

OIL FIELD RESEARCH LABORATORIES  
CHANUTE, KANSAS

September 7, 1951

Mr. M. C. Colt  
Iola, Kansas

Dear Sir:

Attached hereto are the results of effective permeability tests made on the Cable Tool core taken from the Marshall Lease, Well No. 24-WW, Allen County, Kansas, and submitted to our laboratory on August 30, 1951.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Clayton A. Nattier

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c. c.

3-24-21E

24-WW

Marshall

INLET VALVE OLV

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CHANUTE, KANSAS

LOG

Company M. C. Colt Lease Marshall Well No. 24-WW

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
625.00 - 639.20	- Gray shale.
639.20 - 639.35	- Gray sandy shale.
639.35 - 639.70	- Brown fine grained micaceous sandstone.
639.70 - 640.00	- Conglomeratic shaley sandstone.
640.00 - 640.20	- Finely laminated shaley sandstone.
640.20 - 641.10	- Dark brown fine grained micaceous sandstone.
641.10 - 641.60	- Dark brown fine grained micaceous slightly shaley sandstone.
641.60 - 642.00	- Dark brown fine grained micaceous shaley sandstone.
642.00 - 642.25	- Dark brown fine grained micaceous sandstone.
642.25 - 642.55	- Dark brown fine grained laminated micaceous shaley sandstone.
642.55 - 642.75	- Dark brown fine grained micaceous sandstone.
642.75 - 644.25	- Dark brown fine grained micaceous shaley sandstone.
644.25 - 644.60	- Dark brown fine grained laminated shaley sandstone.
644.60 - 644.80	- Dark brown fine grained micaceous sandstone.
644.80 - 647.30	- Gray shale.
647.30 - 649.00	- Gray sandy shale.
649.00 - 650.05	- Dark brown fine grained micaceous sandstone.
650.05 - 650.25	- Dark brown fine grained laminated micaceous shaley sandstone.
650.25 - 651.05	- Dark brown fine grained micaceous sandstone.
651.05 - 651.30	- Brown fine grained laminated micaceous shaley sandstone.
651.30 - 651.55	- Dark brown fine grained micaceous sandstone.
651.55 - 652.45	- Brown fine grained slightly laminated shaley sandstone.

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- 652.45 - 653.30 - Brown fine grained micaceous sandstone.
- 653.30 - 653.45 - Brown fine grained laminated micaceous shaley sandstone.
- 653.45 - 653.80 - Gray shale.
- 653.80 - 654.55 - Dark brown fine grained micaceous sandstone.
- 654.55 - 654.85 - Brown fine grained laminated micaceous shaley sandstone.
- 654.85 - 655.00 - Finely laminated sandy shale.
- 655.00 - 655.85 - Dark brown fine grained micaceous sandstone.
- 655.85 - 656.15 - Brown fine grained laminated micaceous shaley sandstone.
- 656.15 - 656.35 - Gray shale.
- 656.35 - 658.65 - Dark brown fine grained micaceous sandstone.
- 658.65 - 659.15 - Dark brown fine grained carbonaceous sandstone.
- 659.15 - 659.70 - Gray shale.
- 659.70 - 660.30 - Dark brown fine grained micaceous sandstone.
- 660.30 - 660.55 - Gray shale.
- 660.55 - 661.80 - Dark brown fine grained micaceous sandstone.
- 661.80 - 662.45 - Dark brown fine grained slightly laminated micaceous shaley sandstone.
- 662.45 - 663.20 - Gray shale.
- 663.20 - 663.75 - Dark brown fine grained micaceous sandstone.
- 663.75 - 663.95 - Brown fine grained laminated micaceous carbonaceous sandstone.
- 663.95 - 664.25 - Gray shale.
- 664.25 - 664.85 - Dark brown fine grained micaceous sandstone.
- 664.85 - 664.95 - Finely laminated shale and sandstone.
- 664.95 - 666.00 - Dark brown fine grained micaceous sandstone.
- 666.00 - 667.00 - Dark brown fine grained micaceous carbonaceous sandstone.
- 667.00 - 667.80 - Dark fine grained micaceous shaley sandstone containing a laminated sandstone and shale streak.

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- 667.80 - 670.00 - Dark brown fine grained micaceous sandstone.  
670.00 - 670.40 - Dark fine grained micaceous sandstone.  
670.40 - 672.10 - Dark brown fine grained micaceous sandstone.  
672.10 - 673.00 - Brown fine grained finely laminated micaceous shaley  
sandstone.  
673.00 - 674.70 - Brown fine grained micaceous sandstone.  
674.70 - 681.15 - Dark fine grained micaceous sandstone.  
681.15 - 681.25 - Laminated sandstone and shale.  
681.25 - 685.00 - Dark fine grained micaceous sandstone.

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SHOT RECOMMENDATION

Company M. C. Colt Lease Marshall Well No. 24-WW

<u>Depth Interval, Feet</u>	<u>Feet of Sand</u>	<u>Size of Shell Inches</u>	<u>Qts./Ft.</u>	<u>Total Quarts</u>
654.00 - 676.00	22.0	3½	2.0	44.0

Recommended Facker Setting 649.00 feet.

Note: Plug hole back to 677.00 feet.

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RESULTS OF EFFECTIVE PERMEABILITY TESTS

TABLE I

Company M. C. Colt Lease Marshall Well No. 24-WW

Sample No.	Depth, Feet	Effective Permeability, Millidarcys	Feet of Sand	
			Ft.	Cum. Ft.
1	639.45	0.390	0.35	0.35
2	640.56	1.70	0.90	1.25
3	641.45	0.332	0.50	1.75
4	642.65	Imp.	0.20	1.95
5	643.65	0.128	1.50	3.45
6	644.65	1.28	0.20	3.65
7	649.15	0.726	0.55	4.20
8	649.95	0.670	0.50	4.70
9	650.90	0.504	0.80	5.50
10	651.90	1.76	0.90	6.40
11	652.60	1.99	0.85	7.25
12	654.05	2.23	0.75	8.00
13	655.20	2.08	1.00	9.00
14	656.55	0.245	0.65	9.65
15	657.50	0.940	0.85	10.50
16	658.25	2.88	0.80	11.30
17	659.10	0.040	0.50	11.80
18	660.25	5.78	0.60	12.40
19	661.65	Imp.	1.25	13.65
20	662.25	Imp.	0.65	14.30
21	663.45	Imp.	0.55	14.85
22	664.45	0.435	0.60	15.45
23	665.45	1.67	1.05	16.50
24	666.40	0.055	1.00	17.50
25	668.00	0.200	0.70	18.20
26	669.04	0.143	1.10	19.30
27	670.12	Imp.	0.80	20.10
28	670.95	8.15	1.00	21.10
29	671.80	6.86	0.70	21.80
30	673.05	0.062	0.70	22.50
31	674.30	0.292	1.00	23.50
32	675.35	Imp.	1.30	24.80
33	676.57	Imp.	1.00	25.80
34	677.45	Imp.	1.00	26.80
35	678.45	0.366	1.20	28.00
36	679.95	Imp.	1.20	29.20
37	680.85	Imp.	0.75	29.95
38	682.25	Imp.	1.50	31.45
39	683.15	Imp.	0.95	32.40
40	684.20	Imp.	1.30	33.70

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**SUMMARY OF PERMEABILITY & POROSITY TESTS**

**TABLE II A**

Company M. C. Colt Lease Marshall Well No. 24-WW

Depth Interval, Feet	Feet of Core Analyzed	Average Air Permeability, Millidarcys	Average Effective Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity
639.35 - 660.30	12.20	-	1.41	-	-
660.55 - 685.00	9.05	-	1.78	-	-
649.00 - 674.70	16.60	-	1.84	-	-

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**SUMMARY OF PERMEABILITY & POROSITY TESTS**

**TABLE II A**

Company M. C. Colt Lease Marshall Well No. 24-WW

Depth Interval, Feet	Feet of Core Analyzed	Average Air Permeability, Millidarcys	Average Effective Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity
639.35 - 660.30	12.20	-	1.41	-	-
660.55 - 685.00	9.05	-	1.78	-	-
649.00 - 674.70	16.60	-	1.84	-	-