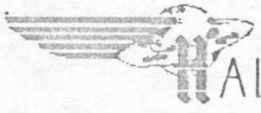


HALLIBURTON SERVICES

Lease Name FRAZIER Well No. 1 Test No. 5

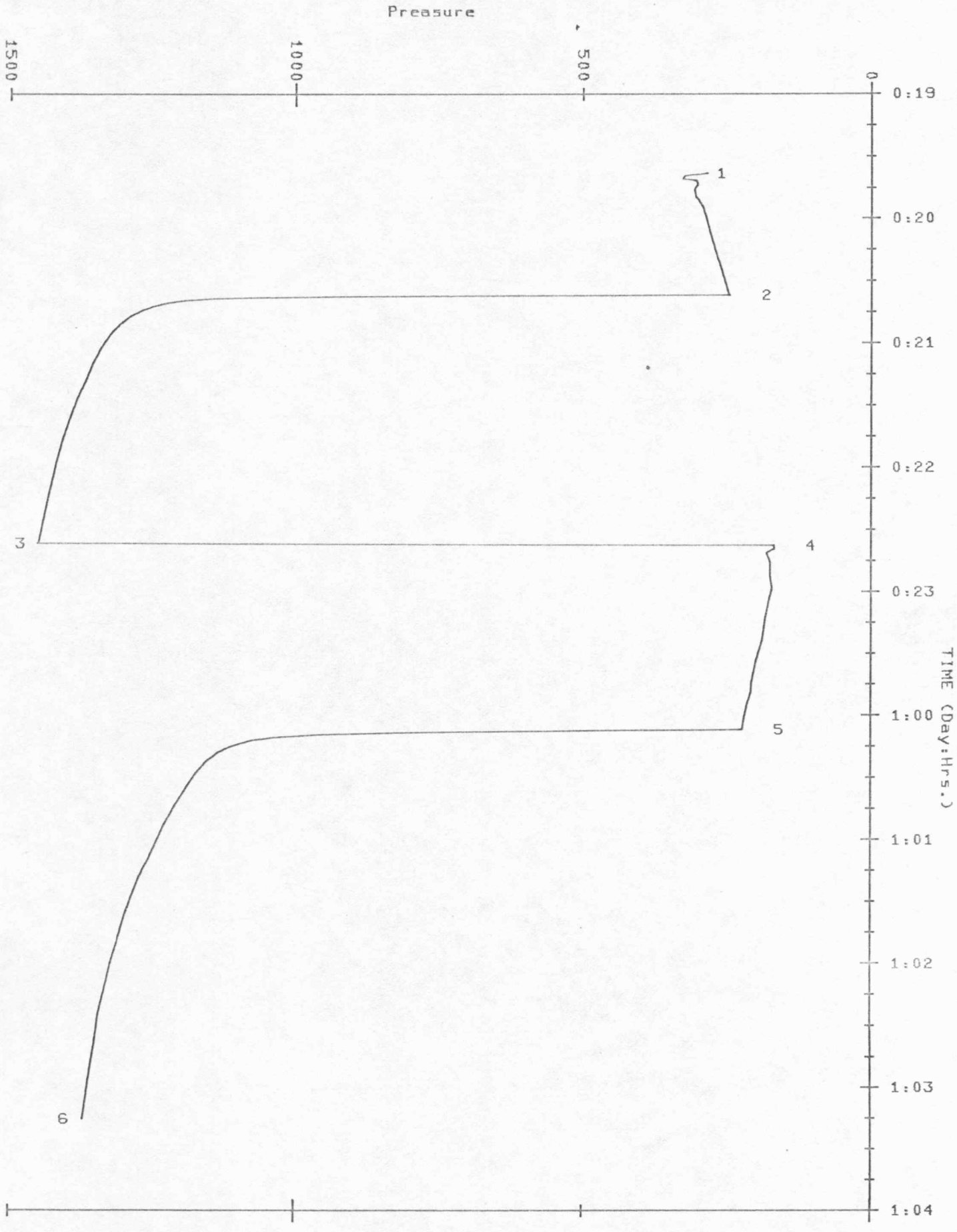
Lease Owner SPINES EXPLORATION Date 7-3-82 Ticket No. 432947

THIS REPORT IS BASED ON SOUND ENGINEERING PRACTICES, BUT BECAUSE OF VARIABLE WELL CONDITIONS AND OTHER INFORMATION WHICH MUST BE RELIED UPON HALLIBURTON MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY OF THE DATA OR ANY CALCULATIONS OR OPINIONS EXPRESSED HEREIN. YOU AGREE THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE WHETHER DUE TO NEGLIGENCE OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH SUCH DATA, CALCULATIONS, OR OPINIONS.

Lease Name FRAZIER | Well No. 1 | Test No. 5

Lease Owner SPINES EXPLORATION | Date 7-3-82 | Ticket no. 432947

Gauge Sn. 007500



Lease Name FRAZIER Well No. 1 Test No. 5

Lease Owner SPINES EXPLORATION Date 7-3-82 Ticket no. 432947

Gauge Sn. 007500

loc.	Time	Description	Press.	Delta t	Time int.	
0	0:19:38:00	Start Time				
1	0:19:38:00	inital flow # 1	323.29	0.000	0	1
2	0:20:36:50	final flow # 1	245.40	58.833	1	2
3	0:22:36:45	closed in # 1	1448.83	119.917	2	3
4	0:22:37:29	inital flow # 2	168.20	.733	3	4
5	1:00:06:47	final flow # 2	222.60	89.300	4	5
6	1:03:15:34	closed in # 2	1369.13	188.783	5	6

Lease Name FRAZIER Date 7-3-82 Ticket No. 432947 Period # 0

Time	Press.	Temp	Delta t	Ps	P10	CCc	
0:19:39:16	323.29	110					inital flow # 1
0:19:40:35	326.52	110	2.6				
0:19:41:22	301.66	110	3.4				
0:19:43:14	299.90	110	5.2				
0:19:45:37	305.97	110	7.6				
0:19:49:32	302.94	110	11.5				
0:19:53:45	291.98	110	15.7				
0:20:00:21	284.15	110	22.3				
0:20:07:27	277.50	110	29.4				
0:20:15:46	268.98	110	37.8				
0:20:23:49	259.39	110	45.8				
0:20:30:24	252.35	110	52.4				
0:20:34:00	248.83	110	56.0				
0:20:36:50	245.40	110	58.8				final flow # 1
0:20:36:55	320.25	110	.1				
0:20:37:07	509.44	110	.3				
0:20:37:17	651.46	110	.4				
0:20:37:33	813.52	110	.7				
0:20:37:48	936.67	110	1.0				
0:20:38:12	1062.04	110	1.4	214.17	137.22	.941416	
0:20:38:43	1138.06	110	1.9	313.82	183.27	.997285	
0:20:39:33	1188.25	110	2.7	284.53	170.39	.993814	
0:20:40:36	1218.45	110	3.8	271.85	164.14	.991133	
0:20:42:10	1243.01	110	5.3	208.78	145.90	.977807	
0:20:44:05	1263.98	110	7.3	189.03	141.97	.993294	
0:20:47:05	1286.50	110	10.3	181.75	141.25	.999036	
0:20:50:11	1301.75	110	13.3	179.49	141.28	.999902	
0:20:54:40	1319.03	110	17.8	179.38	141.27	.999933	
0:20:59:29	1332.04	110	22.6	179.30	141.27	.999948	
0:21:03:37	1341.36	110	26.8	179.35	141.27	.999958	
0:21:09:54	1353.40	110	33.1	179.58	141.26	.999896	
0:21:18:35	1366.41	110	41.8	181.00	140.25	.998977	
0:21:27:21	1381.46	110	50.5	180.97	141.02	.998890	
0:21:34:57	1391.65	110	58.1	186.47	134.44	.993137	
0:21:46:17	1406.21	110	69.5	192.01	124.95	.991656	
0:21:56:54	1416.70	110	80.1	196.56	115.13	.997574	
0:22:12:04	1429.61	110	95.2	199.36	108.14	.997789	
0:22:27:06	1441.65	110	110.3	202.26	99.70	.997830	
0:22:36:45	1448.83	110	119.9	204.67	91.46	.997300	closed in # 1

Lease Name FRAZIER | Well No. 1 | Test No. 5

Lease Owner SPINES EXPLORATION | Date 7-3-82 | Ticket no. 432947

Gauge Sn. 007500

HORNER PLOT

Ps= 1526.40

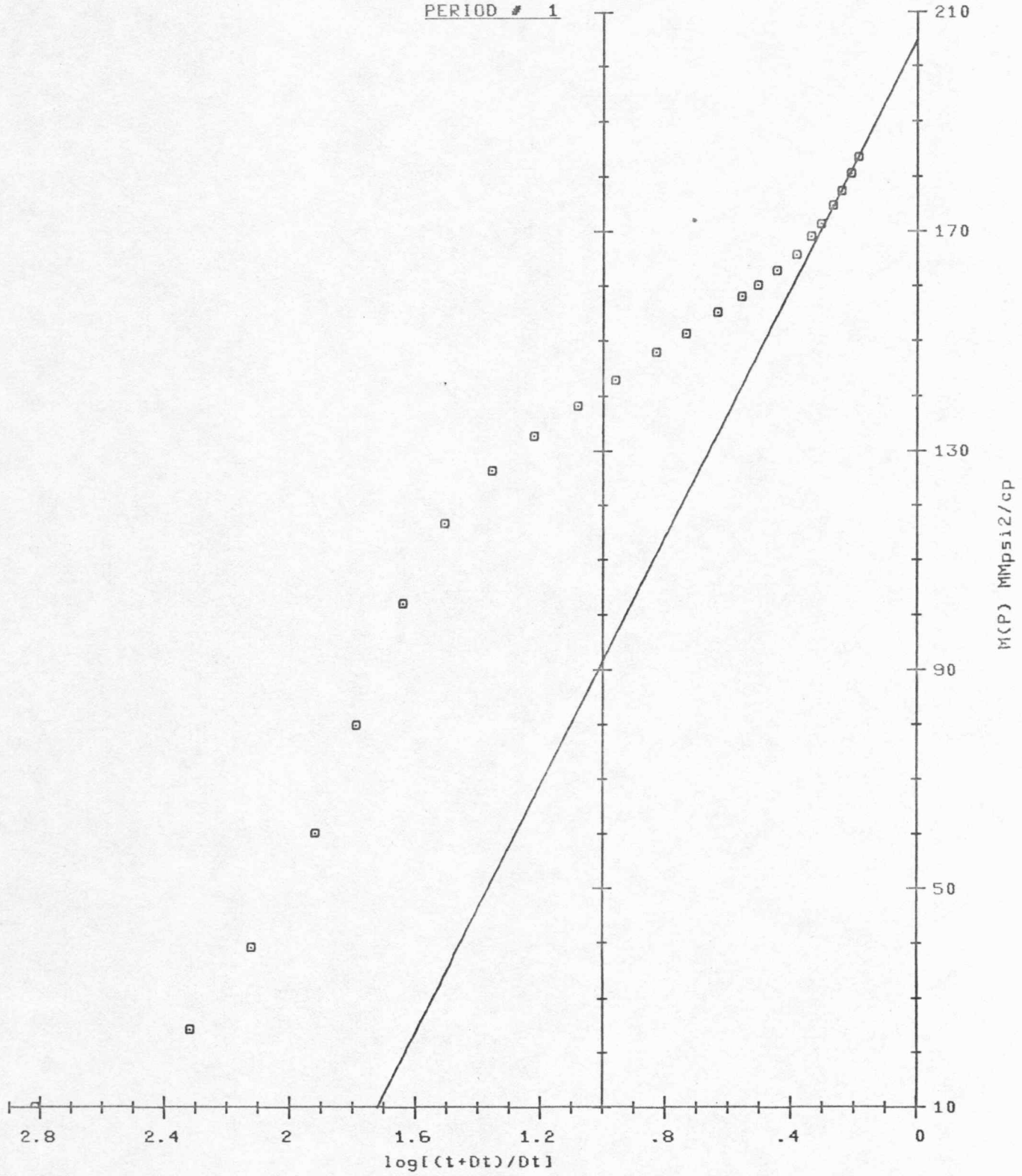
P10= 1007.20

M(Ps)= 204.67

M(P10)= 91.46

CC= .997300

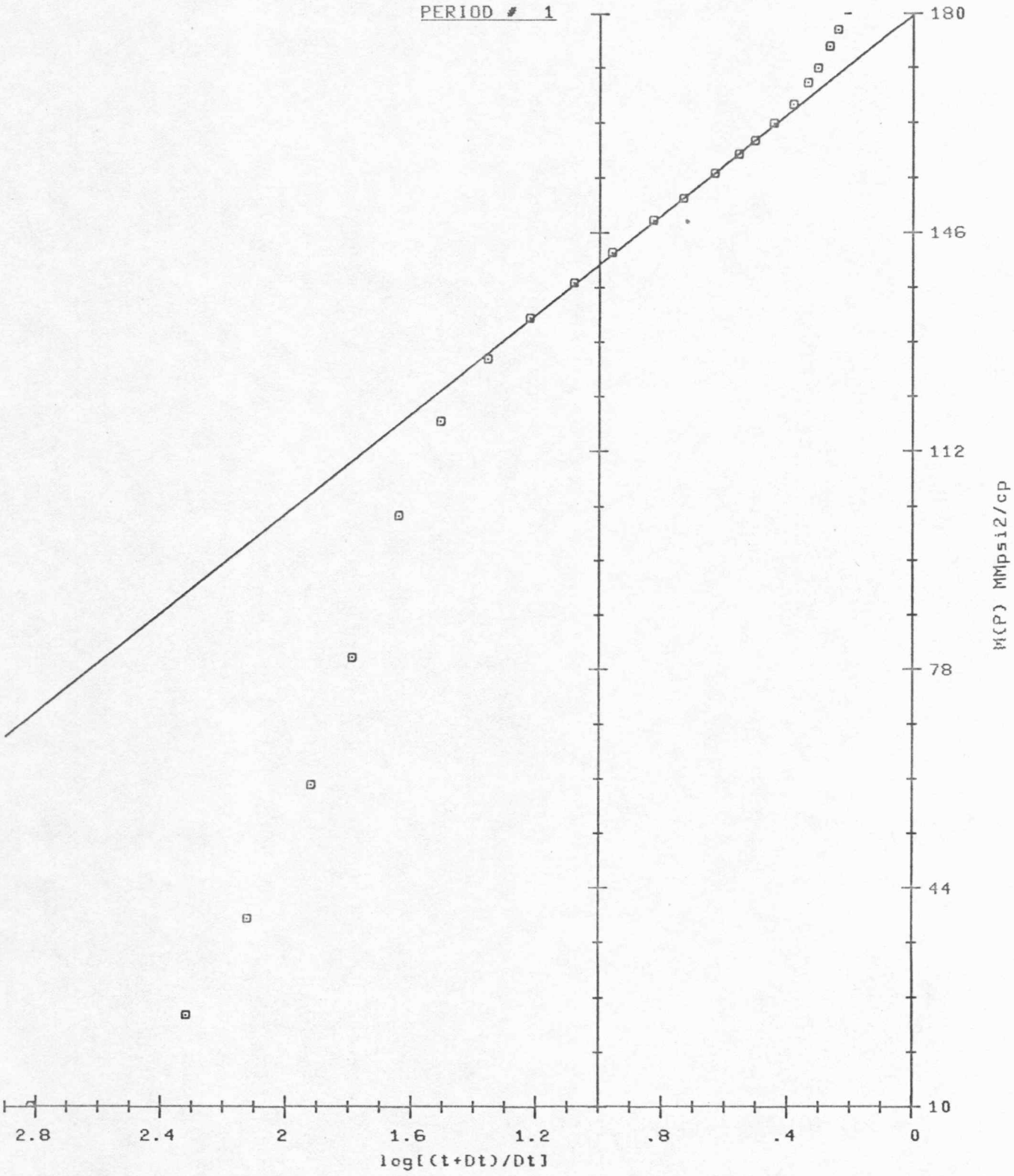
PERIOD # 1



Lease Name FRAZIER	Well No. 1	Test No. 5
Lease Owner SPINES EXPLORATION	Date 7-3-82	Ticket no. 432947
Gauge Sn. 007500		

HORNER PLOT
Ps= 1425.93
P10= 1255.41
M(Ps)= 179.70
M(P10)= 141.01

PERIOD # 1



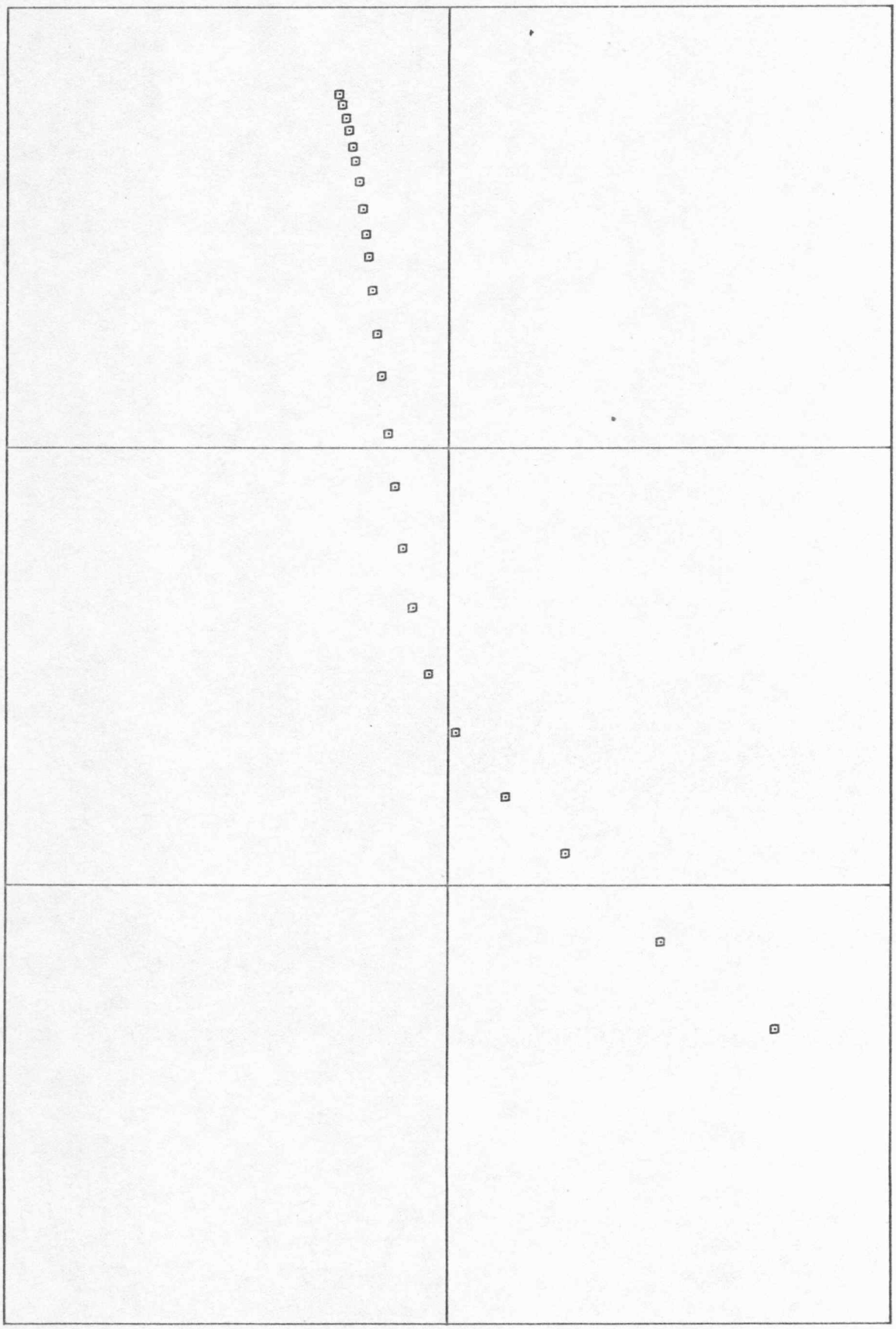
Lease Name FRAZIER | Well No. 1 | Test No. 5

Lease Owner SPINES EXPLORATION | Date 7-3-82 | Ticket no. 432947

Gauge Sn. 007500

Log-Log PLOT

PERIOD # 1

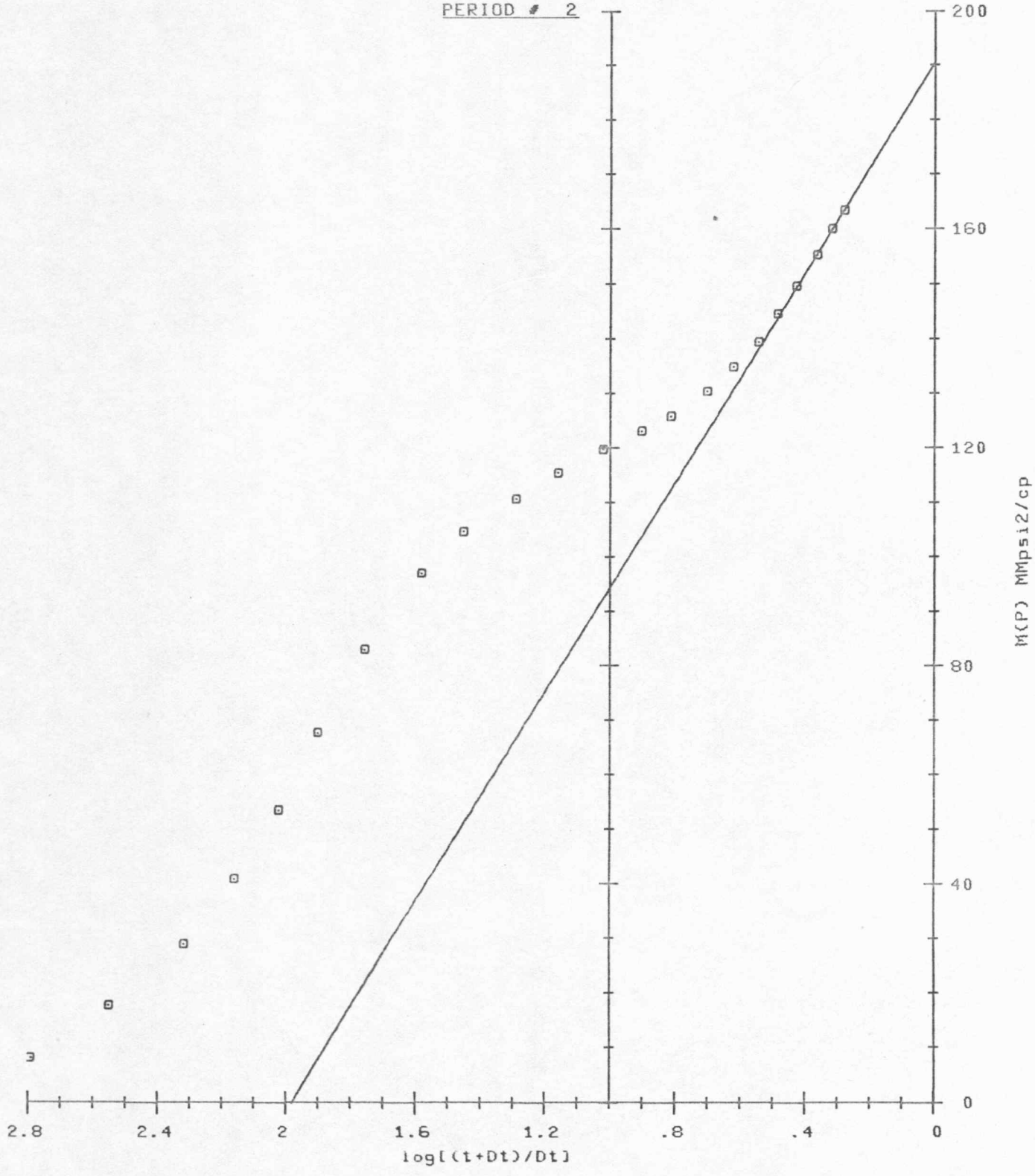


Lease Name FRAZIER Date 7-3-82 Ticket No. 432947 Period # 1

Time	Press.	Temp	Delta t	Ps	P10	CCc	
0:22:37:29	168.20	110					inital flow # 2
0:22:38:59	166.83	110	1.5				
0:22:41:05	180.53	110	3.6				
0:22:45:26	174.07	110	7.9				
0:22:51:33	174.66	110	14.1				
0:22:57:49	171.04	110	20.3				
0:23:03:35	176.32	110	26.1				
0:23:12:35	183.17	110	35.1				
0:23:23:38	188.85	110	46.2				
0:23:32:58	198.73	110	55.5				
0:23:44:24	206.95	110	66.9				
0:23:48:57	207.93	110	71.5				
0:23:55:06	214.87	110	77.6				
1:00:02:29	220.35	110	85.0				
1:00:06:47	222.60	110	89.3				final flow # 2
1:00:07:02	285.62	110	.2				
1:00:07:12	436.40	110	.4				
1:00:07:30	557.68	110	.7				
1:00:07:49	665.08	110	1.0				
1:00:08:13	764.40	110	1.4				
1:00:08:41	860.89	110	1.9	185.26	120.11	.977530	
1:00:09:26	956.52	110	2.7	253.45	155.56	.996684	
1:00:10:47	1036.41	110	4.0	249.63	153.55	.997971	
1:00:12:14	1075.53	110	5.4	240.88	149.02	.996888	
1:00:14:50	1106.60	110	8.0	221.00	139.60	.992308	
1:00:17:50	1131.26	110	11.1	178.83	125.83	.981964	
1:00:22:25	1153.50	110	15.6	160.98	121.36	.993189	
1:00:28:03	1171.26	110	21.3	153.95	120.22	.998469	
1:00:33:49	1185.44	110	27.0	151.62	120.07	.998934	
1:00:43:37	1207.67	110	36.8	153.48	120.10	.998891	
1:00:53:30	1227.77	110	46.7	155.04	120.35	.997337	
1:01:06:18	1248.35	110	59.5	163.32	117.75	.992033	
1:01:19:08	1271.55	110	72.3	170.66	114.26	.990440	
1:01:35:41	1293.88	110	88.9	178.41	108.76	.993923	
1:02:00:28	1319.51	110	113.7	183.91	103.53	.996562	
1:02:25:10	1340.78	110	138.4	188.24	98.04	.999553	
1:02:51:36	1356.02	110	164.8	188.61	97.63	.999649	
1:03:15:34	1369.13	110	188.8	190.36	94.27	.999600	closed in # 2

Lease Name FRAZIER	Well No. 1	Test No. 5
Lease Owner SPINES EXPLORATION	Date 7-3-82	Ticket no. 432947
Gauge Sn. 007500		

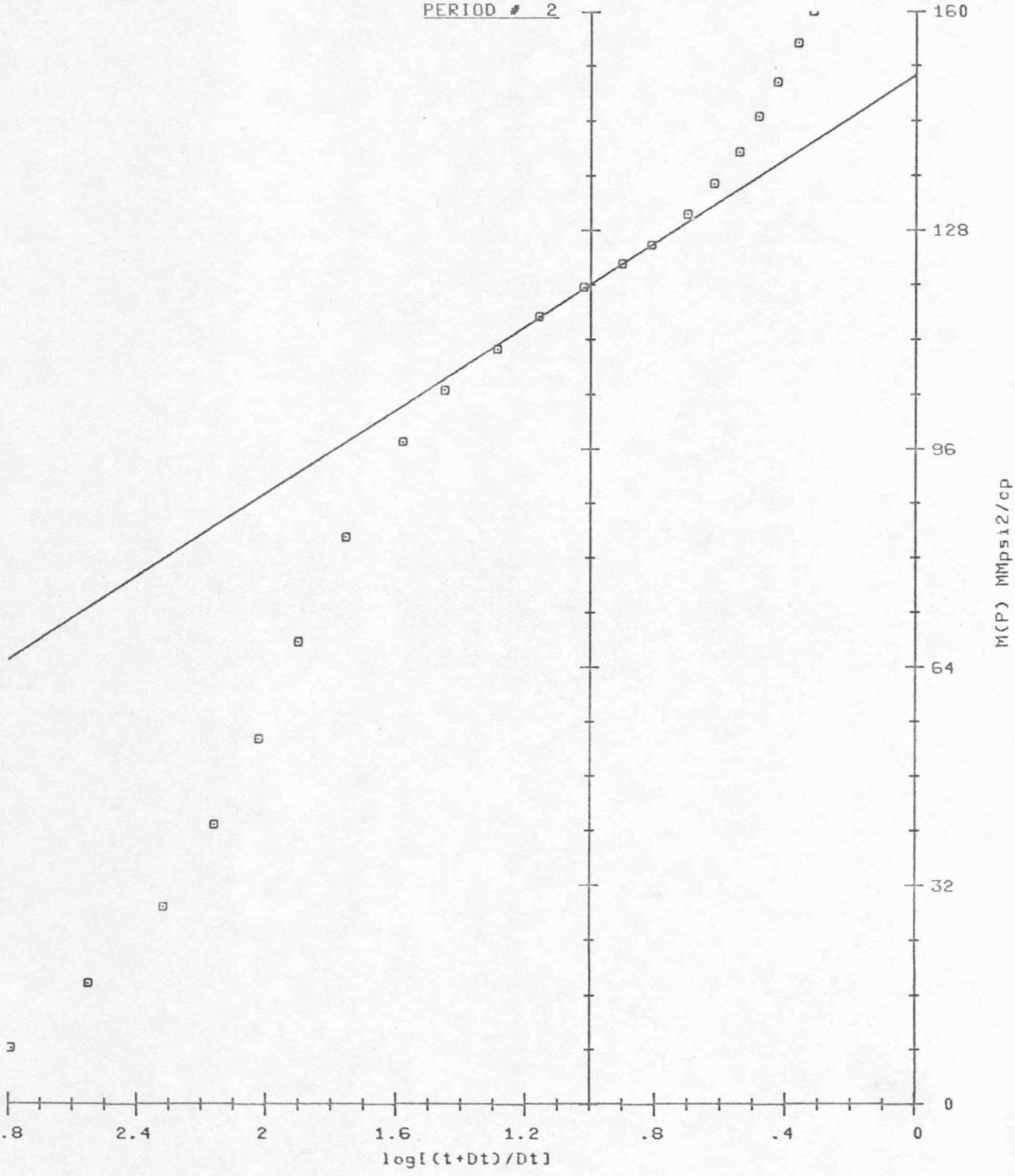
HORNER PLOT
Ps= 1468.83
P10= 1021.75
M(Ps)= 190.36
M(P10)= 94.27
CC= .999600
PERIOD # 2



Lease Name FRAZIER	Well No. 1	Test No. 5
Lease Owner SPINES EXPLORATION	Date 7-3-82	Ticket no. 432947
Gauge Sn. 007500		

HORNER PLOT
Ps= 1298.52
P10= 1155.62
M(Ps)= 150.63
M(P10)= 120.09

PERIOD # 2



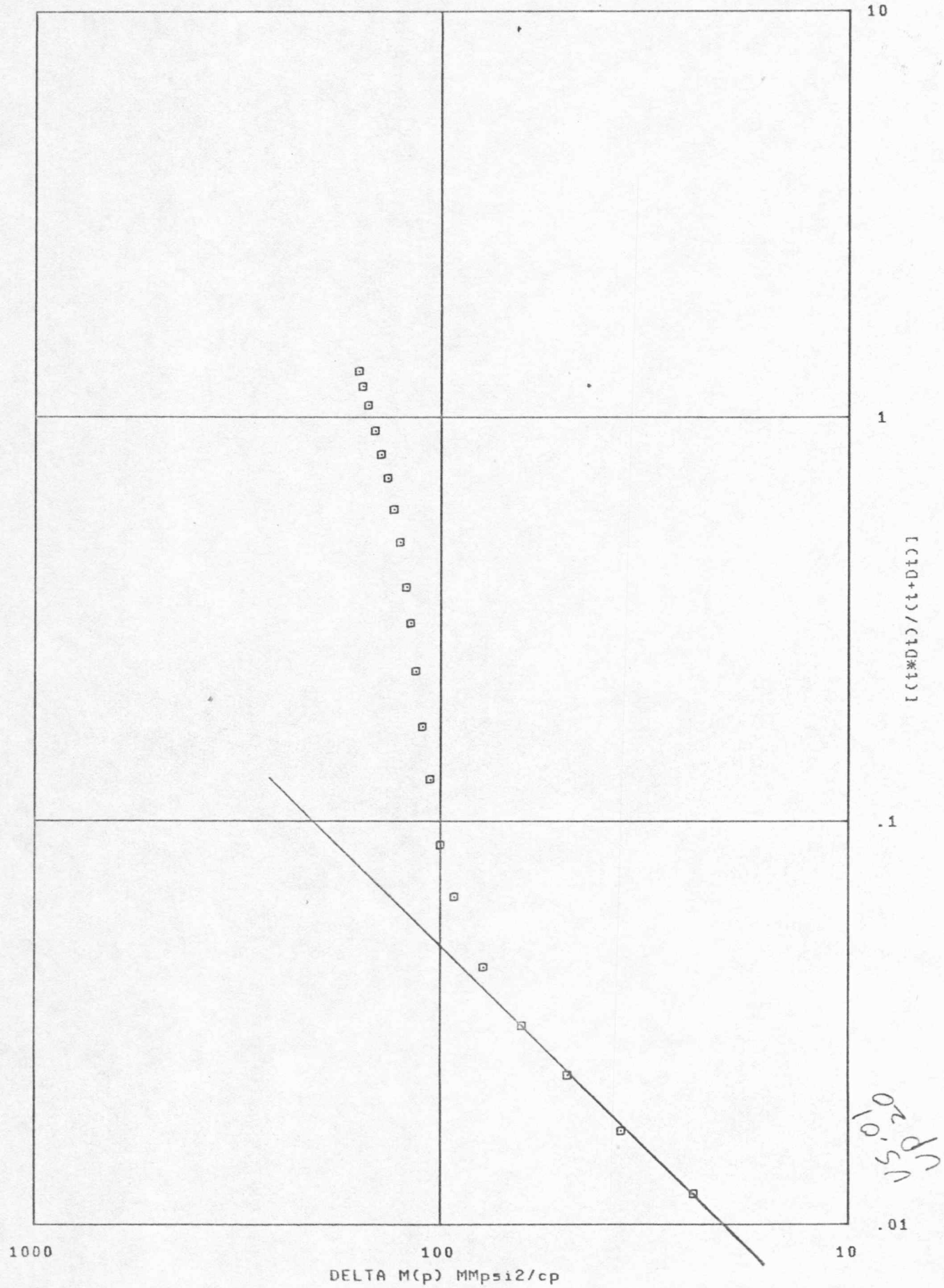
Lease Name FRAZIER | Well No. 1 | Test No. 5

Lease Owner SPINES EXPLORATION | Date 7-3-82 | Ticket no. 432947

Gauge Sn. 007500

Log-Log PLOT

PERIOD # 2



HALLIBURTON SERVICES

Lease Name FRAZIER | Well No. 1 | Test No. 5
Lease Owner SPINES EXPLORATION | Date 7-3-82 | Ticket no. 432947
Gauge Sn. 007500

GAS PRODUCTION
PERIOD # 2

GAS GRAVITY	.650000		TEMPERATURE	110.000000	F
NET PAY	4.000000	ft	POROSITY	10.000000	%
RADIUS OF WELL BORE	.328125	ft	VISCOSITY	.014002	cp
GAS DEVIATION FACTOR	.837030		GAS PROPERTIES AT	1369.126214	Psig
SYS. COMPRESSIBILITY	.000855	v/v/p			

GAUGE DEPTH		4506.000000	ft
FINAL FLOW PRESSURE		222.602740	Psig
TOTAL FLOW TIME		148.132593	min
CALC. STATIC PRESS.	Ps	1468.825256	Psig
EXTRA. PRESS.	m(Ps)	190.363562	
ONE CYCLE PRESS.	m(P10)	94.269806	
PRODUCTION RATE	Q	263.000000	MCFD
TRANSMISSIBILITY	kh/u	182.389925	mf/c
FLOW CAPACITY	kh	2.553784	mdft
PERMEABILITY	k	.638446	md
SKIN FACTOR	S	-2.217230	
DAMAGE RATIO	DR	.500242	
INDICATED RATE MAX	AOF1	269.832464	MCFD
INDICATED RATE MIN	AOF2	266.394328	MCFD
THEO. RATE	DR*AOF1	269.832464	MCFD
THEO. RATE	DR*AOF2	266.394328	MCFD
RADIUS OF INVEST.	ri	36.710772	ft

TICKET NUMBER 432947

	O.D.	I.D.	LENGTH	DEPTH
DRILL PIPE	4.500	3.826	4036.0	
DRILL COLLARS	6.250	2.250	210.0	
REVERSING SUB - HOLLOW PIN IMPACT	5.625	2.000	1.0	4249.0
DRILL COLLARS	6.250	2.250	120.0	
CROSSOVER	5.000	2.000	1.0	
DUAL C.I.P. VALVE	5.000	.870	5.0	
HYDROSPRING TESTER	5.000	.750	5.0	4380.0
RUNNING CASE - A.P.	5.000	3.060	4.0	4381.0
JAR	5.000	1.750	5.0	
V.R. SAFETY JOINT	5.000	1.000	3.0	
PACKER - OPEN HOLE	6.750	1.530	6.0	4394.0
PACKER - OPEN HOLE	6.750	1.530	6.0	4400.0
ANCHOR - FLUSH JOINT	5.000	2.370	8.0	
CROSSOVER	5.000	2.000	1.0	
DRILL COLLARS	6.250	2.250	60.0	
CROSSOVER	6.250	2.250	1.0	
CROSSOVER	5.000	2.000	1.0	
HANDLING SUB AND CHOKE ASSY	5.000	2.370	5.0	
CROSSOVER	5.000	2.000	1.0	
ANCHOR - FLUSH JOINT	5.000	2.370	25.0	
HT-500 TEMPERATURE CASE	5.000	2.440	1.0	4504.0
RUNNING CASE - BLANKED OFF	5.000	2.440	4.0	4506.0

EQUIPMENT DATA

HALLIBURTON SERVICES

JOB LOG

ROBERT SMITH - GEOLOGIST

FORM 2013 R-2

WELL NO. 1 LEASE _____ TICKET NO. 432947

CUSTOMER SPINES EXPLORATION INC PAGE NO. 1

JOB TYPE OPEN HOLE DUAL PACKER; DST #5 DATE 7-3-82

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
7/3	1403							CALLED OUT
	1410							LEFT CAMP
	1440							ON LOCATION- RIG PULLING PIPE
	1640							STARTED CLOCKS
	1700							PICKED UP TOOL
	1740							TOOL @ TABLE
	1800							TOOL THRU TABLE
	1935							TOOL ON BOTTOM
	1938							INITIAL OPENING - STRONG BLOW IMMEDIATELY
	1940							OPENED 2" TO PIT
	1943							GAS TO SURFACE IN 5 MINUTES
	1944							CLOSED 2" TO HOOK UP MERLA
	1945	CHOKE	PSI			MCF/DAY		OPENED 2" OUT TO PIT
	1950	1 1/2"	4			764		
	1955	1 1/2"	3			654		
	2000	1 1/2"	2			527		
	2005	1 1/2"	2			527		
	2010	1 1/2"	2			527		
	2015	1 1/2"	2			527		
	2020	1 1/2"	1.5			456		
	2025	1 1/2	1.5			456		
	2030	1 1/2"	1.5			456		
	2035	1 1/2"	1.0			371		
	2039	1 1/2"	1.0			371		INITIAL SHUT-IN PERIOD
	2239							FINAL OPENING - GAS IMMEDIATELY
	2240	1 1/2"	1.5			456		OPENED 2" TO PIT
	2245	1 1/2"	1.5			456		
	2250	1 1/2"	1.5			456		
	2255	1 1/2"	1.0			371		
	2300	1 1/2"	1.0			371		
	2305	1"	5.5			336		CHANGED CHOKES
	2310	1"	5.5			336		
	2315	1"	5.0			319		
	2320	1"	5.0			319		
	2325	1"	5.0			319		
	2330	1"	4.5			301		
	2335	1"	4.0			283		

HALLIBURTON SERVICES

JOB LOG

ROBERT SMITH-GEOLOGIST

FORM 2013 R-2

WELL NO. 1 LEASE FRAZIER TICKET NO. 432441

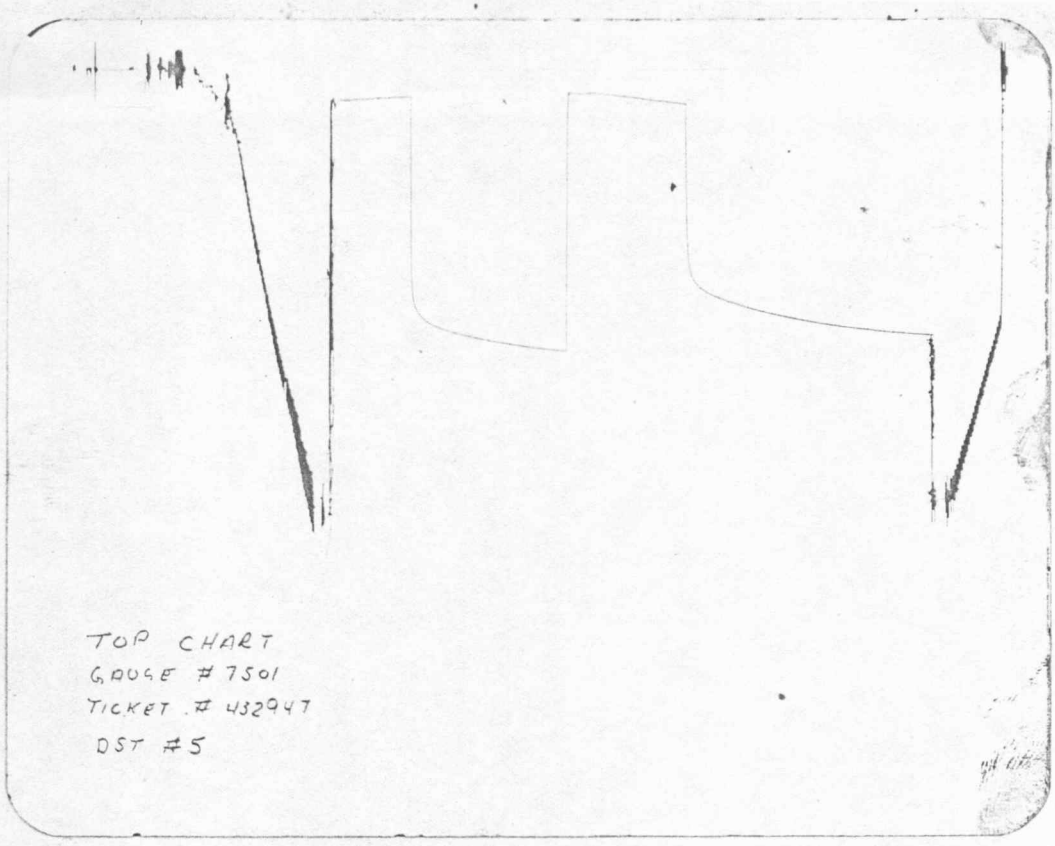
CUSTOMER SPINES EXPLORATION INC. PAGE NO. 2

JOB TYPE OPEN HOLE DUAL PACKER; DST #5 DATE 7-3-82

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
		CHOKE	PSI			MCF/DAY		
	2340	1"	3.5			263		[39 bbls A.d.] Full Gassed column
	2345	1"	3.5			263		
	2350	1"	3.5			263		
	2355	1"	3.5			263		
7/4	2400	1"	3.5			263		
	0005	1"	3.5			263		
	0010	1"	3.5			263		FINAL SHUT-IN PERIOD
	0315							TOOL OFF BOTTOM
	0630							TOOL @ TABLE
	0715							TOOL LAID DOWN
								34 @ 60'
								RECOVERY: 420 ft FREE OIL
								120 ft HEAVY OIL & GAS
								CUT MUD
								TESTED INTERVAL: 4400' - 4509'
								TIME INTERVAL: 60-120-90-180
								TEMP: 110°
								IHSP: 2336
								IFP: 255-235
								ISP: 1461
								FFP: 118-215
								FSP: 1364
								FHSP: 2200

THANK YOU

Bob [illegible]



TOP CHART
GAUGE # 7501
TICKET # 432947
DST #5