

OCD Hobbs HOBBS OCD

ATS-15-220

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 08 2015

APPLICATION FOR PERMIT TO DRILL OR REENTER RECEIVED

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. S-NMNM093223 - BH-NMNM062932
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator OXY USA Inc. (16696) 16696		7. If Unit or CA Agreement, Name and No. Madera 30 Federal #1H (304882)
3a. Address P.O. Box 50250 Midland, TX 79710		8. Lease Name and Well No.
3b. Phone No. (include area code) 432-685-5717		9. API Well No. 30-025- 42777
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 330 FSL 180 FWL SWSW(M) Sec 19 T26S R35E (M)4 At proposed prod. zone 200 FSL 400 FWL SWNW(2) Sec 31 T26S R35E (E2)		10. Field and Pool, or Exploratory Jabalina Delaware, Southwest (97597)
14. Distance in miles and direction from nearest town or post office* 10 miles southwest from Jal, NM		11. Sec., T. R. M. or Blk. and Survey or Area S - Sec 19 T26S R35E BH - Sec 31 T26S R35E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) S-330' BH-200'	16. No. of acres in lease 863.68ac	17. Spacing Unit dedicated to this well 240ac
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 752'	19. Proposed Depth 8937'V 16597'M	20. BLM/BIA Bond No. on file NMB000862 ESB000226
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3188.4' GR	22. Approximate date work will start* 04/01/2015	23. Estimated duration 35 days

24. Attachments

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

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

25. Signature 	Name (Printed/Typed) David Stewart	Date 11-11-14
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Title

Sr. Regulatory Advisor

david_stewart@oxy.com

Approved by (Signature) **/s/ STEPHEN J. CAFFEY**

Name (Printed/Typed)

Date
AUG 28 2015

Title
FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

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

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Ke
09/08/15

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

SEP 09 2015

OXY USA Inc
Madera 30 Federal #1H
APD Drilling Data

APD - ()
HOBBS OCD
SEP 08 2015

OPERATOR NAME / NUMBER: OXY USA Inc 16696

RECEIVED

LEASE NAME / NUMBER: Madera 30 Federal #1H Federal Lease No: S-NMNM093223
PA/BH-NMNM062932

STATE: NM COUNTY: Lea

POOL NAME/NUMBER: Jabalina Delaware, Southwest 97597

SURFACE LOCATION: 330 FSL 180 FWL SWSW(M) Sec 19 T26S R35E
SL: LAT: 32.0223505N LONG: 103.4140780W X: 784400.52 Y: 373069.47 NAD: 27

TOP PERFORATION: 335 FNL 400 FWL NWNW(D) Sec 30 T26S R35E
SL: LAT: 32.0205215N LONG: 103.4133677W X: 785126.32 Y: 372405.99 NAD: 27

BOTTOM PERFORATION: 335 FSL 400 FWL SWNW(2) Sec 31 T26S R35E
SL: LAT: 32.0010857N LONG: 103.4133678W X: 785186.47 Y: 365335.66 NAD: 27

BOTTOM HOLE LOCATION: 200 FSL 400 FWL SWNW(2) Sec 31 T26S R35E
SL: LAT: 32.0007146N LONG: 103.4133678W X: 785187.62 Y: 365200.67 NAD: 27

APPROX GR ELEV: 3188.4' EST KB ELEV: 3212.4' (24' KB-GL)

1. GEOLOGIC NAME OF SURFACE FORMATION

a. Permian

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS

Formation	TVD - RKB	Expected Fluids
T. Rustler	1049	--
T. Salt	1247	--
T. Delaware / Lamar / B. Anhydrite	5339	Oil/Gas
T. Bell Canyon	5385	Oil/Gas
T. Cherry Canyon	6610	Oil/Gas
T. Brushy Canyon	7841	Oil/Gas
T. Brushy Canyon B	8865	Oil/Gas
Target Brushy Canyon B	8937	Oil/Gas
T. Brushy Canyon A	9029	Oil/Gas

- Fresh water may be present above the Rustler formation. Surface casing will be set below the top of the Rustler to protect any possible fresh water.

GREATEST PROJECTED TD "LATERAL LP": 9266' MD / 8937' TVD
GREATEST PROJECTED TD "LATERAL TOE": 16597' MD / 8911' TVD
OBJECTIVE: Brushy Canyon B

3. CASING PROGRAM

New Surface Casing ran in a 14.75" hole filled with 8.50 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
14.75	1075 1145	11.75	47	J55	BTC	11.000	New	3070	1510	4.04	5.12	4.17

New Intermediate Casing ran in a 10.625" hole filled with 10.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
10.625	5265 5330	8.625	32	J55	BTC	7.921*	New	3930	2530	1.33	1.95	2.05

New Production Casing ran in a 7.875" hole filled with 9.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
7.875	16597	5.500	20	P110	BTC	4.778	New	10640	7460	1.21	2.82	2.53

*SPECIAL DRIFT TO 7.875"

Casing Design Assumptions:

Burst Loads

CSG Test (Surface)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from section TD to surface

CSG Test (Intermediate)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from the Intermediate hole TD to Surface CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

CSG Test (Production)

- Internal: Fresh Water Displacement + 80% CSG Burst rating
- External: Pore Pressure from the well TD the Intermediate CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Gas Kick (Surface/Intermediate)

- Internal: Gas Kick based on Pore Pressure or Fracture Gradient @ CSG shoe with a gas 0.115psi/ft Gas gradient to surface while drilling the next hole section (e.g. Gas Kick while drilling the production hole section is a burst load used to design the intermediate CSG)
- External: Pore Pressure from section TD to previous CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Stimulation (Production)

- Internal: Displacement fluid + Max Frac treating pressure (not to exceed 80% CSG Burst rating)
- External: Pore Pressure from the well TD to the Intermediate CSG shoe and 8.5 ppg MWE to surface

Collapse Loads

Lost Circulation (Surface/Intermediate)

- Internal: Losses experienced while drilling the next hole section (e.g. losses while drilling the production hole section are used as a collapse load to design the intermediate CSG). After losses there will be a column of mud inside the CSG with an equivalent weight to the Pore Pressure of the lost circulation zone
- External: MW of the drilling mud that was in the hole when the CSG was run

Cementing (Surface/Intermediate/Production)

- Internal: Displacement Fluid
- External: Cement Slurries to TOC, MW to surface

Full Evacuation (Production)

- Internal: Atmospheric Pressure
- External: MW of the drilling mud that was in the hole when the CSG was run

Tension Loads

Running CSG (Surface/Intermediate/Production)

- Axial load of the buoyant weight of the string plus either 100 klb over-pull or string weight in air, whichever is less

Green Cement (Surface/Intermediate/Production)

- Axial load of the buoyant weight of the string plus the cement plug bump pressure (Final displacement pressure + 500 psi)

Burst, Collapse and Tensile SF are calculated using Landmark's Stress Check (Casing Design) software.

4. CEMENT PROGRAM

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 0' – 675' (125% Excess)	500	675	Premium Plus cement with 1 % Calcium Chloride - Flake (Accelerator)	9.14	13.5	1.73	1013
Tail: 675' – 1075' (125% Excess)	320	400	Premium Plus cement	6.34	14.8	1.34	1416

Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 0' – 4765' (125% Excess)	1210	4765	Halliburton Light Premium Plus Cement with 5% Salt (Accelerator), 0.25 % HR-800 (Retarder)	9.84	12.9	1.85	771
Tail: 4765' – 5365' (125% Excess)	230	600	Premium Plus cement	6.34	14.8	1.33	1779

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 4365' – 8364' (100% Excess)	360	3999	TUNED LIGHT (TM) SYSTEM 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.25 lbm/sk HR-800 (Retarder)	16.05	9.8	3.45	706
Tail: 8364' – 16597' (40% Excess)	1240	8233	Super H Cement, 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm/sk Salt (Accelerator), 0.3 % HR-800 (Retarder), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	8.38	13.2	1.66	615

The volumes indicated above may be revised depending on caliper measurement.

5. DIRECTIONAL PLAN

Please see attached directional plan

6. PRESSURE CONTROL EQUIPMENT

Surface: 0' – 1075' None.

Intermediate and Production: 5365' MD / TVD – 16597' MD / 8911' TVD Intermediate and Production hole will be drilled with a 13-5/8" 10M three ram stack with a 5M annular preventer and a 5M Choke Manifold.

- a. All BOP's and associated equipment will be tested in accordance with Onshore Order #2 (250/5000 psi on rams for 10 minutes each and 250/3500 psi for 10 minutes for annular preventer, equal to 70% of working pressure) with a third party BOP testing service before drilling out the surface casing shoe. A Multibowl wellhead system will be used in this well therefore the BOPE test will cover the test requirements for the Intermediate and Production sections.
- b. The Surface and Intermediate casing strings will be tested to 70% of their burst rating for 30 minutes. This will also test the seals of the lock down pins that hold the pack-off in place in the Multibowl wellhead system.

see
COA

- c. Pipe rams will be function tested every 24 hours and blind rams will be tested 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.
- d. The BOPE test will be repeated within 21 days of the original test, on the first trip, if drilling the intermediate or production section takes more time than planned.
- e. Other accessory BOP equipment will include a floor safety valve, choke lines, and choke manifold having a 5000 psi working pressure rating and tested to 5000 psi.
- f. The Operator also requests a variance to connect the BOP choke outlet to the choke manifold using a co-flex hose manufactured by Contitech Rubber Industrial KFT. It is a 3" ID x 35' flexible hose with a 10,000 psi working pressure. It has been tested to 15,000 psi and is built to API Spec 16C. Once the flex line is installed it will be tied down with safety clamps (certifications attached).
- g. BOP & Choke manifold diagrams attached.

7. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0' - 1075' 1145	8.4-8.8	28 - 38	NC	Fresh Water / Spud Mud
1075' - 5365' 5330	10.0-10.2	28 - 32	NC	Fresh Water / NaCl Brine
5365' - 16597'	9.2-9.8	28 - 34	NC	Cut Brine / Sweeps

Remarks: Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

8. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

- a. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
- b. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. **If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM.**

9. POTENTIAL HAZARDS:

- a. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.
- b. No abnormal temperatures or pressures are anticipated. The highest anticipated pressure gradient is **0.46 psi/ft**. Maximum anticipated bottom hole pressure is **between 4000 and 4120 psi**.
- c. 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 35 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

11. WIRELINE LOGGING / MUD LOGGING / LWD

- a. Mud loggers to be rigged up from surface shoe to TD.
- b. Acquire GR while drilling, from surface shoe to TD.

COMPANY PERSONNEL:

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Stephen Bennett	Drilling Engineer	(713)350-4609	(832) 540-0671
Sebastian Millan	Drilling Engineer Supervisor	(713)350-4950	(832) 528-3268
Roger Allen	Drilling Superintendent	(713)215-7617	(281) 682-3919
Oscar Quintero	Drilling Manager	(713)985-6343	(713) 689-4946

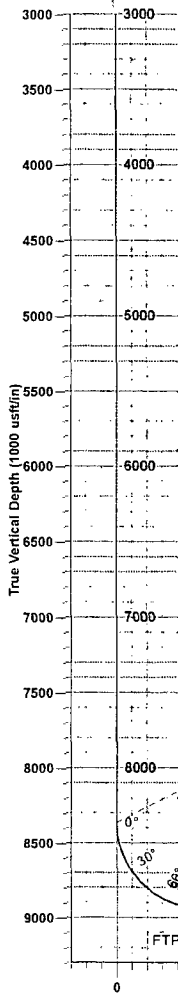


Madera 30 Fed 1H
Lea County, New Mexico
Northing: 373069.47
Easting: 784900.52
Design #3



Azimuths to Grid North
True North: -0.49°
Magnetic North: 6.63°
Magnetic Field
Strength: 48203.1snT
Dip Angle: 59.95°
Date: 07/21/2014
Model: IGRF2010

RKB @ 3212.40usft (H&P 620)
Gr @ 3188.40



WELL DETAILS Madera 30 Fed 1H					
Ground Level: 3188.40					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	373069.47	784900.52	32.02235	-103.41405

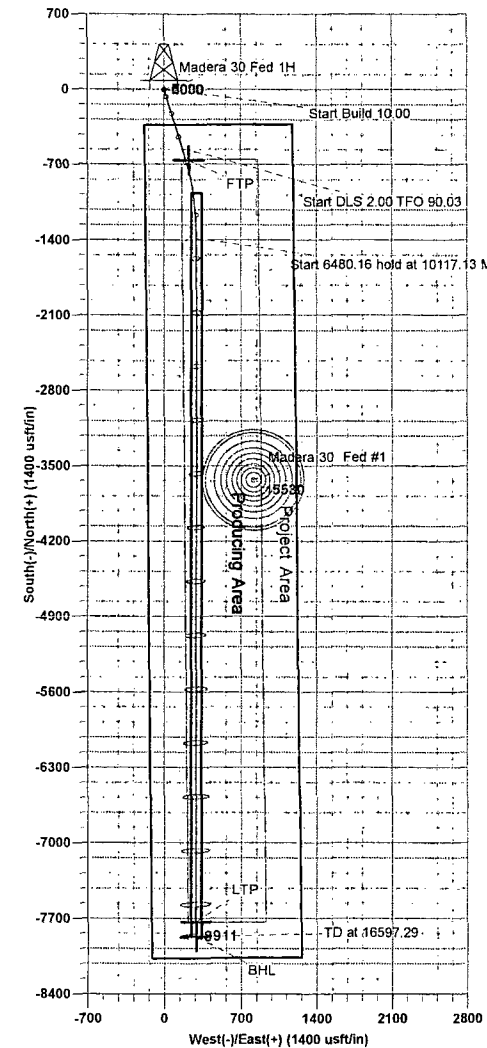
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8364.00	0.00	0.00	8364.00	0.00	0.00	0.00	0.00	0.00	
9266.20	90.22	163.03	8936.95	-550.11	167.97	10.00	163.03	555.87	
10117.13	90.20	180.05	8923.80	-1388.69	292.61	2.00	90.03	1398.43	
16597.29	90.20	180.05	8911.00	-7868.60	287.10	0.00	0.00	7874.04	M 30 Fed 1H BHL

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
M 30 Fed 1H BHL	8911.00	-7868.60	287.10	365200.67	785187.62
M 30 Fed 1H LTP	8912.00	-7733.61	285.95	365335.86	785186.47
M 30 Fed 1H FTP	8940.00	-663.48	225.80	372405.99	785126.32

SITE DETAILS:
Madera 30 Fed 1H
Site Centre Northing: 373069.47
Easting: 784900.52
Positional Uncertainty: 0.00
Convergence: 0.49
Local North: Grid

PROJECT DETAILS:
Lea County, New Mexico
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1865
Zone: New Mexico East 3001
System Datum: Mean Sea Level

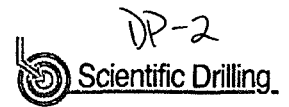
Lateral TGT Line
15°up/15°down



DP-1



Scientific Drilling, Int'l
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Madera 30 Fed 1H
Company:	OXY	TVD Reference:	RKB @ 3212.4usft (H&P 620)
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3212.4usft (H&P 620)
Site:	Madera 30 Fed 1H	North Reference:	Grid
Well:	Madera 30 Fed 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore 1		
Design:	Design #3		

Project	Lea County, 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	Madera 30 Fed 1H		
Site Position:		Northing:	373,069.47 usft
From:	Map	Easting:	784,900.52 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 20.462 N
		Longitude:	103° 24' 50.681 W
		Grid Convergence:	0.49 °

Well	Madera 30 Fed 1H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 1' 20.462 N
		Longitude:	103° 24' 50.681 W
		Ground Level:	3,188.4 usft

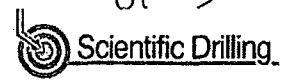
Wellbore	Wellbore 1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	07/21/14	7.12
			Dip Angle (°)
			59.95
			Field Strength (nT)
			48,203

Design	Design #3		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			177.91

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth (usft)	(°)	(°)	Depth (usft)	(usft)	(usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,364.0	0.00	0.00	8,364.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,266.2	90.22	163.03	8,937.0	-550.1	167.9	10.00	10.00	0.00	163.03	
10,117.1	90.20	180.05	8,933.8	-1,388.7	292.6	2.00	0.00	2.00	90.03	
16,597.3	90.20	180.05	8,911.0	-7,868.8	287.1	0.00	0.00	0.00	0.00	M 30 Fed 1H BHL



Scientific Drilling, Int'l
Planning Report



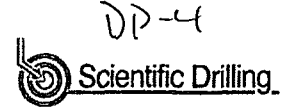
DP-3

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Madera 30 Fed 1H
Company:	OXY	TVD Reference:	RKB @ 3212.4usft (H&P 620)
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3212.4usft (H&P 620)
Site:	Madera 30 Fed 1H	North Reference:	Grid
Well:	Madera 30 Fed 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore 1		
Design:	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

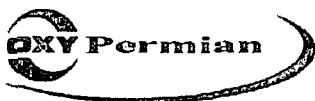


Scientific Drilling, Int'l
Planning Report

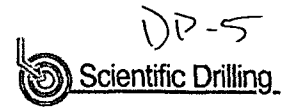


Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Madera 30 Fed 1H
Company:	OXY	TVD Reference:	RKB @ 3212.4usft (H&P 620)
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3212.4usft (H&P 620)
Site:	Madera 30 Fed 1H	North Reference:	Grid
Well:	Madera 30 Fed 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore 1		
Design:	Design #3		

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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,364.0	0.00	0.00	8,364.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	3.60	163.03	8,400.0	-1.1	0.3	1.1	10.00	10.00	0.00
8,450.0	8.60	163.03	8,449.7	-6.2	1.9	6.2	10.00	10.00	0.00
8,500.0	13.60	163.03	8,498.7	-15.4	4.7	15.5	10.00	10.00	0.00
8,550.0	18.60	163.03	8,546.8	-28.6	8.7	28.9	10.00	10.00	0.00
8,600.0	23.60	163.03	8,593.4	-45.8	14.0	46.3	10.00	10.00	0.00
8,650.0	28.60	163.03	8,638.3	-66.9	20.4	67.6	10.00	10.00	0.00
8,700.0	33.60	163.03	8,681.1	-91.6	27.9	92.5	10.00	10.00	0.00
8,750.0	38.60	163.03	8,721.5	-119.7	36.5	121.0	10.00	10.00	0.00
8,800.0	43.60	163.03	8,759.1	-151.2	46.1	152.7	10.00	10.00	0.00
8,850.0	48.60	163.03	8,793.8	-185.6	56.6	187.5	10.00	10.00	0.00
8,900.0	53.60	163.03	8,825.2	-222.8	68.0	225.1	10.00	10.00	0.00
8,950.0	58.60	163.03	8,853.0	-262.5	80.1	265.2	10.00	10.00	0.00
9,000.0	63.60	163.03	8,877.2	-304.3	92.9	307.5	10.00	10.00	0.00
9,050.0	68.60	163.03	8,897.5	-348.1	106.2	351.7	10.00	10.00	0.00
9,100.0	73.60	163.03	8,913.6	-393.3	120.0	397.4	10.00	10.00	0.00
9,150.0	78.60	163.03	8,925.7	-439.7	134.2	444.3	10.00	10.00	0.00
9,200.0	83.60	163.03	8,933.4	-486.9	148.6	492.0	10.00	10.00	0.00
9,250.0	88.60	163.03	8,936.8	-534.6	163.1	540.2	10.00	10.00	0.00
9,266.2	90.22	163.03	8,937.0	-550.1	167.9	555.9	10.00	10.00	0.00
9,300.0	90.22	163.71	8,936.8	-582.5	177.5	588.6	2.00	0.00	2.00
9,400.0	90.22	165.71	8,936.4	-679.0	203.9	685.9	2.00	0.00	2.00
9,500.0	90.22	167.71	8,936.1	-776.3	226.9	784.0	2.00	0.00	2.00
9,600.0	90.22	169.71	8,935.7	-874.3	246.5	882.7	2.00	0.00	2.00



Scientific Drilling, Int'l
Planning Report



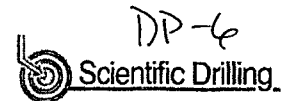
Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Madera 30 Fed 1H
Company:	OXY	TVD Reference:	RKB @ 3212.4usft (H&P 620)
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3212.4usft (H&P 620)
Site:	Madera 30 Fed 1H	North Reference:	Grid
Well:	Madera 30 Fed 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore 1		
Design:	Design #3		

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)
9,700.0	90.21	171.71	8,935.3	-973.0	262.6	981.9	2.00	0.00	2.00
9,800.0	90.21	173.71	8,934.9	-1,072.2	275.3	1,081.5	2.00	0.00	2.00
9,900.0	90.21	175.71	8,934.6	-1,171.8	284.6	1,181.4	2.00	0.00	2.00
10,000.0	90.21	177.71	8,934.2	-1,271.6	290.3	1,281.3	2.00	0.00	2.00
10,100.0	90.20	179.71	8,933.9	-1,371.6	292.6	1,381.3	2.00	0.00	2.00
10,117.1	90.20	180.05	8,933.8	-1,388.7	292.6	1,398.4	2.00	0.00	2.00
10,200.0	90.20	180.05	8,933.5	-1,471.6	292.5	1,481.2	0.00	0.00	0.00
10,300.0	90.20	180.05	8,933.2	-1,571.6	292.5	1,581.2	0.00	0.00	0.00
10,400.0	90.20	180.05	8,932.8	-1,671.6	292.4	1,681.1	0.00	0.00	0.00
10,500.0	90.20	180.05	8,932.5	-1,771.6	292.3	1,781.0	0.00	0.00	0.00
10,600.0	90.20	180.05	8,932.1	-1,871.6	292.2	1,881.0	0.00	0.00	0.00
10,700.0	90.20	180.05	8,931.7	-1,971.6	292.1	1,980.9	0.00	0.00	0.00
10,800.0	90.20	180.05	8,931.4	-2,071.6	292.0	2,080.8	0.00	0.00	0.00
10,900.0	90.20	180.05	8,931.0	-2,171.6	291.9	2,180.8	0.00	0.00	0.00
11,000.0	90.20	180.05	8,930.7	-2,271.6	291.9	2,280.7	0.00	0.00	0.00
11,100.0	90.20	180.05	8,930.3	-2,371.6	291.8	2,380.6	0.00	0.00	0.00
11,200.0	90.20	180.05	8,930.0	-2,471.5	291.7	2,480.5	0.00	0.00	0.00
11,300.0	90.20	180.05	8,929.6	-2,571.5	291.6	2,580.5	0.00	0.00	0.00
11,400.0	90.20	180.05	8,929.3	-2,671.5	291.5	2,680.4	0.00	0.00	0.00
11,500.0	90.20	180.05	8,928.9	-2,771.5	291.4	2,780.3	0.00	0.00	0.00
11,600.0	90.20	180.05	8,928.6	-2,871.5	291.3	2,880.3	0.00	0.00	0.00
11,700.0	90.20	180.05	8,928.2	-2,971.5	291.3	2,980.2	0.00	0.00	0.00
11,800.0	90.20	180.05	8,927.9	-3,071.5	291.2	3,080.1	0.00	0.00	0.00
11,900.0	90.20	180.05	8,927.5	-3,171.5	291.1	3,180.1	0.00	0.00	0.00
12,000.0	90.20	180.05	8,927.2	-3,271.5	291.0	3,280.0	0.00	0.00	0.00
12,100.0	90.20	180.05	8,926.8	-3,371.5	290.9	3,379.9	0.00	0.00	0.00
12,200.0	90.20	180.05	8,926.5	-3,471.5	290.8	3,479.8	0.00	0.00	0.00
12,300.0	90.20	180.05	8,926.1	-3,571.5	290.8	3,579.8	0.00	0.00	0.00
12,400.0	90.20	180.05	8,925.8	-3,671.5	290.7	3,679.7	0.00	0.00	0.00
12,500.0	90.20	180.05	8,925.4	-3,771.5	290.6	3,779.6	0.00	0.00	0.00
12,600.0	90.20	180.05	8,925.1	-3,871.5	290.5	3,879.6	0.00	0.00	0.00
12,700.0	90.20	180.05	8,924.7	-3,971.5	290.4	3,979.5	0.00	0.00	0.00
12,800.0	90.20	180.05	8,924.4	-4,071.5	290.3	4,079.4	0.00	0.00	0.00
12,900.0	90.20	180.05	8,924.0	-4,171.5	290.2	4,179.3	0.00	0.00	0.00
13,000.0	90.20	180.05	8,923.7	-4,271.5	290.2	4,279.3	0.00	0.00	0.00
13,100.0	90.20	180.05	8,923.3	-4,371.5	290.1	4,379.2	0.00	0.00	0.00
13,200.0	90.20	180.05	8,923.0	-4,471.5	290.0	4,479.1	0.00	0.00	0.00
13,300.0	90.20	180.05	8,922.6	-4,571.5	289.9	4,579.1	0.00	0.00	0.00
13,400.0	90.20	180.05	8,922.2	-4,671.5	289.8	4,679.0	0.00	0.00	0.00
13,500.0	90.20	180.05	8,921.9	-4,771.5	289.7	4,778.9	0.00	0.00	0.00
13,600.0	90.20	180.05	8,921.5	-4,871.5	289.6	4,878.9	0.00	0.00	0.00
13,700.0	90.20	180.05	8,921.2	-4,971.5	289.6	4,978.8	0.00	0.00	0.00
13,800.0	90.20	180.05	8,920.8	-5,071.5	289.5	5,078.7	0.00	0.00	0.00
13,900.0	90.20	180.05	8,920.5	-5,171.5	289.4	5,178.6	0.00	0.00	0.00
14,000.0	90.20	180.05	8,920.1	-5,271.5	289.3	5,278.6	0.00	0.00	0.00
14,100.0	90.20	180.05	8,919.8	-5,371.5	289.2	5,378.5	0.00	0.00	0.00
14,200.0	90.20	180.05	8,919.4	-5,471.5	289.1	5,478.4	0.00	0.00	0.00
14,300.0	90.20	180.05	8,919.1	-5,571.5	289.1	5,578.4	0.00	0.00	0.00
14,400.0	90.20	180.05	8,918.7	-5,671.5	289.0	5,678.3	0.00	0.00	0.00
14,500.0	90.20	180.05	8,918.4	-5,771.5	288.9	5,778.2	0.00	0.00	0.00
14,600.0	90.20	180.05	8,918.0	-5,871.5	288.8	5,878.2	0.00	0.00	0.00
14,700.0	90.20	180.05	8,917.7	-5,971.5	288.7	5,978.1	0.00	0.00	0.00
14,800.0	90.20	180.05	8,917.3	-6,071.5	288.6	6,078.0	0.00	0.00	0.00
14,900.0	90.20	180.05	8,917.0	-6,171.5	288.5	6,177.9	0.00	0.00	0.00



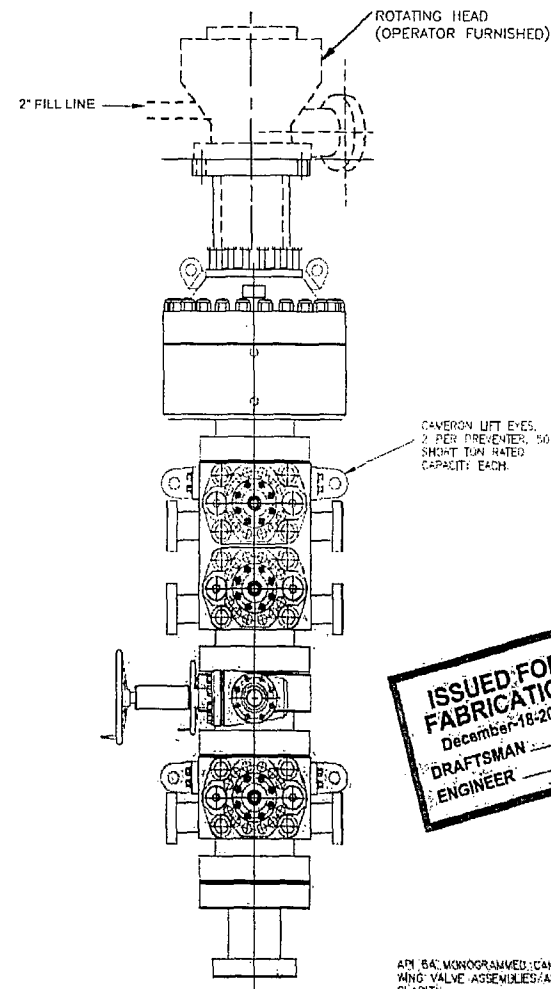
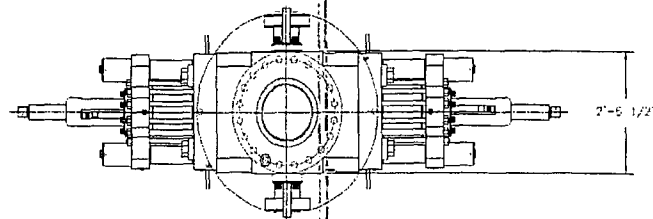
Scientific Drilling, Int'l
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Madera 30 Fed 1H
Company:	OXY	TVD Reference:	RKB @ 3212.4usft (H&P 620)
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3212.4usft (H&P 620)
Site:	Madera 30 Fed 1H	North Reference:	Grid
Well:	Madera 30 Fed 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore 1		
Design:	Design #3		

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)
15,000.0	90.20	180.05	8,916.6	-6,271.5	288.5	6,277.9	0.00	0.00	0.00
15,100.0	90.20	180.05	8,916.3	-6,371.5	288.4	6,377.8	0.00	0.00	0.00
15,200.0	90.20	180.05	8,915.9	-6,471.5	288.3	6,477.7	0.00	0.00	0.00
15,300.0	90.20	180.05	8,915.6	-6,571.5	288.2	6,577.7	0.00	0.00	0.00
15,400.0	90.20	180.05	8,915.2	-6,671.5	288.1	6,677.6	0.00	0.00	0.00
15,500.0	90.20	180.05	8,914.9	-6,771.5	288.0	6,777.5	0.00	0.00	0.00
15,600.0	90.20	180.05	8,914.5	-6,871.5	287.9	6,877.5	0.00	0.00	0.00
15,700.0	90.20	180.05	8,914.2	-6,971.5	287.9	6,977.4	0.00	0.00	0.00
15,800.0	90.20	180.05	8,913.8	-7,071.5	287.8	7,077.3	0.00	0.00	0.00
15,900.0	90.20	180.05	8,913.5	-7,171.5	287.7	7,177.2	0.00	0.00	0.00
16,000.0	90.20	180.05	8,913.1	-7,271.5	287.6	7,277.2	0.00	0.00	0.00
16,100.0	90.20	180.05	8,912.7	-7,371.5	287.5	7,377.1	0.00	0.00	0.00
16,200.0	90.20	180.05	8,912.4	-7,471.5	287.4	7,477.0	0.00	0.00	0.00
16,300.0	90.20	180.05	8,912.0	-7,571.5	287.4	7,577.0	0.00	0.00	0.00
16,400.0	90.20	180.05	8,911.7	-7,671.5	287.3	7,676.9	0.00	0.00	0.00
16,500.0	90.20	180.05	8,911.3	-7,771.5	287.2	7,776.8	0.00	0.00	0.00
16,597.3	90.20	180.05	8,911.0	-7,868.8	287.1	7,874.0	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
M 30 Fed 1H BHL	0.34	0.00	8,911.0	-7,868.8	287.1	365,200.67	785,187.62	32° 0' 2.572 N	103° 24' 48.124 W
- plan hits target center									
- Rectangle (sides W95.0 H4,064.0 D30.0)									
M 30 Fed 1H LTP	0.00	0.00	8,912.0	-7,733.8	285.9	365,335.66	785,186.47	32° 0' 3.908 N	103° 24' 48.124 W
- plan misses target center by 1.4usft at 16462.3usft MD (8911.5 TVD, -7733.8 N, 287.2 E)									
- Point									
M 30 Fed1H FTP	0.00	0.00	8,940.0	-663.5	225.8	372,405.99	785,126.32	32° 1' 13.877 N	103° 24' 48.124 W
- plan misses target center by 25.3usft at 9390.8usft MD (8936.5 TVD, -670.1 N, 201.6 E)									
- Point									



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

SHAFER BOLTED-COVER SPHERICAL ANNULAR PREVENTER (API 10A MONOGRAMMED, 13 5/8\"-5M WP), 10M BOTTOM FLANGE, 4\" STUCCO TOP (WEIGHT = 4,300 LBS WITH SHAFER API 10A HOT OIL RESISTANT ACYLONITRILE ELGENT)

CAVERON UM DOUBLE RAM-TYPE PREVENTER (API 10A MONOGRAMMED, 13 5/8\"-10M WP), WITH 5\" CAVERON PIPE RAUS (CAVERON FRONT PACKERS & TOP SEALS) IN TOP CAVITY AND CAVERON DS SHEARING BUND RAUS IN BOTTOM CAVITY. BOTTOM FLANGE & STUCCO TOP (WEIGHT = 21,100 LBS, WITH RAUS)

13 5/8\"-10M WP CAVERON DRILLING SPOOL (API 10A MONOGRAMMED), STUCCO TOP & FLANGED BOTTOM, WITH 4 1/16\"-10M WP FLANGED OUTLETS (WEIGHT APPROXIMATELY 6000 LBS)

CAVERON UM SINGLE RAM-TYPE PREVENTER (API 10A MONOGRAMMED, 13 5/8\"-10M WP), WITH 5\" CAVERON PIPE RAUS (CAVERON FRONT PACKERS & TOP SEALS) BOTTOM FLANGE & STUCCO TOP (WEIGHT = 10,950 LBS)

H&P FURNISHED
13 5/8\"-10M x 13 5/8\"-5M
ADAPTER SPOOL 2'-0\" LONG

13 5/8 - 10M BOP STACK WITH 13 5/8 - 5M ANNULAR

PROPRIETARY

THIS DRAWING AND THE IDEAS AND INFORMATION INCLUDED IN THIS DRAWING ARE PROPRIETARY AND ARE NOT TO BE REPRODUCED, DISTRIBUTED OR DISCLOSED IN ANY MANNER, WITHOUT THE PRIOR WRITTEN CONSENT OF A DULY AUTHORIZED OFFICER OF HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

ISSUED FOR
FABRICATION
December 18, 2007
DRAFTSMAN
ENGINEER

API 6A MONOGRAMMED CAVERON CHOKES AND KILLING VALVE ASSEMBLIES ARE NOT SHOWN FOR CLARITY

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

HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.

ENGINEERING APPROVAL		DATE	TITLE
	12/18/07	ADDED SHEET 01	JAN
	4-10-07	CAVERON TOTAL DOUBLE STOKED ADAPTER, 2" & 3" AND 4" CLOSURE	JUN
	4-24-07	2" ADAPTER, 3" ADAPTER, ADAPTER SPOOL	JUN
	03-27-07	4" ADAPTER, ADAPTER SPOOL	JUN
	06-13-07	CORRECTED BOB STACK	JUN
REV	DATE	DESCRIPTION	BY

CUSTOMER: HAN

PROJECT: FLEXRIG

DRAWING: NTS

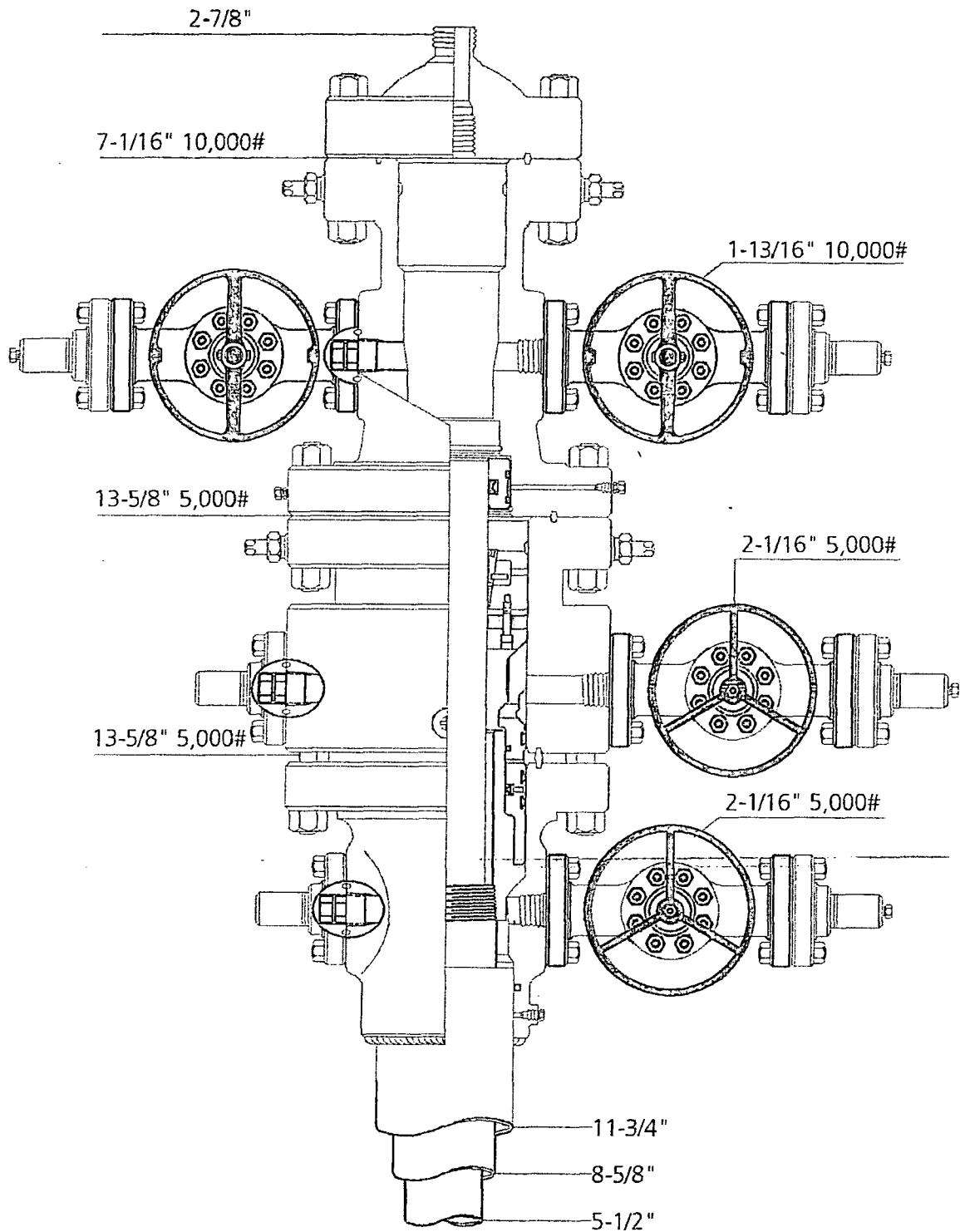
DATE: 6-6-07

SCALE: 3/4" = 1'

SHEET: 1 OF 1

210-P1-07

Bop-1

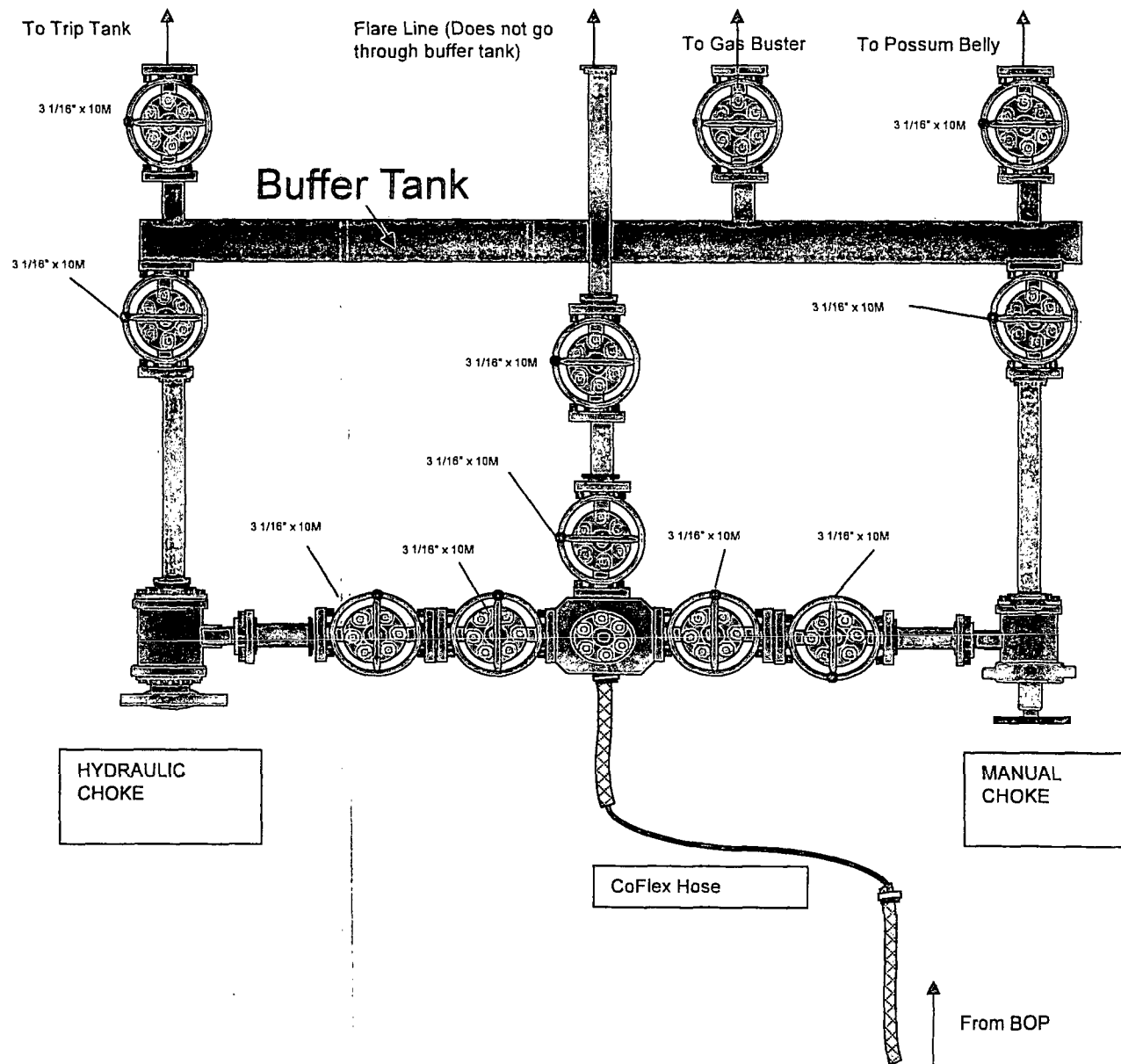


Permian Basin
MBS

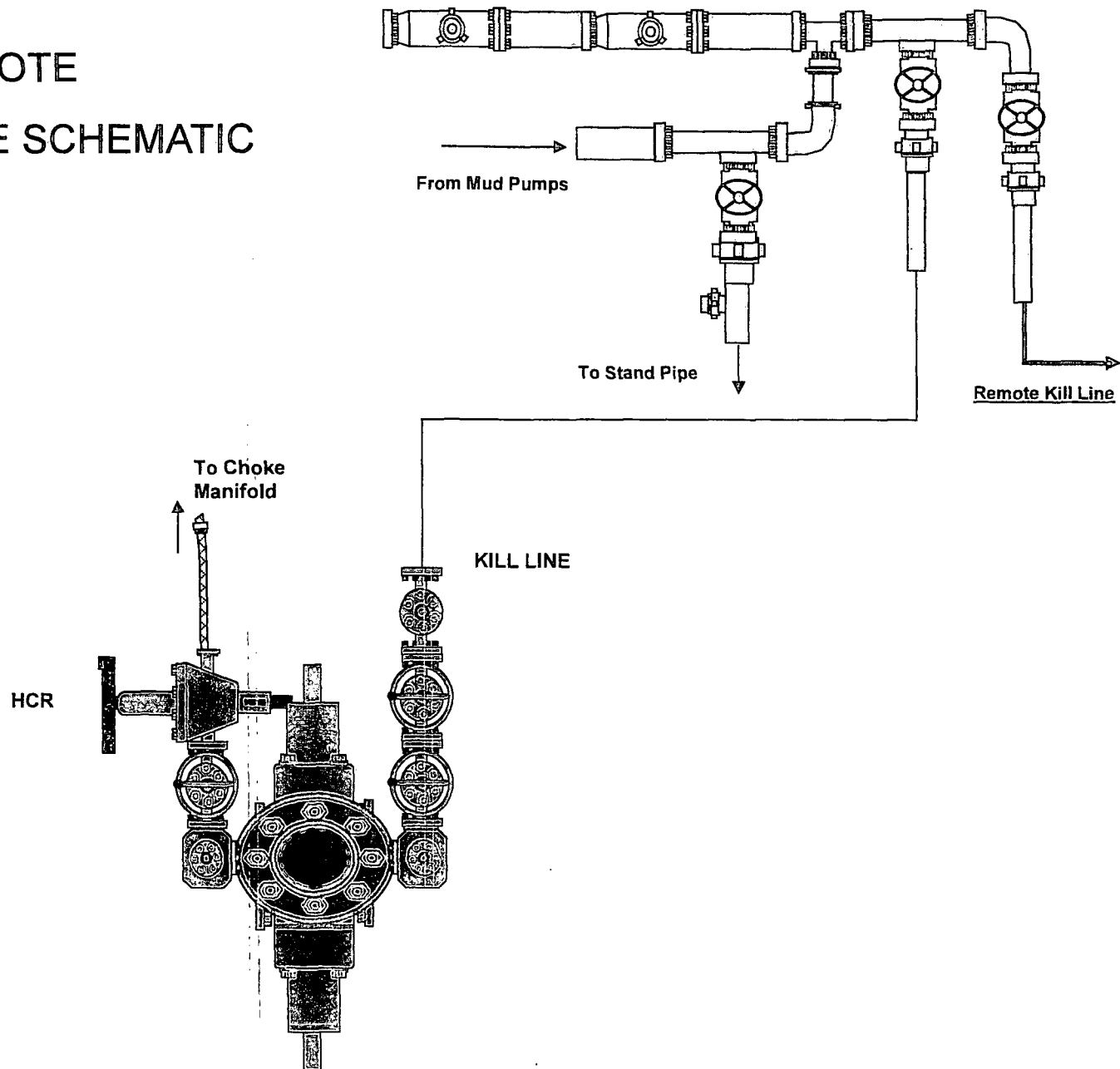
CAMERON

Name: Jeanette	Date: 1-31-13	Working Pressure:	# 21073221
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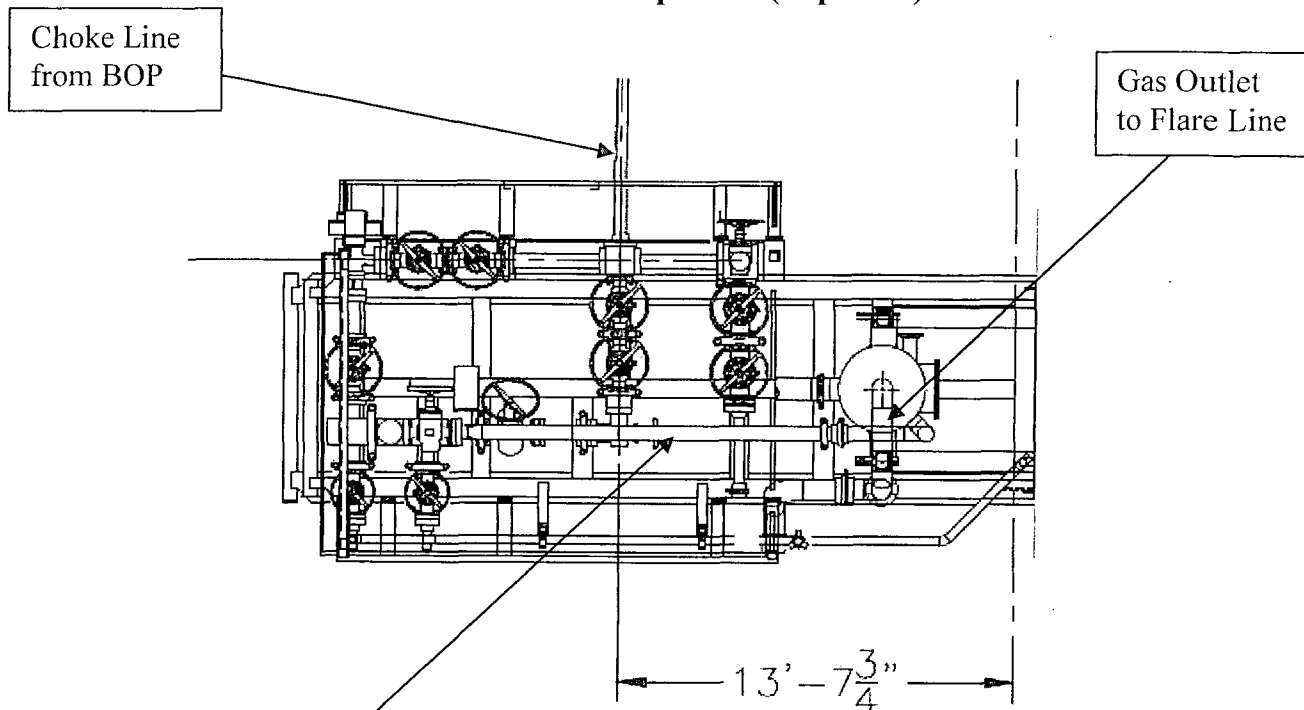
FLEX3 STD CHOKE MANIFOLD (COMPREHENSIVE)



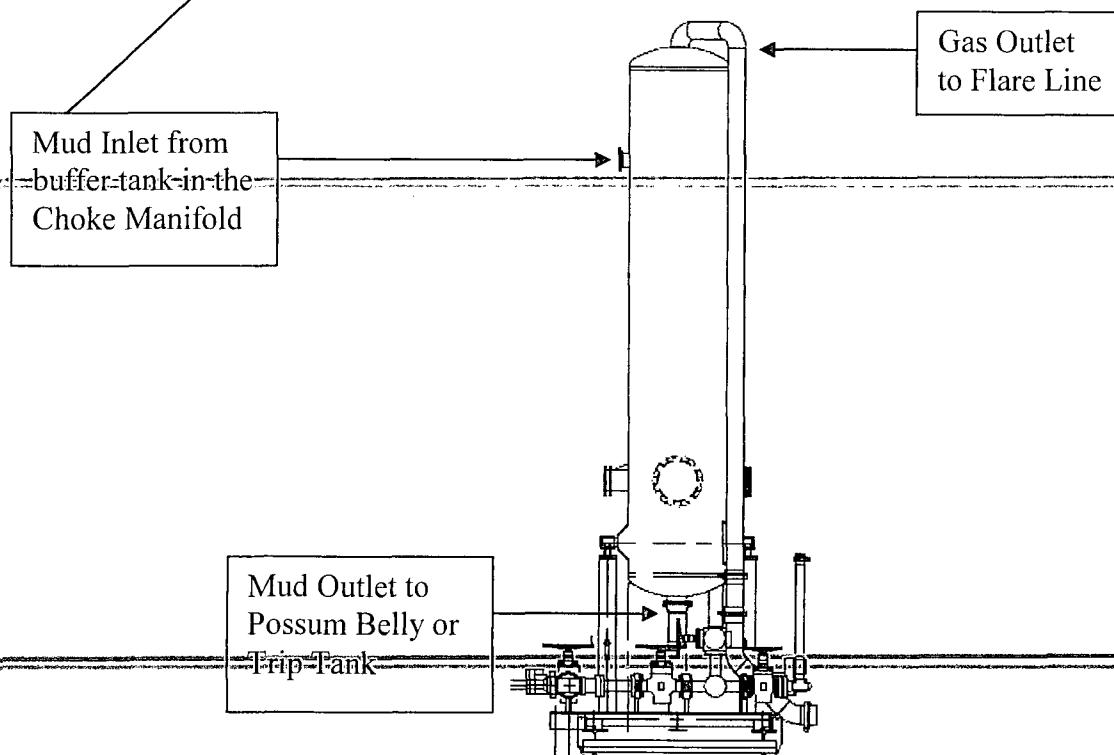
10M REMOTE KILL LINE SCHEMATIC



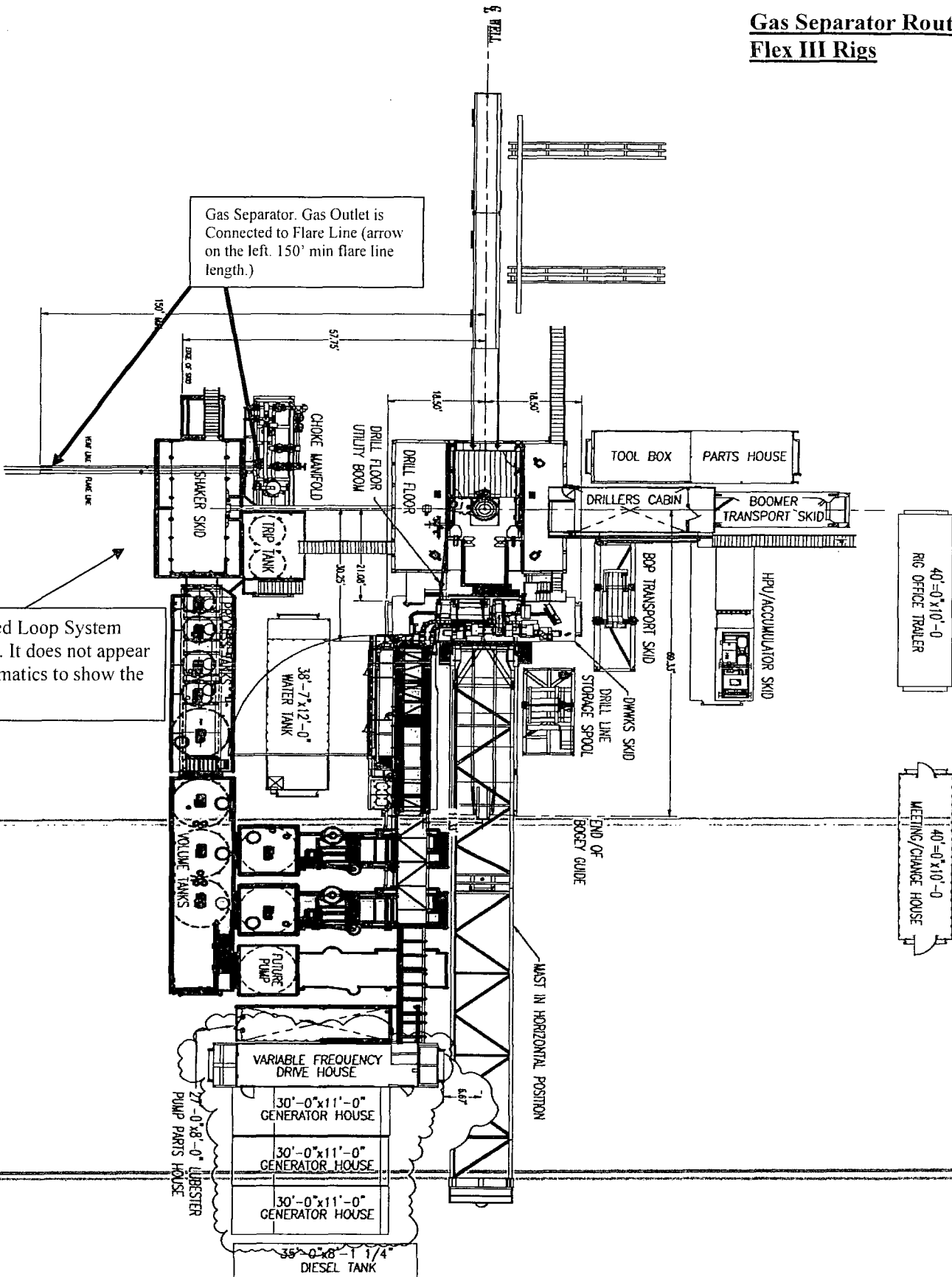
Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)



Gas Separator Routing Flex III Rigs



Note: Closed Loop System placed here. It does not appear on the schematics to show the flare line.



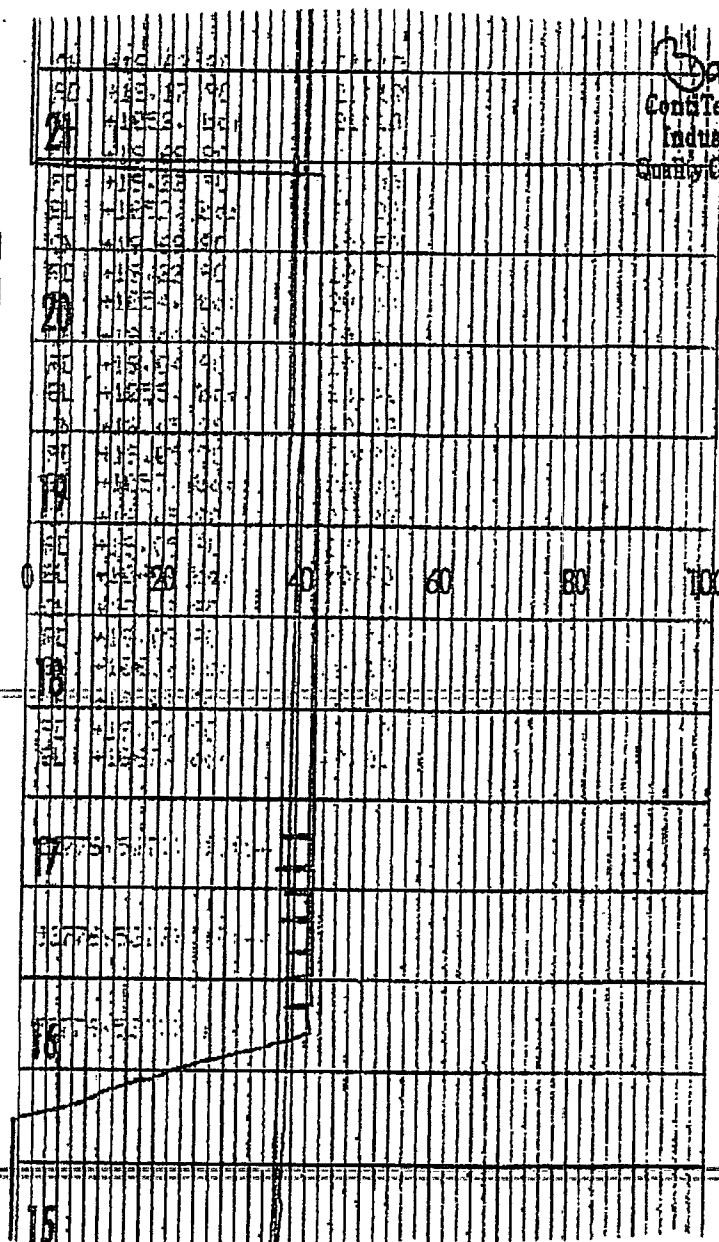
Fluid Technology

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 4 1/16" Flange end	917	913	AISI 4130	T7998A	
			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					

Coflex Hose Certification

Page: 1/1



Cond Tech Rubber
Industrial Kft.
Quality Control Dept.
(2)

FH-3

Coflex Hose Certification

Form No 100/12

**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...

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

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	2
Customer / Invoice Address HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119		Delivery / Address HELMERICH & PAYNE IDC ATTN: JOE STEPHENSON - RIG 370 13609 INDUSTRIAL ROAD HOUSTON, TX 77015			

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

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

Phoenix Beattie Inspection Signature :

Received In Good Condition : Signature

Print Name

Date

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



FLT-5

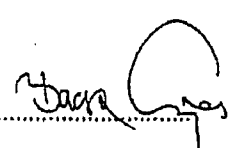
CERTIFICATE OF CONFORMITY

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 : 

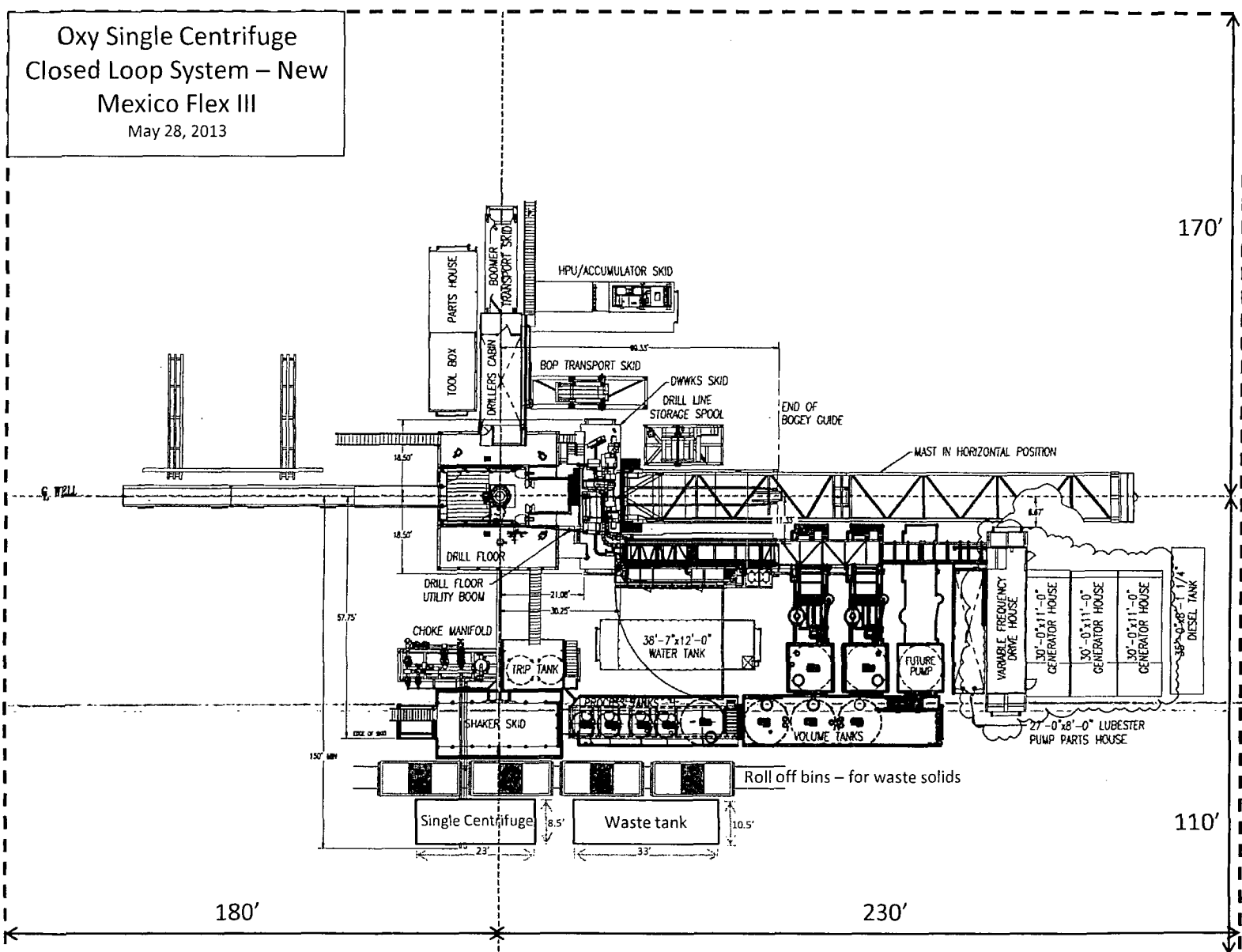
Position: Q.C. Manager

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

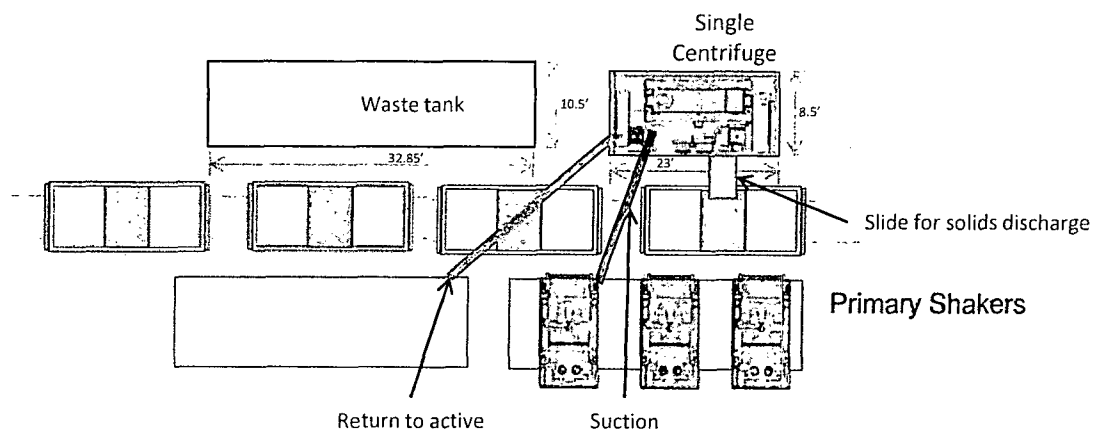
Date: 04. April. 2008

Oxy Single Centrifuge
Closed Loop System – New
Mexico Flex III

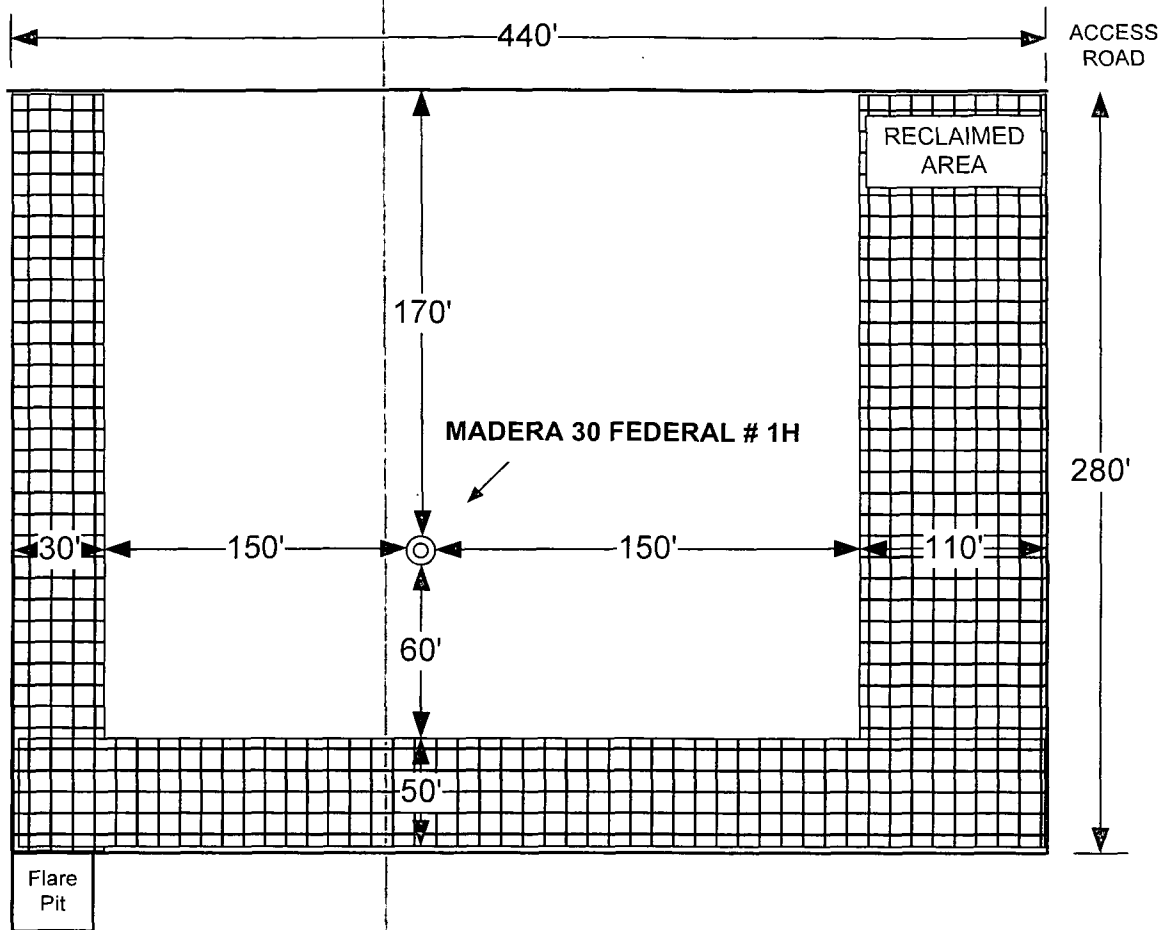
May 28, 2013



Oxy



Oxy Single Centrifuge
Closed Loop System – New
Mexico Flex III
May 28, 2013

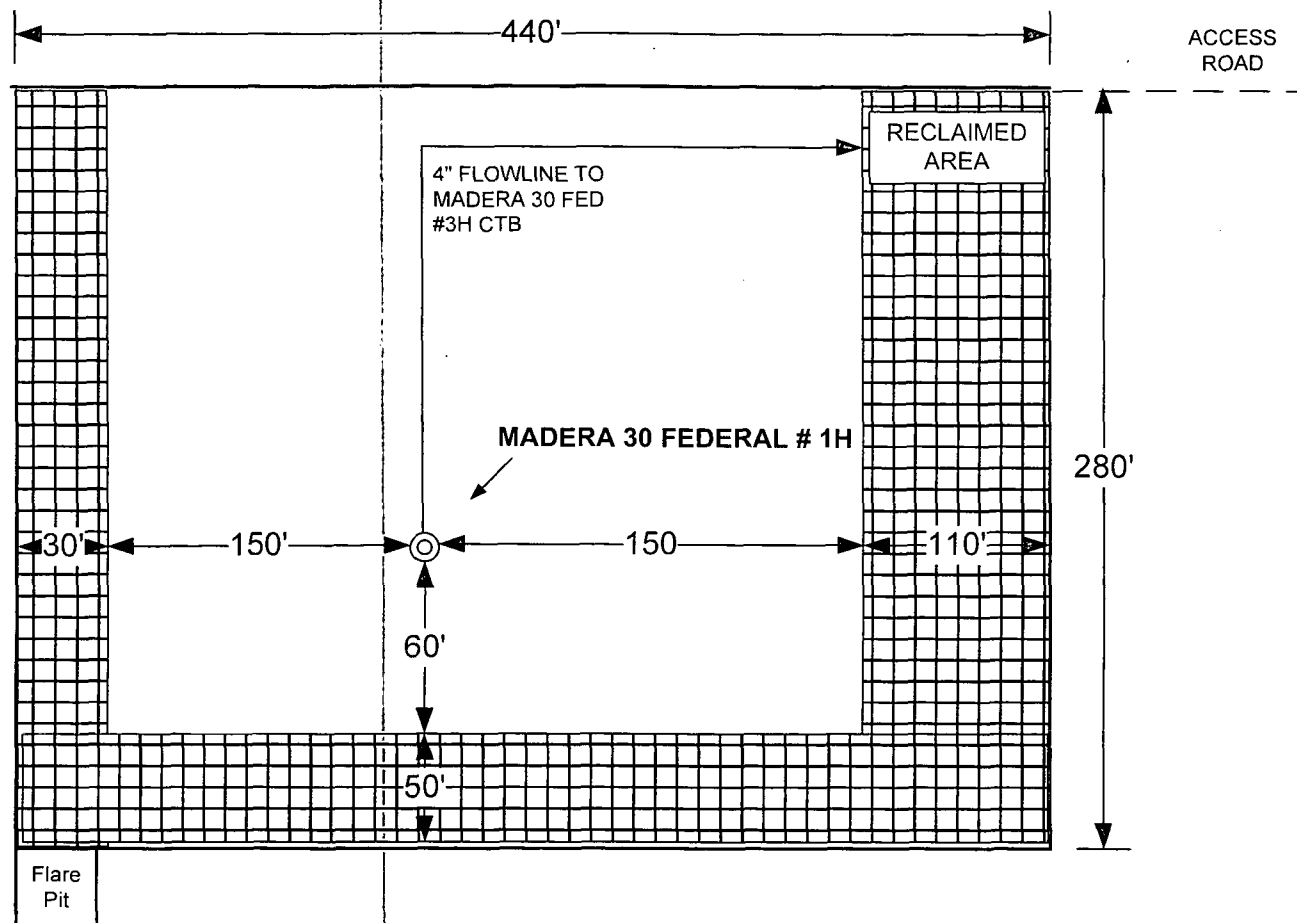


8' Diameter x 8' Deep Tinhorn
Cellar

FLEX 3 RIG DIAGRAM
MADERA 30 FEDERAL # 1H
V-door - West
 LEA COUNTY, NEW MEXICO

REVISION BLOCK						ENGINEERING RECORD	
NO.	DATE	DESCRIPTION	BY	CHK	APP	BY	DATE

well-site layout



NORTH
↑

Facility layout

			REVISION BLOCK				ENGINEERING RECORD		FACILITY LAYOUT DIAGRAM MADERA 30 FEDERAL # 1H V-Door - West LEA COUNTY, NEW MEXICO
NO.	DATE		DESCRIPTION	BY	CHK	APP	BY	DATE	
A	8/15/14		PRELIMINARY DRAFT	FJR			FJR	10/24/14	
B	10/24/14		PRELIMINARY DRAFT – REVISED WELL PAD DIMENSIONS TO 280'x440'	FJR					