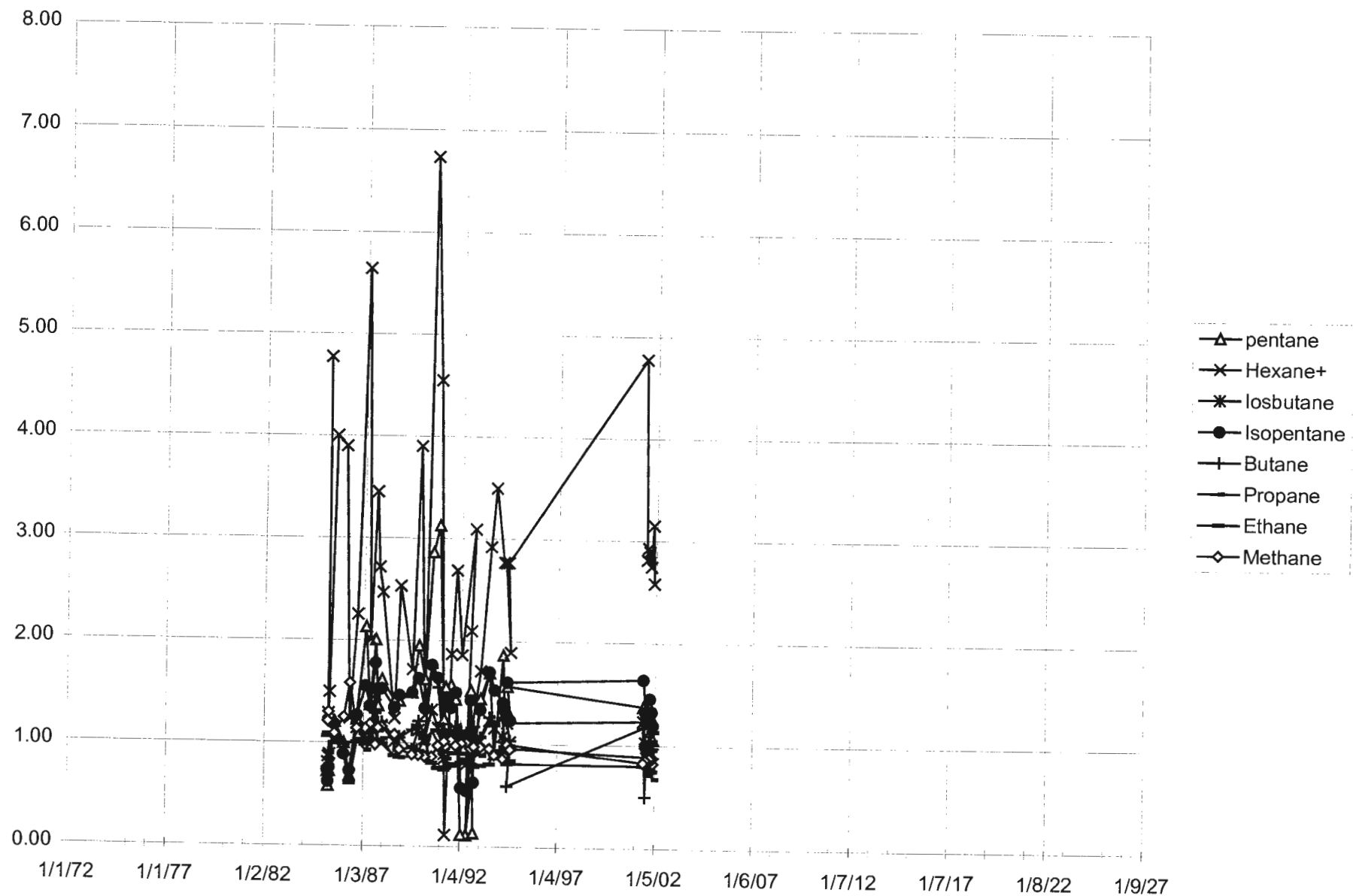


Material Balance of gas available for processing

Reservoir GOR	230	SCF/STB			
Oil Produced since CO2 gas sales stopped (1-1-85)	85.27	MSTB			
Gas bubble associated with recycling produced gas	19.6	GCF			
Assumed recovery factor for gas	0.7				
Recoverable gas associated with recycled gas	13.7	GCF	2.62	GCF C3+	
Recoverable gas associated with future oil production	10.1	GCF	1.93	GCF C3+	
Total Gas available for processing	23.8	GCF	4.55	GCF C3+	4.48 GCF C3+ 3.36 MSTB C3+
Forecast gas production	24.1	GCF			
Reinjected gas	19.5	GCF			

Gas Composition (% mol)

		Similarity => current composition is simple combination			
	1980 Sep Gas	CO2	Combined	GCF 11/26/01	
Hydrogen Sulfide	11.86		2.16	2.40	
Nitrogen	0.81		0.15	1.17	
Carbon Dioxide	3.42	448.00	82.38	82.38	448 = ratio needed to match current CO2 content
Methane	41.21		7.52	6.20	
Ethane	23.62		4.31	4.90	
Propane	10.06		1.84	1.25	
Isobutane	2.31		0.42	0.39	
Butane	3.53		0.64	0.57	
Isopentane	1.51		0.28	0.33	
pentane	0.58		0.11	0.11	
Hexane+	0.63		0.11	0.30	
Heptanes +	0.46		0.08		
	100.00	448.00	100.00	100.00	
Liquids	19.08				



MEANS GCF Inlet Gas Composition (mole%)

Component	1980 Sep. Gas	11/26/01	10/31/01	9/28/01	8/20/01	7/30/01	7/9/01	5/29/01
Hydrogen Sulfide	11.86	2.4	2	1.7	2.4	2.2	2	2.1
Nitrogen	0.81	1.167	1.207	1.009	1.44	1.57	1.538	0.709
pentane	0.58	0.113	0.132	0.128	0.129	0.131	0.124	0.107
Hexane+	0.63	0.298	0.356	0.277	0.326	0.324	0.301	0.404
Iso-butane	2.31	0.392	0.415	0.397	0.4	0.4	0.404	0.383
Isopentane	1.51	0.331	0.359	0.352	0.346	0.341	0.34	0.332
Butane	3.53	0.57	0.617	0.591	0.599	0.6	0.3	0.556
Propane	10.06	1.245	1.349	1.261	1.284	1.272	1.284	1.202
Ethane	23.62	4.904	4.416	3.898	4.106	4.041	4.058	2.534
Methane	41.21	6.204	6.39	5.787	6.153	6.012	6.001	4.586
Carbon Dioxide	3.42	82.376	82.759	84.6	82.817	83.109	83.65	87.087
	87.68	97.6	98	98.3	97.6	97.8	98	97.9
		11/26/01	10/31/01	9/28/01	8/20/01	7/30/01	7/9/01	5/29/01
Hydrogen Sulfide	12.34	1.10	0.94	0.89	1.13	1.06	0.99	1.32
pentane	0.60	1.06	1.27	1.38	1.24	1.29	1.26	1.37
Hexane+	0.66	2.58	3.15	2.74	2.89	2.93	2.81	4.77
Iso-butane	2.40	0.93	1.00	1.07	0.97	0.99	1.03	1.23
Isopentane	1.57	1.20	1.33	1.45	1.28	1.29	1.32	1.64
Butane	3.67	0.88	0.97	1.04	0.95	0.97	0.50	1.17
Propane	10.47	0.67	0.75	0.78	0.71	0.72	0.75	0.89
Ethane	24.57	1.13	1.04	1.03	0.97	0.97	1.01	0.80
Methane	42.87	0.82	0.86	0.88	0.84	0.83	0.86	0.83

A 2/16/88 memo suggested miscibility would be maintained if the C1/C3+ ratio stays below 2.5

There was also a comment that miscibility should be independent of CO2 quality but Means slim tube experiment went down to 89.7% CO2

	1980 Sep Gas	CO2	Combined	GCF 11/26/01
Hydrogen Sulfide	11.86		2.16	2.40
Nitrogen	0.81		0.15	1.17
Carbon Dioxide	3.42	448	82.38	82.38
Methane	41.21		7.52	6.20
Ethane	23.62		4.31	4.90
Propane	10.06		1.84	1.25
Iso-butane	2.31		0.42	0.39
Butane	3.53		0.64	0.57
Isopentane	1.51		0.28	0.33
pentane	0.58		0.11	0.11
Hexane+	0.63		0.11	0.30
Heptanes +	0.46		0.08	
	100	448	100	100

5/24/94	7/19/94	4/7/94	2/25/94	9/20/93	6/21/93	1/5/93	4/24/92	7/6/92
2.2	3	3.25	3.18	2.9	2.3	3	2.7	2.9
0.933	1.099	0.893	0.891	0.43	0.886	0.926	1.023	1.255
0.17	0.183	0.165	0.246	0.105	0.194	0.173	0.014	0.194
0.328	0.296	0.387	0.397	0.442	0.365	0.223	0.111	0.292
0.523	0.585	0.525	0.564	0.534	0.56	0.491	0.549	0.538
0.454	0.46	0.443	0.481	0.461	0.507	0.416	0.18	0.474
0.391	0.905	0.798	1.011	0.833	0.879	0.775	0.86	0.852
1.81	2.084	1.813	2.087	1.832	1.863	1.847	2.238	1.973
3.572	5.579	5.097	5.02	4.412	3.742	3.845	4.389	4.114
7.716	9.711	8.007	8.021	7.352	7.771	8.275	9.127	8.665
81.903	76.098	78.622	78.102	80.699	80.933	80.029	78.809	78.743
97.8	97	96.75	96.82	97.1	97.7	97	97.3	97.1

5/24/94	7/19/94	4/7/94	2/25/94	9/20/93	6/21/93	1/5/93	4/24/92	7/6/92
0.99	1.02	1.23	1.18	1.22	0.98	1.22	1.03	1.11
1.56	1.27	1.28	1.86	0.90	1.69	1.44	0.11	1.51
2.77	1.89	2.76	2.77	3.49	2.92	1.70	0.80	2.10
1.20	1.02	1.02	1.07	1.15	1.22	1.02	1.08	1.05
1.60	1.23	1.32	1.40	1.52	1.69	1.33	0.54	1.42
0.59	1.03	1.02	1.26	1.18	1.26	1.06	1.11	1.09
0.96	0.83	0.81	0.91	0.91	0.93	0.88	1.01	0.89
0.80	0.95	0.97	0.93	0.93	0.80	0.78	0.84	0.79
0.99	0.95	0.87	0.85	0.89	0.95	0.97	1.00	0.95

nts only

9/5/92	1/17/92	10/1/91	7/6/91	3/27/91	2/28/91	11/3/90	7/11/90	3/1/90
3.4	2.8	2.8	2.7	3.8	4	2.37	2.33	2.83
0.919	1.019	1.218	0.96	0.866	1.008	1.11	0.98	0.86
0.017	0.014	0.205	0.211	0.207	0.176	0.5	0.45	0.2
0.437	0.246	0.419	0.273	0.016	0.131	0.79	1.15	0.17
0.579	0.527	0.654	0.549	0.545	0.507	0.73	0.83	0.51
0.21	0.18	0.558	0.471	0.501	0.405	0.68	0.72	0.43
0.92	0.827	1.02	0.891	0.876	0.793	1.5	1.66	0.81
2.026	1.9	2.285	2.112	1.976	1.97	2.8	3.06	1.78
4.09	4.014	4.662	4.282	4.163	4.302	4.93	5.16	5.25
8.966	8.674	10	9.856	9.267	10.309	11.09	9.72	7.61
78.436	79.799	76.179	77.695	77.783	76.399	73.5	73.94	79.41
96.6	97.2	97.2	97.3	96.2	96	97.63	97.67	97.03
9/5/92	1/17/92	10/1/91	7/6/91	3/27/91	2/28/91	11/3/90	7/11/90	3/1/90
1.28	1.12	0.95	0.98	1.39	1.37	0.72	0.72	1.12
0.13	0.11	1.43	1.57	1.54	1.24	3.13	2.86	1.62
3.09	1.86	2.68	1.87	0.11	0.85	4.55	6.73	1.27
1.12	1.09	1.14	1.02	1.02	0.89	1.15	1.33	1.04
0.62	0.57	1.49	1.34	1.44	1.09	1.63	1.76	1.34
1.16	1.11	1.17	1.09	1.07	0.91	1.54	1.73	1.08
0.90	0.90	0.92	0.90	0.85	0.80	1.01	1.12	0.83
0.77	0.81	0.80	0.78	0.76	0.74	0.76	0.81	1.04
0.97	1.00	0.98	1.03	0.97	1.02	0.98	0.87	0.87

11/2/89	7/3/89	11/1/88	8/5/88	12/8/87	10/2/87	8/8/87	5/4/87	2/3/87
2.38	2.89	3.02	2.39					
0.9	1.25	0.95	0.82	0.813	0.812	0.552	0.837	0.819
0.23	0.2	0.2	0.21	0.263	0.213	0.283	0.247	0.312
0.5	0.25	0.39	0.2	0.436	0.461	0.529	0.393	0.897
0.53	0.5	0.6	0.6	0.756	0.722	0.821	0.77	0.599
0.5	0.52	0.54	0.52	0.646	0.621	0.652	0.636	0.591
0.87	0.92	0.91	0.95	1.186	1.138	1.104	1.244	0.965
1.82	2.01	2.11	2.22	2.931	2.782	3.203	3.096	2.36
4.42	5.24	5.36	5.32	6.561	6.456	6.415	7.563	5.873
7.4	8.46	9.45	11.43	13.372	12.732	9.838	15.11	11.86
80.05	77.42	76.14	74.84	73.036	74.063	76.603	70.104	75.724
97.22	96.77	96.65	97.11	100	100	100	100	100
11/2/89	7/3/89	11/1/88	8/5/88	12/8/87	10/2/87	8/8/87	5/4/87	2/3/87
0.99	1.05	1.04	0.79	0.00	0.00	0.00	0.00	0.00
1.95	1.49	1.41	1.41	1.62	1.36	2.00	1.37	2.13
3.90	1.72	2.53	1.24	2.47	2.71	3.45	2.01	5.64
1.13	0.94	1.06	1.01	1.17	1.16	1.46	1.07	1.03
1.63	1.49	1.46	1.34	1.53	1.52	1.77	1.35	1.55
1.21	1.13	1.05	1.05	1.20	1.19	1.28	1.13	1.08
0.89	0.86	0.86	0.86	1.04	1.02	1.31	0.99	0.93
0.92	0.96	0.93	0.88	0.99	1.01	1.12	1.03	0.98
0.88	0.89	0.94	1.08	1.16	1.14	0.98	1.18	1.14

9/1/86	4/24/86	1/2/86	7/18/85	4/11/85	3/27/85	3/14/85
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1.34	1.902	1.076	2.881	1.446	1.057	2.634
0.223	0.184	0.231	0.35	0.332	0.278	0.284
0.444	0.363	0.977	1.261	0.741	0.668	2.043
0.827	0.723	0.851	1.311	1.615	1.648	1.268
0.599	0.51	0.534	0.89	0.901	0.773	0.754
1.253	1.205	1.25	1.921	2.329	2.143	1.781
3.238	2.909	3.55	5.253	7.891	7.435	5.672
7.436	6.668	9.327	11.746	19.911	21.218	17.036
14.734	30.333	20.459	22.491	40.606	44.167	33.887
69.906	55.203	61.745	51.896	24.228	20.613	34.641
100	100	100	100	100	100	100

9/1/86	4/24/86	1/2/86	7/18/85	4/11/85	3/27/85	3/14/85
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0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.23	0.68	1.00	1.21	0.73	0.58	0.72
2.25	1.24	3.90	4.00	1.49	1.28	4.77
1.14	0.67	0.93	1.13	0.89	0.86	0.81
1.27	0.72	0.89	1.18	0.76	0.62	0.73
1.13	0.73	0.89	1.09	0.84	0.74	0.74
1.03	0.62	0.89	1.04	1.00	0.89	0.83
1.01	0.61	0.99	0.99	1.07	1.09	1.06
1.14	1.58	1.25	1.09	1.25	1.30	1.21

