

Precision Core Analysis, Inc.

Ritchie Exploration, Inc.

Rein A-P #7

Sec. 29 T19S R21W

Ness County, Kansas

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Ritchie Exploration
 Rein A-P #7
 Sec. 29 T19S R21W
 Ness County, Kansas

Job: 9760
 Date: 13-Oct-97

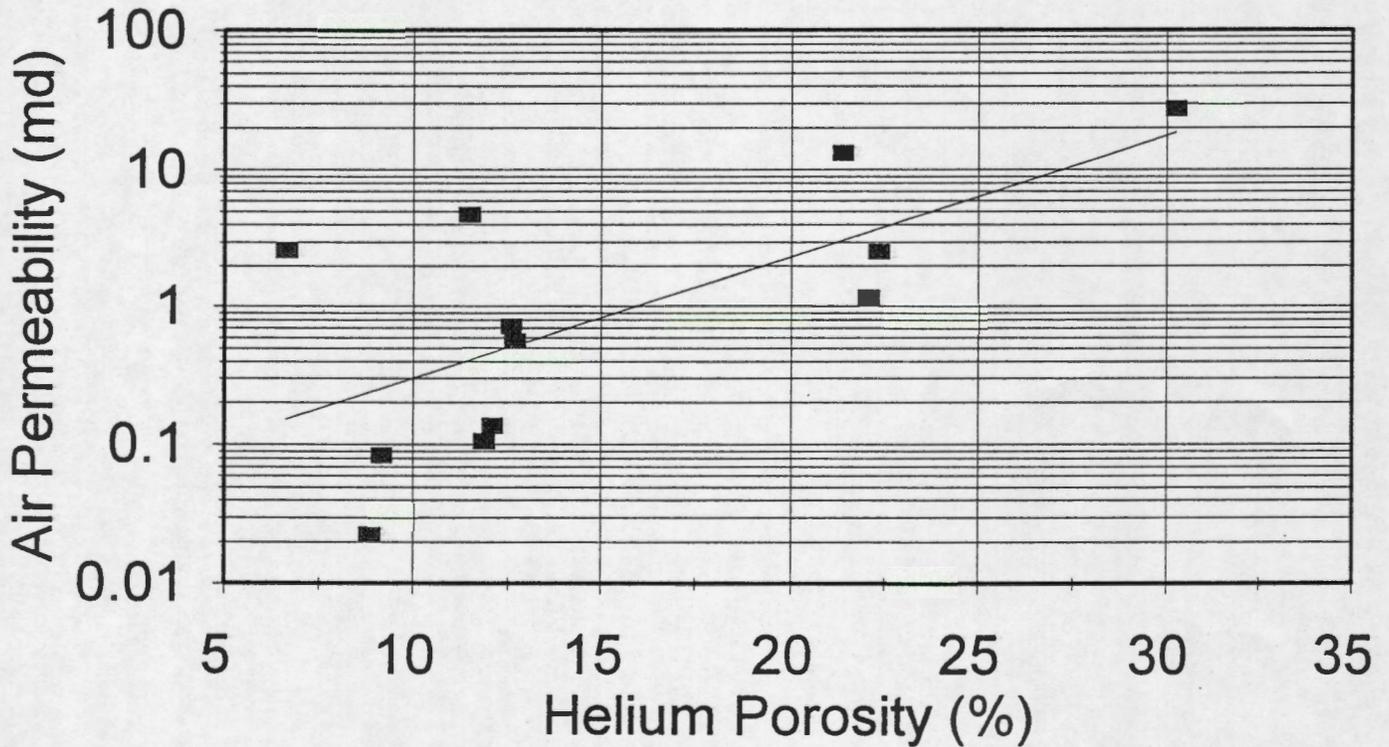
Reference Number	Depth (ft)	Permeability		Helium Porosity (%)	Saturations		Grain Density (g/cc)	Sample Description
		Air (md)	Klink (md)		Water (%)	Oil (%)		
<i>Core No. 1 Mississippi Fm. 4385.0'-4399.0' Rec. 14.0'/14.0'</i>								
1	4385.9	2.60	2.04	6.6	58.3	15.3	2.63	Cgl v pyr cht nod
2	4386.8	2.52	1.92	22.4	41.6	21.9	2.63	Cht cmtd m-fracs
3	4387.9	1.17	0.912	22.1	33.8	22.5	2.61	Cht vug sl sh m-fracs
4	4388.7	27.7	22.6	30.3	35.7	9.4	2.62	Cht sl sh m-frac lam
5	4389.2	0.714	0.530	12.6	46.2	14.7	2.61	Cht sl vug cht nod sl anhy
6	4390.5	13.3	10.7	21.4	39.9	18.3	2.61	Cht sl sh sl dol vug styl m-fracs
7	4391.4	<i>Unsuitable</i>		18.1	52.4	12.7	2.61	Cht sl sh lge vug frac
8	4392.2	0.557	0.402	12.7	43.7	19.4	2.73	Dol sl sh cht nod wspy lam styl
9	4393.5	0.023	0.009	8.8	55.1	8.8	2.84	Dol wspy lams suc
10	4394.9	4.69	3.70	11.4	39.4	25.6	2.73	Dol cht nod suc
11	4395.8	0.084	0.046	9.2	49.6	21.7	2.86	Dol wspy lams suc m-frac
12	4396.6	0.136	0.081	12.1	50.4	23.5	2.84	Dol wspy lams suc
13	4397.1	0.106	0.060	11.8	42.0	19.4	2.75	Dol suc sl sh m-frac
14	4398.6	<i>Unsuitable</i>		19.4	46.9	27.4	2.61	Cht sl sh lge vug frac

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Air Permeability vs Helium Porosity



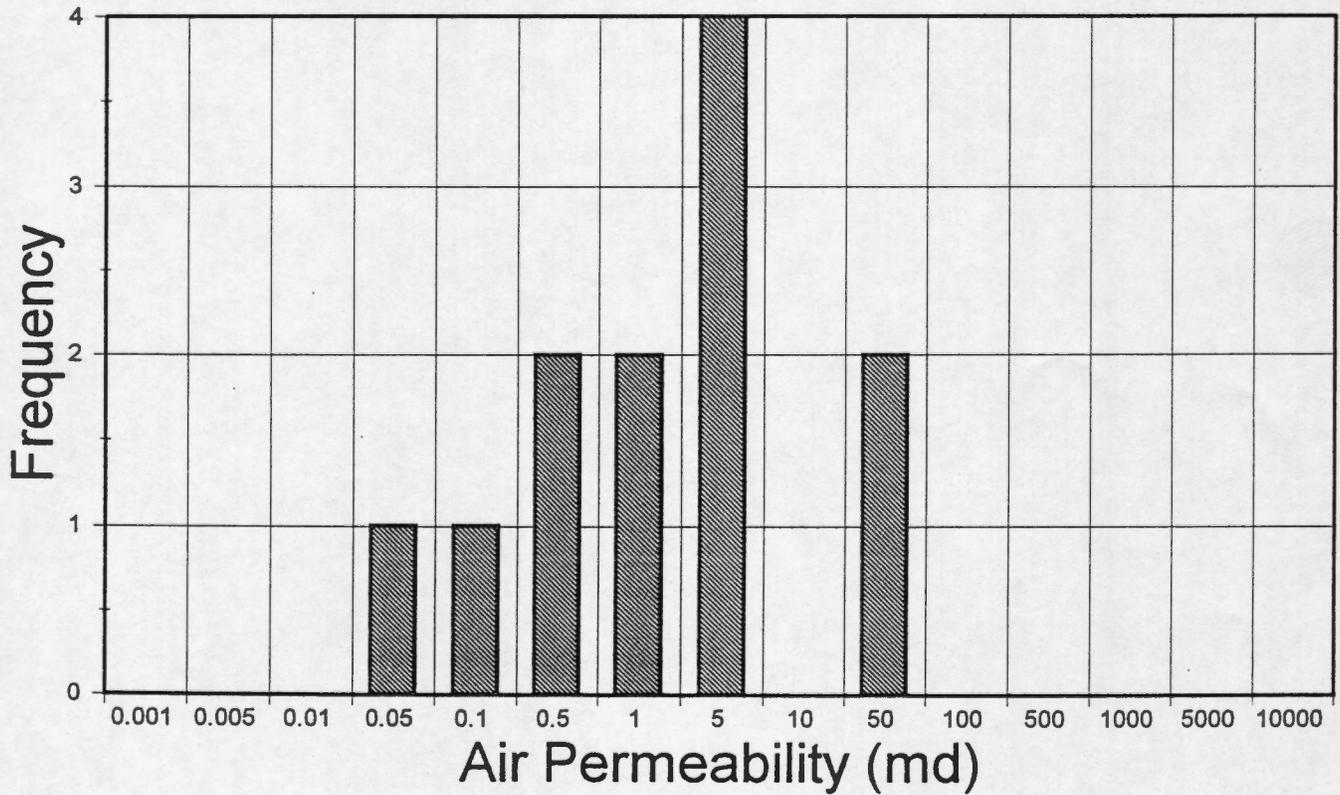
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Air Permeability Frequency Distribution



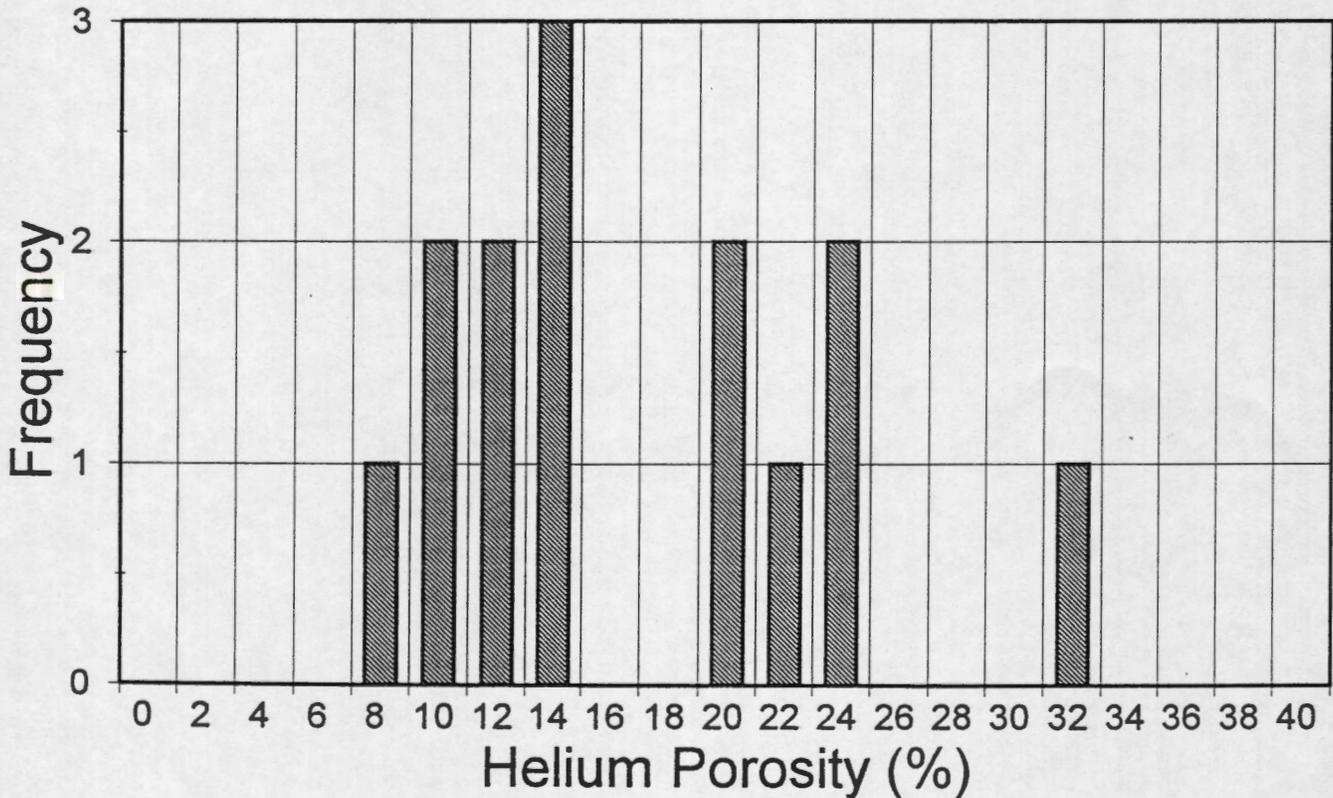
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Helium Porosity Frequency Distribution



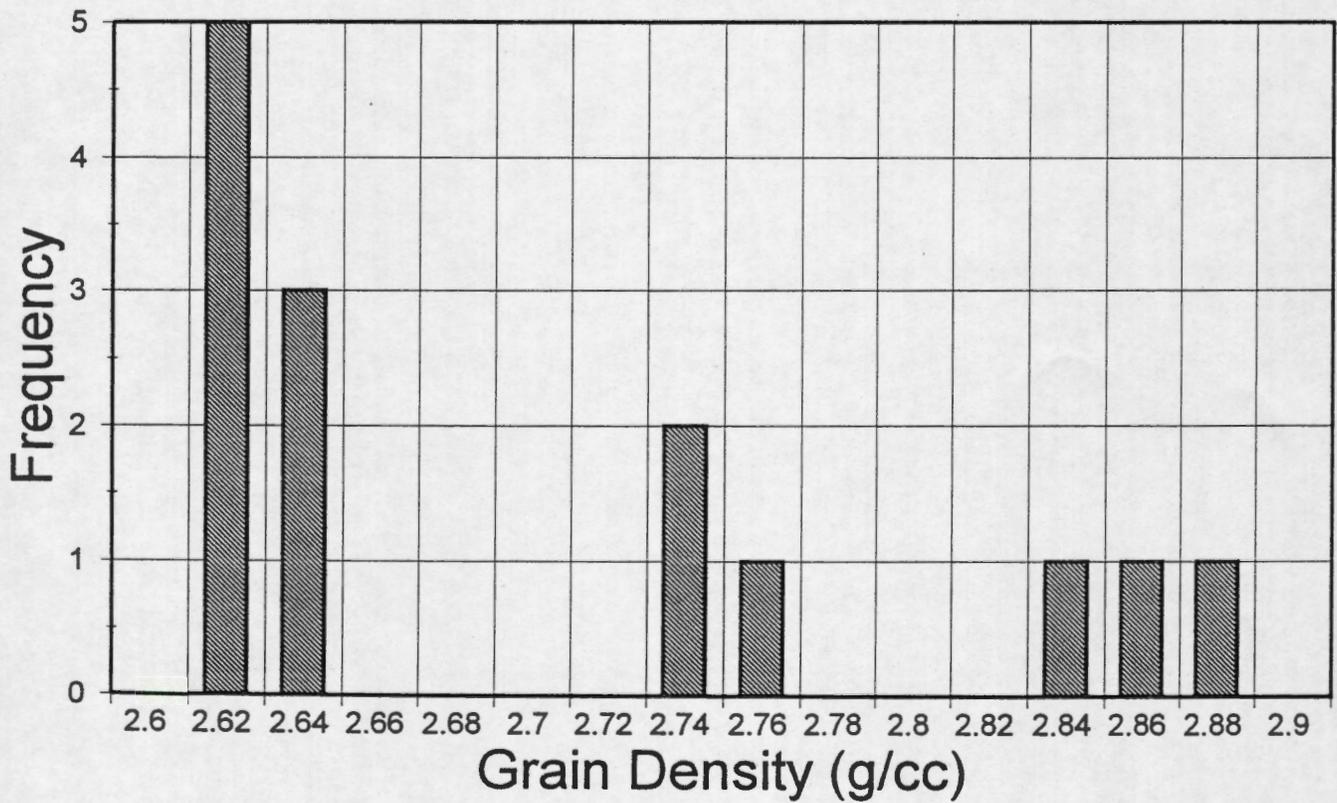
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Grain Density Frequency Distribution



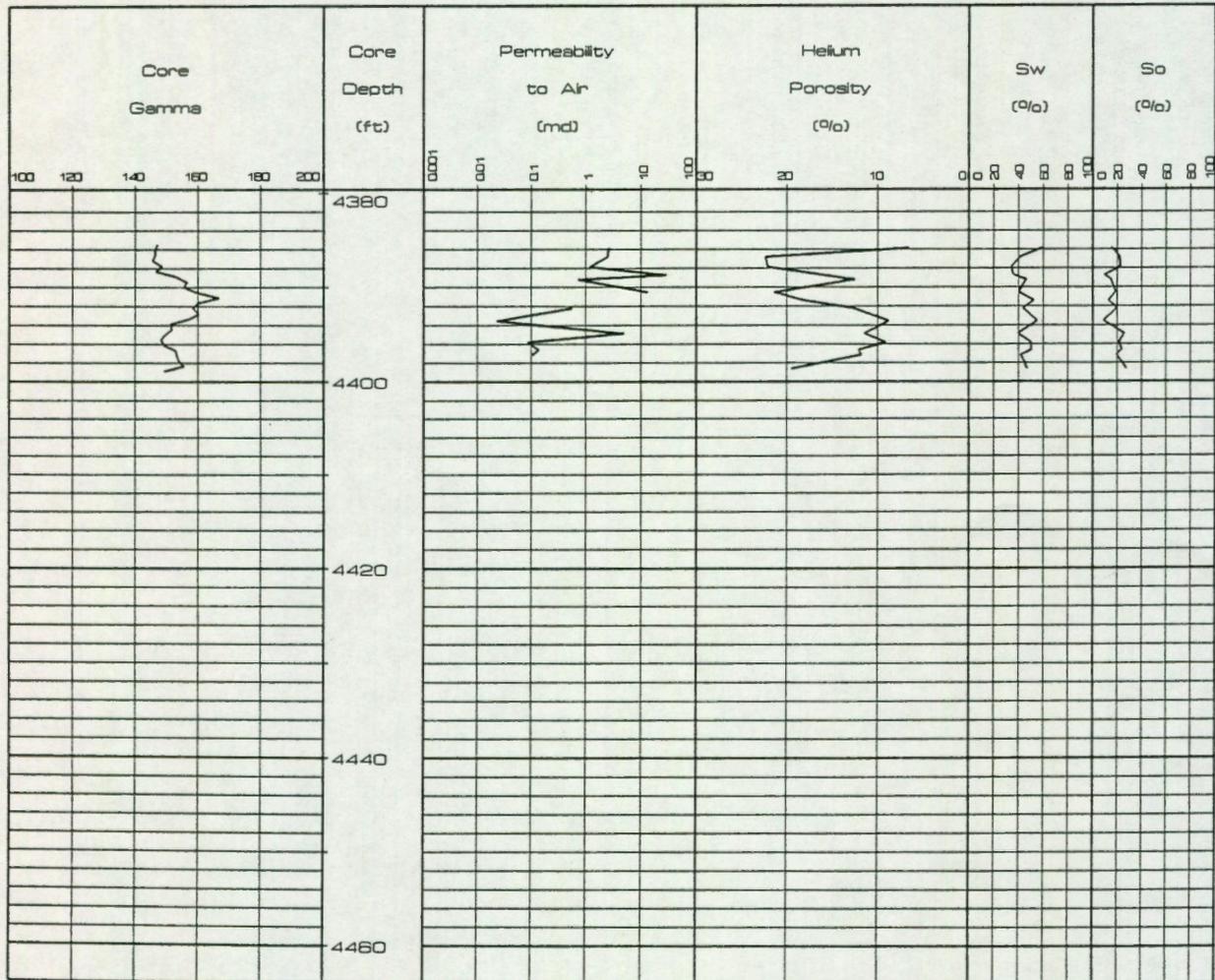
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PETRO-LOG

Scale 1:240



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Zone1 Air Permeability Regression

Regression Output:

Constant	-1.409248
Std Err of Y Est	0.729052
R Squared	0.453534
No. of Observations	12.000000
Degrees of Freedom	10.000000
X Coefficient(s)	0.088613
Std Err of Coef.	0.030759

Zone1 Klinkenberg Permeability Regression

Regression Output:

Constant	-1.680432
Std Err of Y Est	0.800891
R Squared	0.444174
No. of Observations	12.000000
Degrees of Freedom	10.000000
X Coefficient(s)	0.095520
Std Err of Coef.	0.033790