



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

FAK 8023

WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET

Nº 19109

Elevation 2968 K.B. Formation Lansing "H" Eff. Pay 7 Ft.

District Garden City Date 5-20-93 Customer Order No. _____

COMPANY NAME Harris Oil & Gas

ADDRESS 440 17th St., Suite 2310 Denver Colo 80202

LEASE AND WELL NO. Garden City 3-16 COUNTY Finney STATE KS Sec. 16 Twp. 23S Rge. 34W

Mail Invoice To Harris Oil & Gas Co. Name Same Address #3-16 Garden City KS No. Copies Requested Reg.

Mail Charts To See Dist. Sheet Address #3-16 Garden City KS No. Copies Requested See Dist. Sheet

Formation Test No. 1 Interval Tested From 4025 ft. to 4040 ft. Total Depth 4040 ft.

Packer Depth 4020 ft. Size 6 5/8 in. Packer Depth ft. Size in.

Packer Depth 4025 ft. Size 6 5/8 in. Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4028 ft. Recorder Number 3849 Cap. 4200

Bottom Recorder Depth (Outside) 4031 ft. Recorder Number 2604 Cap. 4150

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Allen Rig 5 Drill Collar Length 358 I. D. 2 1/4 in.

Mud Type Chem Viscosity 60 Weight Pipe Length I. D. in.

Weight 9.3 Water Loss 12.8 cc. Drill Pipe Length 3435 I. D. 3.8 in.

Chlorides 2600 P.P.M. Test Tool Length 32 ft. Tool Size 5 1/2 in.

Jars: Make W.T.C. Serial Number 404 Anchor Length 15 ft. Size 5 1/2 in.

Did Well Flow? No 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 X H in.

Blow Week 1" Built to Strong "B.O.B." in 4 Min. I.F.

Week 1/2" to Strong in 6 Min. F.F.

Recovered 215 ft. of C.G.O. 27 Gals. at 60°F

Recovered 215 ft. of Gassy Oil and muddy WTR. 16% Oil 13% Gas 15% Mud 56% WTR.

Recovered 275 ft. of WTR w/ a small oil

Recovered 630 ft. of Slurrier WTR 30,500 P.P.M.

Recovered ft. of Total Fluid Rec. 4,335'

Chlorides 30,500 P.P.M. Sample Jars used Remarks:

MAY 25 1993

Time On Location 3:45 A.M. Time Pick Up Tool 5:00 A.M. Time Off Location A.M.

Time Set Packer(s) 6:15 A.M. Time Started Off Bottom 10:45 A.M. Maximum Temperature 109°F

Initial Hydrostatic Pressure (A) 2006 P.S.I.

Initial Flow Period 30 Minutes (B) 1416 P.S.I. to (C) 387 P.S.I.

Initial Closed In Period 60 Minutes (D) 1119 P.S.I.

Final Flow Period 60 Minutes (E) 412 P.S.I. to (F) 617 P.S.I.

Final Closed In Period 120 Minutes (G) 1119 P.S.I.

Final Hydrostatic Pressure (H) 1956 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 Harold French
Signature of Customer or his authorized representative

Western Representative Jimmy S. Salazar

FIELD INVOICE

Open Hole Test ✓ \$ 1000
Misrun \$
Straddle Test \$
Jars ✓ \$ 205
Selective Zone \$
Safety Joint ✓ \$ 25
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub ✓ \$
Mileage \$
Fluid Sampler ✓ \$ 200
Extra Charts \$ 56
Insurance \$
Telecopier \$
TOTAL \$ 1056
10/10



Fluid Sample Report

Date 5-20-83 Ticket No. 19109Company Hans 016Well Name & No. G.C. 3-16 DST No. 1County Finney State KSSampler No. 200 Test Interval 4025-4040Pressure in Sampler 44 PSIG BHT 109 OFTotal Volume of Sampler 3150 cc.Total Volume of Sample: 2950 cc.Oil: 1563.5 53% cc.Water: 1386.5 47% cc.

Mud: _____ cc.

Gas: 0.43 cu. ft.

Other: _____

Resistivity

Water: 0.23 @ 65°F of Chloride Content 30,500 ppm.Mud Pit Sample 1.5 @ 65°F of Chloride Content 4,300 ppm.Gas/Oil Ratio _____ Gravity 27 °API @ 60 OFWhere was sample drained On location

Remarks: _____

WESTERN TESTING CO., INC.

Pressure Data

Date 5-20-52

Test Ticket No. 19109

Recorder No. 2849

Capacity _____

Location _____

Clock No. _____ Elevation _____

Well Temperature _____

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1994</u>	P.S.I.	Open Tool	M
B First Initial Flow Pressure	<u>150</u>	P.S.I.	First Flow Pressure	Mins. <u>30</u> Mi
C First Final Flow Pressure	<u>294</u>	P.S.I.	Initial Closed-in Pressure	Mins. <u>40</u> Mi
D Initial Closed-in Pressure	<u>118</u>	P.S.I.	Second Flow Pressure	Mins. <u>40</u> Mi
E Second Initial Flow Pressure	<u>456</u>	P.S.I.	Final Closed-in Pressure	Mins. <u>100</u> Mi
F Second Final Flow Pressure	<u>624</u>	P.S.I.		
G Final Closed-in Pressure	<u>1124</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1929</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>150</u>	0	<u>394</u>	0	<u>456</u>	0	<u>624</u>
P 2 5	<u>209</u>	3	<u>982</u>	5	<u>456</u>	3	<u>992</u>
P 3 10	<u>278</u>	6	<u>1039</u>	10	<u>444</u>	6	<u>1028</u>
P 4 15	<u>321</u>	9	<u>1064</u>	15	<u>459</u>	9	<u>1048</u>
P 5 20	<u>357</u>	12	<u>1075</u>	20	<u>481</u>	12	<u>1060</u>
P 6 25	<u>380</u>	15	<u>1087</u>	25	<u>505</u>	15	<u>1069</u>
P 7 30	<u>394</u>	18	<u>1092</u>	30	<u>527</u>	18	<u>1076</u>
P 8 35		21	<u>1095</u>	35	<u>547</u>	21	<u>1082</u>
P 9 40		24	<u>1097</u>	40	<u>565</u>	24	<u>1086</u>
P 10 45		27	<u>1099</u>	45	<u>584</u>	27	<u>1090</u>
P 11 50		30	<u>1111</u>	50	<u>602</u>	30	<u>1092</u>
P 12 55		33	<u>1113</u>	55	<u>617</u>	33	<u>1095</u>
P 13 60		36	<u>1115</u>	60	<u>624</u>	36	<u>1098</u>
P 14 65		39	<u>1117</u>	65		39	<u>1100</u>
P 15 70		42	<u>1119</u>	70		42	<u>1102</u>
P 16 75		45	<u>1121</u>	75		45	<u>1104</u>
P 17 80		48	<u>1122</u>	80		48	<u>1106</u>
P 18 85		51	<u>1125</u>	85		51	<u>1107</u>
P 19 90		54	<u>1126</u>	90		54	<u>1108</u>
P 20 95		57	<u>1127</u>	95		57	<u>1109</u>
100		60	<u>1128</u>	100		60	<u>1110</u>

WESTERN TESTING CO., INC.

Pressure Data

Date _____ Test Ticket No. 19109
 Recorder No. _____ Capacity _____ Location _____ Ft. _____
 Clock No. _____ Elevation _____ Well Temperature _____ °F

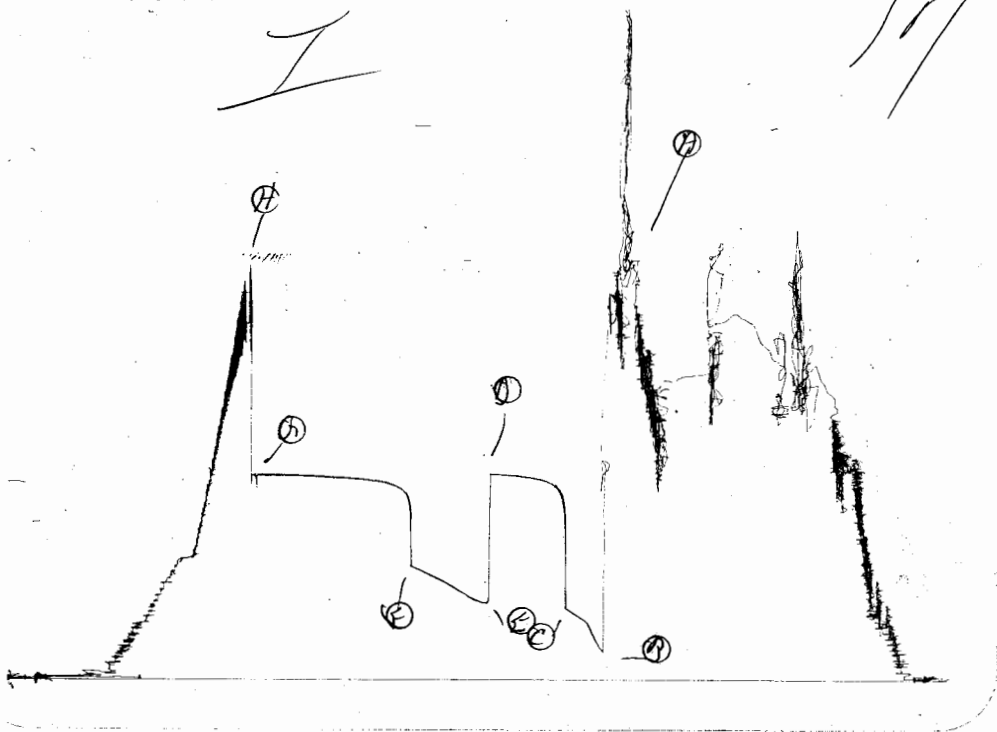
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____	P.S.I. _____	Open Tool _____	M. _____
B First Initial Flow Pressure _____	P.S.I. _____	First Flow Pressure _____	Mins. _____ Mins. _____
C First Final Flow Pressure _____	P.S.I. _____	Initial Closed-in Pressure _____	Mins. _____ 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

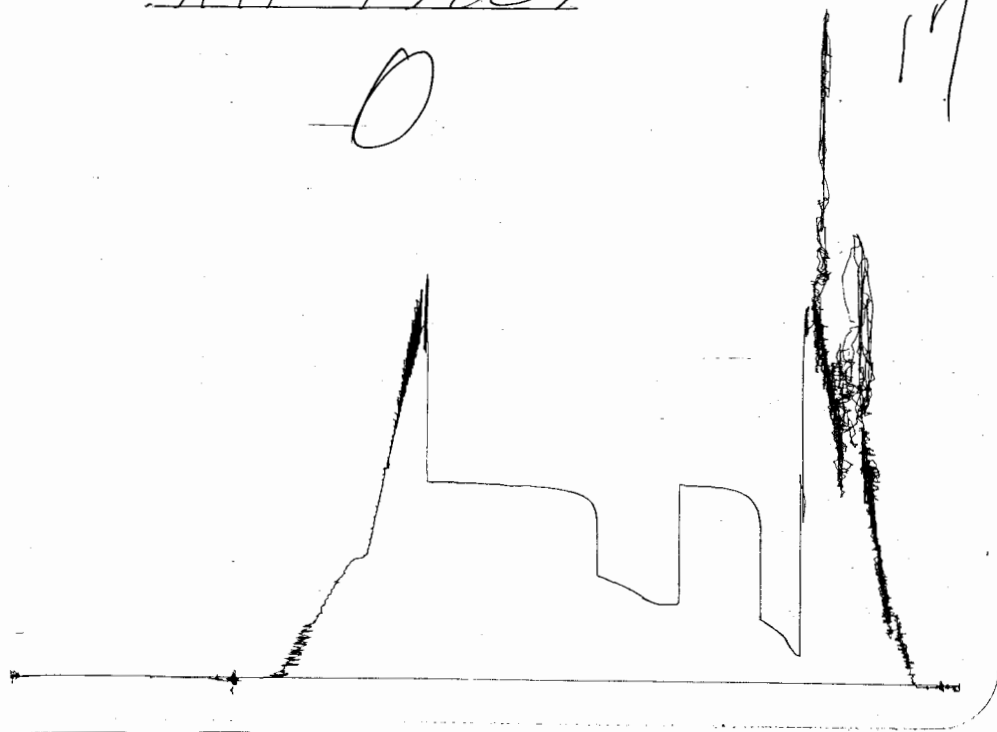
First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105	_____	63	_____	105	_____	63	1111
P 2 110	_____	66	_____	110	_____	66	1112
P 3 115	_____	69	_____	115	_____	69	1114
P 4 120	_____	72	_____	120	_____	72	1116
P 5 125	_____	75	_____	125	_____	75	1118
P 6 130	_____	78	_____	130	_____	78	1119
P 7 135	_____	81	_____	135	_____	81	1120
P 8 140	_____	84	_____	140	_____	84	1121
P 9 145	_____	87	_____	145	_____	87	5
P10 150	_____	90	_____	150	_____	90	1124
P11 155	_____	93	_____	155	_____	93	1122
P12 160	_____	96	_____	160	_____	96	1123
P13 165	_____	99	_____	165	_____	99	1124
P14 170	_____	102	_____	170	_____	102	1125
P15 175	_____	105	_____	175	_____	105	1126
P16 180	_____	108	_____	180	_____	108	
P17 185	_____	111	_____	185	_____	111	
P18 190	_____	114	_____	190	_____	114	
P19 195	_____	117	_____	195	_____	117	
P20 200	_____	120	_____	200	_____	120	1126

K+19109
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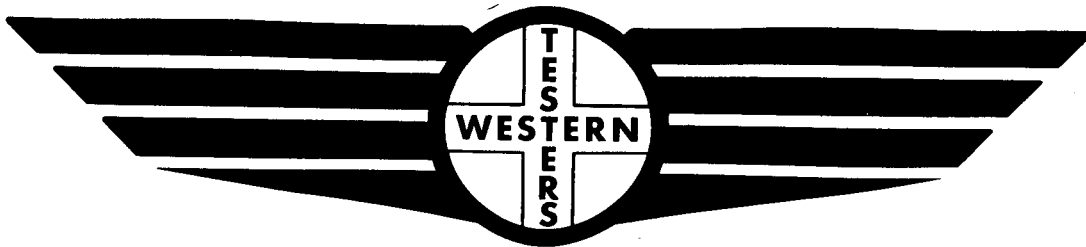
X3849 DST1
17



K+19109 2604 DST1
O 17



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

COMPANY HARRIS OIL & GAS COMPANY LEASE & WELL NO. #3-16 GARDEN CITY SEC. 16 TWP. 23S RGE. 34W TEST NO. 1 DATE 5/20/93
CO.

DST REPORT

GENERAL INFORMATION

DATE	: 5/20/93	TICKET	: 19109
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST:	1
ELEVATION:	2968 KB	GEOLOGIST:	FRANKLIN
SECTION	: 16	FORMATION:	LANSING H
RANGE	: 34W	TOWNSHIP	: 23S
GAUGE SN#:	3849	STATE	: KS
	COUNTY: FINNEY	CLOCK	: 12
	RANGE : 4200		

WELL INFORMATION

PERFORATION INTERVAL FROM:	4025.00 ft	TO:	4040.00 ft	TVD:	4040.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	4028.0 ft		4031.0 ft		
TEMPERATURE:	109.0				
DRILL COLLAR LENGTH:	558.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3435.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	15.0 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:	4020.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	4025.0 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. :	ALLEN RIG 5	VISCOSITY :	60.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	12.800 cc
WEIGHT :	9.300 ppg		
CHLORIDES :	2600 ppm	SERIAL NUMBER:	404
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK 1 INCH BLOW BUILT TO
STRONG BLOW - BOTTOM OF BUCKET IN 4 MINUTES.
FINAL FLOW PERIOD WEAK 1/2 INCH BLOW TO STRONG

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

BLOW IN 6 MINUTES.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
215.0	100.0	0.0	0.0	0.0	CLEAN GASSY OIL
0.0	0.0	0.0	0.0	0.0	GRAVITY 27 @ 60 DEGREES F
215.0	16.0	13.0	56.0	15.0	GASSY OIL CUT MUDDY WATER
275.0	0.0	0.0	100.0	0.0	WATER W/SCUM OF OIL
630.0	0.0	0.0	100.0	0.0	SALTWATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 30500 PPM

RATE INFORMATION

OIL VOLUME:	3.4982 STB	TOTAL FLOW TIME:	90.0000 min.
GAS VOLUME:	2.2013 SCF	AVERAGE OIL RATE:	57.5791 STB/D
MUD VOLUME:	0.4523 STB	AVERAGE WATER RATE:	154.4272 STB/D
WATER VOLUME:	9.2999 STB		
TOTAL FLUID :	13.2504 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2006.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	146.00	387.00
INITIAL SHUT-IN	60.00		1119.00
FINAL FLOW	60.00	412.00	617.00
FINAL SHUT-IN	120.00		1119.00

FINAL HYDROSTATIC PRESSURE: 1956.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1994.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	150.00	394.00
INITIAL SHUT-IN	60.00		1128.00
FINAL FLOW	60.00	426.00	626.00
FINAL SHUT-IN	120.00		1126.00

FINAL HYDROSTATIC PRESSURE: 1939.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 5/20/93	TICKET : 19109
CUSTOMER : HARRIS OIL & GAS COMPANY	LEASE : GARDEN CITY CO.
WELL : #3-16	GEOLOGIST: FRANKLIN
ELEVATION: 2968 KB	FORMATION: LANSING H
SECTION : 16	TOWNSHIP : 23S
RANGE : 34W	STATE : KS
GAUGE SN#: 3849	CLOCK : 12
COUNTY: FINNEY	
RANGE : 4200	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	150.00	150.00
5.00	209.00	59.00
10.00	278.00	69.00
15.00	331.00	53.00
20.00	357.00	26.00
25.00	380.00	23.00
30.00	394.00	14.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	982.00	982.00	0.00
6.00	1039.00	57.00	0.00
9.00	1064.00	25.00	0.00
12.00	1075.00	11.00	0.00
15.00	1087.00	12.00	0.00
18.00	1092.00	5.00	0.00
21.00	1095.00	3.00	0.00
24.00	1097.00	2.00	0.00
27.00	1099.00	2.00	0.00
30.00	1111.00	12.00	0.00
33.00	1113.00	2.00	0.00
36.00	1115.00	2.00	0.00
39.00	1117.00	2.00	0.00
42.00	1119.00	2.00	0.00
45.00	1121.00	2.00	0.00
48.00	1123.00	2.00	0.00
51.00	1125.00	2.00	0.00
54.00	1126.00	1.00	0.00
57.00	1127.00	1.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	1128.00	1.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	426.00	426.00
5.00	426.00	0.00
10.00	444.00	18.00
15.00	459.00	15.00
20.00	481.00	22.00
25.00	505.00	24.00
30.00	527.00	22.00
35.00	547.00	20.00
40.00	565.00	18.00
45.00	584.00	19.00
50.00	603.00	19.00
55.00	617.00	14.00
60.00	626.00	9.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	992.00	992.00	0.00
6.00	1028.00	36.00	0.00
9.00	1048.00	20.00	0.00
12.00	1060.00	12.00	0.00
15.00	1069.00	9.00	0.00
18.00	1076.00	7.00	0.00
21.00	1082.00	6.00	0.00
24.00	1086.00	4.00	0.00
27.00	1090.00	4.00	0.00
30.00	1092.00	2.00	0.00
33.00	1095.00	3.00	0.00
36.00	1098.00	3.00	0.00
39.00	1100.00	2.00	0.00
42.00	1102.00	2.00	0.00
45.00	1104.00	2.00	0.00
48.00	1106.00	2.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
51.00	1107.00	1.00	0.00
54.00	1108.00	1.00	0.00
57.00	1109.00	1.00	0.00
60.00	1110.00	1.00	0.00
63.00	1111.00	1.00	0.00
66.00	1112.00	1.00	0.00
69.00	1114.00	2.00	0.00
72.00	1116.00	2.00	0.00
75.00	1118.00	2.00	0.00
78.00	1119.00	1.00	0.00
81.00	1120.00	1.00	0.00
84.00	1121.00	1.00	0.00
87.00	1121.00	0.00	0.00
90.00	1121.00	0.00	0.00
93.00	1122.00	1.00	0.00
96.00	1123.00	1.00	0.00
99.00	1124.00	1.00	0.00
102.00	1125.00	1.00	0.00
105.00	1126.00	1.00	0.00
108.00	1126.00	0.00	0.00
111.00	1126.00	0.00	0.00
114.00	1126.00	0.00	0.00
117.00	1126.00	0.00	0.00
120.00	1126.00	0.00	0.00

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 5/20/93	TICKET	: 19109
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST:	1
ELEVATION:	2968 KB	GEOLOGIST:	FRANKLIN
SECTION	: 16	FORMATION:	LANSING H
RANGE	: 34W	TOWNSHIP	: 23S
GAUGE SN#:	3849	STATE	: KS
		CLOCK	: 12
	COUNTY: FINNEY		
	RANGE : 4200		

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	44.00 PSIG	BHT:	109.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	2950.00 cc		
OIL:	1563.50 cc		
WATER:	1386.50 cc		
MUD:	0.00 cc		
GAS:	0.43 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD:	.23 @ 65 DEGREES F	CHLORIDE CONTENT:	30500.00 ppm
MUD PIT SAMPLE:	1.5 @ 65 DEGREES F	CHLORIDE CONTENT:	4300.00 ppm
GAS/OIL RATIO:		GRAVITY:	27 API @ 60 DEGREES F
WHERE WAS SAMPLE DRAINED:	ON LOCATION		
REMARKS:			



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET

No 19110

P. O. BOX 1599
WICHITA, KANSAS 67201Elevation 2968 K.B. Formation K.C. "B" Eff. Pay 8 Ft.District Garden City Date 5-21-93 Customer Order No. _____COMPANY NAME Harris Oil & GasADDRESS 410 17th St., Suite 2310 Denver Colo. 80202LEASE AND WELL NO. Garden City 3-16 COUNTY Finney STATE KS Sec. 16 Twp. 23S Rge. 34WMail Invoice To Harris Oil & Gas #3-16 Garden City Co No. Copies Requested 1
Co. Name AddressMail Charts To See Dist. Sheet No. Copies Requested 1
AddressFormation Test No. 2 Interval Tested From 4163 ft. to 4177 ft. Total Depth 4177 ft.Packer Depth 4158 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.Packer Depth 4163 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4166 ft. Recorder Number 3847 Cap. 4200Bottom Recorder Depth (Outside) 4169 ft. Recorder Number 2604 Cap. 4150

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

Drilling Contractor Allen Rig 5 Drill Collar Length 538 I. D. 2 1/4 in.Mud Type Chem Viscosity 44 Weight Pipe Length _____ I. D. _____ in.Weight 9.2 Water Loss 12.8 cc. Drill Pipe Length 3573 I. D. 3.8 in.Chlorides 2,800 P.P.M. Test Tool Length 32 ft. Tool Size 5 1/2 in.Jars: Make W.T.C. Serial Number 404 Anchor Length 14 ft. Size 5 1/2 in.Did Well Flow? No 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 X.H. in.Blow Very weak 1 1/4" steady built to 1 1/2" in 22 min. Stabilized I.F.
No Blow, steady built to 1 1/4" in 60 min. F.F.Recovered 3 ft. of Chem Oil 35° Gravity at 60°FRecovered 70 ft. of Mud cut WTR. & a small amt of Oil 42% Mud 58% WTRRecovered 90 ft. of 5 1/2" O.G. cut heavy mud 42% Oil 4% Gas 47% mud 45% WTR

Recovered _____ ft. of _____

Recovered _____ ft. of Total Fluid Rec. 163'Chlorides 34,500 P.P.M. Sample Jars used _____ Remarks: _____R.W. O. 18 at 75° = 34,500 P.P.M.

MAY 25 1993

Time On Location 5:45 A.M. Time Pick Up Tool 6:15 A.M. Time Off Location _____ A.M.Time Set Packer(s) 7:50 A.M. Time Started Off Bottom 12:20 A.M. Maximum Temperature 108°FInitial Hydrostatic Pressure _____ (A) 2048 P.S.I.Initial Flow Period _____ Minutes 30 (B) 14 P.S.I. to (C) 44 P.S.I.Initial Closed In Period _____ Minutes 60 (D) 1148 P.S.I.Final Flow Period _____ Minutes 60 (E) 65 P.S.I. to (F) 100 P.S.I.Final Closed In Period _____ Minutes 120 (G) 1152 P.S.I.Final Hydrostatic Pressure _____ (H) 2029 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 Roger Pearson
Signature of Customer or his authorized representativeWestern Representative Garrett S. Salge

FIELD INVOICE

Open Hole Test	\$ <u>100</u>
Misrun	\$ _____
Straddle Test	\$ _____
Jars	\$ _____
Selective Zone	\$ _____
Safety Joint	\$ <u>100</u>
Standby	\$ _____
Evaluation	\$ _____
Extra Packer	\$ _____
Circ. Sub.	\$ _____
Mileage	\$ _____
Fluid Sampler	\$ <u>200</u>
Extra Charts	\$ <u>600</u>
Insurance	\$ _____
Telecopier	\$ _____
TOTAL	\$ <u>1100.00</u>

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2052.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	19.00	54.00
INITIAL SHUT-IN	57.00		1156.00
FINAL FLOW	60.00	85.00	112.00
FINAL SHUT-IN	120.00		1165.00

FINAL HYDROSTATIC PRESSURE: 2037.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 5/21/93	TICKET : 19110
CUSTOMER : HARRIS OIL & GAS COMPANY	LEASE : GARDEN CITY CO.
WELL : #3-16	GEOLOGIST: PEARSON
ELEVATION: 2968 KB	FORMATION: KANSAS CITY B
SECTION : 16	TOWNSHIP : 23S
RANGE : 34W	STATE : KS
COUNTY: FINNEY	CLOCK : 12
GAUGE SN#: 3849	RANGE : 4200

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	19.00	19.00
5.00	30.00	11.00
10.00	37.00	7.00
15.00	44.00	7.00
20.00	48.00	4.00
25.00	51.00	3.00
30.00	54.00	3.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	385.00	385.00	0.00
6.00	682.00	297.00	0.00
9.00	847.00	165.00	0.00
12.00	918.00	71.00	0.00
15.00	973.00	55.00	0.00
18.00	1008.00	35.00	0.00
21.00	1037.00	29.00	0.00
24.00	1059.00	22.00	0.00
27.00	1077.00	18.00	0.00
30.00	1090.00	13.00	0.00
33.00	1104.00	14.00	0.00
36.00	1113.00	9.00	0.00
39.00	1123.00	10.00	0.00
42.00	1132.00	9.00	0.00
45.00	1137.00	5.00	0.00
48.00	1144.00	7.00	0.00
51.00	1149.00	5.00	0.00
54.00	1152.00	3.00	0.00
57.00	1156.00	4.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	85.00	85.00
5.00	85.00	0.00
10.00	85.00	0.00
15.00	88.00	3.00
20.00	91.00	3.00
25.00	95.00	4.00
30.00	99.00	4.00
35.00	101.00	2.00
40.00	103.00	2.00
45.00	105.00	2.00
50.00	108.00	3.00
55.00	110.00	2.00
60.00	112.00	2.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	234.00	234.00	0.00
6.00	508.00	274.00	0.00
9.00	696.00	188.00	0.00
12.00	831.00	135.00	0.00
15.00	900.00	69.00	0.00
18.00	951.00	51.00	0.00
21.00	990.00	39.00	0.00
24.00	1017.00	27.00	0.00
27.00	1035.00	18.00	0.00
30.00	1047.00	12.00	0.00
33.00	1062.00	15.00	0.00
36.00	1072.00	10.00	0.00
39.00	1084.00	12.00	0.00
42.00	1093.00	9.00	0.00
45.00	1102.00	9.00	0.00
48.00	1107.00	5.00	0.00
51.00	1115.00	8.00	0.00
54.00	1119.00	4.00	0.00
57.00	1123.00	4.00	0.00
60.00	1126.00	3.00	0.00
63.00	1129.00	3.00	0.00
66.00	1132.00	3.00	0.00
69.00	1135.00	3.00	0.00
72.00	1138.00	3.00	0.00
75.00	1142.00	4.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time</u> <u>(min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
78.00	1145.00	3.00	0.00
81.00	1148.00	3.00	0.00
84.00	1150.00	2.00	0.00
87.00	1152.00	2.00	0.00
90.00	1154.00	2.00	0.00
93.00	1156.00	2.00	0.00
96.00	1158.00	2.00	0.00
99.00	1159.00	1.00	0.00
102.00	1160.00	1.00	0.00
105.00	1161.00	1.00	0.00
108.00	1162.00	1.00	0.00
111.00	1163.00	1.00	0.00
114.00	1164.00	1.00	0.00
117.00	1165.00	1.00	0.00
120.00	1165.00	0.00	0.00



Fluid Sample Report

Date 5-21-93 Ticket No. 19110Company Harris OilWell Name & No. GC 3-16 DST No. 2County Finney State KSSampler No. 200 Test Interval 4163-4177Pressure in Sampler 50 PSIG BHT 108 OFTotal Volume of Sampler 3150 cc.Total Volume of Sample: 2700 cc.Oil: 135 ^{sp. gr.} 5% cc.Water: 1269 47% cc.Mud: 1296 48% cc.Gas: 0.50 cu. ft.

Other:

Resistivity

Water: 0.18 @ 75°F of Chloride Content 34,500 ppm.Mud Pit Sample 1.3 @ 70°F of Chloride Content 4,600 ppm.Gas/Oil Ratio Gravity 35 °API @ 60 ofWhere was sample drained On Location

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date 5-21-53 Test Ticket No. 19110
 Recorder No. 2849 Capacity _____ Location _____
 Clock No. _____ Elevation _____ Well Temperature _____

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1051</u> P.S.I.	Open Tool		M
B First Initial Flow Pressure	<u>19</u> P.S.I.	First Flow Pressure	Mins. <u>50</u>	Mi
C First Final Flow Pressure	<u>54</u> P.S.I.	Initial Closed-in Pressure	Mins. <u>57</u>	Mi
D Initial Closed-in Pressure	<u>1156</u> P.S.I.	Second Flow Pressure	Mins. <u>60</u>	Mi
E Second Initial Flow Pressure	<u>85</u> P.S.I.	Final Closed-in Pressure	Mins. <u>110</u>	Mi
F Second Final Flow Pressure	<u>112</u> P.S.I.			
G Final Closed-in Pressure	<u>1165</u> P.S.I.			
H Final Hydrostatic Mud	<u>2037</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>19</u>	0	<u>54</u>	0	<u>85</u>	0	<u>112</u>
P 2 5	<u>20</u>	3	<u>585</u>	5	<u>5</u>	3	<u>234</u>
P 3 10	<u>37</u>	6	<u>682</u>	10	<u>85</u>	6	<u>508</u>
P 4 15	<u>44</u>	9	<u>847</u>	15	<u>88</u>	9	<u>696</u>
P 5 20	<u>48</u>	12	<u>918</u>	20	<u>91</u>	12	<u>831</u>
P 6 25	<u>51</u>	15	<u>972</u>	25	<u>95</u>	15	<u>900</u>
P 7 30	<u>54</u>	18	<u>1008</u>	30	<u>99</u>	18	<u>951</u>
P 8 35		21	<u>1037</u>	35	<u>101</u>	21	<u>990</u>
P 9 40		24	<u>1059</u>	40	<u>102</u>	24	<u>1017</u>
P10 45		27	<u>1077</u>	45	<u>105</u>	27	<u>1035</u>
P11 50		30	<u>1090</u>	50	<u>108</u>	30	<u>1047</u>
P12 55		33	<u>1104</u>	55	<u>110</u>	33	<u>1062</u>
P13 60		36	<u>1112</u>	60	<u>112</u>	36	<u>1072</u>
P14 65		39	<u>1123</u>	65		39	<u>1084</u>
P15 70		42	<u>1132</u>	70		42	<u>1092</u>
P16 75		45	<u>1137</u>	75		45	<u>1102</u>
P17 80		48	<u>1144</u>	80		48	<u>1107</u>
P18 85		51	<u>1149</u>	85		51	<u>1115</u>
P19 90		54	<u>1152</u>	90		54	<u>1119</u>
P20 95		57	<u>1156</u>	95		57	<u>1123</u>
100		60		100		60	<u>1126</u>

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. 19110

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

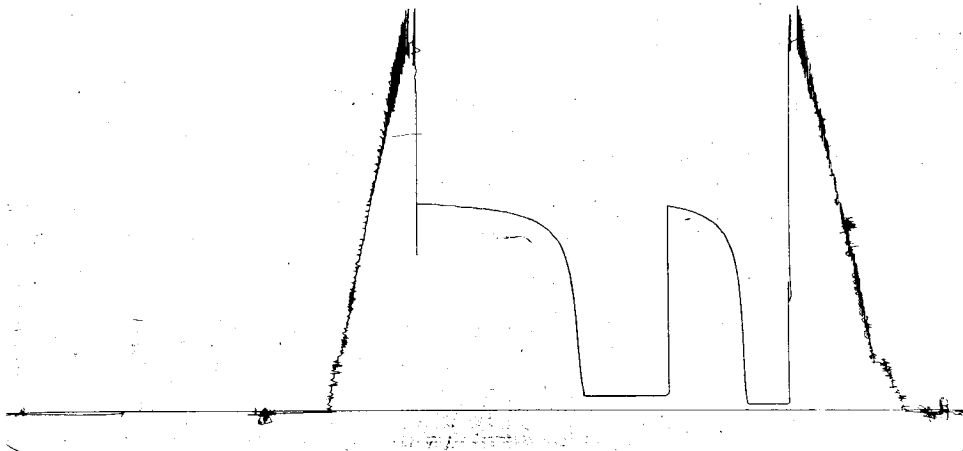
First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105		63		105		63	1129
P 2 110		66		110		66	1132
P 3 115		69		115		69	1135
P 4 120		72		120		72	1138
P 5 125		75		125		75	1142
P 6 130		78		130		78	1145
P 7 135		81		135		81	1148
P 8 140		84		140		84	1150
P 9 145		87		145		87	1152
P10 150		90		150		90	1154
P11 155		93		155		93	1156
P12 160		96		160		96	1158
P13 165		99		165		99	1159
P14 170		102		170		102	1160
P15 175		105		175		105	1161
P16 180		108		180		108	1162
P17 185		111		185		111	1163
P18 190		114		190		114	1164
P19 195		117		195		117	1165
P20 200		120		200		120	1165

KT 19/10

204 DST 2

17

0

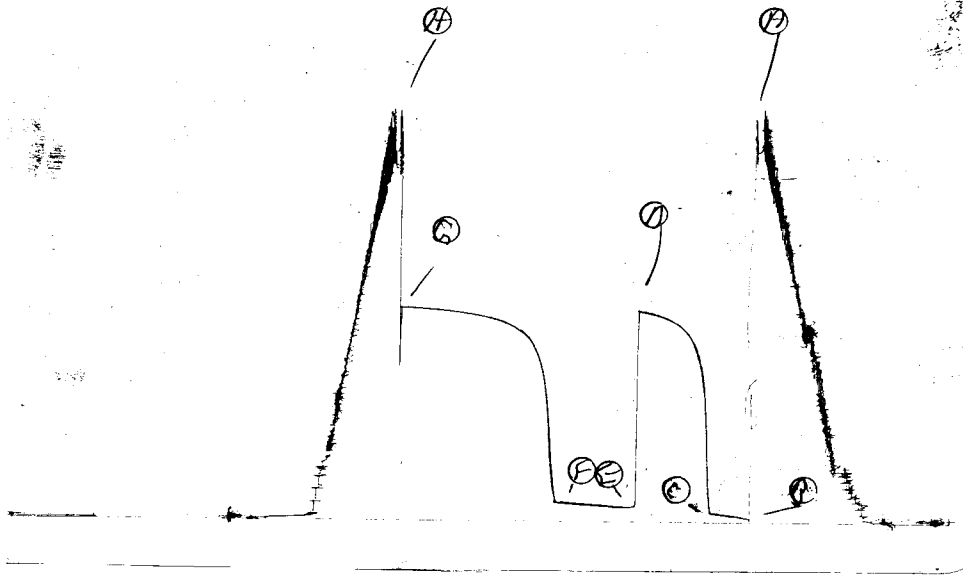


KT 19/10

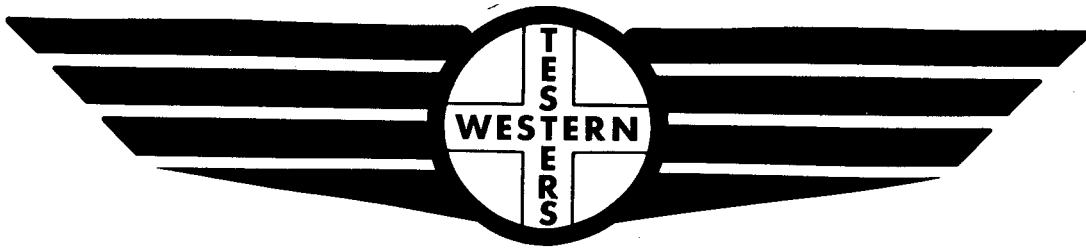
43849 DST 2

17

7



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688- 7021

DST REPORT

GENERAL INFORMATION

DATE	: 5/21/93	TICKET	: 19110
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST: 2	GEOLOGIST: PEARSON
ELEVATION	: 2968 KB	FORMATION	: KANSAS CITY B
SECTION	: 16	TOWNSHIP	: 23S
RANGE	: 34W	STATE	: KS
GAUGE SN#	: 3849	RANGE	: 4200
		CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	4163.00 ft	TO:	4177.00 ft	TVD:	4177.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	4166.0 ft		4169.0 ft		
TEMPERATURE:	108.0				
DRILL COLLAR LENGTH:	558.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3573.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	14.0 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:	4158.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	4163.0 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. :	ALLEN RIG 5	VISCOSITY :	44.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	12.800 cc
WEIGHT :	9.200 ppg		
CHLORIDES :	2800 ppm	SERIAL NUMBER:	404
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD VERY WEAK 1/4 INCH BLOW SLOWLY
BUILT TO 1 1/2 INCH IN 22 MINUTES - STABILIZED.
FINAL FLOW PERIOD NO BLOW - SLOWLY BUILT TO 1 1/4

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

INCH BLOW IN 60 MINUTES.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
3.0	100.0	0.0	0.0	0.0	CLEAN OIL
0.0	0.0	0.0	0.0	0.0	GRAVITY 35 @ 60 DEGREES F
70.0	0.0	0.0	58.0	42.0	MUD CUT WATER W/SCUM OIL
90.0	4.0	4.0	45.0	47.0	SL. OIL & GAS C/WTRY MUD
0.0	0.0	0.0	0.0	0.0	CHLORIDES 34500 PPM
0.0	0.0	0.0	0.0	0.0	RW .18 @ 75 DEGREES F

RATE INFORMATION

OIL VOLUME:	0.0325 STB	TOTAL FLOW TIME:	90.0000 min.
GAS VOLUME:	0.0994 SCF	AVERAGE OIL RATE:	0.7910 STB/D
MUD VOLUME:	0.3526 STB	AVERAGE WATER RATE:	11.7506 STB/D
WATER VOLUME:	0.3988 STB		
TOTAL FLUID :	0.7838 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2048.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	14.00	44.00
INITIAL SHUT-IN	60.00		1148.00
FINAL FLOW	60.00	65.00	100.00
FINAL SHUT-IN	120.00		1152.00

FINAL HYDROSTATIC PRESSURE: 2029.00

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 5/21/93	TICKET	: 19110
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST: 2	GEOLOGIST: PEARSON
ELEVATION	: 2968 KB	FORMATION	: KANSAS CITY B
SECTION	: 16	TOWNSHIP	: 23S
RANGE	: 34W	COUNTY: FINNEY	STATE : KS
GAUGE SN#	: 3849	RANGE : 4200	CLOCK : 12

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	50.00 PSIG	BHT:	108.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	2700.00 cc		
OIL:	135.00 cc		
WATER:	1269.00 cc		
MUD:	1296.00 cc		
GAS:	0.50 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD:	.18 @ 75 DEGREES F	CHLORIDE CONTENT:	34500.00 ppm
MUD PIT SAMPLE:	1.3 @ 70 DEGREES F	CHLORIDE CONTENT:	4600.00 ppm
GAS/OIL RATIO:		GRAVITY:	35 API @ 60 DEGREES F
WHERE WAS SAMPLE DRAINED:	ON LOCATION		
REMARKS:			



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET

No 19111

P. O. BOX 1599
WICHITA, KANSAS 67201Elevation 2968 K.B. Formation K.C. "C" Eff. Pay _____ Ft.District Garden City Date 5-21-93 Customer Order No. _____COMPANY NAME Harris Oil & GasADDRESS 410 17th St. Suite 2310 Denver Colo 80202LEASE AND WELL NO. Garden City 3-16 COUNTY Finney STATE Ks. Sec. 16 Twp. 23S Rge. 34WMail Invoice To Harris Oil & Gas Co. Name Same Address See Dist. Sheet No. Copies Requested 109Mail Charts To See Dist. Sheet Address Garden City Co No. Copies Requested 5Formation Test No. 3 Interval Tested From 4200 ft. to 4214 ft. Total Depth 4214 ft.Packer Depth 4195 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.Packer Depth 4200 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4203 ft.Recorder Number 3849 Cap. 4200Bottom Recorder Depth (Outside) 4206 ft.Recorder Number 2604 Cap. 4150

Below Straddle Recorder Depth _____ ft.

Recorder Number _____ Cap. _____

Drilling Contractor Alken Rq 5Drill Collar Length 558 I. D. 2 1/4 in.Mud Type Chem Viscosity 47

Weight Pipe Length _____ I. D. _____ in.

Weight 9.2 Water Loss 13.6 cc.Drill Pipe Length 3610 I. D. 38 in.Chlorides 3800 P.P.M.Test Tool Length 32 ft. Tool Size 5 1/2 in.Jars: Make W.T.C. Serial Number 404Anchor Length 14 ft. Size 5 1/2 in.Did Well Flow? No Reversed Out YesSurface Choke Size 3/4 in. Bottom Choke Size 3/4 in.Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.Blow: Weak 1/2" to Strong "B.O.B." in 5 Min. I.F.Weak 1/2" to Strong in 8 Min. F.F.

MAY 25 1993

Recovered ?? ft. of G.I.P. Not measurable due to sig. difficultyRecovered 188.36 ft. of Chen OilRecovered 919.64 ft. of Salt WTR. P.W. O. 12 at 70°F. 61,000 P.P.M.

Recovered _____ ft. of _____

Recovered _____ ft. of Total Fluid Rec. 1108'Chlorides 61,000 P.P.M. Sample Jars used _____ Remarks: Was well stuck at end of F.C.I.P.Dropped Bar, Spotted Oil, Pulled hose at 2:30 P.M.Fluid Rec. was estimate off F.F.Press. & Percentages Rec. in Fluid SamplerTime On Location 10:00 A.M. Time Pick Up Tool 10:30 A.M. Time Off Location _____ A.M.Time Set Packer(s) 12:40 P.M. Time Started Off Bottom 5:10 P.M. Maximum Temperature 110°FInitial Hydrostatic Pressure _____ (A) 2112 P.S.I.Initial Flow Period _____ Minutes 30 (B) 63 P.S.I. to (C) 321 P.S.I.Initial Closed In Period _____ Minutes 60 (D) 1236 P.S.I.Final Flow Period _____ Minutes 60 (E) 359 P.S.I. to (F) 554 P.S.I.Final Closed In Period _____ Minutes 120 (G) 1236 P.S.I.Final Hydrostatic Pressure _____ (H) 2091 P.S.I.

COMPANY TERMS

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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 Roger Pearson
Signature of Customer or his authorized representativeWestern Representative George L. Stoyan

FIELD INVOICE

Open Hole Test	\$ <u>600</u>
Misrun	\$ _____
Straddle Test	\$ _____
Jars	\$ <u>425</u>
Selective Zone	\$ _____
Safety Joint	\$ <u>15</u>
Standby	\$ _____
Evaluation	\$ _____
Extra Packer	\$ _____
Circ. Sub.	\$ <u>25</u>
Mileage	\$ _____
Fluid Sampler	\$ <u>500</u>
Extra Charts	\$ <u>40</u>
Insurance	\$ _____
Telecopier	\$ _____
TOTAL	\$ <u>1145.00</u>



Fluid Sample Report

Date 5-21-93 Ticket No. 19111

Company Harris Oil Co.

Well Name & No. G.C. 3-16 DST No. 3

County Finney State KS

Sampler No. 200 Test Interval 4200-4214

Pressure in Sampler 168 PSIG BHT 110 OF

Total Volume of Sampler 3150 cc.

Total Volume of Sample: 2950 spin out cc.

Oil: 501.5 17% cc.

Water: 2448.5 83% cc.

Mud: _____ cc.

Gas: 1.58 cu. ft.

Other: _____

Resistivity

Water: 0.12 @ 70°F of Chloride Content 61,000 ppm.

Mud Pit Sample 1.1 @ 60°F of Chloride Content 6,200 ppm.

Gas/Oil Ratio _____ Gravity _____ °API @ _____ of

Where was sample drained On Location

Remarks: _____

WESTERN TESTING CO., INC.

Pressure Data

Date 5-21-92 Test Ticket No. 1911

Recorder No. 2849 Capacity _____ Location _____

Clock No. _____ Elevation _____ Well Temperature _____

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2108</u> P.S.I.			
B First Initial Flow Pressure	<u>70</u> P.S.I.	First Flow Pressure	<u>30</u> Mins	<u>30</u> Mi
C First Final Flow Pressure	<u>328</u> P.S.I.	Initial Closed-in Pressure	<u>60</u> Mins	<u>60</u> Mi
D Initial Closed-in Pressure	<u>1142</u> P.S.I.	Second Flow Pressure	<u>55</u> Mins	<u>55</u> Mi
E Second Initial Flow Pressure	<u>372</u> P.S.I.	Final Closed-in Pressure	<u>140</u> Mins	<u>140</u> Mi
F Second Final Flow Pressure	<u>516</u> P.S.I.			
G Final Closed-in Pressure	<u>1144</u> P.S.I.			
H Final Hydrostatic Mud	<u>1916</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>70</u>	0	<u>328</u>	0	<u>372</u>	0	<u>516</u>
P 2 5	<u>106</u>	3	<u>1005</u>	5	<u>324</u>	3	<u>1020</u>
P 3 10	<u>184</u>	6	<u>1107</u>	10	<u>390</u>	6	<u>1127</u>
P 4 15	<u>259</u>	9	<u>1153</u>	15	<u>409</u>	9	<u>1156</u>
P 5 20	<u>287</u>	12	<u>1174</u>	20	<u>432</u>	12	<u>1171</u>
P 6 25	<u>314</u>	15	<u>1192</u>	25	<u>457</u>	15	<u>1184</u>
P 7 30	<u>328</u>	18	<u>1205</u>	30	<u>478</u>	18	<u>1199</u>
P 8 35		21	<u>1214</u>	35	<u>498</u>	21	<u>1205</u>
P 9 40		24	<u>1217</u>	40	<u>516</u>	24	<u>1209</u>
P10 45		27	<u>1220</u>	45	<u>522</u>	27	<u>1214</u>
P11 50		30	<u>1224</u>	50	<u>550</u>	30	<u>1219</u>
P12 55		33	<u>1228</u>	55	<u>516</u>	33	<u>1221</u>
P13 60		36	<u>1232</u>	60		36	<u>1223</u>
P14 65		39	<u>1235</u>	65		39	<u>1225</u>
P15 70		42	<u>1238</u>	70		42	<u>1227</u>
P16 75		45	<u>1241</u>	75		45	<u>1228</u>
P17 80		48	<u>1242</u>	80		48	<u>1229</u>
P18 85		51	<u>1243</u>	85		51	<u>1230</u>
P19 90		54	<u>5</u>	90		54	<u>1231</u>
P20 95		57	<u>5</u>	95		57	<u>5</u>
100		60	<u>1242</u>	100		60	<u>1231</u>

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. 1911

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

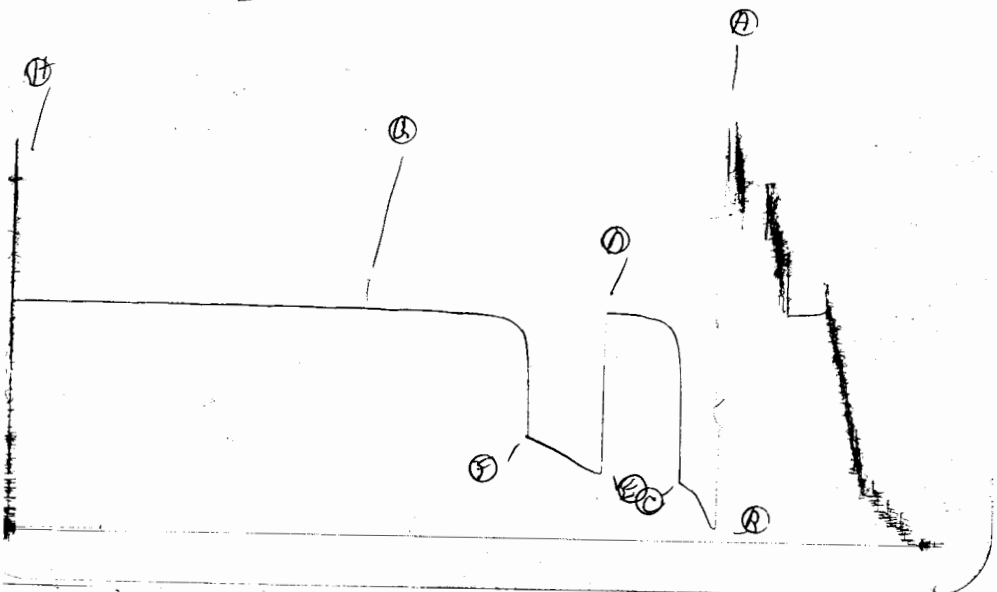
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.	Open Tool _____ M		
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure _____ Mins. _____ Mins.		
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure _____ Mins. _____ Mins.		
D Initial Closed-in 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 _____ 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 1 105		63		105		63	<u>1222</u>
P 2 110		66		110		66	<u>1233</u>
P 3 115		69		115		69	<u>1234</u>
P 4 120		72		120		72	<u>1235</u>
P 5 125		75		125		75	<u>1236</u>
P 6 130		78		130		78	<u>1237</u>
P 7 135		81		135		81	<u>1238</u>
P 8 140		84		140		84	<u>1239</u>
P 9 145		87		145		87	<u>1240</u>
P10 150		90		150		90	<u>1241</u>
P11 155		93		155		93	
P12 160		96		160		96	
P13 165		99		165		99	
P14 170		102		170		102	
P15 175		105		175		105	<u>1241</u>
P16 180		108		180		108	<u>1242</u>
P17 185		111		185		111	<u>1243</u>
P18 190		114		190		114	<u>1244</u>
P19 195		117		195		117	
P20 200		120		200		120	<u>1244</u>

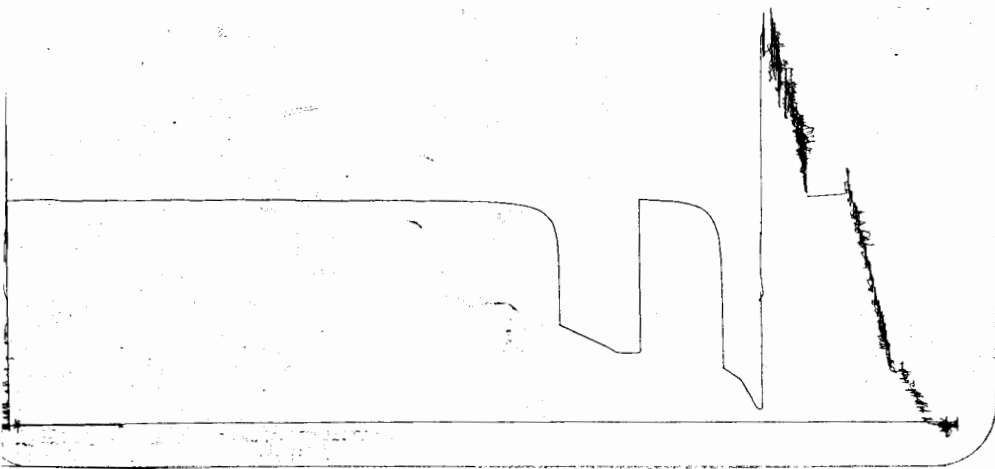
K4 19111
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#3847 DST 3
17

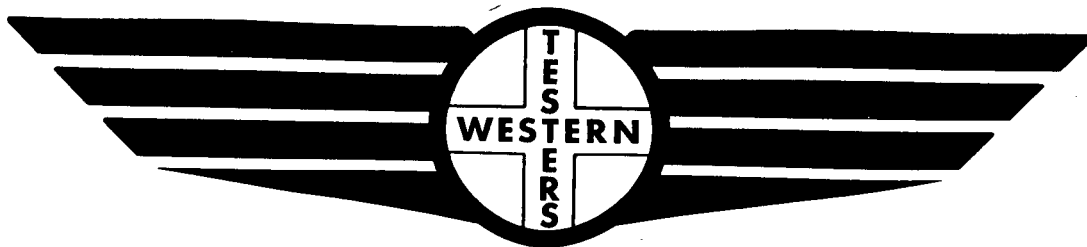


K4 19111
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2604 DST 3
17



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

DST REPORT

GENERAL INFORMATION

DATE	: 5/21/93	TICKET	: 19111
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST: 3	GEOLOGIST: PEARSON
ELEVATION	: 2968 KB	FORMATION	: KANSAS CITY C
SECTION	: 16	TOWNSHIP	: 23S
RANGE	: 34W	COUNTY: FINNEY	STATE : KS
GAUGE SN#	: 3849	RANGE : 4200	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	4200.00 ft	TO:	4214.00 ft	TVD:	4214.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	4203.0 ft		4206.0 ft		
TEMPERATURE:	110.0				
DRILL COLLAR LENGTH:	558.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3610.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	14.0 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:	4195.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	4200.0 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. :	ALLEN RIG 5	VISCOSITY :	47.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	13.600 cc
WEIGHT :	9.200 ppg		
CHLORIDES :	3800 ppm	SERIAL NUMBER:	404
JARS-MAKE :	WTC	REVERSED OUT?:	YES
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK 1/2 INCH BLOW TO STRONG
BLOW- BOTTOM OF BUCKET IN 5 MINUTES. FINAL FLOW
PERIOD WEAK 1/2 INCH BLOW TO STRONG IN 8 MINUTES.

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

WAS WALL STUCK AT END OF FINAL CLOSE IN PERIOD-
DROPPED BAR, SPOTTED OIL, PULLED LOOSE AT 2:30 PM
FLUID RECOVERED WAS ESTIMATE FROM FINAL FLOW
PRESSURES & PERCENTAGES REC. IN FLUID SAMPLER.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
188.4	100.0	0.0	0.0	0.0	CLEAN OIL
919.6	0.0	0.0	100.0	0.0	SALTWATER
0.0	0.0	0.0	0.0	0.0	RW .12 @ 70 DEGREES F
0.0	0.0	0.0	0.0	0.0	CHLORIDES 61000 PPM
0.0	0.0	0.0	0.0	0.0	GAS ABOVE FLUID WAS NOT
0.0	0.0	0.0	0.0	0.0	MEASUREABLE DUE TO RIG
0.0	0.0	0.0	0.0	0.0	DIFFICULTY

RATE INFORMATION

OIL VOLUME: 2.6426 STB
GAS VOLUME: 0.0000 SCF
MUD VOLUME: 0.0000 STB
WATER VOLUME: 7.8159 STB
TOTAL FLUID : 10.4584 STB

TOTAL FLOW TIME: 85.0000 min.
AVERAGE OIL RATE: 44.7682 STB/D
AVERAGE WATER RATE: 132.4103 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2112.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	63.00	321.00
INITIAL SHUT-IN	60.00		1236.00
FINAL FLOW	60.00	359.00	554.00
FINAL SHUT-IN	120.00		1236.00

FINAL HYDROSTATIC PRESSURE: 2091.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2108.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	70.00	328.00
INITIAL SHUT-IN	60.00		1243.00
FINAL FLOW	55.00	372.00	566.00
FINAL SHUT-IN	120.00		1244.00

FINAL HYDROSTATIC PRESSURE: 1916.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 5/21/93	TICKET : 19111
CUSTOMER : HARRIS OIL & GAS COMPANY	LEASE : GARDEN CITY CO.
WELL : #3-16	GEOLOGIST: PEARSON
ELEVATION: 2968 KB	FORMATION: KANSAS CITY C
SECTION : 16	TOWNSHIP : 23S
RANGE : 34W	STATE : KS
GAUGE SN#: 3849	CLOCK : 12
COUNTY: FINNEY	
RANGE : 4200	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	70.00	70.00
5.00	106.00	36.00
10.00	184.00	78.00
15.00	259.00	75.00
20.00	287.00	28.00
25.00	314.00	27.00
30.00	328.00	14.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	1005.00	1005.00	0.00
6.00	1107.00	102.00	0.00
9.00	1153.00	46.00	0.00
12.00	1174.00	21.00	0.00
15.00	1192.00	18.00	0.00
18.00	1205.00	13.00	0.00
21.00	1214.00	9.00	0.00
24.00	1217.00	3.00	0.00
27.00	1220.00	3.00	0.00
30.00	1224.00	4.00	0.00
33.00	1228.00	4.00	0.00
36.00	1232.00	4.00	0.00
39.00	1235.00	3.00	0.00
42.00	1238.00	3.00	0.00
45.00	1241.00	3.00	0.00
48.00	1242.00	1.00	0.00
51.00	1243.00	1.00	0.00
54.00	1243.00	0.00	0.00
57.00	1243.00	0.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	1243.00	0.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	372.00	372.00
5.00	376.00	4.00
10.00	390.00	14.00
15.00	409.00	19.00
20.00	432.00	23.00
25.00	457.00	25.00
30.00	478.00	21.00
35.00	498.00	20.00
40.00	516.00	18.00
45.00	532.00	16.00
50.00	550.00	18.00
55.00	566.00	16.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	1020.00	1020.00	0.00
6.00	1127.00	107.00	0.00
9.00	1156.00	29.00	0.00
12.00	1171.00	15.00	0.00
15.00	1184.00	13.00	0.00
18.00	1199.00	15.00	0.00
21.00	1205.00	6.00	0.00
24.00	1209.00	4.00	0.00
27.00	1214.00	5.00	0.00
30.00	1219.00	5.00	0.00
33.00	1221.00	2.00	0.00
36.00	1223.00	2.00	0.00
39.00	1225.00	2.00	0.00
42.00	1227.00	2.00	0.00
45.00	1228.00	1.00	0.00
48.00	1229.00	1.00	0.00
51.00	1230.00	1.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
54.00	1231.00	1.00	0.00
57.00	1231.00	0.00	0.00
60.00	1231.00	0.00	0.00
63.00	1232.00	1.00	0.00
66.00	1233.00	1.00	0.00
69.00	1234.00	1.00	0.00
72.00	1235.00	1.00	0.00
75.00	1236.00	1.00	0.00
78.00	1237.00	1.00	0.00
81.00	1238.00	1.00	0.00
84.00	1239.00	1.00	0.00
87.00	1240.00	1.00	0.00
90.00	1241.00	1.00	0.00
93.00	1241.00	0.00	0.00
96.00	1241.00	0.00	0.00
99.00	1241.00	0.00	0.00
102.00	1241.00	0.00	0.00
105.00	1241.00	0.00	0.00
108.00	1242.00	1.00	0.00
111.00	1243.00	1.00	0.00
114.00	1244.00	1.00	0.00
117.00	1244.00	0.00	0.00
120.00	1244.00	0.00	0.00

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 5/21/93	TICKET	: 19111
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST:	3
ELEVATION:	2968 KB	GEOLOGIST:	PEARSON
SECTION	: 16	FORMATION:	KANSAS CITY C
RANGE	: 34W	TOWNSHIP	: 23S
GAUGE SN#:	3849	STATE	: KS
		CLOCK	: 12
	COUNTY: FINNEY		
	RANGE : 4200		

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	168.00 PSIG	BHT:	110.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	2950.00 cc		
OIL:	501.50 cc		
WATER:	2448.50 cc		
MUD:	0.00 cc		
GAS:	1.58 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD:	.12 @ 70 DEGREES F	CHLORIDE CONTENT:	61000.00 ppm
MUD PIT SAMPLE:	1.1 @ 60 DEGREES F	CHLORIDE CONTENT:	6200.00 ppm
GAS/OIL RATIO:		GRAVITY:	
WHERE WAS SAMPLE DRAINED:	ON LOCATION		
REMARKS:			



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

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET

No 19112

Elevation 2968 K.B. Formation Phonetic "A" Eff. Pay 7 Ft.

District Garden City Date 5-23-93 Customer Order No. _____

COMPANY NAME Harris Oil & Gas Co

ADDRESS 410 17th St. Suite 2310 Denver Colo 80202

LEASE AND WELL NO Garden City 3-16 COUNTY Finney STATE KS Sec. 16 Twp 23S Rge 34W

Mail Invoice To Harris Oil & Gas Co Co. Name Same Address See Chart No. Copies Requested See Chart

Mail Charts To See Chart Address 713 16th Garden City Co No. Copies Requested See Chart

Formation Test No. 4 Interval Tested From 4270 ft. to 4280 ft. Total Depth 4280 ft.

Packer Depth 4265 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 4270 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4274 ft. Recorder Number 3849 Cap 4200

Bottom Recorder Depth (Outside) 4277 ft. Recorder Number 2604 Cap 4150

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

Drilling Contractor Allen Rig 5 Drill Collar Length 558 I. D. 2 1/4 in.

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

Weight 8.9 Water Loss 8.8 cc. Drill Pipe Length 3680 I. D. 3.8 in.

Chlorides 4500 P.P.M. Test Tool Length 32 ft. Tool Size 5 1/2 in.

Jars: Make W.T.C. Serial Number 404 Anchor Length 10 ft. Size 5 1/2 in.

Did Well Flow? No 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 X H. in.

Blow: Strong "B.O.B." in 1 Min. F.E.
Strong in 2 Min. GTS in 10 Min. See Flow Chart F.E.

Recovered 2,145 ft. of Clear Gassy Oil 38° Gravity at 60°F

Recovered 240 ft. of Mud cut Gassy Oil 32% Oil 35% Gas 33% mud

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of Total Fluid Recd. 2,385'

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

MAY 27 1993

Time On Location 3:15 A.M. Time Pick Up Tool 5:15 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 6:55 A.M. Time Started Off Bottom 11:25 A.M. Maximum Temperature 108°F

Initial Hydrostatic Pressure _____ (A) 2048 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 182 P.S.I. to (C) 351 P.S.I.

Initial Closed In Period _____ Minutes 60 (D) 1223 P.S.I.

Final Flow Period _____ Minutes 60 (E) 404 P.S.I. to (F) 667 P.S.I.

Final Closed In Period _____ Minutes 120 (G) 1223 P.S.I.

Final Hydrostatic Pressure _____ (H) 2006 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 [Signature]
Signature of Customer or his authorized representative

Western Representative [Signature]

FIELD INVOICE

Open Hole Test ✓ \$ 400
Misrun \$ _____
Straddle Test \$ _____
Jars ✓ \$ 55
Selective Zone \$ _____
Safety Joint ✓ \$ 25
Standby \$ _____
Evaluation \$ _____
Extra Packer \$ _____
Circ. Sub. ✓ \$ _____
Mileage \$ _____
Fluid Sampler ✓ \$ 200
Extra Charts ✓ \$ 40
Insurance \$ _____
Telecopier \$ _____
TOTAL \$ 1110

**Fluid Sample Report**Date 5-23-93 Ticket No. 19112Company Harris Oil & GasWell Name & No. GC 3-16 DST No. 4County Finney State KSSampler No. 200 Test Interval 4270-4280Pressure in Sampler 485 PSIG BHT 108 °FTotal Volume of Sampler 3150 cc.Total Volume of Sample: 2700 cc.Oil: 2700 cc.

Water: _____ cc.

Mud: _____ cc.

Gas: 4.5 cu. ft.

Other: _____

Resistivity

Water: _____ @ _____ of Chloride Content _____ ppm.

Mud Pit Sample 0.95 @ 60°F of Chloride Content 7400 ppm.Gas/Oil Ratio _____ Gravity 38 °API @ 60 °FWhere was sample drained On Location

Remarks: _____

WICHITA, KANSAS 67201

Nº 4763

GAS FLOW REPORT

Date 5-23-93 Ticket 19112 Company Harris O+G
Well Name and No. Gardn. City 3-16 Dst No. 4 Interval Tested 4270-4280
County Finney State KS. Sec. 16 Twp. 23S. Rg. 34W.

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

[illegible]

SECOND FLOW

[illegible]

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 1½% 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 5-24-74

Test Ticket No. 19112

Recorder No. 2849

Capacity _____

Location _____

Clock No. _____ Elevation _____

Well Temperature _____

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2027</u>	P.S.I.	Open Tool	M
B First Initial Flow Pressure	<u>157</u>	P.S.I.	First Flow Pressure	Mins <u>30</u> Mi
C First Final Flow Pressure	<u>319</u>	P.S.I.	Initial Closed-in Pressure	Mins <u>60</u> Mi
D Initial Closed-in Pressure	<u>1219</u>	P.S.I.	Second Flow Pressure	Mins <u>60</u> Mi
E Second Initial Flow Pressure	<u>398</u>	P.S.I.	Final Closed-in Pressure	Mins <u>117</u> Mi
F Second Final Flow Pressure	<u>652</u>	P.S.I.		
G Final Closed-in Pressure	<u>1217</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1977</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>157</u>	0	<u>219</u>	0	<u>398</u>	0	<u>652</u>
P 2 5	<u>177</u>	3	<u>1098</u>	5	<u>400</u>	3	<u>1103</u>
P 3 10	<u>199</u>	6	<u>1156</u>	10	<u>410</u>	6	<u>1154</u>
P 4 15	<u>232</u>	9	<u>1175</u>	15	<u>425</u>	9	<u>1166</u>
P 5 20	<u>267</u>	12	<u>1188</u>	20	<u>465</u>	12	<u>1126</u>
P 6 25	<u>310</u>	15	<u>1196</u>	25	<u>497</u>	15	<u>1183</u>
P 7 30	<u>319</u>	18	<u>1200</u>	30	<u>524</u>	18	<u>1188</u>
P 8 35		21	<u>1203</u>	35	<u>548</u>	21	<u>1192</u>
P 9 40		24	<u>1205</u>	40	<u>574</u>	24	<u>1194</u>
P10 45		27	<u>1206</u>	45	<u>602</u>	27	<u>1199</u>
P11 50		30	<u>1207</u>	50	<u>622</u>	30	<u>1201</u>
P12 55		33	<u>1209</u>	55	<u>642</u>	33	<u>1203</u>
P13 60		36	<u>1211</u>	60	<u>652</u>	36	<u>1204</u>
P14 65		39	<u>1213</u>	65		39	<u>1205</u>
P15 70		42	<u>1215</u>	70		42	<u>1206</u>
P16 75		45	<u>1217</u>	75		45	<u>1207</u>
P17 80		48	<u>1218</u>	80		48	<u>1207</u>
P18 85		51	<u>1219</u>	85		51	<u>1208</u>
P19 90		54		90		54	<u>1208</u>
P20 95		57		95		57	<u>1209</u>
100		60	<u>1219</u>	100		60	<u>1209</u>

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. 19112

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.			

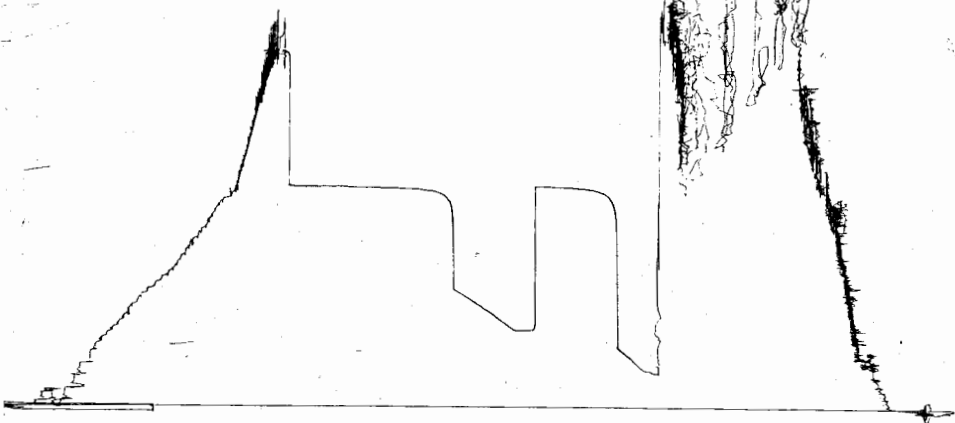
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ 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 1 105		63		105		63	1210
P 2 110		66		110		66	1210
P 3 115		69		115		69	1211
P 4 120		72		120		72	1211
P 5 125		75		125		75	1212
P 6 130		78		130		78	1213
P 7 135		81		135		81	1214
P 8 140		84		140		84	1215
P 9 145		87		145		87	1216
P10 150		90		150		90	1217
P11 155		93		155		93	
P12 160		96		160		96	
P13 165		99		165		99	
P14 170		102		170		102	
P15 175		105		175		105	
P16 180		108		180		108	
P17 185		111		185		111	
P18 190		114		190		114	
P19 195		117		195		117	1217
P20 200		120		200		120	

KT 19112
0

2604 DST 4

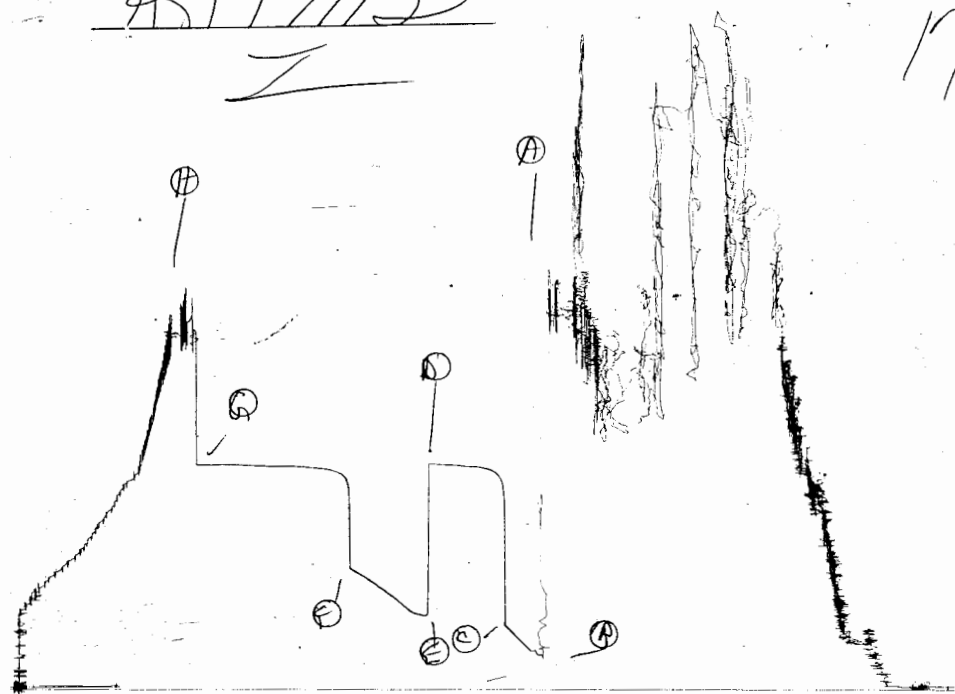
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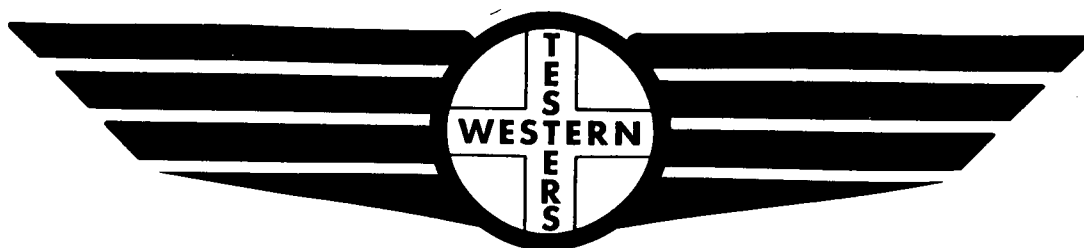
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43849 DST 4

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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

COMPANY HARRIS OIL & GAS COMPANY LEASE & WELL NO. #3-16 GARDEN CITY SEC. 16 TWP. 23S RGE. 34W TEST NO. 4 DATE 5/23/93
CO

DST REPORT

GENERAL INFORMATION

DATE	: 5/23/93	TICKET	: 19112
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST:	4
ELEVATION:	2968 KB	GEOLOGIST:	FRANKLIN
SECTION	: 16	FORMATION:	MARMATON A
RANGE	: 34W	COUNTY:	FINNEY
GAUGE SN#:	3849	RANGE	: 4200
		STATE	: KS
		CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	4270.00 ft	TO:	4280.00 ft	TVD:	4280.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	GAS
DEPTH OF RECORDERS:	4274.0 ft		4277.0 ft		
TEMPERATURE:	108.0				
DRILL COLLAR LENGTH:	558.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3680.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	10.0 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:	4265.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	4270.0 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. :	ALLEN RIG 5	VISCOSITY :	54.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	8.800 cc
WEIGHT :	8.900 ppg		
CHLORIDES :	4500 ppm	SERIAL NUMBER:	404
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW - BOTTOM OF BUCKET
IN 1 MINUTE. FINAL FLOW PERIOD STRONG BLOW IN 2
MINUTES. GAS TO SURFACE IN 10 MINUTES. SEE GAS

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 5/23/93	TICKET : 19112
CUSTOMER : HARRIS OIL & GAS COMPANY	LEASE : GARDEN CITY CO.
WELL : #3-16 TEST: 4	GEOLOGIST: FRANKLIN
ELEVATION: 2968 KB	FORMATION: MARMATON A
SECTION : 16	TOWNSHIP : 23S
RANGE : 34W COUNTY: FINNEY	STATE : KS
GAUGE SN#: 3849 RANGE : 4200	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
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SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
15 MIN	MERLA	0.250	3" WATER	2920 SCF/D
20 MIN	MERLA	0.250	6" WATER	4120 SCF/D
30 MIN	MERLA	0.250	8" WATER	4760 SCF/D
40 MIN	MERLA	0.500	14" WATER	23700 SCF/D
50 MIN	MERLA	0.250	10" WATER	5320 SCF/D
60 MIN	MERLA	0.250	14" WATER	6330 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 5/23/93
CUSTOMER : HARRIS OIL & GAS COMPANY
WELL : #3-16 TEST: 4
ELEVATION: 2968 KB
SECTION : 16
RANGE : 34W COUNTY: FINNEY
GAUGE SN#: 3849 RANGE : 4200

TICKET : 19112
LEASE : GARDEN CITY CO.
GEOLOGIST: FRANKLIN
FORMATION: MARMATON A
TOWNSHIP : 23S
STATE : KS
CLOCK : 12

INITIAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	157.00	157.00
5.00	177.00	20.00
10.00	199.00	22.00
15.00	233.00	34.00
20.00	267.00	34.00
25.00	310.00	43.00
30.00	319.00	9.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	1098.00	1098.00	0.00
6.00	1156.00	58.00	0.00
9.00	1175.00	19.00	0.00
12.00	1188.00	13.00	0.00
15.00	1196.00	8.00	0.00
18.00	1200.00	4.00	0.00
21.00	1203.00	3.00	0.00
24.00	1205.00	2.00	0.00
27.00	1206.00	1.00	0.00
30.00	1207.00	1.00	0.00
33.00	1209.00	2.00	0.00
36.00	1211.00	2.00	0.00
39.00	1213.00	2.00	0.00
42.00	1215.00	2.00	0.00
45.00	1217.00	2.00	0.00
48.00	1218.00	1.00	0.00
51.00	1219.00	1.00	0.00
54.00	1219.00	0.00	0.00
57.00	1219.00	0.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	1219.00	0.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	398.00	398.00
5.00	400.00	2.00
10.00	410.00	10.00
15.00	435.00	25.00
20.00	465.00	30.00
25.00	497.00	32.00
30.00	524.00	27.00
35.00	548.00	24.00
40.00	574.00	26.00
45.00	602.00	28.00
50.00	622.00	20.00
55.00	642.00	20.00
60.00	652.00	10.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	1103.00	1103.00	0.00
6.00	1154.00	51.00	0.00
9.00	1166.00	12.00	0.00
12.00	1176.00	10.00	0.00
15.00	1183.00	7.00	0.00
18.00	1188.00	5.00	0.00
21.00	1192.00	4.00	0.00
24.00	1196.00	4.00	0.00
27.00	1199.00	3.00	0.00
30.00	1201.00	2.00	0.00
33.00	1203.00	2.00	0.00
36.00	1204.00	1.00	0.00
39.00	1205.00	1.00	0.00
42.00	1206.00	1.00	0.00
45.00	1207.00	1.00	0.00
48.00	1207.00	0.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
51.00	1208.00	1.00	0.00
54.00	1208.00	0.00	0.00
57.00	1209.00	1.00	0.00
60.00	1209.00	0.00	0.00
63.00	1210.00	1.00	0.00
66.00	1210.00	0.00	0.00
69.00	1211.00	1.00	0.00
72.00	1211.00	0.00	0.00
75.00	1212.00	1.00	0.00
78.00	1213.00	1.00	0.00
81.00	1214.00	1.00	0.00
84.00	1215.00	1.00	0.00
87.00	1216.00	1.00	0.00
90.00	1217.00	1.00	0.00
93.00	1217.00	0.00	0.00
96.00	1217.00	0.00	0.00
99.00	1217.00	0.00	0.00
102.00	1217.00	0.00	0.00
105.00	1217.00	0.00	0.00
108.00	1217.00	0.00	0.00
111.00	1217.00	0.00	0.00
114.00	1217.00	0.00	0.00
117.00	1217.00	0.00	0.00

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

SHEET ATTACHED.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
2145.0	100.0	0.0	0.0	0.0	CLEAN GASSY OIL
0.0	0.0	0.0	0.0	0.0	38 GRAVITY @ 60 DEGREES F
240.0	32.0	35.0	0.0	33.0	MUD CUT GASSY OIL

RATE INFORMATION

OIL VOLUME: 27.5676 STB
 GAS VOLUME: 2.3194 SCF
 MUD VOLUME: 0.3895 STB
 WATER VOLUME: 0.0000 STB
 TOTAL FLUID : 27.9570 STB

TOTAL FLOW TIME: 90.0000 min.
 AVERAGE OIL RATE: 447.3126 STB/D
 AVERAGE WATER RATE: 0.0000 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2048.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	182.00	351.00
INITIAL SHUT-IN	60.00		1223.00
FINAL FLOW	60.00	404.00	667.00
FINAL SHUT-IN	120.00		1223.00

FINAL HYDROSTATIC PRESSURE: 2006.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2027.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	157.00	319.00
INITIAL SHUT-IN	60.00		1219.00
FINAL FLOW	60.00	398.00	652.00
FINAL SHUT-IN	117.00		1217.00

FINAL HYDROSTATIC PRESSURE: 1977.00

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 5/23/93	TICKET	: 19112
CUSTOMER	: HARRIS OIL & GAS COMPANY	LEASE	: GARDEN CITY CO.
WELL	: #3-16	TEST:	4
ELEVATION:	2968 KB	GEOLOGIST:	FRANKLIN
SECTION	: 16	FORMATION:	MARMATON A
RANGE	: 34W	TOWNSHIP	: 23S
GAUGE SN#:	3849	STATE	: KS
		CLOCK	: 12
	COUNTY:	FINNEY	
	RANGE	: 4200	

SAMPLE INFORMATION

PRESSURE IN SAMPLER:	485.00 PSIG	BHT:	108.0 DEG F
TOTAL VOLUME OF SAMPLER:	3150.00 cc		
TOTAL VOLUME OF SAMPLE:	2700.00 cc		
OIL:	2700.00 cc		
WATER:	0.00 cc		
MUD:	0.00 cc		
GAS:	4.50 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD:	CHLORIDE CONTENT:	0.00 ppm
MUD PIT SAMPLE: .95 @ 60 DEGREES F	CHLORIDE CONTENT:	7400.00 ppm
GAS/OIL RATIO:	GRAVITY:	38 @ 60 DEGREES F
WHERE WAS SAMPLE DRAINED: ON LOCATION		
REMARKS:		