



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**  
Governor  
**Betty Rivera**  
Cabinet Secretary

June 11, 2002

**Lori Wrotenbery**  
Director  
Oil Conservation Division

Richardson Operating Company  
3100 La Plata Highway  
Farmington, New Mexico 87401

Attn: Mr. David Richardson

**RE: Injection Pressure Increase,  
Navajo Tribal No. H-13 (API No. 30-045-08280)  
San Juan County, New Mexico**

Reference is made to your request received in this office on June 6, 2002, to increase the surface injection pressure on the above-referenced well. This request is based on a step rate test conducted on May 30, 2002. After reviewing this test, 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:

<i>Well and Location</i>	<i>Maximum Surface Injection Pressure</i>
Navajo Tribal No. H-13	550 PSIG
Located in NE/4 SW/4, Section 13, Township 29 North, Range 14 West, NMPM, San Juan County, New Mexico.	

2490-2528-  
CLIFFHOUSE

This maximum surface injection pressure limit is valid only through the existing 2 3/8 inch plastic coated injection tubing.

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* (wvd)  
Lori Wrotenbery  
Director

cc: Oil Conservation Division – Aztec  
Bureau of Land Management - Farmington  
Files: SWD-215, IPI-2002

June 11, 2002

Richardson Operating Company  
3100 La Plata Highway  
Farmington, New Mexico 87401

Attn: Mr. David Richardson

**RE: Injection Pressure Increase,  
Navajo Tribal No. H-13 (API No. 30-045-08280)  
San Juan County, New Mexico**

Reference is made to your request received in this office on June 6, 2002, to increase the surface injection pressure on the above-referenced well. This request is based on a step rate test conducted on May 30, 2002. After reviewing this test, 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:

<i>Well and Location</i>	<i>Maximum Surface Injection Pressure</i>
Navajo Tribal No. H-13	550 PSIG
Located in NE/4 SW/4, Section 13, Township 29 North, Range 14 West, NMPM, San Juan County, New Mexico.	

This maximum surface injection pressure limit is valid only through the existing 2 3/8 inch plastic coated injection tubing. 2 7/8

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  
Director

cc: Oil Conservation Division – Aztec  
Bureau of Land Management - Farmington  
Files: SWD-215, IPI-2002

*CHA  
order  
after  
Richardson  
interpretation  
arrives*

March 15, 2002

Richardson Operating Company  
1700 Lincoln Street  
Suite 1700  
Denver, Colorado 80203

Attn: Mr. Jim Richardson

**Re:    *Injection Pressure Increase  
Salty Dog Well No. 2  
San Juan County, New Mexico***

Dear Mr. Richardson:

Reference is made to your request dated March 4, 2002, to increase the surface injection pressure on the above referenced well. This request is based on a step rate test conducted on the well on March 1, 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:

<b>Well and Location</b>	<b>Maximum Surface Injection Pressure</b>
Salty Dog Well No. 2	1,050 PSIG
Located in Unit J, Section 5, Township 29 North, Range 14 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.

*Injection Pressure Increase  
Richardson Operating Company  
Salty Dog Well No. 2  
Page 2*

---

Sincerely,

Lori Wrotenbery  
Director

cc: Oil Conservation Division - Aztec  
Files: SWD-811; PSI-X, 2002



TRANSMITTAL COVER SHEET

OIL CONSERVATION DIVISION  
1220 S. ST. FRANCIS DRIVE  
SANTA FE, NM 87505

(505) 476-3440  
(505)476-3462 (Fax)  
-3471 ENGR. FAX

PLEASE DELIVER THIS FAX:

TO: BRUCE MARTIN

FROM: WILL JONES

DATE: 5/13/02

PAGES: C+5

SUBJECT: IPI NAVAHO TRIBAL A-13

IF YOU HAVE TROUBLE RECEIVING THIS FAX, PLEASE CALL THE OFFICE  
NUMBER ABOVE.

\*\*\*\*\*  
 \*  
 \* EVENT SUMMARY \*  
 \*  
 \*\*\*\*\*

COMPANY : RICHARDSON OPERATING COMPANY

PAGE : B1

WELL NAME : NAVAJO TRIBAL NO. H-13

DATE : 06/04/02

WELL LOCATION : SAN JUAN COUNTY, NM

FILE REF: F154604.RED

Date	Time	Test Time	Key Event	Pressure Psig	Temp Deg F
05/30	07:44:15	40.2500	PRESSURED UP LUBRICATOR	12.01	71.65
05/30	07:54:15	50.2500	PRESS.TEST SURFACE LINES & LUBRICATOR	2058.10	70.04
05/30	08:00:30	56.5000	PRESS.TEST SURFACE LINES & LUBRICATOR	2025.88	69.83
05/30	08:03:45	59.7500	PRESS.TEST SURFACE LINES & LUBRICATOR'62	2148.10	69.98
05/30	08:06:00	62.0000	OPEN MASTER VALVE	95.07	70.20
05/30	08:07:15	63.2500	TRIPPED TANDEM INSTRUMENTS IN HOLE	117.84	70.00
05/30	08:15:00	71.0000	TANDEM INSTRUMENTS @ 2500'	1219.92	78.87
05/30	08:19:00	75.0000	BEGAN PUMPING	1227.46	82.19
05/30	08:35:15	91.2500	RATE #1, .25 BPM, 100 PSIG SURFACE	1199.04	80.06
05/30	08:51:45	107.7500	RATE #2, .70 BPM, 210 PSIG SURFACE	1308.51	90.32
05/30	09:07:00	123.0000	RATE #3, 1.30 BPM, 320 PSIG SURFACE	1417.27	85.96
05/30	09:22:00	138.0000	RATE #4, 1.75 BPM, 440 PSIG SURFACE	1553.13	80.26
05/30	09:37:00	153.0000	RATE #5, 2.25 BPM, 600 PSIG SURFACE	1660.49	78.56
05/30	09:52:00	168.0000	RATE #6, 2.70 BPM, 720 PSIG SURFACE	1688.29	78.69
05/30	10:07:00	183.0000	RATE #7, 3.26 BPM, 760 PSIG SURFACE	1723.58	79.00
05/30	10:22:00	198.0000	RATE #8, 3.80 BPM, 850 PSIG SURFACE	1755.31	79.21
05/30	10:37:00	213.0000	RATE #9, 4.30 BPM, 920 PSIG SURFACE	1781.89	79.61
05/30	10:52:15	228.2500	RATE #10, 4.73 BPM, 980 PSIG SURFACE	1816.24	79.04
05/30	11:07:15	243.2500	RATE #11, 5.30 BPM, 1060 PSIG SURFACE	1832.22	78.39
05/30	11:22:15	258.2500	RATE #12, 5.80 BPM, 1160 PSIG SURFACE	1848.70	78.83
05/30	11:37:15	273.2500	RATE #13, 6.28 BPM, 1250 PSIG SURFACE	1876.16	79.66
05/30	11:58:15	294.2500	RATE #14, 6.78 BPM, 1310 PSIG SURFACE	1910.72	81.09
05/30	12:12:15	308.2500	RATE #15, 7.25 BPM, 1400 PSIG SURFACE	1933.94	81.55
05/30	12:27:15	323.2500	RATE #16, 7.80 BPM, 1500 PSIG SURFACE	1934.38	82.16
05/30	12:42:15	338.2500	RATE #17, 8.34 BPM, 1600 PSIG SURFACE	1943.39	79.59
05/30	12:57:15	353.2500	RATE #18, 8.70 BPM, 1670 PSIG SURFACE	1958.67	80.19
05/30	13:10:15	366.2500	RATE #19, 9.30 BPM, 1800 PSIG SURFACE	1967.09	81.64
05/30	13:25:15	381.2500	RATE #20, 9.70 BPM, 1860 PSIG SURFACE	1989.41	80.89
05/30	13:39:15	395.2500	RATE #21, 10.30 BPM, 2000 PSIG SURFACE	1996.97	83.69
05/30	13:56:15	412.2500	RATE #22, 10.70 BPM, 2350 PSIG SURFACE	2008.73	84.77
05/30	13:56:30	412.5000	PRESSURE FALL-OFF	2012.90	84.79
05/30	14:15:00	431.0000	END FALL-OFF	1471.62	85.66
05/30	14:15:15	431.2500	TANDEM INSTRUMENTS OFF BOTTOM	1456.09	85.65

2000 BPD MORE  
 5500 BPD  
 TOTAL

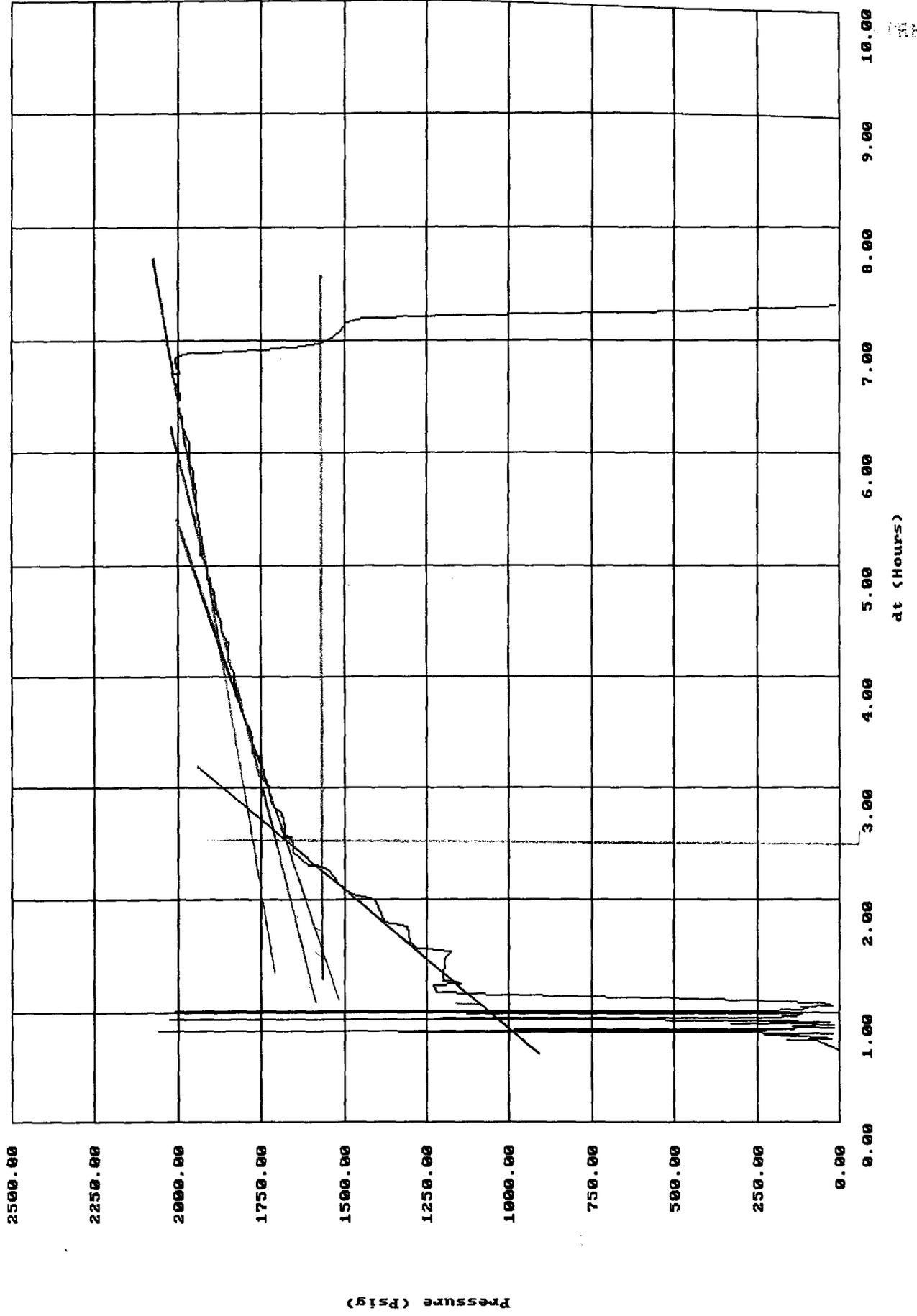
600 - 50 = 550  
 PSI

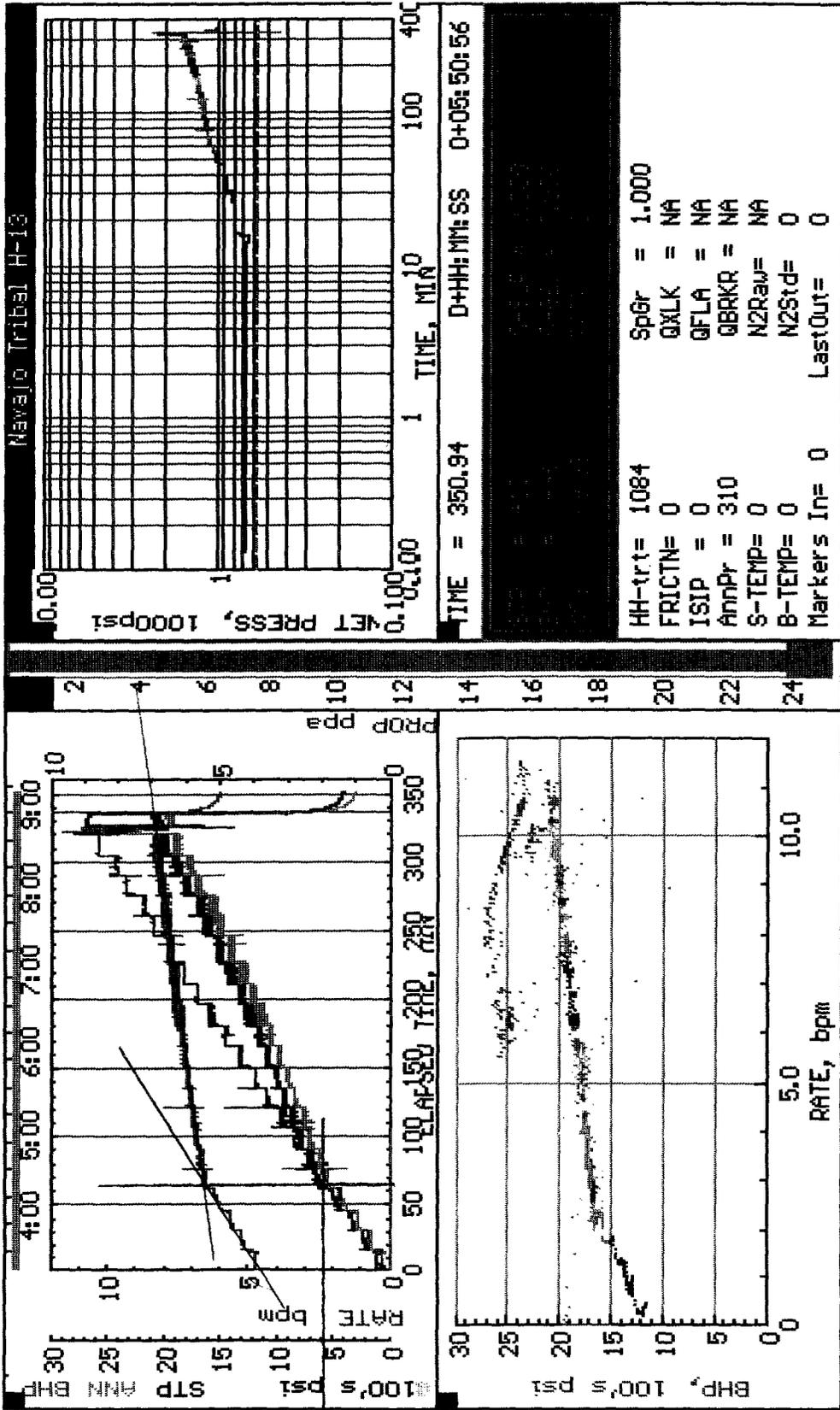
RICHARDSON OPERATING COMPANY

Pressure vs dt

NAVAJO TRIBAL NO. H-13  
SAN JUAN COUNTY, NM  
F154604.RED

TEFTELLER, INC.  
S-30-02  
STEP RATE TEST

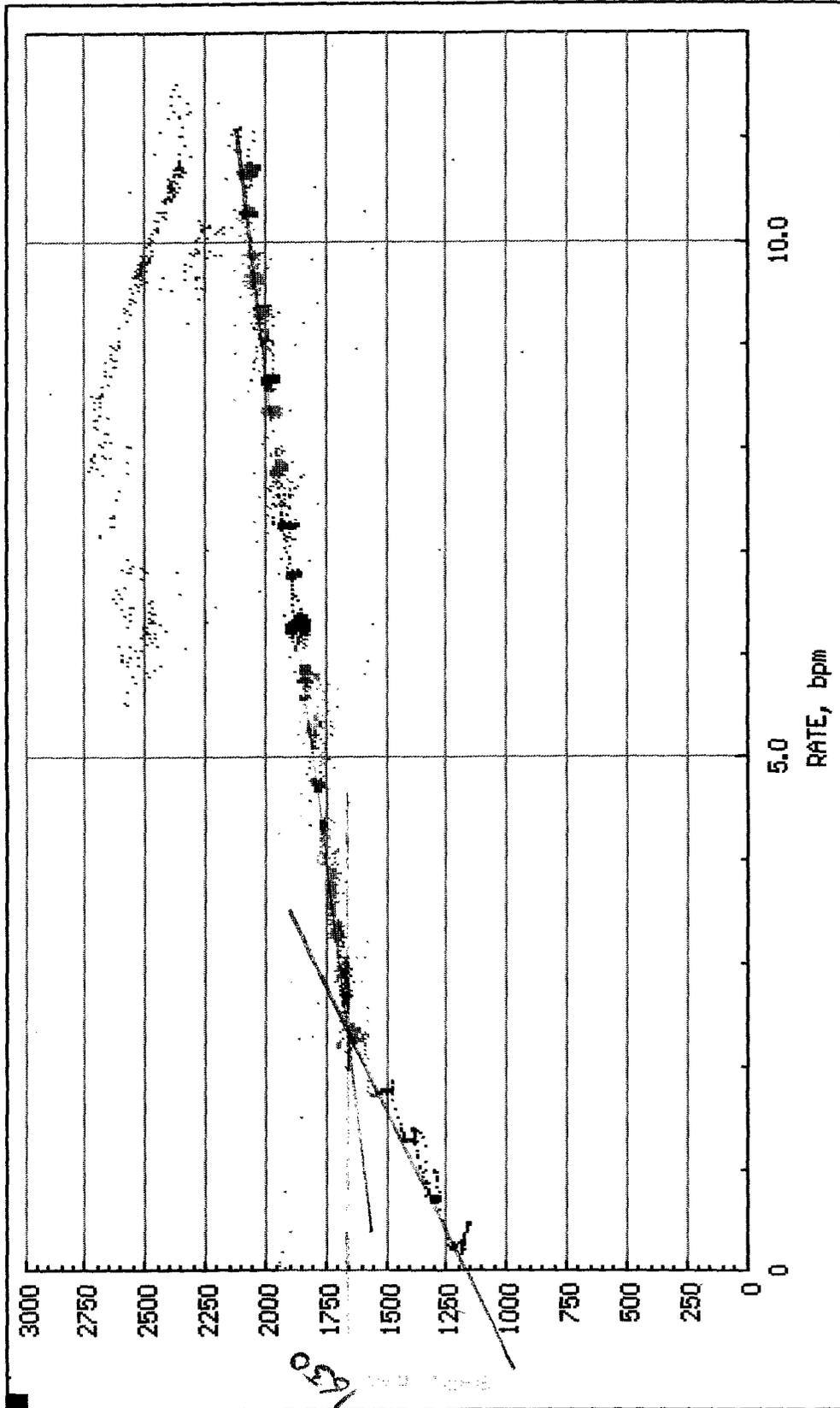




60

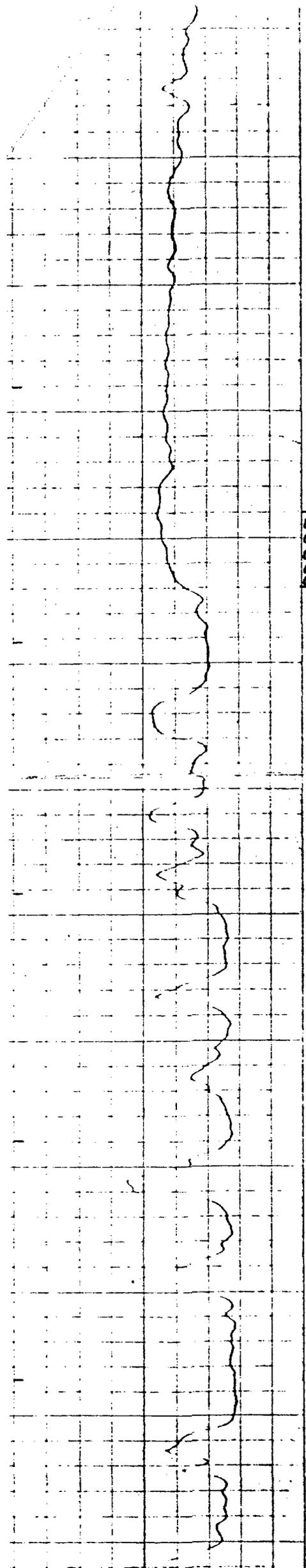
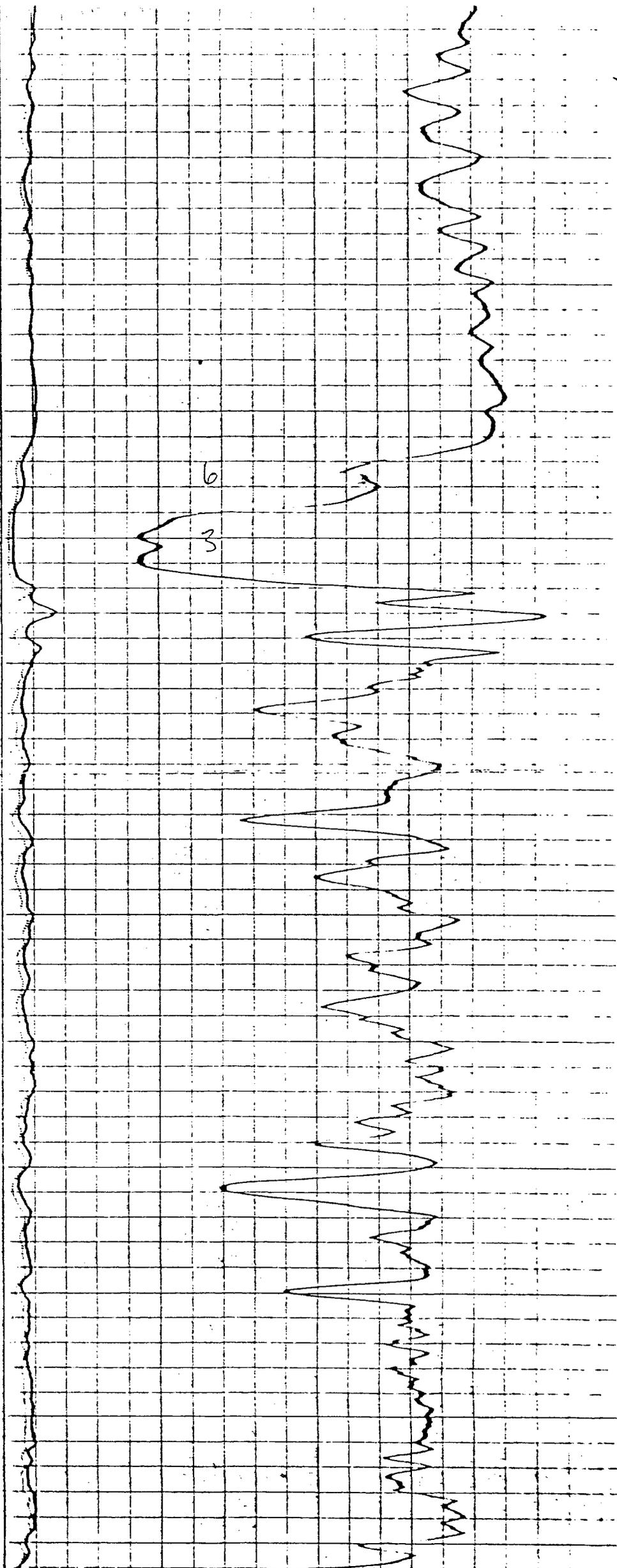
Desc: Navajo Tribal  
Mesaverde  
Richardson Operating  
Step Rate Test - May 30, 2002

PAGE : 3-G (5/30/2002 14:14:41) Data stored in C:\SMARTS\DATADIR\NAVTRH



2300 2400 2500 2600 2700 2800 2900

000000



Richardson - Area surrounding the Navajo Tribal H-13 SWD well

API	WELL NAME	Short Operator	NS	EW	UL1	UL2	Sec	Tsp	Rge	TVD	Land Type	Well Type	Orig FORM (or NOTES)	P&A Date	STATUS	Latest Pool	GAS2002	OIL2002	WAT2002	GAS2001	OIL2001	WAT2001	
30-045-08280	NAVAJO TRIBAL H #013	RICHARDSON	1830S	1830W	K	K	13	29N	14W	5150	N	S	SWD,MESAVERDE		NOT KNOWN	SWD,Mvrd	0	0	0	0	0	0	0
30-045-08963	NAVAJO TRIBAL H #012	RICHARDSON	1830N	810W	E	4	14	29N	14W	5026	N	G	W KUTZ PC (GAL ZA)		ACTIVE	KUTZ PC, WEST (GAS)	2747	899	4620	11847	0	8740	
30-045-13101	NAVAJO TRIBAL H #005	RICHARDSON	705S	660W	M	M	13	29N	14W	5070	N	G	BASIN FRT COAL/W KUTZ PC (MV ZA)		ACTIVE	BASIN FRC (GAS)	22908	0	8920	70243	0	30800	
30-045-21624	NAVAJO TRIBAL H #015	MOUNTAIN STATES	890N	790E	A	A	13	29N	14W	970	N	G	W KUTZ PC (P&A 10-17-98)	1998-10-17	ZONE ABAN		0	0	0	0	0	0	
30-045-29164	NW CHA CHA UNIT #027	KENSON	1884S	652W	L	L	23	29N	14W	5330	N	O	CHA CHA GAL		ACTIVE	CHA CHA GALLUP	196	380	14855	1251	2418	51230	
30-045-29165	NW CHA CHA UNIT #040	KENSON	71S	2000W	N	N	23	29N	14W	5358	N	O	CHA CHA GAL		ACTIVE	CHA CHA GALLUP	123	237	3491	1183	2283	23721	
30-045-30317	WF NAVAJO 23 #001	RICHARDSON	1570N	845E	H	H	23	29N	14W	1100	N	G	W KUTZ PC BASIN FRUITLAND COAL		ACTIVE	KUTZ PC, WEST (GAS)	18871	0	8880	11863	0	4640	
30-045-30485	WF NAVAJO 14 #001	RICHARDSON	1890S	660E	I	I	14	29N	14W	1035	N	G	WEST KUTZ PC		ACTIVE	KUTZ PC, WEST (GAS)	35516	0	12210	23062	0	8920	
30-045-30522	BENALLY 14 #003	RICHARDSON	1592S	1320W	K	K	14	29N	14W	0	F	G	BASIN FRUITLAND COAL/W KUTZ PC		NO COMPL		0	0	0	0	0	0	
30-045-30652	NAVAJO 13 #001	RICHARDSON	1300N	1230E	A	A	13	29N	14W	0	N	G	BASIN FT COAL/W KUTZ PC		NO COMPL		0	0	0	0	0	0	
30-045-30653	NAVAJO 13 #002	RICHARDSON	1978N	1221W	E	E	13	29N	14W	0	N	G	W KUTZ PC		NO COMPL		0	0	0	0	0	0	
30-045-30654	NAVAJO 14 #002	RICHARDSON	1948N	1037E	H	H	14	29N	14W	0	N	G	BASIN FT COAL/W KUTZ PC		NO COMPL		0	0	0	0	0	0	

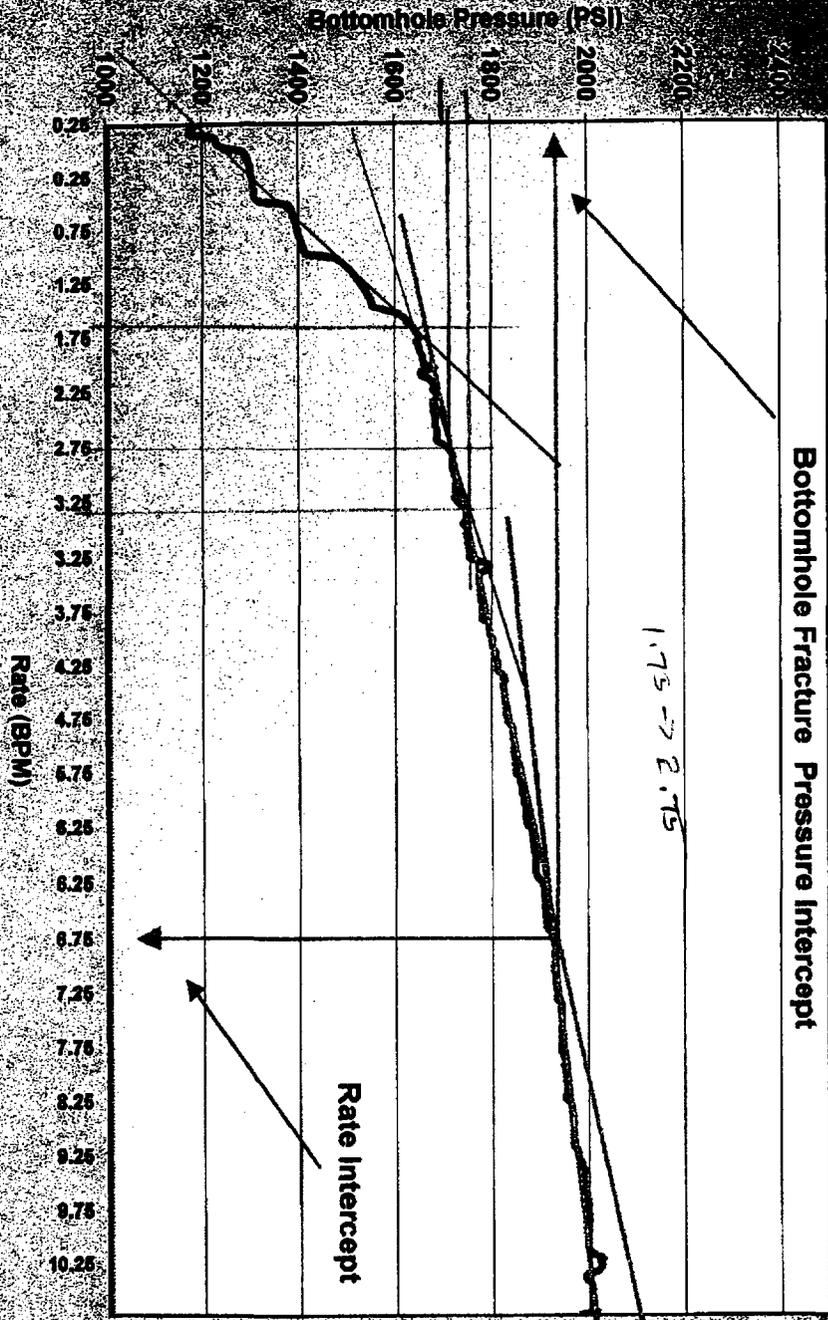
Richardson Operating  
3100 La Plata  
Farmington, NM 87401  
(505) 564-3100 Fax (505) 564-3109

**FAX COVER SHEET**

**FROM:** David B. Richardson  
**TO:** Will Jones - OCD  
**ATTN:** \_\_\_\_\_  
**DATE:** 6/21/02  
**NO. OF PAGES** 3

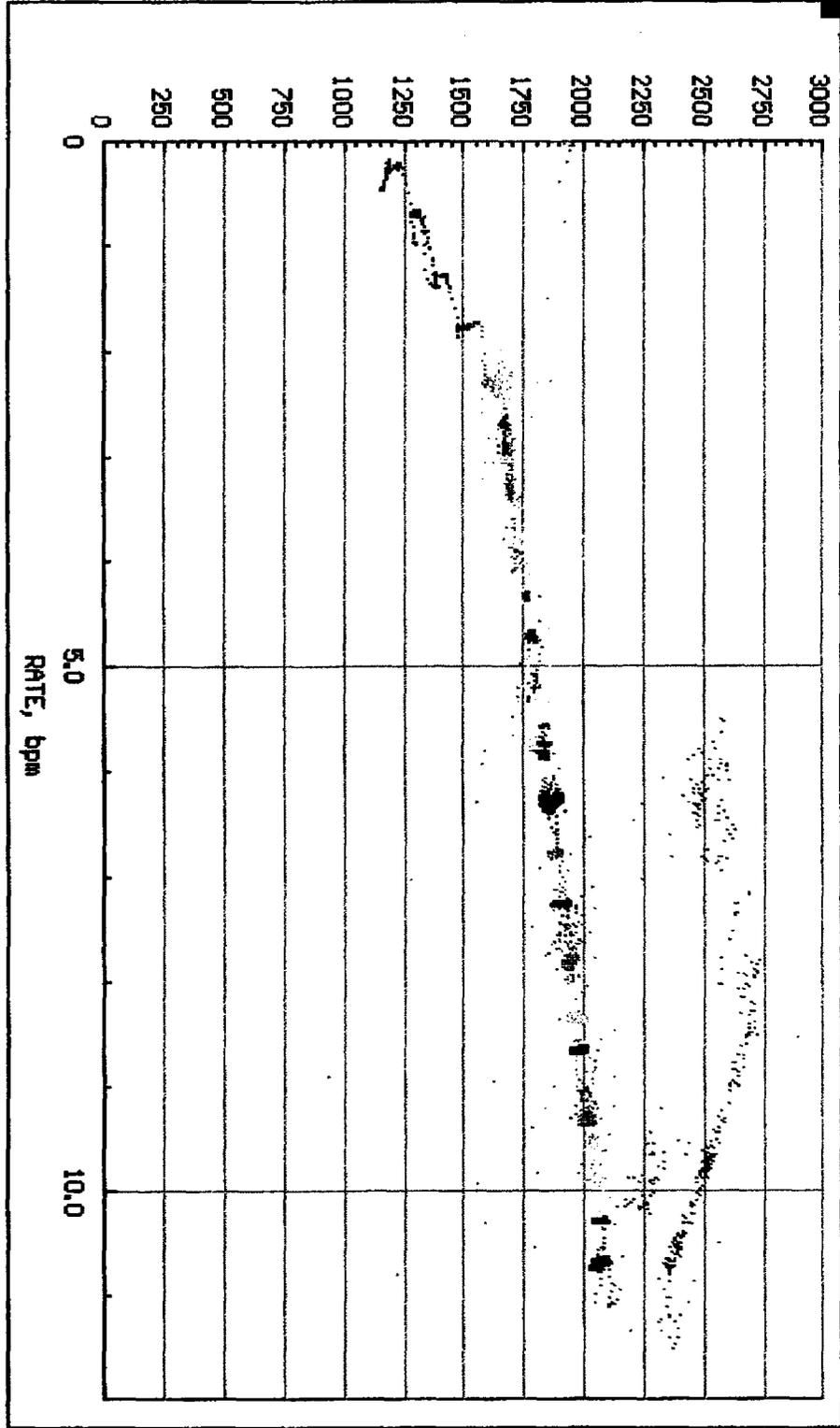
**COMMENTS:** FYI - Provided by American Energy. Mike McNeese  
feels there never was a breakover point (at least a  
case for it). Also this zone has a shale above and below  
the perforated interval. Any help would be appreciated.  
David Richardson

# Navajo Tribal H-13 - Step Rate Test May 30th, 2002



BHP @ Fracture = 1922 PSI  
Based on Graph Below





Desc: Navajo Tribal H-13  
 Mesaverde  
 Richardson Operating  
 Step Rate Test - May 30, 2002  
 PAGE : 5-G (5/30/2002 14:14:41) Data stored in C:\SMARTS\DATADIR\NAVTRH