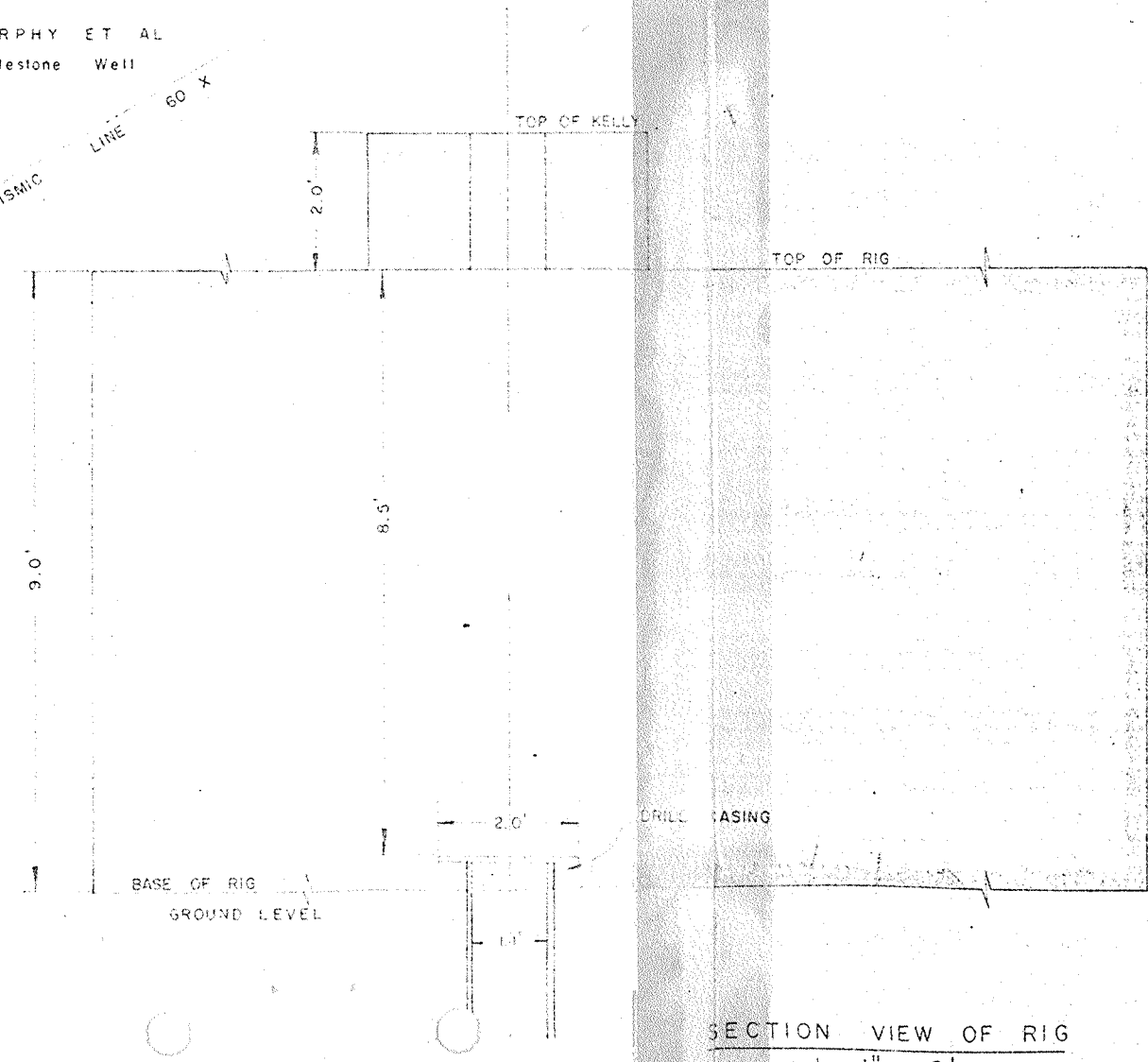
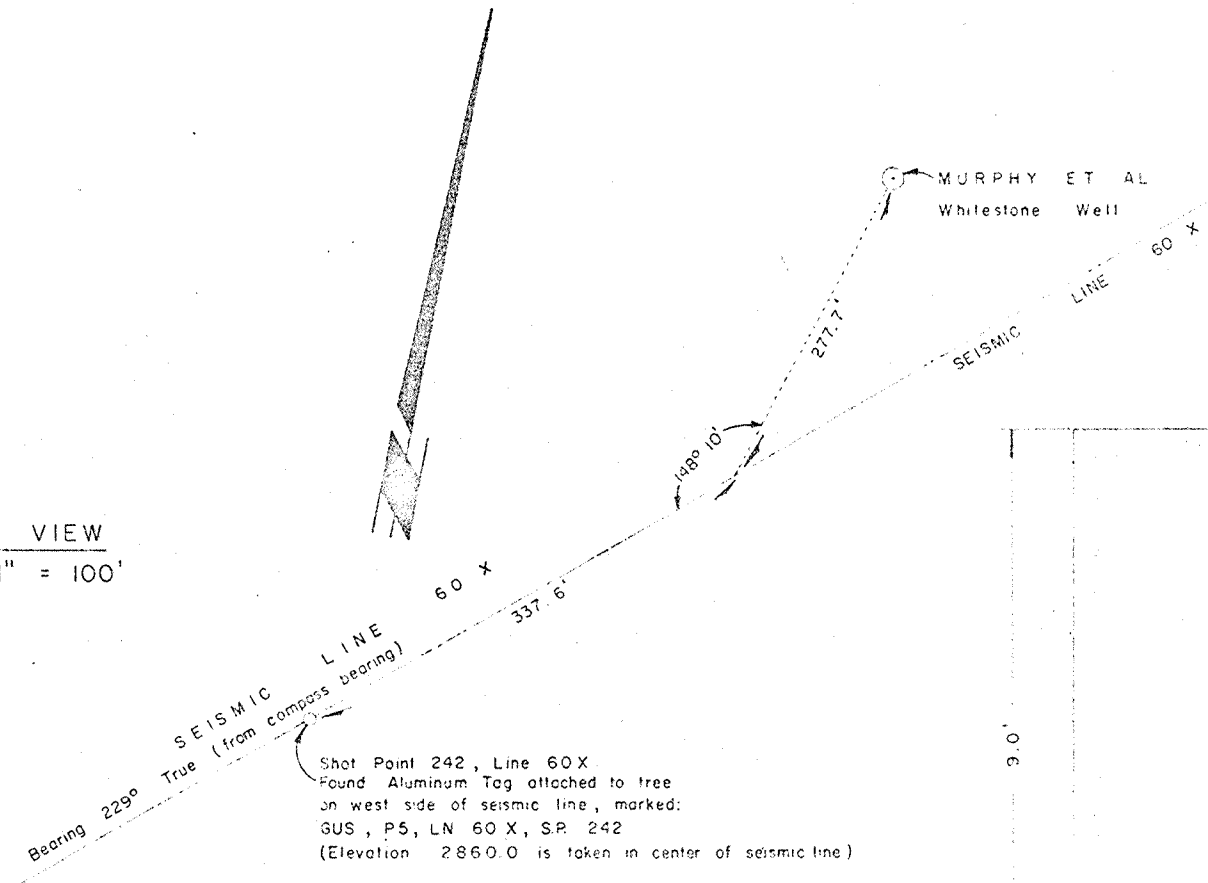


PLAN VIEW
scale: 1" = 100'



SECTION VIEW OF RIG
scale: 1" = 2'

ELEVATIONS

TOP OF KELLY	2917.6'
TOP OF RIG	2915.6'
DRILL CASING	2907.1'
BASE OF RIG	2906.6'

SKETCH PLAN SHOWING
HORIZONTAL AND VERTICAL TIE
TO MURPHY ET AL WHITESTONE WELL
WHITESTONE AREA, Y.T.

LATITUDE 65° 58', LONGITUDE 138° 26' (approx)

APRIL 18, 1973

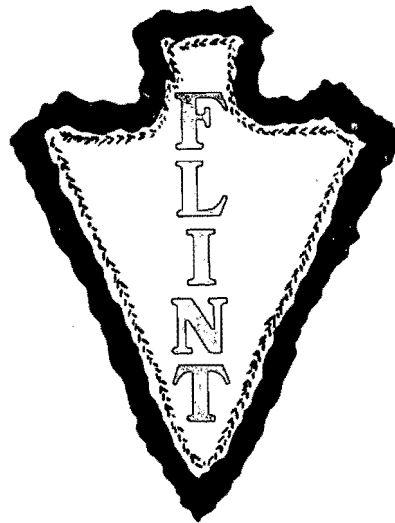
WHITE, HOSFORD AND IMPEY LTD.
BOX 4418
WHITEHORSE, Y.T.

FLINT Engineering & Construction, Ltd.

DRILLING SUMMARY

for

MURPHY MESA B.P. SOUTH WHITESTONE Y.T. N58



Prepared for

MURPHY OIL COMPANY LTD.

by

Flint Engineering & Construction, Ltd.

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SPECIAL OPERATIONS REPORTS

1. General Data:

Location - Latitude - 65° 57' 50" North
Longitude - 138° 25' 30" West
Ground elevation 2907
K. B. elevation 2918
Spud date February 10, 1973
Rig release date April 17, 1973
Final total depth 6993

2. Coring Data:

No cores were taken.

3. Logging Data:

Logged by Schlumberger.
Dual Induction Laterolog - 6950 to 955.
B.H.C. Sonic - G.R. - Caliper - 6947 to 954.
Formation Density - 6938 to 4900 and 3100 to 2250.
T.D. Schlumberger - 6956. T.D. Driller - 6993.
Note: approximately 40' of fill on bottom.

4. D.S.T. Data:

D.S.T. #1 - 5930 to 6002.
Single straddle with bypass using sidewall - anchor by Johnston.
Prewell - 5mins., I.S.I. - 60 mins., T.O. - 90 mins., F.S.I. - 90 mins.
Fair I.P. followed by fair air blow decreasing to weak at end of 90 mins.
Recovered 420' muddy fresh water.
I.H.P. 2825, F.H.P. 2825, I.S.I.P. 2053, F.S.I.P. 1996, I.F.P. 56, F.F.P. 226.

D.S.T. #2 - 2360 to 2450.
Single straddle with bypass using sidewall anchor by Johnston.
Misrun - packer seat failed.

D.S.T. #3 - 2360 to 2450.
Single straddle with bypass using sidewall anchor by Johnston.
Misrun - packer seat failed.

D.S.T. #4 - 2361 to 2454.
Dual straddle with bypass using sidewall anchor by Johnston.
Misrun - packer seat failed.

5. Casing Data:

Ran 25 jts., 958.92' of 13-3/8", 48#, H40, S.T. & C., rge. 2 and 3 surface casing. Shoe landed at 957 K.B. Float landed at 926 K.B. Cemented with 1050 sacks of construction cement with 50 lbs. of Cellex lost circulation material added by B. J. Cementing. P.O.B. at 12 noon, February 19, 1973. Estimated cement returns - 60 bbls. Used guide shoe, float collar and 4 centralizers.

Total casing used - 25 jts.	958.92
Guide shoe	1.30
Float collar	1.58
Total length of string	<u>961.80</u>
Length of cut-off	17.00
Casing left in hole	<u>944.80</u>

Distance K.B. to casing bowl flange 12.20

Shoe landed at 957 K.B.
Float landed at 926 K.B.

Note: 1 joint left on lease was damaged. It was used to make a road drag.

6. Bit Data:

Date	No.	Size	Type	Jet Size	Depth Out	Feet	Hours	Condition			Wt. 1000#	RPM	Pump Press.	Pump Size	SPM	Jet Velocity
								T	B	G						
1973,																
2/13	1A	17-1/2	OSC3	3-15	405	405	45	4	4	I	10	100	900	5 1/2 x 16	60	200
2/14	2A	17-1/2	OSC3	1-18	610	205	23	6	6	I	20	100	600	5 1/2 x 16	60	180
				2-15												
2/15	RR	17-1/2	OSC3	1-18	632	22	3-3/4	6	5	I	20	100	600	5 1/2 x 16	60	180
	1A			2-15												
2/16	3A	12-1/4	X1G	3-16	790	158	17	6	3	I	15	120	600	5 1/2 x 16	60	175
2/17	4A	17-1/2	OSC3	1-18	906	116	17	8	8	I	25	100	800	5 1/2 x 16	60	180
				2-15												
2/18	5A	12-1/4	X1G	3-16	957	51	7-3/4				10	130	600	5 1/2 x 16	60	175
2/18	RR	17-1/2	OSC3	Reamed hole to 957				7	5	I	10	130	600	5 1/2 x 16	60	
	1A															
2/24	1	8-3/4	X1G	3-10	1508	551	25	6	1	I	15	160	1400	5 1/2 x 16	64	480
2/27	2	8-3/4	X1G	3-10	2107	599	24 1/2				15	160	1300	5 1/2 x 16	56	420
3/2	3	8-3/4	X1G	3-10	2360	253	27-3/4	8	1	I	20	160	1300	5 1/2 x 16	56	420
3/3	4	8-3/4	XDV	3-10	2432	72	17-3/4	8	1	0	30	60	1300	5 1/2 x 16	56	420
3/6	5	8-3/4	X44	3-10	2615	183	36-1/4	4	2	I	25	50	1300	5 1/2 x 16	56	420
3/7	6	8-3/4	JD8	3-11	2686	71	15-1/4	5	5	I	25	60	1300	5 1/2 x 16	56	350
3/8	7	8-3/4	JD8	3-11	2744	58	19	6	1	I	25	60	1300	5 1/2 x 16	56	350
3/9	8	8-3/4	JD8	3-11	2842	98	20	6	1	I	30	60	1300	5 1/2 x 16	56	350
3/14	9	8-3/4	J44	3-11	4033	1191	110	6	1	I	15-30	50-60	1250	5 1/2 x 16	52	325
3/19	10	8-3/4	J44	3-11	4750	717	84	1	1	I	20-30	60	1000	5 1/2 x 15	52	300
3/25	11	8-3/4	J44	3-11	5600	850	113	1	1	I	15-20	60	1000	5 1/2 x 15	48	285
3/26	12	8-3/4	XDV	1-12	5717	117	16	2	2	I	15	70	1200	5 1/2 x 16	52	310
				2-11												
3/30	13	8-3/4	J44	1-12	6055	338	68	7	5	0	15-30	40-60	1200	5 1/2 x 16	52	310
				2-11												

Bit Data Continued

Date	No.	Size	Type	Jet Size	Depth Out	Feet	Hours	Condition			Wt. 1000#	RPM	Pump Press.	Pump Size	SPM	Jet Velocity
								T	B	G						
4/4	14	8-3/4	X55R	1-12 2-11	6456	401	89-3/4	6	1	I	25-35	50-60	1200	5½ x 16	52	310
4/7	15	8-3/4	J44	1-12 2-11	6958	512	77-1/4	7	3	I	25-33	60	1200	5½ x 16	52	310
4/11	16	8-3/4	J44	3-12	6993	25	5-1/4				30	60	1150	5½ x 16	50	265

7. Mud Data:

Depth Interval	Date 1973	Wght	Funnel Fisc.	P.V.	Y.P.	Gels Init/10m.	W.L.	pH	Solids	Annul. Velocity
0 - 300	2/10	8.9	Heavy - mixed lost circulation material							
300 - 957	2/14	10	60					9.5		
957 - 1600	2/25	8.4	29							
1600 - 2100	2/26	9.0	40							
2100 - 2300	2/28	9.9	50	20	12	5/9	11	9.5	--	148
2300 - 2500	3/2	9.2	60	18	22	5/9	10	9.0	2	140
2500 - 2600	3/5	9.1	58	20	20	5/9	7.8	9.5	2	140
2600 - 3000	3/6	8.9	50	20	13	3/6	8.5	9.5	6	130
3000 - 4000	3/10	9.0	60	23	14	3/8	6.8	10.5	5	130
4000 - 4600	3/14	9.0	57	23	15	3/8	8.0	10	6	130
4600 - 5400	3/18	9.2	63	27	18	7/16	7.2	10	6	100
5400 - 6000	3/24	9.1	67	32	26	4/8	7.2	9.5	6	120
6000 - 6400	3/30	9.1	65	30	24	3/8	6.4	9.5	6	120
6400 - 6900	4/3	9.0	62	33	22	8/15	6.8	9.5	4	120
6900 - 6993	4/7	9.0	90	42	41	12/18	6.4	9.0	4	120
Log & Test	4/12	9.0	175	58	74	15/20	5.2	9.0	6	--

8. Deviation Surveys:

Depth	Deviation	Depth	Deviation
81	7/8	2260	7/8
140	7/8	2325	1
200	3/4	2358	1-1/8
263	7/8	2390	1
325	1	2430	1
387	1	2500	2
448	7/8	2530	1-3/4
510	1	2562	2
634	1/2	2594	1-1/2
697	1/2	2659	1-3/4
760	3/4	2691	2
823	1	2744	2
885	1-1/4	2791	2-1/8
957	1	2842	2-1/8
1104	1-1/8	2883	2
1250	1-1/8	2980	2-1/2
1400	1-1/4	3076	2-7/8
1508	1-3/4	3171	2-1/2

8. Deviation Surveys Continued ...

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
1600	1-3/4	3262	2-3/4
1700	1-1/2	3358	3
1800	1-1/2	3452	2
1910	1	3547	2-1/8
2013	1	3642	2-1/2
2103	1-3/4	3737	3
2200	1-1/4		
<hr/>			
3831	3-3/4	6034	5-3/4
3926	3	6097	6
4020	3-1/2	6160	6
4110	1-1/4	6223	6
4170	2-1/2	6318	6-3/4
4270	2-1/2	6349	5-3/4
4363	2	6411	6-3/4
4459	2	6456	6-3/4
4550	2	6539	6-3/4
4648	2-1/8	6633	7-1/4
4741	2-1/4	6968	8-3/4
4870	3		
4964	3-1/4		
5059	3		
5154	4		
5248	3-3/4		
5340	4		
5435	4		
5562	4-1/3		
5653	4-3/4		
5717	4-1/2		
5781	4-1/2		
5876	5-1/2		
5939	5-1/2		
6000	6		

9. Abandonment Data:

Plug #1 - 6993 to 6700.

Used 100 sacks cement. Displaced with 95 bbls. P.O.B. at 11:25 p.m., April 15th, 1973.

Plug #2 - 6200 to 5800.

Used 225 sacks cement. Displaced with 74 bbls. P.O.B. at 12:45 a.m., April 16th, 1973. Felt for Plug #2 at 9:15 a.m., April 16th, 1973. Found top at 5820 K.B.

Plug #3 - 2650 to 2300.

Used 200 sacks cement. Displaced with 27 bbls. P.O.B. at 10:30 a.m., April 16th, 1973. Felt for Plug #3 at 6:30 p.m., April 16th, 1973. Found top at 2340 K.B.

9. Abandonment Data continued

Plug #4 - 1007 - 907.

Used 120 sacks cement. Displaced with 10 bbls. P.O.B. at 8 p.m., April 16th, 1973. Felt for Plug #4 at 4 a.m., April 17th, 1973. Found top at 908 K.B.

Cut casing off. Placed 5 sacks cement in top. Welded on plate. Welded piece of 2" pipe to plate and welded identification sign on to the pipe.

10. Services and Suppliers Used:

Drilling Contractor	G.P.
Road and Lease Construction	Nahanni Construction
Airplane Charter	Mackenzie Airways
Trucking (rig move)	Falcon Transport
Trucking (supplies)	Whitepass & Yukon
Trucking (water)	Toron Construction
Cementing	B. J.
Logging	Schlumberger
Testing	Johnston
Mud	Magobar



PIPE TALLY

Date FEBRUARY 19, 1973

Customer MURPHY OIL COMPANY LTD.

Location MURPHY ET AL. S. WHITESTONE Y.T. N58.

Size & Description SURFALL - 13 3/8, 42" H40 ST4C.

FEET	IOths	FEET	IOths	FEET	IOths	FEET	IOths	FEET	IOths
28	86	21	39	07				Casing - Summary	
40	70	41	55						
40	52	38	92			Casing Used 25 jts.		958	92
36	48	39	70			Guide Shoe		1	30
36	38	39	82			Float Collar		1	58
36	25	26*	36	00		Total String		961	80
40	50								
36	12								
38	71					Shoe landed		957	K.B.
36	34					Float landed		926	K.B.
38	10								
39	78					K.B. to ground		13	80
41	25								
32	58					K.B. to C.B.F.		12	20
36	02								
40	68								
39	94								
39	83								
41	62								
20	39	20							
759	86	235	06						

Total This Sheet			Tallied By <u>G.P. Drilling</u>	
No. Of Pieces	FEET	IOths	Checked By <u>E. Stevenson</u>	
26	994	92	* Jt 26 - damaged.	

LOG SHOWING DAILY PROGRESS

February 11 - 8 a.m. Report:

Spudded in at 7 p.m., February 10, 1973.
Drilled 17½" hole to 109'.

February 12 - 8 a.m. Report:

Drilled 17½" hole to 160. Lost circulation for 15½ hours.
Mixed gel and lost circulation material.

February 13 and 14 - 8 a.m. Reports:

Drilled 17½" hole to 556.

February 15 - 8 a.m. Report:

Drilled 17½" hole to 632. Drilled 12¼" hole to 668.

February 16 - 8 a.m. Report:

Drilled 12¼" hole to 790. Began reaming hole to 17½" at 632.

February 17 - 8 a.m. Report:

Reamed 12¼" hole to 17½" to 790. Continued drilling 17½"
hole to 852.

February 18 - 8 a.m. Report:

Drilled 17½" hole to 906. Drilled 12¼" hole to 957 (reduced size
because deviation more than 1 degree).

February 19 - 8 a.m. Report:

Reamed hole to 17½" to 957. Began running surface casing.

February 20 - 8 a.m. Report:

Ran and cemented 13-3/8" surface casing. P.O.B. at 12 noon,
February 19, 1973. Circulated hot water inside casing to
prevent cement from freezing.

February 21 - 8 a.m. Report:

Circulated hot water inside casing to prevent cement from freezing.

February 22 - 8 a.m. Report:

Circulated hot water inside casing (total circulating time -
48 hours). Welded on 13-3/8" casing bowl.

February 23 - 8 a.m. Report:

Installed B.O.P.'s and manifold. Changing rubbers on 4½" pipe rams.

February 24 - 8 a.m. Report:

Pressure tested Blind Rams to 1500 psi - okay. Pressure tested Hydril to 1500 psi - okay. Working on hydraulic system for 4½" Pipe Rams.

February 25 - 8 a.m. Report:

Repaired 4½" Pipe Ram system. Pressure tested Pipe Rams to 1500 psi - okay. (pressure tested Kelly cock). Found top of cement at 927. Drilled out plug, cement and shoe. Drilled 8-3/4" hole to 1173.

February 26 - 8 a.m. Report:

Drilled 8-3/4" hole to 1508. Tripped for new bit - hole good with 20' of fill. Drilled 8-3/4" hole to 1571.

February 27 and 28 - 8 a.m. Report:

Drilled 8-3/4" hole to 2103. Tripped for new bit. First 4 stands pulled tight on trip out. Had to start reaming tight hole at 1700 on trip in.

March 1 - 8 a.m. Report:

Finished reaming to bottom - total time - 7½ hours. Mixed mud and raised viscosity to 45. Drilled 8-3/4" hole to 2245.

March 2 - 8 a.m. Report:

Drilled 8-3/4" hole to 2358. Tripped for new bit. First 2 stands pulled tight on trip out. On trip in - bridge 150' off bottom and 30' of fill on bottom - total time - 1½ hours.

March 3 and 4 - 8 a.m. Report:

Drilled 8-3/4" hole to 2430. Tripped for new bit - hole good. Layed down 9 washed drill collars. Installed near bit 3 - point reamer above bit on trip in.

March 5 and 6 - 8 a.m. Report:

Drilled 8-3/4" hole to 2615. Tripped to find washout in string. Layed down 5 washed drill collars. Tripped in with near bit reamer in string.

March 7 - 8 a.m. Report:

Drilled 8-3/4" hole to 2686. Tripped for new bit - hole good.

March 8 - 8 a.m. Report:

Drilled 8-3/4" hole to 2744. Tripped for new bit - hole good. Bottom hole assembly - bit, N.B. Reamer, 2 - 7-3/4" collars, Blade Stabilizer, 8 - 7" collars.

March 9 - 8 a.m. Report:

Drilled 8-3/4" hole to 2842. Tripped for new bit - hole good. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 13 - 7" collars.

March 10 to 14 - 8 a.m. Report:

Drilled 8-3/4" hole to 3983.

March 15 - 8 a.m. Report:

Drilled 8-3/4" hole to 4033. Tripped for new bit. Cleaned 270' to bottom. Drilled 8-3/4" hole to 4046. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 13 - 7" collars.

March 16 to 19 - 8 a.m. Report:

Drilled 8-3/4" hole to 4750. Tripped out for new bit.

March 20 - 8 a.m. Report:

Tripped in. Bit plugged. Tripped to unplug bit. Cleaned 180' to bottom. Drilled 8-3/4" hole to 4798. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 13 - 7" collars.

March 21 to 25 - 8 a.m. Report:

Drilled 8-3/4" hole to 5600. Tripped out for new bit.

March 26 - 8 a.m. Report:

Changed 4 - 7" collars. Tripped in - cleaned 150' to bottom. Drilled 8-3/4" hole to 5684. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 13 - 7" collars.

March 27 - 8 a.m. Report:

Drilled 8-3/4" hole to 5717. Tripped for new bit - cleaned 75' to bottom. Drilled 8-3/4" hole to 5750. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 13 - 7" collars.

March 28 to 30 - 8 a.m. Report:

Drilled 8-3/4" hole to 6055. Tripped out for new bit.

March 31 - 8 a.m. Report:

Tripped in. Cleaned 120' to bottom. Drilled 8-3/4" hole to 6115. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 13 - 7" collars.

April 1 to 3 - 8 a.m. Report:

Drilled 8-3/4" hole to 6421.

April 4 - 8 a.m. Report:

Drilled 8-3/4" hole to 6456. Tripped for new bit. Layed down 3 - 7" collars. Cleaned 90' to bottom. Drilled 8-3/4" hole to 6460. Bottom hole assembly - bit, N.B. Reamer, 1 - 10' - 7-3/4" collar, Blade Stabilizer, 1 - 7-3/4" collar, 1 - 7" collar, Blade Stabilizer, 10 - 7" collas.

April 5 - 8 a.m. Report:

Drilled 8-3/4" hole to 6587. Hole taking some mud - mixed sawdust.

April 6 - 8 a.m. Report:

Drilled 8-3/4" hole to 6722. Loss of mud stopped. Rig checked by Conservation Board representative.

April 7 - 8 a.m. Report:

Drilled 8-3/4" hole to 6906.

April 8 - 8 a.m. Report:

Drilled 8-3/4" hole to 6968. Tripped for new bit. Cleaning out bridge at 5300.

April 9 - 8 a.m. Report:

Working tight hole. Pipe stuck intermittently. Lost mud to formation and had to mix new tank of mud.

April 10 - 8 a.m. Report:

Working stuck pipe. Cleaning out hole.

April 11 - 8 a.m. Report:

Cleaned to bottom and conditioned hole. Drilled 8-3/4" hole to 6993 (final total depth).

April 12 - 8 a.m. Report:

Tripped to condition hole to log. Circulated and conditioned mud. Tripped out to log.

April 13 - 8 a.m. Report:

Logged hole by Schlumberger.

April 14 - 8 a.m. Report:

Ran D.S.T. #1 by Johnston.

April 15 - 8 a.m. Report:

Attempt D.S.T. 2, 3 and 4 by Johnston. All misruns - packer seat failed.

April 16 - 8 a.m. Report:

Set 2 abandonment plugs by B. J.

April 17 - 8 a.m. Report:

Complete abandonment. Began dismantling rig at 4 a.m., April 17, 1973.