

District I  
625 N. French Dr., Hobbs, NM 88240  
District II  
301 W. Grand Avenue, Artesia, NM 88210  
District III  
000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources  
**HOBBS OCD**

Form C-101  
June 16, 2008

Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

Submit to appropriate District Office

**RECEIVED**

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN,  
PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address Occidental Permian Ltd. P.O. Box 4294, Houston, TX 77210-4294		<sup>2</sup> OGRID Number 157984
<sup>4</sup> Property Code 19520	<sup>5</sup> Property Name North Hobbs G/SA Unit	<sup>3</sup> API Number 30- 025- 42490
<sup>9</sup> Proposed Pool 1 Hobbs; Grayburg - San Andres (31920)		<sup>6</sup> Well No. 954
<sup>10</sup> Proposed Pool 2		

**Surface Location**

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
N	18	18-S	38-E		826	South	2282	West	Lea

**Proposed 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
K	18	18-S	38-E		2214	South	2057	West	Lea

**Additional Well Location**

<sup>11</sup> Work Type Code N	<sup>12</sup> Well Type Code O	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type Code P	<sup>15</sup> Ground Level Elevation 3661.2'
<sup>16</sup> Multiple No	<sup>17</sup> Proposed Depth 4700' TVD/5100' MD	<sup>18</sup> Formation San Andres	<sup>19</sup> Contractor H&P 340	<sup>20</sup> Spud Date August, 2015

**Proposed Casing and Cement Program**

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4	9-5/8	36	1650	630	Surface
8-3/4	7	26	5100	850	Surface

<sup>2</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

See Attached

**E-PERMITTING - - New Well**  
Comp \_\_\_\_\_ P&A \_\_\_\_\_ TA \_\_\_\_\_  
CSNG \_\_\_\_\_ Loc Chng \_\_\_\_\_  
ReComp \_\_\_\_\_ Add New Well \_\_\_\_\_  
Cancel Well \_\_\_\_\_ Create Pool \_\_\_\_\_

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: Mark Stephens

Printed name: Mark Stephens

Title: Regulatory Compliance Analyst

E-mail Address: Mark.Stephens@oxy.com

Date: 3/24/15

Phone: (713) 366-5158

OIL CONSERVATION DIVISION	
Approved by: <u>[Signature]</u>	
Title: Petroleum Engineer	
Approval Date: 07/26/15	Expiration Date: 07/26/17
Conditions of Approval Attached <input checked="" type="checkbox"/>	

**See Attached**

**MAR 31 2015** **Conditions of Approval**

# APD DATA – DRILLING PLAN

**OPERATOR NAME / NUMBER:** OXY USA WTP LP

**LEASE NAME / NUMBER:** North Hobbs G/SA Unit #954

**STATE:** NM                      **COUNTY:** Lea

**SURFACE LOCATION:**                      826' FSL & 2282' FWL, Sec 18, T18S, R38E

**SL:**        **Lat:**        32.7423752°N        **LONG:**    103.1883327°W  
              **X:**            852064.43                **Y:**            635689.87                      New Mexico East NAD 1927

**BOTTOM HOLE LOCATION:**    2214' FSL & 2057' FWL, Sec 18, T18S, R38E

**BHL:**        **Lat:**        32.7461911°N        **LONG:**    103.1890665°W  
              **X:**            851823.78                **Y:**            637075.75                      New Mexico East NAD 1927

**C-102 PLAT APPROX GR ELEV:** 3661.2'

**EST KB ELEV:** 3677.7' (16.5' 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
Base Red Beds	228	Fresh Water
Rustler	1538	Formation Fluid
Top of Salt	1638	Formation Fluid
Base of Salt	2698	Formation Fluid
Queen	3453	Formation Fluid
Grayburg	3788	Formation Fluid
Basal Grayburg	3968	Formation Fluid
San Andres	4073	Hydrocarbon
TD	4700	TD

\*Note: Depths are below GL.

A. Fresh Water formations will be covered with the 16" conductor pipe, which will be set at 53' prior to spud.

**GREATEST PROJECTED TD** 5100' MD / 4700' TVD

**OBJECTIVE:** San Andres

## 3. CASING PROGRAM

Surface Casing: 9.625" 36# J55 LTC casing set at ± 1650' MD/ 1650' TVD in a 12.25" hole filled with 9.5 ppg mud

Production Casing: 7" 26# J55 LTC casing set at ± 5100' MD/ 4700' TVD in a 8.75" hole filled with 10.5 ppg mud

String	OD (in)	ID (in)	Coupling OD (in)	Drift (in)	Weight (#/ft)	Grade	CXN	Burst (psi)	Collapse (psi)	Tension (k-lbs)	Torque (ft-lbs)		
											Minimum	Optimum	Maximum
Conductor	16	15.25	17	14.5	65	H40	Weld	1640	670	736	4390	4390	4390
Surface	9.625	8.921	10.625	8.765	36	J55	LTC	3520	2020	564	3400	4530	5660
Production	7	6.276	7.656	6.151	26	J55	LTC	4980	4320	415	2750	3670	4590

#### 4. CEMENT PROGRAM:

##### Surface Interval

Interval	Amount sks	Ft of Fill	Type	Gal/Sk	PPG	Ft <sup>3</sup> /sk	24 Hr Comp
<b>Surface (TOC: 0' – 1574')</b>							
<b>Lead:</b> <b>0' – 1177'</b> 100% Excess	430	1177	Premium Plus Cement: 94 lbm/sk Premium Plus Cement 4 % Bentonite (Light Weight Additive) 1 % Calcium Chloride - Flake(Accelerator) 0.125 lbm/sk Poly-E-Flake (LC Additive)	9.11	13.5	1.73	824 psi
<b>Tail:</b> <b>1177' – 1574'</b> 100% Excess	200	397	Premium Plus Cement: 94 lbm/sk Premium Plus Cement, 1 % Calcium Chloride - Flake	6.36	14.8	1.34	1926 psi

##### Production Interval

Interval	Amount sks	Ft of Fill	Type	Gal/Sk	PPG	Ft <sup>3</sup> /sk	24 Hr Comp
<b>Production (TOC: 0' - 4936')</b>							
<b>Stage 1</b> <b>Primary:</b> <b>4014'-4936'</b> 85% Excess	250	922	Poz Premium Plus Cement 50/50 Poz Premium Plus Cement 0.6 lbm/sk LAP-1 (LC Additive) 0.3 lbm/sk CFR-3 (Dispersant) 0.25 lbm/sk D-AIR 3000 (Defoamer) 0.125 lbm/sk Poly-E-Flake (LC Additive)	4.69	14.8	1.123	1181 psi
<b>Stage 2</b> <b>Lead:</b> <b>0' – 1574'</b> 10 % Excess <b>1574' – 2903'</b> 200 % Excess	380	2903	Interfill C 0.125 lbm/sk Poly-E-Flake (LC.) 0.5 % Halad(R)-322 (LC Additive) 0.5 lbm/sk D-AIR 5000 (Defoamer)	13.4	11.9	2.394	249 psi
<b>Stage 2</b> <b>Tail:</b> <b>2903'-4014'</b> 100 % Excess	220	1111	Premium Plus Cement 94 lbm/sk Premium Plus Cement 0.2 % WellLife 734 (Cement Enhancer) 5 lbm/sk Microbond (Expander) 0.3 % Econolite (Light Weight Additive) 0.3 % CFR-3 (Dispersant)	7.7	14.20	1.547	1186 psi

## 5. PRESSURE CONTROL EQUIPMENT

**Surface: 0 – 1650'** None.

**Production: 1650' - 5100'** 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).

Casing Size (in.)	Wellhead Flange		BOP Stack			Pressure Test (psi)			
	Size (in.)	Pressure (psi)	Type <sup>(1)</sup>	Size (in.)	Pressure (psi)	Initial		Subsequent	
						Rams	Ann	Rams	Ann
9 5/8"	11"	3000	R, R, A, G	11"	5000	250/1800	250/1800	250/1800	250/1800

- 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 wellhead. A modified Wellhead System with 7" Mandrel Hanger will be used.
- The BOP and auxiliary 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 250/1800 psi for 10.
- 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 attached BOP & Choke manifold diagrams.

## 6. MUD PROGRAM:

Depth (ft)	Mud Weight (ppg)	Viscosity (sec/qt)	Fluid Loss (cc's)	pH	Mud System
0 – 1500	8.4 – 9.5	28 – 30	N/C	<9.0	Freshwater / Sweeps
1500 – 1650	8.8 – 9.5	32 – 40	< 25	<9.0	FW – Native Mud
1600 – 3600	9.8 – 10.0	28 – 32	N/C	10.0 – 11.0	Brine Water / Sweeps
3600 – 5100	10.0 – 10.5	36 - 45	<8	10.5 – 11.0	Salt Gel / Starch

Remarks: Pump high viscosity sweeps as needed for hole cleaning. 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.

## 7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.
- 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 REGULATORY AGENCIES.

## 8. LOGGING / CORING AND TESTING PROGRAM:

- Mud Logger: None.
- DST's: None.
- Open Hole Logs as follows: May have triple combo for production section surface to TD. Spectral GR from B. Grayburg to TD.

## **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 MASP will be 1254psi and BOP test (MASP + 500) will be 1754psi
- 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.

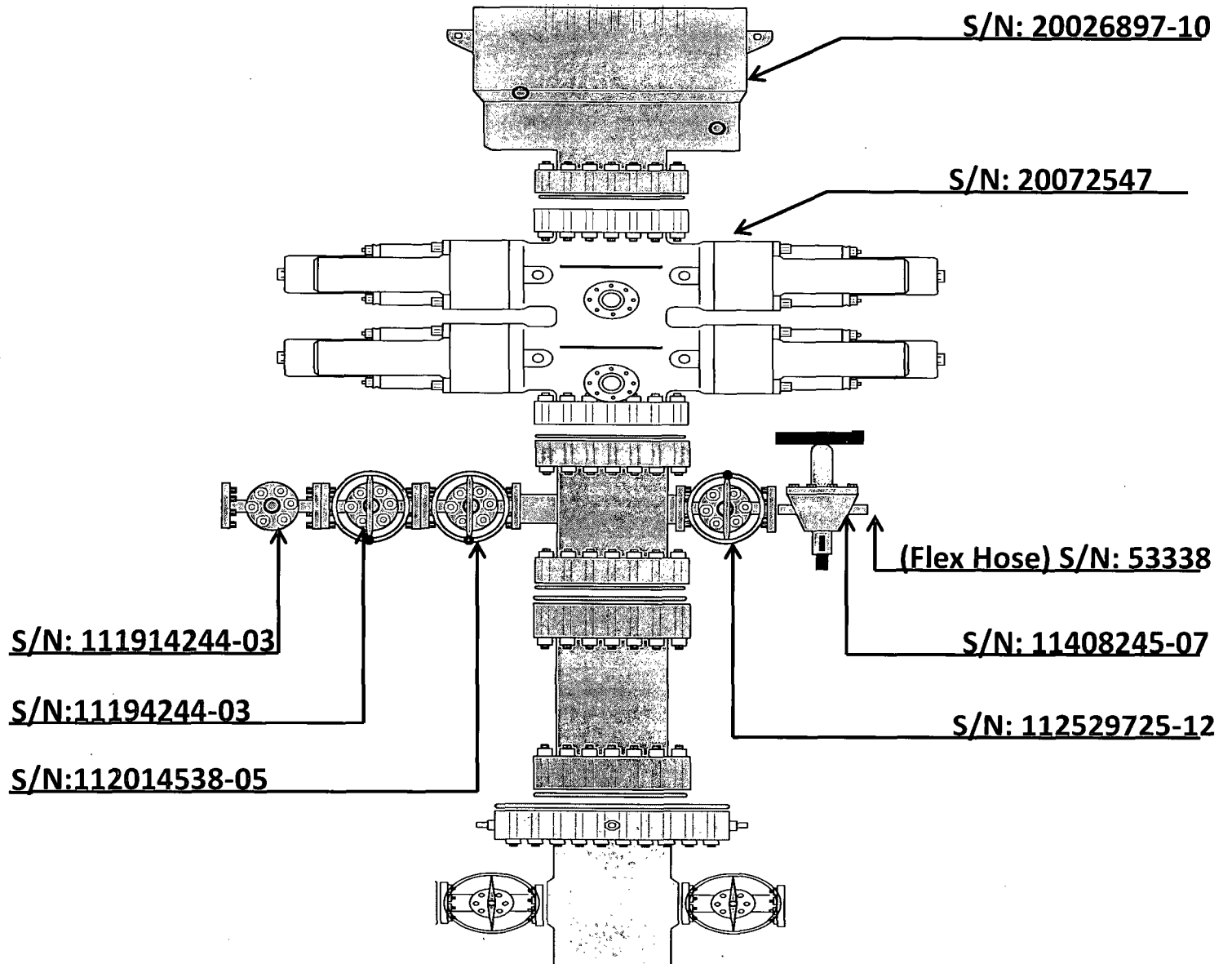
## **10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS**

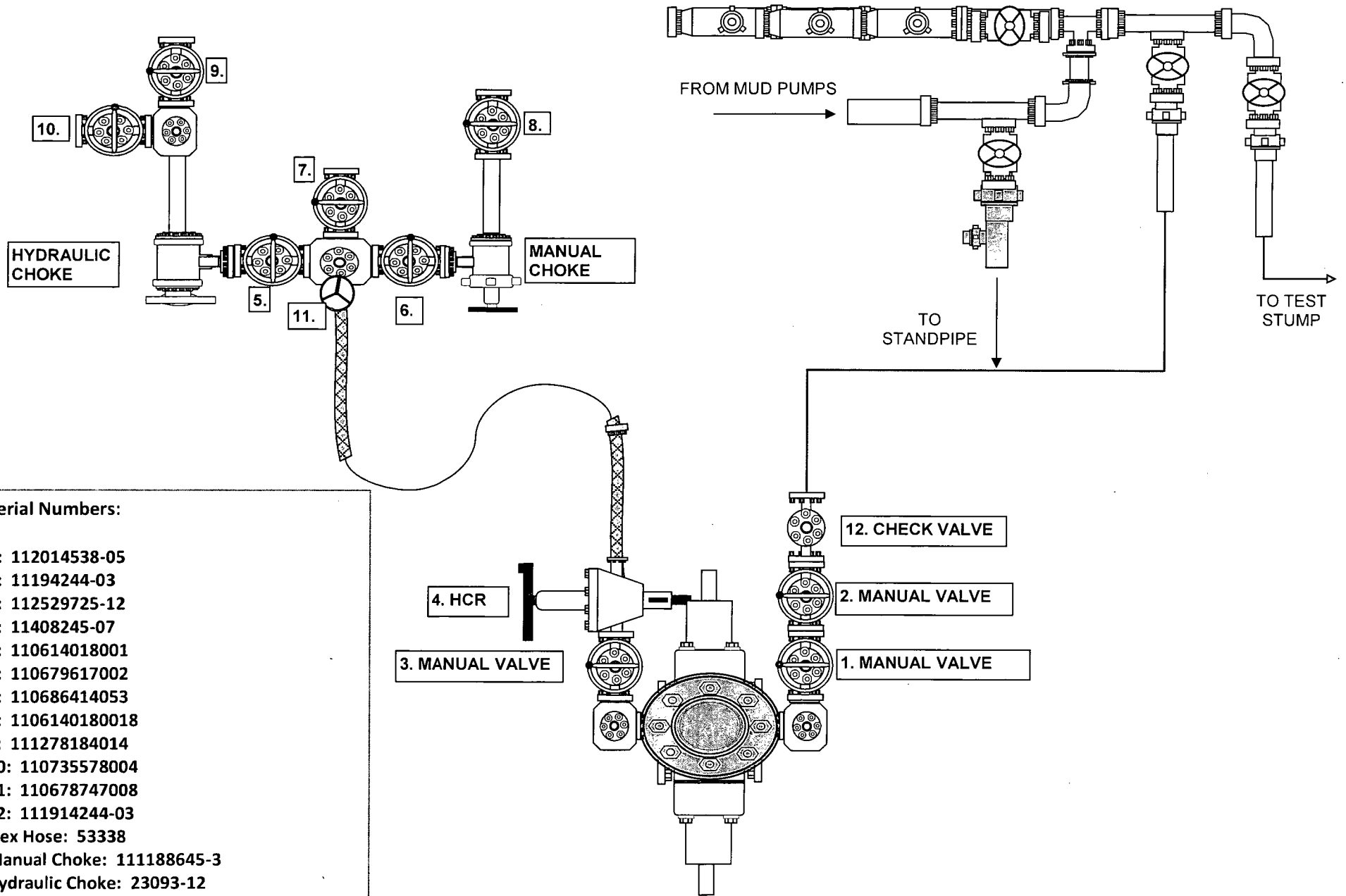
Road and location construction will begin after Oxy has submitted APD. Anticipated spud date will be as soon as possible after approval and as soon as a rig will be available. Move in operations and drilling is expected to take 10 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

## **11. COMPANY PERSONNEL:**

<b>Name</b>	<b>Title</b>	<b>Office Phone</b>
Edgar Diaz-Aguirre	Drilling Engineer	713-840-3037
Adriano Celli	Drilling Engineer Supervisor	713-985-6371
Kevin Videtich	Drilling Superintendent	713-350-4761
Chad Frazier	Drilling Manager	713-215-7357

# H&P 340 BOP Diagram





## Certificate of Conformance

S/N: 20072547-310

BOP ASSY, 11-5M, DBL, LXT, SXF  
W/(4) 3-5M FO

RIG
TBD
SALES ORDER NUMBER
824265
SALES ORDER LINE ITEM NUMBER
0012
CLIENT DOCUMENT NUMBER
PO #340-352-002
SERIAL NUMBER
20072547-310
DOCUMENT PART NUMBER
29010000

REFERENCE	REFERENCE DESCRIPTION	
S/N:20072547-310	BOP ASSY, 11-5M, DBL, LXT, SXF, W/(4) 3-5M FO	
<p>This document contains proprietary and confidential information which belongs to National Oilwell Varco; it is loaned for limited purposes only and remains the property of National Oilwell Varco. Reproduction, in whole or in part, or use of this design or distribution of this information to others is not permitted without the express written consent of National Oilwell Varco. This document is to be returned to National Oilwell Varco upon request and in any event upon completion of the use for which it was loaned. © National Oilwell Varco</p>		National Oilwell Varco 12950 W. Little York Houston, TX 77041 Phone 713-937-5000 Fax 713-849-6147
DOCUMENT NUMBER		REV
20072547-310-COC-001		01



**NATIONAL OILWELL VARCO**



Document number	20072547-310-COC-001
Revision	01

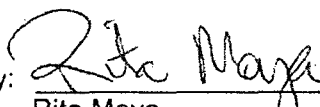
## NOV CERTIFICATE OF CONFORMANCE

Certificate of Conformance	
Equipment Name	BOP ASSY, 11-5M, DBL, LXT, SXF, W/ (4) 3-5M FO
Part Number	20072547
Serial Number	20072547-310
Customer	HELMERICH AND PAYNE INT'L DRILLING
Rig	TBD
Customer Purchase Order	340-352-002
NOV Sales Order	824265
Date of Manufacturing	JUNE 2010
Quantity	1 (ONE)

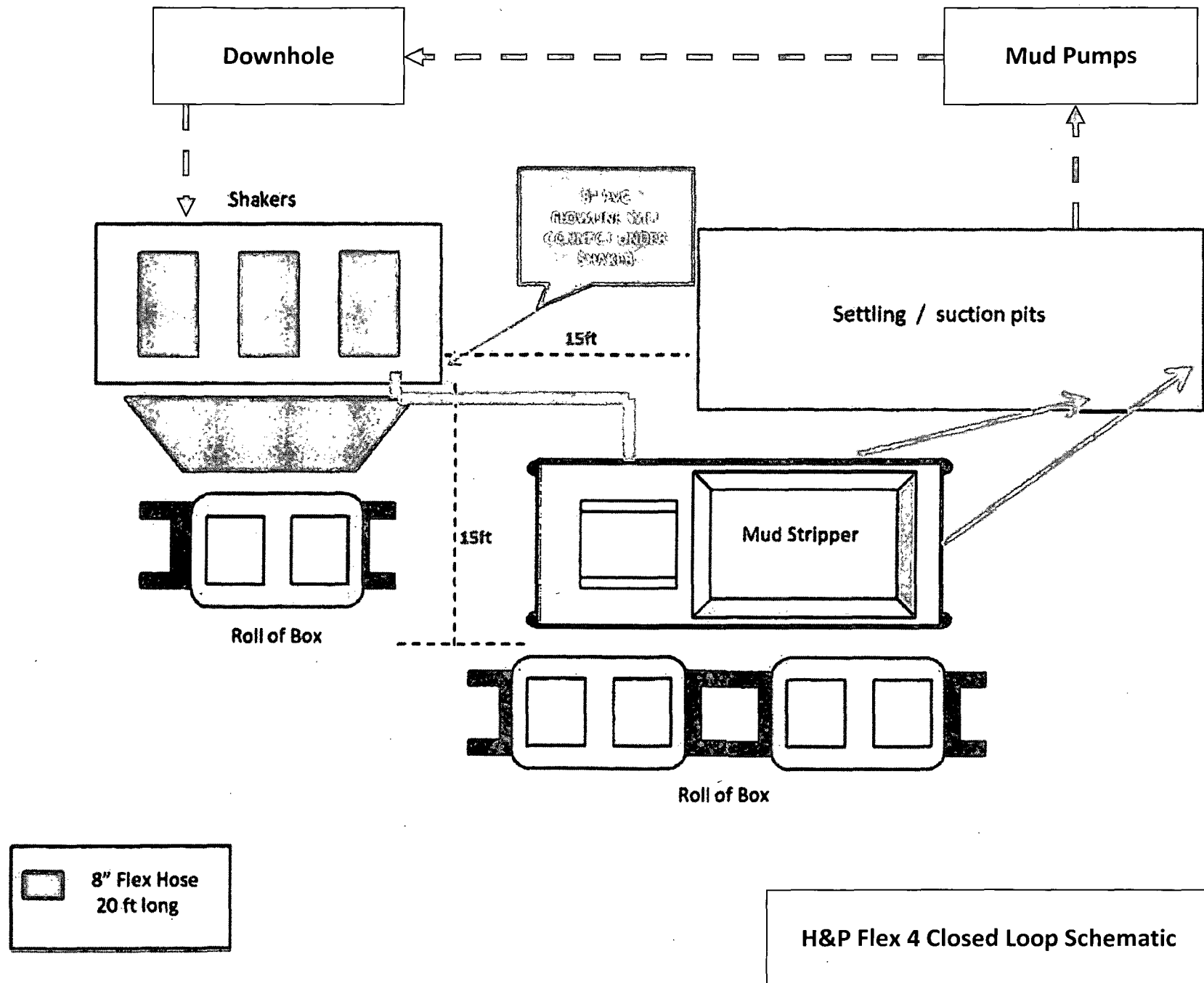
NOV certifies that the above equipment:

- 1) Was manufactured and inspected in accordance with NOV specifications and customer purchase order requirements.
- 2) Manufactured to:
  - ANSI/API Specification 16A, Third Edition, June 2004.
  - ISO 13533:2001, (Modified) Petroleum and Natural Gas Industries-Drilling and Production Equipment-Drill-Through Equipment.
- 3) Meets the applicable portions of NACE standard MR 0175/ISO 15156, First Edition for H<sub>2</sub>S service.

Certified By:

  
 Rita Moya  
 Documentation Specialist





# CONDITIONS OF APPROVAL

API #	Operator	Well name & Number
30-025-42490	Occidental Permian LTD	North Hobbs G/SA Unit # 954

Applicable conditions of approval marked with XXXXXX

## Administrative Orders Required

XXXXXXX	If using a pit for drilling and completion operations, must have an approved pit form prior to spudding the well

## Other wells

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## Drilling

XXXXXXX	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

## Casing

XXXXXXX	SURFACE CASING - Cement must circulate to surface --
XXXXXXX	PRODUCTION CASING - Cement must circulate to surface --
XXXXXXX	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
	South Area
XXXXXXX	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water