12-884

CORRECTED APD w/ Attachments

RECEIVED
OCT 01 2012
NMOCD ARTESIA

Form 3160-3
(April 2004)

OCD Artesia

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No: NMNM0417696 TCS
6. If Indian, Allotee or Tribe Name: 10/2/
7. If Unit or CA Agreement, Name and No:
8. Lease Name and Well No.: Lost Tank 3 Federal #2 30487
9. API Well No.: 30-015 40770
10. Field and Pool, or Exploratory: Lost Tank Wolfcamp 97578

1a. Type of work: ☑ DRILL ☐ REENTER

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

2. Name of Operator: OXY USA Inc. 16696

3a. Address: P.O. Box 50250, Midland, TX 79710

3b. Phone No. (include area code): 432-685-5717

4. Location of Well (Report location clearly and in accordance with any State requirements *)
At surface: 845 FNL 837 FWL NWNW(D) (4)
At proposed prod. zone: 680 FSL 680 FWL SWSW(M)

11. Sec., T. R. M. or Blk and Survey or Area: Sec 3 T22S R31E

12. County or Parish: Eddy

13. State: NM

14. Distance in miles and direction from nearest town or post office*: 20 miles NE from Loving, NM

15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any): 837'S 680'B

16. No. of acres in lease: ~~640ac~~ 1238.63 ac

17. Spacing Unit dedicated to this well: ~~640ac~~ 639.4 ac

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft: 1-544' 23-597' 27-50'

19. Proposed Depth: 13303'M 12433'V

20. BLM/BIA Bond No. on file: ESB000326

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3471' GL

22. Approximate date work will start*: 10/15/2012

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

25. Signature: [signature] Name (Printed/Typed): David Stewart Date: 6/19/12

Title: Regulatory Advisor david_stewart@oxy.com

Approved by (Signature): /s/ Adam L. Seidlitz Name (Printed/Typed): Date: SEP 24 2012

Title: STATE DIRECTOR Office: NM STATE OFFICE

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

APPROVAL FOR TWO YEARS

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

*(Instructions on 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	Pool Code	Pool Name
30-015- 40770	97573	LOST TANK WOLFCAMP

Property Code	Property Name	Well Number
304876	LOST TANK "3" FEDERAL	27

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	3471.0'

Surface Location

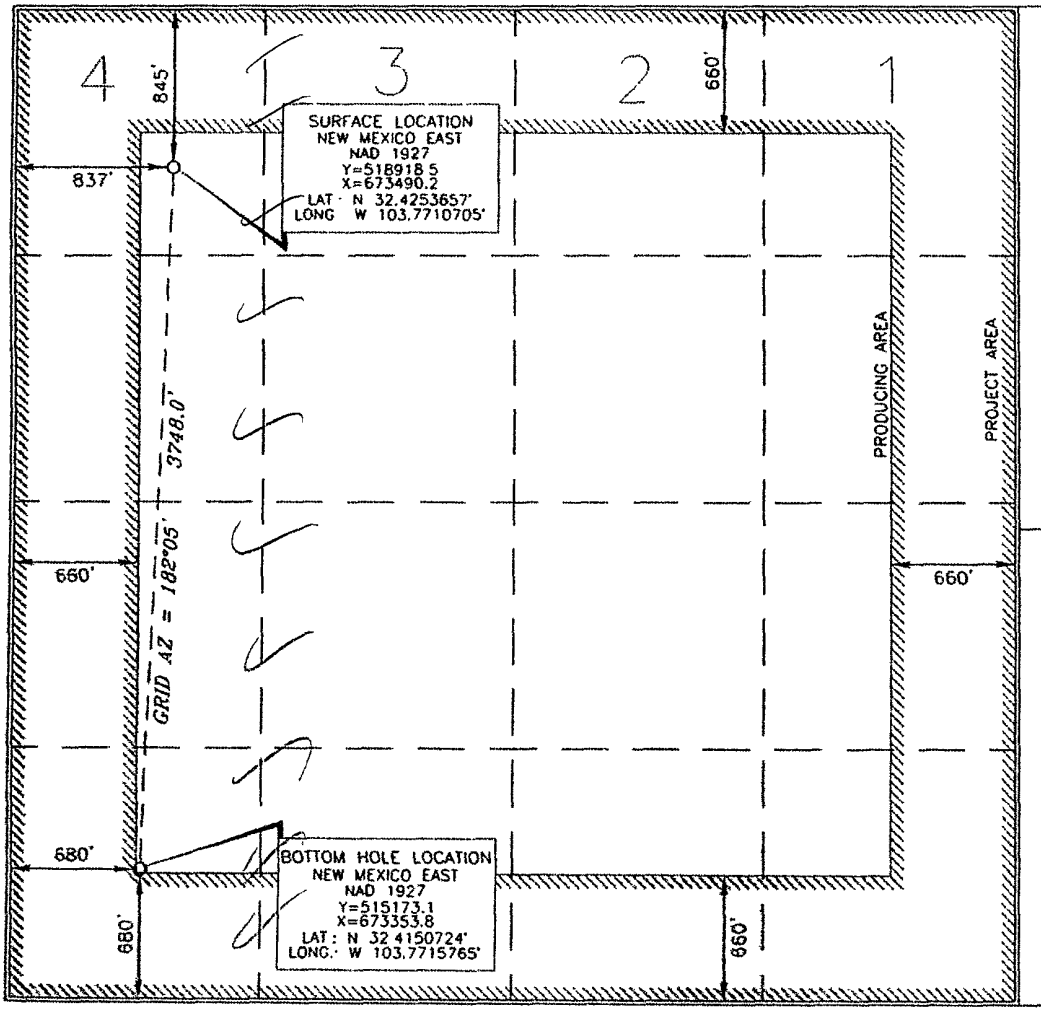
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	3	22 SOUTH	31 EAST, N.M.P.M.		845'	NORTH	837'	WEST	EDDY

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
M	3	22 SOUTH	31 EAST, N.M.P.M		680'	SOUTH	680'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
~~639.4~~	Y		

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.

7/25/12
Signature Date

David Stewart - Reg. Advisor
Printed Name

SURVEYOR CERTIFICATION

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

NEW MEXICO
15079
PROFESSIONAL LAND SURVEYOR
TERRY J. ASEL

SEPTEMBER 16, 2011
Date of Survey

Signature and Seal of Professional Surveyor:

7/19/2012

Certificate Number 15079

WO# 110916WL-d (Rev. C) (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

Operator Name/Number:	**OXY USA Inc.**	**16**
Lease Name/Number:	**Lost Tank 3 Federal #27** **304876**	**Federal Lease No.NMNM041**
Pool Name/Number:	**Lost Tank Wolfcamp**	**97**
Surface Location:	**845 FNL 837 FWL NWNW(D) Sec 3 T22S R31E**	
Bottom Hole Location:	**680 FSL 680 FWL SWSW(M) Sec 3 T22S R31E**	

Proposed TD: **13303' TMD** **12433' TVD**
SL - Lat: 32.4253657 Long: 103.7710705 **X= 673490.2 Y= 518918.5** **NAD - 1927**
BH - Lat: 32.4150724 Long: 103.7715765 **X= 673353.8 Y= 515173.1** **NAD - 1927**
Elevation: **3471' 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	623'	Formation
c. Top Salt	919'	Formation
d. Bottom Salt	4117'	Formation
e. Delaware	4123'	Oil/Gas
f. Bell Canyon	4168'	Oil/Gas
g Cherry Canyon	5161'	Oil/Gas
h. Brushy Canyon	6399'	Oil/Gas
i. Bone Spring	8066'	Oil/Gas
j. Wolfcamp	11228'	Oil/Gas

*Fresh water is expected above the Rustler. Nearest water wells have found fresh water as deep as 450' See attached for NMOSE WaterColumn/Average Depth to Water.

3. Casing Program: See COA

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Condition	Collapse Design Factor	Burst Design Factor	Tensic Desig Facto
	* See COA								
17-1/2"	0-670'	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"	0-4240'	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"	0-12144'	7"	29	BT&C	P-110	New	1.6	1.25	2.4
DVT @ 7000' - POST @ 4290'				Hole filled with 9.0# Mud			8510#	11220#	
6-1/8"	0-13303'	4-1/2"	15.1	UFJ	P-110	New	1.57	1.32	2.32
ECP @ ~~12400'~~				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-6995'
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-4285'
Cement 3rd stage w/ 350sx HES Light PP cmt w/ 3#/sx Salt, 12.4ppg 2.08 yield 560# 24h 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

See COA

d. 4-1/2" Production Cement w/ 370sx 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-1C

Description of Cement Additives: Calcium Chloride – Flake (Accelerator), WellLife-734 (Cement Enhancer), CFR-3 (Dispersant), Super CBL (Gas Migration control), Kol-Seal, Poly-E-Flake (Lost Circulation Additive), Halad®-344 (Low Fluid Loss Control), HR-601, HR-800 (Retarder).
The above cement volumes could be revised pending the caliper measurement.

5. Pressure Control Equipment: See COA

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.

See COA

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 to15000psi 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 - 670'	8.4-9.2	38-42	NC	Fresh Water/Spud Mud
670 - 4240'	9.8-10.2	28-29	NC	Brine Water
4240 - 11400'	9.0-9.4	28-29	NC	Cut Brine
11400 - 13303'	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 H_2S gas are expected. The highest anticipated pressure gradient would 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.

LT3F827-FW

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 closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

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

POD Number	POD Code	Subbasin	County	Q Q Q 64 16 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02744		ED		3 2 1	11	22S	31E	617374	3586631*	4911		
C 03112 EXPLORE		ED		3 1 1	09	22S	31E	613753	3586590*	3567		

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 closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

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

POD Number	POD Code	Subbasin	County	Q Q Q 64 16 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02727		ED		3 1 1	33	21S	31E	613716	3589809*	913		
C 02949 EXPL		ED		1 1 4	34	21S	31E	616140	3589231*	970		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth. --

Record Count: 2

PLSS Search:

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

DDP-1

Scientific Drilling

Project: **Lost Tank**
Site: **Lost Tank 3 Federal #27**
Well: **LT3F#27**
Wellbore: **Original Wellbore**
Design: **Final Design**

OXY

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

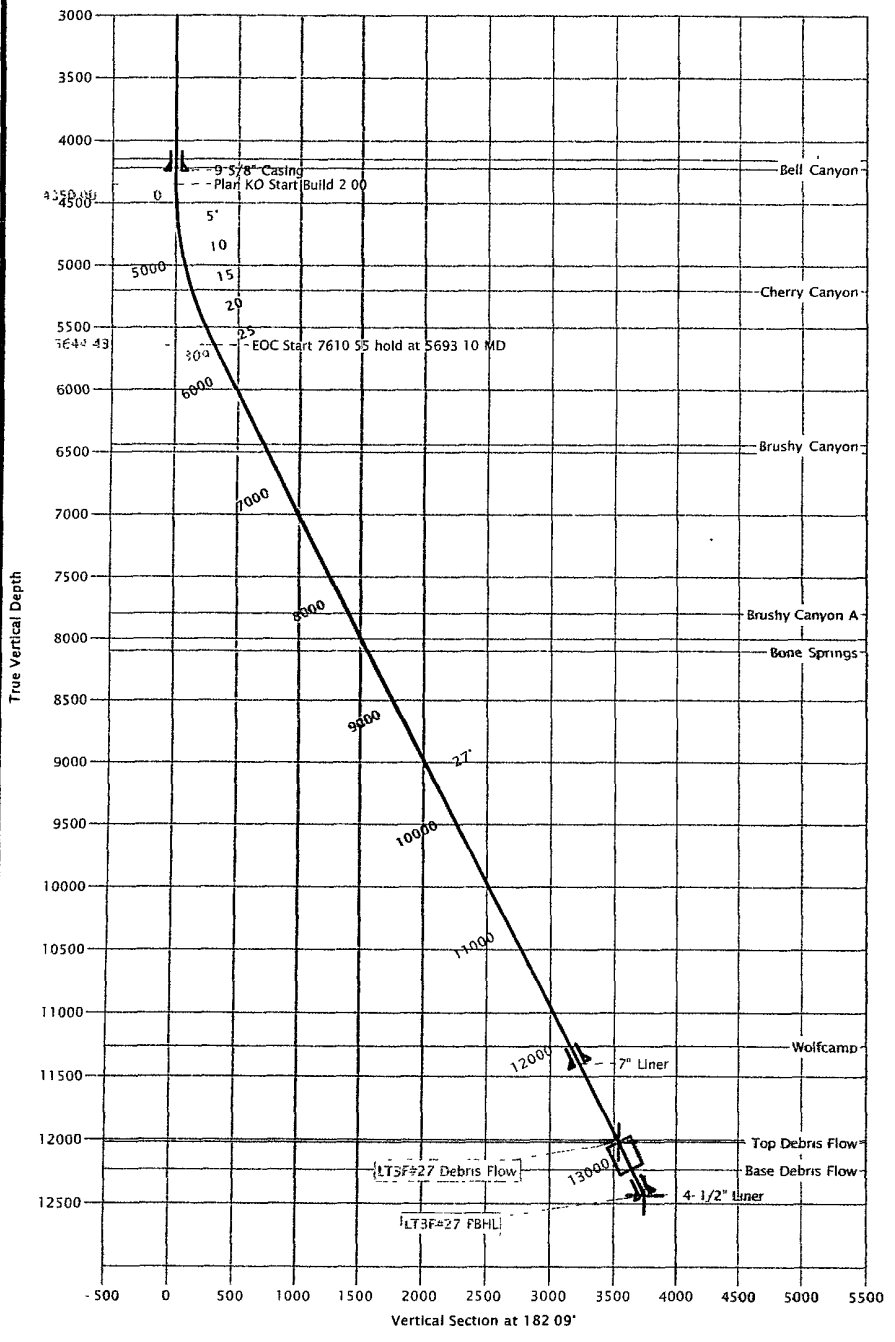
MD	*Inc*	*Azi*	*TVD*	*+N/-S*	*+E/-W*	*DLS*	*VS*	*Target*
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
4350 00	0 00	0.00	4350 00	0 00	0 00	0 00	0 00	
5693.10	26 86	182 09	5644 43	- 308 91	- 11 25	2 00	309 12	
13303 65	26 86	182 09	12433 79	- 3745 40	- 136 40	0 00	3747.88	LT3F#27 PBHL

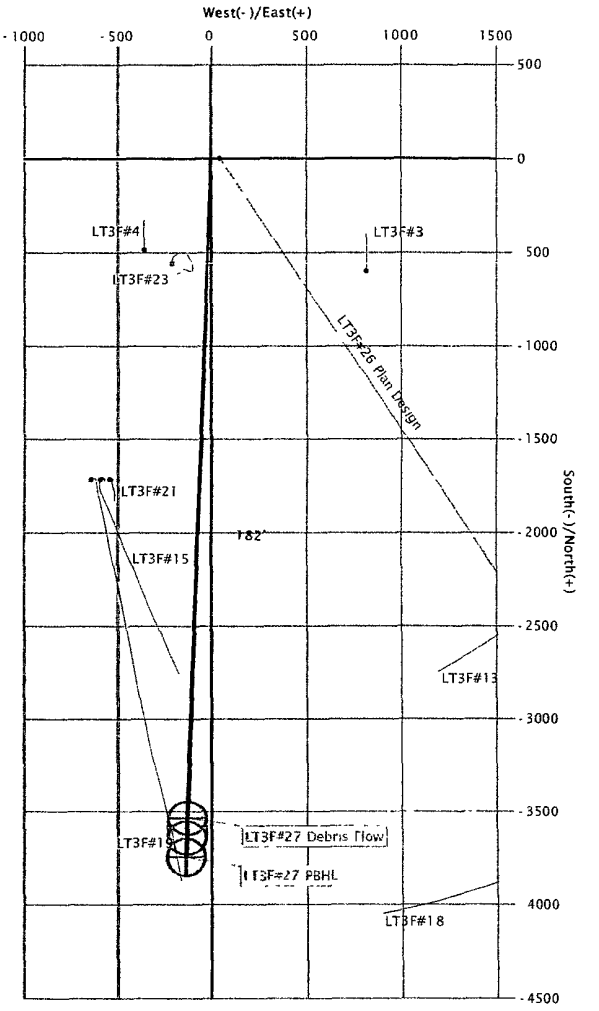
SITE DETAILS: Lost Tank 3 Federal #27

Sec 3, T22S, R31E, NMPM
Eddy County, New Mexico
Northing 518918 50
Easting 673490 20
Elevation 3471 00
KB DFE @ 3496 00usft (25ft Assumed KB)

DESIGN TARGET DETAILS

Name	*TVD*	*+N/-S*	*+E/-W*	*Northing*	*Easting*	*Shape*
LT3F#27 Debris Flow	12018 00	- 3535 32	- 128 75	515383 18	673361 45	Circle (Radius 100 00)
- plan misses target center by 0 34usft at 12837 74usft MD (12018 15 TVD, - 3535 02 N, - 128 74 E)						
LT3F#27 PBHL	12433 79	- 3745 40	- 136 40	515173 10	673353 80	Circle (Radius 100 00)
- plan hits target center						



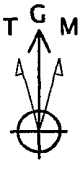


FORMATION TOP DETAILS

TVD	*MD*	*Formation*
648 00	648 00	Rustler
4148 00	4148 00	Lamar
4221 00	4221 00	Bell Canyon
5200 00	5212 99	Cherry Canyon
6438 00	6582 65	Brushy Canyon
7796 00	8104 90	Brushy Canyon A
8101 00	8446 79	Bone Springs
11262 00	11990 13	Wolfcamp
12018 00	12837 57	Top Debris Flow
12234 00	13079 69	Base Debris Flow

CASING DETAILS

TVD	*MD*	*Size*
670 00	670 00	13-3/8
4240 00	4240 00	9-5/8
11400 00	12144 82	7
12433 00	13302 76	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

Scientific Drilling

SDI
Planning Report

OXY

Database:	EDM-OXY-DB	**Local Co-ordinate Reference:**	Well LT3F#27
Company:	OXY	**TVD Reference:**	DFE @ 3496.00usft (25ft Assumed KB)
Project:	Lost Tank	**MD Reference:**	DFE @ 3496.00usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #27	**North Reference:**	Grid
Well:	LT3F#27	**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 #27, Sec 3, T22S, R31E, NMPM

Site Position:		**Northing:**	518,918 50 usft	**Latitude:**	32° 25' 31 316 N
From:	Map	**Easting:**	673,490 20 usft	**Longitude:**	103° 46' 15 854 W
Position Uncertainty:	0 00 usft	**Slot Radius:**	0 "	**Grid Convergence.**	0 30 °

Well LT3F#27

Well Position	**+N/-S**	0 00 usft	**Northing:**	518,918 50 usft	**Latitude:**	32° 25' 31 316 N
	+E/-W	0 00 usft	**Easting:**	673,490 20 usft	**Longitude:**	103° 46' 15 854 W
Position Uncertainty		0 00 usft	**Wellhead Elevation:**		**Ground Level:**	3,471 00 usft

Wellbore Original Wellbore

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/15/11	7.63	60 33	48,665

Design Final Design

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0 00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 00	0 00	0.00	182 09

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	
5,693 10	26 86	182 09	5,644 43	-308 91	-11 25	2 00	2 00	0 00	182 09	
13,303 65	26 86	182.09	12,433 79	-3,745 40	-136.40	0 00	0 00	0 00	0 00	LT3F#27 PBHL

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#27
Company:	OXY	TVD Reference:	DFE @ 3496 00usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496 00usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #27	North Reference:	Grid
Well:	LT3F#27	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
648 00	0 00	0 00	648 00	0 00	0 00	0 00	0 00	0 00	0 00
Rustler									
670 00	0 00	0 00	670 00	0 00	0 00	0 00	0 00	0 00	0 00
13 3/8" Casing									
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
4,148 00	0 00	0 00	4,148 00	0.00	0 00	0 00	0 00	0 00	0.00
Lamar									
4,200 00	0 00	0 00	4,200 00	0.00	0 00	0 00	0 00	0 00	0 00
4,221 00	0 00	0 00	4,221 00	0 00	0.00	0 00	0 00	0 00	0.00
Bell Canyon									
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

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#27
Company:	OXY	TVD Reference:	DFE @ 3496 00usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496 00usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #27	North Reference:	Grid
Well:	LT3F#27	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)
4,350 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									
4,400 00	1 00	182.09	4,400 00	-0.44	-0 02	0 44	2 00	2 00	0 00
4,500 00	3 00	182 09	4,499 93	-3 92	-0 14	3 93	2 00	2 00	0 00
4,600 00	5 00	182.09	4,599 68	-10 89	-0 40	10 90	2 00	2.00	0 00
4,700 00	7 00	182 09	4,699.13	-21.34	-0 78	21 35	2 00	2 00	0 00
4,800 00	9 00	182 09	4,798 15	-35 25	-1 28	35 27	2 00	2 00	0 00
4,900 00	11 00	182 09	4,896 63	-52 60	-1 92	52 63	2 00	2 00	0 00
5,000 00	13 00	182 09	4,994 44	-73.38	-2 67	73 42	2 00	2 00	0 00
5,100 00	15 00	182 09	5,091 46	-97 55	-3 55	97 62	2 00	2 00	0 00
5,200 00	17 00	182 09	5,187 58	-125 09	-4 56	125 18	2 00	2 00	0 00
5,212 99	17 26	182.09	5,200.00	-128 92	-4.69	129 00	2 00	2 00	0 00
Cherry Canyon									
5,300 00	19 00	182 09	5,282 68	-155 97	-5 68	156 08	2 00	2 00	0 00
5,400 00	21 00	182 09	5,376 65	-190 15	-6 92	190 28	2 00	2 00	0.00
5,500 00	23 00	182 09	5,469 36	-227 59	-8 29	227 74	2 00	2.00	0 00
5,600 00	25 00	182 09	5,560 71	-268 23	-9 77	268 41	2 00	2 00	0 00
5,693 10	26 86	182.09	5,644 43	-308 91	-11 25	309 12	2 00	2 00	0 00
EOC Start 7610.55 hold at 5693.10 MD									
5,700 00	26 86	182 09	5,650 59	-312 03	-11 36	312 24	0 00	0 00	0 00
5,800 00	26 86	182 09	5,739 80	-357 18	-13 01	357 42	0 00	0 00	0 00
5,900 00	26 86	182 09	5,829 01	-402 34	-14 65	402 60	0 00	0 00	0.00
6,000 00	26 86	182 09	5,918 22	-447 49	-16 30	447 79	0 00	0 00	0 00
6,100 00	26 86	182 09	6,007 43	-492 65	-17 94	492 97	0 00	0.00	0 00
6,200 00	26 86	182 09	6,096 64	-537 80	-19 59	538 16	0 00	0 00	0 00
6,300 00	26 86	182 09	6,185 85	-582.95	-21 23	583 34	0 00	0 00	0 00
6,400 00	26 86	182 09	6,275 06	-628 11	-22 87	628 53	0 00	0 00	0 00
6,500 00	26 86	182 09	6,364 27	-673 26	-24 52	673 71	0 00	0 00	0 00
6,582 65	26 86	182 09	6,438 00	-710 58	-25 88	711 05	0 00	0 00	0 00
Brushy Canyon									
6,600 00	26 86	182 09	6,453.48	-718.42	-26 16	718 89	0 00	0 00	0.00
6,700 00	26 86	182 09	6,542 69	-763 57	-27 81	764 08	0 00	0 00	0 00
6,800 00	26 86	182 09	6,631 90	-808 73	-29 45	809 26	0 00	0 00	0 00
6,900 00	26 86	182 09	6,721 11	-853 88	-31 10	854 45	0 00	0 00	0 00
7,000 00	26 86	182 09	6,810.32	-899.03	-32 74	899 63	0 00	0 00	0.00
7,100 00	26 86	182 09	6,899 53	-944 19	-34 39	944 81	0 00	0 00	0 00
7,200 00	26 86	182 09	6,988 74	-989 34	-36.03	990 00	0 00	0 00	0 00
7,300 00	26 86	182 09	7,077 95	-1,034 50	-37.67	1,035 18	0 00	0 00	0 00
7,400 00	26 86	182 09	7,167 16	-1,079 65	-39 32	1,080 37	0 00	0 00	0 00
7,500 00	26 86	182 09	7,256 37	-1,124 81	-40 96	1,125 55	0 00	0 00	0 00
7,600 00	26 86	182 09	7,345.58	-1,169 96	-42 61	1,170 74	0 00	0 00	0 00
7,700 00	26 86	182 09	7,434.79	-1,215.11	-44 25	1,215 92	0 00	0 00	0 00
7,800.00	26 86	182 09	7,524.00	-1,260 27	-45 90	1,261 10	0 00	0 00	0.00
7,900 00	26 86	182 09	7,613.21	-1,305 42	-47 54	1,306 29	0 00	0 00	0 00
8,000 00	26 86	182 09	7,702.42	-1,350 58	-49 19	1,351 47	0 00	0 00	0 00
8,100 00	26 86	182 09	7,791 63	-1,395 73	-50 83	1,396 66	0 00	0 00	0 00
8,104.90	26 86	182 09	7,796.00	-1,397.95	-50 91	1,398 87	0 00	0.00	0 00
Brushy Canyon A									
8,200 00	26 86	182 09	7,880.84	-1,440 89	-52 47	1,441 84	0 00	0 00	0 00
8,300 00	26 86	182 09	7,970.05	-1,486 04	-54 12	1,487 02	0 00	0 00	0 00
8,400 00	26 86	182 09	8,059.26	-1,531 19	-55 76	1,532 21	0 00	0 00	0 00
8,446 79	26 86	182 09	8,101 00	-1,552 32	-56 53	1,553 35	0 00	0 00	0.00
Bone Springs									

Database:	EDM-OXY-DB	**Local Co-ordinate Reference:**	Well LT3F#27
Company:	OXY	**TVD Reference:**	DFE @ 3496.00usft (25ft Assumed KB)
Project:	Lost Tank	**MD Reference:**	DFE @ 3496.00usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #27	**North Reference:**	Grid
Well:	LT3F#27	**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)
8,500.00	26.86	182.09	8,148.47	-1,576.35	-57.41	1,577.39	0.00	0.00	0.00
8,600.00	26.86	182.09	8,237.68	-1,621.50	-59.05	1,622.58	0.00	0.00	0.00
8,700.00	26.86	182.09	8,326.88	-1,666.66	-60.70	1,667.76	0.00	0.00	0.00
8,800.00	26.86	182.09	8,416.09	-1,711.81	-62.34	1,712.95	0.00	0.00	0.00
8,900.00	26.86	182.09	8,505.30	-1,756.97	-63.99	1,758.13	0.00	0.00	0.00
9,000.00	26.86	182.09	8,594.51	-1,802.12	-65.63	1,803.31	0.00	0.00	0.00
9,100.00	26.86	182.09	8,683.72	-1,847.27	-67.27	1,848.50	0.00	0.00	0.00
9,200.00	26.86	182.09	8,772.93	-1,892.43	-68.92	1,893.68	0.00	0.00	0.00
9,300.00	26.86	182.09	8,862.14	-1,937.58	-70.56	1,938.87	0.00	0.00	0.00
9,400.00	26.86	182.09	8,951.35	-1,982.74	-72.21	1,984.05	0.00	0.00	0.00
9,500.00	26.86	182.09	9,040.56	-2,027.89	-73.85	2,029.24	0.00	0.00	0.00
9,600.00	26.86	182.09	9,129.77	-2,073.05	-75.50	2,074.42	0.00	0.00	0.00
9,700.00	26.86	182.09	9,218.98	-2,118.20	-77.14	2,119.60	0.00	0.00	0.00
9,800.00	26.86	182.09	9,308.19	-2,163.35	-78.79	2,164.79	0.00	0.00	0.00
9,900.00	26.86	182.09	9,397.40	-2,208.51	-80.43	2,209.97	0.00	0.00	0.00
10,000.00	26.86	182.09	9,486.61	-2,253.66	-82.07	2,255.16	0.00	0.00	0.00
10,100.00	26.86	182.09	9,575.82	-2,298.82	-83.72	2,300.34	0.00	0.00	0.00
10,200.00	26.86	182.09	9,665.03	-2,343.97	-85.36	2,345.52	0.00	0.00	0.00
10,300.00	26.86	182.09	9,754.24	-2,389.13	-87.01	2,390.71	0.00	0.00	0.00
10,400.00	26.86	182.09	9,843.45	-2,434.28	-88.65	2,435.89	0.00	0.00	0.00
10,500.00	26.86	182.09	9,932.66	-2,479.43	-90.30	2,481.08	0.00	0.00	0.00
10,600.00	26.86	182.09	10,021.87	-2,524.59	-91.94	2,526.26	0.00	0.00	0.00
10,700.00	26.86	182.09	10,111.08	-2,569.74	-93.58	2,571.45	0.00	0.00	0.00
10,800.00	26.86	182.09	10,200.29	-2,614.90	-95.23	2,616.63	0.00	0.00	0.00
10,900.00	26.86	182.09	10,289.50	-2,660.05	-96.87	2,661.81	0.00	0.00	0.00
11,000.00	26.86	182.09	10,378.71	-2,705.20	-98.52	2,707.00	0.00	0.00	0.00
11,100.00	26.86	182.09	10,467.92	-2,750.36	-100.16	2,752.18	0.00	0.00	0.00
11,200.00	26.86	182.09	10,557.13	-2,795.51	-101.81	2,797.37	0.00	0.00	0.00
11,300.00	26.86	182.09	10,646.34	-2,840.67	-103.45	2,842.55	0.00	0.00	0.00
11,400.00	26.86	182.09	10,735.55	-2,885.82	-105.10	2,887.73	0.00	0.00	0.00
11,500.00	26.86	182.09	10,824.76	-2,930.98	-106.74	2,932.92	0.00	0.00	0.00
11,600.00	26.86	182.09	10,913.97	-2,976.13	-108.38	2,978.10	0.00	0.00	0.00
11,700.00	26.86	182.09	11,003.18	-3,021.28	-110.03	3,023.29	0.00	0.00	0.00
11,800.00	26.86	182.09	11,092.39	-3,066.44	-111.67	3,068.47	0.00	0.00	0.00
11,900.00	26.86	182.09	11,181.60	-3,111.59	-113.32	3,113.66	0.00	0.00	0.00
11,990.13	26.86	182.09	11,262.00	-3,152.29	-114.80	3,154.38	0.00	0.00	0.00
Wolfcamp									
12,000.00	26.86	182.09	11,270.81	-3,156.75	-114.96	3,158.84	0.00	0.00	0.00
12,100.00	26.86	182.09	11,360.02	-3,201.90	-116.61	3,204.02	0.00	0.00	0.00
12,144.82	26.86	182.09	11,400.00	-3,222.14	-117.34	3,224.27	0.00	0.00	0.00
7" Liner									
12,200.00	26.86	182.09	11,449.23	-3,247.06	-118.25	3,249.21	0.00	0.00	0.00
12,300.00	26.86	182.09	11,538.44	-3,292.21	-119.90	3,294.39	0.00	0.00	0.00
12,400.00	26.86	182.09	11,627.65	-3,337.36	-121.54	3,339.58	0.00	0.00	0.00
12,500.00	26.86	182.09	11,716.86	-3,382.52	-123.18	3,384.76	0.00	0.00	0.00
12,600.00	26.86	182.09	11,806.07	-3,427.67	-124.83	3,429.95	0.00	0.00	0.00
12,700.00	26.86	182.09	11,895.28	-3,472.83	-126.47	3,475.13	0.00	0.00	0.00
12,800.00	26.86	182.09	11,984.49	-3,517.98	-128.12	3,520.31	0.00	0.00	0.00
12,837.57	26.86	182.09	12,018.00	-3,534.94	-128.74	3,537.29	0.00	0.00	0.00
Top Debris Flow									
12,837.74	26.86	182.09	12,018.15	-3,535.02	-128.74	3,537.36	0.00	0.00	0.00
LT3F#27 Debris Flow									
12,900.00	26.86	182.09	12,073.70	-3,563.14	-129.76	3,565.50	0.00	0.00	0.00

Database:	EDM-OXY-DB	Local Co-ordinate Reference:	Well LT3F#27
Company:	OXY	TVD Reference:	DFE @ 3496.00usft (25ft Assumed KB)
Project:	Lost Tank	MD Reference:	DFE @ 3496 00usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #27	North Reference:	Grid
Well:	LT3F#27	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)
13,000 00	26 86	182.09	12,162 91	-3,608 29	-131 41	3,610 68	0 00	0 00	0 00
13,079 69	26 86	182 09	12,234 00	-3,644 27	-132 72	3,646 69	0 00	0 00	0 00
Base Debris Flow									
13,100 00	26 86	182 09	12,252 12	-3,653 44	-133 05	3,655.87	0 00	0 00	0 00
13,200 00	26 86	182 09	12,341 33	-3,698 60	-134 70	3,701 05	0 00	0 00	0 00
13,302 76	26 86	182 09	12,433 00	-3,745 00	-136 39	3,747 48	0 00	0 00	0 00
4-1/2" Liner									
13,303 65	26 86	182 09	12,433.79	-3,745 40	-136 40	3,747 88	0 00	0 00	0 00
TD at 13303.65 - LT3F#27 PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LT3F#27 Debris Flow - plan misses target center by 0 34usft at 12837 74usft MD (12018 15 TVD, -3535 02 N, -128 74 E) - Circle (radius 100 00)	26 86	2.09	12,018 00	-3,535 32	-128 75	515,383 18	673,361 45	32° 24' 56 339 N	103° 46' 17 573 W
LT3F#27 PBHL - plan hits target center - Circle (radius 100 00)	0 00	0 00	12,433 79	-3,745 40	-136 40	515,173 10	673,353 80	32° 24' 54 261 N	103° 46' 17 675 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
12,144 82	11,400.00	7" Liner	7	7-1/2
13,302 76	12,433 00	4-1/2" Liner	4-1/2	6-1/8

Formations

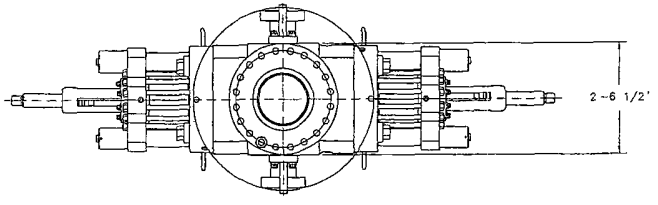
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
648 00	648.00	Rustler		0 00	
4,148 00	4,148.00	Lamar		0.00	
4,221 00	4,221 00	Bell Canyon		0.00	
5,212 99	5,200 00	Cherry Canyon		0 00	
6,582 65	6,438.00	Brushy Canyon		0.00	
8,104 90	7,796.00	Brushy Canyon A		0 00	
8,446 79	8,101 00	Bone Springs		0 00	
11,990 13	11,262 00	Wolfcamp		0 00	
12,837 57	12,018 00	Top Debris Flow		0.00	
13,079 69	12,234 00	Base Debris Flow		0 00	

Database:	EDM-OXY-DB	**Local Co-ordinate Reference:**	Well LT3F#27
Company:	OXY	**TVD Reference:**	DFE @ 3496 00usft (25ft Assumed KB)
Project:	Lost Tank	**MD Reference:**	DFE @ 3496 00usft (25ft Assumed KB)
Site:	Lost Tank 3 Federal #27	**North Reference:**	Grid
Well:	LT3F#27	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Final Design		

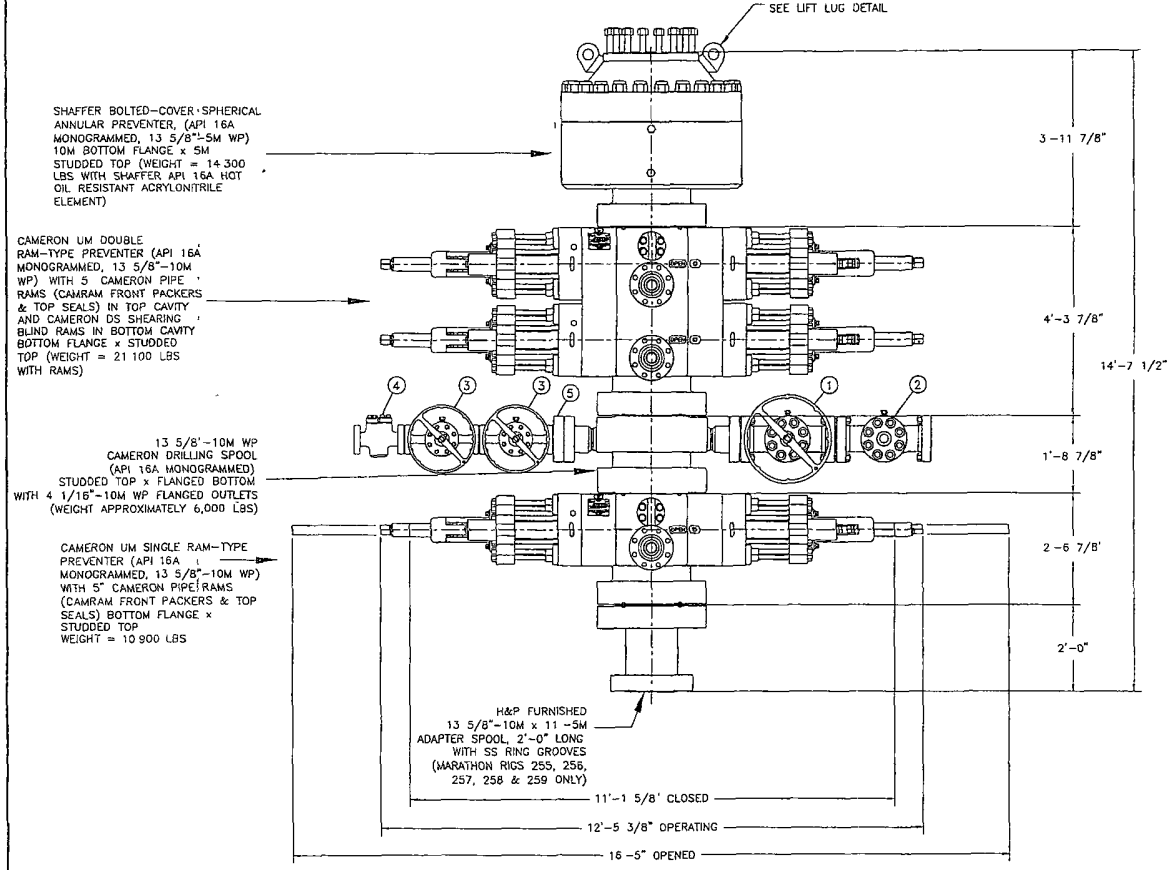
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,350 00	4,350 00	0 00	0 00	Plan KO Start Build 2.00
5,693 10	5,644.43	-308 91	-11 25	EOC Start 7610 55 hold at 5693 10 MD
13,303 65	12,433 79	-3,745 40	-136 40	TD at 13303 65

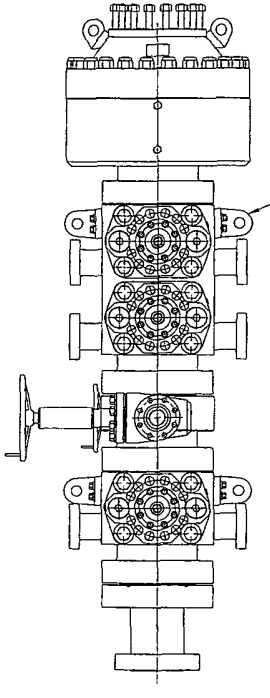
BOP-1



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



13 5/8-10M STACK



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

REV	DATE	DESCRIPTION	BY
6	12/18/07	ADDED SHEET 03	JAV
5	4-10-07	ORIENTATION REVISED DOUBLE STUDDED ADAPTER, VALVES 1, 2 & 3, AND MS CHECK VALVE ADDED	JBG
4	4-04-07	6" ADDED TO SPACER ADAPTER SPOOL	JBG
3	02-07-07	ADDED ADAPTER SPOOL	MWL
2	05-13-02	CORRECTED BOP STACK	MWL
1		ENGINEERING APPROVAL	DATE

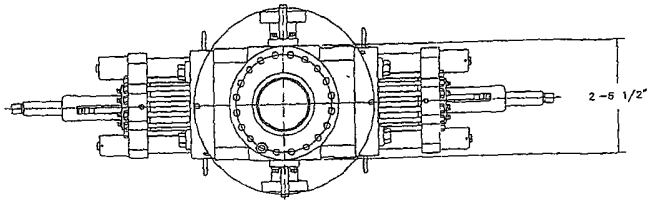
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO

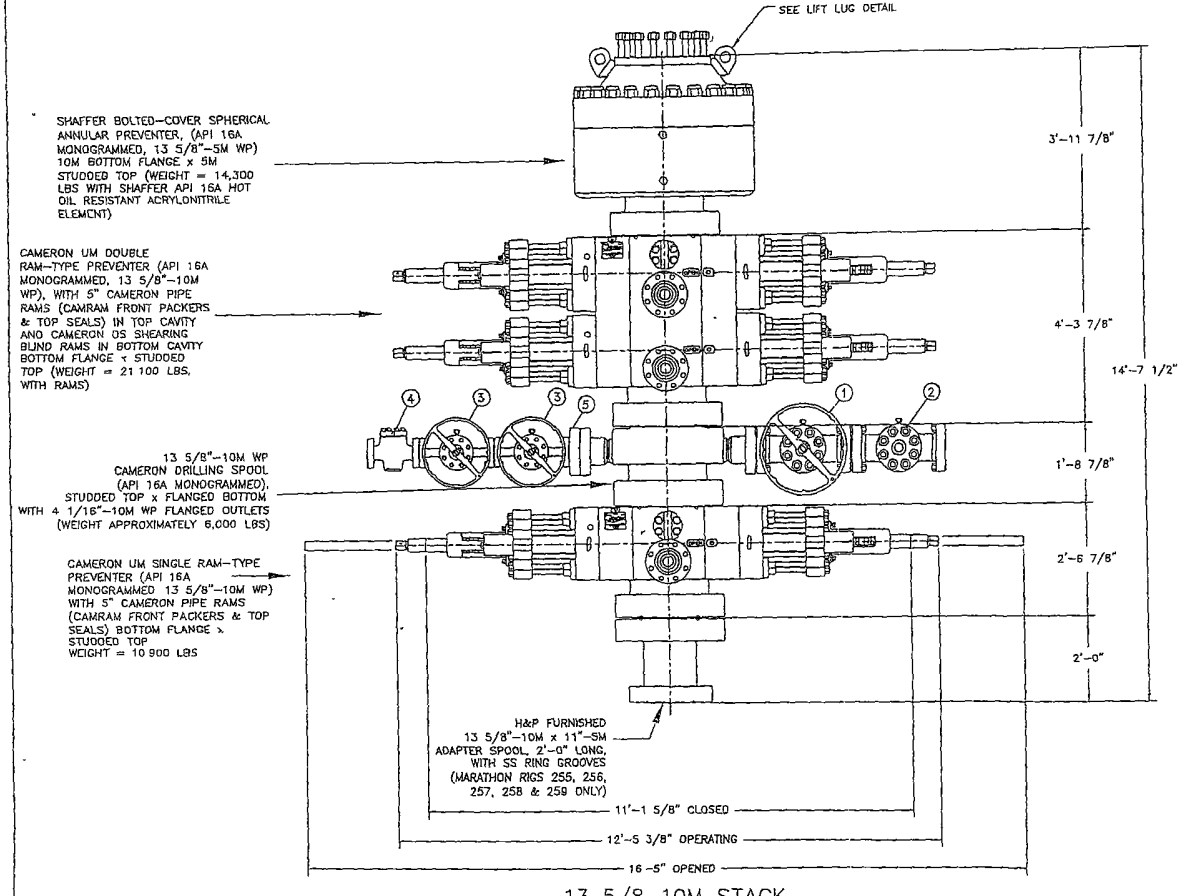
TITLE: 13 5/8"-10M BOP 3 RAM STACK FLEXRIG3

CUSTOMER H&P
PROJECT FLEXRIG3
DRAWN MTS | DATE 6-5-02 | DWG NO 210-P1-07 | REV E
SCALE 3/4"=1' | SHEET 1 OF

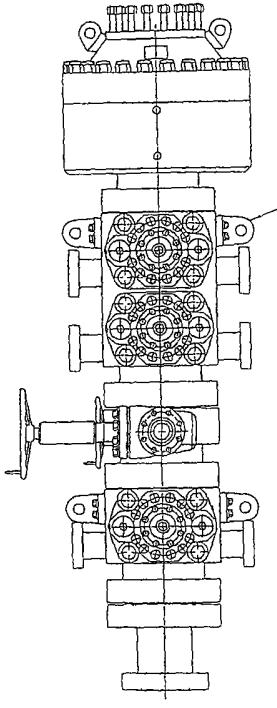
BOP-2

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





13 5/8–10M STACK



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

REV	DATE	DESCRIPTION	BY
E	12/18/07	ADDED SHEET 03	JAV
D	4–10–07	ORIENTATION REVISED, DOUBLE STUDDED ADAPTER, VALVES 1 2 & 3 AND US CHECK VALVE ADDED	JBC
C	4–04–07	6" ADDED TO SPACER ADAPTER SPOOL	JBC
B	02–07–07	ADDED ADAPTER SPOOL	MWL
A	06–13–02	CORRECTED BOP STACK	MWL

ENGINEERING APPROVAL | DATE

HELMERICH & PAYNE INTERNATIONAL DRILLING CO

TITLE: 13 5/8"–10M BOP 3 RAM STACK FLEXRIG3

CUSTOMER H&P

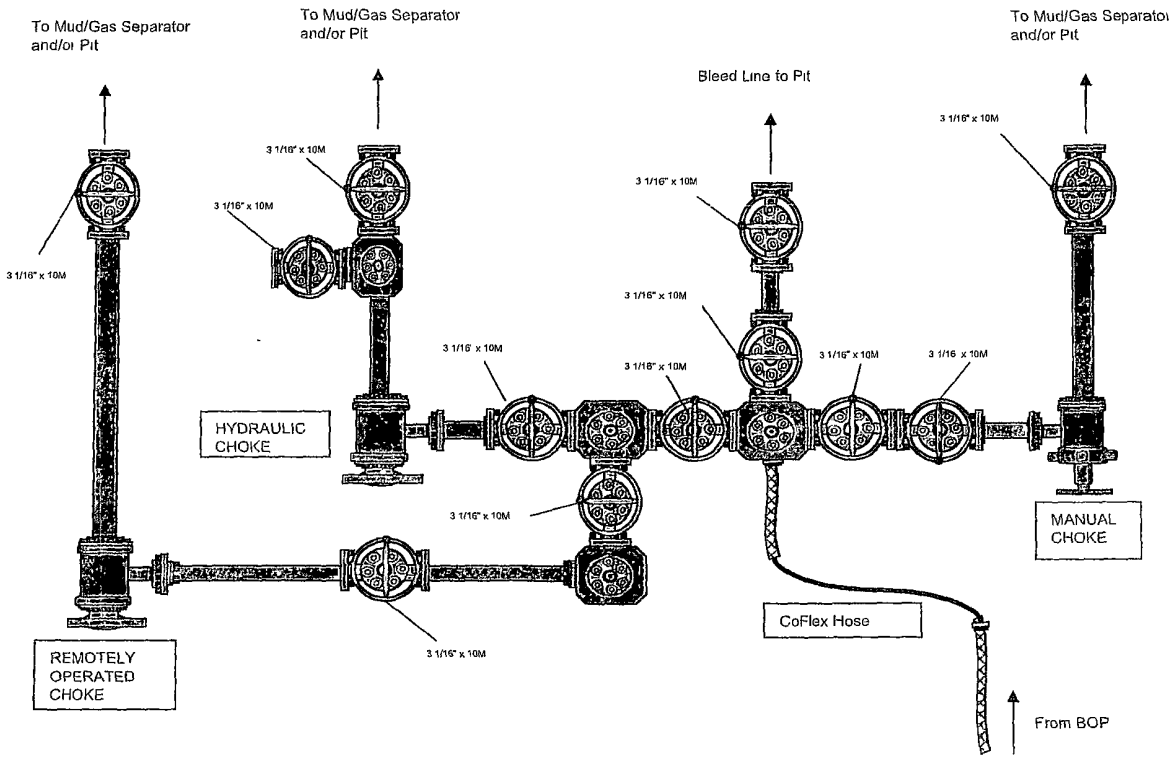
PROJECT FLEXRIG3

DRAWN MTS | DATE 6–5–02 | SCALE 3/4"=1' | SHEET 1 OF 1

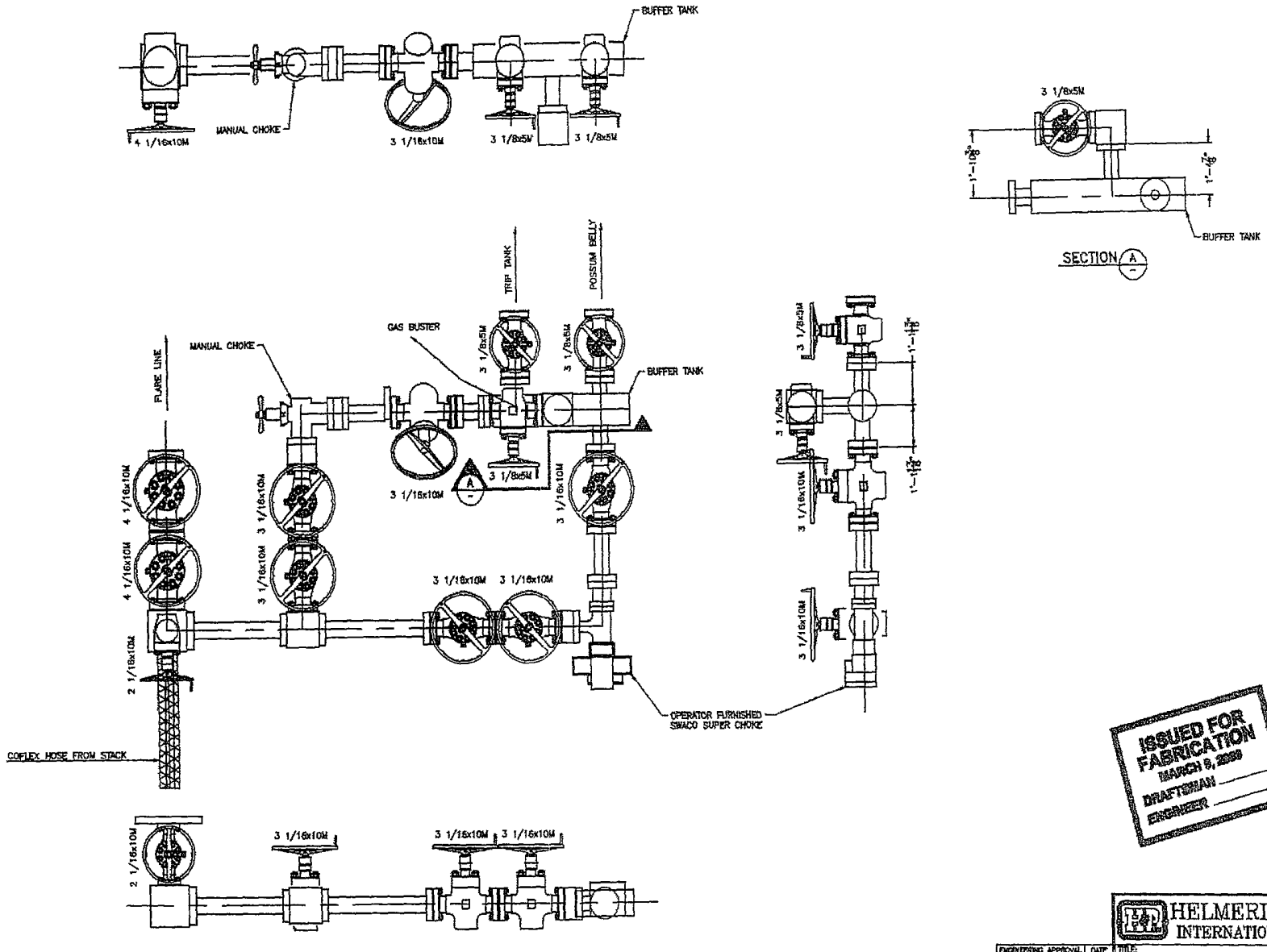
DWG NO 210–P1–07 | REV E

Chk Mnfd - 1

10M CHOKE MANIFOLD CONFIGURATION



Clk Mufld-2



ISSUED FOR FABRICATION
MARCH 6, 2002
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY
			ENGINEERING APPROVAL / DATE
1	10/15/02	ADJUST DIM TO FIELD CONFIRMED DIM	RAY

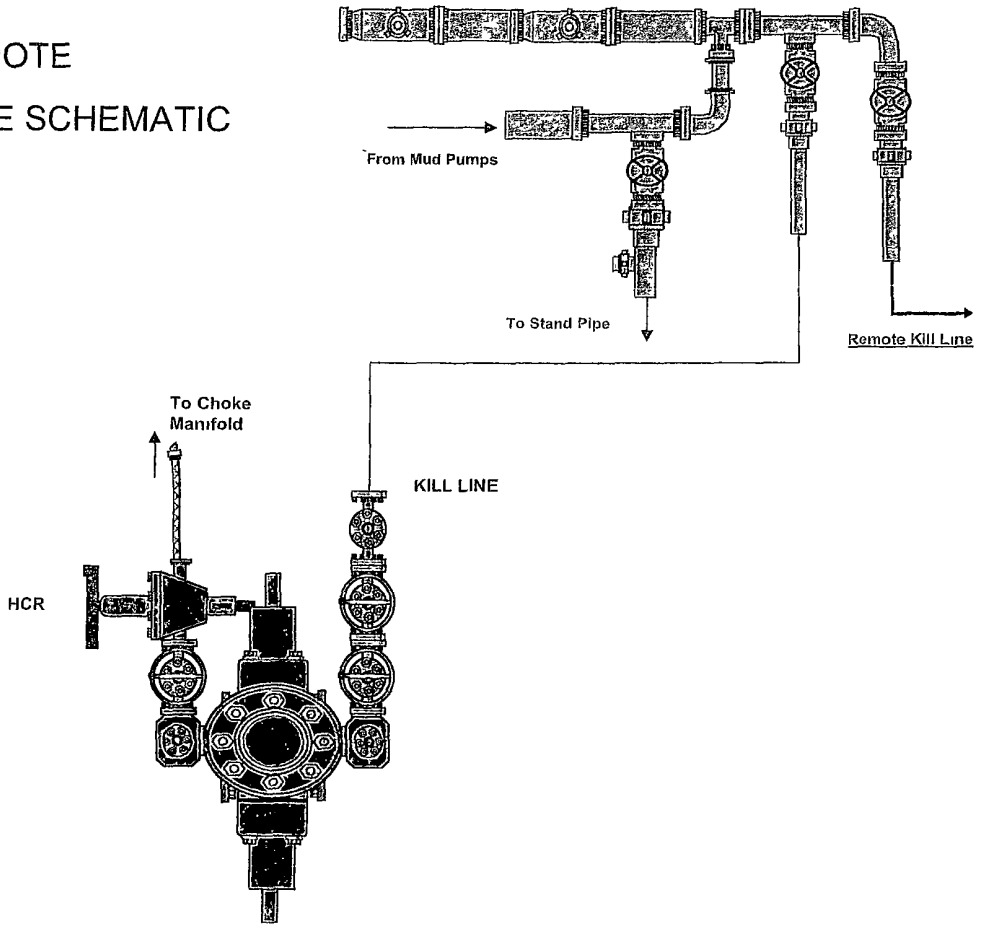
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

TITLE: CHOKE MANIFOLD

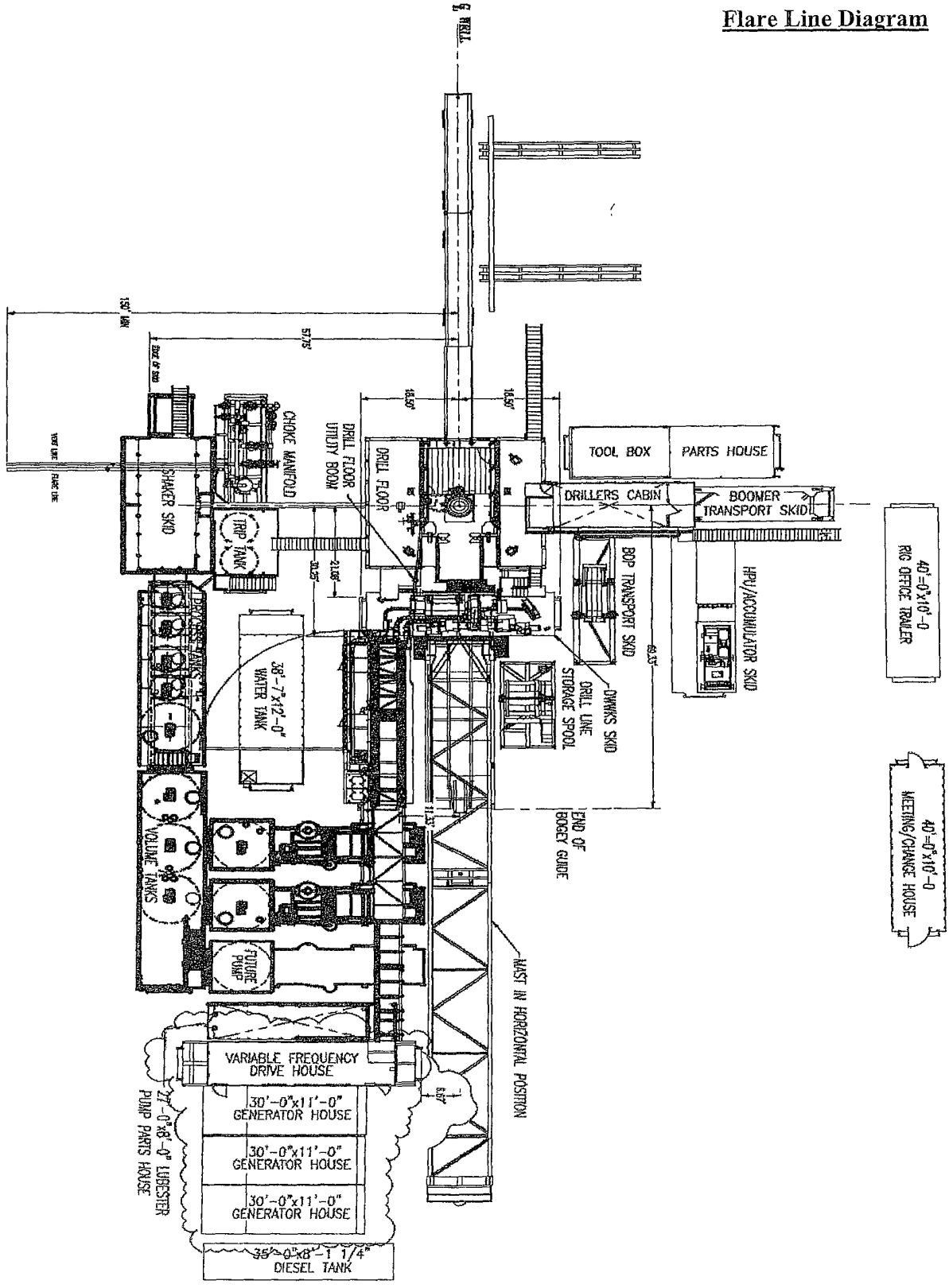
CUSTOMER: H&P
PROJECT: FLEXRIG3
DRAWN: MTS
DATE: 2-28-02
SCALE: 3/4"=1'
SHEET: 1 OF 1
DWG. NO.: 216-P1-05
REV: A

Chk Mnfd-3

10M REMOTE KILL LINE SCHEMATIC



Flare Line Diagram



Flex Hose -1

Continental CONTITECH

Fluid Technology

Quality Document

CERTIFICATE OF CONFORMITY

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

STATEMENT OF CONFORMITY

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

COUNTRY OF ORIGIN HUNGARY/EU

Signed : .....

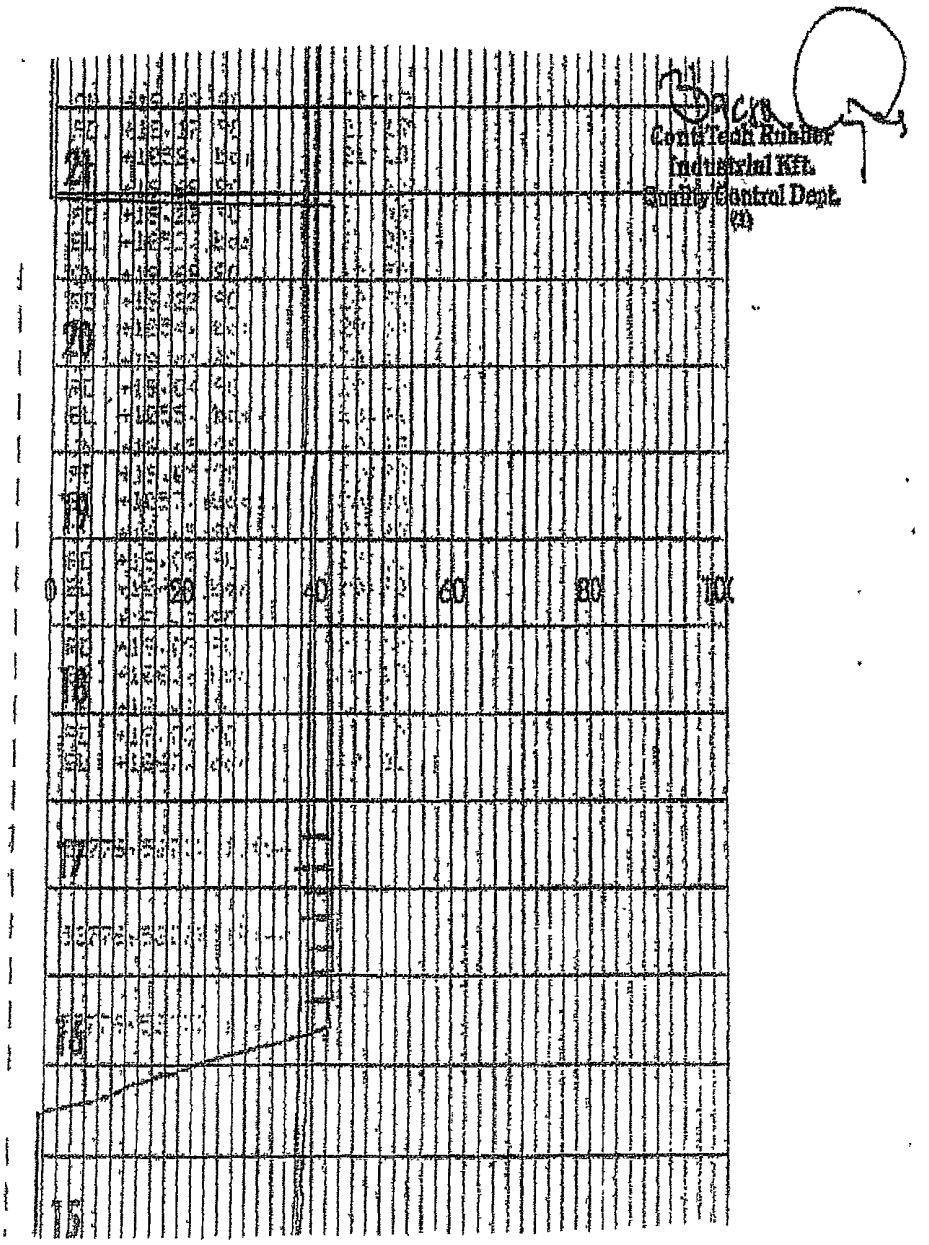
ContiTech Rubber Industrial Kft. Quality Control Dept. (3)

Date: 04. April. 2008

Position: Q.C. Manager

Flex Hose-2

Page: 1/1



Flex Hose-3

PHOENIX Beattie — **Material Identification Certificate**

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

Part No	Description	Material Desc	Material Spec	Qty	WO No	Batch No	Test Cert No	Bin No	Drg No	Issue No
HP10CK3A-35-4F1	8" 10K 16C C&K HOSE X 35ft OAL			1	2491	52777/H884		WATER		
SECK3-HPF3	LIFTING & SAFETY EQUIPMENT TO			1	2440	002440		N/STK		
SC725-200CS	SAFETY CLAMP 200MM 7.25T	CARBON STEEL		1	2519	H665		220		
SC725-132CS	SAFETY CLAMP 132MM 7.25T	CARBON STEEL		1	2242	H139		22		

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

09/23/10

Flex Hose-

Form No 100/12

PHOENIX Beattie

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

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	1

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

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

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

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

Continued...

Flex Hose -
Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11536 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0149
E-mail mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

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

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

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

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

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

Phoenix Beattie Inspection Signature :

Received In Good Condition : Signature

Print Name

Date

All goods remain the property of Phoenix Beattie until paid for in full. Any damage or shortage on this delivery must be advised within 6 days. Returns may be subject to a handling charge.

Flex Hose-6

Continental CONTITECH

Fluid Technology

Quality Document

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

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS

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

INFOCHIP INSTALLED

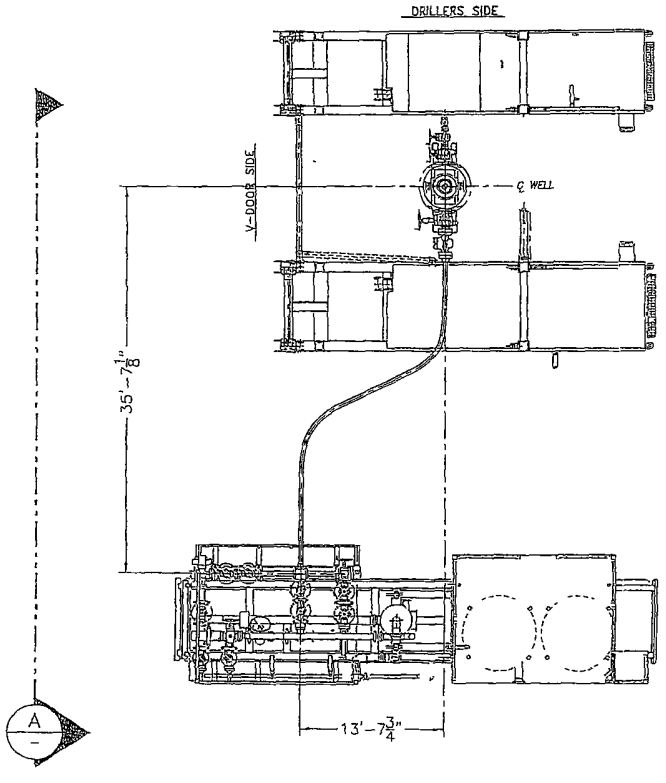
API Spec 16 C
Temperature rate:"B"

All metal parts are flawless

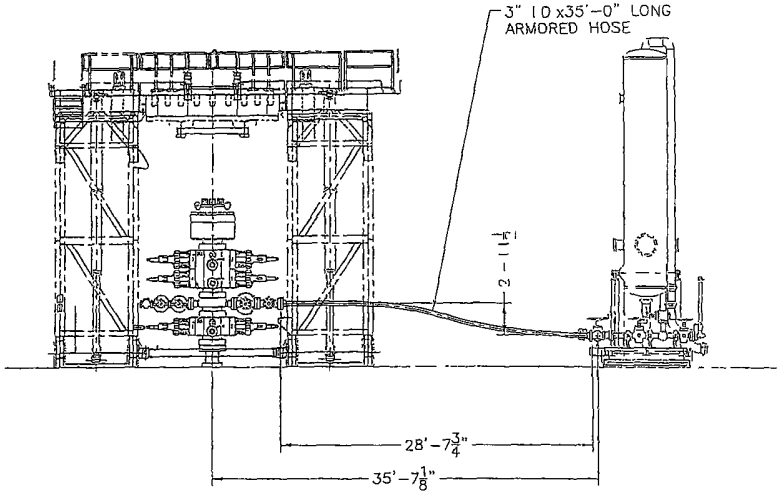
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

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

Flex Hose-7



PLAN VIEW



SECTION "A"

ISSUED FOR FABRICATION
December-19-2007
DRAFTSMAN
ENGINEER

REV	DATE	DESCRIPTION	BY
A	12/18/07	REMOVED SHEET TOTAL CALLOUT	JAV

ENGINEERING APPROVAL | DATE

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO

TITLE: CHOKE LINE SYSTEM FLEXRIG3

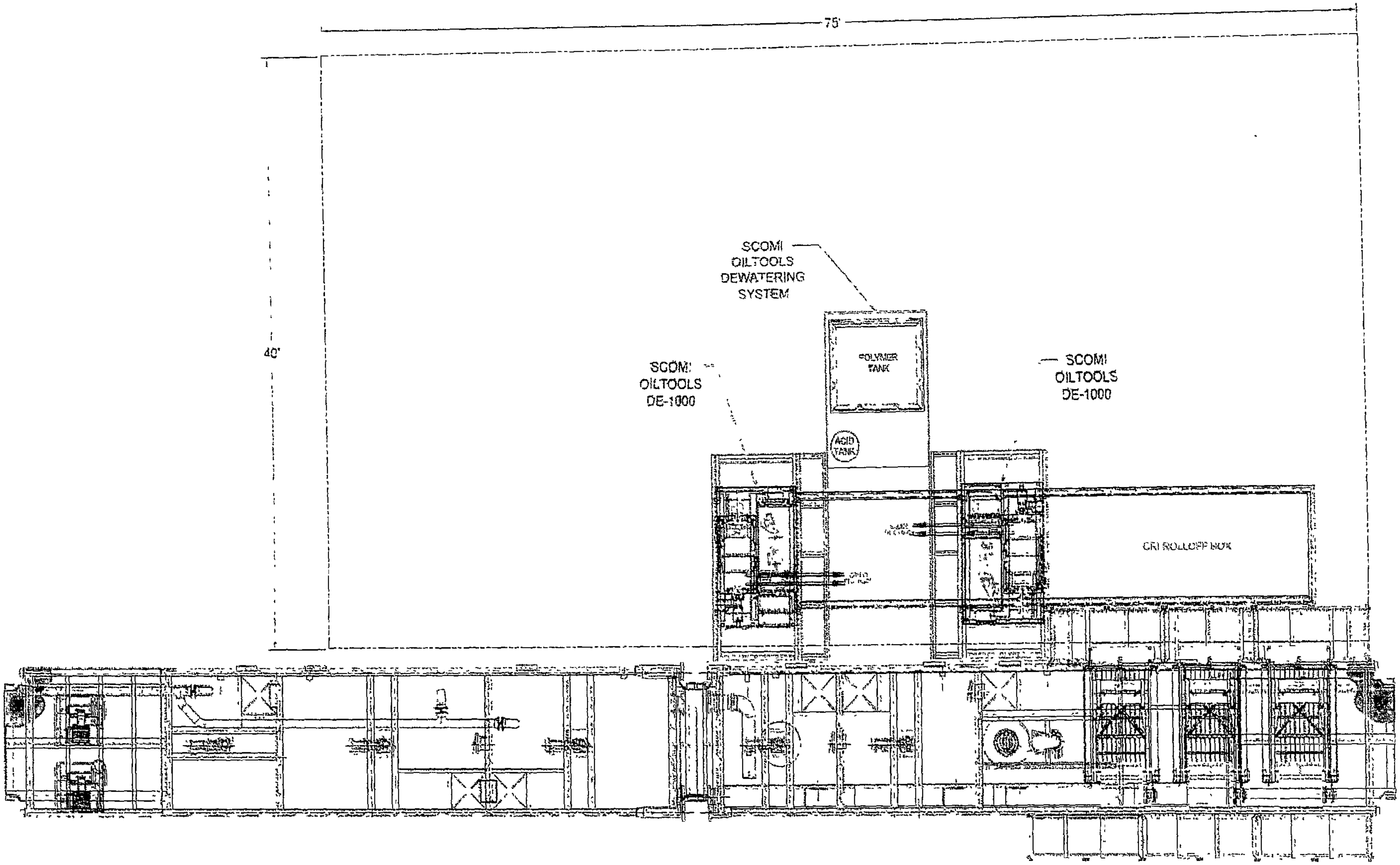
CUSTOMER:

PROJECT:

DRAWN	DATE	DWG NO	REV
JBG	4-10-07	210-P1-07	A

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

CL-1



1. ALL STRUCTURAL MATERIAL SHALL BE ASTM A 36.
2. ALL PIPE SCH 40 MATERIAL SA 106 Gr B
3. ALL FLANGES SHALL BE SCH 150# & MATERIAL SA 105.
4. ALL FITTINGS SCH. 40 MATERIAL SHALL BE SA 234 Gr WPB
5. TANK FABRICATION SHALL BE IN ACCORDANCE WITH API-650

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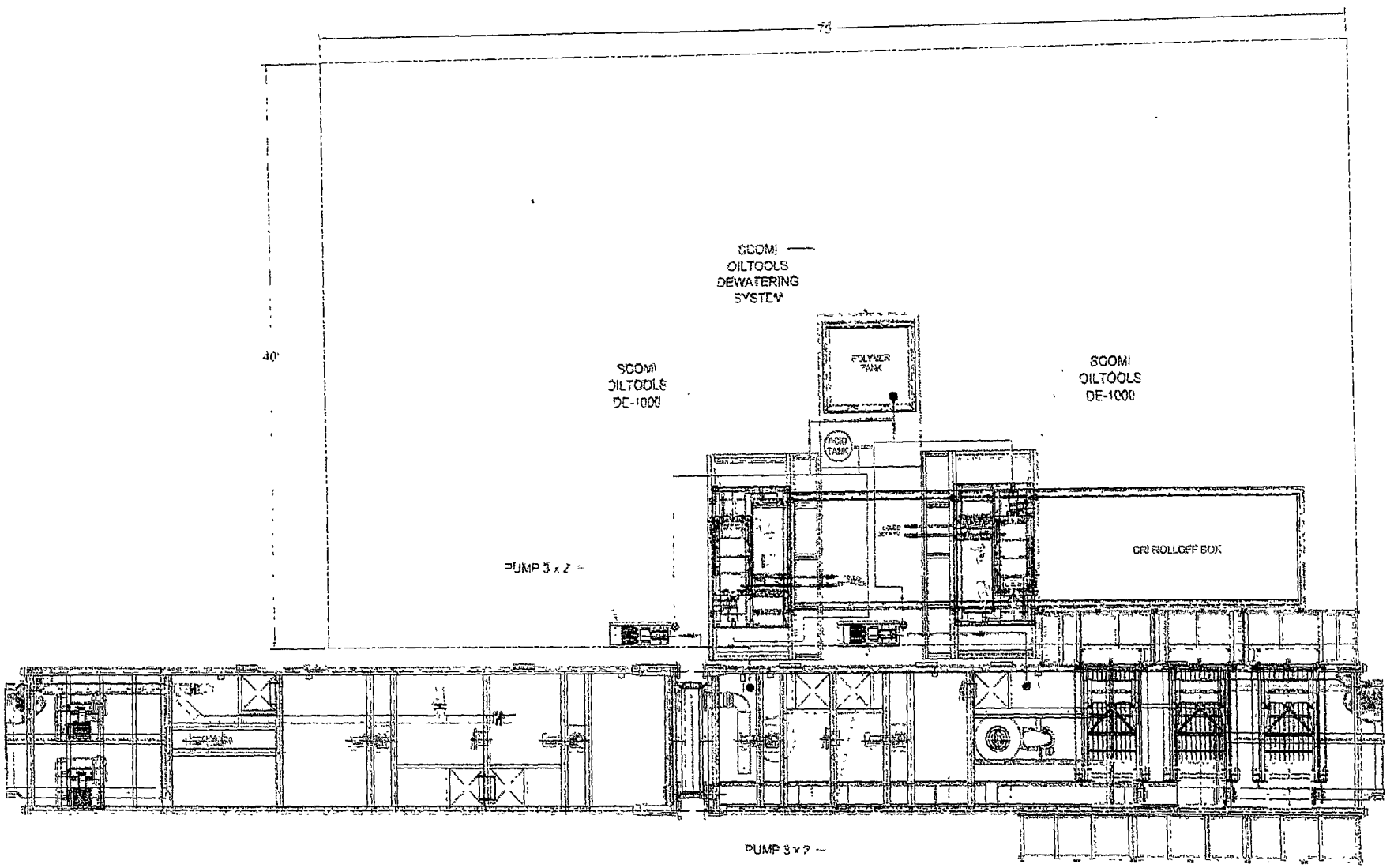
CLOSED LOOP SYSTEM BASIC LAYOUT AND TIE IN OXY - H&P - FLEX RIGS / PG 1 OF 2

DRAWN BY: PDL	DATE: 10/30/03	CHECKED BY	DATE
APPROVED	DATE	SCALE: NTS	DWG SIZE: D

Scomi

Houston, Texas

DRAWING NO. 521S-014 — REV A



CLOSED LOOP SYSTEM
BASIC LAYOUT AND TIE IN
OXY - H&P - FLEX RIGS / PG 2 OF 2

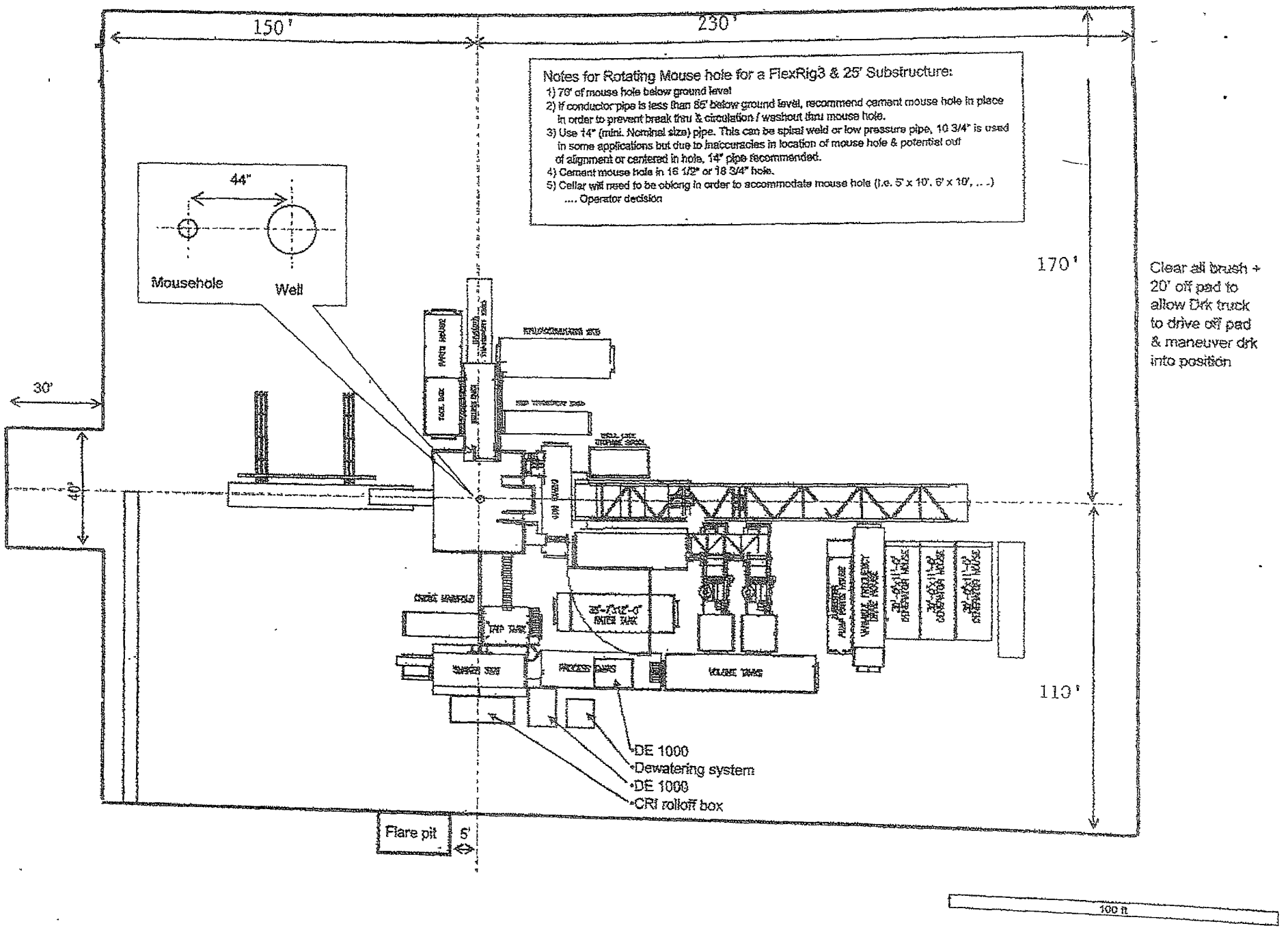
Scomi

521S-014

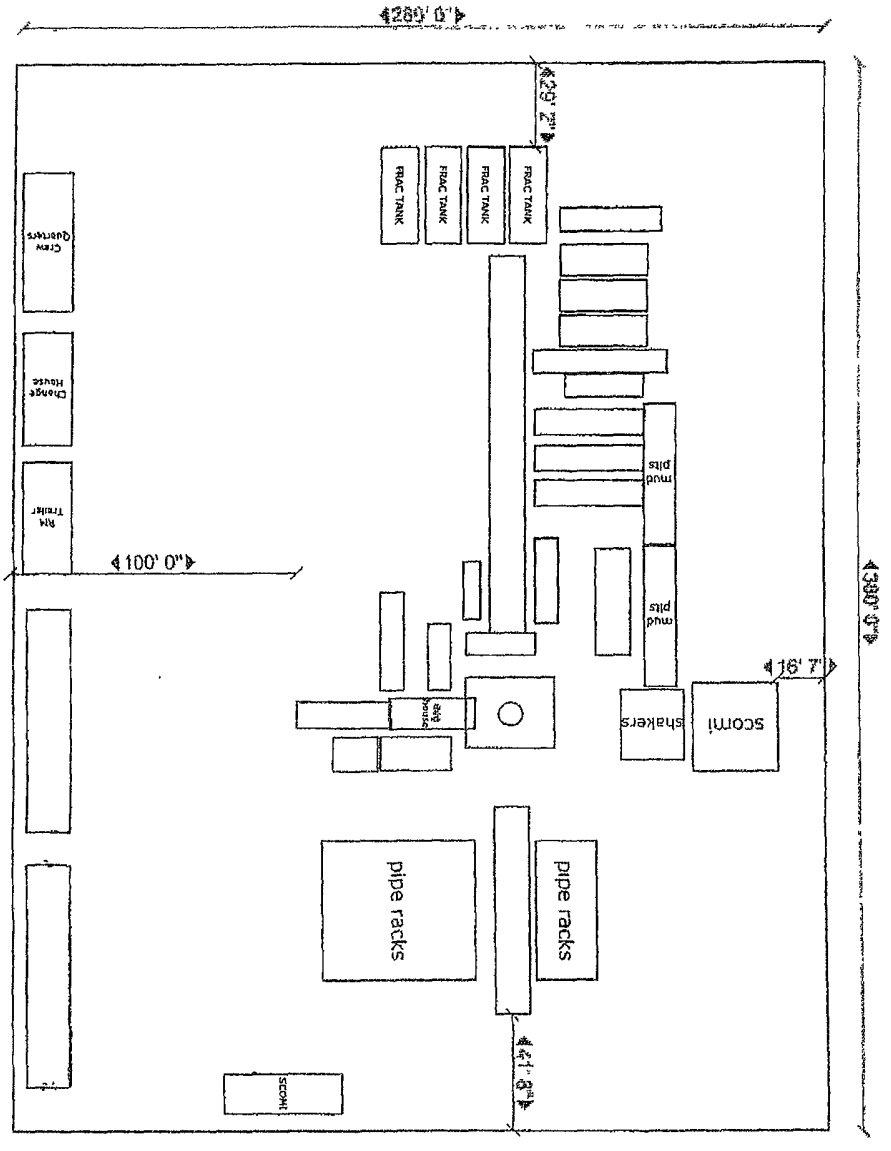
A

RL-CL-7

Level Area-No Caliche-For Offices and Living Quarters



RL-CL-4


280' 0"
FRAC TANK
FRAC TANK
FRAC TANK
FRAC TANK
Crew Quarters
Change House
Rig Trailer
100' 0"
mud pits
mud pits
16' 7"
scomi
shakers
pipe racks
pipe racks
SCOMI

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Lost Tank 3 Federal #27

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.

H2S-2

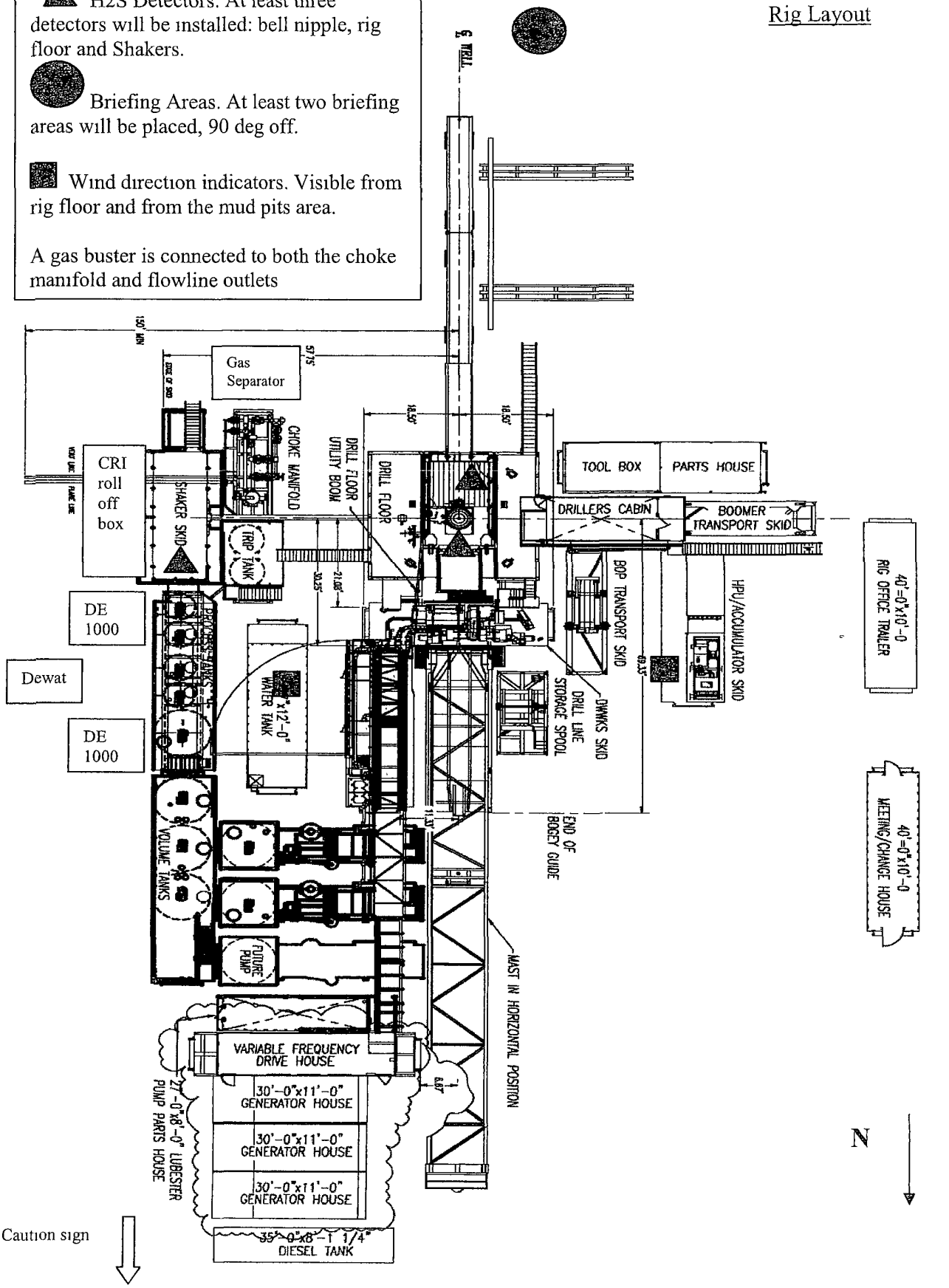
▲ H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.

● 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

Rig Layout



Exit to road Caution sign placed here

H2S-3

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 commence.
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 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.

H2S 45

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.

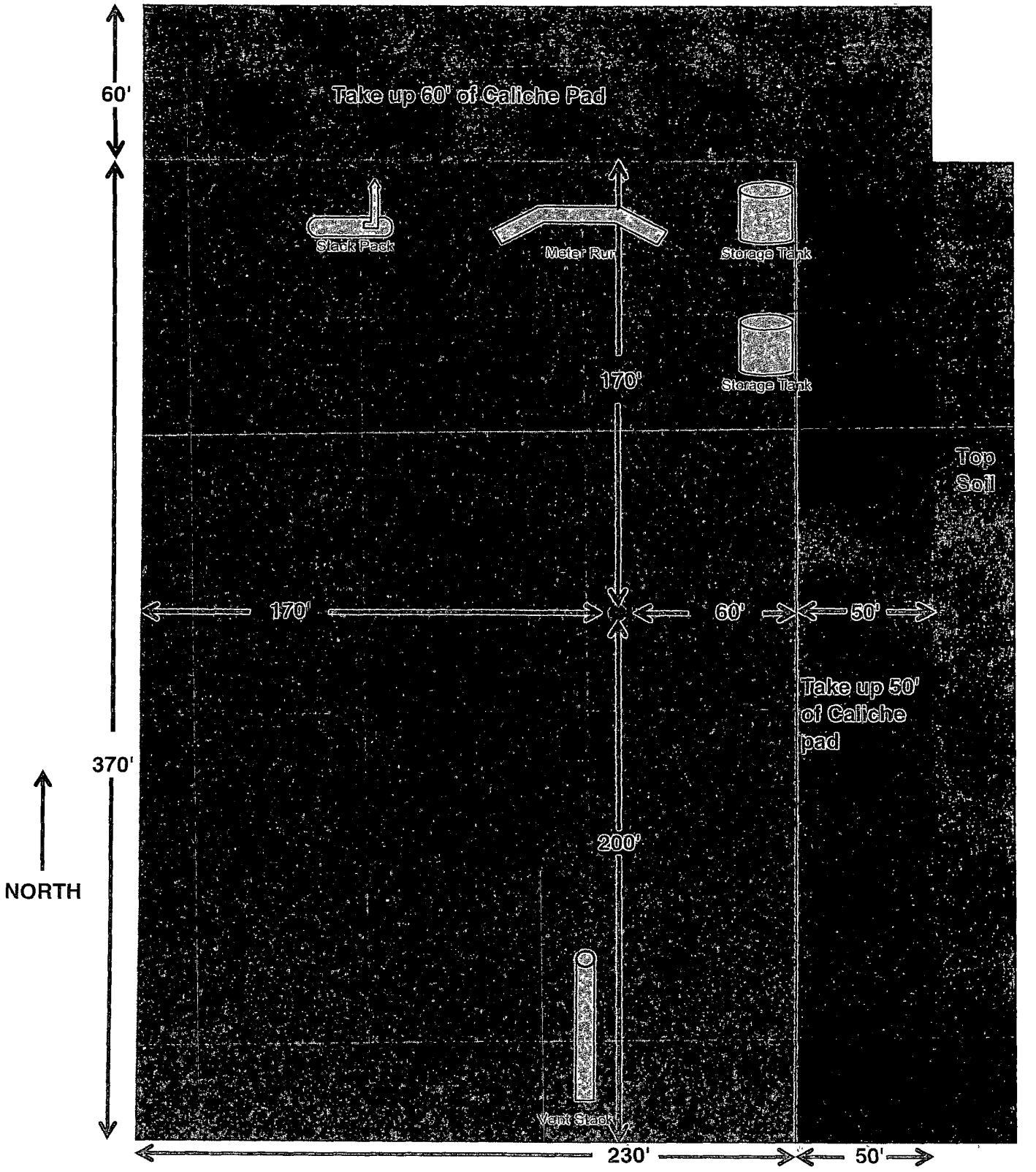
6. Notify emergency room personnel that the victim(s) has been exposed to H2S gas.

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

Revised CM 6/27/2012

Well Site Facility Layout

H & P 453 - Vdoor South
Lost Tank 3 Federal #27



PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA, INC
LEASE NO.:	NM0417696
WELL NAME & NO.:	27-LOST TANK 3 FEDERAL
SURFACE HOLE FOOTAGE:	0845'/N. & 0837'/W.
BOTTOM HOLE FOOTAGE	0680'/S. & 0680'/W.
LOCATION:	Section 3, T. 22 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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