

# MERRION

Oil & Gas

April 29, 2002

Charlie Perrin  
NMOCD  
1000 Rio Brazos  
Aztec, NM 87410

**RE: Flush No. 1, SE ¼ NW ¼, Section 2, T26N, R13W, San Juan County, New Mexico Proposed Step Rate Test**

Dear Mr. Perrin

Merrion Oil and Gas proposes to perform a step rate test on the subject well on Thursday, May 2, 2002. The proposed procedure and other information are attached. 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

# 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

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### 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.

MERRION OIL & GAS				
Flush No. 1 Step Rate Test Data Sheet				
Date:				
Recorded by:				
Rate: BPM	Time Minutes	Cum Bbls.	Casing Pressure psi	Bradenhead Pressure psi
0.25				
0.75				
1.25				
1.75				
2.25				
2.75				
3.25				
3.75				
4.25				
4.75				
5.25				
5.75				
6.25				
6.75				
7.25				
7.75				
8.25				

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## Wellbore Schematic

Flush No. 1, SWD

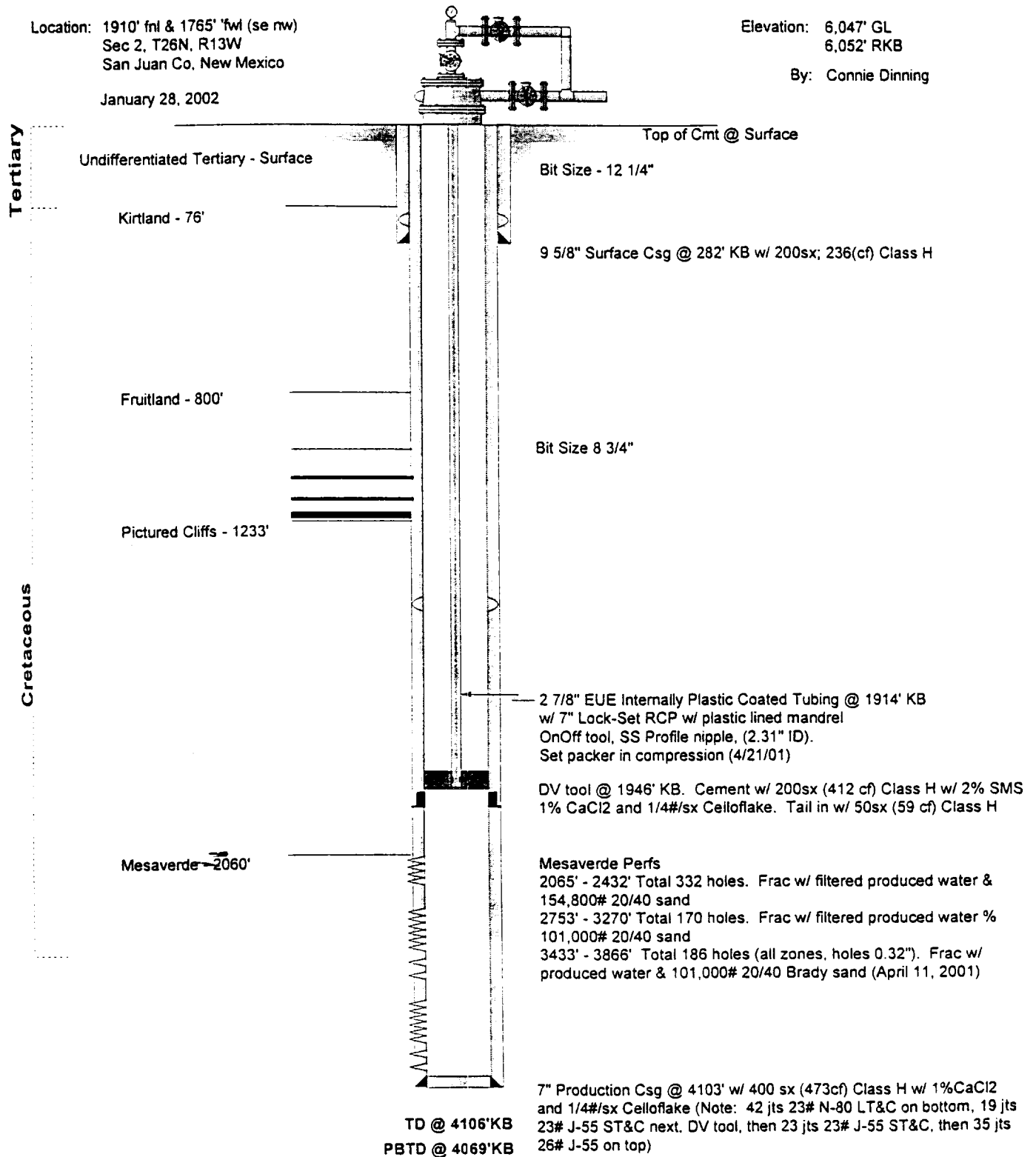
Current Wellbore Configuration

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

January 28, 2002

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

By: Connie Dinning



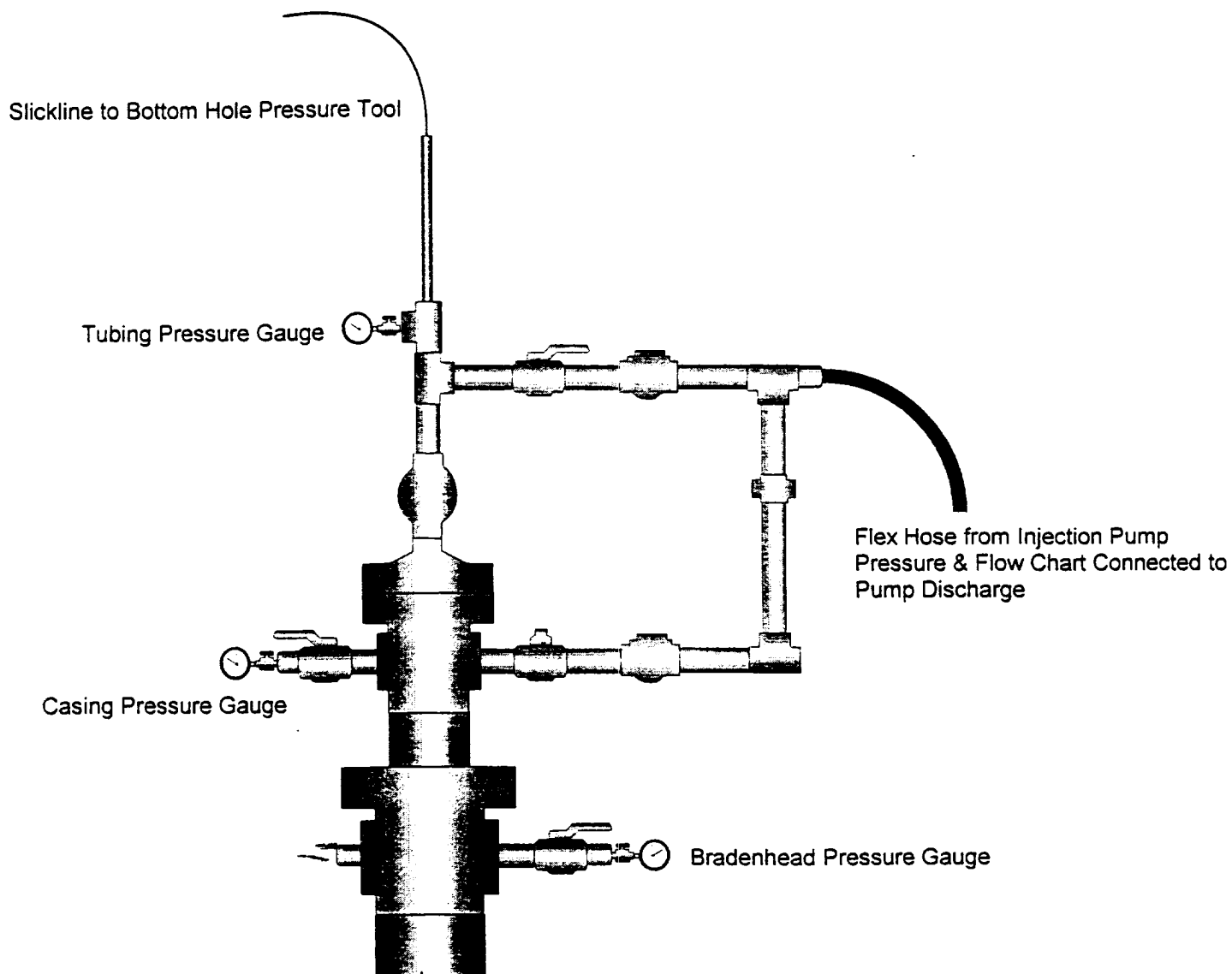
# Merrion Oil & Gas Corporation

## Step Rate Test, Rig Up Diagram

Flush No. 1, SWD

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

By: Connie Dinning  
March 12, 2001



**Merrion Oil & Gas**  
**Step Rate Test**  
**Flush SWD**

6/12/01

1/1

Rate	Pressure (surface)	Time	Volume	bradenhead pressure	backside pressure	Notes:
bpm	psi		bbls	psi	psi	
0.50	0	15 min	7.5 bbls	0	362 - 369	Initially loaded holw w/ approx. 20 bbls of fluid.
1.00	0	15 min	15 bbls	1 - 0	369 - 365	well on vaccum
1.50	15 - 50	15 min	22.5 bbls	0 - 0	365 - 370	well on vaccum
2.00	70 - 97	15 min	30 bbls	0 - 2	382 - 394	Started seeing pressure
2.50	125 - 156	15 min	37.5 bbls	2	402 - 418	
3.00	159 - 243	15 min	45 bbls	2 - 3	426 - 432	
3.50	258 - 294	15 min	52.5 bbls	2 - 6	440 - 453	
4.00	336 - 365	15 min	60 bbls	2 - 6	460 - 467	
						ISIP: 168 psi
						5 min: 90 psi, 10 min: 69 psi, 15 min: 53 psi

Date(s) of Test 6/12/01

# Flush #1 Step Rate Test

Pres 1 (X75)  
Temp 1 (X75)

