WESTERN TESTERS

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Abercrombie Drilling Inc. Lease & Well No. Randa #1

Elevation — Formation Topeka Effective Pay Ft. Ticket No. 18655

Date 7-28-73 Sec. 33 Twp. ~~15S~~ 14S Range 19W County Ellis State Kansas

Test Approved by Harold Steincamp Western Representative Gerrell Veatch

Formation Test No. 1 O.K. X Misrun Interval Tested From 3202' to 3225' Total Depth 3225'

Size Main Hole 7 7/8" Rat Hole Conv. B.T. X Damaged Yes X No Conv. X B.T. Damaged Yes X No

Top Packer Depth 3198 Ft. Size 5½" Packer Depth 3202 Ft. Size 5½"

Straddle Yes No X Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 4½" O.D. Tool Jt. Size 3½" I.F. Anchor Length 23 Ft. Size 4½" O.D.

RECORDERS Depth 3215 Ft. Clock No. 9727 Depth 3220 Ft. Clock No. 6893

Top Make Kuster Cap. 4500 No. 3086 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2604 ~~Inside~~ Outside

Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside

Top Make Cap No. Inside Outside Bottom Make Cap No. Inside Outside

Time Set Packer 8:25 P. M

Tool Open I.F.P. From 8:30 M. to 8:45 P.M. Hr. 15 Min. From (B) 44 P.S.I. To (C) 52 P.S.I.

Tool Closed I.C.I.P. From 8:45 M. to 9:30 P.M. Hr. 45 Min. (D) 1145 P.S.I.

Tool Open F.F.P. From 9:30 M. to 10:30 P.M. Hr. 60 Min. From (E) 61 P.S.I. To (F) 97 P.S.I.

Tool Closed F.C.I.P. From 10:30 M. to 11:15 P.M. Hr. 45 Min. (G) 1092 P.S.I.

Initial Hydrostatic Pressure (A) 1700 P.S.I. Final Hydrostatic Pressure (H) 1688 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Weak Blow Throughout Test Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 130 feet Muddy Water with Scum of Oil

Reversed Out Yes X No Mud Type Starch Viscosity 33 Weight 9.8 Water Loss 13.0 cc. Maximum Temp. 114 °F

Type Circ. Sub Plug Safety Joint No Jars: Size — Make — Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? —

Length Drill Pipe 1931 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 1250 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 300 ft.

I.D. Drill Collars 2.5 in. Length D.S.T. Tool 44 ft.

Remarks

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date July 28, 1973 — Test Ticket No. 18655

Recorder No. 3086 — Capacity 4500 — Location 3215 Ft.

Clock No. 9727 — Elevation — — Well Temperature 114 °F

Point		Pressure	
A	Initial Hydrostatic Mud	1700	P.S.I.
B	First Initial Flow Pressure	44	P.S.I.
C	First Final Flow Pressure	52	P.S.I.
D	Initial Closed-in Pressure	1145	P.S.I.
E	Second Initial Flow Pressure	61	P.S.I.
F	Second Final Flow Pressure	97	P.S.I.
G	Final Closed-in Pressure	1092	P.S.I.
H	Final Hydrostatic Mud	1688	P.S.I.

	Time Given	Time Computed
Open Tool	8:25 P.M	
First Flow Pressure	15 Mins.	15 Mins.
Initial Closed-in Pressure	45 Mins.	45 Mins.
Second Flow Pressure	60 Mins.	60 Mins.
Final Closed-in Pressure	45 Mins.	45 Mins.

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 3 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	44
P 2 5	46
P 3 10	48
P 4 15	52
P 5	
P 6	
P 7	
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

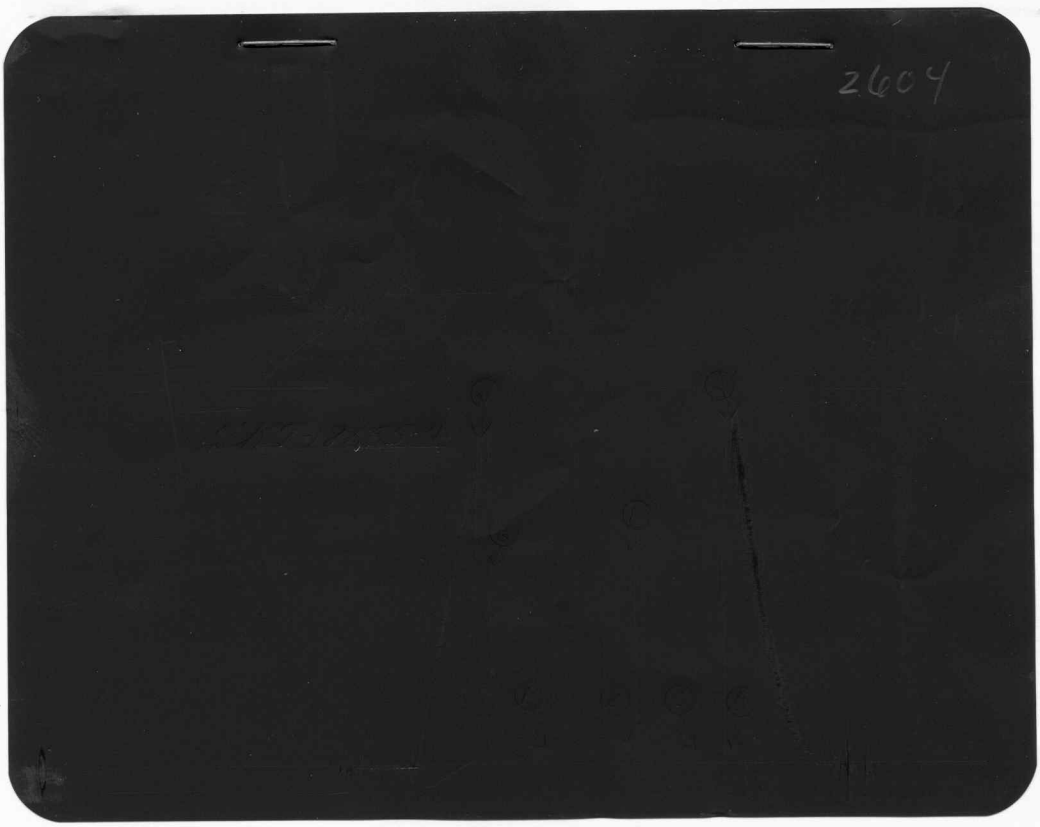
Point Minutes	Press.
0	52
3	497
6	932
9	1009
12	1051
15	1074
18	1092
21	1104
24	1113
27	1121
30	1127
33	1134
36	1139
39	1141
42	1143
45	1145

Second Flow Pressure
Breakdown: 12 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	61
5	61
10	63
15	66
20	69
25	72
30	75
35	80
40	85
45	89
50	92
55	95
60	97

Final Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	97
3	476
6	834
9	923
12	965
15	995
18	1013
21	1030
24	1044
27	1053
30	1062
33	1071
36	1076
39	1083
42	1088
45	1092



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1850	1700	PSI
(B)	First Initial Flow Pressure	47	44	PSI
(C)	First Final Flow Pressure	59	52	PSI
(D)	Initial Closed-in Pressure	1148	1145	PSI
(E)	Second Initial Flow Pressure	59	61	PSI
(F)	Second Final Flow Pressure	94	97	PSI
(G)	Final Closed-in Pressure	1090	1092	PSI
(H)	Final Hydrostatic Mud	1840	1688	PSI

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Randa #1 SEC. 33 TWP. 15S RGE. 19W TEST NO. 1 DATE 7-28-73

WESTERN TESTERS

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Abercrombie Drilling Inc. Lease & Well No. Randa #1

Elevation — Formation Kansas City Effective Pay Ft. Ticket No. 18656

Date 7-29-73 Sec. 33 Twp. 15S Range 19W County Ellis State Kansas

Test Approved by Harold Steincamp Western Representative Gerrell Veatch

Formation Test No. 2 O.K. X Misrun Interval Tested From 3342' to 3360' Total Depth 3360'

Size Main Hole 7 3/4" Rat Hole Conv. B.T. X Damaged Yes X No Conv. X B.T. Damaged Yes X No

Top Packer Depth 3338 Ft. Size 5½" Packer Depth 3342 Ft. Size 5½"

Straddle Yes No X Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 3½" I.F. & F.H. Tool Jt. Size 4½" O.D. Anchor Length 18 Ft. Size 4½" O.D.

RECORDERS Depth 3351 Ft. Clock No. 9727 Depth 3355 Ft. Clock No. 6893

Top Make Kuster Cap. 4500 No. 3086 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2604 ~~Inside~~ Outside

Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside

Top Make Cap No. Inside Outside Bottom Make Cap No. Inside Outside

Time Set Packer 4:10 P. M

Tool Open I.F.P. From 4:15 M. to 4:30 P. M. Hr. 15 Min. From (B) 30 P.S.I. To (C) 34 P.S.I.

Tool Closed I.C.I.P. From 4:30 M. to 5:00 P. M. Hr. 30 Min. (D) 1099 P.S.I.

Tool Open F.F.P. From 5:00 M. to 5:30 P. M. Hr. 30 Min. From (E) 42 P.S.I. To (F) 49 P.S.I.

Tool Closed F.C.I.P. From 5:30 M. to 6:00 P. M. Hr. 30 Min. (G) 1025 P.S.I.

Initial Hydrostatic Pressure (A) 1749 P.S.I. Final Hydrostatic Pressure (H) 1738 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Weak Blow for 10 minutes Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 20 feet Drilling

Reversed Out Yes X No Mud Type Starch Viscosity 39 Weight 9.9 Water Loss 10.4 cc. Maximum Temp. 115 °F

Type Circ. Sub. Plug Safety Joint No Jars: Size — Make — Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 2071 ft. I.D. Drill Pipe 3.5 in. Length Weight Pipe 1250 ft. I.D. Weight Pipe 2.5 in. Length Drill Collars 300 ft.

I.D. Drill Collars 2.5 in. Length D.S.T. Tool 39 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date July 29, 1973 — Test Ticket No. 18656

Recorder No. 3086 — Capacity 4500 — Location 3351 Ft.

Clock No. 9727 — Elevation — — Well Temperature 115 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1749 P.S.I.		Open Tool	4:10 P. M	
B	First Initial Flow Pressure	30 P.S.I.		First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	34 P.S.I.		Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	1099 P.S.I.		Second Flow Pressure	30 Mins.	30 Mins.
E	Second Initial Flow Pressure	42 P.S.I.		Final Closed-in Pressure	30 Mins.	30 Mins.
F	Second Final Flow Pressure	49 P.S.I.				
G	Final Closed-in Pressure	1025 P.S.I.				
H	Final Hydrostatic Mud	1738 P.S.I.				

PRESSURE BREAKDOWN

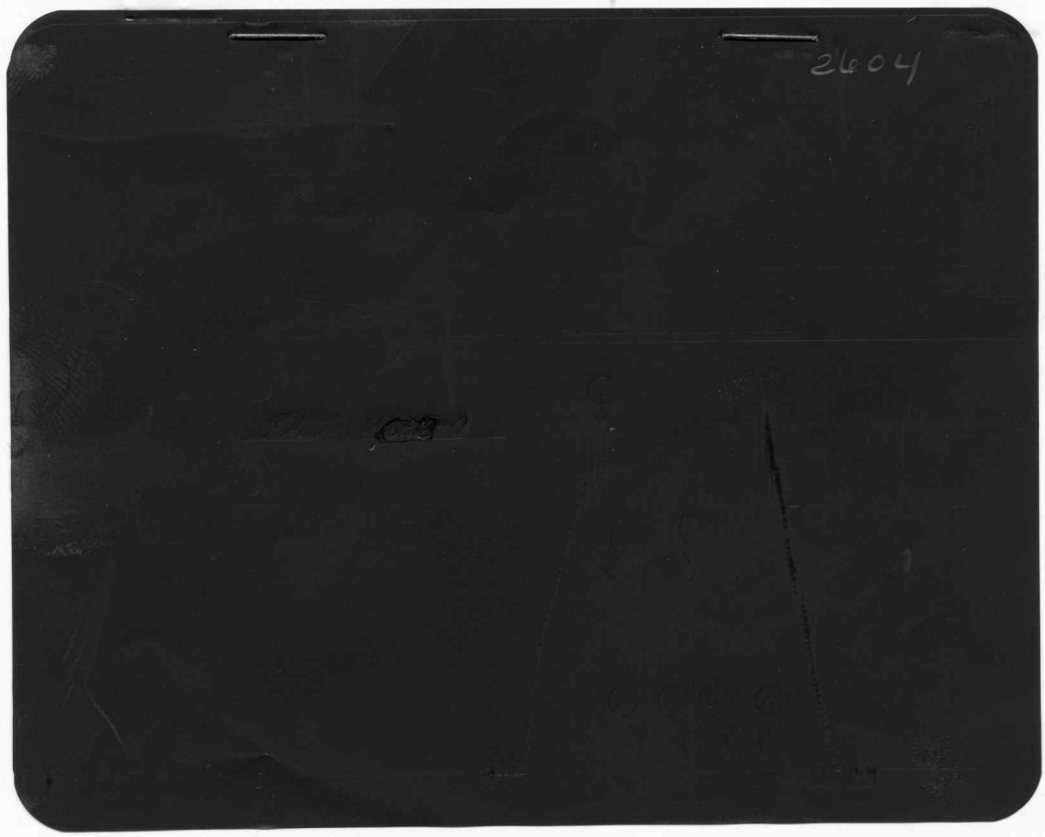
First Flow Pressure
Breakdown: 3 Inc. of 5 mins. and a final inc. of 0 Min.

Initial Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Second Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of — Min.

Final Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of — Min.

Point	First Flow Pressure Mins.	First Flow Pressure Press.	Initial Shut-In Point Minutes	Initial Shut-In Press.	Second Flow Pressure Point Minutes	Second Flow Pressure Press.	Final Shut-In Point Minutes	Final Shut-In Press.
P 1	0	30	0	34	0	42	0	49
P 2	5	31	3	488	5	42	3	182
P 3	10	32	6	895	10	43	6	732
P 4	15	34	9	967	15	44	~~9~~ 9 ~~10~~	869 ~~916~~
P 5			12	1006	20	45	12	916
P 6			15	1034	25	47	15	946
P 7			18	1055	30	49	18	967
P 8			21	1069			21	986
P 9			24	1083			24	1000
P10			27	1092			27	1013
P11			30	1099			30	1025
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1750	1749	PSI
(B)	First Initial Flow Pressure	27	30	PSI
(C)	First Final Flow Pressure	31	34	PSI
(D)	Initial Closed-in Pressure	1014	1099	PSI
(E)	Second Initial Flow Pressure	38	42	PSI
(F)	Second Final Flow Pressure	42	49	PSI
(G)	Final Closed-in Pressure	930	1025	PSI
(H)	Final Hydrostatic Mud	1740	1738	PSI

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Randa #1 SEC. 33 TWP. 15S RGE. 19W TEST NO. 2 DATE 7-29-73

WESTERN TESTERS

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Abercrombie Drilling Inc. Lease & Well No. Randa #1 18657

Elevation — Formation Kansas City Effective Pay Ft. Ticket No. ~~18656~~

Date 7-30-73 Sec. 13 Twp. 15S Range 19W County Ellis State Kansas

Test Approved by Harold Steincamp Western Representative Gerrell Veatch

Formation Test No. 3 O.K. X Misrun Interval Tested From 3379' to 3402' Total Depth 3402'

Size Main Hole 6 3/4" Rat Hole Conv. B.T. X Damaged Yes X No Conv. X B.T. Damaged Yes X No

Top Packer Depth 3375 Ft. Size 5½" Packer Depth 3379 Ft. Size 5½"

Straddle Yes No X Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 4½" O.D. Tool Jt. Size 3½" I.F. Anchor Length 23 Ft. Size 4½" O.D.

RECORDERS Depth 3393 Ft. Clock No. 9727 Depth 3397 Ft. Clock No. 6893

Top Make Kuster Cap. 4500 No. 3086 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2604 ~~Inside~~ Outside

Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside

Top Make Cap No. Inside Outside Bottom Make Cap No. Inside Outside

Time Set Packer 5:25 A.M.

Tool Open I.F.P. From 5:30 M. to 5:45 A.M. Hr. 15 Min. From (B) 14 P.S.I. To (C) 16 P.S.I.

Tool Closed I.C.I.P. From 5:45 M. to 6:15 A.M. Hr. 30 Min. (D) 1099 P.S.I.

Tool Open F.F.P. From 6:15 M. to 6:45 A.M. Hr. 30 Min. From (E) 18 P.S.I. To (F) 18 P.S.I.

Tool Closed F.C.I.P. From 6:45 M. to 7:15 A.M. Hr. 30 Min. (G) 1092 P.S.I.

Initial Hydrostatic Pressure (A) 1900 P.S.I. Final Hydrostatic Pressure (H) 1886 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Weak Blow for 10 minutes Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 10 feet Drilling mud

Reversed Out Yes X No Mud Type Starch Viscosity 37 Weight 9.8 Water Loss 10.4 cc. Maximum Temp. 116 °F

Type Circ. Sub. Plug Safety Joint No Jars: Size — Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 2108 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 1250 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 300 ft.

I.D. Drill Collars 2.5 in. Length D.S.T. Tool 44 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date July 30, 1973 Test Ticket No. 18657

Recorder No. 3086 Capacity 4500 Location 3393 Ft.

Clock No. 9727 Elevation — Well Temperature 116 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1900 P.S.I.	Open Tool	5:25 A.M	
B First Initial Flow Pressure	14 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	16 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	1099 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	18 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	18 P.S.I.			
G Final Closed-in Pressure	1092 P.S.I.			
H Final Hydrostatic Mud	1886 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 3 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	14
P 2 5	14
P 3 10	15
P 4 15	16
P 5	
P 6	
P 7	
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

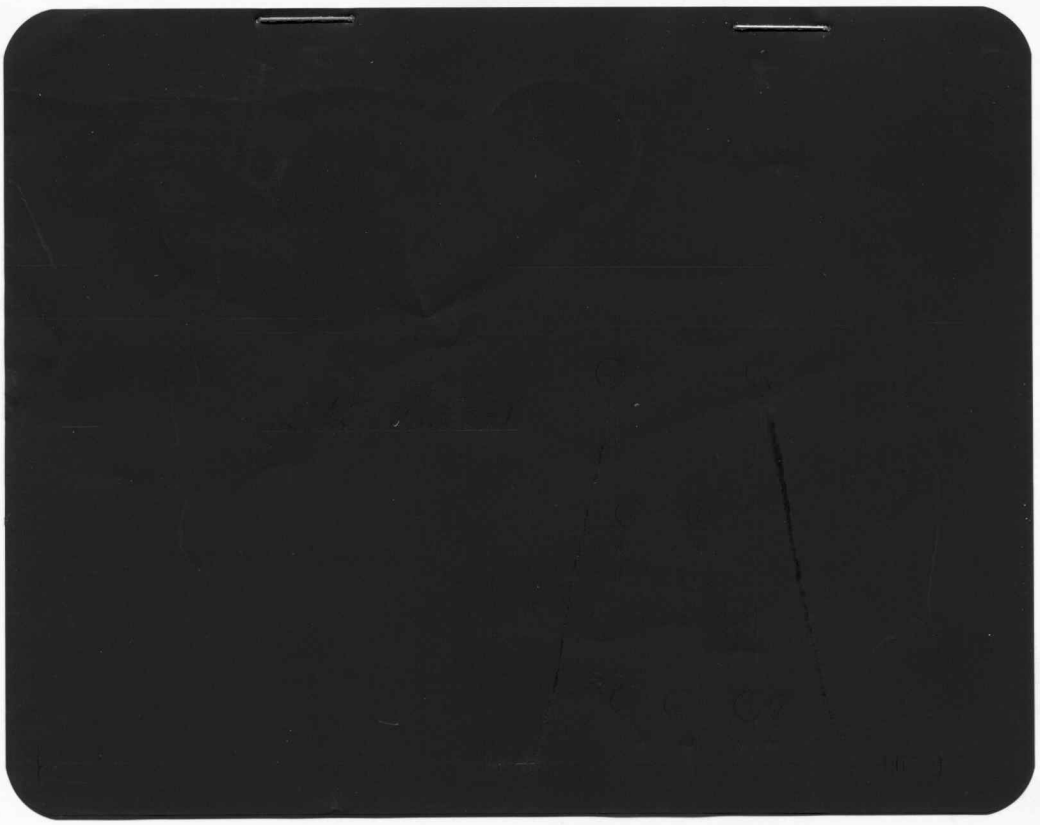
Point Minutes	Press.
0	16
3	94
6	525
9	853
12	1002
15	1053
18	1081
21	1088
24	1095
27	1097
30	1099

Second Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	18
5	18
10	18
15	18
20	18
25	18
30	18

Final Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	18
3	35
6	194
9	625
12	906
15	1018
18	1055
21	1077
24	1088
27	1090
30	1092



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1900	1900	PSI
(B)	First Initial Flow Pressure	21	14	PSI
(C)	First Final Flow Pressure	26	16	PSI
(D)	Initial Closed-in Pressure	1102	1099	PSI
(E)	Second Initial Flow Pressure	26	18	PSI
(F)	Second Final Flow Pressure	26	18	PSI
(G)	Final Closed-in Pressure	1090	1092	PSI
(H)	Final Hydrostatic Mud	1890	1886	PSI

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Randa #1 SEC. 13 TWP. 15S RGE. 19W TEST NO. 3 DATE 7-30-73

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 (316) 793-7903

Company Abercrombie Drilling Inc. Lease & Well No. Randa #1

Elevation 2039 Ground Level Formation Kansas City Effective Pay Ft. Ticket No. 18658

Date 7-30-73 Sec. 13 Twp. 15S Range 19W County Ellis State Kansas

Test Approved by Harold Steincamp Western Representative Gerrell Veatch

Formation Test No. 4 O.K. X Misrun Interval Tested From 3442' to 3495' Total Depth 3495'

Size Main Hole 6 3/4" Rat Hole Conv. B.T. X Damaged Yes X No Conv. X B.T. Damaged Yes X No

Top Packer Depth 3438 Ft. Size 5 1/2" Packer Depth 3442 Ft. Size 5 1/2"

Straddle Yes No X Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 4 1/2" O.D. Tool Jt. Size 3 1/2" I.F. Anchor Length 53 Ft. Size 4½" O.D. 1 Joint D.C.

RECORDERS Depth 3448 Ft. Clock No. 9727 Depth 3456 Ft. Clock No. 6893

Top Make Kuster Cap. 4500 No. 3086 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2604 ~~Inside~~ Outside

Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside

Top Make Cap. No. Inside Outside Bottom Make Cap. No. Inside Outside

Time Set Packer 11:25 P. M

Tool Open I.F.P. From 11:30 M. to 11:45P M. Hr. 15 Min. From (B) 24 P.S.I. To (C) 10 P.S.I.

Tool Closed I.C.I.P. From 11:45 M. to 12:15A. M. Hr. 30 Min. (D) 21 P.S.I.

Tool Open F.F.P. From 12:15 M. to 12:45A M. Hr. 30 Min. From (E) 21 P.S.I. To (F) 10 P.S.I.

Tool Closed F.C.I.P. From 12:45 M. to 1:15A. M. Hr. 30 Min. (G) 14 P.S.I.

Initial Hydrostatic Pressure (A) 1877 P.S.I. Final Hydrostatic Pressure (H) 1831 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Weak blow for 6 mins. Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 5 feet drilling mud

Reversed Out Yes X No Mud Type Starch Viscosity 40 Weight 9.8 Water Loss 10.2 cc. Maximum Temp. 116 °F

Type Circ. Sub. Plug Safety Joint No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 2172 ft. I.D. Drill Pipe 3.5 in. Length Weight Pipe 1250 ft. I.D. Weight Pipe 3.5 in. Length Drill Collars 300 ft.

I.D. Drill Collars 2.5 in. Length D.S.T. Tool 73 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date 7-30-73 Test Ticket No. 18658'

Recorder No. 3086 Capacity 4500 Location 3448 Ft.

Clock No. 9727 Elevation 2039 Ground Level Well Temperature 116 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1877 P.S.I.	Open Tool	11:25 P.M	
B First Initial Flow Pressure	24 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	10 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	21 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	21 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	10 P.S.I.			
G Final Closed-in Pressure	14 P.S.I.			
H Final Hydrostatic Mud	1831 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 3 Inc. of 5 mins. and a final inc. of 0 Min.

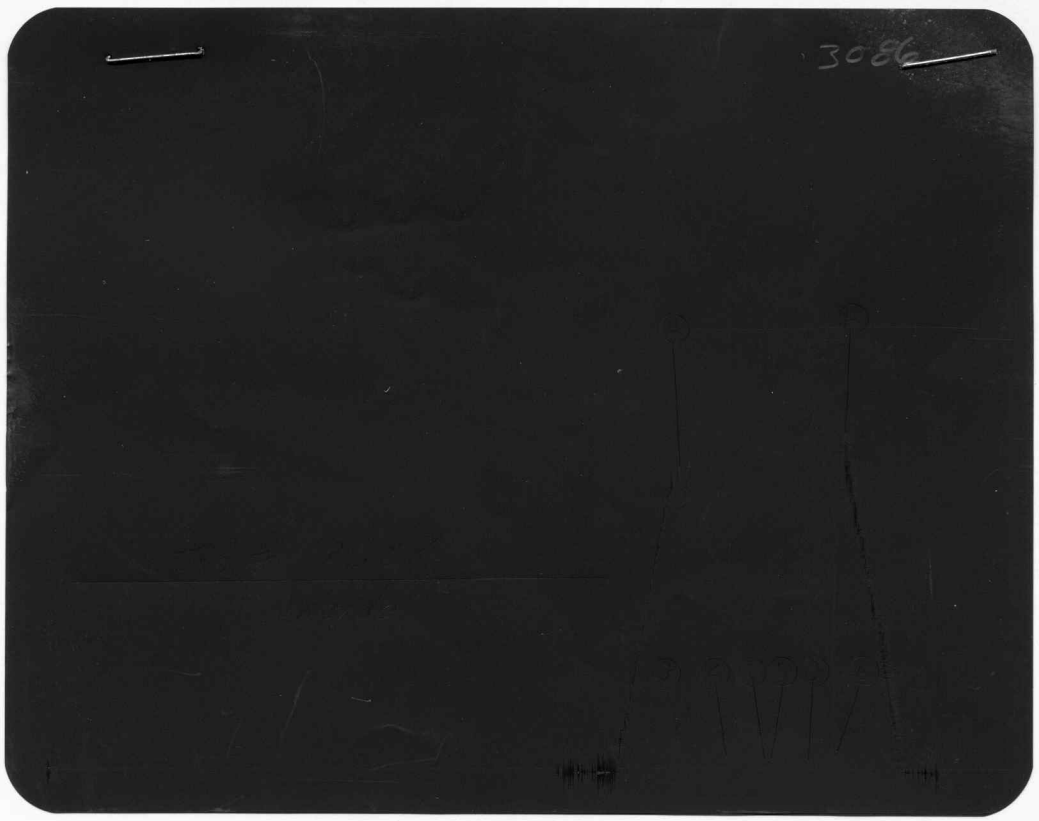
Initial Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Second Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Final Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	24	0	10	0	21	0	10
P 2 5	10	3	11	5	10	3	10
P 3 10	10	6	12	10	16	6	10
P 4 15	10	9	13	15	10	9	11
P 5		12	14	20	10	12	11
P 6		15	14	25	10	15	12
P 7		18	16	30	10	18	12
P 8		21	17			21	13
P 9		24	19			24	13
P10		27	20			27	13
P11		30	21			30	14
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Randa #1 SEC. 13 TWP. 15S RGE. 19W TEST NO. 4 DATE 7-30-73



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1920	1877	PSI
(B)	First Initial Flow Pressure	11	24	PSI
(C)	First Final Flow Pressure	14	10	PSI
(D)	Initial Closed-in Pressure	23	21	PSI
(E)	Second Initial Flow Pressure	14	21	PSI
(F)	Second Final Flow Pressure	14	10	PSI
(G)	Final Closed-in Pressure	16	14	PSI
(H)	Final Hydrostatic Mud	1910	1831	PSI

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 (316) 793-7903

Company Abercrombie Drilling Inc. Lease & Well No. Randa #1

Elevation 2039 Ground Level Formation Kansas City Effective Pay Ft. Ticket No. 18659

Date 7-31-73 Sec. 13 Twp. 15S Range 19W County Ellis State Kansas

Test Approved by Harold Steincamp Western Representative Gerrell Veatch

Formation Test No. 5 O.K. X Misrun Interval Tested From 3500' to 3516' Total Depth 3516'

Size Main Hole 6 3/4" Rat Hole Conv. B.T. X Damaged X Yes No Conv. X B.T. Damaged Yes X No

Top Packer Depth 3496 Ft. Size 5½" Packer Depth 3500 Ft. Size 5½"

Straddle Yes No X Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 4 1/2" O.D. Tool Jt. Size 3 1/2" I.F. Anchor Length 16 Ft. Size 4 1/2" O.D.

RECORDERS Depth 3505 Ft. Clock No. 9727 Depth 3510 Ft. Clock No. 6893

Top Make Kuster Cap 4500 No. 3086 Inside Outside Bottom Make Kuster Cap 4150 No. 2604 ~~Inside~~ Outside

Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside

Top Make Cap No. Inside Outside Bottom Make Cap No. Inside Outside

Time Set Packer 9:55 AM

Tool Open I.F.P. From 10:00 M. to 10:15A M. Hr. 15 Min. From (B) 19 P.S.I. To (C) 7 P.S.I.

Tool Closed I.C.I.P. From 10:15 M. to 11:00A M. Hr. 45 Min. (D) 1041 P.S.I.

Tool Open F.F.P. From 11:00 M. to 11:30A. M. Hr. 30 Min. From (E) 21 P.S.I. To (F) 10 P.S.I.

Tool Closed F.C.I.P. From 11:30 M. to 12:15P. M. Hr. 45 Min. (G) 60 P.S.I.

Initial Hydrostatic Pressure (A) 1872 P.S.I. Final Hydrostatic Pressure (H) 1854 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Weak blow for 15 mins. Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 25 feet drilling mud with few spots of oil

Reversed Out Yes No Mud Type Starch Viscosity 40 Weight 9.8 Water Loss 10.2 cc. Maximum Temp. 116 °F

Type Circ. Sub. Plug Safety Joint No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 2229 ft. I.D. Drill Pipe 3.5 in. Length Weight Pipe 1250 ft. I.D. Weight Pipe 3.0 in. Length Drill Collars 300 ft.

I.D. Drill Collars 2.5 in. Length D.S.T. Tool 37 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date 7-31-73 Test Ticket No. 18659

Recorder No. 3086 Capacity 4500 Location 3505 Ft.

Clock No. 9727 Elevation 2039 Ground Level Well Temperature 116 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1872 P.S.I.	Open Tool	9:55 A. M	
B First Initial Flow Pressure	19 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	7 P.S.I.	Initial Closed-in Pressure	45 Mins.	43 Mins.
D Initial Closed-in Pressure	1041 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	21 P.S.I.	Final Closed-in Pressure	45 Mins.	45 Mins.
F Second Final Flow Pressure	10 P.S.I.			
G Final Closed-in Pressure	60 P.S.I.			
H Final Hydrostatic Mud	1854 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 3 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	19
P 2 5	7
P 3 10	7
P 4 15	7
P 5	
P 6	
P 7	
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 14 Inc.
of 3 mins. and a
final inc. of 1 Min.

Point Minutes	Press.
0	7
3	9
6	16
9	26
12	35
15	48
18	69
21	102
24	151
27	246
30	459
33	662
36	825
39	937
42	1018
43	1041

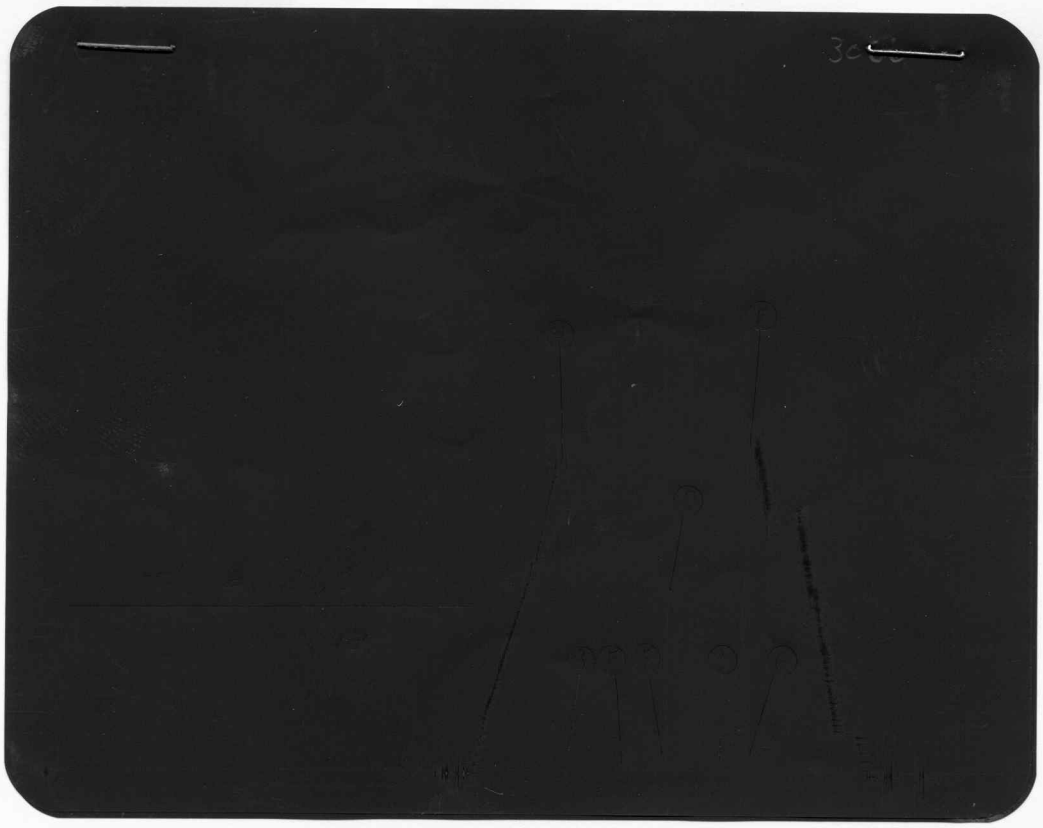
Second Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	21
5	10
10	10
15	10
20	10
25	10
30	10

Final Shut-In
Breakdown: 15 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	10
3	12
6	14
9	16
12	19
15	21
18	24
21	28
24	31
27	34
30	38
33	41
36	45
39	50
42	53
45	60

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Randa #1 SEC. 13 TWP. 15S RGE. 19W TEST NO. 5 DATE 7-31-73



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1950	1872	PSI
(B)	First Initial Flow Pressure	2	19	PSI
(C)	First Final Flow Pressure	11	7	PSI
(D)	Initial Closed-in Pressure	974	1041	PSI
(E)	Second Initial Flow Pressure	11	21	PSI
(F)	Second Final Flow Pressure	11	10	PSI
(G)	Final Closed-in Pressure	71	60	PSI
(H)	Final Hydrostatic Mud	1940	1854	PSI

WESTERN TESTERS

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Abercrombie Drilling Inc. Lease & Well No. Randa #1

Elevation 2039 Ground Level Formation Regan Sand Effective Pay Ft. Ticket No. 18660

Date 8-1-73 Sec. 13 Twp. 15S Range 19W County Ellis State Kansas

Test Approved by Harold Steincamp Western Representative Gerrell Veatch

Formation Test No. 6 O.K. X Misrun Interval Tested From 3608' to 3644' Total Depth 3644'

Size Main Hole 6 3/4" Rat Hole Conv. B.T. X Damaged Yes X No Conv. X B.T. Damaged Yes X No

Top Packer Depth 3604 Ft. Size 5½" Packer Depth 3608 Ft. Size 5½"

Straddle Yes No X Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 4½" O.D. Tool Jt. Size 3½" I.F. Anchor Length 36 Ft. Size 4½" O.D.

RECORDERS Depth 3628 Ft. Clock No. 9727 Depth 3634 Ft. Clock No. 6893

Top Make Kuster Cap. 4500 No. 3086 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2604 ~~Inside~~ Outside

Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside

Top Make Cap No. Inside Outside Bottom Make Cap No. Inside Outside

Time Set Packer 8:55 A. M

Tool Open I.F.P. From 9:00 M. to 9:15 A. M. Hr. 15 Min. From (B) 82 P.S.I. To (C) 629 P.S.I.

Tool Closed I.C.I.P. From 9:15 M. to 10:00 A. M. Hr. 45 Min. (D) 1155 P.S.I.

Tool Open F.F.P. From 10:00 M. to 11:00 A. M. Hr. 60 Min. From (E) 655 P.S.I. To (F) 1099 P.S.I.

Tool Closed F.C.I.P. From 11:00 M. to 11:45 A. M. Hr. 45 Min. (G) 1162 P.S.I.

Initial Hydrostatic Pressure (A) 2038 P.S.I. Final Hydrostatic Pressure (H) 1960 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Strong Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 2150 feet Sulfur Water

Reversed Out Yes X No Mud Type Starch Viscosity 39 Weight 9.8 Water Loss 10.2 cc. Maximum Temp. 121 °F

Type Circ. Sub. Plug Safety Joint No Jars: Size — Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? —

Length Drill Pipe 2337 ft. I.D. Drill Pipe — in. Length Weight Pipe 1250 ft. I.D. Weight Pipe 2.5 in. Length Drill Collars 300 ft.

I.D. Drill Collars 2.5 in. Length D.S.T. Tool 57 ft.

Remarks

FORM WTC-2

WESTERN TESTING CO., INC.

Pressure Data

Date August 1, 1973 Test Ticket No. 18660

Recorder No. 3086 Capacity 4500 Location 3628 Ft.

Clock No. 9727 Elevation 2039 Ground Level Well Temperature 121 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	2038 P.S.I.		Open Tool	8:55 A. M	
B	First Initial Flow Pressure	82 P.S.I.		First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	629 P.S.I.		Initial Closed-in Pressure	45 Mins.	47 Mins.
D	Initial Closed-in Pressure	1155 P.S.I.		Second Flow Pressure	60 Mins.	59 Mins.
E	Second Initial Flow Pressure	655 P.S.I.		Final Closed-in Pressure	45 Mins.	46 Mins.
F	Second Final Flow Pressure	1099 P.S.I.				
G	Final Closed-in Pressure	1162 P.S.I.				
H	Final Hydrostatic Mud	1960 P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 3 Inc. of 5 mins. and a final inc. of 0 Min.

Initial Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 2 Min.

Second Flow Pressure
Breakdown: 11 Inc. of 5 mins. and a final inc. of 4 Min.

Final Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 1 Min.

Point	First Flow Pressure Mins.	First Flow Pressure Press.	Initial Shut-In Point Minutes	Initial Shut-In Press.	Second Flow Pressure Point Minutes	Second Flow Pressure Press.	Final Shut-In Point Minutes	Final Shut-In Press.
P 1	0	82	0	629	0	655	0	1099
P 2	5	310	3	1136	5	757	3	1154
P 3	10	490	6	1148	10	811	6	1158
P 4	15	629	9	1149	15	863	9	1160
P 5			12	1150	20	909	12	1160
P 6			15	1153	25	946	15	1160
P 7			18	1154	30	981	18	1160
P 8			21	1154	35	1010	21	1160
P 9			24	1154	40	1034	24	1160
P10			27	1155	45	1055	27	1161
P11			30	1155	50	1072	30	1161
P12			33	1155	55	1088	33	1161
P13			36	1155	59	1099	36	1161
P14			39	1155			39	1161
P15			42	1155			42	1162
P16			45	1155			45	1162
P17			47	1155			46	1162
P18								
P19								
P20								

This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	2095	2038	PSI
(B)	First Initial Flow Pressure	118	82	PSI
(C)	First Final Flow Pressure	683	629	PSI
(D)	Initial Closed-in Pressure	1148	1155	PSI
(E)	Second Initial Flow Pressure	694	655	PSI
(F)	Second Final Flow Pressure	1102	1099	PSI
(G)	Final Closed-in Pressure	1148	1162	PSI
(H)	Final Hydrostatic Mud	2085	1960	PSI

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Randa #1 SEC. 13 TWP. 15S RGE. 19W TEST NO. 6 DATE 8-1-73