



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N° 12171

P. O. BOX 1599 PHONE (316) 262-5861

WICHITA, KANSAS 67201

Elevation

Formation

Marmaton

Eff. Pay Ft.

District

Pratt

Date

4/25/87

Customer Order No.

COMPANY NAME

F.G. Hall Estate

ADDRESS

LEASE AND WELL NO.

Wheaton #1-160

COUNTY

Edwards

STATE

Ks

Sec.

116

Twp.

24

Rge.

18

Mail Invoice To

Same

Co. Name

#1-16 Wheaton

Address

No. Copies Requested

5

Mail Charts To

Same

Address

No. Copies Requested

5

Formation Test No.

1

Interval Tested From

4300

ft. to

4344

ft.

Total

Depth

4344

ft.

Packer Depth

4295

ft.

Size

6 7/8

in.

Packer Depth

-

ft.

Size

-

in.

Packer Depth

4300

ft.

Size

6 7/8

in.

Packer Depth

-

ft.

Size

-

in.

Depth of Selective Zone Set

Top Recorder Depth (Inside)

4334

ft.

Recorder Number

3086

Cap.

4500

Bottom Recorder Depth (Outside)

4337

ft.

Recorder Number

13552

Cap.

4050

Below Straddle Recorder Depth

-

ft.

Recorder Number

-

Cap.

-

Drilling Contractor

Sterling Rig #4

Drill Collar Length

425

I. D.

2 7/8

in.

Mud Type

Chemical

Viscosity

47

Weight Pipe Length

-

I. D.

-

in.

Weight

9.2

Water Loss

10.4

cc.

Drill Pipe Length

3851

I. D.

3 8

in.

Chlorides

13,500

P.P.M.

Test Tool Length

24

ft.

Tool Size

5 1/2 00

in.

Jars: Make

Serial Number

-

Anchor Length

44

ft.

Size

5 1/2 00

in.

Did Well Flow?

Yes

Reversed Out

No

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:

Strong blow throughout flow periods

Gas to surface in 4 min on preflow

Recovered

210

ft. of

Gas Cut Mud

Recovered

ft. of

Recovered

ft. of

Recovered

ft. of

Recovered

ft. of

Chlorides

P.P.M. Sample Jars used

Remarks:

21W

Time On Location

2:30

A.M.

P.M.

Time Pick Up Tool

3:30

A.M.

P.M.

Time Off Location

11:00

A.M.

P.M.

Time Set Packer(s)

5:00

A.M.

P.M.

Time Started Off Bottom

9:00

A.M.

P.M.

Maximum Temperature

120°

Initial Hydrostatic Pressure

(A)

2199

P.S.I.

Initial Flow Period

Minutes

30

(B)

118

P.S.I. to (C)

106

P.S.I.

Initial Closed In Period

Minutes

60

(D)

1392

P.S.I.

Final Flow Period

Minutes

60

(E)

130

P.S.I. to (F)

94

P.S.I.

Final Closed In Period

Minutes

90

(G)

1392

P.S.I.

Final Hydrostatic Pressure

(H)

2176

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

W. Byron Bidleman

Signature of Customer or his authorized representative

Western Representative

Jim Wondra Thank You

2326

FIELD INVOICE

Open Hole Test

\$

450

Misrun

\$

Straddle Test

\$

Jars

\$

Selective Zone

\$

Safety Joint

\$

Standby

\$

Evaluation

\$

Extra Packer

\$

Circ. Sub.

\$

Mileage

\$

Fluid Sampler

\$

Extra Charts

\$

Insurance

\$

Telecopier

\$

TOTAL

\$



GAS FLOW REPORT

No 5417

Date 4/25/87 Ticket 12171 Company F.G. Hall Estate
 Well Name and No. Wheaton #1-16 Dst No. 1 Interval Tested 4300-4344
 County Edwards State Ks Sec. 16 Twp. 24 Rg. 18

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
PRE FLOW					
<i>Gas to surface in 4 min</i>					
5	30 H ₂ O	1 1/2"			381,000 C.F.P.D
10	32 "	11			394,000 "
20	11	11			11 "
30	30 "	11			381,000 "

SECOND FLOW

5	50 H ₂ O	1 1/2"			493,000 C.F.P.D
10	46 "	11			473,000 "
20	40 "	11			440,000 "
30	36 "	11			418,000 "
40	30 "	11			381,000 "
50	28 "	11			368,000 "
60	26 "	11			355,000 "

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 4-25-87 Test Ticket No. 12171
 Recorder No. 3086 Capacity 4500 Location _____ Ft. _____
 Clock No. _____ Elevation _____ Well Temperature 140 °F
 Point _____ Pressure _____ Time Given 5:00 M _____ Time Computed _____
 A Initial Hydrostatic Mud 2158 P.S.I. Open Tool _____
 B First Initial Flow Pressure 130 P.S.I. First Flow Pressure 30 Mins. 30 Mins.
 C First Final Flow Pressure 130 P.S.I. Initial Closed-in Pressure 60 Mins. 60 Mins.
 D Initial Closed-in Pressure 1427 P.S.I. Second Flow Pressure 100 Mins. 60 Mins.
 E Second Initial Flow Pressure 141 P.S.I. Final Closed-in Pressure 90 Mins. 90 Mins.
 F Second Final Flow Pressure 117 P.S.I.
 G Final Closed-in Pressure 1428 P.S.I.
 H Final Hydrostatic Mud 2116 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 <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>130</u>	0	<u>130</u>	0	<u>141</u>	0	<u>117</u>
P 2 5		3	<u>130</u>	5		3	<u>131</u>
P 3 10		6	<u>1087</u>	10		6	<u>1012</u>
P 4 15		9	<u>1187</u>	15	<u>141</u>	9	<u>1108</u>
P 5 20		12	<u>1236</u>	20	<u>132</u>	12	<u>1162</u>
P 6 25		15	<u>1279</u>	25	<u>128</u>	15	<u>1203</u>
P 7 30	<u>130</u>	18	<u>1302</u>	30	<u>125</u>	18	<u>1238</u>
P 8 35		21	<u>1332</u>	35	<u>123</u>	21	<u>1268</u>
P 9 40		24	<u>1350</u>	40	<u>121</u>	24	<u>1288</u>
P10 45		27	<u>1365</u>	45	<u>119</u>	27	<u>1308</u>
P11 50		30	<u>1379</u>	50	<u>117</u>	30	<u>1324</u>
P12 55		33	<u>1387</u>	55		33	<u>1341</u>
P13 60		36	<u>1395</u>	60	<u>117</u>	36	<u>1353</u>
P14 65		39	<u>1401</u>	65		39	<u>1364</u>
P15 70		42	<u>1409</u>	70		42	<u>1373</u>
P16 75		45	<u>1411</u>	75		45	<u>1381</u>
P17 80		48	<u>1417</u>	80		48	<u>1388</u>
P18 85		51	<u>1418</u>	85		51	<u>1395</u>
P19 90		54	<u>1421</u>	90		54	<u>1402</u>
P20 95		57	<u>1423</u>	95		57	<u>1406</u>
100		60	<u>1425</u>	100		60	<u>1409</u>
		63	<u>1427</u>				

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. 12171

Recorder No. _____ Capacity _____ Location _____ Ft.

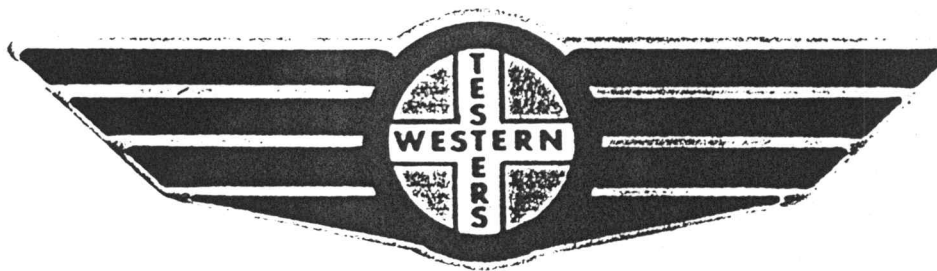
Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud _____	P.S.I.	Open Tool _____	M _____	
B First Initial Flow Pressure _____	P.S.I.	First Flow Pressure _____	Mins. _____	Mins. _____
C First Final Flow Pressure _____	P.S.I.	Initial Closed-in Pressure _____	Mins. _____	Mins. _____
D Initial Closed-in Pressure _____	P.S.I.	Second Flow Pressure _____	Mins. _____	Mins. _____
E Second Initial Flow Pressure _____	P.S.I.	Final Closed-in Pressure _____	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 Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>105</u>		<u>63</u>		<u>105</u>		<u>63</u>	<u>1411</u>
P 2 <u>110</u>		<u>66</u>		<u>110</u>		<u>66</u>	<u>1416</u>
P 3 <u>115</u>		<u>69</u>		<u>115</u>		<u>69</u>	<u>1418</u>
P 4 <u>120</u>		<u>72</u>		<u>120</u>		<u>72</u>	<u>1421</u>
P 5 <u>125</u>		<u>75</u>		<u>125</u>		<u>75</u>	<u>1423</u>
P 6 <u>130</u>		<u>78</u>		<u>130</u>		<u>78</u>	<u>1425</u>
P 7 <u>135</u>		<u>81</u>		<u>135</u>		<u>81</u>	<u>1426</u>
P 8 <u>140</u>		<u>84</u>		<u>140</u>		<u>84</u>	<u>1427</u>
P 9 <u>145</u>		<u>87</u>		<u>145</u>		<u>87</u>	<u>1428</u>
P10 <u>150</u>		<u>90</u>		<u>150</u>		<u>90</u>	<u>1428</u>
P11 <u>155</u>		<u>93</u>		<u>155</u>		<u>93</u>	
P12 <u>160</u>		<u>96</u>		<u>160</u>		<u>96</u>	
P13 <u>165</u>		<u>99</u>		<u>165</u>		<u>99</u>	
P14 <u>170</u>		<u>102</u>		<u>170</u>		<u>102</u>	
P15 <u>175</u>		<u>105</u>		<u>175</u>		<u>105</u>	
P16 <u>180</u>		<u>108</u>		<u>180</u>		<u>108</u>	
P17 <u>185</u>		<u>111</u>		<u>185</u>		<u>111</u>	
P18 <u>190</u>		<u>114</u>		<u>190</u>		<u>114</u>	
P19 <u>195</u>		<u>117</u>		<u>195</u>		<u>117</u>	
P20 <u>200</u>		<u>120</u>		<u>200</u>		<u>120</u>	

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY F G HOLL ESTATE

LEASE & WELL NO. #1-16 WHEATON

SEC. 16 TWP. 24S. RGE. 18W TEST NO. 1 DATE 4/25/87

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 4-25-87
CUSTOMER : F. G. HOLL ESTATE
WELL : #1-16 TEST: 1
ELEVATION : -
SECTION : 16
RANGE : 18W. COUNTY : EDWARDS
GAUGE SN# : 3086 RANGE : 4500
TICKET : 12171
LEASE : WHEATON
GEOLOGIST : B. BRIDLEMAN
FORMATION : MARMATON
TOWNSHIP : 24S
STATE : KANSAS
CLOCK : 12

INTERVAL FROM : 4300 TO : 4344 TOTAL DEPTH : 4344
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4295 SIZE : 6.63
PACKER DEPTH : 4300 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : STERLING RIG #4
MUD TYPE : CHEMICAL VISCOSITY : 47
WEIGHT : 9.2 WATER LOSS (CC) : 10.4
CHLORIDES (PPM) : 13500
JARS-MAKE : - SERIAL NUMBER :
DID WELL FLOW ? : YES REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 425 FT I.D. inch : 2.25
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3851 FT I.D. inch : 3.80
TEST TOOL LENGTH : 24 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 44 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 FH

BLOW COMMENT #1 : STRONG BLOW THROUGHOUT BOTH FLOW PERIODS.
BLOW COMMENT #2 : GAS TO SURFACE IN 4 MINUTES ON PREFLOW-SEE
ATTACHED FLOW CHART.

BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 210 FT OF: GAS CUT MUD

Total Barrels Fluid = 1.03
Total Fluid Prod Rate = 16.52 BFPD
Indicated Wtr Rate = 1.65 BWPD

REMARK 1 :
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 5:00 PM

TIME STARTED OFF BOTTOM : 9:00 PM

WELL TEMPERATURE : 120

INITIAL HYDROSTATIC PRESSURE

(A) 2158

INITIAL FLOW PERIOD MIN: 30

(B) 130 PSI TO (C) : 130

INITIAL CLOSED IN PERIOD MIN: 63

(D) 1427

FINAL FLOW PERIOD MIN: 60

(E) 141 PSI TO (F) : 117

FINAL CLOSED IN PERIOD MIN: 90

(G) 1428

FINAL HYDROSTATIC PRESSURE

(H) 2116

GAS FLOW REPORT

Date : 4-25-87	Ticket # : 12171
Customer : F. G. HOLL ESTATE	Lease : WHEATON
Well : #1-16 Test : 1	Geologist : BRIDELMAN
Elevation (KB) : - Formation : MARMATON	
Section : 16 Township : 24S	
Range : 18W County : EDWARDS	State : KANSAS
Gauge SN # : 3086 Range : 4500	Clock : 12

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

=====

4	MERLA	1 1/2"	"OF WATER	GAS TO SURFACE
5			30	381000 CFPD
10			32	394000 CFPD
20			32	394000 CFPD
30			30	381000 CFPD

SECOND FLOW

=====

	MERLA	1 1/2"	"of WATER	
5			50	493000 CFPD
10			46	473000 CFPD
20			40	440000 CFPD
30			36	418000 CFPD
40			30	381000 CFPD
50			28	368000 CFPD
60			26	355000 CFPD

Gas Bottle SN # :
 Date Bottle Filled :
 Date to be Invoiced :

WESTERN TESTING CO. INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : F. G. HOLL ESTATE
RIG : EDWARDS-KANSAS
FIELD : WHEATON
WELL : #1-16
DATE : 4-25-87
GAUGE NO : 3086

OPERATIONAL COMMENTS

COMPANY : F. G. HOLL ESTATE
WELL : #1-16
GAUGE # : 3086
DATE : 25/ 4/87

FIELD : WHEATON
JOB # : 12171
DEPTH : 4344
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	5: 0: 0	0.000	130.000	120.00	0.000
2	5: 4: 59	0.083	130.000	120.00	0.000
3	5:10: 0	0.167	130.000	120.00	0.000
4	5:15: 0	0.250	130.000	120.00	0.000
5	5:19:59	0.333	130.000	120.00	0.000
6	5:25: 0	0.417	130.000	120.00	0.000
7	5:30: 0	0.500	130.000	120.00	0.000
8	5:33: 0	0.550	782.000	120.00	652.000
9	5:36: 0	0.600	1087.000	120.00	305.000
10	5:39: 0	0.650	1189.000	120.00	102.000
11	5:42: 0	0.700	1236.000	120.00	47.000
12	5:45: 0	0.750	1279.000	120.00	43.000
13	5:48: 0	0.800	1302.000	120.00	23.000
14	5:51: 0	0.850	1332.000	120.00	30.000
15	5:54: 0	0.900	1350.000	120.00	18.000
16	5:57: 0	0.950	1365.000	120.00	15.000
17	6: 0: 0	1.000	1379.000	120.00	14.000
18	6: 2: 59	1.050	1387.000	120.00	8.000
19	6: 6: 0	1.100	1395.000	120.00	8.000
20	6: 9: 0	1.150	1401.000	120.00	6.000
21	6:12: 0	1.200	1409.000	120.00	8.000
22	6:15: 0	1.250	1411.000	120.00	2.000
23	6:18: 0	1.300	1417.000	120.00	6.000
24	6:21: 0	1.350	1418.000	120.00	1.000
25	6:24: 0	1.400	1421.000	120.00	3.000
26	6:27: 0	1.450	1423.000	120.00	2.000
27	6:30: 0	1.500	1425.000	120.00	2.000
28	6:33: 0	1.550	1427.000	120.00	2.000
29	6:34: 0	1.567	141.000	120.00	-1286.000
30	6:37:59	1.633	141.000	120.00	0.000
31	6:43: 0	1.717	141.000	120.00	0.000
32	6:48: 0	1.800	141.000	120.00	0.000
33	6:52:59	1.883	132.000	120.00	-9.000
34	6:58: 0	1.967	128.000	120.00	-4.000
35	7: 3: 0	2.050	125.000	120.00	-3.000
36	7: 7: 59	2.133	123.000	120.00	-2.000
37	7:13: 0	2.217	121.000	120.00	-2.000
38	7:18: 0	2.300	119.000	120.00	-2.000
39	7:22:59	2.383	117.000	120.00	-2.000
40	7:28: 0	2.467	117.000	120.00	0.000
41	7:33: 0	2.550	117.000	120.00	0.000
42	7:36: 0	2.600	731.000	120.00	614.000
43	7:38:59	2.650	1012.000	120.00	281.000
44	7:42: 0	2.700	1108.000	120.00	96.000
45	7:45: 0	2.750	1162.000	120.00	54.000
46	7:48: 0	2.800	1203.000	120.00	41.000
47	7:51: 0	2.850	1238.000	120.00	35.000
48	7:53:59	2.900	1268.000	120.00	30.000
49	7:57: 0	2.950	1288.000	120.00	20.000
50	8: 0: 0	3.000	1308.000	120.00	20.000
51	8: 3: 0	3.050	1324.000	120.00	16.000
52	8: 6: 0	3.100	1341.000	120.00	17.000

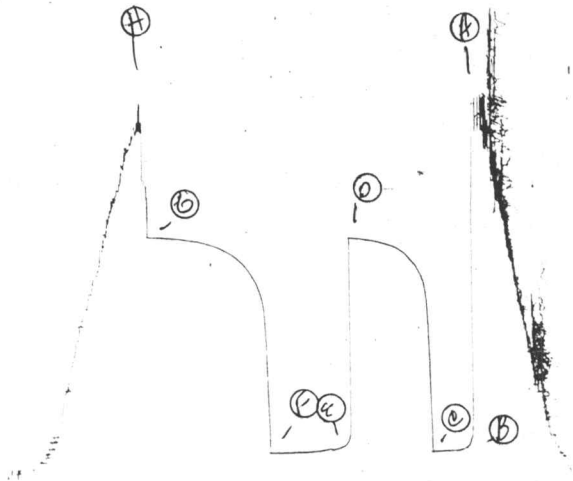
COMPANY : F. G. HOLL ESTATE
WELL : #1-16
GAUGE # : 3086
DATE : 25/ 4/87

FIELD : WHEATON
JOB # : 12171
DEPTH : 4344
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
53	8: 9: 0	3.150	1353.000	120.00	12.000
54	8:11:59	3.200	1364.000	120.00	11.000
55	8:15: 0	3.250	1373.000	120.00	9.000
56	8:18: 0	3.300	1381.000	120.00	8.000
57	8:21: 0	3.350	1388.000	120.00	7.000
58	8:24: 0	3.400	1395.000	120.00	7.000
59	8:26:59	3.450	1402.000	120.00	7.000
60	8:30: 0	3.500	1406.000	120.00	4.000
61	8:33: 0	3.550	1409.000	120.00	3.000
62	8:36: 0	3.600	1411.000	120.00	2.000
63	8:39: 0	3.650	1416.000	120.00	5.000
64	8:41:59	3.700	1418.000	120.00	2.000
65	8:45: 0	3.750	1421.000	120.00	3.000
66	8:48: 0	3.800	1423.000	120.00	2.000
67	8:51: 0	3.850	1425.000	120.00	2.000
68	8:54: 0	3.900	1426.000	120.00	1.000
69	8:56:59	3.950	1427.000	120.00	1.000
70	9: 0: 0	4.000	1428.000	120.00	1.000
71	9: 3: 0	4.050	1428.000	120.00	0.000

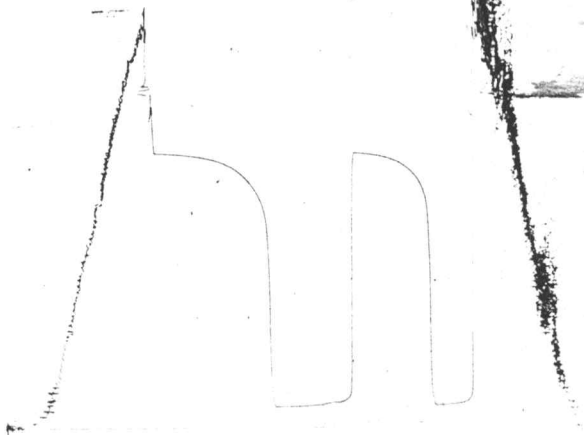
WESTERN TESTING CO. INC.

St # 12171
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WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 12172

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

Elevation _____ Formation Cherokee + Miss Eff. Pay _____ Ft.

District Pratt Date 4/26/87 Customer Order No. _____
COMPANY NAME H/40 F.G. Holl Estate

ADDRESS 6427 E Kellogg Wichita 67207

LEASE AND WELL NO. Wheaton #1-16 COUNTY Edwards STATE KS Sec. 16 Twp. 24 Rge. 18

Mail Invoice To Same #1-16 Wheaton No. Copies Requested 5
Co. Name _____ Address _____

Mail Charts To Same 1 copy to Curt Mueck No. Copies Requested 5
Address Box 158 Bellevue KS 67519

Formation Test No. 2 Interval Tested From 4460 ft. to 4514 ft. Total Depth 4514 ft.

Packer Depth 4455 ft. Size 6 7/8 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 4460 ft. Size 6 7/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4494 ft. Recorder Number 3086 Cap. 4500

Bottom Recorder Depth (Outside) 4497 ft. Recorder Number 13552 Cap. 4050

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____

Drilling Contractor Sterling Rig #4 Drill Collar Length 425 I. D. 2 1/4 in.

Mud Type Chemical Viscosity 54 Weight Pipe Length _____ I. D. _____ in.

Weight 9.3 Water Loss 13.6 cc. Drill Pipe Length 4011 I. D. 3.8 in.

Chlorides 15,000 P.P.M. Test Tool Length 24 ft. Tool Size 5 1/2 OD in.

Jars: Make _____ Serial Number _____ Anchor Length 54 ft. Size 5 1/2 OD in.

Did Well Flow? Yes Reversed Out No Surface Choke Size 3 1/4 in. Bottom Choke Size 3 1/4 in.

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

Blow: Strong blow throughout flow periods

Gas to surface in 2 min on pre flow

Recovered 250 ft. of Gas Cut Mud (Scum of oil)

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Chlorides _____ P.P.M. Sample Jars used _____ Remarks: _____

Time On Location 3:30 A.M. Time Pick Up Tool 4:00 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 5:30 A.M. Time Started Off Bottom 9:30 A.M. Maximum Temperature 121° P.M.

Initial Hydrostatic Pressure _____ (A) 2325 P.S.I.

189 P.S.I.

153 P.S.I.

OPEN HOLE TESTING INSURANCE AVAILABLE

Details of Policy:

\$25,000 Limit per hole

\$3,500 Deductible per hole

Operator pays the deductible

Deductible applies to total loss tools

Premium per test—\$60.00 for testing under 5,000 feet.

\$142.00 for testing over 5,000 feet.

DST No. 2 Test Depth 4460-4514

☒ I want the open hole insurance.

☐ I do not want the open hole insurance.

Legal Description of Location Sec 16 Twp 24 Rg 18 Edwards County

Jim Wordu
Salesman Signature

4/26/87
Date

F.G. Holl
Company Name

W. Bruce Bidlana
Customer Signature

FIELD INVOICE

1 Hole Test	\$ <u>450</u>
un	\$ _____
Idle Test	\$ _____
	\$ _____
ive Zone	\$ _____
y Joint	\$ <u>30.50</u>
lby	\$ _____
iation	\$ _____
1 Packer	\$ _____
Sub.	\$ _____
age	\$ _____
1 Sampler	\$ _____
1 Charts	\$ _____
ance	\$ <u>75</u>
copier	\$ <u>25</u>
OTAL	\$ _____



No 5418

GAS FLOW REPORT

Date 4/26/87 Ticket 12172 Company F.G. Holl
 Well Name and No. Wheaton #1-16 Dst No. 2 Interval Tested 4460-4514
 County Edwards State Ks Sec. 16 Twp. 24 Rg. 18

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
PRE FLOW					
Gas to surface in 2 min					
5	4 lbs	1 1/2"			764,000 C.F.P.D
10	5 "	"			863,000 "
20	4.5 lbs	"			814,000 "
30	4 "	"			764,000 "

SECOND FLOW

5	3 lbs	1 1/2"			654,000 C.F.P.D
10	4 "	"			764,000 "
20	3 "	"			654,000 "
30	2.5 "	"			595,000 "
40	2 "	"			527,000 "
50	1 "	"			11 "
60	1.5 "	"			456,000 "

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 3608 3086 Capacity 4500 Test Ticket No. 12172 Location _____ Ft.
 Recorder No. _____ Well Temperature _____ °F
 Clock No. _____ Elevation _____

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2288</u> P.S.I.		M	
B First Initial Flow Pressure	<u>281</u> P.S.I.	First Flow Pressure	Mins. <u>30</u>	Mins.
C First Final Flow Pressure	<u>194</u> P.S.I.	Initial Closed-in Pressure	Mins. <u>60</u>	Mins.
D Initial Closed-in Pressure	<u>1311</u> P.S.I.	Second Flow Pressure	Mins. <u>60</u>	Mins.
E Second Initial Flow Pressure	<u>248</u> P.S.I.	Final Closed-in Pressure	Mins. <u>90</u>	Mins.
F Second Final Flow Pressure	<u>153</u> P.S.I.			
G Final Closed-in Pressure	<u>1276</u> P.S.I.			
H Final Hydrostatic Mud	<u>2187</u> 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 <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>281</u>	0	<u>194</u>	0	<u>248</u>	0	<u>153</u>
P 2 5	<u>248</u>	3	<u>1078</u>	5	<u>225</u>	3	<u>955</u>
P 3 10	<u>236</u>	6	<u>1164</u>	10	<u>206</u>	6	<u>1037</u>
P 4 15	<u>220</u>	9	<u>1199</u>	15	<u>194</u>	9	<u>1067</u>
P 5 20	<u>213</u>	12	<u>1211</u>	20	<u>182</u>	12	<u>1083</u>
P 6 25	<u>203</u>	15	<u>1222</u>	25	<u>177</u>	15	<u>1095</u>
P 7 30	<u>194</u>	18	<u>1234</u>	30	<u>170</u>	18	<u>1102</u>
P 8 35		21	<u>1246</u>	35	<u>165</u>	21	<u>1113</u>
P 9 40		24	<u>1253</u>	40	<u>165</u>	24	<u>1125</u>
P 10 45		27	<u>1257</u>	45	<u>158</u>	27	<u>1129</u>
P 11 50		30	<u>1264</u>	50	<u>158</u>	30	<u>1136</u>
P 12 55		33	<u>1269</u>	55	<u>153</u>	33	<u>1148</u>
P 13 60		36	<u>1276</u>	60	<u>153</u>	36	<u>1153</u>
P 14 65		39	<u>1280</u>	65		39	<u>1164</u>
P 15 70		42	<u>1292</u>	70		42	<u>1171</u>
P 16 75		45	<u>1299</u>	75		45	<u>1183</u>
P 17 80		48	<u>1304</u>	80		48	<u>1187</u>
P 18 85		51	<u>1304</u>	85		51	<u>1199</u>
P 19 90		54	<u>1311</u>	90		54	<u>1211</u>
P 20 95		57	<u>1311</u>	95		57	<u>1218</u>
100		60	<u>1311</u>	100		60	<u>1218</u>

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Recorder No. _____ Capacity _____ Location _____ Ft.

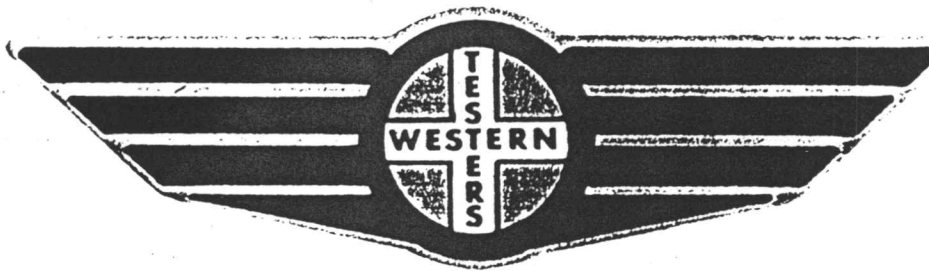
Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.	Open Tool _____	M _____	
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure _____	Mins. _____	Mins. _____
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure _____	Mins. _____	Mins. _____
D Initial Closed-in Pressure _____ P.S.I.	Second Flow Pressure _____	Mins. _____	Mins. _____
E Second Initial Flow Pressure _____ P.S.I.	Final Closed-in Pressure _____	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 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		0		0		0	63 1234
P 2 5		3		5		3	66 1241
P 3 10		6		10		6	69 1246
P 4 15		9		15		9	72 1253
P 5 20		12		20		12	75 1257
P 6 25		15		25		15	78 1264
P 7 30		18		30		18	81 1264
P 8 35		21		35		21	84 1269
P 9 40		24		40		24	87 1276
P10 45		27		45		27	90 1276
P11 50		30		50		30	
P12 55		33		55		33	
P13 60		36		60		36	
P14 65		39		65		39	
P15 70		42		70		42	
P16 75		45		75		45	
P17 80		48		80		48	
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY F G HOLL ESTATE
LEASE & WELL NO. #1-16 WHEATON
SEC. 16 TWP. 24S RGE. 18W TEST NO. 2
DATE 4/26/87

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE	:	4-26-87	TICKET	:	12172
CUSTOMER	:	F. G. HOLL ESTATE	LEASE	:	WHEATON
WELL	:	#1-16 TEST: 2	GEOLOGIST	:	B. BRIDLEMAN
ELEVATION	:	-	FORMATION	:	CHER-MISS
SECTION	:	16	TOWNSHIP	:	24S
RANGE	:	18W	STATE	:	KANSAS
GAUGE SN#	:	3086	CLOCK	:	12
		COUNTY :	EDWARDS		
		RANGE :	4500		

INTERVAL FROM	:	4460	TO	:	4514	TOTAL DEPTH	:	4514
DEPTH OF SELECTIVE ZONE	:							
PACKER DEPTH	:	4455	SIZE	:	6.63			
PACKER DEPTH	:	4460	SIZE	:	6.63			
PACKER DEPTH	:		SIZE	:				
PACKER DEPTH	:		SIZE	:				

DRILLING CON.	:	STERLING	RIG #4		
MUD TYPE	:	CHEMICAL	VISCOSITY	:	54
WEIGHT	:	9.3	WATER LOSS (CC)	:	13.6
CHLORIDES (PPM)	:	15000			
JARS-MAKE	:	-	SERIAL NUMBER	:	-
DID WELL FLOW ?	:	YES	REVERSED OUT ?	:	NO

DRILL COLLAR LENGTH	:	425	FT	I.D. inch	:	2.25
WEIGHT PIPE LENGTH	:	0	FT	I.D. inch	:	0.00
DRILL PIPE LENGTH	:	4011	FT	I.D. inch	:	3.80
TEST TOOL LENGTH	:	24	FT	TOOL SIZE	:	5.50
ANCHOR LENGTH	:	54	FT	ANCHOR SIZE	:	5.50
SURFACE CHOKE SIZE	:	.75	IN	BOTTOM CHOKE SIZE	:	.75
MAIN HOLE SIZE	:	7.875	IN	TOOL JOINT SIZE	:	4.5 FH

BLOW COMMENT #1 : STRONG BLOW THROUGHOUT BOTH FLOW PERIODS.
BLOW COMMENT #2 : GAS TO SURFACE IN 2 MINUTES ON PREFLOW-SEE
ATTACHED FLOW CHART.

BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 250 FT OF: GAS CUT MUD (SCUM OF OIL)

Total Barrels Fluid = 1.23
Total Fluid Prod Rate = 19.67 BFPD
Indicated Wtr Rate = 1.97 BWPD

REMARK 1 :
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 5:30 PM

TIME STARTED OFF BOTTOM : 9:30 PM

WELL TEMPERATURE : 121

INITIAL HYDROSTATIC PRESSURE

(A) 2288

INITIAL FLOW PERIOD MIN: 30

(B) 281 PSI TO (C) : 194

INITIAL CLOSED IN PERIOD MIN: 60

(D) 1311

FINAL FLOW PERIOD MIN: 60

(E) 248 PSI TO (F) : 153

FINAL CLOSED IN PERIOD MIN: 90

(G) 1276

FINAL HYDROSTATIC PRESSURE

(H) 2187

GAS FLOW REPORT

Date : 4-26-87	Ticket # : 12172
Customer : F. G. HOLL ESTATE	Lease : WHEATON
Well : #1-16 Test : 2	Geologist : BRIDLEMAN
Elevation (KB) : - Formation : CHER-MISS	
Section : 16 Township : 24S	
Range : 18W County : EDWARDS	State : KANSAS
Gauge SN # : 3086 Range : 4500	Clock : 12

TIME GAUGE (MIN)	TESTER TYPE	ORFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
---------------------	-------------	----------------	-------------------	------------------

PRE FLOW

=====

2	MERLA	1 1/2"	#	GAS TO SURFACE
5			4	764000 CFPD
10			5	863000 CFPD
20			4.5	814000 CFPD
30			4	764000 CFPD

SECOND FLOW

=====

5	MERLA	1 1/2"	#	
10			3	654000 CFPD
20			4	764000 CFPD
30			3	654000 CFPD
40			2.5	595000 CFPD
50			2	527000 CFPD
60			1.5	456000 CFPD

Gas Bottle SN # :
 Date Bottle Filled :
 Date to be Invoiced :

WESTERN TESTING CO. INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : F. G. HOLL ESTATE
RIG : EDWARDS-KANSAS
FIELD : WHEATON
WELL : #1-16
DATE : 4-26-87
GAUGE NO : 3086

OPERATIONAL COMMENTS

COMPANY : F. G. HOLL ESTATE
WELL : #1-16
GAUGE # : 3086
DATE : 26/ 4/87

FIELD : WHEATON
JOB # : 12172
DEPTH : 4514
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P P1-P(1-1)
1	5:30: 0	0.000	281.000	121.00	0.000
2	5:34:59	0.083	248.000	121.00	-33.000
3	5:40: 0	0.167	236.000	121.00	-12.000
4	5:45: 0	0.250	220.000	121.00	-16.000
5	5:49:59	0.333	213.000	121.00	-7.000
6	5:55: 0	0.417	203.000	121.00	-10.000
7	6: 0: 0	0.500	194.000	121.00	-9.000
8	6: 3: 0	0.550	1078.000	121.00	884.000
9	6: 6: 0	0.600	1164.000	121.00	86.000
10	6: 9: 0	0.650	1199.000	121.00	35.000
11	6:12: 0	0.700	1211.000	121.00	12.000
12	6:15: 0	0.750	1222.000	121.00	11.000
13	6:18: 0	0.800	1234.000	121.00	12.000
14	6:21: 0	0.850	1246.000	121.00	12.000
15	6:24: 0	0.900	1253.000	121.00	7.000
16	6:27: 0	0.950	1257.000	121.00	4.000
17	6:30: 0	1.000	1264.000	121.00	7.000
18	6:33: 0	1.050	1269.000	121.00	5.000
19	6:36: 0	1.100	1276.000	121.00	7.000
20	6:39: 0	1.150	1280.000	121.00	4.000
21	6:42: 0	1.200	1292.000	121.00	12.000
22	6:45: 0	1.250	1299.000	121.00	7.000
23	6:48: 0	1.300	1304.000	121.00	5.000
24	6:51: 0	1.350	1304.000	121.00	0.000
25	6:54: 0	1.400	1311.000	121.00	7.000
26	6:57: 0	1.450	1311.000	121.00	0.000
27	7: 0: 0	1.500	1311.000	121.00	0.000
28	7: 1: 0	1.517	248.000	121.00	-1063.000
29	7: 4:59	1.583	225.000	121.00	-23.000
30	7:10: 0	1.667	206.000	121.00	-19.000
31	7:15: 0	1.750	194.000	121.00	-12.000
32	7:19:59	1.833	182.000	121.00	-12.000
33	7:25: 0	1.917	177.000	121.00	-5.000
34	7:30: 0	2.000	170.000	121.00	-7.000
35	7:34:59	2.083	165.000	121.00	-5.000
36	7:40: 0	2.167	165.000	121.00	0.000
37	7:45: 0	2.250	158.000	121.00	-7.000
38	7:49:59	2.333	158.000	121.00	0.000
39	7:55: 0	2.417	153.000	121.00	-5.000
40	8: 0: 0	2.500	153.000	121.00	0.000
41	8: 3: 0	2.550	955.000	121.00	802.000
42	8: 6: 0	2.600	1037.000	121.00	82.000
43	8: 9: 0	2.650	1067.000	121.00	30.000
44	8:12: 0	2.700	1083.000	121.00	16.000
45	8:15: 0	2.750	1095.000	121.00	12.000
46	8:18: 0	2.800	1102.000	121.00	7.000
47	8:21: 0	2.850	1113.000	121.00	11.000
48	8:24: 0	2.900	1125.000	121.00	12.000
49	8:27: 0	2.950	1129.000	121.00	4.000
50	8:30: 0	3.000	1136.000	121.00	7.000
51	8:33: 0	3.050	1148.000	121.00	12.000
52	8:36: 0	3.100	1153.000	121.00	5.000

COMPANY : F. G. HOLL ESTATE
WELL : #1-16
GAUGE # : 3086
DATE : 26/ 4/87

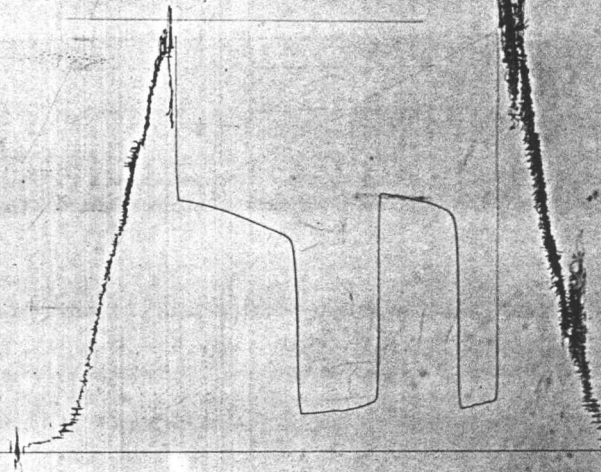
FIELD : WHEATON
JOB # : 12172
DEPTH : 4514
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
53	8:39: 0	3.150	1164.000	121.00	11.000
54	8:42: 0	3.200	1171.000	121.00	7.000
55	8:45: 0	3.250	1183.000	121.00	12.000
56	8:48: 0	3.300	1187.000	121.00	4.000
57	8:51: 0	3.350	1199.000	121.00	12.000
58	8:54: 0	3.400	1211.000	121.00	12.000
59	8:57: 0	3.450	1218.000	121.00	7.000
60	9: 0: 0	3.500	1218.000	121.00	0.000
61	9: 3: 0	3.550	1234.000	121.00	16.000
62	9: 6: 0	3.600	1241.000	121.00	7.000
63	9: 9: 0	3.650	1246.000	121.00	5.000
64	9:12: 0	3.700	1253.000	121.00	7.000
65	9:15: 0	3.750	1257.000	121.00	4.000
66	9:18: 0	3.800	1264.000	121.00	7.000
67	9:21: 0	3.850	1264.000	121.00	0.000
68	9:24: 0	3.900	1269.000	121.00	5.000
69	9:27: 0	3.950	1276.000	121.00	7.000
70	9:30: 0	4.000	1276.000	121.00	0.000

WESTERN TESTING CO. INC.

Kt # 12172

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Sk # 12172

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