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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 August 1, 2011  
Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-015-70940</b>	Pool Code <b>966010</b>	Pool Name <b>Empire, Glorieta-Yesa, East</b>
Property Code <b>309604</b>	Property Name <b>TIGGER "9" STATE</b>	Well Number <b>9</b>
OGRID No. <b>192463</b>	Operator Name <b>OXY USA WTP LP</b>	Elevation <b>3564.7'</b>

**Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	9	17 SOUTH	29 EAST, N.M.P.M.		420'	SOUTH	620'	EAST	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 <b>40</b>	Joint or Infill	Consolidation Code	Order No.
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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.

	<p><b>OPERATOR CERTIFICATION</b></p> <p>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.</p> <p><i>Jennifer Duarte</i> 1-3-13 Signature Date Jennifer Duarte Printed Name jennifer.duarte@oxy.com E-mail Address</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted by 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.</p> <p>15079 AUGUST 10, 2012 Date of Survey</p> <p>Signature and Seal of Professional Surveyor <i>Terry J. Paul</i> 8/24/2012 Certificate Number 15079</p> <p>WO# 120810WL-d (KA)</p>

## APD DATA – DRILLING PLAN –

OPERATOR NAME / NUMBER: OXY USA WTP LP

16696

LEASE NAME / NUMBER: Tigger 9 State #9

STATE: NM

COUNTY: Eddy

SURFACE LOCATION: 420' FSL & 620' FEL, Lot P, Sec 9, T17S, R29E

C-102 PLAT APPROX GR ELEV: 3565'

EST KB ELEV: 3579' (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	380	Fresh Water
Yates	882	-
Queen	1736	-
Grayburg	2165	Oil
San Andres	2438	Oil/Water
Glorietta	3887	Oil
Paddock	3951	Oil
Blinberry	4351	Oil
Tubb – Base of Yeso	5368	Oil
<b>TD</b>	<b>5300</b>	<b>TD</b>

A. Fresh Water formation is outcropping and will be covered with the 16" conductor pipe, which will be set at 80' prior to spud.

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

**3. CASING PROGRAM (All casing is in NEW condition)**

Surface Casing: 11 3/4" casing set at ± 450' MD/ 450' TVD in a 14 3/4" hole filled with 8.40 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0' - 450'	450'	42	H-40	ST&C	1070	1980	307	11.084	10.928	7.06	5.34	18.64

Intermediate Casing: 8 5/8" casing set at ± 1100' MD / 1100' TVD in a 10 5/8" hole filled with 9.6 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0' - 1100'	1100'	32	J-55	LT&C	2530	3930	417	7.921	7.875 SD	5.76	1.86	13.88

Production Casing: 5.5" casing set at  $\pm 5300'$  MD / 5300' TVD in a 7 7/8" hole filled with 9.6 ppg mud

Interval	Length	Wt	Gr	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	J-55	LT&C	4910	5320	247	4.892	4.767	1.86	2.51	3.21

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

#### 4. CEMENT PROGRAM:

##### Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft <sup>3</sup> /sk	24 Hr Comp
<b>Surface (TOC: 0' - 450')</b>							
<b>Lead:</b> 0' - 450' (210% Excess)	450	450'	Premium Plus Cement: 2% Calcium Chloride	6.39	14.80	1.35	1726 psi

##### Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft <sup>3</sup> /sk	24 Hr Comp
<b>Intermediate (TOC: 0' - 1100')</b>							
<b>Lead:</b> 0' - 614' (150 % Excess)	110	614'	Halliburton Light Premium Plus: 5 lbm/sk Salt, 2% Econolite	11.7	12.5	2.10	715 psi
<b>Tail:</b> 614' - 1100' 150 % Excess)	200	486	Premium Plus: 2% Calcium Chloride	6.39	14.8	1.35	2500 psi

##### Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft <sup>3</sup> /sk	24 Hr Comp
<b>Production (TOC: 0' - 5300')</b>							
<b>Lead:</b> 0' - 3000' (150 % Excess)	560	3000	Halliburton Light Premium Plus: 5% Salt	10.11	12.9	1.87	530 psi
<b>Tail:</b> 3000' - 5300' 150 % Excess)	860	2500	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

**Description of cement additives:** Calcium Chloride (Accelerator), Econolite (Light Weight Additive), Halad (R)-322 ( Low Fluid Loss Control), Poly-E-Flake (Lost Circulation Additive)

#### 5. PRESSURE CONTROL EQUIPMENT

**Surface: 0' - 450'** None.

**Intermediate: 0' - 1100'** 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.

- a. The 11" 3000 psi blowout prevention equipment will be installed and operational after setting the 11 3/4" surface casing and the 11 3/4" SOW x 13 5/8" 3K conventional wellhead.
- b. The BOP and ancillary BOPE will be tested by a third party upon installation to the 11 3/4" H-40 42 ppf surface casing. All equipment will be tested to 250/1386 psi for 10 minutes (70% of surface casing burst).
- 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.
- d. 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

- e. See attached BOP & Choke manifold diagrams.

**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.

- f. The 11" 3000 psi blowout prevention equipment will be installed and operational after setting the 8 5/8" surface casing and the 13 5/8" X 11" 3K section B wellhead.
- g. The BOP and ancillary BOPE will be tested by a third party upon installation to the 8 5/8" 32# J-55 surface casing. All equipment will be tested to 250/3000 psi for 10 minutes and charted, except the annular, which will be tested to 70% of working pressure.
- h. 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.
- i. See attached BOP & Choke manifold diagrams.

#### 6. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0 - 450'	8.4 - 8.9	32 - 34	NC	Fresh Water /Spud Mud
450' - 1100'	9.6 - 10.0	28 - 40	NC	Brine Water
1100' - 5300'	9.6 - 10.0	28 - 40	10-20	Fresh Water /Spud Mud

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:**

- A. Mud Logger: From depth of 2000' to TD.
- 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 **2645 psi**.
- C. No abnormal temperatures or pressures are anticipated. The highest anticipated pressure gradient is 0.5 psi. 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.

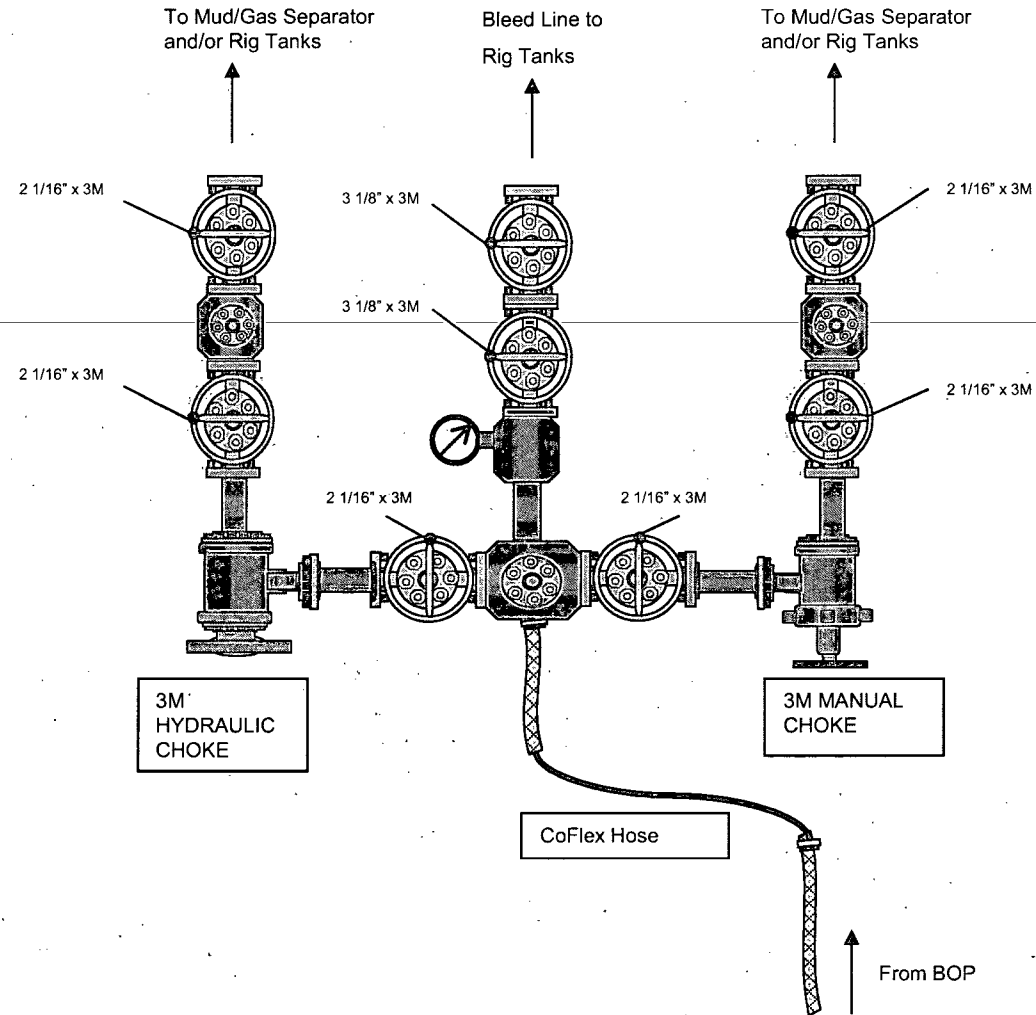
## **10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS**

Road and location construction will begin after the NMOCD has approved the APD. Anticipated spud date will be as soon as possible after NMOCD 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.

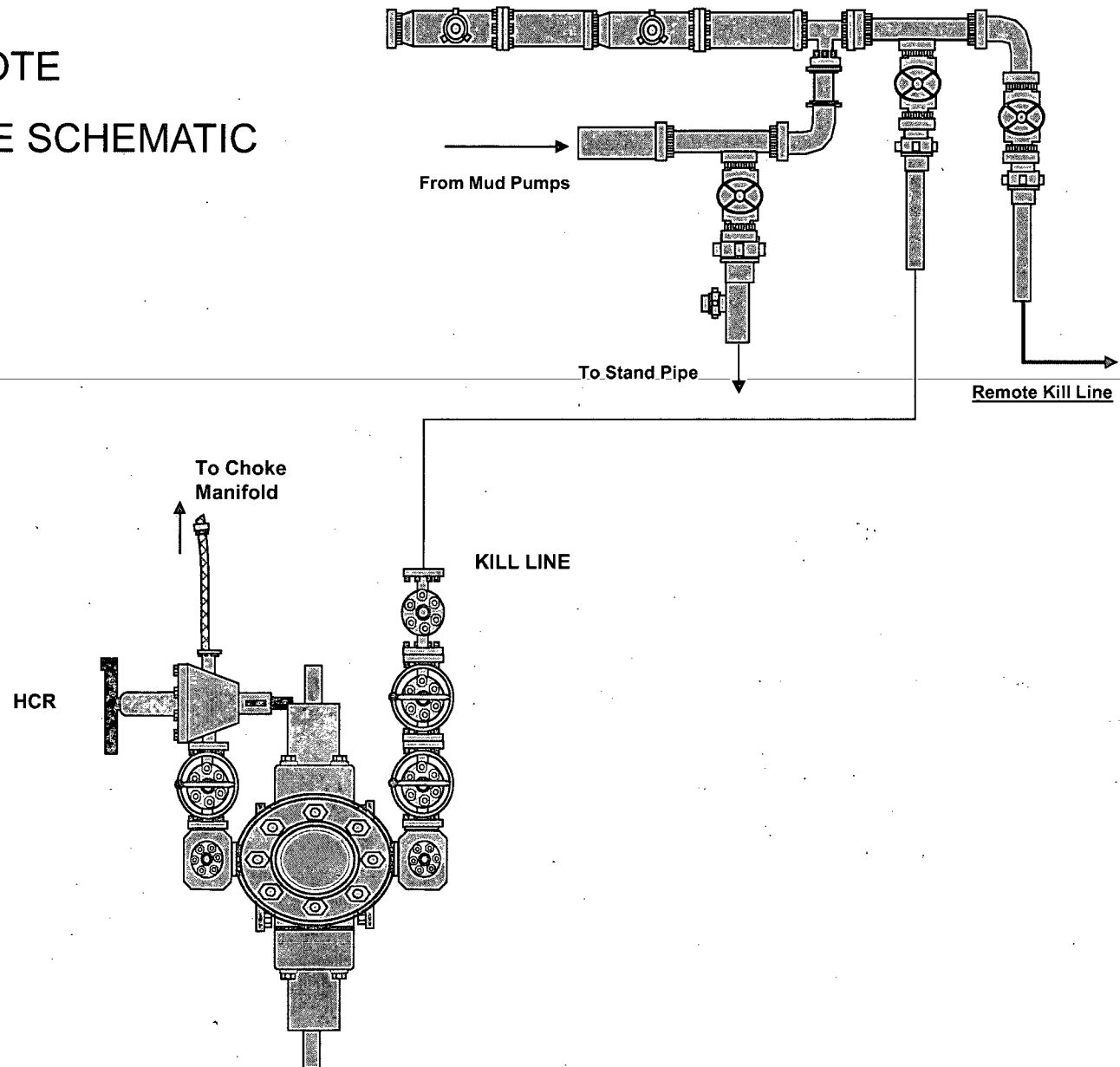
## **11. COMPANY PERSONNEL:**

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>
Anthony Tschacher	Drilling Engineer	713-985-6949
Sebastian Millan	Drilling Engineer Supervisor	713-350-4950
Roger Allen	Drilling Superintendent	713-215-7617
Douglas Chester	Drilling Manager	713-366-5194

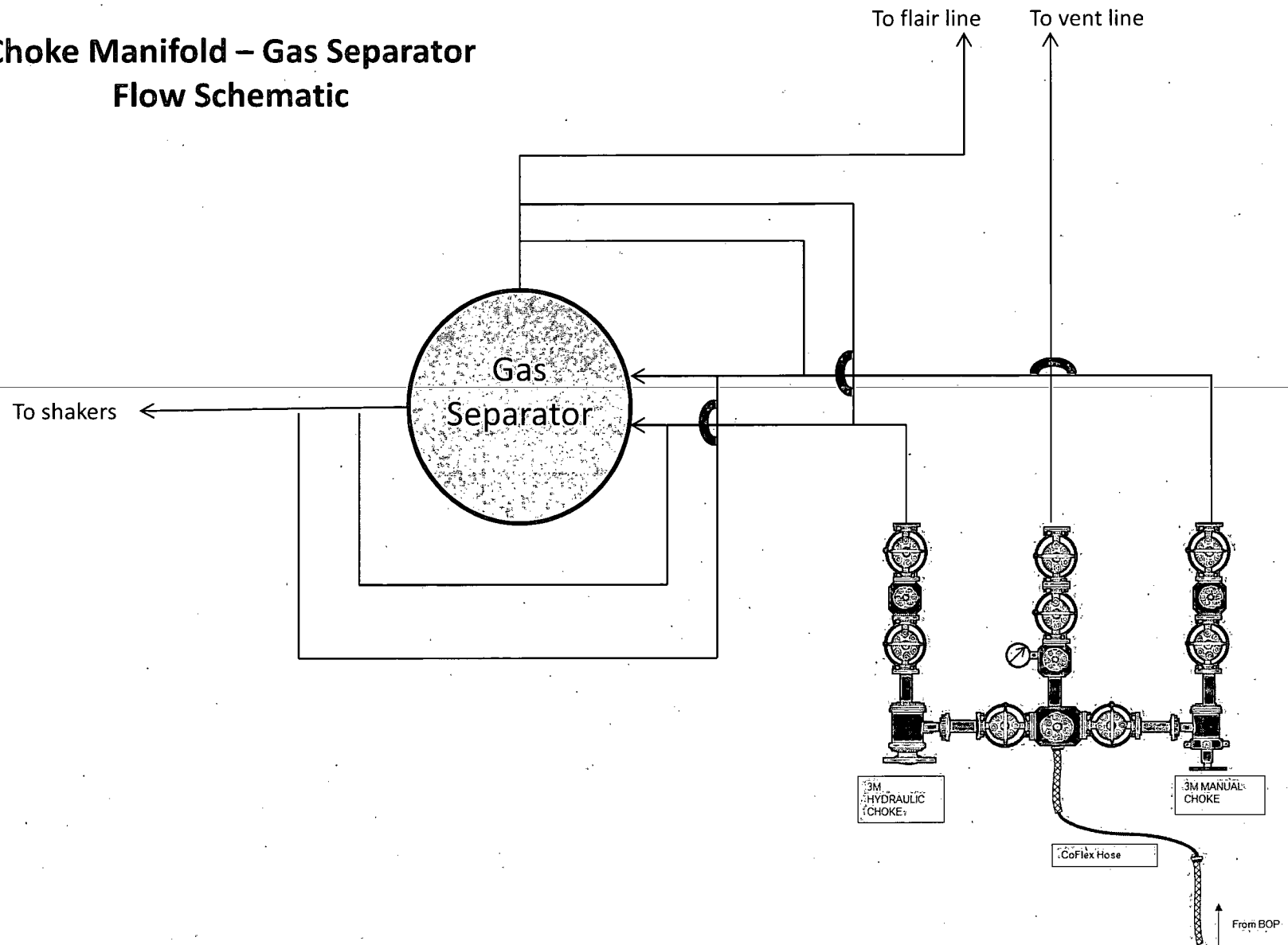
## 3M CHOKE MANIFOLD CONFIGURATION



# 3M REMOTE KILL LINE SCHEMATIC



# Choke Manifold – Gas Separator Flow Schematic





MANIFOLD

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

## Certificate of Compliance

Date: 2011-12-01  
Item Desc: REDL-SLIM-48x39IN-FIG1502  
Asset #: 1642343-04  
Chip ID: NOCHIPID  
Owner: Commercial Solutions INC (103867)

Test#:  
Initial Location:  
Site: 2714 S ST

Tested by: Dave Penner

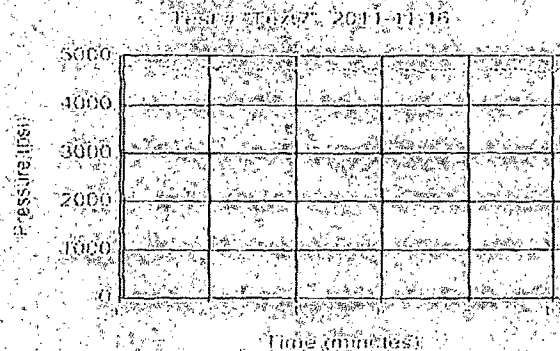
Witnessed by: Ben Ahlskog

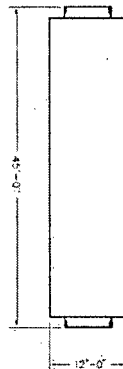
### Item Attributes:

Serial Number	1642343-04
Manufacturer	HEBEI GUYA 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 #	
End User 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





# BOP Diagram

