NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
BETTY RIVERA
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

May 21, 2002

Merrion Oil & Gas
610 Reilly Avenue
Farmington, New Mexico 87401

Attn: Ms. Connie Dinning

RE: Injection Pressure Increase, - 176
Flush No. 1 (API No. 30-045-30271)
San Juan County, New Mexico

Reference is made to your request dated May 7, 2002 to increase the surface injection pressure on the above-referenced well. This request is based on a step rate test conducted on May 2, 2002. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well:

Well and Location	*Maximum Injection Pressure*
Flush No. 1	600 PSIG
Located in Unit F, Section 2, Township 26 North, Range 13 West, NMPM, San Juan County, New Mexico.	

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

Lori Wrotenbery by DE

Lori Wrotenbery
Director

cc: Oil Conservation Division - Aztec
Files: SWD-781, IPI-2002

Catanach, David

From: Connie Dinning [merrion@cyberport.com]
Sent: Tuesday, May 21, 2002 2:55 PM
To: David Catanach
Subject: Flush

David

Thanks for your quick reply. We'll go ahead and start at 600 psi and see how it goes. Our fax # is (505)326-5900. Address:

Merrion Oil & Gas
610 Reilly Ave
Farmington, NM 87401

Thanks
Connie

Kathy
Please fax a copy of
this order to
Merrion
DC

pKRV0213539289 IPI NA

MERRION
Oil & Gas
610 Reilly Avenue
Farmington NM
87401

May 7, 2002

David Catanach
Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

RE: Adminstrative Order SWD-781, Flush No. 1, SE ¼ NW ¼, Section 2, T26N, R13W, San Juan County, New Mexico (30-045-30271)

Dear Mr. Catanach

Merrion Oil and Gas performed a step rate test on the subject well on Thursday, May 2, 2002. Results from the test are attached. We propose to raise the maximum injection pressure allowed in our existing order based on the results of this test. If you have any questions regarding any of the information I have provided or you require anything further please call me at 327-9801 ext. 126.

Sincerely

Connie Dinning
Production Engineer

Csd
Enclosures

Cc: Charlie Perrin
NMOCD
1000 Rio Brazos
Aztec, NM 87410

Merrion Oil & Gas
Flush No. 1
Step Rate Test Results
May 7, 2002

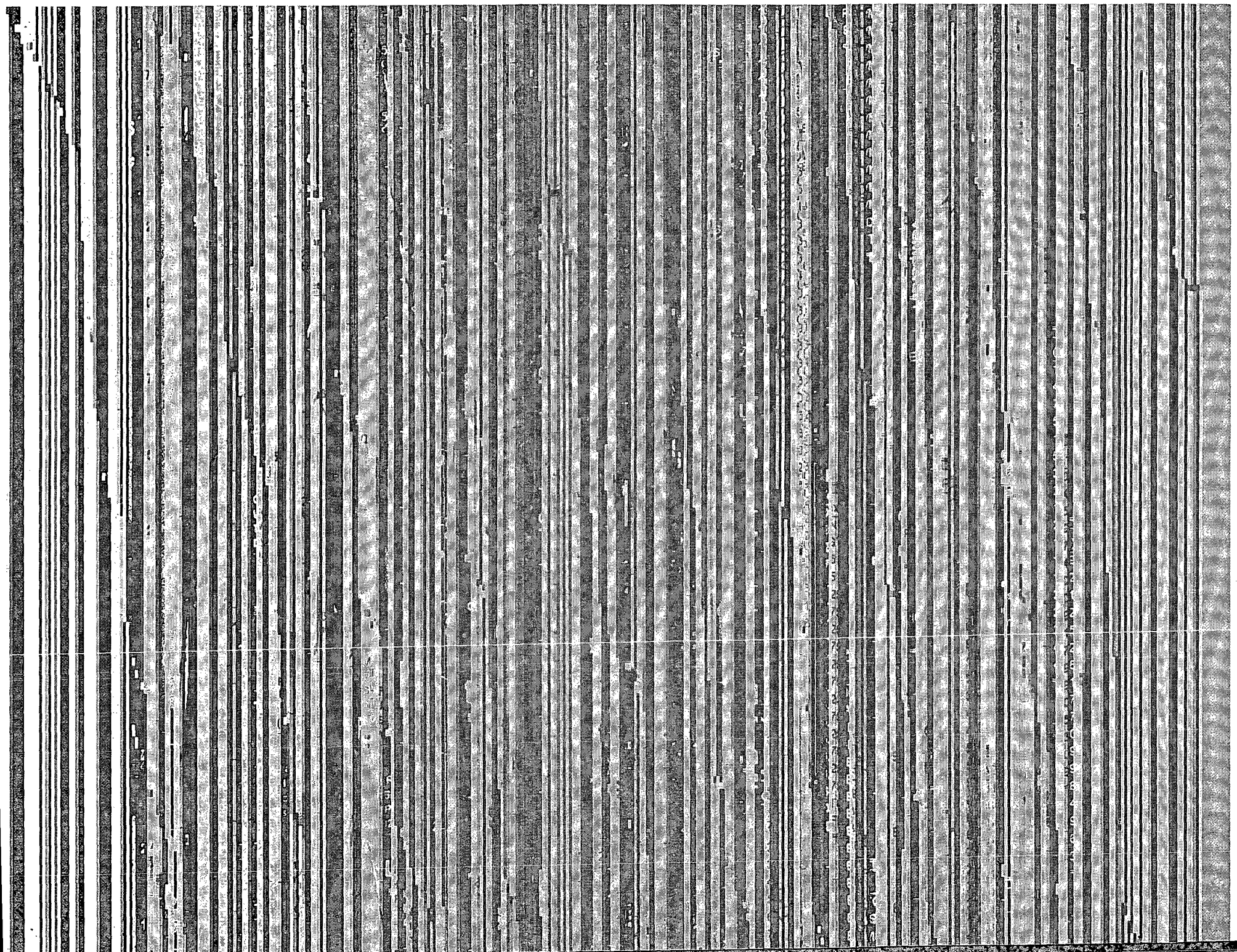
Merrion Oil and Gas performed a step rate test on our salt water disposal well, the Flush No. 1 on May 2, 2002. The proposed procedure, wellbore diagram, rig up diagram and test results are attached.

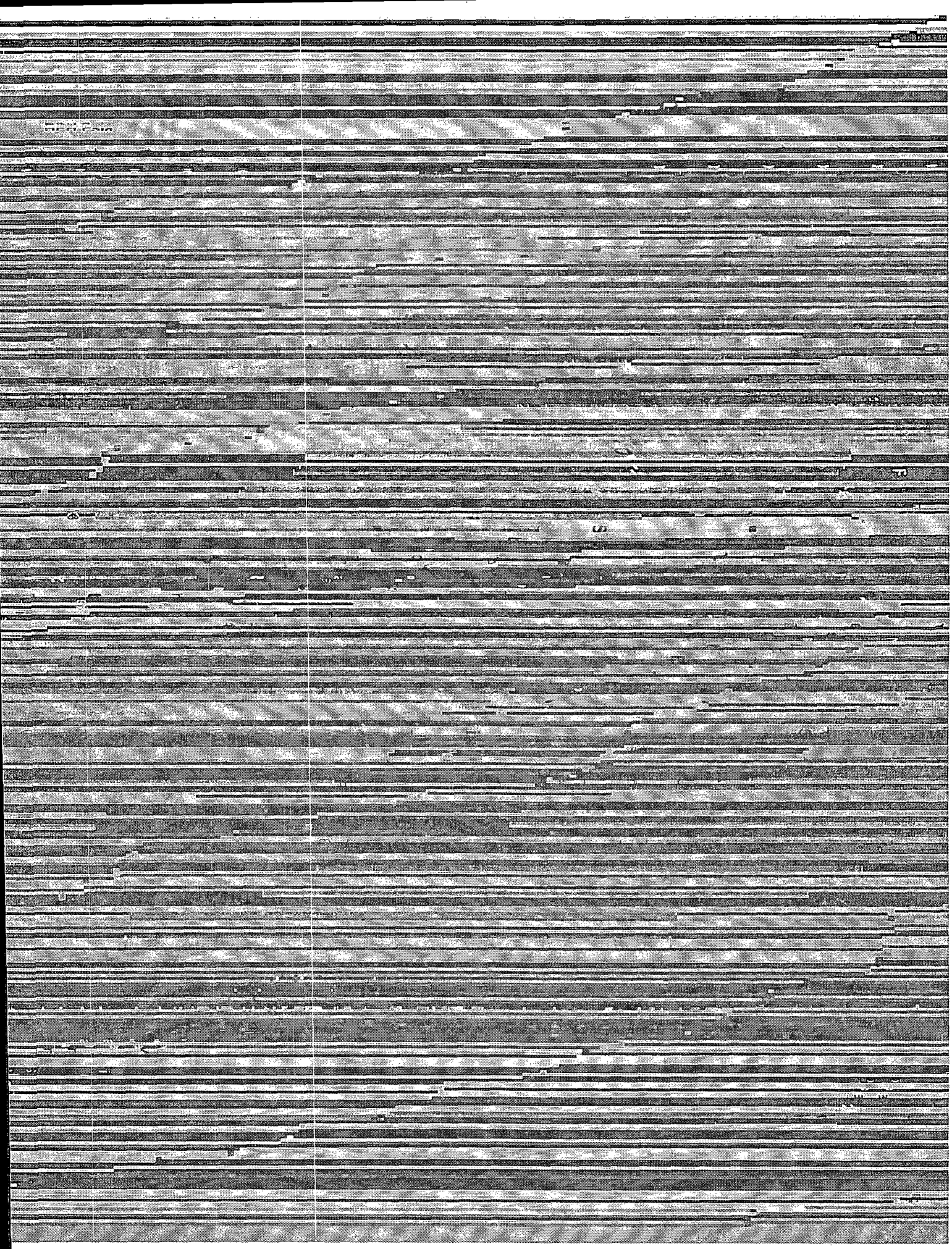
The tool company plot of bottom hole pressure and temperature vs. time is shown as Attachment No. 1. The early time data show that the pressure increases rapidly. The temperature data is erratic as well. We believe this early time data is indicative of wellbore related phenomena and is not representative of the actual injection conditions in the reservoir.

The temperature begins to level out and the pressure starts an even, steady incline at the segment represented by point 6 to point 11. The slope of this segment breaks over at point 11. After the breakover, the slope remains constant through the end of the test, the segment represented by points 11 through 17. A second plot is shown with these trend lines fit by linear regression to the segments (Attachment No. 2).

The breakover point occurs at a bottom hole pressure of 1619 psia with a corresponding surface pressure of 990 psig and a rate of 4.25 BPM. This relates to a pressure gradient of 0.78 psi/ft, which is in the range of expected fracture pressures in the area. It also matches the frac gradients obtained from ISIP data on the initial fracture treatment.

Based on this data, we request that our maximum injection pressure be raised to 990 psig, the breakover point indicated by the step rate test.





Merrion Oil & Gas Corporation

Step Rate Test Procedure

April 24, 2002

Well:	Flush No. 1	**Field:**	Mesaverde
Location:	1910' fnl & 1765'fwl (se nw)	**Elevation:**	6047' GR
	Sec. 2, T26N, R13W		6053' RKB
	San Juan County, New Mexico	**By:**	Connie Dinning

Background Information

1. The rig up diagram and mechanical configuration of the wellbore are attached.
2. A step rate test was performed when the well was initially completed. The pressure never reached the permit pressure and there was no breakover point in the data. We reached the maximum pump capacity and were unable to pump at a high enough rate to complete the test. The data from the initial test is attached for your information. Recently, injection pressure has increased and we need to perform a step rate test at current conditions to increase the permitted injection pressure limit.
3. The well was fraced in three stages as follows:

	Total Fluid Gallons	Total Sand #	Average Rate BPM	Average Pressure psi	ISIP psi
Cliffhouse	146140	154800	53	1500	910
Menefee	82026	101380	50	1824	1250
Point Lookout	81984	101000	50	1450	1050

Procedure

Run Bottom Hole Pressure Monitor

1. Notify NMOCD minimum of 24 hours prior to testing.
2. Shut in well 24 hrs prior to test.
3. Move-in, rig up Cobra Slickline.
4. RIH w/ Electronic pressure gauge and set at ±2065' KB.
5. Fill 3 tanks on location w/ produced water.

Perform Step Rate Test

1. Install pressure gauges on bradenhead and casinghead.
2. MIRU pump truck.
3. Install paper chart recorder on pump discharge to record surface pressure and rate.
4. Load hole w/ produced water.
5. Begin step rate test at 0.25 BPM. Three steps below current pressure limit of 422 psi must be established. Hold each step for 15 minutes. Increase rate in increments of 0.5 BPM up to an estimated 6.25 BPM. Three steps above breakover point must be established for a valid test. Continue pumping in .5 bbl increments if the required data is not obtained by the 6.25 BPM step.

6. Record casing and bradenhead pressures at each step.
7. Record ISIP at end of test.
8. Rig down pump.
9. Retrieve bottom hole pressure tool, rig down slickline.
10. Put well on to injection.
11. Provide all pressure/rate charts, field notes and bottom hole pressure data to Connie Dinning at the MOG office.

Merrion Oil & Gas Corporation

Wellbore Schematic

Flush No. 1, SWD

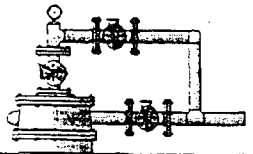
Current Wellbore Configuration

Location: 1910' fnl & 1765' fwl (se nw)
Sec 2, T26N, R13W
San Juan Co, New Mexico

January 28, 2002

Elevation: 6,047' GL
6,052' RKB

By: Connie Dinning



Tertiary

Undifferentiated Tertiary - Surface

Kirtland - 76'

Fruitland - 800'

Pictured Cliffs - 1233'

Cretaceous

Mesaverde - 2060'

Top of Cmt @ Surface

Bit Size - 12 1/4"

9 5/8" Surface Csg @ 282' KB w/ 200sx; 236(cf) Class H

Bit Size 8 3/4"

2 7/8" EUE Internally Plastic Coated Tubing @ 1914' KB
w/ 7" Lock-Set RCP w/ plastic lined mandrel
OnOff tool, SS Profile nipple, (2.31" ID).
Set packer in compression (4/21/01)

DV tool @ 1946' KB. Cement w/ 200sx (412 cf) Class H w/ 2% SMS
1% CaCl2 and 1/4#/sx Celloflake. Tail in w/ 50sx (59 cf) Class H

Mesaverde Perfs
2065' - 2432' Total 332 holes. Frac w/ filtered produced water &
154,800# 20/40 sand
2753' - 3270' Total 170 holes. Frac w/ filtered produced water %
101,000# 20/40 sand
3433' - 3866' Total 186 holes (all zones, holes 0.32"). Frac w/
produced water & 101,000# 20/40 Brady sand (April 11, 2001)

7" Production Csg @ 4103' w/ 400 sx (473cf) Class H w/ 1%CaCl2
and 1/4#/sx Celloflake (Note: 42 jts 23# N-80 LT&C on bottom, 19 jts
23# J-55 ST&C next, DV tool, then 23 jts 23# J-55 ST&C, then 35 jts
26# J-55 on top)

TD @ 4106'KB
PBTD @ 4069'KB

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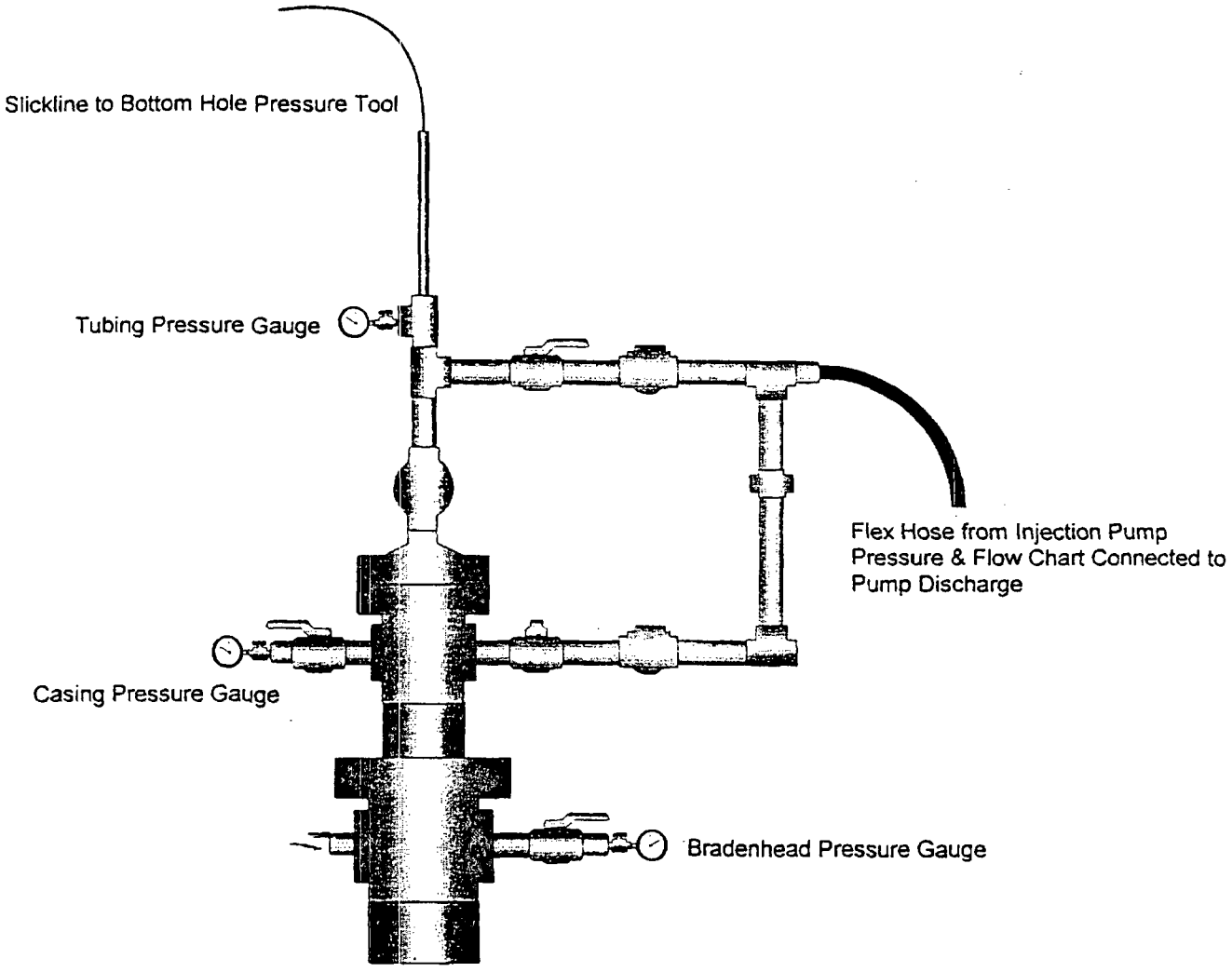
Merrion Oil & Gas Corporation

Step Rate Test, Rig Up Diagram

Flush No. 1, SWD

Location: 1910' fnl & 1765' fwl (se nw)
Sec 2, T26N, R13W
San Juan Co, New Mexico

By: Connie Dinning
March 12, 2001



Catanach, David

From: Connie Dinning [merrion@cyberport.com]
Sent: Thursday, May 16, 2002 1:22 PM
To: David Catanach
Subject: Flush No. 1 Step Rate Surface Pressures

David

The information you needed about the surface pressures is attached. I can send you the pressure chart by snail mail if you need it. I will be out this p.m., but I'll check my messages and call you if you need anything else or you have questions. Thanks for looking at this. (505) 327-9801 ext. 126

Connie Dinning
Merrion Oil & Gas

Merrion Oil & Gas

Flush SWD - Step Rate Test

Date: 5/2/2002

Rate	Time	bbls	cum bbls	tbg pressure	casing pressure	Bradenhead
bpm	minutes			psi	psi	psi
0.25	15	4.3	4.3	260-270	0	0
0.75	15	11.25	15.55	360-410	0	0
1.25	15	18.75	34.3	490-600	0	0
1.75	15	26.8	61.1	580-610	0	0
2.25	15	36.6	97.7	640-670	0	0
2.75	15	38.8	136.5	690-730	0	0
3.25	15	48.3	184.8	800-810	0	0
3.75	15	54.3	239.1	850-890	0	0
4.25	15	63.4	302.5	960-980	0	0
4.75	15	68.8	371.3	1040-1060	0	0
5.25	15	78.8	450.1	1130-1150	0	0
5.75	15	85.5	535.6	1150-1160	0	0
6.25	15	95.2	630.8	1220-1240	0	0
6.75	15	100.1	730.9	1250-1280	0	0

Test witnessed by Bruce Martinc w/ NMOCD

Note: AES had trouble holding flow rates constant

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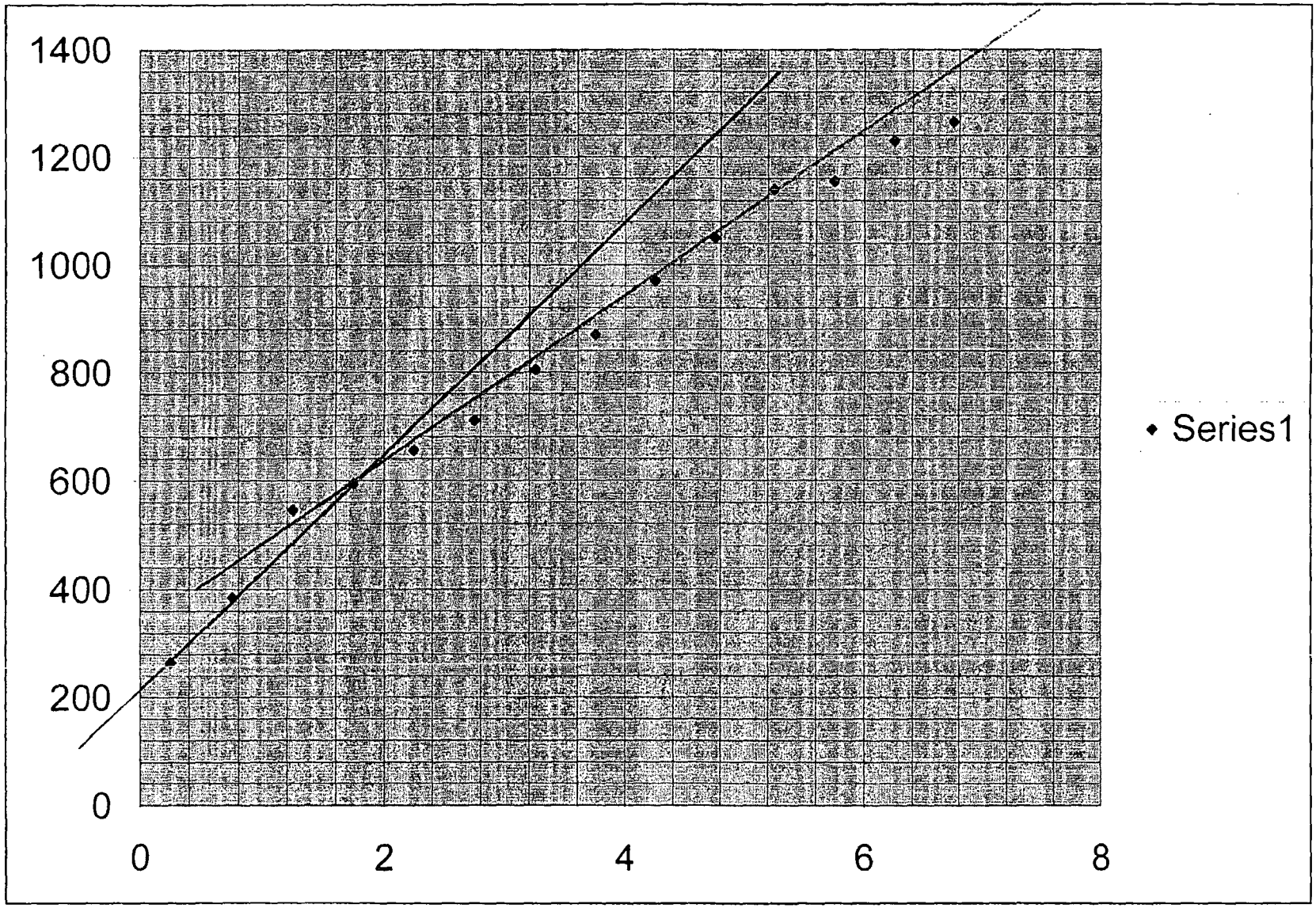
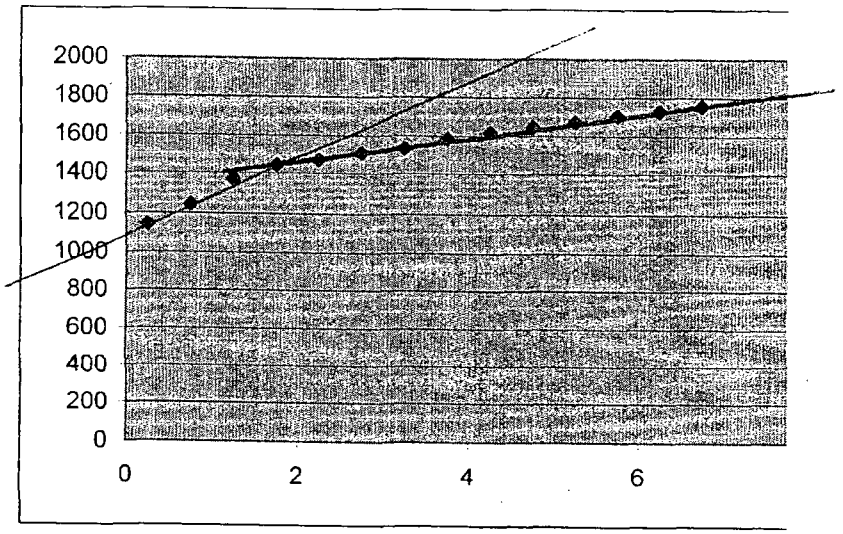

1400
1200
1000
800
600
400
200
0
0
2
4
6
8
Series1

0.25	1144
0.75	1247
1.25	1371
1.75	1442
2.25	1469
2.75	1506
3.25	1532
3.75	1587
4.25	1619
4.75	1648
5.25	1674
5.75	1707
6.25	1729
6.75	1754



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