shoe. Wellhead pressure rating will support this test and 13-3/8" casing will be protected from high pressure. Since the wellhead system is a multibowl design, this initial test will cover the requirements prior to drilling out the 9-5/8" and 7" casing shoes.

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 accommodated on 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 10000 psi WP rating.

OXY also requests a variance to connect the BOP outlet to the choke manifold using a co-flex hose 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, see attached for certifications.

6. Proposed Mud Circulation System

** See COA*

Depth	Mud Wt. ppg	Visc sec	Fluid Loss	Type System
0 - 680'	8.4-9.2	38-42	NC	Fresh Water/Spud Mud
680 - 4250'	9.8-10.2	28-29	NC	Brine Water
4250 - 11400'	9.0-9.4	28-29	NC	Cut Brine
11400 - 13685'	12.5-14.5	34-36	8-10	Cut Brine Gel/LSND

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

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. If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM.

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 electrical logging program will consist of GR/RES/DES in Production Section (11400-TD)
- c. No coring program is planned but if done will be sidewall rotary cores.
- d. Mud logging program will be initiated from 11400' to TD.

9. Potential Hazards:

No abnormal pressures, temperatures or H₂S gas are expected. The highest anticipated pressure gradient would be 0.754 psi/ft.

If H₂S 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.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,

O=orphaned,

C=the file is (quarters are 1=NW 2=NE 3=SW 4=SE)

closed) (quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	Subbasin	County	64	16	4	Sec	Tws	Rng	X	Y	Depth	Depth	Water
												Well	Water	Column

C 02744	ED	3	2	1	11	22S	31E	617374	3586631*	4911				
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C 03112 EXPLORE	ED	3	1	1	09	22S	31E	613753	3586590*	3567				
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Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

PLSS Search:

Section(s): 2, 3, 4, 9, 10, 11 Township: 22S Range: 31E



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,

O=orphaned,

C=the file is (quarters are 1=NW 2=NE 3=SW 4=SE)

closed) (quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	Subbasin	County	64	16	4	Sec	Tws	Rng	X	Y	Depth	Depth	Water
												Well	Water	Column

C 02727	ED	3	1	1	33	21S	31E	613716	3589809*	913				
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C 02949 EXPL	ED	1	1	4	34	21S	31E	616140	3589231*	970				
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Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

PLSS Search:

Section(s): 33, 34, 35 Township: 21S Range: 31E


Scientific Drilling

Project: Lost Tank
 Site: Lost Tank 3 Federal #26
 Well: LT3F#26
 Wellbore: Original Wellbore
 Design: Final Design


PROJECT DETAILS: Lost Tank

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

SECTION DETAILS

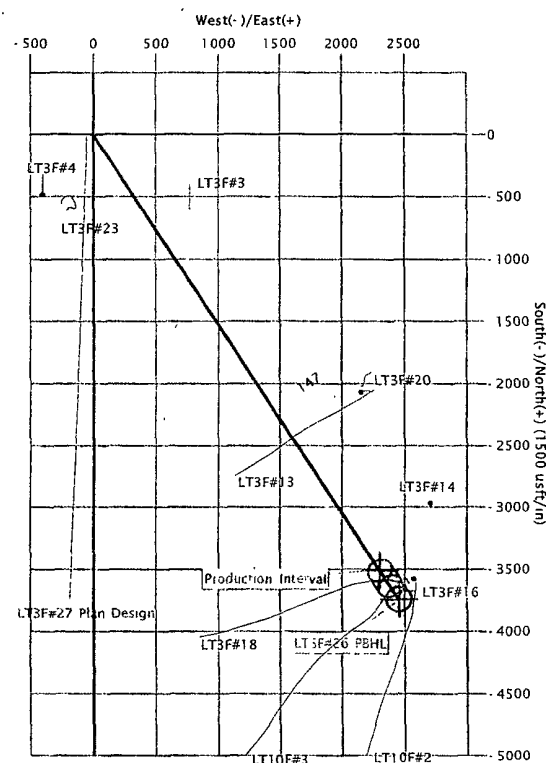
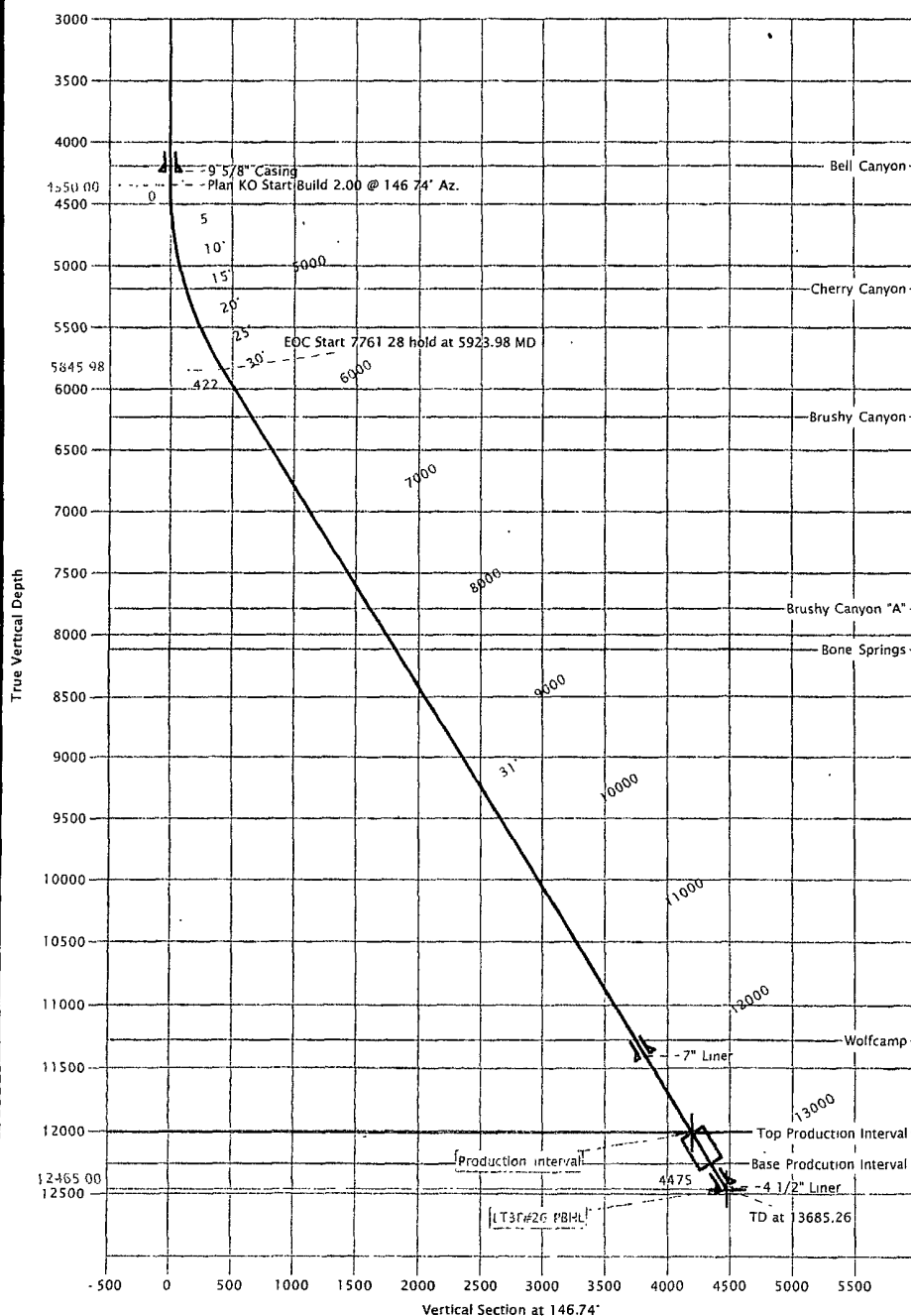
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLS	VS	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4350.00	0.00	0.00	4350.00	0.00	0.00	0.00	0.00	
5923.98	31.48	146.74	5845.98	-352.57	231.22	2.00	421.62	
13685.26	31.48	146.74	12465.00	-3741.70	2453.80	0.00	4474.53	PBHL

SITE DETAILS: Lost Tank 3 Federal #26

Sec 3, T22S, R31E, NMPM
 Eddy Co., New Mexico
 Northing: 518918.70
 Easting: 673540.20
 Elevation: 3471.40
 KB: DFE @ 3496 40usft (25ft Assumed KB)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Production Interval	12012.40 - 3509.96	2301.82	515408.74	675842.02	Circle (Radius: 100.00)	
- plan hits target center						
LT3F#26 PBHL	12465.00 - 3741.70	2453.80	515177.00	675994.00	Circle (Radius 100.00)	
- plan hits target center						


FORMATION TOP DETAILS

TVD	MD	Formation
682.40	682.40	Rustler
4193.40	4193.40	Bell Canyon
5188.40	5200.85	Cherry Canyon
6230.40	6374.74	Brushy Canyon
7790.40	8203.96	Brushy Canyon "A"
8117.40	8587.39	Bone Springs
11279.40	12295.06	Wolfcamp
12012.40	13154.56	Top Production Interval
12257.40	13441.84	Base Production Interval

CASING DETAILS

TVD	MD	Size
670.00	670.00	13- 3/8
4240.00	4240.00	9- 5/8
11400.00	12436.47	7
12446.40	13663.45	4- 1/2



Azimuths to Grid North
 True North - 0.30°
 Magnetic North 7.33°

Magnetic Field
 Strength 48665 4snT
 Dip Angle 60.33°
 Date 12/15/2011
 Model IGRF2010

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#26
Company:	OXY	TVD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #26	North Reference:	Grid
Well:	LT3F#26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

Project:	Lost Tank, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Lost Tank 3 Federal #26, Sec 3, T22S, R31E, NMPM		
Site Position:	Northings:	518,918.70 usft	Latitude: 32° 25' 31.316 N
From: Map	Easting:	673,540.20 usft	Longitude: 103° 46' 15.271 W
Position Uncertainty:	0.00 usft	Slot Radius: 0 "	Grid Convergence: 0.30 °

Well:	LT3F#26		
Well Position	+N/-S	0.00 usft	Northings: 518,918.70 usft
	+E/-W	0.00 usft	Easting: 673,540.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,471.40 usft

Wellbore:	Original Wellbore		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	12/15/11	7.63
			Dip Angle (°)
			60.33
			Field Strength (nT)
			48,665

Design:	Final Design		
Audit Notes:			
Version:	2	Phase:	PLAN
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			146.74

Plan Sections:										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,350.00	0.00	0.00	4,350.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,923.98	31.48	146.74	5,845.98	-352.57	231.22	2.00	2.00	0.00	146.74	
13,685.27	31.48	146.74	12,465.00	-3,741.70	2,453.80	0.00	0.00	0.00	0.00	LT3F#26 PBHL

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#26
Company:	OXY	TVD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #26	North Reference:	Grid
Well:	LT3F#26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
670.00	0.00	0.00	670.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Casing									
682.40	0.00	0.00	682.40	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,193.40	0.00	0.00	4,193.40	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,240.00	0.00	0.00	4,240.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Casing									
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,350.00	0.00	0.00	4,350.00	0.00	0.00	0.00	0.00	0.00	0.00
Plan KO Start Build 2.00 @ 146.74° Az.									

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#26
Company:	OXY	TVD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #26	North Reference:	Grid
Well:	LT3F#26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)
4,400.00	1.00	146.74	4,400.00	-0.36	0.24	0.44	2.00	2.00	0.00
4,500.00	3.00	146.74	4,499.93	-3.28	2.15	3.93	2.00	2.00	0.00
4,600.00	5.00	146.74	4,599.68	-9.12	5.98	10.90	2.00	2.00	0.00
4,700.00	7.00	146.74	4,699.13	-17.86	11.71	21.35	2.00	2.00	0.00
4,800.00	9.00	146.74	4,798.15	-29.49	19.34	35.27	2.00	2.00	0.00
4,900.00	11.00	146.74	4,896.63	-44.01	28.86	52.63	2.00	2.00	0.00
5,000.00	13.00	146.74	4,994.44	-61.40	40.27	73.42	2.00	2.00	0.00
5,100.00	15.00	146.74	5,091.46	-81.63	53.53	97.62	2.00	2.00	0.00
5,200.00	17.00	146.74	5,187.58	-104.68	68.65	125.18	2.00	2.00	0.00
5,200.85	17.02	146.74	5,188.40	-104.89	68.78	125.43	2.00	2.00	0.00
Cherry Canyon									
5,300.00	19.00	146.74	5,282.68	-130.52	85.59	156.08	2.00	2.00	0.00
5,400.00	21.00	146.74	5,376.65	-159.11	104.35	190.28	2.00	2.00	0.00
5,500.00	23.00	146.74	5,469.36	-190.44	124.89	227.74	2.00	2.00	0.00
5,600.00	25.00	146.74	5,560.71	-224.45	147.19	268.41	2.00	2.00	0.00
5,700.00	27.00	146.74	5,650.59	-261.10	171.23	312.24	2.00	2.00	0.00
5,800.00	29.00	146.74	5,738.88	-300.36	196.98	359.19	2.00	2.00	0.00
5,900.00	31.00	146.74	5,825.48	-342.17	224.39	409.19	2.00	2.00	0.00
5,923.98	31.48	146.74	5,845.98	-352.57	231.22	421.62	2.00	2.00	0.00
EOC Start 7761.28 hold at 5923.98 MD									
6,000.00	31.48	146.74	5,910.81	-385.77	252.98	461.32	0.00	0.00	0.00
6,100.00	31.48	146.74	5,996.09	-429.43	281.62	513.54	0.00	0.00	0.00
6,200.00	31.48	146.74	6,081.38	-473.10	310.26	565.76	0.00	0.00	0.00
6,300.00	31.48	146.74	6,166.66	-516.77	338.89	617.98	0.00	0.00	0.00
6,374.74	31.48	146.74	6,230.40	-549.40	360.30	657.01	0.00	0.00	0.00
Brushy Canyon									
6,400.00	31.48	146.74	6,251.94	-560.43	367.53	670.20	0.00	0.00	0.00
6,500.00	31.48	146.74	6,337.22	-604.10	396.17	722.42	0.00	0.00	0.00
6,600.00	31.48	146.74	6,422.51	-647.77	424.80	774.64	0.00	0.00	0.00
6,700.00	31.48	146.74	6,507.79	-691.43	453.44	826.86	0.00	0.00	0.00
6,800.00	31.48	146.74	6,593.07	-735.10	482.08	879.08	0.00	0.00	0.00
6,900.00	31.48	146.74	6,678.35	-778.77	510.72	931.30	0.00	0.00	0.00
7,000.00	31.48	146.74	6,763.64	-822.44	539.35	983.52	0.00	0.00	0.00
7,100.00	31.48	146.74	6,848.92	-866.10	567.99	1,035.73	0.00	0.00	0.00
7,200.00	31.48	146.74	6,934.20	-909.77	596.63	1,087.95	0.00	0.00	0.00
7,300.00	31.48	146.74	7,019.48	-953.44	625.26	1,140.17	0.00	0.00	0.00
7,400.00	31.48	146.74	7,104.77	-997.10	653.90	1,192.39	0.00	0.00	0.00
7,500.00	31.48	146.74	7,190.05	-1,040.77	682.54	1,244.61	0.00	0.00	0.00
7,600.00	31.48	146.74	7,275.33	-1,084.44	711.17	1,296.83	0.00	0.00	0.00
7,700.00	31.48	146.74	7,360.61	-1,128.11	739.81	1,349.05	0.00	0.00	0.00
7,800.00	31.48	146.74	7,445.90	-1,171.77	768.45	1,401.27	0.00	0.00	0.00
7,900.00	31.48	146.74	7,531.18	-1,215.44	797.08	1,453.49	0.00	0.00	0.00
8,000.00	31.48	146.74	7,616.46	-1,259.11	825.72	1,505.71	0.00	0.00	0.00
8,100.00	31.48	146.74	7,701.74	-1,302.77	854.36	1,557.93	0.00	0.00	0.00
8,200.00	31.48	146.74	7,787.03	-1,346.44	882.99	1,610.15	0.00	0.00	0.00
8,203.96	31.48	146.74	7,790.40	-1,348.17	884.13	1,612.22	0.00	0.00	0.00
Brushy Canyon "A"									
8,300.00	31.48	146.74	7,872.31	-1,390.11	911.63	1,662.37	0.00	0.00	0.00
8,400.00	31.48	146.74	7,957.59	-1,433.78	940.27	1,714.59	0.00	0.00	0.00
8,500.00	31.48	146.74	8,042.87	-1,477.44	968.90	1,766.81	0.00	0.00	0.00
8,587.39	31.48	146.74	8,117.40	-1,515.60	993.93	1,812.44	0.00	0.00	0.00
Bone Springs									
8,600.00	31.48	146.74	8,128.16	-1,521.11	997.54	1,819.03	0.00	0.00	0.00

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#26
Company:	OXY	TVD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #26	North Reference:	Grid
Well:	LT3F#26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulldog Rate (°/100usft)	Turn Rate (°/100usft)
8,700.00	31.48	146.74	8,213.44	-1,564.78	1,026.18	1,871.25	0.00	0.00	0.00
8,800.00	31.48	146.74	8,298.72	-1,608.44	1,054.82	1,923.47	0.00	0.00	0.00
8,900.00	31.48	146.74	8,384.00	-1,652.11	1,083.45	1,975.69	0.00	0.00	0.00
9,000.00	31.48	146.74	8,469.29	-1,695.78	1,112.09	2,027.91	0.00	0.00	0.00
9,100.00	31.48	146.74	8,554.57	-1,739.45	1,140.73	2,080.13	0.00	0.00	0.00
9,200.00	31.48	146.74	8,639.85	-1,783.11	1,169.36	2,132.35	0.00	0.00	0.00
9,300.00	31.48	146.74	8,725.13	-1,826.78	1,198.00	2,184.57	0.00	0.00	0.00
9,400.00	31.48	146.74	8,810.42	-1,870.45	1,226.64	2,236.79	0.00	0.00	0.00
9,500.00	31.48	146.74	8,895.70	-1,914.11	1,255.27	2,289.01	0.00	0.00	0.00
9,600.00	31.48	146.74	8,980.98	-1,957.78	1,283.91	2,341.22	0.00	0.00	0.00
9,700.00	31.48	146.74	9,066.26	-2,001.45	1,312.55	2,393.44	0.00	0.00	0.00
9,800.00	31.48	146.74	9,151.55	-2,045.12	1,341.18	2,445.66	0.00	0.00	0.00
9,900.00	31.48	146.74	9,236.83	-2,088.78	1,369.82	2,497.88	0.00	0.00	0.00
10,000.00	31.48	146.74	9,322.11	-2,132.45	1,398.46	2,550.10	0.00	0.00	0.00
10,100.00	31.48	146.74	9,407.39	-2,176.12	1,427.09	2,602.32	0.00	0.00	0.00
10,200.00	31.48	146.74	9,492.68	-2,219.78	1,455.73	2,654.54	0.00	0.00	0.00
10,300.00	31.48	146.74	9,577.96	-2,263.45	1,484.37	2,706.76	0.00	0.00	0.00
10,400.00	31.48	146.74	9,663.24	-2,307.12	1,513.00	2,758.98	0.00	0.00	0.00
10,500.00	31.48	146.74	9,748.53	-2,350.79	1,541.64	2,811.20	0.00	0.00	0.00
10,600.00	31.48	146.74	9,833.81	-2,394.45	1,570.28	2,863.42	0.00	0.00	0.00
10,700.00	31.48	146.74	9,919.09	-2,438.12	1,598.91	2,915.64	0.00	0.00	0.00
10,800.00	31.48	146.74	10,004.37	-2,481.79	1,627.55	2,967.86	0.00	0.00	0.00
10,900.00	31.48	146.74	10,089.66	-2,525.45	1,656.19	3,020.08	0.00	0.00	0.00
11,000.00	31.48	146.74	10,174.94	-2,569.12	1,684.83	3,072.30	0.00	0.00	0.00
11,100.00	31.48	146.74	10,260.22	-2,612.79	1,713.46	3,124.52	0.00	0.00	0.00
11,200.00	31.48	146.74	10,345.50	-2,656.46	1,742.10	3,176.74	0.00	0.00	0.00
11,300.00	31.48	146.74	10,430.79	-2,700.12	1,770.74	3,228.96	0.00	0.00	0.00
11,400.00	31.48	146.74	10,516.07	-2,743.79	1,799.37	3,281.18	0.00	0.00	0.00
11,500.00	31.48	146.74	10,601.35	-2,787.46	1,828.01	3,333.40	0.00	0.00	0.00
11,600.00	31.48	146.74	10,686.63	-2,831.12	1,856.65	3,385.62	0.00	0.00	0.00
11,700.00	31.48	146.74	10,771.92	-2,874.79	1,885.28	3,437.84	0.00	0.00	0.00
11,800.00	31.48	146.74	10,857.20	-2,918.46	1,913.92	3,490.06	0.00	0.00	0.00
11,900.00	31.48	146.74	10,942.48	-2,962.13	1,942.56	3,542.28	0.00	0.00	0.00
12,000.00	31.48	146.74	11,027.76	-3,005.79	1,971.19	3,594.50	0.00	0.00	0.00
12,100.00	31.48	146.74	11,113.05	-3,049.46	1,999.83	3,646.72	0.00	0.00	0.00
12,200.00	31.48	146.74	11,198.33	-3,093.13	2,028.47	3,698.93	0.00	0.00	0.00
12,295.06	31.48	146.74	11,279.40	-3,136.79	2,055.69	3,748.58	0.00	0.00	0.00
Wolfcamp									
12,300.00	31.48	146.74	11,283.61	-3,136.79	2,057.10	3,751.15	0.00	0.00	0.00
12,400.00	31.48	146.74	11,368.89	-3,180.46	2,085.74	3,803.37	0.00	0.00	0.00
12,436.48	31.48	146.74	11,400.00	-3,196.39	2,096.19	3,822.42	0.00	0.00	0.00
7" Liner									
12,500.00	31.48	146.74	11,454.18	-3,224.13	2,114.38	3,855.59	0.00	0.00	0.00
12,600.00	31.48	146.74	11,539.46	-3,267.80	2,143.01	3,907.81	0.00	0.00	0.00
12,700.00	31.48	146.74	11,624.74	-3,311.46	2,171.65	3,960.03	0.00	0.00	0.00
12,800.00	31.48	146.74	11,710.02	-3,355.13	2,200.29	4,012.25	0.00	0.00	0.00
12,900.00	31.48	146.74	11,795.31	-3,398.80	2,228.93	4,064.47	0.00	0.00	0.00
13,000.00	31.48	146.74	11,880.59	-3,442.46	2,257.57	4,116.69	0.00	0.00	0.00
13,100.00	31.48	146.74	11,965.87	-3,486.13	2,286.20	4,168.91	0.00	0.00	0.00
13,154.56	31.48	146.74	12,012.40	-3,509.96	2,301.82	4,197.40	0.00	0.00	0.00
Top Production Interval - Production Interval									
13,200.00	31.48	146.74	12,051.15	-3,529.80	2,314.84	4,221.13	0.00	0.00	0.00
13,300.00	31.48	146.74	12,136.44	-3,573.47	2,343.47	4,273.35	0.00	0.00	0.00

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#26
Company:	OXY	TVD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #26	North Reference:	Grid
Well:	LT3F#26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,400.00	31.48	146.74	12,221.72	-3,617.13	2,372.11	4,325.57	0.00	0.00	0.00
13,441.84	31.48	146.74	12,257.40	-3,635.40	2,384.09	4,347.42	0.00	0.00	0.00
Base Production Interval:									
13,500.00	31.48	146.74	12,307.00	-3,660.80	2,400.75	4,377.79	0.00	0.00	0.00
13,600.00	31.48	146.74	12,392.28	-3,704.47	2,429.38	4,430.01	0.00	0.00	0.00
13,663.46	31.48	146.74	12,446.40	-3,732.18	2,447.55	4,463.14	0.00	0.00	0.00
4 1/2" Liner									
13,685.27	31.48	146.74	12,465.00	-3,741.70	2,453.80	4,474.53	0.00	0.00	0.00
TD at 13685.26 - LT3F#26 PBHL									

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Production Interval	- plan hits target center - Circle (radius 100.00)	31.48	326.74	12,012.40	-3,509.96	2,301.82	515,408.74	675,842.02	32° 24' 56.462 N	103° 45' 48.635 W
LT3F#26 PBHL	- plan hits target center - Circle (radius 100.00)	0.00	0.00	12,465.00	-3,741.70	2,453.80	515,177.00	675,994.00	32° 24' 54.161 N	103° 45' 46.876 W

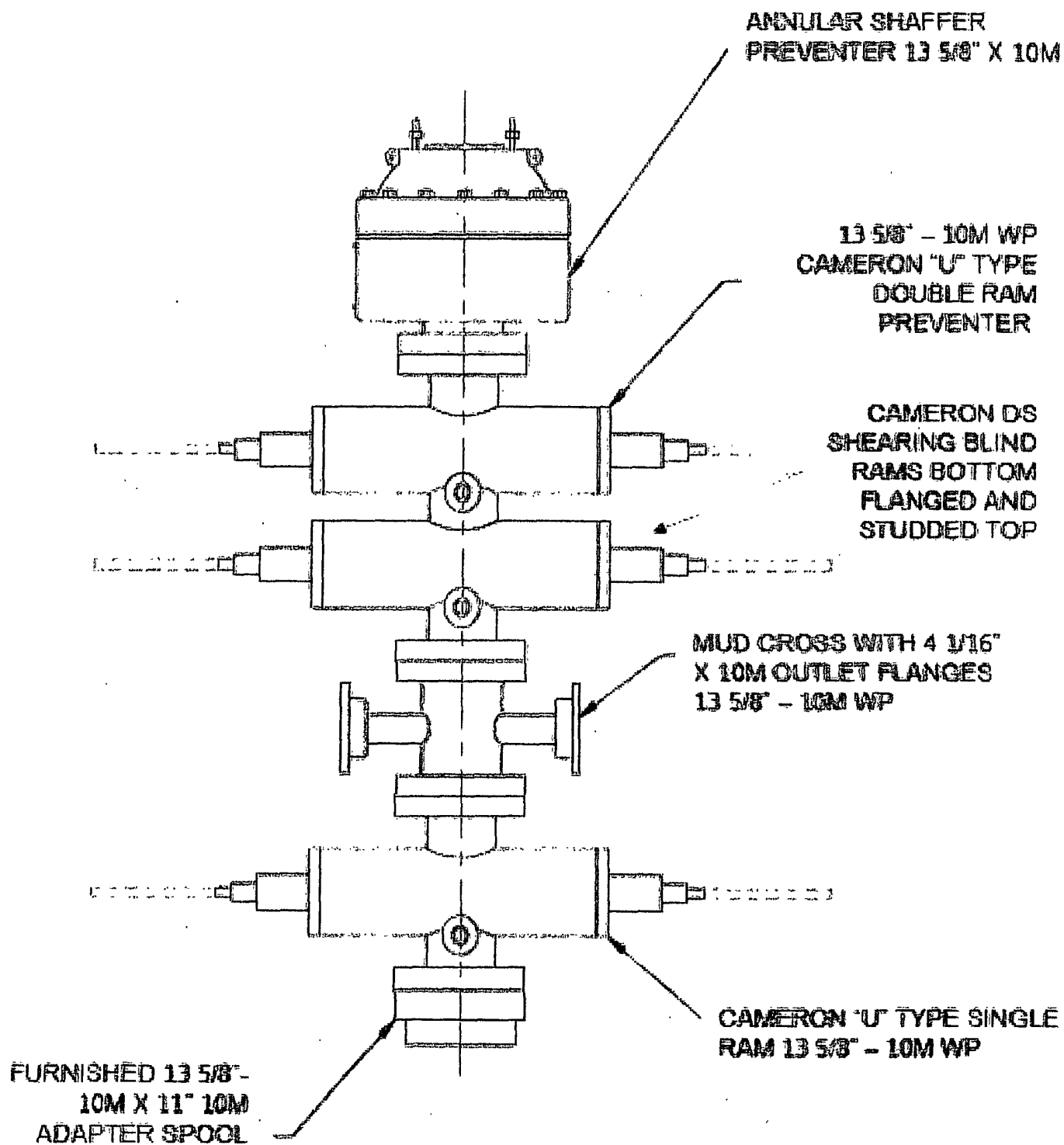
Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
670.00	670.00	13 3/8" Casing	13-3/8	17-1/2	
4,240.00	4,240.00	9 5/8" Casing	9-5/8	12-1/4	
12,436.48	11,400.00	7" Liner	7	8-1/2	
13,663.46	12,446.40	4 1/2" Liner	4-1/2	6-1/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
682.40	682.40	Rustler		0.00	
4,193.40	4,193.40	Bell Canyon		0.00	
5,200.85	5,188.40	Cherry Canyon		0.00	
6,374.74	6,230.40	Brushy Canyon		0.00	
8,203.96	7,790.40	Brushy Canyon "A"		0.00	
8,587.39	8,117.40	Bone Springs		0.00	
12,295.06	11,279.40	Wolfcamp		0.00	
13,154.56	12,012.40	Top Production Interval		0.00	
13,441.84	12,257.40	Base Production Interval		0.00	

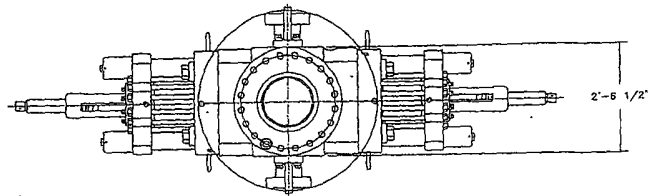
Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#26
Company:	OXY	TVD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496.40usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #26	North Reference:	Grid
Well:	LT3F#26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,350.00	4,350.00	0.00	0.00	Plan KO Start Build 2.00 @ 146.74° Az.
5,923.98	5,845.98	-352.57	231.22	EOC Start 7761.28 hold at 5923.98 MD
13,685.27	12,465.00	-3,741.70	2,453.80	TD at 13685.26

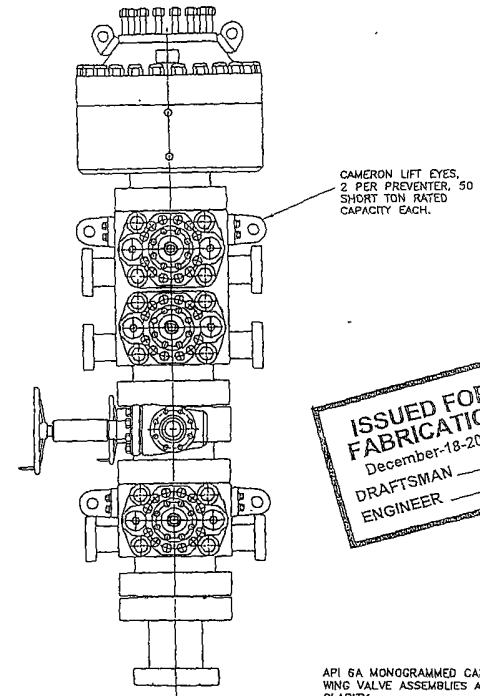
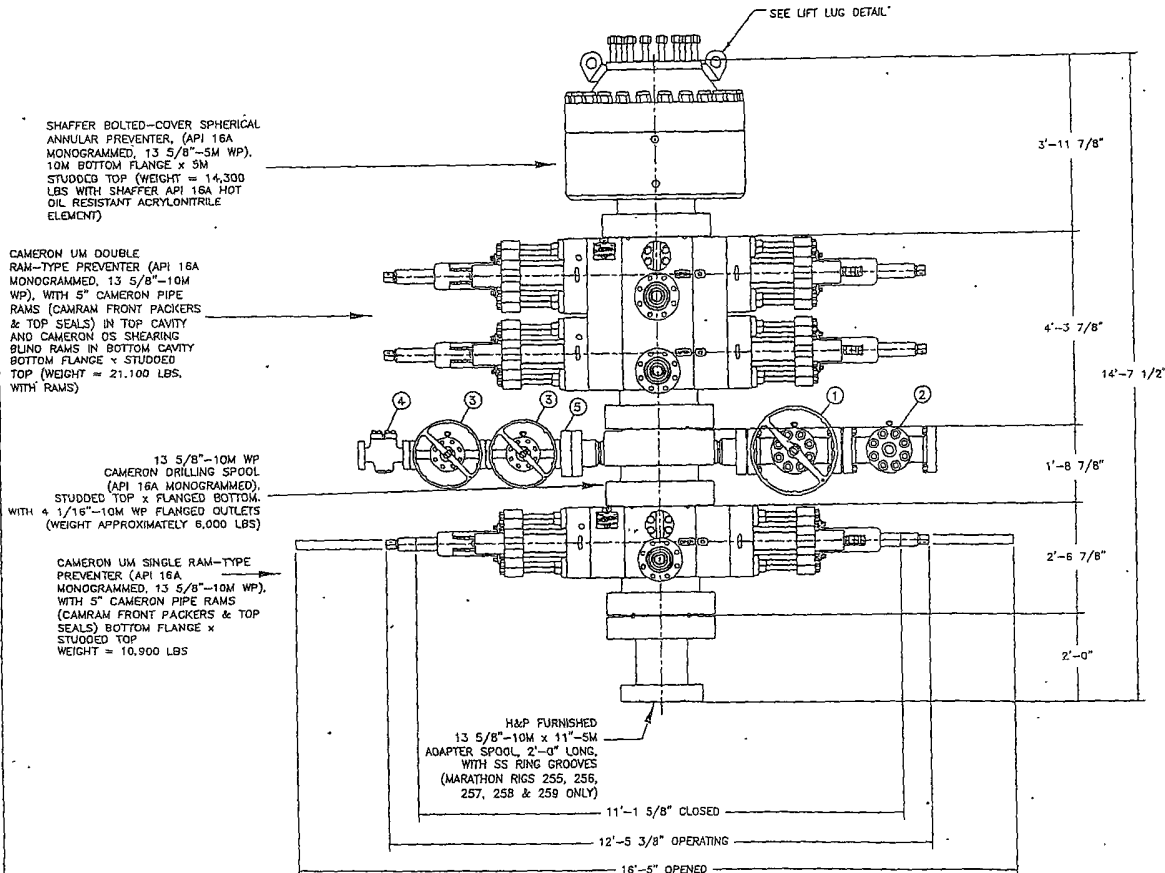
13. BOP Diagram



BOP STACK



- LEGEND
- ① - 4 1/16"-10M FLANGED END GATE VALVE
 - ② - 4 1/16"-10M FLANGED END GATE VALVE WITH DOUBLE ACTING HYDRAULIC ACTUATOR
 - ③ - 2 1/16"-10M FLANGED END GATE VALVE
 - ④ - 2 1/16"-10M FLANGED END CHECK VALVE
 - ⑤ - DOUBLE STUDDED ADAPTER



ISSUED FOR FABRICATION
December-18-2007
DRAFTSMAN _____
ENGINEER _____

API 6A MONOGRAMMED CAMERON CHOKE AND KILL WING VALVE ASSEMBLIES ARE NOT SHOWN FOR CLARITY

WEIGHTS DO NOT INCLUDE HOSES, ADAPTER SPOOLS OR QUICK CONNECT FITTINGS

PROPRIETARY

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13 5/8-10M STACK

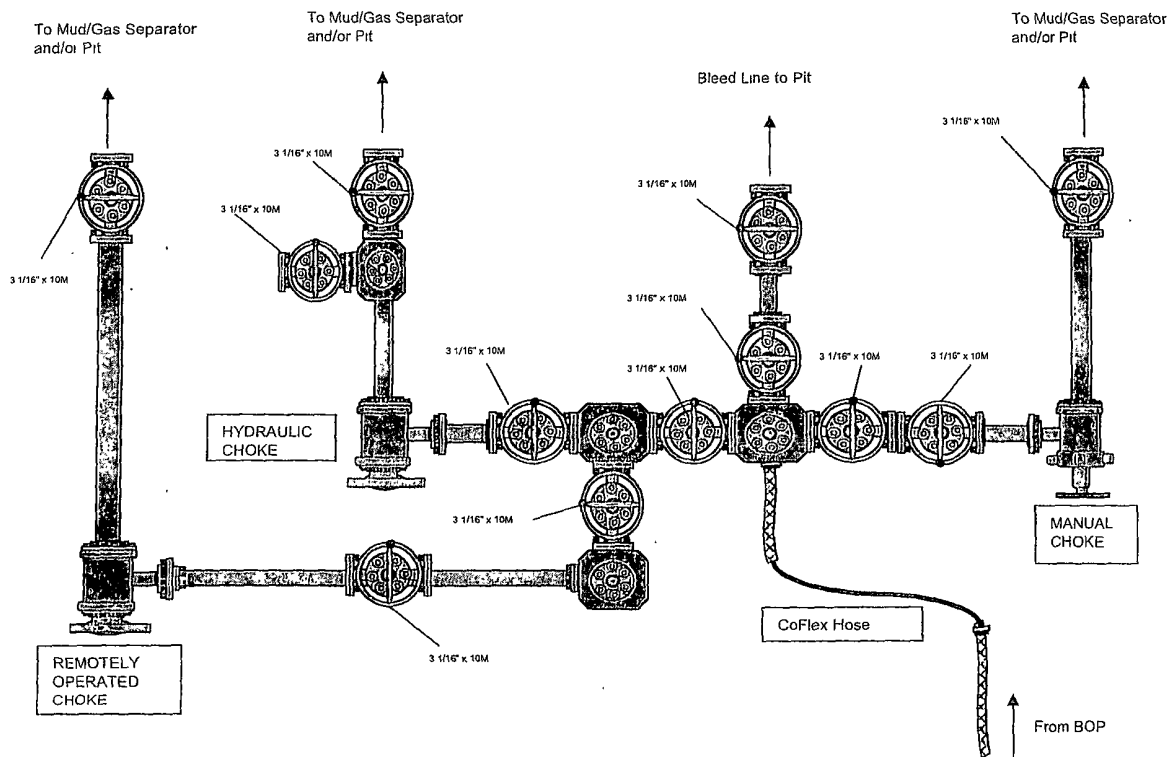
ENGINEERING APPROVAL		DATE	TITLE
12/18/07	ADDED SHEET 03	JAV	13 5/8"-10M BOP 3 RAM STACK
4-10-07	DESCRIPTION REVISED, DOUBLE STUDDED ADAPTER, RIGS 1, 2, & 3, AND 15 CHECK MARK ADDED	JBG	FLEXRIG3
4-04-07	5" ADDED TO SPACER ADAPTER SPOOL	JBG	
92-07-07	ADDED ADAPTER SPOOL	MWL	
06-13-02	CORRECTED BOP STACK	MWL	
REV	DATE	DESCRIPTION	BY

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

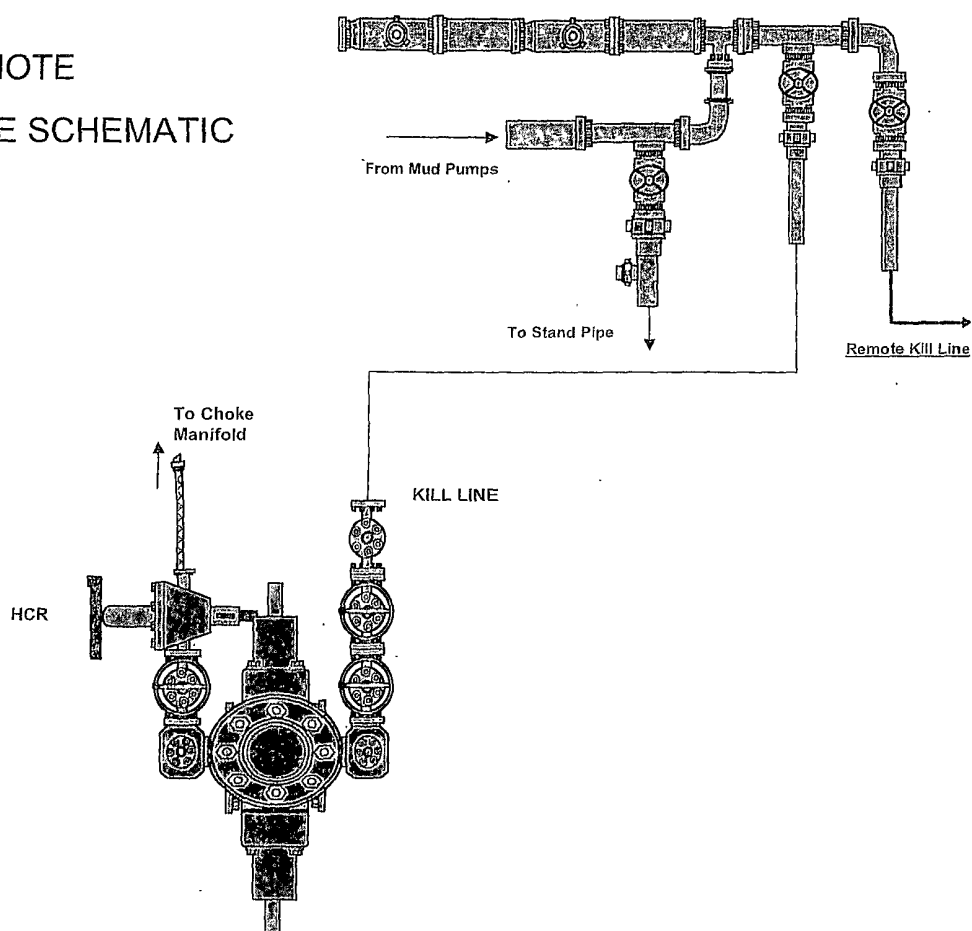
CUSTOMER: H&P
PROJECT: FLEXRIG3
DATE: 6-5-02
DWG. NO.: 210-P1-07
SCALE: 3/4"=1'
SHEET: 1 OF 1

BOP-2

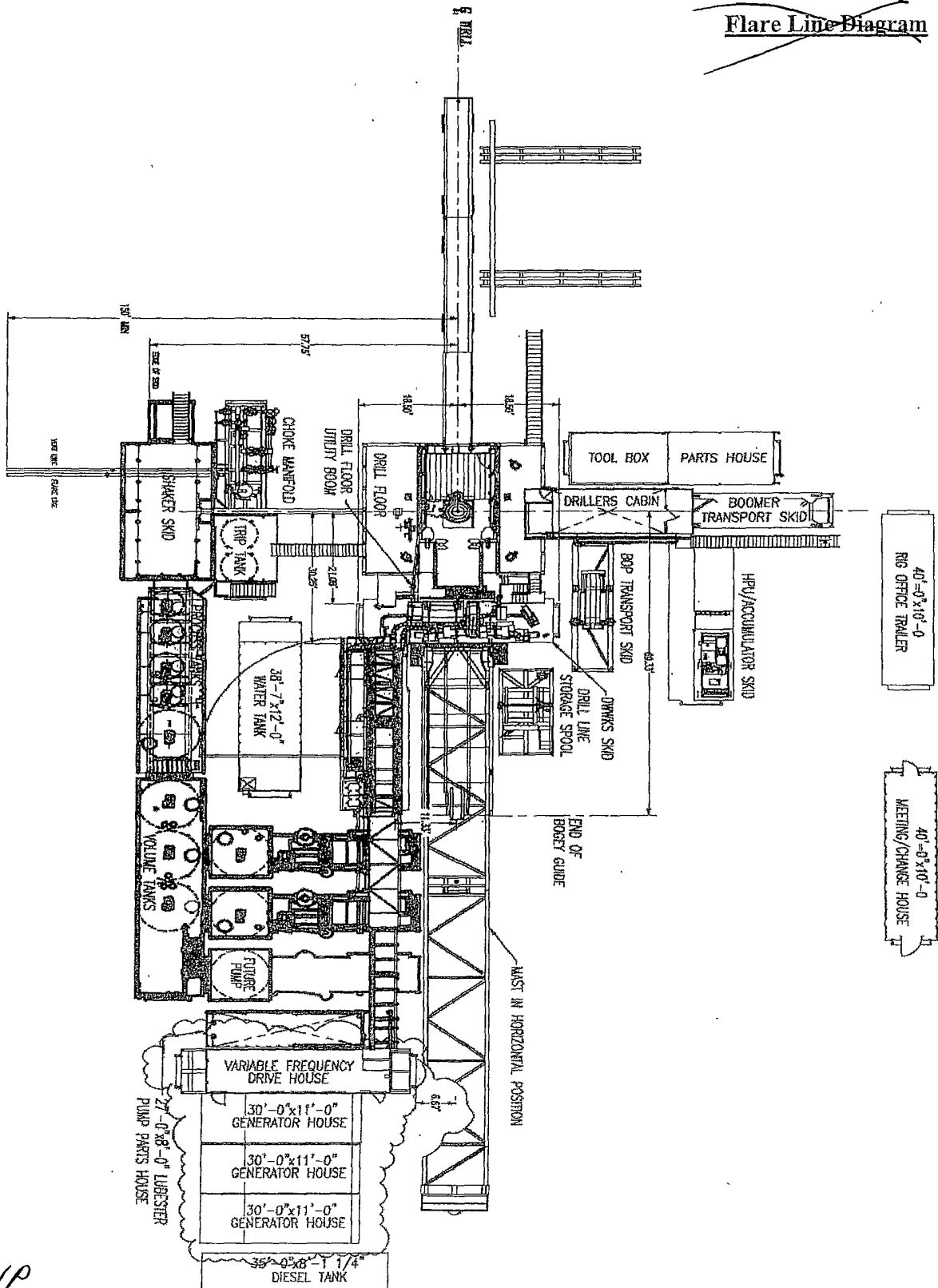
10M CHOKE MANIFOLD CONFIGURATION



10M REMOTE
KILL LINE SCHEMATIC



Flare Line Diagram



Flare Line Diagram



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.

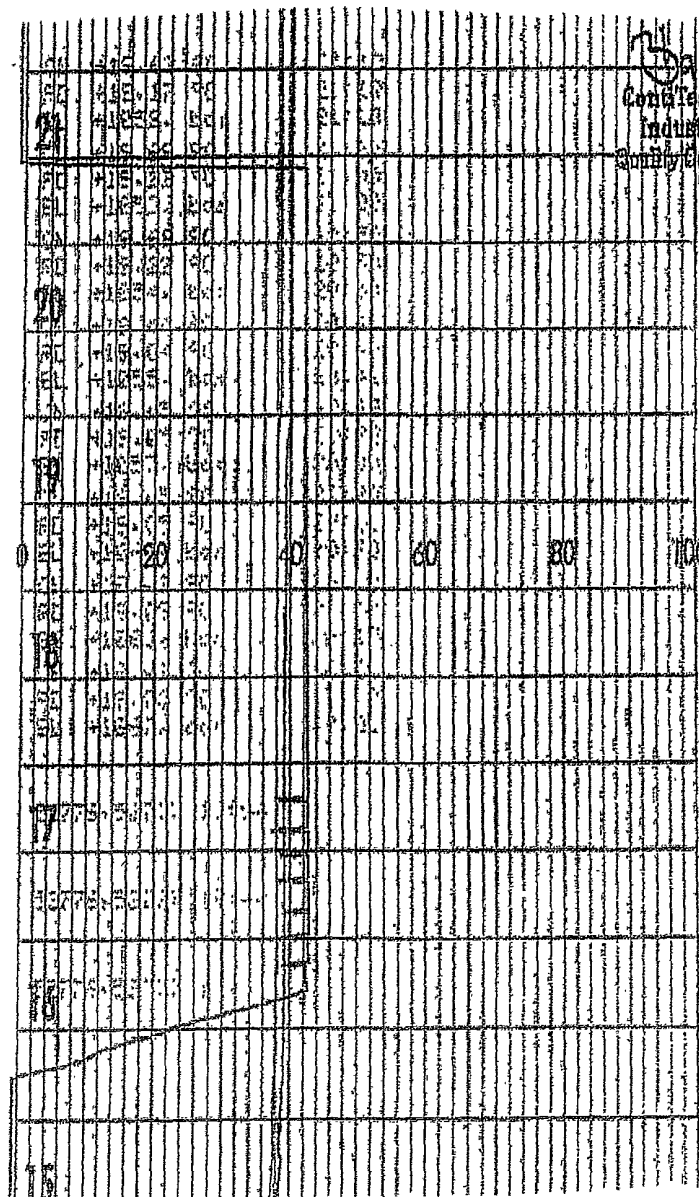
COUNTRY OF ORIGIN HUNGARY/EU

Signed :

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

Position: Q.C. Manager

Date: 04. April. 2008





Phoenix Beattie Corp

11535 Brittonville 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...

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.

**Phoenix Beattie Corp**

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

Flex Hose-5
Form No 100/12

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


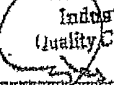
Phoenix Beattie Inspection Signature :

Received in Good Condition : Signature

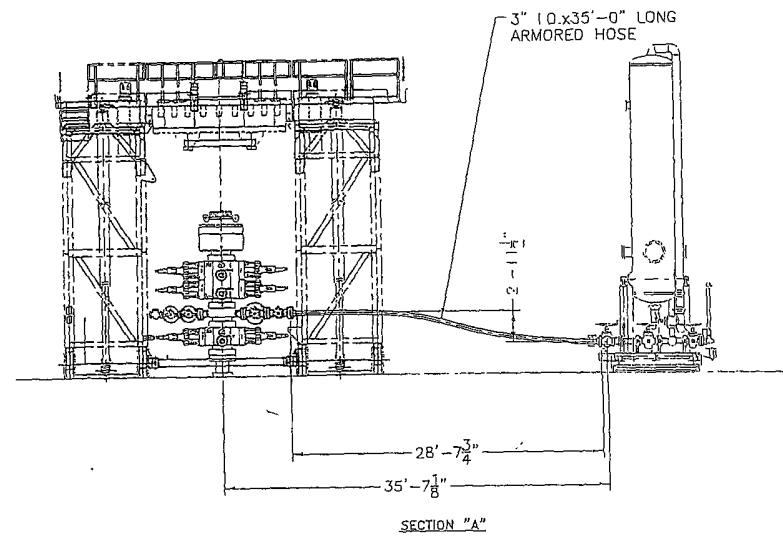
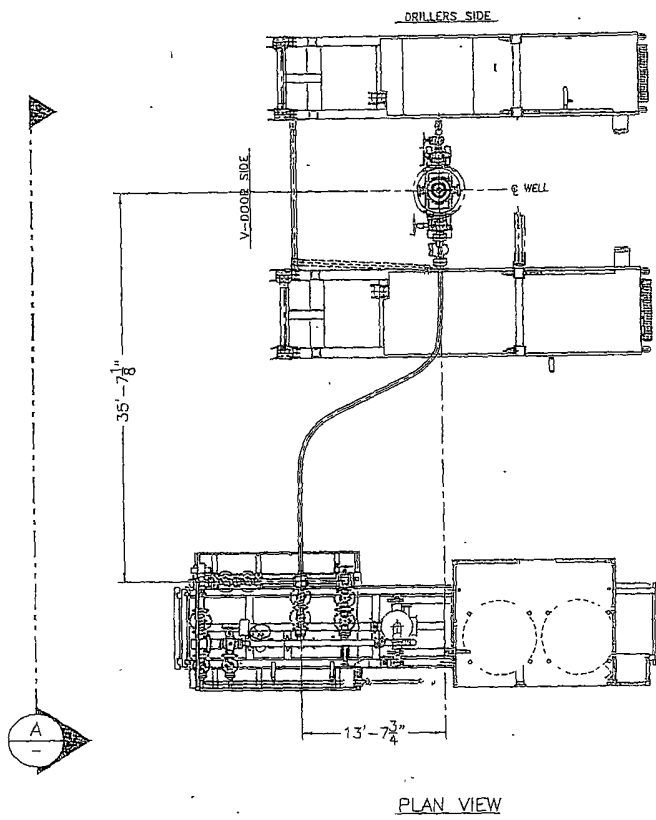
Print Name

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.

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.	
<p>Pressure test with water at ambient temperature</p> <p style="text-align: center;">See attachment. (1 page)</p> <p>↑ 10 mm = 10 Min. → 10 mm = 25 MPa</p>					
COUPLINGS					
Type	Serial N°		Quality	Heat N°	
3" coupling with 4 1/16" Flange end	917	913	AISI 4130	T7998A	
			AISI 4130	26884	
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: 04. April. 2008	Inspector		Quality Control   ContinTech Rubber Industrial Kft. Quality Control Dept. (1)		

Flex hose



ISSUED FOR FABRICATION
December-19-2007
DRAFTSMAN _____
ENGINEER _____

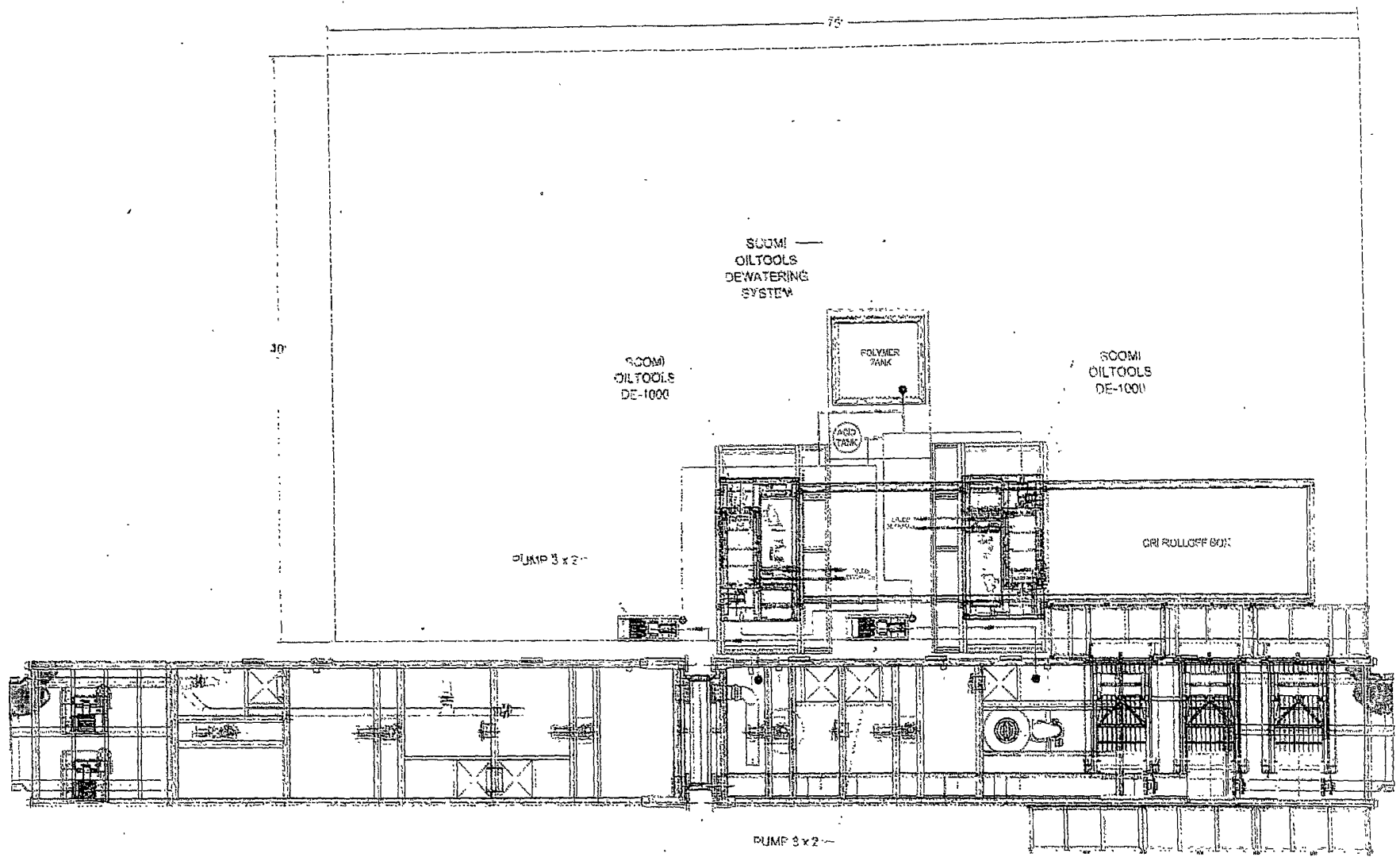
Flex hose

PROPRIETARY
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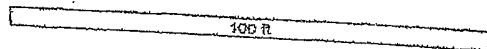
ENGINEERING APPROVAL		DATE	TITLE	
			HELMERICH & PAYNE INTERNATIONAL DRILLING CO.	
			CHOKE LINE SYSTEM FLEXRIG3	
			CUSTOMER	
			PROJECT	
12/18/07	REMOVED SHEET TOTAL CALLOUT	JAV	DATE: 4-10-07	DWG NO.:
REV	DATE	DESCRIPTION	BY	SCALE: 3/16"=1'
				SHEET 2 OF 3
				210-P1-07
				A



CL-2



<p>1. ALL DIMENSIONS ARE IN FEET AND INCHES (1" = 12").</p> <p>2. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>4. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>5. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>6. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>7. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>8. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>9. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p> <p>10. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.</p>				<p>CLOSED LOOP SYSTEM BASIC LAYOUT AND TIE IN OXY - H&P - FLEX RIGS / PG 2 OF 2</p>				<p>Scomi</p> <p>1001 N. Main Highway, P.O. Box 1000 Houston, Texas 77001 PHONE: (713) 555-1000 FAX: (713) 555-1000</p>	
DATE	10/2/2000	DESIGNED BY	DATE	DATE	10/2/2000	DESIGNED BY	DATE	DATE	10/2/2000
APPROVED	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
<p>521S-014</p>				<p>A</p>					

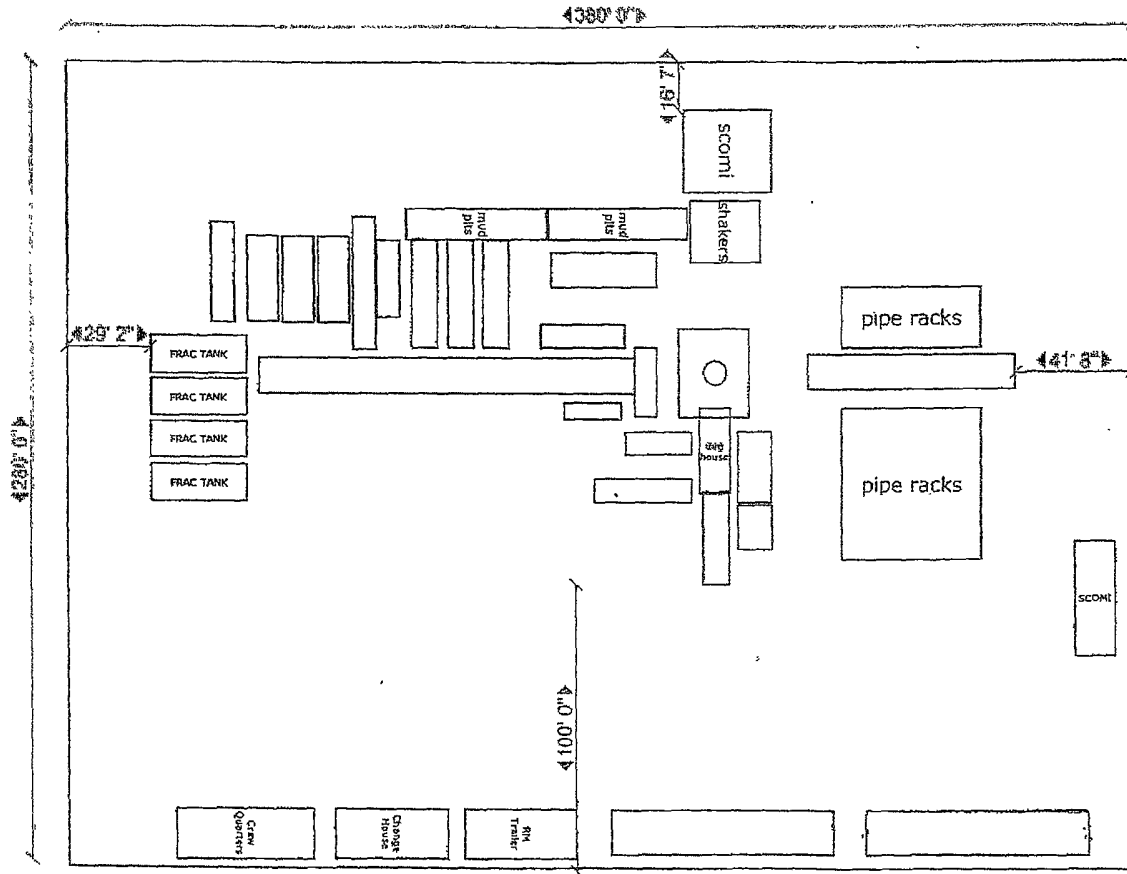
~~2-17-73~~

Notes for Rotating Mouse hole for a FlexRig3 & 25' Substructure:

- 1) 70' of mouse hole below ground level
- 2) If conductor pipe is less than 55' below ground level, recommend cement mouse hole in place in order to prevent break thru & circulation / washout thru mouse hole.
- 3) Use 14" (mini. Nominal size) pipe. This can be spiral weld or low pressure pipe, 10 3/4" is used in some applications but due to inaccuracies in location of mouse hole & potential out of alignment or centered in hole, 14" pipe recommended.
- 4) Cement mouse hole in 16 1/2" or 18 3/4" hole.
- 5) Celler will need to be oblong in order to accommodate mouse hole (i.e. 5' x 10', 6' x 10',)

.... Operator decision

RL-CL-4



OXY USA Inc.

EMERGENCY ACTION PLAN

**Lost Tank 3 Federal #26
Lost Tank 3 Federal #27**

DRILLING/WORKOVER

DRILLING AND CRITICAL WELL OPERATIONS

**DRILLING/WORKOVER
DRILLING AND CRITICAL WELL OPERATIONS
EMERGENCY ACTION PLAN**

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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.

WELL CONTROL

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.

WELL CONTROL (continued)

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)

<input type="checkbox"/> Calm	<input type="checkbox"/> Rapid	<input type="checkbox"/> Laughing	<input type="checkbox"/> Lisp	<input type="checkbox"/> Disguised
<input type="checkbox"/> Angry	<input type="checkbox"/> Crying	<input type="checkbox"/> Raspy	<input type="checkbox"/> Accent	<input type="checkbox"/> Familiar? Who did
<input type="checkbox"/> Excited	<input type="checkbox"/> Normal	<input type="checkbox"/> Deep	<input type="checkbox"/> Stutter	it sound like?
<input type="checkbox"/> Slow	<input type="checkbox"/> Distinct	<input type="checkbox"/> Ragged	<input type="checkbox"/> Deep	<input type="checkbox"/> Deep Breathing
<input type="checkbox"/> Loud	<input type="checkbox"/> Slurred	<input type="checkbox"/> Nasal	<input type="checkbox"/> Clearing Throat	

BACKGROUND SOUNDS:

<input type="checkbox"/> Street	<input type="checkbox"/> House	<input type="checkbox"/> Factory	<input type="checkbox"/> Music	<input type="checkbox"/> Local Call
<input type="checkbox"/> Noises	<input type="checkbox"/> Noises	<input type="checkbox"/> Machinery	<input type="checkbox"/> Static	<input type="checkbox"/> Long Distance
<input type="checkbox"/> Voices	<input type="checkbox"/> Motor	<input type="checkbox"/> Animals	<input type="checkbox"/> PA System	<input type="checkbox"/> Phone Booth
<input type="checkbox"/> Office	<input type="checkbox"/> Clear	<input type="checkbox"/> Other		

THREAT LANGUAGE:

<input type="checkbox"/> Well-Spoken	<input type="checkbox"/> Foul	<input type="checkbox"/> Incoherent	<input type="checkbox"/> Irrational	<input type="checkbox"/> Taped
<input type="checkbox"/> 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 Douglas Chester 713-366-9124 office
713-918-9124 cell

Drilling Superintendent Chad Frazier 713-215-7357 office
806-891-9473 cell

Drilling Superintendent Robert Lovelady 432-685-5630 office
432-813-6332 cell

Drilling Engr Supervisor Juan Pinzon 713-366-5058 office
713-503-3962 cell

Drilling Engr Supervisor Luis Tarazona 713-366-5771 office
713-628-9526 cell

HES Specialist-Drilling Charles Bullard 432-685-5719 office
432-894-3769 cell

Construction Specialist Dusty Weaver 432-685-5723 office
806-893-3067 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 Primary President & General Manager: Michael Land	Houston	(310) 443-6255	
Asset Development Manager-Denise Woods	Houston	(713) 215-7154	(832) 830-5273
Operations Manager-Keith Sevin	Houston	(713) 366-5979	(432) 661-4121
OXY Permian CO2 President & General Manager: Vicki Hollub	Houston	(713)-215-7332	(713) 885-6347
Asset Development Manager-Andrew Falls	Houston	(713) 366-5148	(713) 918-9096
Operations Manager-Bob Barnes	Houston	(713) 215-7906	(832) 433-0763

Operations CO2-Primary

RMT Lead North-David Schellstede	Houston	(713) 366-5013	(713) 560-8061
RMT Lead South-Peter Lawrence	Houston	(713) 215-7644	(832) 830-5273
Well Oper Manager CO2-Bill Elliott	Midland	(432) 685-5845	(432) 557-6736
Well Oper Manager Primary-Charles Wagner	Carlsbad	(575) 628-4151	(575) 725-8306
Well Servicing Manager-Brit Meadows	Midland	(432) 685-5840	(432) 661-0387
WST Coord CO2-Terrell Rowe	Midland	(432) 685-5821	(432) 664-8888
WST Coord Primary-Dalton Dean	Midland	(432) 685-5816	(806) 215-0103
NM Frontier Oper Coord -Kim Moore	Hobbs	(575) 397-8236	(575) 706-1219
NM Frontier Oper Coord -Van Barton	Carlsbad	(575) 628-4111	(575) 706-7671

HES Staff&Areas of First Contact Support

HES Manager: John Kirby	Houston	(713) 366-5460	(281) 974-9523
Environmental Consultant: Douglas Lowrie	Midland	(432) 685-5824	(432) 208-0958
Administrative Assistant: Debbie Robertson	Midland	(432) 685 5812	(432) 556-7495
Pipeline Safety: Steven Bishop	Midland	(432) 685-5614	(432) 238-4079
HES Lead CO2-Pete Maciula	Midland	(432) 685-5667	(432) 557-2450
HES Lead Primary-Nicholas Edwards	Midland	(432) 685-5843	(432) 777-2615
HES Advisor: Marty Bryant	Midland	(432) 685-5929	(432) 634-3964
HES Specialist-Drilling: Charles Bullard	Midland	(432) 685-5719	(432) 894-3769

HES Tech & Area of Responsibility

Hobbs RMT: Raymond Aguilarl	Hobbs	(575) 397-8251	(575) 390-6312
Primary-New Mexico: Mark Richards	Carlsbad	(575) 628-4120	(806) 111-2615
CO2-New Mexico-CJ Summers	Hobbs	(575) 397-8236	(575) 390-9228

Regulatory Affairs

Lead CO2 - Karen Sinard	Houston	(713) 366-5485	(713) 857-6068
Lead Primary - Keith Barton	Houston	(713) 350-4959	(713) 876-1457
Regulatory Advisor-David Stewart	Midland	(432) 685-5717	(432) 638-5688
Sr, Regulatory Analyst-Mark Stephens	Houston	(713) 366-5158	
Staff Regulatory Analyst-Jennifer Duarte	Houston	(713) 513-6640	

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

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
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Axiom Medical Consulting

Medical Case Management		(877) 502-9466	
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OXY Permian Legal

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



**Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Lost Tank 3 Federal #26**


Open drill site. No homes or buildings are near the proposed location.


1. Escape

Personnel shall escape upwind of wellbore in the event of an emergency gas release.
Escape can take place through the lease road on the Southwest side of the location.
Personnel need to move to a safe distance and block the entrance to location.

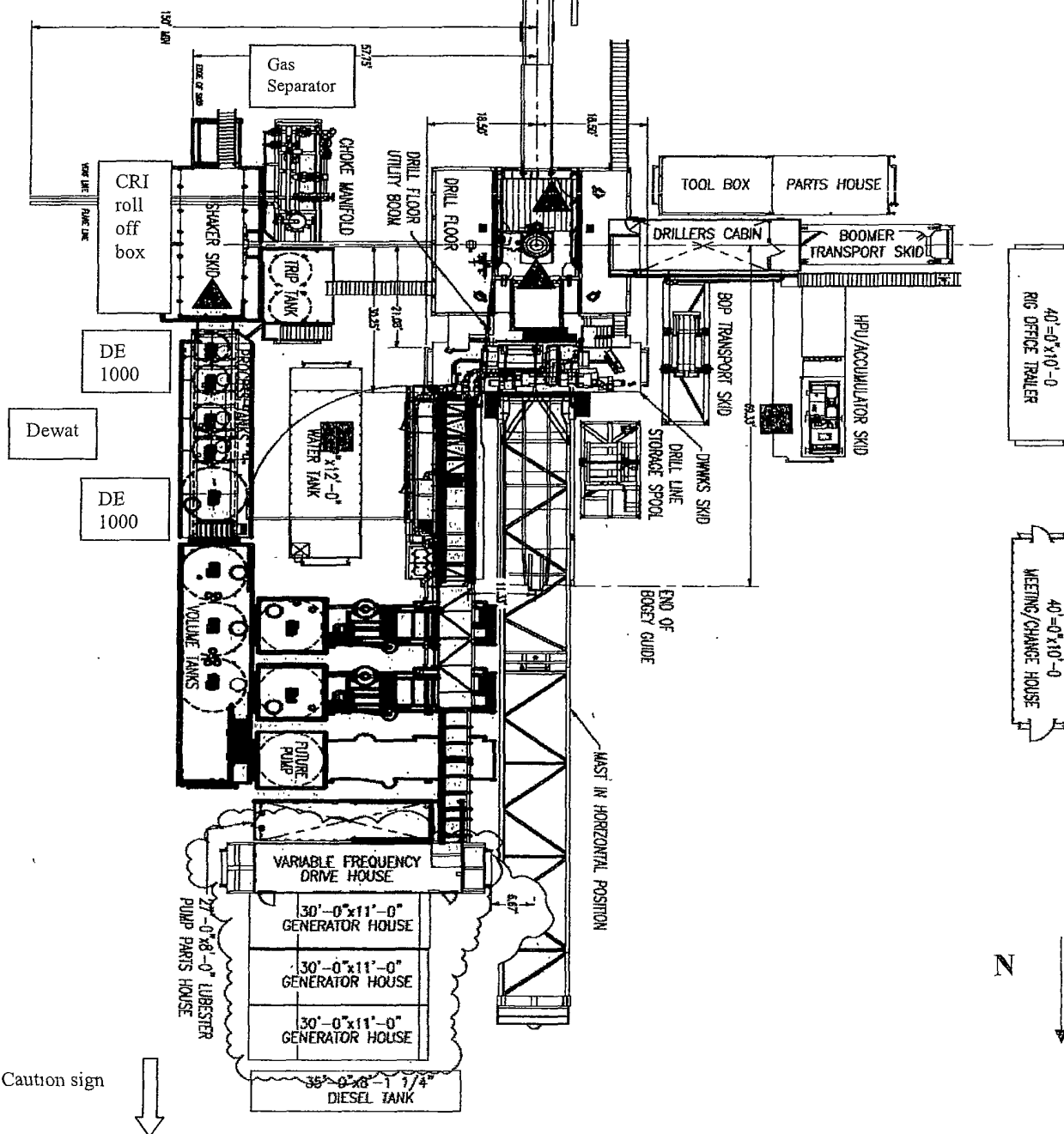
Rig Layout

▲ H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.

 Briefing Areas. At least two briefing areas will be placed, 90 deg off.

 Wind direction indicators. Visible from rig floor and from the mud pits area.

A gas buster is connected to both the choke manifold and flowline outlets.





Permian Drilling Hydrogen Sulfide Drilling Operations Plan New Mexico

Scope

This contingency plan establishes guidelines for the public, all company employees, and contract employees who's work activities may involve exposure to hydrogen sulfide (H₂S) gas.

While drilling this well, it is possible to encounter H₂S bearing formations. At all times, the first barrier to control H₂S emissions will be the drilling fluid, which will have a density high enough to control influx.

Objective

1. Provide an immediate and predetermined response plan to any condition when H₂S is detected. All H₂S detections in excess of 10 parts per million (ppm) concentration are considered an Emergency.
2. Prevent any and all accidents, and prevent the uncontrolled release of hydrogen sulfide into the atmosphere.
3. Provide proper evacuation procedures to cope with emergencies.
4. Provide immediate and adequate medical attention should an injury occur.

Discussion

Implementation:	This plan with all details is to be fully implemented before drilling to <u>commence</u> .
Emergency response Procedure:	This section outlines the conditions and denotes steps to be taken in the event of an emergency.
Emergency equipment Procedure:	This section outlines the safety and emergency equipment that will be required for the drilling of this well.
Training provisions:	This section outlines the training provisions that must be adhered to prior to drilling.
Drilling emergency call lists:	Included are the telephone numbers of all persons to be contacted should an emergency exist.
Briefing:	This section deals with the briefing of all people involved in the drilling operation.
Public safety:	Public safety personnel will be made aware of any potential evacuation and any additional support needed.
Check lists:	Status check lists and procedural check lists have been included to insure adherence to the plan.
General information:	A general information section has been included to supply support information.

Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on the well:

1. The hazards and characteristics of H₂S.
2. Proper use and maintenance of personal protective equipment and life support systems.
3. H₂S detection.
4. Proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
5. Proper techniques for first aid and rescue procedures.
6. Physical effects of hydrogen sulfide on the human body.
7. Toxicity of hydrogen sulfide and sulfur dioxide.
8. Use of SCBA and supplied air equipment.
9. First aid and artificial respiration.
10. Emergency rescue.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile strength tubular is to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling a well, blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan.

H₂S training refresher must have been taken within one year prior to drilling the well. Specifics on the well to be drilled will be discussed during the pre-spud meeting. H₂S and well control (choke) drills will be performed while drilling the well, at least on a weekly basis. This plan shall be available in the well site. All personnel will be required to carry the documentation proving that the H₂S training has been taken.

Service company and visiting personnel

- A. Each service company that will be on this well will be notified if the zone contains H₂S.
- B. Each service company must provide for the training and equipment of their employees before they arrive at the well site.
- C. Each service company will be expected to attend a well site briefing

Emergency Equipment Requirements

1. Well control equipment

The well shall have hydraulic BOP equipment for the anticipated pressures. Equipment is to be tested on installation and follow Oxy Well Control standard, as well as BLM Onshore Order #2.

Special control equipment:

- A. Hydraulic BOP equipment with remote control on ground.
- B. Rotating head
- C. Gas buster equipment shall be installed before drilling out of surface pipe.

2. Protective equipment for personnel

- A. Four (4) 30-minute positive pressure air packs (2 at each briefing area) on location.
- B. Adequate fire extinguishers shall be located at strategic locations.
- C. Radio / cell telephone communication will be available at the rig.
 - Rig floor and trailers.
 - Vehicle.

3. Hydrogen sulfide sensors and alarms

- A. H₂S sensor with alarms will be located on the rig floor, at the bell nipple, and at the flow line. These monitors will be set to alarm at 10 ppm with strobe light, and audible alarm.
- B. Hand operated detectors with tubes.
- C. H₂S monitor tester (to be provided by contract Safety Company.)
- D. There shall be one combustible gas detector on location at all times.

4. Visual Warning Systems

- A. One sign located at each location entrance with the following language:

Caution – potential poison gas
Hydrogen sulfide
No admittance without authorization

Wind sock – wind streamers:

- A. One 36" (in length) wind sock located at protection center, at height visible from rig floor.
- B. One 36" (in length) wind sock located at height visible from pit areas.

Condition flags

- A. One each condition flag to be displayed to denote conditions.

green – normal conditions

yellow – potential danger

red – danger, H₂S present

- B. Condition flag shall be posted at each location sign entrance.

5. Mud Program

The mud program is designed to minimize the risk of having H₂S and other formation fluids at surface. Proper mud weight and safe drilling practices will be applied. H₂S scavengers will be used to minimize the hazards while drilling. Below is a summary of the drilling program.

Mud inspection devices:

Garrett gas train or hatch tester for inspection of sulfide concentration in mud system.

6. Metallurgy

- A. Drill string, casing, tubing, wellhead, blowout preventers, drilling spools or adapters, kill lines, choke manifold, lines and valves shall be suitable for the H₂S service.
- B. All the elastomers, packing, seals and ring gaskets shall be suitable for H₂S service.

7. Well Testing

No drill stem test will be performed on this well.

8. Evacuation plan

Evacuation routes should be established prior to well spud for each well and discussed with all rig personnel.

9. Designated area

- A. Parking and visitor area: all vehicles are to be parked at a predetermined safe distance from the wellhead.
- B. There will be a designated smoking area.
- C. Two briefing areas on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds perpendicularly, or at a 45-degree angle if wind direction tends to shift in the area.

Emergency procedures

- A. In the event of any evidence of H₂S level above 10 ppm, take the following steps:
 - 1. The Driller will pick up off bottom, shut down the pumps, slow down the pipe rotation.
 - 2. Secure and don escape breathing equipment, report to the upwind designated safe briefing / muster area.
 - 3. All personnel on location will be accounted for and emergency search should begin for any missing, the Buddy System will be implemented.
 - 4. Order non-essential personnel to leave the well site, order all essential personnel out of the danger zone and upwind to the nearest designated safe briefing / muster area.
 - 5. Entrance to the location will be secured to a higher level than our usual "Meet and Greet" requirement, and the proper condition flag will be displayed at the entrance to the location.
 - 6. Take steps to determine if the H₂S level can be corrected or suppressed and, if so, proceed as required.
- B. If uncontrollable conditions occur:
 - 1. Take steps to protect and/or remove any public in the down-wind area from the rig – partial evacuation and isolation. Notify necessary public safety personnel and appropriate regulatory entities (i.e. BLM) of the situation.

2. Remove all personnel to the nearest upwind designated safe briefing / muster area or off location.
3. Notify public safety personnel of safe briefing / muster area.
4. An assigned crew member will blockade the entrance to the location. No unauthorized personnel will be allowed entry to the location.
5. Proceed with best plan (at the time) to regain control of the well. Maintain tight security and safety procedures.

C. Responsibility:

1. Designated personnel.

- a. Shall be responsible for the total implementation of this plan.
- b. Shall be in complete command during any emergency.
- c. Shall designate a back-up.

All personnel:

1. On alarm, don escape unit and report to the nearest upwind designated safe briefing / muster area upw
2. Check status of personnel (buddy system).
3. Secure breathing equipment.
4. Await orders from supervisor.

Drill site manager:

1. Don escape unit if necessary and report to nearest upwind designated safe briefing / muster area.
2. Coordinate preparations of individuals to return to point of release with tool pusher and driller (using the buddy system).
3. Determine H₂S concentrations.
4. Assess situation and take control measures.

Tool pusher:

1. Don escape unit Report to up nearest upwind designated safe briefing / muster area.
2. Coordinate preparation of individuals to return to point of release with tool pusher drill site manager (using the buddy system).
3. Determine H₂S concentration.
4. Assess situation and take control measures.

Driller:

1. Don escape unit, shut down pumps, continue rotating DP.

2. Check monitor for point of release.
3. Report to nearest upwind designated safe briefing / muster area.
4. Check status of personnel (in an attempt to rescue, use the buddy system).
5. Assigns least essential person to notify Drill Site Manager and tool pusher by quickest means in case of their absence.
6. Assumes the responsibilities of the Drill Site Manager and tool pusher until they arrive should they be absent.

Derrick man
Floor man #1
Floor man #2

1. Will remain in briefing / muster area until instructed by supervisor.

Mud engineer:

1. Report to nearest upwind designated safe briefing / muster area.
2. When instructed, begin check of mud for ph and H₂S level. (Garett gas train.)

Safety personnel:

1. Mask up and check status of all personnel and secure operations as instructed by drill site manager.

Taking a kick

When taking a kick during an H₂S emergency, all personnel will follow standard Well control procedures after reporting to briefing area and masking up.

Open-hole logging

All unnecessary personnel off floor. Drill Site Manager and safety personnel should monitor condition, advise status and determine need for use of air equipment.

Running casing or plugging

Following the same "tripping" procedure as above. Drill Site Manager and safety personnel should determine if all personnel have access to protective equipment.

Ignition procedures

The decision to ignite the well is the responsibility of the operator (Oxy Drilling Management). The decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope controlling the blowout under the prevailing conditions at the well.

Instructions for igniting the well

1. Two people are required for the actual igniting operation. They must wear self-contained breathing units and have a safety rope attached. One man (tool pusher or safety engineer) will check the atmosphere for explosive gases with the gas monitor. The other man is responsible for igniting the well.
2. Primary method to ignite: 25 mm flare gun with range of approximately 500 feet.
3. Ignite upwind and do not approach any closer than is warranted.
4. Select the ignition site best for protection, and which offers an easy escape route.
5. Before firing, check for presence of combustible gas.
6. After lighting, continue emergency action and procedure as before.
7. All unassigned personnel will remain in briefing area until instructed by supervisor or directed by the Drill Site Manager.

Remember: After well is ignited, burning hydrogen sulfide will convert to sulfur dioxide, which is also highly toxic. **Do not assume the area is safe after the well is ignited.**

Status check list

Note: All items on this list must be completed before drilling to production casing point.

1. H₂S sign at location entrance.
2. Two (2) wind socks located as required.
3. Four (4) 30-minute positive pressure air packs (2 at each Briefing area) on location for all rig personnel and mud loggers.
4. Air packs inspected and ready for use.
5. Cascade system and hose line hook-up as needed.
6. Cascade system for refilling air bottles as needed.
7. Condition flag on location and ready for use.
8. H₂S detection system hooked up and tested.
9. H₂S alarm system hooked up and tested.
10. Hand operated H₂S detector with tubes on location.
11. 1 – 100' length of nylon rope on location.
12. All rig crew and supervisors trained as required.
13. All outside service contractors advised of potential H₂S hazard on well.
14. No smoking sign posted and a designated smoking area identified.
15. Calibration of all H₂S equipment shall be noted on the IADC report.

Checked by: _____ Date: _____

Procedural check list during H₂S events

Perform each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to ensure that it is in proper working order.
3. Make sure all the H₂S detection system is operative.

Perform each week:

1. Check each piece of breathing equipment to make sure that demand or forced air regulator is working. This requires that the bottle be opened and the mask assembly be put on tight enough so that when you inhale, you receive air or feel air flow.
2. BOP skills (well control drills).
3. Check supply pressure on BOP accumulator stand by source.
4. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to put on.
5. Check pressure on breathing equipment air bottles to make sure they are charged to full volume. (Air quality checked for proper air grade "D" before bringing to location)
6. Confirm pressure on all supply air bottles.
7. Perform breathing equipment drills with on-site personnel.
8. Check the following supplies for availability.
 - A. Emergency telephone list.
 - B. Hand operated H₂S detectors and tubes.

General evacuation plan

1. When the company approved supervisor (Drill Site Manager, consultant, rig pusher, or driller) determines the H2S gas cannot be limited to the well location and the public will be involved, he will activate the evacuation plan.
2. Drill Site Manager or designee will notify local government agency that a hazardous condition exists and evacuation needs to be implemented.
3. Company or contractor safety personnel that have been trained in the use of H2S detection equipment and self-contained breathing equipment will monitor H2S concentrations, wind directions, and area of exposure. They will delineate the outer perimeter of the hazardous gas area. Extension to the evacuation area will be determined from information gathered.
4. Law enforcement personnel (state police, police dept., fire dept., and sheriff's dept.) Will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.
5. After the discharge of gas has been controlled, company safety personnel will determine when the area is safe for re-entry.

Important: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

Emergency actions**Well blowout – if emergency**

1. Evacuate all personnel to “Safe Briefing / Muster Areas” or off location if needed.
2. If sour gas – evacuate rig personnel.
3. If sour gas – evacuate public within 3000 ft radius of exposure.
4. Don SCBA and shut well in if possible using the buddy system.
5. Notify Drilling Superintendent and call 911 for emergency help (fire dept and ambulance) if needed.
6. Implement the Blowout Contingency Plan, and Drilling Emergency Action Plan.
6. Give first aid as needed.

Person down location/facility

1. If immediately possible, contact 911. Give location and wait for confirmation.
2. Don SCBA and perform rescue operation using buddy system.

Toxic effects of hydrogen sulfide

Hydrogen sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 ppm, which is .001% by volume. Hydrogen sulfide is heavier than air (specific gravity – 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in table i. Physical effects at various hydrogen sulfide exposure levels are shown in table ii.

Table i
Toxicity of various gases

Common name	Chemical formula	Specific gravity (sc=1)	Threshold limit (1)	Hazardous limit (2)	Lethal concentration (3)
Hydrogen Cyanide	Hcn	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	So2	2.21	5 ppm	-	1000 ppm
Chlorine	Cl2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	Co	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	Co2	1.52	5000 ppm	5%	10%
Methane	Ch4	0.55	90,000 ppm	Combustible above 5% in air	

- 1) threshold limit – concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.
- 2) hazardous limit – concentration that will cause death with short-term exposure.
- 3) lethal concentration – concentration that will cause death with short-term exposure.

Toxic effects of hydrogen sulfide

Table ii
Physical effects of hydrogen sulfide

Percent (%)	Ppm	Concentration Grains 100 std. Ft3*	Physical effects
0.001	<10	00.65	Obvious and unpleasant odor.

0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 - 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; stings eyes and throat.
0.050	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; followed by death within minutes.

*at 15.00 psia and 60'f.

Use of self-contained breathing equipment (SCBA)

1. Written procedures shall be prepared covering safe use of SCBA's in dangerous atmosphere, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available SCBA.
2. SCBA's shall be inspected frequently at random to insure that they are properly used, cleaned, and maintained.
3. Anyone who may use the SCBA's shall be trained in how to insure proper face-piece to face seal. They shall wear SCBA's in normal air and then wear them in a test atmosphere. (note: such items as facial hair {beard or sideburns} and eyeglasses will not allow proper seal.) Anyone that may be reasonably expected to wear SCBA's should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses.
4. Maintenance and care of SCBA's:
 - a. A program for maintenance and care of SCBA's shall include the following:
 1. Inspection for defects, including leak checks.
 2. Cleaning and disinfecting.
 3. Repair.
 4. Storage.
 - b. Inspection, self-contained breathing apparatus for emergency use shall be inspected monthly.
 1. Fully charged cylinders.
 2. Regulator and warning device operation.
 3. Condition of face piece and connections.
 4. Rubber parts shall be maintained to keep them pliable and prevent deterioration.
 - c. Routinely used SCBA's shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.
5. Persons assigned tasks that requires use of self-contained breathing equipment shall be certified physically fit (medically cleared) for breathing equipment usage at least annually.
6. SCBA's should be worn when:
 - A. Any employee works near the top or on top of any tank unless test reveals less than 10 ppm of H₂S.

- B. When breaking out any line where H₂S can reasonably be expected.
- C. When sampling air in areas to determine if toxic concentrations of H₂S exists.
- D. When working in areas where over 10 ppm H₂S has been detected.
- E. At any time there is a doubt as to the H₂S level in the area to be entered.

Rescue
First aid for H₂S poisoning

Do not panic!

Remain calm – think!

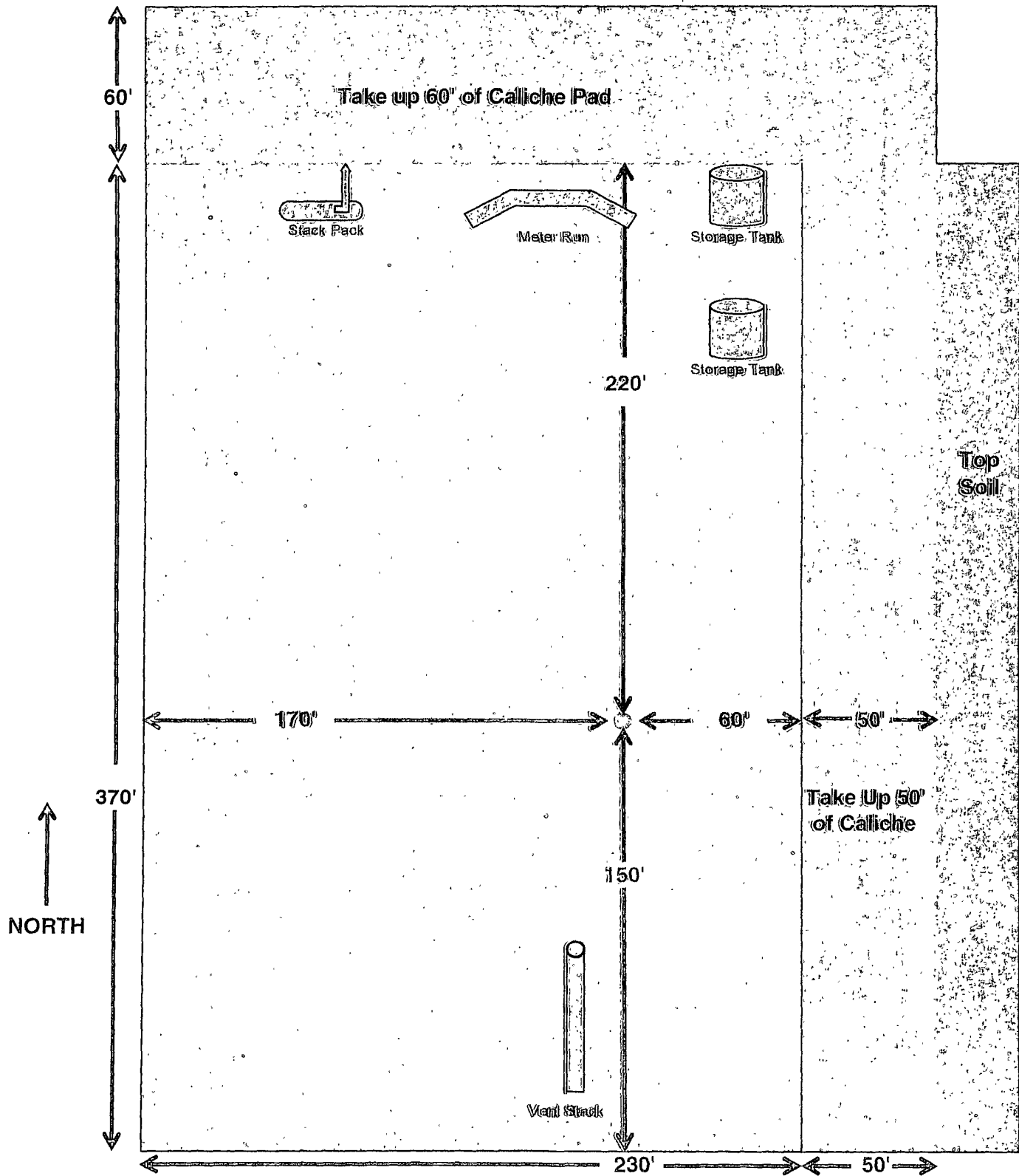
1. Don SCBA breathing equipment.
2. Remove victim(s) utilizing buddy system to fresh air as quickly as possible. (go up-wind from source or at right angle to the wind. Not down wind.)
3. Briefly apply chest pressure – arm lift method of artificial respiration to clean the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs.
4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.
5. Hospital(s) or medical facilities need to be informed, before-hand, of the possibility of H₂S gas poisoning – no matter how remote the possibility is.
6. Notify emergency room personnel that the victim(s) has been exposed to H₂S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

Revised CM 6/27/2012

H & P 453 - Vdoor South
Lost Tank 3 Federal #26

Wellsite
Facility
LayOut



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA, INC
LEASE NO.:	NM0417696
WELL NAME & NO.:	26-LOST TANK 3 FEDERAL
SURFACE HOLE FOOTAGE:	0845'/N. & 0887'/W.
BOTTOM HOLE FOOTAGE:	0680'/S. & 1957'/E.
LOCATION:	Section 3, T. 22 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

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