

TABLE OF CONTENTS

Bluemount et al Beavercrow YT B-16

1. GENERAL

- A. Table of Contents
- B. Program and Prognosis
- C. Well Summary

2. DRILLING

- D. Daily Progress Report
- E. Deviation Survey Report
- F. Bit Record
- G. Mud and Additive Summary
- H. Report on Fishing Operations
- I. Lost Circulation Plug Summary
- J. Stabilization Record
- K. Core Report

3. ENGINEERING

- L. Surface Casing Report
- M. Intermediate Casing Report
- N. Abandonment Plug Summary
- O. Drillstem Test Reports
- P. Fluid Analysis and Core Analysis

4. GEOLOGICAL

- Q. Summary of Formation Tops
- R. Sample and Core Descriptions
- S. Paleontological Determinations

PROGRAM & PROGNOSIS

BLUEMOUNT ET AL BEAVERCROW YT B-16-60-10-125-15

Latitude: 60° 05' 03.6" Longitude: 125° 17' 48"

Estimated K.B. 3,760 Drilling Authority 502

Participants: Gulf Oil Canada Limited
 Canadian Homestead Oils Ltd.
 Northern Natural Gas Limited

Operator: Bluemount Resources Ltd.

Contractor: Petrolia Oilwell Drilling Ltd.

Toolpusher: Ray Kohnan

Drilling Supervision: Doug Jenkins

Geological Supervision: Don Foote

Prime Objective: Middle Devonian Carbonate

PROGNOSIS

<u>Formation</u>	<u>Expected Depth</u>	<u>Subsea</u>
Spud in Mississippian - Mattson		
Besa River Shale	3,950	- 190
Middle Devonian Carbonate	6,400	-2,640
Total Depth	6,500	-2,740

GEOLOGICAL PROGRAM

Drill into first recognizable Middle Devonian Carbonate. Cut one core (approximately 30'); start core with high kelly and core kelly down. Drill ahead into first recognizable effective porosity and run drillstem test. If hydrocarbon is encountered, cut further core pending supplemental program. It is anticipated that the uppermost carbonate will be limestone and that the first porosity will occur at the point dolomitization is first encountered. Positive water from reef will constitute total depth.

DRILLING PROGRAM

Samples

Government: Surface to total depth, 10' intervals
Homestead: Access to operator's samples
Gulf: 5,000' - T.D., 10' intervals
Bluemount-
Northern: Base surface casing to T.D. 10' intervals

Time Drilling

Recorder must be operative from spud to T.D.

Hole Size

Surface Hole - 12 $\frac{1}{4}$ "
Main Hole - 8-3/4"

Surface Casing

Drill 12 $\frac{1}{4}$ " hole to 700'. Run 9-5/8", 36#, K55, 8RD, ST&C, new casing. Cement with 300 sacks Oilwell + 2% CaCl₂. If cement falls back, recement with 1" pipe down annulus after 6 hours. Slurry weight 15.6, mix water temperature minimum 60°.

Deviation

Surface hole maximum 3°, maximum change 1° per 100'
Main hole maximum 20°, maximum change 2 $\frac{1}{2}$ ° per 100'

Stabilization

Surface hole - one rubber NR stabilizer, preferably 60' above bit.

Main hole - square collar with roller reamers above and below on bottom, resilient sleeve stabilizer 30' above upper string reamer. No teledrift sub or well. Shock sub to be run throughout. Spares on location.

Testing

All gas blows to be measured. Fluid to be sampled representatively for field, routine and exotic analysis. Any formation water to be sampled for microbenzene analysis (no plastic, no rubber, no extended atmospheric exposure, no excessive heat after capture). Recording bottom-hole thermometer, three Kuster pressure recorders with Ni-Span alloy Bourdoin tubes, bottom sample set for sample capture at final instant of flow period.

Mud

Drill with water as deep as practical. When formations suggest hole problems might result from continued use of water, use a minimum gel mud to total depth. Keep solids low. If make-up water is such that no treatment with soda ash is required to use Benex effectively, Benex may be used as a peptizer as long as flow line temperature does not exceed 120°. Discontinue Benex if flow line temperature exceeds 120°. If anhydrite is encountered, use only enough Peltex to avoid flocculation. If solid content is kept minimal, flocculation should be virtually non-existent. Handle lost circulation by drilling ahead blind using water or a water-sawdust slurry. Cane and redwood fiber are on location for serious and continued lost circulation, but use cement dropped from above the problem zone rather than extensive exotic lost circulation slurries.

Blowout Precautions

Regular drill is imperative. Operation of blowout preventors, manifold and full knowledge of each crew member of his position and responsibilities is critical and must be checked daily by actual check.

Logs

If well continues into breakup, a DSUB unit will be moved in. A minimum of DIL, BHC-SGRC and FDC logs will be run. Integrate sonic throughout. Run 3-arm caliper on sonic, 2 arm on FDC. Gamma correlation log to be run on both sonic and FDC. Intervals as follows:

DIL

- 2" TD to surface casing
- 5" TD to 300' above top Middle Devonian Carbonate

BHC-SGRC

- 2" TD to surface casing
- 5" TD to 300' above top Middle Devonian Carbonate

FDC

- 5" TD to 300' above top Middle Devonian Carbonate

A velocity survey will be run.

If production is encountered, additional logs may be run, including a directional survey.

Service Companies

Cement	Dowell
Logging	Schlumberger
Fuel	Texaco
Grader, standby cat	Tompkins
Coring	Dy Drill (full hole barrel will go into DC-3)
Weekly flights	McKenzie Air (crew change, food, support)
Testing	To be determined
Mud (no service)	International

Tight Hole Status

No special precautions will be taken, but information will only be released through Bluemount in Calgary.

February 12, 1971
RS*sc

W E L L S U M M A R Y

Well Name Bluemount et al Beavercrow YT B-16 Status Dry & Abandoned

Location 60°05'3.6"N, 125°17'48"W Operator Bluemount License No. 502

Coordinates Not surveyed. Located by relation to Gulf well and Seismic control.

Surveying Co. _____

Elev: Gr. 3767 K.B. 3781 C.B.F. _____ AFE 5-1

T.D., drrl. 7508 Log 7485 Terminal Formation Nahanni

Contractor Petrolia Drilling Rig No. 2 Toolpush Ray Kohnen

Hole Size 12-1/4" to 717; 8-3/4" to 5632; 6-3/4" to 7508'

Directions to rig: Turn North at mile 517 of Alaska Highway; cross Smith River east of airstrip, follow bush trail ENE. 300 miles exactly from Fort Nelson.

Rig Equipment: Dwks Emsco GC500 Line Size 1-1/8"

Motors 2 Caterpillar D353 Total H.P. 720

Derrick 136' Lee C. Moore Capacity 700,000

Substructure Lee C. Moore Height 12' Capacity 500M Hook, 300M Stanback

BOP's: Gate Cameron SS Size 10" Series 900

Annular Hydril Size 10" Series 900

Mud Pump: Main Emsco D700 Power Compound

Standby Gardner-Denver FXK Power Compound

Mud Tanks: No. 2 Capacity 700 bbl. Prehydration Tank 190 bbl.

Drill Pipe 4-1/2" FH Grade E; 3-1/2" Double Banded Grade E.

Drill Collars Surface: 3x9" + 11x7"; 8-3/4"-6" square + 13-7" + 5-6/4";

Spud Date 8:00 AM Feb. 3, 1971 Rig Release 4:00 PM May 9, 1971.

Finish Drilling 9:30 PM May 4, 1971

Mud Type Gel-Lost circulation slurry to 5621'; drilled blind 5621'-7508' using

lake and run -off water. Service Co. Without service.

Sample Intervals--Oper. 710'-5620' Stored Bluemount office.

Sample Intervals -- Gov't Surface to 5620 Shipped to Diand, Calg. Date stages

CORED INTERVALS: 2-3/4"x5-1/2" Diamond Service Co. Dy-Drill

Nos.	Intervals	Formation	Rock Type	Analyzed	By
See	Section	"K" for details			

<u>TUBULAR PRODUCT:</u>	Size	Max. Wt.	Landed KB	Int. Cemented	Date	Amt. Cemented	Remark
Surface	9-5/8"	36 [#]	717'	0' - 717'	Feb. 8	400 sx. +2% CaCl ₂	Dropped 17' Topped with C27
Intermediate	7-5/8"	29 [#]	5,604'	0' - 5,604'	Mar. 24	960 cu.ft. blend	250 ft. cu. returns.
Production							
Liner							
Tubing							

Desc. of Bowl OCT C22 9-5/8" x 10" 3000 psi. weld-on.

LOGS Serv. Co. Schlumberger

Type	Run No.	Interval	Date
IES, BHCSGRC, MLC	1	717' - 5,585'	March 21-22
DIL, BHCSGRC, FDC, SNP, HDT	2	5,608' - 6,551'	April 22-23
DIL, BHCSGRC, FDC, SNP, HDT, SRS	3	6,549' - 7,483'	May 5-6

Bluemount et al Beavercrew YT B-16

Velocity Survey Run by: Century-Schlumberger

Owner of Velocity Survey: Bluemount-Northern

Testing Company: Lynes-United Services Ltd.

Drillstem Tests:

- DST #1 5,756' - 5,850', G.I.P., strong air blow, dead in 20 minutes; no gas. Recovered 4,160' fresh water. VO 60; SI 60/120; preflow 1 minute. HP 1997/1996, SIP 1996/1996, FP 1996 to 1989, BHT 131^oF.
- DST #2 7,469' - 7,508', F.I.P., weak air blow, increased to fair for 20 minutes, decreased to weak. No gas to surface. Recovered 2,470' fresh water. VO 60, SI 60/120, preflow 1 minute. HP 2724/2713, SIP 2723/2713, FP 140 to 1015, BHT 162^oF.
- DST #3 7169' -7,450', Misrun, 60' L06 fill; could not get to bottom.
- DST #4 7169' - 7,450', G.I.P., Strong air blow decreasing, dead in 35 minutes; no gas to surface. Recovered 4,680' fresh water. VO 45, SI 61/90, preflow 1 minute. HP 2812/2727, SIP 2610/2615, FP 1563 to 2087, BHT 151^oF.

Formation Tops:

KB Elevation 3,781'

<u>Formation</u>	<u>Expected</u>	<u>Sample</u>	<u>Log</u>	<u>Subsea(Log)</u>
Spud in Mattson				
Besa River	3950	4062	4043	- 262
First Black Shale			4840	-1059
Second Black Shale			5356	-1575
Nahanni	6500		5650	-1869

D

DAILY PROGRESS REPORTS

Bluemount et al Beavercrow YT B-16

Reports cover the 24 hour period from 6:00 AM, to 6:00 AM on the date shown.

Feb.	4, 1971	106'	Spud 7:00 PM February 3, 1971, drill 12-1/4" hole 0'-106' (106').
	5	141'	Drill 12-1/4" hole 106' - 141' (35'). Lost circulation in unconsolidated sand at 112', poor returns. Mixing lost circulation slurries and waiting on water. Additional water trucks being brought in.
	6	237'	Solve lost circulation with sawdust-gel-fibre slurry, drill 12-1/4" hole 141'-237' (96').
	7	429	Drill 12-1/4" hole 237'-429' (192'). Recurrence of lost circulation 323'-350', believed to be upper zone rather than new zone of lost circulation.
	8	717'	Drill 12-1/4" hole 429'-717' (288'). Circulate and prepare to run surface casing.
	9	717	Ran 9-5/8" surface casing, landed at 717' KB, Cemented with 400 sacks + 2% CaCl ₂ , excellent returns, no fallback. Nipple up. ²
	10	800'	Pressure test Kelly cock, pipe rams, blind rams, Hydril and manifold to 1,000 psi. for 15 minutes, all okay. Drill out and drill 8-3/4" hole 717'-780' (63'). Pull out, pick up square collar and stabilization, ream in and drill 8-3/4" hole 780'-800' (20').
	11	1,180'	Drill 8-3/4" hole 800'-1,180' (380'). Start loosing fluid at 1,155' at rate of 30 bbls./hr., reducing loss naturally to 15 bbls./hr. at report time.
	12	1,462'	Drill 8-3/4" hole 1,180' - 1,462' (282').
	13	1,686'	Drill 8-3/4" hole 1,462' - 1,686' (224'). Rate of loss of fluid now reduced to 6 bbls./hr.

Feb. 14, 1971 2,140' Drill 8-3/4" hole 1,686' - 2,140' (454').

15 2,498' Drill 8-3/4" hole 2,140' - 2,498' (358').

16 2,825' Drill 8-3/4" hole 2,498' - 2,825' (327').

17 3,294 Drill 8-3/4" hole 2,825' - 3,294' (469').

18 3,455' Drill 8-3/4" hole 3,294' - 3,455' (161').
Minor reaming. Top of Lower Mattson Sand at 3,396' has slowed penetration and decreased bit life markedly.

19 3,692' Drill 8-3/4" hole 3,455' - 3,692' (237').
Loose 100 bbls. mud into fractured sand at 3,590', no continuing loss.

20 3,824' Drill 8-3/4" hole 3,692' - 3,824' (132').
Ream 33' to bottom. Replace washed out shock sub.

21 3,940' Drill 8-3/4" hole 3,824' - 3,940' (116');
replace locked lower reamer, ream to bottom.

22 4,045' Drill 8-3/4" hole 3,940' - 4,045' (105').
Change out square collar on trip, had to ream in with new collar from 2,690'.
70' of fill on bottom.

23 4,265' Drill 8-3/4" hole 4,045' - 4,265' (220').

24 4,605' Drill 8-3/4" hole 4,265' - 4,605' (340').

25 4,835' Drill 8-3/4" hole 4,605' - 4,835' (230').

26 5,202' Drill 8-3/4" hole 4,835' - 5,202' (367').
Measured out at 4,745', corrected tally to 6' shallower.

27 5,531' Drill 8-3/4" hole 5,202' - 5,531' (329').

28 5,616' Drill 8-3/4" hole 5,531' - 5,616' (85').
Work plugged bit and ream tight hole 5,029' - 5578'. Lithology change to brittle siliceous shale at 5,595'.

- March 1, 1971 5,621' Drill 8-3/4" hole 5,616' - 5,621'. Loose circulation, work out of tight hole, run in with slick string and cut out bit. Lost 1,400 bbls. of lost circulation slurry to formation.
- 2 5,621' Mix lost circulation slurries, unable to make any gain. Drop cement plug #1, 100 sacks + 1% CaCl₂ + 1 sack Gel Flake, plug held, but lost circulation again immediately that plug was drilled out.
- 3 5,632' Mix lost circulation cement plug #2, 130 sacks + 4% CaCl₂ + 1 sack Gel Flake, plug held, recovered 200 bbls. fresh water when circulation established on top of plug #2. Drill 8-3/4" hole 5,621' - 5,632' (11'), 6' in 5 min., remaining feet much slower. Loose circulation, run lost circulation plug #3, 100 sacks + 4% CaCl₂ + 1 sack Gel Flake.
- 4 5,632' Plug #3 failed to hold, dummy trip deteriorating hole before dropping plug #4, hole tightened up and finally stuck pipe with bit at 4,698'. No movement up or down, no rotation; able to feel annulus, unable to feel pipe.
- 5 5,632' Work stuck pipe, drop lost circulation plug #4, 50 sacks cement + 4% CaCl₂ + 1/2 sack Gel Flake to establish bottom to hole preparatory to shooting off. Filled hole after 3 hours, able to build pressure up to 1,000 psi. after 16 hours, unable to establish communication between inside of pipe and annulus. Wait on line truck and work stuck pipe.
- 6 5,632' Run in with sinker bars, worked through restriction at 4,538', unable to go below 4,573'. Run free point indicator, pipe free at 4,314', stuck at 4,324'.
- 7 5,632' Run 400 grain backoff shot, backed off at 4,318'. Reestablish bit at 4,558': Hoist fish, run in with near bit reamer, 3 collars and bit to clean to top of fish. Ream in from 3,100' - 3,430'. Left 5 - 6-1/4" & 3 - 6-3/4" drill collars in hole. Bottom joint of 20', pipe recovered on fish is caved in and heavily

March	7, 1971	5,632'	(contd...) scored on outside.
	8	5,632'	Clean out to top of fish, condition hole, prepare to run in jarring/bumping string.
	9	5,632'	Unable to screw into fish with first hook-up, run in second time with sub with cut-back pin, tie onto fish, bumped 6' down, jarred 49' up, no free movement but fish still coming.
	10	5,632'	Jars quit working, ran free point, bit at 4,512', pipe free at 4,423', shoot off at 4,392', retrieve 4 - 6-1/4" collars. Clean hole to top of fish circulating out large chunks and long slivers of black shale.
	11	5,632'	Run in to tie onto fish, unable to get onto fish, keep sliding off, damage screw-in sub. Will run in with overshot and jars. Wait on sub and circulate hole.
	12	5,632'	Circulate, run in and tie onto fish, jar up, move fish 62', still coming hard and slow, no free movement.
	13	5,632'	Jar loose, recover entire fish. Drill collars bent. Trip in to clean and condition hole.
	14	5,632'	Find top cement at 5,414', drilled out, lost circulation at 5,632'. Attempted to ream ahead blind, ran out of water after 400 bbls., prepare to run lost circulation plug #5.
	15	5,632'	Ran lost circulation plug #5, 100 sacks cement + 4% CaCl ₂ + 1 sack Gel Flake, establish circulation on top of plug, run in to drill, start reaming at 3,130. Well appears to be making fresh water while circulating.
	16	5,632'	Ream deteriorating hole to 4,280', trip for new bit, ream to 4,600'.
	17	5,632'	Ream 4,600' - 5,200', work stuck pipe at 5,200'; come free, clean out to 5,582', dummy trip hole in good condition, clean out to 5,632' (last 8' blind), drill 4" of new hole (very hard). Run lost circulation plug #6, 100 sacks cement +

March 17, 1971 5,632' (contd...)
4% CaCl₂ + 1 sack Gel Flake, preceded with 90 bbls. Hi-vis mud containing 100 sacks sawdust + 11 sacks fiber, followed by 50 bbls. Hi-vis mud followed by 6 bbls. diesel + 1 bbl. No stik. with 57 bbls. mud, recover 250 bbls. water.

18 5,632' Ream in, recurring trouble spots at 3,200' and 4,300'. Reaming at 4,860' at report time.

19 5,632' Ream in, work tighthole. Reaming at 4,250' at report time. Hole deteriorating severely.

20 5,632' Clean out to 5,604', make no attempt to drill out, circulate to log.

21 5,632' Circulate, condition hole to log. Run Schlumberger logs.

22 5,632' Finish running IES, BHCSGRC, MLC logs to 5,585'. Run in, condition hole for intermediate casing.

23 5,632' Circulate, dummy trip and condition hole while waiting on intermediate casing.

24 5,632' Install casing hanger spool, unload casing and run 7-5/8" intermediate casing.

25 5,632' Ran 104 joints 7-5/8" casing, mixed Hydril and Extreme-Line, mixed 26 and 29#, landed at 5,604' KB, cemented with 760 sacks + 8% Gel, tailed in with 200 sacks neat. Obtained 250 cu. ft. cement returns.

26 5,632' WOC

27 5,632' Pressure test Manifold and blind rams, head-up and nipple up, pick up drill pipe.

28 5,641' Pressure test pipe rams, Hydril, manifold to 1,500 psi. for 15 min., drill out, casing, loose circulation at 5,628', drill 6-3/4" hole blind 5,632' - 5,641' (9'), pull out, lost all three cones. Wait on magnet.

29 5,651' Recover all cones and flapper valve from float equipment with magnet, drill 6-3/4" hole blind 5,641' - 5,651' (10'). Fluid level

March 29, 1971 5,651' (contd...)
appears to vary from 1,750' to 3,450'
below surface.

30 5,710' Drill 6-3/4" hole blind 5,651' - 5,710' (59'),
will take core to define lithology. Wait
on core hand.

31 5,746' Cut core #1 5,710' - 5,715', recover 3.4',
ream core hole and drill 6-3/4" hole blind
5,715' - 5,746' (31'). Run lost circulation
plug #7, 110 sacks cement + 4% CaCl₂ + 1 sack
Gel Flake, wait on cement.

April 1, 1971 5,746' Unable to establish circulation on top of
plug #7, run plug #8, C103 + 4% CaCl₂ + 1
sack Gel Flake, unable to establish
returns; Run plug #9, C273 + 4% CaCl₂ +
2 sacks Gel Flake, unable to establish
returns; Run plug #10, C100 + 4% CaCl₂ +
1 sack Gel Flake, WOC.

2 5,746' Unable to establish circulation on top of
plug #10, Run plug #11, C111 + 4% CaCl₂ +
1 sack Gel Flake, unable to establish
returns; Run plug #12, C126 + 4% CaCl₂ +
1 sack Gel Flake, unable to establish
returns; Run plug #13 C80 + 25% Plaster,
unable to establish returns; Run plug #14,
C60 + 25% Plaster, established returns.

3 5,746' Top of plug #14 felt at 5,488', drilled
out to 5,636', lost circulation; cleaned out
to 5,746', ran plug #15, C105 + 4% CaCl₂,
felt at 5,741'; Ran plug #16, C109 + 4% CaCl₂.

4 5,760' Felt plug #16 at 5,741'. Ran plug #17,
C95 + 4% CaCl₂, unable to establish returns,
ran plug #18, C105 + 4% CaCl₂, unable to
establish returns, drill 6-3/4" hole blind
5,746' - 5,756' (10'). Cut core #2
5,756 - 5,760 (4').

5 5,855' Drill 6-3/4" hole blind 5,760' - 5,805' (45'),
cut core #3 blind 5,805' - 5,809', recover
2.5'. Drill 6-3/4" hole blind 5,809' - 5,855'
(46').

April 6, 1971 5,905' Cut core #4 blind 5,855' - 5,859' (4'),
recover 2'. Drill 6-3/4" hole blind
5,859' - 5,903' (44'), cut core #5
blind 5,903' - 5,905', recover 1.7'.

7 5,949' Ream core hole, drill 6-3/4" hole blind
5,905' - 5,949' (44'). Rig drilling string
to protect against blow out while drilling
blind using Otis nipple and T1W valve for string
protection and Lynes DDT tool for annulus
protection. Wait on these tools before
drilling below 5,905'.

8 6,001' Cut core #6 blind 5,949' - 5,951', recover
1.5', drill 6-3/4" hole blind 5,951' - 6001'
(50'). Wait on water 8 hours.

9 6,048' Cut core #7 blind 6,001' - 6,006', recover
5', drill 6-3/4" hole blind 6,006' - 6,048'
(42'); wait on water 9 hours.

10 6,105' Cut core #8 blind 6,048' - 6,053', recover
4.5'. Drill 6-3/4" hole blind 6,053' - 6,105'
(52'); wait on water 5 hours.

11 6,178' Cut core #9 blind 6,105' - 6,110', recover
5.3'; drill 6-3/4" hole blind 6,110' - 6,178'
(68').

12 6,241' Drill 6-3/4" hole blind 6,178' - 6,185' (7');
cut core #10 blind 6,185' - 6,190', recover
4.7'; drill 6-3/4" hole blind 6,190' - 6,241'
(51'). Wait on water 5-3/4 hrs.

13 6,256' Drill 6-3/4" hole blind 6,241' - 6,256' (15').
Wait on water 18 hours.

14 6,258' Cut core #11 blind 6,256' - 6,258', recover
1'. Ream core hole, DDT packer set while
reaming, had to trip out for rubber replacement.
Wait on water 11-3/4 hours.

15 6,286' Drill 6-3/4" hole blind 6,258' - 6,286' (28').
Wait on water 17-1/2 hrs. Fluid level stable at
1,200' below surface.

16 6,286' Wait on water 24 hrs.

April 17, 1971 6,345' Drill 6-3/4" hole blind 6,286' - 6,304' (18'); cut core #12 blind 6,304' - 6,306', no recovery; drill 6-3/4" hole blind 6,306' - 6,345' (39').

18 6,366' Drill 6-3/4" hole blind 6,345' - 6,364' (19'); cut core #13 blind 6,364' - 6,366', recover 0.5'. Wait on water 13-1/2 hrs.

19 6,424' Drill 6-3/4" hole blind 6,366' - 6,412' (46'). Cut core #14 blind 6,412' - 6,414', no recovery; drill 6-3/4" hole blind 6,414' - 6,424' (10'). Wait on water 9-1/4 hrs.

20 6,464' Cut core #15 blind 6,424' - 6,428', recover 1.5'. Drill 6-3/4" hole blind 6,428' - 6,464'. Wait on water 14-3/4 hrs.

21 6,517' Drill 6-3/4" hole blind 6,464' - 6,517' (53'); wait on water 18-1/4 hrs.

22 6,556' Drill 6-3/4" hole blind 6,517' - 6,556' (39'). Rig to log, run SNP and DIL logs.

23 6,562' Run FDC, BHCSGRC, HDT, wave train pictures, cut core #16 blind 6,556' - 6,562', recover 1'.

24 6,643' Drill 6-3/4" hole blind 6,562' - 6,643' (81'); wait on water 13-1/4 hrs.

25 6,720' Drill 6-3/4" hole blind 6,643' - 6,720' (77'); run in with magnet, recover 1-1/4 tong dies; unable to core because of iron in hole. Wait on water 5-1/2 hrs.

26 6,783' Drill 6-3/4" hole 6,720' - 6,783' (63'), still feeling iron on bottom. Wait on water 11-1/2 hrs.

27 6,843' Run magnet and junk sub, no recovery; cut core #17 blind 6,783' - 6,785', recover 1.2'. Drill 6-3/4" hole blind 6,785' - 6,843' (58'). Wait on water 3-1/4 hrs.

28 6,933' Drill 6-3/4" hole blind 6,843' - 6,933' (90'). Wait on water 12 hrs.

April 29, 1971	6,938'	Drill 6-3/4" hole 6,933' - 6,938' (5'). Run drillstem test #1, 5,756' - 5,850' no gas, water recovery. Wait on water 4-1/4 hrs.	
	30	7,065'	Laydown testing tools, drill 6-3/4" hole blind 6,938' - 7,065' (127').
May 1, 1971	7,160'	Cut core #18 blind 7,065' - 7,070', recover 2.5', drill 6-3/4" hole blind 7,070' - 7,160' (90'). Conservation Board check of rig.	
	2	7,262'	Drill 6-3/4" hole blind 7,160' - 7,262' (102'). Wait on water 7 hrs.
	3	7,354'	Drill 6-3/4" hole blind 7,262' - 7,349' (87'); cut core #19 blind 7,349' - 7,354', recover 2.5'. Wait on water 6 hrs.
	4	7,495'	Drill 6-3/4" hole blind 7,354' - 7,495' (141').
	5	7,508'	Cut core #20 blind 7,495' - 7,500', no recovery; cut core #21 blind 7,500' - 7,507', recovered 0.5'. Clean to bottom, ream core hole, drill 6-3/4" hole blind 7,507' - 7,508' (1'), rig to log. Run FDC and SNP logs.
	6	7,508'	Run DIL, BHCSGRC, HDT, Velocity survey, clean hole to bottom, wait on orders.
	7	7,508'	Wait on orders, DST #2 7,469' - 7,508', no gas, recover water.
	8	7,508'	DST #3, 7,169' - 7,450', misrun. Could not get to within 60' of bottom, clean out to bottom.
	9	7,508'	DST #4, 7,169' - 7,450', no gas, water recovery. Run abandonment plug #1 7,508' - 7,000, C250 neat, no feel. Set Baker Model K bridging plug at 5,520' KB, C55 neat on top, no feel.
May 10	7,508'	Cut casing 4' below ground level. Puddle 18 sacks cement into stub, weld plate over stub, erect permanent marker, tear out. Rig released 4:00 PM, May 9, 1971.	

E

DEVIATION REPORT

Bluemount et al Beavercrew YT B-16

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
60'	3/4°	3,488'	2-3/4°	7,400'	6-3/4°
141'	1/2°	3,520'	2-3/4°		
181'	1/4°	3,583'	3-1/8°		
244'	1/4°	3,675'	3°		
305'	1/8°	3,722'	3-1/4°		
365'	1/4°	3,784'	3-1/2°		
427'	1/2°	3,826'	3-1/2°		
490'	1/2°	3,913'	3-1/2°		
549'	1/2°	3,985'	3°		
640'	3/4°	4,086'	2-3/4°		
698'	1-1/8°	4,344'	3-1/4°		
840'	7/8°	4,530'	6°		
1,060'	7/8°	4,751'	6-1/4°		
1,370'	3/4°	4,877'	5-1/2°		
1,645'	1-3/4°	5,124'	5-3/4°		
1,835'	1-1/2°	5,434'	6°		
2,047'	1-3/4°	5,578'	6°		
2,140'	2-1/4°	5,619'	5-1/2°		
2,201'	2-1/2°	5,775'	4-3/4°		
2,264'	2-1/4°	5,800'	4-3/4°		
2,325'	2-3/4°	5,900'	4-1/4°		
2,386'	3°	6,000'	3-3/4°		
2,447'	2-3/4°	6,100'	3°		
2,508'	3°	6,200'	2-3/4°		
2,598'	3°	6,300'	2-1/2°		
2,690'	2-3/4°	6,400'	2-1/2°		
2,784'	2-3/4°	6,500'	3°		
2,875'	2-1/2°	6,600'	3-1/3°		
2,968'	2-3/4°	6,700'	4°		
3,060'	2-1/4°	6,800'	4-1/3°		
3,183'	2°	6,900'	3-3/4°		
3,303'	2-3/4°	7,000'	4°		
3,393'	3°	7,100'	3-3/4°		
3,426'	2-1/8°	7,200'	4-3/4°		
3,457'	2-1/2°	7,300'	5-1/2°		

Note: All surveys below 5,800' are taken from dipmeter log.

F

BIT RECORD

Well Name: Bluemount et al Beavercrew YT B-16

NB: Rerun Bit rins show footage and hours for rerun period only.

No.	Size	Mf'gr.	Type	Jets	Depth Out	Feet	Hours	No. of D.C.'s	Wt, M ³ 's	R.P.M.	Pump Pres.	Serial No.	Condition	Remarks
1A	12-1/4	HW	OWV		200	200	18-1/2					NB347		
2A	12-1/4	Reed	YSI		233	33	6-1/2	6	24	45	350	575693	4-2-I	(-)
3A	12-1/4	HW	X55R		717	484	38-1/4	20	52	45	500	RD673	1-2-I	
1	8-3/4	Reed	SMG	12-12-12	780	63	4	19	30	46	1200	875138	5-4-I	
2	8-3/4	Smith	5JS	10-11-11	1645	865	64-1/4	19	40	46	1400	E2420	4-2-I	✓
3	8-3/4	HW	X55R	10-11-11	2522	877	48-1/4	19	40	46	1400	28693	4-8-I	
4	8-3/4	HW	X55R	10-11-11	3393	871	44-1/2	19	40	46	1400	26418	5-8-I	
5	8-3/4	HW	X55R	10-11-11	3426	33	4	19	40	46	1400	AV251	5-1-I	
6	8-3/4	HW	RG7X	10-11-11	3602	176	12	19	30	46	1400	25446	4-1-I	
7	8-3/4	HW	RG7X	10-11-11	3722	120	14	19	30	46	1400	29384	8-1-I	
8	8-3/4	HW	RG7X	10-11-11	3784	62	7-1/4	19	30	46	1400	25443	8-1-I	
9	8-3/4	Reed	SCAG	10-11-11	3826	42	4-3/4	19	30	46	1000	675371	8-8-I	✓
10	8-3/4	HW	RG7X	10-11-11	3913	87	11	19	30	46	1000	8559	8-3-I	
11	8-3/4	HW	RG7X	10-11-11	3985	72	12-1/4	19	30	34	850	96373	8-3-I	
12	8-3/4	HW	RG1XJ	10-11-11	4086	101	17	19	28	35	950	RJ016	1-2-I	2
13	8-3/4	Smith	4JS	10-11-11	4751	665	47-3/4	19	38	44	1400	FZ512	6-8-I	✓
14	8-3/4	Smith	5JS	10-11-11	5578	827	56-1/4	19	38	44	1500	FE640	8-8-I	✓
15	8-3/4	Reed	SCH5	10-11-11	5619	41	7-1/2	19	38	44	1500	885103	3-2-I	✓
16	8-3/4	HW	X55R	10-11-11	5621	2	1/4	19	15	35	1800	29645	1-1-I	
17	8-3/4	Reed	YH6	22-22-22	5632	11	1-1/4	8				585365		Stuck.
18	8-3/4	Reed	SMG	22-22-22			RMG	17-3/4	3		500	875138		Clean-out, Fishing, RR#1.
19	8-3/4	Western	ODV	22-22-22			RMG	3-1/2	6			27700		
20	8-3/4	Western	ODV	22-22-22			RMG	8	5			27700		Rerun #19.
21	8-3/4	Western	ODV	22-22-22			RMG	15-3/4	6					Rerun #19; drill cement plug
22	8-3/4	Reed	YHG	22-22-22			RMG	17-1/2	6	10	60	400	585365	Rerun #17
23	8-3/4	Western	ODV	14-14-14			RMG	20-3/4	6	8	85	1200	22800	
24	8-3/4	Western	XDV	14-14-14			RMG	28-3/4	6	10	85	1200	25538	
25	8-3/4	Western	XDV	14-14-14			RMG	11-1/4	6		1300	30484		Clean out for logs & csg.
1B	6-3/4	Smith	L4HJ	None	5641	9	5	21	24	46	75010	FB529	RMKS	3 cones missing; drillout
2B	6-3/4	Reed	YHG	None	5676	35	8-1/4	21	15	46	0	685027	7-3-I	csg.
3B	6-3/4	Smith	SS5	12-12-12	5710	34	3-3/4	21	18	40	0	EX058	1-2-I	
4B	5-1/2	Truco	Diam. Core		5715	5	1-1/4	8	8	70	0	0764C	Good	Core #1
5B	6-3/4	Smith	SS5	12-12-12	RM Corehole		1-1/4	21	20	40	0	EX058		Rerun 3B
6B	6-3/4	Reed	YHG	9-9-11	5746	31	2-3/4	21	20	40	0	685022		
7B	6-3/4	Reed	YHG	9-9-11	5756	10	1/2	21	20	42	0	878356	1-2-I	
8B	5-1/2	Truco	Diam. Core		5760	4	1/2		8	68	0	0764C	Good	Core #2; RR #4B
9B	6-3/4	Reed	YHG	9-9-11	5805	45	4-1/4	21	24	46	200	878356	4-4-I	RR #7B; Reamed 4' in 1/2 hr.

BIT RECORD

Well Name: Bluemount et al Beavercrow YT B-16

NB: Rerun bit runs show footage and hours for rerun period only.

No.	Size	Mf'gr.	Type	Jets	Depth Out	Feet	Hours	No. of D.C.'s	Wt. M ² 's	R.P.M.	Pump Pres.	Serial No.	Condition	Remarks
10B	5-1/2	Truco	Diam. Core	None	5809	4	3/4		8	72	0	0764C	Good	Core 3; RR #4B
11B	6-3/4	Reed	YHG	8-9-9	5855	46	3	21	23	45	0	685025	4-4-I	Ream 4' in 1/4 hr.
12B	5-1/2	Truco	Diam. Core	None	5859	4	1-1/4		8	72	0	0764C	Good	Core 4, RR #4B
13B	6-3/4	Western	WR	8-9-9	5903	44	4-1/2	21			0	TW855		Ream. 4' in 1/2 hr.
14B	5-1/2	Truco	Diam. Core	None	5905	2	3/4		8	72	0	0764C	Worn	Core 5, RR #4B
15B	6-3/4	Western	W7	Conven.	5949	44	4	3	14	38	0	22096	3-3-I	Ream. 2' in 1/4hr.
16B	5-1/2	Truco	Diam. Core	None	5951	2	1/2		6	60	0	0766C	Good	Core 6.
17B	6-3/4	Western	X55R	8-9-9	6001	50	4-1/4	3	15	54	0	AC174	1-3-I	Ream. 2' in 1/4 hr.
18B	5-1/2	Truco	Diam. Core	None	6006	5	3/4		7	72	0	0766C	Good	Core 7, RR # 16B
19B	6-3/4	Western	X55R	8-9-9	6048	42	4-1/2	3				AC174	3-3-I	Ream. 5' in 3/4 hr;RR#17B.
20B	5-1/2	Truco	Diam. Core	None	6053	5	1/2		8	72	0	0766C	Good	Core 8, RR #16B.
21B	6-3/4	Western	X55R	8-9-9	6105	52	6-1/4	3	15	55	0	AC174	4-8-I	Ream. 5' in 1/2 hr;RR#17B.
22B	5-1/2	Truco	Diam. Core	None	6110	5	1/2		8	75	0	0766C	Good	Core 9, RR #16B
23B	6-3/4	Reed	YHG	8-9-9	6156	46	7-1/4	3	15	55	0	783444	2-3-I	Ream. 5' in 1/2hr.
24B	6-3/4	Western	OWV	Conven.	6185	29	5	10	25	44	0	70171		
25B	5-1/2	Truco	Diam. Core	None	6190	5	1/2		8	74	0	0766C	Good	Core 10, RR #16B.
26B	6-3/4	Reed	YHG	8-9-9	6256	66	8-1/2	10	22	55	0	783453	4-2-I	Ream. 5' in 1-1/4 hr.
27B	5-1/2	Truco	Diam. Core	None	6258	2	1/4		8	72	0	0766C	Good	Core 11, RR #16B.
28B	6-3/4	Reed	YHG	8-9-9	6333	75	8-1/4	10	20	55	0	878029	4-6-I	Ream. 2' in 1/4 hr.
29B	5-1/2	Truco	Diam. Core	None	6335	2	1/4		7	62	0	0766C	Good	Core 12, RR #16B.
30B	6-3/4	Reed	YHG	8-9-9	6364	29	3	10	20	54	0	783444	4-6-I	Ream. 2' in 1/4 hr.,RR23B.
31B	5-1/2	Truco	Diam. Core	None	6366	2	1/4				0	0766C	Good	Core 13, RR 16B.
32B	6-3/4	Reed	YHWG	8-9-9	6412	46	3-1/2	10	25	54	0	775435		Ream 2' in 1hr.
33B	5-1/2	Truco	Diam. Core	None	6414	2	1/4		5	60	0	0766C	Good	Core 14; RR 16B.
34B	6-3/4	Reed	YHWG	8-9-9	6424	10	3/4	10			0	775435	3-4-I	Ream. 2' in 1/4 hr.:RR32B.
35B	5-1/2	Truco	Diam. Core	None	6428	4	1/4		12	72	0	0766B	Good	Core 15, RR 16B
36B	6-3/4	Reed	YHWG	8-9-9	6517	89	7-3/4	10	25	54	0	685056		Ream. 4' in 1/4 hr.
37B	6-3/4	Reed	YHWG	8-9-9	6556	39	4	10	25	54	0	685054		
38B	5-1/2	Truco	Diam. Core	None	6562	6	1-1/2		10	72	0	0764C		Core 16, RR4B
39B	6-3/4	Reed	YHWG	8-9-9	6650	88	8	10	25	54	0	775431		Ream. 6' in 1/2 hr.
40B	6-3/4	Western	W7J	8-9-9	6743	93	9-3/4	10	22	55	0	DR010		Iron on bottom.
41B	6-3/4	Western	W7J	8-9-9	6783	40	5-1/2	10	22	55	0	DR012		Iron on bottom.
42B	5-1/2	Truco	Diam. Core	None	6785	2	1/4		10	72	0	0764C		Core 17, RR 4B
43B	6-3/4	Western	W7	8-9-9	6843	58	6-1/2	10	22	55	0	CJ783		Ream. 2' in 1/4 hr.
44B	6-3/4	Western	OWC	8-9-9	6938	95	9-1/4	10	25	54	0	RJ684	6-6-I	
45B	6-3/4	Reed	YSI	8-9-9	7065	127	12-3/4	14	25	55	0	596415		
46B	5-1/2	Truco	Diam. Core	None	7070	5	1		10	72	0	0764C		Core 18, RR #4B
47B	6-3/4	Western	OWV	Conventional	7182	112	13	18	25	55	0	56629	7-5-I	Ream. 5' in 1/2 hr.

G

H

REPORT ON FISHING OPERATIONS

Bluemount et al Beavercrow YT B-16

Fishing Company: Homco, a division of BS&B

Fisherman: Fred Freeman

Line Truck Operator: Wilbert Nickle

- March 4 Fisherman enroute to location. Pipe stuck with bit at 4,898'. No movement or rotation. Total depth 5,632' with lost circulation. Annulus holds fluid, drillpipe not. Dropped 50 sacks cement plug to establish a bottom to the hole. Pressured up in increments to 1000 psi. at surface, unable to establish fluid communication between drillpipe and annulus.
- March 5 Work pipe and attempt to break circulation while waiting on line truck.
- March 6 Ran sinker bars with hydraulic jars, sprang jars and chisel point to check pipe for bridges. Ran in to 4,538', pipe bridged. Spudded through and ran to 4,573'. Unable to spud through obstruction at 4,573'; jars sticking occasionally. Pulled out, Spang jars split from spudding on hard surface. Ran in with hydraulic jars-sinker bars-chisel point, could not spud past 4,573' wire line measure. Ran free point, pipe stuck to 4,324', free at 4,314'. Ran string shot at 4,296' and backed off. Pulled one stand and worked through very tight hole. Broke circulation. Circulate, condition mud and hole. Circulate back down to top of fish, hole caving badly. Raised viscosity, chain tong out of hole. Recovered all drillpipe, left bit, three 6-3/4" drill collars, and five 6-1/4" drill collars.
- March 7 Ran in with 8-3/4" bit, reamer, and three 6-1/4" drill collars. Ream intervals from 3,100' to top of fish. Bridge 30' above fish continually sloughing in and reaming very hard. Measured out to change bit and drill collars. Pick up six 6-3/4" drill collars and clean to top of fish.

Bluemount et al Beavercrew YT B-16

- March 8 Condition hole above fish, ream out sloughing spot 30' above fish and circulate clean; pull out. Pick up total 14 drill collars, hydraulic jars, bumper sub, circulating sub. Run in with one 6" collar below jars. Circulate to top of fish but unable to screw in. Pulled out, lay down 6" drill collar and run in with cut lip sub below jars. Circulate to top of fish and screw in. Bump fish down and jar up; fish moving slowly.
- March 9 Continue jarring and bumping fish. Jarred fish up 41' but jars getting weak. Ran sinker bars with line stuck and found pipe clear to bit at 4,512'. Ran free point and found drill collars free to 4,423'. Pulled free point tools and ran string shot; shot off at 4,392', backed off and chain tong out of hole. Recover four 6-1/4" drill collars. Pick up 8-3/4" bit and near bit reamer.
- March 10 Ream and clean to top of fish at 4,393' Circulate, work pipe, make ten stand dummy trip, clean 5' new fill from top of fish. Circulate hole clean, pull out, pick up screw-in sub, 5-3/4" Johnston hydraulic jars and 6-3/4" x 60" Homco bumper sub on 18 drill collars. Circulate to top of fish, try to screw in, unsuccessful; tools apparently dropping along side of fish. Pull out, screw-in sub damaged at pin from attempting to screw-in. Run in with 8-3/4" bit to condition hole.
- March 11 Finish running in, circulate and work pipe while waiting on tools. Pull out, pick up 9,222-8 3/8" overshot, Homco bumper sub, Johnston Jars. Run in, circulate to top of fish, work over fish and latch on. Jar up on fish, move pipe 25'.
- March 12 Continue jarring, wait on rig clutch repairs. Fish came free after jarring up 90-100'. Chain tong out, lay down tools and fish.

Fisherman released March 13. . .

I

LOST CIRCULATION PLUG SUMMARY

Bluemount et al Beavercrew YT B-16

- Plug No. 1 March 2, 1971 T.D. 5,621' 8-3/4" hole
- 100 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake;
Slurry wt. 15.6; 10 bbls. water ahead, displaced
with 63 bbls. mud. Dropped from 5,530'; Plug
down 1:45 AM. ; Plug felt at 5,500' after 3-1/2 hrs.;
drilled out, lost total returns when drilled out
(no new hole made).
- Plug No. 2 March 2, 1971 T.D. 5,621' 8-3/4" hole
- 130 sacks Oilwell + 4% CaCl₂, Slurry wt. 15.6;
10 bbls. water ahead, displace with 63 bbls. mud.
Dropped from 5,621'. Plug down 10:00 AM. Plug
felt at 5,620' after 4-3/4 hrs.; drilled out,
made 8 fast feet, lost total returns, made 3
additional feet blind.
- Plug No. 3 March 3, 1971 T.D. 5,632' 8-3/4" hole
- 100 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake;
Slurry wt. 15.6; 10 bbls. water ahead, displace with
60 bbls. mud. Dropped from 5,500'; Plug down 7:15 AM
Plug felt after 3-1/2 hrs., could not find; would not
hold fluid. Pipe stuck while preparing to run plug #4.
No movement, no rotation. Annulus would hold fluid,
drillpipe would not. It was necessary to establish a
bottom to the drillpipe before shooting off; this
was attempted with plug #4.
- Plug #4 March 4, 1971 T.D. 5,632' 8-3/4" hole
- 50 sacks Oilwell + 4% CaCl₂ + 1/2 sack Gel Flake,
Slurry wt. 15.6, led with 170 bbls. lost circulation
slurry, followed by 50 bbls. water. Displaced with
120 bbls. mud (overdisplace 54 bbls.). Plug down
2:00 AM. Started pressuring up on drillpipe after
4 hours to 200 psi., increasing to 1000 psi. after
12 hours. Unable to break circulation. After
successful fishing operations, cement was felt at
5,514'. Total returns lost at 5,632'.

Bluemount et al Beavercrow YT B-16

- Plug No. 5 March 14, 1971 T.D. 5,632' 8-3/4" hole
- 100 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake, Slurry wt. 15.6, led with 10 bbls. water, displace with 74 bbls. mud. Dropped at 5,623'; plug down 7:15 AM. Established returns after 3 hours. Found top cement at 5,582', lost complete returns at 5,612'. Made 4" new hole.
- Plug No. 6 March 17, 1971 T.D. 5,632' 8-3/4" hole
- 100 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake. Led with 90 bbls. Hi-viscosity lost circulation slurry containing 100 sacks sawdust plus 11 sacks cane fiber, in turn followed by 50 bbls. very Hi-viscosity mud, in turn followed by 6 bbls. diesel + 1 bbl. No-stik (in turn followed by cement). Displaced with 75 bbls. mud. Plug down 1:45 AM. Fill hole after 3 hours, established returns with 57 bbls. mud (recovered estimated 250 bbls. fresh water.)
- Plug No. 7 March 31, 1971 T.D. 5,746' 6-3/4" hole
- 110 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake. Displaced with 69 bbls. water. Dropped from 5,746', plug down 2:15 AM. Unable to establish fluid returns after 4 hours. Felt plug at 5,711'. Did not drill out.
- Plug No. 8 March 31, 1971 T.D. 5,746' 6-3/4" hole
- 103 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake. Displaced with 69 bbls. water, dropped from 5,711, plug down 10:15 AM. Unable to establish fluid returns after 4 hours. Felt plug at 5,709'. Did not drill out.
- Plug No. 9 March 31, 1971 T.D. 5,746' 6-3/4" hole
- 273 sacks Oilwell + 4% CaCl₂ + 2 sacks Gel Flake. Displaced with 69 bbls. water. Dropped from 5,709', plug down at 4:30 PM. Unable to establish fluid returns after 6 hours. Felt plug at 5,625'. Did not drill out.

Bluemount et al Beavercrew YT B-16

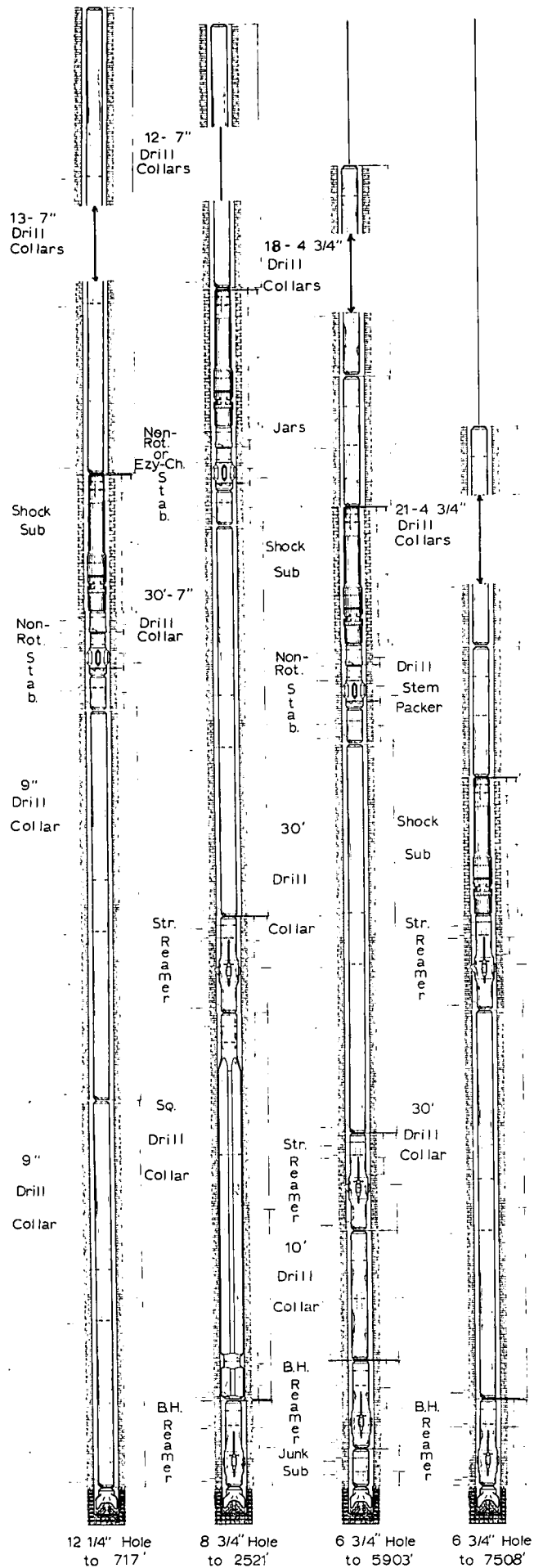
- Plug No. 10 March 31, 1971, T.D. 5,746' 6-3/4" hole
100 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake.
Displaced with 69 bbls. water. Dropped from 5,625',
plug down at 11:40 PM. Unable to establish fluid
returns after 6 hours. Felt plug at 5,622'. Did
not drill out.
- Plug No. 11 April 1, 1971 T.D. 5,746' 6-3/4" hole
111 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake.
Displaced with 69 bbls. water. Dropped from 5,622',
plug down at 9:00 AM. Unable to establish fluid
returns after 6 hours. Felt plug at 5,614'. After
feeling plug pumped additional 220 bbls. water down;
pressure increased to 200 psi., then dropped to 0.
- Plug No. 12 April 1, 1971 T.D. 5,746' 6-3/4" hole
126 sacks Oilwell + 4% CaCl₂ + 1 sack Gel Flake.
Displaced with 69 bbls. water, plug down 4:30 PM.
Unable to establish fluid returns after 6 hours. Felt
plug at 5,611'. Did not drill out.
- Plug No. 13 April 1, 1971 T.D. 5,746' 6-3/4" hole
80 sacks Oilwell + 25% Plaster. Displace with 69 bbls.
water, plug down midnite. Dropped from 5,611'.
Felt plug at 5,606'. Attempt to establish fluid
returns with 250 bbls. water 6-1/2 hours after plug
down, no returns. Did not drill out.
- Plug No. 14 April 2, 1971 T.D. 5,746' 6-3/4" hole
60 sacks Oilwell + 25% Plaster. Displace with 69 bbls.
water, plug down 8:15 AM. Dropped from 5,606'.
Fill hole, break circulation 1/2 hour after plug
down. Put on bit, feel plug #14 at 5,488'. Drill
out plugs, loose circulation at 5,636', clean out
to 5,746'.

Bluemount et al Beavercrow YT B-16

- Plug No. 15 April 3, 1971 T.D. 5,746' 6-3/4" hole
105 sacks Oilwell + 4% CaCl₂. Displace with 69 bbls. .
water. Dropped from 5,746', plug down 1:30 AM.
Unable to establish fluid returns after 4 hours.
Felt plug at 5,741'. Did not drill out.
- Plug No. 16 April 3, 1971 T.D. 5,746' 6-3/4" hole
109 sacks Oilwell + 4% CaCl₂. Displace with 69 bbls.
water. Dropped from 5,741', plug down 6:30 AM.
Unable to establish fluid returns after 4 hours. Felt
plug at 5,741'. Did not drill out.
- Plug No. 17 April 3, 1971 T.D. 5,746' 6-3/4" hole
95 sacks Oilwell + 4% CaCl₂. Dropped from 5741, plug
down 11:15 AM. Unable to establish fluid returns
after 4½ hours. Felt plug at 5741. Did not drill out.
- Plug No. 18 April 3, 1971 T.D. 5,746' 6-3/4" hole
105 sacks Oilwell + 4% CaCl₂. Dropped from 5,739',
plug down 4:45 PM, unable to establish fluid returns
after 4 hours. Felt plug at 5,741'.

Discontinued attempts to regain circulation. Decision
made to drill ahead blind (without returns).

J



BOTTOM HOLE DRILLING ASSEMBLY

Company Bluemount Contractor Petrolia #2
 Location _____ State _____ County _____ By CVO/hb Date 7/9/71
 Beaver Creek
 DRILCO - Box 3135 - Midland, Texas



SERVICES, LTD.

1230 ELVEDEN HOUSE, CALGARY 2, ALBERTA

TOOL RENTALS & SALES - EDMONTON - 435-3976
TOOL JOINT SERVICE - EDMONTON - 435-3911
OFFICE - CALGARY - 264-4684

CALGARY 2, ALBERTA
JULY 14, 1971

BLUEMOUNT RESOURCES, LTD. ----- BEAVER CROW

EQUIPMENT ON LOCATION:

- 1 7" SQUARE DRILL COLLAR -- 8 3/4" HOLE
- 1 B.H. REAMER " "
- 1 STRING REAMER " "
- 1 7" STRING SHOCK SUB " "
- 1 EZY-CHANGE STABILIZER " "
- 1 NON-ROTATING STABILIZER 12 1/4" HOLE
- 1 NON-ROTATING STABILIZER 8 3/4" HOLE
- 1 10' x 40' WELLSITE UNIT
- 1 5 1/4" STRING. SHOCK SUB 6 3/4" HOLE
- 1 NON-ROTATING STABILIZER 6 3/4" HOLE
- 2 REAMERS (1 B.H. & 1 STR.) 6 3/4" HOLE

STANDBY TOOLS

- 1 7" SQ. DRILL COLLARE 8 3/4" HOLE
- 1 B.H. REAMER " "
- 1 STRING REAMER " "
- 1 7" STRING SHOCK SUB " "
- 1 EZY-CHANGE STABILIZER " "

EXPENDABLES USED:

12 1/4" HOLE:	SLEEVES -----	4
8 3/4" HOLE:	CUTTERS (K) -----	8
	SLEEVES -----	4
	SLEEVES (EZY-CH.) ---	3
6 3/4" HOLE:	CUTTERS (K) -----	3 SETS
	SLEEVES -----	1

YOURS TRULY,

DRILCO SERVICES, LTD.

C. V. OLSON

CVO:DB

K

CORE REPORT

Bluemount et al Beavercrew YT B-16

Size Core: 2-3/4"

Size barrel: 5-1/2" positively
stabilized (Diamond)

Service Company: Dy-Drill Ltd. Corehand: Ted Nielson

<u>No.</u>	<u>From</u>	<u>To</u>	<u>Cut</u>	<u>Recover</u>	<u>Formation</u>	<u>General Lithology</u>
1	5,710'	5,715'	5'	3.4'	Nahanni	Limestone, hairline fractures.
2	5,756'	5,760'	4'	2.5'	Nahanni	Limestone, fossiliferous, hairline fractures.
3	5,805'	5,809'	4'	2.5'	Nahanni	Limestone, tight.
4	5,855'	5,859'	4'	2.0'	Nahanni	Limestone, bituminous, tight.
5	5,903'	5,905'	2'	1.7'	Nahanni	Limestone, dark grey-black, bituminous.
6	5,949'	5,951'	2'	1.5'	Nahanni	Dolomite, fractured, tight.
7	6,001'	6,006'	5'	5.0'	Nahanni	Dolomite, very fossiliferous, tight.
8	6,048'	6,053'	5'	4.5'	Nahanni	Limestone, tight, no fractures.
9	6,105'	6,110'	5'	5.3'	Nahanni	Limestone, fossiliferous, tight; 2" black dolomite.
10	6,185'	6,190'	5'	4.7'	Nahanni	Limestone, tight, not fractured.
11	6,256'	6,258'	2'	1.0'	Nahanni	Dolomite, dark grey, tight, no fossils.
12	6,304'	6,306'	2'	nil	Nahanni	

Bluemount et al Beavercrew YT B-16

<u>No.</u>	<u>From</u>	<u>To</u>	<u>Cut</u>	<u>Recover</u>	<u>Formation</u>	<u>General Lithology</u>
13	6,364'	6,366'	2'	0.5'	Nahanni	Dolomite, tight, hairline fractures.
14	6,412'	6,414'	2'	nil	Nahanni	? Dolomite, hard, tight.
15	6,424'	6,428'	4'	1.5'	Nahanni	Dolomite, microcrystalline tight, broken.
16	6,556	6,562'	6'	1.0'	Nahanni	Dolomite, very finely crystalline fine fractures
17	6,783'	6,785'	2'	1.2'	Nahanni	Dolomite, fractured, tertiary dolomite infill.
18	7,065'	7,070'	5'	2.5'	Nahanni	Dolomite, welded, random fractures.
19	7,349	7,354'	5'	2.5'	Nahanni	Dolomite, crinoids, pinpoint porosity.
20	7,495'	7,500'	5'	nil	Nahanni	
21	7,500'	7,507'	7'	0.5'	Nahanni	Dolomite, abundant pyrobitumen, fine fractures.

Total Footage Cut: 83'

Total Recovery: 43.8'

Only Core# 19 analyzed for reservoir parameters; see section P.

See section R for detailed description and coring times.

L

SURFACE CASING
~~INTERMEDIATE CASING~~
~~PRODUCTION CASING~~
 WNER

RUNNING AND CEMENTING

DATE Feb. 8, 1971

WELL NAME: Bluemount et al Beavercrew YT B-16 T.D. 717 CASING SIZE 9-5/8"

GR. ELEV. 3767 KB to GR. 13.50 KB ELEV. 3781 KB to Csg FLANGE _____

MUD TYPE Gel/Water with lost circulation additives. PROPERTIES Vis. 50

B.O.P's None

HOLE SIZE	<u>12-1/4"</u>			Csg. IN HOLE		
DEPTH	<u>717</u>			DEPTH SET		

RUNNING

POWER TONGS None TORQUE: Nom. _____ Min. _____ Max. _____

JOINTS NOT ACCEPTABLE WITHIN TORQUE SPECS: Total one Joint Nos. 22

TIME PIPE STARTED 9:30 AM TIME ON BOTTOM 7:00 PM MINS. CIRCULATED 90

FILLUP POINTS Joints 3, 10 and 21 BTM by Csg 717' FEET UP FROM KB 18.72'

INSPECTIONS RUN: Transverse No Longitudinal No Wall Thick No Grade Verification No

Pin/Collar Visual Pig No Service Co. _____

Rejects: One joint egged by tongs. Cut off with bad thread.

EQUIPMENT

SHOE: Mfgr. Baker Type Float

FLOAT: Mfgr. Baker Type Float

OTHER EQUIPMENT IN STRING: None

CENTRALIZERS: No. 3 Mfgr. _____ Type Hinged

Positions 5' above shoe. 2nd & 4th joints.

SCRATCHERS: No. 0 Mfgr. _____ Type _____

Positions _____

PLUGS: Type Wiper None Type Top Plug Rubber Plug Loading Head? No

REMARKS: Did not run wiper plug because of lost circulation material.

Used no plug loading head for same reason.

WELL NAME: Bluemount et al Beavercrow YT B-16 DATE: Feb. 8, 1971

CEMENTING

CEMENT CO. Dowell OPERATOR B.J. Graves TIME ON LOCATION 10:30 AM

TYPE & QUANTITY PRE-FLUSH 10 bbls. water.

TYPE & QUANTITY CEMENT 400 sacks oilwell (Lafarge) Class "B" with 2% CaCl₂.

Height to be Cemented To surface Basis for fillup calc. Calculated.

Temperatures: Ambient 40 °F; Dry Cement 35 °F; Mix Water 60 °F; Slurry 60 °F.

Water ahead 10 bbls; Start Mix 3:30 PM Finish Mix 4:00 PM Slurry Wt. 15.1

Calc. Disp. 51 bbls; Start Disp. 4:10 PM Finish Disp. 4:30 PM Actual Disp. 51.5

Max. Pump Pres. 150 Were lines pumped clear behind top plug? No

Was pipe reciprocated? Yes Length of stroke 30' During what phase? Circulate How long? 90 min.

Was pipe rotated? No What rotary speed _____ During what phase? _____ How long? _____

Displaced with (fluid) Water Bumped: Press 900 psi. Times 4:30 PM

Float held? Yes Pressure left on casing? No Was landing it bailed or heated? No

Cement Returns? Yes Est. Quantity 160 sacks Length from float to shoe 76.60'

REMARKS: Cement fell 17' below Ground Level 3 hours after plug down;

Cemented by hand from surface with 33 sacks + 2% CaCl₂.

LANDING

Slacked off: Time 12:30 AM Date Feb. 9 Time plug down-slack off 8 hours

Make of Bowl OCT Nom. Size 9-5/8 Flange: Size 10" Pres. 3000

Type of bowl (screw, weld) Weld Model bowl G22 Model slips _____

Seals: Primary _____ Secondary _____

Wear bushing installed? No Calc. wt. of csg. above cement top Nil

Wt. of annular fluid above cement (incl. wash if applic.) Nil

Buoyancy effect of free string Nil

Net tensile load at surf Nil

*Theoretical thermal expansion of free string: Nil

*Theoretical stretch of entire string: Nil; of free string _____

REMARKS Bowl serial number 37435.

Casing slacked off on bottom after plug bumped.

* See charts, reverse side NB: Buoyancy effect = (Wt. free pipe) - (Wt. of fluid displaced by pipe)

M

BLUEMOUNT RESOURCES LTD.

CASING DATA

Surface Casing
 Intermediate Casing
 Production Casing
 Other

WELL NAME: Bluemount et al Beavercrow YT R-16 DATE: March 23/71 CASING SIZE: 7-5/8

LIST CASING BOTTOM TO TOP

Jts. on Location	Feet on Location*	Csg. Wt.	Grade	Rge.	Thr.	T & C	Mfr.	Jts. Run	Feet Run in hole*	Depth Landed	Thd. Loss per jt.	Thd. Loss on Jts. Run	Mill Tally of Pipe Run
1	40	1,724.52	26.4 K55	3	FJ Hyd	FJ Hyd	Hydril	38	1,639.19	5,608	.3021	11.48	1,650.67
2	7	273.67	26.4 K55	3	ARMCO Crystalline	ARMCO Crystalline	NAT	5	193.45	3,776	.3021	1.51	194.96
3	65	2,605.40	26.4 N80	3	Crystalline	Crystalline	NAT	65	2,605.40	1,171	.3021	19.64	2,625.04
4	35	1,368.82	29.7 N80	3	Crystalline	Crystalline	NAT	29	1,131.79	To surface	.3021	8.76	1,140.55
5													
6													
7													
8													
147	5,972.41							137	5,569.83				5,611.22
* threads off measurements													
SUBTOTALS													

ADD: SHOE: Mfr. Baker Type Mod G (Dif.) Length 2.15
 ADD: FLOAT: Mfr. Baker Type Mod G (Dif.) Length 1.92
 ADD: LANDING JOINT _____ Length 39.68
 ADD: OTHER EQUIP. (Specify) _____ Length _____
 SUBTOTAL: Overall Length of Casing String
 SUBTRACT: Feet from KB Tally
 SUBTOTAL: Setting Depth, K.B.: Drilr. 5,606.00 Tally
 SUBTRACT: Shoe Joint, overall incl. float & shoe
 TOTAL: Float Collar Landing Depth, K.B.: Drilr. 5,518.00 Tally

Was landing joint recovered intact? N/A
 If so, Class _____ Length w/thds. _____
 Disposition _____
 Cut-off Jt: Wt. 29.7 T & C Armco Crystalline
 Class E Length 17.58'
 Disposition Scrap to Pit
 Unused Pipe: Disposition Returned for credit. Millers
 Date _____ Via _____
 Class A Truck Ticket No. _____
 Rejected Pipe: Disposition _____
 Date _____ Via _____
 Class _____ Truck Ticket No. _____

REMARKS:

WELL NAME: Bluemount et al Beavercrow YT B-16 DATE: March 23, 1971

CEMENTING

CEMENT CO. Dowell OPERATOR Graves TIME ON LOCATION March 23, 1971

TYPE & QUANTITY PRE-FLUSH 20 bbls. water

TYPE & QUANTITY CEMENT 760 sacks oilwell + 8% Gel. Tailed by 200 sacks Neat.

Height to be Cemented To surface Basis for fillup calc. Caliper + 20%

Temperatures: Ambient -20 °F; Dry Cement -20 °F; Mix Water 75 °F; Slurry 65 °F.

Water ahead 20 bbls; Start Mix 5:30 PM Finish Mix 7:00 PM Slurry Wt. 11.8

Calc. Disp. 263-1/4 bbls; Start Disp. 7:30 Finish Disp. 9:00 Actual Disp. _____

Max. Pump Pres. 2300 Were lines pumped clear behind top plug? No

Was pipe reciprocated? Yes Length of stroke 40' During what phase? Circulate How long? 450

Was pipe rotated? No What rotary speed _____ During what phase? _____ How long? _____

Displaced with (fluid) Mud Bumped: Press 2500 Times 9:00 PM

Float held? Yes Pressure left on casing? No Was landing it bailed or heated? Bailed

Cement Returns? Yes Est. Quantity 250 cu. ft. Length from float to shoe 89.51

REMARKS: _____

LANDING

Slacked off: Time 9:00 PM Date March 24 Time plug down-slack off Immediate

Make of Bowl OCT Nom. Size 10 Flange: Size 10" Pres. 2500

Type of bowl (screw, weld) Weld Model bowl C22 Model slips _____

Seals: Primary Yes Secondary Yes

Wear bushing installed? Yes Calc. wt. of csg. above cement top None

Wt. of annular fluid above cement (incl. wash if applic.) _____

Buoyancy effect of free string _____

Net tensile load at surf _____

*Theoretical thermal expansion of free string: _____

*Theoretical stretch of entire string: _____ ; of free string _____

REMARKS _____

* See charts, reverse side NB: Buoyancy effect = (Wt. free pipe) - (Wt. of fluid displaced by pipe)

BLUEMOUNT RESOURCES LTD.

PIPE TALLY SHEET

Intermediate Casing
 2 1/2" x 10.75 lb/ft
 2 1/2" x 10.75 lb/ft
 2 1/2" x 10.75 lb/ft
 2 1/2" x 10.75 lb/ft
 PAGE 1 OF 4

WELL NAME Bluemount et al. Beavercrow Yt B-16 DATE March 23, 1971

(Shoe Collar)

43	03	43	.24						
42	51	43	01						
43	58	42	72						
43	50	43	05*						
42	93	43	60						
43	71	43	42						
43	47	43	38						
42	52	42	99						
43	38	43	37						
43	00	43	21						
42	84	42	88						
43	11	43	08						
43	23	44	02						
42	57	43	19						
42	95	42	78						
43	61	43	80						
42	67	42	88						
43	20	42	28*						
42	59	43	54						
42	68	43	00						
861	081	863	44						

O.D. 7-5/8
 Wt. 26.4 #
 Grade K55
 Range 3
 Thread FJ Hydril
 Collar FJ Hydril
 Mfgr. Armco

SUMMARY		
Col. 1	861	08
2	863	44
3		
4		
5		
(This Page)		
Fwd.	1,724	52
Fwd.		
Fwd.		

Threads - off Tally; 40 Tot. Jts. on location
 add 302 per joint for mill tally.
 Talled by: Jenkins 2 Jts. out (Incl. Ldg. Jt.)
38 Jts. perm. in hole

Remarks:

* Indicates joints with damaged pins.

Indicate Shoe Joint or Landing
 Joint if applicable.

Agent of Operator D. J. Jenkins

BLUEMOUNT RESOURCES LTD.

PIPE TALLY SHEET

Surface Casing
Intermediate Casing
Production Casing
Liner
Well
 tubing

PAGE 3 OF 4

WELL NAME Bluemount et al Beavercrow YT B-16 DATE March 23, 1971

40	45	41	02	38	35	40	41		
40	95	40	56	39	74	41	38		
41	01	40	85	40	90	39	42		
40	90	39	81	40	70	39	52		
40	49	40	17	40	65	39	88		
40	63	39	53	40	93				
40	08	40	91	39	18				
39	83	39	78	41	21				
41	10	39	44	39	03				
40	10	41	35	40	74				
40	64	40	32	40	23				
38	26	40	02	39	43				
39	85	40	24	41	15				
39	77	40	56	40	86				
39	38	39	57	39	58				
39	53	38	20	39	84				
40	47	38	97	40	37				
38	62	40	38	40	73				
40	82	38	68	39	70				
40	17	38	80	39	26				
803	05	799	16	802	58	200	61		

O.D. 7-5/8

Wt. 26.4

Grade N80

Range 3

Thread Extreme Armco
Line

Collar Armco Extreme
Line

Mfgr. Armco

SUMMARY	
Col. 1	803 05
2	799 16
3	802 58
4	200 61
5	
	2605 40
Fwd.	
Fwd.	
Fwd.	

Threads - off Tally;
add 3021 per joint for mill tally.

Tallied by: Jenkins

65 Tot. Jts. on location

0 Jts. out (Incl. Ldg. Jt.)

65 Jts. perm. in hole

Remarks:

Indicate Shoe Joint or Landing
Joint if applicable.

Agent of Operator D. J. Jenkins

BLUEMOUNT RESOURCES LTD.

PIPE TALLY SHEET

Surface Casing
 Intermediate Casing
~~Production Casing~~
 Line
~~Log~~
 PAGE 4 OF 4
 DATE March 23, 1971

WELL NAME Bluemount et al Beavercrow YT B-16 DATE

40	18	39	35						
39	85	39	53						
38	74	39	40						
38	53	39	03						
39	68	38	23						
40	37	38	12						
39	03	38	38						
39	41	35	92						
38	88	38	08						
40	06	39	68	**					
38	64	39	80	*					
39	74	40	10	*					
38	73	39	73	*					
38	18	39	44	*					
39	98	38	28	*					
39	13								
39	15								
39	20								
39	22								
39	05								
785	75	583	07						

O.D. 7-5/8
 Wt. 29.9[#]
 Grade N80
 Range 3
 Thread Armco
 Collar Extreme
 Line Line
 Mfgr. NAT

SUMMARY		
Col. 1	785	75
2	583	07
3		
4		
5		
	1,368	82
Fwd.		
Fwd.		
Fwd.		

Threads - off Tally; 35 Tot. Jts. on location
 add 3021 per joint for mill tally.
 Talled by: Jenkins 5 Jts. out (Incl. Ldg. Jt.)
30 Jts. perm. in hole

Remarks:
 * Indicates Joints left out.
 ** Indicates Landing Joint.

Indicate Shoe Joint or Landing Joint if applicable. Agent of Operator D. J. Jenkins

N

ABANDONMENT PLUG SUMMARY

Bluemount et al Beavercrow Yt B-16

Program approved by Morris Thomas verbally May 7, 1971, representing Department of Indian Affairs and Northern Development, confirmed by form dated May 10, 1971. Program proposed by Schwab for Bluemount.

Cementing Company: Dowell (skid unit)

Operator: R. J. Graves

Abandonment Plug #1 7,000' - 7,508' C250 neat (117% excess)

10 bbls. water ahead - start lead at 4:50 PM, May 8, 1971.
Start Mix 5:00 PM, finish mix 5:10 PM
Slurry Weight 15.6
Displace with 75 bbls. water,
Plug down 5:30 PM, May 8, 1971.
No feel.

Abandonment Plug #2

Set Baker Model K, Permanent Bridging Plug at 5,520' using drillpipe and mechanical setting tool at 12:45 AM, May 9, 1971. String weight 100,000[#], 16 turn right hand turns, pull to 140,000[#], set down to 80,000[#], pull 6,000[#] over string weight and clear out. Top with cement.

C55 neat (200' fill-up of 7-5/8" casing), Start lead at 1:30 AM, May 9, 1971.
Start Mix 1:40 AM, finish mix 1:50 AM.
Slurry Weight at 15.6
Displace with 66 bbls. water.
Plug down 2:00 AM, May 9, 1971.
No feel.

Cut casing off 4' below ground level, puddle 10 sacks into stub, weld plate over top of casing, erect permanent marker welded to side of casing.

DRILLSTEM TEST REPORT

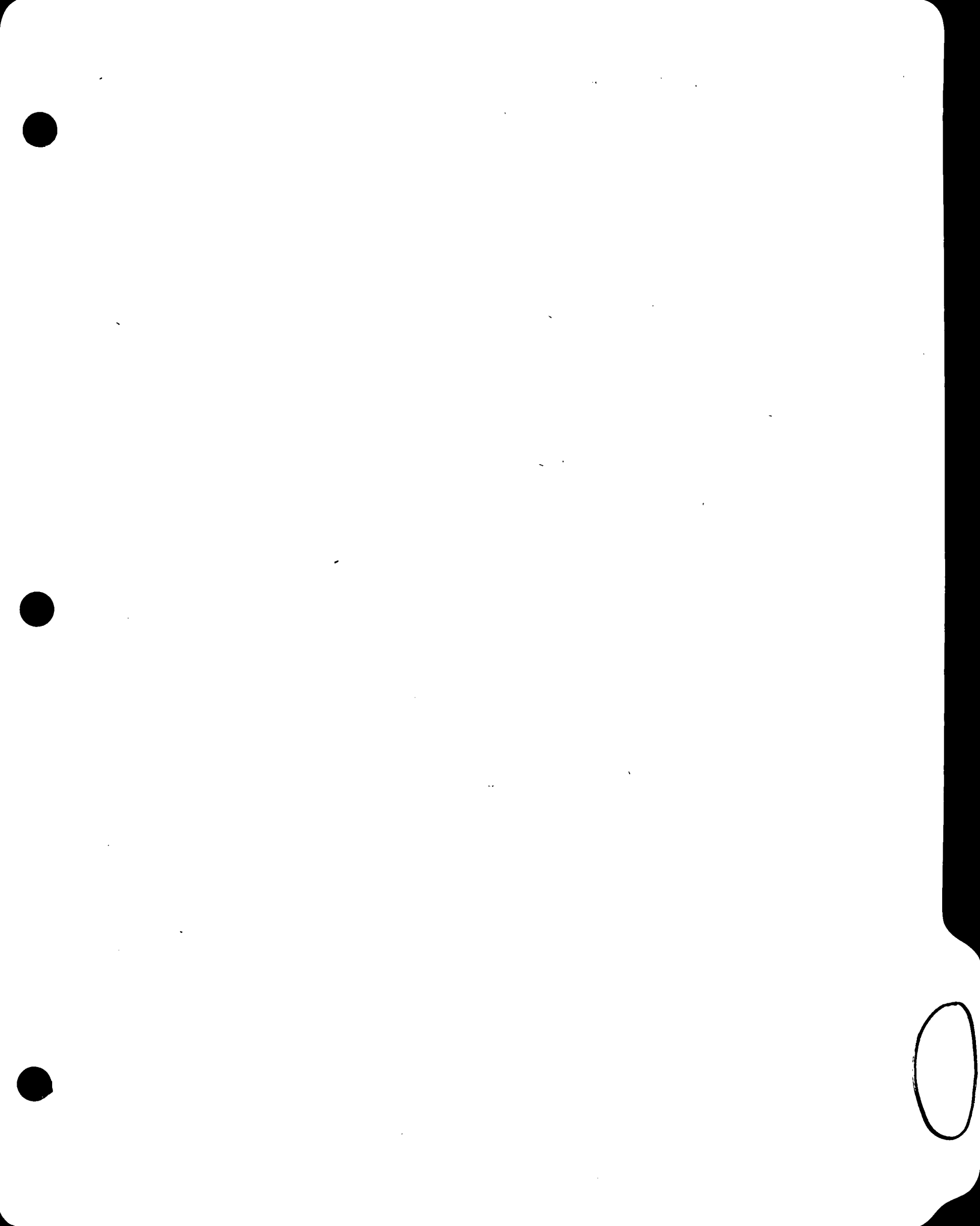
WELL NAME: Bluemount et al Beavercrow YT B-16 DATE: April 29, 1971 DST. NO. 1
 TESTING COMPANY Lynes United OPERATOR: V. Sales DEPTH HOLE: 6938
 FORMATION TESTED Middle Devonion INTERVAL: 5756'-5850' HOLE SIZE: 6-3/4"

EQUIPMENT

Type Test Straddle
 No. Rubbers 2 Size, Top Down 6", 6" Type Conventional Rubber Hardness 90
 Safety JT Homco Jars Johnston Pump out Sub Lynes
 Bottom Hole Sampling Chamber Lynes At What Stage Does Sampler trap Sample Last of flow. Depth 5756'
 No. Bombs 3 Mfr. Kuster Model AK-1 Element Capacity 5800, 4500, 5000
 Failsafe Head Yes Flow Manifold Yes Size Bottom Hole Choke 5/8"
 Other Equipment Temperature recorder K-3, 75-275°F.
 Size D.P. 4-1/2" WT. 16.6[#] No. of Collars 8 Size: O.D. 5" I.D. 2-3/4"

OPERATION

MUD: WT. (water)	VIS.	W.L.	F.C.	GELS.
PACKER SET WITH <u>30,000</u> LBS				PACKER PULLED LOOSE WITH <u>10,000</u> LBS.
TIME STARTED IN HOLE <u>2:45 AM</u>				TEST PERIODS:
TIME ON BOTTOM <u>4:00 AM</u>				INITIAL SHUT IN <u>60</u> MINS.
TIME VALVE OPEN (Preflo) <u>4:54 AM</u>				FINAL SHUT IN <u>120</u> MINS.
TIME FLOW PERIOD START <u>5:55 AM</u>				PRE-FLOW PERIOD <u>1</u> MINS.
TIME FLOW PERIOD END <u>6:55 AM</u>				FLOW PERIOD <u>60</u> MINS.
TIME SHUT IN END <u>8:55</u>				
TIME PACKER OUT OF HOLE <u>11:15</u>				
DID JARS HIT <u>No</u>				RUBBER DAMAGE <u>No</u>
DID MUD DROP <u>Hole blind</u>				ESTIMATED LOSS <u>-</u>
WATER CUSHION <u>No</u>				INHIBITOR <u>No</u>
COMPANY REPRESENTATIVES PRESENT <u>J. F. MacLeod</u>				



WELL NAME: Bluemount et al Beavercrow Yt B-16 DST. NO. 1

TEST RESULTS

DESCRIBE BLOW: Strong air blow, dying in 20 minutes.
No gas to surface.

GAS FLOW _____ Mcf/day measured estimated; Gas to surface _____ mins; Was flare lit _____ ; Size riser _____
 length of flame _____ sweet or sour _____ color of flame _____
 How was gas measured _____ Summarize raw flow data at max flow _____

RECOVERY: TOTAL FLUID IN PIPE: _____ feet _____ bbls BBLS/100'
 (Gassy)
 OIL IN PIPE (Dead): _____ feet _____ bbls 5" DP.: 1.73
 (Gassy)
 WATER IN PIPE (Dead): 4160 feet _____ bbls 4 1/2" DP.: 1.42
 (Gassy)
 MUD IN PIPE (Dead): _____ feet _____ bbls 3 1/2" DP.: 0.74
 (Gassy)
 WATER CUSHION (Dead): _____ feet _____ bbls 2-7/8" DP.: 0.45

REMARKS: Recovery only very slightly gassy.

FLUID DESCRIPTION: Water Color Dirty Salinity 12 ppm ~~Max~~ Cl⁻ (delete as appropriate)

How was salinity measured as reported by Core Lab final analysis.

Resistivity (calc) 16.1 @ ~~68° F~~ 72° F.

OIL: Color (Nil) Gravity, °API _____ @ 60° F.

SAMPLES: what fluid Water depth collected Mud Tonic 1600', 2600', 3650'
4700' & 5756' KB.

Shipped to Core Labs via McKenzie Air Date 4/30/71

REMARKS: Water very dirty and contained high concentration of solids.

PRESSURES:

Do charts show mechanically successful test: Yes: Yes No: _____

Do you consider that test was satisfactory: Yes: Yes No: _____

Pressure Recorder No. 1098 Depth 5775 BH Temp. 131 °F.

	FIELD	FINAL		FIELD	FINAL
INITIAL HYDROSTATIC	1902	1997	FINAL HYDROSTATIC	1962	1996
MINIMUM PREFLOW		1995	MAXIMUM PREFLOW		
INITIAL FLOW	1947	1906	FINAL FLOW	1947	1989
INITIAL SHUT-IN, MAX.	1962	1996	FINAL SHUT-IN, MAX.	1962	1996

DESCRIBE CURVE: Straight and flat.

REMARKS: Curve indicates that zone tested is the zone that is responsible for maintaining water level at ± 1200' level in hole while drilling.

DRILLSTEM TEST REPORT

WELL NAME: Bluemount et al Beavercrow YT B-16 DATE: May 2, 1971 DST. NO. 2
 TESTING COMPANY Lynes United OPERATOR: V. Sales DEPTH HOLE: 7508'
 FORMATION TESTED Middle Devonian INTERVAL: 7469'-7508' HOLE SIZE: 6-3/4"

EQUIPMENT

Type Test Conventional Bottom Hole
 No. Rubbers 2 Size, Top Down 6, 6" Type Conventional Rubber Hardness 90
 Safety JT Homco Jars Johnston Pump out Sub Lynes
 Bottom Hole Sampling Chamber Lynes At What Stage Does Sampler trap Sample Last of flow Depth 7437'
 No. Bombs 3 Mfr. Kuster Model AK-1 Element Capacity 5800, 4500, 5000,
 Failsafe Head Yes Flow Manifold Yes Size Bottom Hole Choke 5/8"
 Other Equipment Temperature recorder K-3 (75-275°F)
One Pressure recorder above packers.
 Size D.P. 4-1/2/3-1/2 WT. 16.6/15.5 No. of Collars 10/11 Size: O.D. 5 / 4-3/4 I.D. 2-3/4 / 2-1/4

OPERATION

MUD: WT.	VIS.	W.L.	F.C.	GELS.
PACKER SET WITH <u>60,000</u> LBS			PACKER PULLED LOOSE WITH <u>+15,000</u> LBS:	
TIME STARTED IN HOLE <u>11:30 PM May 6</u>			TEST PERIODS:	
TIME ON BOTTOM <u>1:30 AM</u>			INITIAL SHUT IN <u>60</u> MINS.	
TIME VALVE OPEN (Preflo) <u>1:44 AM</u>			FINAL SHUT IN <u>120</u> MINS.	
TIME FLOW PERIOD START <u>2:45 AM</u>			PRE-FLOW PERIOD <u>1</u> MINS.	
TIME FLOW PERIOD END <u>3:45 AM</u>			FLOW PERIOD <u>60</u> MINS.	
TIME SHUT IN END <u>5:45 AM</u>				
TIME PACKER OUT OF HOLE <u>10:00 AM</u>				
DID JARS HIT <u>No</u>			RUBBER DAMAGE <u>Both Packers</u>	
DID MUD DROP <u>Hold blind</u>			ESTIMATED LOSS _____	
WATER CUSHION <u>No</u>			INHIBITOR <u>No</u>	
COMPANY REPRESENTATIVES PRESENT <u>J. F. Macleod</u>				

WELL NAME: Bluemount et al Beavercrow YT B-16 DST. NO. 2

TEST RESULTS

DESCRIBE BLOW: Weak air blow increased to fair for 20 minutes
then decreased to weak. No gas to surface.

GAS FLOW _____ Mcf/day measured estimated; Gas to surface _____ mins; Was flare lit _____ ; Size riser _____
 length of flame _____ sweet or sour _____ color of flame _____
 How was gas measured _____ Summarize raw flow data at max flow _____

RECOVERY: TOTAL FLUID IN PIPE:	_____ feet	_____ bbls	BBLS/100'
(Gassy)			5" DP.: 1.73
OIL IN PIPE (Dead):	_____ feet	_____ bbls	4 1/2" DP.: 1.42
(Gassy)			3 1/2" DP.: 0.74
WATER IN PIPE (Dead):	<u>2470</u> feet	<u>18.3</u> bbls	2-7/8" DP.: 0.45
(Gassy)			
MUD IN PIPE (Dead):	_____ feet	_____ bbls	
(Gassy)			
WATER CUSHION (Dead):	_____ feet	_____ bbls	

REMARKS: _____

FLUID DESCRIPTION: Water Color Murky Salinity 12 ppm ^{NaClX} C1" (delete as appropriate)

How was salinity measured As measured by Core Lab, final analysis

Resistivity (calc) 17.1 @ 68° F.

OIL: Color _____ Gravity, °API _____ @ 60° F.

SAMPLES: what fluid water depth collected top of tool

Shipped to Bluemount via (delivered) Date _____

REMARKS: _____

PRESSURES:

Do charts show mechanically successful test: Yes: Yes No: _____

Do you consider that test was satisfactory: Yes: Yes No: _____

Pressure Recorder No. 966 Depth 7481 BH Temp. 162 °F.

	FIELD	FINAL		FIELD	FINAL
INITIAL HYDROSTATIC	2733	2724	FINAL HYDROSTATIC	2721	2713
MINIMUM PREFLOW	85	88	MAXIMUM PREFLOW		
INITIAL FLOW	147	140	FINAL FLOW	1029	1015
INITIAL SHUT-IN, MAX.	2721	2723	FINAL SHUT-IN, MAX.	2721	2713

DESCRIBE CURVE: _____

REMARKS: Rapid build up.

DRILLSTEM TEST REPORT

WELL NAME: Bluemount et al Beavercrew YT B-16 DATE: 5/7/71 DST. NO. 3
TESTING COMPANY Lynes OPERATOR: V. Sales DEPTH HOLE: 7508'
FORMATION TESTED Middle Devonian INTERVAL: 7169'-7450' HOLE SIZE: 6-3/4"

EQUIPMENT

Type Test Dual - Misrun - 60' fill.
No. Rubbers Size, Top Down Type Rubber Hardness
Safety JT Jars Pump out Sub
Bottom Hole Sampling Chamber At What Stage Does Sampler trap Sample Depth
No. Bombs Mfr. Model Element Capacity
Failsafe Head Flow Manifold Size Bottom Hole Choke
Other Equipment
Size D.P. WT. No. of Collars Size: O.D. I.D.

OPERATION

MUD: WT. VIS. W.L. F.C. GELS.
PACKER SET WITH LBS ; PACKER PULLED LOOSE WITH LBS.
TIME STARTED IN HOLE TEST PERIODS:
TIME ON BOTTOM INITIAL SHUT IN MINS.
TIME VALVE OPEN (Preflo) FINAL SHUT IN MINS.
TIME FLOW PERIOD START PRE-FLOW PERIOD MINS.
TIME FLOW PERIOD END FLOW PERIOD MINS.
TIME SHUT IN END
TIME PACKER OUT OF HOLE
DID JARS HIT RUBBER DAMAGE
DID MUD DROP ESTIMATED LOSS
WATER CUSHION INHIBITOR
COMPANY REPRESENTATIVES PRESENT J. E. MacLeod

DRILLSTEM TEST REPORT

WELL NAME: Bluemount et al Beavercrew YT B-16 DATE: May 8, 1971 DST. NO. 4
 TESTING COMPANY Lynes United OPERATOR: V. Sales DEPTH HOLE: 7508'
 FORMATION TESTED Middle Devonian INTERVAL: 7169'-7450' HOLE SIZE: 6-3/4"

EQUIPMENT

Type Test Straddle (Dual Top - Single bottom).
 No. Rubbers 3 Size, Top Down 6/6/5-1/2 Type Conventional Rubber Hardness 90
 Safety JT Homco Jars Johnston Pump out Sub Lynes
 Bottom Hole Sampling Chamber Lynes At What Stage Does Sampler trap Sample Last of flow Depth _____
 No. Bombs 4 Mfr. Kuster Model AK-1 Element Capacity 5800, 4500, 5000, 5750.
 Failsafe Head Yes Flow Manifold Yes Size Bottom Hole Choke 5/8
 Other Equipment Temperature recorder K-3, (75-275°F).
One recorder above top packer.

Size D.P. 4-1/2/3-1/2 WT. 16.6/15.5 No. of Collars 10/11 Size: O.D. 5 / 4-3/4 I.D. 2 3/4 / 2-1/4

OPERATION

MUD: WT.	VIS.	W.L.	F.C.	GELS.
PACKER SET WITH <u>30,000</u> LBS				PACKER PULLED LOOSE WITH <u>+50,000</u> LBS.
TIME STARTED IN HOLE <u>2:30 AM</u>				TEST PERIODS:
TIME ON BOTTOM <u>4:30 AM</u>				INITIAL SHUT IN <u>61</u> MINS.
TIME VALVE OPEN (Preflo) <u>4:48 AM</u>				FINAL SHUT IN <u>90</u> MINS.
TIME FLOW PERIOD START <u>5:50 AM</u>				PRE-FLOW PERIOD <u>1</u> MINS.
TIME FLOW PERIOD END <u>6:35 AM</u>				FLOW PERIOD <u>45</u> MINS.
TIME SHUT IN END <u>8:05 AM</u>				
TIME PACKER OUT OF HOLE <u>11:30 AM</u>				
DID JARS HIT <u>No</u>				RUBBER DAMAGE <u>2 - 6" Rubbers</u>
DID MUD DROP <u>Hole Blind</u>				ESTIMATED LOSS _____
WATER CUSHION <u>No</u>				INHIBITOR <u>No</u>
COMPANY REPRESENTATIVES PRESENT <u>J. F. MacLeod</u>				

WELL NAME: Bluemount et al Beavercrow YT B-16 DST. NO. 4

TEST RESULTS

DESCRIBE BLOW: Good initial blow dying in 35 minutes, No gas to surface.

GAS FLOW _____ Mcf/day measured estimated; Gas to surface _____ mins; Was flare lit _____ ; Size riser _____
 length of flame _____ sweet or sour _____ color of flame _____
 How was gas measured _____ Summarize raw flow data at max flow _____

RECOVERY: TOTAL FLUID IN PIPE: _____ feet _____ bbls BBLS/100'
 (Gassy)
 OIL IN PIPE (Dead): _____ feet _____ bbls 5" DP.: 1.73
 (Gassy)
 WATER IN PIPE (Dead): 4680 feet 53 bbls 4 1/2" DP.: 1.42
 (Gassy) 3 1/2" DP.: 0.74
 MUD IN PIPE (Dead): _____ feet _____ bbls 2-7/8" DP.: 0.45
 (Gassy)
 WATER CUSHION (Dead): _____ feet _____ bbls

REMARKS: _____

FLUID DESCRIPTION: Water Color Murky Salinity 12 ppm ~~Mark~~ C1⁻ (delete as appropriate)

How was salinity measured As measured by Core Lab, final analysis

Resistivity (calc) 48.2 @ ~~68~~ 66 °F

OIL: Color _____ Gravity, °API _____ @ 60° F.

SAMPLES: what fluid _____ depth collected _____

Shipped to _____ via _____ Date _____

REMARKS: _____

PRESSURES:

Do charts show mechanically successful test: Yes: Yes No: _____

Do you consider that test was satisfactory: Yes: Yes No: _____

Pressure Recorder No. 966 Depth 7179 BH Temp. 151 °F.

	FIELD	FINAL		FIELD	FINAL
INITIAL HYDROSTATIC	2796	2812	FINAL HYDROSTATIC	2670	2727
MINIMUM PREFLOW	1166	1162	MAXIMUM PREFLOW		
INITIAL FLOW	1397	1563	FINAL FLOW	2101	2087
INITIAL SHUT-IN, MAX.	2619	2610	FINAL SHUT-IN, MAX.	2619	2615

DESCRIBE CURVE: Shut in curve square; flow curve shows rapid build-up, still rising.

REMARKS: _____

P



CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS



DST #1

933-1545

File 921-1334 Page 2 of 4

Company Bluemount Resources Ltd.

Well Bluemount et al Beavercrow YT B-16 K.B. _____ Grd. 3,760'

60 05'03.60 N.L.

Location 125 17'48.00 W.L. Field Beavercrow Province Yukon

Formation _____ Interval _____

Sampled from Tool No. LUS 513 by Lynes United Services

Date sampled _____ Date analysed May 13/71 Analyst LK

Recovery Tool Recovery: 1800 cc Water and Mud

Mud type _____ Water cushion _____

Resistivity 16.1 Ohm-meters @ 72 °F

Specific gravity 1.0000 @ 60°F

8.3 H₂S Absent

Refractive Index 1.333 @ 72°F

Total Solids:

Calculated 543 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
32	91	15	Trace	-	-	-	12	322	71	Nil	Nil

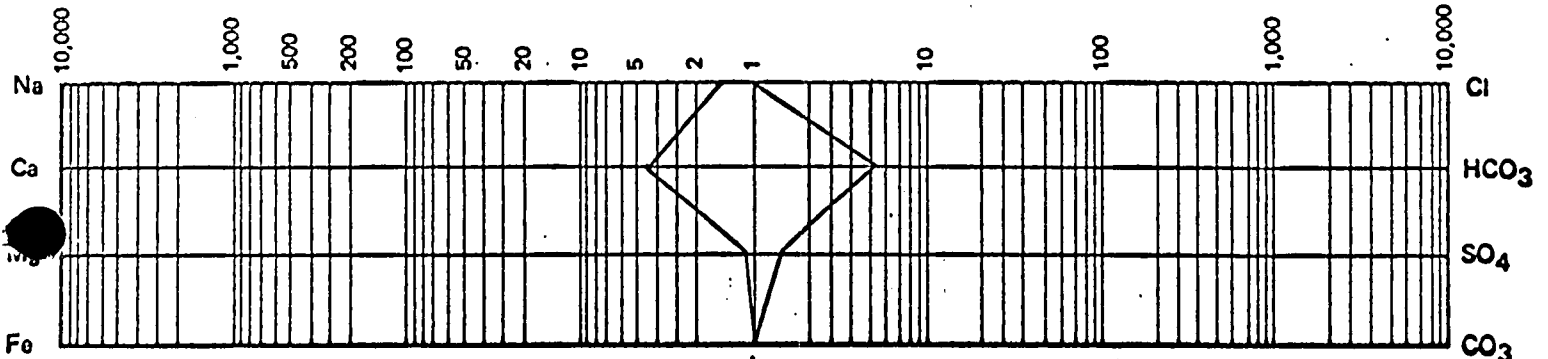
PER CENT CALCULATED SOLIDS

5.9	16.8	2.8	Trace	-	-	-	2.2	59.3	13.1	.0	.0
-----	------	-----	-------	---	---	---	-----	------	------	----	----

MEQ PER LITER

1.4	4.5	1.2	Trace	-	-	-	.3	5.3	1.5	.0	.0
-----	-----	-----	-------	---	---	---	----	-----	-----	----	----

LOGARITHMIC PATTERN MEQ PER LITER





CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS



Drilling fluid at
time DST #1 was run.

933-1545
File 921-1334 Page 3 of 4

Company Bluemount Resources Ltd.

Well Bluemount et al Beavercrow YT B-16 K.B. _____ Grd. 3,760'
60 05'03.60 N.L.

Location 125 17'48.00 W.L. Field Beavercrow Province Yukon

Formation _____ Interval _____

Sampled from DST #1 (Mud Tank) by Lynes United Services

Date sampled Apr. 29/71 Date analysed May 13/71 Analyst LK

Recovery 4160' Liquid

Mud type _____ Water cushion _____

Resistivity 16.9 Ohm-meters @ 72 °F

Specific gravity 1.0001 @ 60°F

pH 7.2 H₂S Absent

Refractive Index 1.333 @ 72°F

Total Solids:

Calculated 86 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
12	8	4	Trace	-	-	-	18	44	.0	Nil	Nil

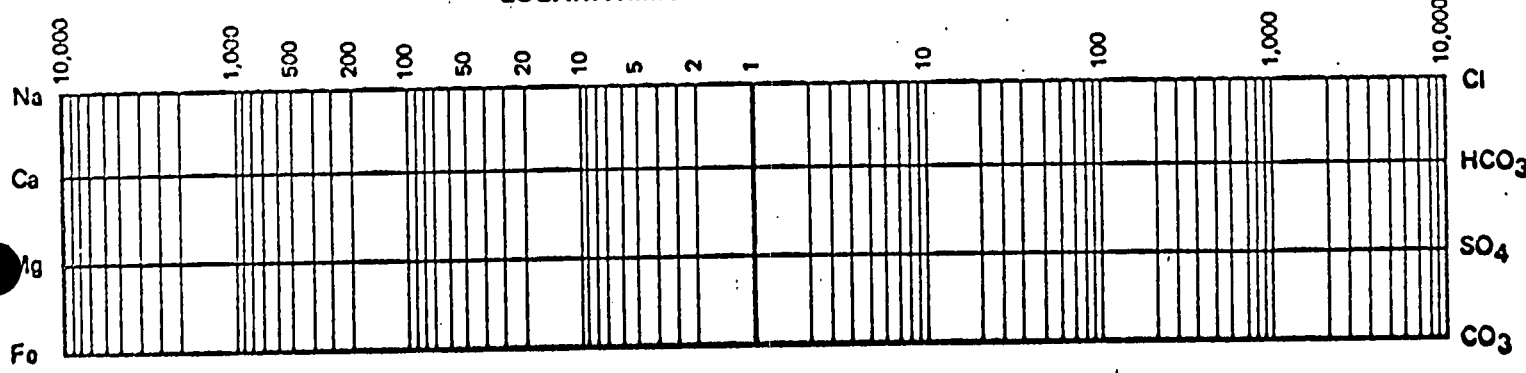
PER CENT CALCULATED SOLIDS

14.0	9.3	4.7	Trace	-	-	-	20.9	51.2	.0	.0	.0
------	-----	-----	-------	---	---	---	------	------	----	----	----

MEQ PER LITER

.5	.4	.3	Trace	-	-	-	.5	.7	.0	.0	.0
----	----	----	-------	---	---	---	----	----	----	----	----

LOGARITHMIC PATTERN MEQ PER LITER



Micro-element comparison
between DST #1 recovery
and Drilling fluid used
in drilling blind at
the time DST #1 was run.

CORE LABORATORIES-CANADA LTD.

Company: Bluemount Resources Ltd.
Well: Bluemount et al Beavercrow YT B-16
Field: Beavercrow, Yukon

Page: 4 of 4
File: 933-1545
921-1334
Date: May 13/71

Analysis

<u>Sampled From</u>	<u>Potassium ppm</u>	<u>Lithium ppm</u>	<u>Strontium ppm</u>	<u>Chloride ppm</u>	<u>Resistivity @ 72°F</u>	<u>Barium ppm</u>
Mud Tank	9.1	ND	ND	17.53	16.9	*
Tool	6.7	0.02	0.6	11.68	16.1	*
1600'	10.9	0.36	1.6	23.37	15.1	*
2600'	5.6	0.10	0.6	11.68	16.0	*
3650'	5.9	0.03	0.6	11.68	16.6	*
4700'	6.0	0.04	0.5	11.68	16.9	*

ND - Not Detected

* - Less than 2 ppm

sent



CORE LABORATORIES - CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING



DST #1

Company Bluemount Resources Ltd. Page 1 of 4
 Well Bluemount et al Beavercrow YT B-16 File 933-1545
 Field Beavercrow, Yukon Analyst DR RT
 Location 60 05'03.60 N.L.
125 17'48.00 W.L. Elevation: K.B. _____ Grd. 3,760'
 Formation _____ Depth _____
 Sampled from Tool No. LUS 13 by Lynes United Services
 Sampling pressure _____ psig Sampling temp. _____ °F Ambient temp. _____ °F
 Date sampled _____ Date received May 1/71 Date analysed May 1/71
 Container pressure 20 psig Mud _____ Water cushion _____
 Recovery or flowrate: 50 cc Gas Cap in Tool

O2 & N2	100%
CO2	Trace
Hydrocarbon	Nil
Benzene	Less than 0.05 ppm Vol/Vol
Toluene	Less than 0.1 ppm Vol/Vol

WATER ANALYSIS

DST #2

File 13-1606 Page 1 of 2

Company Bluemount Resources Ltd.

Well Bluemount et al Beavercrow YT B-16 K.B. 378' Grd. 3767'

Location 60 05' 03.60 N.L.
125 17' 48.00 W.L. Field Beavercrow Area Province Yukon

Formation Middle Devonian Inter. 7469' - 7508'

Sampled from DST #2 (Last of Flow) by _____

Date sampled May 7/71 Date analysed May 27/71 Analyst LK

Recovery Tool Recovery: 2000 mls water

Mud type _____ Water cushion _____

Resistivity <u>16.3</u> Ohm-meters @ <u>77</u> °F	Total Solids	_____	_____
Specific gravity <u>1.0008</u> @ 60°F	Calculated	<u>471</u>	mg/liter
pH <u>8.0</u> H ₂ S <u>Absent</u>	By evaporation @ 110°C	<u>-</u>	mg/liter
Refractive Index <u>1.333 @ 77°F</u>	By evaporation @ 180°C	<u>-</u>	mg/liter
	At ignition	<u>-</u>	mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
30	77	19	Pres.	-	-	-	23	151	171	Nil	Nil

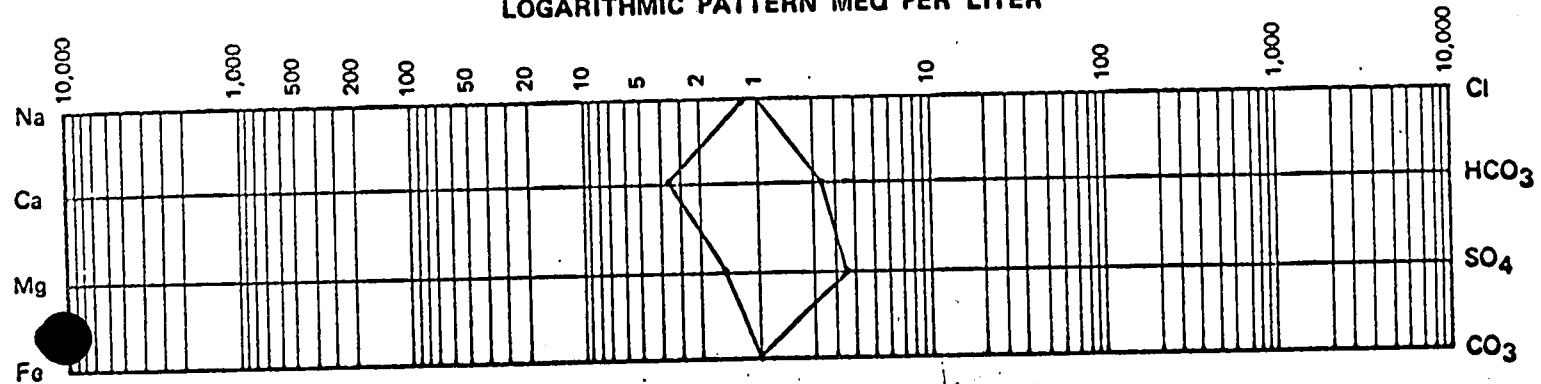
PER CENT CALCULATED SOLIDS

6.4	16.3	4.0	Pres.	-	-	-	4.9	32.1	36.3	.0	.0
-----	------	-----	-------	---	---	---	-----	------	------	----	----

MEQ PER LITER

1.3	3.8	1.6	Pres.	-	-	-	.6	2.5	3.6	.0	.0
-----	-----	-----	-------	---	---	---	----	-----	-----	----	----

LOGARITHMIC PATTERN MEQ PER LITER





CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS



DST #2

933-1583

File 921-1370 Page 2 of 3

Company Bluemount Resources Ltd.

Well Bluemount et al Beavercrow YT B-16 K.B. 3781' Grd. 3767'

Location 60 05'03.60 N.L.
125 17'48.00 W.L. Field Beavercrow Area Province Yukon

Formation Middle Devonian Interval 7469' - 7508'

Sampled from DST #2 (Top of Tool - 7440' KB) by _____

Date sampled May 7/71 Date analysed May 18/71 Analyst LK

Recovery _____

Mud type _____ Water cushion _____

Total Solids:

Resistivity 17.1 Ohm-meters @ 68 of _____

Specific gravity 1.0006 @ 60°F

pH 7.40 H₂S Absent

Refractive Index 1.333 @ 68°F

Calculated 458 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
9	94	15	Pres.	Abs.	-	-	12	190	138	Nil	Nil

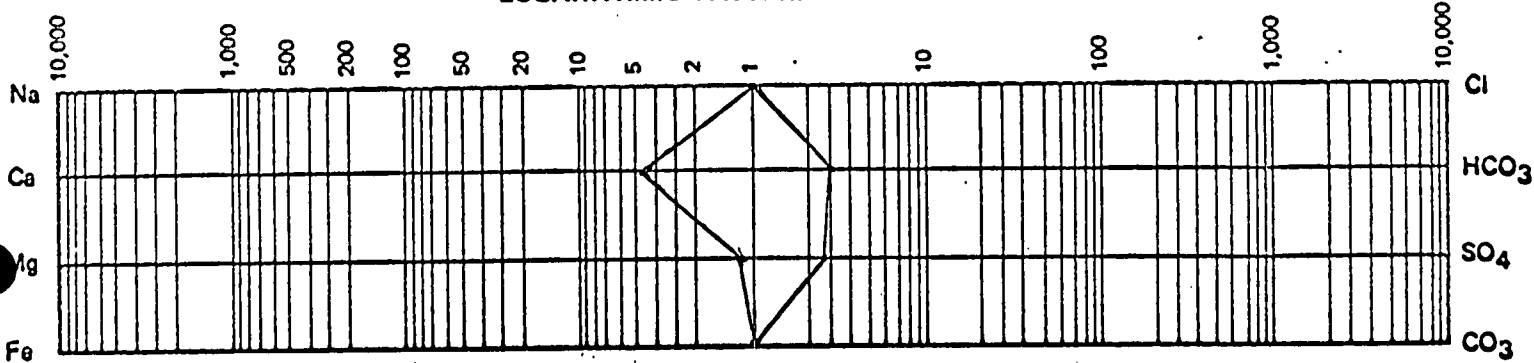
PER CENT CALCULATED SOLIDS

2.0	20.5	3.3	Pres.	Abs.	-	-	2.6	41.5	30.1	.0	.0
-----	------	-----	-------	------	---	---	-----	------	------	----	----

MEQ PER LITER

.4	4.7	1.2	Pres.	Abs.	-	-	.3	3.1	2.9	.0	.0
----	-----	-----	-------	------	---	---	----	-----	-----	----	----

LOGARITHMIC PATTERN MEQ PER LITER





CORE LABORATORIES - CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING



DST #2

Company Bluemount Resources Ltd. Page 1 of 2
 Well Bluemount et al Beavercrow YT B-16 File 921-1396
 Field Beavercrow Area, Yukon Territories Analyst RT
 Location 60 05'03.60 N.L.
125 17'48.00 W.L. Elevation: K.B. 3781' Grd. _____
 Formation Middle Devonian Depth 7469' - 7508'
 Sampled from DST #2 (Last of Flow) by _____
 Sampling pressure _____ psig Sampling temp. _____ °F Ambient temp. _____ °F
 Date sampled May 7/71 Date received May 19/71 Date analysed May 25/71
 Container pressure _____ Mud _____ Water cushion _____
 Recovery or flowrate: _____

Analysis

Benzene = 0.1 ppm Vol/Vol.

Toluene = Less than 0.1 ppm



CORE LABORATORIES - CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING



DST #2

Company Bluemount Resources Ltd. Page 1 of 3
933-1583
 Well Bluemount et al Beavercrow YT B-16 File 921-1370
 Field Beavercrow Area, Yukon Territories Analyst RT
60 05'03.60 N.L.
 Location 125 17'48.00 W.L. Elevation: K.B. 3781' Grd. 3767'
 Formation Middle Devonian Depth 7469' - 7508'
 Sampled from DST #2 (Top of Tool) by _____
 Sampling pressure _____ psig Sampling temp. _____ °F Ambient temp. _____ °F
 Date sampled May 7/71 Date received May 11/71 Date analysed May 12/71
 Container pressure _____ Mud _____ Water cushion _____
 Recovery or flowrate: _____

Analysis

Benzene - Less than 0.05 ppm Vol/Vol.



CORE LABORATORIES — CANADA LTD.
PETROLEUM RESERVOIR ENGINEERING



DST #4

Company Bluemount Resources Ltd. Page 2 of 2
 Well Bluemount et al Beavercrow YT B-16 File 921-1396
 Field Beavercrow Area, Yukon Territories Analyst RT
 Location 60 05'03.60 N.L.
125 17'48.00 W.L. Elevation: K.B. 3781' Grd. _____
 Formation Middle Devonian Depth 7169' - 7450'
 Sampled from DST #4 (Last of Flow) by _____
 Sampling pressure _____ psig Sampling temp. _____ °F Ambient temp. _____ °F
 Date sampled May 8/71 Date received May 19/71 Date analysed May 25/71
 Container pressure _____ Mud _____ Water cushion _____
 Recovery or flowrate: _____

Analysis

Benzene = 0.25 ppm Vol/Vol.

Toluene = Less than 0.1 ppm



CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS



DST #4

933-1583
File 921-1370 Page 3 of 3

Company Bluemount Resources Ltd.

Well Bluemount et al Beavercrow YT B-16 K.B. 3781' Grd. 3767'

Location 60 05'03.60 N.L.
125 17'48.00 W.L. Field Beavercrow Area Province Yukon

Formation Middle Devonian Interval 7169' - 7450'

Sampled from DST #4 (Top of Tool) by _____

Date sampled May 7/71 Date analysed May 18/71 Analyst LK

Recovery 4680' Liquid.

Mud type _____ Water cushion _____

Total Solids:

Resistivity 48.2 Ohm-meters @ 66 °F
 Specific gravity 1.0002 @ 60°F
 pH 7.5 H₂S Absent
 Refractive Index 1.333 @ 66°F

Calculated 156 mg/liter
 By evaporation @ 110°C - mg/liter
 By evaporation @ 180°C - mg/liter
 At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
12	27	3	Pres.	-	-	-	12	102	0	Nil	Nil

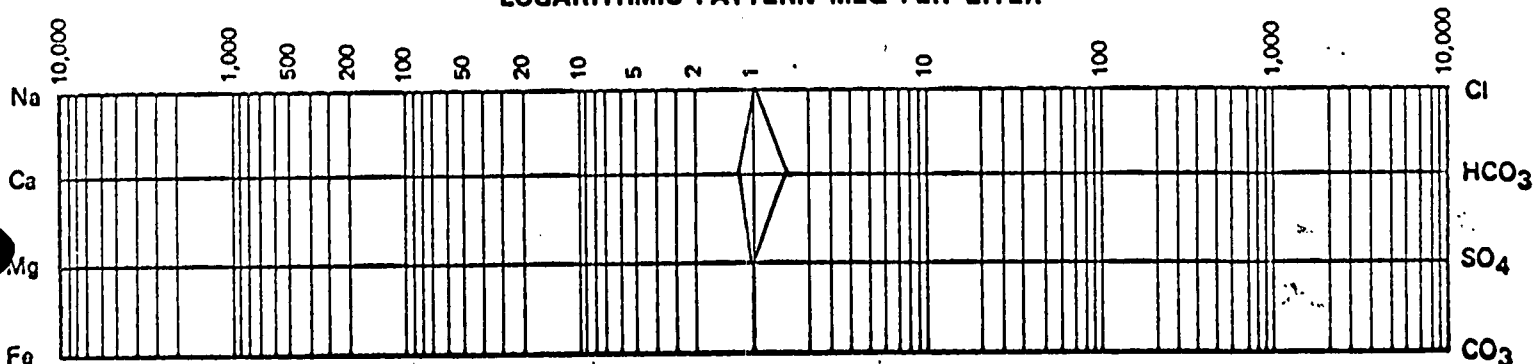
PER CENT CALCULATED SOLIDS

7.7	17.3	1.9	Pres.	-	-	-	7.7	65.4	.0	.0	.0
-----	------	-----	-------	---	---	---	-----	------	----	----	----

MEQ PER LITER

.5	1.3	.2	Pres.	-	-	-	.3	1.7	.0	.0	.0
----	-----	----	-------	---	---	---	----	-----	----	----	----

LOGARITHMIC PATTERN MEQ PER LITER





CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS



DST #4

File 933-1606 Page 2 of 2

Company Bluemount Resources Ltd.

Well Bluemount et al Beavercrow YT B-16 K.B. 3781' Grd. 3767'
60 05' 03.60 N.L.

Location 125 17' 48.00 W.L. Field Beavercrow Area Province Yukon

Formation Middle Devonian Interval 7169' - 7450'

Sampled from DST #4 (4680' - Last of Flow) by _____

Date sampled May 8/71 Date analysed May 27/71 Analyst LK

Recovery Tool Recovery: 2500 mls water

_____ Mud type _____ Water cushion _____

Resistivity 36.1 Ohm-meters @ 77 of

Specific gravity 1.0007 @ 60°F

pH 7.8 H₂S Absent

Refractive Index 1.333 @ 77°F

Total Solids:

Calculated 243 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
44	28	3	Pres.	-	-	-	56	93	19	Nil	Nil

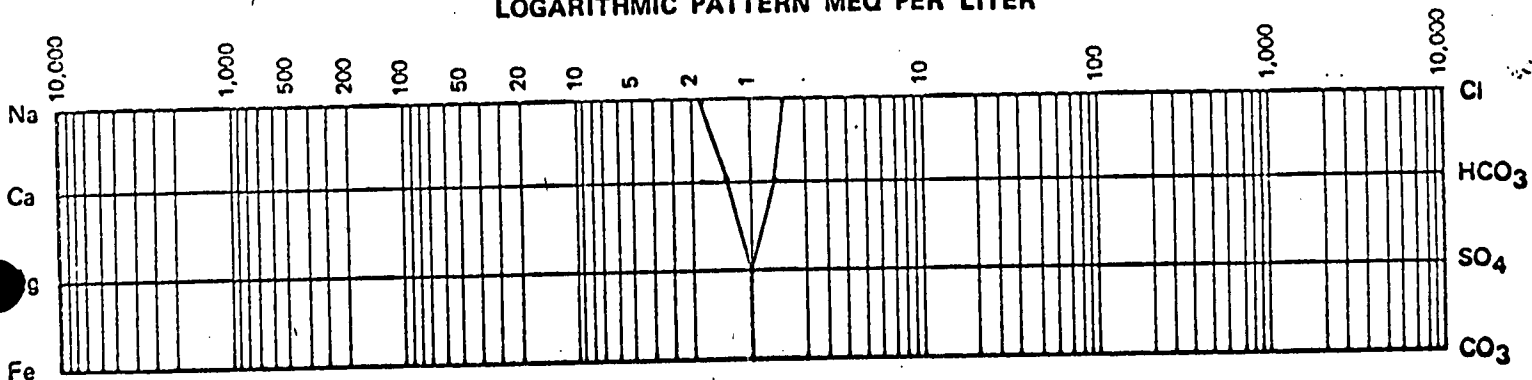
PER CENT CALCULATED SOLIDS

18.1	11.5	1.2	Pres.	-	-	-	23.0	38.3	7.8	.0	.0
------	------	-----	-------	---	---	---	------	------	-----	----	----

MEQ PER LITER

1.9	1.4	.2	Pres.	-	-	-	1.6	1.5	.4	.0	.0
-----	-----	----	-------	---	---	---	-----	-----	----	----	----

LOGARITHMIC PATTERN MEQ PER LITER



168. 44.0

CORE LABORATORIES - CANADA, LTD.

Company BLUEMOUNT RESOURCES LTD.
 Well BLUEMOUNT ET AL BEAVERCROW YT B-16
 Field WILDCAT, BEAVERCROW AREA, YUKON
 Location 60°05'03.60"N 125°17'48.00"

Formation
 Drilling Fluid WATER BASE MUD
 Elevation
 Analysis FULL DIAMETER
 Remarks ALL SAMPLES SANDBLASTED PRIOR TO
 KH ANALYSIS.

Page 1 of 1
 File 913-1123
 Date Report MAY 13, 1971
 Analysts BK

ST - APPARE SIMILAR TO
 * - BROKEN COAL REFLUID
 ** - PERMEABILITY * 2000 STD

- - PERMEABILITY *
 PS - FINE SAND
 SS - MEDIUM SAND
 CS - COARSE SAND

CONG - CONGLOMERATE
 DOL - DOLOMITE
 SH - SHALE
 LST - LUST

SHY - SHALY
 SK - SKEAL
 STY - PYROCLASTIC
 CAP - CARBONACEOUS

A - AMPHIBOLITE
 POC - POCULIFEROUS
 CLA - CRYSTALLINE
 LAB - LAMINATION

V - VUGULAR
 LV - LARGE VUGS
 SV - SMALL VUGS
 PPV - PULP VUGS

I - INTERGRANULAR
 STY - STYLOCLASTIC
 HF - HORIZONTAL FRACTURE
 VF - VERTICAL FRACTURE

SE - SMALL PLUG SAND
 SL - SLIGHTLY
 W - WET
 SW - SWATH

Sample Number	Interval Represented, Feet		Permeability to Air, Millidarcys			Permeability Feet	Porosity, Per Cent	Porosity Feet	Density, gm/cc.		Residual Saturations, Per Cent Pore Space		Visual Examination
	Depth	Thick	K Max	K50 ^o	KV				Bulk	Grain	Oa	Total Water	

CORED INTERVAL 7349' - 7354'

CORE NO. 19 7349' - 7354' (REC. 2.5') (1 BOX)

1	7349.0-51.5	2.5	0.05	0.05	-0.01	0.13	2.3	5.75	2.76	2.83	-	-	PPV
-	7351.5-54.0	2.5	-	-	-	-	-	-	-	-	-	-	LOST CORE.

Q

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G., W.	GEOLOGICAL SAMPLE	
						AND CORE	DESCRIPTION
710	730	D		20			Shale (10%), dark grey, micromicaceous, in part silty; cement (90%).
730	740	D		10			Shale (80%), as above, slightly pyritic; cement (20%).
740	750	D		10			Shale (20%), medium grey, micromicaceous; cement (80%).
750	760	D		10			As above with trace sandstone, white to very light grey, very fine grained to silty, quartzitic, hard, tight.
760	780	D		20			Shale (10%), as above; cement (90%).
780	790	D		10			Shale (80%), medium grey, micromicaceous; cement (20%).
790	800	D		10			Shale (90%), medium to dark grey, slightly micromicaceous; siltstone (10%), dark grey to black, hard.
800	810	D		10			As above.
810	820	D		10			Shale, medium grey, slightly micromicaceous.
820	850	D		30			Shale, as above, in part very finely silty.
850	860	D		10			Shale (50%), as above; siltstone (50%), medium to dark grey, trace pyrite.
860	890	D		30			Siltstone (90%), as above; shale (10%), as above, with trace kaolinite.
890	900	D		10			Sandstone, dark grey to black, very fine grained to silty, quartzitic, hard, tight, trace kaolin.
900	930	D		30			Sand, as above with trace coarse chert fragments, trace pyrite.
930	950	D		20			Sandstone (40%), as above; shale (60%), medium to dark grey, micromicaceous.
950	970	D		20			Siltstone (90%), medium to dark grey, hard; shale (10%), as above.
970	980	D		10			Shale (80%), medium grey, micromicaceous; siltstone (20%), as above.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Shavings O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
980	990	D	10			Sandstone (70%), dark grey, very fine grained to silty, quartzitic, hard, tight; shale (30%), as above, with trace kaolin.
990	1020	D	30			Sandstone (90%), as above; shale (10%), medium to dark grey, silty.
1020	1040	D	20			Sandstone (60%), as above; shale (40%), as above.
1040	1050	D	10			As above with trace pyrite.
1050	1070	D	20			Sandstone (60%), as above; shale (40%), medium to dark grey, very silty with pyrite, trace kaolin.
1070	1110	D	40			Sandstone (60%), as above, siltstone (30%), dark grey, siliceous, hard, tight; shale (10%), as above, with trace pyrite, kaolin.
1110	1120	D	10			Sandstone (40%), dark grey to black, very fine grained, silty, quartzitic, hard, tight; shale (60%), dark grey to black, silty, trace kaolin.
1120	1130	D	10			Sandstone (80%), as above, pyritic; siltstone (20%), dark grey, siliceous; kaolinitic.
1130	1150	D	20			Sandstone (30%), as above; siltstone (70%), as above, with abundant kaolin.
1150	1160	D	10			Sandstone (30%), as above; siltstone (70%), as above, in part bituminous, with abundant kaolin.
1160	1170	D	10			Sandstone (60%), medium to dark grey to black, very fine grained, quartzitic, hard, tight, pyritic, kaolinitic; siltstone (40%), as above, with abundant kaolin.
1170	1180	D	10			Sandstone (60%), as above; siltstone (20%), as above; shale (20%), dark grey to black, silty, in part bituminous, with abundant kaolin.
1180	1190	D	10			Sandstone (70%), as above; siltstone (10%), as above; shale (20%), as above, with abundant kaolin.
1190	1260	D	70			Sandstone (90%), light to medium grey to black, very fine grained, quartzitic, very hard, tight; siltstone (10%), as above, with trace kaolin.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE	
						AND CORE	DESCRIPTION
1260	1310	D	50				Sandstone light to medium grey, very fine grained, quartzitic, very hard, tight.
1310	1330	D	20				Sandstone (90%), as above; shale (10%), dark grey to black bituminous, in part micromicaceous.
1330	1340	D	10				Sandstone (70%), as above; shale (30%), as above.
1340	1350	D	10				Sandstone (50%), as above; shale (40%), as above; siltstone (10%), dark grey to black, siliceous; trace kaolin.
1350	1360	D	10				Sandstone (60%), light to dark grey, very fine grained quartzitic, pyritic; shale (40%), as above; trace siltstone, as above; trace kaolin.
1360	1370	D	10				Sandstone (40%), as above; shale (60%), dark grey to black, bituminous, in part silty.
1370	1380	D	10				Sandstone (30%), light grey, very fine grained, kaolinitic, friable, no visible porosity; shale (70%), as above.
1380	1400	D	20				Sandstone, light grey, very fine to fine grained, friable to quartzitic, slightly salt and pepper, kaolinitic, no visible porosity.
1400	1410	D	10				Sandstone (20%), as above; sandstone (80%), dark grey, very fine grained, quartzitic, hard, tight.
1410	1420	D	10				Sandstone (40%), light grey variety as above; sandstone (60%), dark grey variety as above.
1420	1430	D	10				Sandstone (80%), light grey, very fine grained, friable to quartzitic, kaolinitic, tight; sandstone (20%), dark grey to black, very fine grained, quartzitic, hard, tight.
1430	1440	D	10				Sandstone, dark grey to black, very fine grained, quartzitic, hard, tight.
1440	1450	D	10				Sandstone (40%), as above; shale (60%), black, bituminous; trace kaolin.
1450	1460	D	10				Sandstone (20%), as above; shale (80%), as above; trace kaolin.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE	
						AND CORE	DESCRIPTION
1460	1470	D	10				Sandstone (70%), as above; shale (30%), as above.
1470	1530	D	60				Shale, black, bituminous.
1530	1540	D	10				Shale (90%), dark grey to black, in part bituminous; sandstone (10%), dark grey to black, fine grained, quartzitic, very kaolinitic.
1540	1550	D	10				Shale (50%), medium to black grey to black, in part bituminous; sandstone (50%), as above.
1550	1560	D	10				Shale (30%), as above; sandstone (70%), as above.
1560	1570	D	10				Shale (80%), as above; trace sandstone, as above; kaolin (20%), medium grey.
1570	1590	D	20				Shale (20%), as above; sandstone (80%), medium to dark grey to black fine grained, quartzitic, hard, tight, kaolinitic.
1590	1610	D	20				Shale (30%), as above; siltstone (70%), dark grey to black, siliceous, hard; trace pyrite; abundant kaolin.
1610	1630	D	20				Shale (30%), black, bituminous, in part silty; siltstone (60%), as above; sandstone (10%), medium to dark grey, quartzitic, hard; abundant kaolin.
1630	1640	D	10				Shale (60%), black, bituminous, as above; siltstone (10%), as above; sandstone (30%), medium to dark grey, quartzitic, hard; abundant kaolin.
1640	1650	D	10				Shale (20%), black, bituminous; siltstone (20%), dark grey to black, hard, tight; sandstone (60%), medium to dark grey, quartzitic, hard, abundant kaolin.
1650	1660	D	10				Siltstone (40%), as above; sandstone (60%), as above.
1660	1670	D	10				Siltstone (70%), as above; sandstone (30%), as above.
1670	1690	D	20				Siltstone (20%), as above; sandstone (80%), as above.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
1690	1700	D	10			Shale (20%), black, bituminous; siltstone (20%), as above; sandstone (60%), as above.
1700	1710	D	10			Shale (20%), as above; sandstone (80%), as above.
1710	1720	D	10			Shale (90%), black, bituminous, in part silty; sandstone (10%), as above.
1720	1730	D	10			Shale (90%) as above, slightly pyritic; sandstone (10%), as above.
1730	1740	D	10			Shale (60%), as above, with trace fine grain floating quartz grains; siltstone (30%), medium to dark grey to black, very kaolinitic, trace floating quartz grains; sandstone (10%), as above.
1740	1750	D	10			Shale (30%), black, bituminous, in part silty, pyritic; siltstone (40%), as above; sandstone (30%), as above, quartzitic.
1750	1760	D	10			Shale (20%), as above; trace only siltstone, as above; sandstone (80%), light to medium to dark grey, fine grained, quartzitic, kaolinitic.
1760	1770	D	10			Shale (80%), as above; sandstone (20%), as above.
1770	1790	D	20			Shale (40%), as above; sandstone (60%), as above.
1790	1800	D	10			Shale (40%), as above; trace only shale, medium grey, micromicaceous; sandstone (60%), as above.
1800	1810	D	10			Shale (90%), bituminous, slightly pyritic; sandstone (10%), as above.
1810	1820	D	10			Shale, black, bituminous, in part silty; trace only sandstone, as above.
1820	1830	D	10			Shale (60%), as above; sandstone (40%), as above; abundant kaolin.
1830	1840	D	10			Shale (80%), as above; sandstone (20%), as above; abundant kaolin.
1840	1850	D	10			Shale (60%), as above; sandstone (40%), as above.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Showings O ₂ , S, N ₂	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
1850	1860	D	10			Shale (30%), as above; sandstone (70%), as above.
1860	1880	D	20			Shale (50%) as above; sandstone (50%), as above.
1880	1890	D	10			Shale (70%), as above; sandstone (30%), as above; abundant pyrite.
1890	1900	D	10			Shale (80%), as above; sandstone (20%), as above.
1900	1910	D	10			Shale (50%), as above; sandstone (50%), as above.
1910	1920	D	10			Shale, black, bituminous; trace only shale, dark grey-black, micromicaceous; trace only sandstone, as above.
1920	1960	D	40			Shale, black, bituminous.
1960	1970	D	10			Shale (90%), as above; sandstone (10%), as above.
1970	1990	D	20			Shale, as above; trace only sandstone, as above.
1990	2000	D	10			Shale, black, bituminous.
2000	2020	D	20			Shale (50%), as above; shale (50%), dark grey to grey-black, micromicaceous.
2020	2030	D	10			Shale (20%), black, bituminous; shale (80%), dark grey to grey-black, micromicaceous.
2030	2050	D	20			Shale (10%), black, bituminous; shale (90%), dark grey to grey-black, micromicaceous.
2050	2060	D	10			Shale (50%), black, bituminous; shale (50%), dark grey to grey-black, micromicaceous.
2060	2080	D	20			Shale (30%), black, bituminous; shale (70%), dark grey to grey-black, as above; trace secondary calcite.
2080	2100	D	20			Shale (50%), black, bituminous to dark grey-black, micromicaceous; sandstone (50%), dark grey, very fine grained friable to quartzitic; abundant pyrite.
2100	2110	D	10			Shale (70%), as above; sandstone (30%), as above.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.S.V.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
2110	2120	D		10		Shale (90%), as above; sandstone (10%), as above; trace pyrite.
2120	2140	D		20		Shale (70%), as above; sandstone (30%), as above.
2140	2200	D		60		Shale (80%), dark grey to black, micromicaceous, pyritic; shale (20%), black, bituminous, slightly pyritic; trace secondary calcite.
2200	2220	D		20		Shale as above; trace only chert, black, bituminous.
2220	2230	D		10		Shale (80%), dark grey, micromicaceous; sandstone (20%), light to medium grey, medium grained, quartzitic, hard, tight; abundant pyrite.
2230	2240	D		10		Shale (70%), as above; sandstone (30%), as above with medium grain inclusions, rounded and frosted.
2240	2250	D		10		Shale (50%), as above; sandstone (50%), as above, slightly pyritic, argillaceous.
2250	2260	D		10		Shale (20%), as above; sandstone (80%), as above.
2260	2290	D		30		Shale (20%), as above; sandstone (80%), as above, trace bitumen, no visible porosity.
2290	2300	D		10		Shale (50%), medium to dark grey, micromicaceous, slightly pyritic; sandstone (50%), light to medium grey, fine grained to silty, quartzitic, hard, tight.
2300	2310	D		10		Shale (90%), as above; sandstone (10%), as above.
2310	2390	D		80		Shale, as above; trace only pyrite.
2390	2500	D		110		Shale, medium to dark grey to black, in part bituminous.
2500	2510	D		10		Shale, medium to dark grey to black, in part bituminous, trace pyrite.
2510	2520	D		10		Shale (90%), as above; sandstone (10%), dark grey to black, fine grained, quartzitic, hard, tight, in part bituminous.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Showing O.G. Sample	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
2520	2530	D	10			Sandstone (90%), dark grey to black, fine grained, quartzitic, hard, tight, in part bituminous.
2520	2530	D	10			Sandstone (90%), dark grey to black, fine grained, quartzitic, hard tight, in part bituminous; shale (10%), as above.
2530	2540	D	10			Shale, dark grey to black, micromicaceous, in part bituminous, slightly pyritic.
2540	2560	D	20			Shale (50%), as above; sandstone (50%), dark grey to black, fine grained, quartzitic, hard, tight, in part bituminous.
2560	2570	D	10			Shale (90%), black, bituminous, in part silty; sandstone (10%), as above.
2570	2580	D	10			Shale, as above; trace only sandstone, as above; trace only coarse chert pebbles, rounded, black.
2580	2590	D	10			Shale (10%), as above; sandstone (90%), black, fine grained, bituminous, tight.
2590	2600	D	10			Shale (70%), as above; sandstone (30%), as above.
2600	2610	D	10			Shale, as above.
2610	2620	D	10			Shale (80%), as above; sandstone (10%), as above; trace pyrite.
2620	2630	D	10			Shale (80%), as above; sandstone (20%), as above; trace only chert, black, bituminous.
2630	2640	D	10			Shale (80%), as above; sandstone (20%), light to medium to dark grey, fine grained, quartzitic, pyritic, hard, tight.
2640	2650	D	10			Shale (10%), as above; sandstone (90%), as above, slightly bituminous.
2650	2660	D	10			Shale (60%), black, bituminous, in part silty; sandstone (40%), light to medium to dark grey, fine grained, quartzitic, pyritic, hard, tight.
2660	2670	D	10			Shale, as above.
2670	2680	D	10			Shale (10%), as above; sandstone (90%), white to light grey, fine grained, quartzitic, slightly

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showing O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
						pyritic, trace bituminous, hard, tight.
2680	2690	D	10			Shale (50%), as above; sandstone (50%), as above.
2690	2700	D	10			Shale (90%), as above; sandstone (10%), as above.
2700	2710	D	10			Shale, as above; trace only sandstone, as above; trace pyrite.
2710	2720	D	10			Shale, as above; trace only sandstone, as above; trace only siltstone, dark grey to black, tight, bituminous.
2720	2730	D	10			Shale (50%), as above; siltstone (50%), as above.
2730	2740	D	10			Shale (20%), as above; siltstone (80%), as above.
2740	2760	D	20			Shale, as above; trace chert nodules (?), dolomitic; hard, rounded, pyritic.
2760	2790	D	30			Shale, as above.
2790	2800	D	10			Shale, in part silty, in part slightly pyritic.
2800	2810	D	10			Shale (10%), as above; siltstone (90%), dark grey to black, tight, bituminous; trace chert, as in 2,740' - 2,760 samples.
2810	2820	D	10			Shale (50%), as above; siltstone (50%), as above.
2820	2840	D	20			Shale, as above; trace only siltstone, as above.
2840	2850	D	10			Shale, as above; trace only siltstone, as above, pyritic.
2850	2870	D	20			Shale, as above; trace only siltstone, dark grey to black, quartzitic, bituminous, hard, tight.
2870	2890	D	20			Shale (70%), black, bituminous, in part silty; siltstone (30%), dark grey to black, quartzitic, bituminous, hard, tight.
2890	2900	D	10			Shale, dark grey-black to black, bituminous, pyritic.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE	
						AND CORE	DESCRIPTION
2900	2940	D		40			Shale, dark grey-black, slightly micaceous.
2940	3040	D		100			Shale, as above; abundant pyrite.
3040	3050	D		10			Shale, as above; trace only sandstone, dark brown-black, very fine grained, quartzitic, hard, tight, dolomitic, with trace paper-thin calcite lenses from fractures.
3050	3070	D		20			Shale (90%), as above; sandstone (10%), as above, trace secondary calcite as above.
3070	3080	D		10			Shale, as above; trace sandstone, as above; abundant pyrite; trace calcite, as above, with trace slicken-sides (?).
3080	3090	D		10			Shale, as above; abundant pyrite.
3090	3100	D		10			Shale, as above; trace calcite.
3100	3120	D		20			Shale, as above; trace sandstone, dark brown-black, very fine grained, quartzitic, hard, tight, dolomitic.
3120	3130	D		10			Shale (90%), as above; sandstone (10%), as above; abundant pyrite; trace chert, black, bituminous.
3130	3170	D		40			Shale, as above; trace sandstone, as above; abundant pyrite.
3170	3210	D		40			Shale, black, bituminous, in part silty; abundant pyrite.
3210	3240	D		30			Shale, as above; trace only sandstone, black, fine grained, quartzitic; bituminous, hard, tight; abundant pyrite.
3240	3390	D		150			Shale, black, bituminous, in part silty; abundant pyrite.
3390	3400	D		10			Shale (80%), as above; sandstone (20%), medium to dark grey to grey-black, fine to medium grained, quartzitic, in part friable, hard, tight, trace bituminous, trace kaolinite.
3400	3440	D		40			Shale (10%), as above; sandstone (90%), as above.
3440	3450	D		10			Shale (50%), as above; sandstone (50%), as above.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
3450	3460	D		10		Shale (30%), as above; sandstone (70%), as above.
3460	3470	D		10		Shale (70%), as above; sandstone (30%), as above.
3470	3540	D		70		Shale, black, bituminous, pyritic; trace only sandstone, black, fine to medium grained, quartzitic, bituminous.
3540	3550	D		10		Shale, as above; trace only sandstone, as above; trace only sandstone, light to medium to dark grey, fine to medium grained, quartzitic, in part friable, trace bituminous, pyritic.
3550	3580	D		30		Shale (90%), as above; sandstone (10%), light to medium to dark grey, as above, rarely black.
3580	3590	D		10		Shale (80%), as above; sandstone (20%), light to medium to dark grey, as above, rarely black.
3590	3600	D		10		Shale (60%), as above; sandstone (40%), light to medium to dark grey, as above; trace calcite crystals, clear, coarse, dolomitic.
3600	3610	D		10		Shale (50%), black, bituminous, pyritic; sandstone (50%), light to medium to dark grey to grey-black, medium grained, quartzitic, part friable, in part argillaceous, hard, tight, pyritic, trace kaolin, trace bitumin, trace calcite crystals, clear, coarse, dolomitic.
3610	3630	D		20		Shale (40%), as above; sandstone (60%), as above.
3630	3640	D		10		Shale (30%), as above; sandstone (70%), as above.
3640	3650	D		10		Shale (50%), as above; sandstone (50%), as above.
3650	3660	D		10		Shale (80%), as above; sandstone (20%), as above.
3660	3670	D		10		Shale, as above; trace only sandstone, as above, trace only sandstone, black, medium grained, quartzitic, hard, in part argillaceous.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Showing O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
3670	3680	D	10			Shale (50%), as above; sandstone (50%), light to medium to dark grey, as above; trace only sandstone, black, as above.
3680	3700	D	20			Shale (30%), as above; sandstone (70%), light to medium to dark grey, as above.
3700	3720	D	20			Shale (50%), as above; sandstone (50%), light to medium to dark grey, as above; trace only sandstone, black, as above, with coarse black chert pebble inclusions.
3720	3730	D	10			Shale (60%), as above; sandstone (40%), as above.
3730	3740	D	10			Shale (30%), as above; sandstone (70%), as above, with abundant disseminated pyrite.
3740	3820	D	80			Shale (20%), as above; sandstone (80%), as above.
3820	3830	D	10			Shale (90%), as above; sandstone (10%), as above. (Poor samples after trip).
3830	3840	D	10			Shale (30%), as above; sandstone (70%), as above.
3840	3860	D	20			Shale (20%), as above; sandstone (80%), as above.
3860	3920	D	60			Shale (10%), as above; sandstone (90%), as above.
3920	3930	D	10			Shale (10%), as above; sandstone (90%), as above; trace only sandstone, black, fine grained, quartzitic, hard, tight; trace only sandstone, black, fine grained, very bituminous, argillaceous, coaly appearance, fine grained, rosy quartz grains, rounded; trace kaolin.
3930	3940	D	10			Shale (30%), bituminous, as above, in part very coaly appearing; sandstone (70%), as above, increase amounts sandstone, black, quartzitic.
3940	3950	D	10			Shale (20%), as above; sandstone (20%), black, fine grained, very bituminous, argillaceous; sandstone (60%) medium to dark grey to black, medium grained, quartzitic, bituminous, hard, tight, pyritic.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
3950	3960	D	10			Shale (20%), as above; sandstone (50%), black, very bituminous, as above; sandstone (30%), quartzitic, as above.
3960	3970	D	10			Shale (40%), as above; sandstone (20%), black, very bituminous, as above; sandstone (40%), quartzitic, as above.
3970	3980	D	10			Shale (30%), as above; sandstone (20%), black, very bituminous, as above; sandstone (50%), quartzitic, as above.
3980	3990	D	10			Shale (20%), black, bituminous; sandstone (10%), black, fine grained, very bituminous, argillaceous; sandstone (70%), light to medium to dark grey to black, medium grained, quartzitic, bituminous, hard, tight, pyritic, trace kaolin with trace gyp matrix.
3990	4000	D	10			Shale (50%), as above; trace sandstone, black, very bituminous, as above; sandstone (50%), light to medium to dark grey to black, as above, trace kaolin.
4000	4010	D	10			Shale (30%), as above; trace only sandstone, black, as above; sandstone (70%), light to medium to dark grey to black, as above, with trace kaolin.
4010	4020	D	10			Shale (20%), as above; trace only sandstone, black, as above; sandstone (80%), light to medium grey variety as above, trace kaolin.
4020	4050	D	30			Shale (30%), as above; trace only sandstone, black, argillaceous, as above; sandstone (70%), light to medium grey variety as above, trace kaolin.
4050	4060	D	10			Shale (30%), as above; sandstone (10%), black, fine grained, very bituminous, argillaceous; sandstone (60%), light to medium to dark grey variety as above, trace kaolin.
<u>TOP BESA SHALE 4,062' (-281')</u>						
4060	4070	D	10			Shale (50%), black, bituminous, pyritic; sandstone (30%), black, very bituminous, as above; sandstone (20%), light to dark grey as above, trace kaolin.

FROM	TO	CORE DITCH	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
4070	4080	D	10			Shale (80%), as above; trace only sandstone, black, bituminous, as above; sandstone (20%), light to medium to dark grey variety as above.
4080	4100	D	20			Shale (90%), black, bituminous, pyritic; sandstone (10%), light to medium to dark grey variety as above, trace secondary calcite.
4100	4110	D	10			Shale (80%), as above; sandstone (20%), as above.
4110	4130	D	20			Shale (70%), as above; sandstone (30%), as above.
4130	4140	D	10			Shale (60%), as above; sandstone (40%), as above.
4140	4150	D	10			Shale (70%), as above; sandstone (30%), as above.
4150	4170	D	20			Shale (50%), as above; sandstone (50%), medium to dark grey to black, medium grained, quartzitic, hard, tight, kaolinitic, trace pyrite; trace only apple-green shale; trace gyp nodules.
4170	4180	D	10			Shale (70%), as above; sandstone (30%), as above, trace pyrite; apple-green shale; gyp nodules, as above.
4180	4190	D	10			Shale (50%), as above; sandstone (30%), as above; mudstone (20%), tan, light grey; green; abundant kaolin; trace gyp.
4190	4200	D	10			Shale (60%), as above; sandstone (30%), as above; with mudstone (10%), as above; abundant kaolin; trace gyp.
4200	4210	D	10			Shale (60%), as above; sandstone (40%), as above; trace mudstone, as above.
4210	4220	D	10			Shale (70%), as above; sandstone (30%), as above; trace mudstone, as above.
4220	4240	D	20			Shale (90%), as above; sandstone (10%), as above; trace mudstone, as above.
4240	4250	D	10			Shale (80%), black, bituminous, pyritic; sandstone (20%), as above; trace only mudstone, as above.

FROM	TO	CORE C DIRCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.S.A.P.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
4250	4260	D		10		Shale (90%), as above; sandstone (10%), as above; with trace only mudstone, as above.
4260	4270	D		10		Shale, as above; trace only sandstone, as above; trace pyrite.
4270	4630	D		360		Shale, black, bituminous, pyritic; abundant pyrite.
4630	4650	D		20		Shale (50%), as above; mudstone (20%), very light grey, trace medium grey, waxy appearance; chert (5%), very light grey, sharp; mudstone (?) (25%) light to medium green, in part slightly translucent, very coarse brown mica; trace calcite; trace kaolin, in part micaceous.
4650	4670	D		20		Shale, as above; trace only mudstones and chert, as above.
4670	4720	D		50		Shale, as above; abundant pyrite.
4720	4730	D		10		Shale, as above; trace only siltstone, very light grey.
4730	4740	D		10		Shale (50%), as above; mudstone (?) (40%), light grey green, waxy, very coarsely micaceous, in part silty; siltstone (10%), light grey.
4740	5210	D		470		Shale, black, bituminous, pyritic.
5210	5220	D		10		Shale (80%), black, bituminous, abundant pyrite; siltstone (20%), light tan to light grey to blue grey, pyrite, in part micaceous.
5220	5230	D		10		Shale (50%), as above, abundant pyrite; siltstone (20%), as above; trace detritus (granite, chert), trace secondary calcite.
5230	5240	D		10		Shale (50%), as above, abundant pyrite; siltstone (30%), as above; detritus (20%).
5240	5250	D		10		Shale (60%), as above, abundant pyrite; siltstone (20%), as above; detritus (20%).
5250	5260	D		10		Shale (80%), as above; siltstone (10%), as above; detritus (10%), as above.
5260	5440	D		180		Shale, as above, abundant pyrite.
5440	5450	D		10		Shale (50%), as above, abundant pyrite; detritus (50%); chert, black to light grey; trace

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.S., W.L.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
						(cont...)
						only siltstone, light to medium grey to medium grey to medium green.
5450	5460	D		10		Shale (20%), as above, abundant pyrite; detritus (80%), siltstone, grey-green to green, light brown; trace calcite; chert.
5460	5470	D		10		Shale (40%), as above, abundant pyrite; detritus (60%), as above.
5470	5480	D		10		Shale (90%), as above, abundant pyrite; detritus (10%), as above.
5480	5500	D		20		Shale (80%), as above, abundant pyrite; detritus, as above.
5500	5560	D		60		Shale, black, bituminous, abundant pyrite.
5560	5580	D		20		Shale, as above, trace secondary calcite.
5580	5590	D		10		Shale as above; trace only shale, brown-black, siliceous.
5590	5610	D	16	4		Shale (20%), as above; shale (80%), brown-black, very siliceous, with abundant small quartz crystal cavity linings, excellent porosity.
5610	5620	D		10		Sample not available, lost circulation at 5621.
						Remainder of hole drilled with no mud returns. Cores were taken periodically as a sampling media.
	At 5676 (Junk sub recovery)					Limestone (50%), dark grey to black to light grey, cryptocrystalline to microcrystalline, hard, tight; shale (20%), black, bituminous; pyrite (10%), massive; calcite (20%), white to clear, with abundant calcite crystal vug or fracture linings, trace of dolomite, black, crystalline, fine to medium grained, tight (looks as though it has been fluid at sometime and is light in weight).
	At 5710 (Junk sub recovery)					Mudstone (50%), light grey to white, chalky, abundant disseminated pyrite, shale fragments included, dark grey-black; pyrite, massive; shale (50%), black, bituminous; trace limestone, as above.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O, G, W, S	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
5710	5715	C		3.4		<p><u>Core #1 5,710' - 5,715'</u> Cut 5', Recover 3.4'</p> <p>Core Times: 8, 9, 8, 10, 14.</p> <p>Limestone, light to dark grey-black, cryptocrystalline, to microcrystalline, hard, tight. In top 1.5', numerous minor hairline fractures at 60° angle infilled with secondary white calcite, abundant hairline shatter fractures; top of core has open calcite crystallized fractures 1/4" wide; top 1" has a 1/2" wide fracture, filled with chert, black, bituminous, slightly dolomitic; small brachiopods, corals, ostracods, and cabbage-head stroms (3-1/2"), trace of Amphipora; trace of pyrite in fracture planes; occasional small blind vugs.</p>
5756	5760	C		2.5		<p><u>Core #2 5,726'-5,760'</u> Cut 4', Recover 2.5'</p> <p>Core Times: 5, 7, 7, 9.</p> <p>Limestone, light grey to dark grey to black, microcrystalline, hard, tight, trace disseminated pyrite, fracture 3/4" to 1" in width filled with white secondary calcite, abundant hairline shatter fractures; fossil content includes cabbage-head stroms (3" to 4"), brachiopods, ostracods, amphipora.</p>
5805	5809	C		2.5		<p><u>Core #3 5,805' - 5,809'</u> Cut 4' Recover 2.5'</p> <p>Core Times: 8, 14, 14, 14.</p> <p>Limestone, light grey to dark grey to black, microcrystalline, hard, tight, highly fractured with white calcite infill, trace coarse calcite lined vugs, one fracture 1/2" to 3/4" in width with black chert, dolomitic, trace stroms, abundant amphipora, trace corals.</p>

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.S.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
5855	5859	C	2			<p><u>Core #4</u> <u>5,855' - 5,859'</u> Cut 4' Recover 2'</p> <p>Core Times: 15, 16, 20, 22.</p> <p>Limestone, light grey to black, bituminous, hard, tight, microcrystalline, noticeable lack of fractures, no visible porosity, trace brachiopods, stroms, abundant pyrobitumen infilling what was at one time small vuggy porosity.</p>
5903	5905	C	1.7			<p><u>Core #5</u> <u>5,903' - 5,905'</u> Cut 2' Recover 1.7'</p> <p>Core Times: 20, 25.</p> <p>Dolomite, dark grey-black, microcrystalline, slightly bituminous, hard, tight, slightly calcareous to calcareous, no visible porosity, no visible fossil content, major vertical fracture, calcite filled, runs almost entire length of core, trace disseminated pyrite.</p>
5949	5951	C	1.5			<p><u>Core #6</u> <u>5,949' - 5,951'</u> Cut 2' Recover 1.5'</p> <p>Core Times: 12, 12..</p> <p>Dolomite, medium to dark grey, microcrystalline, hard, tight, dense, no visible porosity or fossil content, trace secondary calcite infill along fracture planes, core badly broken.</p>
6001	6005	C	5			<p><u>Core #7</u> <u>6,000' - 6,006'</u> Cut 5' Recover 5'</p> <p>Core Times: 7, 8, 8, 7, 7.</p> <p>Dolomite, medium grey, microcrystalline, tight, very fossiliferous with small brachs, ostracods, small stroms, corals, abundant micro-fossils. Few minor fractures @60° angle, sealed with secondary calcite, trace pyritized replacement of fossils.</p>

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showing O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
6048	6053	C		4.5		<p><u>Core #8</u> <u>6,048' - 6,053'</u> Cut 5', Recover 4.5'</p> <p>Core Times: 6, 5, 5, 5, 6.</p> <p>Limestone, dark grey, microcrystalline, tight, in part slightly dolomitic, fossiliferous with small brachs, ostracod, tabular stroms, abundant unidentifiable micro-fossils, no visible porosity or fractures.</p>
6105	6110	C		0.9		<p><u>Core #9</u> <u>6,105' - 6,110'</u> Cut 5', Recover 5.3'</p> <p>Core Times: 5, 6, 6, 6, 7.</p> <p>Limestone, dark grey, microcrystalline, hard, tight, no visible porosity, no visible fossils except on one open fractures plane some type of cell structure present. One large white calcite bleb.</p>
				4.2		<p>Limestone, dark grey, microcrystalline, hard, tight, no visible porosity, abundant fossils, large stroms (9"), abundant amphipora, small brachiopoda, ostracods.</p>
				0.2		<p>Dolomite, black, microcrystalline, very bituminous, thin laminations dipping at 40° angle with few limestone blebs, medium grey, microcrystalline, hard.</p>
6185	6190	C		2.4		<p><u>Core #10</u> <u>6,185' - 6,190'</u> Cut 5', Recover 4.7'</p> <p>Core Times: 7, 7, 7, 7, 8.</p> <p>Limestone, medium grey, lithographic, hard, tight, no visible fossil content.</p>
				2.3		<p>Limestone, dark grey, microcrystalline, hard, tight, slightly bituminous, no visible porosity, no visible fossil content, several stylolites lined with bitumen, trace vertical fractures healed with calcite.</p>

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G., N.Y.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
6256	6258	C		1.0		<p><u>Core #11 6,256' - 6,258'</u> Cut 2', Recover 1.0'</p> <p>Core Times: 5, 5.</p> <p>Dolomite, dark grey, microcrystalline, hard, tight, no visible porosity, no fossils, core badly broken, abundant hairline shatter fractures, healed with calcite.</p>
6333	6335	C				<p><u>Core #12 6,333' - 6,335'</u> Cut 2', Recover Nil</p> <p>Core Times: 5, 5.</p> <p>Core jammed, milled; no recovery.</p>
6364	6366	C		0.5		<p><u>Core #13 6,364' - 6,366'</u> Cut 2', Recover 0.5'</p> <p>Core Times: 5, 4.</p> <p>Dolomite, dark grey, microcrystalline, tight, no visible porosity, abundant hairline shatter fractures healed with calcite, core badly crumbled.</p>
6412	6414	C		*		<p><u>Core #14 6,412' - 6,414'</u> Cut 2', Recover Nil</p> <p>Core Times: 9, 8.</p> <p>*Stuck to core head were two pieces: one small pea size piece of dolomite, dark grey, microcrystalline, hard, tight; one piece small pea size piece of dolomite, light grey, microcrystalline, tight with dolomite, dark grey, as above; trace calcite.</p>
6424	6428	C		0.4		<p><u>Core #15 6,424' - 6,428'</u> Cut 4', Recover 1.5'</p> <p>Core Times: 3, 3, 4, 4.</p> <p>Dolomite, dark grey, microcrystalline, hard, tight, very broken, trace white calcite remnants along edges of what were healed fracture planes, trace slickensides.</p>

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showing O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
				1.1		Dolomite, light grey, cryptocrystalline to microcrystalline, hard, tight, badly broken. Core #16 <u>6,556' - 6,562'</u> Cut 6', Recover 1.0' Core Times: 12, 14, 14, 14, 17.
6556	6562	C		1.0		Dolomite, grey-green, very finely crystalline, tight, trace crinoids, scattered irregular fractures infilled with white calcite. Core #17 <u>6,783' - 6,785'</u> Cut 2', Recover 1.2' Core Times: 7, 7.
6783	6785	C		1.2		Dolomite, dark grey, very finely crystalline, tight, abundant white blebs of calcite associated with fractures, also abundant horizontal patches of white tertiary dolomite; abundant random fine fractures. Core #18 <u>7,065' - 7,070'</u> Cut 5', Recover 2.5' Core Times: 7, 12, 13, 14, 11.
7065	7070	C		2.5		Dolomite, medium to dark grey, very finely crystalline, welded, tight, scattered crinoids, abundant random fine fractures infilled with white tertiary dolomite. Core #19 <u>7,349' - 7,354'</u> Cut 5', Recover 2.5' Core Times: 13, 10, 9, 9, 14.
7,349	7,354	C	2.5			Dolomite, light to medium grey, very finely crystalline, abundant scattered crinoids, poor to fair pinpoint porosity. Core #20 <u>7,495' - 7,500'</u> Cut 5', Recover Nil Core Times: 15, 26, 17, 16, 18.

FROM	TO	CORE C DITCH D	No. of Ft Porous	No. of Ft Non-porous	Showings O.G.W.	GEOLOGICAL SAMPLE AND CORE DESCRIPTION
7500	7507	C		0.5		<p>Core #21 <u>7,500' - 7,507'</u> Cut 7', Recover 0.5'</p> <p>Core Times: 11, 24, 19, 20, 25, 20, 22.</p> <p>Dolomite, medium grey, silt sized to very finely crystalline, associated with abundant pyrobitumin, minor amount of fine fractures infilled with white calcite, tight.</p>

R

SUMMARY OF FORMATION TOPS

Bluemount et al Beavercrow YT B-16

KB: 3,781'

<u>Formation</u>	<u>Expected</u>	<u>Sample</u>	<u>Depth</u>	<u>Subsea</u>
Spud in Mattson				
Besa River	3,950	4,062	4,043	- 262
First Black Shale			4,840	-1,059
Second Black Shale			5,356	-1,575
Nahanni	6,500		5,650	-1,869
Total Depth		7,508		- 3,727

Terminal Formation - Nahanni

S

PALEONTOLOGICAL DETERMINATIONS

Bluemount et al Beavercrow YT B-16

The only index fossils recognized and identified were the existence of "B" zone ostracods in core #7 (6,001' - 6,006'). No formal report as to their identification was prepared.