

## PROPOSED WORK

### **PRODUCTION HOLE:**

1. MIRU pulling unit. TIH with 4-3/4" bit and casing scraper to 7150'. PBTD is at approximately 8765'. TOOH.
2. MIRU wireline unit. Run GR-CCL from 7150' to 4800' (Correlate to Halliburton Spectral Density Dual Spaced Neutron Log dated 10/26/92). On wireline, TIH with 5-1/2" tubing retrievable bridge plug and set with top at 6339'. TOOH with wireline. TIH with bailer and dump 100 lbs. 20/40 sand on top of RBP (100 lbs = 7 ft.). Pull up 500' and allow sand to settle. Tag top of sand with bailer at +6332'. This should allow setting of the bottom trip whipstock (top of window 6320', bottom of window 6326'). RDMO wireline unit.
3. Test plug to 1000 psi. RDMO pulling unit.
4. MIRU horizontal rig. TIH with dummy mills on PH-6 drill pipe and tag the top of the sand on the RBP at 6332'. Strap the pipe going in the hole. This measurement will be used when setting the whipstock. Accuracy is very important. Check the strap with the wire line measurement and make correction. TOOH.
5. TIH with bottom set retrievable whipstock, starting mill, orientation sub and drill pipe. Stop at a point 5-10' above the RBP and run a gyro. Take a gyro reading to determine the direction of the whipstock face. Rotate the pipe as needed to achieve the required direction (azimuth 270 degrees). Lower the pipe to within one foot of the RBP and take another gyro reading. Rotate pipe again, if necessary, to obtain the required direction. This step may need to be made several times until confident the whipstock is oriented in the proper direction. Pull the gyro to surface, recording the orientation of the wellbore.
6. Lower the drill pipe to set the whipstock. The weight indicator will jump indicating the plunger shear pin is sheared and the whipstock is set. Continue setting down to shear the starting mill bolt. The weight indicator will jump, indicating the bolt is sheared.
7. Pick up the power swivel and begin circulating. Pick up the drill pipe until the starting mill has cleared the whipstock and start rotation. Lower the drill pipe slowly until the torque gauge suggest the starting mill is contacting the casing. Adjust weight and speed until satisfied with the penetration rate. Mill to a predetermined depth that will assure the setting lug is completely removed and a cut out in the casing has been initiated. TOOH.

8. TIH with the metal muncher window mill, string mill and the watermelon mill. Resume milling operations and mill until the complete assembly has cleared the casing. Pick up and lower the string several times without rotation to assure a good clean window has been obtained. Circulate the hole clean. TOOH.
9. Inspect the mill on the surface. If extreme wear is evident, consideration should be given to repeating the above step.

#### **HORIZONTAL PRODUCTION HOLE:**

1. Rig up Scientific Drilling Company. Adjust plan to target as necessary. Trip in the hole with Scientific Drilling's curve building assembly. This will be a 4-3/4" insert bit, 3-3/4" PDM, float sub/orienter combo, 2-flexible monel collars and 2-7/8" PH-6 drill pipe.
2. Build curve to estimated target depths and angles as follows:

True Vertical Depth ..... 6393'  
Measured Depth ..... 6411'  
Final Angle ..... 63.5 degrees  
Target Azimuth ..... 270 degrees  
Build Rate ..... 70 degrees/100'

Drill the curve sliding as necessary to stay on target. It is recommended that after each slide, the bit be pulled back and washed through the slide. Once the curve is built, rotate through the curve section noting tight spots and fill. Make at least one short trip prior to tripping out of the hole.

3. Trip in the hole with Scientific Drilling's lateral assembly. This will be a 4-3/4" bit, 3-3/4" motor, float sub/orienter combo, 2 - flexible monel collars and 2-7/8" PH-6 drill pipe.
4. Drill  $\pm 1478'$  lateral. The end point will be  $\pm 7889'$  MD,  $\pm 7050'$  TVD and  $\pm 1370'$  vertical section per the attached Scientific well plan. Continue drilling the lateral per the Texaco Asset Team (Rick Ryan 915-688-2902 or Joe Villalobos 915-688-4876) recommendations.
5. Trip out of the hole with the drilling assembly.
6. TIH and run TDT log.

7. TIH and retrieve the whipstock.
8. Set a wireline set, tubing retrievable bridge plug for 5-1/2" casing at  $\pm 6220'$ . Test plug to 1000 psi.
9. Lay down the drill pipe.
10. Nipple down the BOP stack. Install a manual 3000 psig BOP equipped with blind rams and 3-1/2" pipe rams. Release the rig. Rig down and move out rotary tools.

#### **COMPLETION PROCEDURE:**

1. Back drag the location and set pulling unit anchors.
2. Move in and rig up a pulling unit.
3. Trip in the hole with a retrieving head on 3-1/2" tubing. Retrieve the plug. Trip out of the hole and lay down the plug.
4. Rig up Dowell. Acidize frac the horizontal lateral. The stimulation will be done down 3-1/2" tubing in the vertical portion with a packer set 100' above the window. Below the packer, the string will consist of 2-7/8" PH-6 tubing and ported subs.
5. Shut-in for 4 hours. Flow/swab test for 12 hours. TOOH with frac string. TIH and retrieve RBP at 6220'. TIH with production equipment as per Hobbs OU recommendation.
6. Place on production.

## POTENTIAL PROBLEMS

### **Horizontal Production hole:**

- a) The horizontal lateral will be drilled with fresh water.
- b) H<sub>2</sub>S detection equipment is to be installed.
- c) Loss circulation material and/or other plugging agents are not to be used in this portion of the hole.

## MUD PROGRAM

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Remarks</u>
Curve	Fresh Water	8.4 ppg	35	Raise visc. with starch and gel
Horizontal	Fresh Water	8.4-9.0 ppg	28-29	Circulate reserve

## EVALUATION PROGRAM

### Coring:

No cores are anticipated.

### Mud Loggers:

A mud logger will be rigged from the start of the curve to total depth. Contact Joe Villalobos at (915) 688-4876 for the name of the mud logger.

### Open Hole Logs:

The following open hole logs will be run in the vertical section of the well:

Run 1: Gyro from 6332' - surface for determination of bottom hole location

The guidance system in the curve and horizontal sections of the hole will consist of a MWD system.

### Horizontal Hole Logs:

TDT logs will be run in the lateral.

June 13, 2000

CASING PROPERTIES

KB – 3330', GL – 3313', PBTD 8765', TD – 8950'

<u>DEPTH</u>	<u>BURST</u>		<u>COLLAPSE</u>		<u>TEST</u>
	<u>Rated (75%)</u>		<u>Rated (75%)</u>		<u>PRESSURE</u>
5-1/2", 17#, J-55	5320	3990	4910	3680	1000
5-1/2", 17#, L-80      8950'	7740	5800	6280	4710	1000
(181 joints J-55, 25 joints L-80)					

DV @ 7007'

1<sup>st</sup> stage: 200 sacks 35/65 Poz H with 6% gel, 5% salt, 1/4# flocele  
F/B 250 sacks Class H with 1/4# flocele, 6% fluid loss  
Circulated 40 sacks.

2<sup>nd</sup> stage: 1050 sacks 35/65 Poz H with 6% gel, 5% salt, 1/4# flocele  
F/B 200 sacks Class H.  
Circulated 60 sacks.

450  
1250  
1700

Fusselman perforations:

8868-8870'    2'

(4 jspf, 0.32" entry, 180 deg. phasing, tubing conveyed)

Fusselman perforations (squeezed with 24 sacks Class H with 0.4% HALAD-9) –  
tested to 500 psi and held for 30 minutes):

8822-8830'    8'

(2 jspf, 0.47" entry, 120 deg. Phasing, 8' net, 17 holes)

CIBP @ 8800'

Topped with 35' cement – PBTD 8765'

CJA 6/13/00