

Precision Core Analysis, Inc.

ORIGINAL

DNR Oil and Gas, Inc.

Nickelson #3-31

Sec. 31 T15S R41W

Wallace County, Kansas

15-199-20253

RECEIVED
STATE CORPORATION COMMISSION

JAN 26 1998

The analyses, interpretations, and/or opinions expressed in this report represent the best judgment of Precision Core Analysis, Inc. Precision Core Analysis, Inc. assumes no responsibility and makes no expressed warranties of any kind regarding the productivity, proper operation, or profitability of any action taken upon which this is used or relied upon.

Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job:
 Date:

9754
 01-Nov-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 Morrow Fm. 4966.0'-4976.0' Rec. 2.5'/10.0'</i>								
1	4968.2	0.039	0.019	10.0	75.8	0.0	2.65	Sst vf gr sl qtz ovrghs sh lam
2	4971.6	0.141	0.084	10.6	73.0	0.0	2.67	Sst vf-f gr sh lam burr
3	4973.3	0.132	0.078	8.0	53.9	4.3	2.65	Sst vf-f gr qtz ovrghs sh lam
4	4974.8	0.450	0.316	9.9	26.8	8.2	2.65	Sst vf-f gr qtz ovrghs sh lam sl calc
<i>Core No. 2 Morrow Fm. 4976.0'-4994.0' Rec. 15.0'/18.0'</i>								
5	4976.8	52.1	44.2	13.2	30.1	14.0	2.65	Sst f-m gr sl calc qtz ovrghs
6	4977.4	25.3	20.8	14.1	23.6	7.9	2.66	Sst f-m gr sl calc qtz ovrghs sl lam
7	4978.4	59.6	51.1	12.3	15.4	8.2	2.65	Sst f-m gr sl calc qtz ovrghs sl lam
8	4979.4	75.6	65.1	14.8	24.8	11.5	2.66	Sst f-m gr sl calc qtz ovrghs sl lam
9	4980.5	229.	207.	17.6	33.1	13.2	2.66	Sst m gr v sl calc qtz ovrghs sl org mat
10	4981.7	280.	254.	16.5	24.7	9.0	2.67	Sst m gr v sl calc sl org mat
11	4982.6	247.	223.	16.2	25.0	8.3	2.71	Sst f-m gr sl calc qtz ovrghs sl lam
12	4983.6	424.	390.	16.0	18.0	8.1	2.68	Sst f-m gr sl calc qtz ovrghs sl lam
<i>Core No. 3 Morrow Fm. 5015.0'-5071.0' Rec. 30.0'/56.0'</i>								
13	5018.6	20.4	16.7	10.6	48.7	0.0	2.65	Sst f-m gr sl lam qtz ovrghs frac mic
14	5019.8	243.	219.	17.6	36.4	0.0	2.64	Sst m gr sl pyr sl lam qtz ovrghs
15	5020.5	315.	287.	18.6	34.4	0.0	2.64	Sst f-m gr qtz ovrghs
16	5021.4	828.	776.	21.6	48.5	0.0	2.64	Sst m gr qtz ovrghs sl mic
17	5022.6	1920.	1840.	19.6	43.5	0.0	2.64	Sst m-v crs gr qtz ovrghs md clas
17V	5022.8	1640.	1550.	20.1			2.64	Sst m-v crs gr qtz ovrghs lam
18	5023.4	1600.	1520.	19.3	41.3	0.0	2.65	Sst m gr qtz ovrghs
19	5024.4	1010.	949.	19.4	35.1	0.0	2.64	Sst m gr qtz ovrghs
19V	5024.1	130.	114.	19.3			2.64	Sst m gr qtz ovrghs lam
20	5025.4	757.	707.	18.2	30.2	0.0	2.64	Sst f-crs gr qtz ovrghs
20V	5025.8	202.	181.	17.6			2.64	Sst f-crs gr qtz ovrghs
21	5026.5	2270.	2170.	19.4	39.7	0.0	2.64	Sst m-crs gr qtz ovrghs
22	5027.8	1560.	1480.	19.3	29.7	0.0	2.64	Sst f-crs gr qtz ovrghs
22V	5027.9	87.8	75.9	17.5			2.64	Sst f-crs gr qtz ovrghs lam

Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job:
 Date:

9754
 01-Nov-97

Reference Number	Depth (ft)	Permeability		Helium Porosity (%)	Saturations		Grain Density (g/cc)	Sample Description
		Air (md)	Klink (md)		Water (%)	Oil (%)		
23	5054.6	739.	691.	17.2	38.0	11.5	2.66	Sst m-v crs gr qtz ovrghs sl mic
23V	5054.3	480.	443.	15.9			2.67	Sst m-v crs gr qtz ovrghs sl mic
24	5055.5	1750.	1660.	14.8	29.8	8.5	2.64	Sst crs-v crs gr
24V	5055.7	42.2	35.4	14.3			2.64	Sst crs-v crs gr
25	5056.5	1620.	1540.	21.0	30.0	8.9	2.65	Sst f-m gr qtz ovrghs mic
25V	5056.9	1230.	1170.	20.4			2.65	Sst f-m gr qtz ovrghs mic
26	5057.4	1530.	1450.	20.2	43.5	11.8	2.65	Sst m-crs gr qtz ovrghs
27	5058.6	1610.	1530.	19.8	42.8	9.9	2.65	Sst f-m gr qtz ovrghs mic
28	5059.3	1140.	1070.	17.7	39.3	8.0	2.67	Sst m gr qtz ovrghs
28V	5059.6	3130.	3010.	17.9			2.66	Sst m gr qtz ovrghs
29	5060.4	2680.	2580.	18.0	40.5	10.5	2.66	Sst f-m gr qtz ovrghs
29V	5060.7	14.8	12.0	12.7			2.65	Sst f-m gr qtz ovrghs lam
30	5061.4	406.	373.	14.5	37.1	3.7	2.68	Sst m-crs gr qtz ovrghs
31	5062.5	12700.	12400.	22.1	37.6	11.4	2.65	Sst m-crs gr qtz ovrghs
32	5063.4	15000.	14700.	21.6	38.8	7.5	2.65	Sst m-crs gr qtz ovrghs
32V	5063.9	14600.	14200.	22.3			2.64	Sst m-crs gr qtz ovrghs
33	5064.6	13400.	13100.	20.9	34.3	6.4	2.64	Sst m-crs gr qtz ovrghs
34	5065.8	5830.	5650.	19.2	33.9	5.4	2.65	Sst m-crs gr qtz ovrghs
35	5066.4	2380.	2280.	20.1	43.4	8.1	2.64	Sst m-crs gr qtz ovrghs

V = Vertical Core Plug

Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job: 9754
 Date: 01-Nov-97

Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)
<i>Mini-Permeameter Analyses</i>					
4976.0	16.8	4978.9	43.2	4981.8	844
4976.1	24.7	4979.0	29.5	4981.9	110
4976.2	14.9	4979.1	103	4982.0	859
4976.3	69.9	4979.2	97.9	4982.1	964
4976.4	72.9	4979.3	138	4982.2	655
4976.5	61.4	4979.4	222	4982.3	615
4976.6	90.6	4979.5	242	4982.4	826
4976.7	113	4979.6	524	4982.5	835
4976.8	155	4979.7	248	4982.6	371
4976.9	178	4979.8	337	4982.7	426
4977.0	103	4979.9	287	4982.8	330
4977.1	86.7	4980.0	300	4982.9	673
4977.2	117	4980.1	738	4983.0	811
4977.3	68.6	4980.2	560	4983.1	608
4977.4	66.1	4980.3	833	4983.2	447
4977.5	52.1	4980.4	570	4983.3	328
4977.6	21.2	4980.5	499	4983.4	570
4977.7	8.29	4980.6	630	4983.5	705
4977.8	31.1	4980.7	452	4983.6	623
4977.9	32.1	4980.8	438	4983.7	1040
4978.0	117	4980.9	790	4983.8	593
4978.1	94.3	4981.0	581	4983.9	238
4978.2	112	4981.1	29.1		
4978.3	89.7	4981.2	314	5018.0	2.12
4978.4	93.1	4981.3	781	5018.1	0.55
4978.5	71.5	4981.4	289	5018.2	0.55
4978.6	83.7	4981.5	305	5018.3	0.43
4978.7	39.5	4981.6	645	5018.4	0.62
4978.8	75.5	4981.7	764	5018.5	0.93

Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job: 9754
 Date: 01-Nov-97

Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)
<i>Mini-Permeameter Analyses</i>					
5018.6	1.40	5021.5	2875	5024.4	2002
5018.7	2.39	5021.6	2847	5024.5	2431
5018.8	38.8	5021.7	2888	5024.6	2110
5018.9	0	5021.8	2888	5024.7	1311
5019.0	0	5021.9	1458	5024.8	2193
5019.1	0	5022.0	3697	5024.9	3903
5019.2	246	5022.1	3810	5025.0	1932
5019.3	2.67	5022.2	4069	5025.1	1682
5019.4	26.0	5022.3	3182	5025.2	0
5019.5	18.5	5022.4	4907	5025.3	995
5019.6	15.3	5022.5	3459	5025.4	1103
5019.7	176	5022.6	5377	5025.5	1204
5019.8	531	5022.7	8445	5025.6	636
5019.9	887	5022.8	9062	5025.7	285
5020.0	922	5022.9	7915	5025.8	33.9
5020.1	1276	5023.0	8508	5025.9	1899
5020.2	1180	5023.1	9162	5026.0	2716
5020.3	362	5023.2	3697	5026.1	3478
5020.4	407	5023.3	5366	5026.2	3190
5020.5	369	5023.4	4559	5026.3	3703
5020.6	650	5023.5	4080	5026.4	5650
5020.7	1666	5023.6	3940	5026.5	4110
5020.8	1667	5023.7	1511	5026.6	4300
5020.9	1672	5023.8	1657	5026.7	4406
5021.0	1772	5023.9	1247	5026.8	3651
5021.1	2797	5024.0	2009	5026.9	6755
5021.2	2356	5024.1	3180	5027.0	5386
5021.3	2805	5024.2	2140	5027.1	4306
5021.4	3485	5024.3	1430	5027.2	4462

Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job: 9754
 Date: 01-Nov-97

Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)
<i>Mini-Permeameter Analyses</i>					
5027.3	4812	5055.9	3633	5058.8	1786
5027.4	0	5056.0	1113	5058.9	2222
5027.5	0	5056.1	2005	5059.0	1169
5027.6	0	5056.2	2320	5059.1	999
5027.7	5030	5056.3	2277	5059.2	1053
5027.8	3809	5056.4	2235	5059.3	1625
5027.9	2955	5056.5	2424	5059.4	1868
5028.0	2101	5056.6	2122	5059.5	4500
5028.1	1246	5056.7	2271	5059.6	8800
		5056.8	2406	5059.7	3734
5054.0	1100	5056.9	2862	5059.8	5992
5054.1	1223	5057.0	2083	5059.9	6911
5054.2	1010	5057.1	2055	5060.0	5046
5054.3	1217	5057.2	1814	5060.1	12026
5054.4	1154	5057.3	2752	5060.2	5925
5054.5	1187	5057.4	2020	5060.3	22017
5054.6	1605	5057.5	2314	5060.4	6847
5054.7	1648	5057.6	2551	5060.5	5471
5054.8	1711	5057.7	2893	5060.6	1234
5054.9	2160	5057.8	2640	5060.7	2705
5055.0	1845	5057.9	2445	5060.8	537
5055.1	1173	5058.0	2449	5060.9	52.0
5055.2	154	5058.1	2050	5061.0	3338
5055.3	1164	5058.2	1834	5061.1	2083
5055.4	7347	5058.3	2965	5061.2	1714
5055.5	723	5058.4	2746	5061.3	1238
5055.6	220	5058.5	1866	5061.4	1196
5055.7	2601	5058.6	2445	5061.5	626
5055.8	4389	5058.7	2083	5061.6	287

Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job: 9754
 Date: 01-Nov-97

Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)	Depth (ft)	Mini-Perm (md)
<i>Mini-Permeameter Analyses</i>					
5061.7	899	5064.6	4000		
5061.8	7295	5064.7	5870		
5061.9	3750	5064.8	5861		
5062.0	3765	5064.9	5870		
5062.1	3762	5065.0	5895		
5062.2	5674	5065.1	5875		
5062.3	5655	5065.2	5850		
5062.4	5707	5065.3	11750		
5062.5	11222	5065.4	11763		
5062.6	11240	5065.5	1441		
5062.7	11105	5065.6	2933		
5062.8	11200	5065.7	2931		
5062.9	5504	5065.8	11740		
5063.0	11150	5065.9	11705		
5063.1	11166	5066.0	3910		
5063.2	11020	5066.1	191		
5063.3	5526	5066.2	967		
5063.4	11122	5066.3	897		
5063.5	11248	5066.4	774		
5063.6	11841	5066.5	1670		
5063.7	5888	5066.6	1334		
5063.8	11765	5066.7	1430		
5063.9	11680	5066.8	1434		
5064.0	11670				
5064.1	5820				
5064.2	3886				
5064.3	11575				
5064.4	5817				
5064.5	5774				

26 1998

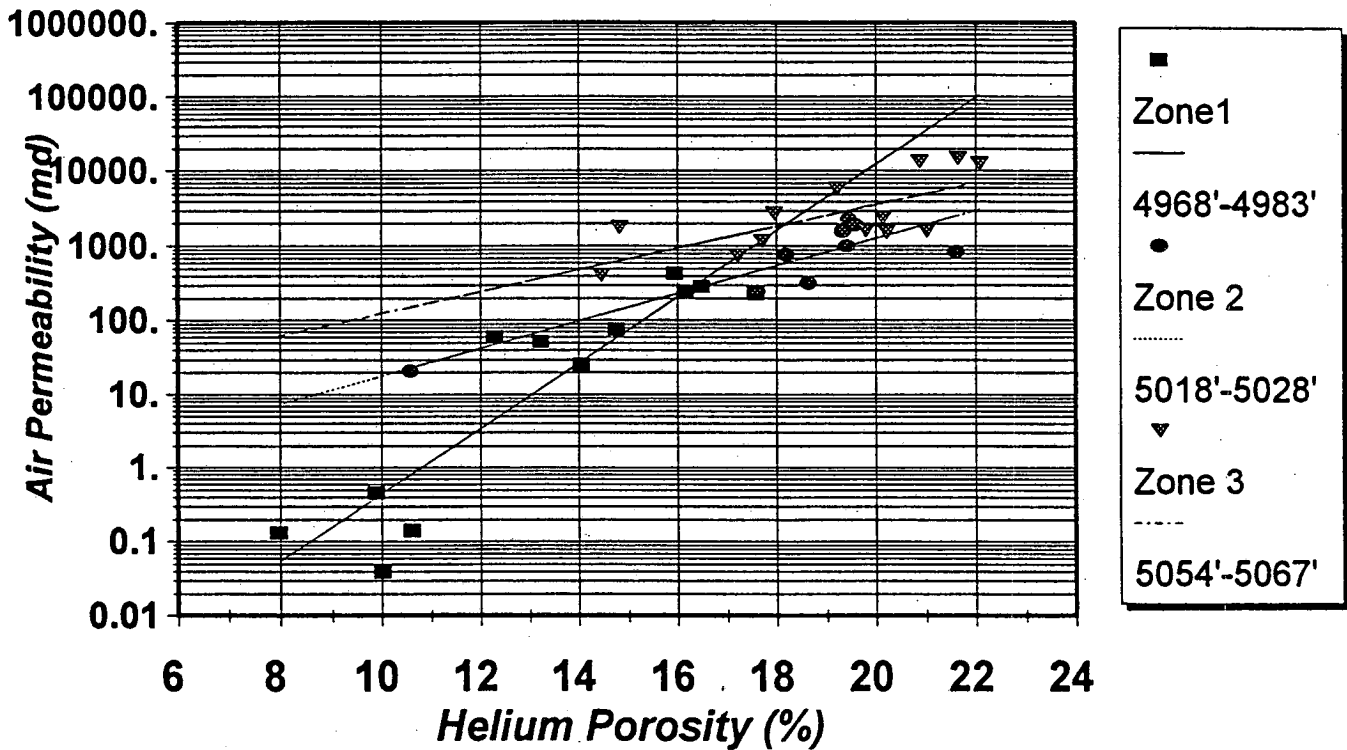
Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
Nickelson #3-31
Sec. 31 T15S R41W
Wallace County, Kansas

Job:
Date:

9754
01-Nov-97

Air Permeability vs Helium Porosity



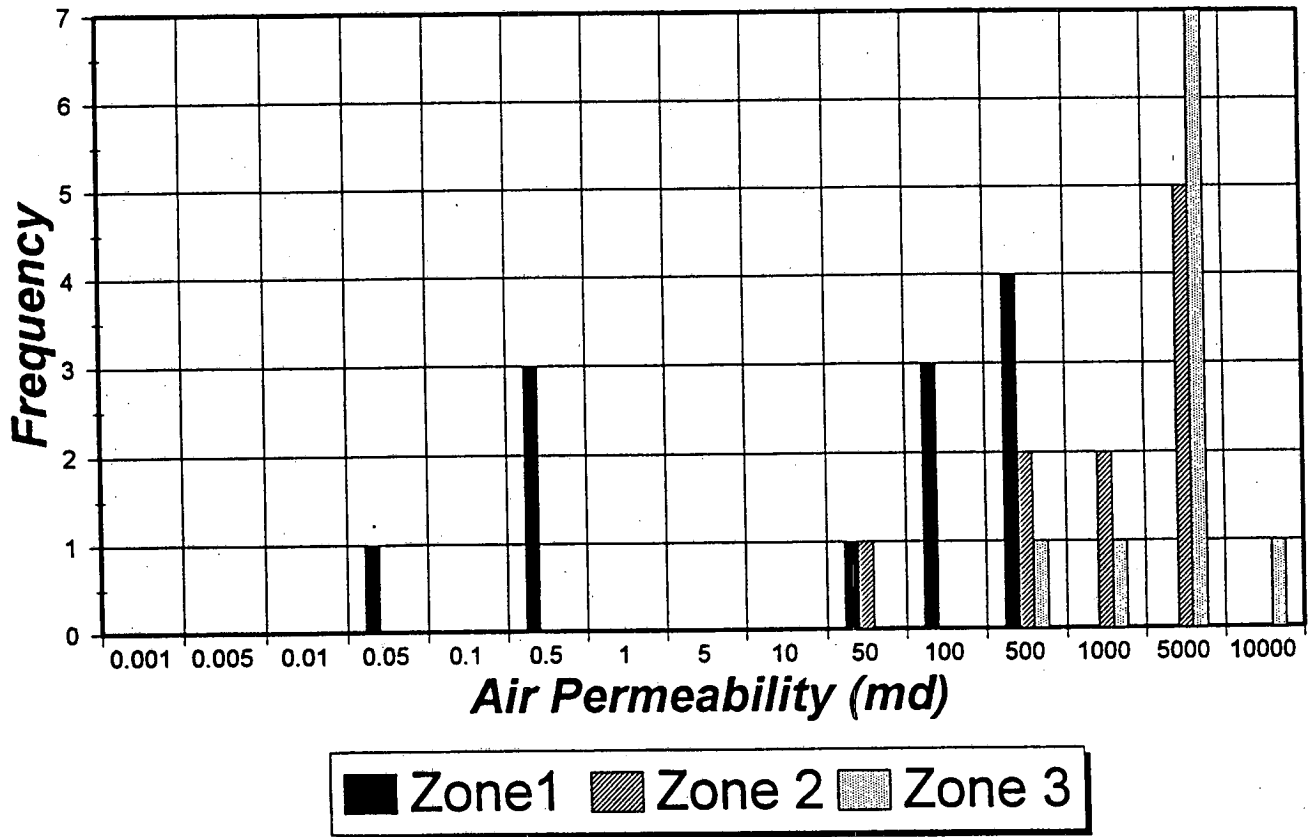
Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
Nickelson #3-31
Sec. 31 T15S R41W
Wallace County, Kansas

Job:
Date:

9754
01-Nov-97

Air Permeability Frequency Distribution



RECEIVED
STATE COMPLETION COMMISSION
JAN 26 1998
CONSERVATION DIVISION

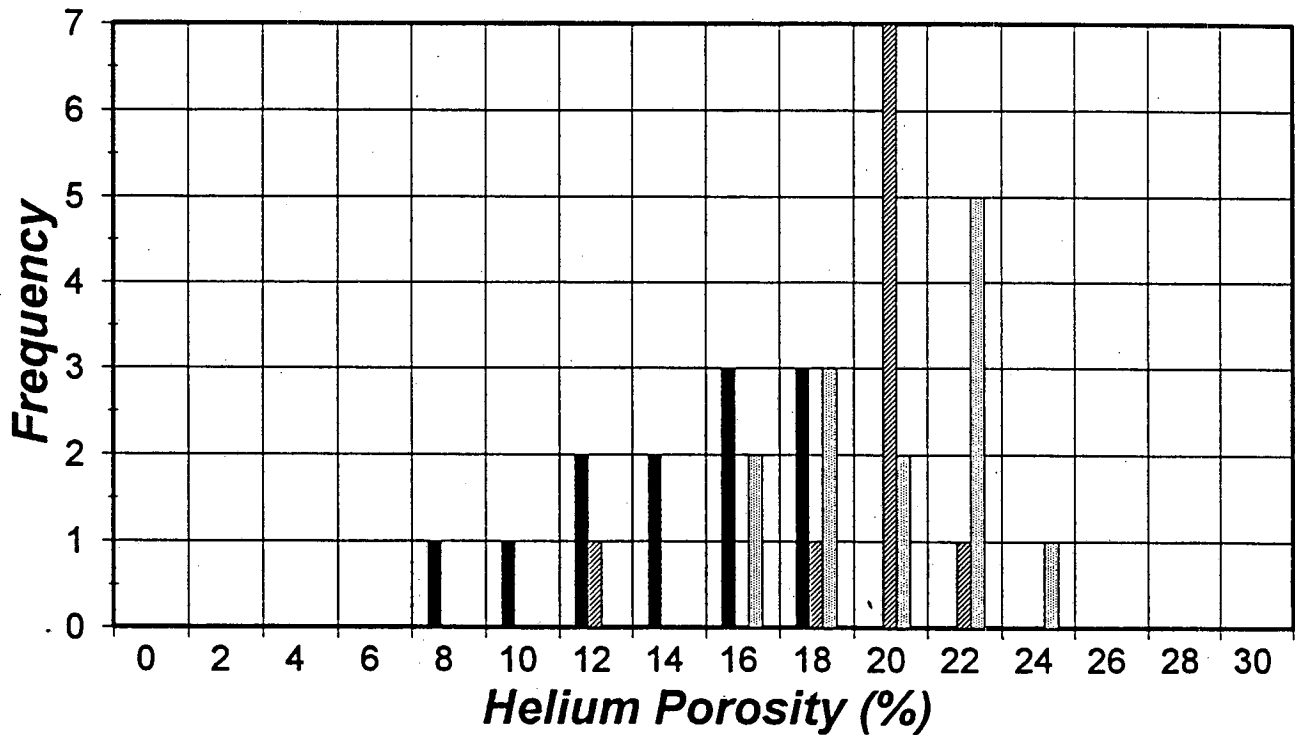
Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
Nickelson #3-31
Sec. 31 T15S R41W
Wallace County, Kansas

Job:
Date:

9754
01-Nov-97

Helium Porosity Frequency Distribution



■ Zone 1 ▨ Zone 2 ▩ Zone 3

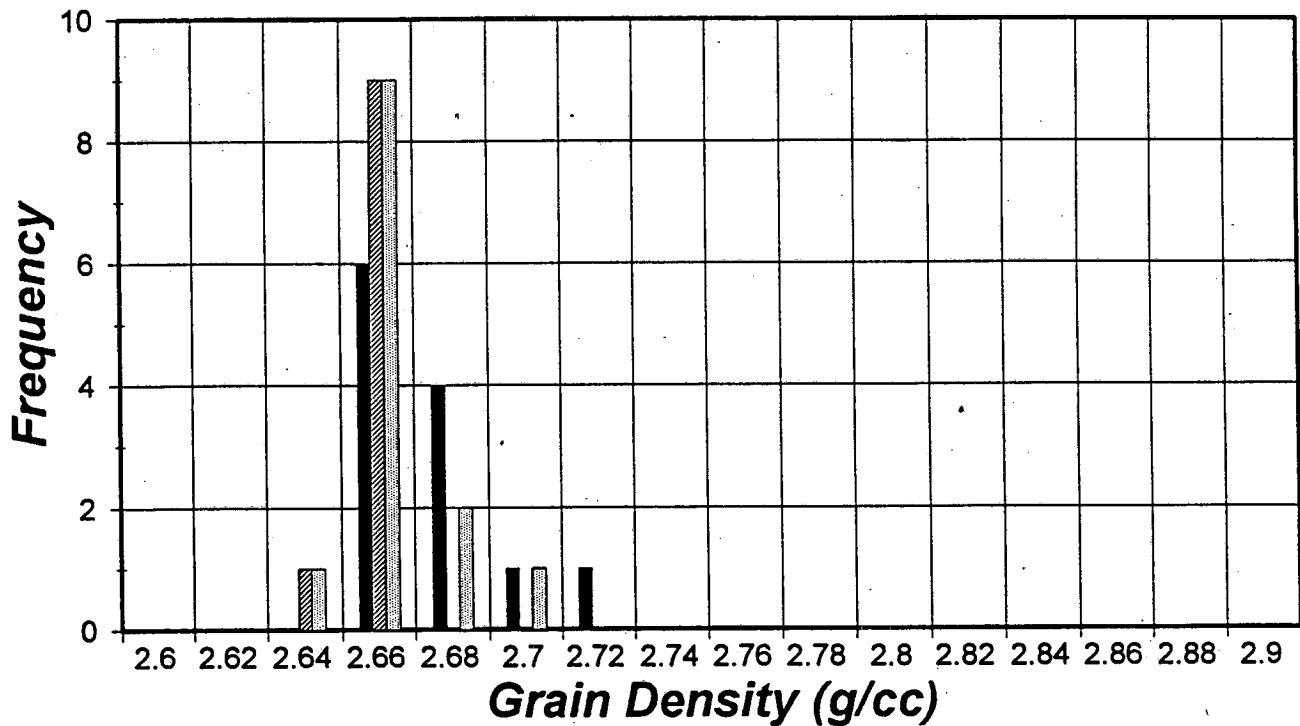
Precision Core Analysis, Inc.

DNR Oil and Gas, Inc.
Nickelson #3-31
Sec. 31 T15S R41W
Wallace County, Kansas

Job:
Date:

9754
01-Nov-97

Grain Density Frequency Distribution



■ Zone 1 ▨ Zone 2 ▩ Zone 3

Precision Core Analysis, Inc.

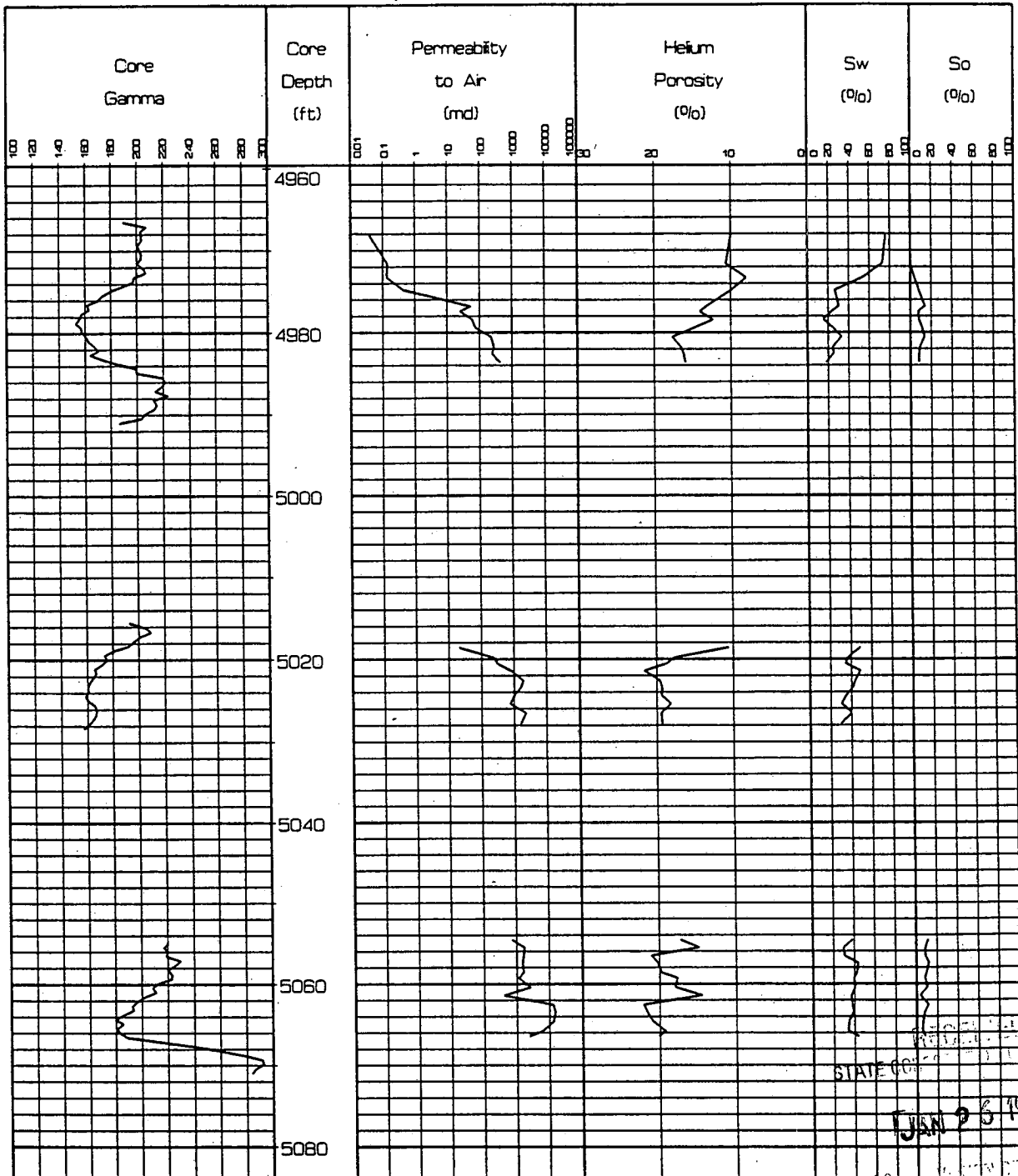
DNR Oil and Gas, Inc.
 Nickelson #3-31
 Sec. 31 T15S R41W
 Wallace County, Kansas

Job:
 Date:

9754
 01-Nov-97

PETRO-LOG

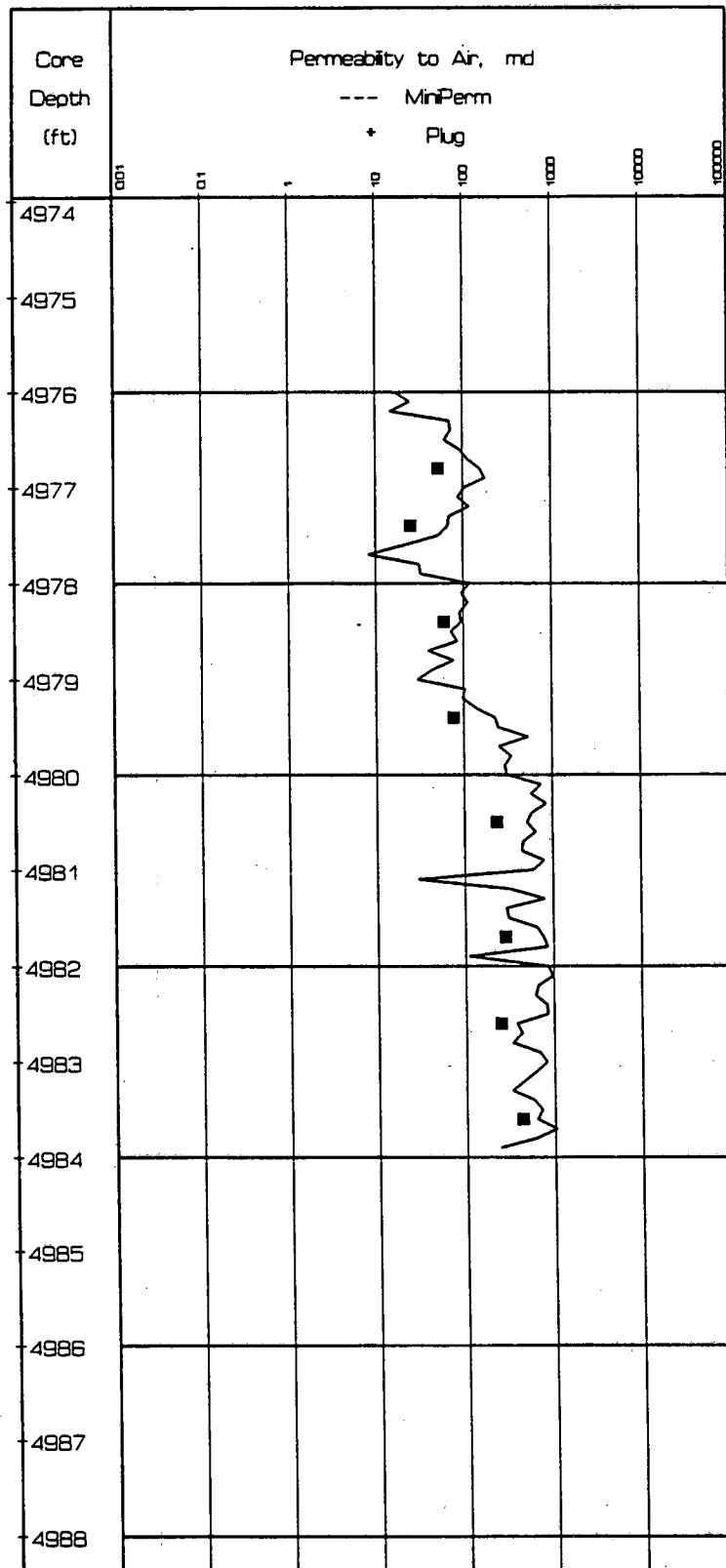
Scale 1:240



Precision Core Analysis, Inc.

PERMEABILITY COMPARISON - ZONE 1

Scale 1:24



Precision Core Analysis, Inc.

PERMEABILITY COMPARISON - ZONE 3

Scale 1:24

