

Superior Testers Enterprises, Inc.

R.R. 3, Box 295B, Great Bend, Kansas 67530

(316) 792-6902

Date 12 31 91 Location 5 205 9 W Elevation 1723' ± County RICE

Company TOMKAT LTD Number of Copies 5

Charts Mailed to PO BOX 20403 WICHITA KS 67200 1403

Drilling Contractor DUKE RIG #1

Length Drill Pipe 2570. I.D. Drill Pipe 3 80 Tool Joint Size 4 1/2 FH

Length Weight Pipe 632 I.D. Weight Pipe 2.75 Tool Joint Size 4 1/2 FH

Length Drill Collars NONE I.D. Drill Collars NONE Tool Joint Size NONE

Top Packer Depth 3193 Bottom Packer Depth 3198 Number of Packers TWO Packer Size 7 3/4

TESTED FROM 3198 TO 3736 ANCHOR LENGTH 38 TOTAL DEPTH 3236 Hole Size 8 3/4

LEASE & WELL NO. QUATTLEBAUM #4 FORMATION TESTED Arb TEST NO. 1

Mud Weight 9.1 Viscosity 45 Water Loss 8.8 Chlorides - Pits 6,000 D.S.T. 30,000

Maximum Temp. 112 °F Initial Hydrostatic Pressure (A) 1662 P.S.I. Final Hydrostatic Pressure (H) 1633 P.S.I.

Tool Open I.F.P. from 530 m to 600 m 30 min

Tool Closed I.C.I.P. from 600 m to 630 m 30 min

Tool Open F.F.P. from 630 m to 700 m 30 min

Tool Closed F.C.I.P. from 700 m to 800 m 60 min

Initial Blow Strong Blow off Bottom 1 1/4

Final Blow Strong Blow off Bottom 8 1/4

Total Feet Recovered Slightly oil & Gas cut muppy water 1450' Gravity of Oil _____ Corrected _____

30 Feet of Clean Gassy oil 20 % Gas 180 % Oil 30 % Mud 30 % Water

40 Feet of Slightly oil cut watery mud 2 % Gas 18 % Oil 50 % Mud 30 % Water

60 Feet of Slightly oil cut watery mud 13 % Gas 10 % Oil 42 % Mud 35 % Water

120 Feet of oil cut muppy water 25 % Gas 22 % Oil 18 % Mud 35 % Water

120 Feet of " " " 15 % Gas 20 % Oil 16 % Mud 49 % Water

60 Feet of Slightly oil cut muppy water 12 % Gas 12 % Oil 18 % Mud 58 % Water

180 Feet of " " " " 7 % Gas 10 % Oil 25 % Mud 58 % Water

120 Feet of " " " " 2 % Gas 8 % Oil 30 % Mud 60 % Water

240 Feet of " " " " 2 % Gas 8 % Oil 30 % Mud 60 % Water

180 180' Slightly oil cut watery 4 % Oil 10 % Mud 86 % Water

Remarks 300 watery 390 mud 97 water

Extra Equipment - Jars none Safety Joint none Extra Packer none Straddle none Hook Wall none

Top Recorder No. 12214 Clock No. 23915 Depth 3230 Cir. Sub _____ Sampler none

Bottom Recorder No. 12203 Clock No. 23573 Depth 3233 Insurance _____

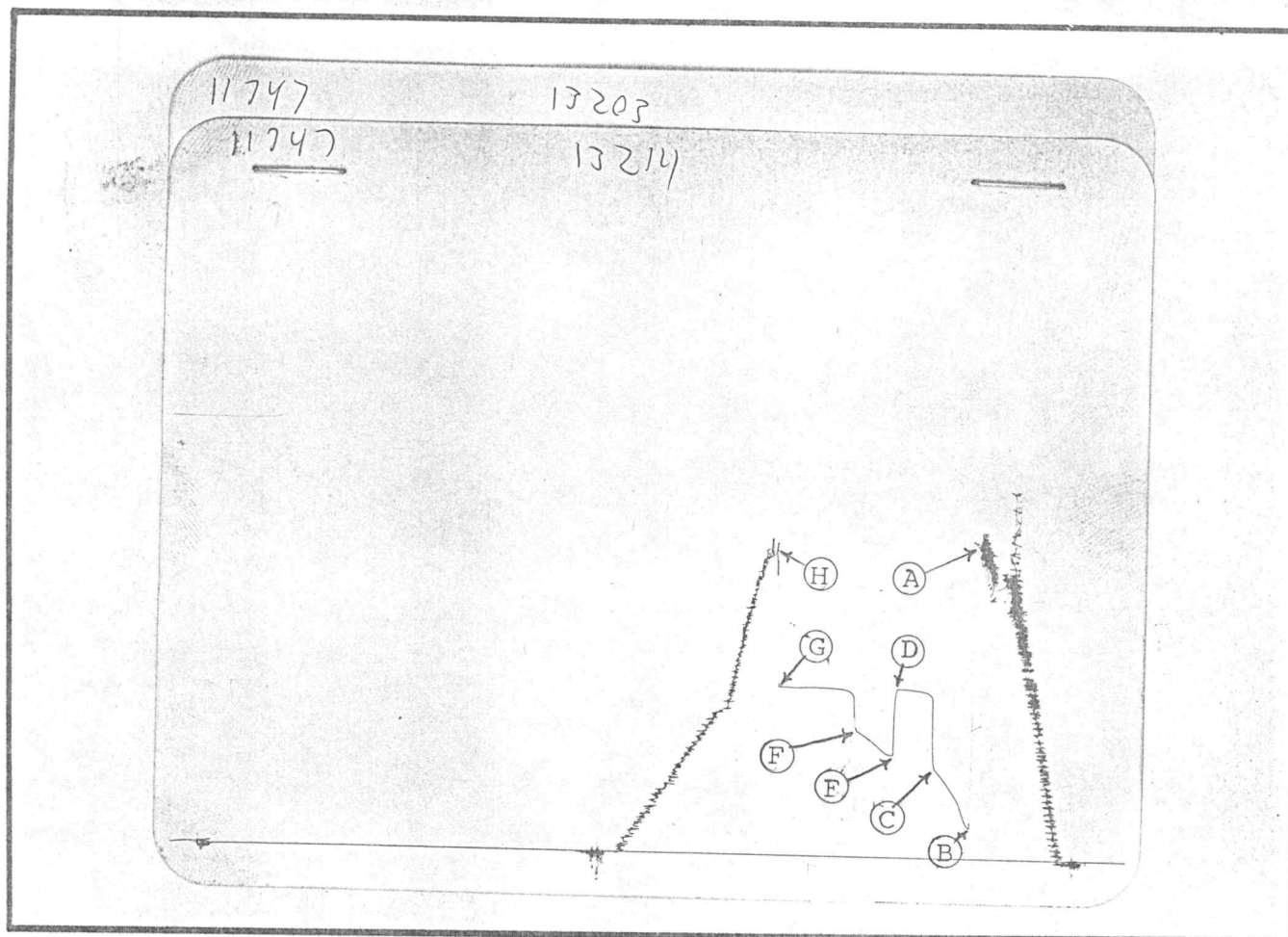
Price of Job _____

Tool Operator PAT STEVENSON

Approved By _____

No 11747

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1662</u>	<u>1637</u>	P.S.I.
(B) First Initial Flow Pressure	<u>173</u>	<u>154</u>	P.S.I.
(C) First Final Flow Pressure	<u>463</u>	<u>442</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>887</u>	<u>857</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>540</u>	<u>522</u>	P.S.I.
(F) Second Final Flow Pressure	<u>665</u>	<u>639</u>	P.S.I.
(G) Final Closed-in Pressure	<u>887</u>	<u>859</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1633</u>	<u>1555</u>	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : TOMKAT LTD	WELL NAME : QUATTLEBAUM #4
ADDRESS : P.O.BOX 20403, WICHITA	LOCATION : 5-208-9W
STATE & COUNTY : KANSAS, RICE	FIELD :
ELEV.(GR) : 1718 (KB) : 1723	TEST DATE : 12-31-1991

EQUIPMENT AND HOLE DATA

FORMATION TESTED : ARBUCKLE	DRILL PIPE LENGTH(ft) : 2570
TEST INT. KB : 3198 to 3236	DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 38	WEIGHT PIPE LENGTH(ft) : 632
TYPE OF TEST : Conventional	WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3236	DRILL COLLAR LENGTH(ft) :
MAIN HOLE SIZE(in) : 7 7/8	DRILL COLLAR I.D.(in) : 2.259
MUD WEIGHT.: 9.1	TOP PACKER DEPTH(kb) : 3193
MUD VISCOSITY : 45	BOTTOM PACKER DEPTH(kb) : 3198
MUD CHLORIDES : 6000	DUAL PACKERS :
SURFACE CHOKE : 3/4	PACKER SIZE(in) : 7 3/4
BOTTOM CHOKE(in) : 3/4	PACKER HOLD : Yes
TOOL SIZE(O.D.) : 5 1/2	TOOL PLUG : No
TOOL JOINT SIZE(F.H.) : 4 1/2	REVERSED OUT : No
RESERVOIR TEMPERATURE(F) : 112	TEST TICKET NUMBER : 11747

EXTRA EQUIPMENT :

ELEMENT SERIAL NO. : 13214	
RANGE : 0 - 3825	CLOCK RANGE : 12 HOURS
CAL. EQU. : 971.31 * Defl. - .01	

SURFACE BLOW

1st Opening :	STRONG BLOW-BOTTOM OF THE BUCKET IN 1 1/2 MINUTES
2nd Opening :	STRONG BLOW-BOTTOM OF THE BUCKET IN 8 MINUTES

RECOVERY

Recovered 1450 feet of SLIGHLY OIL AND GAS CUT MUDDY WATER

REMARKS :

WITNESSED BY : DAN DEBOER

TOOL OPERATOR : PAT STEVENSON

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : TOMKAT LTD
DATE OF TEST : 12-31-1991
DEPTH : 3230.0

WELL NAME : QUATTLEBAUM #4
LOCATION : 5-20S-9W
SERIAL NO. : 13214

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.:1					
Depth : 3230.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.703	1654.14	-16.47	1637.67
-5:30 1ST FLOW	0.0	.160	155.40	-.96	154.44
- 5:35	5.0	.219	212.71	-1.32	211.39
- 5:40	10.0	.303	294.30	-1.83	292.47
- 5:45	15.0	.349	338.98	-2.11	336.87
- 5:50	20.0	.398	386.57	-2.40	384.17
- 5:55	25.0	.442	429.31	-2.67	426.64
- 5:58	28.0	.458	444.85	-2.77	442.08
-5:58 END FLOW	0.0	.458	444.85	-2.77	442.08
- 6:01	3.0	.858	833.38	-5.19	828.19
- 6:04	6.0	.871	846.00	-5.27	840.73
- 6:07	9.0	.875	849.89	-5.30	844.59
- 6:10	12.0	.878	852.80	-5.31	847.49
- 6:13	15.0	.882	856.69	-5.34	851.35
- 6:16	18.0	.884	858.63	-5.35	853.28
- 6:19	21.0	.885	859.60	-5.36	854.25
- 6:22	24.0	.886	860.57	-5.36	855.21
- 6:25	27.0	.887	861.55	-5.37	856.18
- 6:28	30.0	.888	862.52	-5.37	857.14
-6:28 1ST SHUT-IN	0.0	.888	862.52	-5.37	857.14
-6:28 2ND FLOW	0.0	.541	525.47	-3.27	522.20
- 6:33	5.0	.546	530.33	-3.30	527.03
- 6:38	10.0	.568	551.70	-3.43	548.26
- 6:43	15.0	.595	577.92	-3.60	574.32
- 6:48	20.0	.620	602.21	-3.75	598.46
- 6:53	25.0	.649	630.37	-3.93	626.45
- 6:57	29.0	.663	643.97	-4.01	639.96
-6:57 END FLOW	0.0	.663	643.97	-4.01	639.96
- 7:00	3.0	.854	829.49	-5.17	824.32
- 7:03	6.0	.873	847.95	-5.28	842.66
- 7:06	9.0	.879	853.78	-5.32	848.46
- 7:09	12.0	.882	856.69	-5.34	851.35
- 7:12	15.0	.885	859.60	-5.36	854.25
- 7:15	18.0	.886	860.57	-5.36	855.21
- 7:18	21.0	.886	860.57	-5.36	855.21
- 7:21	24.0	.887	861.55	-5.37	856.18
- 7:24	27.0	.887	861.55	-5.37	856.18
- 7:27	30.0	.889	863.49	-5.38	858.11
- 7:30	33.0	.890	864.46	-5.39	859.07
- 7:33	36.0	.890	864.46	-5.39	859.07

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : TOMKAT LTD
 DATE OF TEST : 12-31-1991
 DEPTH : 3230.0

WELL NAME : QUATTLEBAUM #4
 LOCATION : 5-20S-9W
 SERIAL NO. : 13214

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.: 1					
- 7:36	39.0	.890	864.46	-5.39	859.07
- 7:39	42.0	.890	864.46	-5.39	859.07
- 7:42	45.0	.890	864.46	-5.39	859.07
- 7:45	48.0	.890	864.46	-5.39	859.07
- 7:48	51.0	.890	864.46	-5.39	859.07
- 7:51	54.0	.890	864.46	-5.39	859.07
- 7:54	57.0	.890	864.46	-5.39	859.07
- 7:57	60.0	.890	864.46	-5.39	859.07
-7:57 2ND SHUT-IN	0.0	.890	864.46	-5.39	859.07
-2ND HYDROSTATIC	0.0	1.617	1570.60	-15.15	1555.45

CALCULATED RECOVERY ANALYSIS

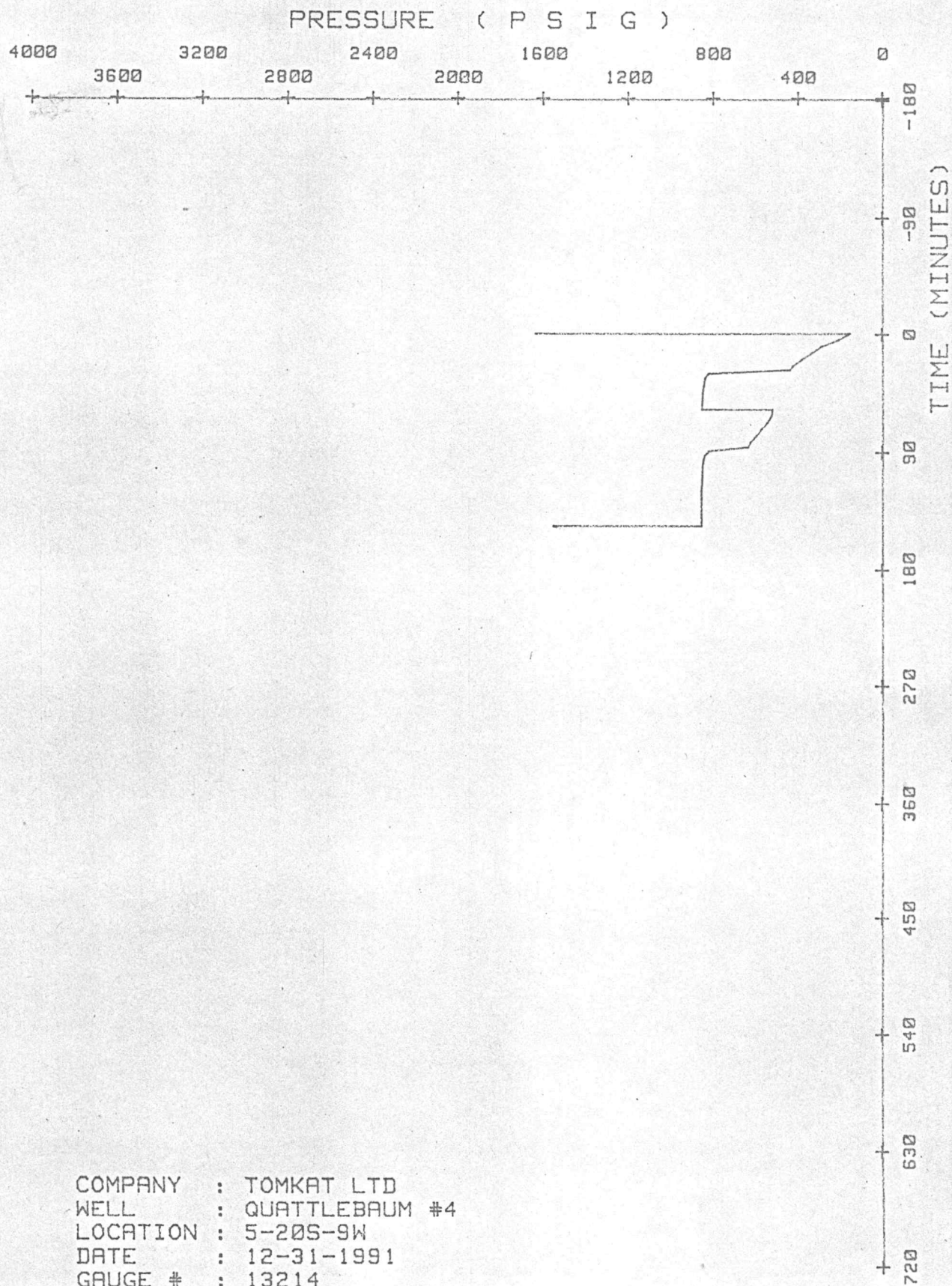
DST Number:1

Test ticket number:11747

Sample #	Total Feet	***** Gas ***** %	***** Gas ***** Feet	***** Oil ***** %	***** Oil ***** Feet	***** Mud ***** %	***** Mud ***** Feet
1	30	20.00	6.00	80.00	24.00	0.00	0.00
2	40	2.00	.80	18.00	7.20	50.00	20.00
3	60	13.00	7.80	10.00	6.00	42.00	25.20
4	120	25.00	30.00	22.00	26.40	18.00	21.60
5	120	15.00	18.00	20.00	24.00	16.00	19.20
6	60	12.00	7.20	12.00	7.20	18.00	10.80
7	180	7.00	12.60	10.00	18.00	25.00	45.00
8	120	2.00	2.40	8.00	9.60	30.00	36.00
9	240	2.00	4.80	8.00	19.20	30.00	72.00
10	180	0.00	0.00	4.00	7.20	10.00	18.00
11	300	0.00	0.00	0.00	0.00	3.00	9.00
TOTAL	1450	6.18	89.60	10.26	148.80	19.09	276.80

Sample #	Total Feet	***** WATER ***** %	***** WATER ***** Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	30	0.00	0.00	0.00	0.00	0.00
2	40	30.00	12.00	0.00	0.00	0.00
3	60	35.00	21.00	0.00	0.00	0.00
4	120	35.00	42.00	0.00	0.00	0.00
5	120	49.00	58.80	0.00	0.00	0.00
6	60	58.00	34.80	0.00	0.00	0.00
7	180	58.00	104.40	0.00	0.00	0.00
8	120	60.00	72.00	0.00	0.00	0.00
9	240	60.00	144.00	0.00	0.00	0.00
10	180	86.00	154.80	0.00	0.00	0.00
11	300	97.00	291.00	30000.00	0.00	0.00
TOTAL	1450	64.47	934.80			

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.



COMPANY : TOMKAT LTD
WELL : QUATTLEBAUM #4
LOCATION : 5-20S-9W
DATE : 12-31-1991
GAUGE # : 13214

LOCATION : 5-20S-9W

DATE : 12-31-1991

GAUGE # : 13214

Pwf 442

* Initial Shut In Extrapolated Pressure p* = 867

PRESSURE (CORRECTED, PSI)

2000
1800
1600
1400
1200
1000
800
600
400
200
0

100

10

1

TIME (MINUTES) : (T+dt)/dt - (Semi log scale)

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : TOMKAT LTD
 WELL NAME : QUATTLEBAUM #4
 LOCATION : 5-208-9W
 STATE & COUNTY : KANSAS, RICE
 DATE OF TEST : 12-31-1991
 TEST INT. KB : 3198 to 3236
 TOTAL INTERVAL (ft) K.B. : 38.00
 ELEV. (GR) : 1718 (KB) : 1723
 FIELD :

ELEMENT SERIAL NO. : 13214
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth : 3230.0 ft-kb			
-5:58 END FLOW	0.00	0.00	442.08
	3.00	10.33	828.19
	6.00	5.67	840.73
	9.00	4.11	844.59
	12.00	3.33	847.49
	15.00	2.87	851.35
	18.00	2.56	853.28
	21.00	2.33	854.25
	24.00	2.17	855.21
	27.00	2.04	856.18
	30.00	1.93	857.14
-6:28 1ST SHUT-IN	0.00	0.00	857.14

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : TOMKAT LTD
DATE OF TEST : 12-31-1991
DST. NO : 1

WELL NAME : QUATTLEBAUM #4
LOCATION : 5-20S-9W
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

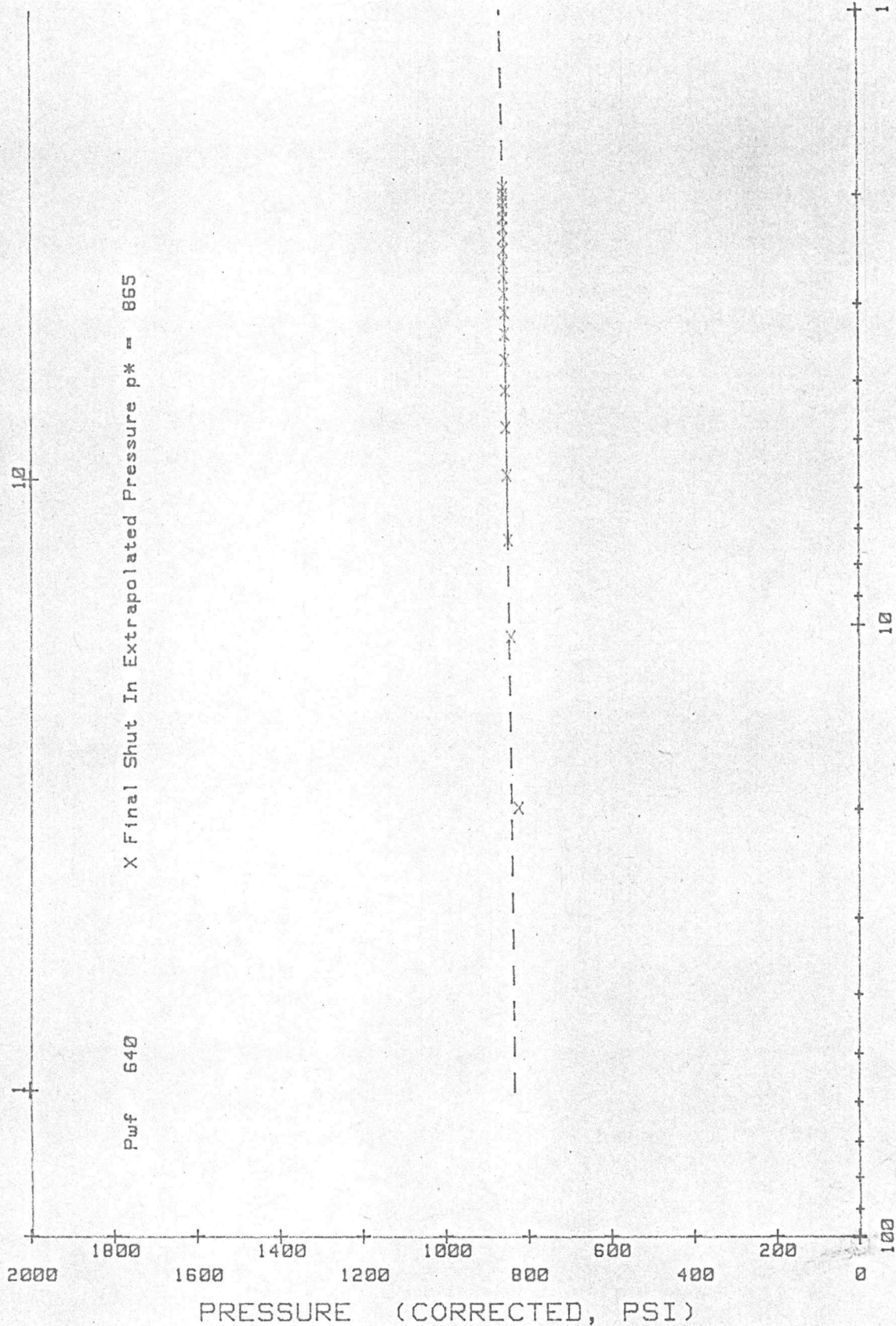
EXTRAPOLATED RESERVOIR PRESSURE (psi):	867.00
Slope of Build-up Curve (psi/log cycle):	36.31
Effective Producing Time (min):	28.00

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

GAUGE # : 13214

DATE : 12-31-1991

LOCATION : 5-205-9W



TIME (MINUTES) : (T+dt)/dt - (Semilog scale)

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : TOMKAT LTD
 WELL NAME : QUATTLEBAUM #4
 LOCATION : 5-208-9W
 STATE & COUNTY : KANSAS, RICE
 DATE OF TEST : 12-31-1991
 TEST INT. KB : 3198 to 3236
 TOTAL INTERVAL (ft) K.B. : 38.00
 ELEV. (GR) : 1718 (KB) : 1723
 FIELD :

ELEMENT SERIAL NO. : 13214
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth :	3230.0 ft-kb			
-6:57 END FLOW	0.00	0.00	639.96	
	3.00	20.00	824.32	
	6.00	10.50	842.66	
	9.00	7.33	848.46	
	12.00	5.75	851.35	
	15.00	4.80	854.25	
	18.00	4.17	855.21	
	21.00	3.71	855.21	
	24.00	3.38	856.18	
	27.00	3.11	856.18	
	30.00	2.90	858.11	
	33.00	2.73	859.07	
	36.00	2.58	859.07	
	39.00	2.46	859.07	
	42.00	2.36	859.07	
	45.00	2.27	859.07	
	48.00	2.19	859.07	
	51.00	2.12	859.07	
	54.00	2.06	859.07	
	57.00	2.00	859.07	
	60.00	1.95	859.07	
-7:57 2ND SHUT-IN	0.00	0.00	859.07	

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : TOMKAT LTD
DATE OF TEST : 12-31-1991
DST. NO : 1

WELL NAME : QUATTLEBAUM #4
LOCATION : 5-20S-9W
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	446.61
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):	37.16
Gas (md):	0.00

TOTAL MOBILITY (md/cp):	263.46
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TOTAL COMPRESSIBILITY (psi-1):	6.18E-06
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ESTIMATED DAMAGE RATIO:	2.78
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CALCULATED DAMAGE RATIO:	2.04
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Reservoir Temperature (F):	112.00
Formation Porosity :	.18
Formation Thickness (ft):	10.00
Wellbore Radius (in):	4.38
Reservoir Compressibility (psi-1):	4.80E-07
Calculated Skin Factor :	7.19

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	103.03
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PRODUCTIVITY INDEX (bbl/psi):	.22
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Final Flow Pressure (psi):	640.00
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APPROXIMATE RADIUS OF INVESTIGATION (ft):	484.12
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Total Flowing Time (min):	57.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	865.00
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Slope of Build-up Curve (psi/log cycle):	18.37
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Effective Producing Time (min):	57.00
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Production With Damage Removed (WATER).(bbl/D).....	500.09
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INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES. INC.

Static Res. pr. from FSI = 870 psi.

#4 Quattlebaum, 5-20S-9W, Arbuckle, 3198-36 DST#1, 1450' SO&GCMW

