

DATE IN <u>2.7.11</u>	SUSPENSE	ENGINEER <u>TW</u>	LOGGED IN <u>2.7.11</u>	TYPE <u>IPI</u>	APP NO. <u>1103856919</u>
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NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



ConocoPhillips
Burlington
Mar Vista Sup #1

ADMINISTRATIVE APPLICATION CHECKLIST

30-045-35126

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☒ IPI ☐ EOR ☐ PPR

[D] Other: Specify Request for Pressure increase of SWD well

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or XXX ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☐ Offset Operators, Leaseholders or Surface Owner
 [C] ☐ Application is One Which Requires Published Legal Notice
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Patsy Clugston

Print or Type Name

Patsy Clugston
 Signature

Sr. Regulatory Specialist

Title

Patsy.L.Clugston@conocophillips.com

e-mail Address

2/3/11

Date

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 RECEIVED OGD

Patricia Clugston
Senior Regulatory Specialist
San Juan Business Unit
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Phone: 505-326-9518

Burlington Resources Oil & Gas, LP

February 3, 2011

New Mexico Oil Conservation Division
Mr. Terry Warnell
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: Mar Vista SWD #1 Request for Injection Pressure Increase – Order SWD 1217

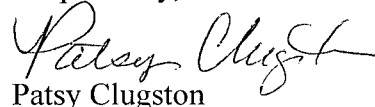
Dear Mr. Warnell:

Burlington's newly drilled Mar Vista SWD #1 (API-30-045-35126) had its Post Acid Treatment Step-Rate Test conducted, as witnessed by OCD representative Monica Kuehling on January 6, 2011 and the results are attached for your review.

The rate, surface and bottomhole pressures were all directly measured. As based on this data Burlington requests the maximum authorized surface injection pressure is increased to 1065 psig. We are scheduling the final MIT, BH test and Kill check tests be conducted in the near future and they will be witnessed as required. We want to start our function testing of the system as soon as these tests are conducted and understand that once these final tests pass then we can start injecting at the initial rate of 735 psi given with Order SWD 1217.

Plans are to start using this SWD facility as soon as possible and would greatly appreciate the NMOCD's approval of the requested increase. Please contact either Stephanie Dobson @ 505-599-3493 or Ross Martin @ 505-324-6196 with technical questions.

Respectfully,


Patsy Clugston

Mar Vista SWD No. 1
Burlington Resources Oil & Gas, LP
API: 3004535126
290' FSL & 2490' FWL
T29N, R11W, Sec. 2, Unit N
Lat: 36° 44' 54.085" N Long: 107° 57' 38.689" W
Coordinates in NAD 27
San Juan County, New Mexico

Post Completion Step Rate Test Results

January 29, 2010

Based on the post completion step rate tests conducted on the Mar Vista SWD No. 1 on January 06, 2011, ConocoPhillips requests the maximum allowable surface injection pressure to be set at 1,065 psig. The following is a summary of the post completion wellbore configuration, test procedure, and results used in support of the aforementioned request.

Post Completion Step Rate Results – January 06, 2010

- 1.) **Wellbore Configuration** – Prior to the post completion step rate test the Mar Vista SWD No. 1 had been hydraulic fractured and 3-1/2" tbg set above the perforations. See Appendix 2 and Appendix 3, for the post completion step rate test wellbore configuration and prior well activity, respectively.
- 2.) **Test Procedure** – In compliance with local OCD step rate guidelines (See Appendix 1), the following procedure was followed for the post completion step rate test:
 - a. December 27th
 1. Tandem pressure gauges were set below the perfs @ 3,720' and hanged off on slickline.
 - b. January 6th
 1. Stimulation company MIRU and prepare for the step rate test.
 2. With OCD official onsite, the step rate test commenced.
 3. Injection pumps then shut down and an ISIP of 1,166 psig (Surface) and 3,042 psig (Bottom hole) were measured.
 4. After 4 days the bottom hole gauges were pulled and the well was shut-in.

Though the downhole and surface pressure gauges were not synchronized, they correspond well with the pump rate data and thus correlation was possible.

- 3.) **Bottom Hole Pressure and Rate**– The actual bottom hole pressure data will be emailed and Figure 1 is provided below. The inflection point where the slope changes from matrix injection to fracture injection is graphically calculated using Figure 2. The bottom hole pressure and rate at this point is 2,669 psig and 2.59BPM, respectively.

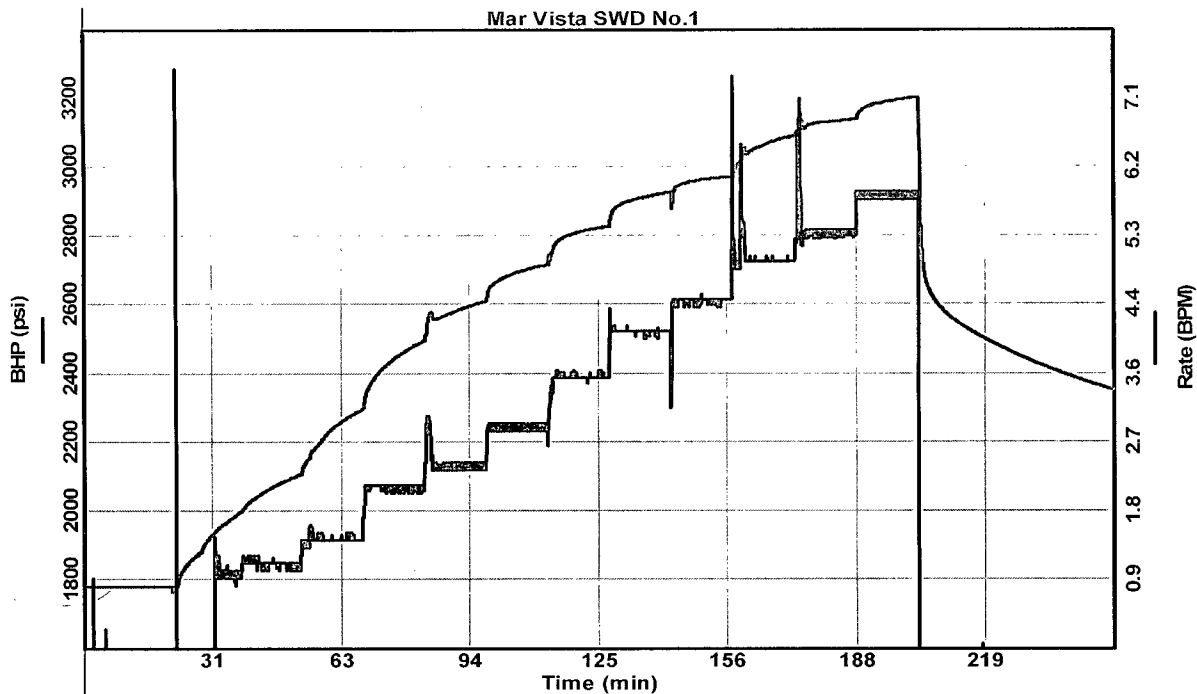


Figure 1: Post Completion Bottom Hole Pressure with Injection Rate

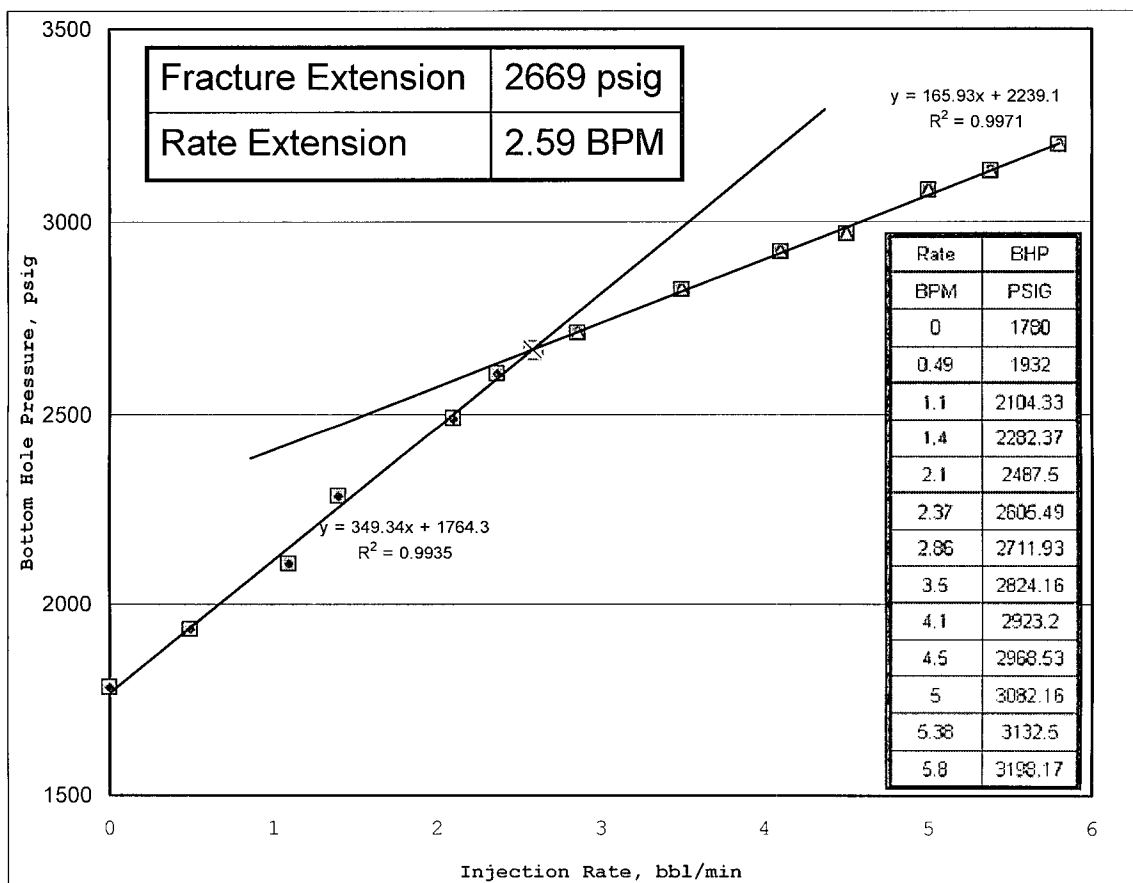


Figure 2: Graphical Calculation of Post Completion Bottom Hole Fracture Pressure

- 4.) **Surface Pressure and Rate**— The actual surface pressure and rate data will be emailed and Figure 3 is provided below. The inflection point where the slope changes from matrix injection to fracture injection is graphically calculated using Figure 4. The surface pressure and rate at this point is 1,065 psig and 2.59 BPM, respectively.

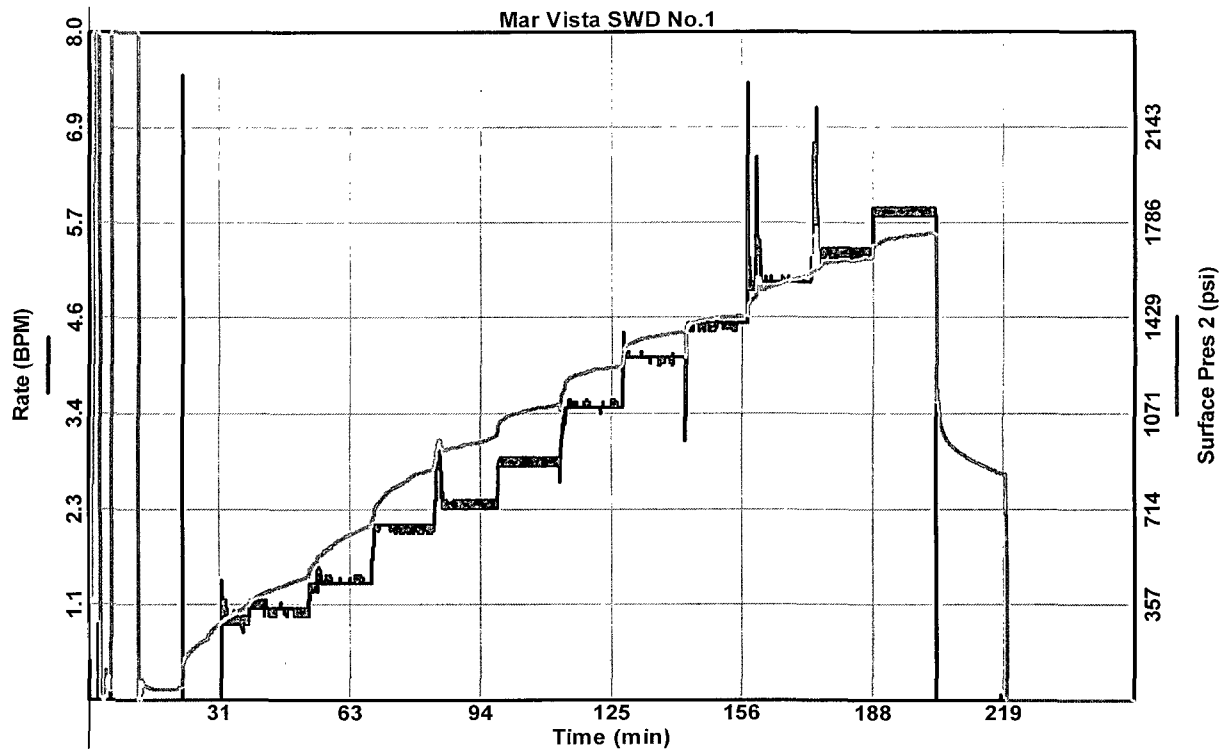


Figure 3: Post Completion Surface Pressure with Injection Rate

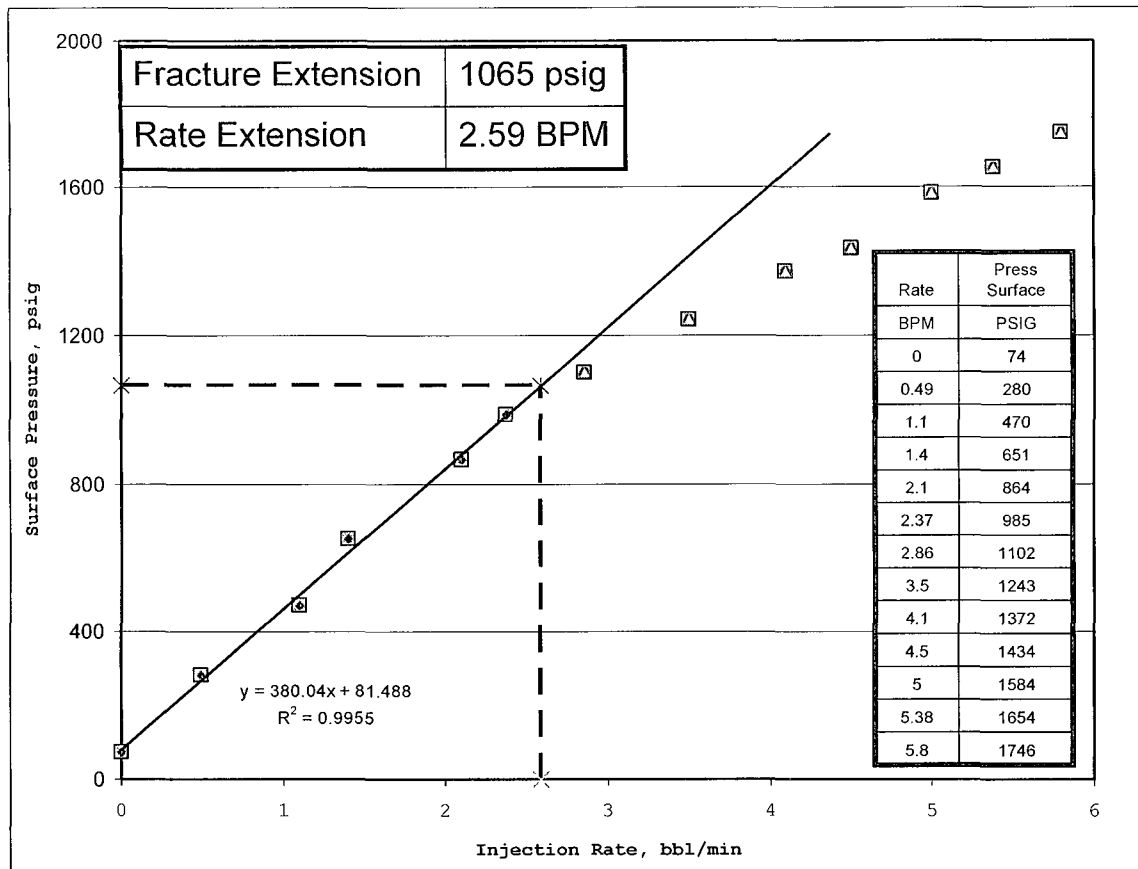


Figure 4: Graphical Calculation of Post Completion Surface Fracture Pressure

Appendix 1: OCD Guidelines for Conducting Step Rate Tests

The operator must submit a written procedure and rig-up diagram to the OCD at least 24 hours before starting the test. The procedure will contain the following information:

- A description of the mechanical configuration of the well.
- The history of injection pressures and volumes.
- The history of any fracture treatments and pressures especially ISIP.

A bottom hole pressure recorder will be required for wells deeper than 2000' and injection rates greater than 1 BPM.

A pressure gauge and recorder of the appropriate range will be used during the test.

Wells currently injecting must be shut-in at least 24 hours before the test unless the shut-in pressures indicate that the well has not adequately stabilized and a longer time is necessary.

Starting pump rates and pressures must be lower than the current rates and pressures if the well is currently injecting and there must be at least 3 steps below the .2psi/ft gradient and 3 steps above the break-over point.

Pumping equipment must be able to pump at the rates and pressures needed for the test.

Rate changes will be .5bpm or smaller unless the OCD witness determines that bigger rate changes are necessary due to small incremental increases in pressure.

Each step will be at least 15 minutes in duration unless otherwise determined by the OCD. Step duration must not be changed during the test.

The operator must have enough water on hand for the test.

The casing and bradenhead pressures will be monitored during the test.

All wellhead equipment must be rated for the anticipated pressures.

Appendix 2: Post Completion Wellbore Configuration

Surface Casing:

13 3/8" 48.0# H-40
Set @ 227'
TOC @ Surface Circ 30 bbl

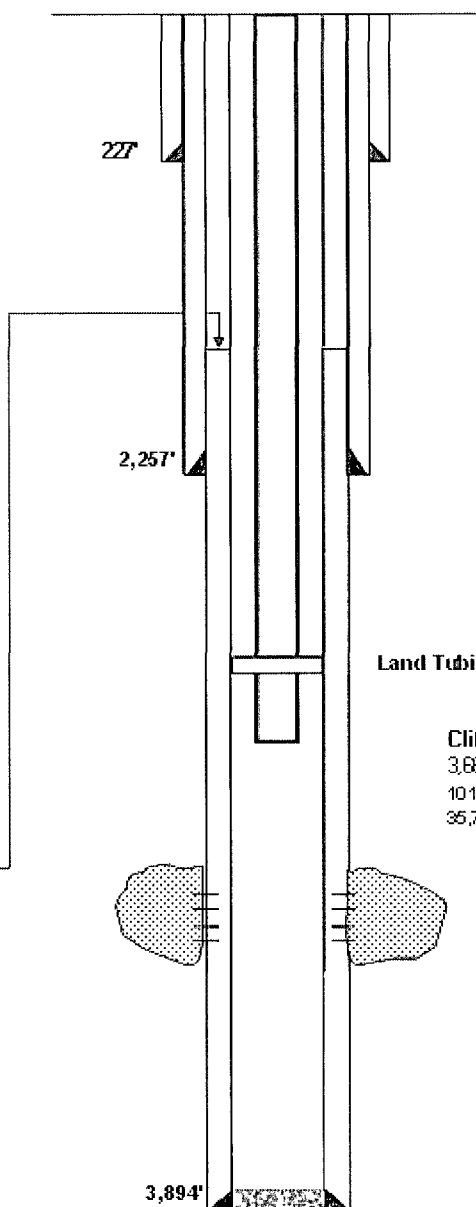
Intermediate Casing:

9 5/8" 36.0# J-55
Set @ 2,257'
TOC @ Surface Circ 33 bbl
DV Tool @ 1634

Production Casing:

7" 29.0# L-80
Set @ 3,894'
TOC @ 970
DV Tools @ N/A

EOT @ 3,631'
IPC J-55, 8rnd, 9.3#, EUE



Ojo Alamo	691'
Kirtland	856'
Fruitland	1622'
Pictured Cliffs	2003'
Lewis	2160'
Huerfano Bentonite	n/a
Chacra	3005'
Upper Cliff House	n/a
Massive Cliff House	3660'
Menefee	3716'
Point Lookout	nde

Land Tubing & Packer Assembly @ 3,600'

Cliff House

3,662 - 3,714' 176 hdes
10,105.2 gals water
35,721 lbs 16/30 sand

3,894'

LTD = 3,846'
PBTD = 3,849'
TD = 3,897'

Appendix 3: Post Completion Well History

11/22/10: FRAC CLIFFHOUSE FORMATION W/ BJ SERVICES FORMATION BROKE DOWN 1,620 PSI @ 45 BPM. FRAC THE ZONE WITH 2406 BBLS OF 2% KCL WATER @ 40 TO 45 BPM WITH 35,371 LBS. OF 16/30 ARIZONA SAND. MIN. RATE: 31.2, MAX RATE: 45.5, AVG RATE: 41.6, MIN PSI: 1366, MAX PSI: 4346, AVG PSI: 1684, MAX. SAND CONC: 0.75 PPG, ISIP: 1,287 PSI. RIH W/ CBP SET@ 3,500', POOH W/SETTING TOOL, RD BASIN WIRELINE, SHUT IN WELL SECURE WITH LOCK AND CHAIN. SDFN

12/15-22/10: MIRU RIG. CLEANED OUT FILL. MIRU BLUE JET WIRE LINE AND RIH W/ 7" F-1 PACKER, SET @ 3,600'. MU AND TIH W/ 3 1/2 SEAL ASSEMBLY AND 3-1/2" IPC TBG. MIX AND PUMP 110 BBLS OF PACKER FLUID. RDMO RIG.

12/27/10: R/U PHOENIX WIRELINE TO RIH W/ PHOENIX MEMORY GUAGES TO 3720'

12/29/10: ATTEMPTED POST COMPLETION STEP RATE TEST BUT DUE TO UNPLANNED SHUTDOWN DURING TEST RESULTS WERE IGNORED.