

MERRION

Oil & Gas

May 7, 2002



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

RE: Administrative Order SWD-781, Flush No. 1, SE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 2,
T26N, R13W, San Juan County, New Mexico

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

A handwritten signature in black ink, appearing to read 'Connie Dinning', is written over a horizontal line.

Connie Dinning
Production Engineer

Csd
Enclosures

Cc: **Charlie Ferrin**
NMOCD
1000 Rio Brazos
Aztec, NM 87410

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

Merriion 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.



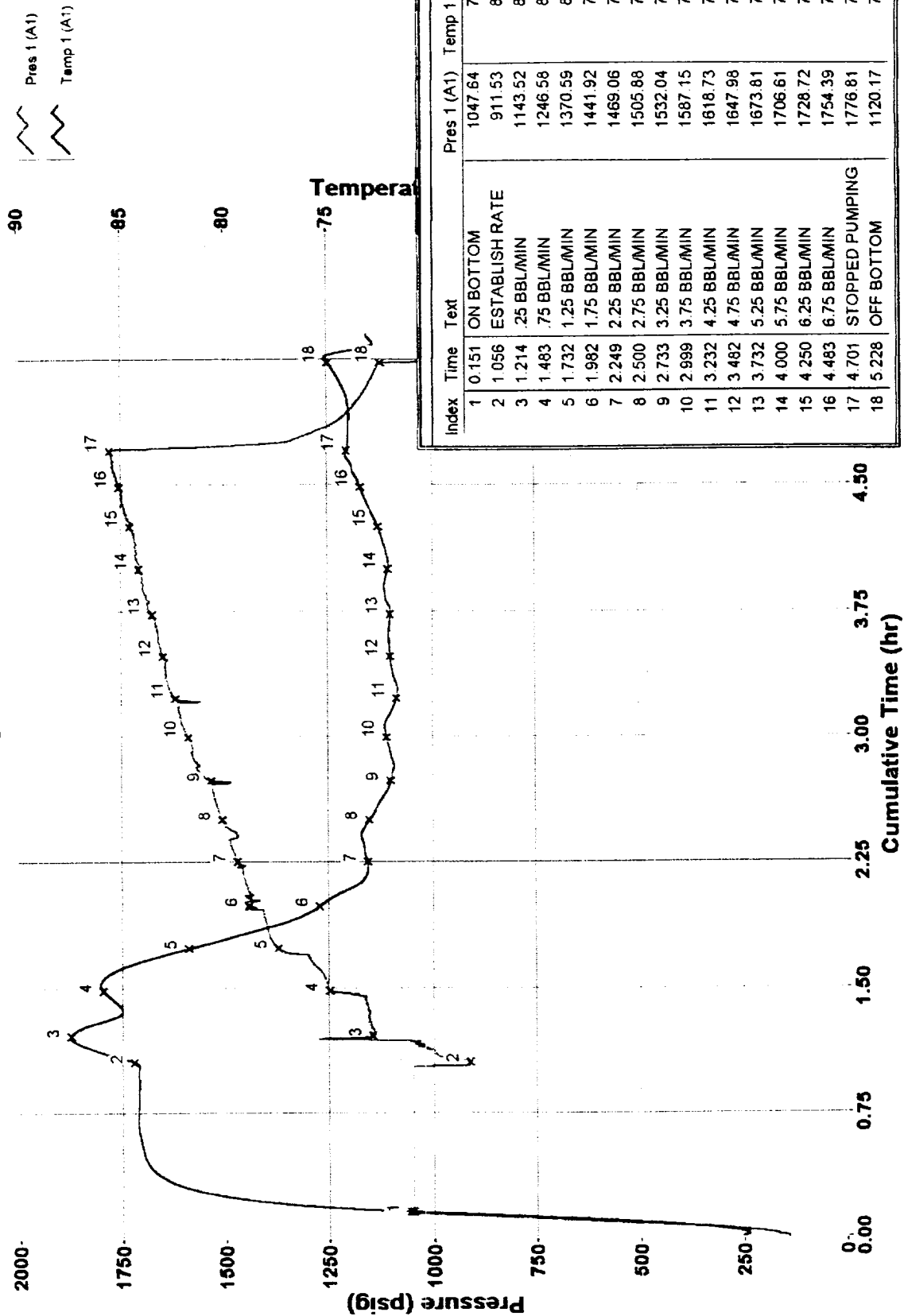
Company Name
Well Name
Type of Test
Date(s) of Test

MERRION OIL & GAS CORP.
FLUSH #1
STEP RATE TEST
5/2/02

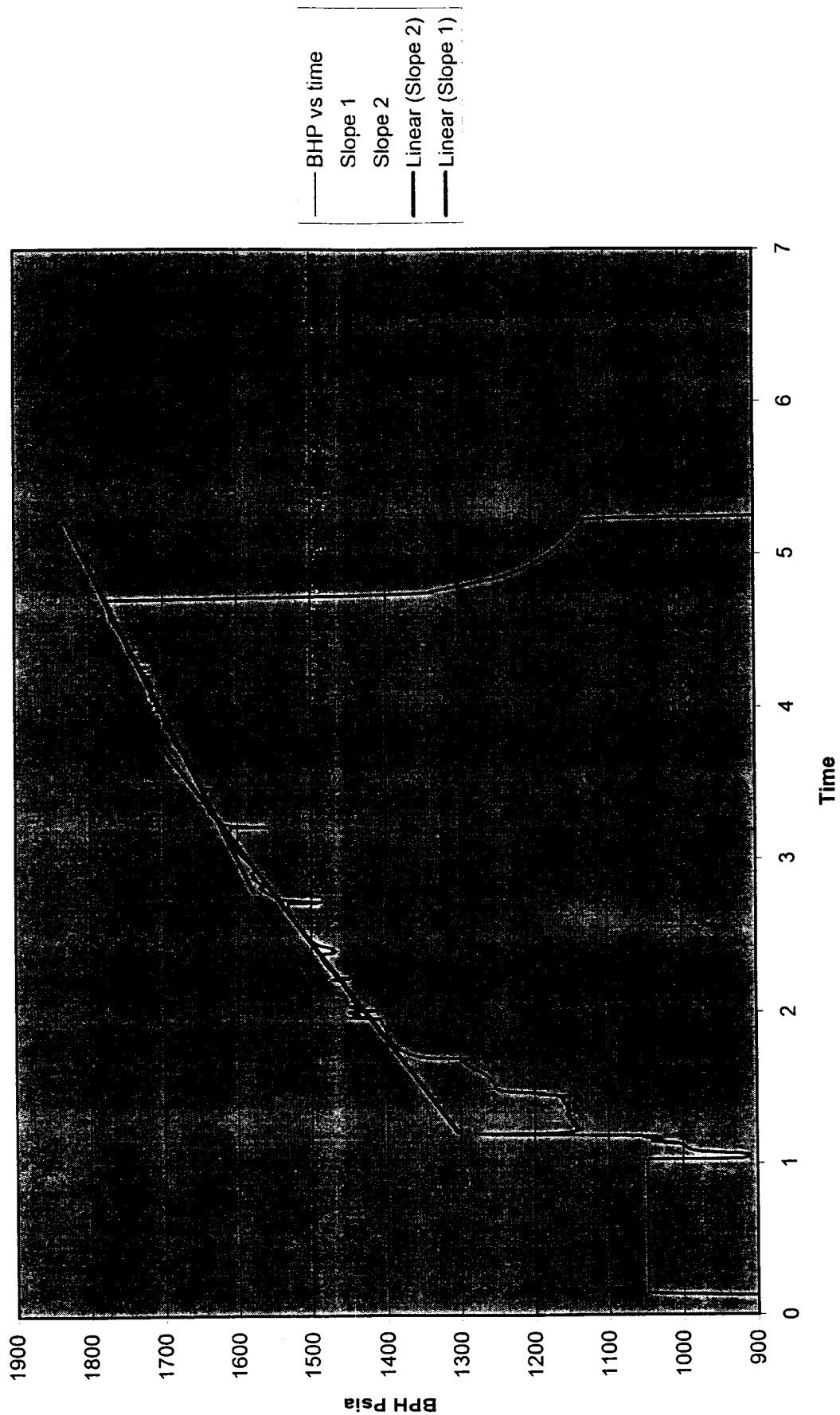


Attachment No. 1

Flush #1 Step Rate Test



Flush Step Rate Test BHP vs time



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
<i>Cliffhouse</i>	146140	154800	53	1500	910
<i>Menefee</i>	82026	101380	50	1824	1250
<i>Point Lookout</i>	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 $\pm 2065'$ 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.

Merriam Oil & Gas Corporation

Wellbore Schematic

Flush No. 1, SWD

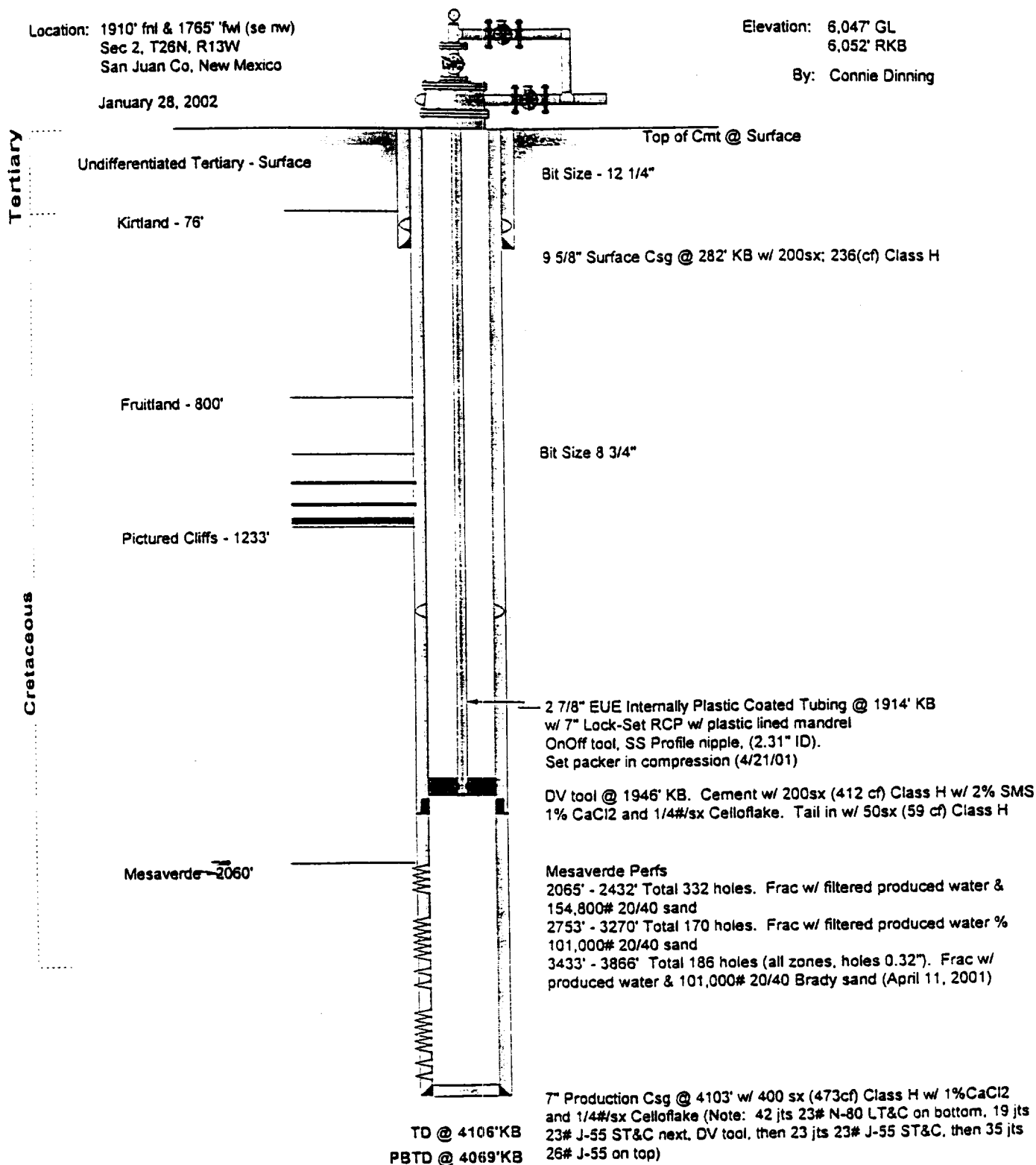
Current Wellbore Configuration

Location: 1910' fml & 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



Merrion Oil & Gas Corporation

Step Rate Test, Rig Up Diagram

Flush No. 1, SWD

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

By: Connie Dinning
March 12, 2001

