12-720

RECEIVED
SEP 10 2012
NMOCD ARTESIA

OCD Artesia

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No
NMLC - 048479-B

6 If Indian, Allotee or Tribe Name

TCS 9/12/2012

1a. Type of work: ☑ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.

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

8 Lease Name and Well No.
Chris Robin 20 Federal #12 <39441>

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

9 API Well No
30-015-40676

3a Address P.O BOX 4294
HOUSTON, TX 77210

3b Phone No (include area code)
713-513-6640

10 Field and Pool, or Exploratory
ARTESIA, GLORIETA-YESO (O) <96830>

4 Location of Well (Report location clearly and in accordance with any State requirements *)
At surface 1980' FNL & 430' FWL
At proposed prod zone 1980' FNL & 430' FWL

11. Sec, T R, M or Blk and Survey or Area
E, SEC 20, T17S, R28E

14 Distance in miles and direction from nearest town or post office*
12 miles East of Artesia, N.M

12 County or Parish
EDDY

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any)	16 No of acres in lease	17 Spacing Unit dedicated to this well
430'	80	40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19. Proposed Depth	20. BLM/BIA Bond No. on file
344'	5300' MD / 5300' TVD	ES0136

21 Elevations (Show whether DF, KDB, RT, GL, etc)	22. Approximate date work will start*	23 Estimated duration
3613'	01/24/2013	10 DAYS

24 Attachments

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

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

25 Signature	Name (Printed/Typed)	Date
Title: Regulatory Analyst	Jennifer Duarte (jennifer_duarte@oxy com)	05/22/2012

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Don Peterson	/s/ Don Peterson	SEP - 6 2012
Title: for 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)

NMOCD: Must be in compliance w/ Rule 5.9 prior to placing well on production

Roswell Controlled Water Basin

ATTACHED
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

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 22nd day of May, 2012.

Name: David Schellstede

Position: Reservoir Management Team Leader

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

Telephone: 713-366-5013

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

Company: OXY USA WTP Limited Partnership

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

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

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-40676	96830	ARTESIA; GLORIETA-YESO (O)

Property Code	Property Name	Well Number
39441	CHRIS ROBIN 20 FEDERAL	12

OGRID No.	Operator Name	Elevation
192463	OXY USA WTP LIMITED PARTNERSHIP	3613'

Surface Location

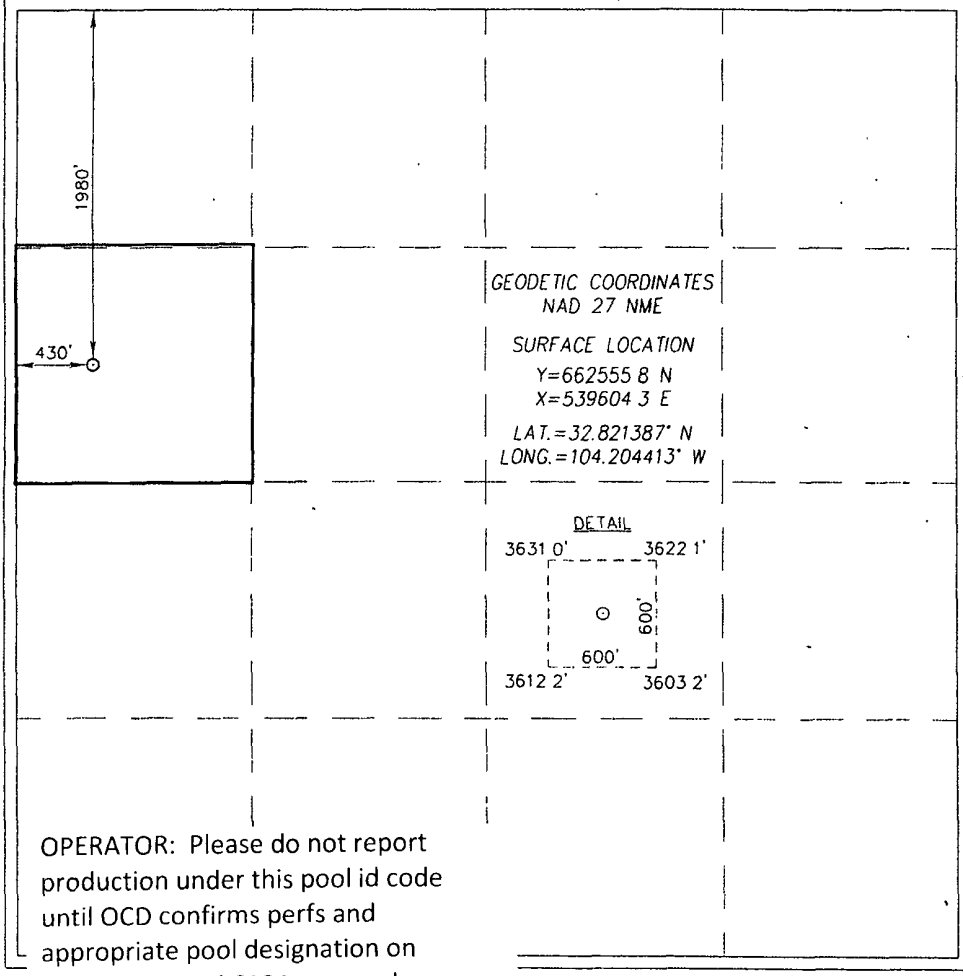
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	20	17-S	28-E		1980	NORTH	430	WEST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No
40			9/6 5300

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: Please do not report production under this pool id code until OCD confirms perfs and appropriate pool designation on completion and C104 approvals.

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 7/3/12 Date

JENNIFER DUARTE
Printed Name

jennifer_duarte@oxy.com
E-mail Address

SURVEYOR CERTIFICATION

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

MARCH 23, 2012
Date of Survey

Signature & Seal of Professional Surveyor:

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

04/17/2012

Certificate Number	Gary L. Eidson	12641
	Ronald J. Eidson	3239

DSS JWSC W.O.: 12.11.0086

APD DATA – DRILLING PLAN –

OPERATOR NAME / NUMBER: OXY USA WTP LP

LEASE NAME / NUMBER: Chris Robin 20 Federal 12

STATE: NM **COUNTY: Eddy**

SURFACE LOCATION: **1980' FNL & 430' FWL**, Sec **20**, T**17S**, R**28E**

C-102 PLAT APPROX GR ELEV: 3613'

EST KB ELEV: 3627' (14' KB)

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

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

Formation	TV Depth Top	Expected Fluids
Rustler	100	Fresh Water
Top of Salt	300	-
Base of Salt	390	-
Yates	410	-
Seven Rivers	604	-
Queen	1170	-
Grayburg	1640	Oil
San Andres	1749	Oil/Water
Glorietta	3350	Oil
Paddock	3440	Oil
Blinebry	3900	Oil
Tubb – Base of Yeso	4820	Oil
Drinkard	4965	-
TD	5300	TD

A. Fresh Water formations will be covered with the 16" conductor pipe, which will be set at 120' prior to spud.

GREATEST PROJECTED TD 5300' MD / 5300' TVD **OBJECTIVE**: Yeso

3. **CASING PROGRAM**

Surface Casing: 9.625" casing set at ± 450' MD/ 450' TVD in a 12.25" hole filled with 8.4 ppg mud

Interval	Length	Wt	Gr	Condition	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'- 450'	450'	36	J-55	New	ST&C	2020	3520	394	8.921	8.765	13.33	1.97	27.91

Using offset well information and Oxy Yeso State wells as reference, we have found lost circulation at depths up to 350'. We would like to cover these zones by setting surface casing in the Yates before continuing. We also need to have surface casing at this depth in order to have sufficient kick tolerance to drill to TD.

Production Casing: 5.5" casing set at ± 5300'MD / 5300'TVD in a 7.875" hole filled with 9.2 ppg mud

Interval	Length	Wt	Gr	Condition	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'- 5300'	5300'	17	L-80	New	LT&C	6290	7740	338	4.892	4.767	2.48	3.86	4.37

Collapse and burst loads calculated using Stress Check with actual anticipated loads.

4. CEMENT PROGRAM: * See COA

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Surface (TOC: 0' – 450')							
Lead: 0' – 450' (150% Excess)	150	0'	Premium Plus Cement: 94 lbm/sk Premium Plus Cement, 10 lbm/sk Cal-Seal 60, 0 125 lbm/sk Poly-E-Flake, 10 lbm/sk Kol-Seal, 1 % Calcium Chloride - Flake	7.46	14.2	1.67	1290 psi
Tail: 0' – 450' (150% Excess)	250	450'	Premium Plus Cement: 94 lbm/sk Premium Plus Cement, 2 % Calcium Chloride - Flake	6.39	14.8	1.35	2500 psi

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Production (TOC: 0' - 5300')							
Lead: 0' – 3000' (125 % Excess)	600	3000'	Halliburton Light Premium Plus: 5% Salt, 3 lbm/sk Kol-Seal, 0.125 lb/sx Poly_E_Flake	9.95	12.9	1.89	530 psi
Tail: 3000' – 5300' (125 % Excess)	735	2300'	50/50 Poz Premium Plus: 3% Salt, 0.4% Halad ®-322, 0.125 lb/sx Poly E_Flake	5.64	14.5	1.24	980 psi

5. PRESSURE CONTROL EQUIPMENT

Surface: 0 – 450' None.

Production: 0 - 5300' the minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required to drill below the surface casing shoe shall be 3000 (3M) psi (including annular).

a. The 11" 3000 psi blowout prevention equipment will be installed and operational after setting the 9 5/8" surface casing and the 9 5/8" SOW x 11" 3K conventional wellhead;.

b. The BOP and ancillary BOPE will be tested by a third party upon installation to the 9 5/8" 36# J-55 surface casing. All equipment will be tested to 250/3000 psi for 10 minutes except the annular, which will be tested to 70% of working pressure (2100 psi).

c. The pipe rams will be functionally tested during each 24 hour period; the blind rams will be functionally tested on each trip out of the hole. These functional tests will be documented on the Daily Driller's Log. Other accessory equipment (BOPE) will include a safety valve and subs as needed to fit all drill strings, and a 2" kill line and 3 " choke line having a 3000 psi WP rating.

See COA *

d. See attached BOP & Choke manifold diagrams.

e. Oxy requests a variance if Savanna 415 is used to drill this well to use a co-flex line between the BOP and choke manifold. See attached schematic.

Manufacturer: Hebei Ouya Ltd.

Serial Number: 1642343-04

Length: 39" Size: 3" Ends: flanges

WP rating: 3000 psi Anchors required by manufacturer: No

6. **MUD PROGRAM:** *See #3 of operators Drilling Program

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0 – 450'	9.6 – 10.0	27 – 30	NC	Fresh Water
450' – TD	9.2 – 9.4	27 – 40	10 -20	Brine Water / Salt Gel

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.

A. 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.

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 unobstructed and readily accessible at all times.

8. **LOGGING / CORING AND TESTING PROGRAM:** *See COA

A. Mud Logger: None.

B. DST's: None.

C. Open Hole Logs as follows: Triple combo for production section.

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. The bottomhole pressure is anticipated to be 2536 psi.

C. No abnormal temperatures or pressures are anticipated. 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.

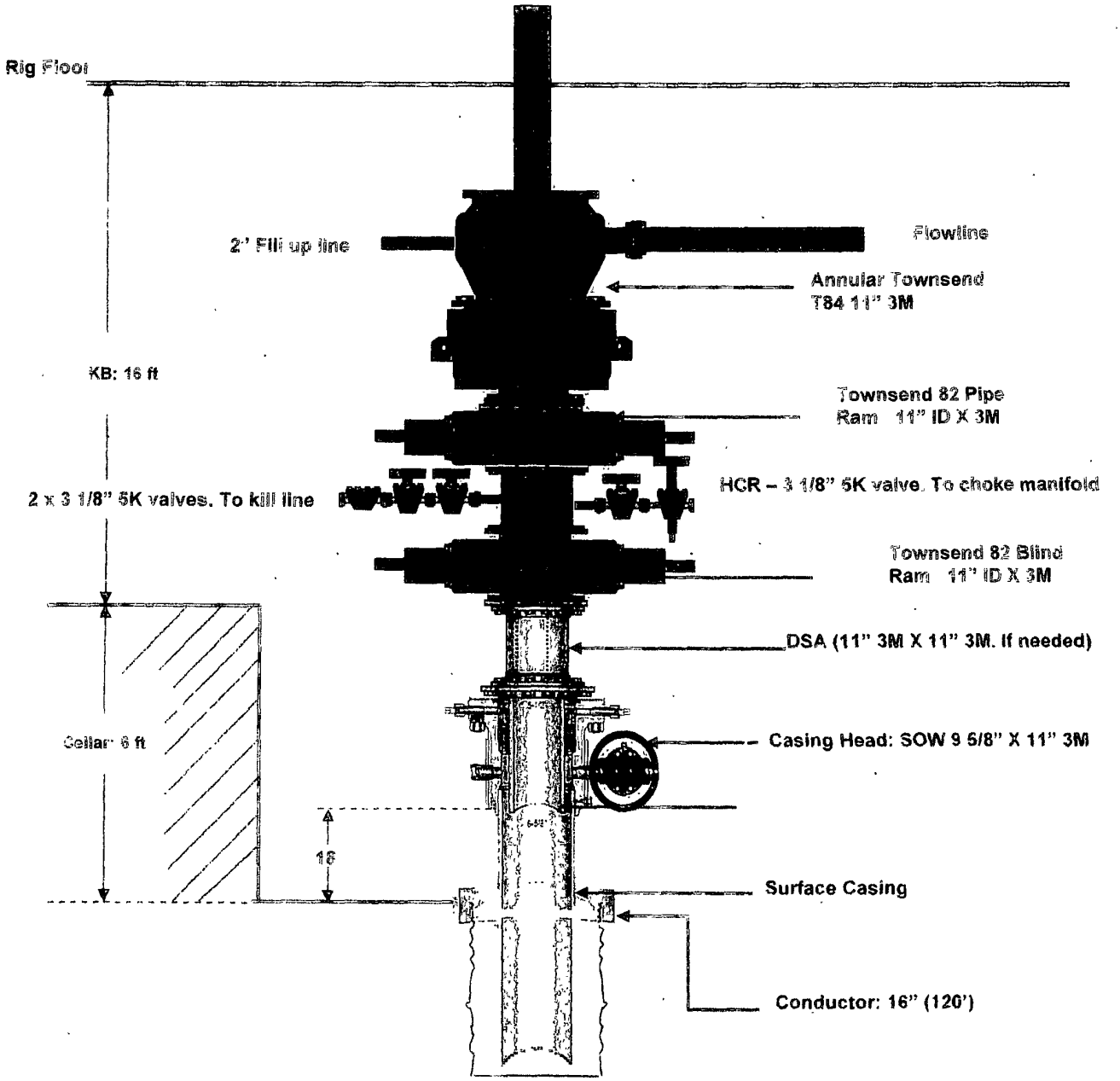
10. **ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS**

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 15 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.

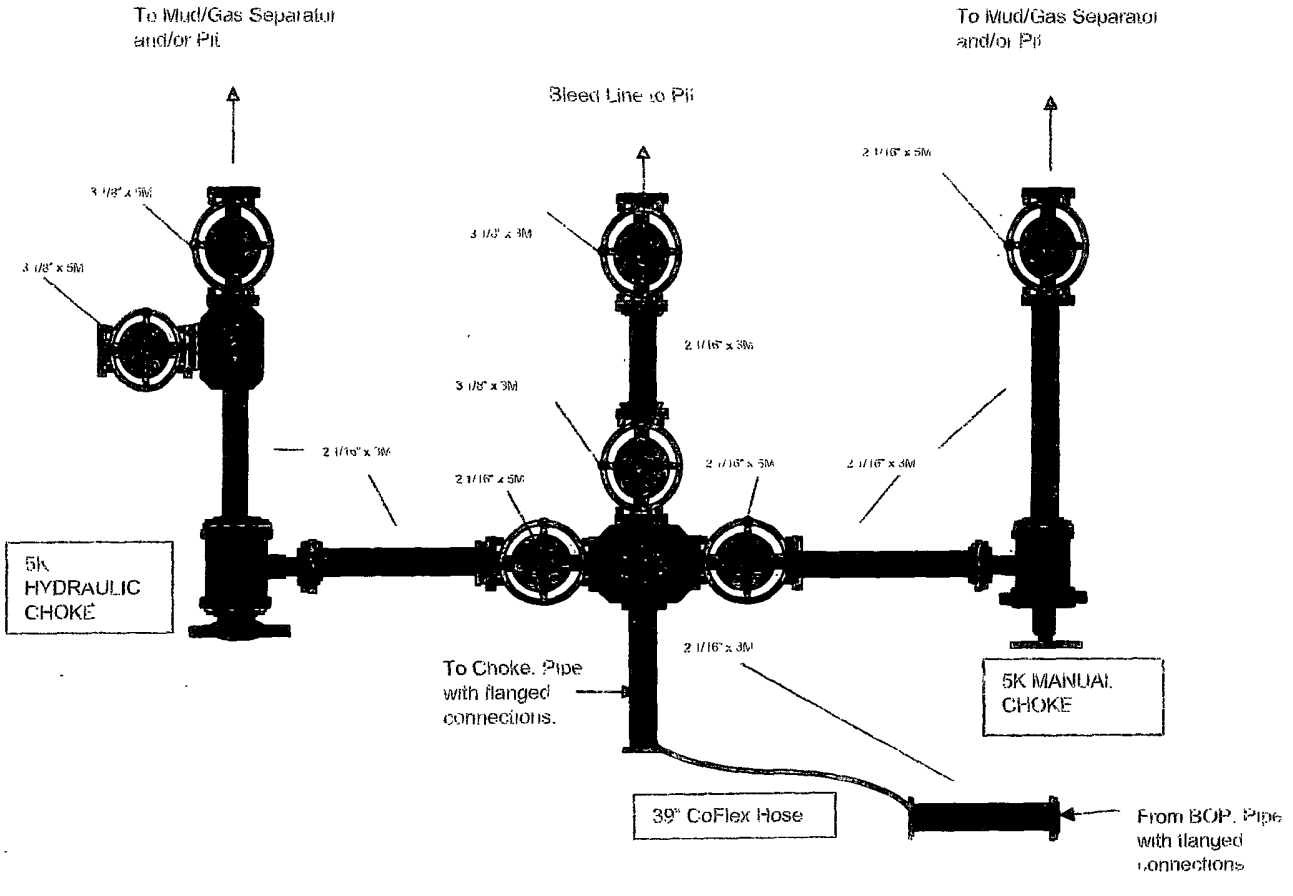
11. **COMPANY PERSONNEL:**

Name	Title	Office Phone
Carlos Mercado	Drilling Engineer	713-366-5418
Luis Tarazona	Drilling Engineer Supervisor	713-366-5771
Roger Allen	Drilling Superintendent	713- 215-7617
Douglas Chester	Drilling Manager	713-366-5194

BOP Diagram

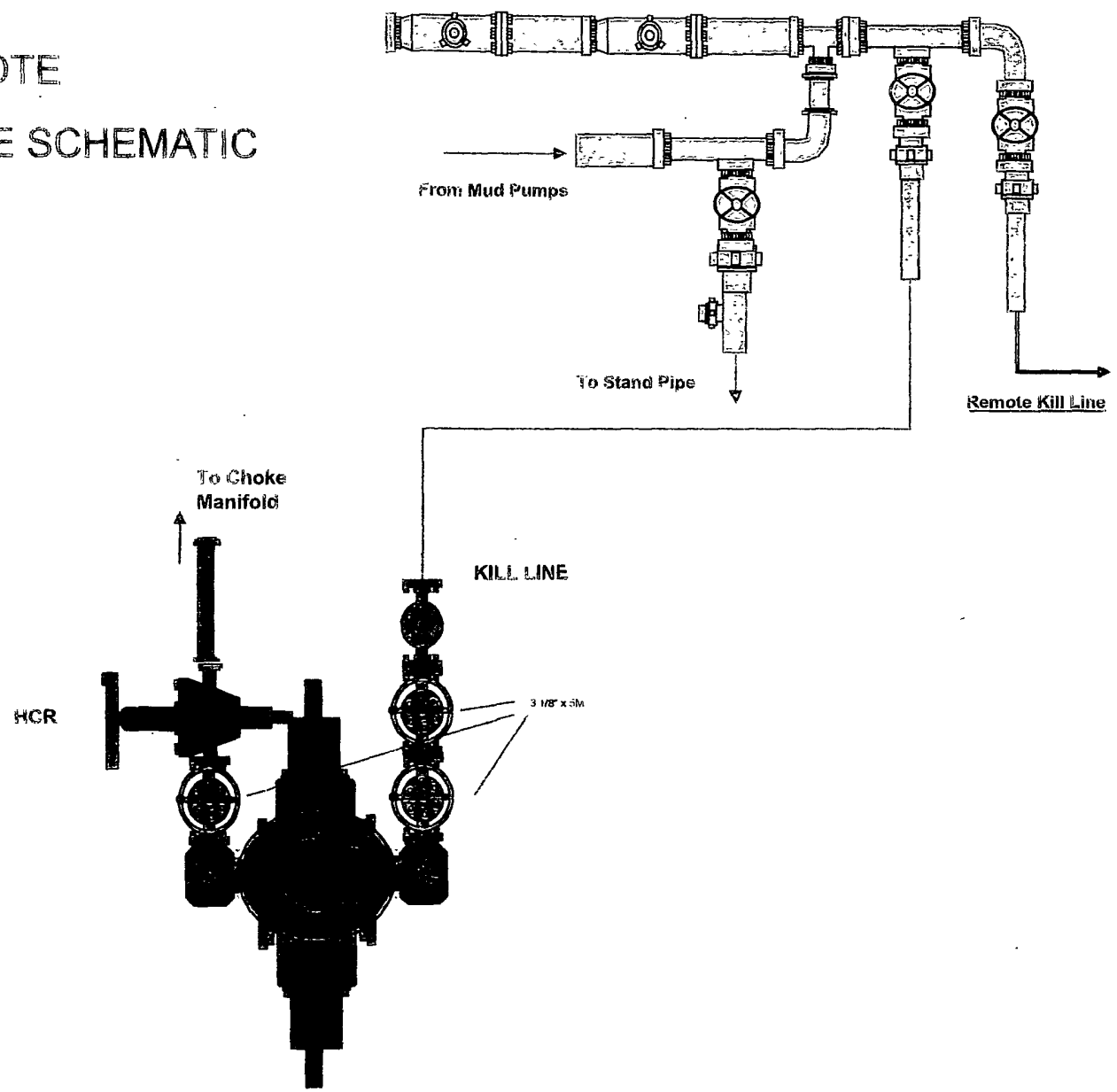

Rig Floor
2" Fill up line
Flowline
Annular Townsend
T84 11" 3M
KB: 16 ft
Townsend 82 Pipe
Ram 11" ID X 3M
2 x 3 1/8" 5K valves. To kill line
HCR – 3 1/8" 5K valve. To choke manifold
Townsend 82 Blind
Ram 11" ID X 3M
DSA (11" 3M X 11" 3M. If needed)
Cellar: 6 ft
Casing Head: SOW 9 5/8" X 11" 3M
16
Surface Casing
Conductor: 16" (120')

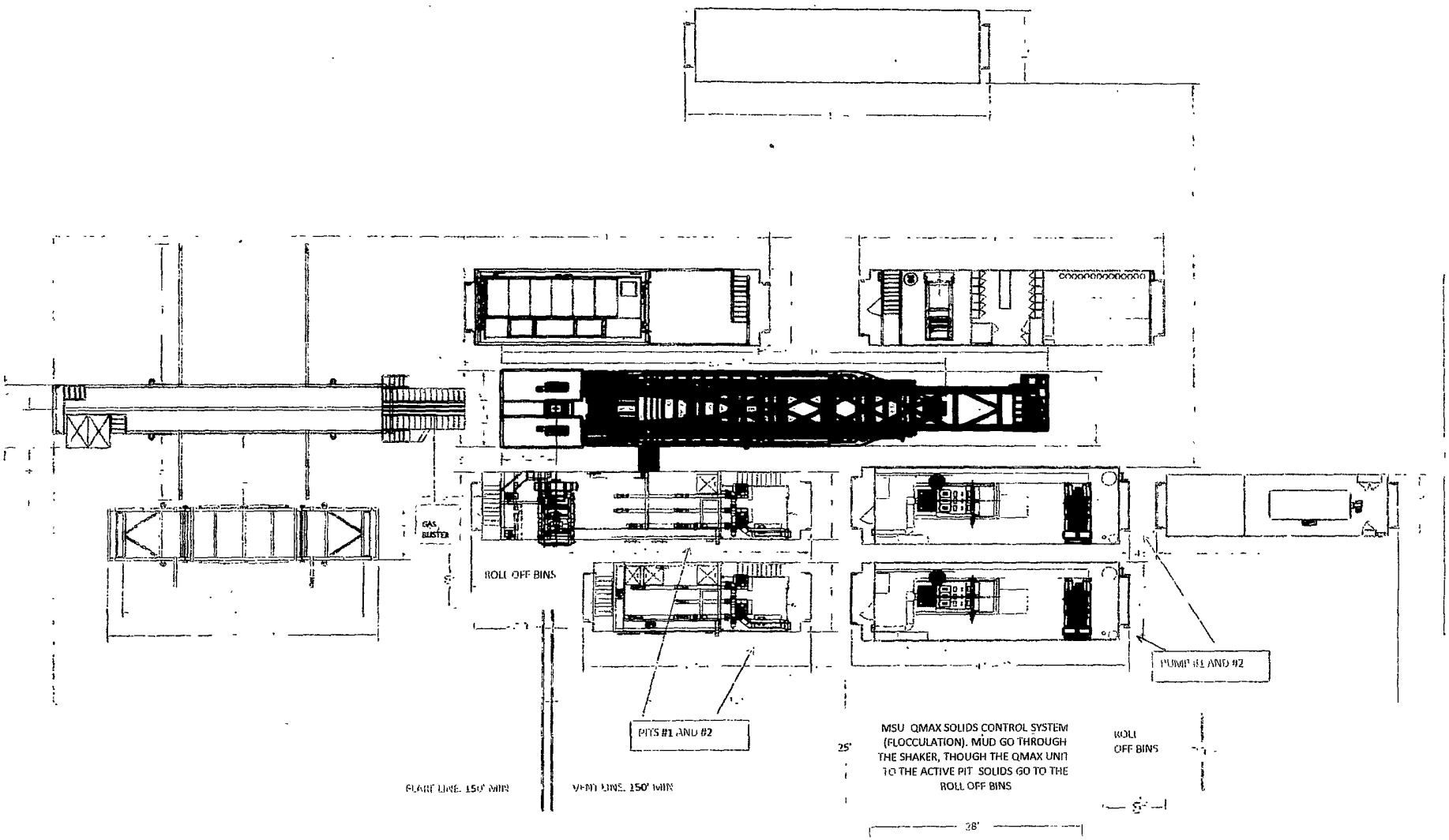
3M CHOKE MANIFOLD CONFIGURATION



3M REMOTE

KILL LINE SCHEMATIC




GAS BUSTER
ROLL OFF BINS
PITS #1 AND #2
PUMP #1 AND #2
MSU QMAX SOLIDS CONTROL SYSTEM (FLOCCULATION). MUD GO THROUGH THE SHAKER, THOUGH THE QMAX UNIT TO THE ACTIVE PIT SOLIDS GO TO THE ROLL OFF BINS
ROLL OFF BINS
25'
28'
FLARE LINE. 150' MIN
VENT LINE. 150' MIN

3-1/8" x 2-1/16" 3000# NACE TRIM SINGLE GUT CHOKE & KILL MANIFOLD SYSTEM

August-06

ITEM	I.D. NO.	DESCRIPTION
1	9053	2-1/16" 5000# BLIND FLANGE
2	AR0605004	2-1/16" 5000# STUDDED CROSS
3	AS0606009	2-1/16" 5000# CNV NACE TRIM GATE VALVE
4	9053	2-1/16" 5000# x 2" L.P. COMPANION FLANGE
5	Q7082	2-1/16" 3000# x 8.562" O.A.L. FLANGED SPACER SPOOL
6	AS0606003	2-1/16" 5000# CNV NACE TRIM GATE VALVE
7	A0445	3-1/8" x 3-1/8" x 2-1/16" x 2-1/16" 3000# STUDDED CROSS
8	AS0606119	3-1/8" 3000# CNV NACE TRIM GATE VALVE
9	F3323	3-1/8" 3000# x 3" L.P. COMPANION FLANGE
10	AS0606004	2-1/16" 5000# CNV NACE TRIM GATE VALVE
11	Q7082	2-1/16" 3000# x 3.312" O.A.L. SOLID SPACER SPOOL
12	AR0605007	2-1/16" 5000# STUDDED CROSS
13	AS0606005	2-1/16" 5000# CNV NACE TRIM GATE VALVE
14	9053	2-1/16" 5000# x 2" L.P. COMPANION FLANGE
15	9053	2-1/16" 5000# BLIND FLANGE
16	AS0606007	2-1/16" 5000# CNV NACE TRIM GATE VALVE
17	Q7082	2-1/16" 3000# x 7" O.A.L. DOUBLE STUDDED SPACER SPOOL
18	1091200-1-1130	2-1/16" 5000# CORTEC "CM-2" ADJUSTABLE CHOKE c/w 2 x 0.75" CERAMIC DISCS
19	AS0606006	2-1/16" 5000# CNV NACE TRIM GATE VALVE
20	A0441	3-1/8" x 3-1/8" x 2-1/16" x 2-1/16" x 2-1/16" 3000# 5- WAY STUDDED BLOCK
21	AS0606118	3-1/8" 3000# CNV NACE TRIM GATE VALVE
22	51209	3-1/8" 3000# x 10.5" O.A.L. FLANGED SPACER SPOOL
23	AS0606001	2-1/16" 5000# CNV NACE TRIM GATE VALVE
24	Q7082	2-1/16" 3000# x 4.733" O.A.L. SOLID SPACER SPOOL
25	1091200-1-1137	2-1/16" 5000# CORTEC "CM-2" ADJUSTABLE CHOKE c/w 2 x 0.75" CERAMIC DISCS
26	Q7082	2-1/16" 3000# x 7" O.A.L. DOUBLE STUDDED SPACER SPOOL
27	AS0606008	2-1/16" 5000# CNV NACE TRIM GATE VALVE
28	AS0606002	2-1/16" 5000# CNV NACE TRIM GATE VALVE
29	9053	2-1/16" 5000# x 2" L.P. COMPANION FLANGE

MANIFOLD

9727 47th Ave
Edmonton, AB T6E 5M7
780-437-2630

Certificate of Compliance

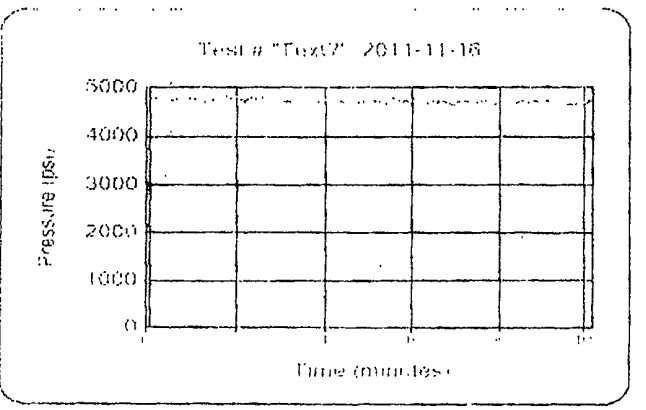
Date: 2011-12-01 Test#: Tested by: Dave Penner
Item Desc: REDL-SLIM-48x39IN-FIG1502
Asset #: 1642343-04
Chip ID: NOCHIPID Initial Location.
Owner: Commercial Solutions INC (103867) Site\2714 5 ST Witnessed by: Ben Ahlskog

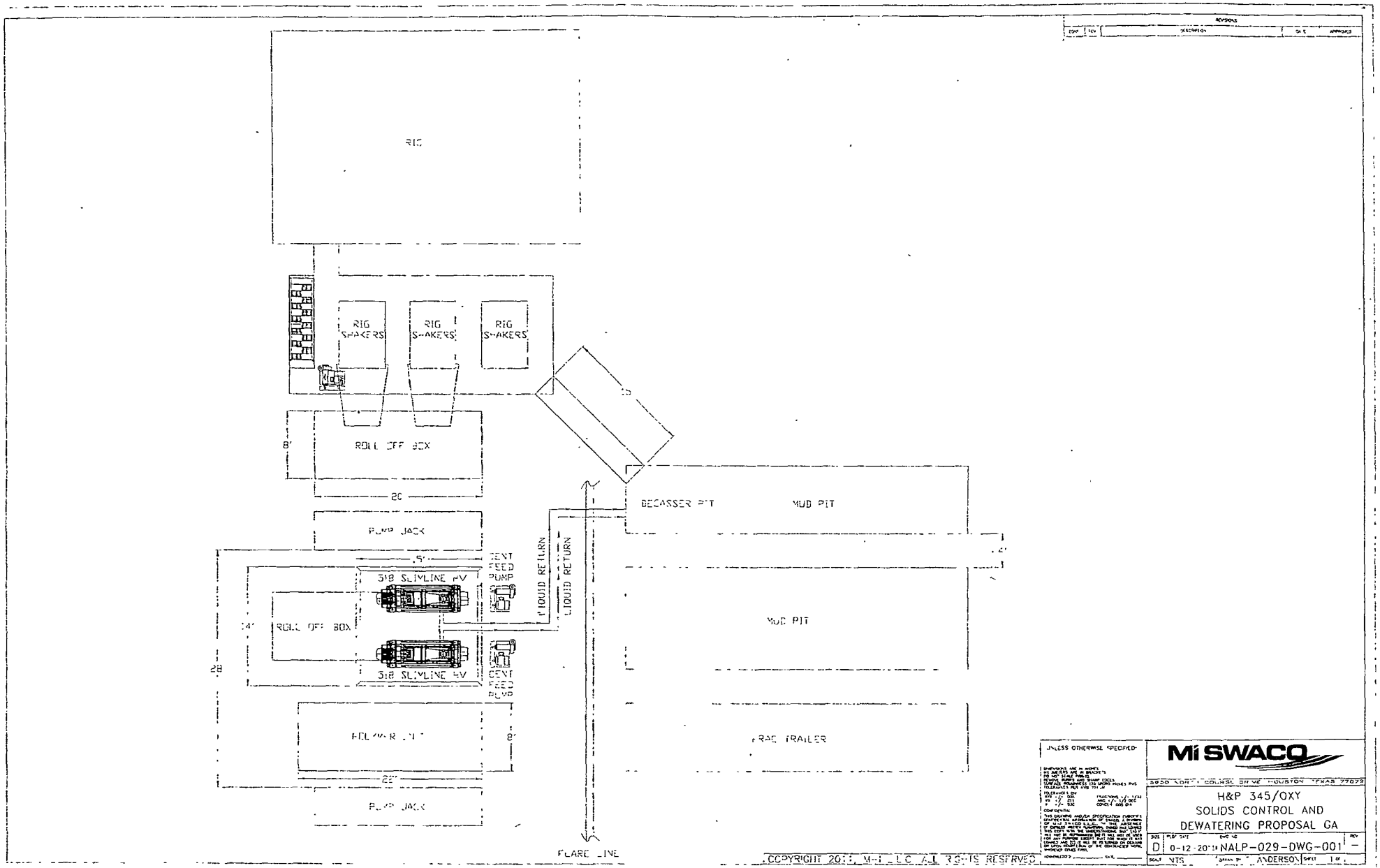
Item Attributes:

Serial Number	1642343-04
Manufacturer	HEBEI OUYA LTD.
Application Group	SLIMHOLE
Model	REDL-SLIMHOLE-3000-48
Date of Mfr	
Date Installed	2011-12-01
Locn Desc	
Inside Dia.	3 IN
Length	39 IN
Working Pressure	3000 PSI
Test Pressure	4500 PSI
Coupling A	948HX+48B/FIG1502-HU-48
Attach Method A	Swaged
Coupling A Model	GEORGE MYER/KEMPER REBUILT
Coupling B	948HX+48B/FIG1502-HU-48
Attach Method B	Swaged
Coupling B Model	GEORGE MYER/KEMPER REBUILT
Distributor Ref #	1642343-04
Factory Ref #	
EndUser Ref #	
Notes	BUILT ON PO: JON

Default Hose Certification

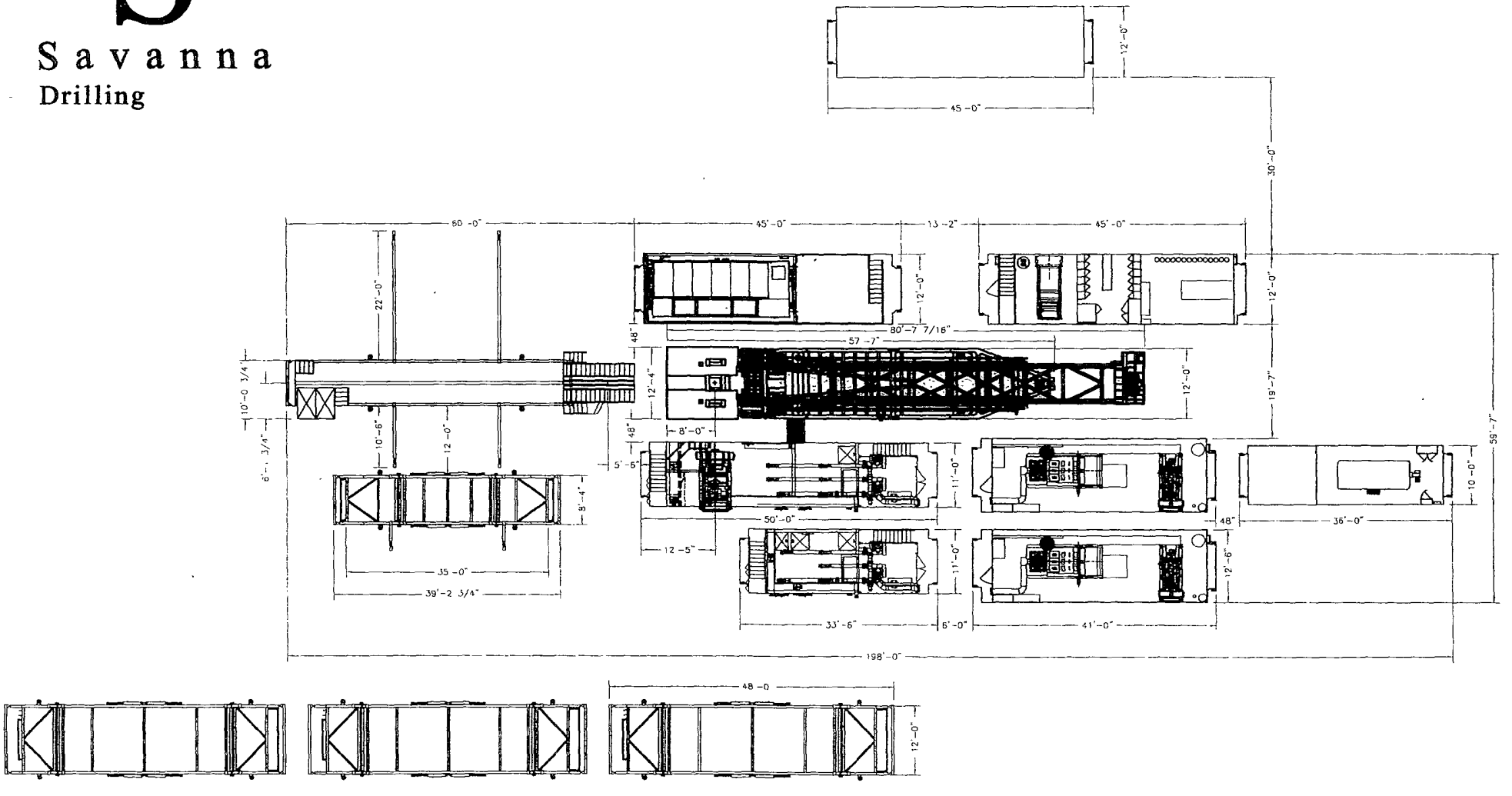
Test Notes	Hose passed all visual and physical inspections.
Continuity Test Results	N/A
Continuity Ohm Reading	
Certification Result	PASS
Generate Alert?	
Comments	
TimeStamp	2011-12-01 12:54:14 -07:00





Savanna
Drilling

TDS3000



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.

	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.

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

Concentration			Physical effects
Percent (%)	Ppm	Grains 100 std. Ft3*	
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

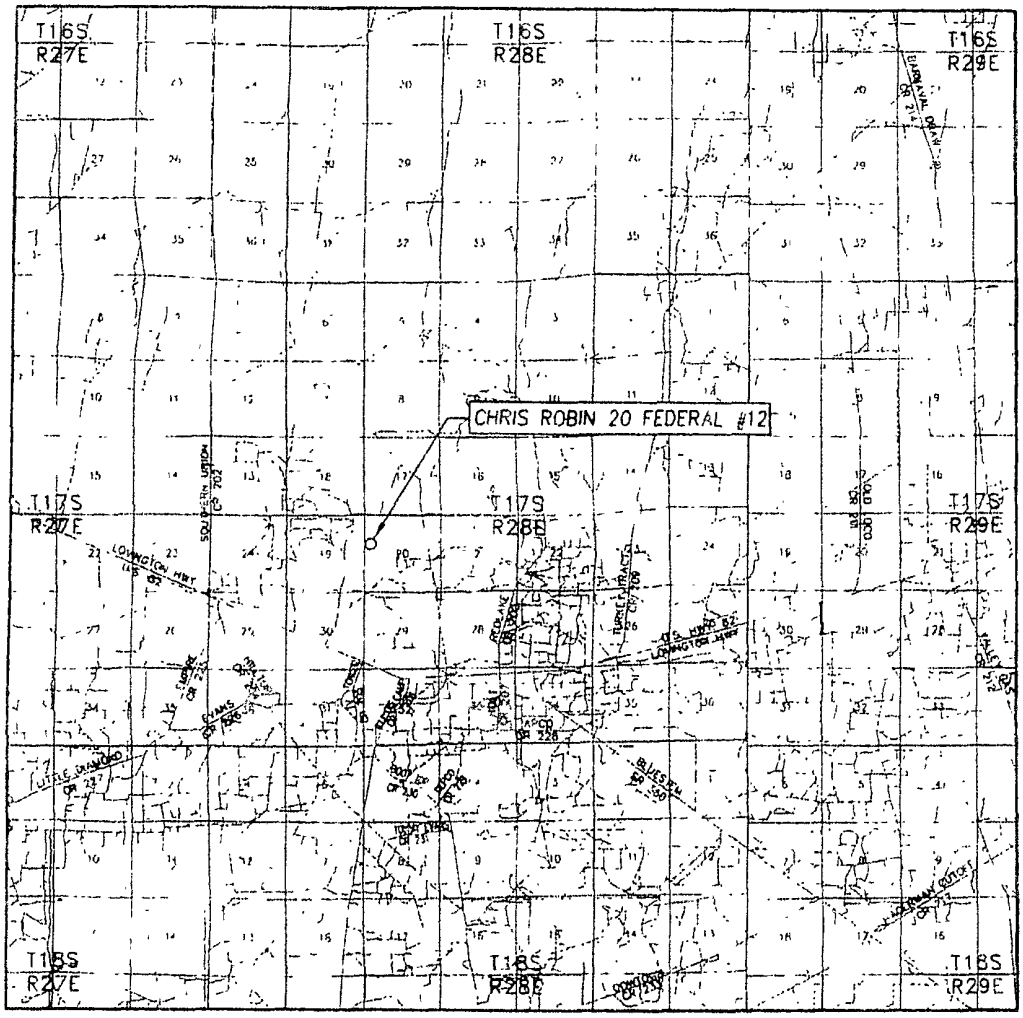
Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Chris Robin 20 Federal #12

Open drill site. Satellite picture from 1 mile radius map shows some details. 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 Northeast side of the location. Personnel need to move to a safe distance and block the entrance to location

VICINITY MAP



SCALE. 1" = 2 MILES

SEC 20 TWP 17-S RGE 28-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FNL & 430 FWL

ELEVATION 3613'

OPERATOR OXY U.S.A. INC

LEASE CHRIS ROBIN 20 FEDERAL

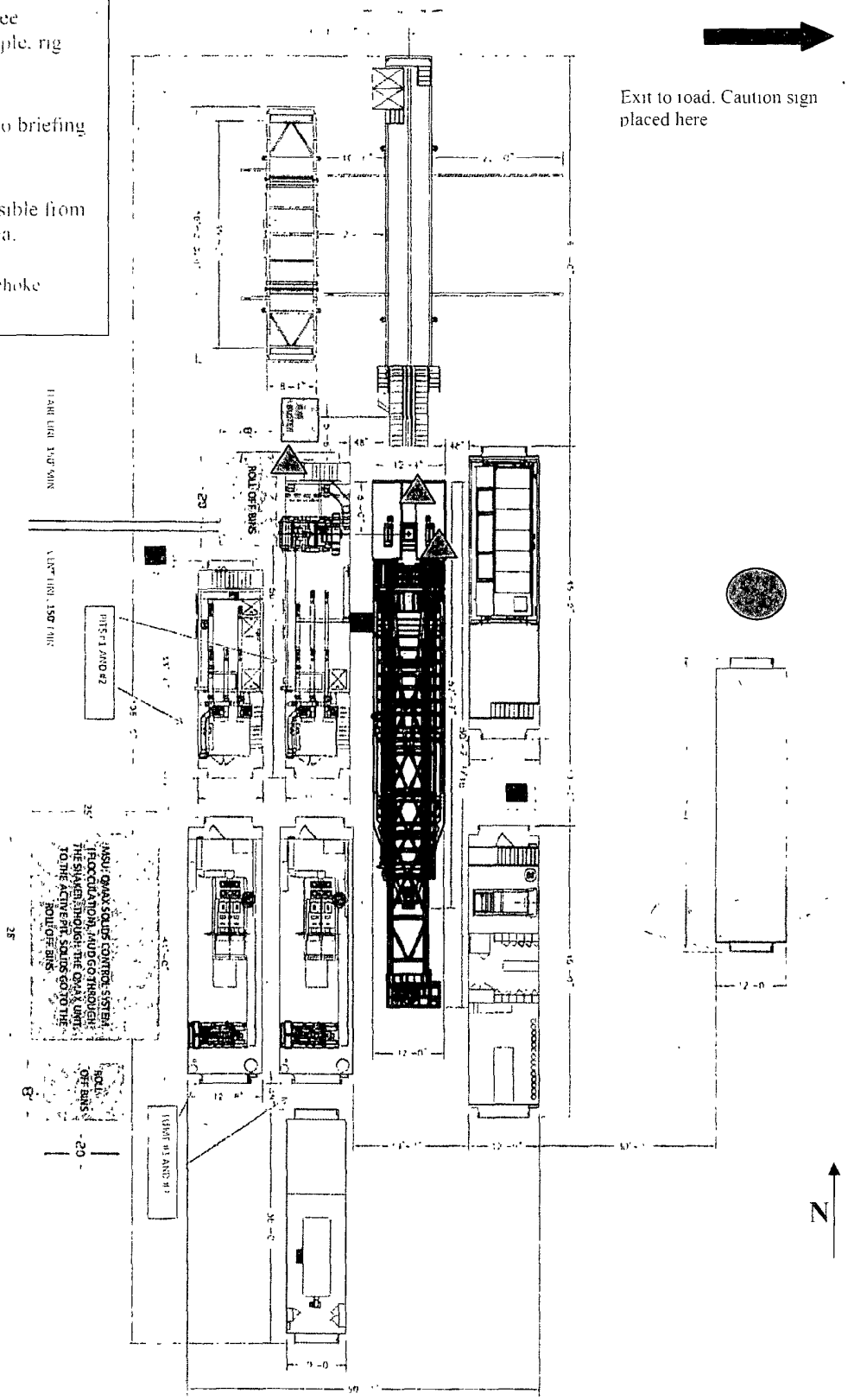
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

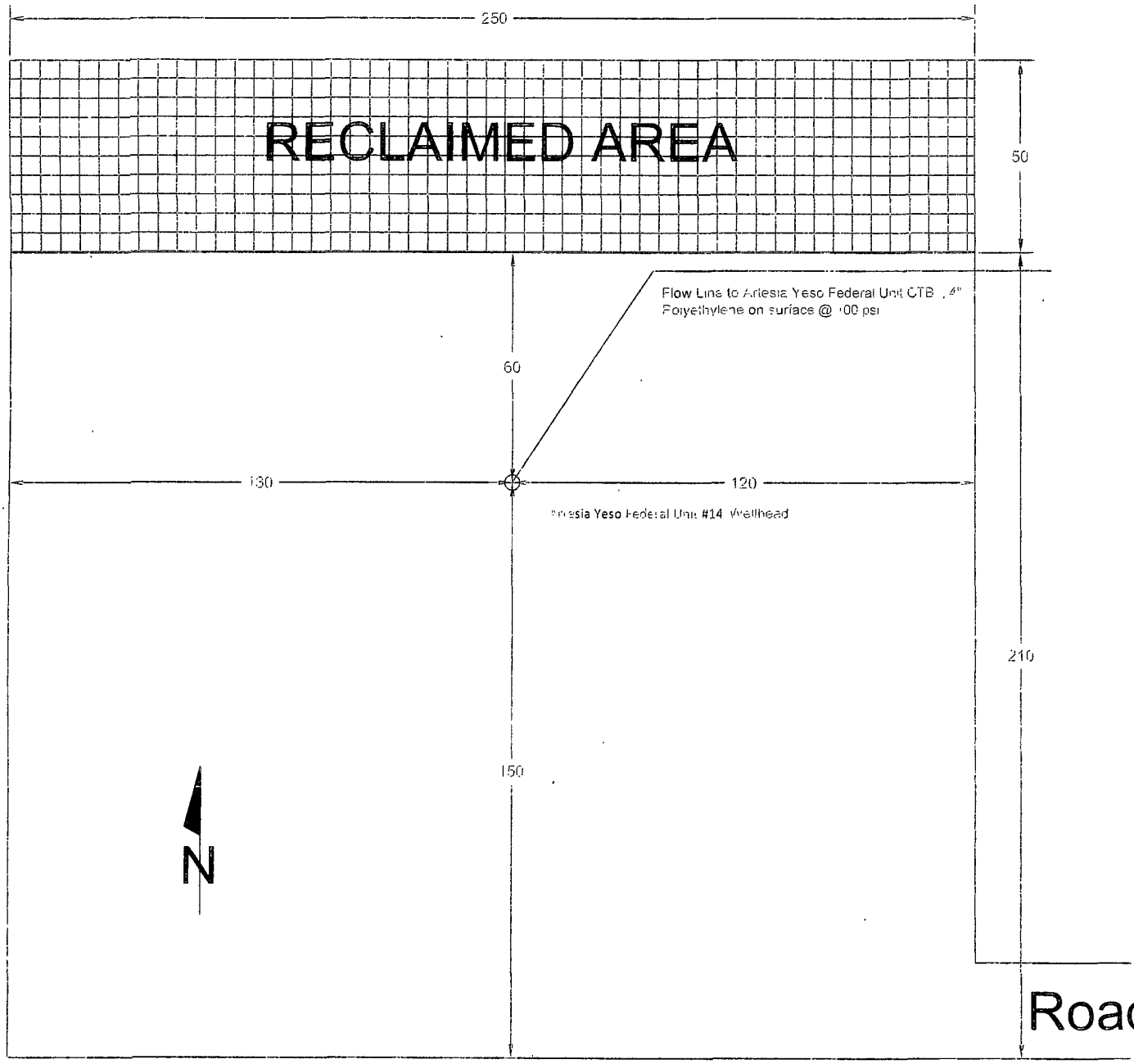
H2S Detectors. At least three detectors will be installed bell nipple, rig floor and Shakers

(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



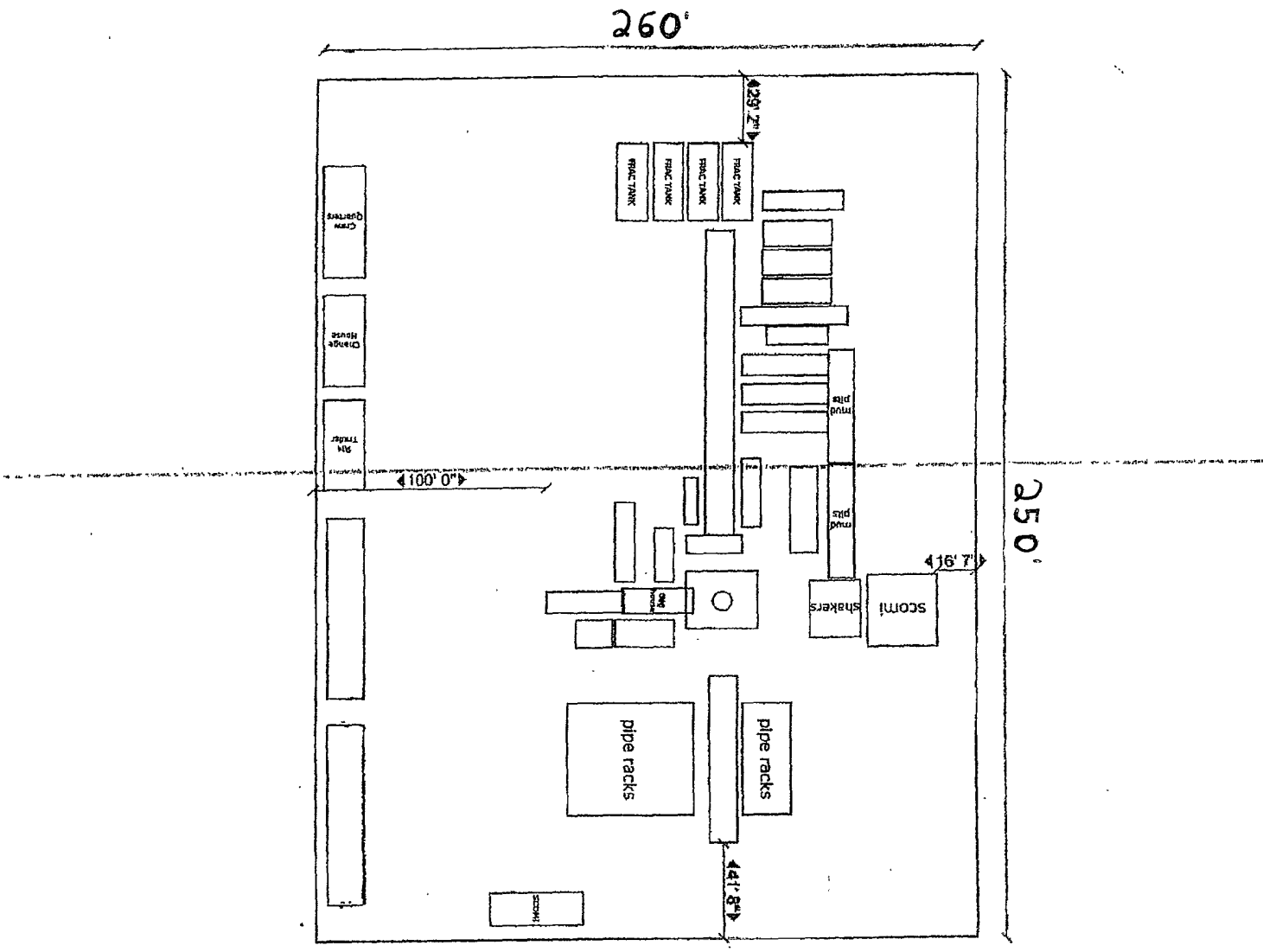


Artesia Yeso Federal Unit #14 Facilities Layout

All Units in Feet

50

RL-C-4


260'
250'
129' 2"
FRAC TANK
FRAC TANK
FRAC TANK
FRAC TANK
Crew quarters
Change House
Mtr Trailer
100' 0"
mud pits
mud pits
16' 7"
Shakers
scomi
pipe racks
pipe racks
44' 8"

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA WPT, LP
LEASE NO.:	NMLC048479B
WELL NAME & NO.:	12-CHRIS ROBIN 20 FEDERAL
SURFACE HOLE FOOTAGE:	1980'/N. & 430'/E.
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 20, T. 17 S., R. 28 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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