

**8-17-93: C02 FOAM FRAC** was accomplished using the following:

1000	gallons	HAI-60/FEW ACID	SPEARHEAD JOB
54	Tons	Liquid C02	
63,000	Lbs	12/20 Brown Bulk Sand	
350	Lbs	Adomite Aqua	
6	Lbs	BE-5	
34	Gal.	Clayfix II	
200	Lbs	CW-2	
10	Lbs	GBW-3	
55	Gal.	Parasperse	
200	Gal.	LGC-4	
1	Gal.	Losurf 300	
347	Bbls	Frac water	

### OPERATOR LOG

Chart	Time	FoamSf Rate (bpm)	FoamSf Stage Volume (gal)	Annulus Press. (psi)	Remark
Event	#1 16:21:45	0.00	0	0	Start Job
Event	#2 16:23:23	0.00	0	167	Test Lines
Stage	#1 16:25:03	0.00	1002	3	Pump Acid
Stage	#2 16:32:20	6.68	0	990	Start Flush
Event	#3 16:35:02	0.00	0	876	ISIP
Event	#4 16:37:39	0.00	0	798	Zero Flow Total
Stage	#3 16:37:49	0.00	8007	796	Start Pad
Stage	#4 16:50:08	18.34	3299	2034	Start Sand
Stage	#5 16:54:21	18.82	9552	2014	Increase Sand
Stage	#6 17:05:46	20.09	4929	2086	Increase Sand
Stage	#7 17:11:38	20.56	2795	2181	Start Flush
Event	#5 17:16:51	0.00	0	1615	ISIP
Event	#6 17:21:13	0.00	0	1527	5 Min Shutin Pres.
Event	#7 17:26:13	0.00	0	1474	10 Min Shutin Pres.
Event	#8 17:31:12	0.00	0	1438	15 Min Shutin Pres.
Event	#9 17:31:34	0.00	0	1436	End Job

Well was shut in over night

**8-18-93:** Casing shut-in pressure at begin of day was: 700#'s PSI. Flowed back to frac tank better part of day.

**8-19-93:** Swabing and flowing better part of day.

**8-20-93:** Swabing and flowing better part of day. CO2 and frac water about 80% cleaned up. Some indications that there is small amount of natural gas. Put on pump at end of day.

**8-21-93:** Pumping. (Over last four days recovered 82 bbls oil to frac tank.)

**8-23-93:** Set Gas Seperator in line. Backside pressure on gas line is: 20#'s.

**8-31-93:** Well producing: (For last four days) 40 bbls oil/day, No water and small amount of gas.