

WESTERN TESING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE: 10/21/83  
CUSTOMER: A.P.C.  
WELL: 1  
ELEVATION (KB): 0  
SECTION: 17  
RANGE: 6W  
GAUGE SN #13547

TEST: 1  
FORMATION: MISSISSIPPI  
TOWNSHIP: 28S  
COUNTY: KINGMAN  
RANGE: 4225

TICKET #1791  
LEASE: GREENLEAF TRUST  
GEOLOGIST: P. HARGIS  
STATE: KANSAS  
CLOCK: 12

INTERVAL TEST FROM: 3844 FT TO: 3858 FT TOTAL DEPTH: 3858 FT  
DEPTH OF SELECTIVE ZONE: FT  
PACKER DEPTH: 3839 FT SIZE: 6 5/8 IN PACKER DEPTH: 3844 FT SIZE: 6 5/8 IN  
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: HEARTLAND RIG 1  
MUD TYPE: CHEM VISCOSITY: 41  
WEIGHT: 9.3 WATER LOSS (CC): 16.8  
CHLORIDES (P.P.M.): 8000

JARS - MAKE: SERIAL NUMBER:  
DID WELL FLOW? NO REVERSED OUT? NO  
DRILL COLLAR LENGTH: 458 FT I.D.: 2 1/4 IN  
WEIGHT PIPE LENGTH: FT I.D.: IN  
DRILL PIPE LENGTH: 3362 FT I.D.: 3.8 IN  
TEST TOOL LENGTH: 24 FT TOOL SIZE: 5 1/2 O.D. IN  
ANCHOR LENGTH: 14 FT SIZE: 5 1/2 O.D. IN  
SURFACE CHOKE SIZE: 3/4 IN BOTTOM CHOKE SIZE: 3/4 IN  
MAIN HOLE SIZE: 7 7/8 IN TOOL JOINT SIZE: 4 1/2 FH IN

BLOW: BOTH INITIAL & FINAL FLOW PERIODS  
WITH STRONG BLOWS THROUGHOUT.  
GAS TO SURFACE IN 15 MINUTES  
ON PREFLOW.

RECOVERED: 70 FT OF: GAS CUT WATERY MUD.  
RECOVERED: 540 FT OF: GASSY SALT WATER; 86000 CHLORIDES P.P.M.  
RECOVERED: FT OF:  
RECOVERED: FT OF:  
RECOVERED: FT OF:  
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RECOVERED: FT OF:  
RECOVERED: FT OF:  
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RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 7:40 A.M. TIME STARTED OFF BOTTOM: 12:10 P.M.  
WELL TEMPERATURE: 118 °F  
INITIAL HYDROSTATIC PRESSURE: (A) 1897 PSI  
INITIAL FLOW PERIOD MIN: 30 (B) 98 PSI TO (C) 133 PSI  
INITIAL CLOSED IN PERIOD MIN: 60 (D) 1425 PSI  
FINAL FLOW PERIOD MIN: 85 (E) 167 PSI TO (F) 265 PSI  
FINAL CLOSED IN PERIOD MIN: 87 (G) 1368 PSI  
FINAL HYDROSTATIC PRESSURE (H) 1773 PSI



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GAS FLOW REPORT

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GAUGE SN #13547

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TIME GAUGE (MIN)	TESTER TYPE	ORIFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
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PRE FLOW

15	MERLA			GAS TO SURFACE IN 15 MINUTES.
20		3/4"	10" WTR	44800 CFPD
30		3/4"	12" WTR	49300

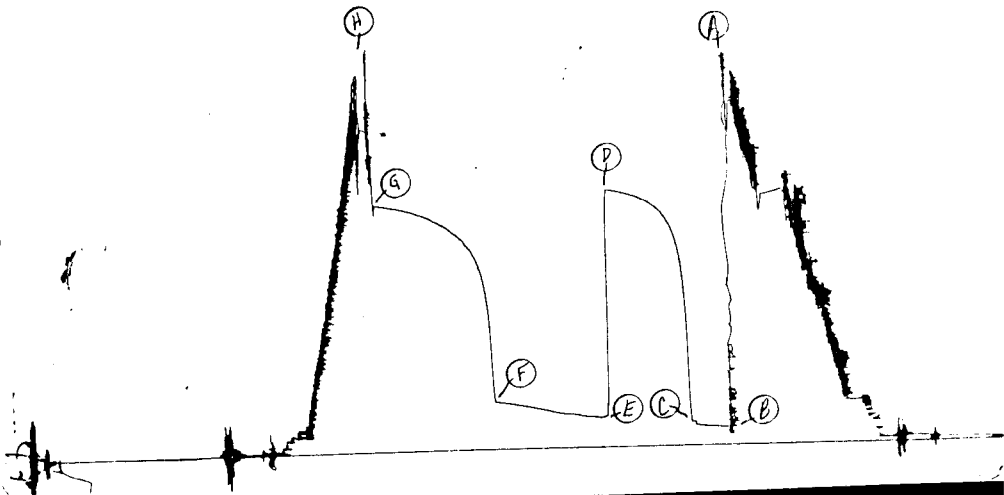
SECOND FLOW

5	MERLA	3/4"	30" WTR	77800 CFPD
10		3/4"	19" WTR	61900 CFPD
20		3/4"	15" WTR	55200 CFPD
30		3/4"	13" WTR	51400 CFPD
40		3/4"	13" WTR	51400 CFPD
50		3/4"	13" WTR	51400 CFPD
60		3/4"	12" WTR	49300 CFPD
70		3/4"	12" WTR	49300 CFPD
80		3/4"	11" WTR	47200 CFPD
90		3/4"	11" WTR	47200 CFPD

GAS BOTTLE SN #:  
DATE BOTTLE FILLED:  
DATE TO BE INVOICED:

TXT #1791

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WESTERN TESTING CO., INC.
FORMATION TESTING

OK

TICKET N° 1791

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

Elevation \_\_\_\_\_ Formation Miss Eff. Pay \_\_\_\_\_ Ft.

District Pratt Date 10/21/83 Customer Order No. \_\_\_\_\_

COMPANY NAME A.P.C.

ADDRESS One Main Place Suite 600 Wichita, Ks 67202-1399

LEASE AND WELL NO Greenleaf Trust #1 COUNTY Kingman STATE Ks Sec. 17 Twp. 28 Rge. 6W

Mail Invoice To Same #1 GREENLEAF TRUST No. Copies Requested 5

Co. Name Address No. Copies Requested 5

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. Interval Tested From 3844 ft. to 3858 ft. Total Depth 3858 ft.

Packer Depth 3839 ft. Size 6 7/8 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.

Packer Depth 3844 ft. Size 6 7/8 in. Packer Depth \_\_\_\_\_ ft. Size \_\_\_\_\_ in.

Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3847 ft. Recorder Number 13547 Cap. 4225

Bottom Recorder Depth (Outside) 3850 ft. Recorder Number 13552 Cap. 4050

Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_

Drilling Contractor Heartland Rig #1 Drill Collar Length 458 I. D. 2 7/4 in.

Mud Type Chemical Viscosity 41 Weight Pipe Length \_\_\_\_\_ I. D. \_\_\_\_\_ in.

Weight 9.3 Water Loss 16.8 cc. Drill Pipe Length 3362 I. D. 3.8 in.

Chlorides 8,000 P.P.M. Test Tool Length 24 ft. Tool Size 5/200 in.

Jars: Make \_\_\_\_\_ Serial Number \_\_\_\_\_ Anchor Length 14 ft. Size 5/200 in.

Did Well Flow? Yes Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 1 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Strong blow throughout flow periods

Gas to surface in 15 min on preflow

Recovered 70 ft. of Gas Cut Watery Mud

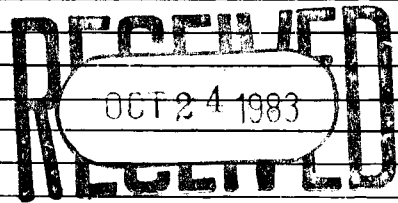
Recovered 540 ft. of Gassy Salt Water

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Chlorides 86,000 P.P.M. Sample Jars used \_\_\_\_\_ Remarks: \_\_\_\_\_



Time On Location 3:30 A.M. Time Pick Up Tool 5:30 P.M. Time Off Location 2:30 P.M.

Time Set Packer(s) 7:40 A.M. Time Started Off Bottom 12:10 P.M. Maximum Temperature 118°

Initial Hydrostatic Pressure (A) 1882 P.S.I.

Initial Flow Period Minutes 30 (B) 95 P.S.I. to (C) 116 P.S.I.

Initial Closed In Period Minutes 60 (D) 1420 P.S.I.

Final Flow Period Minutes 90 (E) 158 P.S.I. to (F) 264 P.S.I.

Final Closed In Period Minutes 90 (G) 1367 P.S.I.

Final Hydrostatic Pressure (H) 1861 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages 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, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Phil Hargis Hargis Signature of Customer or his authorized representative

Western Representative Jim Worch Thank You

FIELD INVOICE

Table with 2 columns: Item and Amount. Items include Open Hole Test (\$1550.00), Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, Insurance, Telecopier, and TOTAL (\$615.00).



**Nº 3656**

**GAS FLOW REPORT**

Date 10/21/83 Ticket 1791 Company A.P.C.  
 Well Name and No. Greenleaf Trust #1 Dst No. 1 Interval Tested 3844-3858  
 County Kingman State KS Sec. 17 Twp. 28 Rg. 6

Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	Size of Orifice	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	Description of Flow
<b>PRE FLOW</b>					
20	10 H <sub>2</sub> O	3/4"			Gas to surface in 15 min ok 44,800 C.F.P.D
30	12"	"			ok 49,300 "

**SECOND FLOW**

5	30 H <sub>2</sub> O	3/4"			ok 77,800 C.F.P.D
10	19"	"			ok 61,900 "
20	15"	"			ok 55,200 "
30	13"	"			ok 51,400 "
40	"	"			" "
50	"	"			" "
60	12"	"			ok 49,300 "
70	"	"			" "
80	11"	"			ok 47,200 "
90	"	"			" "

**GAS BOTTLE**

Serial No. \_\_\_\_\_ Date Bottle Filled \_\_\_\_\_ Date to be Invoiced \_\_\_\_\_

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1 1/2% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME \_\_\_\_\_

Authorized by \_\_\_\_\_

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 10-21 Test Ticket No. 1791  
 Recorder No. 13547 Capacity \_\_\_\_\_ Location \_\_\_\_\_ Ft.  
 Clock No. \_\_\_\_\_ Elevation \_\_\_\_\_ Well Temperature \_\_\_\_\_ °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1897</u> P.S.I.	_____ M	_____	_____
B First Initial Flow Pressure	<u>98</u> P.S.I.	First Flow Pressure	_____ Mins.	_____ Mins.
C First Final Flow Pressure	<u>133</u> P.S.I.	Initial Closed-in Pressure	_____ Mins.	_____ Mins.
D Initial Closed-in Pressure	<u>1425</u> P.S.I.	Second Flow Pressure	_____ Mins.	_____ Mins.
E Second Initial Flow Pressure	<u>167</u> P.S.I.	Final Closed-in Pressure	_____ Mins.	_____ Mins.
F Second Final Flow Pressure	<u>265</u> P.S.I.			
G Final Closed-in Pressure	<u>1368</u> P.S.I.			
H Final Hydrostatic Mud	<u>1773</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 7 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Initial Shut-In**  
 Breakdown: 21 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

**Second Flow Pressure**  
 Breakdown: 18 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Final Shut-In**  
 Breakdown: 30 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	<u>98</u>	0	<u>133</u>	0	<u>167</u>	0	<u>265</u>
P 2 5	<u>101</u>	3	<u>925</u>	5	<u>167</u>	3	<u>752</u>
P 3 10	<u>105</u>	6	<u>1074</u>	10	<u>172</u>	6	<u>915</u>
P 4 15	<u>107</u>	9	<u>1164</u>	15	<u>175</u>	9	<u>1002</u>
P 5 20	<u>111</u>	12	<u>1223</u>	20	<u>182</u>	12	<u>1063</u>
P 6 25	<u>117</u>	15	<u>1261</u>	25	<u>187</u>	15	<u>1102</u>
P 7 30	<u>133</u>	18	<u>1292</u>	30	<u>191</u>	18	<u>1130</u>
P 8 35		21	<u>1317</u>	35	<u>196</u>	21	<u>1162</u>
P 9 40		24	<u>1336</u>	40	<u>203</u>	24	<u>1183</u>
P10 45		27	<u>1350</u>	45	<u>213</u>	27	<u>1202</u>
P11 50		30	<u>1363</u>	50	<u>220</u>	30	<u>1216</u>
P12 55		33	<u>1374</u>	55	<u>229</u>	33	<u>1237</u>
P13 60		36	<u>1383</u>	60	<u>236</u>	36	<u>1252</u>
P14		39	<u>1392</u>	65	<u>244</u>	39	<u>1265</u>
P15		42	<u>1398</u>	70	<u>251</u>	42	<u>1273</u>
P16		45	<u>1405</u>	75	<u>257</u>	45	<u>1286</u>
P17		48	<u>1411</u>	80	<u>263</u>	48	<u>1297</u>
P18		51	<u>1416</u>	85	<u>265</u>	51	<u>1307</u>
P19		54	<u>1420</u>			54	<u>1313</u>
P20		57	<u>1423</u>			57	<u>1323</u>
		60	<u>1425</u>			60	<u>1329</u>

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date \_\_\_\_\_ Test Ticket No. \_\_\_\_\_

Recorder No. \_\_\_\_\_ Capacity \_\_\_\_\_ Location \_\_\_\_\_ Ft.

Clock No. \_\_\_\_\_ Elevation \_\_\_\_\_ Well Temperature \_\_\_\_\_ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____	P.S.I.	M	
B First Initial Flow Pressure _____	P.S.I.	Mins. _____	Mins. _____
C First Final Flow Pressure _____	P.S.I.	Mins. _____	Mins. _____
D Initial Closed-in Pressure _____	P.S.I.	Mins. _____	Mins. _____
E Second Initial Flow Pressure _____	P.S.I.	Mins. _____	Mins. _____
F Second Final Flow Pressure _____	P.S.I.		
G Final Closed-in Pressure _____	P.S.I.		
H Final Hydrostatic Mud _____	P.S.I.		

**PRESSURE BREAKDOWN**

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ 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 _____		63				63	1334
P 2 _____		66				66	1340
P 3 _____		69				69	1346
P 4 _____		72				72	1350
P 5 _____		75				75	1353
P 6 _____		78				78	1357
P 7 _____		81				81	1361
P 8 _____		84				84	1366
P 9 _____		87				87	1368
P10 _____		90				90	
P11 _____		93				93	
P12 _____		96				96	
P13 _____		99				99	
P14 _____		102				102	
P15 _____		105				105	
P16 _____		108				108	
P17 _____		111				111	
P18 _____		114				114	
P19 _____		117				117	
P20 _____		120				120	