LOCATION MAP OF MEREENIE - 1 AND EAST MEREENIE - 1 WELLS

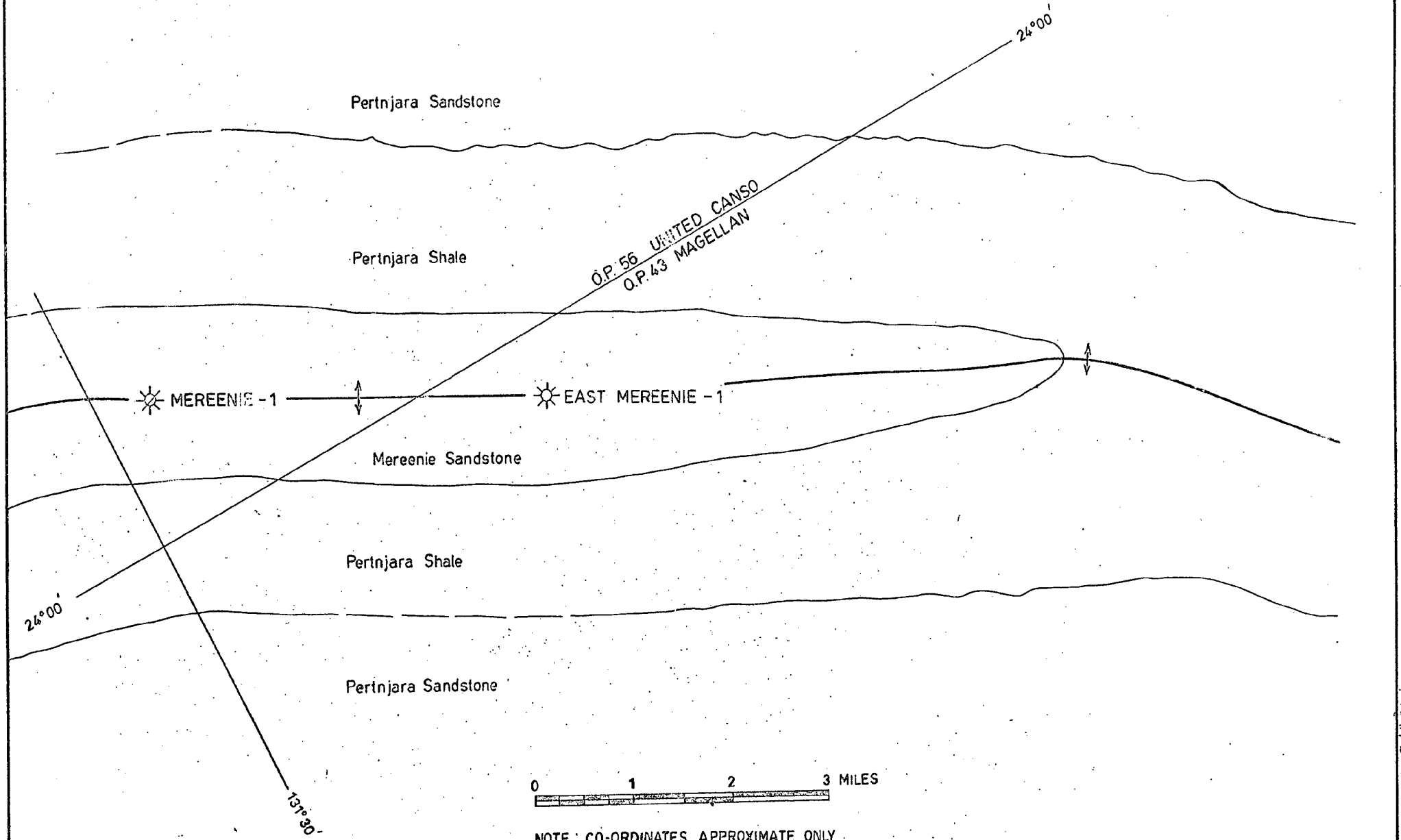


Figure 1

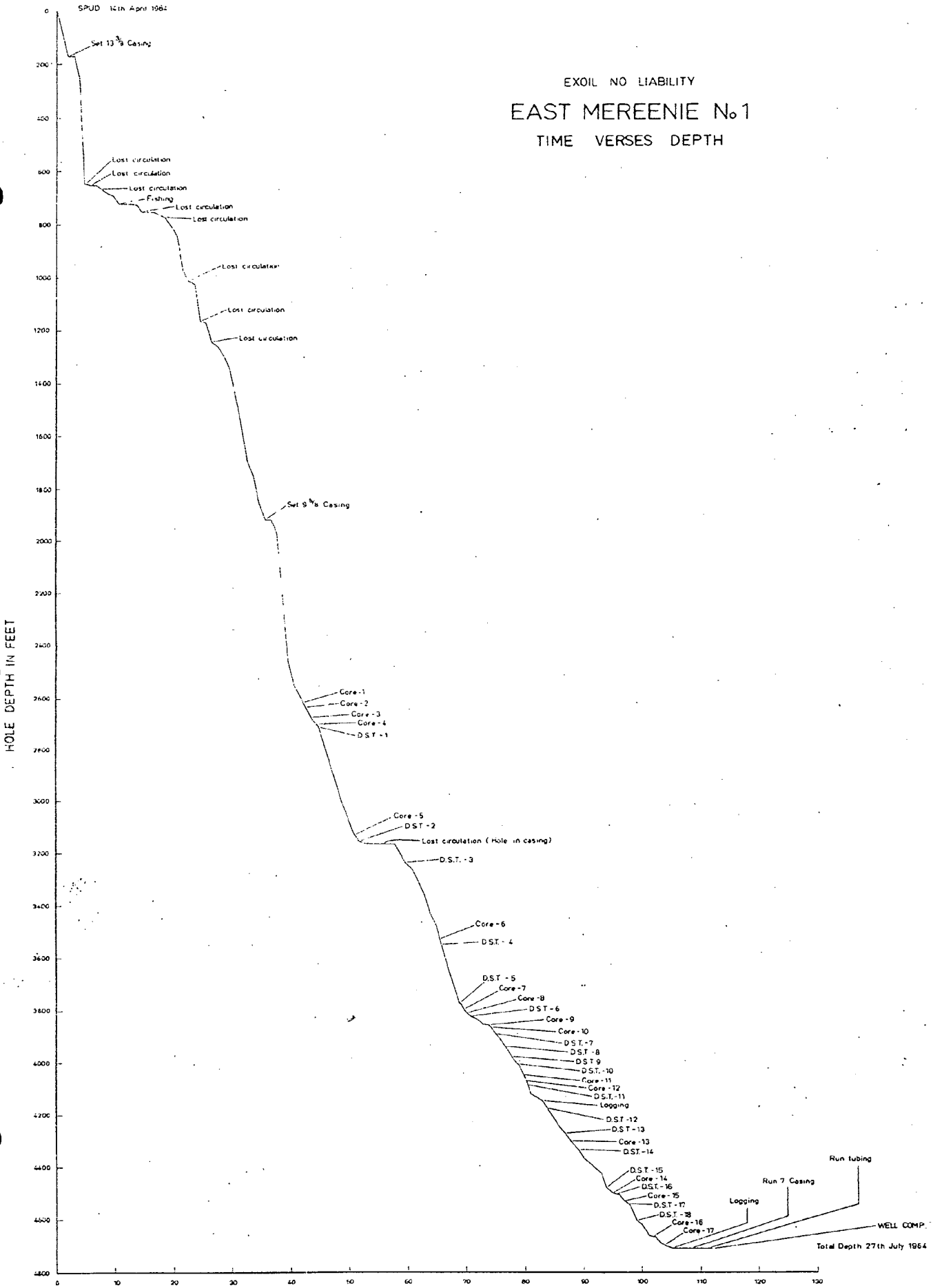

EXOIL NO LIABILITY
EAST MEREENIE No 1
TIME VERSES DEPTH
SPUD 16th April 1964
Set 13 3/8 Casing
Lost circulation
Lost circulation
Lost circulation
Fishing
Lost circulation
Lost circulation
Lost circulation
Lost circulation
Lost circulation
Set 9 5/8 Casing
Core - 1
Core - 2
Core - 3
Core - 4
D.S.T - 1
Core - 5
D.S.T - 2
Lost circulation (Hole in casing)
D.S.T. - 3
Core - 6
D.S.T. - 4
D.S.T - 5
Core - 7
Core - 8
D.S.T - 6
Core - 9
Core - 10
D.S.T - 7
D.S.T - 8
D.S.T 9
D.S.T. - 10
Core - 11
Core - 12
D.S.T. - 11
Logging
D.S.T - 12
D.S.T - 13
Core - 13
D.S.T. - 14
D.S.T - 15
Core - 14
D.S.T. - 16
Core - 15
D.S.T - 17
D.S.T - 18
Core - 16
Core - 17
Logging
Run 7 Casing
Run tubing
WELL COMP.
Total Depth 27th July 1964
HOLE DEPTH IN FEET
DAYS SINCE SPUD DATE

Fig. 3
Form 6
Report No. 1

EXOIL NO LIABILITY

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565 G.L.: 2554 Date: 29th May, 1964

Test No.: 1 Interval: 2578-2703 Operator: Exoil

Tester, Size & Type: 4¾ Johnston Co Packer, Size & Type: 7½ Open hole

Anchor, Length & O.D.: 124' 4½" Drill Collar Footage above Tester: 97'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs: Type: T1 Position: 1 above packer & one at bottom of tail pipe Anchor Perforations: From: 2578 To: 2600 From: To:

Disk Valve Position: 100' above tool Water Cushion: Mud Wt.: 10.8 Vis: 57

Chokes - Top: - B.H.: - Drill pipe, size & Type: 4½ x 16.6

Full Hole, Size & Depth: 8¾" 2703' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 6:30 a.m. Set Packer: 7:50 a.m. Valve Opened: 7:57 a.

Disk Broken: 8:30 a.m. Valve Shut: 10:30 a.m. Pulled Packer: 11:30 am Out of Hole: 1:30pm

Nature of Blow: Gas to surface in 3 minutes. Good initial blow. Steady flow at first gradually increasing.

Gas Flow Measuring Method: Pitot tube and manometer 2" riser on flare line.

Time:	8.45 (steady)	9.20	9.30	9.40	9.50	10.20	10.25
Reading:	2.2" water	2.8"	4.0"	5.0"	3.4"	12.4"	8.4"
Rate of Flow:	209 MCFGPD	250	295	310	270*	520	425

* flowing small amount of mud

Oil or Water Flow: NIL

Fluid Recovered: 210 feet slightly gas cut drilling mud

Chart Readings: Time elapsed, mins.: ISI 30mins Flowing 1 hour FSI 1 hour

Pressures: IHP 1530 ISIP 1475 IFP 205 FFP 250 FSIP 1332 FHP 1490

Maximum Temperature: Less than 200°F

Samples: Two bottles of gas 250 PSI 2-1-gallon jars of mud

Remarks: Shut in at surface 5 minutes 9:25 a.m. to 9:30 a.m. Shut in at surface 30 minutes 9:50 a.m. to 10:20 a.m. During half hour shut-in (surface) drill head pressure 250 PSI blew down to 80 PSI. Shut in at surface to try and blow mud out of hole. Shut in after half hour surface shutin decreasing rapidly. Maximum stabilised flow rate 310 MCFGPD. Clock on top stopped. Good chart on lower bomb. Shut-in pressure after half hour surface 565 blown down to 290 (readings from chart)

Geologist/Engineer D.D. Benbow

Fig. 4

EXOIL NO LIABILITY

Form 6

Report No. 8

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO.1 Elevation K.B.: 2565' G.L.: 2554' Date: 5th June, '64.

Test No.: 2 Interval: 3079'-3155' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C O Packer, Size & Type: 7½" Open Hole

Anchor, Length & O.D.: 76' 4½" Drill Collar Footage above Tester: 178'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From: 3079 To: 3101

(T1 Above Packer Anchor Perforations (From: To:

Disk Valve Position: 2866' Water Cushion: Nil Mud Wt.: 13.3 Vis: 66

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

Full Hole, Size & Depth: 8¾" 3155' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 11:45 a.m. Set Packer: 1:32 p.m. Valve Opened: 1:37 p.m

Disk Broken: 2:07 p.m. Valve Shut: 3:54 p.m. Pulled Packer: 4:54 p.m. Out of Hole: 7:30 pm

Nature of Blow: Gas to surface in 1 minute, strong initial blow, decreasing rapidly.

Gas Flow Measuring Method: Pitot Tube & Manometer through 2" riser on flare line.

Time:	2:12 (Dropping Quickly)	2:20 (Dropping gradually)	2:30,	2:40,	2:50,	3:00,	3:05,
" of H_2O Reading:	7	5	3½	3½	3½	3½	3½
Rate of Flow:	393 mcfpd	333	260	260	260	260	260

Oil or Water Flow: Nil

Fluid Recovered: 200' very slightly gas cut drilling mud

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing 1 hour FSI 1 hour

Pressures: IHP 2140 ISIP 2075 IFP 170 FFP 170 FSIP 2060 FHP 2140

Maximum Temperature: < 200°F

Samples: 2 gas bombs (170 p.s.i.), 2 Jars Mud.

Remarks: Shut in at surface 3:07 p.m. to 3:40 p.m. Pressure built up at well head to 180 p.s.i. Flow after Surface Shut in too great (in excess of ¾ mmcfpd) to measure with water. Flow died down rapidly to 260 mcfpd (3:50 p.m.). Final Shut in at 3:54 p.m. Stabilized open flow 260 mcfpd. Both charts are identical, Pressures on top chart slightly less than those on bottom. Pressures (above) taken from bottom chart. Shut in Pressure after 33 minutes surface shut in 410 (taken from chart).

Geologist/~~Engineer~~ D. D. Benbow

Fig. 5

EXOIL NO LIABILITY

Form 6

Report No. 9

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 12th June, '64

Test No.: 3 Interval: 3163' - 3238' Operator: Exoil

Tester, Size & Type: 4¾" Johnston CO. Packer, Size & Type: 7½" hole

Anchor, Length & O.D.: 75' Drill Collar Footage above Tester: 622'

Capacity (bbl./foot) - Drill Pipe: .0142 Drill Collars: .0032

Pressure Bombs (Type: T Position: Bottom Tail Pipe (From: 3163 To: 3171

(T Above packer Anchor Perforations (From: To:

Disk Valve Position: 3030' Water Cushion: - Mud Wt.: 13.2 Vis: 66

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type:

Full Hole, Size & Depth: 8¾" - 3238' Rat Hole, Size & Depth: Nil

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 11:00 a.m. Set Packer: 12:32 p.m. Valve Opened: 12:40 p.

Disk Broken: 1:10 p.m. Valve Shut: 2:10 p.m. Pulled Packer: 3:10 pm Out of Hole: 5:30 p

Nature of Blow: Good initial blow after 1½ minutes, rapidly decreasing, very faint for remainder of test.

Gas Flow Measuring Method: No gas to surface

Time:

Reading:

Rate of Flow:

Oil or Water Flow:

Fluid Recovered: 565 feet slightly gas cut mud

Chart Readings: Time elapsed, mins.: ISI ½ hour Flowing 1 hour FSI 1 hour

Pressures: IHP 2180 ISIP 370 IFP 90 FFP 90 FSIP not recorded FHP 2195

Maximum Temperature: Less than 200°F

Samples: 2 Jars mud

Remarks: Reset packer 1:30 p.m., tool filled with mud. Both charts identica Final shut in pressure not recorded. Pressures are from bottom chart.

Geologist/~~Engineer~~ D. D. Benbow.

Fig. 6

EXOIL NO LIABILITY

Form 6

Report No. 10

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 18th June, '64

Test No.: 4 Interval: 3426'-3476' Operator: Exoil

Tester, Size & Type: 4¾ Johnston C O Packer, Size & Type: 7½" Open Hole

Anchor, Length & O.D.: 50' x 6½ Drill Collar Footage above Tester: 94'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From: 3426' To: 3436'

(T1 Above packer Anchor Perforations (From: To:

Disk Valve Position: 3297' Water Cushion: Nil Mud Wt.: 13.1 Vis: 67

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

Full Hole, Size & Depth: 8¾" 3476' Rat Hole, Size & Depth: --

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 10:20 a.m. Set Packer: 12:01 p.m. Valve Opened: 12:06 p.m

Disk Broken: 12:36 p.m. Valve Shut: 1:36 p.m. Pulled Packer: 2:06 p.m. Out of Hole: 4:00 p

Nature of Blow: Air to surface ½ min. Good initial blow, decreasing rapidly. Faint but steady air blow for remainder of Flow Period.

Gas Flow Measuring Method: No gas to surface

Time: -

Reading: -

Rate of Flow: -

Oil or Water Flow: Nil

Fluid Recovered: 60' Drilling Mud

Chart Readings: Time elapsed, mins.: ISI ½ hour Flowing 1 hour FSI ½ hour

Pressures: IHP 2355 ISIP 160 IFP 95 FFP 95 FSIP 105 FHP 2355

Maximum Temperature: < 200°F

Samples: 2 Jars Mud

Remarks: Test mechanically successful; Both Charts identical, Pressures on Bottom chart slightly higher than top. Pressures (above) are from bottom chart.

Geologist/~~Engineer~~ D. D. Benbow

Fig. 7

EXOIL NO LIABILITY

Form 6

Report No. 11

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 22nd June, '64

Test No.: 5 Interval: 3669'-3776' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type: 7½" Open Hole

Anchor, Length & O.D.: 107' 6½" Drill Collar Footage above Tester: 210'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From: 3669' To: 3679'

(T1 Above packer Anchor Perforations (From: To:

Disk Valve Position: 3565' Water Cushion: Nil Mud Wt.: 12.9 Vis: 52

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

Fu[illegible] Hole, Size & Depth: 8¾" 3776' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 1:30 p.m. Set Packer: 3:01 p.m. Valve Opened: 3:07 pm.

Disk Broken: 3:37 p.m. Valve Shut: See below Pulled Packer: 6:20 pm Out of Hole: 8:30 pm

Nature of Blow: Gas to surface in 2 minutes, strong initial blow, blowing gas and mud for 20 minutes; Gas blow steady after clearing mud.

Gas Flow Measuring Method: Pressure gauge on 4" Critical Flow Prover (1½" Choke)

Time: Unable to measure till mud cleared out. Steady Flow 4:00pm to 5:20 pm.

Reading: 4:00 pm 80 p.s.i. 83°F; 4:10 pm to 5:20 pm. 80 p.s.i. 74°F

Rate of Flow: 4554 mcfd (4.5 Mmcfd); 4594 mcfd (4.6 Mmcfd)

Oil or Water Flow: Nil

Fluid Recovered: 5 gallons condensate and Drilling Mud (Mainly mud)

Chart Readings: Time elapsed, mina.: ISI ½ hour Flowing 1hr.40min FSI (Surface) ¾ hou

Pressures: IHP 2540 ISIP 1755 IFP 870 FFP 950 FSIP 1745 FHP 2505

Maximum Temperature: < 200°F

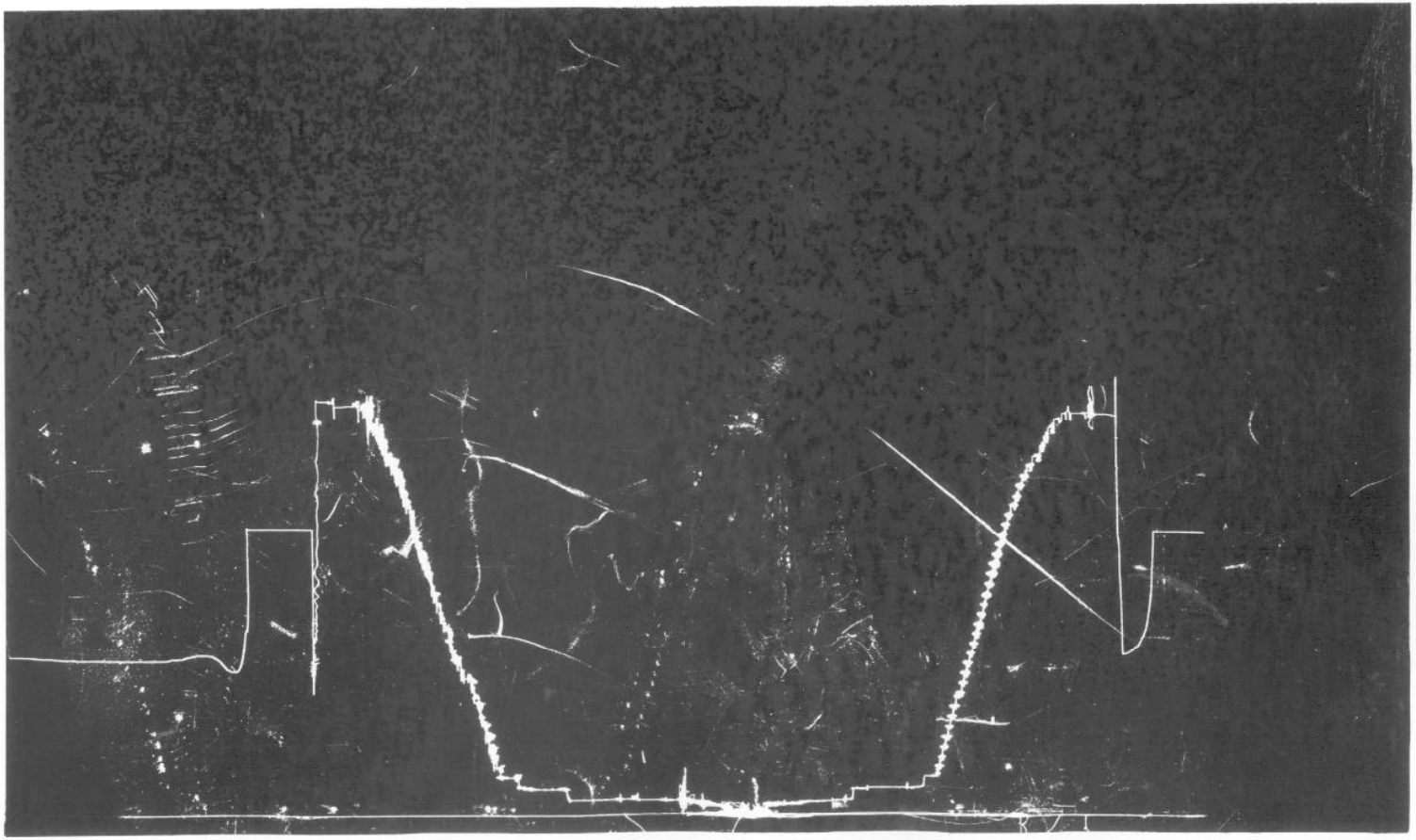
Samples: One 500 cubic inch Pressure Bomb (180 p.s.i.) Two 100 cubic inch Pressure bomb (180 p.s.i.); 4 Jars Fluid.

Remarks: Flowing Pressure at Well Head 525 p.s.i. Surface Shut in 5:20 pm. to 6:05 p.m. (Equivalent of Final Shut In). Bled off gas 6:05 p.m. to 6:20 p.m. Started out of hole 6:30 p.m. (10 minutes to disperse gas). Both charts identical. Drop in F.S.I.P. & F.H.P. on bottom bomb due lessening of mud column. Readings (above) are from bottom bomb. Pressures on bottom chart slightly higher than top. Attached Sheet shows Pressure readings at Well head during Surface Shut in. Maximum Stabilized Flow 4.6 Mmcfd. Well Head Shut In Pressure 1525 p.s.i.

Geologist/~~Engineer~~ D.D. Benbow

EXOIL (N.T.) - EAST MEREENIE No. 1

D.S.T. No. 5 3669' - 3776' BOTTOM RECORDER



Surface Shut-in(Pressures)

Time (Elapsed) Mins.	Reading (p.s.i.)
5:20	Shut In (525)
1	700
2	825
3	940
4	1050
5	1125
6	1190
7	1250
8	1310
9	1360
10	1395
11	1430
12	1450
13	1475
14	1490
15	1505
20	1525

Pressure Steady at 1525 for for 25 minutes.
6:05 Bled off gas.
Maximum Well Head Shut In Pressure 1525 p.s.i. (Stable)

Fig. 8
Form 6
Report No. 11

EXOIL NO LIABILITY

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO.1 Elevation K.B.: 2565' G.L.: 2554' Date: 24th June, '64

Test No.: 6 Interval: 3774'-3825' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type: 7½" Open Hole

Anchor, Length & O.D.: 51' 6½" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From: 3774' To: 3784'
(T1 Above packer Anchor Perforations (From: To:

Disk Valve Position: 3641' Water Cushion: Nil Mud Wt.: 13.4 Vis: 62

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

Fu[illegible] Hole, Size & Depth: 8¾" 3807' Rat Hole, Size & Depth: 7⅞" 3825'

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 6:15 a.m. Set Packer: 7:57 a.m. Valve Opened: 8:02 a.m

Disk Broken: 8:32 a.m. Valve Shut See below Pulled Packer: 10:41 am Out of Hole: 1:15pm

Nature of Blow: Gas to surface 1½ mins, strong initial blow, blowing gas and mud for 15 mins., steady blow after clearing mud.

Gas Flow Measuring Method: Pressure Gauge 4" Critical Flow Prover (1½" Choke), Pitot Tube and Manometer through 4" Riser (Mercury).

Time:	C.F.P. 8:37	C.F.P. 8:40	C.F.P. 8:45	C.F.P. 8:50	C.F.P. 9:00	"H9 9:00	Remainin steady for
C.F.P.(p.s.i.) Manometer ("H9) Reading	45	50	55	60	65	4	remainde
Rate of Flow:	2819	3188	3427	3643	3919	(Flowing temp. 65F	of flo
						4090(Mcfd)	

Oil or Water Flow: Nil

Fluid Recovered: 3 gallons Condensate (slightly mud cut)

Chart Readings: Time elapsed, mina.: ISI ½ hour Flowing 1 hour FSI(surf) ¾ Hour

[illegible]ures: IHP 2595 ISIP 1745 IFP 715 FFP 755 FSIP 1745 FHP 2570

Maximum Temperature: <200°F

Samples: One 500 cubic inch Pressure bomb (250 p.s.i.), one 100 cubic inch Pressure bomb (150 p.s.i.), 3 jars fluid.

Remarks:

Flowing Pressure at Well Head 400 p.s.i. Surface Shut In 9:33 a.m. to 10:18 a.m. (Equivalent of FinalSHUT-In) Bled off gas 10:18 a.m. to 10:40 a.m. Started out of Hole 11:00 a.m. (20 mins to Disperse gas). Both charts Identical, Pressures on bottom chart slightly higher than top. Drop in F.S.I.P. AND F.H.P. on bottom chart due lessening mud column. Readings (above) are from bottom bomb. Well Head Pressure during surface Shut In 1545 p.s.i. after 20 mins. (stable for 25 mins). Maximum stabilized flow 4 Mmcfd. Condensate is light, clear, has kerosene odour.

Geologist/~~Engineer~~ D.D. Benbow

Fig. 9
Form 6
Report No. 11

EXOIL NO LIABILITY

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 26th June, '64.

Test No.: 7 Interval: 3824' - 3852' Operator: Exoil

Tester, Size & Type: 4¾" JOHNSTON C.O. Packer, Size & Type: 7½" Open Hole

Anchor, Length & O.D.: 28' - 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position Above packer 3852' T1) Anchor Perforations (From: 3824' To: 3840' From: To:)

Disk Valve Position: 3704' Water Cushion: Nil Mud Wt.: 13.4 Vis: 62

Chokes - Top: ⅞" B.H.: ⅞" Drill pipe, size & Type: 4½" F.H.

Fu[illegible] Hole, Size & Depth: 8¾" x 3840' Rat Hole, Size & Depth: 7⅞" to 3852'

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 10:00 a.m. Set Packer: 11:28 a.m. Valve Opened: 11:32 am

Disk Broken: 12:02 p.m Valve Shut: Surface 1:35-2:00 Pulled Packer: 2:15 pm Out of Hole: 4:00pm

Nature of Blow: Gas to surface in 1 minute, strong initial blow, blowing mud & gas for 1 hour, gradually increasing, blowing condensate and gas after mud cleared.

Gas Flow Measuring Method: Pressuregauge on 4" Critical Flow Prover 1½" Choke and Pitot Tube through 4" riser.

Time:	12:10	12:20	12:20	1:00	1:00 Remaining steady for remainder of flow
Reading:	65 p.s.i.	90 p.s.i	7" Mercury	105P.si	10" mercury.
Rate of Flow:	3919	5149	5220	5887	6470

Oil or Water Flow: flowed through separator: 12:25 to 1:30 mud & condensate to 1:0; then condensate at 12 barrels per day.

Fluid Recovered: 5 gallons condensate

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing 90 mins FSI Surface 25 mir

Pressures: IHP 2660 ISIP 1755 IFP 1005 FFP 1145 FSIP 1755 FHP 2645

Maximum Temperature: Less than 200°F

Samples: 1 - 500 cubic inch bomb at 180 p.s.i., 1 - 100 cubic inch bomb at 150 p.s.i., 2 gallons separator fluid & 2 gallons recovered fluid.

Remarks: Flow temp. 65°F or less - thermometer broken last reading of mercury high due to high fluid content in gas. Flowing pressure at well head 600 p.s.i., During surface shut-in, well-head pressure built up to 1550 p.s.i. in 20 mins. Bled off gas from 2:00 - 2:15 p.m., started out of hole at 2:30 p.m. - dispersed gas for 15 mins. Both charts identical, maximum stabilized flow 5.9 Mmcfd.

Geologist/~~Engineer~~ D.D. Benbow

EXOIL (N.T.) - EAST MEREENIE No.1

D.S.T. No.7 3824' - 3852' TOP RECORDER

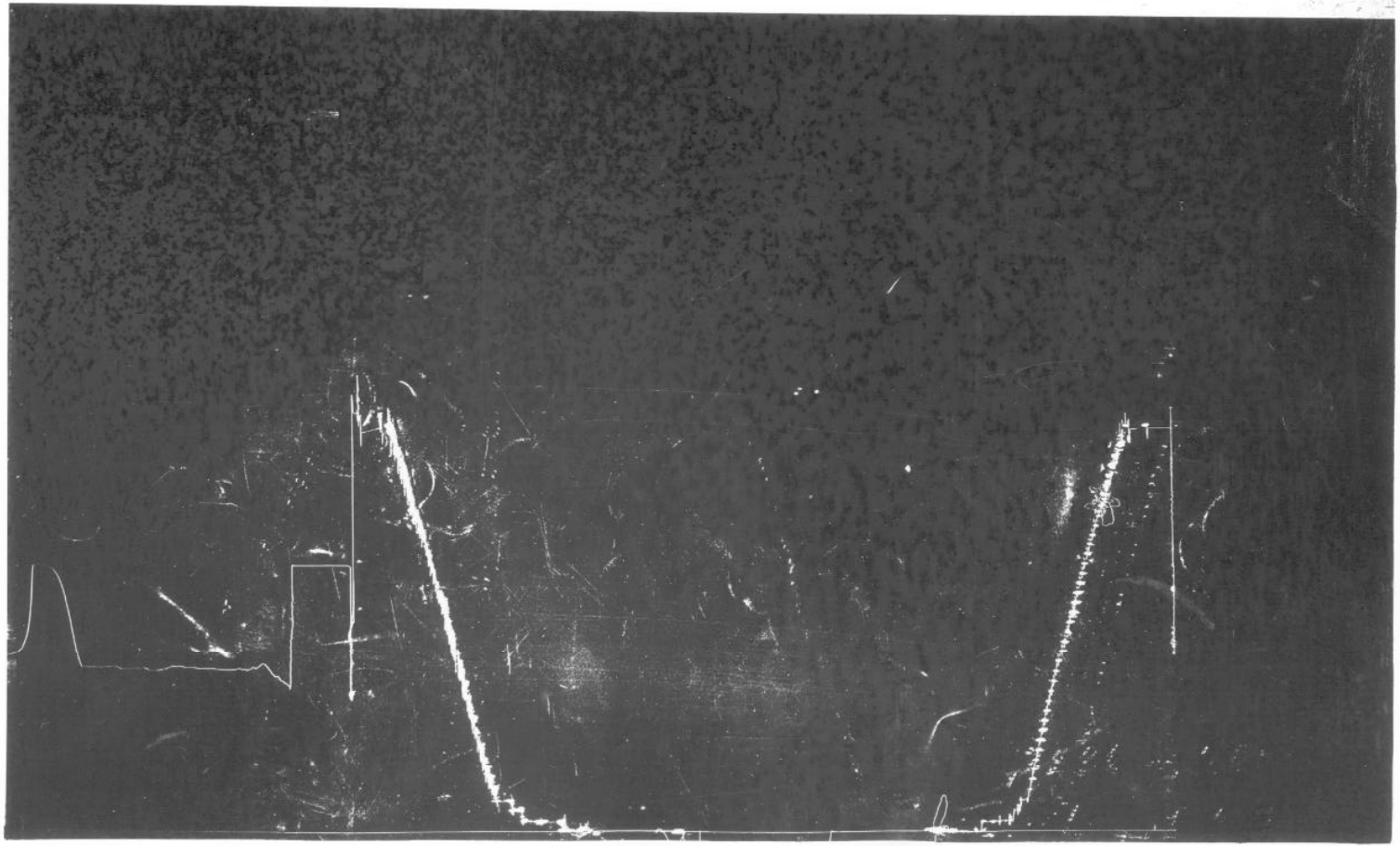


Fig. 10

EXOIL NO LIABILITY

Form 6

Report No. 12

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 28th June, 1964

Test No.: 8 Interval: 3851' - 3885' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type: 7½" Open Hole

Anchor, Length & C.D.: 34' 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From: 3851' To: 3873'

(T1 Above packer Anchor Perforations (From: To:

Disk Valve Position: 3684' Water Cushion: Nil Mud Wt.: 13.6 Vis: 60

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

Hole, Size & Depth: 8¾" 3885' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 7:30 a.m. Set Packer: 9:25 a.m. Valve Opened: 9:30 a.m.

Disk Broken: 10:00 a.m. Valve Shut: 11:00 am Pulled Packer: 12 noon Out of Hole: 2:00 p.

Nature of Blow: Gas to surface in 1 minute, strong initial blow, increasing slightly for 15 mins., steady for remainder of Flow.

Gas Flow Measuring Method: Pitot Tube and Manometer through 4" Riser.

Time: 10:05 * 10:20 steady for remainder 10:55 after 5 mins. surface Shut-In (for samples).

Reading: ("H9) 0.2 1 ($^{9}/_{64}$ of flow) ("H_2O) 2

Rate of Flow: 915 555 784

Oil or Water Flow: Nil

Fluid Recovered: 270' slightly gas cut drilling mud.

Chart Readings: Time elapsed, mins.: ISI ½ hour Flowing 1 hour FSI 1 hour

Pressures: IHP 2715 ISIP 1715 IFP 120 FFP 145 FSIP 1755 FHP 2715

Maximum Temperature: Less than 200°F

Samples: 2, 100 cubic inch Pressure Bombs (60 p.s.i.), 2 Jars Fluid

Remarks: * Reading not reliable.

Both charts identical, readings on bottom bomb, slightly higher than top, readings (above) are from bottom bomb. Shut-In at surface for 5 mins. to collect samples. Maximum stabilized flow 550 M.C.F.D.

Geologist/~~Engineer~~ D.D.Benbow

Fig. 11

EXOIL NO LIABILITY

Form C

Report No. 12

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 30th June, 1964

Test No.: 9 Interval: 3885'-3945' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type: 7½" Open hole

Anchor, Length & O.D.: 60' 6¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From: 3885' To: 3905'

(T1 Above packer Anchor Perforations (From: To:

Disk Valve Position: 3745' Water Cushion: Nil Mud Wt.: 13.5 Vis: 57

Chokes - Top: nil B.H.: nil Drill pipe, size & Type: 4½"x 16.6

Fish Hole, Size & Depth: 8¾" 3945' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 4:45 a.m. Set Packer: 6:06 a.m. Valve Opened: 6:10 a.m.

Disk Broken: 6:40 a.m. Valve Shut: 7:42 a.m. Pulled Packer: 8:42 am Out of Hole: 10:30 am

Nature of Blow: Gas to surface in 2 mins., strong initial blow, remaining steady throughout flow period.

Gas Flow Measuring Method: Pitot Tube and Manometer through 4" riser.

Time: 6:50 a.m. 7:00 a.m. Steady throughout flow.

Reading: "H_2O 1 1

Rate of Flow: 555 555 m.c.f.d.

Oil or Water Flow: Nil

Fluid Recovered: 240' slightly gas cut drilling mud

Chart Readings: Time elapsed, mins.: ISI ½ hour Flowing 1 hour FSI 1 hour

Pressures: IHP 2755 ISIP 1770 IFP 160 FFP 160 FSIP 1770 FHP 2755

Maximum Temperature: Less than 200°F

Samples: 1 - 100 cubic inch Pressure bomb (100 p.s.i.) 1 - 100 cubic inch Pressure bomb (70 p.s.i.), 2 Jars Fluid

Remarks: 5 minute Surface Shut In near end of Flow to collect samples. Both charts Identical. Pressures on bottom chart slightly higher than top. Readings (above) from bottom chart. Maximum stabilized flow 550 m.c.f.d.

Geologist/~~Engineer~~ D.D. Benbow

EXOIL (N.T.) - EAST MEREENIE No.1

D.S.T. No.9 3885' - 3945' TOP RE-CORDER

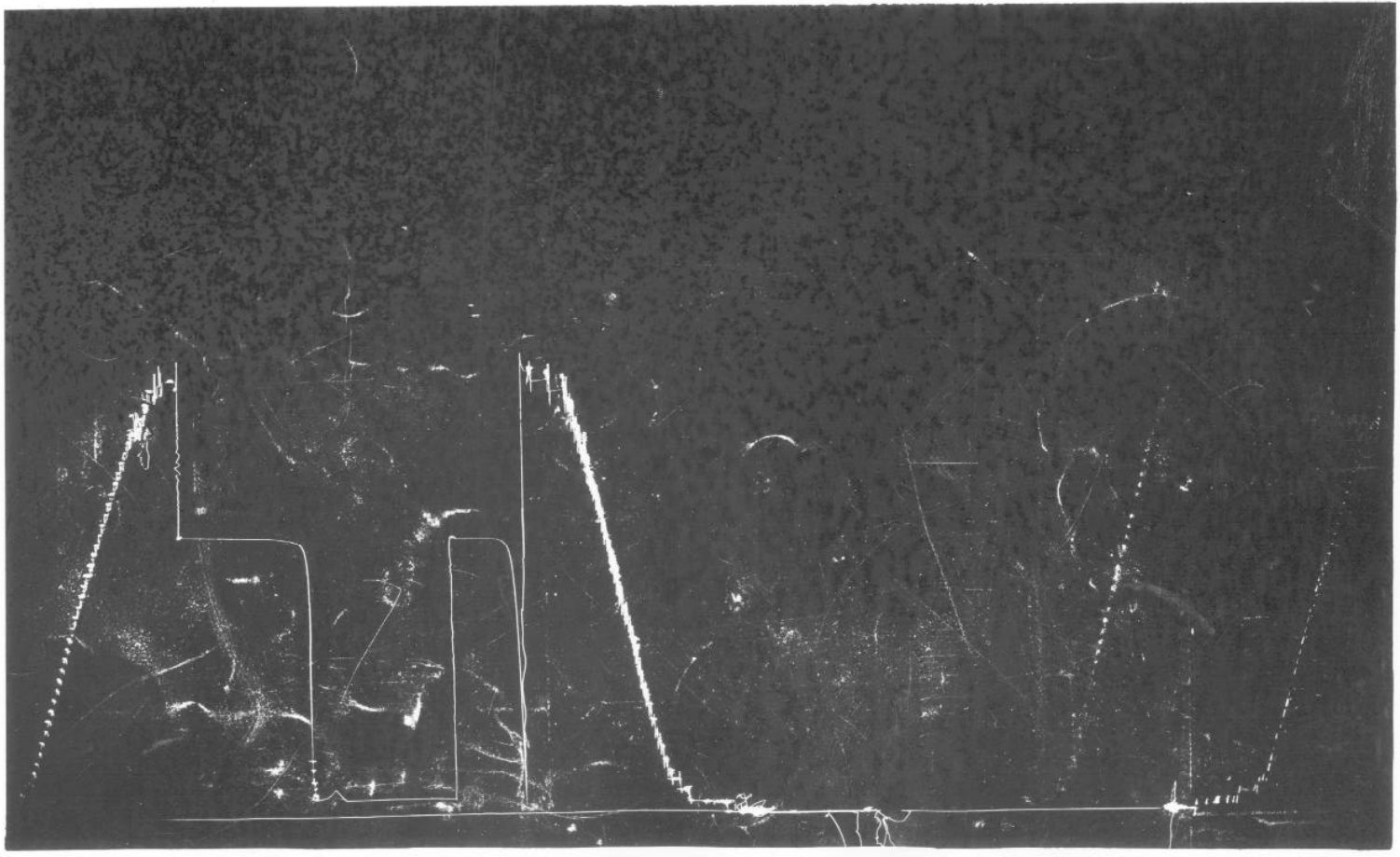


Fig. 12
Form 6
Report No. 12

EXOIL NO LIABILITY

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 2nd July, '64.

Test No.: 10 Interval: 3946' - 4009' Operator: Exoil

Tester, Size & Type: Johnston C.O. Packer, Size & Type: 7½" Conventional

Anchor, Length & O.D.: 63' x 6¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0032

Pressure Bombs (Type: T1 Position: Above packer (From: 3946' To: 3968'
(T1 4009' Anchor Perforations (From: To:

Disk Valve Position: 3806' Water Cushion: Nil Mud Wt.: 13.5 Vis: 85

Chokes - Top: - B.H.: - Drill pipe, size & Type: 4½" F.H.

Fu Hole, Size & Depth: 8¾" x 4009' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 6:45 a.m. Set Packer: 7:54 a.m. Valve Opened: 7:57 a.m.

Disk Broken: 8:27 a.m. Valve Shut: 9:27 a.m Pulled Packer: 9:28 am Out of Hole: 11:05 a

Nature of Blow: Weak initial puff, dying

Ga Flow Measuring Method:

Time:

Reading:

Rate of Flow:

Oil or Water Flow:

Fluid Recovered: 6 gallons mud

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing 1 hour FSI -

sures: IHP 2733 ISIP 80 IFP 80 FFP 80 FSIP - FHP 2733

Maximum Temperature: Less than 200°F

Samples: 2 Jars fluid

Remarks: Test mechanically successful. Formation tight.

Geologist/~~Engineer~~ D.D. Benbow

Fig. 13

EXOIL NO LIABILITY

Form 6

Report No. 12

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO.1 Elevation K.B.: 2565' G.L.: 2554' Date: 5th July, 1964

Test No.: 11 Interval: 4115' - 4139' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type: 7½" open hole

Anchor, Length & O.D.: 34' x 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: .0142 Drill Collars: .0032

Pressure Bombs (Type: T1 Position: bottom tail pipe (From: 4115' To: 4125'

(T1 Anchor Perforations (From: To:

Disk Valve Position: 3977' Water Cushion: - Mud Wt.: 13.2 Vis: 77

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" F.H.

Full Hole, Size & Depth: 8¾" - 4125' Rat Hole, Size & Depth: 7⅞" - 4139'

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 11:45 a.m. Set Packer: 1:37 p.m. Valve Opened: 1:42 p.m

Disk Broken: 2:12 p.m. Valve Shut: 2:57 p.m. Pulled Packer: 3:27 pm Out of Hole: 5:00pm

Nature of Blow: Gas to surface in 1 minute.

Gas Flow Measuring Method: Pitot and manometer through 4" riser

Time: 2:20 p.m. and steady thereafter

Reading: 3.3" water

Rate of Flow: 300,000 c.f.d.

Oil or Water Flow: Nil

Fluid Recovered: 130' very slightly gas cut drilling mud

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing 45 mins FSI 30 mins

Pressures: IHP 2835 ISIP 1745* IFP 101 FFP 101 FSIP 1765 FHP 2820

Maximum Temperature: Less than 200°F

Samples: 1 - 500 cubic inch bomb - 50 p.s.i. and 2 Jars Fluid

Remarks: * ISIP still increasing at end of shut in period.

Clock stopped on top bomb - readings from bottom bomb. Maximum stabilized flow 300 M.C.F.D.

Geologist/~~Engineer~~ D.D. Benbow

Fig. 14

EXOIL NO LIABILITY

Form 6

Report No. 13

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO.1 Elevation K.B.: 2565' G.L.: 2554' Date: 7th July, '64.

Test No.: 12 Interval: 4140'-4180' Operator: Exoil

Tester, Size & Type: 4¾" Johnston "C.O." Packer, Size & Type: 7½" Open hole

Anchor, Length & O.D.: 40' x 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: .0142 Drill Collars: .0032

Pressure Bombs { Type: T1 Position: — From: 4140' To: 4162'
T1 4180' Anchor Perforations { From: — To: —

Disk Valve Position: 4002' Water Cushion: nil Mud Wt.: 13.1 Vis: 68

Chokes - Top: — B.H.: — Drill pipe, size & Type: 4½" Full Hole

Full Hole, Size & Depth: 8¾" x 4180' Rat Hole, Size & Depth: —

Mud Level, Before Valve Opened: — After Valve Opened: —

Time Record: Started In: 9:45 a.m. Set Packer: 11:46 a.m. Valve Opened: 11:50 a.m

Disk Broken: 12:20 p.m. Valve Shut: 1:41 p.m. Pulled Packer: 2:11 pm Out of Hole: 3:45 p

Nature of Blow: Gas to surface in 4 minutes, strong initial blow increasing slowly throughout flow period, stable at end.

Gas Flow Measuring Method: Pitot tube & Manometer 2" & 4" riser.

Time:	2" riser 12:25 pm	12:30pm	12:45pm	12:40pm	12:45 pm	1:00pm	4" riser 1:10 steady
Reading:	2.6" water	2.8"	3.1"	3.2"	4.0"	4.8"	0.42" water
Rate of Flow:	220	235	240	250	270	300	350 mcfd

Oil or Water Flow: nil

Fluid Recovered: 130' slightly gas-cut drilling mud.

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing 60 mins FSI 30 mins

Pressures: IHP 2845 ISIP 1705 IFP 105 FFP 130 FSIP 1785 FHP 2845

Maximum Temperature: Less than 200°F

Samples: 2 - 100 cubic inch bombs, one at 100 p.s.i.; one at 75 p.s.i. 2 Jars fluid.

Remarks: Both shut-in pressures still increasing FSIP smallest inside diameter of tool is ⅞".

Both charts identical - readings from bottom chart. Maximum stabilized open flow 350 mcfd. Ten minutes surface shut-in at end of flow period to collect samples.

Geologist/~~Engineer~~ D.D. Benbow

EXOIL (N.T.) - EAST MEREENIE No.1

D.S.T. No.12 7.7.64 4140' - 4180'

TOP RECORDER

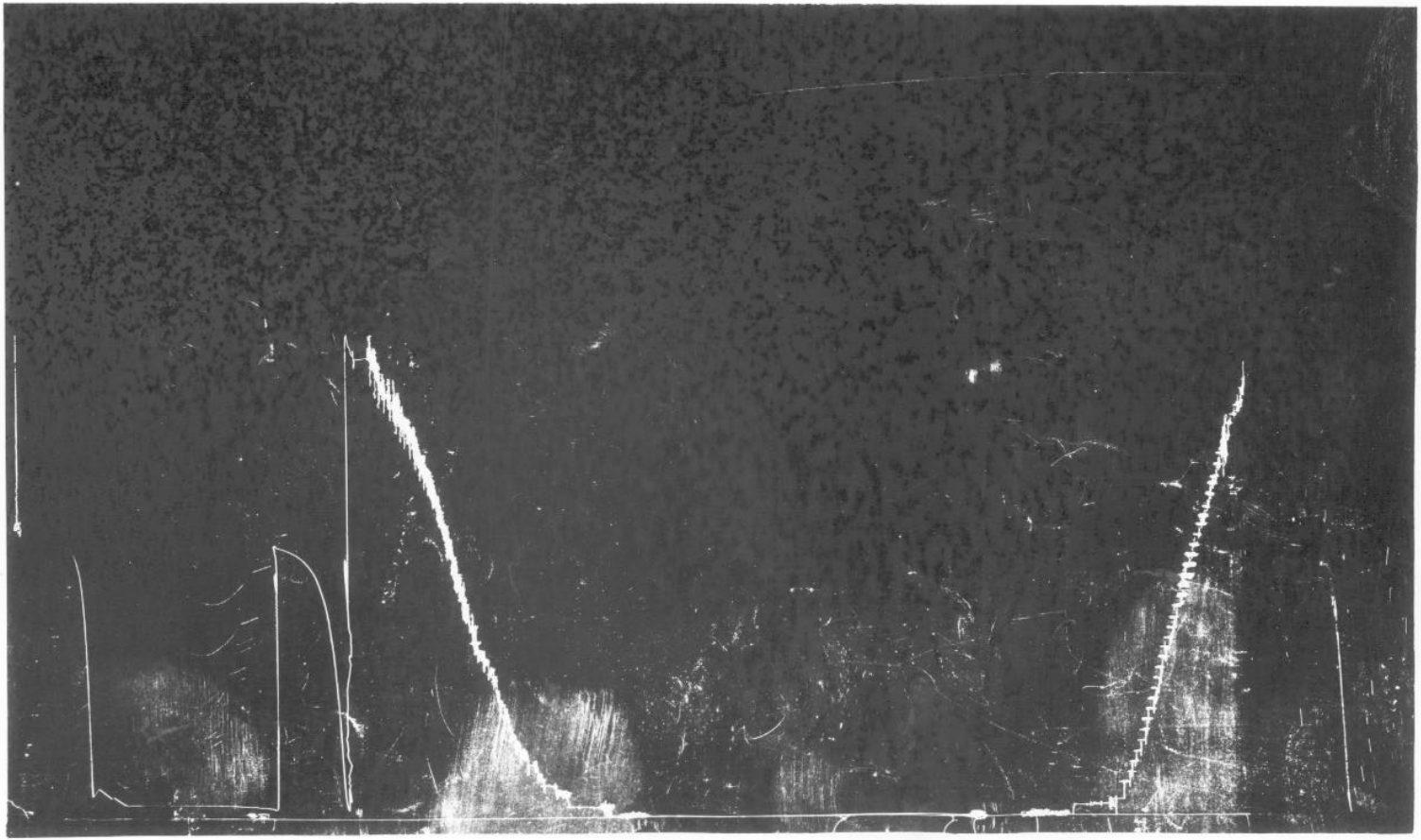


Fig. 15
Form 6
Report No. 13

EXOIL NO LIABILITY

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 10th July, '64

Test No.: 13 Interval: 4245'-4273' Operator: Exoil

Tester, Size & Type: 4¾" Johnston "C.O." Packer, Size & Type: 7⅞" Open Hole

Anchor, Length & O.D.: 28' x 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: .0142 Drill Collars: .0032

Pressure Bombs (Type: T1 Position: (From: 4245' To: 4261'

(T1 Anchor Perforations (From: To:

Disk Valve Position: 4140' Water Cushion: - Mud Wt.: 13.1 Vis: 64

Chokes - Top: - B.H.: - Drill pipe, size & Type: 4½" x 16.6

Full Hole, Size & Depth: 8¾" to 4273' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 8:30 a.m. Set Packer: 10:43 a.m. Valve Opened: 10:47 am

Disk Broken: 11:31 am Valve Shut: 12:40pm Pulled Packer: 1:09pm Out of Hole: 3pm

Nature of Blow: Gas to surface in 4 minutes. Strong initial blow. Blow steadily increasing for 20 minutes then gradually increasing for remainder of flow period.

Gas Flow Measuring Method: Pitot Tube & Manometer through 4" Riser & Pressure Gauge. Critical Flow Prover 1½" Choke.

Time:	11:35	11:40	11:45	11:50	11:55	12:00	12:05	12:10	12:20	12:
Reading:	mcfpd 2.4"	2.6"	3"	3.6"	4"	4.6"	4.8"	6.8"	7"	7.2
Rate of Flow:	860	900	961	1050	3100	1190	1200	1450	1480	150

Oil or Water Flow: -

Fluid Recovered: 280' gas cut drilling mud

Chart Readings: Time elapsed, mins.: ISI 45 mins Flowing 70 mins FSI 30 mins.

Pressures: IHP 2820 ISIP 1785 IFP 200 FFP 290 FSIP 1785 FHP 2780

Maximum Temperature: Less than 200°F

Samples: 2 - 100 cubic inch pressure bombs 150 p.s.i., 2 gallons fluid.

Remarks: Both charts identical. Readings above from bottom chart. Maximum flow 1.7 Mmcfpd. Ten minutes surface shut-in extra flow period to collect samples.

* Readings from critical flow prover 12:05 16 lbs. 1459 mcfpd.
12:20 20 lbs. 1707 mcfpd.

Geologist/~~Engineer~~ D. D. Benbow

EXOIL NO LIABILITY

Form 6

Report No. 13

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 11th July, '

Test No.: 14 Interval: 4272'-4306' Operator: Exoil

Tester, Size & Type: 4¾" Johnston "C.O." Packer, Size & Type: 7½" Open hole

Anchor, Length & O.D.: 34' x 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: .0142 Drill Collars: .0032

Pressure Bombs (Type: T1 Position: (From: 4272' To: 4294'

(T1 Anchor Perforations (From: To:

Disk Valve Position: 4180' Water Cushion: - Mud Wt.: 13.2 Vis: 62

Chokes - Top: - B.H.: - Drill pipe, size & Type: 4½" x 16.6

Full Hole, Size & Depth: 8¾" to 4273' Rat Hole, Size & Depth: 7 13/16" to 4306'

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 10:30 a.m. Set Packer: 12:12 p.m. Valve Opened: 12:17 p

Disk Broken: 12:47 p.m. Valve Shut: 1:53 pm. Pulled Packer: 2:28 pm Out of Hole: 4:30 I

Nature of Blow: Gas to surface in 3 minutes. Strong initial flow increasing steadily for 25 minutes then steady for remainder of flow.

Gas Flow Measuring Method: Pitot Tube and Manometer through 4" Riser. Pressure Gauge on Critical Flow Prover 1½" choke.

Time:	12:50	12:55	1:00	1:10	1:15
Reading:	mcfpd 2.8"	4"	6"	6.2"	6.4"
Rate of Flow:	930	1100	1360	1380	1410 Steady for remainder of flow.

Oil or Water Flow: -

Fluid Recovered: 110' slightly gas cut drilling mud.

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing 65 mins FSI 35 mins

Pressures: IHP 2915 ISIP 1795 IFP 240 FFP 265 FSIP 1795 FHP 2915

Maximum Temperature: Less than 200°F

Samples: 2 - 100 cubic inch Pressure Bombs 150 p.s.i. 2 Gallons fluid.

Remarks: Both charts identical. Readings above from bottom chart. Maximum stabilised flow 1.4 Mmcfpd. Ten minutes surface shut-in at end of flow period to collect samples.

* Readings from Critical Flow Prover 1:01 p.m. 15 lbs. 1459 mcfpd.
1:20 p.m. 17 lbs. 1557 mcfpd.

Geologist/~~Engineer~~ D.D. Benbow

EXOIL (N.T.) - EAST MEREENIE No. 1

D.S.T. No. 14 11.7. 4272' - 4306'

TOP RECORDER

Fig. 17.

EXOIL NO LIABILITY

Form 6

Report No. 14

DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 17th July, '64

Test No.: 15 Interval: 4434'-4490' Operator: Exoil N.L.

Tester, Size & Type: 4¾" Johnston "C.O." Packer, Size & Type: 7¾" Open hole

Anchor, Length & O.D.: 56' x 6½" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: .0142 Drill Collars: .0045

Pressure Bombs (Type: T1 Position: Above packer Anchor (From: 4469' To: 4484'

(T1 Bottom Tail Pipe Perforations (From: To:

Disk Valve Position: Above packer* Water Cushion: Nil Mud Wt.: 13.1 Vis: 57

Chokes - Top: - B.H.: - Drill pipe, size & Type: 4½" x 16.6

Full Hole, Size & Depth: 8¾" to 4490' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 2 p.m. Set Packer: 3.40 p.m. Valve Opened: 3:51 pm

Disk Broken: 4:22 pm ** Valve Shut: - Pulled Packer: - Out of Hole: -

Nature of Blow: Gas to surface in three minutes. Strong initial flow

Gas Flow Measuring Method:

Time:

Reading:

Rate of Flow:

Oil or Water Flow:

Fluid Recovered:

Chart Readings: Time elapsed, mins.: ISI 30 mins Flowing FSI

Pressures: IHP 3004 ISIP 1775 IFP - FFP - FSIP - FHP 3004

Maximum Temperature:

Samples:

Remarks: Test misrun. Circulating sub accidentally opened. Mud entered drill pipe. Mud level at surface dropped. Packer pulled free and mud dropped down annulus to kill flow. Both charts identical. Readings above from bottom chart.

* Ran in new four-stage initial shutin tool. Tool run in hole in open position after one minute drawdown tool closed for initial shutin rate.

**Go-devil broke pin on reverse circulating sub allowing mud to enter drill pipe. Mud level at surface dropped.

Geologist/~~Engineer~~ D.D. Benbow

Fig. 18

Form 5
Report No. 15

EXOIL NO LIABILITY
DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 18th July, 1964.

Test No.: 16 Interval: 4450' - 4501' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type 7½" Open Hole

Anchor, Length & O.D.: 51' 6½" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0045

Pressure Bombs (Type: T1 Position: Bottom Tail Pipe (From 4485' To 4495'
(T1 Above packer Anchor Perforations (From To

Disk Valve Position: Above tester Water Cushion: Nil Mud Wt.: 13.2 Vis: 68

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

Hole, Size & Depth: 8¾" 4490' Rat Hole, Size & Depth: 7 13/16" 4501'

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 9:45 a.m. Set Packer: 11:32am Valve Opened: 11:42 am

Disk Broken: 12:13 pm Valve Shut: 1:20pm Pulled Packer: 2:05 pm Out of Hole: 4:00pm

Nature of Blow: Gas to surface in 2 minutes, strong initial blow, steady for ½ hour, then increasing slightly and remaining steady for remainder of flow period.

Gas flow Measuring Method: Pitot Tube and Manometer through 4" Riser

Time: 12:20 steady for 20 mins. 12:40 steady for remainder of flow

Reading: 1" 1.2" $"H_2O$

Rate of Flow: 555 620 mcfd

Oil or Water Flow: Nil

Fluid Recovery: 250' gas cut drilling mud.

Chart Readings: Time Elapsed, mins: ISI ½ hour Flowing: 1hr. 7mins FSI ½ hour

Pressures: IHP 3004 ISIP 1775 IFP 168 FFP 181 FSIP 1775 FHP 3004

Maximum Temperature: Less than 200°F

Samples: 2 - 100 cubic inch Pressure Bombs (100 p.s.i.), 2 Jars Fluid.

Remarks: Both charts identical. Readings above from bottom chart. 10 minutes surface Shut-In at end of flow period to collect samples. Maximum stabilized Flow 620 mcfd.

Note: Mimimum I.D. Tool ⅝"; 1 minute Draw down between valve opening and Shutting-In of 4 stage Tool.

Geologist: D.D. Benbow

Fig. 19

Form 5
Report No. 15

EXOIL NO LIABILITY
DRILL STEM TEST REPORT

Well: EAST MEREENIE NO.1 Elevation K.B.: 2565' G.L.: 2554' Date: 20th July, 1964.

Test No.: 17 Interval: 4501' - 4533' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type 7½" Open Hole

Anchor, Length & O.D.: 32' 4¾" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0045

Pressure Bombs (Type: T1 Position: Above Packer (From 4502' To 4527'
(T1 Bottom Tail Pipe Anchor Perforations (From To

Shut In Tool ~~Disk Valve~~ Position: Above tester Water Cushion: Nil Mud Wt.: 13.1 Vis: 67

Chokes - Top: Nil B.H.: Nil Drill pipe, size & Type: 4½" x 16.6

~~F~~ Hole, Size & Depth: 8¾" 4533' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 1:0pm Set Packer: 2:50 pm Valve Opened: 2:59 pm

Tool Opened ~~Disk Broken~~: 3:32 pm Valve Shut: 4:33 pm Pulled Packer: 4:34 pm Out of Hole: 6:00 pm

Nature of Blow: Strong initial air blow gradually weakening; Gas to surface in 50 minutes. Flow too small to measure.

Gas flow Measuring Method: -

Time: -

Reading: -

Rate of Flow: -

Oil or Water Flow: Nil

Fluid Recovery: 90' very slightly gas cut drilling mud.

Chart Readings: Time Elapsed, mins: ISI ½ hour Flowing: 1 hour FSI Nil

Pressures: IHP 3043 ISIP *913 IFP 50 FFP 63 FSIP - FHP 3043

Maximum Temperature: Less than 200°F (132°F) - Bottom Hole.

Samples: 2 Jars Fluid.

Remarks: 3 minutes Drawdown on Formation before initial shut-in.

Both charts Identical, Readings above from bottom chart. No final Shut-In taken. Test mechanically successful.

* Initial Shut-In Pressure still increasing at end of Initial Shut-In Period.

Geologist: D.D. Benbow

Form 5
Report No. 15

EXOIL NO LIABILITY
DRILL STEM TEST REPORT

Well: EAST MEREENIE NO. 1 Elevation K.B.: 2565' G.L.: 2554' Date: 22nd July, 1964.

Test No.: 18 Interval: 4555' - 4606' Operator: Exoil

Tester, Size & Type: 4¾" Johnston C.O. Packer, Size & Type 7½" Open Hole

Anchor, Length & O.D.: 51' x 6½" Drill Collar Footage above Tester: 270'

Capacity (bbl./foot) - Drill Pipe: 0.0142 Drill Collars: 0.0045

Pressure Bombs (Type: T1 Position: Above packer (From 4555' To 4565'

((Anchor Perforations (From To

Shut In Tool ~~Disk~~ Valve Position: above tester Water Cushion: Nil Mud Wt.: 13.1 Vis: 61

Chokes - Top: - B.H.: - Drill pipe, size & Type: 4½" x 16.6

Hole, Size & Depth: 8¾" to 4606' Rat Hole, Size & Depth: -

Mud Level, Before Valve Opened: Surface After Valve Opened: Surface

Time Record: Started In: 10 am. Set Packer: 11:24 am Valve Opened: 11: 35 a.m.

Tool Opened ~~Disk Broken~~: 12:22 pm Valve Shut: 1:07 pm Pulled Packer: 1:10 pm Out of Hole: 2:30 pm

Nature of Blow: Weak initial air blow gradually decreasing to faint puff. No gas to surface.

Gas flow Measuring Method:

Time:

Reading:

Rate of Flow:

Oil or Water Flow:

Fluid Recovery: 40' slightly gas cut drilling mud.

Chart Readings: Time Elapsed, mins: ISI 45 mins Flowing: 45 mins FSI not taken

Pressures: IHP 3082 ISIP 246* IFP 50 FFP 63 FSIP - FHP 3082

Maximum Temperature: 136°F (bottom hole)

Samples: 2 Jars fluid

Remarks: 2 minutes drawdown on formation before initial shut-in. Both charts identical. Readings from bottom chart. Test mechanically successful.

* ISIP still increasing at end of initial shut-in period.

Geologist: D.D. Berbow