

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Great Plains Energy Inc.

31-9s-24w Graham, KS

6121 S 58th St. STE B
Lincoln, NE 68516

Dreiling #1-31

Job Ticket: 51157

DST#: 1

ATTN: Larry Nicholson/ Dan

Test Start: 2013.04.04 @ 20:24:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:36:45

Time Test Ended: 03:53:45

Test Type: Conventional Bottom Hole (Initial)

Tester: James Winder

Unit No: 57

Interval: **3832.00 ft (KB) To 3880.00 ft (KB) (TVD)**

Reference Elevations: 2541.00 ft (KB)

Total Depth: 3880.00 ft (KB) (TVD)

2536.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6719

Inside

Press@RunDepth: 236.59 psig @ 3833.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.04 End Date: 2013.04.05

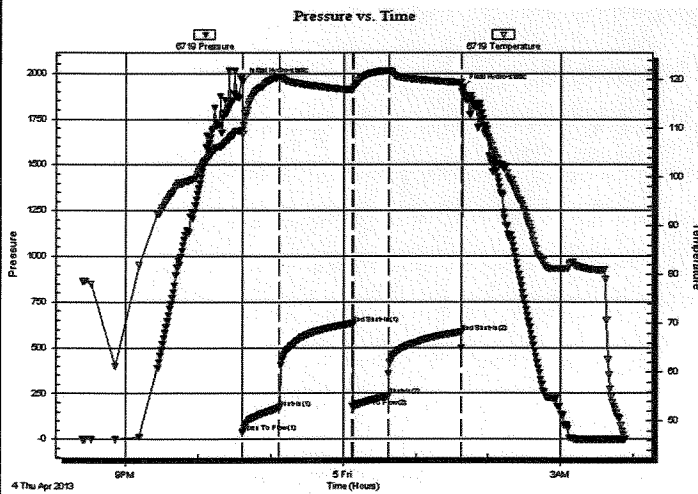
Last Calib.: 2013.04.05

Start Time: 20:24:05 End Time: 03:53:44

Time On Btm: 2013.04.04 @ 22:36:30

Time Off Btm: 2013.04.05 @ 01:38:00

TEST COMMENT: 30 - IF: Blow built to BOB (11") in 10 min.
60 - IS: Bled off, Surface blow back for a few min., then dead
30 - FF: Blow built to BOB in 21 min.
60 - FS: Bled off, No blow back



PRESSURE SUMMARY

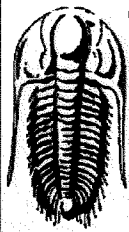
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1956.51	109.60	Initial Hydro-static
1	37.66	108.91	Open To Flow (1)
31	171.23	120.55	Shut-In(1)
91	631.87	117.89	End Shut-In(1)
91	176.84	118.05	Open To Flow (2)
121	236.59	121.80	Shut-In(2)
181	584.38	119.40	End Shut-In(2)
182	1922.71	117.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW w/trace oil 92%w, 8% m	0.91
252.00	MCW w/trace oil 80%w, 20% m	3.53
15.00	MCW w/oil spots 63%w, 32% m, 4% g, 1% o	0.21
15.00	Oil 92% o, 4% g, 4% m	0.21
0.00	GIP = 30'	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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6121 S 58th St. STE B
Lincoln, NE 68516

Dreiling #1-31

Job Ticket: 51158

DST#: 2

ATTN: Larry Nicholson/ Dan

Test Start: 2013.04.05 @ 13:30:00

GENERAL INFORMATION:

Formation: **LKC "B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:46:15

Time Test Ended: 20:59:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

Interval: **3881.00 ft (KB) To 3900.00 ft (KB) (TVD)**

Reference Elevations: 2541.00 ft (KB)

Total Depth: 3900.00 ft (KB) (TVD)

2536.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6719

Inside

Press@RunDepth: 222.11 psig @ 3882.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.04.05

End Date:

2013.04.05

Last Calib.: 2013.04.05

Start Time: 13:30:05

End Time:

20:58:59

Time On Btm: 2013.04.05 @ 15:46:00

Time Off Btm: 2013.04.05 @ 18:47:30

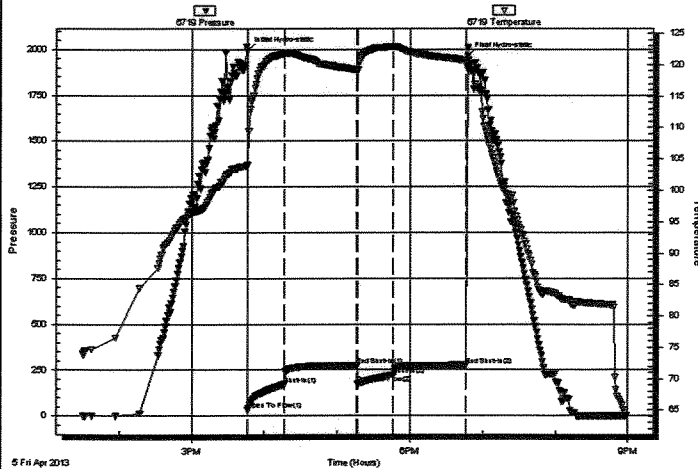
TEST COMMENT: 30 - IF: Blow built to BOB in 10 1/2 min.

60 - IS: Bled off, No blow back

30 - FF: Blow built to BOB in 30 min.

60 - FS: Bled off, No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1994.76	104.12	Initial Hydro-static
1	31.57	104.02	Open To Flow (1)
31	171.21	121.79	Shut-In(1)
90	275.50	119.05	End Shut-In(1)
91	174.61	119.13	Open To Flow (2)
120	222.11	122.90	Shut-In(2)
180	275.87	120.69	End Shut-In(2)
182	1962.78	119.26	Final Hydro-static

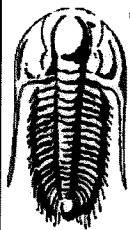
Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW 90%w, 10%m	0.91
189.00	SMCW 94%w, 6%m	2.65
65.00	MCW 69%w, 31%m	0.91
0.00	Show of Oil in tool	0.00

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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31-9s-24w Graham, KS

6121 S 58th St. STE B
Lincoln, NE 68516

Dreiling #1-31

Job Ticket: 51160

DST#: 4

ATTN: Larry Nicholson/ Dan

Test Start: 2013.04.07 @ 04:17:00

GENERAL INFORMATION:

Formation: **LKC "D - F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:09:15

Time Test Ended: 12:11:15

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

Interval: **3913.00 ft (KB) To 3953.00 ft (KB) (TVD)**

Total Depth: 3953.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2541.00 ft (KB)

2536.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6719

Inside

Press@RunDepth: 141.91 psig @ 3914.00 ft (KB)

Start Date: 2013.04.07

End Date: 2013.04.07

Start Time: 04:17:05

End Time: 12:11:14

Capacity: 8000.00 psig

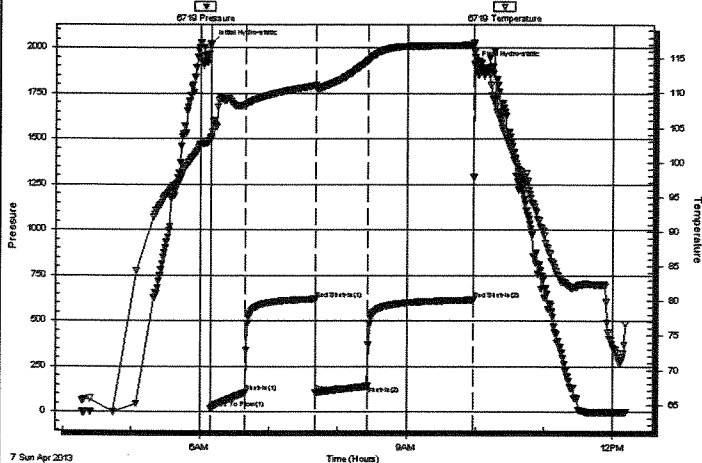
Last Calib.: 2013.04.07

Time On Btm: 2013.04.07 @ 06:09:00

Time Off Btm: 2013.04.07 @ 09:58:45

TEST COMMENT: 30 - IF: Blow built to 7 1/2"
60 - IS: Bled off, No blow back
45 - FF: Blow built to 8"
90 - FS: Bled off, No blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2019.05	103.62	Initial Hydro-static
1	19.66	103.34	Open To Flow (1)
31	105.43	108.27	Shut-In(1)
92	619.37	111.07	End Shut-In(1)
92	107.33	110.75	Open To Flow (2)
137	141.91	114.58	Shut-In(2)
229	614.83	116.91	End Shut-In(2)
230	1905.06	115.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MCW 84%w, 16%m	0.91
94.00	MW w /trace oil in top 51%w, 49%m	1.32

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests



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DRILL STEM TEST REPORT

Great Plains Energy Inc.

31-9s-24w Graham,KS

6121 S 58th St. STE B
Lincoln, NE 68516

Drilling #1-31

Job Ticket: 51161

DST#: 5

ATTN: Larry Nicholson/ Dan

Test Start: 2013.04.07 @ 17:55:00

GENERAL INFORMATION:

Formation: **LKC "G"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:13:30
Time Test Ended: 01:01:15

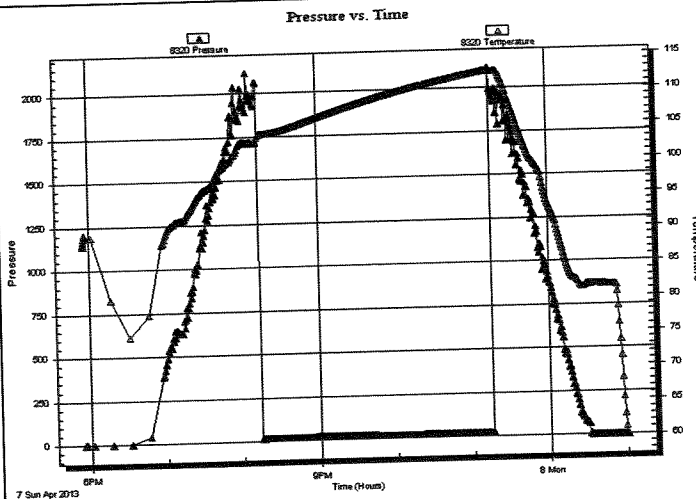
Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 57

Interval: **3952.00 ft (KB) To 3965.00 ft (KB) (TVD)**
Total Depth: 3965.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2541.00 ft (KB)
2536.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8320 Outside Capacity: 8000.00 psig
Press@RunDepth: psig @ 3953.00 ft (KB) Last Calib.: 2013.04.08
Start Date: 2013.04.07 End Date: 2013.04.08
Start Time: 17:55:05 End Time: 01:00:44 Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Weak blow built to 1/16" then died off
60 - IS: No blow back
30 - FF: No blow
60 - FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

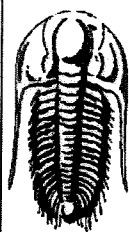
Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.00

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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6121 S 58th St. STE B
Lincoln, NE 68516

Dreiling #1-31

Job Ticket: 51162

DST#: 6

ATTN: Larry Nicholson/ Dan

Test Start: 2013.04.08 @ 11:51:00

GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:43:15

Time Test Ended: 19:24:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 57

Interval: 3968.00 ft (KB) To 4053.00 ft (KB) (TVD)

Total Depth: 4053.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2541.00 ft (KB)

2536.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6719

Inside

Press@RunDepth: 39.11 psig @ 3969.00 ft (KB)

Start Date: 2013.04.08

End Date:

2013.04.08

Start Time: 11:51:05

End Time:

19:23:59

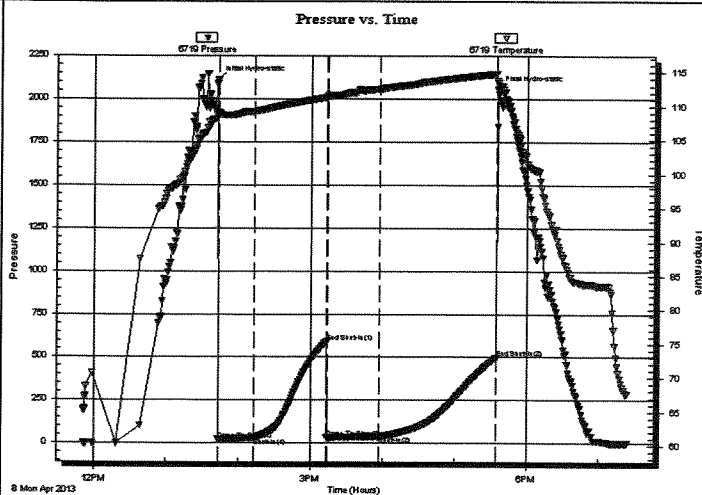
Capacity: 8000.00 psig

Last Calib.: 2013.04.08

Time On Btm: 2013.04.08 @ 13:43:00

Time Off Btm: 2013.04.08 @ 17:35:30

TEST COMMENT: 30 - IF: Weak blow , built to 1 1/2"
60 - IS: Bled off, No blow back
45 - FF: Weak blow , built to 1/4" then slowly died back, dead at 35 min.
90 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.49	109.04	Initial Hydro-static
1	21.86	108.85	Open To Flow (1)
31	30.48	109.24	Shut-In(1)
91	589.04	111.32	End Shut-In(1)
91	31.04	111.41	Open To Flow (2)
134	39.11	112.52	Shut-In(2)
231	497.02	114.78	End Shut-In(2)
233	2055.59	113.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud w /Oil spots 98% _m , 2% _o	0.10

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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DRILL STEM TEST REPORT

Great Plains Energy Inc.
6121 S 58th St. STE B
Lincoln, NE 68516

31-9s-24w Graham, KS

Dreiling #1-31

Job Ticket: 51163

DST#: 7

ATTN: Larry Nicholson/ Dan

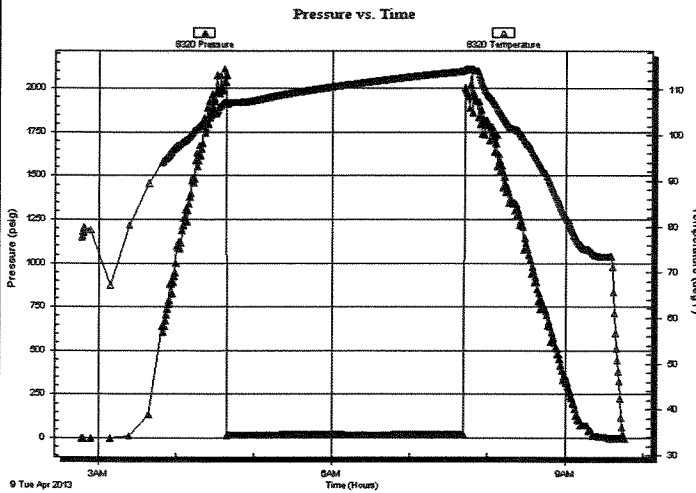
Test Start: 2013.04.09 @ 02:47:00

GENERAL INFORMATION:

Formation: **LKC "K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:39:30
 Time Test Ended: 09:47:30
 Interval: **4056.00 ft (KB) To 4081.00 ft (KB) (TVD)**
 Total Depth: **4081.00 ft (KB) (TVD)**
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: James Winder
 Unit No: 57
 Reference Elevations: 2541.00 ft (KB)
 2536.00 ft (CF)
 KB to GRVCF: 5.00 ft

Serial #: 8320 Outside
 Press@RunDepth: psig @ 4057.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.04.09 End Date: 2013.04.09 Last Calib.: 2013.04.09
 Start Time: 02:47:05 End Time: 09:45:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30 - IF: Weak intermittent blow, built to 1/2"
 60 - IS: Bled off, No blow back
 30 - FF: No blow
 60 - FS: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.00

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

ALLIED OIL & GAS SERVICES, LLC 060234

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT:
Dakley, ks

DATE <u>4-10-13</u>	SEC. <u>31</u>	TWP. <u>9</u>	RANGE <u>24</u>	CALLED OUT	ON LOCATION <u>9:30 pm</u>	JOB START <u>10:00 am</u>	JOB FINISH <u>2:00 am</u>
LEASE <u>Dreiling</u>	WELL # <u>1-31</u>	LOCATION <u>St Peter, 3rd SE, W.S.</u>			COUNTY <u>Cavanah</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)				<u>write</u>			

CONTRACTOR Merfau P.
 TYPE OF JOB PTA
 HOLE SIZE 2 7/8 T.D. 4360'
 CASING SIZE DEPTH
 TUBING SIZE DEPTH
 DRILL PIPE 4 1/2 DEPTH 2220'
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG.
 PERFS.
 DISPLACEMENT 28.01 bbl
 EQUIPMENT

PUMP TRUCK CEMENTER Lakane Edwards
 # 423/281 HELPER Paul Beaver
 BULK TRUCK
 # 387 DRIVER Darrin Hoek
 BULK TRUCK
 # DRIVER

REMARKS:
Mix 25sk 2220'
Mix 100sk 1059'
Mix 40sk 263'
Mix 10sk w/plug 40'
plug M.H. 15sk
plug R.H. - 30sk

CHARGE TO: Great Plains Energy
 STREET
 CITY STATE ZIP

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Rodney Farr
 SIGNATURE Rodney Farr

OWNER Same
 CEMENT AMOUNT ORDERED 220sk 60/40 40/20 1/4 # 810-3-02
 COMMON 132sk @ 17.90 2362.90
 POZMIX 88sk @ 9.55 822.80
 GEL 8sk @ 23.40 187.20
 CHLORIDE @
 ASC @
Flowsep 55# @ 2.97 163.35
 @
 @
 @
 @
 @
 @
 HANDLING 236.28 573 @ 2.48 585.97
 MILEAGE 9.87 hr X 60 X 2.60 1539.72
 TOTAL 5661.84

SERVICE
 DEPTH OF JOB 2220'
 PUMP TRUCK CHARGE 2483.59
 EXTRA FOOTAGE @
 MILEAGE M.H. 60 @ 2.70 462.00
 MANIFOLD @
M.H. 60 @ 4.40 264.00
 @
 TOTAL 3207.59

PLUG & FLOAT EQUIPMENT
Wacker plug @ 107.64
 @
 @
 @
 @
 TOTAL 107.64

SALES TAX (If Any)
 TOTAL CHARGES 8,979.07
 DISCOUNT 2,334.55 IF PAID IN 30 DAYS
6,644.51 Net.

KCC Pat Bedore 4-1-13

Operator Great Plains Energy API # 15-065-23908 Well Code # _____
 Location 2310 FNL 1650 FEL Well Name & No. Oreling 1-31
31-924 County Graham State KS
 Rig No. 8 Contractor _____ Tool Pusher Bob - Red
 No. Drill Collars _____ Size _____ No. Joints Flex Wt. _____ Size _____ Total Wt. (Both) _____
 Make Pump K-380 Liner & Stroke 6x14 Spud 8¹⁵ AM 4-1-13
 Approx. TD 4150 Elevation 2536 GL. 2541 K.B. Hole Complete _____
 Move Mileage 3 Mile Trucking Co. MOC Move Cost 819.5

Date	3-30-13	4-1-13	4-2-13	4-3-13	4-4-13	4-5-13	4-6-13
Days	MIRT	Ø	Ø	Ø	Ø	Ø	Ø
Depth	MOC	Spud	1230	2920	3250	3880	3914
Ft. Cut		1230	1690	830	130	34	
D.T.		Thrs	8woc		3/4 Diploc		3/4 Diploc
D.T.	3-31-13						7u.60
C.T.	OFF	AM.				18	18 1/2
Bit Wt.	Spud	10-15	30	35	35	35	35
RPM	4-1-13	90	85	80	80	80	80
Pressure		600	750	750	750	750	750
SPM		60	60	60	60	60	60
Mud Cost				7024	7376	7376	
Mud Wt.		8 1/2	9	9 1/2	9	9 1/2	
Viscosity		29	29	48	54	62	
Water Loss				6 1/2	7 1/2	7 1/2	
Clorides				1100	3000	3000	
L.C.M.				2#-11	2#-10 1/2	2#-10	
Dev. Sur.		1-216			3/4-3880		
ACC Bit Hours		10	32	53	57 1/4	59	
Formation		Satsh	sh+lm	sh+lm	sh+lm	sh+lm	
Weather		Cloudy	Cloudy	Clear	PC	Clear	

NO.	SIZE	TYPE	OUT	FT.	HRS.	CUM. HRS.	BIT COND.			SERIAL #	TOPS
							T	B	G		
1	12 1/4 Sm	FDS	216	216	2 1/2				PC 1072		
1	2 3/8 Htca	G20 New							5222963	Anhy	
										2192-2226	
										+329 +315	

DEPTH	SIZE	SACKS	CEMENT MATERIAL	PLUG DOWN	DRILLED OUT	REMARKS
216	8 5/8	175	Comm 3 1/2 CE	12 15 PM 4-1-13	8 15 PM 4-1-13	Circ 5882 Allred

NO.	INTERVAL	OPEN	SHUT	OPEN	SHUT	REC	HH	IFP	ISIP	FFP	FSI
Toi-A	1	3832-3880	30	60	30	60	30'6" IP 15'0" I 4.53' MCW				
B	2	3881-3900	30	60	30	60	440 MCW				
C	3	3901-3914									

Surface Casing Furnished By: G.P. 23^{m.w} Henty Dan's Drzr N-S Line, Pump, Gas
 Accidents & Remarks: 5 Jts 209.80 wts Morgan Mud John Bisdal
1000 Fra. #891 1542 160th Ave
Displace 2976 Marland MS 67650
513-40-6922
2000 MOC Pay R. bill
N-S Line