34-25-40W
15-075-20080

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

August 23, 1974

REPLY TO
8 N. W. 42ND ST.
OKLAHOMA CITY, OKLA.
73118

Amoco Production Company
Box 432
Liberal, Kansas 67901

Attn: Mr. J. D. Kent

Subject: Core Analysis Data
Barstow Gas Unit No. 1 Well
Wildcat Field
Hamilton County, Kansas
CLI File 3402-8101

Gentlemen:

Diamond cores were taken in the Council Grove formation between 2712 and 2830 feet in the Barstow Gas Unit No. 1 Well. Cores were sampled by a representative of Core Laboratories, Inc. at the well-site and transported to the Oklahoma City laboratory where the accompanying Core-Gamma Surface Log was recorded.

Full-diameter samples were selected for each foot of the recovered cored interval (anhydrite excluded) for permeability, porosity and grain density determination after low temperature fluid removal. The resultant data are presented on pages one through three of this report.

A one inch slab was taken from the cored interval and has been shipped to your office in Denver. The larger segments have been shipped to Amoco Research Laboratory in Tulsa.

We are pleased to have had this opportunity to be of service.

Very truly yours,

CORE LABORATORIES, INC.

Dale E. Boyle
District Manager

DEB:es

4 cc - Addressee
1 cc - Amoco Production Company
Attn: Mr. Bob Barnhart
Security Life Building
Denver, Colorado 80202
1 cc - Amoco Production Company
Attn: Mr. Gaylor Heemink
Box 591
Tulsa, Oklahoma 74102

CORE ANALYSIS RESULTS

Company AMOCO PRODUCTION COMPANY Formation COUNCIL GROVE File 3402-8101
Well BARSTOW GAS UNIT NO. 1 Core Type DIAMOND Date Report 8-5-74
Field WILDCAT Drilling Fluid WATER BASE MUD Analysts BOYLE
County HAMILTON State KANSAS Elev. 3465' GL Location 2590' FNL, 2590' FWL SEC. 34-25S-40W

Lithological Abbreviations

SAND-SD, SHALE-SH, LIME-LM, DOLOMITE-DOL, CHERT-CH, GYPSUM-GYP, ANHYDRITE-ANHY, CONGLOMERATE-CONG, FOSSILIFEROUS-FOSS, SANDY-SDY, SHALY-SHY, LIMY-LMY, FINE-FN, MEDIUM-MED, COARSE-CSE, CRYSTALLINE-XLN, GRAIN-GRN, GRANULAR-GRNL, BROWN-BRN, GRAY-GY, VUGGY-VGY, FRACTURED-FRAC, LAMINATION-LAM, STYLOLITIC-STY, SLIGHTLY-S, VERY-V/, WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PER CENT	GRAIN DENSITY	SAMPLE DESCRIPTION AND REMARKS
		PERM. MAX.	PERM. 90°			
	WHOLE-CORE ANALYSIS					
1	2712-13	1.6	1.5	13.4	2.74	Sd,slty
2	13-14	1.8	1.6	13.6	2.74	Sd,slty
3	14-15	2.7	2.5	17.0	2.73	Sd,slty
4	15-16	3.4	3.2	17.4	2.73	Sd,slty
5	16-17	2.4	2.0	17.3	2.72	Sd,slty,shy
6	17-18 #	69	48	15.1	2.72	Sd,slty,shy,anhy
7	18-19 #	4.8	0.4	9.9	2.77	Sd,slty,anhy
8	19-20	0.2	0.1	14.3	2.76	Slt,sdy,anhy
9	20-21	3.2	1.1	13.3	2.76	Slt,sdy,anhy
10	21-22	<0.1	<0.1	9.9	2.79	Slt,anhy
11	22-23 #	69	6.9	11.2	2.72	Slt,shy,anhy
12	23-24 #	204	194	19.6	2.82	Slt,shy,anhy
13	24-25 #		0.2*	18.7	2.78	Slt,sdy,shy,anhy
14	25-26 #	79	53	16.8	2.82	Slt,sdy,shy,anhy
15	26-27 #	61	56	17.2	2.82	Slt,shy,anhy
16	27-28 #	0.5	0.3	17.0	2.80	Slt,shy,anhy
17	28-29 #	1.1	0.8	10.4	2.80	Slt,shy,anhy
18	29-30	0.4	0.1	12.1	2.76	Slt,shy,anhy
19	30-31 #	8.6	4.1	8.7	2.66	Slt,shy,anhy
20	31-32	<0.1	<0.1	8.2	2.77	Slt,shy,anhy
21	32-33	<0.1	<0.1	8.3	2.72	Slt,shy,anhy
22	33-34 #	127	91	10.1	2.66	Sd,slty,v/shy,anhy
23	34-35 #	58	26	9.8	2.67	Sd,slty,v/shy,anhy
24	35-36	<0.1	<0.1	7.6	2.66	Sd,slty,shy,anhy
25	36-37	0.6	0.5	10.1	2.68	Slt,sdy,shy,anhy
26	37-38	0.5	0.4	15.1	2.73	Slt,sdy,shy,anhy
27	38-39	0.4	0.4	13.6	2.72	Slt,sdy,shy,anhy
28	39-40	25	2.8	10.5	2.71	Slt,sdy,shy,anhy
29	40-41	0.1	0.1	7.3	2.66	Sd,slty,shy,anhy
30	41-42	0.4	0.4	12.7	2.66	Sd,slty,sl/anhy
31	42-43	0.5	0.4	13.8	2.68	Sd,slty
32	43-44	0.7	0.7	14.8	2.71	Sd,slty
33	44-45	0.4	0.4	12.5	2.73	Sd,slty,sl/anhy
34	45-46	0.4	0.3	15.6	2.72	Sd,slty,sl/anhy
35	46-47	73	50	10.3	2.68	Slt,shy
36	47-48	0.1	0.1	9.7	2.67	Slt,sl/lmy,shy
37	48-49	0.1	0.1	13.0	2.72	Slt,sl/lmy,shy
38	49-50	0.2	0.2	5.6	2.67	Slt,shy
39	2750-51	0.1	0.1	7.1	2.67	Slt,shy

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS MAX.	90°	POROSITY PER CENT	GRAIN DENSITY	SAMPLE DESCRIPTION AND REMARKS
40	2751-52	0.1	0.1	9.7	2.67	Slt,sdy,shy
41	52-53		0.3*	11.2	2.68	Slt,shy
42	53-54 #	5.9	1.0	5,6	2.74	Slt,shy
43	54-55 #	29	9.4	5.8	2.67	Slt,shy
	55-56					Anhy,shy
44	56-57 #	50	45	6.0	2.71	Slt,shy
45	57-58 #	59	42	6.9	2.73	Slt,shy,anhy
	58-68					Anhy
46	68-69 #	0.5	0.1	6.0	2.68	Slt,shy
47	69-70	0.1	0.1	11.1	2.70	Sd,slty,sl/shy
48	70-71	0.6	0.3	13.5	2.72	Sd,slty
49	71-72	0.4	0.4	11.7	2.74	Sd,slty
50	72-73	0.5	0.4	11.6	2.75	Sd,slty,sl/shy
51	73-74	0.6	0.6	8.5	2.71	Sd,slty
52	74-75	0.7	0.6	12.5	2.68	Sd,slty
53	75-76	0.6	0.6	13.2	2.71	Sd,slty
54	76-77	0.2	0.2	8.8	2.67	Sd,slty
55	77-78 #	62	51	8.1	2.66	Slt,shy
56	78-79	1.0	0.9	16,0	2.78	Sd,slty,sl/anhy
57	79-80	1.2	0.7	9.9	2.65	Sd,slty,sl/anhy
58	80-81	0.2	0.2	8.8	2.65	Sd,slty
59	81-82	0.2	0.2	9.7	2.65	Sd,slty
60	82-83	0.2	0.2	11.6	2.66	Sd,slty
61	83-84 #	47	41	9.4	2.71	Slt,shy
62	84-85	0.6	0.4	14.0	2.71	Sd,slty
63	85-86	0.1	0.1	9.7	2.66	Sd,slty
64	86-87	0.8	0.7	15.8	2.71	Sd,slty
65	87-88	1.0	1.0	15.7	2.74	Sd,slty
66	88-89	0.5	0.4	11.0	2.66	Sd,slty
67	89-90	0.4	0.4	11.6	2.67	Sd,slty
68	90-91 #	5.1	1.2	13.8	2.72	Sd,slty
69	91-92	0.2	0.2	9.8	2.68	Sd,slty
70	92-93	0.9	0.9	13.2	2.70	Sd,slty
71	93-94	0.7	0.7	14.9	2.68	Sd,slty
72	94-95 #	16	16	12.8	2.73	Slt,shy,sl/anhy
73	95-96 #	18	11	10.2	2.80	Slt,sl/lmy,shy,sl/anhy
74	96-97	<0.1	<0.1	2.8	2.70	Lm,sl/shy,sl/anhy
75	97-98	<0.1	<0.1	2.7	2.70	Lm,sl/shy,sl/anhy
76	98-99	<0.1	<0.1	4.9	2.70	Lm,sl/shy,sl/anhy
77	99-00	<0.1	<0.1	4.2	2.70	Lm,sl/shy,sl/anhy
78	2800-01	0.1	<0.1	3.6	2.70	Lm,sl/anhy
79	01-02	0.1	0.1	5.8	2.70	Lm,sl/anhy
80	02-03	<0.1	<0.1	5.6	2.70	Lm,sl/shy,sl/anhy
81	03-04	0.1	<0.1	4.4	2.70	Lm
82	04-05	<0.1	<0.1	4.5	2.70	Lm
83	2805-06	<0.1	<0.1	4.1	2.70	Lm,sl/anhy

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 3402-8101 Page No. 3
Well BARSTOW GAS UNIT NO. 1

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS MAX.	PERMEABILITY MILLIDARCYS 90°	POROSITY PER CENT	GRAIN DENSITY	SAMPLE DESCRIPTION AND REMARKS
84	2806-07	0.1	<0.1	2.9	2.70	Lm
85	07-08	<0.1	<0.1	4.1	2.70	Lm,anhy
86	08-09	<0.1	<0.1	4.0	2.70	Lm,sl/anhy
87	09-10	0.1	0.1	6.2	2.70	Lm,sl/anhy
88	10-11	0.1	0.1	8.5	2.71	Lm,sl/anhy
89	11-12	<0.1	<0.1	3.9	2.70	Lm,sl/shy,sl/anhy
90	12-13	<0.1	<0.1	4.0	2.70	Lm,sl/shy
91	13-14	<0.1	<0.1	5.4	2.70	Lm,sl/anhy
92	14-15	<0.1	<0.1	4.1	2.70	Lm
93	15-16 #	1.5	<0.1	3.5	2.70	Lm,sl/shy
94	16-17	<0.1	<0.1	3.6	2.70	Lm,sl/anhy
95	17-18	<0.1	<0.1	5.2	2.70	Lm
96	18-19	<0.1	<0.1	5.3	2.70	Lm
97	19-20	0.1	0.1	6.8	2.70	Lm,sl/anhy,vert frac
98	20-21	1.5	0.5	5.4	2.70	Lm,sty,vert frac
99	21-22	0.2	0.1	10.2	2.74	Lm,dol,sl/anhy
100	22-23	0.7	0.6	11.4	2.77	Lm,dol
101	23-24	0.3	0.3	6.8	2.71	Lm,sl/anhy
102	24-25	0.5	0.4	9.3	2.79	Lm,dol,sl/anhy
103	25-26 #	5.1	0.6	10.2	2.70	Lm,sl/anhy
104	26-27	0.2	0.1	6.0	2.66	Lm,sl/anhy
105	27-28	0.1	0.1	5.5	2.67	Lm,sl/anhy
106	28-29	0.2	0.1	7.7	2.74	Lm,sl/anhy
107	2829-30	<0.1	<0.1	6.8	2.70	Lm

\# DENOTES CHAOTIC FRACTURES
* DENOTES PLUG PERMEABILITY

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY AMOCO PRODUCTION COMPANY FIELD WILDCAT FILE 3402-8101

WELL BARSTOW GAS UNIT NO. 1 COUNTY HAMILTON DATE 8-5-74

LOCATION 2590' FNL, 2590' FWL SEC. 34-25S-40W STATE KANSAS ELEV. 3465' GL

CORE-GAMMA CORRELATION

VERTICAL SCALE: 5" = 100'

CORE-GAMMA SURFACE LOG
(PATENT APPLIED FOR)

GAMMA RAY
RADIATION INCREASE →

COREGRAPH

Binomial Data Averages
Used For Plots

TOTAL WATER
PERCENT TOTAL WATER
80 60 40 20

PERMEABILITY
MILLIDARCYS
100 50 10 5 1

POROSITY
PERCENT
20 10

OIL SATURATION
PERCENT PORE SPACE
0 20 40 60 80

2712
2750
2800
2830