

Company Graham - Michaelis Corporation Lease & Well No. Rose #1-21
Elevation 2169 Kelly Bushing Formation Mississippi Effective Pay - Ft. Ticket No. 13710
Date 10/19 /81 Sec. 21 Twp. 29S Range 19W County Kiowa State Kansas
Test Approved by Vernon C. Howell Western Representative Karl L. West, Jr.

Formation Test No. 1 Interval Tested from 5070 ft. to 5112 ft. Total Depth 5112 ft.
Packer Depth 5065 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Packer Depth 5070 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -

Top Recorder Depth (Inside) 5076 ft. Recorder Number 13267 Cap. 4050
Bottom Recorder Depth (Outside) 5079 ft. Recorder Number 1051 Cap. 4250
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor Slawson Drlg. Rig #2 Drill Collar Length 359 I. D. 2.26 in.
Mud Type chemical-impermiw Viscosity 42 Weight Pipe Length - I. D. - in.
Weight 9.6 Water Loss 10.0 cc. Drill Pipe Length 4726 I. D. 3.8 in.
Chlorides 24,000 P.P.M. Test Tool Length 30 ft. Tool Size 5 1/2 OD in.
Jars: Make WTC Serial Number 406 Anchor Length 42 ft. Size 5 1/2 OD 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 FH in.

Blow: Initial flow period gas to surface in thirty minutes. See attached sheet for gas measurements.

Recovered 130 ft. of gas cut mud
Recovered - ft. of -
Recovered - ft. of -
Recovered - ft. of -
Recovered - ft. of -

Remarks: Hit bridge twelve feet off bottom; broke through and slid in.

Time Set Packer(s) 1:45 ~~AM~~ P.M. Time Started Off Bottom 5:00 ~~AM~~ P.M. Maximum Temperature 124°
Initial Hydrostatic Pressure (A) 2510 P.S.I.
Initial Flow Period Minutes 60 (B) 71 * P.S.I. to (C) 90 * P.S.I.
Initial Closed In Period Minutes 30 (D) 1352 P.S.I.
Final Flow Period Minutes 60 (E) 57 P.S.I. to (F) 69 P.S.I.
Final Closed In Period Minutes 48 (G) 1541 P.S.I.
Final Hydrostatic Pressure (H) 2429 P.S.I.

GAS FLOW REPORT

Date 10/19/81 Ticket 13910 Company Graham - Michaelis Corporation
Well Name and No. Rose #1-21 Dst No. 1 Interval Tested 5070'-5112'
County Kiowa State Kansas Sec. 21 Twp. 29S Rg. 19W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
	30 min.	5.5 PSIG	1/4" orifice			21,800 CFPD
	35 min.	6.0 PSIG	1/4" orifice			22,900 CFPD
	40 min.	6.0 PSIG	1/4" orifice			22,900 CFPD
	45 min.	5.5 PSIG	1/4" orifice			21,800 CFPD
	50 min.	6.5 PSIG	1/4" orifice			23,900 CFPD
	55 min.	8.0 PSIG	1/4" orifice			27,000 CFPD
	60 min.	9.5 PSIG	1/4" orifice			29,900 CFPD

SECOND FLOW

[illegible]

GAS BOTTLE

Serial No. 68 Date Bottle Filled 10/19/81 Date to be Invoiced 10/19/81

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% per month, equal to 12% 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 Graham - Michaelis Corporation

Authorized by _____ Vernon C. Howell

WESTERN TESTING CO., INC.

Pressure Data

Date 10/19/81
 Recorder No. 13267 Capacity 4050 Test Ticket No. 13710
 Clock No. -- Elevation 2169 Kelly Bushing Location 5076 Ft.
 Well Temperature 124 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2510	P.S.I.	1:45P	M
B First Initial Flow Pressure	71 *	P.S.I.	60	60
C First Final Flow Pressure	90 *	P.S.I.	30	30
D Initial Closed-in Pressure	1352	P.S.I.	60	60
E Second Initial Flow Pressure	57	P.S.I.	45	48
F Second Final Flow Pressure	69	P.S.I.		
G Final Closed-in Pressure	1541	P.S.I.		
H Final Hydrostatic Mud	2429	P.S.I.		

* PRESSURES QUESTIONABLE DUE TO PLUGGING ACTION

PRESSURE BREAKDOWN

First Flow Pressure
 Breakdown: 12 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In
 Breakdown: 10 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

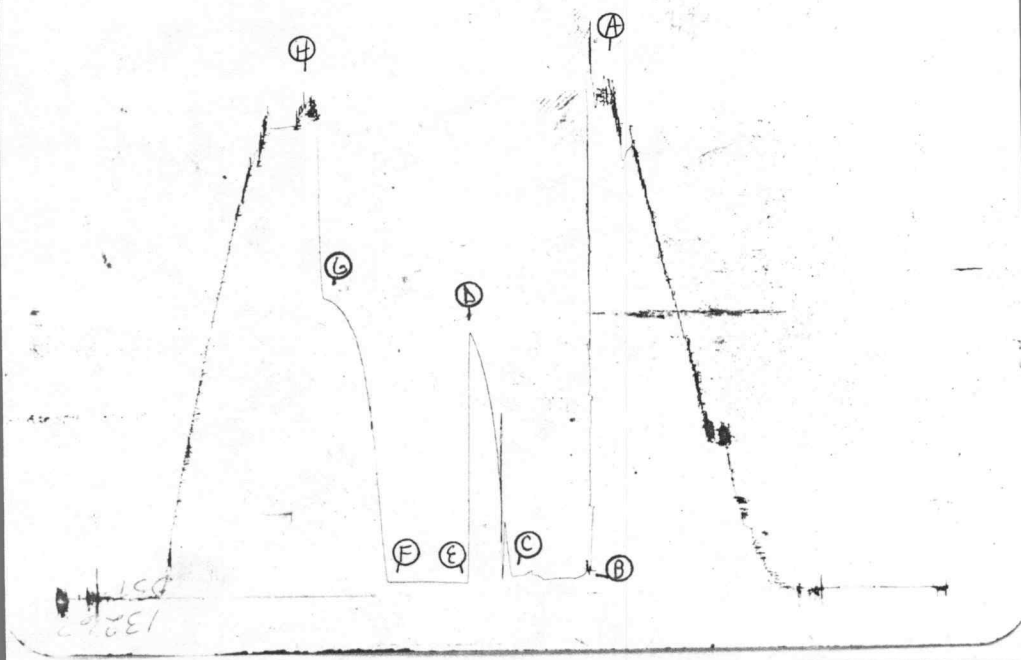
Second Flow Pressure
 Breakdown: 12 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Final Shut-In
 Breakdown: 16 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	71*	0	90 *	0	57	0	69
P 2 5	71*	3	285 *	5	60	3	249
P 3 10	71*	6	496 *	10	63	6	504
P 4 15	71*	9	728	15	64	9	740
P 5 20	71*	12	890	20	65	12	925
P 6 25	71*	15	1020	25	66	15	1055
P 7 30	71*	18	1116	30	67	18	1185
P 8 35	74*	21	1197	35	68	21	1270
P 9 40	94*	24	1260	40	69	24	1344
P10 45	111 *	27	1313	45	69	27	1382
P11 50	97*	30	1352	50	69	30	1427
P12 55	92*			55	69	33	1465
P13 60	90*			60	69	36	1490
P14						39	1512
P15						42	1527
P16						45	1537
P17						48	1541
P18							
P19							
P20							

TKT # 13710

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Company Graham - Michaelis Corporation Lease & Well No. Rose #1-21
Elevation 2169 Kelly Bushing Formation Mississippi Effective Pay - Ft. Ticket No. 13711
Date 10/ 20/81 Sec. 21 Twp. 29S Range 19W County Kiowa State Kansas
Test Approved by Vernon C. Howell Western Representative Karl L. West, Jr.

Formation Test No. 2 Interval Tested from 5104 ft. to 5132 ft. Total Depth 5132 ft.

Packer Depth 5099 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 5104 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 5120 ft. Recorder Number 13267 Cap. 4050

Bottom Recorder Depth (Outside) 5123 ft. Recorder Number 1051 Cap. 4250

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

Drilling Contractor Slawson Drlg. Rig #2 Drill Collar Length 359 I. D. 2.26 in.

Mud Type chemical-impermix viscosity 46 Weight Pipe Length - I. D. - in.

Weight 9.5 Water Loss 10.8 cc. Drill Pipe Length 4757 I. D. 3.8 in.

Chlorides 26,000 P.P.M. Test Tool Length 30 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 406 Anchor Length 28 ft. Size 5 1/2 OD 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 FH in.

Blow: PACKERS WOULD NOT HOLD CAME OUT AFTER FOURTH TRY.

Recovered 500 ft. of drilling mud

Recovered - ft. of -

Recovered - ft. of -

Recovered - ft. of -

Recovered - ft. of -

Remarks: -

Time Set Packer(s) 12:05 A.M. Time Started Off Bottom 12:15 P.M. Maximum Temperature 124°

Initial Hydrostatic Pressure 2557 (A) - P.S.I.

Initial Flow Period - Minutes (B) - P.S.I. to (C) - P.S.I.

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

Final Flow Period - Minutes (E) - P.S.I. to (F) - P.S.I.

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

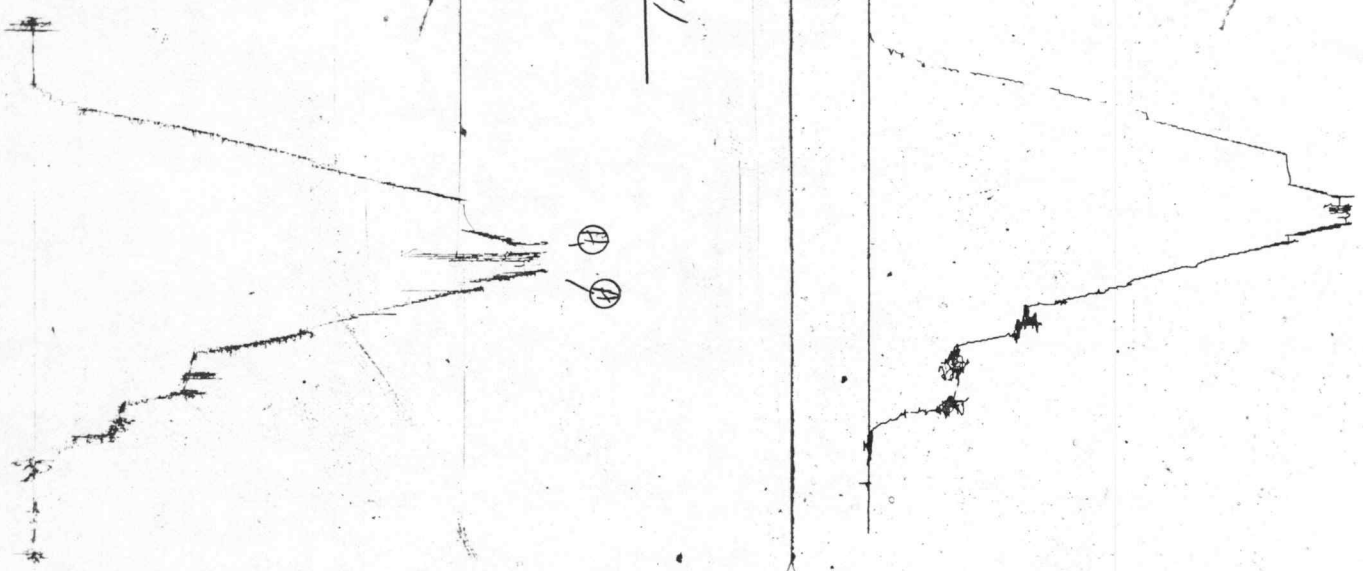
Final Hydrostatic Pressure 2557 (H) - P.S.I.

144 # 13711

ALSO
1501

144 # 13711
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Company Graham - Michaelis Corporation Lease & Well No. Rose #1-21
Elevation 2169 Kelly Bushing Formation Mississippi Effective Pay - Ft. Ticket No. 13712
Date 10/ 20/81 Sec. 21 Twp. 29S Range 19W County Kiowa State Kansas
Test Approved by Vernon C. Howell Western Representative Karl L. West, Jr.

Formation Test No. 3 Interval Tested from 5119 ft. to 5152 ft. Total Depth 5152 ft.

Packer Depth 5114 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 5119 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 5125 ft. Recorder Number 13267 Cap. 4050

Bottom Recorder Depth (Outside) 5128 ft. Recorder Number 1051 Cap. 4250

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

Drilling Contractor Slawson Drlg. Rig #2 Drill Collar Length 359 I. D. 2.26 in.

Mud Type chemical-impermix Viscosity 46 Weight Pipe Length - I. D. - in.

Weight 9.5 Water Loss 10.8 cc. Drill Pipe Length 4757 I. D. 3.8 in.

Chlorides 26,000 P.P.M. Test Tool Length 30 ft. Tool Size 5 1/2 OD in.

Jars: Make WIC Serial Number 406 Anchor Length 13 ft. Size 5 1/2 OD 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 FH in.

Blow: PACKERS NOT HOLDING : CAME OUT ON THIRD TRY.

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

MISRUN

Remarks:

Time Set Packer(s) A.M. P.M. Time Started Off Bottom A.M. P.M. Maximum Temperature

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

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

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

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

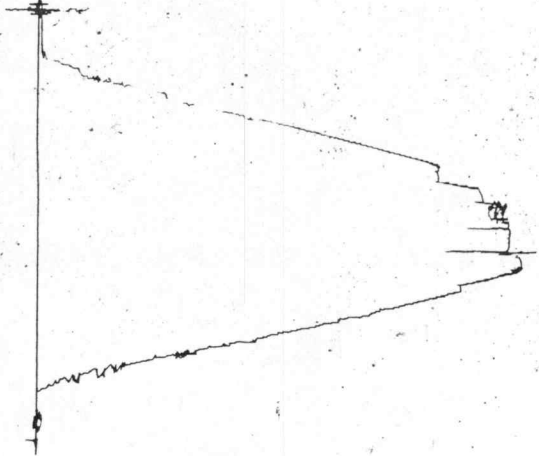
Final Closed In Period Minutes (G) P.S.I.

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

Trt # 13713

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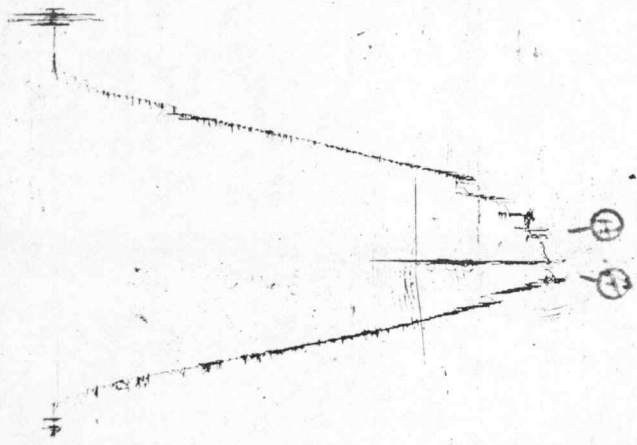
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Trt # 13712

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1326
DST 3



Company Graham-Michaelis Corporation Lease & Well No. Rose #1-21
Elevation 2361 Ground Level Formation Mississippi Effective Pay - Ft. Ticket No. 11862
Date 10/21/81 Sec. 21 Twp. 29S Range 19W County Kiowa State Kansas
Test Approved by Vernon C. Howell Western Representative Rod Tritt

Formation Test No. 4 Interval Tested from 5062 ft. to 5130 ft. Total Depth 5211 ft.

Packer Depth 5062 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 5130 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 5067 ft. Recorder Number 2606 Cap. 4150

Bottom Recorder Depth (Outside) 5070 ft. Recorder Number 4332 Cap. 4200

Below Straddle Recorder Depth 5208 ft. Recorder Number WTC Cap. -

Drilling Condition Slawson Drlg. Rig #2 Drill Collar Length 359 I. D. 2 1/4 in.

Mud Type starch Viscosity 55 Weight Pipe Length - I. D. - in.

Weight 9.5 Water Loss 8.4 cc. Drill Pipe Length 4874 I. D. 3.8 in.

Chlorides 26,000 P.P.M. Test Tool Length 28 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 409 Anchor Length 68 ft. Size 5 1/2 OD - 4 1/2 OD 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 FH in.

Blow: Strong blow; gas to surface five minutes. See attached sheet for gas measurements.

Recovered 180 ft. of gassy mud

Recovered 120 ft. of gassy oil cut mud

Recovered 480 ft. of gassy mud cut oil

Recovered 180 ft. of water Chlorides 72,000 ppm

Recovered ft. of

Remarks:

Time Set Packer(s) 10:00 A.M. P.M. Time Started Off Bottom 1:30 A.M. P.M. Maximum Temperature ?

Initial Hydrostatic Pressure (A) 2565 P.S.I.

Initial Flow Period 55 Minutes (B) 249 P.S.I. to (C) 333 P.S.I.

Initial Closed In Period 45 Minutes (D) 1529 P.S.I.

Final Flow Period 60 Minutes (E) 387 P.S.I. to (F) 487 P.S.I.

Final Closed In Period 48 Minutes (G) 1522 P.S.I.

Final Hydrostatic Pressure (H) 2565 P.S.I.

GAS FLOW REPORT

Date 10/21/81 Ticket 11862 Company Graham-Michaelis Corporation
 Well Name and No. Rose #1-21 Dst No. 4 Interval Tested 5062'-5130'
 County Kiowa State Kansas Sec. 21 Twp. 29S Rg. 19W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
	5 min.			1" orifice		Gas to surface
	10 min.	5.0 PSIG		1" orifice		319,000 CFPD
	20 min.	8.0 PSIG		1" orifice		415,000 CFPD
	30 min.	7.0 PSIG		1" orifice		385,000 CFPD
	40 min.	6.5 PSIG		1" orifice		369,000 CFPD
	50 min.	6.5 PSIG		1" orifice		369,000 CFPD
	60 min.	6.5 PSIG		1" orifice		369,000 CFPD

SECOND FLOW						
	10 min.	8.0 PSIG		1" orifice		415,000 CFPD
	20 min.	10.0 PSIG		1" orifice		472,000 CFPD
	30 min.	5.0 PSIG		1" orifice		319,000 CFPD
	40 min.	5.0 PSIG		1" orifice		319,000 CFPD
	50 min.	5.0 PSIG		1" orifice		319,000 CFPD
	60 min.	5.0 PSIG		1" orifice		319,000 CFPD

GAS BOTTLE

Serial No. -- Date Bottle Filled --- Date to be Invoiced 10/21/81

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% per month, equal to 12% 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 Graham - Michaelis Corporation

Vernon C. Howell

Authorized by _____

WESTERN TESTING CO., INC.

Pressure Data

Date 10/21/81

Test Ticket No. 11862

Recorder No. 2606

Capacity 4150

Location 5067 Ft.

Clock No. -

Elevation 2361 Ground Level

Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2565	P.S.I.	10:00A	M
B First Initial Flow Pressure	249	P.S.I.	60	Mins. 55
C First Final Flow Pressure	333	P.S.I.	45	Mins. 45
D Initial Closed-in Pressure	1529	P.S.I.	60	Mins. 60
E Second Initial Flow Pressure	387	P.S.I.	45	Mins. 48
F Second Final Flow Pressure	487	P.S.I.		
G Final Closed-in Pressure	1522	P.S.I.		
H Final Hydrostatic Mud	2565	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 11 Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In
Breakdown: 15 Inc.
of 3 mins. and a
final inc. of 0 Min.

Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

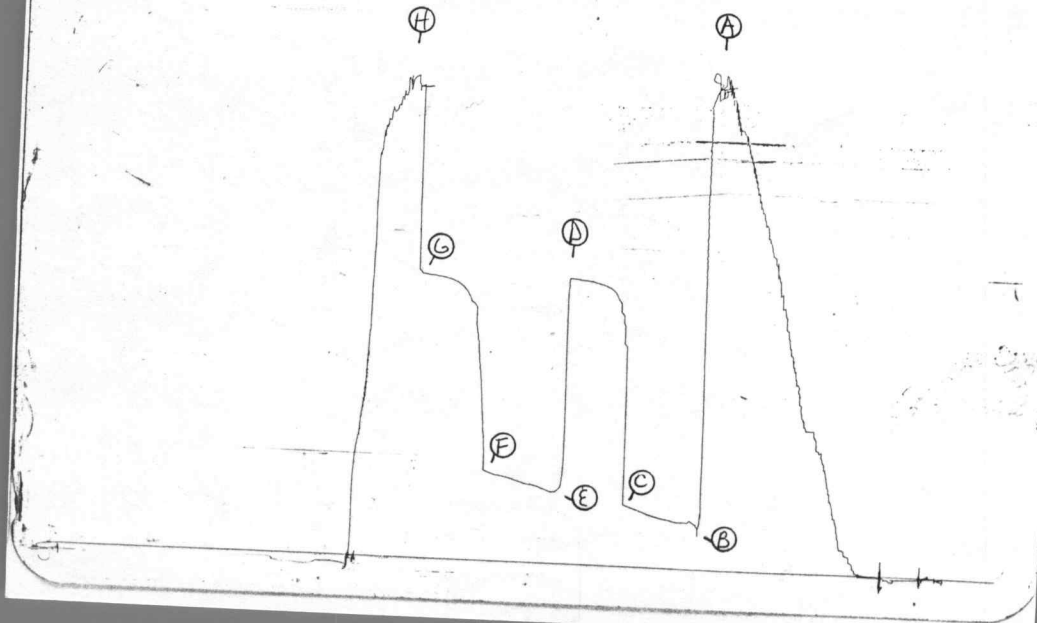
Final Shut-In
Breakdown: 16 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	249	0	333	0	387	0	487
P 2 5	249	3	1187	5	387	3	844
P 3 10	249	6	1354	10	389	6	1101
P 4 15	249	9	1429	15	404	9	1354
P 5 20	253	12	1468	20	416	12	1379
P 6 25	262	15	1483	25	421	15	1422
P 7 30	269	18	1494	30	431	18	1454
P 8 35	281	21	1502	35	441	21	1473
P 9 40	291	24	1508	40	452	24	1485
P10 45	306	27	1513	45	460	27	1496
P11 50	317	30	1517	50	467	30	1502
P12 55	333	33	1520	55	479	33	1508
P13		36	1522	60	487	36	1512
P14		39	1525			39	1515
P15		42	1527			42	1517
P16		45	1529			45	1521
P17						48	1522
P18							
P19							
P20							

2000 W54

TKT # 1186.2

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TKT # 11862

Below Straddle

