WESTERN TESTERS

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

Company A. L. Abercrombie Inc. Lease & Well No. Summer C-1

Elevation 2506 Kelly Bushings Formation Lansing Effective Pay Ft. Ticket No. 15888

Date 12-11-71 Sec. 4 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack Wharton Western Representative James W. Holloway

Formation Test No. 1 O.K. X Misrun Interval Tested From 3251' to 3295' Total Depth 3295'

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

Packer Depth 3246 Ft. Size 6 3/4" Packer Depth 3251 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 44 Ft. Size 5 1/2" O.D.

RECORDERS Depth 3287 Ft. Clock No. 9725 Depth 3289 Ft. Clock No. 6774

Top Make Kuster Cap. 4150 No. 2607 Inside = ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 969 = ~~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 12:37 P.M

Tool Open I.F.P. From 12:40 M. to 12:55P.M. Hr. 15 Min. From (B) 34 P.S.I. To (C) 39 P.S.I.

Tool Closed I.C.I.P. From 12:55 M. to 1:25P.M. Hr. 30 Min. (D) 945 P.S.I.

Tool Open F.F.P. From 1:25 M. to 1:55P.M. Hr. 30 Min. From (E) 52 P.S.I. To (F) 48 P.S.I.

Tool Closed F.C.I.P. From 1:55 M. to 2:40P.M. Hr. 45 Min. (G) 938 P.S.I.

Initial Hydrostatic Pressure (A) 1804 P.S.I. Final Hydrostatic Pressure (H) 1783 P.S.I.

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

BLOW Very weak for 22 min. Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 15 feet mud with oil spots

Reversed Out Yes X No Mud Type Chem. Viscosity 46 Weight 10.0 Water Loss 7.8 cc. Maximum Temp. 93 °F

Type Circ. Sub. Plug Did Tool Plug? No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Safety Joint No Did Packer Hold? Yes Where?

Length Drill Pipe 2764 ft. I.D. Drill Pipe 3.3 in. Length Weight Pipe 1467 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I. D. Drill Collars in. Length D.S.T. Tool 64 ft.

Remarks Flush in 15 min. on final flow - no help

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 12-11-71 Test Ticket No. 15888

Recorder No. 2607 Capacity 4150 Location 3287 Ft.

Clock No. 9725 Elevation 2506 Kelly Bushings Well Temperature 93 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1804 P.S.I.	Open Tool	12:37 P.M	
B First Initial Flow Pressure	34 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	39 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	945 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	52 P.S.I.	Final Closed-in Pressure	45 Mins.	45 Mins.
F Second Final Flow Pressure	48 P.S.I.			
G Final Closed-in Pressure	938 P.S.I.			
H Final Hydrostatic Mud	1783 P.S.I.			

PRESSURE BREAKDOWN

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

Point Mins.	Press.
P 1 0	34
P 2 5	35
P 3 10	36
P 4 15	39
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 _____ Min.

Point Minutes	Press.
0	39
3	300
6	576
9	702
12	791
15	845
18	882
21	907
24	924
27	935
30	945

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

Point Minutes	Press.
0	52
5	52
10	52
15	52
20	48
25	48
30	48

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

Point Minutes	Press.
0	48
3	372
6	554
9	566
12	757
15	809
18	843
21	870
24	888
27	900
30	911
33	918
36	924
39	928
42	933
45	938

WESTERN TEST

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

Company A. L. Abercrombie Inc. Lease & Well No. Summer C-1

Elevation 2506 Kelly Bushings Formation Lansing Effective Pay Ft. Ticket No. 15889

Date 12-11-71 Sec. 4 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative James W. Holloway

Formation Test No. 2 O.K. X Misrun Interval Tested From 3320' to 3337' Total Depth 3337'

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

Packer Depth 315 Ft. Size 6 3/4" Packer Depth 3320 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 17 Ft. Size 5 1/2" O.D.

RECORDERS Depth 3329 Ft. Clock No. 9725 Depth 3331 Ft. Clock No. 6774

Top Make Kuster Cap. 4150 No. 2607 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 969 ~~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 11:13 P. M

Tool Open I.F.P. From 11:16 M. to 11:46P M. Hr. 30 Min. From (B) 24 P.S.I. To (C) 24 P.S.I.

Tool Closed I.C.I.P. From 11:46 M. to 12:16A M. Hr. 30 Min. (D) 143 P.S.I.

Tool Open F.F.P. From 12:16 M. to 12:46A M. Hr. 30 Min. From (E) 44 P.S.I. To (F) 44 P.S.I.

Tool Closed F.C.I.P. From 12:46 M. to 1:36A. M. Hr. 45 Min. (G) 202 P.S.I.

Initial Hydrostatic Pressure (A) 1794 P.S.I. Final Hydrostatic Pressure (H) 1778 P.S.I.

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

BLOW Very weak for 21 min. on initial flow Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 15 feet mud with show of free oil on top

Reversed Out Yes X No Mud Type Chem. Viscosity 46 Weight 10.0 Water Loss 7.8 cc. Maximum Temp. 93 °F

Type Circ. Sub. Plug Did Tool Plug? No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Safety Joint No Did Packer Hold? Yes Where?

Length Drill Pipe 1803 ft. I.D. Drill Pipe 3.3 in. Length Weight Pipe 1534 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

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

Remarks Flush on final flow - no help

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 12-11-71 Test Ticket No. 15889

Recorder No. 2607 Capacity 4150 Location 3329 Ft.

Clock No. 9725 Elevation 2506 Kelly Bushings Well Temperature 93 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1794 P.S.I.	Open Tool	11:13P. M	
B First Initial Flow Pressure	24 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	24 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	143 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	44 P.S.I.	Final Closed-in Pressure	45 Mins.	44 Mins.
F Second Final Flow Pressure	44 P.S.I.			
G Final Closed-in Pressure	202 P.S.I.			
H Final Hydrostatic Mud	1778 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure	Initial Shut-In	Second Flow Pressure	Final Shut-In
Breakdown: 6 Inc.	Breakdown: 10 Inc.	Breakdown: 6 Inc.	Breakdown: 14 Inc.
of 5 mins. and a	of 3 mins. and a	of 5 mins. and a	of 3 mins. and a
final inc. of ____ Min.	final inc. of ____ Min.	final inc. of ____ Min.	final inc. of 2 Min.

Point	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	0	24	0	24	0	44	0	44
P 2	5	24	3	25	5	44	3	45
P 3	10	24	6	26	10	44	6	46
P 4	15	24	9	27	15	44	9	48
P 5	20	24	12	30	20	44	12	49
P 6	25	24	15	37	25	44	15	52
P 7	30	24	18	47	30	44	18	58
P 8			21	60			21	64
P 9			24	77			24	73
P10			27	101			27	83
P11			30	143			30	96
P12							33	111
P13							36	132
P14							39	154
P15							42	188
P16							44	202
P17								
P18								
P19								
P20								

WESTERN TESTERS

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

Company A. L. Abercrombie Inc. Lease & Well No. Summer C-1

Elevation 2506 Kelly Bushings Formation Kansas City Effective Pay Ft. Ticket No. 15890

Date 12-12-71 Sec. 4 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative James W. Holloway

Formation Test No. 3 O.K. X Misrun Interval Tested From 3338' to 3386' Total Depth 3386'

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

Packer Depth 3333 Ft. Size 6 3/4" Packer Depth 3338 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 48 Ft. Size 5 1/2" O.D.

RECORDERS Depth 3378 Ft. Clock No. 9725 Depth 3380 Ft. Clock No. 6774

Top Make Kuster Cap. 4150 No. 2607 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 969 ~~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 11:41 AM

Tool Open I.F.P. From 11:44 M. to 11:54AM. Hr. 10 Min. From (B) 48 P.S.I. To (C) 48 P.S.I.

Tool Closed I.C.I.P. From 11:54 M. to 12:24PM. Hr. 30 Min. (D) 103 P.S.I.

Tool Open F.F.P. From 12:24 M. to 12:54PM. Hr. 30 Min. From (E) 52 P.S.I. To (F) 54 P.S.I.

Tool Closed F.C.I.P. From 12:54 M. to 1:24P.M. Hr. 30 Min. (G) 70 P.S.I.

Initial Hydrostatic Pressure (A) 1831 P.S.I. Final Hydrostatic Pressure (H) 1819 P.S.I.

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

BLOW Very weak 24 min. Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 20 feet mud with oil spots

Reversed Out Yes X No Mud Type Chem. Viscosity 46 Weight 10.2 Water Loss 7.4 cc. Maximum Temp. 94 °F

Type Circ. Sub. Plug Did Tool Plug? No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Safety Joint No Did Packer Hold? Yes Where?

Length Drill Pipe 1851 ft. I.D. Drill Pipe 3.3 in. Length Weight Pipe 1467 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I. D. Drill Collars in. Length D.S.T. Tool 68 ft.

Remarks Flush on final flow - no help

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 12-12-71 Test Ticket No. 15890

Recorder No. 2607 Capacity 4150 Location 3378 Ft.

Clock No. 9725 Elevation 2506 Kelly Bushings Well Temperature 94 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1831 P.S.I.	Open Tool	11:41 AM	
B First Initial Flow Pressure	48 P.S.I.	First Flow Pressure	10 Mins.	10 Mins.
C First Final Flow Pressure	48 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	103 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	52 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	54 P.S.I.			
G Final Closed-in Pressure	70 P.S.I.			
H Final Hydrostatic Mud	1819 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 2 Inc.
of 5 mins. and a
final inc. of ____ Min.

Point Mins.	Press.
P 1 0	48
P 2 5	48
P 3 10	48
P 4	
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 ____ Min.

Point Minutes	Press.
0	48
3	50
6	52
9	53
12	54
15	60
18	69
21	78
24	88
27	96
30	103

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

Point Minutes	Press.
0	52
5	52
10	52
15	52
20	54
25	54
30	54

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

Point Minutes	Press.
0	54
3	54
6	55
9	56
12	59
15	61
18	63
21	65
24	67
27	69
30	70

WESTERN TESTERS

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

Company A. L. Abercrombie Inc. Lease & Well No. Summer C-1

Elevation 2506 Kelly Bushings Formation Kansas City Effective Pay Ft. Ticket No. 15891

Date 12-12-71 Sec. 4 Twp. 1 Range 26W County Decatur State Kansas

Test Approved by Jack K. Wharton Western Representative James W. Holloway

Formation Test No. 4 O.K. X Misrun Interval Tested From 3384' to 3420' Total Depth 3420'

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

Packer Depth 3379 Ft. Size 6 3/4" Packer Depth 3384 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 36 Ft. Size 5 1/2" O.D.

RECORDERS Depth 3412 Ft. Clock No. 9725 Depth 3414 Ft. Clock No. 6774

Top Make Kuster Cap. 4150 No. 2607 Inside =~~Outside~~ Bottom Make Kuster Cap. 4150 No. 969 =~~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 10:27 P.M

Tool Open I.F.P. From 10:30 M. to 10:45 P.M. Hr. 15 Min. From (B) 25 P.S.I. To (C) 25 P.S.I.

Tool Closed I.C.I.P. From 10:45 M. to 11:15 P.M. Hr. 30 Min. (D) 46 P.S.I.

Tool Open F.F.P. From 11:15 M. to 11:45 P.M. Hr. 30 Min. From (E) 37 P.S.I. To (F) 44 P.S.I.

Tool Closed F.C.I.P. From 11:45 M. to 12:15 P.M. Hr. 30 Min. (G) 56 P.S.I.

Initial Hydrostatic Pressure (A) 1869 P.S.I. Final Hydrostatic Pressure (H) 1861 P.S.I.

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

BLOW Very weak 18 min. Bottom Choke Size 3/4 In.

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

Reversed Out Yes X No Mud Type Chem. Viscosity 46 Weight 10.2 Water Loss 7.4 cc. Maximum Temp. 94 °F

Type Circ. Sub. Plug Did Tool Plug? No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Safety Joint No Did Packer Hold? Yes Where?

Length Drill Pipe 1830 ft. I.D. Drill Pipe 3.3 in. Length Weight Pipe 1534 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I. D. Drill Collars in. Length D.S.T. Tool 56 ft.

Remarks Flush on final flow - no help

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 12-12-71 Test Ticket No. 15891

Recorder No. 2607 Capacity 4150 Location 3412 Ft.

Clock No. 9725 Elevation 2506 Kelly Bushings Well Temperature 94 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1869 P.S.I.	Open Tool	10:27P. M	
B First Initial Flow Pressure	25 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	25 P.S.I.	Initial Closed-in Pressure	30 Mins.	27 Mins.
D Initial Closed-in Pressure	46 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	37 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	44 P.S.I.			
G Final Closed-in Pressure	56 P.S.I.			
H Final Hydrostatic Mud	1861 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 3 Inc.		Breakdown: 9 Inc.		Breakdown: 6 Inc.		Breakdown: 10 Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of ____ Min.		final inc. of ____ Min.		final inc. of ____ Min.		final inc. of ____ Min.	
Point Mins.	**Press.**	**Point Minutes**	**Press.**	**Point Minutes**	**Press.**	**Point Minutes**	**Press.**
P 1 0	25	0	25	0	37	0	44
P 2 5	25	3	26	5	37	3	44
P 3 10	25	6	27	10	37	6	44
P 4 15	25	9	29	15	37	9	44
P 5		12	31	20	44	12	44
P 6		15	33	25	44	15	44
P 7		18	35	30	44	18	45
P 8		21	39			21	49
P 9		24	42			24	52
P10		27	46			27	54
P11						30	56
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							