

DST REPORT

GENERAL INFORMATION

DATE	: 7-23-95	TICKET	: 21432
CUSTOMER	: RITCHIE EXPLORATION, INC	LEASE	: KUKEN TRUST
WELL	: #1	TEST: 1	GEOLOGIST: CHRISTIAN
ELEVATION	: 2295 GR	FORMATION	: L. KANSAS CITY "A"
SECTION	: 23	TOWNSHIP	: 5
RANGE	: 23W	COUNTY: NORTON	STATE : KS
GAUGE SN#	: 13760	RANGE : 3950	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	3476.00 ft	TO:	3500.00 ft	TVD:	3500.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	3479.0 ft		3482.0 ft		
TEMPERATURE:	96.0				
DRILL COLLAR LENGTH:	0.0 ft	I.D.:	0.000 in		
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in		
DRILL PIPE LENGTH :	3456.0 ft	I.D.:	3.800 in		
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :	5.500 in		
ANCHOR LENGTH :	24.0 ft	ANCHOR SIZE:	5.500 in		
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in		
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH		
PACKER DEPTH:	3471.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	3476.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		

MUD INFORMATION

DRILLING CON. :	WHITE & ELLIS #9	VISCOSITY :	42.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	9.200 cc
WEIGHT :	9.300 ppg		
CHLORIDES :	1000 ppm	SERIAL NUMBER:	
JARS-MAKE :		REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD-OPENED TO WEAK BLOW-INCREASED
TO 5 INCHES IN WATER. FINAL FLOW PERIOD-WEAK
BLOW-3 INCHES IN WATER.

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

RECORDER #10330 JAMMED.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
180.0	0.0	0.0	50.0	50.0	WATERY MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB		
GAS VOLUME:	0.0000	SCF		
MUD VOLUME:	1.2624	STB		
WATER VOLUME:	1.2624	STB		
TOTAL FLUID :	2.5247	STB		
			TOTAL FLOW TIME:	55.0000 min.
			AVERAGE OIL RATE:	0.0000 STB/D
			AVERAGE WATER RATE:	66.1024 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1711.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	48.00	48.00
INITIAL SHUT-IN	45.00		1230.00
FINAL FLOW	30.00	87.00	87.00
FINAL SHUT-IN	45.00		1190.00

FINAL HYDROSTATIC PRESSURE: 1633.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1765.00

Description	Duration	p1	p End
INITIAL FLOW	25.00	94.00	65.00
INITIAL SHUT-IN	48.00		1238.00
FINAL FLOW	30.00	136.00	104.00
FINAL SHUT-IN	45.00		1204.00
FINAL HYDROSTATIC PRESSURE:	1696.00		

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 7-23-95	TICKET : 21432
CUSTOMER : RITCHIE EXPLORATION, INC	LEASE : KUKEN TRUST
WELL : #1 TEST: 1	GEOLOGIST: CHRISTIAN
ELEVATION: 2295 GR	FORMATION: L. KANSAS CITY "A"
SECTION : 23	TOWNSHIP : 5
RANGE : 23W COUNTY: NORTON	STATE : KS
GAUGE SN#: 13760 RANGE : 3950	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	94.00	94.00
5.00	66.00	-28.00
10.00	61.00	-5.00
15.00	64.00	3.00
20.00	65.00	1.00
25.00	65.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	135.00	135.00	0.00
6.00	908.00	773.00	0.00
9.00	1035.00	127.00	0.00
12.00	1083.00	48.00	0.00
15.00	1114.00	31.00	0.00
18.00	1138.00	24.00	0.00
21.00	1160.00	22.00	0.00
24.00	1175.00	15.00	0.00
27.00	1187.00	12.00	0.00
30.00	1198.00	11.00	0.00
33.00	1206.00	8.00	0.00
36.00	1216.00	10.00	0.00
39.00	1222.00	6.00	0.00
42.00	1229.00	7.00	0.00
45.00	1234.00	5.00	0.00
48.00	1238.00	4.00	0.00

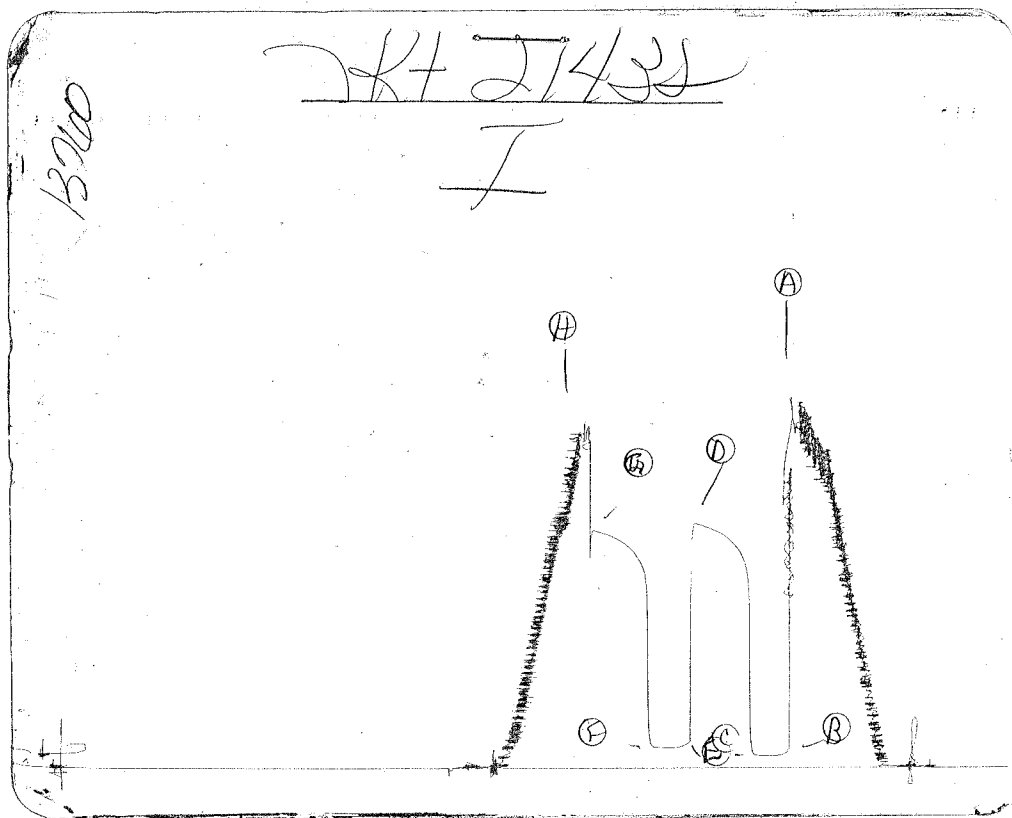
PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

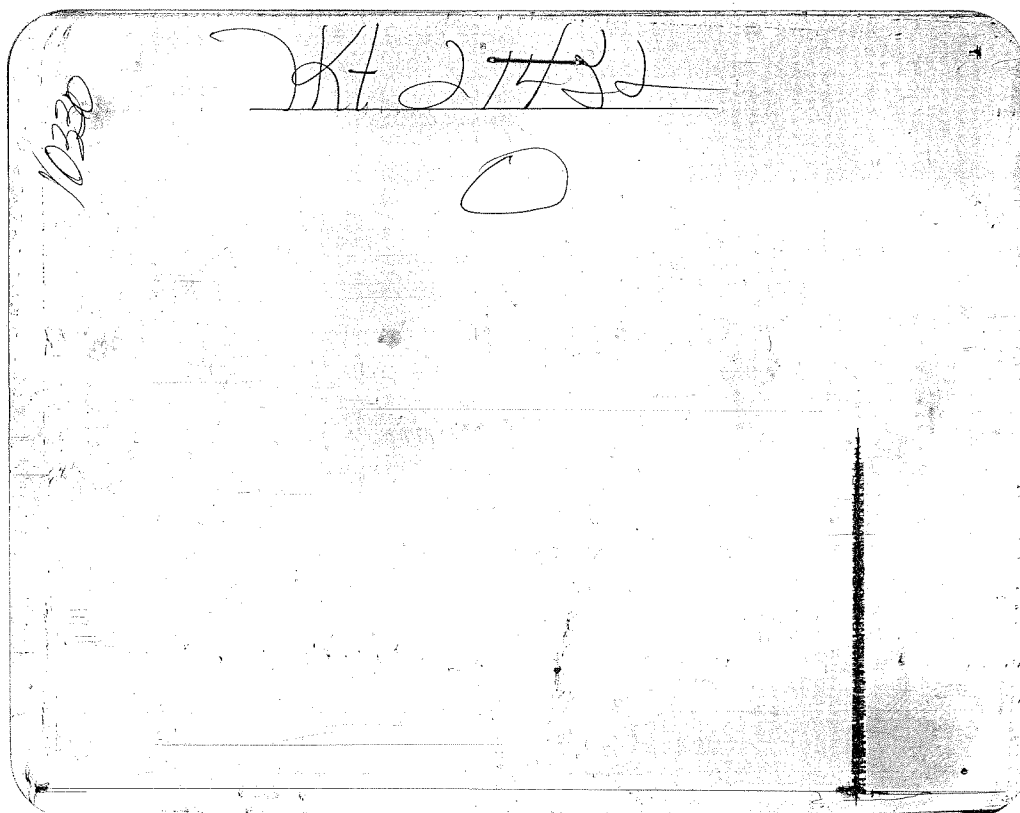
Time (min)	Pressure	Delta P
0.00	136.00	136.00
5.00	114.00	-22.00
10.00	104.00	-10.00
15.00	104.00	0.00
20.00	104.00	0.00
25.00	104.00	0.00
30.00	104.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	178.00	178.00	0.00
6.00	957.00	779.00	0.00
9.00	1030.00	73.00	0.00
12.00	1067.00	37.00	0.00
15.00	1097.00	30.00	0.00
18.00	1118.00	21.00	0.00
21.00	1134.00	16.00	0.00
24.00	1152.00	18.00	0.00
27.00	1159.00	7.00	0.00
30.00	1171.00	12.00	0.00
33.00	1177.00	6.00	0.00
36.00	1186.00	9.00	0.00
39.00	1194.00	8.00	0.00
42.00	1199.00	5.00	0.00
45.00	1204.00	5.00	0.00



Inside Recorder



DST REPORT

GENERAL INFORMATION

DATE : 7/24/95	TICKET : 21587
CUSTOMER : RITCHIE EXPLORATION, INC.	LEASE : KUKEN TRUST
WELL : #1 TEST: 2	GEOLOGIST: CHRISTIAN
ELEVATION: 2295 GR	FORMATION: L KANSAS CITY D,E,F
SECTION : 23	TOWNSHIP : 5S
RANGE : 23W COUNTY: NORTON	STATE : KS
GAUGE SN#: 13400 RANGE : 3950	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3520.00 ft TO: 3562.00 ft TVD: 3562.0 ft
 DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
 DEPTH OF RECORDERS: 3523.0 ft 3559.0 ft
 TEMPERATURE: 109.0

DRILL COLLAR LENGTH: 0.0 ft	I.D.: 0.000 in
WEIGHT PIPE LENGTH : 0.0 ft	I.D.: 0.000 in
DRILL PIPE LENGTH : 3505.0 ft	I.D.: 3.800 in
TEST TOOL LENGTH : 15.0 ft	TOOL SIZE : 5.500 in
ANCHOR LENGTH : 42.0 ft	ANCHOR SIZE: 5.500 in
SURFACE CHOKE SIZE : 0.750 in	BOTTOM CHOKE SIZE: 0.750 in
MAIN HOLE SIZE : 7.875 in	TOOL JOINT SIZE : 4.5XH
PACKER DEPTH: 3520.0 ft	SIZE: 6.750 in
PACKER DEPTH: 0.0 ft	SIZE: 0.000 in
PACKER DEPTH: 0.0 ft	SIZE: 0.000 in
PACKER DEPTH: 0.0 ft	SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : WHITE & ELLIS RIG 9	VISCOSITY : 45.00 cp
MUD TYPE : CHEMICAL	WATER LOSS: 9.600 cc
WEIGHT : 9.400 ppg	SERIAL NUMBER:
CHLORIDES : 1200 ppm	REVERSED OUT?: NO
JARS-MAKE :	
DID WELL FLOW?: NO	

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW - BOTTOM OF BUCKET
 IN 6 MINUTES. FINAL FLOW PERIOD STRONG BLOW-
 BOTTOM OF BUCKET IN 5 MINUTES.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
45.0	100.0	0.0	0.0	0.0	OIL 32 GRAVITY @ 60 DEG MUD CUT OIL WATER CUT OIL
240.0	80.0	0.0	0.0	20.0	
180.0	92.0	0.0	8.0	0.0	

RATE INFORMATION

OIL VOLUME:	5.6470 STB	
GAS VOLUME:	0.0000 SCF	
MUD VOLUME:	0.6733 STB	
WATER VOLUME:	0.2020 STB	
TOTAL FLUID :	6.5223 STB	
		TOTAL FLOW TIME: 60.0000 min.
		AVERAGE OIL RATE: 151.6866 STB/D
		AVERAGE WATER RATE: 4.8475 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1741.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	68.00	126.00
INITIAL SHUT-IN	45.00		1220.00
FINAL FLOW	30.00	156.00	195.00
FINAL SHUT-IN	45.00		1171.00

FINAL HYDROSTATIC PRESSURE: 1741.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1792.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	89.00	116.00
INITIAL SHUT-IN	45.00		1212.00
FINAL FLOW	30.00	164.00	184.00
FINAL SHUT-IN	45.00		1169.00

FINAL HYDROSTATIC PRESSURE: 1749.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 7/24/95 CUSTOMER : RITCHIE EXPLORATION, INC. WELL : #1 TEST: 2 ELEVATION: 2295 GR SECTION : 23 RANGE : 23W COUNTY: NORTON GAUGE SN#: 13400 RANGE : 3950	TICKET : 21587 LEASE : KUKEN TRUST GEOLOGIST: CHRISTIAN FORMATION: L KANSAS CITY D,E,F TOWNSHIP : 5S STATE : KS CLOCK : 12
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INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	89.00	89.00
5.00	89.00	0.00
10.00	89.00	0.00
15.00	94.00	5.00
20.00	102.00	8.00
25.00	106.00	4.00
30.00	116.00	10.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	592.00	592.00	11.00
6.00	925.00	333.00	6.00
9.00	997.00	72.00	4.33
12.00	1050.00	53.00	3.50
15.00	1082.00	32.00	3.00
18.00	1111.00	29.00	2.67
21.00	1121.00	10.00	2.43
24.00	1144.00	23.00	2.25
27.00	1158.00	14.00	2.11
30.00	1169.00	11.00	2.00
33.00	1181.00	12.00	1.91
36.00	1189.00	8.00	1.83
39.00	1199.00	10.00	1.77
42.00	1205.00	6.00	1.71
45.00	1212.00	7.00	1.67

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	164.00	164.00
5.00	164.00	0.00
10.00	164.00	0.00
15.00	172.00	8.00
20.00	176.00	4.00
25.00	180.00	4.00
30.00	184.00	4.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	719.00	719.00	11.00
6.00	925.00	206.00	6.00
9.00	984.00	59.00	4.33
12.00	1019.00	35.00	3.50
15.00	1048.00	29.00	3.00
18.00	1078.00	30.00	2.67
21.00	1093.00	15.00	2.43
24.00	1107.00	14.00	2.25
27.00	1121.00	14.00	2.11
30.00	1130.00	9.00	2.00
33.00	1140.00	10.00	1.91
36.00	1150.00	10.00	1.83
39.00	1158.00	8.00	1.77
42.00	1164.00	6.00	1.71
45.00	1169.00	5.00	1.67

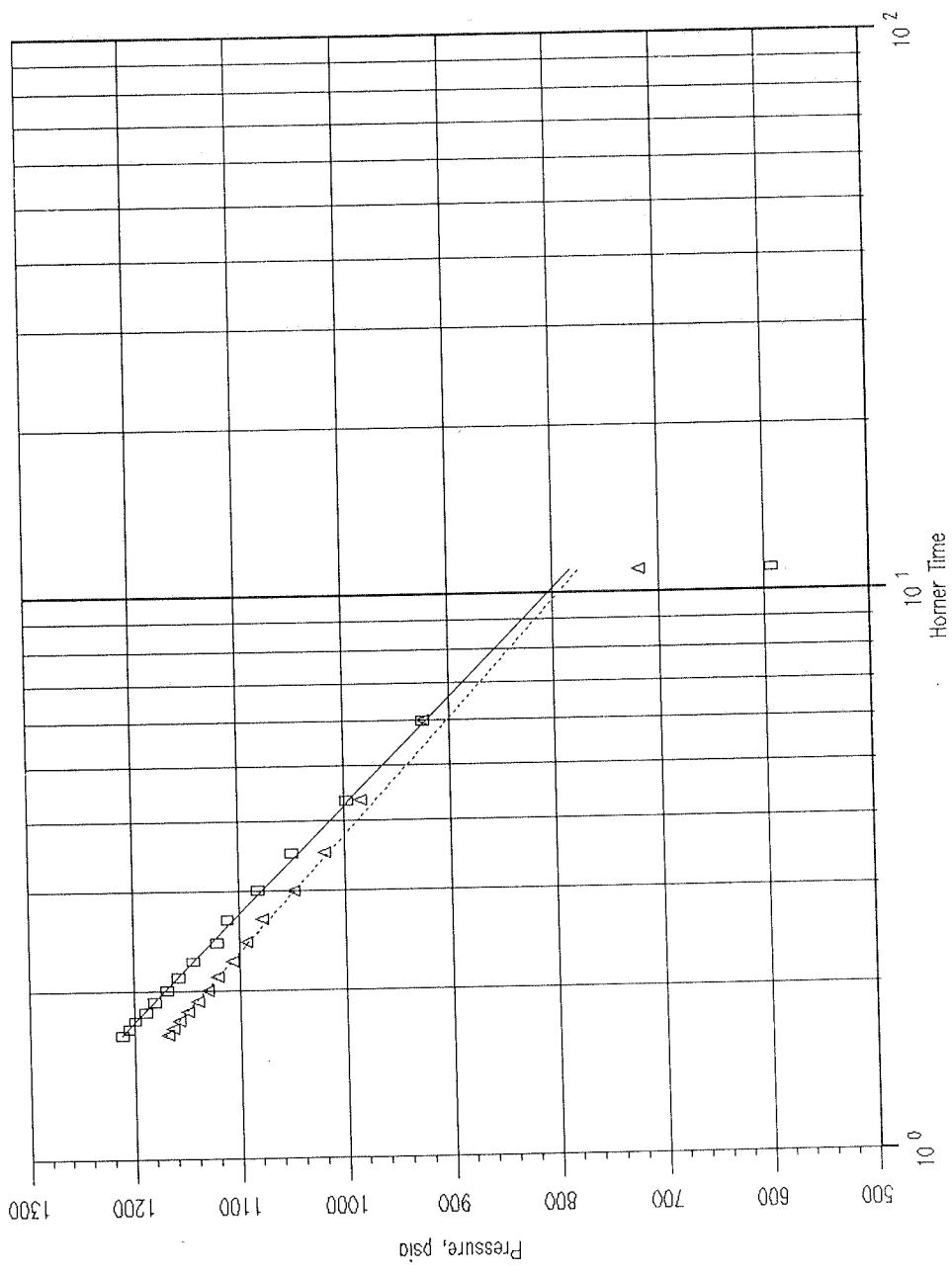
DATE 7/24/95
 CUSTOMER RITCHIE EXPLORATION, INC.
 WELL #1
 ELEVATION 2295 GR
 SECTION 23
 RANGE 23W
 GAUGE SN# 13400

TEST 2

COUNTY NORTON
 RANGE 3950

TICKET 21587
 LEASE KUKEN TRUST
 GEOLOGIST CHRISTIAN
 FORMATION L KANSAS CITY D,E,F
 TOWNSHIP 5S
 STATE KS
 CLOCK 12

Horner Plot



Result

	#1	#2
tp, hrs	0.50	0.50
Slope	-523.64	-481.34
Pstar, psig	1327.79	1276.28
P1hr, psig	1235.59	1191.52
Skin	-1.00	-1.09
k, md	30.59	33.28
kh/u, md-ft/cp	51.86	56.42
ri, ft	17.09	17.82
DR, %	0.61	0.60
Drawdown Factor, %		3.548
Drawdown P*, %		3.880

— BUILD 1
 BUILD 2

HORNER ANALYSIS REPORT

GENERAL INFORMATION

DATE : 7/24/95	TICKET : 21587
CUSTOMER : RITCHIE EXPLORATION, INC.	LEASE : KUKEN TRUST
WELL : #1 TEST: 2	GEOLOGIST: CHRISTIAN
ELEVATION: 2295 GR	FORMATION: L KANSAS CITY D,E,F
SECTION : 23	TOWNSHIP : 5S
RANGE : 23W COUNTY: NORTON	STATE : KS
GAUGE SN#: 13400 RANGE : 3950	CLOCK : 12

Input Data

Porosity 0.100 Rw: 0.328 ft h: 4.000 ft

qo 151.7 STB GOR 221.9 SCF/STB

Pvt Data

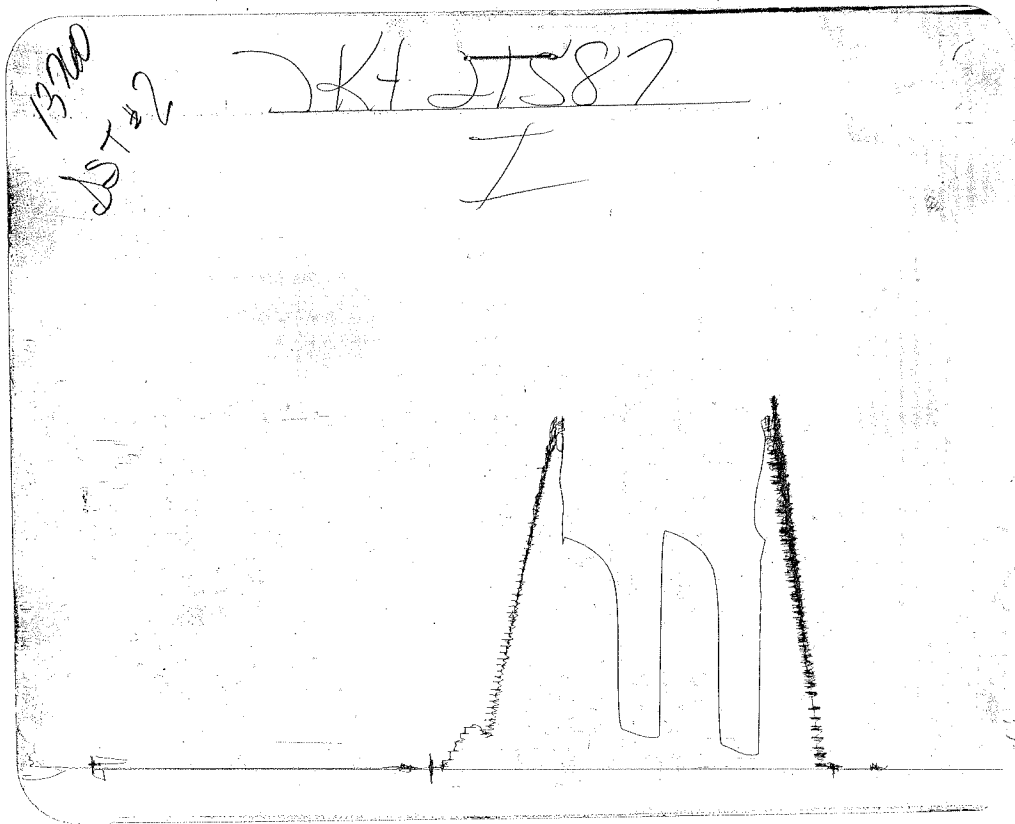
Evalutation Pressure : 1212.0

Evalutation Temperature: 109.0

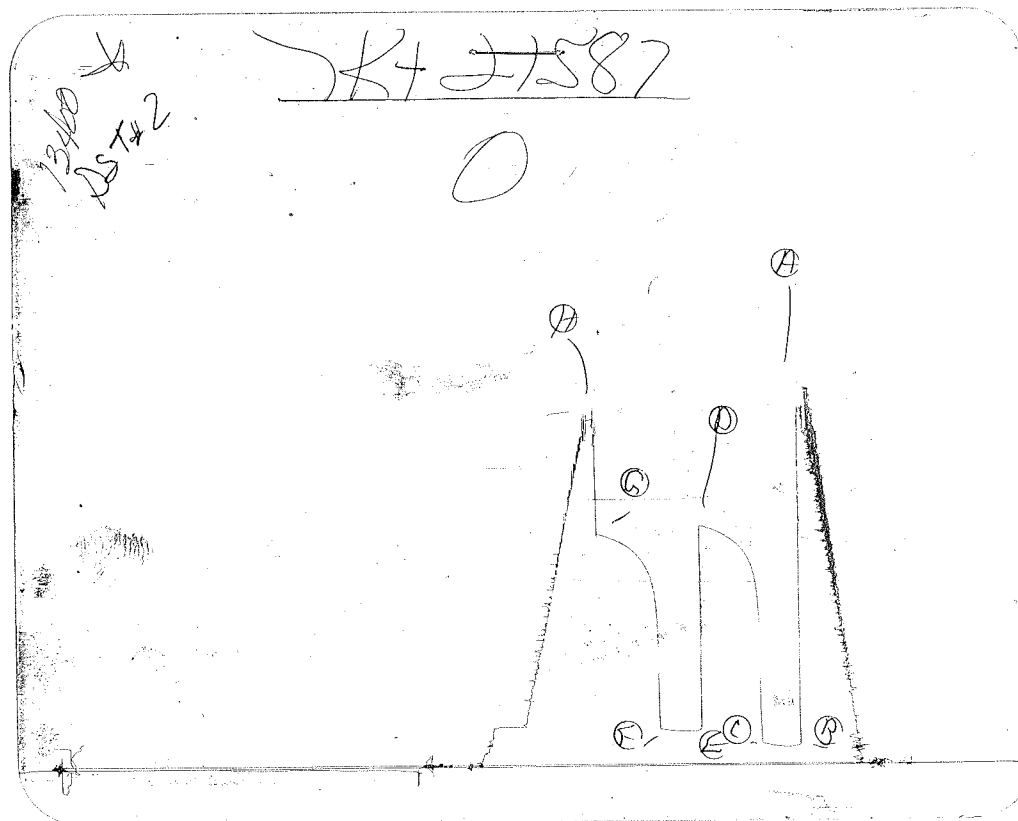
Oil Grav 30.00 API	Gas Grav 0.65 API	Pb 1212.00 PSIA
Bo 1.101 RBL/STB	Vis 1.000 cp	Ct 2.3425E-004 1/PSI

Horner Results

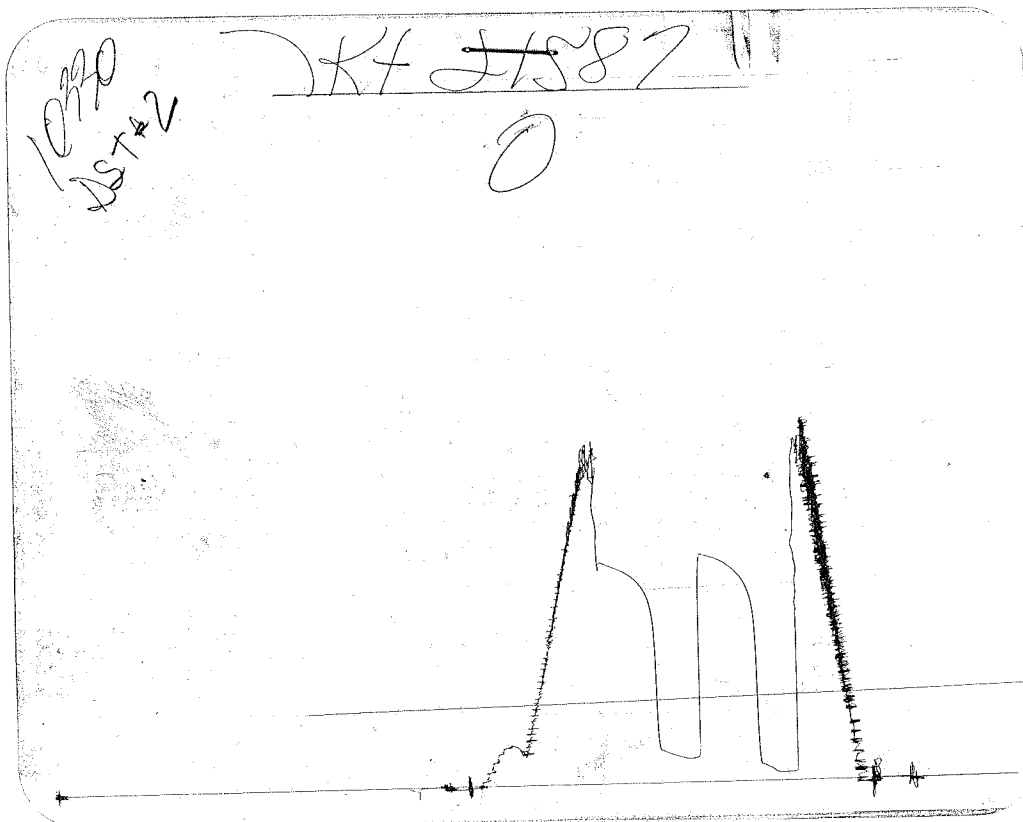
	Inital Shut-In	Final Shut-In
pseudo pressure time	0.50 hrs	0.50 hrs
slope	-523.64	-481.34
pstar	1327.79 psig	1276.28 psig
plhr	1235.59 psig	1191.52 psig
skin	-1.00	-1.09
permeability	30.59 md	33.28 md
transmisability	51.86 md-ft/cp	56.42 md-ft/cp
radius of investigation	17.09 ft	17.82 ft
Damage-Ratio	0.61 percent	0.6 percent
Drawdown Factor		3.548 percent
Drawdown P*		3.880 percent



Inside Recorder



Inside Recorder



Outside Recorder

DST REPORT

GENERAL INFORMATION

DATE : 7-25-95
CUSTOMER : RITCHIE EXPLORATION, INC
WELL : #1 TEST: 3
ELEVATION: 2295 GR
SECTION : 23
RANGE : 23W COUNTY: NORTON
GAUGE SN#: 13760 RANGE : 3950

TICKET : 21434
LEASE : KUKEN TRUST
GEOLOGIST: CHRISTIAN
FORMATION: L. KANSAS CITY "I-J"
TOWNSHIP : 5
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3582.00 ft TO: 3640.00 ft TVD: 3640.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 3585.0 ft 3588.0 ft
TEMPERATURE: 96.0

DRILL COLLAR LENGTH:	0.0 ft	I.D.:	0.000 in
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in
DRILL PIPE LENGTH :	3562.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	58.0 ft	ANCHOR SIZE:	5.500 in
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH
PACKER DEPTH:	3577.0 ft	SIZE:	6.630 in
PACKER DEPTH:	3582.0 ft	SIZE:	6.630 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in

MUD INFORMATION

DRILLING CON. : WHITE & ELLIS #9
MUD TYPE : CHEMICAL
WEIGHT : 9.400 ppg
CHLORIDES : 1350 ppm
JARS-MAKE :
DID WELL FLOW?: NO

VISCOSITY : 44.00 cp
WATER LOSS: 9.800 cc

SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD-WEAK BLOW-DIED IN 20 MINUTES.
FINAL FLOW PERIOD-NOW BLOW.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
5.0	0.0	0.0	0.0	100.0	MUD TO FEW OIL SPOTS-OIL
0.0	0.0	0.0	0.0	0.0	LESS THAN 1%

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	60.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	0.0701	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.0701	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1897.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	58.00	58.00
INITIAL SHUT-IN	30.00		116.00
FINAL FLOW	30.00	58.00	58.00
FINAL SHUT-IN	30.00		67.00

FINAL HYDROSTATIC PRESSURE: 1778.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1901.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	95.00	72.00
INITIAL SHUT-IN	24.00		120.00
FINAL FLOW	30.00	67.00	67.00
FINAL SHUT-IN	74.00		0.00

FINAL HYDROSTATIC PRESSURE: 1790.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 7-25-95	TICKET	: 21434
CUSTOMER	: RITCHIE EXPLORATION, INC	LEASE	: KUKEN TRUST
WELL	: #1	TEST: 3	GEOLOGIST: CHRISTIAN
ELEVATION:	2295 GR	FORMATION:	L. KANSAS CITY "I-J"
SECTION	: 23	TOWNSHIP	: 5
RANGE	: 23W	COUNTY:	NORTON
GAUGE SN#:	13760	RANGE	: 3950
		STATE	: KS
		CLOCK	: 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	95.00	95.00
5.00	79.00	-16.00
10.00	74.00	-5.00
15.00	72.00	-2.00
20.00	72.00	0.00
25.00	72.00	0.00
30.00	72.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	73.00	73.00	0.00
6.00	74.00	1.00	0.00
9.00	77.00	3.00	0.00
12.00	79.00	2.00	0.00
15.00	85.00	6.00	0.00
18.00	95.00	10.00	0.00
21.00	108.00	13.00	0.00
24.00	120.00	12.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	67.00	67.00
5.00	67.00	0.00
10.00	67.00	0.00

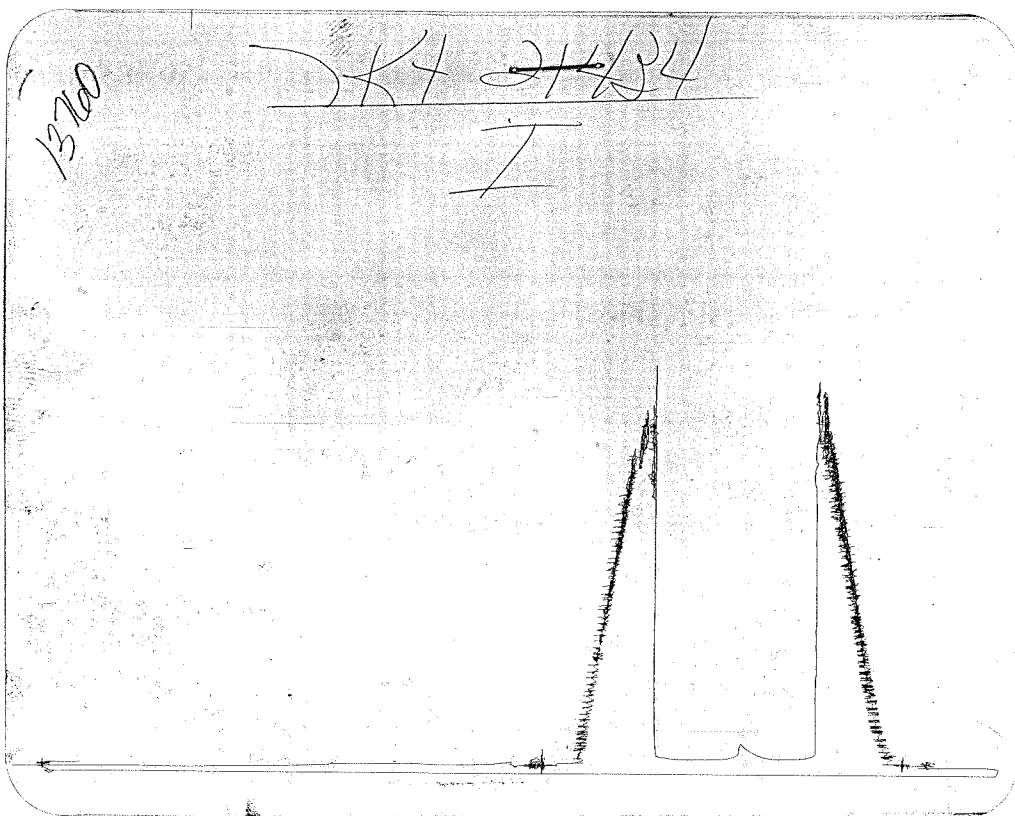
PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

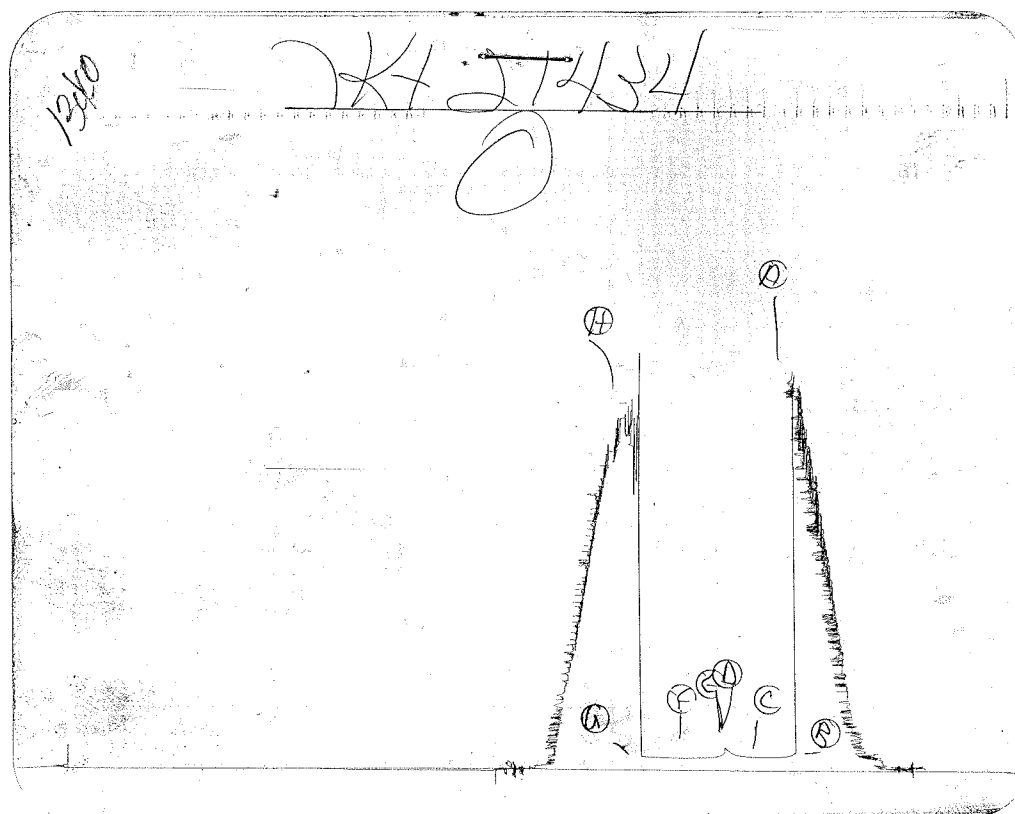
Time (min)	Pressure	Delta P
15.00	67.00	0.00
20.00	67.00	0.00
25.00	67.00	0.00
30.00	67.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	67.00	67.00	0.00
6.00	67.00	0.00	0.00
9.00	67.00	0.00	0.00
12.00	67.00	0.00	0.00
15.00	67.00	0.00	0.00
18.00	67.00	0.00	0.00
21.00	69.00	2.00	0.00
24.00	71.00	2.00	0.00
27.00	72.00	1.00	0.00
30.00	73.00	1.00	0.00
33.00	74.00	1.00	0.00
36.00	0.00	-74.00	0.00
39.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00
45.00	0.00	0.00	0.00
48.00	0.00	0.00	0.00
51.00	0.00	0.00	0.00
54.00	0.00	0.00	0.00
57.00	0.00	0.00	0.00
60.00	0.00	0.00	0.00
63.00	0.00	0.00	0.00
66.00	0.00	0.00	0.00
69.00	0.00	0.00	0.00
72.00	0.00	0.00	0.00
75.00	0.00	0.00	0.00



Inside Recorder



Inside Recorder

