WESTERN TESTERS

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

Company Abercrombie Drilling Company, Inc. Lease & Well No. Huff E-1

Elevation 2477 KB Formation Kansas City Effective Pay Ft. Ticket No. 20468

Date 7-26-74 Sec. 10 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative Gerrell Veatch

Formation Test No. 1 O.K. X Misrun Interval Tested From 3226' to 3275' Total Depth 3275'

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 3221' Ft. Size 6 3/4 Bottom Packer Depth 3226' Ft. Size 6 3/4

Straddle Conv. B.T. Damaged Yes No Packer Depth Ft. Size

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 49' Ft. Size 5½ OD Surface Choke Size 3/8 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 3236' Ft. Clock No. 9103 Depth 3240' Ft. Clock No. 8475

Top Make Kuster Cap. 4150 No. 2607 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2608 ~~Inside~~ Outside

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

Time Set Packer 3:25 PM

Tool Open I.F.P. From 3:30 PM. to 4:00P M. Hr. 30 Min. From (B) 72 P.S.I. To (C) 79 P.S.I.

Tool Closed I.C.I.P. From 4:00P M. to 4:30P M. Hr. 30 Min (D) 635 P.S.I.

Tool Open F.F.P. From 4:30 PM. to 5:00P M. Hr. 30 Min. From (E) 104 P.S.I. To (F) 106 P.S.I.

Tool Closed F.C.I.P. From 5:00P M. to 5:30P M. Hr. 30 Min. (G) 613 P.S.I.

Initial Hydrostatic Pressure (A) 1771 P.S.I. Final Hydrostatic Pressure (H) 1748 P.S.I. Maximum Temp. 100

INFORMATION

BLOW Weak for 40 minutes.

Did Well Flow Yes X No Recovery Total Ft. 120 Feet oil cut mud.

Reversed Out Yes X No Mud Type Chem Viscosity 47 Weight 10.1 Water Loss 17.8 cc. Chlorides 2,000 PPM

EXTRA EQUIPMENT: Type Circ. Sub Pin Safety Joint Jars: Size In. Make Ser. No.

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where?

DRILLING CONTRACTOR Abercrombie Drlg. Length Drill Pipe? 1976' Ft. I.D. Drill Pipe 3.7 In. Tool Joint Size 4½ In.

Length Weight Pipe 1230' Ft. I.D. Weight Pipe 2.5 In. Tool Joint Size 4" In. Length Drill Collars Ft. I.D. Drill Collars In.

Tool Joint Size In. Length D.S.T. Tool 69' Ft.

Remarks:

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 7-26-74 Test Ticket No. 20468

Recorder No. 2607 Capacity 4150 Location 3236' Ft.

Clock No. 9103 Elevation 2477 KB Well Temperature 100 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1771	P.S.I.	Open Tool	3:30 PM	
B	First Initial Flow Pressure	72	P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	79	P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	635	P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E	Second Initial Flow Pressure	104	P.S.I.	Final Closed-in Pressure	30 Mins.	27 Mins.
F	Second Final Flow Pressure	106	P.S.I.			
G	Final Closed-in Pressure	613	P.S.I.			
H	Final Hydrostatic Mud	1748	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 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 0 Min.

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

Final Shut-In
Breakdown: 9 Inc. of 3 mins. and a final inc. of 0 Min.

Point	First Flow Mins.	First Flow Press.	Initial Shut-In Minutes	Initial Shut-In Press.	Second Flow Minutes	Second Flow Press.	Final Shut-In Minutes	Final Shut-In Press.
P 1	0	72	0	79	0	104	0	106
P 2	5	70	3	339	5	104	3	277
P 3	10	69	6	502	10	105	6	439
P 4	15	68	9	558	15	105	9	521
P 5	20	71	12	587	20	105	12	558
P 6	25	75	15	604	25	106	15	579
P 7	30	79	18	615	30	106	18	594
P 8			21	625			21	602
P 9			24	629			24	607
P10			27	633			27	613
P11			30	635				
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								

WESTERN TEST FLUIDS

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

Company Abercrombie Drilling Co., Inc. Lease & Well No. Huff E-1

Elevation 2477 KB Formation Kansas City Effective Pay Ft. Ticket No. 20469

Date 7-27-74 Sec. 10 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative Gerrell Veatch

Formation Test No. 2 O.K. X Misrun Interval Tested From 3270' to 3320' Total Depth 3320'

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 3265' Ft. Size 6 3/4 Bottom Packer Depth 3270' Ft. Size 6 3/4

Straddle Conv. B.T. Damaged Yes No Packer Depth Ft. Size

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 50' Ft. Size 6 3/4 Surface Choke Size 3/8 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 3275' Ft. Clock No. 9103 Depth 3280' Ft. Clock No. 8475

Top Make Kuster Cap. 4150 No. 2607 ~~Outside~~ Inside Bottom Make Kuster Cap. 4150 No. 2608 ~~Inside~~ Outside

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

Time Set Packer 2:55 A M

Tool Open I.F.P. From 3:00 A M. to 3:30A M. Hr. 30 Min. From (B) 78 P.S.I. To (C) 78 P.S.I.

Tool Closed I.C.I.P. From 3:30 A M. to 4:00A M. Hr. 30 Min (D) 677 P.S.I.

Tool Open F.F.P. From 4:00 A M. to 4:30A M. Hr. 30 Min. From (E) 97 P.S.I. To (F) 99 P.S.I.

Tool Closed F.C.I.P. From 4:30 A M. to 5:00A M. Hr. 30 Min. (G) 663 P.S.I.

Initial Hydrostatic Pressure (A) 1790 P.S.I. Final Hydrostatic Pressure (H) 1763 P.S.I. Maximum Temp. 100

INFORMATION

BLOW Weak for 30 minutes.

Did Well Flow Yes X No Recovery Total Ft. 65 Feet oil cut mud.

Reversed Out Yes X No Mud Type Chem Viscosity 43 Weight 10.0 Water Loss 15.0 cc. Chlorides 2,000 PPM

EXTRA EQUIPMENT: Type Circ. Sub Pin Safety Joint No Jars: Size In. Make Ser. No.

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where?

DRILLING CONTRACTOR Abercrombie Drlg. Co. Length Drill Pipe? 2020' Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½ In.

Length Weight Pipe 1230' Ft. I.D. Weight Pipe 2.5 In. Tool Joint Size 4" In. Length Drill Collars Ft. I.D. Drill Collars In.

Tool Joint Size In. Length D.S.T. Tool 70' Ft.

Remarks:

WESTERN TESTING CO., INC.
Pressure Data

Date 7-27-74 Test Ticket No. 20469

Recorder No. 2607 Capacity 4150 Location 3275' Ft.

Clock No. 9103 Elevation 2477 KB Well Temperature 100 °F

Point		Pressure	
A	Initial Hydrostatic Mud	1790	P.S.I.
B	First Initial Flow Pressure	78	P.S.I.
C	First Final Flow Pressure	78	P.S.I.
D	Initial Closed-in Pressure	677	P.S.I.
E	Second Initial Flow Pressure	97	P.S.I.
F	Second Final Flow Pressure	99	P.S.I.
G	Final Closed-in Pressure	663	P.S.I.
H	Final Hydrostatic Mud	1763	P.S.I.

	Time Given	Time Computed
Open Tool	3:00 AM	
First Flow Pressure	30 Mins.	30 Mins.
Initial Closed-in Pressure	30 Mins.	30 Mins.
Second Flow Pressure	30 Mins.	30 Mins.
Final Closed-in Pressure	30 Mins.	30 Mins.

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 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	First Flow Pressure Mins.	Press.	Initial Shut-In Point Minutes	Press.	Second Flow Pressure Point Minutes	Press.	Final Shut-In Point Minutes	Press.
P 1	0	78	0	78	0	97	0	99
P 2	5	78	3	216	5	97	3	190
P 3	10	78	6	445	10	98	6	366
P 4	15	78	9	562	15	98	9	511
P 5	20	78	12	611	20	98	12	577
P 6	25	78	15	635	25	99	15	610
P 7	30	78	18	650	30	99	18	630
P 8			21	658			21	640
P 9			24	664			24	650
P10			27	671			27	658
P11			30	677			30	663
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								

WESTERN TESTERS

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

Company Abercrombie Drilling Co., Inc. Lease & Well No. Huff E-1

Elevation 2477 KB Formation Kansas City Effective Pay Ft. Ticket No. 20470

Date 7-27-74 Sec. 10 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative Gerrell Veatch

Formation Test No. 3 O.K. X Misrun Interval Tested From 3425' to 3460' Total Depth 3460'

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 Ft. Size Bottom Packer Depth 3425' Ft. Size 6 3/4

Straddle Conv. B.T. Damaged Yes No Packer Depth Ft. Size

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 35' Ft. Size 5½ Surface Choke Size 3/8 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 3450' Ft. Clock No. 9103 Depth 3454' Ft. Clock No. 8475

Top Make Kuster Cap. 4150 No. 2607 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 2608 ~~Inside~~ Outside

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

Time Set Packer 9:55 P M

Tool Open I.F.P. From 10:00P M. to 10:15P M. Hr. 15 Min. From (B) 68 P.S.I. To (C) 65 P.S.I.

Tool Closed I.C.I.P. From 10:15P M. to 10:45P M Hr. 30 Min (D) 67 P.S.I.

Tool Open F.F.P. From 10:45P M. to 11:15P M. Hr. 30 Min. From (E) 64 P.S.I. To (F) 63 P.S.I.

Tool Closed F.C.I.P. From 11:15P M. to 11:45P M. Hr. 30 Min. (G) 68 P.S.I.

Initial Hydrostatic Pressure (A) 1912 P.S.I. Final Hydrostatic Pressure (H) 1886 P.S.I. Maximum Temp. 102

INFORMATION

BLOW No Blow

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

Reversed Out Yes X No Mud Type Chem Viscosity 38 Weight 9.9 Water Loss 12.8 cc. Chlorides 2,200 PPM

EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint Jars: Size In. Make Ser. No.

Dual Packer No Did Packers Hold? Yes Did Tool Plug? No Where?

DRILLING CONTRACTOR Abercrombie Drlg. Co. Length Drill Pipe? 2175' Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½ In.

Length Weight Pipe 1230' Ft. I.D. Weight Pipe 2.5 In. Tool Joint Size 4" In. Length Drill Collars Ft. I.D. Drill Collars In.

Tool Joint Size In. Length D.S.T. Tool 55' Ft.

Remarks:

Flushed tool on first flow; Flushed tool twice on final flow.

WESTERN TESTING CO., INC.
Pressure Data

Date 7-27-74 Test Ticket No. 20470

Recorder No. 2607 Capacity 4150 Location 3450' Ft.

Clock No. 9103 Elevation 2477 KB Well Temperature 102 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1922	P.S.I.	Open Tool	10:00 PM	
B	First Initial Flow Pressure	68	P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	65	P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	67	P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E	Second Initial Flow Pressure	64	P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F	Second Final Flow Pressure	63	P.S.I.			
G	Final Closed-in Pressure	68	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.

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	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	68	0	65	0	64	0	63
P 2	5	68	3	65	5	64	3	63
P 3	10	65	6	65	10	64	6	64
P 4	15	65	9	65	15	64	9	64
P 5			12	65	20	63	12	65
P 6			15	65	25	63	15	65
P 7			18	65	30	63	18	66
P 8			21	65			21	66
P 9			24	65			24	67
P10			27	66			27	67
P11			30	67			30	68
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								

WESTERN TESTERS

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

Company Abercrombie Drilling Co., Inc. Lease & Well No. Huff E-1

Elevation 2477 KB Formation Ragen Sand Effective Pay Ft. Ticket No. 20471

Date 7-28-74 Sec. 10 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative Gerrell Veatch

Formation Test No. 4 O.K. X Misrun Interval Tested From 3549' to 3560' Total Depth 3560'

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 3544' Ft. Size 6 3/4 Bottom Packer Depth 3549' Ft. Size 6 3/4

Straddle Conv. B.T. Damaged Yes No Packer Depth Ft. Size

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 11' Ft. Size 5½ Surface Choke Size 3/8 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 3553' Ft. Clock No. 9103 Depth 3557' Ft. Clock No. 8475

Top Make Kuster Cap. 4150 No. 2607 ~~Inside~~ Outside Bottom Make Kuster Cap. 4150 No. 2608 ~~Inside~~ Outside

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

Time Set Packer 12:10 P M

Tool Open I.F.P. From 12:15 PM. to 12:30PM Hr. 15 Min. From (B) 68 P.S.I. To (C) 80 P.S.I.

Tool Closed I.C.I.P. From 12:30PM. to 1:15PM Hr. 45 Min (D) 932 P.S.I.

Tool Open F.F.P. From 1:15 PM. to 2:45PM Hr. 90 Min. From (E) 110 P.S.I. To (F) 341 P.S.I.

Tool Closed F.C.I.P. From 2:45 PM. to 3:30PM Hr. 45 Min. (G) 912 P.S.I.

Initial Hydrostatic Pressure (A) 1947 P.S.I. Final Hydrostatic Pressure (H) 1946 P.S.I. Maximum Temp. 103

INFORMATION

BLOW Good

Did Well Flow Yes X No Recovery Total Ft. 240 Feet Gas In Pipe;(26 gravity); 120 Feet Oil and Gas Cut mud; 420 Feet water.

Reversed Out Yes X No Mud Type Chem Viscosity 39 Weight 10.1 Water Loss 10.0 cc. Chlorides 2,000 PPM

EXTRA EQUIPMENT: Type Circ. Sub Pin Safety Joint No Jars: Size In. Make Ser. No.

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where?

DRILLING CONTRACTOR Abercrombie Drlg. Co. Length Drill Pipe? 2299' Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½ In.

Length Weight Pipe 1230' Ft. I.D. Weight Pipe 2.5 In. Tool Joint Size 4" In. Length Drill Collars Ft. I.D. Drill Collars In.

Tool Joint Size In. Length D.S.T. Tool 31' Ft.

Remarks:

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 7-28-74 Test Ticket No. 20471

Recorder No. 2607 Capacity 4150 Location 3553' Ft.

Clock No. 9103 Elevation 2477 KB Well Temperature 103 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1947	P.S.I.	Open Tool	12:15 PM	
B	First Initial Flow Pressure	68	P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	80	P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D	Initial Closed-in Pressure	932	P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E	Second Initial Flow Pressure	110	P.S.I.	Final Closed-in Pressure	45 Mins.	45 Mins.
F	Second Final Flow Pressure	341	P.S.I.			
G	Final Closed-in Pressure	912	P.S.I.			
H	Final Hydrostatic Mud	1946	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 3 Inc.		Breakdown: 15 Inc.		Breakdown: 18 Inc.		Breakdown: 15 Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	68	0	80	0	110	0	341
P 2 5	77	3	704	5	111	3	779
P 3 10	79	6	831	10	118	6	831
P 4 15	80	9	866	15	131	9	855
P 5		12	885	20	146	12	870
P 6		15	901	25	154	15	881
P 7		18	910	30	169	18	887
P 8		21	916	35	185	21	893
P 9		24	921	40	202	24	897
P10		27	924	45	218	27	902
P11		30	926	50	235	30	904
P12		33	928	55	248	33	906
P13		36	929	60	265	36	908
P14		39	930	65	279	39	910
P15		42	931	70	294	42	911
P16		45	932	75	309	45	912
P17				80	322		
P18				85	335		
P19				90	341		
P20							