



Sirgo Operating Inc.
East Pearl Queen Unit #84
Lea County, New Mexico

PROCEDURES

The core was transported from the well site to Rotary Engineers Laboratory in Midland, Texas in a CO₂ atmosphere.

A surface Gamma Ray was run for downhole correlation.

Conventional (Plug) Analysis was performed on the core.

Porosities were determined by Boyle's Law with Helium.

Permeability was measured with Nitrogen by Hassler Permeameter.

Fluids were determined using controlled temperature retort.

Three samples were preserved in Barex Laminate.

The core was boxed and is being held at Rotary Engineers Lab for further instructions.

ROTARY ENGINEERS LABORATORIES
CONVENTIONAL (PLUG) CORE ANALYSIS TABULAR DATA

COMPANY Sirgo Operating Inc.		WELL East Pearl Queen Unit #84			FIELD Pearl (Queen)			
COUNTY Lea		STATE New Mexico			DATE 6-4-90		ANALYST DL	
FORMATION Queen		TYPE ANALYSIS Conventional (Plug)				JOB NO. R-8009		
REMARKS *PRESERVED SAMPLES LITHOLOGICAL ABBREVIATIONS-PAGE (4) ELEVATION 3713' G.L.								
SAMPLE NUMBER	DEPTH	GRAIN DENS- ITY	PORO- SITY	PLUG PERM M.D.	FLUIDS SW	FLUIDS SO	FLO	REMARKS
		Core # (1) 4605-4628', Cut 23', Recovered 23'						
	4605-4610	No Analysis (Dolo, Very Fine Crystalline, Sc. Lrg. Anhy. Strg, S/P, Stylolite, No Show)						
	4610-4611	No Analysis (Anhy, Sandy, Shaly, S/P, No Show)						
1	4611-4612	2.82	4.3	0.30	87.0	0.0	0	Sand, Shaly, Lrg. A/I, S/P
2	-13	2.74	5.7	0.02	82.2	0.0	0	Sand, Shaly, Lrg. A/I, S/P
	4613-4614	No Analysis (Anhy, Sandy, Shaly, Sc. Dolo. Laminations, S/P, No Show)						
	4614-4618	No Analysis (Anhy, Sc. Dolo. Stringers, S/P, No Show)						
	4618-4619	No Analysis (Dolo, Slightly Silty, Anhy, Sc. Laminated S/P, No Show)						
	4619-4622	No Analysis (Anhy, Sc. Dolomite Stringers, S/P, No Show)						
	4622-4628	No Analysis (Dolo, Slightly Silty, Sc. Lrg. Anhy. Incl, Lam. S/P, Stylolite, No Show)						
	4628-4685	DRILLED						
		Core # (2) 4685-4746', Cut 61', Recovered 61'						
	4685-4691	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc., S/P, Sc. Stylolites, Fr, No Show)						
	4691-4696	No Analysis (Anhy, Sc. Dolo. Stringers, S/P, No Show)						
	4696-4701	No Analysis (Dolo, Very Fine Crystalline, Sc. S/P, Stylo, Fr, No Show)						
	4701-4702	No Analysis (Anhy, Lrg. Dolo. Stringer, S/P, Stylo, No Show)						
3	-03	2.75	5.5	0.03	78.3	0.0	0	Dolo, Sandy, Sli. Shaly, Sc. Lam. S/P, Stylo.
4	-04	2.71	8.8	0.14	78.5	0.0	0	Sand, Gray, Sli. Dolomitic, Lam. S/P
5	4704-4705	2.69	7.5	0.11	71.0	0.0	0	Sand, Gray, Sli. Dolomitic, Lam. S/P
6	-06	2.69	8.3	0.12	68.8	0.0	0	Sand, Gray, Sli. Dolomitic, Lam. S/P
	4706-4711	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylos, Fr, No Show)						
7	-12	2.70	6.9	0.14	89.1	0.0	0	Sand, Gray, Sli. Dolomitic, Sc. Lam. S/P, Stylo.
8	-13	2.67	9.7	0.28	85.7	0.0	0	Sand, Gray, Sli. Dolomitic, Sc. Lam. S/P, Stylo.
9	-14	2.69	7.5	0.28	76.0	0.0	0	Sand, Gray, Sli. Dolomitic, Sc. Lam. S/P
10	4714-4715	2.69	6.4	0.41	80.6	0.0	0	Sand, Gray, Sli. Dolomitic, Shaly, Sc. Lam. S/P
11	-16	2.86	0.9	0.05	89.7	0.0	0	Dolo, S/P, Stylo.
12	-17	2.72	5.3	0.06	92.2	0.0	0	Dolo, Sandy, Sc. Lam. S/P, Stylo.
13	-18	2.70	6.0	0.10	79.6	0.0	0	Sand, Gray, Sli. Dolomitic, S/P
14	-19	2.71	5.3	0.10	68.5	0.0	0	Sand, Gray, Sli. Dolomitic, S/P
15	4719-4720	2.70	6.1	1.76	72.2	0.0	0	Sand, Gray, Sli. Dolomitic, S/P
16	-21	2.70	7.0	0.17	76.4	0.0	0	Sand, Gray, Sli. Dolomitic, S/P, Lrg. Dolo. Strg.
	4721-4723	No Analysis (Dolo, Very Fine Crystalline, S/P, Stylo, No Show)						
	4723-4725	No Analysis (Dolo, Sandy, Shaly, Sc. Lam. S/P, Stylo, No Show)						
	4725-4731	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylos, Fr, No Show)						
	4731-4732	No Analysis (Dolo, Shaly, Anhy, Lam. S/P, Stylo, Lrg. Sh. Strg, No Show)						
17	-33	2.66	12.1	0.23	68.4	0.0	0	Dolo, Sandy, Sli. Shaly, Sc. Lam. S/P, Sd. Str, Fr
18	-34	2.71	5.7	0.06	67.5	0.0	0	Sand, Shaly, Sli. Dolomitic, Sc. Lam. S/P
19	4734-4735	2.69	7.8	0.11	73.8	0.0	0	Sand, Sli. Dolomitic, Sc. Lam. S/P
20	-36	2.69	6.7	0.17	55.9	0.0	0	Sand, Dolomitic, S/P, Lrg. Dolo. Strg.
	4736-4740	No Analysis (Dolo, Very Fine Crystalline, Sc. S/P, Sc. Stylo, Fr, No Show)						
21	-41	2.70	6.8	0.03	73.2	0.0	0	Sand, Gray, Sli. Dolomitic, Lam. S/P
22	-42	2.69	6.1	0.22	58.6	0.0	0	Sand, Gray, Sli. Dolomitic, S/P
23	-42.5	2.65	16.9	25.13	77.0	15.0	100	Sand, Gray, Friable
24	4742.5-4743	2.62	19.5	60.22	65.5	12.7	100	Sand, Gray, Friable

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ROTARY ENGINEERS LABORATORIES

CONVENTIONAL (PLUG) CORE ANALYSIS TABULAR DATA

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SAMPLE NUMBER	DEPTH	GRAIN DENS- ITY	PORO- SITY	PLUG PERM M.D.	FLUIDS S.W	FLUIDS S.O	FLO	REMARKS
25	4743-4743.5	2.62	19.6	55.52	63.1	11.7	100	Sand, Gray, Friable
26	-44	2.62	18.9	44.57	59.2	5.6	100	Sand, Gray, Friable
27	-44.2	2.62	19.5	44.30	60.1	11.8	100	Sand, Gray, Friable
*	4744.2-4744.6	SCAL						
28	4744.6-4745	2.63	19.4	62.78	67.2	9.1	100	Sand, Gray, Friable
29	4745-4746	2.64	16.5	30.20	86.2	11.0	100	Sand, Gray, Friable, Broken
		Core # (3) 4746-4756', Cut 10', Recovered 10'						
30	4746-4746.2	2.62	19.1	89.41	67.5	12.8	100	Sand, Gray, Friable
*	4746.2-4746.6	SCAL						
31	-47	2.66	14.5	44.71	54.2	12.6	100	Sand, Gray, Friable
32	-47.5	2.67	12.3	75.00	60.0	12.1	100	Sand, Gray, Friable, S/P
33	-48	2.68	10.6	2.51	66.7	10.8	100	Sand, Gray, Friable, S/P
34	-48.3	2.68	10.3	4.82	72.2	9.3	100	Sand, Gray, Sli. Dolomitic, S/P
*	4748.3-4748.9	SCAL						
35	-49	2.68	9.9	34.52	57.9	15.4	100	Sand, Gray, Sli. Dolomitic, S/P
36	-49.5	2.68	8.7	0.18	92.0	6.7	50	Sand, Gray, Sli. Dolomitic, Lam. S/P
37	4749.5-4750	2.67	9.6	0.09	92.4	6.0	50	Sand, Gray, Sli. Dolomitic, Lam. S/P
38	-51	2.71	6.5	0.04	85.2	0.0	0	Sand, Gray, Dolomitic, Lam. S/P
	4751-4756	No Analysis (Dolo, Very Fine Crystalline, Sc. S/P, Sc. Stylos, No Show)						
	4756-4855	DRILLED						
		Core # (4) 4855-4915', Cut 60', Recovered 56'						
	4855-4859	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylos, No Show)						
39	4859-4859.5	2.72	5.1	0.07	79.2	0.0	0	Sand, Gray, Sli. Dolom, Sc. Lam. S/P, Dolo. Strg.
40	4859.5-4860	2.67	9.9	22.12	61.7	23.1	80	Sand, Gray, S/P
41	-60.5	2.68	8.5	1.06	65.5	18.1	100	Sand, Gray, S/P
42	-61	2.69	9.3	42.04	61.9	24.7	100	Sand, Gray, S/P
43	-61.5	2.69	10.5	31.93	52.8	18.9	100	Sand, Gray, Sli. Friable
44	-62	2.64	15.4	37.43	56.3	17.6	100	Sand, Gray, Sli. Friable
45	-62.5	2.68	13.2	32.85	72.0	16.9	100	Sand, Gray, Sli. Friable
46	-63	2.64	17.6	43.37	71.3	13.0	100	Sand, Gray, Sli. Friable, Broken
47	-63.5	2.71	10.5	9.56	78.8	14.7	100	Sand, Gray, Sli. Friable, Broken
48	-64	2.67	14.4	54.90	63.8	12.8	100	Sand, Gray, Sli. Friable, Broken
49	-64.5	2.68	12.1	41.83	74.2	15.5	100	Sand, Gray, Sli. Friable, Broken
50	4864.5-4865	2.64	18.3	87.7	56.6	14.4	100	Sand, Gray, Sli. Friable, Broken
51	-65.5	2.63	19.1	65.17	59.6	14.7	100	Sand, Gray, Sli. Friable
52	-66	2.61	19.0	58.24	40.3	11.9	100	Sand, Gray, Sli. Friable
53	-66.5	2.66	12.0	0.67	59.4	12.5	100	Sand, Gray, S/P
54	-67	2.66	13.5	11.29	46.7	13.7	100	Sand, Gray,
55	-67.5	2.68	11.5	0.51	55.8	15.9	100	Sand, Gray, S/P
56	-68	2.69	8.4	0.96	55.5	11.6	100	Sand, Gray, S/P
57	-68.5	2.70	8.4	0.27	63.1	11.7	50	Sand, Gray, Shaly, Sc. Lam. S/P
58	-69	2.60	19.1	56.22	47.2	13.6	100	Sand, Gray, Shaly, S/P
59	-69.5	2.68	8.6	0.30	72.3	9.0	10	Sand, Gray, Sli. Shaly, Lam. S/P
60	4869.5-4870	2.71	6.7	0.08	88.4	0.0	0	Sand, Gray, Sli. Shaly, Dolomitic, Sc. Lam. S/P
61	-71	2.80	1.5	0.01	94.2	0.0	0	Sand, Gray, Sli. Shaly, Dolomitic, Sc. Lam. S/P
62	-72	2.72	5.0	0.02	87.3	0.0	0	Sand, Gray, Sli. Shy, Dolom, Sc. Lam. S/P, Lrg. Sh. Str.
63	-73	2.68	7.7	0.08	82.2	0.0	0	Sand, Gray, Sli. Shaly, Dolomitic, Sc. Lam. S/P
64	-74	2.71	4.4	0.02	84.3	0.0	0	Sand, Gray, Sli. Shaly, Dolomitic, Lam. S/P
65	4874-4875	2.71	4.6	0.03	90.4	0.0	0	Sand, Gray, Sli. Shaly, Dolomitic, Lam. S/P
66	-76	2.73	4.1	0.02	82.9	0.0	0	Sand, Gray, Shaly, Dolomitic, Lam. S/P
67	4876-4877	2.72	5.3	0.04	84.3	0.0	0	Sand, Gray, Sli. Shaly, Dolomitic, Lam. S/P

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68	4877-4878	2.71	5.4	0.11	85.9	0.0	0	Sand, Gray, Shaly, Dolomitic, Lam. S/P
69	-79	2.83	2.0	<.01	95.0	0.0	0	Sand, Gray, Shaly, Dolom, Lam. S/P, Lrg. Sh. Strg
70	4879-4880	2.76	2.9	<.01	86.2	0.0	0	Sand, Gray, Shaly, Dolomitic, Lam. S/P
71	-81	2.75	3.3	<.01	89.1	0.0	0	Sand, Gray, Shaly, Dolomitic
72	-82	2.72	3.7	<.01	86.0	0.0	0	Sand, Gray, Shaly
73	-83	2.73	3.9	0.07	83.1	0.0	0	Sand, Gray, Shaly
74	-84	2.70	6.7	0.05	78.4	0.0	0	Sand, Gray, Sli. Shaly, Sli. Dolom, Lam. S/P
75	4884-4885	2.71	8.4	0.34	77.5	0.0	0	Sand, Gray, S/P
76	-86	2.69	6.8	0.08	79.5	0.0	0	Sand, Gray, S/P
77	-87	2.71	4.9	0.02	89.8	0.0	0	Dolo, Sandy, Sli. Shaly, S/P
78	-88	2.72	5.0	0.03	84.6	0.0	0	Dolo, Sandy, Sli. Shaly, S/P
79	-89	2.73	4.7	0.02	70.0	0.0	0	Dolo, Sandy, Sli. Shaly, Sc. Lam. S/P
80	4889-4890	2.79	2.6	0.01	92.0	0.0	0	Dolo, Sandy, Sli. Shaly, Sc. Lam. S/P
81	-91	2.70	5.9	0.11	74.9	0.0	0	Sand, Gray, Sc. Lam. S/P
82	-92	2.72	5.1	0.17	86.2	0.0	0	Sand, Gray, S/P
83	-93	2.71	5.4	0.18	95.9	0.0	0	Sand, Gray, S/P
84	-94	2.72	5.9	0.10	78.1	0.0	0	Sand, Gray, Dolomitic, Lam. S/P
	4894-4895	No Analysis (Dolo, Sandy, Shaly, Sc. Lam., S/P, Stylolite, No Show)						
	4895-4900	No Analysis (Dolo, Very Fine Crystalline, Anhy, S/P, Stylolite, Fr, No Show)						
85	-01	2.71	4.7	0.02	99.1	0.0	0	Sand, Gray, Shy, Dolom, Lam. S/P, Lrg. Sh. Strg.
86	-02	2.72	6.8	0.02	99.1	0.0	0	Sand, Gray, Shy, Dolom, Lam. S/P, Lrg. Sh. Strg.
87	-03	2.72	6.0	0.03	80.8	0.0	0	Sand, Gray, Shy, Dolom, Lam. S/P, Lrg. Sh. Strg.
88	-04	2.78	3.4	<.01	93.2	0.0	0	Sand, Gray, Shy, Dolom, Lam. S/P, Lrg. Sh. Strg.
89	4904-4905	2.72	4.4	0.03	68.9	0.0	0	Sand, Gray, Sli. Dolomitic, Sc. Lam. S/P
90	-06	2.70	5.3	0.06	74.9	0.0	0	Sand, Gray, Sli. Dolomitic, Sc. Lam. S/P
91	-07	2.72	4.6	0.02	70.0	0.0	0	Sand, Gray, Sli. Dolomitic, Sc. Lam. S/P
92	-08	2.74	3.5	0.01	99.1	0.0	0	Sand, Gray, Sli. Dolomitic, Lam. S/P, Stylo.
93	-09	2.72	4.2	0.02	91.6	0.0	0	Sand, Gray, Dolomitic, A/I, Lam. S/P, Stylo.
94	4909-4910	2.73	4.6	0.01	80.3	0.0	0	Sand, Gray, Dolomitic, A/I, Lam. S/P, Stylo.
	4910-4911	No Analysis (Dolo, Very Fine Crystalline, Anhy, S/P, No Show)						
	4911-4915	Lost Core						
		Core # (5) 4915-4975', Cut 60', Recovered 60'						
	4915-4924	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylo, No Show)						
	4924-4925	No Analysis (Dolo, Shaly, Slightly Sandy, Sc. Lam. S/P, Stylolite, No Show)						
95	-26	2.75	3.9	0.09	91.1	0.0	0	Sand, Gray, Sli. Dolom, Sc. Lam. S/P, Dolo. Strg.
96	-27	2.74	4.4	0.15	92.0	0.0	0	Sand, Gray, S/P
97	-28	2.70	7.3	0.31	84.4	0.0	0	Sand, Gray, S/P, Lrg. Dolo. Strg.
	4928-4936	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylo, No Show)						
98	-37	2.73	4.2	0.16	91.6	0.0	0	Sand, Gray, Dolomitic, S/P
99	-38	2.74	4.1	0.12	84.9	0.0	0	Sand, Gray, S/P
100	-39	2.70	5.1	0.13	78.2	0.0	0	Sand, Gray, Dolomitic, S/P
101	4939-4940	2.75	3.9	0.04	85.4	0.0	0	Dolo, Sandy, Sli. Shaly, S/P, Stylo.
102	-41	2.75	5.5	0.07	73.1	0.0	0	Sand, Gray, Dolomitic, S/P
103	-42	2.73	4.6	0.07	97.9	0.0	0	Sand, Gray, Dolomitic, S/P
104	-43	2.77	3.3	0.01	85.5	0.0	0	Sand, Gray, Dolomitic, Lrg. Dolo. Strg.
	4943-4952	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylo, No Show)						
	4952-4954	No Analysis (Dolo, Shaly, Sli. Sandy, Sc. Laminated S/P, No Show)						
105	4954-4955	2.68	7.7	0.09	74.0	0.0	0	Sand, Gray, Sc. Lam. S/P
106	-56	2.69	7.3	0.05	91.3	0.0	0	Sand, Gray, Sc. Lam. S/P
107	-57	2.75	4.4	0.07	80.6	0.0	0	Sand, Gray, Dolomitic, Sc. Lam. S/P
	4957-4965	No Analysis (Dolo, Very Fine Crystalline, Anhy, Sc. S/P, Sc. Stylo, No Show)						

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SAMPLE NUMBER	DEPTH	GRAIN DENSITY	POROSITY	PLUG PERM M.D.	FLUIDS SW	FLUIDS SO	FLO	REMARKS
108	4965-4966	No Analysis	(Dolo, Very	Fine	Crystalline	Sli. Shy, Anhy, Lam. S/P, Lrg. Sh. Strg, No Show		
109	-67	2.70	4.8	0.10	90.7	0.0	0	Sand, Gray, Dolomitic, S/P, Lrg. Dolo. Strg.
110	-68	2.70	5.5	0.23	80.9	0.0	0	Sand, Gray, Dolomitic, S/P
111	-69	2.70	4.6	0.13	87.1	0.0	0	Sand, Gray, Dolomitic, S/P
	4969-4970	2.73	3.1	0.06	92.4	0.0	0	Sand, Gray, Dolomitic
	4970-4975	No Analysis	(Very Fine	Crystalline	Anhy, Sc. S/P, Sc. Stylolites, No Show)			
LITHOLOGICAL ABBREVIATIONS								
Anhy.-----Anhydrite								
Dolo.-----Dolomite								
Dolom.-----Dolomitic								
Fr.-----Fracture								
Lam.-----Laminated								
Lrg.-----Large								
Sc.-----Scattered								
Sd.-----Sand								
Sh.-----Shale								
Shy.-----Shaly								
Sli.-----Slightly								
S/P-----Shale Partings								
Str, Strg.-----Stringer								
Stylo, Sty.-----Stylolite								
FLUIDS SW -----Total Water Saturation %P.V.								
FLUIDS SO -----Residual Oil Saturation %P.V.								