Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO. 30-045-30922	
5. Indicate Type of Lease STATE ☐ FEE ☐	
6. State Oil & Gas Lease No.	
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	7. Lease Name or Unit Agreement Name Pretty Lady 30-11-34
1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD; Mesa Verde	8. Well Number #1
2. Name of Operator Agua Moss, LLC	9. OGRID Number 247130
3. Address of Operator PO Box 600, Farmington, NM 87499	10. Pool name or Wildcat SWD; Mesa Verde
4. Well Location Unit Letter J : 1760 feet from the South line and 1475 feet from the East line Section 34 Township 30N Range 11W NMPM County San Juan	
11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 5789' GL	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER:	Step Rate Test ☒	OTHER:	☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss, LLC proposes to conduct a step rate test. Please see the attached procedure. Agua Moss, LLC will notify the NMOCD Aztec office 48 hours prior to commencing the step-rate test.

See attached Steprate test guidance

NMOCD
APR 30 2019
DISTRICT III

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [signature] TITLE Regulatory Compliance Specialist DATE 4/26/2019

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: [signature] TITLE SUPERVISOR DISTRICT #3 DATE 5/16/19

Conditions of Approval (if any):

AV

10

Well Information			
Well	Pretty Lady 30-11-34 #1	**Field**	Basin Dakota
Location	1760' fsl &1475' fel (nw se) S34, T30N, R11W, NMPM San Juan Co. New Mexico	**Elevations**	5789' GL 5802' RKB
AFE	03160	**Engineer**	Shacie Murray (505.330.7605)
Date	26 April 2019	**Lease**	Fee
Surface Casing	$13^{3}/_{8}$" 48# H-40 ST&C @ 433' KB	**Intermediate Casing**	$9^{5}/_{8}$" 47#/53.5# P-110 LT&C @ 8104' KB
Tubing	$5^{1}/_{2}$" 15.5# J-55 ST&C @ 3685' KB	**Packer**	$9^{5}/_{8}$" Arrow Set RCP set at 3700' KB. EOT @ 3792 KB.
Perforations	3762' - 3830', 4 spf (272 holes), 0.34" EHD	**Stimulation**	Slickwater frac w/ 102380 lbs. 20/40 Brady sand. ISIP = 1206 psi.

Prior to MIRU

1. Fill 4 ea.500 bbl tanks on location with filtered produced water.
    a. Filter Water to 5µ

Set BHP gauges

1. MIRU slickline unit with lubricator
2. RIH w/ dual pressure gauges and hang at perforations

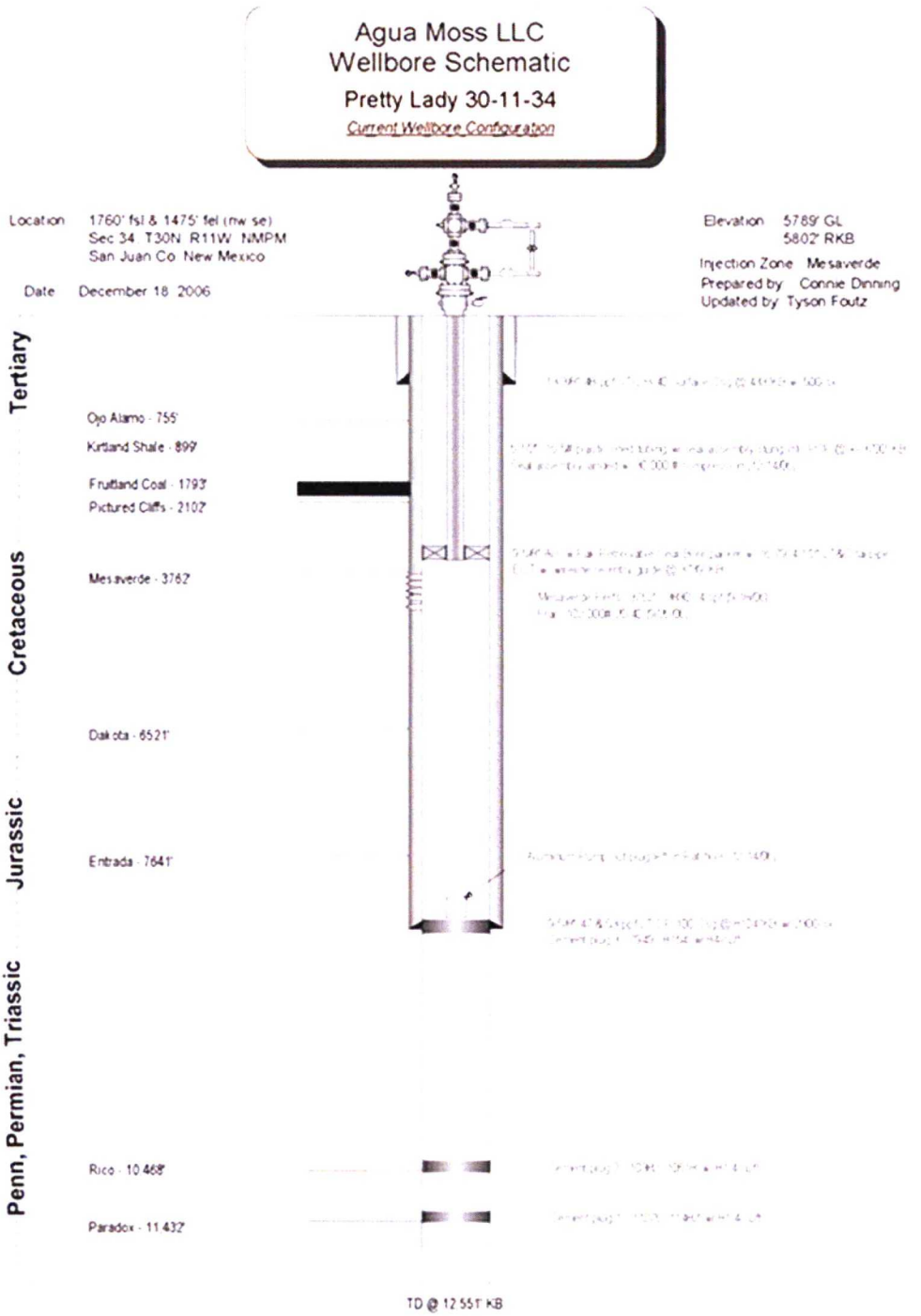
Conduct step rate test

1. MIRU pumping service equipment
2. Install pressure gauges on $9^{5}/_{8}$" casing side outlet valve and bradenhead
3. Install pressure sensor at wellhead
4. Test Lines to 2500 psi.
5. Open well and record ISIP
6. Begin injecting according to following rate schedule

Injection Rate (bbl/min)	Step time (min)	Volume Requirement (bbl)
0.5	15	7.5
1	15	15
1.5	15	22.5
2	15	30
2.5	15	37.5
3	15	45
3.5	15	52.5
4	15	60
4.5	15	67.5
5	15	75
5.5	15	82.5
6	15	90
6.5	15	97.5
7	15	105
7.5	15	112.5
8	15	120
8.5	15	127.5
9	15	135
9.5	15	142.5
10	15	150

Total water requirement = 1575 bbl

7. Record ISIP, 5, 10, 15 min SITP
8. RDMOL
9. Pull BHP gauges


Agua Moss LLC
Wellbore Schematic
Pretty Lady 30-11-34
Current Wellbore Configuration
Location 1760' fsl & 1475' fel (nw se)
Sec 34 T30N R11W NMPM
San Juan Co New Mexico
Date December 18 2006
Elevation 5789' GL
5802' RKB
Injection Zone Mesaverde
Prepared by Connie Dinning
Updated by Tyson Foutz
Tertiary
Ojo Alamo - 755'
Kirtland Shale - 899'
Fruitland Coal - 1793'
Pictured Cliffs - 2102'
Cretaceous
Mesaverde - 3762'
Dakota - 6521'
Jurassic
Entrada - 7641'
Penn, Permian, Triassic
Rico - 10,468'
Paradox - 11,432'
TD @ 12,551' KB

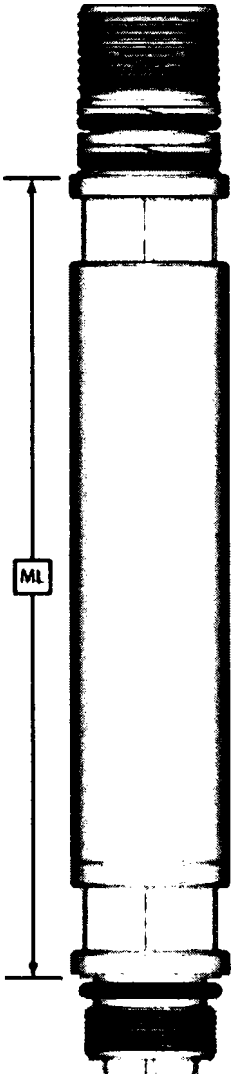
Production Summary Report
API: 30-045-30922
PRETTY LADY 30 11 34 #001
Printed On: Thursday, May 02 2019

Well Treatments

		Produc	Injection	
Year	Pool	Month	Water(BBLS)	Pressure
2014	[96160] SWD;MESAVERDE	Jan	151325	1065
2014	[96160] SWD;MESAVERDE	Feb	131887	1074
2014	[96160] SWD;MESAVERDE	Mar	129482	1067
2014	[96160] SWD;MESAVERDE	Apr	123331	1080
2014	[96160] SWD;MESAVERDE	May	136555	1083
2014	[96160] SWD;MESAVERDE	Jun	136145	1090
2014	[96160] SWD;MESAVERDE	Jul	151507	1101
2014	[96160] SWD;MESAVERDE	Aug	159811	1107
2014	[96160] SWD;MESAVERDE	Sep	164582	1118
2014	[96160] SWD;MESAVERDE	Oct	163152	1112
2014	[96160] SWD;MESAVERDE	Nov	162082	1101
2014	[96160] SWD;MESAVERDE	Dec	195956	1122
2015	[96160] SWD;MESAVERDE	Jan	155532	1105
2015	[96160] SWD;MESAVERDE	Feb	146029	1144
2015	[96160] SWD;MESAVERDE	Mar	166889	1111
2015	[96160] SWD;MESAVERDE	Apr	159381	1117
2015	[96160] SWD;MESAVERDE	May	186343	1103
2015	[96160] SWD;MESAVERDE	Jun	218928	1155
2015	[96160] SWD;MESAVERDE	Jul	192393	1157
2015	[96160] SWD;MESAVERDE	Aug	196626	1191
2015	[96160] SWD;MESAVERDE	Sep	210157	1215
2015	[96160] SWD;MESAVERDE	Oct	150314	1146
2015	[96160] SWD;MESAVERDE	Nov	223518	1222
2015	[96160] SWD;MESAVERDE	Dec	188955	1220
2016	[96160] SWD;MESAVERDE	Jan	122665	1113
2016	[96160] SWD;MESAVERDE	Feb	159138	1196
2016	[96160] SWD;MESAVERDE	Mar	166015	1185
2016	[96160] SWD;MESAVERDE	Apr	13337	1203
2016	[96160] SWD;MESAVERDE	May	132680	1127
2016	[96160] SWD;MESAVERDE	Jun	145462	1130
2016	[96160] SWD;MESAVERDE	Jul	131134	1131
2016	[96160] SWD;MESAVERDE	Aug	206025	1140
2016	[96160] SWD;MESAVERDE	Sep	185889	1256
2016	[96160] SWD;MESAVERDE	Oct	175161	1150
2016	[96160] SWD;MESAVERDE	Nov	170134	1163
2016	[96160] SWD;MESAVERDE	Dec	155892	1114
2017	[96160] SWD;MESAVERDE	Jan	182833	1140
2017	[96160] SWD;MESAVERDE	Feb	93333	1122

2017	[96160] SWD;MESAVERDE	Mar	63091	1086	
2017	[96160] SWD;MESAVERDE	Apr	62433	1073	
2017	[96160] SWD;MESAVERDE	May	109363	1086	
2017	[96160] SWD;MESAVERDE	Jun	76910	1090	
2017	[96160] SWD;MESAVERDE	Jul	106235	1107	
2017	[96160] SWD;MESAVERDE	Aug	120403	1118	
2017	[96160] SWD;MESAVERDE	Sep	218616	1188	
2017	[96160] SWD;MESAVERDE	Oct	139820	1152	
2017	[96160] SWD;MESAVERDE	Nov	178216	1182	
2017	[96160] SWD;MESAVERDE	Dec	221352	1236	
2018	[96160] SWD;MESAVERDE	Jan	152411	1172	
2018	[96160] SWD;MESAVERDE	Feb	168896	1220	
2018	[96160] SWD;MESAVERDE	Mar	196907	1230	
2018	[96160] SWD;MESAVERDE	Apr	176607	1218	
2018	[96160] SWD;MESAVERDE	May	184831	1200	
2018	[96160] SWD;MESAVERDE	Jun	172186	1225	
2018	[96160] SWD;MESAVERDE	Jul	99411	1113	
2018	[96160] SWD;MESAVERDE	Aug	180158	1205	
2018	[96160] SWD;MESAVERDE	Sep	133466	1194	
2018	[96160] SWD;MESAVERDE	Oct	109901	1161	
2018	[96160] SWD;MESAVERDE	Nov	94733	1174	
2018	[96160] SWD;MESAVERDE	Dec	180991	1228	
2019	[96160] SWD;MESAVERDE	Jan	211231	1248	
2019	[96160] SWD;MESAVERDE	Feb	172682	1200	ACID TREATMENT - no impact on p
2019	[96160] SWD;MESAVERDE	Mar	177793	1225	

SS2325 – Sapphire Pressure – 1.25" – 135°C



Specifications

Outer Diameter	1.25 in (3.175 cm)	
Makeup Length (ML)	6.305 in (16.014 cm)	
Pressure Range	750 - 20,000 psi (5,171 - 137,900 kpa)	
Temperature Range	80 - 135 C (176 - 275 F)	
Material (service)	17-4 SS (sweet), 718 Inconel (sour)	
Transducer	***Pressure***	***Temperature***
Accuracy	0.03% full scale	±0.5 degrees
	0.04% at 750 psi	
Resolution	0.0003% full scale	< 0.001 degrees
Drift	< 0.03% FS per year	< 1.0 degrees per year

Selection Matrix

Service	Pressure	Material	80°C	100°C	120°C	135°C
Sour	750 psi	718 Inconel	10021155			
Sour	1,500 psi	718 Inconel		10021159		
Sour	3,000 psi	718 Inconel			10021157	
Sour	6,000 psi	718 Inconel				10021085
Sour	10,000 psi	718 Inconel				10021079
Sour	15,000 psi	718 Inconel				10021081
Sweet	750 psi	17-4 SS	10021156			
Sweet	1,500 psi	17-4 SS		10021160		
Sweet	3,000 psi	17-4 SS			10021158	
Sweet	6,000 psi	17-4 SS				10021084
Sweet	10,000 psi	17-4 SS				10021078
Sweet	15,000 psi	17-4 SS				10021080

Attachments

Type	Makeup Length (ML)	Thread	316 SS	17-4 SS	718 Inconel
Battery Housing (2 x C)	7.470 in (18.973 cm)	3/4-16 UNF		10000053	10004157
Battery Housing (3 x C)	9.625 in (24.447 cm)	3/4-16 UNF		10003270	10002693
Battery Housing (4 x C)	11.650 in (29.591 cm)	3/4-16 UNF		10003315	10003314
Bullnose	3.000 in (7.620 cm)		10000100		
Cablehead (1.00 in OD)	16.500 in (41.910 cm)			10012467	
Cablehead (1.4375 in OD)	17.625 in (44.767 cm)			10007619	
Crossover	3.000 in (7.620 cm)	3/4-16 UNF	10000101		

Battery Packs (Non-Locking)

Size	Voltage	Capacity	85°C	165°C
2 x C	7.2 V	6.0 Ah	10002415	
2 x C	7.8 V	5.0 Ah		10002416
2 x CC	7.2 V	12.0 Ah		10002704
3 x C	10.8 V	6.0 Ah	10002201	
3 x C	11.2 V	5.0 Ah		10002351
4 x C	7.8 V	10.0 Ah		10011010

Seals

Type	Viton	Aflas	Chemraz
Initial	10017714	10017715	10017716
Redress	10007268	10010504	10009363

Accessories

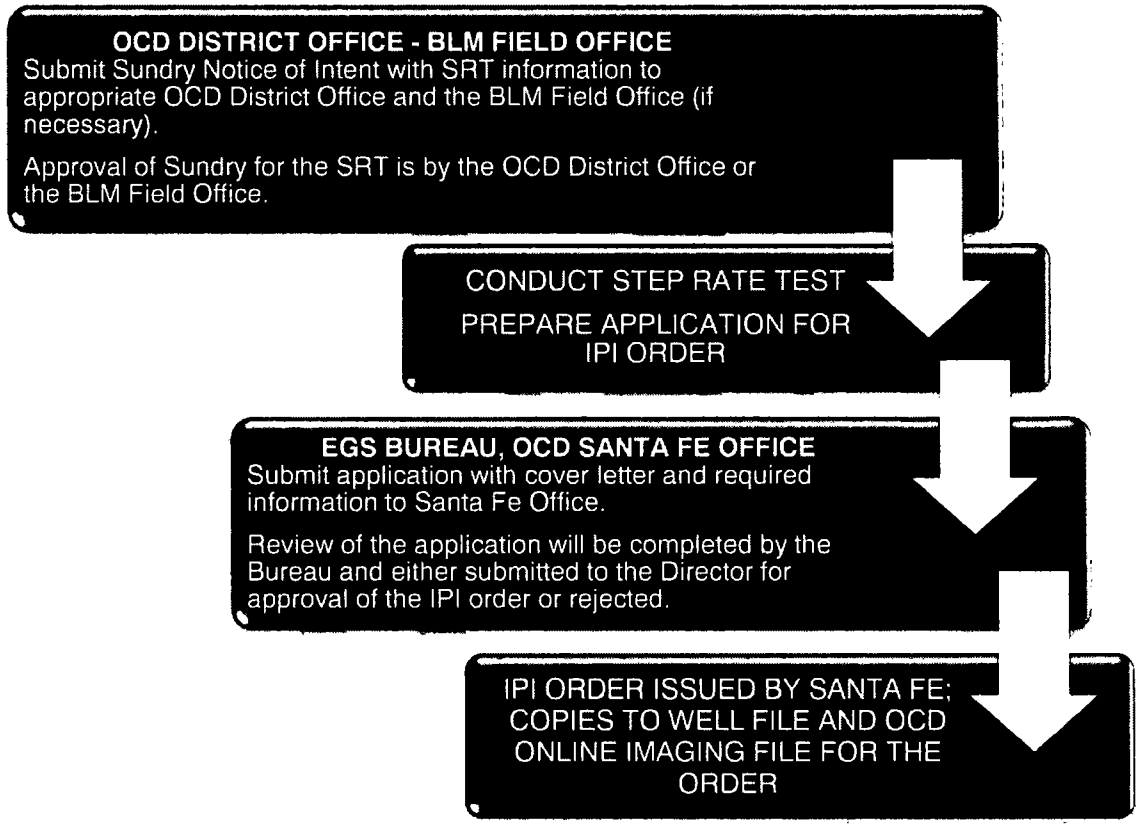
Item Description	Item Number
Cable Kit and Power Adapter for SS6001 (7 Pin)	10007042
Sapphire - Case Assembly - SS2100, SS2560, SS2760	10011118
Sapphire - Operations Manual - SS2300 Series	10018844
Software - SparGauge	10013818
SS1009-SB - Interface Box - USB – SmartTrack	10027515
SS6001 - SRO Box - Single Channel - (Standalone Box)	10002388
SS6800 SA - Line Management System (LMS)	10006935
Wrench - Combination - 1-1/16"	10004048

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
UIC Program Guidance

Application Process for Injection Pressure Increases

If an operator has decided to request an increase of the maximum surface injection pressure for a well above the administrative gradient of 0.2 pounds per square per foot (psi/ft), then the operator must conduct a step-rate test (SRT) to establish the fracture parting pressure (or formation parting pressure) for the injection interval.

The process for conducting the SRT begins with the Oil Conservation Division (OCD) District office (or the Bureau of Land Management (BLM)) and finishes with the Engineering Bureau of OCD in Santa Fe.



Where the injection well is located on federal surface, the Sundry Notice of Intent describing the proposed SRT operation will be submitted and approved by the BLM Field Office. The operator will supply a copy of the same sundry to the OCD District Office. The BLM may require supplementary testing not related to the SRT and may not require the pre-SRT testing requested by OCD. OCD has the authority for approval of any injection pressure increase for wells operated with orders (permits) issued under Division rule 19.15.26 NMAC.

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
UIC Program Guidance

Guidance for Conducting a Step-Rate Test

1. The operator must submit Division Form C-103 to the OCD District office with the description of the procedure for the SRT. The procedure will include the following information:
   - ☐ A description of the equipment for measurement and data recording (manufacturer and model) Note: the pressure gauge and recorder must have an appropriate range for use during the test.
   - ☐ Summary of injection volumes for last five years with average injection pressure.
   - ☐ Summary of well treatments and pressures especially any historical Instantaneous Shut-in Pressure (ISIP).

2. Once the operator has an approved Sundry Notice, the operator shall notify the appropriate OCD District office at least 72 hours prior to the scheduled SRT so that OCD personnel may be present to witness the test.

3. A bradenhead test (if required by the District) and mechanical integrity test (MIT) will be performed before the SRT. If the subject well fails either test, then the SRT will be suspended until the mechanical integrity issue(s) has been remediated. The mechanical integrity testing may be modified at the discretion of the District Supervisor.

4. The casing and bradenhead pressures will be monitored during the test. All wellhead equipment must be rated for the anticipated pressures.

5. Bottomhole pressure measurements will be required for wells deeper than 1000 feet (ft) and injection rates greater than one (1) barrel per minute (BPM).

6. Wells currently injecting must be shut-in at least 48 hours before the test unless the shut-in pressures indicate that the well has not adequately stabilized and a longer time is required for the permitted interval to approximate pre-injection conditions.

7. Selection of rates for the SRT will be developed by the operator based on the proposed operation and the historical information of the well. Suggested rates for the test are 5%, 10%, 20%, 40%, 60%, 80% and 100% of the proposed maximum daily injection rate at the corresponding pressure. The intent is to complete a SRT with at least three (3) steps below the 0.5 psi/ft gradient and three (3) steps above the fracture parting pressure (breakdown pressure). Starting pump rates and pressures must be lower than the current rates and pressures if the well is currently injecting. It may be necessary to backflow the well to reduce initial SRT pressures.

8. Each step shall be at least 30 minutes in duration unless otherwise determined by the OCD. Longer step intervals of 60 minutes shall be required for low permeability injection intervals (less than 0.5 millidarcies) and for open-hole intervals greater than 500 feet in length. The operator may request, in the submission of the Sundry Notice of

Intent, a modification of the time length for the step intervals with an explanation for the modification. The goal is for increments with equal time and rate and allow for downhole stabilization of pressure for each step.

9. The duration of the step intervals for the SRT must not change during the test or the test results will not be deemed adequate for determining an accurate fracture parting pressure.

10. Pumping equipment must be able to pump at the rates and pressures needed for the test. Rate changes will be 0.5 BPM or smaller unless the OCD witness determines that bigger rate changes are necessary due to small incremental increases in pressure.

11. The operator shall ensure that there is enough water to conduct the entire test.

12. The completed SRT results are to be submitted to the Engineering Bureau in Santa Fe and should include the following information:
    - ☐ Administrative application checklist (available on OCD website under Unnumbered Forms on Form webpage).
    - ☐ Cover letter with contact information, general description of test and pressure increase being proposed.
    - ☐ Complete data summary including injection rates, duration of each step, pressure measurements (surface and bottom hole) and the ISIP.
    - ☐ SRT-specific information: location of pressure gauges (depth); initial bottomhole pressure; injection fluid type and specific gravity.
    - ☐ Graph summary of pressure versus injection rate with interpretation.
    - ☐ Current well completion diagram.
    - ☐ Copy of the order authorizing the injection into the well.

13. If a pressure increase is granted, it shall be limited for use in the well with the same tubing, size, length, and type of interior coating as present for the SRT. If these components are changed, the operator must ask the Engineering Bureau to re-calculate the surface pressure limit, which may require another SRT.

Additional Sources:

Martin Felsenthal, *Step-rate Test Determine Safe Injection Pressures in Floods* in The Oil and Gas Journal, October 28, 1974.

US Environmental Protection Agency, *Step-Rate Test Procedure*, Region VIII; January 12, 1999.