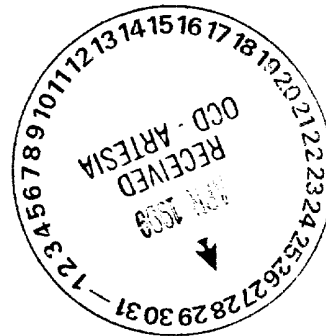




Bonneville Fuels Corporation

April 27, 1999



State of New Mexico  
Oil Conservation Division  
Attn.: Mr. Tim Gumm: District Supervisor  
811 South 1st  
Artesia, NM 88210  
Phone: (505) 748-1283; Fax: (505) 748-9720

Re: Lake Shore Fed. S.C. 10-#2  
Morrow 'B' Fm. Deliverability & Pressure Survey Tests  
Hardship Waiver Request: Gas Well Testing

Dear Mr. Gumm:

The Bonneville Fuels Corporation is requesting that the NMOCD grant BFC a hardship waiver of the required 7-Day Shut-in and annual 1-Day Shut-In for the Morrow 'B' Fm. in the subject well. This request is made on the basis of excessive water production that is leaking past a plug from abandoned Morrow 'C' Fm. perfs. The basis of this request is conservation of gas productivity on the basis of a significant decline in offset well productivity that occurred when wet intervals were shut-in with gas productive intervals.

The Lake Shore Fed. S.C. 10-#2 well is located at:  
Lake Shore Fed. S.C. 10-#2  
660' FEL & 1750' FSL, Unit I  
Section 10, T.21S., R.26E.,  
Eddy County, New Mexico.

This well was perforated in the Morrow 'B' Fm. on 2/21/99 as follows:

10,845' - 10,848':	4 SPF: 12 Holes.
10,819' - 10,822':	4 SPF: 12 Holes.
10,810' - 10,816':	4 SPF: 25 Holes.
10,743' - 10,753':	4 SPF: 41 Holes.

After perforating the well produced dry gas & oil with trace amounts of water (see Exhibit #1: attached): Avg. 1,495 MCFD w/ 12 BCPD & 0.7 BWPD for 24 Days. The decision was made to frac the well in order to open up all zones & improve productivity/drainage in the Morrow 'B' sands (Logs attached as Exhibit #3: 2 Pages).

After stimulating the well it became apparent that while gas productivity was increased THE AMOUNT OF WATER PRODUCED had increased significantly. The post-frac productivity has averaged: 2,624 MCFD w/ 18.25 BCPD & 28.7 BWPD. On 4/24/99 I witnessed a spinner survey run to determine where the water was coming from. The log is attached for your consideration. The spinner survey (attached and marked) log interpretation is that:

1. Almost all of the gas & condensate is flowing from the Morrow 'B' Fm. perfs. @ 10,810' to 10,816'.
2. MOST water is entering the wellbore from below a CIBP @ 10,910'-10,912' and cement plug (10,900' - 10,910' that was set and pressure tested to isolate Morrow 'C' Fm. perfs. (10,924' to 10,942': OA) which were found to be water wet on a completion attempt in December 1998/January 1999.

APPARENTLY THE CEMENT PLUG AND CIBP FAILED DURING THE ACID AND FRAC JOBS AND NOW ALLOWS SIGNIFICANT WATER TO MOVE PAST THE CEMENT PLUG AND CIBP FROM THE MORROW 'C' (see the attached marked Spinner Survey).

Lake Shore Fed. S.C. 10-#2  
Hardship Waiver Request Letter  
Mr. Tim Gumm  
4/27/99  
Page 2

**ANALOG WELL: SI WATER RUINS A PRODUCING ZONE:**

Offsetting the BFC lease in Section 11 is the Yates S. Avalon 'AQY' Fed. Com. #1 well in which BFC has a significant (37.5%) working interest. During initial completion the Morrow 'B' Fm. was completed at a test rate of 3,000 MCFD using over-balanced perforating. Previously stimulated and wet (though slightly gas productive @ 600 MCFD) Morrow 'C' Fm. perms. were then commingled with the Morrow 'B' Fm. perms. after a plug was pulled and the well was then SI for 30 days pending connection. **After commingling Morrow 'B' (dry gas) and Morrow 'C' (wet) production the well initially sold 1,000 MCFD w/ 20 BWPD and declined to 400 MCFD w/ 40 BWPD in 3 months. BFC then prevailed in getting Yates to set a plug and abandon the Morrow 'C' Fm. perms. & re-stimulate (frac) the Morrow 'B' Fm. After isolation/fracture stimulation of this Morrow 'B' Fm. interval in January 1999 this well produced at an initial rate of 2,650 MCFD w/ 3 BWPD (test pre-frac @ 50 MCFD due to water damage) & last report was producing steadily at 2,400 MCFD with NO water problems.**

Initially BFC produced the Lake Shore Fed. S.C. 10-#2 well after the frac for a significant time in order to see if the water production would decline on its own accord - it did not subside as expected. IT IS CLEAR FROM THIS EXPERIENCE THAT FINE GRAINED GAS PRODUCTIVE MORROW 'B' FM. POROSITY CAN BE HARMED BY IMBIBEMENT OF WATER FROM THE MORROW 'C' FM. DURING SI PERIODS. BFC does intend to endeavor to shut-off the Morrow 'C' water mechanically as soon as an appropriate plan (thru tubing packer, etc.) can be developed. No success can be guaranteed. Co-owner approval of such an AFE will be required.

**THEREFORE, the Bonneville Fuels Corporation is requesting that the required 7-Day Shut-In prior to a 4-Point test, and annual 1-Day Shut-ins for pressure monitoring, be foregone in the case of the Morrow 'B' Fm. in this well until, at some point, the well repair is undertaken to halt water production from the Morrow 'C' Fm. BFC is making this a hardship request for Administrative Approval as these tests are for data gathering only and are not used to restrict allowable production in this non-prorated Avalon Morrow Fm. field. BFC will return to compliance in gas testing in this interval as soon as well repair operations are successful.**

Tim, as you are aware, Strawn Fm. perms. (9,725' - 9,952'; OA) are open and isolated from Morrow 'B' Fm. production in this wellbore (surface commingling application pending). If a thru-tubing plug does NOT work then BFC needs to deplete the Morrow Fm. until it can be killed and controlled with Methanol so that water imbibeement is not able to harm productivity of either Strawn Fm. or Morrow 'B' Fm. during well repair operations. As soon as an effective plan can be developed I shall communicate this to you. BFC will continue to provide Strawn side SI data as required with the annual State 1-Day SI tests. The most economic time to perform this repair would be when eventual application is made to commingle Strawn Fm. & Morrow 'B' Fm. production later in the life of the well. **BFC will provide any flowing tests that you may require in order to provide the NMOCD with well performance data for the Morrow 'B' fm.**

Please call me if you have any questions at (303) 376-2564. I look forward to a prompt resolution of this matter to your satisfaction as soon as possible.

Sincerely Yours,  
BONNEVILLE FUELS CORPORATION

  
R. A. Schwering, P.E.  
Operations Manager: SE NM

cc: Well File

Attachments: Marked Spinner Survey

Exhibit #1: Pre-Frac Production of Morrow 'B' Fm.

Exhibit #2: Post-Frac Production of Morrow 'B' Fm.

Exhibit #3: 2 Pages: Morrow Interval Open-Hole Logs

Exhibit #4: 2 Pages: Wellbore Diagrams

# EXHIBIT #1

LAKE SHORE FEDERAL S.C. 10-#2:

PRODUCTION DATA: 2/21/99 TO 3/16/99:

PRODUCING MORROW FM. UP TUBING: 10,743' to 10,848': Pre-Frac:

DATE:	GAS: MCF:	OIL: STBC:	GOR: SCF/STBO:	WATER: STBW:
2/21/99 UP TUBING	668	0	6,680,000	3
2/22/99 UP TUBING	1,372	13	105,538	4
2/23/99 UP TUBING	1,394	12	116,167	1
2/24/99 UP TUBING	1,571	17	92,412	2
2/25/99 UP TUBING	1,578	10	157,800	0
2/26/99 UP TUBING	1,571	11	142,818	0
2/27/99 UP TUBING	1,571	15	104,733	0
2/28/99 UP TUBING	1,575	2	787,500	2
3/1/99 UP TUBING	1,578	14	112,714	3
3/2/99 UP TUBING	1,583	21	75,381	0
3/3/99 UP TUBING	1,576	7	225,143	0
3/4/99 UP TUBING	1,565	15	104,333	0
3/5/99 UP TUBING	1,558	35	44,514	0
3/6/99 UP TUBING	1,558	0	15,580,000	0
3/7/99 UP TUBING	1,543	5	308,600	2
3/8/99 UP TUBING	1,539	12.0	128,250	0
3/9/99 UP TUBING	1,535	13.0	118,077	0
3/10/99 UP TUBING	1,528	12.0	127,333	1
3/11/99 UP TUBING	1,528	11.0	138,909	0
3/12/99 UP TUBING	1,517	14.0	108,357	2
3/13/99 UP TUBING	1,505	29.0	51,897	0
3/14/99 UP TUBING	1,491	12.0	124,250	0
3/15/99 UP TUBING	1,487	3.0	495,667	0
3/16/99 UP TUBING	1,487	6.0	247,833	2
CUM. PRE-FRAC MORROW PRODUCTION UP TUBING =				
AVG. PRE-FRAC GOR FOR MORROW PRODUCED UP TUBING =				
			GAS: MCF:	OIL: STBC:
			35,878	289
				WATER: STBW:
				17
				124,059

24 Days  
Pre-Frac Avg. 1,495 MCFD  
12 BOPD  
0.7 BWPD

# EXHIBIT #2

LAKE SHORE FEDERAL S.C. 10-#2:

PRODUCTION DATA: 3/17/99 TO 4/16/99:

PRODUCING MORROW FM. UP TUBING: 10,743' to 10,848': Post-Acid & Post-Frac:

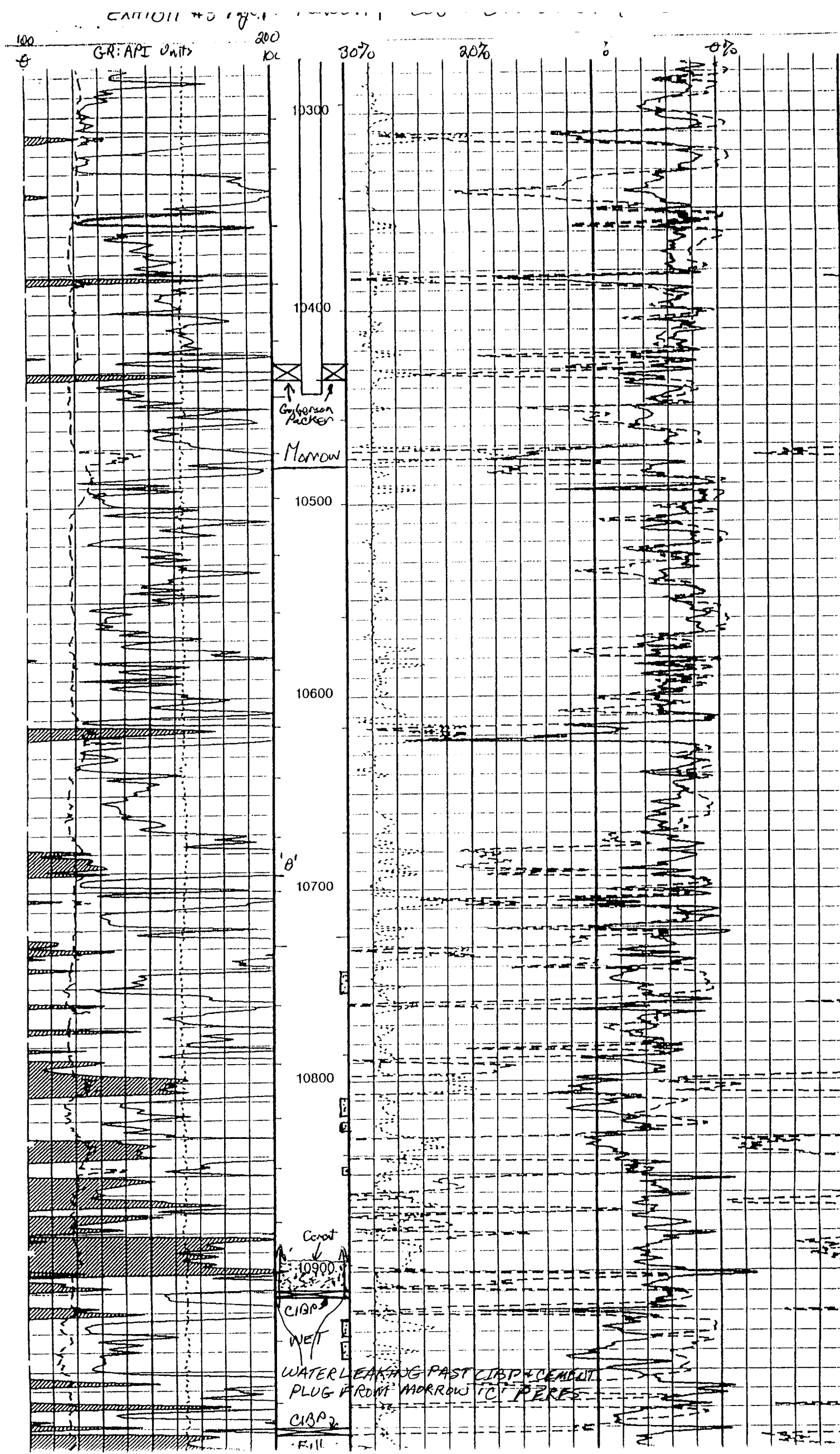
DATE:	GAS: MCF:	OIL: STBC:	GOR: SCF/STBO:	WATER: STBW:
3/17/99 Acidize Well				
3/18/99 Flow to CU	34	4	8,500	1
3/19/99 Flow to CU: Load?	760	5	152,000	22
3/20/99 Flow to CU: < H2O	833	5	166,600	8
3/21/99 Frac Well				
3/22/99 Flow to CU				
3/23/99 Flow to CU				
3/24/99 UP TUBING	1,777	25	71,080	42
3/25/99 UP TUBING	2,066	20	103,300	24
3/26/99 UP TUBING	2,186	19	115,053	35
3/27/99 UP TUBING	2,234	10	223,400	36
3/28/99 UP TUBING	2,327	7	332,429	13
3/29/99 UP TUBING	2,327	7	332,429	25
3/30/99 UP TUBING	2,367	20	118,350	27
3/31/99 UP TUBING	2,445	25	97,800	25
4/1/99 UP TUBING	2,459	27	91,074	33
4/2/99 UP TUBING	2,565	18	142,500	23
4/3/99 UP TUBING	2,565	17	150,882	24
4/4/99 UP TUBING	2,542	20	127,100	31
4/5/99 UP TUBING	2,708	13	208,308	20
4/6/99 UP TUBING	2,734	12	227,833	34
4/7/99 UP TUBING	2,744	18	152,444	28
4/8/99 UP TUBING	2,756	20	137,800	29
4/9/99 UP TUBING	2,781	15	185,400	25
4/10/99 UP TUBING	2,790	23	121,304	35
4/11/99 UP TUBING	2,798	23	121,652	20
4/12/99 UP TUBING	2,708	13	208,308	20
4/13/99 UP TUBING	2,734	12	227,833	34
4/14/99 UP TUBING	2,744	18	152,444	28
4/15/99 UP TUBING	2,811	19	147,947	27
4/16/99 UP TUBING	2,813	21	133,952	32
4/17/99 UP TUBING	2,825	17	166,176	28
4/18/99 UP TUBING	2,825	20	141,250	30
4/19/99 UP TUBING	2,819	22	128,136	33
4/20/99 UP TUBING	2,819	20	140,950	29
4/21/99 UP TUBING	2,815	19	148,158	26
4/22/99 UP TUBING	2,821	18	156,722	30
4/23/99 UP TUBING	2,837	22	128,955	37
4/24/99 Ran Spinner Survey	2,835	20	141,750	28
4/25/99 UP TUBING	2,819	15	187,933	32
4/26/99 UP TUBING	2,825	25	113,000	32

	GAS: MCF:	OIL: STBC:	WATER: STBW:
CUM. POST FRAC MORROW PRODUCTION UP TUBING =	90,848	634	1,006
AVG. POST FRAC GOR FOR MORROW PRODUCED UP TUBING =			143,293

TOTAL MORROW PRODUCTION UP TUBING =	126,726	923	1,023
AVG. GOR FOR MORROW PRODUCED UP TUBING =			137,268

AVG. GWR after acid & frac jobs:	90,306
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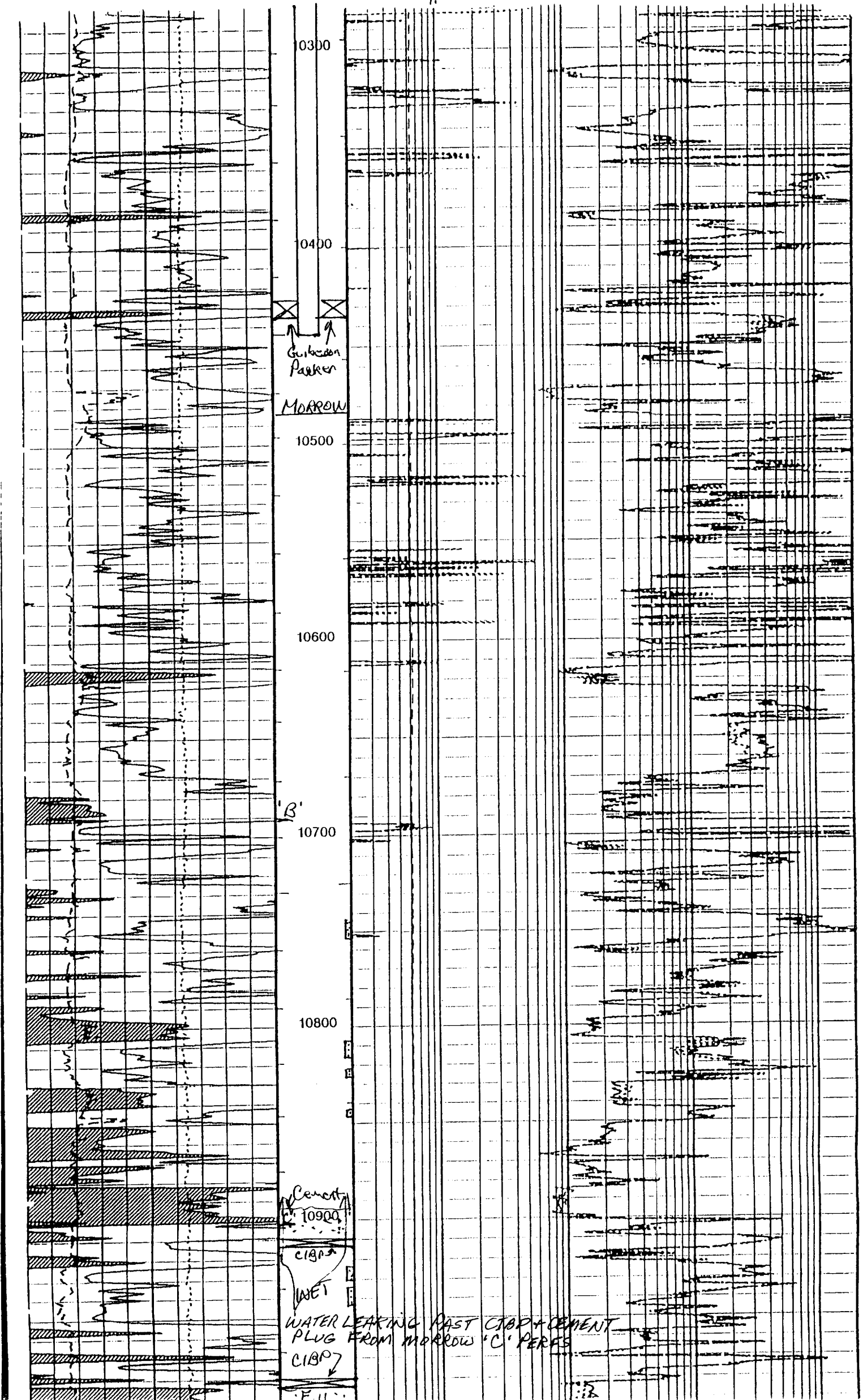
Post-Frac avg. : 34 days: 2,624 MCFD  
18.25 BCPD  
22.52 BWPD



7.0

10. 2-M. 100.0

1000.0



Lake Shore Fed. S.C.

10-11-2

W. Thore Diagram

EXHIBIT 4: Page 1

Cement to surface w/  
1,050 sk. Cement

13 3/4" Surf. Casing  
@ 4,471'

Cement to surface w/  
1,200 sk. Cement

8 5/8" Intermediate Casing  
@ 2,276'

Bradenhead Squeeze  
w/ 830 sk. Cement  
& Squeeze to 4,500 #  
Base of Cement @  
4,430' (Temp. Survey)

5,000'

Cement 2nd Stage  
w/ 1,180 sk. Cement  
w/ Last Circulation  
T.O.C. @ 4,990' (CBL)

8,000'

Cement 1st Stage to  
D.V. Tool w/  
585 sk. Super H Cement

10,000'

Strawn Fm. Perfs.  
9,725'-9,952' @

11,000'

Morrow 'B' Perfs.  
10,748'-10,848' @

Morrow 'C' Perfs.  
10,924'-10,942' @  
WET

5 1/2" Casing @ 11,344'

Gas Production w/ Oil & Water  
From Strawn Fm. Up  
Tubing/Casing Annulus  
(Green)

Gas Production w/ Oil & Water  
From Morrow 'B' Fm. Up  
Tubing  
(Yellow)

B.O.C.: Bradenhead Squeeze @ 4,430'  
Void in Coverage @ 4,430'-4,990'

T.O.C.: 2nd Stage @ 4,990'

2 7/8" 6.5# N-80 8rd. EUE Tubing  
Bottom of Tubing @ 10,443'

D.V. Tool @ 7,700'-7,702'

5 1/2" 20# L-80 L7 1/2" Casing

Tubing Detail: See Attached Diagram

Gulberson UNI-VI 10k

Packer @ 10,427'-10,436': Isolates Strawn Morrow 'B'

CIBP @ 10,910' w/ 3 sk. cement on top  
(Isolates Wet Morrow 'C' Zones)

CIBP @ 10,980'

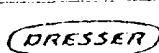
Fill @ 10,985'

Float Collar @ 11,257'

Float Shoe @ 11,342'

Water leaking past CIBP & Cement Plug  
from Morrow 'C' Perfs.

Dresser Oil Tools



PACKER INSTALLATION PLAN

EXT. BIT 4: Paged:

INSTALLER		LOCATION		DATE	
BILL HANSEN		BUNNELVILLE TULS		FEB. 10, 1999	
WELL NO.		WELL NAME		WELL STATUS	
LAKE SHORE F.E.D.S.C. 10 112		EDDY CIL, NEW MEXICO		NEW COMPLETION	
INSTANT	FROM	TO	DESCRIPTION	DL	IL
10.00	-0-	10.00	K.B.	2.875	2.441
31.50	10.00	41.50	1 - JOINT 2 7/8" N-80 TBG.	2.875	2.441
5.93	41.50	47.43	2 7/8" X 6' N-80 SUB.	2.875	2.441
3.97	47.73	51.40	2 7/8" X 4' N-80 SUB.	2.875	2.441
6.13	51.40	57.53	2 7/8" X 6' N-80 SUB.	2.875	2.441
10.00	57.53	67.53	2 7/8" X 10' N-80 SUB.	2.875	2.441
10290.56	67.53	10358.09	327 JOINTS 2 7/8" N 80 TUBING.	2.875	2.441
1.10	10358.09	10359.19	2 7/8" SEATING NIPPLE WITH 2.28" I.D.	2.875	2.280
31.60	10359.19	10390.79	1 - JOINT 2 7/8" N-80 TUBING.	2.875	2.441
2.85	10390.79	10393.64	2 7/8" X 2.25" "GL" SLIDING SLEEVE W/2.25" "GL" PROFILE (CLOSED POSITION)	3.668	2.250
31.50	10393.64	10425.14	1 - JOINT 2 7/8" N-80 TBG.	2.875	2.441
.41	10425.11	10425.55	2 7/8" X 2 3/8" CROSS-OVER	3.750	1.938
1.97	10425.55	10427.52	5 1/2" X 2 3/8" "XL" UN/LIFT TUB. W/1.875" "T" PROFILE.	4.375	1.875
8.25	10427.52	10435.77	5 1/2" X 2 3/8" 17-20H W/L 10K UNI-PACKER VI	4.625	1.938
6.14	10435.77	10441.91	6' X 2 3/8" N 80 SUB.	2.875	1.995
.86	10441.91	10442.77	1.875" "R" PROFILE NIPPLE W/1.822 H.I. G.U.	3.063	1.822
.41	10442.77	10443.18	2 3/8" RE-ENTRY GUIDE.	3.063	2.548
<p>GENERAL REMARKS:</p> <p>PACKER HUNG IN 15,000# COMPRESSION.</p> <p>PACKER CENTER RUBBER @ 10,130'.</p> <p>RIGHT HAND RELEASE.</p>					
BILL PIERCE		HUBBS, NEW MEXICO		(505) 392-5583	

Strawn Fr. Flows Up Casing/Tubing Annulus (Green).

Strawn Fr. Perfs.: 9,725'-9,952': OA

5 Morrow 'B' Fr. Flows Up Tubing I.D. (Yellow)

Packer Installed Morrow 'B' From Strawn Production

Morrow 'B' Perfs.: 10,743'-10,848': OA

PBC 10,885'