

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name NOVINGER #2 Test No. 1 Date 1/15/94
Company GIANT EXPLORATION PRODUCTION CO Zone WREFORD
Address PO BOX 2810 FARMINGTON NM 87499 Elevation 2673
Co. Rep./Geo. JERRY DEAN Cont. MURFIN #21 Est. Ft. of Pay 8
Location: Sec. 2 Twp. 34S Rge. 30W Co. MEADE State KS

Interval Tested 3044-3072 Drill Pipe Size 4.5" XH
Anchor Length 28 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 3039 Drill Collar - 2.25 Ft. Run 459
Bottom Packer Depth 3044 Mud Wt. _____
Total Depth 3072 Viscosity 58 Filtrate 15.2 lb/Gal.

Tool Open @ 7:45 PM Initial Blow SURFACE TO 8.25" IN 30 MINUTES

Final Blow OPEN 1" TO BOTTOM IN 38 MINUTES / NO GAS TO SURFACE

Recovery - Total Feet 30 Flush Tool? NO

Rec. 818 Feet of GAS IN PIPE
Rec. 30 Feet of DRILLING MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT N/A °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW 1 @ _____ °F Chlorides 5800 ppm Recovery Chlorides 3000 ppm System

(A) Initial Hydrostatic Mud 1405.8 PSI AK1 Recorder No. 11057 Range 4500

(B) First Initial Flow Pressure 33.6 PSI @ (depth) 3046 w / Clock No. 30401

(C) First Final Flow Pressure 40.3 PSI AK1 Recorder No. 11058 Range 4500

(D) Initial Shut-in Pressure 442.8 PSI @ (depth) 3667 w / Clock No. 25108

(E) Second Initial Flow Pressure 40.3 PSI AK1 Recorder No. _____ Range _____

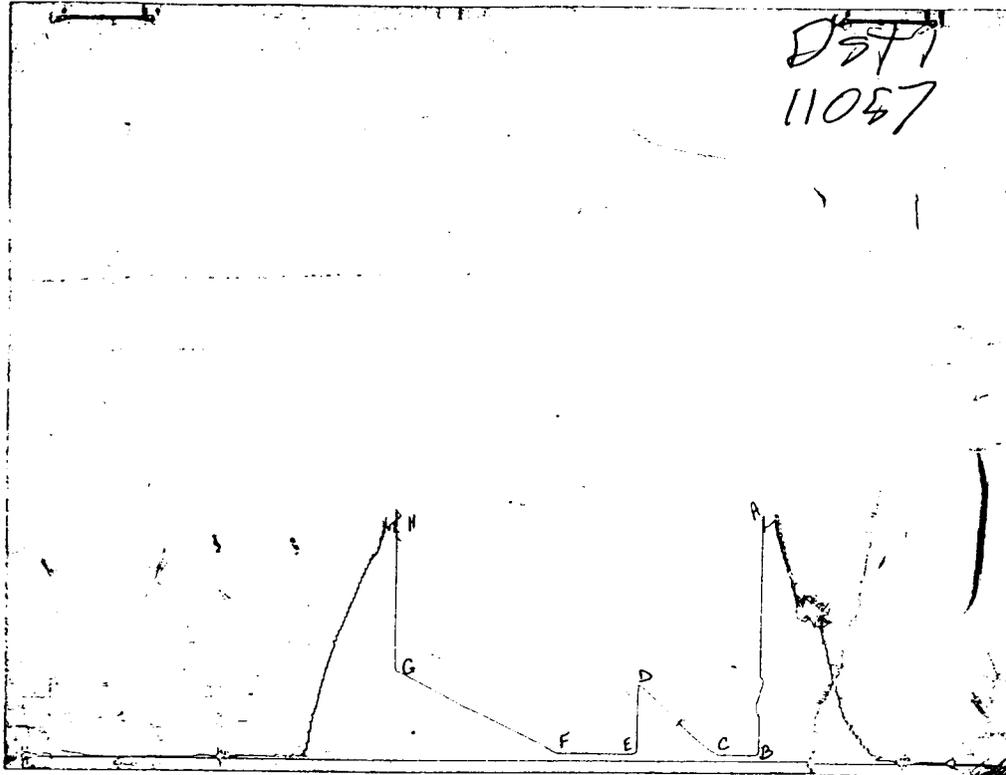
(F) Second Final Flow Pressure 42.5 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 517.7 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1399.1 PSI Initial Shut-in 60 Final Shut-in 120

Our Representative MARK HERSKOWITZ

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1365	1405.8
(B) FIRST INITIAL FLOW PRESSURE	33	33.6
(C) FIRST FINAL FLOW PRESSURE	44	40.3
(D) INITIAL CLOSED-IN PRESSURE	448	442.8
(E) SECOND INITIAL FLOW PRESSURE	44	40.3
(F) SECOND FINAL FLOW PRESSURE	44	42.5
(G) FINAL CLOSED-IN PRESSURE	515	517.7
(H) FINAL HYDROSTATIC MUD	1343	1399.1

FLUID SAMPLER DATA

Ticket No.: 6362 Date: 1/15/94
Company: GIANT EXPLORATION PRODUCTION CO
Lease: NOVINGER #2 Test No.: 1
County: MEADE Sec.: 2 Twp.: 34S Rng.: 30W

SAMPLER RECOVERY

Gas 1.2 cu ft
Oil
Mud 900
Water
Other
Pressure 55
TOTAL 4000

SAMPLER ANALYSIS

Resistivity 1 ohms@ 75 F
Chlorides 5800 ppm.
Gravity corrected @60F

PIT MUD ANALYSIS

Chlorides 3000
Resistivity ohms@ F
Viscosity 58
Mud Wt. 8.8
Filtrate 15.2
Other

PIPE RECOVERY

TOP

Resistivity 1 ohms@ 75 F
Chlorides 5800 ppm

MIDDLE

Resistivity ohms@ F
Chlorides ppm

BOTTOM

Resistivity ohms@ F
Chlorides ppm

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 4362 Date 1-15-94
Company Name GIANT
Lease NOVINGER 2nd Test No. 1
County MEADE KS Sec. 2 Twp. 34s Rng. 30w

SAMPLER RECOVERY

Gas ~~_____~~ 1.2 CF
Oil _____ ML
Mud 900 ML
Water _____ ML
Other _____ ML
Pressure 55 PSI
Total 4000 ML

PIT MUD ANALYSIS

Chlorides 3000 ppm.
Resistivity _____ ohms @ _____ F
Viscosity 58
Mud Weight 8.8 LCM 2
Filtrate 15.2 PH 7.0
Other Y.P. 32 P.V. 29
GEL STRENGTH 20/30

SAMPLER ANALYSIS

Resistivity 1.0 ohms @ 75 F
Chlorides 5800 ppm.
Mud
Gravity _____ corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity 1.0 ohms @ 75 F
Chlorides 5800 ppm.
Mud
MIDDLE
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
BOTTOM
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name NOVINGER #2 Test No. 2 Date 1/20/94
Company GIANT EXPLORATION PRODUCTION CO Zone KS CITY
Address PO BOX 2810 FARMINGTON NM 87499 Elevation 2682
Co. Rep./Geo. JERRY DEAN Cont. MURFIN #21 Est. Ft. of Pay 5
Location: Sec. 2 Twp. 34S Rge. 30W Co. MEADE State KS

Interval Tested	<u>5072-5109</u>	Drill Pipe Size	<u>4.5" XH</u>
Anchor Length	<u>37</u>	Wt. Pipe I.D. - 2.7 Ft. Run	<u>460</u>
Top Packer Depth	<u>5067</u>	Drill Collar - 2.25 Ft. Run	<u>9.1</u>
Bottom Packer Depth	<u>5072</u>	Mud Wt.	<u>46</u> lb/Gal.
Total Depth	<u>5109</u>	Viscosity	<u>8.8</u>

Tool Open @ 7:30 PM Initial Blow FAIR TO STRONG BLOW OFF BOTTOM IN 1.5 MIN/GTS@14 MIN
ISI: BLED OFF BLOW - WOULD NOT DIE COMPLETELY
Final Blow STRONG RETURN OFF BOTTOM IN 30 SEC/GAUGED 9.20 MCF/DAY @ FINAL
FSI: BLED OFF BLOW - SURFACE RETURN BUILT BACK TO 6"

Recovery - Total Feet 3160 Flush Tool? NO

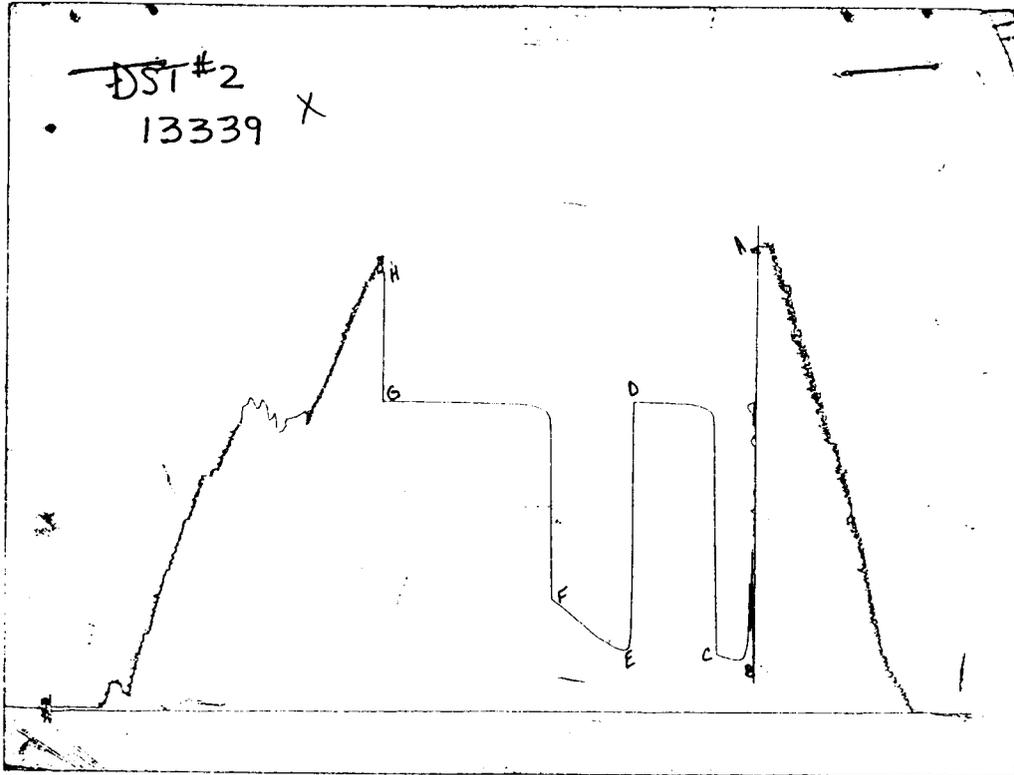
Rec. _____ Feet of GAS TO SURFACE INITIAL FLOW PERIOD
Rec. _____ Feet of _____
Rec. 3160 Feet of GASSY HEAVY MUD CUT OIL-NO SIGN OF WATER
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 126 °F Gravity _____ °API @ _____ °F Corrected Gravity 38 °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 3000 ppm System

(A) Initial Hydrostatic Mud	<u>2455.7</u> PSI	AK1 Recorder No.	<u>13309</u>	Range	<u>4700</u>
(B) First Initial Flow Pressure	<u>267.1</u> PSI	@ (depth)	<u>5099</u>	w / Clock No.	<u>22992</u>
(C) First Final Flow Pressure	<u>312.9</u> PSI	AK1 Recorder No.	<u>13339</u>	Range	<u>4025</u>
(D) Initial Shut-in Pressure	<u>1635.2</u> PSI	@ (depth)	<u>5104</u>	w / Clock No.	<u>19960</u>
(E) Second Initial Flow Pressure	<u>339.9</u> PSI	AK1 Recorder No.	_____	Range	_____
(F) Second Final Flow Pressure	<u>603.2</u> PSI	@ (depth)	_____	w / Clock No.	_____
(G) Final Shut-in Pressure	<u>1636.2</u> PSI	Initial Opening	<u>30</u>	Final Flow	<u>60</u>
(H) Final Hydrostatic Mud	<u>2310.5</u> PSI	Initial Shut-in	<u>60</u>	Final Shut-in	<u>120</u>

Our Representative ROD STEINBRINK

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2453	2455.7
(B) FIRST INITIAL FLOW PRESSURE	280	267.1
(C) FIRST FINAL FLOW PRESSURE	311	312.9
(D) INITIAL CLOSED-IN PRESSURE	1622	1635.2
(E) SECOND INITIAL FLOW PRESSURE	332	339.9
(F) SECOND FINAL FLOW PRESSURE	589	603.2
(G) FINAL CLOSED-IN PRESSURE	1622	1636.2
(H) FINAL HYDROSTATIC MUD	2383	2310.5

FLUID SAMPLER DATA

Ticket No.: 6818 Date: 1/20/94
Company: GIANT EXPLORATION PRODUCTION CO
Lease: NOVINGER #2 Test No.: 2
County: MEADE Sec.: 2 Twp.: 34S Rng.: 30W

SAMPLER RECOVERY

Gas 1200
Oil 2200
Mud 600
Water
Other
Pressure 800
TOTAL 4000

PIT MUD ANALYSIS

Chlorides 3000
Resistivity 2.3 ohms@ 60 F
Viscosity 46
Mud Wt. 9.1
Filtrate 8.8
Other

SAMPLER ANALYSIS

Resistivity ohms@ F
Chlorides ppm.
Gravity 38 corrected @60F

PIPE RECOVERY

TOP

Resistivity ohms@ F
Chlorides ppm

MIDDLE

Resistivity ohms@ F
Chlorides ppm

BOTTOM

Resistivity 2.3 ohms@ 60 F
Chlorides 3000 ppm

GAS VOLUME REPORT

GIANT EXPLORATION PRODUCTION CO

NOVINGER #2

DST # 2

MIN	INCHES	ORIFICE	MCF/D	MIN	INCHES	ORIFICE	MCF/D
INITIAL FLOW				FINAL FLOW			
OF WTR				OF WTR			
1.5	BOTTOM OF BUCKET			0.5	BOTTOM OF BUCKET		
14	GTS			10	70	0.375	29.8
15	36	0.75	85.2	20	22	0.375	16.7
20	30	0.75	77.8	30	10	0.375	11.3
25	22	0.75	66.6	40	4	0.375	7.14
30	18	0.75	60.2	50	22	0.25	7.88
				60	30	0.25	9.2

Remarks: RICH SMELL AND FLAMMABLE / BURNS ORANGE FLAME

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 681B Date 1-20-94
Company Name Giant Explor. & Prod. Co. Cont. Murfin #21
Lease Novinger South #2 Test No. 2 Kans. City
County Meade KS. Sec. 2 Twp. 34^S Rng. 30^W

SAMPLER RECOVERY

Gas 1,200 ML
Oil 2,200 ML
Mud 600 ML
Water — ML
Other — ML
Pressure 800[#] PSI
Total 4,000 ML

PIT MUD ANALYSIS

Chlorides 3,000 ppm.
Resistivity 2.3 ohms @ 60° F
Viscosity 46
Mud Weight 9.1
Filtrate 8.8
Other L.C.M. 1#/bl

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
Gravity est. 38 corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

MIDDLE
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.

BOTTOM
Resistivity 2.3 ohms @ 60° F
Chlorides 3,000 ppm.

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name NOVINGER #2 Test No. 3 Date 1/22/94
Company GIANT EXPLORATION PRODUCTION CO Zone MARMATON
Address PO BOX 2810 FARMINGTON NM 87499 Elevation 2682
Co. Rep./Geo. JERRY DEAN Cont. MURFIN #21 Est. Ft. of Pay 6
Location: Sec. 2 Twp. 34S Rge. 30W Co. MEADE State KS

Interval Tested 5190-5244 Drill Pipe Size 4.5" XH
Anchor Length 54 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 5185 Drill Collar - 2.25 Ft. Run 460
Bottom Packer Depth 5190 Mud Wt. _____ 8.8 lb/Gal.
Total Depth 5244 Viscosity 46 Filtrate 8.8

Tool Open @ 2:50 AM Initial Blow STRONG BLOW OFF BOTTOM IMMEDIATELY/ GAS TO SURFACE
IN 2 MINUTES / ISI: BLED OFF BLOW - NO RETURN
Final Blow STRONG RETURN / GAUGED
FSI: BLED OFF BLOW-NO RETURN

Recovery - Total Feet 490 Flush Tool? NO

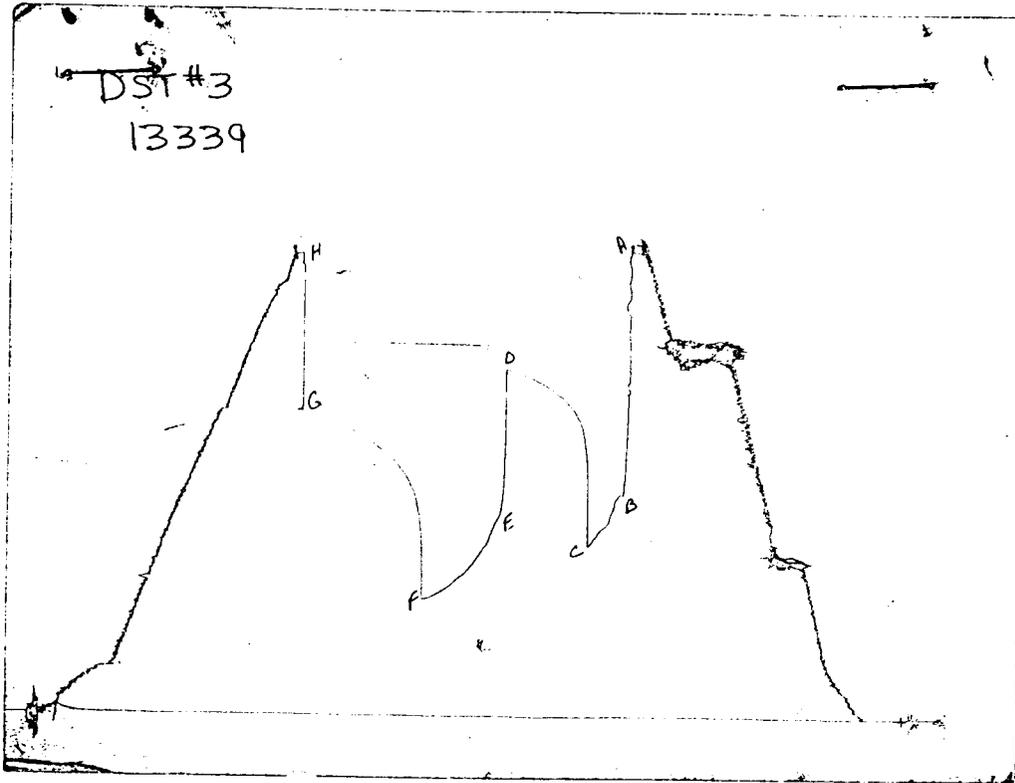
Rec. 490 Feet of CLEAN GASSY OIL- 30% GAS/ 70% OIL
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 118 °F Gravity 41 °API @ 48 °F Corrected Gravity 42 °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud 2454.7 PSI AK1 Recorder No. 13309 Range 4700
(B) First Initial Flow Pressure 1181.6 PSI @ (depth) 5239 w / Clock No. 22992
(C) First Final Flow Pressure 908.8 PSI AK1 Recorder No. 13339 Range 4025
(D) Initial Shut-in Pressure 1824.6 PSI @ (depth) 5200 w / Clock No. 19960
(E) Second Initial Flow Pressure 1045.1 PSI AK1 Recorder No. _____ Range _____
(F) Second Final Flow Pressure 629.2 PSI @ (depth) _____ w / Clock No. _____
(G) Final Shut-in Pressure 1595.1 PSI Initial Opening 30 Final Flow 60
(H) Final Hydrostatic Mud 2428.7 PSI Initial Shut-in 60 Final Shut-in 90

Our Representative ROD STEINBRINK

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2453	2454.7
(B) FIRST INITIAL FLOW PRESSURE	1180	1181.6
(C) FIRST FINAL FLOW PRESSURE	909	908.8
(D) INITIAL CLOSED-IN PRESSURE	1832	1824.6
(E) SECOND INITIAL FLOW PRESSURE	1050	1045.1
(F) SECOND FINAL FLOW PRESSURE	629	629.2
(G) FINAL CLOSED-IN PRESSURE	1592	1595.1
(H) FINAL HYDROSTATIC MUD	2433	2428.7

COMPUTER GAS EVALUATION BY TRILOBITE TESTING, L.L.C.

GIANT EXPLORATION & PRODUCTION CO

NOVINGER #2

DST 3

2 34S 30W

MEADE

KS

ELEVATION: 2682 KB EST. PAY: 6 FT.
DATUM: -2519 ZONE TESTED: MARMATON
TEST INTERVAL: 5190-5244 TIME INTERVALS: 30-60-60-90
RECORDER DEPTH: 5200 VISCOSITY: 0.01659 CP
BOTTOM HOLE TEMP: 118 HOLE SIZE: 7.875 IN
COMPRESSIBILITY: 0.997 GAS GRAVITY: 0.7613

TEMPERATURE RANKINE: 578.00 &
TRANSMISSIBILITY: 3489.33 Kh/%
THEORITICAL FLOW CAPICITY: 57.90 Kh
AVERAGE EFFECTIVE PERMEABILITY: 9.65 K(md.)
RADIUS OF INVESTIGATION: 29.47 FT.
DAMAGE RATIO: 0.46
ABSOLUTE OPEN FLOW(MAX) 3701.27 MCFD
ABSOLUTE OPEN FLOW(MIN) 3481.08 MCFD
THEORITICAL OPEN FLOW(MAX) 1699.41 MCFD
THEORITICAL OPEN FLOW(MIN) 1598.31 MCFD
POTENTIOMETRIC SURFACE 2050105.10 (FT.)

INITIAL SHUT-IN VALUES:

SLOPE 598373.09
THEORETICAL STATIC PRESSURE 1982

FINAL SHUT-IN VALUES:

SLOPE 885132.86
THEORETICAL STATIC PRESSURE 1852

DRAWDOWN FACTOR: 6.56 (%)

NOVINGER #2
INITIAL

DST #3
SHUTIN

30 TOTAL FLOW TIME
Slope 598373.09 psi/cycle
P * 1982 psi

Log <>

TIME(MIN)	Pws (psi)	Horn T	PRESSURE	Horn T
3	1288.1	1.041	1288.1	11
6	1493.9	0.778	205.8	6
9	1569.1	0.637	75.2	4
12	1602.1	0.544	33.0	4
15	1621.1	0.477	19.0	3
18	1658.2	0.426	37.1	3
21	1680.3	0.385	22.1	2
24	1697.3	0.352	17.0	2
27	1711.3	0.325	14.0	2
30	1728.4	0.301	17.1	2
33	1746.4	0.281	18.0	2
36	1756.4	0.263	10.0	2
39	1766.5	0.248	10.1	2
42	1773.5	0.234	7.0	2
45	1785.5	0.222	12.0	2
48	1793.5	0.211	8.0	2
51	1802.5	0.201	9.0	2
X 54	1810.5	0.192	8.0	2
57	1818.5	0.184	8.0	2
X 60	1824.6	0.176	6.1	2

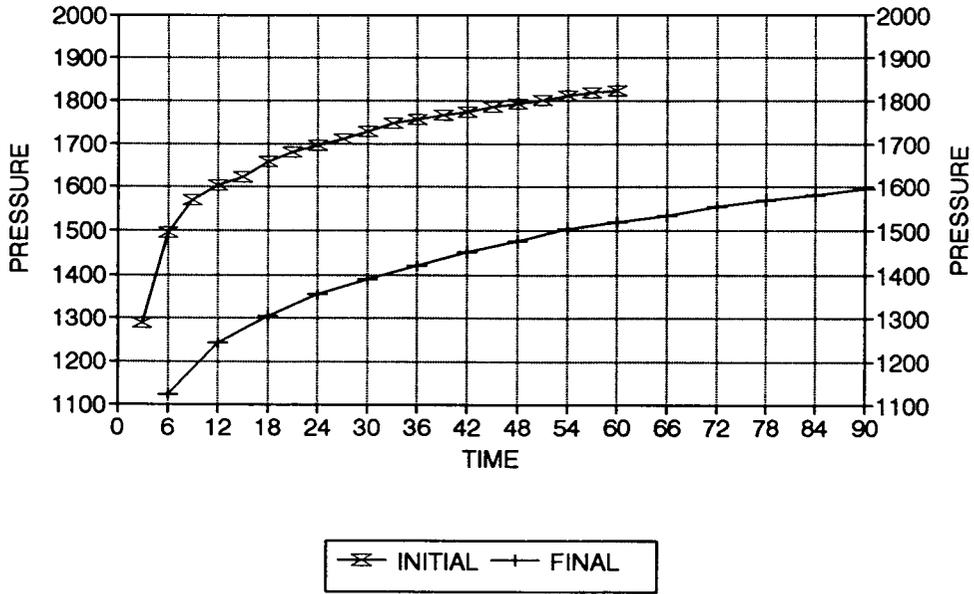
NOVINGER SOUTH # DST #3
FINAL SHUTIN

90 TOTAL FLOW TIME
Slope 885132.86 psi/cycle
P * 1852 psi

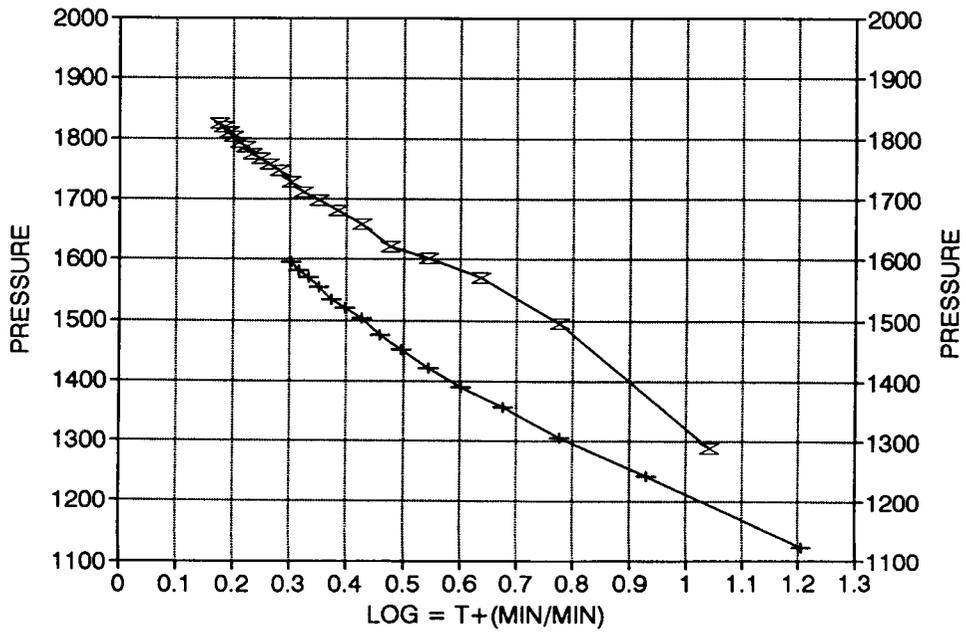
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	Pws (psi)	Horn T	PRESSURE	Horn T
6	1122.4	1.204	1122.4	16
12	1242.9	0.929	120.5	9
18	1306.1	0.778	63.2	6
24	1356.3	0.677	50.2	5
30	1388.4	0.602	32.1	4
36	1421.6	0.544	33.2	4
42	1451.7	0.497	30.1	3
48	1475.8	0.459	24.1	3
54	1503.9	0.426	28.1	3
60	1519.9	0.398	16.0	3
66	1534.0	0.374	14.1	2
72	1554.0	0.352	20.0	2
78	1570.1	0.333	16.1	2
X 84	1582.1	0.316	12.0	2
X 90	1595.1	0.301	13.0	2

NOVINGER #2 / DST #3 DELTA T DELTA P



HORNER PLOT



CALCULATED RECOVERY ANALYSIS

DST

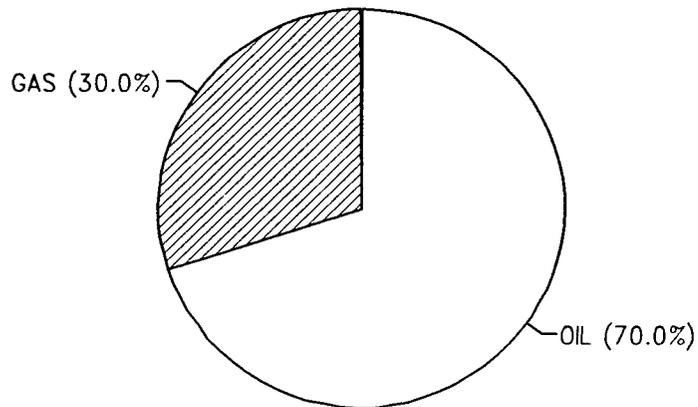
3

TICKET #

6819

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	30	30	9	70	21	0	0	0	0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
WEIGHT 1			0		0		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRILL 1	460	30	138	70	322	0	0	0	0
COLLAR 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	490		147		343		0		0

		HRS OPEN	BBL/DAY
BBL OIL=	1.8732	*	1.5 29.9712
BBL WATER=	0	*	0
BBL MUD=	0		
BBL GAS =	0.8028		



GAS VOLUME REPORT

GIANT EXPLORATION PRODUCTION CO

NOVINGER #2

DST # 3

MIN	PSIG	ORIFICE	MCF/D	MIN	PSIG	ORIFICE	MCF/D
INITIAL FLOW				FINAL FLOW			
2	GTS	1.5		5	42	1.5	3274
10	42	1.5	3274	10	47	1.5	3573
20	45	1.5	3454	20	42	1.5	3274
30	42	1.5	3274	30	36	1.5	2916
				40	26	1.5	2319
				45	27	1.5	2380
				50	25	1.5	2258

Remarks:

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 6819 Date 1-22-94
Company Name Giant Explor & Prod. Co. Cont. Murfin #21
Lease Novinger South #2 Test No. 3 Marmaton
County Meade KS. Sec. 2 Twp. 34^S Rng. 30^W

SAMPLER RECOVERY

Gas 4,000 ML
Oil 4,000 ML
Mud — ML
Water — ML
Other _____ ML
Pressure 1400[#] PSI
Total 4,000 ML

PIT MUD ANALYSIS

Chlorides 5,000 ppm.
Resistivity _____ ohms @ _____ F
Viscosity 46
Mud Weight 8.8
Filtrate 8.8
Other L.C.M 1[#]/bl.

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
Gravity _____ corrected @ 60 F

PIPE RECOVERY

TOP
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
MIDDLE
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.
BOTTOM
Resistivity _____ ohms @ _____ F
Chlorides _____ ppm.