

I & E CFO

Number 04-RH-212

Page of

☒ Certified Mail - Return
Receipt Requested
70040750000308021298

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOTICE OF WRITTEN ORDER

IDENTIFICATION	
IID	
Lease	NMNM100586
CA	
Unit	
PA	

Bureau of Land Management Office CARLSBAD FIELD OFFICE	Operator CIMAREX ENERGY CO
Address 620 E GREENE STREET CARLSBAD NM 88220	Address 15 E 5TH ST STE 1000 TULSA OK 74103
Telephone 505-234-5995	Attention OCD-ARTESIA
Inspector RHUNT	Attn Addr

Site Name WAGON WHEEL 13 FEDERAL	Well or Facility 2	1/4 1/4 Section SWNE 13	Township 22S	Range 22E	Meridian NMP	County EDDY	State NM
Site Name	Well or Facility	1/4 1/4 Section	Township	Range	Meridian	County	State
Site Name	Well or Facility	1/4 1/4 Section	Township	Range	Meridian	County	State

The following condition(s) were found by Bureau of Land Management Inspectors on the date and at the site(s) listed above.

Date	Time (24-hour clock)	Corrective Action to be Completed by	Date Corrected	Authority Reference
08/24/2004	12:00	11/02/2004	10-8-04	43 CFR 3162.1(a), 43 CFR 3162.3-4(c)

Remarks:

THE FOLLOWING ACTIONS MUST BE COMPLETED PRIOR TO ABANDONMENT APPROVAL.
THE SURFACE LOCATION IS TO BE CLEANED AND LEVELED PER BLM REQUIREMENTS.
1. REMOVE TRAILER HOUSE AND OTHER DEBRIS.
2. STRIP AND REMOVE CALICHE FROM THE DRILL PAD AND 100 FT. OF ACCESS ROAD. CALICHE CAN BE USED FOR CONSTRUCTION OF DRILL PADS, ACCESS ROADS, FIREWALLS, AND ROAD MAINTENANCE OR BURIED ON LOCATION AND COVERED WITH NATIVE SOIL. CALICHE CAN BE PLACED IN OPEN RESERVE PIT.
3. RECLAIM RESERVE PIT (CALICHE FROM DRILL PAD AND ACCESS ROAD CAN BE PLACED INTO RESERVE PIT).
4. THE DRILL PAD AND 100 FT. OF ACCESS ROAD SHOULD BE RIPPED TO A MINIMUM OF 12" DEPTH.
5. THE DRILL SITE (INCLUDING RESERVE PIT AREA) AND 100 FT OF ACCESS ROAD ARE TO BE RESEEDDED
(Remarks continued on following page(s).)

When the Written Order is complied with, sign this notice and return to above address.

Company Representative Title Drilling Tech Signature Amy Warren Date 10-8-04
Company Comments We plan to re-enter and sidetrack this well within the next thirty (30) days.
Becky from the BLM Carlsbad office was notified 10-7-04 & made note of the future re-entry.

Warning

The Authorized Officer has authority to issue a Written Order in accordance with 43 CFR 3161.2. Written Order correction and reporting time frames begin upon receipt of this Notice or 7 business days after the date it is mailed, whichever is earlier. Each stipulation must be corrected within the prescribed time from receipt of this Notice and reported to the Bureau of Land Management Office at the address shown above. If you do not comply as noted above under "Corrective Action to be Completed By", you shall be issued an Incident of Noncompliance (INC) in accordance with 43 CFR 3163.1(a). Failure to comply with the INC may result in assessments as outlined in 43 CFR 3163.1 and may also incur civil penalties (43 CFR 3163.2). All self-certified corrections must be postmarked no later than the next business day after the prescribed time frame for correction.

Section 109(d)(1) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3163.2(f)(1), provides that any person who "knowingly or willfully" prepares, maintains, or submits false, inaccurate, or misleading reports, notices, affidavits, records, data, or other written information required by this part shall be liable for a civil penalty of up to \$25,000 per violation for each day such violation continues, not to exceed a maximum of 20 days.

Review and Appeal Rights

A person contesting a decision shall request a State Director review of the Written Order. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

Signature of Bureau of Land Management Authorized Officer <i>Robert J. Hunt</i>	Date <i>8/24/04</i>	Time <i>1603</i>
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FOR OFFICE USE ONLY

Number 2P	Date	Type of Inspection SA
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I & E CFO

BLM Remarks, continued

ACCORDING TO THE ATTACHED SPECIFICATIONS FOR SEED MIXTURE #3. IN ORDER FOR THE BLM TO MONITOR THE SEEDING OPERATION PLEASE CONTACT THE BLM 3 DAYS PRIOR TO SEEDING.

6. ALL RIPPED SURFACES ARE TO BE PROTECTED FROM VEHICULAR TRAVEL BY CONSTRUCTING A DEAD-END DITCH AND EARTHEN BARRICADE AT THE ENTRANCE TO THESE RIPPED AREAS. THE BARRICADE IS TO BE CONSTRUCTED USING SPOIL MATERIAL FROM THE DITCH AND SHOULD BE OF SUFFICIENT SIZE TO DISCOURAGE VEHICLE ENTRY.

7. AFTER ALL ABANDONMENT REQUIREMENTS HAVE BEEN MET SUBMIT ONE ORIGINAL AND FIVE COPIES OF THE SUNDRY FOR FINAL ABANDONMENT (FORM 3160-5).

PLEASE CONTACT BECKY HUNT, ENVIRONMENTAL PROTECTION SPECIALIST, AT (505) 234-5995, 3 DAYS PRIOR TO RECLAMATION AND IF YOU HAVE ANY QUESTIONS OR CONCERNS.

RECEIVED

OCT 18 2004

002

S C I E N T I F I C D R I L L I N G C O N T R O L S *
 *

Inrun Survey
 for
 CIMAREX ENERGY

Page 1

Well No.: WAGON WHEEL 13 FED #2 Date : 10-AUG-2004
 Job No. : 32K0804480 TRUE Proposal : 0.00

Depth T.V.D. V.S. Inc Azimuth Latitude Departure D-leg
 (Feet) (Feet) (Feet) Deg. Deg. (Feet) (Feet) /100
 fff

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	100.00	-0.14	0.35	118.36	-0.14	0.27	0.35
200.00	200.00	-0.38	0.26	113.43	-0.38	0.75	0.09
300.00	300.00	-0.69	0.25	177.42	-0.69	0.96	0.27
400.00	400.00	-1.30	0.45	185.12	-1.30	0.94	0.20
500.00	499.99	-2.21	0.60	186.10	-2.21	0.85	0.15
600.00	599.98	-3.40	0.81	199.24	-3.40	0.56	0.26
700.00	699.97	-4.82	0.93	202.03	-4.82	0.02	0.13
800.00	799.96	-6.17	0.81	211.43	-6.17	-0.65	0.19
900.00	899.95	-7.25	0.82	228.12	-7.25	-1.55	0.24
1000.00	999.94	-8.14	0.63	221.58	-8.14	-2.45	0.21
1100.00	1099.94	-8.87	0.58	230.94	-8.87	-3.21	0.11
1200.00	1199.93	-9.50	0.46	219.19	-9.50	-3.85	0.16
1300.00	1299.93	-9.85	0.07	230.07	-9.85	-4.16	0.39
1400.00	1399.93	-10.04	0.26	230.93	-10.04	-4.38	0.19
1500.00	1499.93	-10.31	0.18	211.18	-10.31	-4.64	0.11
1600.00	1599.93	-10.49	0.19	253.99	-10.49	-4.88	0.14
1700.00	1699.93	-10.51	0.22	277.84	-10.51	-5.23	0.09
1800.00	1799.93	-10.39	0.35	288.84	-10.39	-5.71	0.14
1900.00	1899.92	-10.07	0.32	320.94	-10.07	-6.17	0.19
2000.00	1999.92	-9.59	0.31	5.70	-9.59	-6.32	0.24
2100.00	2099.92	-9.15	0.19	5.84	-9.15	-6.28	0.12
2200.00	2199.92	-8.74	0.29	345.77	-8.74	-6.32	0.13
2300.00	2299.92	-8.26	0.30	336.61	-8.26	-6.49	0.05
2400.00	2399.92	-7.57	0.51	356.32	-7.57	-6.62	0.25
2500.00	2499.91	-6.69	0.50	354.87	-6.69	-6.69	0.02
2600.00	2599.91	-5.83	0.50	350.55	-5.83	-6.80	0.04
2700.00	2699.91	-5.03	0.43	352.77	-5.03	-6.92	0.07
2800.00	2799.90	-4.32	0.39	346.73	-4.32	-7.04	0.06
2900.00	2899.90	-3.63	0.42	352.29	-3.63	-7.17	0.05
3000.00	2999.90	-2.91	0.44	335.67	-2.91	-7.38	0.13
3100.00	3099.89	-2.01	0.67	342.19	-2.01	-7.71	0.24
3200.00	3199.89	-0.89	0.69	339.77	-0.89	-8.10	0.04
3300.00	3299.88	0.21	0.65	339.80	0.21	-8.51	0.04
3400.00	3399.87	1.40	0.80	340.20	1.40	-8.94	0.15
3500.00	3499.86	2.63	0.69	340.66	2.63	-9.37	0.11

[illegible]

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Date : 10-AUG-2004

TRUE

Proposal : 0.00

4000.00	3999.81	8.04	1.08	298.40	8.04	-14.09	0.24
4100.00	4099.79	9.01	1.17	300.90	9.01	-15.80	0.10
4200.00	4199.76	9.86	1.36	285.80	9.86	-17.82	0.38
4300.00	4299.73	10.53	1.61	284.62	10.53	-20.32	0.25
4400.00	4399.69	11.35	1.80	287.16	11.35	-23.18	0.20

4500.00	4499.63	12.25	2.03	284.11	12.25	-26.39	0.25
4600.00	4599.55	13.08	2.61	280.05	13.08	-30.36	0.60
4700.00	4699.41	13.67	3.28	273.86	13.67	-35.45	0.74
4800.00	4799.22	13.79	3.81	268.74	13.79	-41.63	0.62
4900.00	4898.98	13.52	4.17	266.98	13.52	-48.58	0.38

5000.00	4998.71	13.16	4.27	267.39	13.16	-55.93	0.10
5100.00	5098.44	12.71	4.19	265.56	12.71	-63.29	0.16
5200.00	5198.18	11.99	4.01	262.90	11.99	-70.40	0.26
5300.00	5297.95	10.94	3.77	259.18	10.94	-77.10	0.35
5400.00	5397.73	9.55	3.85	256.60	9.55	-83.60	0.19

5500.00	5497.52	7.96	3.65	255.18	7.96	-89.94	0.22
5600.00	5597.30	6.11	3.83	251.92	6.11	-96.19	0.28
5700.00	5697.08	4.21	3.75	254.73	4.21	-102.52	0.20
5800.00	5796.86	2.33	3.82	252.29	2.33	-108.85	0.18
5900.00	5896.64	0.36	3.88	253.55	0.36	-115.27	0.10

6000.00	5996.42	-1.62	3.72	251.52	-1.62	-121.59	0.21
6100.00	6096.20	-3.77	3.80	250.20	-3.77	-127.78	0.12
6200.00	6195.99	-6.17	3.75	247.16	-6.17	-133.91	0.21
6300.00	6295.81	-8.04	3.04	256.85	-8.04	-139.51	0.91
6400.00	6395.73	-8.32	1.71	282.31	-8.32	-143.55	1.67

6500.00	6495.69	-6.99	1.61	316.37	-6.99	-145.98	0.98
6600.00	6595.65	-4.90	1.67	317.44	-4.90	-147.93	0.07
6700.00	6695.60	-2.75	1.74	315.35	-2.75	-149.99	0.09
6800.00	6795.56	-0.66	1.62	315.32	-0.66	-152.05	0.12
6900.00	6895.53	1.27	1.07	354.12	1.27	-153.14	1.03

7000.00	6995.52	2.83	0.91	322.92	2.83	-153.71	0.55
7100.00	7095.51	4.02	0.91	314.13	4.02	-154.76	0.14

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Job No. : 32K0804480

TRUE Proposal : 0.00

[illegible]

8500.00	8495.17	2.28	1.51	217.42	2.28	-138.83	0.20
8600.00	8595.14	0.32	1.53	226.86	0.32	-140.61	0.25
8700.00	8695.10	-1.47	1.42	224.80	-1.47	-142.46	0.12
8800.00	8795.07	-3.33	1.44	219.00	-3.33	-144.12	0.15
8900.00	8895.04	-5.20	1.50	226.48	-5.20	-145.86	0.20

9000.00	8995.00	-7.15	1.62	222.53	-7.15	-147.76	0.16
9100.00	9094.96	-9.53	1.89	215.68	-9.53	-149.68	0.34
9200.00	9194.89	-12.55	2.20	208.75	-12.55	-151.57	0.40
9300.00	9294.82	-15.85	2.25	214.42	-15.85	-153.60	0.23

The Horizontal Displacement (in Feet) at
Measured Depth 9300.00 is 154.41 in a Direction of 264.11 Degrees



COMRANY : CIMAREX ENERGY CO.
LEASE : WAGON WHEEL "13" FEDERAL
WELL NO : # 2
FIELD : WILDCAT
COUNTY/STATE : EDDY / NEW MEXICO

RECEIVED

OCT 18 2004

OCD-ARTESIA

TEST DATE : 07/28/04
D.S.T. NO. : 1
TEST TKT. NO. : 22837
INVOICE NO. : 20918
ORDER NO. :

FORMATION : WOLFCAMP
INTERVAL (ft) : 7428 TO 7563
TOTAL DEPTH (ft) : 7563
ELEVATION (ft) : 4343

HOLE SIZE (in) : 7.875
DRILL PIPE ID (in) : 3.82
DRILL COLLAR ID(in): 2.25
DRILL COLLAR feet : 600

ANCHOR LENGTH (ft): 135
TOOL LENGTH (ft) : 52
TOOL O.D. (in) : 5
PACKER SIZE (in) : 7.00

RECORDER DATA
AK- IKUSTER / ZIPROBE

TOP RECORDER: IN
RECORDER NO. : 22028
CAPACITY (psi): 10000
DEPTH (ft) : 7436
CLOCK NO. : 22028
DURATION (hrs): 99

BOTTOM RECORDER: OUT
RECORDER NO. : 13481
CAPACITY (psi): 8025
DEPTH (ft) : 7560
CLOCK NO. : 20321
DURATION (hrs): 24

MUD PROPERTIES

MUD TYPE : SALT / GEL
MUD WT. (#/gal) : 9.70

WATER LOSS (cc) : 14.0
FILTER CAKE (in) : 1/32
VISCOSITY (sec) : 39

CHLORIDE PPM : 81000
RESISTIVITY(ohm-m): .114

EQUIPMENT DATA

CONVENTIONAL : YES
STRADDLE : NO
SELECTIVE ZONE : NO
SAMPLE CHAMBER : YES
GAS ANALYSIS : YES

ROTARY JARS : YES
NO. OF PACKERS : 2
SAFETY JOINT : YES
CIRCULATING SUB : YES
REVERSED OUT : YES

MULTIFLOW : NO
MILEAGE : NO
OPERATOR TIME : NO
OTHER : YES
ZI ELECTRONICS(2)

SUCCESSFUL : YES

PACKER FAILURE : NO

TOOL PLUG : NO

DECIDED NOT TO TEST : NO

FAIL TO REACH BOTTOM : NO

TIME INTERVAL DATA (min)

TOOL OPENED : 8:30 PM

TOTAL TEST TIME : 488

INITIAL FLOW : 9
SECOND FLOW : 118
THIRD FLOW :

INITIAL SHUT-IN: 60
SECOND SHUT-IN : 300
THIRD SHUT IN :

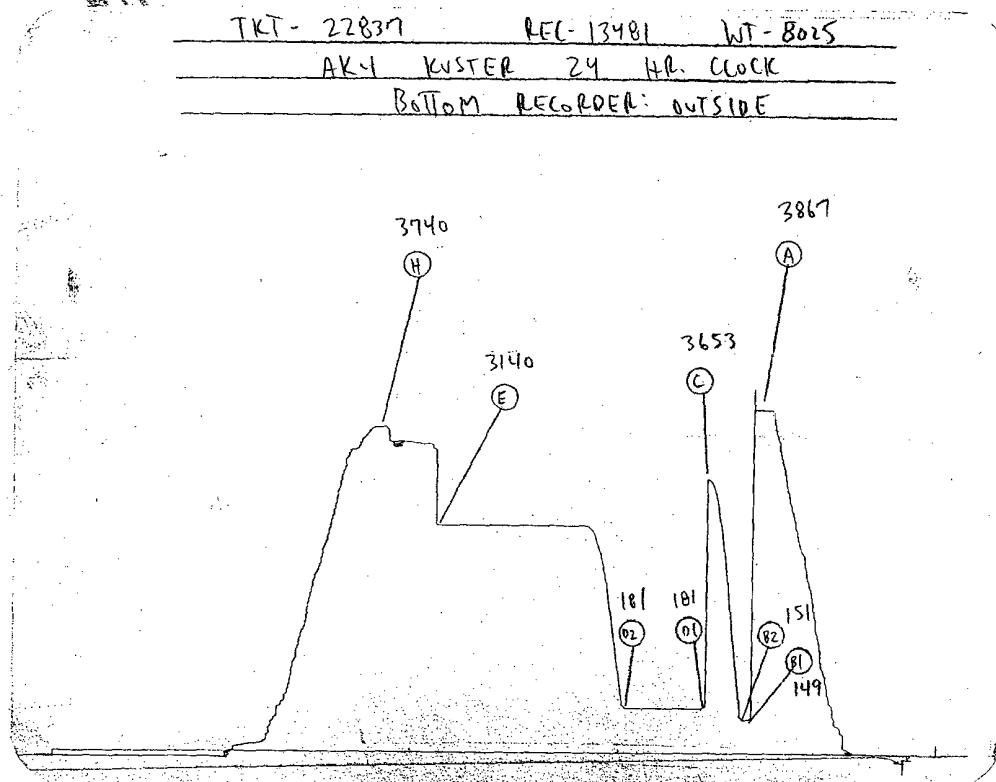
TEST TOOL OPERATOR: DON TERHUNE



CIMAREX ENERGY CO.

WAGON WHEEL "13" FEDERAL # 2
D.S.T. NO. : 1

	CORRECTED READING	FIELD READING
A INITIAL HYDROSTATIC:	3798 PSI	3789 PSI
B-1 INITIAL FIRST FLOW :	73 PSI	79 PSI
B-2 FINAL FIRST FLOW :	62 PSI	62 PSI
C FIRST SHUT-IN :	3579 PSI	3579 PSI
D-1 INITIAL SECOND FLOW:	49 PSI	64 PSI
D-2 FINAL SECOND FLOW :	69 PSI	72 PSI
E SECOND SHUT-IN :	3066 PSI	3066 PSI
H FINAL HYDROSTATIC :	3790 PSI	3790 PSI

RECOVERY DATA

PIPE RECOVERY

B.H. TEMP. (deg F) : 131

SAMPLE CHAMBER

GAS TO SURFACE 8 MIN. INTO FINAL FLOW PERIOD
PULLED 5 STANDS & REVERSED OUT INTO PIT;
180 FT. OF GAS CUT DRLG. MUD
60 FT. OF GAS CUT MUD- BELOW CIRC SUB

30 LBS. OF PRESSURE
.005 CU. FT. OF GAS
800 CC'S OF GAS CUT DRLG. MUD

TEST REMARKS

TOOL OPENED WITH FAIR BLOW ON 1/8" CHOKE, 2.5 LBS. IN 5 MIN. & 5 LBS. AT
END OF THE 10 MIN. FIRST FLOW PERIOD. REOPENED TOOL WITH STRONG BLOW ON
1/4" CHOKE, 21.5 LBS. IN 1 MIN., 22 LBS. IN 5 MIN., GAS TO SURFACE IN 8
MIN. WITH 21.5 LBS. (53 MCFPD) ON 1/4", 21.5 LBS. (53 MCFPD) IN 10 MIN., 18.5
LBS. (48 MCFPD) IN 30 MIN., 16.5 LBS. (45 MCFPD) IN 50 MIN., 14.8 LBS. (43
MCFPD) IN 80 MIN., 14 LBS. (42 MCFPD) IN 100 MIN. & 13 LBS. (40 MCFPD) AT
END OF THE 120 MIN. FINAL FLOW PERIOD.

CAPROCK LABORATORIES, INC.
3312 BANKHEAD HIGHWAY
MIDLAND, TEXAS 79701

CHROMATOGRAPHIC ANALYSIS

COMPANY: RIG TESTERS JOB #: 0407087
SAMPLE ID: WAGONWHEEL 13 FED#2 SAMPLE #: D2207RIG1
SAMPLE TYPE: SPOT DATE ON: 20040728
STATION: CIMAREX ENERGY DATE OFF: 20040728
BASE PRESSURE, PSIA: 14.650 TIME ON: 2150
RANAREX GRAVITY: TIME OFF: 2150
SAMPLE PRESS., psig: 21.0 SAMPLED BY: CLIENT
GAS TEMP. F: CYLINDER #: 000001
ANALYSIS DATE: 20040730 SAMPLE USE * : A
ANALYSIS COMMENTS: DST #1, 7428-7563, WOLFCAMP FORMATION, LEA, N. MEX.

COMPONENT	MOLE %	GPM
HYDROGEN SULFIDE	0.0000	
NITROGEN	1.3313	
OXYGEN	0.0000	
METHANE	70.9855	
CARBON DIOXIDE	0.0723	
ETHANE	12.8478	3.4173
PROPANE	7.6456	2.0951
ISO-BUTANE	1.5102	0.4913
N-BUTANE	2.4040	0.7538
ISO-PENTANE	0.7693	0.2799
N-PENTANE	0.5150	0.1855
HEXANES	0.4707	0.1925
HEPTANES +	1.4483	0.6644
TOTAL	100.0000	8.0800

HEATING VALUE

BTU DRY 1413.1
BTU SATURATED 1388.5

COMPRESSIBILITY, Z 0.9950

RELATIVE DENSITY 0.8316

AVE. MOLE WEIGHT 24.0863

H2S, TUTWEILER, GR./100 CUBIC FEET 0.0

26 # GASOLINE 4.9603

BASE CONDITIONS, 14.65 PSIA @ 60 DEGREES FAHRENHEIT

* A = ACCOUNTABLE, O = OPERATIONAL

PRESSURE AND TEMPERATURE VS DELTA TIME

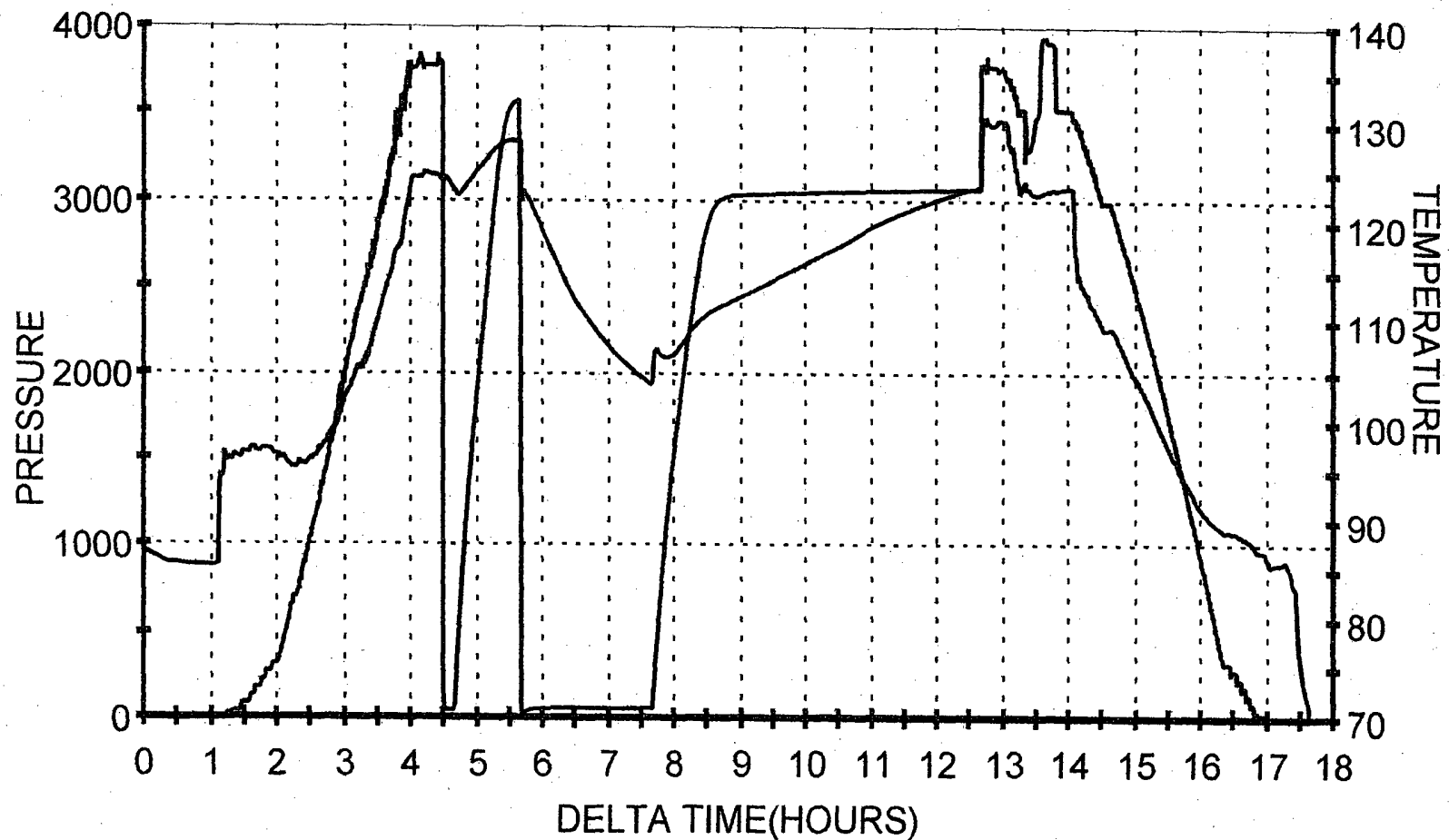
Company: Cimarex Energy Co.

Location: Wagon Wheel 13 Federal #2

Date: July 28, 2004 DST #1

Serial# 22028

Max. Pressure: 3947.487 psia Max. Temperature: 130.922 F



PRESSURE AND TEMPERATURE VS DELTA TIME

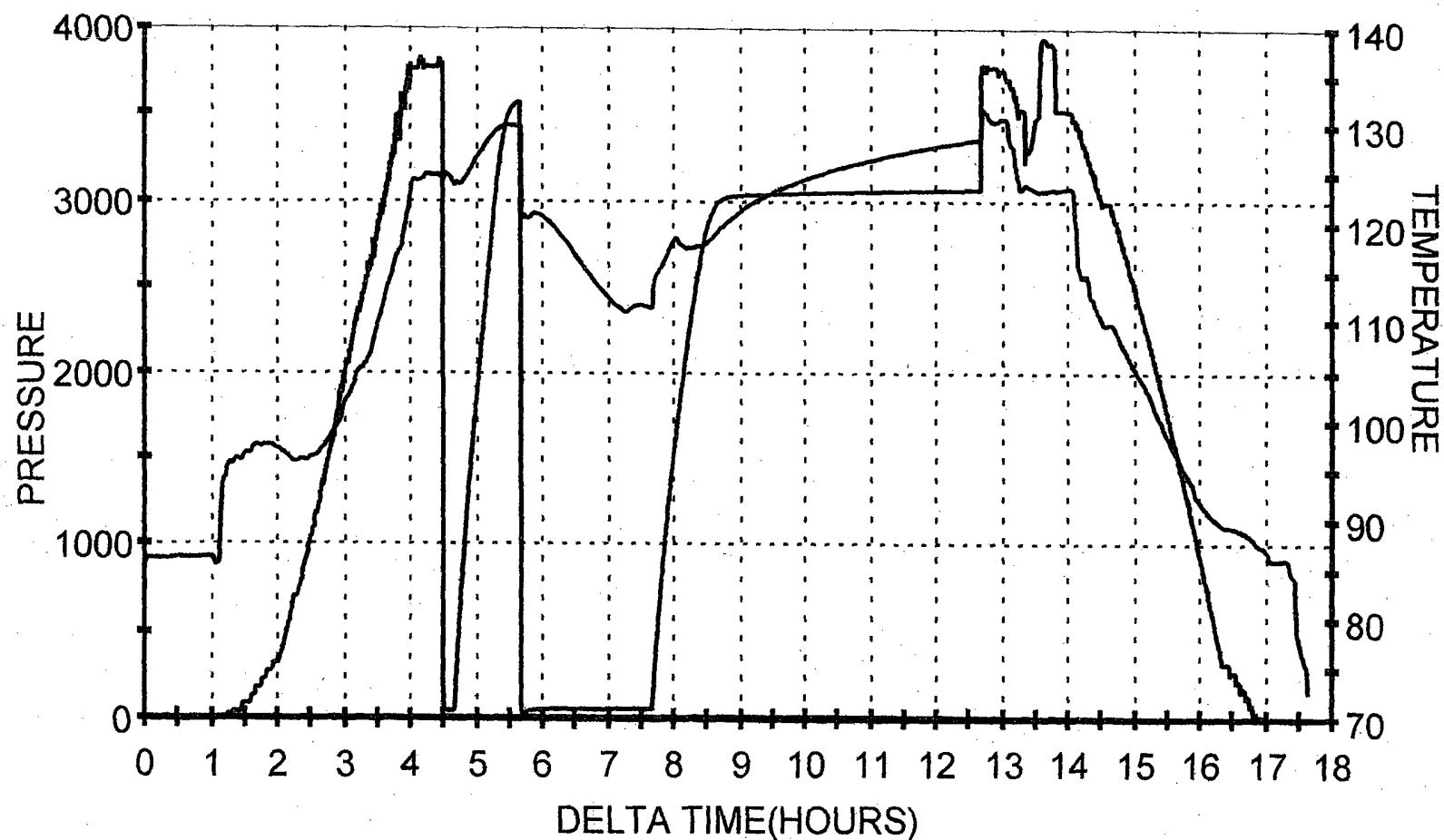
Company: Cimarex Energy Co.

Location: Wagon Wheel 13 Federal #2

Date: July 28, 2004 DST #1

Serial# 22027

Max. Pressure: 3949.222 psia Max. Temperature: 131.944 F



INCREMENTAL PRESSURE DATA

RECORDER NO : 22028

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 7436 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
FIRST FLOW					
.0	.0			73.80	.00
2.0	2.0			60.29	-13.51
4.0	4.0			60.19	-13.61
6.0	6.0			61.00	-12.80
8.0	8.0			61.99	-11.81
9.2	9.2			62.70	-11.10
FIRST SHUT-IN					
9.2	9.2	.00	.000	62.70	.00
9.7	9.2	.50	19.480	119.64	56.94
10.2	9.2	1.00	10.240	187.19	124.49
10.7	9.2	1.50	7.160	253.20	190.50
11.2	9.2	2.00	5.620	309.68	246.98
11.7	9.2	2.50	4.696	371.73	309.03
12.2	9.2	3.00	4.080	432.00	369.30
12.7	9.2	3.50	3.640	484.48	421.78
13.2	9.2	4.00	3.310	540.83	478.13
13.7	9.2	4.50	3.053	596.40	533.70
14.2	9.2	5.00	2.848	644.38	581.68
15.2	9.2	6.00	2.540	749.30	686.60
16.2	9.2	7.00	2.320	843.73	781.03
17.2	9.2	8.00	2.155	935.17	872.47
18.2	9.2	9.00	2.027	1027.70	965.00
19.2	9.2	10.00	1.924	1111.53	1048.83
21.2	9.2	12.00	1.770	1276.30	1213.60
23.2	9.2	14.00	1.660	1427.43	1364.73
25.2	9.2	16.00	1.578	1576.79	1514.09
27.2	9.2	18.00	1.513	1721.00	1658.30
29.2	9.2	20.00	1.462	1857.33	1794.63
32.2	9.2	23.00	1.402	2062.38	1999.68
35.2	9.2	26.00	1.355	2266.27	2203.57
38.2	9.2	29.00	1.319	2471.75	2409.05
41.2	9.2	32.00	1.289	2678.03	2615.33
44.2	9.2	35.00	1.264	2880.62	2817.92
47.2	9.2	38.00	1.243	3065.72	3003.02
50.2	9.2	41.00	1.225	3224.32	3161.62
53.2	9.2	44.00	1.210	3351.65	3288.95
56.2	9.2	47.00	1.197	3448.73	3386.03
59.2	9.2	50.00	1.185	3510.60	3447.90
62.2	9.2	53.00	1.174	3547.63	3484.93
65.2	9.2	56.00	1.165	3567.48	3504.78
68.2	9.2	59.00	1.157	3577.10	3514.40
69.2	9.2	60.00	1.154	3579.40	3516.70

INCREMENTAL PRESSURE DATA

RECORDER NO : 22028

RECORDER CAPACITY : 10000 psi

RECORDER DEPTH : 7436 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNOR) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
------------------------------	---------------------------------------	---	--------------------------------	------------------------	-----------------------

SECOND FLOW

70.5	10.5			49.30	.00
75.5	15.5			56.83	7.53
80.5	20.5			64.78	15.48
85.5	25.5			67.70	18.40
90.5	30.5			69.61	20.31
95.5	35.5			71.00	21.70
100.5	40.5			71.90	22.60
105.5	45.5			72.30	23.00
110.5	50.5			72.30	23.00
115.5	55.5			72.10	22.80
120.5	60.5			72.10	22.80
125.5	65.5			72.20	22.90
130.5	70.5			71.90	22.60
135.5	75.5			71.70	22.40
140.5	80.5			71.50	22.20
145.5	85.5			71.60	22.30
150.5	90.5			71.90	22.60
155.5	95.5			72.39	23.09
160.5	100.5			72.80	23.50
165.5	105.5			72.90	23.60
170.5	110.5			72.90	23.60
175.5	115.5			72.70	23.40
180.5	120.5			72.90	23.60
185.5	125.5			72.90	23.60
189.0	129.0			69.80	20.50

SECOND SHUT-IN

189.0	129.0	.00	.000	69.80	.00
191.0	129.0	2.00	65.500	248.91	179.11
193.0	129.0	4.00	33.250	433.55	363.75
195.0	129.0	6.00	22.500	607.40	537.60
197.0	129.0	8.00	17.125	763.84	694.04
199.0	129.0	10.00	13.900	912.71	842.91
201.0	129.0	12.00	11.750	1052.90	983.10
203.0	129.0	14.00	10.214	1181.58	1111.78
205.0	129.0	16.00	9.063	1307.03	1237.23
207.0	129.0	18.00	8.167	1427.30	1357.50
209.0	129.0	20.00	7.450	1539.93	1470.13
212.0	129.0	23.00	6.609	1704.21	1634.41

INCREMENTAL PRESSURE DATA

RECORDER NO : 22028

RECORDER CAPACITY : 10000 psi

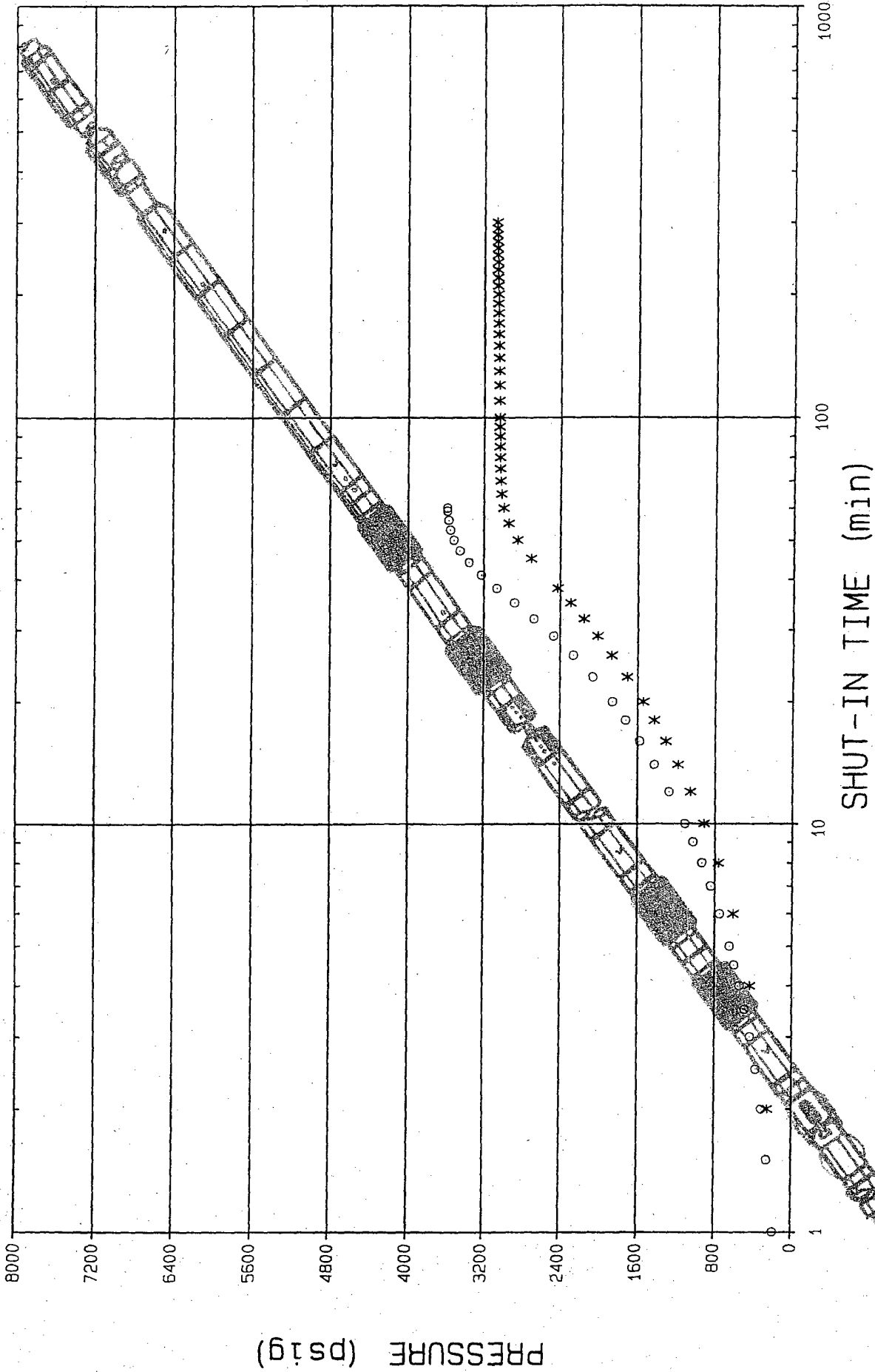
RECORDER DEPTH : 7436 ft

ELAPSED TIME ---MIN---	TOTAL FLOW TIME, T ---MIN---	INCREMENTAL SHUT-IN TIME, DT ---MIN---	(T+DT)/DT (HORNER) -----	PRESSURE ---PSIG---	DELTA P ---PSIG---
		SECOND SHUT-IN			
215.0	129.0	26.00	5.962	1864.05	1794.25
218.0	129.0	29.00	5.448	2012.12	1942.32
221.0	129.0	32.00	5.031	2156.91	2087.11
224.0	129.0	35.00	4.686	2296.68	2226.88
227.0	129.0	38.00	4.395	2430.36	2360.56
234.0	129.0	45.00	3.867	2704.50	2634.70
239.0	129.0	50.00	3.580	2847.11	2777.31
244.0	129.0	55.00	3.345	2941.50	2871.70
249.0	129.0	60.00	3.150	2992.90	2923.10
254.0	129.0	65.00	2.985	3016.22	2946.42
259.0	129.0	70.00	2.843	3025.98	2956.18
264.0	129.0	75.00	2.720	3030.50	2960.70
269.0	129.0	80.00	2.613	3033.19	2963.39
274.0	129.0	85.00	2.518	3035.29	2965.49
279.0	129.0	90.00	2.433	3036.90	2967.10
284.0	129.0	95.00	2.358	3038.30	2968.50
289.0	129.0	100.00	2.290	3039.60	2969.80
299.0	129.0	110.00	2.173	3042.09	2972.29
309.0	129.0	120.00	2.075	3044.10	2974.30
319.0	129.0	130.00	1.992	3046.00	2976.20
329.0	129.0	140.00	1.921	3047.80	2978.00
339.0	129.0	150.00	1.860	3049.50	2979.70
349.0	129.0	160.00	1.806	3050.80	2981.00
359.0	129.0	170.00	1.759	3052.39	2982.59
369.0	129.0	180.00	1.717	3053.70	2983.90
379.0	129.0	190.00	1.679	3055.10	2985.30
389.0	129.0	200.00	1.645	3056.40	2986.60
399.0	129.0	210.00	1.614	3057.70	2987.90
409.0	129.0	220.00	1.586	3058.80	2989.00
419.0	129.0	230.00	1.561	3060.00	2990.20
429.0	129.0	240.00	1.538	3061.00	2991.20
439.0	129.0	250.00	1.516	3062.09	2992.29
449.0	129.0	260.00	1.496	3063.09	2993.29
459.0	129.0	270.00	1.478	3064.00	2994.20
469.0	129.0	280.00	1.461	3064.80	2995.00
479.0	129.0	290.00	1.445	3065.70	2995.90
489.2	129.0	300.24	1.430	3066.70	2996.90

REMARKS

THE INCREMENTAL DATA, PLOTS AND ANALYSIS ARE FROM ELECTRONIC RECORDER.
PLEASE REFER TO DERIVATIVE DIAGNOSTICS ANALYSIS FOR FURTHER INFORMATION
(DST PRESSURE ASCII FILE IS AVAILABLE ON DISKETTE UPON REQUEST)

PRESSURE TIME



CIMAREX ENERGY CO.

WAGON WHEEL "13" FEDERAL # 2

Well Test Report

RigTesters, Inc.
ABILENE - MIDLAND - GRAHAM

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2



Well identification

Well ID	WAGON WHEEL13	Well location	N.W. CARLSBAD
County/District	EDDY	State, Country	TEXAS
Company	CIMAREX ENER	Division	DENVER/TULSA

Fluid properties

Prod/Inj fluid	GAS	GOR	N/A
Water cut	0%	Condensate yield	UNKNOWN
API gravity	N/A	Gas spec. grav.	0.675
Viscosity	2.0792e-2 cp	Pseudo-critical T	377.17 deg R
Pseudo-critical P	666.05 psia	H2S mole fraction	UNKNOWN
CO2 mole fraction	UNKNOWN	N2 mole fraction	UNKNOWN
Compressibility(t)	207.21e-6/psi	Formation vol factor	0.79441 RB/MSCF

Reservoir properties

Porosity	0.12 frac	Formation thickness	5 ft
Wellbore radius	0.32813 ft	Prod-observer distance	N/A
Water-Oil Contact	N/A	Gas-Oil Contact	UNKNOWN
Gas-Water Contact	UNKNOWN	Rock compressibility	
Reservoir temperature	131 deg F	Pressure for properties	3100 psia

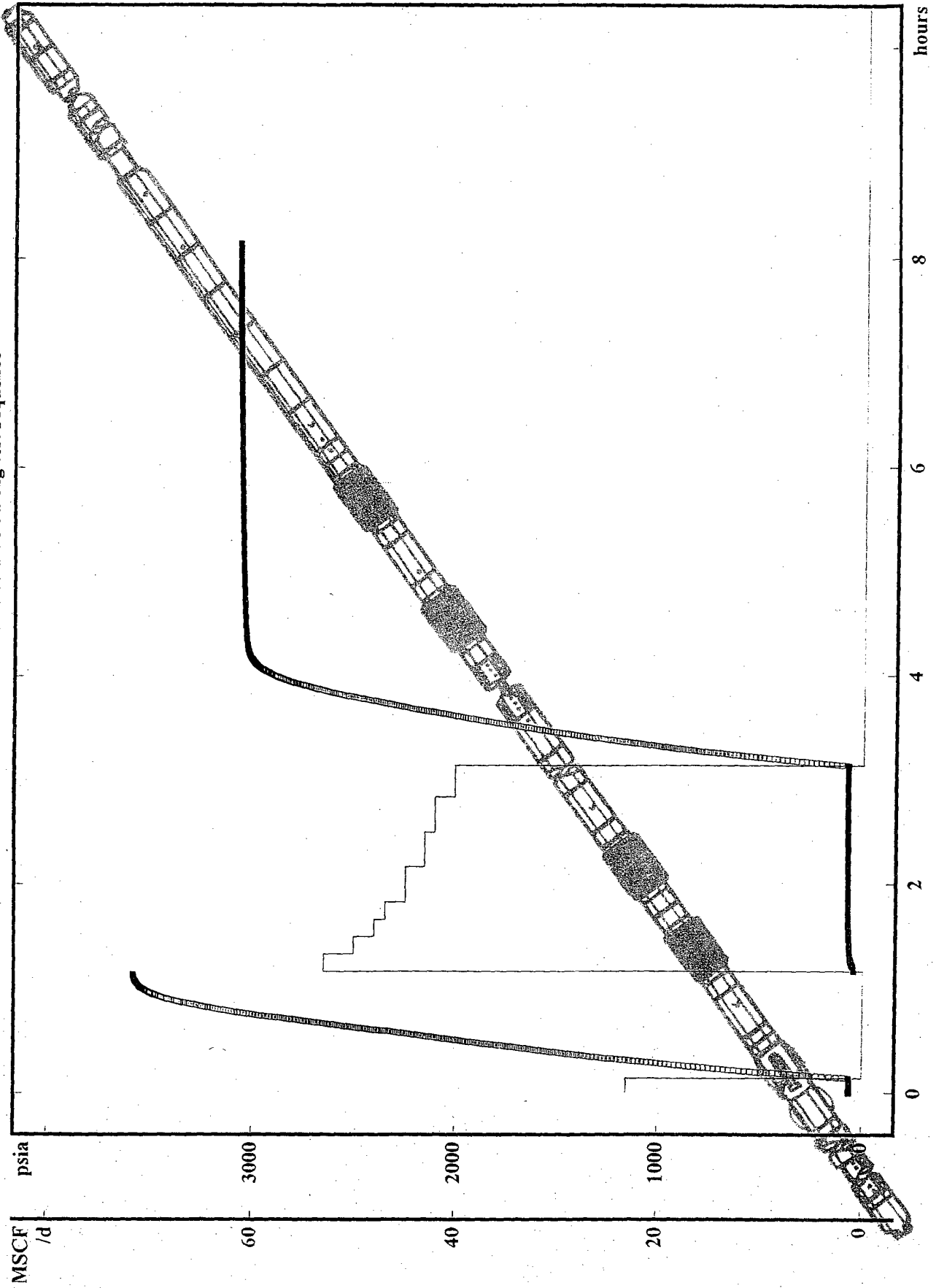
Comments

THE DERIVATIVES INDICATE A RESERVOIR WITH MODERATELY LOW PERMEABILITY & HIGH (POSITIVE) SKIN. THE INITIAL SHUT-IN PERIOD HAD JUST BEGAN TRANSITION TOWARD RADIAL FLOW, ANY CALCULATIONS (EXTRAPOLATIONS, PERMEABILITY, SKIN, ETC.) FROM IT WOULD BE AMBIGUOUS & UNRELIABLE. THE LATE TIME DATA OF THE FINAL SHUT-IN PERIOD WAS AFFECTED BY AN INCREASE IN SLOPE VALUE (DOUBLES IN VALUE) WHICH COULD BE DUE TO A DUAL POROSITY RESPONSE (FRACTURED/VUGULAR & MATRIX POROSITY) OR SINGLE BOUNDARY OF BARRIER EFFECT. DUE TO THE SEVERE DRAWDOWN IN SHUT-IN PRESSURES A MORE SEVERE SLOPE CHANGE WOULD BE EXPECTED, (TRIPLING OR EVEN QUADRUPLING IN VALUE) INDICATING MULTIPLE BARRIERS OR BOUNDARIES. IT IS ASSUMED THAT DUE TO THE LOW PERMEABILITY, THE BARRIERS EXCEED THE RADIUS OF INVESTIGATION, WHICH CALCULATED ONLY 30 - 40 FT. FROM THE WELLBORE AT BEST. THE FIXED PARAMETERS USED WERE AN EST. 12% POROSITY, 5 FT. OF NET PAY AND DECREASING GAS RATES FROM 53 MCFPD TO 40 MCFPD. THE RATES WERE BASED ON SURFACE FLOWING PRESSURE THROUGH A 1/4" POSITIVE CHOKE.

****NOTE. THE SEVERE DRAWDOWN BETWEEN SHUT-IN PRESSURES INDICATE A RESERVOIR OF LIMITED AREAL EXTENT.**

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

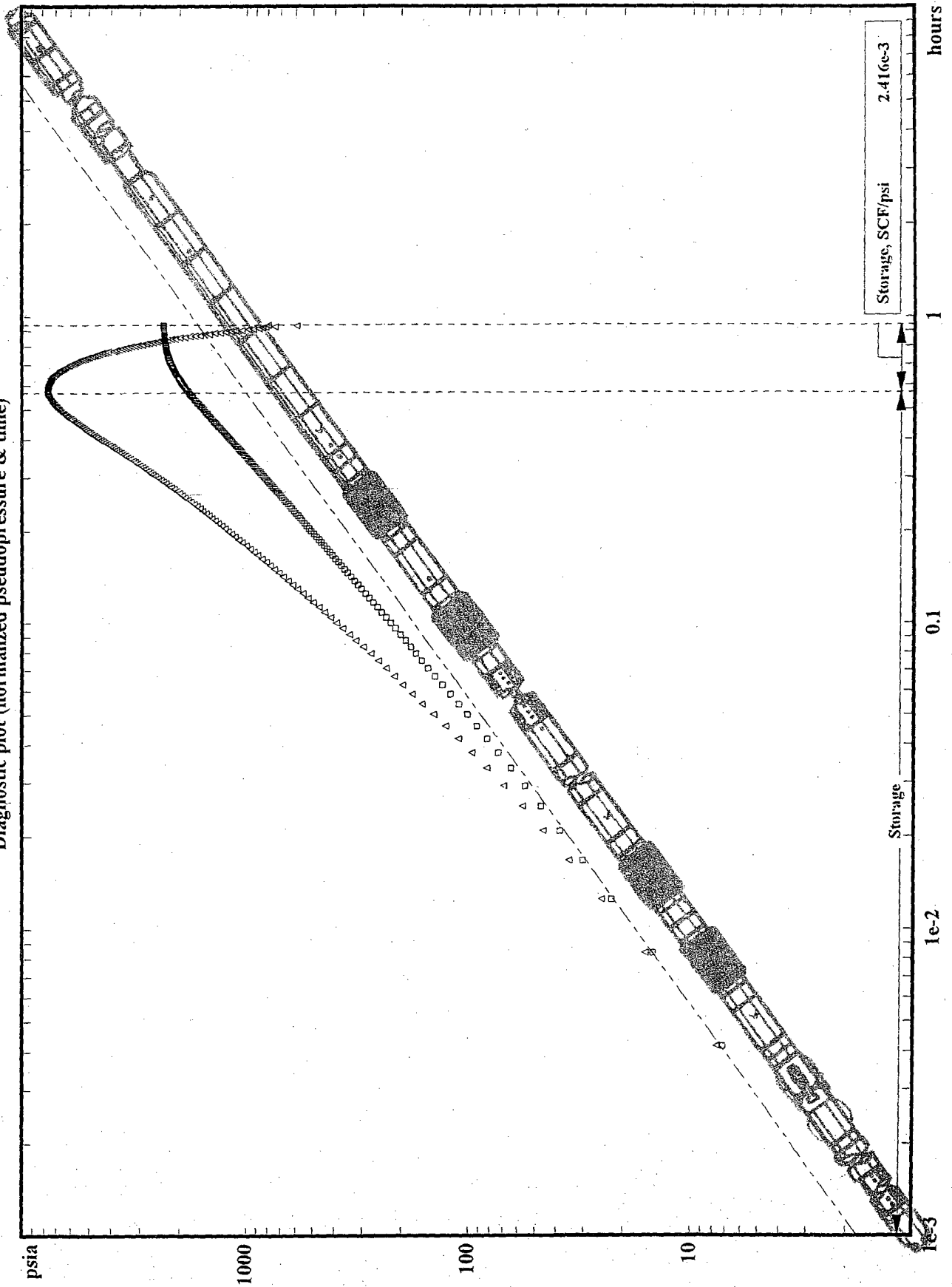
Pressure and flow rate vs time during test sequence



DST #1 7428 - 7563 WOLFCAMP LIME

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

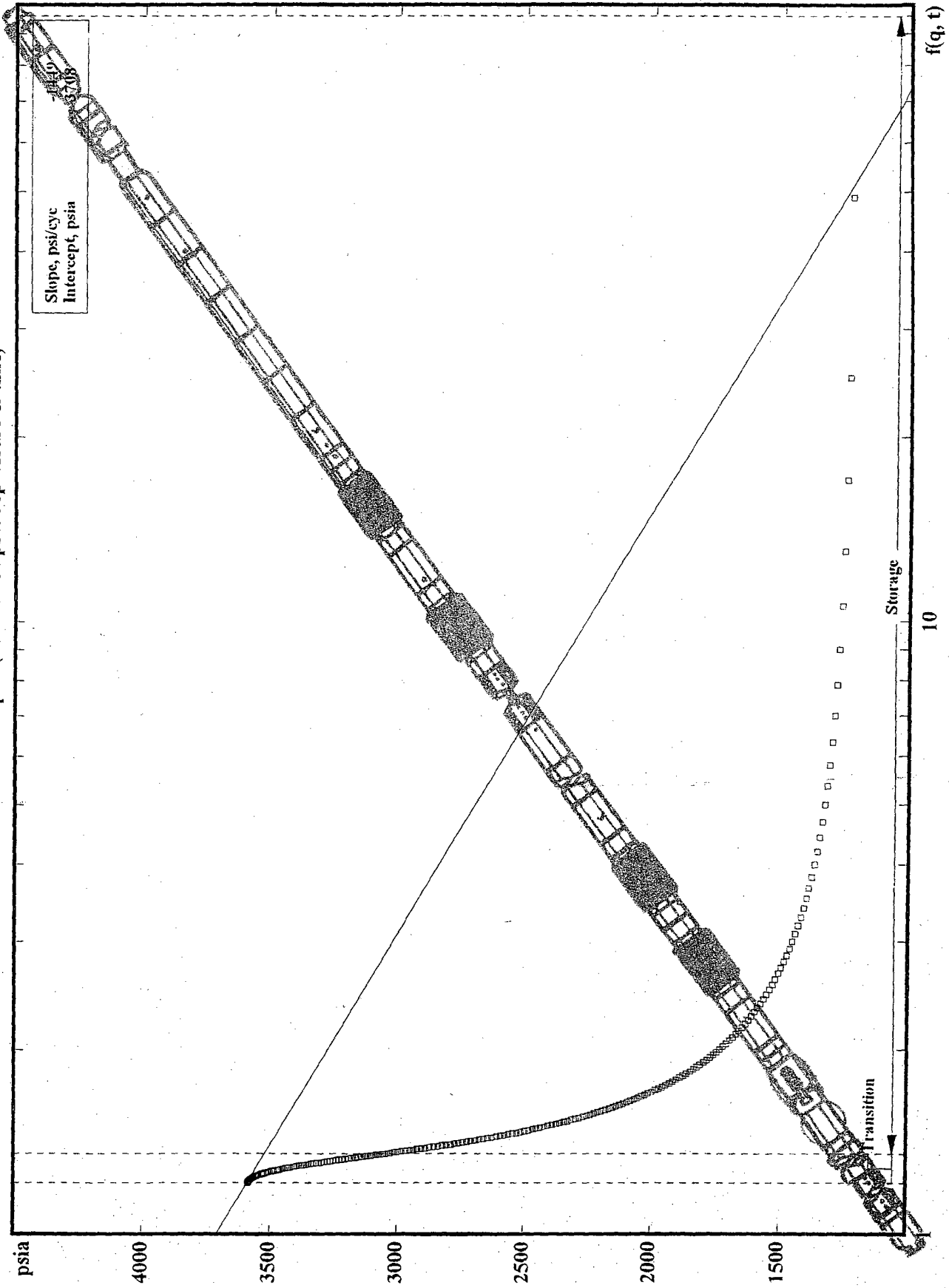
Diagnostic plot (normalized pseudopressure & time)



INITIAL SHUT-IN PERIOD DST #1

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

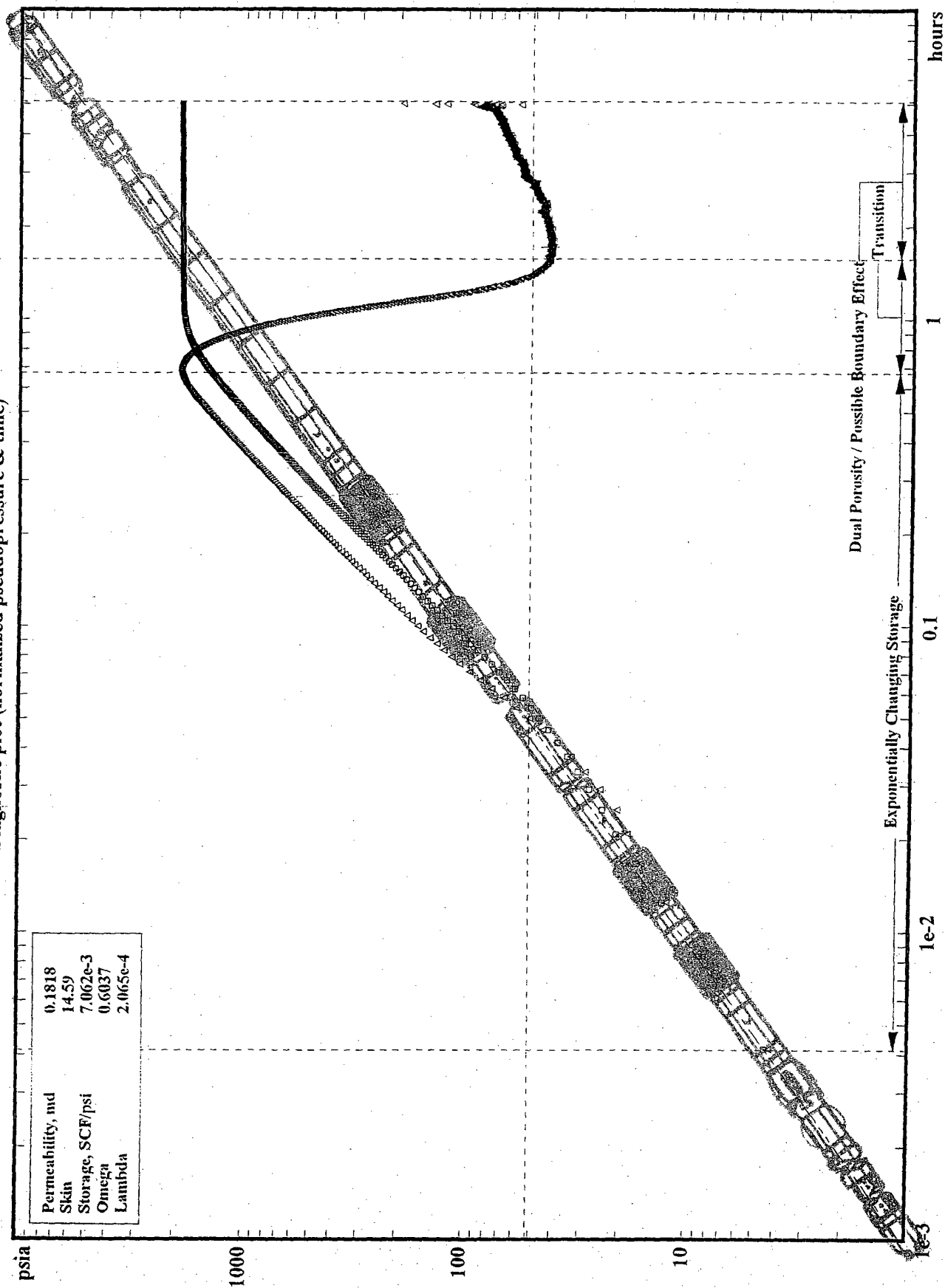
Variable rate Horner plot (normalized pseudopressure & time)



INITIAL SHUT-IN PERIOD DST #1

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

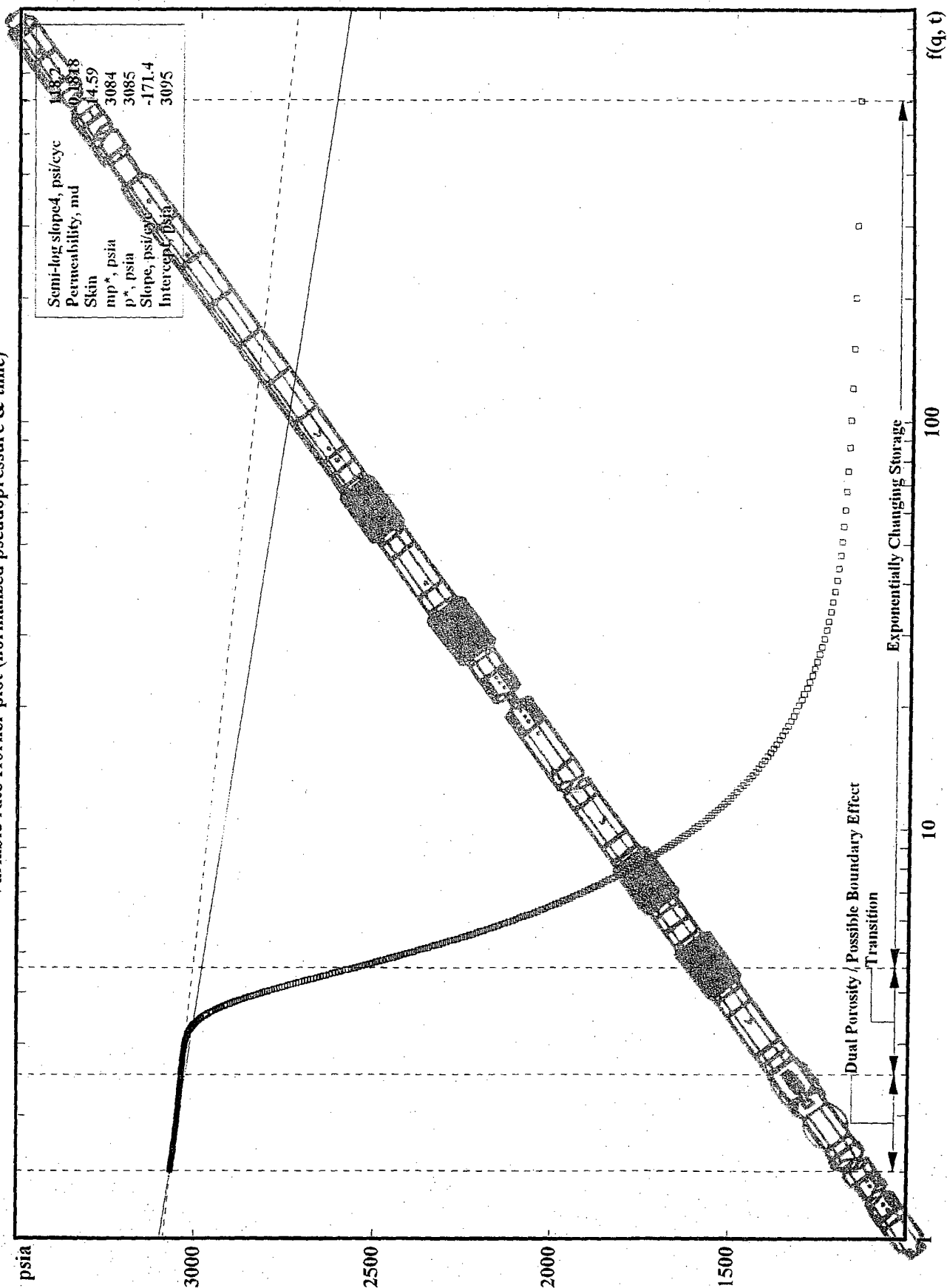
Diagnostic plot (normalized pseudopressure & time)



FINAL SHUT-IN PERIOD DST #1

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

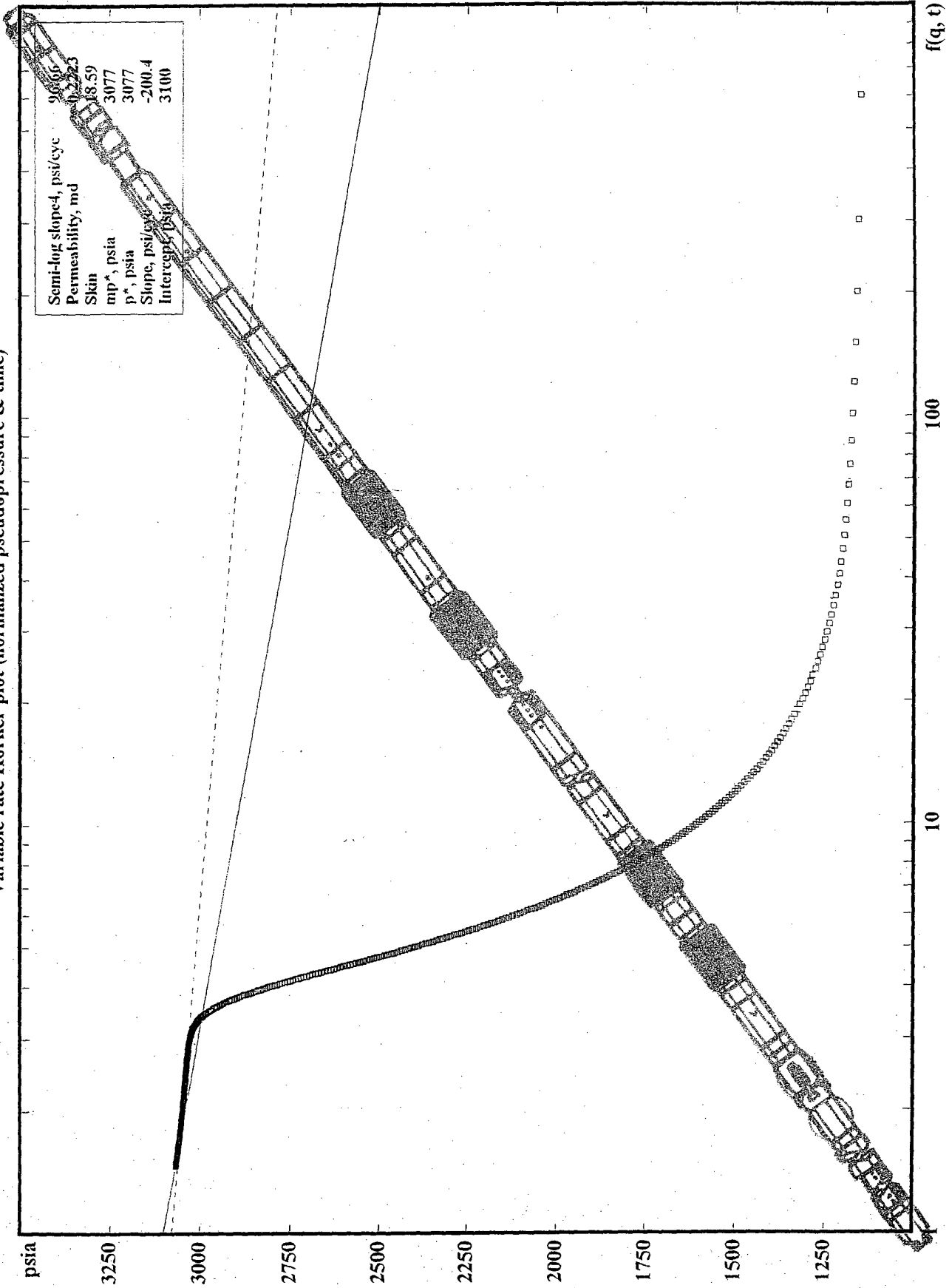
Variable rate Horner plot (normalized pseudopressure & time)



FINAL SHUT-IN PERIOD DST #1

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

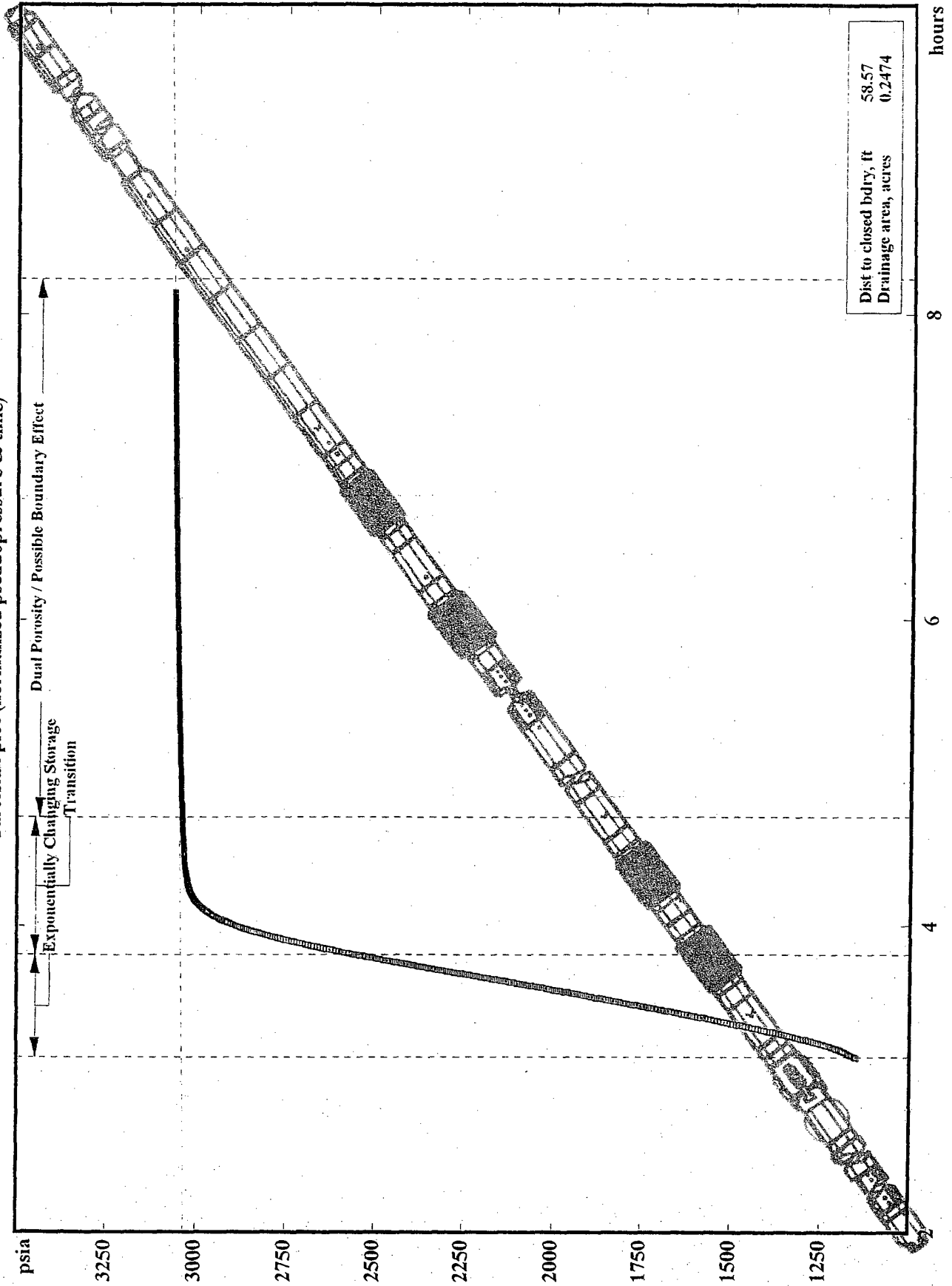
Variable rate Horner plot (normalized pseudopressure & time)



FINAL SHUT-IN PERIOD DST #1

CIMAREX ENERGY CO. WAGON WHEEL "13" FEDERAL #2

Cartesian plot (normalized pseudopressure & time)



FINAL SHUT-IN PERIOD DST #1