

III

WELL 33-9/4

Summary of Testing Operations

DST no.1: Object: to obtain formation fluid samples from middle ratty zone
just above OWC (at 2611 m).

Interval: 2608-2610m (8558'-8562')

Packer: 2568m (8425')

PBTD: 3022m (9915')

Bottom choke size: 2"

Cushion: Salt water to surface

Gas to surface: 70 mins

Oil to surface: 70 mins

Pressure Data	FLOPETROL		HOWCO	
	Amerada no.8170	Amerada no.6432	BT5629	BT5623
Depth of gauge	2581m (8468')	2579m (8462')	2597m (8519')	2598m (8523')
Clock	24 hrs.	48 hrs.	48 hrs.	72 hrs.
Initial hydrostatic pressure, psig	6053	6057	6066	6084
Initial flowing period, psig - 20/64" choke (14 mins)	5456	5449	5577	5582
Initial shut-in period, psig (32 mins)	5513	5507	5643	5651
Second flowing period, psig - 20/64" choke (58 mins)	5440**	5435**	5566**	5574**
✓ Second flowing period, psig - 14/64" choke (500 mins)	5505*	5499	5619	5627
Second shut-in period, psig (145 mins)		no data	5635	5640

Pressure Data (cont'd):	FLOPETROL		HOWCO	
	Amerada no.8170	Amerada no.6432	BT5629	BT5623
Type gauge				
Depth of gauge	2581m (8468')	2579m (8462')	2597m (8519')	2598m (8523')
Clock	24 hrs.	48 hrs.	48 hrs.	72 hrs.

Third flowing period, psig - 20/64" choke (31 mins)	5445	5574	5582
Third shut-in period, psig (69 mins)	no data	5640	5646
Fourth flowing period, psig - 40/64" choke (21 mins)	no data	5555	5558
Fourth shut-in period, psig (94 mins)	no data	5638	5640

* Last recording before clock ran out after 257 mins, stabilized.

** Not stabilized.

Production Data:

<u>Choke</u>	<u>WHP</u>	<u>BOPD</u>	<u>GOR</u>	<u>Oil Gravity</u>	<u>Gas Gravity</u>	<u>BS & W</u>	<u>BHT</u>
14/64"	2935	771	649	38.0 API at 60 ⁰ F	.682	.1%	210 ⁰ F.

Comments:

Oil-water contact at 2611m (8566')

The bottom hole samplers both had a small quantity of mud in them after transfer. The samples had been taken either at 2533m (8312') or 2372m (7781'). It appears that they were hung up in a 2" I.D. restriction although the maximum O.D. of the sampler carrier was 1 7/8". 3 oil and 3 gas separator samples were also taken.

DST no.2 Object: to obtain pressure production data and
formation fluid samples

Interval: 2555-2560m (8382'-8398')

Packer: 2519m (8266')

PBTD: 2600m (8530')

Bottom choke size: 2"

Cushion: Sea water to surface

Gas to surface: 14 mins.

Oil to surface: 14 mins.

Pressure Data:	FLOPETROL		HOWCO	
Type Gauge	Amerada No.8167	Amerada No.12474	BT5629	BT5623
Depth of gauge	2534m(8315')	2533m(8309')	2550m(8366')	2552m(8374')
Clock	48 hrs.	72 hrs.	48 hrs.	72 hrs.
Initial hydrostatic pressure, psig	5937	5937	5962	5957
Initial flowing period, psig-48/64" choke (5 mins)	Illegible	Illegible	5066	5058
Initial shut-in period, psig, (31 mins)	Illegible	Illegible	5595	5585
Second flowing period, psig-48/64" choke (248 mins)	4947	4959**	4973**	4962**
Second shut-in period, psig (60 mins)	5622**	5637**	5632**	5622**
Third flowing period, psig-32/64" choke (150 mins)	5301	5314	5319**	5311
Third flowing period, psig-1/4" choke (277 mins)	5585	5596	5595	5585

Pressure Data (cont'd)	FLOPETROL		HOWCO	
	Amerada no.8167	Amerada no.12474	BT5629	BT5623
Type gauge				
Depth of gauge	2534m(8315')	2533m(8309')	2550m(8366')	2552m(8374')
Clock	48 hrs.	72 hrs.	48 hrs.	72 hrs.

Third shut-in period, psig (263 mins)***	5626	5638		
Third shut-in period, psig (388 mins)			5638	5630

** Not stabilized

*** Recordings not completed,
build-up period was 388 mins.

Production Data:

<u>Choke</u>	<u>WHP</u>	<u>BOPD</u>	<u>GOR</u>	<u>Oil Gravity</u>	<u>Gas Gravity</u>	<u>BS & W</u>	<u>BHT</u>
48/64"	2190	7324	886	36.4 API at 60°F	.660	Nil	No data
32/64"	2690	4482	848	37.0 API at 60°F	.684	.1%	No data
1/4"	3055	1178	849	38.3 API at 60°F	.684	Nil	209°F

Comments:

The well began flowing strongly during initial flow period. However, there was no flow when tool was opened for final flow period. Apparently the system was clogged with formation solids, so 4 barrels of water were pumped downhole to 3500 psi to flush out perforated pipe. After this the well flowed strongly and test proceeded normally.

Used two Flopetrol drop samplers for BH sampling. One obtained satisfactory BH sample from 2283m (7490'), the other got jammed in the lubricator when dropped.

3 separator samples of each gas and oil were taken, also two 55-gal. drums of crude.

Used both burners during 48/64" and 32/64" choke flow tests.

