U.S. DEPARTMENT OF INTERIOR
U.S. GEOLOGICAL SURVEY

Porosity and Permeability Data for the Point Lookout Sandstone from core holes 1HCMS and 2 HCMS, northern San Juan basin, La Plata County, Colorado

by

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Open File Report 93-306

Prepared in cooperation with the Southern Ute Tribe and the Bureau of Indian Affairs

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1993

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These data resulted from a U.S. Geological Survey study of two cores of the Upper Cretaceous Point Lookout Sandstone. The core holes were drilled in 1988 as part hydrocarbon microseepage (HCMS) project sponsored by the Bureau of Indian Affairs and the Southern Ute Indian Tribe.

Drill hole 1HCMS is located in T. 33 N., R. 13 W., sec. 30 and drill hole 2HCMS is located in T. 32 N., R.13 W., sec. 5. The holes were cored for their full length; 1350 and 1250 feet deep respectively. Core recovery was better than 98% in each hole. The cores are archived at the U.S. Geological Survey Core Research Center, Denver, Colorado. The archival library numbers for the holes are D990 for 1HCMS and D632 for 2HCMS. The cores are slabbed and available for inspection and sampling.

Plug samples were taken in the Point Lookout at changes in lithology or changes in facies. These plugs (18 plugs from drill hole 1HCMS and 22 plugs from 2HCMS) were removed with a diamond-tipped coring device and are 1 inch in diameter. Figure 1 shows the location of the samples and the interpreted depositional environments. The samples were sent to a commercial laboratory, GeoCore[1] of Loveland, Colorado for determination of porosity and permeability under ambient conditions, as well as under confining stress approximating reservoir depths. The GeoCore[1] analysis follows figure 1. This publication only presents the porosity and permeability data. An article by Keighin and others (1993) contains interpretation of this data and further information on the porosity, permeability, petrography and depositional environments of these two cores.

Reference:

Keighin, C.W., Zech, R.S., and Wright Dunbar, Robyn, 1992, A tale of two cores: Petrology, diagenesis, and reservoir properties of the Point Lookout Sandstone, Southern Ute Indian Reservation, northern San Juan basin, La Plata County, Colorado: The Mountain Geologist, Rocky Mountain Association of Geologists, v.30, no.1, p. 5-16.

[1]Any use of trade, product of firm names is for descriptive purposes only and does not imply endorsement by the U.S. Geological Survey.

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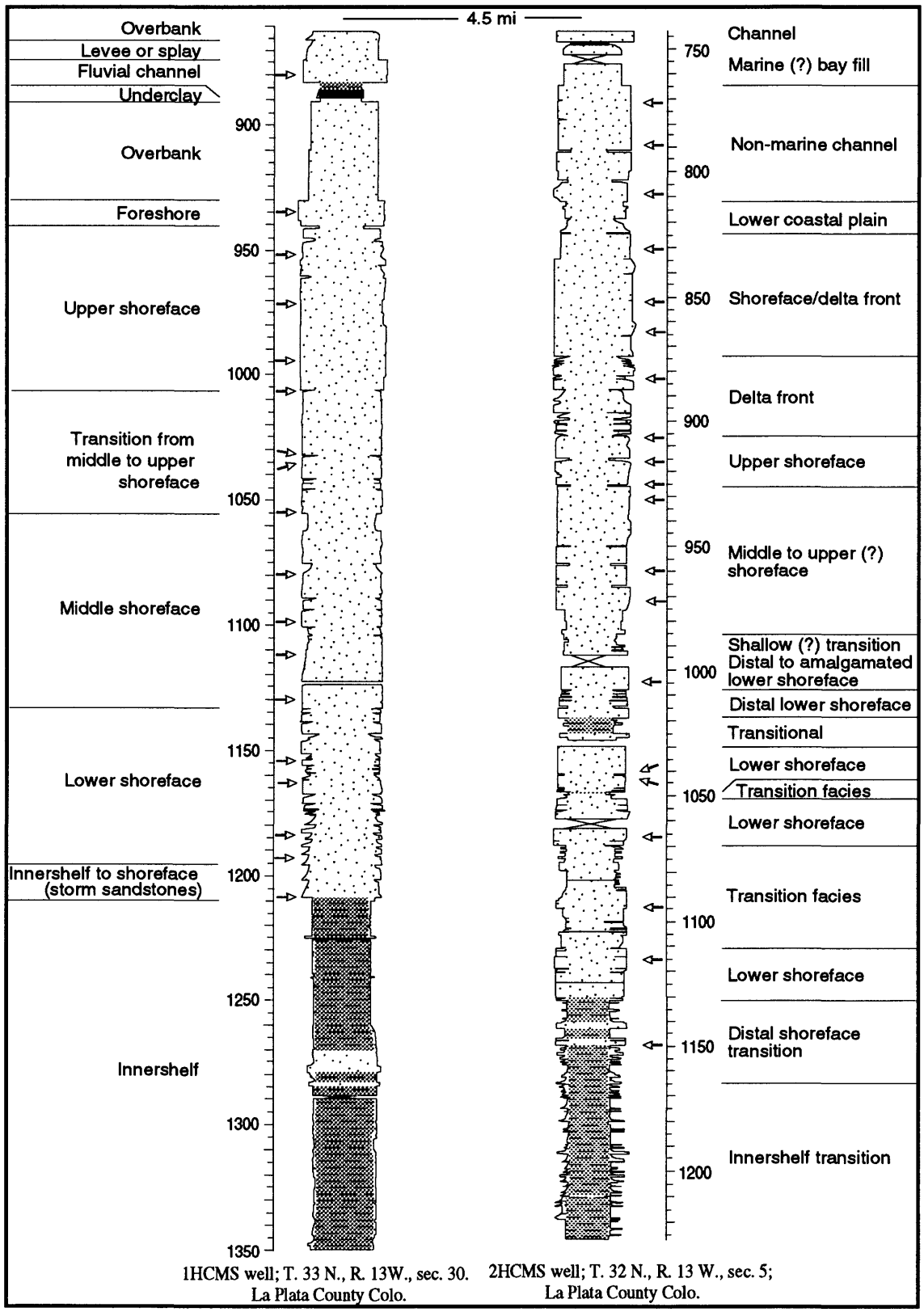

Figure 1. Facies of cores 1HCMS and 2HCMS. Arrows show position of samples. Figure modified from Keighin and others (1993). Lithologic columns show relative grain-size profile on right (increasing grain size to the right) and estimated porosity profile on left (increasing porosity to the left).

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GeoCore

SPECIAL CORE ANALYSIS GEOLOGIC ANALYSIS
INTEGRATED STUDIES REGIONAL GEOCHEMISTRY

ALAN P. BYRNES

Special Core Analysis
of
Selected BIA Southern Ute Cores
for
U.S. Geological Survey - Denver

2/7/1989

187 LEANNE DR. . LOVELAND, COLORADO. 80537 (303) 667-5983

SUBJECT

Forty (40) core plug samples, identified as BIA Southern Ute, were submitted for special core analysis by C. William Keighin, USGS Denver. Tests consisted of routine klinkenberg permeability, porosity, grain density, and bulk density. In addition tests were performed on the effect of confining stress on permeability and porosity and a determination of the pore volume compressibility. Mercury intrusion capillary pressure analysis to 10,000 psi was performed on all samples and the resulting capillary pressure data converted to reservoir conditions and height above free water level. The data was further analyzed for pore size distribution, surface area, "irreducible" water saturation, and relative permeability relations.

CORE PREPARATION PROCEDURES

Cores measuring approximately one inch in diameter by one and a half inch long were submitted for special core analysis. The samples were oven dried at 70 degC and then vacuum saturated with a toluene/methyl alcohol azeotrope and sohxlet extracted until clean and again dried in a vacuum oven to a constant weight within 0.003 grams. The samples were not humidity oven dried since porosities measured in this fashion do not reflect log measured porosities.

PERMEABILITY AND POROSITY

Ambient Porosity:

Ambient Helium porosities were measured on each sample prior to Klinkenberg permeability measurement using a Boyle's Law type approach. Results are presented in the Basic Data Summary Table.

Insitu Porosity and Compressibility:

Subsequent to obtaining ambient condition porosity, each core was vacuum saturated with a light paraffinic oil, placed in a Hassler type confining pressure cell, and subjected to hydrostatic confining stresses of 250, 500, 2000, and 2500 psia to simulate insitu stresses. At each confining stress the volume of oil expelled was measured using a micropipette to an accuracy of 0.001 cc. Pore volume compressibilities were calculated directly from the expelled fluid volumes. Porosity changes with increasing stress were determined by correction of the bulk volume for the pore volumes expelled assuming that grain compressibility is negligible compared to pore volume compressibility so that all pore volume changes are associated with the same bulk volume change. Results are presented in the Basic Data Summary Table. Insitu pore volume compressibilities of these rocks are all less than $4 * 10^{-6}$ which is

generally below normal sandstone compressibilities ($6 * 10^{-6}$). Comparison of insitu versus ambient porosities (Figure 3) shows that insitu porosity values are within 1-3% (<0.5p.u.) of ambient porosities for porosity values below 16%. With increasing porosity values above this level the effect of confining pressure increases, resulting in insitu porosity values being as low as 5% of the ambient values. Following these measurements the core plugs were dried to the same constant weight again. These weights agreed with the initial weights within 0.003 gm.

Ambient/Insitu Klinkenberg Permeability:

To measure Klinkenberg permeabilities under ambient and insitu conditions each core was placed in a Hassler type confining pressure cell and subjected to hydrostatic confining stresses to simulate in-situ stresses. Confining pressures at which Klinkenberg permeability were determined were 250 psi and 2500 psi to simulate ambient and insitu core data. Assuming that the net effective stress assumption is approximately valid for these rocks, these pressures allowed the measurement of permeability at approximately reservoir conditions. Klinkenberg permeabilities, which correspond to non-reactive liquid permeabilities or high pressure gas permeabilities, were determined by extrapolation using He gas permeabilities measured at three pore pressures. Comparison of ambient to insitu permeabilities (Figure 2) shows that above permeabilities of approximately 3 md insitu permeabilities are for most samples within 10-20% of ambient values. However, below 3 md increased confining stress has an increasing effect on the reduction of permeability with decreasing ambient permeability values. At ambient permeability values of 0.1 to 3 md insitu permeabilities are between 20 and 50 % of ambient. At ambient permeabilities below 0.1 md, insitu permeabilities are less than 5% of ambient values.

Porosity versus Permeability:

Insitu porosity versus insitu Klinkenberg permeability displays a clear linear semi-log trend (Figure 1). The linear regression of this trend is:

$$\log_{10} K_{insitu} = .353 * \phi_{insitu} - 5.03$$

The correlation coefficient of this relationship is 0.92 R^2.

MERCURY INTRUSION ANALYSIS

Analysis Procedure:

Subsequent to permeability and porosity analysis the samples were redried and ambient porosities remeasured. Each sample was then transferred to the capillary pressure instrument and evacuated to a pressure of less than 10^{-1} torr for a period of 10 minutes. The sample was subjected to increasing mercury injection pressures ranging from 2.0 to 10,000 psia. At each pressure, equilibrium was assumed to have been established when the volume of mercury injected was less than 0.2% of the pore volume for a three minute period. Injected mercury volumes were corrected for system and mercury compressibility effects. Results are presented in the accompanying table s and figures. Accuracy and precision vary with sample pore volume and outer pore sizes and surface roughness. Pump injection volumes are readable to 0.001cc. Based upon pore volumes from 0.5 to 2.5cc, estimated precision for the measurement is 0.5% for pore sizes less than 107um. Also shown in the table s summarizing mercury intrusion data for each sample are the calculated pore entry size for each pressure, measured surface area, surface area equivalent pore size, approximate reservoir oil/gas-brine capillary pressures, heights above free water level or zero capillary pressure, and the oil/gas and brine drainage relative permeabilities.

Pore Size Distribution:

From the mercury injection capillary pressure analysis, pore entry sizes were calculated using the Washburn relation:

$$Pc = 4CT\cos\theta/d$$

where Pc = capillary pressure (psia)
C = conversion constant (0.145)
θ = contact angle (deg)
T = Interfacial tension (dyne/cm^2)
d = Pore entry diameter (microns)

This relation assumes that the mercury is entering cylindrical shaped pores. In fact the pores of rocks can differ from perfect cylinders considerably. In addition, frequently larger pores are "bottle-necked" by smaller pores so that the pore size distribution is biased toward smaller pores. These "errors" in the operational measurement of pore size as well as variation in the contact angle with surface roughness and composition (120-150 deg) results in pore sizes which can be as much as $\pm$ 50% of the pore size derived from the relation above. Based upon this magnitude of error and the difficulty of adequate topologic description of pore geometry, it is considered sufficient for comparative purposes to present the generalized pore sizes based upon the original Washburn relation.

Meyer (J.Phys.Chem., 1953) addressed correcting the skewed pore size distribution of reservoir rocks due to bottle-necking. His approach involved the use of probability and has not been applied here since the sample set was too limited to know how applicable his findings would be to these rocks. Correction of the pore size for the various shapes of the pores can also be performed by calculating an "equivalent" pore size from the surface area (r = 2*Volume/Surface Area). This approach provides a pore size which is independent of the cylindrical entry assumption but still does not correct the data for bottle-necking. Pore sizes calculated in this way are shown in the each accompanying capillary pressure table(s).

Figure 4 illustrates the relationship between the log of the principal pore size and permeability. The linear regression of this correlation is:

$$\text{Pore Size} = 0.444 \log_{10} K_{insitu} + 0.388$$

The regression correlation coefficient is 0.94 R^2. This relationship would indicate that the permeability within these rocks is controlled by the flow through the principle pore size.

Irreducible Saturation:

With these rocks it is difficult to clearly define the "irreducible" saturation. As such, the saturation at 2000 psi capillary pressure was selected as being approximately irreducible. Figures 5 and 6 illustrate the relationship between irreducible saturation and ambient and insitu permeability. Figures 7 and 8 illustrate the relationship between the "irreducible" saturation at 2000 psi and at 4000 psi capillary pressure versus porosity. The correlation between irreducible saturation and insitu permeability can be expressed as:

$$Swi = -10.6 * \log_{10} K_{insitu} + 25.8$$

The regression correlation coefficient for this relationship is- 0.92 R^2. Correlations with porosity were not performed since they are not as accurate as that with permeability.

Surface Area Analysis:

Surface areas for the samples were calculated using the relation developed by Rootare and Prenzlow (J.Phys.Chem., 1967):

$$A = 0.0221/m \int_0^{V_t} P dv$$

where A = Surface area (mt^2/gm)
m = Sample weight (gm)
P = Pressure (psia)
V_t = Volume, total (cc)

Conversion of Air-Mercury Capillary Pressure Data to Oil/Gas-Brine Capillary Pressure Data:

In order to convert laboratory measured air-mercury capillary pressure data to reservoir oil/gas-brine capillary pressure data the following relation was used:

$$Pc_{res} = P_{ca-Hg} \quad \frac{T \cos\theta}{T \cos\theta}_{a-Hg}^{o/g-b}$$

where:
Pc_{res} = Oil/Gas-Brine capillary pressure at reservoir conditions
Pc_{a-Hg} = Laboratory measured air-mercury capillary pressure
$T \cos\theta_{o/g-b}$ = Interfacial tension times cosine of the contact angle at reservoir conditions for oil/gas-brine

Since the interfacial tension between oil/gas and brine varies as a function of pressure and temperature (Hough et al, Trans. AIME, v192, 1951 p. 57-60), the exact values assumed are shown at the bottom of the capillary pressure table(s).

Conversion of Capillary Pressure Data to Height Above Free Water (Zero Capillary Pressure):

In order to be able to determine the saturation in any given rock type as a function of height above the free water level, or to be able to determine the saturation at the top of a given structure, it is necessary to convert the air-mercury capillary pressure data to height above free water level. This was performed using the following relation:

$$H = \frac{Pc_{res}}{\rho_b - \rho_{o/g}}$$

where:
H = Height above free water level or above zero capillary pressure (ft).
Pc_{res} = Capillary pressure at reservoir conditions

(psi).

$\varrho_{b,o}$ = Density gradient of oil/gas and brine (psi/ft)

Reservoir capillary pressures were obtained as described above. Density gradients for the brine were estimated from average brine compositions and were calculated for the oil/gas. The exact values used are shown at the bottom of the capillary pressure table(s).

Burdine-Purcell Relative Permeability:

Combination of early work by Purcell (Trans AIME, 1949), Burdine (Trans AIME, 1953), and Gates and Leitz (API Drll & Prod, 1950) allowed the development of a theoretical generalized relation between capillary pressure and relative permeability:

$$Krw = \left(\frac{Sw-Swi}{1-Swi}\right)^2 \quad \frac{\int_{Swi}^{Sw} dSw/Pc^2}{\int_{0}^{1} dSw/Pc^2}$$

$$Krnw = C\left(\frac{1-Sw}{1-Swi}\right)^2 \quad \frac{\int_{Sw}^{1} dSw/Pc^2}{\int_{0}^{1} dSw/Pc^2}$$

where Sw = water saturation
Swi = Irreducible water saturation
Pc = capillary pressure
Kr = relative permeability; wetting,nonwetting

Relative permeabilities calculated from these equations are for drainage conditions (non-wetting displacing wetting phase) and thus do not apply directly to water (wetting) displacing oil/gas (non-wetting). However, they do provide an approximation. These calculated permeabilities are also limited by the fact that saturation versus capillary pressure data is not available from the irreducible saturation to 0% water saturation. Although this data becomes increasingly less important with decreasing water saturation it does introduce some error. In general, this calculation approach tends to give higher values for non-wetting phase relative permeability at any given saturation and lower values for wetting phase relative permeability than might be measured. This is the result of the error in the integration of the dSw/Pc^2 term described above which results in the conclusion that the relative permeability approaches the absolute permeability at irreducible saturation, which is infrequently true except for very high permeability rocks and rocks exhibiting very low irreducible saturations. This also results from differences between drainage versus imbibition relative permeability curves. It is important to note that these relative permeabilities are highly dependent upon the value assumed for the irreducible water saturation.

If it is inconvenient to use these curves, but it is easy to obtain or estimate data on Swi, then the simplified relations of Corey (Prod. Monthly, p38, 1954) shown below or Brooks and Corey (paper 3 at CSU, formula not shown, 1964) might be more easily used:

$$Krw = ((Sw-Swi)/(1-Swi))^4$$

$$Kro/g = (1-((Sw-Swi)/(1-Swi)))^2$$

SUMMARY OF BASIC CORE DATA

Core I.D.	Confining Pressure (psia)	Porosity (%)	Percent Ambient Porosity (%)	Klinkenberg Permeability (md)	Percent Ambient Permeability (%)	Bulk Density (g/cc)	Grain Density (g/cc)	Pore Volume Compressibility (cc/cc/psi*10-6)	Irreducible Water Saturation at 4000psi	Irreducible Water Saturation at 2000psi	Largest Principal Pore Size (um)
1-881	Ambient	15.4	100.0	0.503	100.0	2.26	2.67		21.4	34.4	0.717
	2000	15.3	98.9			2.26		<1			
	2500	15.3	98.9	0.112	22.3	2.26					
1-935	Ambient	17.2	100.0	43	100.0	2.19	2.64		4.3	8.9	21.5
	2000	16.5	96.0			2.20		3			
	2500	16.4	95.8	17.6	40.9	2.20					
1-953	Ambient	18.0	100.0	11.8	100.0	2.17	2.64		9.4	15.7	7.17
	2000	17.4	96.3			2.18		2			
	2500	17.3	96.1	11.6	98.3	2.18					
1-972	Ambient	20.5	100.0	57.3	100.0	2.09	2.62		4.6	9.9	14.3
	2000	19.8	96.4			2.11		3			
	2500	19.7	96.2	56.3	98.3	2.11					
1-994	Ambient	19.6	100.0	45.7	100.0	2.13	2.65		8	14.4	11.9
	2000	18.9	96.2			2.15		4			
	2500	18.8	95.9	39.3	86.0	2.15					
1-1006	Ambient	7.9	100.0	0.057	100.0	2.47	2.69		30.8	45.3	0.268
	2000	7.8	99.1			2.48		1			
	2500	7.8	99.0	0.0013	2.3	2.48					
1-1032	Ambient	17.5	100.0	16.2	100.0	2.20	2.67		15	20.6	7.17
	2000	17.1	97.7			2.21		3			
	2500	17.0	97.4	15.2	93.8	2.21					
1-1034	Ambient	18.4	100.0	12.7	100.0	2.18	2.67		13.9	20	7.17
	2000	17.8	96.9			2.19		3			
	2500	17.8	96.7	12.6	99.2	2.19					
1-1054	Ambient	14.5	100.0	0.662	100.0	2.27	2.66		19.6	27.4	1.08
	2000	14.1	96.8			2.29		2			
	2500	14.0	96.6	0.438	66.2	2.29					
1-1080	Ambient	16.5	100.0	3.39	100.0	2.23	2.67		18.3	25.1	4.3
	2000	15.9	96.3			2.25		4			
	2500	15.9	96.1	3.14	92.6	2.25					
1-1099	Ambient	17.6	100.0	7.05	100.0	2.19	2.66		9.4	16.3	5.37
	2000	17.2	97.5			2.20		3			
	2500	17.2	97.2	7.01	99.4	2.20					
1-1112	Ambient	14.2	100.0	0.524	100.0	2.30	2.67		26.6	36	0.717
	2000	13.7	96.3			2.31		4			
	2500	13.6	96.0	0.246	46.9	2.31					
1-1130	Ambient	16.6	100.0	1.89	100.0	2.22	2.66		19.6	28.3	2.15
	2000	16.2	97.5			2.23		3			
	2500	16.2	97.3	1.203	63.7	2.23					

Ambient = 250 psi confining pressure for permeability; 0 psi for porosity

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

SUMMARY OF BASIC CORE DATA

Core I.D.	Confining Pressure (psia)	Porosity (%)	Percent Ambient Porosity (%)	Klinkenberg Permeability (md)	Percent Ambient Permeability (%)	Bulk Density (g/cc)	Grain Density (g/cc)	Pore Volume Compressibility (cc/cc/psi*10-6)	Irreducible Water Saturation at 4000psi	Irreducible Water Saturation at 2000psi	Largest Principal Pore Size (um)
1-1154	Ambient	9.9	100.0	0.0449	100.0	2.40	2.67		33.8	54	0.215
	2000	9.9	99.6			2.41		1			
	2500	9.9	99.6	0.0016	3.6	2.41					
1-1163	Ambient	17.3	100.0	12.9	100.0	2.20	2.67		7.6	11.9	5.37
	2000	16.8	96.6			2.22		3			
	2500	16.7	96.4	12.7	98.4	2.22					
1-1184	Ambient	16.8	100.0	35.3	100.0	2.22	2.67		2.5	4.9	8.6
	2000	16.3	97.1			2.24		3			
	2500	16.3	96.8	28.5	80.7	2.24					
1-1193	Ambient	6.0	100.0	0.0609	100.0	2.53	2.69		21.7	32	0.268
	2000	5.8	95.6			2.53		2			
	2500	5.7	95.5	0.0054	8.9	2.53					
1-1207.8	Ambient	4.2	100.0	0.0306	100.0	2.57	2.68		33.3	85.9	0.072
	2000	4.1	98.1			2.57		<1			
	2500	4.1	98.1	0.0003	1.0	2.57					
2-741	Ambient	19.7	100.0	19.2	100.0	2.11	2.62		6.6	12.7	14.3
	2000	18.8	95.5			2.13		4			
	2500	18.7	95.2	9.67	50.4	2.13					
2-770.5	Ambient	20.2	100.0	12.6	100.0	2.09	2.62		7	13.1	1.08
	2000	19.3	95.4			2.11		4			
	2500	19.3	95.2	8.97	71.2	2.11					
2-789	Ambient	16.5	100.0	2.79	100.0	2.21	2.64		12.3	19.9	1.08
	2000	15.9	95.9			2.23		4			
	2500	15.8	95.6	2.41	86.4	2.23					
2-809.2	Ambient	18.4	100.0	32.5	100.0	2.14	2.63		5.3	9.8	26.9
	2000	17.6	95.4			2.17		5			
	2500	17.5	95.1	12.2	37.5	2.17					
2-830	Ambient	15.3	100.0	1.87	100.0	2.22	2.62		14.3	23.2	1.08
	2000	14.5	94.4			2.24		4			
	2500	14.4	94.2	0.794	42.5	2.24					
2-852	Ambient	20.4	100.0	82.4	100.0	2.08	2.62		5.8	9.9	26.9
	2000	19.5	95.4			2.11		3			
	2500	19.4	95.2	55.6	67.5	2.11					
2-864	Ambient	18.6	100.0	47.5	100.0	2.14	2.63		6.3	10.4	17.9
	2000	17.7	95.4			2.16		4			
	2500	17.7	95.1	33.1	69.7	2.17					
2-883	Ambient	17.4	100.0	69.6	100.0	2.15	2.61		2.8	6	26.9
	2000	16.6	95.2			2.17		5			
	2500	16.5	94.8	59.3	85.2	2.18					

Ambient = 250 psi confining pressure for permeability; 0 psi for porosity

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

SUMMARY OF BASIC CORE DATA

Core I.D.	Confining Pressure (psia)	Porosity (%)	Percent Ambient Porosity (%)	Klinkenberg Permeability (md)	Percent Ambient Permeability (%)	Bulk Density (g/cc)	Grain Density (g/cc)	Pore Volume Compressibility (cc/cc/psi*10-6)	Irreducible Water Saturation at 4000psi	Irreducible Water Saturation at 2000psi	Largest Principal Pore Size (um)
2-907	Ambient	19.4	100.0	24.6	100.0	2.13	2.64		8.6	13.9	11.9
	2000	18.5	95.5			2.15		3			
	2500	18.5	95.3	24.2	98.4	2.15					
2-916.5	Ambient	18.9	100.0	70.2	100.0	2.14	2.64		5.9	10.8	17.9
	2000	18.1	95.6			2.16		4			
	2500	18.1	95.3	38.4	54.7	2.16					
2-925	Ambient	16.7	100.0	5.08	100.0	2.20	2.64		13.2	19.9	5.37
	2000	16.0	95.8			2.22		3			
	2500	15.9	95.6	4.48	88.2	2.22					
2-932	Ambient	16.5	100.0	4.38	100.0	2.21	2.65		18	25.3	5.37
	2000	15.8	95.5			2.23		4			
	2500	15.7	95.2	3.65	83.3	2.23					
2-961	Ambient	16.7	100.0	21.65	100.0	2.23	2.68		8.4	13.4	8.6
	2000	16.2	96.7			2.25		2			
	2500	16.1	96.6	21.6	99.8	2.25					
2-972	Ambient	18.0	100.0	32.9	100.0	2.20	2.68		4.2	8.6	11.9
	2000	17.4	96.7			2.22		2			
	2500	17.4	96.6	29.8	90.6	2.22					
2-1006	Ambient	14.1	100.0	0.939	100.0	2.29	2.67		19.1	29.5	1.08
	2000	13.6	96.2			2.31		3			
	2500	13.5	95.9	0.661	70.4	2.31					
2-1033.3	Ambient	15.7	100.0	0.563	100.0	2.25	2.66		18.6	30.1	1.08
	2000	15.7	100.0			2.25		<1			
	2500	15.7	100.0	0.329	58.4	2.25					
2-1041	Ambient	6.6	100.0	0.0278	100.0	2.50	2.67		38.3	70.5	0.107
	2000	6.5	99.3			2.50		<1			
	2500	6.5	99.3	0.0007	2.5	2.50					
2-1042.4	Ambient	8.3	100.0	0.0395	100.0	2.45	2.67		32.2	49.2	0.268
	2000	8.2	98.7			2.45		1			
	2500	8.2	98.6	0.0073	18.5	2.45					
2-1067	Ambient	16.4	100.0	13.8	100.0	2.24	2.69		8.2	13.8	7.17
	2000	15.9	96.9			2.26		2			
	2500	15.9	96.7	12.1	87.7	2.26					
2-1094	Ambient	13.0	100.0	10.6	100.0	2.33	2.68		3.2	6.7	7.17
	2000	12.6	96.8			2.34		3			
	2500	12.6	96.5	9.81	92.5	2.34					
2-1115	Ambient	16.4	100.0	11.9	100.0	2.24	2.68		7.3	11.3	5.37
	2000	15.8	96.4			2.25		4			
	2500	15.8	96.1	10.3	86.6	2.26					
2-1149	Ambient	10.2	100.0	0.163	100.0	2.40	2.67		11.9	20.4	1.08
	2000	10.1	99.0			2.40		2			
	2500	10.1	98.8	0.0672	41.2	2.40					

Ambient = 250 psi confining pressure for permeability; 0 psi for porosity

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

Figure 1

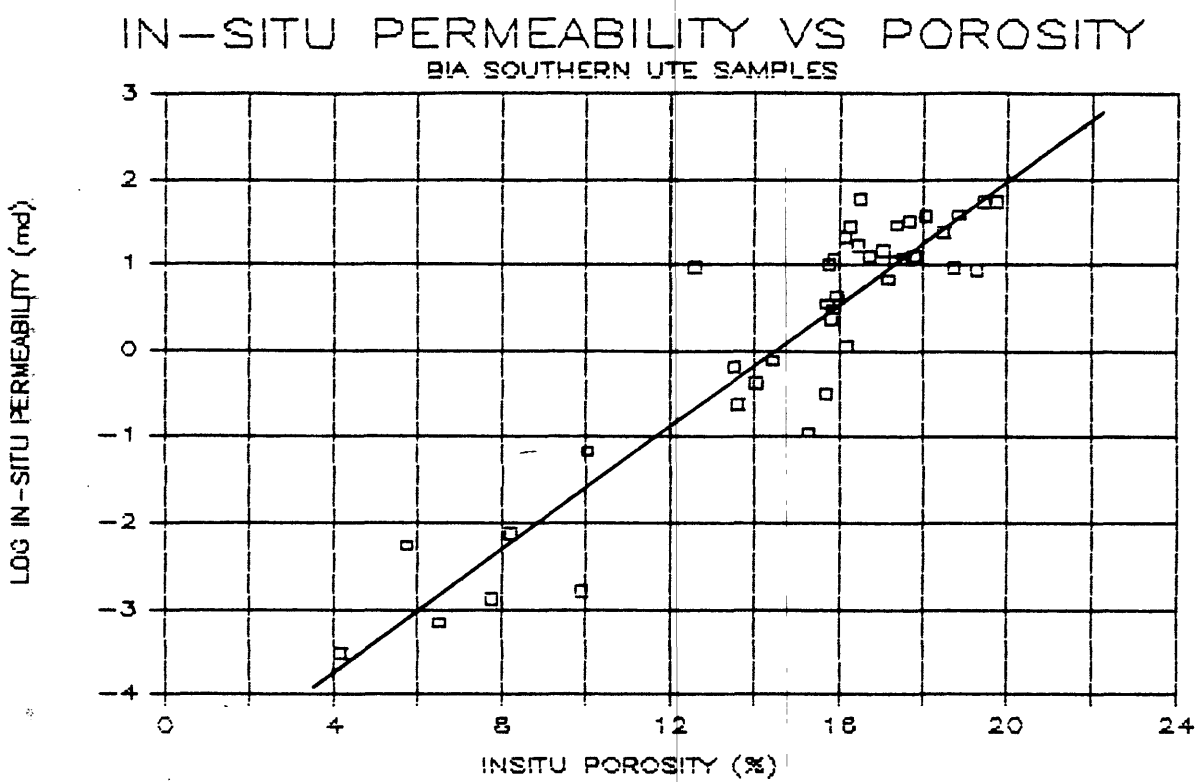
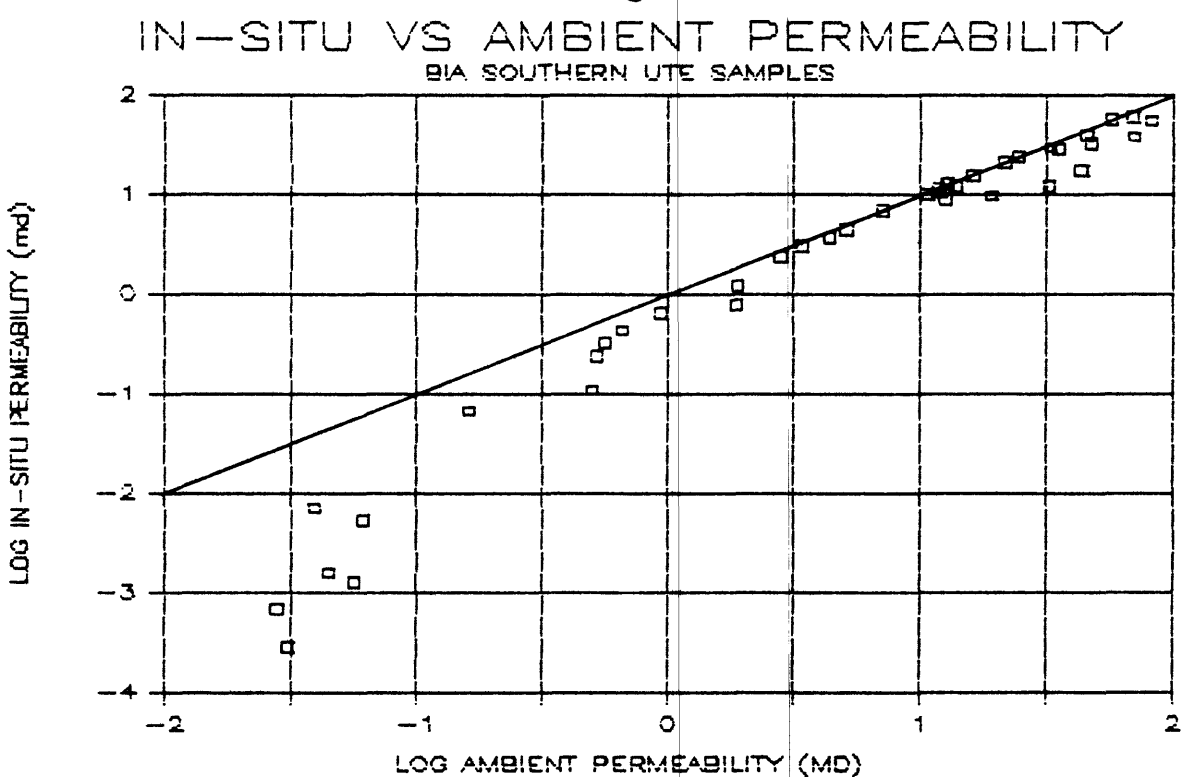


Figure 2



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

Figure 3

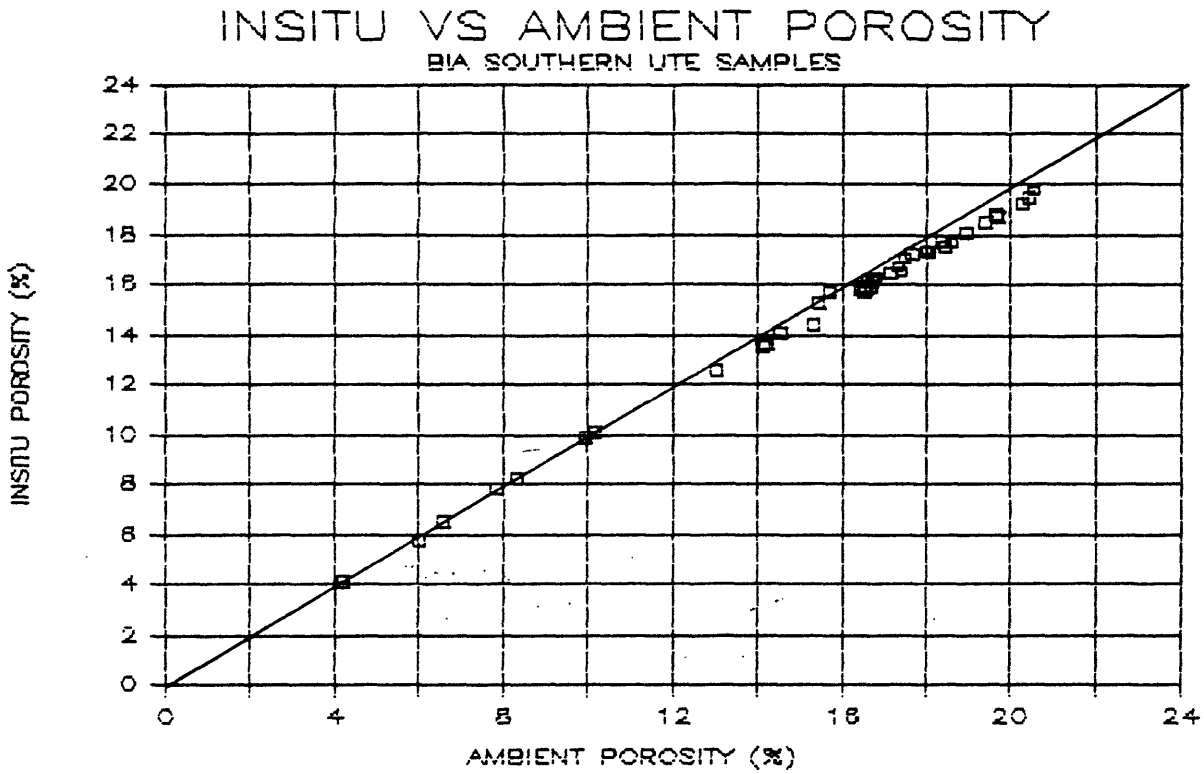
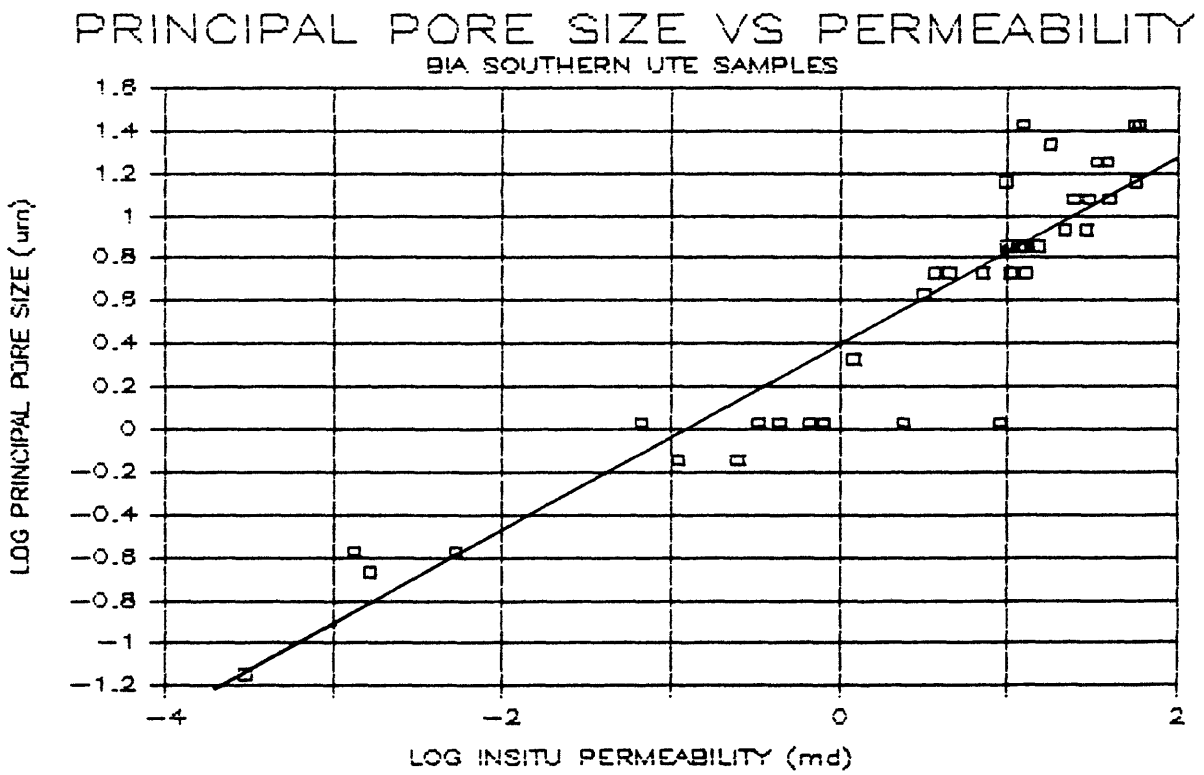


Figure 4



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

Figure 5

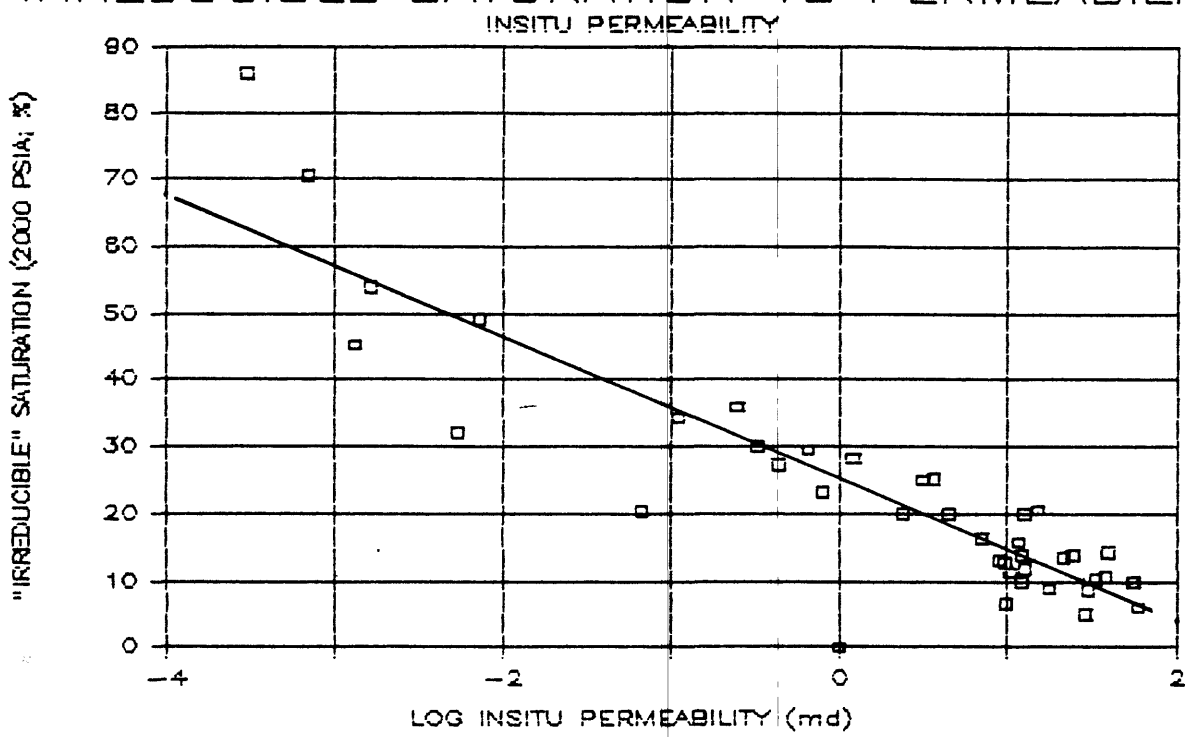


Figure 6

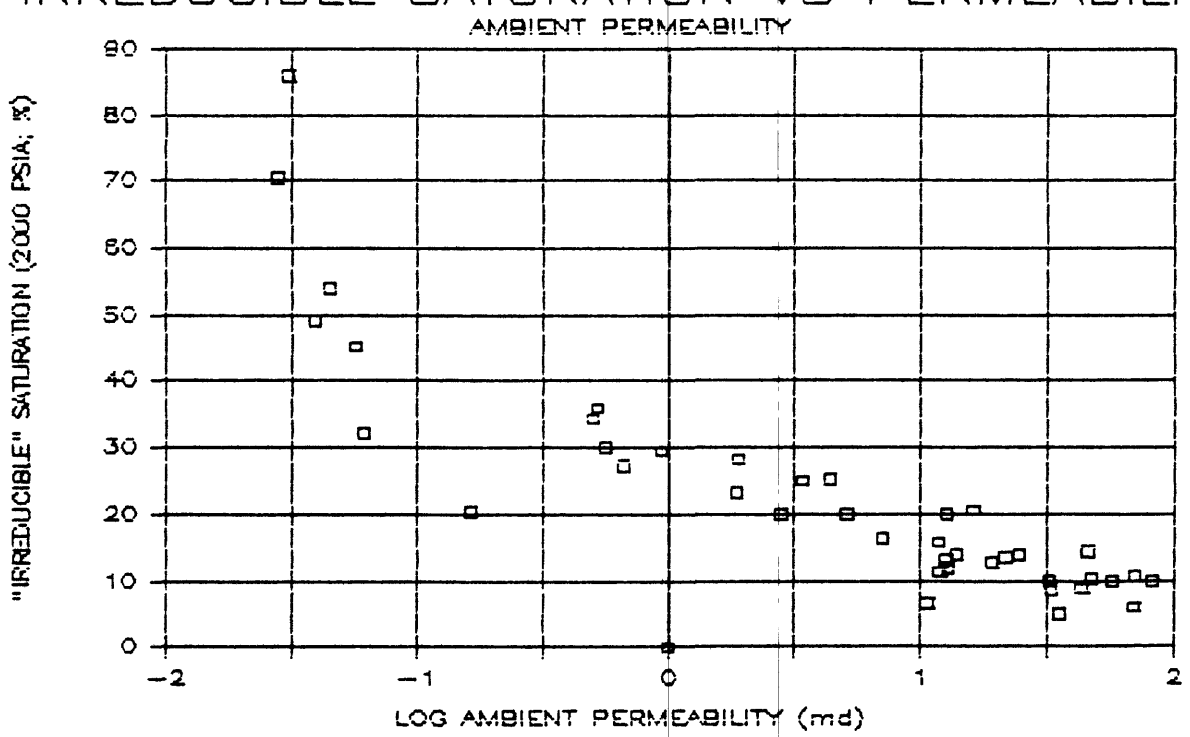


Figure 7

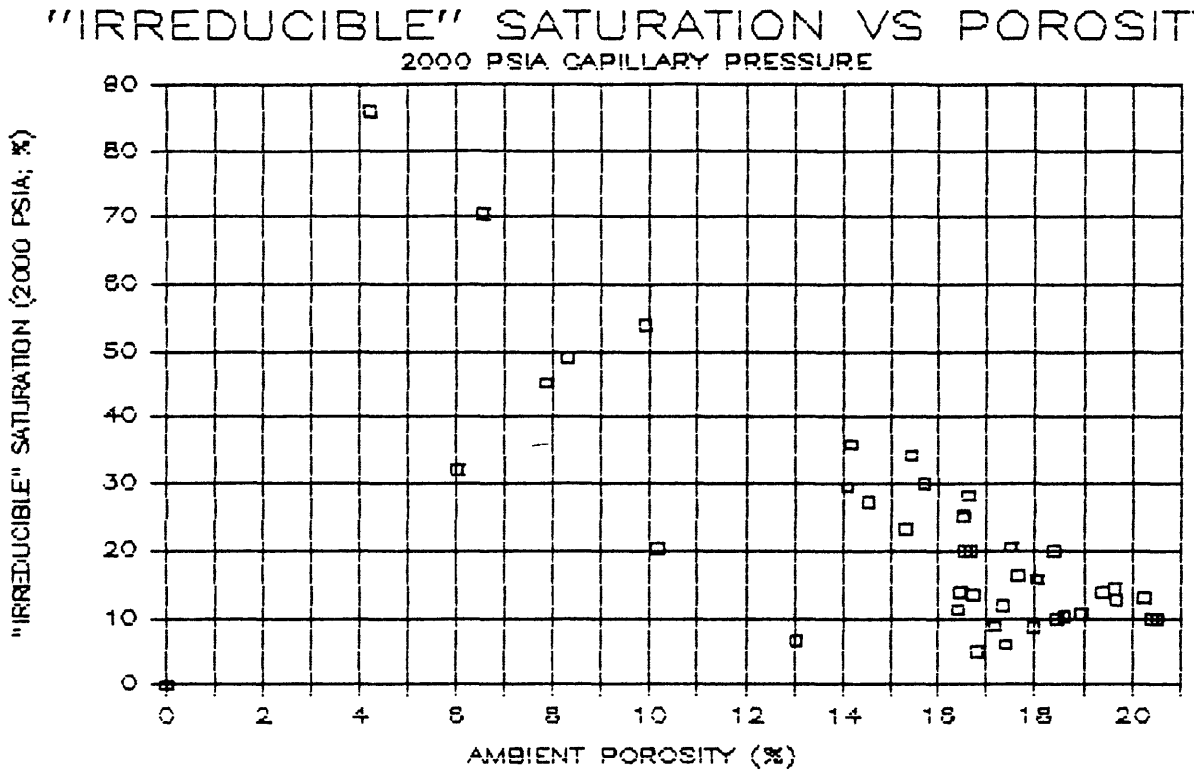
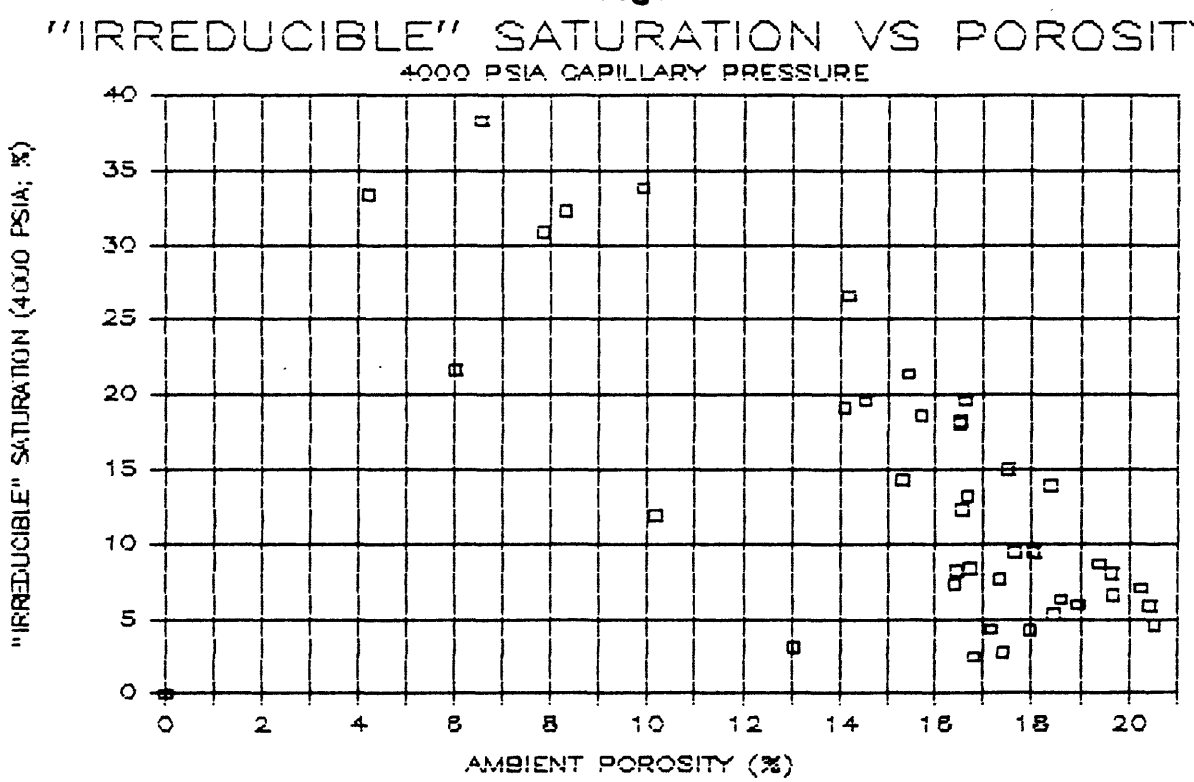


Figure 8



BIA Southern Ute 1-881

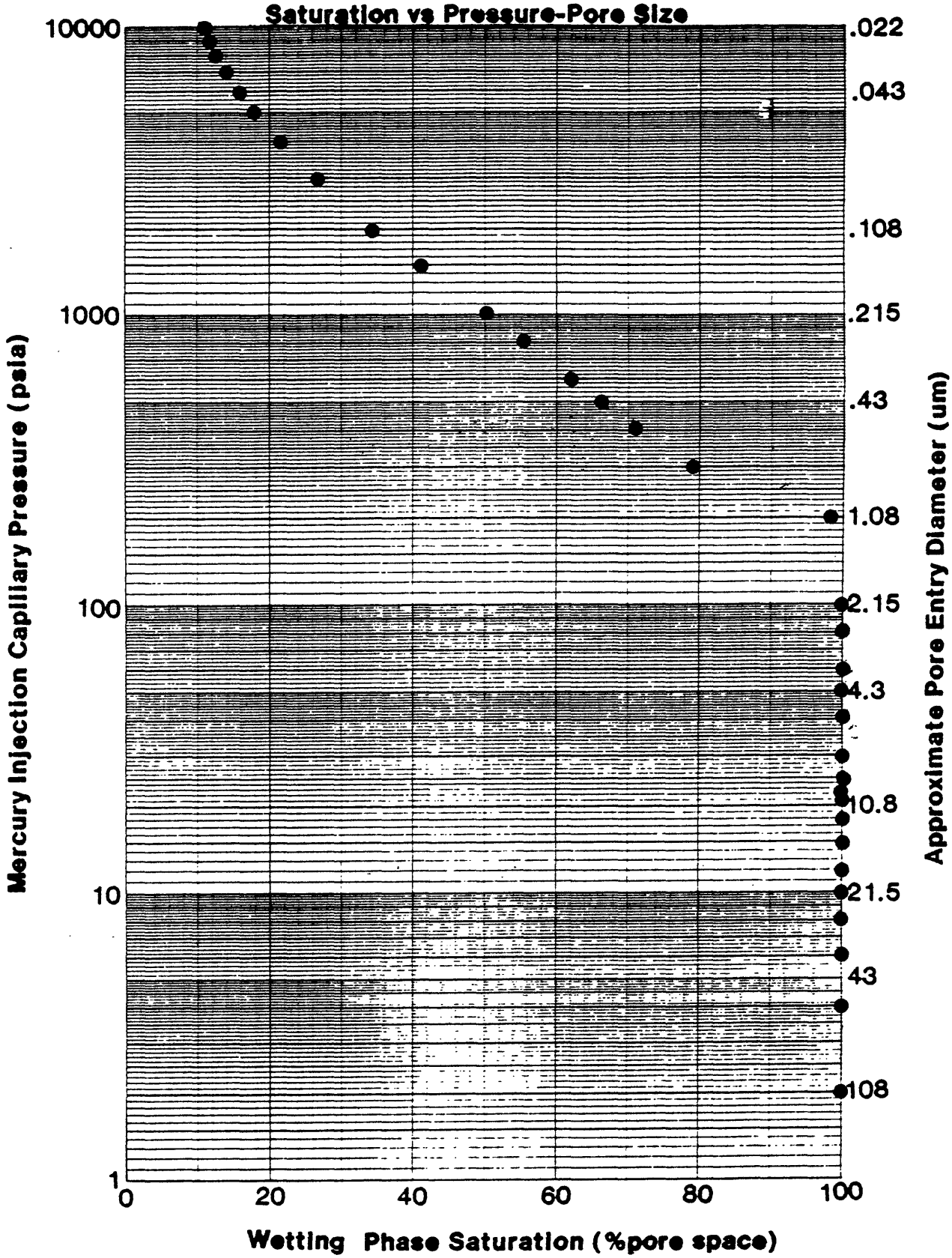
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	100.00
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	100.00
200	1.08	98.0	2.0	0.005	0.889	37.76	93.9	0.01	95.55
300	.717	78.9	19.1	0.078	0.593	56.63	140.9	4.15	48.51
400	.537	70.9	8.1	0.119	0.444	75.51	187.8	9.25	11.51
500	.430	65.9	5.0	0.151	0.356	94.39	234.8	13.40	4.92
600	.358	61.8	4.1	0.182	0.296	113.27	281.8	17.24	2.69
800	.268	55.1	6.7	0.250	0.222	151.02	375.7	24.45	1.40
1000	.215	50.1	5.0	0.315	0.178	188.78	469.6	30.59	0.60
1500	.143	40.7	9.4	0.494	0.119	283.17	704.4	43.66	0.22
2000	.107	34.4	6.3	0.656	0.089	377.56	939.2	53.70	0.05
3000	.072	26.4	8.0	0.963	0.059	566.34	1408.8	67.81	0.01
4000	.054	21.4	4.9	1.215	0.044	755.12	1878.4	77.26	0.00
5000	.043	17.9	3.5	1.437	0.036	943.91	2348.0	84.28	0.00
6000	.035	16.1	1.9	1.580	0.030	1132.69	2817.6	88.18	0.00
7000	.031	14.3	1.8	1.739	0.025	1321.47	3287.2	91.96	0.00
8000	.027	12.8	1.5	1.892	0.022	1510.25	3756.8	95.21	0.00
9000	.024	11.6	1.2	2.028	0.020	1699.03	4226.4	97.83	0.00
10000	.022	10.6	1.0	2.153	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

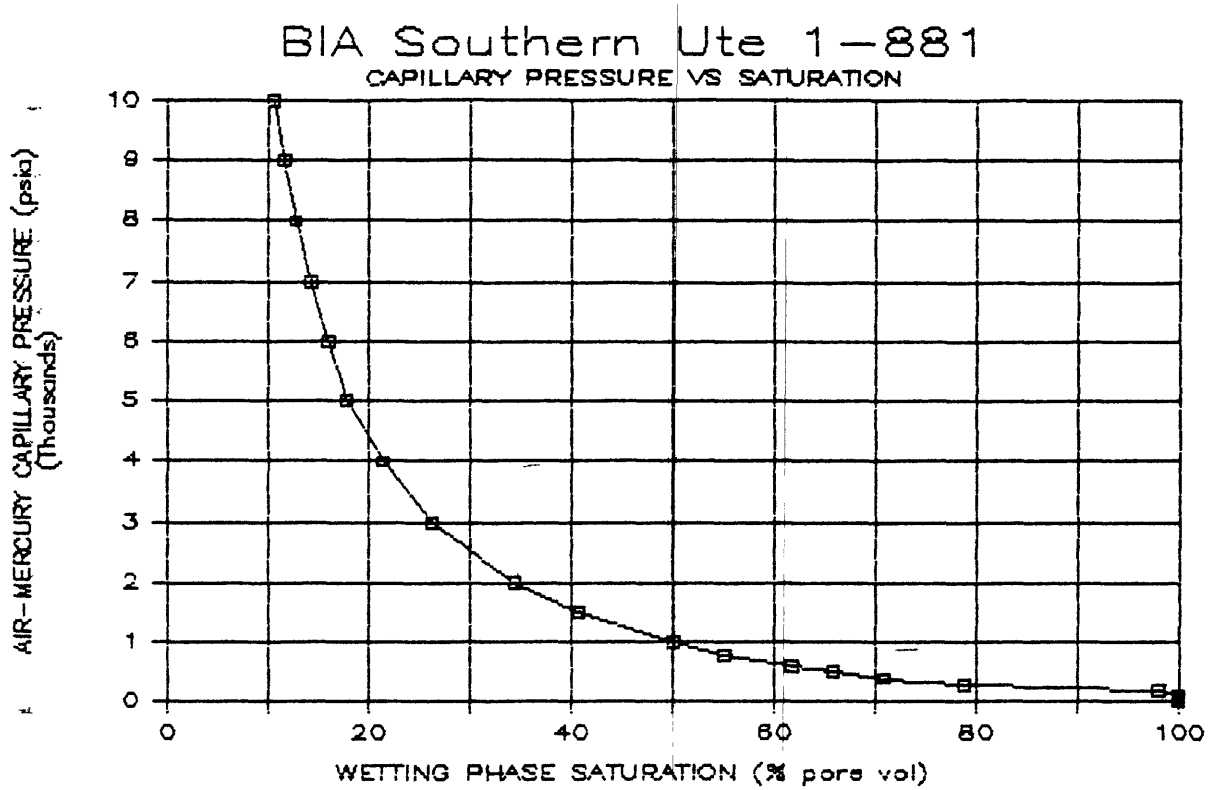
Company: **USGS Denver**

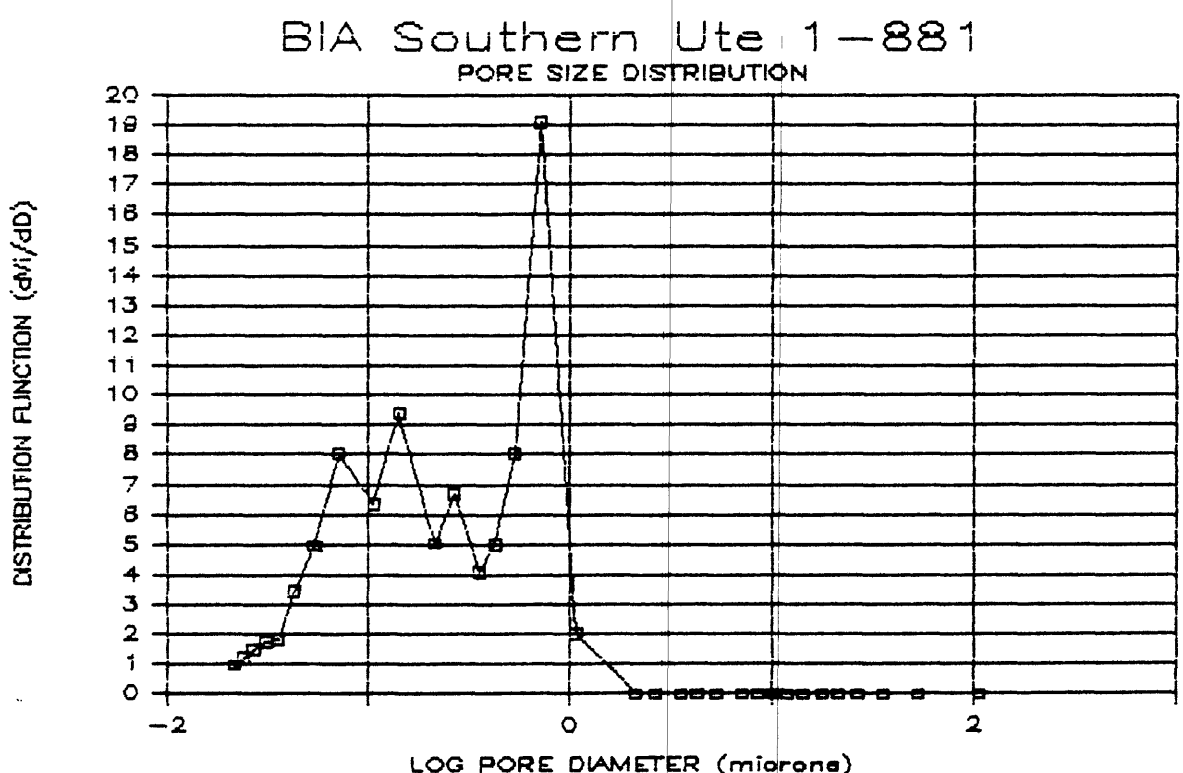
BIA SOUTHERN UTE 1-881



Location/Formation: **BIA Southern Ute**

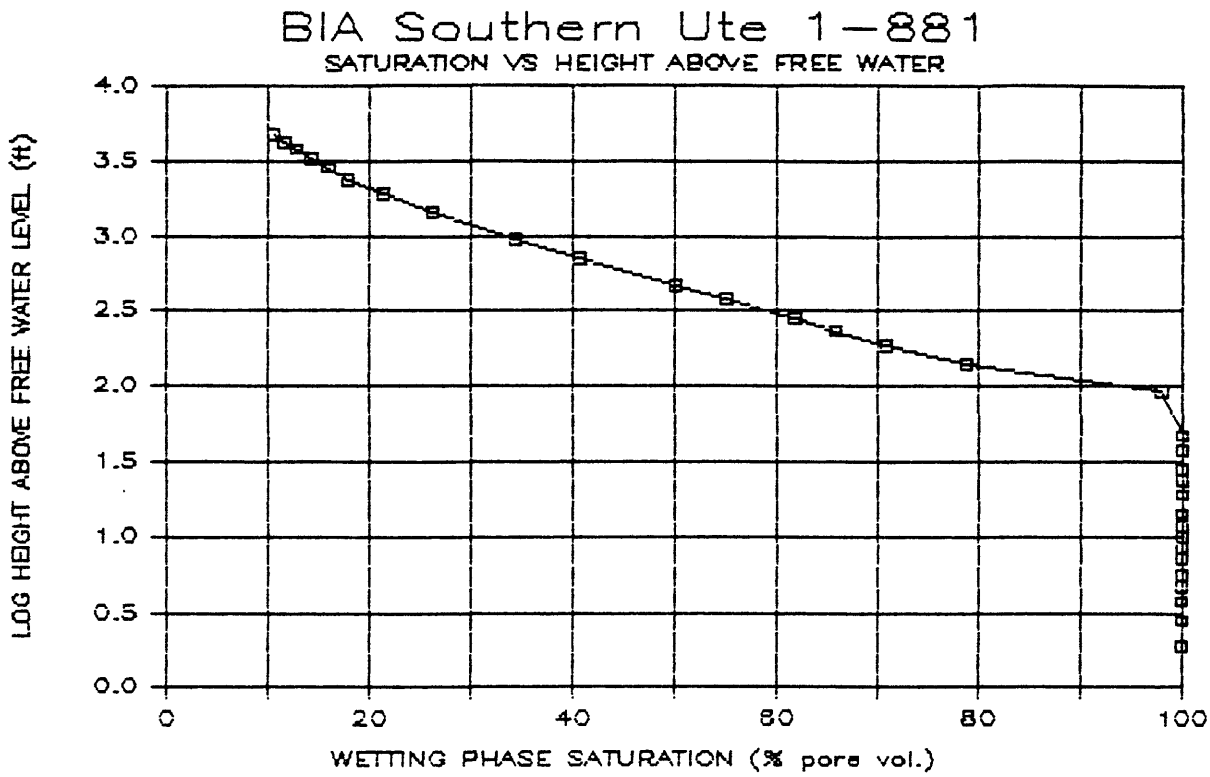
Company: **USGS Denver**

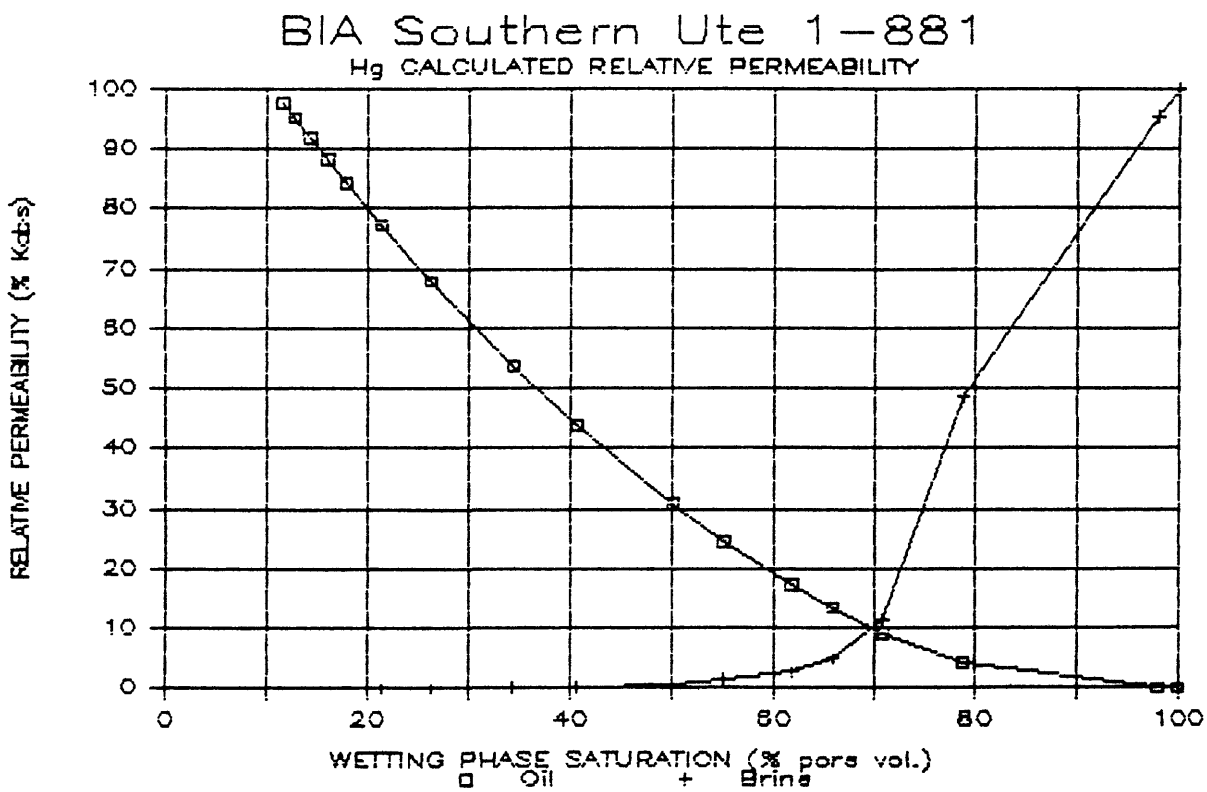




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-935

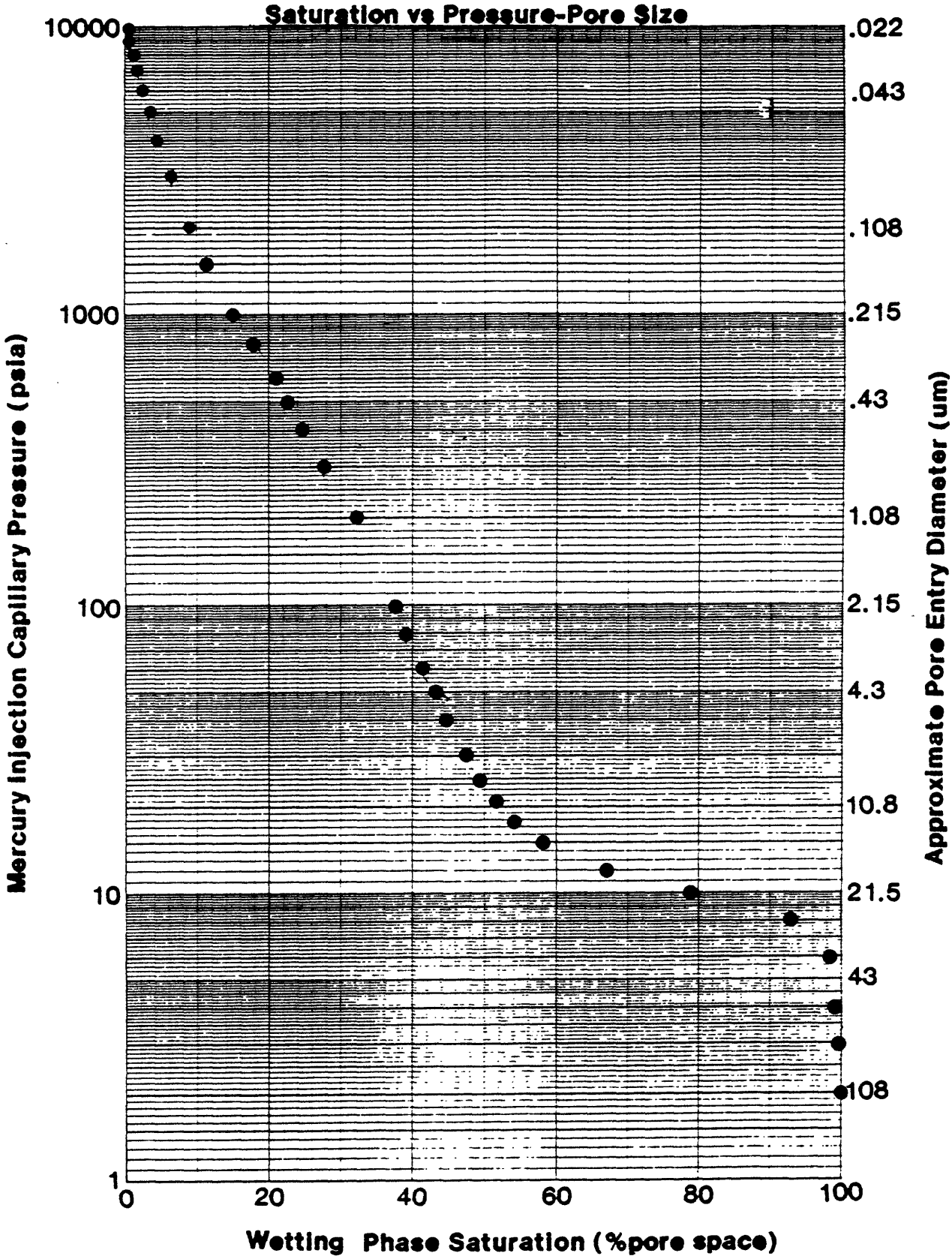
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated: Gas Relative Permeability (%)	Burdine-Purcell Calculated: Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.3	0.7	0.000	44.444	0.76	1.9	0.00	98.53
6	35.8	98.3	1.0	0.000	29.630	1.13	2.8	0.01	83.54
8	26.9	92.6	5.6	0.001	22.222	1.51	3.8	0.24	67.71
10	21.5	78.9	13.7	0.003	17.778	1.89	4.7	3.40	36.29
12	17.9	66.9	12.0	0.005	14.815	2.27	5.6	10.45	13.12
15	14.3	58.0	8.9	0.007	11.852	2.83	7.0	18.45	4.32
18	11.9	54.0	4.1	0.008	9.877	3.40	8.5	22.79	1.47
21	10.2	51.6	2.4	0.008	8.466	3.96	9.9	25.47	0.72
25	8.60	49.5	2.1	0.009	7.111	4.72	11.7	27.88	0.42
30	7.17	47.7	1.9	0.010	5.926	5.66	14.1	30.11	0.25
40	5.37	44.8	2.8	0.011	4.444	7.55	18.8	33.59	0.14
50	4.30	42.9	2.0	0.013	3.556	9.44	23.5	36.07	0.07
60	3.58	41.5	1.3	0.014	2.963	11.33	28.2	37.80	0.04
80	2.69	39.2	2.3	0.017	2.222	15.10	37.6	40.87	0.02
100	2.15	37.4	1.8	0.019	1.778	18.88	47.0	43.34	0.01
200	1.08	31.9	5.5	0.035	0.889	37.76	93.9	51.39	0.01
300	.717	27.7	4.2	0.052	0.593	56.63	140.9	57.95	0.00
400	.537	24.5	3.2	0.070	0.444	75.51	187.8	63.14	0.00
500	.430	22.3	2.2	0.086	0.356	94.39	234.8	66.84	0.00
600	.358	20.4	1.9	0.102	0.296	113.27	281.8	70.24	0.00
800	.268	17.2	3.1	0.137	0.222	151.02	375.7	75.88	0.00
1000	.215	14.9	2.4	0.171	0.178	188.78	469.6	80.33	0.00
1500	.143	11.1	3.7	0.250	0.119	283.17	704.4	87.55	0.00
2000	.107	8.9	2.3	0.313	0.089	377.56	939.2	92.04	0.00
3000	.072	6.1	2.8	0.431	0.059	566.34	1408.8	97.77	0.00
4000	.054	4.3	1.8	0.532	0.044	755.12	1878.4	100.00	0.00
5000	.043	3.0	1.3	0.622	0.036	943.91	2348.0	100.00	0.00
6000	.035	2.0	1.0	0.705	0.030	1132.69	2817.6	100.00	0.00
7000	.031	1.4	0.7	0.769	0.025	1321.47	3287.2	100.00	0.00
8000	.027	0.9	0.4	0.819	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.4	0.6	0.891	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.0	0.4	0.941	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-935

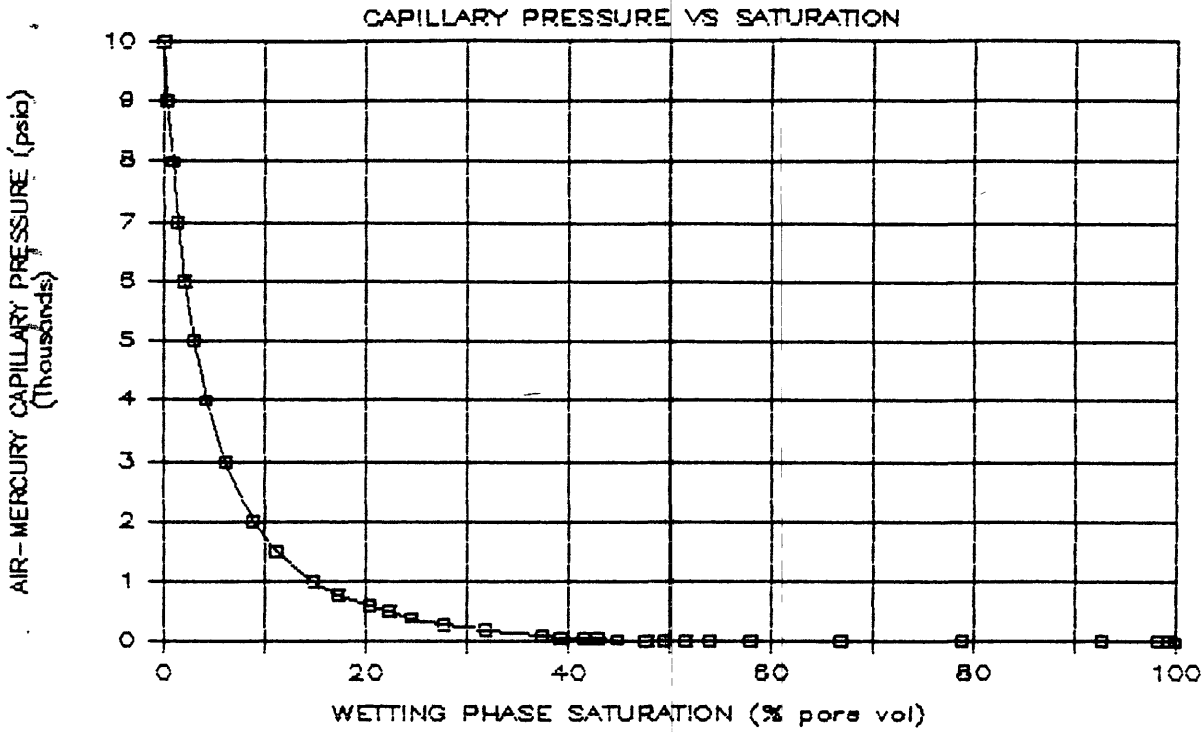


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

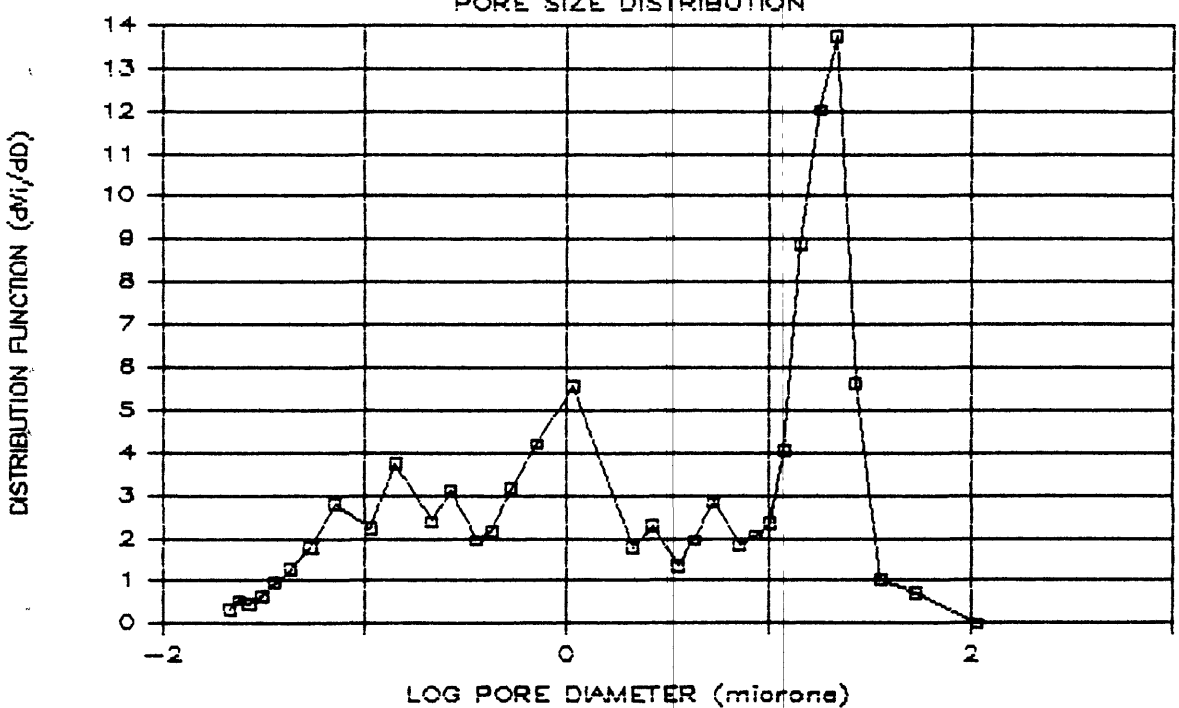
BIA Southern Ute 1-935

CAPILLARY PRESSURE VS SATURATION



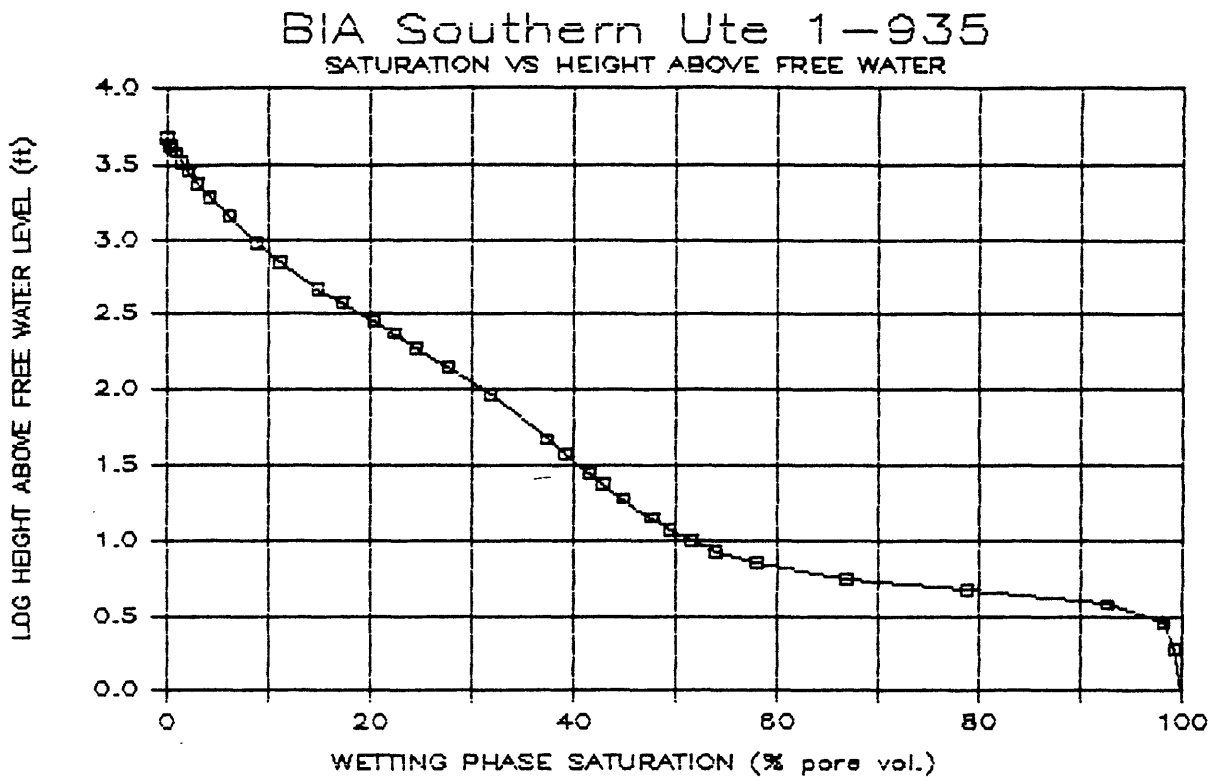
BIA Southern Ute 1-935

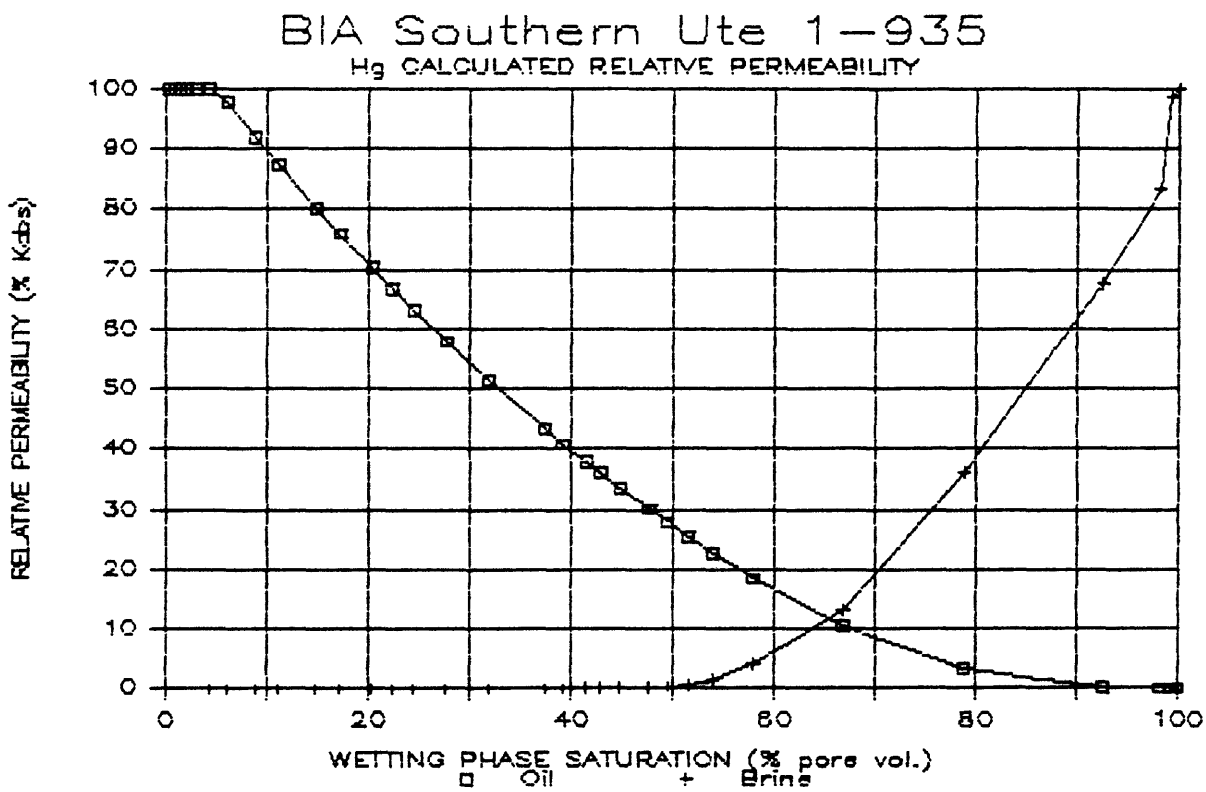
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-953

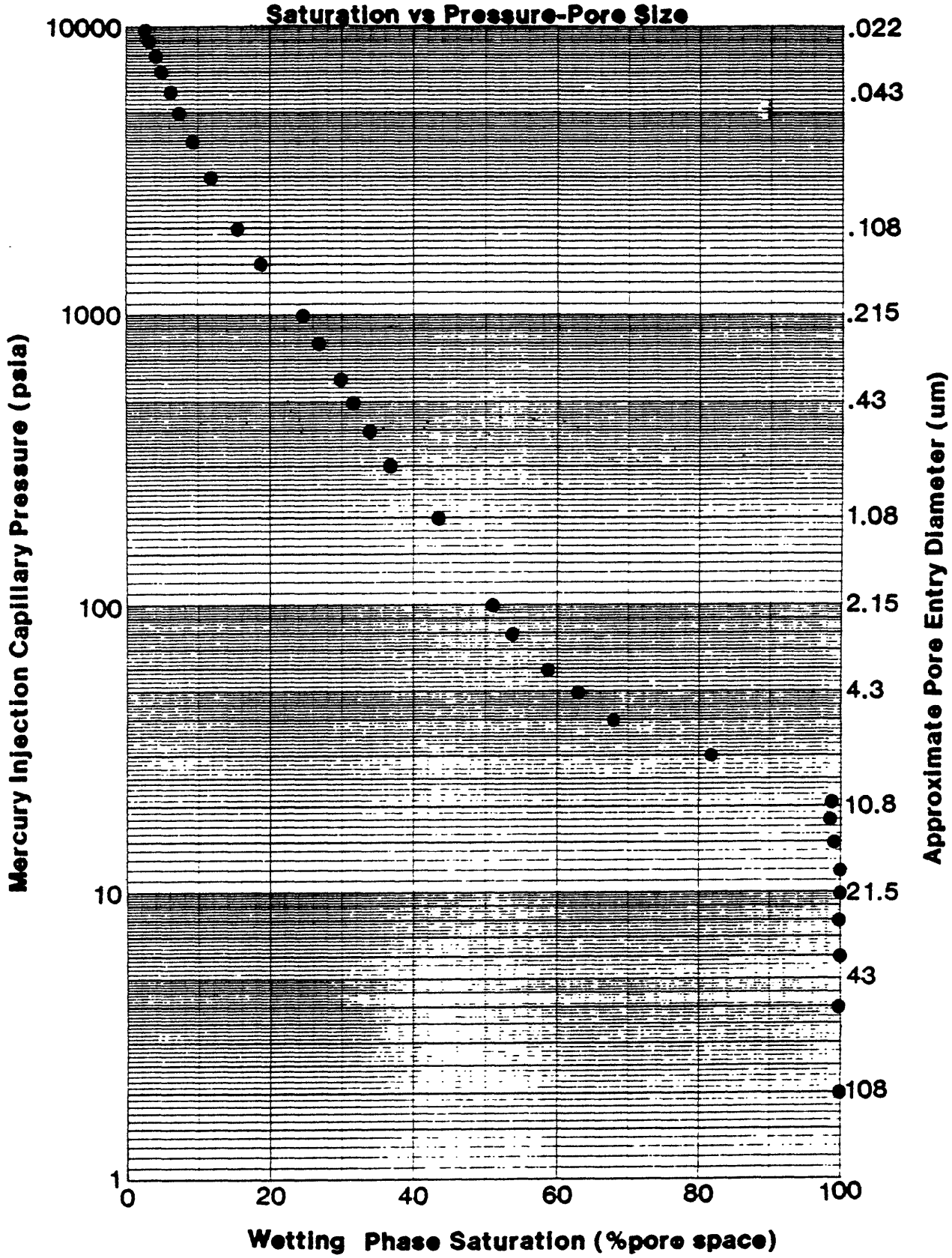
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	99.7	0.3	0.000	11.852	2.83	7.0	0.00	100.00
18	11.9	99.5	0.2	0.000	9.877	3.40	8.5	0.00	95.67
21	10.2	99.1	0.5	0.000	8.466	3.96	9.9	0.00	92.99
25	8.60	97.1	1.9	0.001	7.111	4.72	11.7	0.01	86.65
30	7.17	82.0	15.1	0.008	5.926	5.66	14.1	2.21	55.13
40	5.37	68.3	13.7	0.016	4.444	7.55	18.8	9.70	17.08
50	4.30	62.9	5.4	0.020	3.556	9.44	23.5	14.20	4.86
60	3.58	59.3	3.6	0.024	2.963	11.33	28.2	17.53	2.31
80	2.69	54.3	5.0	0.030	2.222	15.10	37.6	22.68	1.18
100	2.15	50.9	3.4	0.035	1.778	18.88	47.0	26.44	0.48
200	1.08	43.4	7.5	0.057	0.889	37.76	93.9	35.40	0.18
300	.717	37.0	6.4	0.087	0.593	56.63	140.9	43.97	0.04
400	.537	33.9	3.0	0.105	0.444	75.51	187.8	48.31	0.01
500	.430	31.8	2.2	0.121	0.356	94.39	234.8	51.52	0.01
600	.358	30.1	1.7	0.137	0.296	113.27	281.8	54.11	0.00
800	.268	27.0	3.1	0.174	0.222	151.02	375.7	58.98	0.00
1000	.215	24.7	2.4	0.209	0.178	188.78	469.6	62.85	0.00
1500	.143	19.0	5.6	0.338	0.119	283.17	704.4	72.62	0.00
2000	.107	15.7	3.4	0.440	0.089	377.56	939.2	78.80	0.00
3000	.072	11.9	3.8	0.613	0.059	566.34	1408.8	86.10	0.00
4000	.054	9.4	2.4	0.759	0.044	755.12	1878.4	90.87	0.00
5000	.043	7.7	1.8	0.892	0.036	943.91	2348.0	94.42	0.00
6000	.035	6.4	1.3	1.012	0.030	1132.69	2817.6	97.15	0.00
7000	.031	5.4	1.0	1.117	0.025	1321.47	3287.2	99.22	0.00
8000	.027	4.5	0.8	1.218	0.022	1510.25	3756.8	100.00	0.00
9000	.024	3.8	0.7	1.320	0.020	1699.03	4226.4	100.00	0.00
10000	.022	3.1	0.7	1.421	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-953

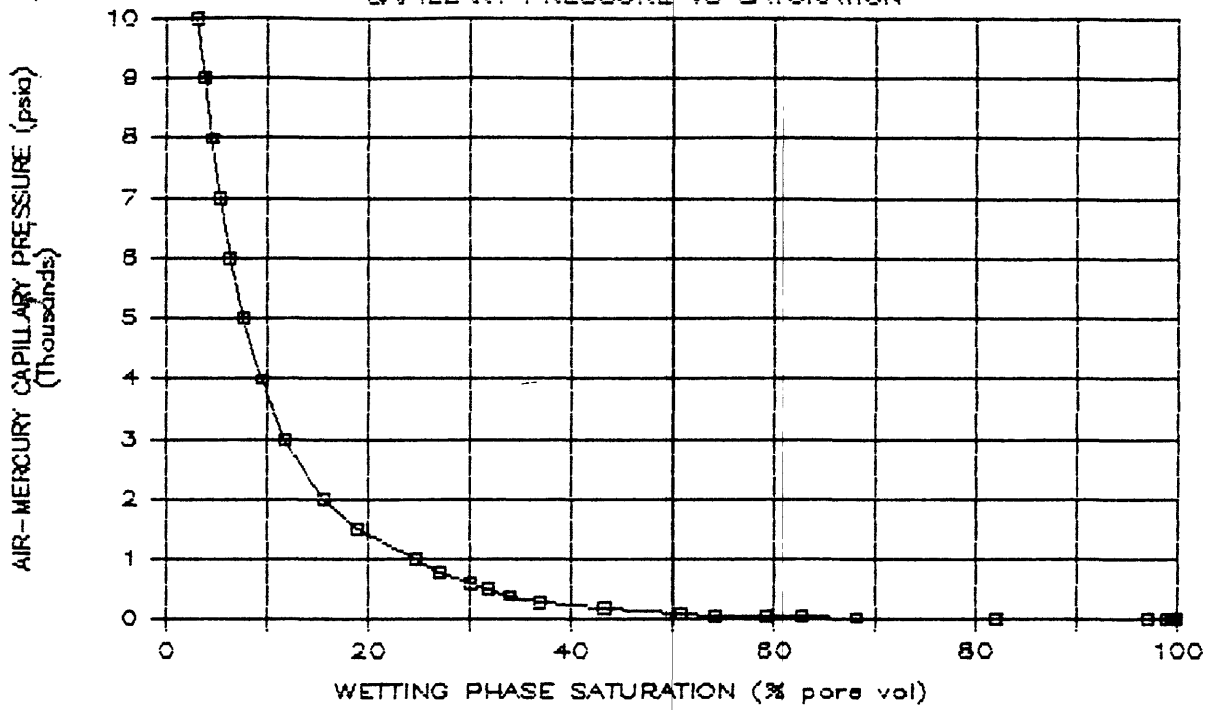


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

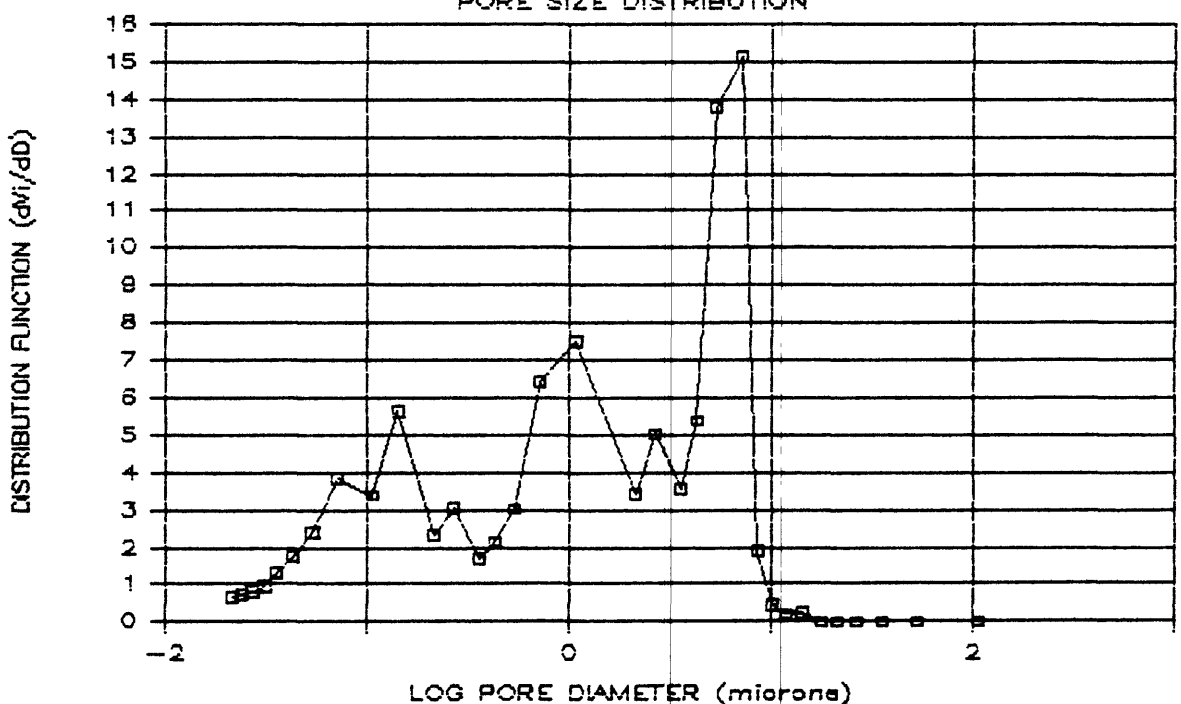
BIA Southern Ute 1-953

CAPILLARY PRESSURE VS SATURATION



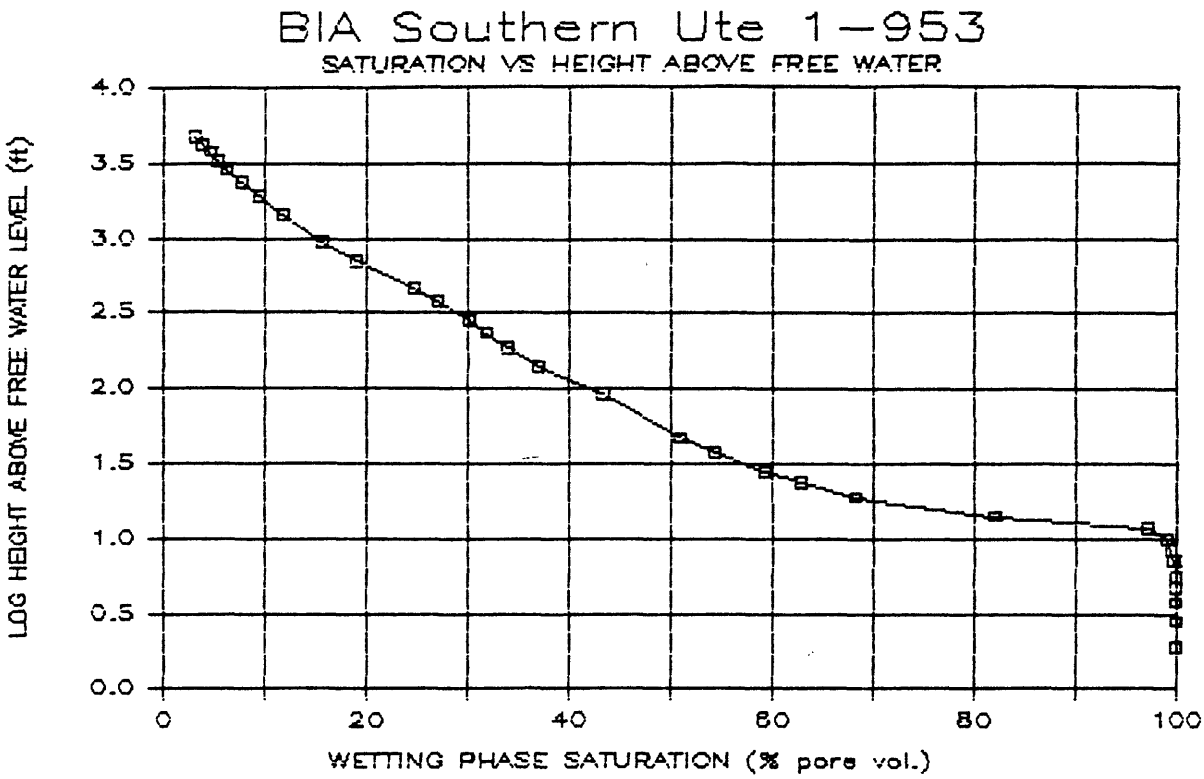
BIA Southern Ute 1-953

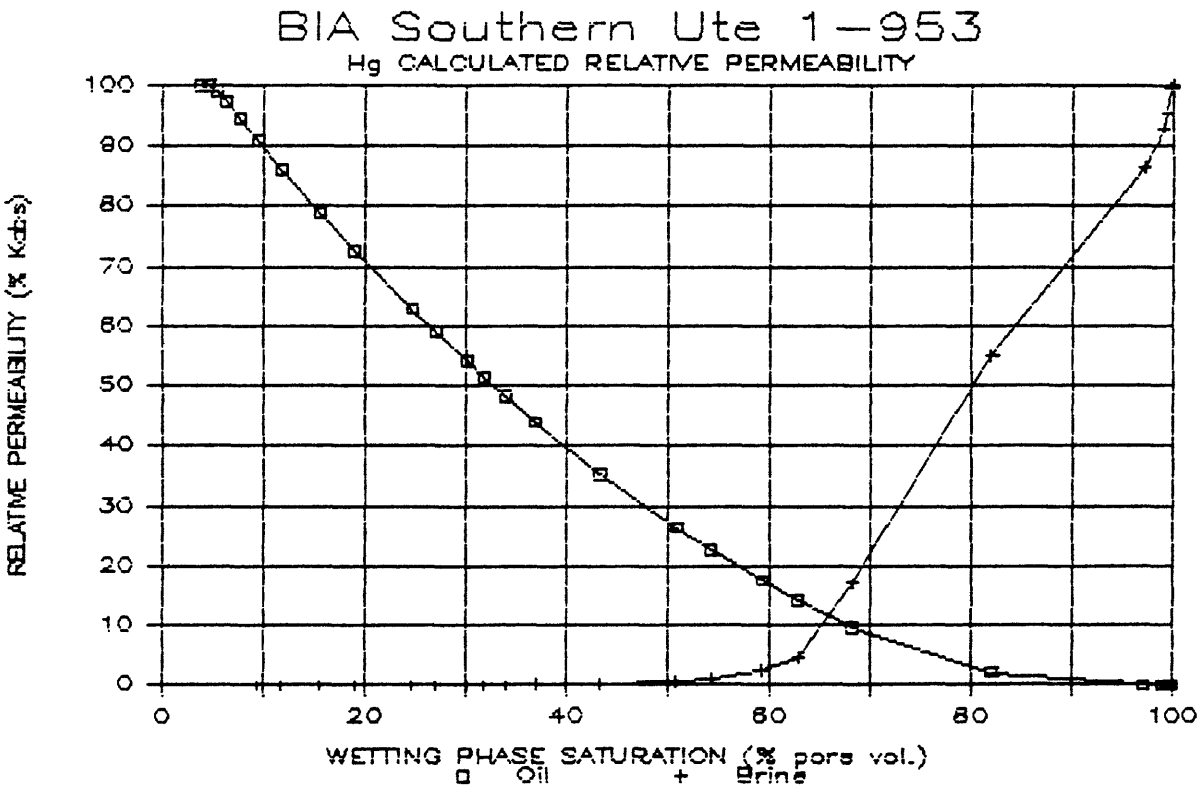
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-972

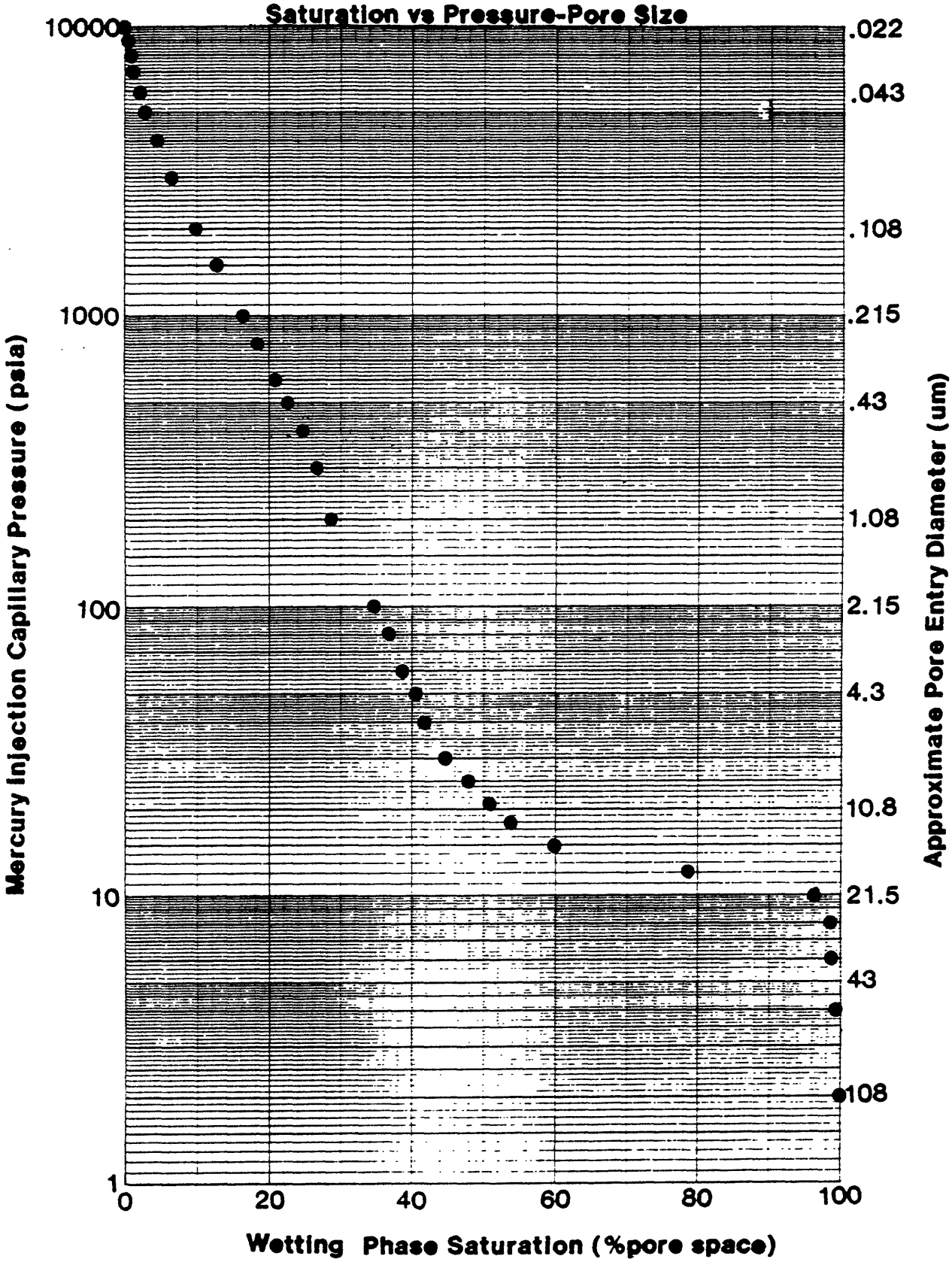
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated: Gas Relative Permeability (%)	Burdine-Purcell Calculated: Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.8	0.2	0.000	44.444	0.76	1.9	0.00	100.00
6	35.8	99.4	0.4	0.000	29.630	1.13	2.8	0.00	92.42
8	26.9	98.9	0.5	0.000	22.222	1.51	3.8	0.00	87.66
10	21.5	96.3	2.6	0.001	17.778	1.89	4.7	0.03	80.23
12	17.9	78.2	18.1	0.004	14.815	2.27	5.6	3.23	46.56
15	14.3	60.0	18.3	0.009	11.852	2.83	7.0	15.64	12.92
18	11.9	53.9	6.1	0.011	9.877	3.40	8.5	22.18	3.16
21	10.2	50.6	3.3	0.012	8.466	3.96	9.9	26.08	1.38
25	8.60	47.9	2.7	0.014	7.111	4.72	11.7	29.37	0.75
30	7.17	44.6	3.3	0.015	5.926	5.66	14.1	33.56	0.41
40	5.37	42.0	2.6	0.017	4.444	7.55	18.8	36.98	0.18
50	4.30	40.3	1.8	0.019	3.556	9.44	23.5	39.34	0.09
60	3.58	38.9	1.4	0.020	2.963	11.33	28.2	41.27	0.05
80	2.69	36.5	2.3	0.023	2.222	15.10	37.6	44.55	0.03
100	2.15	34.6	2.0	0.027	1.778	18.88	47.0	47.42	0.01
200	1.08	29.2	5.4	0.046	0.889	37.76	93.9	55.56	0.01
300	.717	26.5	2.6	0.060	0.593	56.63	140.9	59.79	0.00
400	.537	24.6	2.0	0.073	0.444	75.51	187.8	63.04	0.00
500	.430	22.8	1.8	0.089	0.356	94.39	234.8	66.08	0.00
600	.358	21.2	1.6	0.106	0.296	113.27	281.8	68.81	0.00
800	.268	18.2	3.0	0.149	0.222	151.02	375.7	74.22	0.00
1000	.215	16.1	2.1	0.185	0.178	188.78	469.6	78.07	0.00
1500	.143	12.5	3.6	0.280	0.119	283.17	704.4	84.90	0.00
2000	.107	9.9	2.6	0.371	0.089	377.56	939.2	90.00	0.00
3000	.072	6.7	3.2	0.539	0.059	566.34	1408.8	96.48	0.00
4000	.054	4.6	2.1	0.685	0.044	755.12	1878.4	100.00	0.00
5000	.043	3.3	1.3	0.801	0.036	943.91	2348.0	100.00	0.00
6000	.035	2.5	0.8	0.884	0.030	1132.69	2817.6	100.00	0.00
7000	.031	1.7	0.8	0.981	0.025	1321.47	3287.2	100.00	0.00
8000	.027	1.0	0.7	1.078	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.4	0.7	1.183	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.0	0.4	1.245	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-972

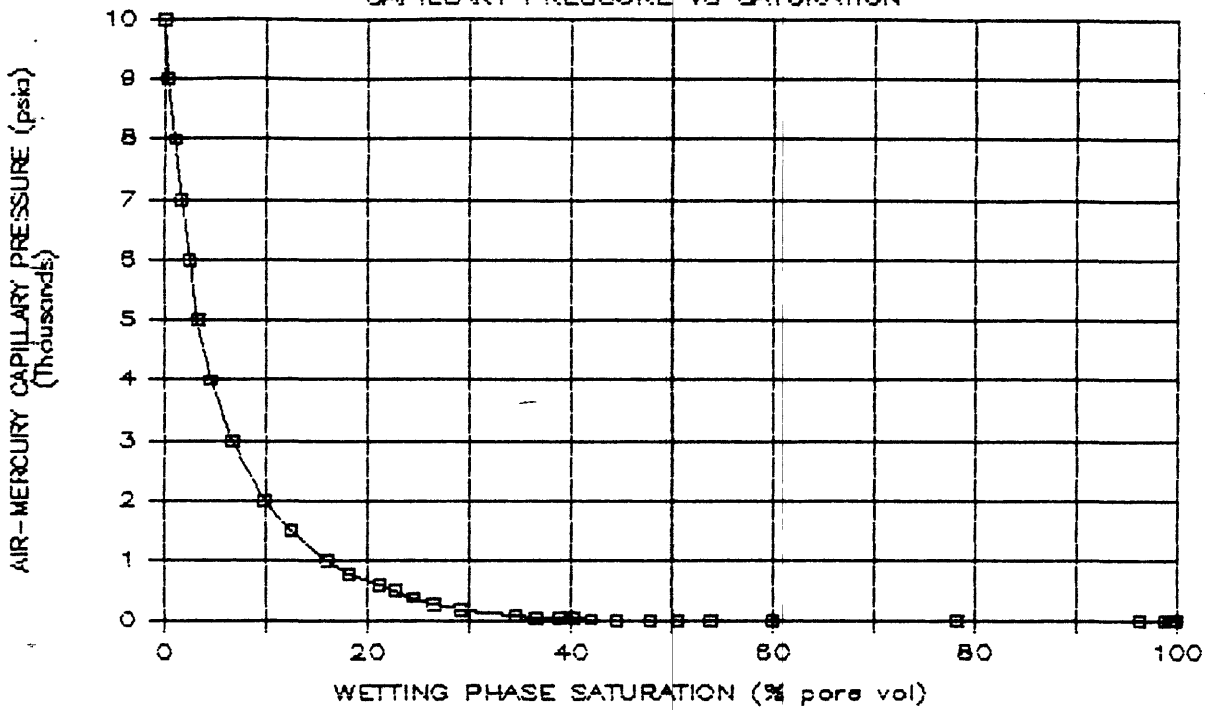


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

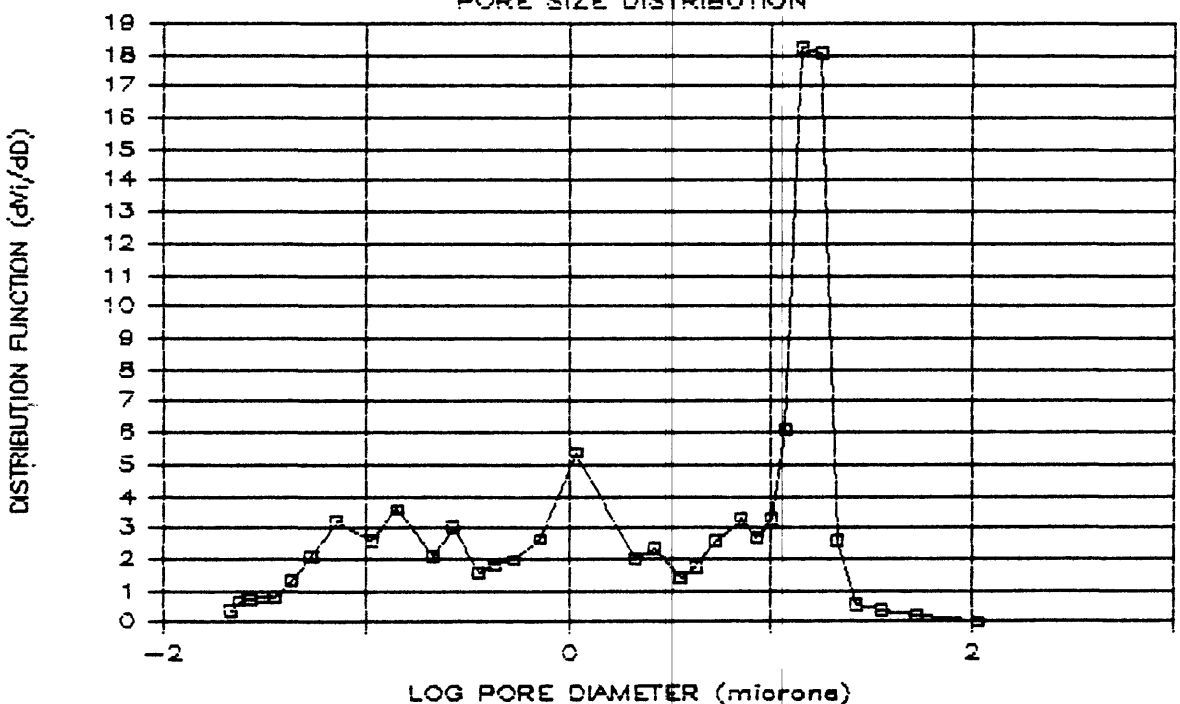
BIA Southern Ute 1-972

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1-972

PORE SIZE DISTRIBUTION

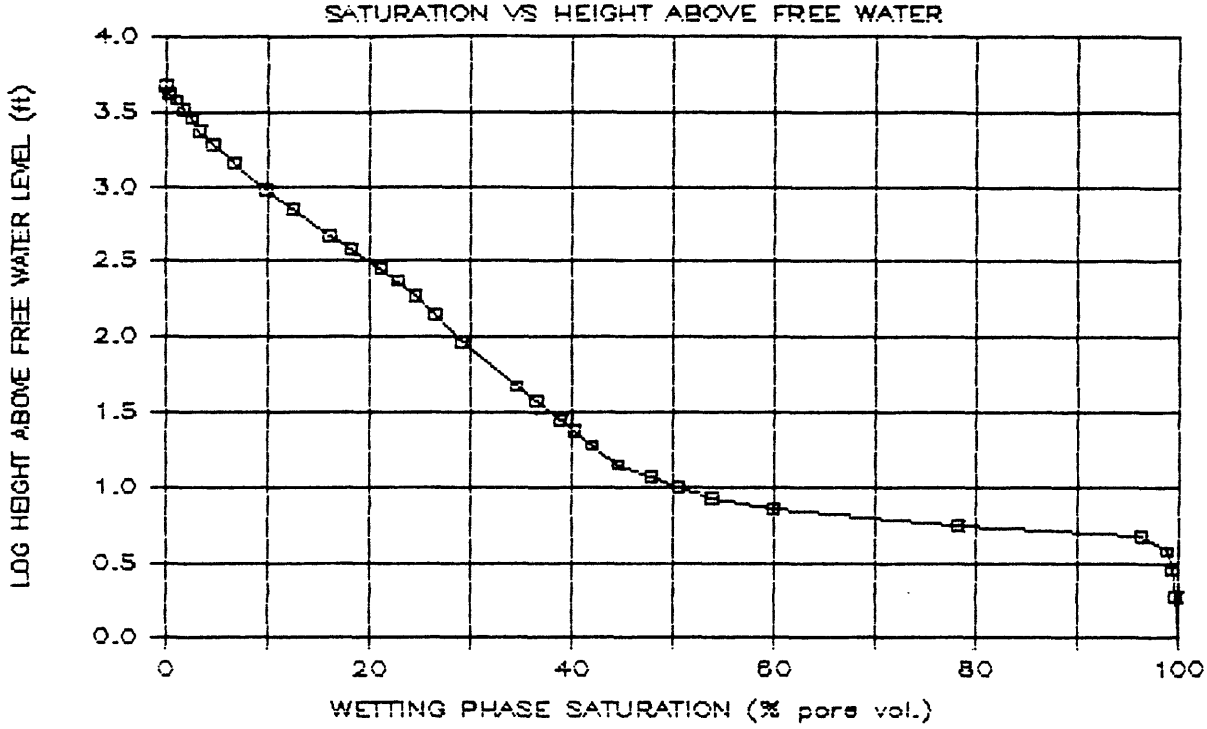


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

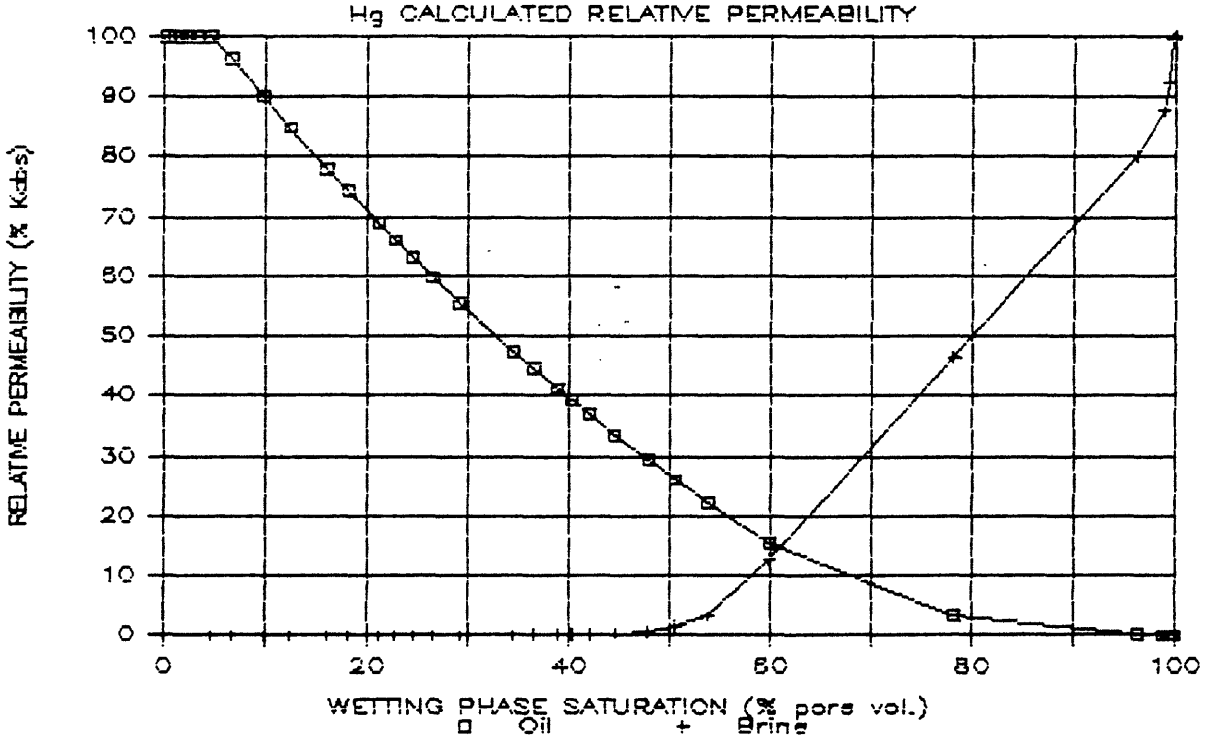
BIA Southern Ute 1-972

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1-972

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-994

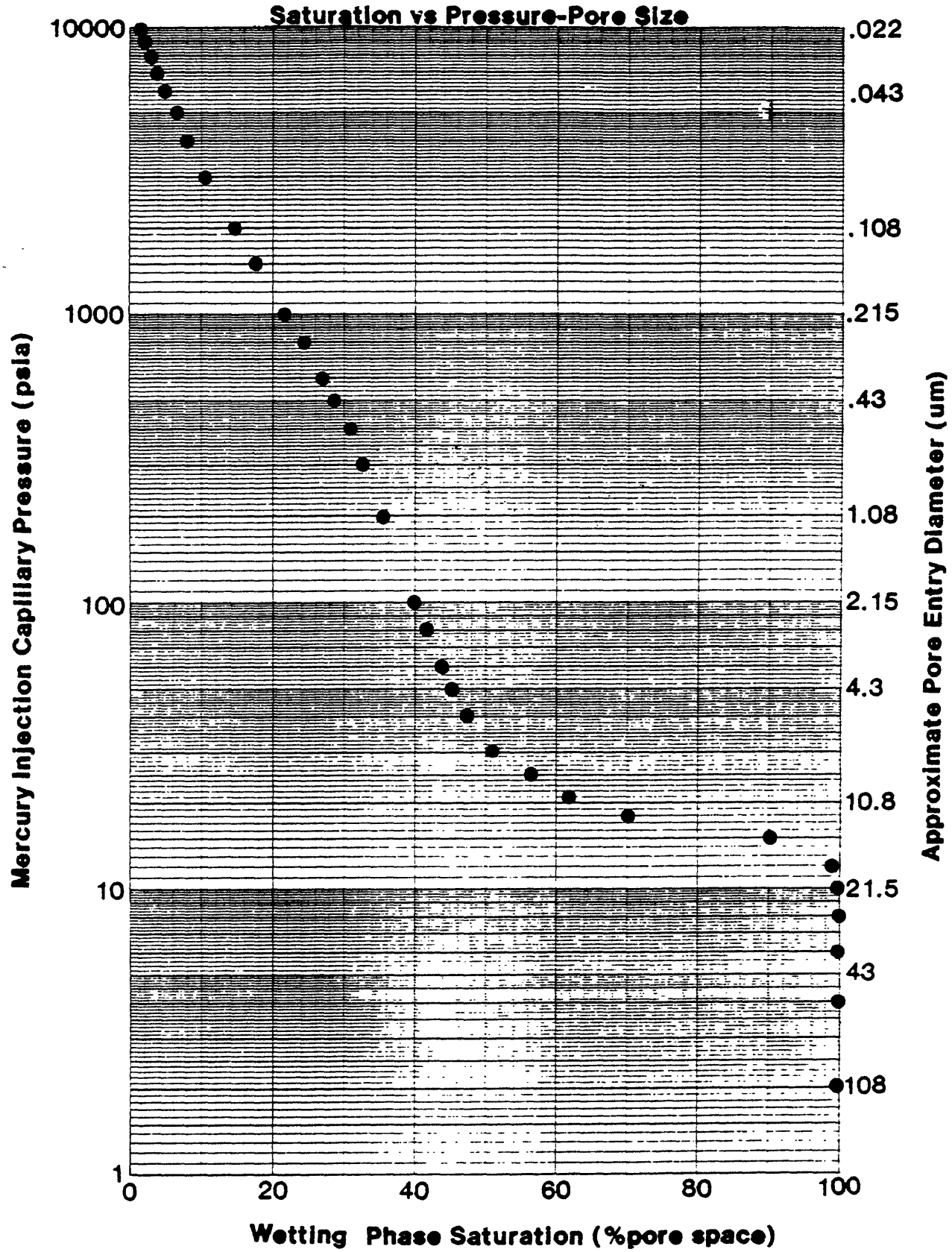
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.8	0.2	0.000	44.444	0.76	1.9	0.00	100.00
6	35.8	99.8	0.0	0.000	0.000	1.13	2.8	0.00	88.33
8	26.9	99.6	0.2	0.000	22.222	1.51	3.8	0.00	88.01
10	21.5	99.5	0.1	0.000	17.778	1.89	4.7	0.00	85.98
12	17.9	99.0	0.5	0.000	14.815	2.27	5.6	0.00	84.19
15	14.3	90.1	8.9	0.002	11.852	2.83	7.0	0.45	67.28
18	11.9	70.3	19.8	0.008	9.877	3.40	8.5	7.59	27.95
21	10.2	61.9	8.3	0.011	8.466	3.96	9.9	14.22	8.09
25	8.60	56.4	5.6	0.013	7.111	4.72	11.7	19.79	3.35
30	7.17	51.4	5.0	0.016	5.926	5.66	14.1	25.47	1.47
40	5.37	47.6	3.8	0.018	4.444	7.55	18.8	30.05	0.57
50	4.30	45.4	2.2	0.020	3.556	9.44	23.5	32.75	0.23
60	3.58	44.0	1.4	0.022	2.963	11.33	28.2	34.59	0.12
80	2.69	41.7	2.3	0.025	2.222	15.10	37.6	37.55	0.07
100	2.15	40.0	1.7	0.028	1.778	18.88	47.0	39.80	0.03
200	1.08	35.4	4.7	0.043	0.889	37.76	93.9	46.29	0.02
300	.717	32.5	2.9	0.057	0.593	56.63	140.9	50.55	0.00
400	.537	30.3	2.2	0.072	0.444	75.51	187.8	53.85	0.00
500	.430	28.6	1.6	0.085	0.356	94.39	234.8	56.42	0.00
600	.358	27.1	1.6	0.101	0.296	113.27	281.8	58.92	0.00
800	.268	24.1	2.9	0.140	0.222	151.02	375.7	63.75	0.00
1000	.215	21.7	2.4	0.180	0.178	188.78	469.6	67.87	0.00
1500	.143	17.6	4.2	0.283	0.119	283.17	704.4	75.29	0.00
2000	.107	14.4	3.1	0.387	0.089	377.56	939.2	81.11	0.00
3000	.072	10.5	3.9	0.581	0.059	566.34	1408.8	88.68	0.00
4000	.054	8.0	2.5	0.748	0.044	755.12	1878.4	93.73	0.00
5000	.043	6.3	1.7	0.887	0.036	943.91	2348.0	97.19	0.00
6000	.035	5.1	1.3	1.014	0.030	1132.69	2817.6	99.85	0.00
7000	.031	4.0	1.0	1.136	0.025	1321.47	3287.2	100.00	0.00
8000	.027	3.2	0.8	1.248	0.022	1510.25	3756.8	100.00	0.00
9000	.024	2.4	0.8	1.363	0.020	1699.03	4226.4	100.00	0.00
10000	.022	1.8	0.6	1.457	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-994

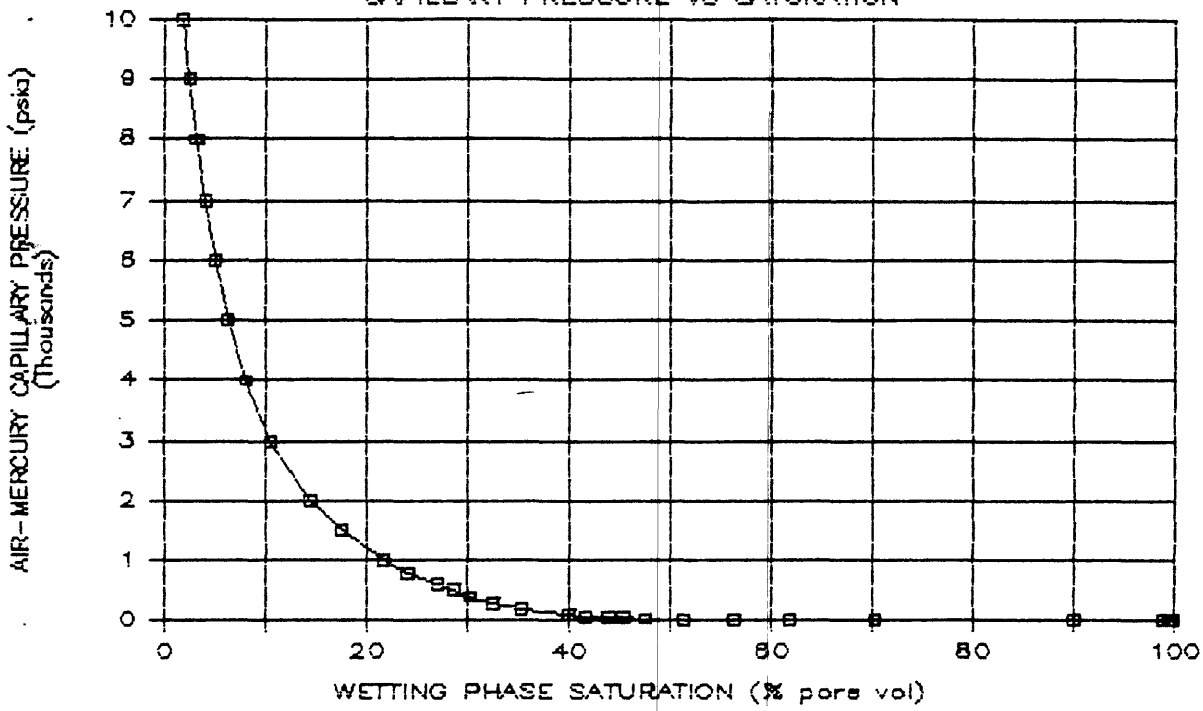


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

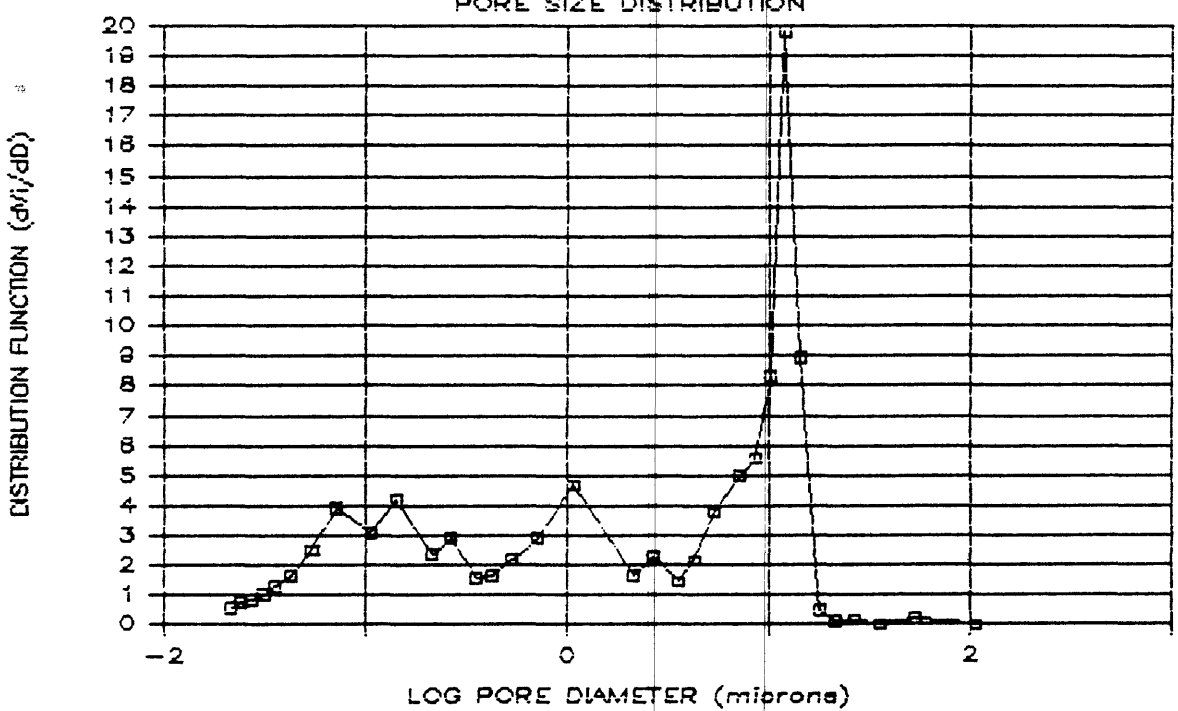
BIA Southern Ute 1-994

CAPILLARY PRESSURE VS SATURATION



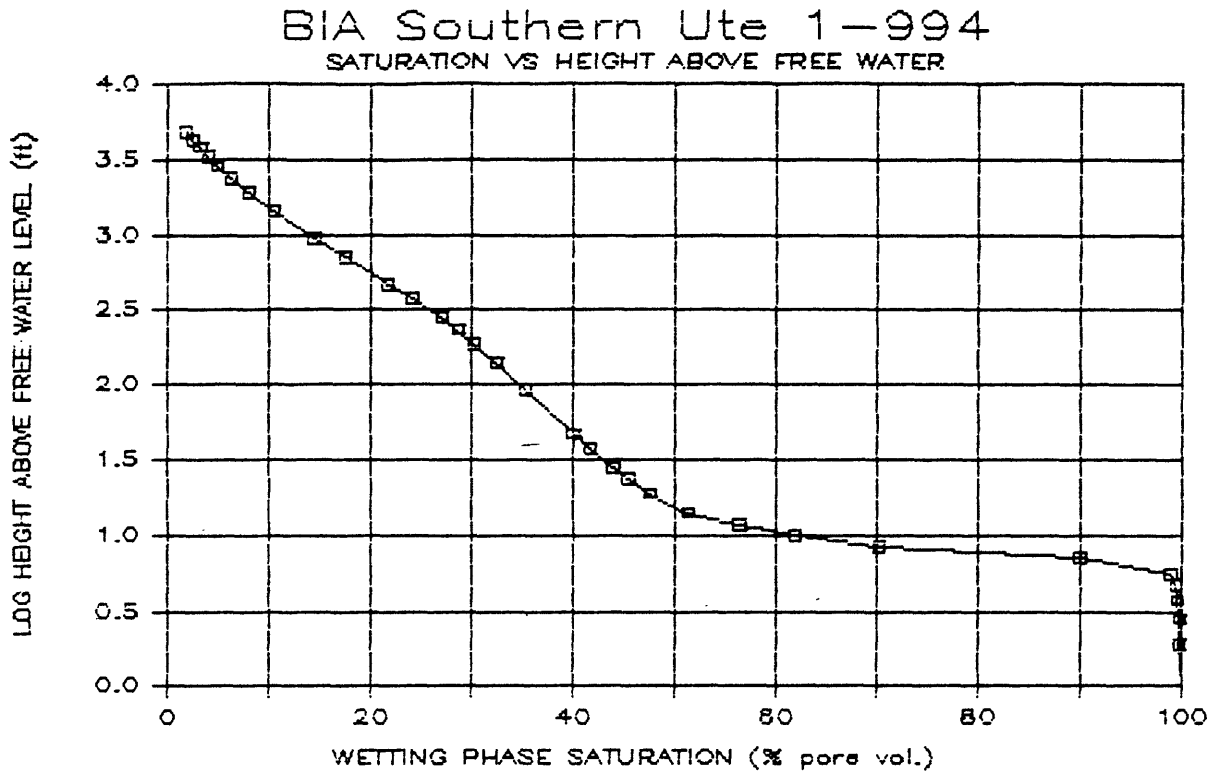
BIA Southern Ute 1-994

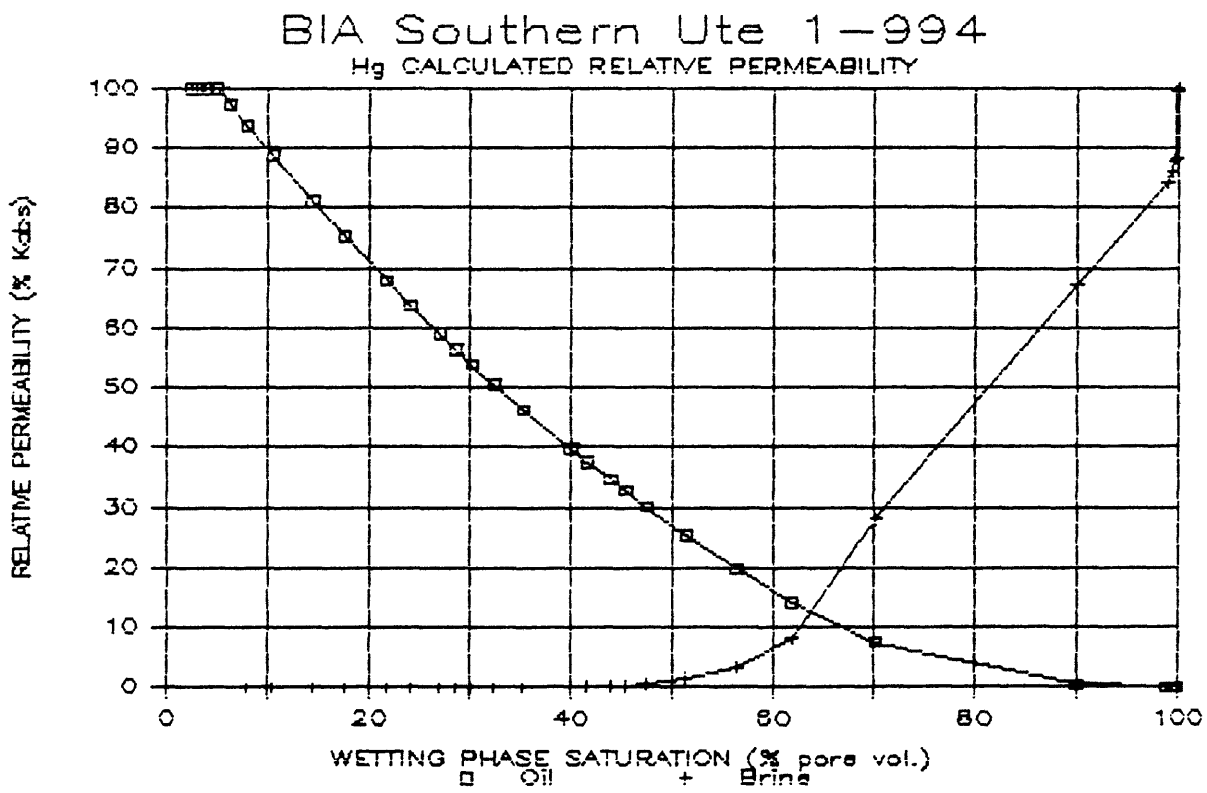
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1006

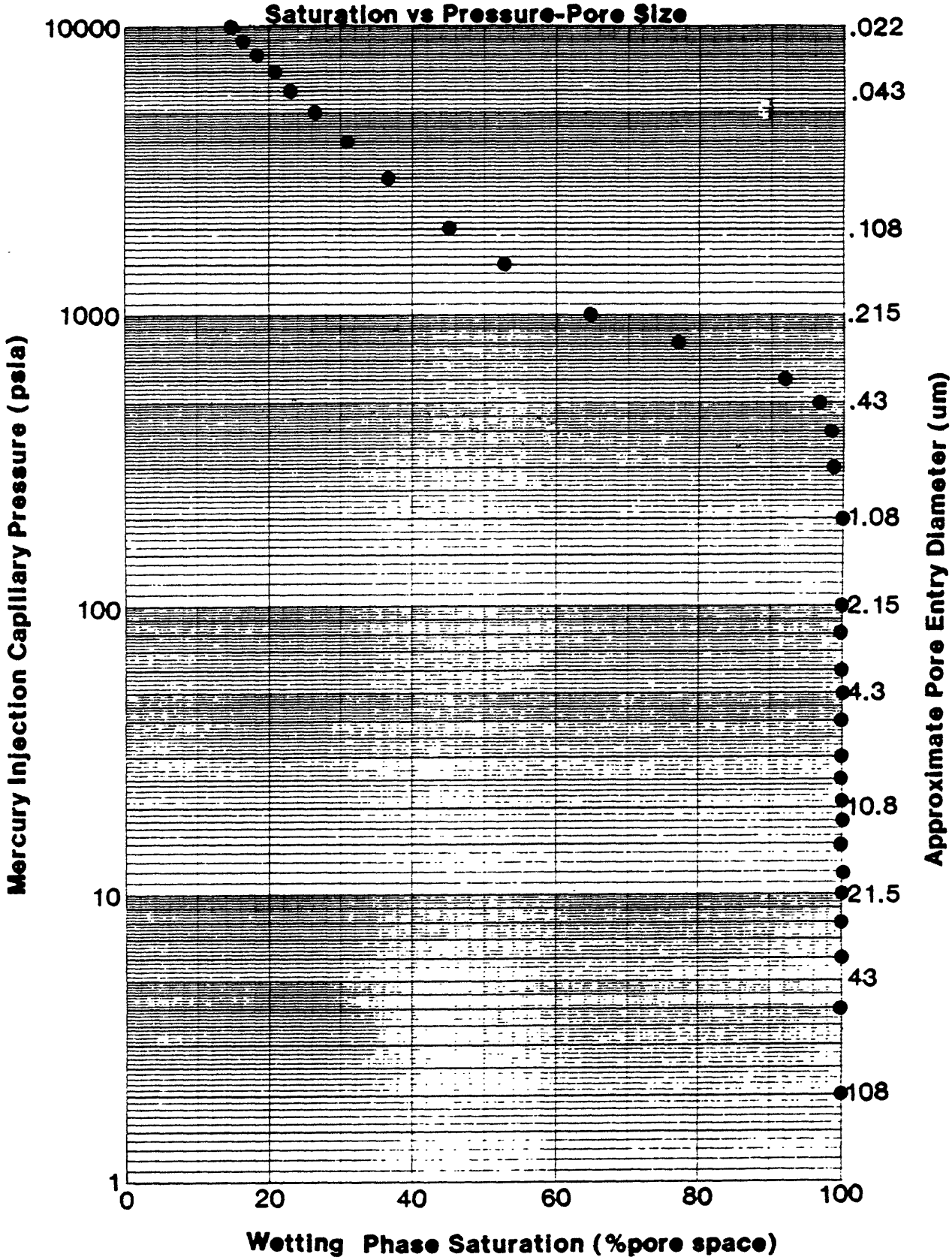
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	100.00
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	100.00
200	1.08	100.0	0.0	0.000	0.000	37.76	93.9	0.00	100.00
300	.717	99.4	0.6	0.001	0.593	56.63	140.9	0.00	97.41
400	.537	98.2	1.2	0.004	0.444	75.51	187.8	0.01	85.06
500	.430	96.8	1.4	0.008	0.356	94.39	234.8	0.06	72.49
600	.358	91.8	5.0	0.027	0.296	113.27	281.8	0.60	56.65
800	.268	77.2	14.6	0.100	0.222	151.02	375.7	7.85	25.36
1000	.215	64.7	12.5	0.178	0.178	188.78	469.6	22.77	6.44
1500	.143	52.8	12.0	0.290	0.119	283.17	704.4	44.36	1.16
2000	.107	45.3	7.5	0.383	0.089	377.56	939.2	61.07	0.17
3000	.072	36.4	8.9	0.549	0.059	566.34	1408.8	83.62	0.01
4000	.054	30.8	5.6	0.689	0.044	755.12	1878.4	99.54	0.00
5000	.043	26.4	4.4	0.825	0.036	943.91	2348.0	99.75	0.00
6000	.035	23.2	3.2	0.945	0.030	1132.69	2817.6	99.86	0.00
7000	.031	20.8	2.4	1.049	0.025	1321.47	3287.2	99.91	0.00
8000	.027	18.5	2.3	1.163	0.022	1510.25	3756.8	99.96	0.00
9000	.024	16.4	2.1	1.281	0.020	1699.03	4226.4	99.98	0.00
10000	.022	15.0	1.4	1.370	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1006

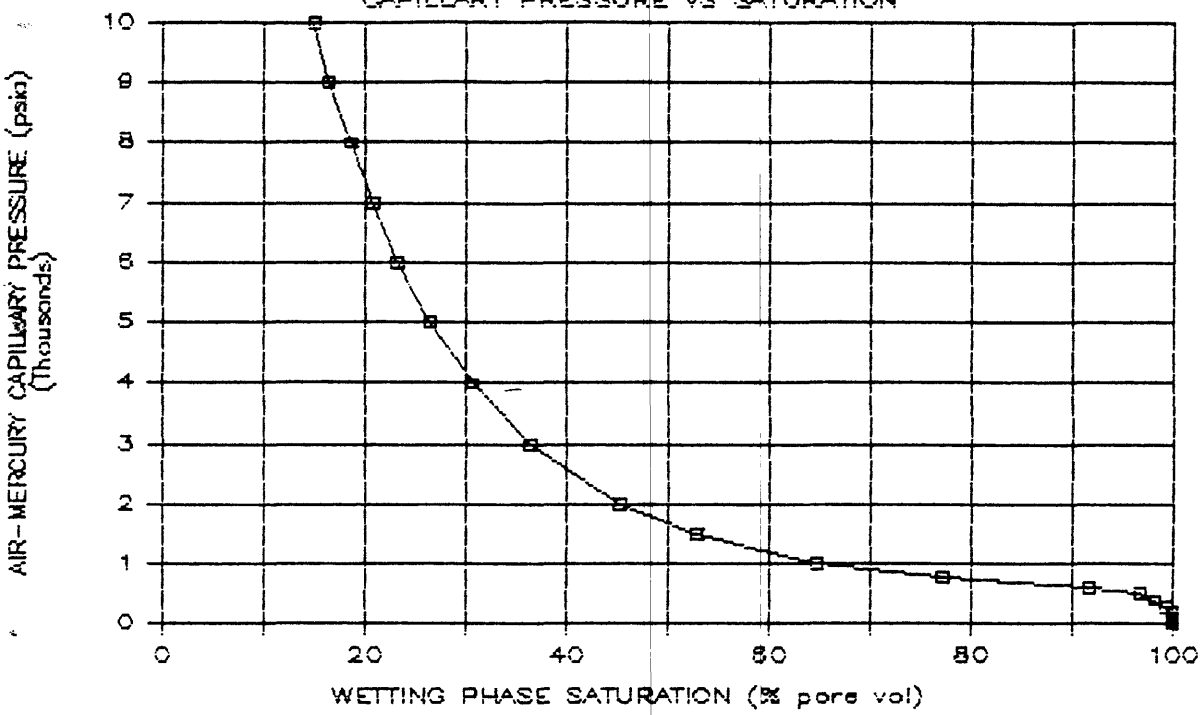


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

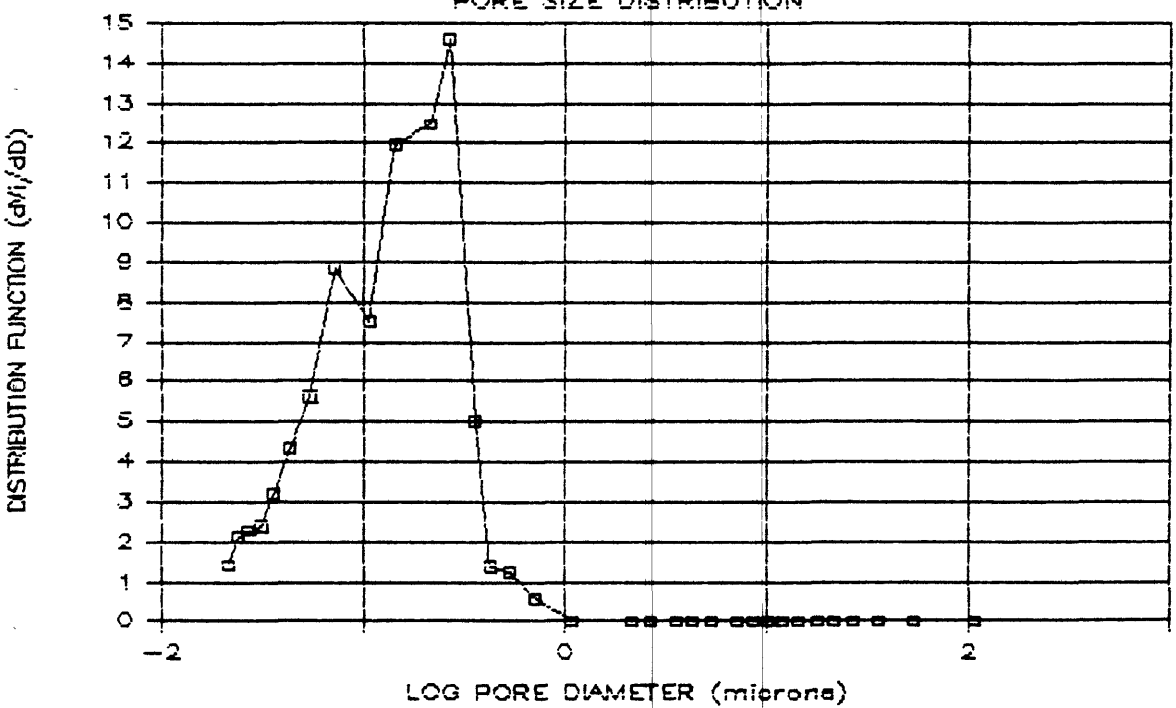
BIA Southern Ute 1—1006

CAPILLARY PRESSURE VS SATURATION



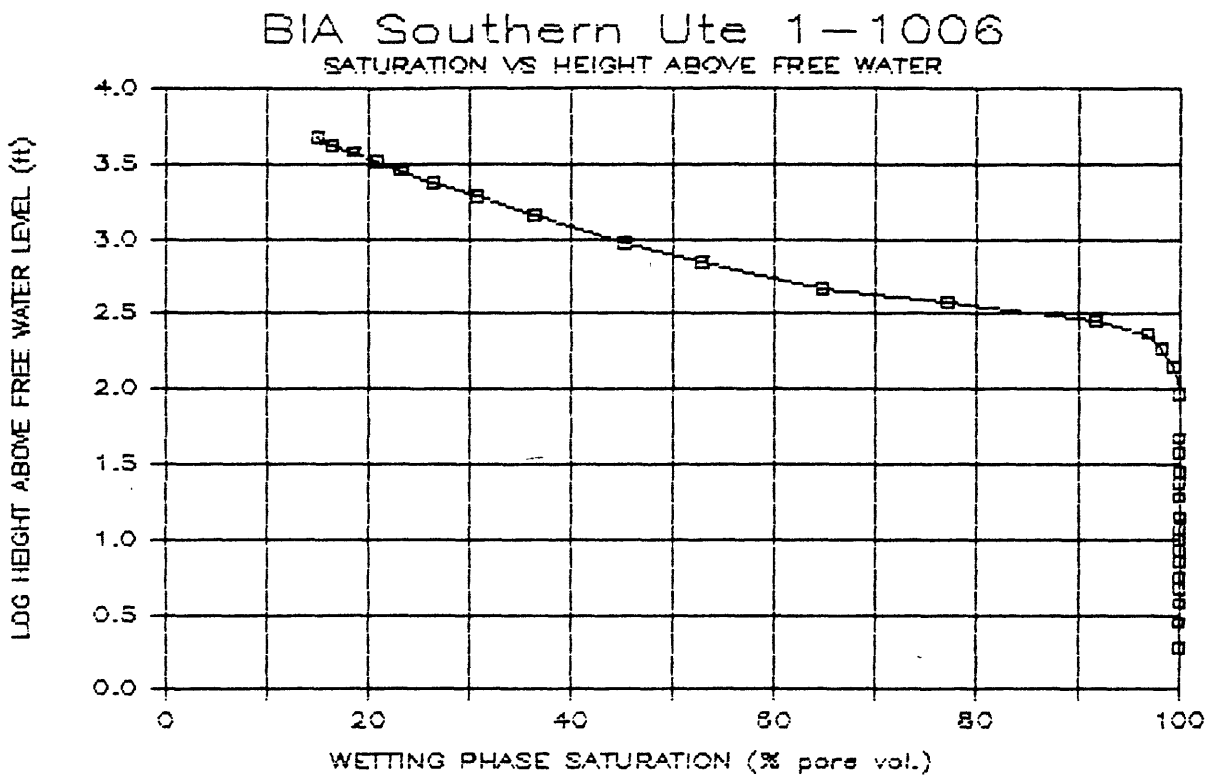
BIA Southern Ute 1—1006

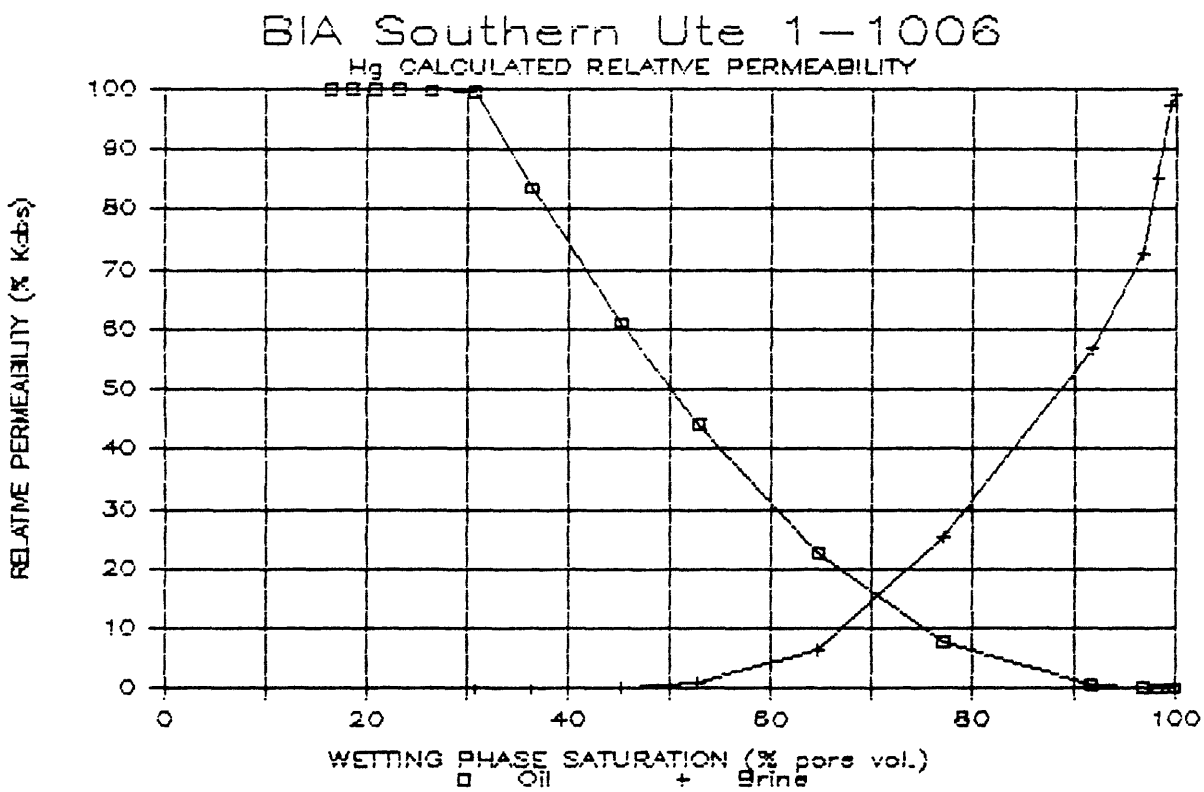
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1032

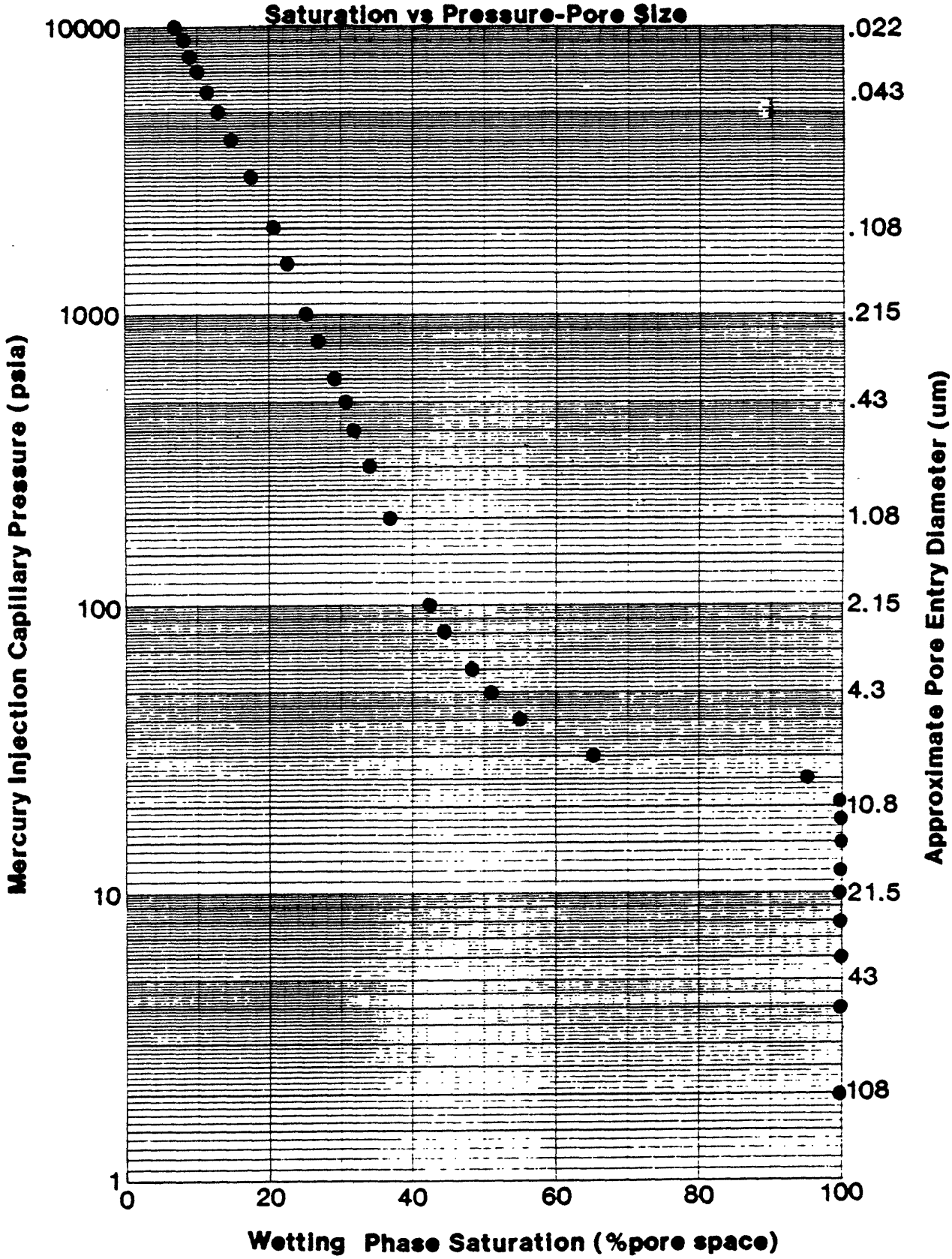
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	99.8	0.2	0.000	9.877	3.40	8.5	0.00	100.00
21	10.2	99.5	0.3	0.000	8.466	3.96	9.9	0.00	97.81
25	8.60	95.3	4.2	0.002	7.111	4.72	11.7	0.05	87.24
30	7.17	65.0	30.3	0.015	5.926	5.66	14.1	13.54	29.38
40	5.37	55.2	9.8	0.021	4.444	7.55	18.8	25.79	4.48
50	4.30	50.9	4.3	0.024	3.556	9.44	23.5	32.19	1.25
60	3.58	48.3	2.6	0.027	2.963	11.33	28.2	36.27	0.55
80	2.69	44.8	3.4	0.031	2.222	15.10	37.6	41.74	0.26
100	2.15	42.4	2.4	0.034	1.778	18.88	47.0	45.70	0.11
200	1.08	36.8	5.6	0.051	0.889	37.76	93.9	55.19	0.04
300	.717	34.0	2.8	0.063	0.593	56.63	140.9	60.18	0.01
400	.537	32.1	1.9	0.075	0.444	75.51	187.8	63.79	0.00
500	.430	30.6	1.5	0.085	0.356	94.39	234.8	66.56	0.00
600	.358	29.5	1.2	0.096	0.296	113.27	281.8	68.84	0.00
800	.268	27.2	2.3	0.123	0.222	151.02	375.7	73.41	0.00
1000	.215	25.6	1.5	0.146	0.178	188.78	469.6	76.56	0.00
1500	.143	22.7	2.9	0.210	0.119	283.17	704.4	82.65	0.00
2000	.107	20.6	2.1	0.273	0.089	377.56	939.2	87.20	0.00
3000	.072	17.5	3.1	0.412	0.059	566.34	1408.8	94.23	0.00
4000	.054	15.0	2.5	0.560	0.044	755.12	1878.4	100.00	0.00
5000	.043	13.1	1.9	0.701	0.036	943.91	2348.0	100.00	0.00
6000	.035	11.4	1.7	0.852	0.030	1132.69	2817.6	100.00	0.00
7000	.031	10.1	1.3	0.987	0.025	1321.47	3287.2	100.00	0.00
8000	.027	8.9	1.2	1.126	0.022	1510.25	3756.8	100.00	0.00
9000	.024	8.1	0.9	1.241	0.020	1699.03	4226.4	100.00	0.00
10000	.022	7.1	0.9	1.382	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1032

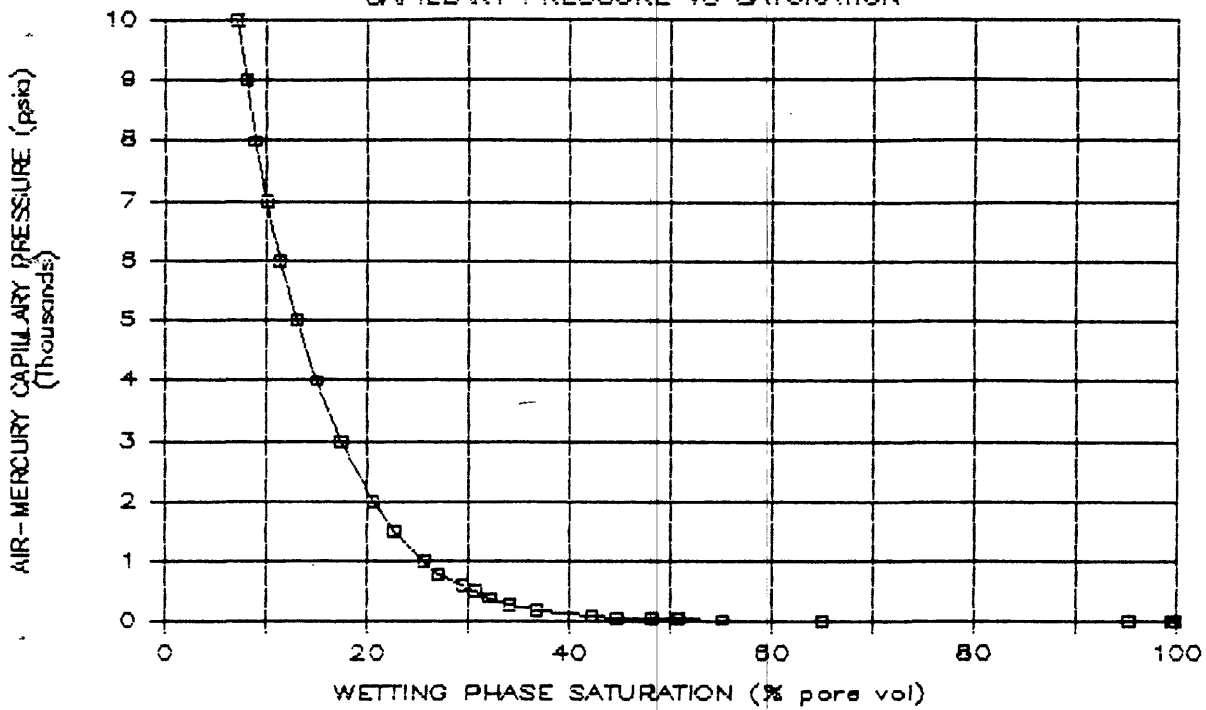


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

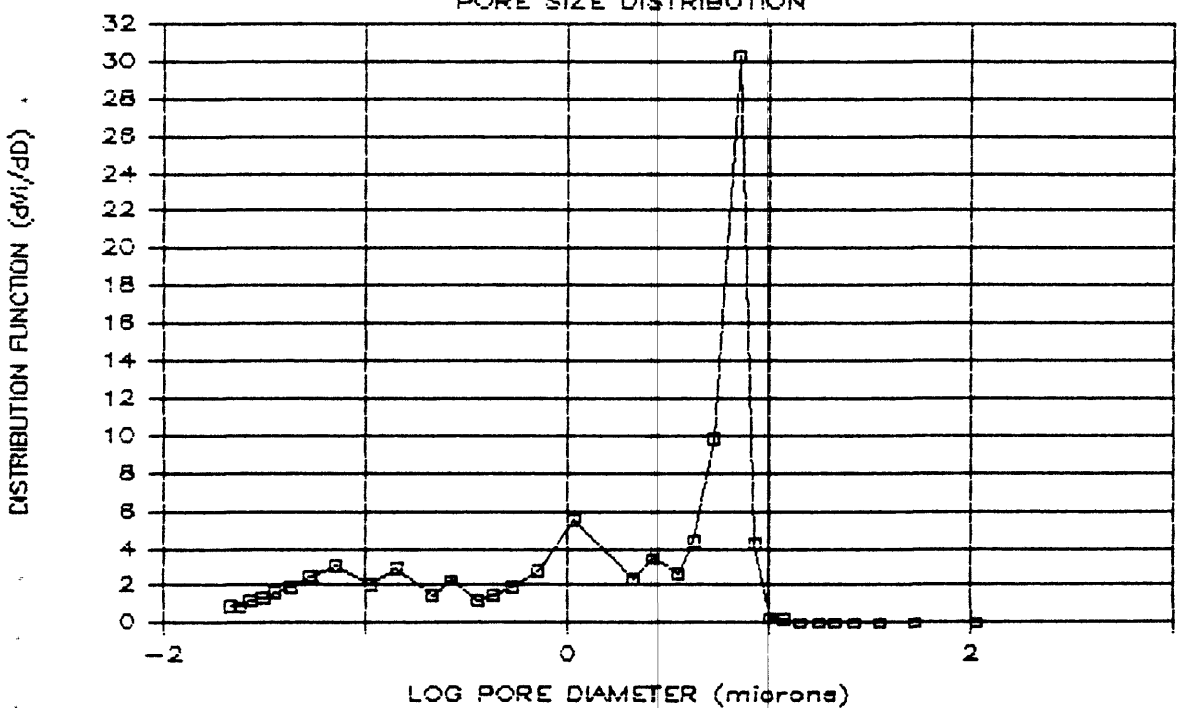
BIA Southern Ute 1—1032

CAPILLARY PRESSURE VS SATURATION



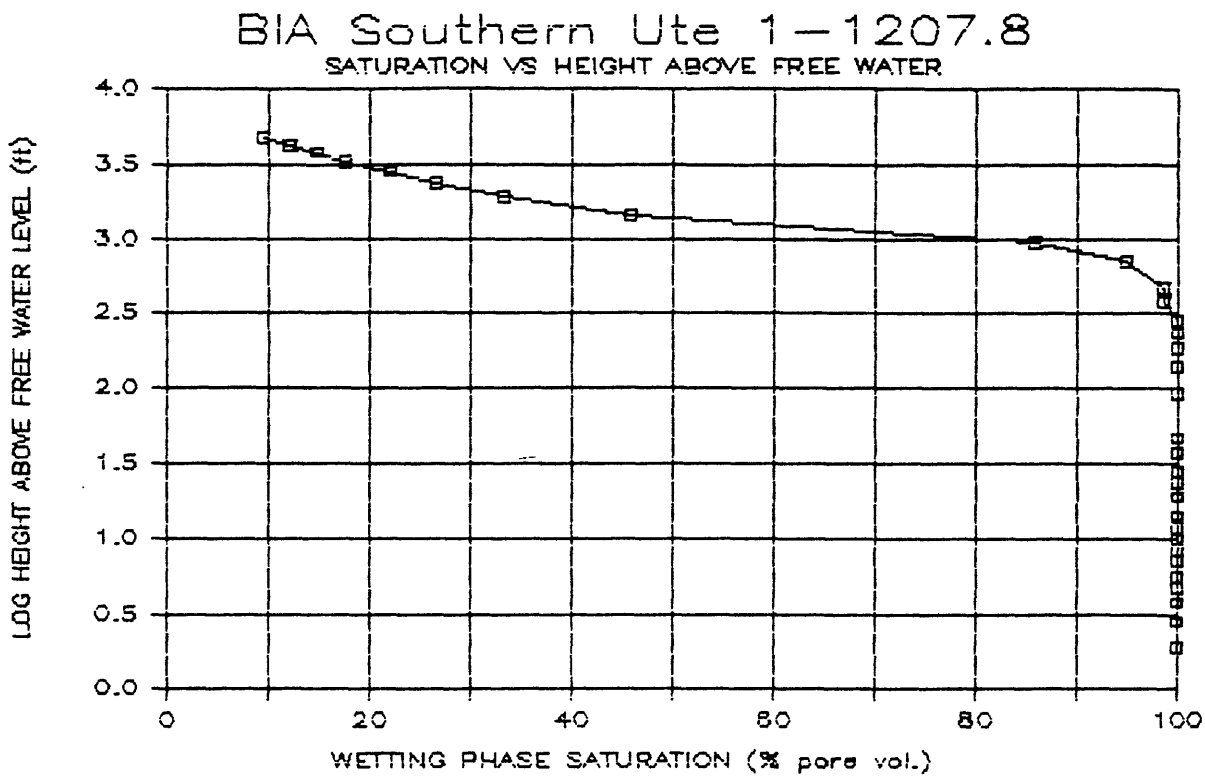
BIA Southern Ute 1—1032

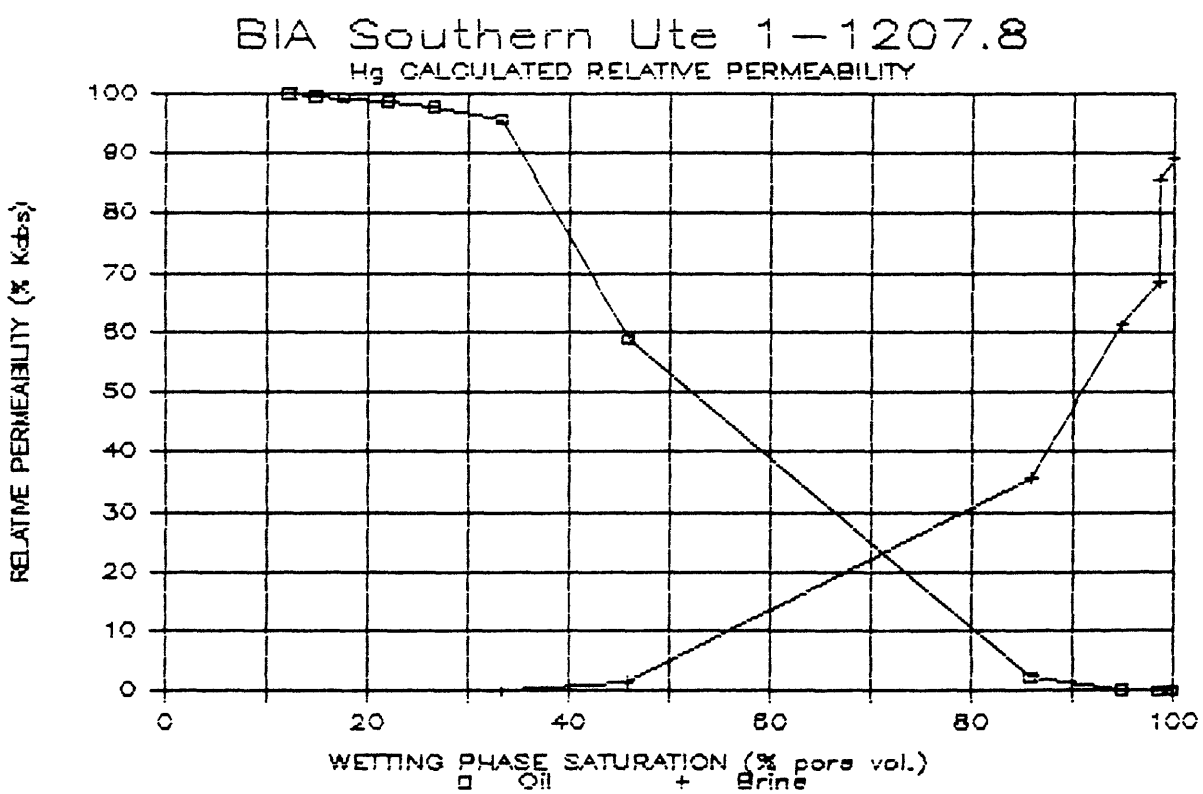
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



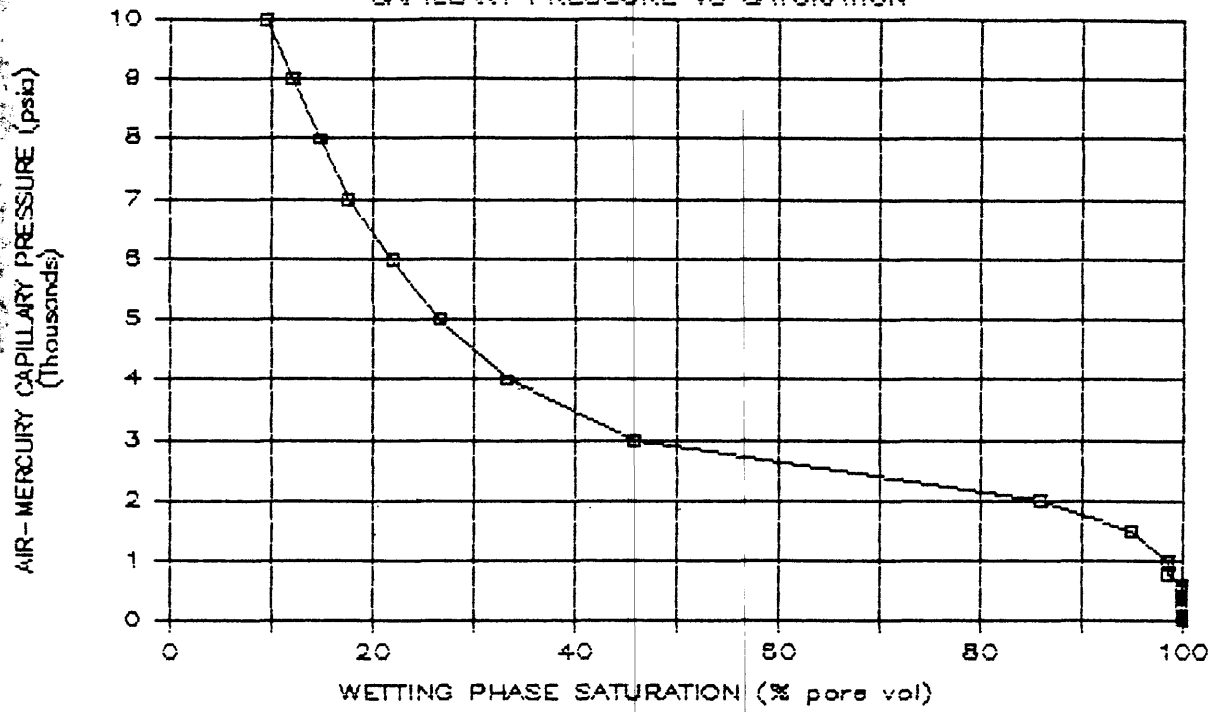


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

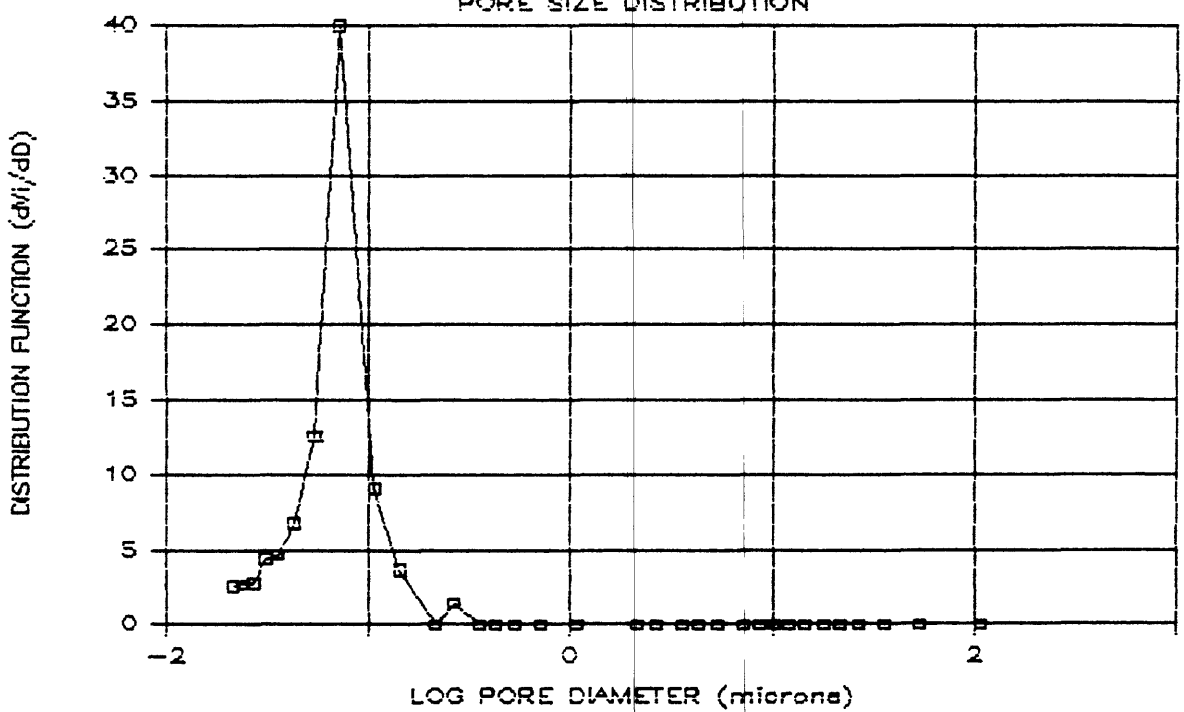
BIA Southern Ute 1—1207.8

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1207.8

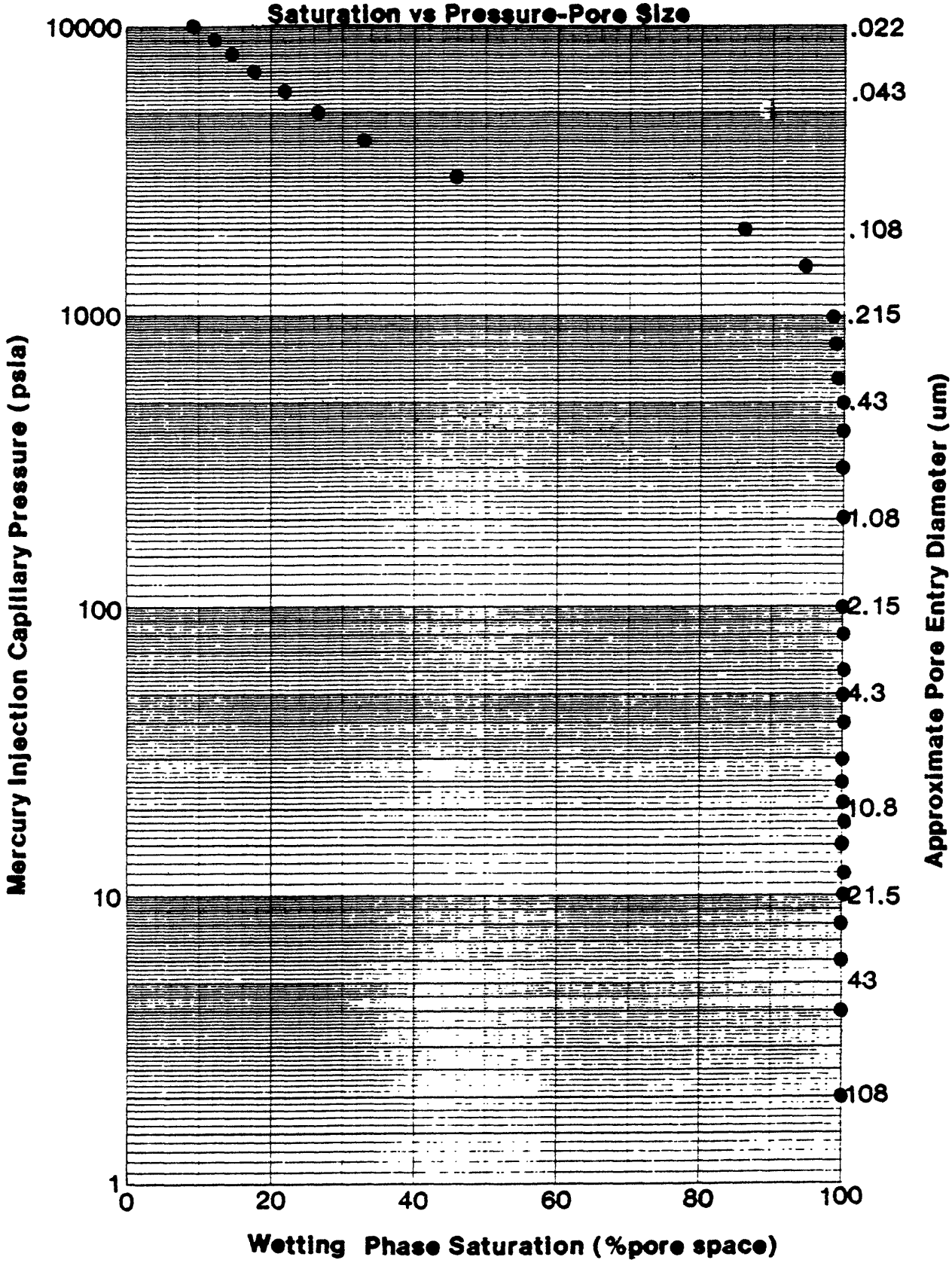
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1207.8



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1207.8

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.000	0.0	0.00	89.40
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	89.40
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	89.40
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	89.40
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	89.40
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	89.40
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	89.40
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	89.40
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	89.40
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	89.40
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	89.40
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	89.40
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	89.40
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	89.40
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	89.40
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	89.40
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	89.40
200	1.08	100.0	0.0	0.000	0.000	37.76	93.9	0.00	89.40
300	.717	100.0	0.0	0.000	0.000	56.63	140.9	0.00	89.40
400	.537	100.0	0.0	0.000	0.000	75.51	187.8	0.00	89.40
500	.430	100.0	0.0	0.000	0.000	94.39	234.8	0.00	89.40
600	.358	100.0	0.0	0.000	0.000	113.27	281.8	0.00	89.40
800	.268	98.6	1.4	0.003	0.222	151.02	375.7	0.01	85.63
1000	.215	98.6	0.0	0.003	0.000	188.78	469.6	0.01	68.63
1500	.143	94.9	3.7	0.020	0.119	283.17	704.4	0.19	61.10
2000	.107	85.9	9.0	0.075	0.089	377.56	939.2	2.25	35.56
3000	.072	45.9	40.0	0.439	0.059	566.34	1408.8	58.85	1.39
4000	.054	33.3	12.6	0.592	0.044	755.12	1878.4	95.68	0.00
5000	.043	26.6	6.7	0.694	0.036	943.91	2348.0	97.71	0.00
6000	.035	22.0	4.6	0.779	0.030	1132.69	2817.6	98.65	0.00
7000	.031	17.6	4.4	0.872	0.025	1321.47	3287.2	99.29	0.00
8000	.027	14.8	2.8	0.941	0.022	1510.25	3756.8	99.60	0.00
9000	.024	12.1	2.7	1.014	0.020	1699.03	4226.4	99.83	0.00
10000	.022	9.5	2.6	1.092	0.018	1887.81	4696.0	100.00	0.00

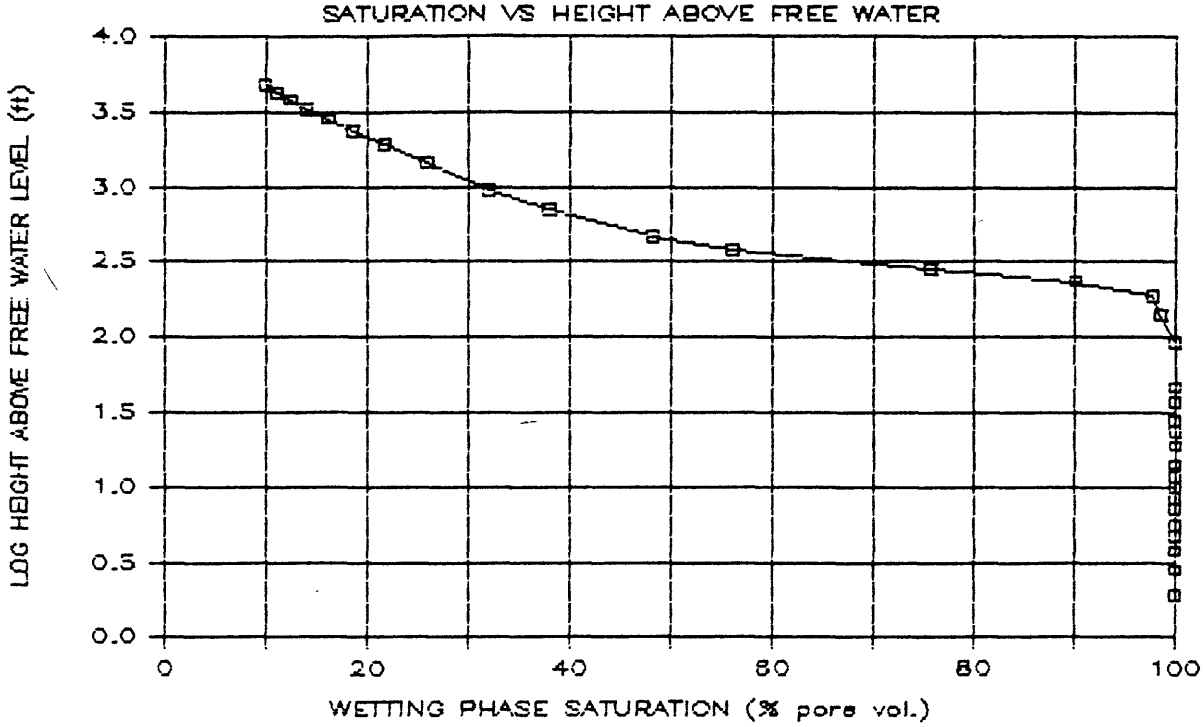
All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/fft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

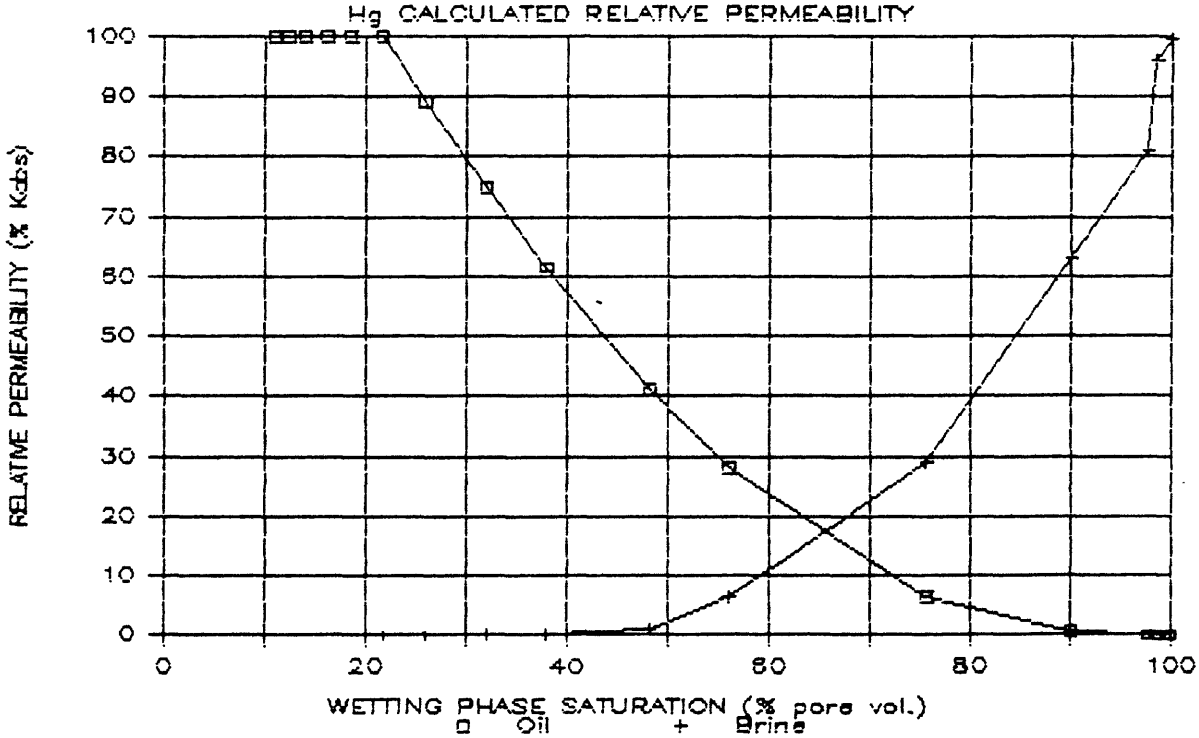
BIA Southern Ute 1—1193

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1—1193

Hg CALCULATED RELATIVE PERMEABILITY

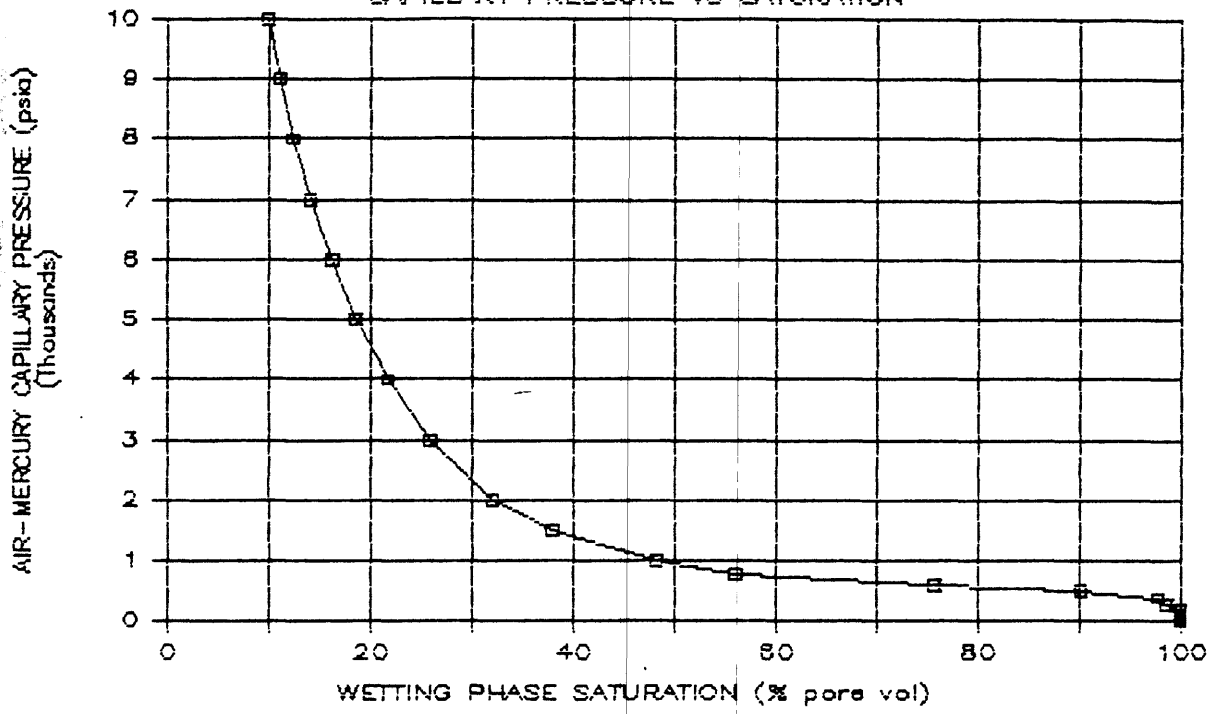


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

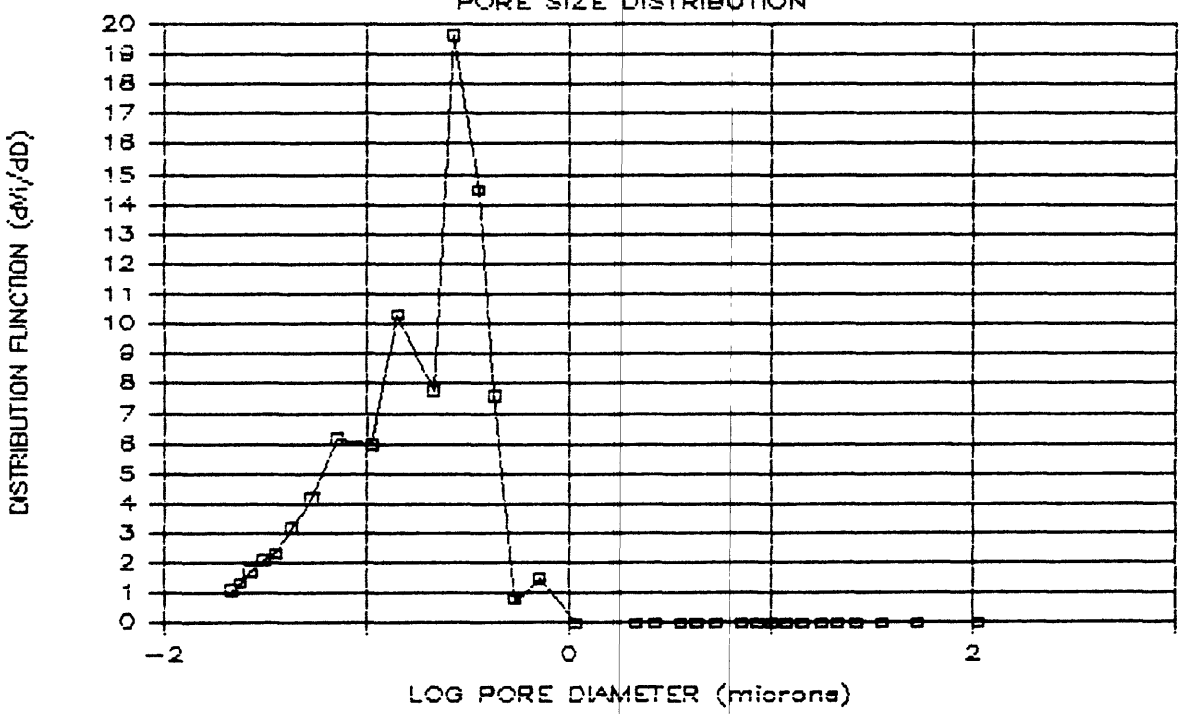
BIA Southern Ute 1—1193

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1193

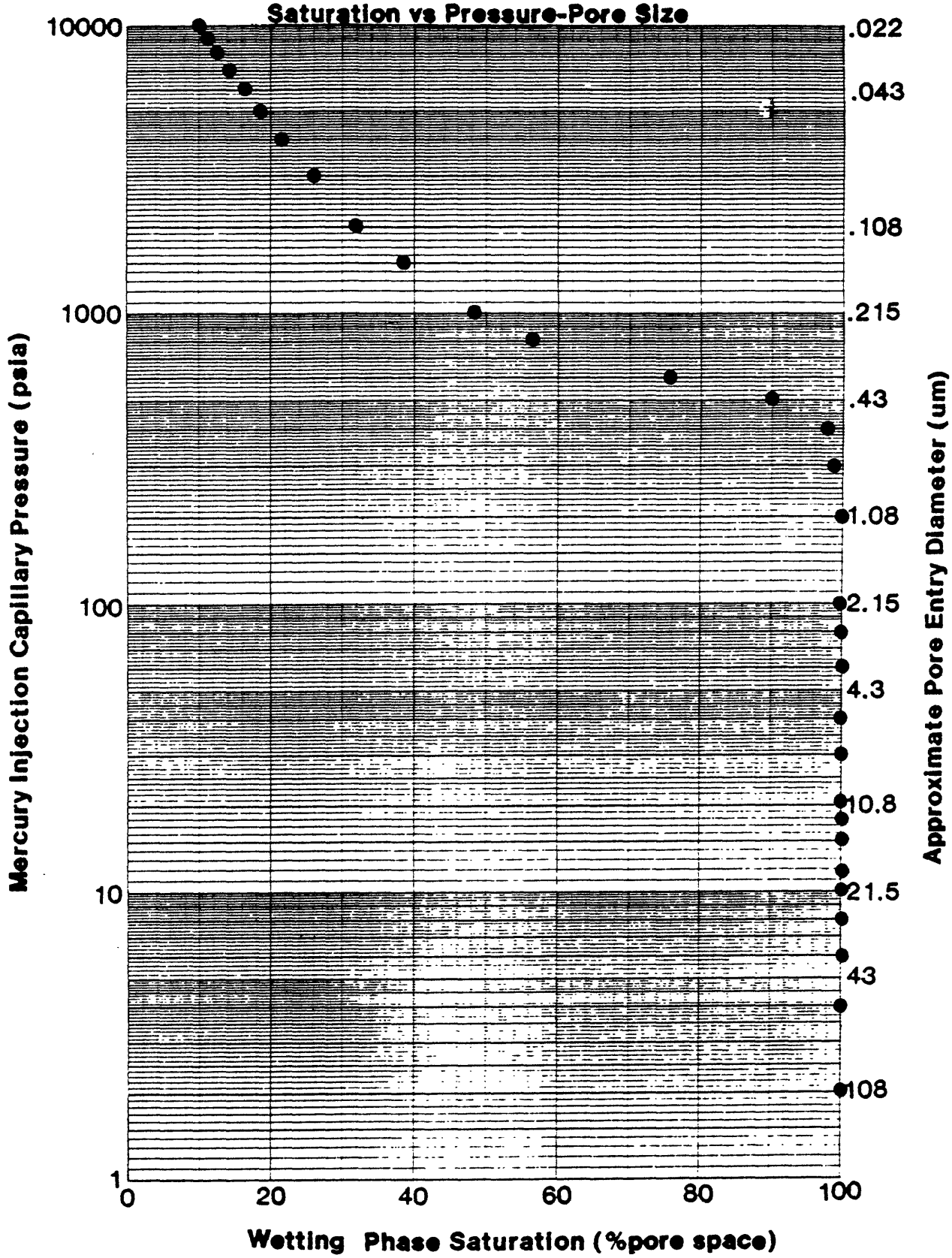
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1193



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1193

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	100.00
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	100.00
200	1.08	100.0	0.0	0.000	0.000	37.76	93.9	0.00	100.00
300	.717	98.5	1.5	0.002	0.593	56.63	140.9	0.00	95.89
400	.537	97.7	0.8	0.003	0.444	75.51	187.8	0.01	81.22
500	.430	90.1	7.6	0.021	0.356	94.39	234.8	0.61	62.96
600	.358	75.7	14.5	0.061	0.296	113.27	281.8	6.36	28.98
800	.268	56.1	19.6	0.133	0.222	151.02	375.7	27.95	6.49
1000	.215	48.3	7.8	0.169	0.178	188.78	469.6	41.11	1.26
1500	.143	38.0	10.3	0.240	0.119	283.17	704.4	61.53	0.23
2000	.107	32.0	5.9	0.295	0.089	377.56	939.2	74.71	0.03
3000	.072	25.9	6.1	0.379	0.059	566.34	1408.8	89.30	0.00
4000	.054	21.7	4.2	0.456	0.044	755.12	1878.4	99.80	0.00
5000	.043	18.6	3.2	0.529	0.036	943.91	2348.0	99.89	0.00
6000	.035	16.2	2.3	0.593	0.030	1132.69	2817.6	99.94	0.00
7000	.031	14.1	2.1	0.661	0.025	1321.47	3287.2	99.97	0.00
8000	.027	12.4	1.7	0.724	0.022	1510.25	3756.8	99.98	0.00
9000	.024	11.1	1.3	0.779	0.020	1699.03	4226.4	99.99	0.00
10000	.022	10.0	1.1	0.830	0.018	1887.81	4696.0	100.00	0.00

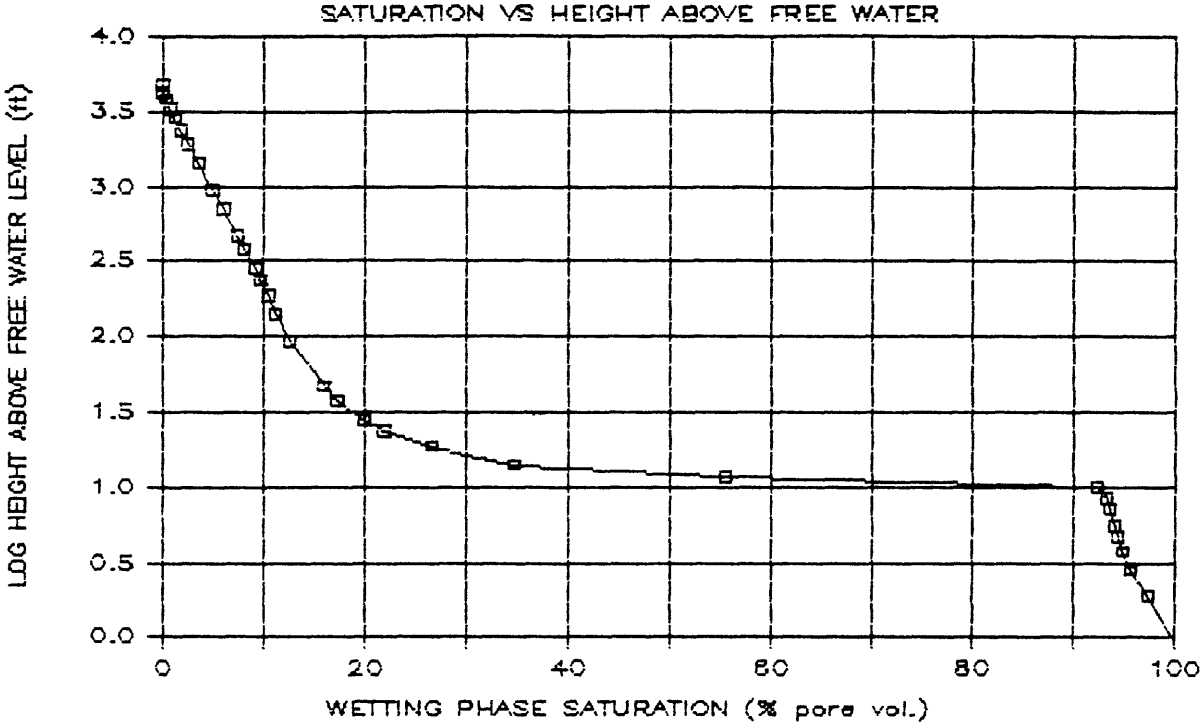
All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

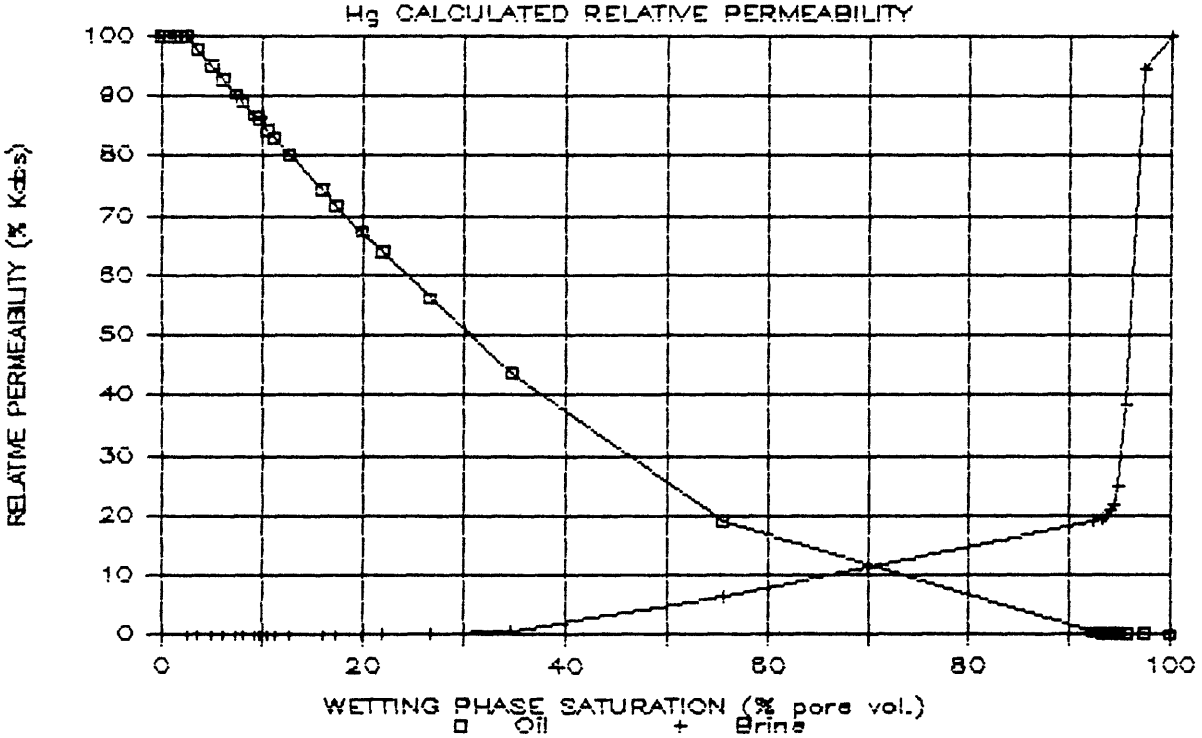
BIA Southern Ute 1—1184

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1—1184

Hg CALCULATED RELATIVE PERMEABILITY

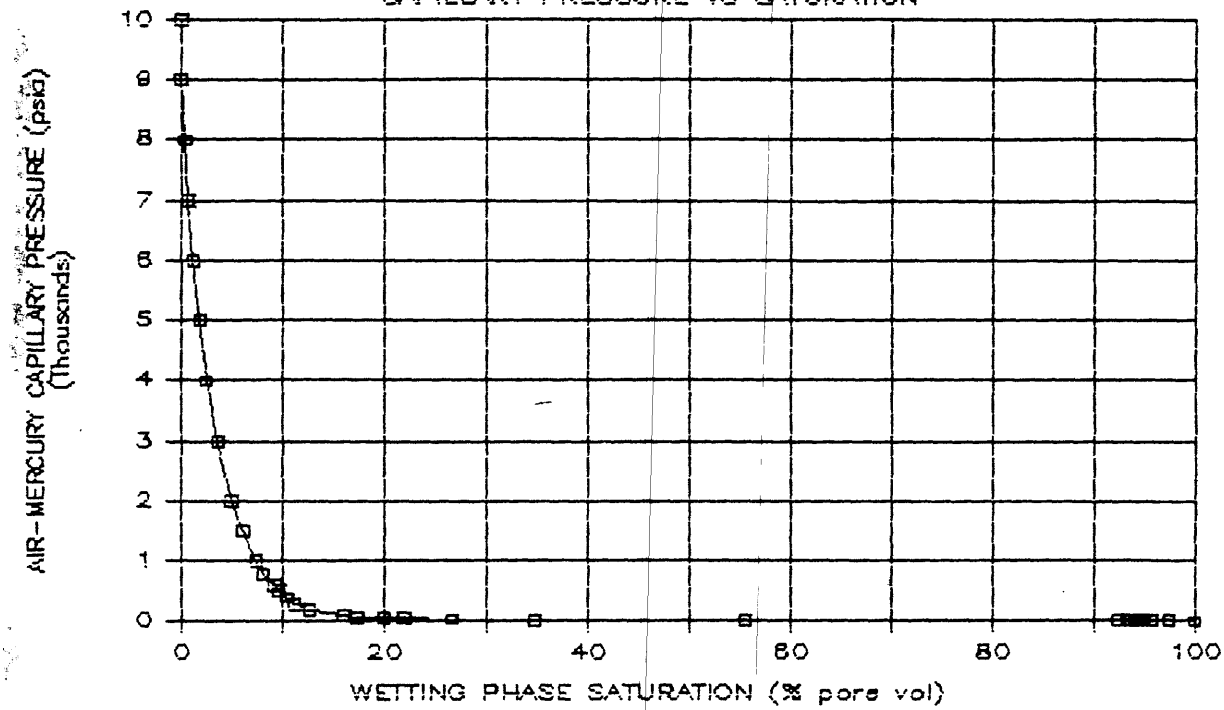


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

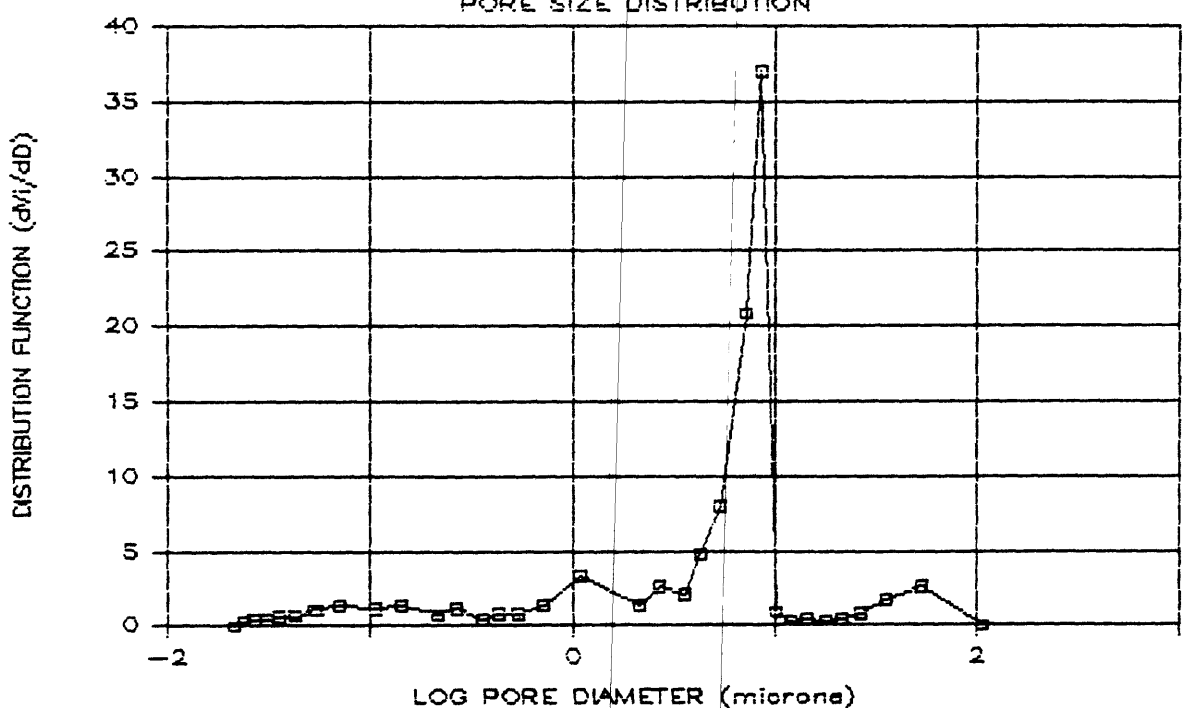
BIA Southern Ute 1—1184

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1184

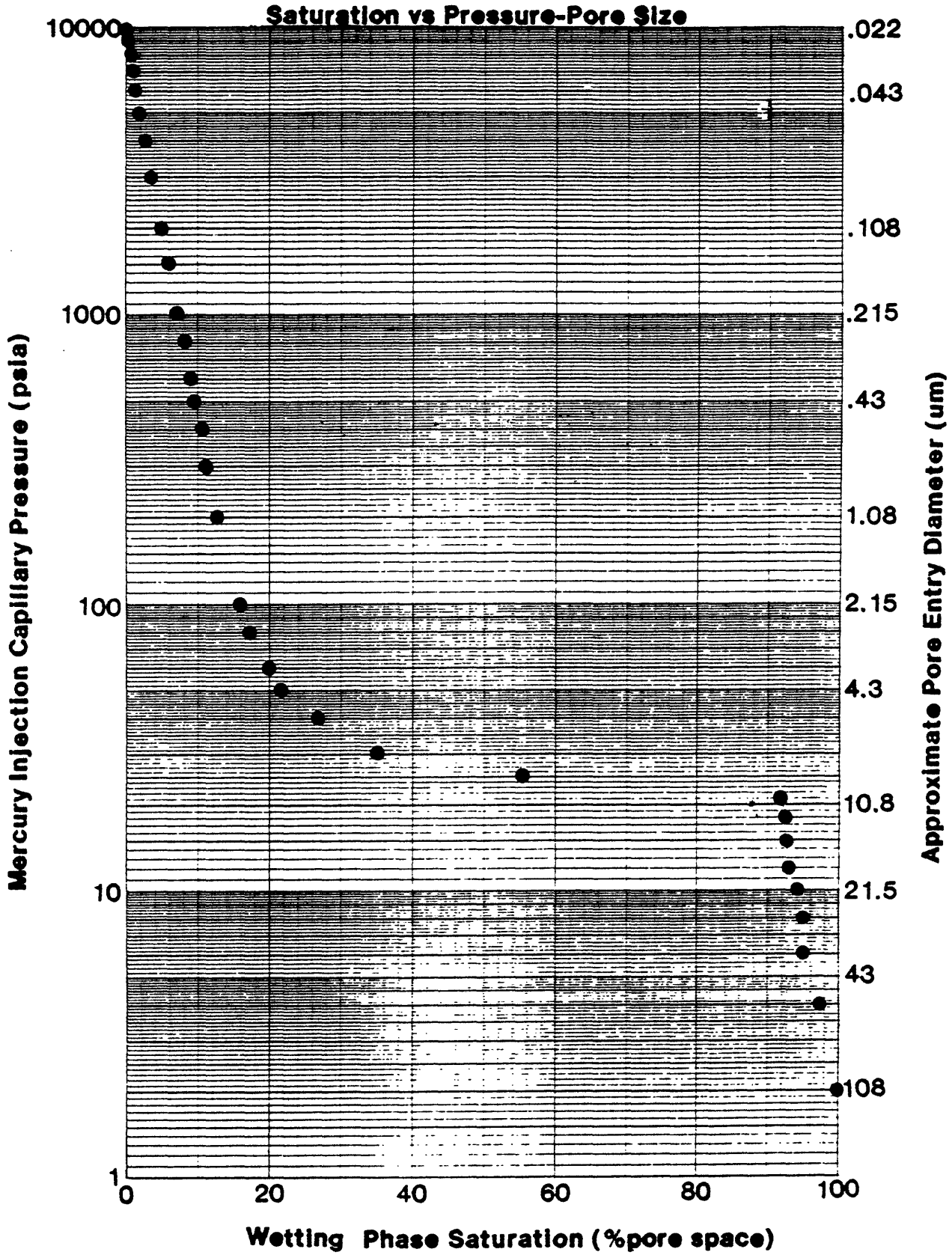
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1184



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1184

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	97.4	2.6	0.000	44.444	0.76	1.9	0.04	94.75
6	35.8	95.6	1.8	0.000	29.630	1.13	2.8	0.14	38.23
8	26.9	94.9	0.8	0.000	22.222	1.51	3.8	0.21	24.88
10	21.5	94.5	0.4	0.000	17.778	1.89	4.7	0.25	21.83
12	17.9	94.1	0.3	0.001	14.815	2.27	5.6	0.28	20.75
15	14.3	93.7	0.4	0.001	11.852	2.83	7.0	0.33	20.05
18	11.9	93.3	0.3	0.001	9.877	3.40	8.5	0.36	19.50
21	10.2	92.4	0.9	0.001	8.466	3.96	9.9	0.47	18.89
25	8.60	55.5	36.9	0.015	7.111	4.72	11.7	19.22	6.42
30	7.17	34.7	20.8	0.024	5.926	5.66	14.1	43.92	0.83
40	5.37	26.7	8.1	0.029	4.444	7.55	18.8	56.17	0.13
50	4.30	21.9	4.7	0.033	3.556	9.44	23.5	63.96	0.03
60	3.58	19.9	2.0	0.035	2.963	11.33	28.2	67.36	0.01
80	2.69	17.4	2.6	0.038	2.222	15.10	37.6	71.82	0.00
100	2.15	16.0	1.4	0.040	1.778	18.88	47.0	74.21	0.00
200	1.08	12.7	3.3	0.050	0.889	37.76	93.9	80.25	0.00
300	.717	11.3	1.4	0.056	0.593	56.63	140.9	82.84	0.00
400	.537	10.5	0.8	0.061	0.444	75.51	187.8	84.31	0.00
500	.430	9.7	0.8	0.067	0.356	94.39	234.8	85.86	0.00
600	.358	9.2	0.4	0.071	0.296	113.27	281.8	86.71	0.00
800	.268	8.1	1.2	0.085	0.222	151.02	375.7	88.94	0.00
1000	.215	7.4	0.7	0.096	0.178	188.78	469.6	90.33	0.00
1500	.143	6.0	1.3	0.125	0.119	283.17	704.4	92.91	0.00
2000	.107	4.9	1.1	0.158	0.089	377.56	939.2	95.09	0.00
3000	.072	3.6	1.4	0.220	0.059	566.34	1408.8	97.82	0.00
4000	.054	2.5	1.1	0.284	0.044	755.12	1878.4	100.00	0.00
5000	.043	1.8	0.7	0.337	0.036	943.91	2348.0	100.00	0.00
6000	.035	1.2	0.6	0.393	0.030	1132.69	2817.6	100.00	0.00
7000	.031	0.7	0.5	0.444	0.025	1321.47	3287.2	100.00	0.00
8000	.027	0.3	0.4	0.491	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.0	0.3	0.535	0.020	1699..03	4226.4	100.00	0.00
10000	.022	0.0	0.0	0.535	0.000	1887.81	4696.0	100.00	0.00

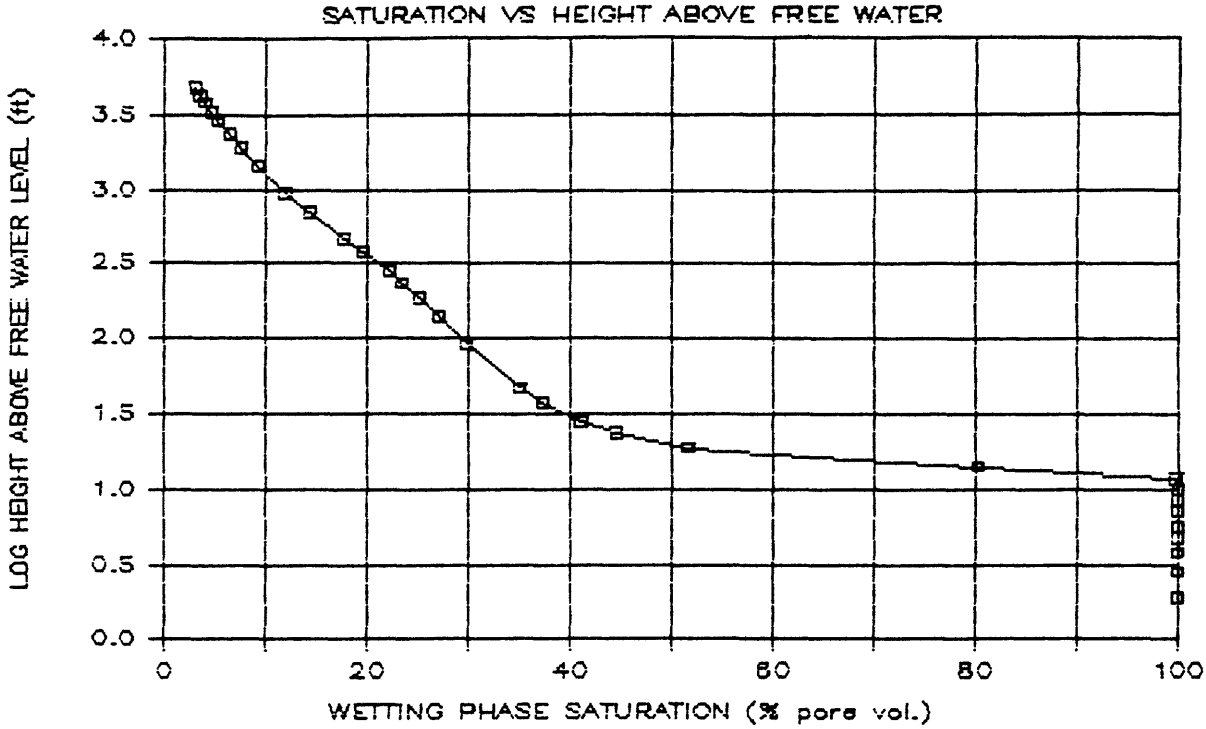
All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

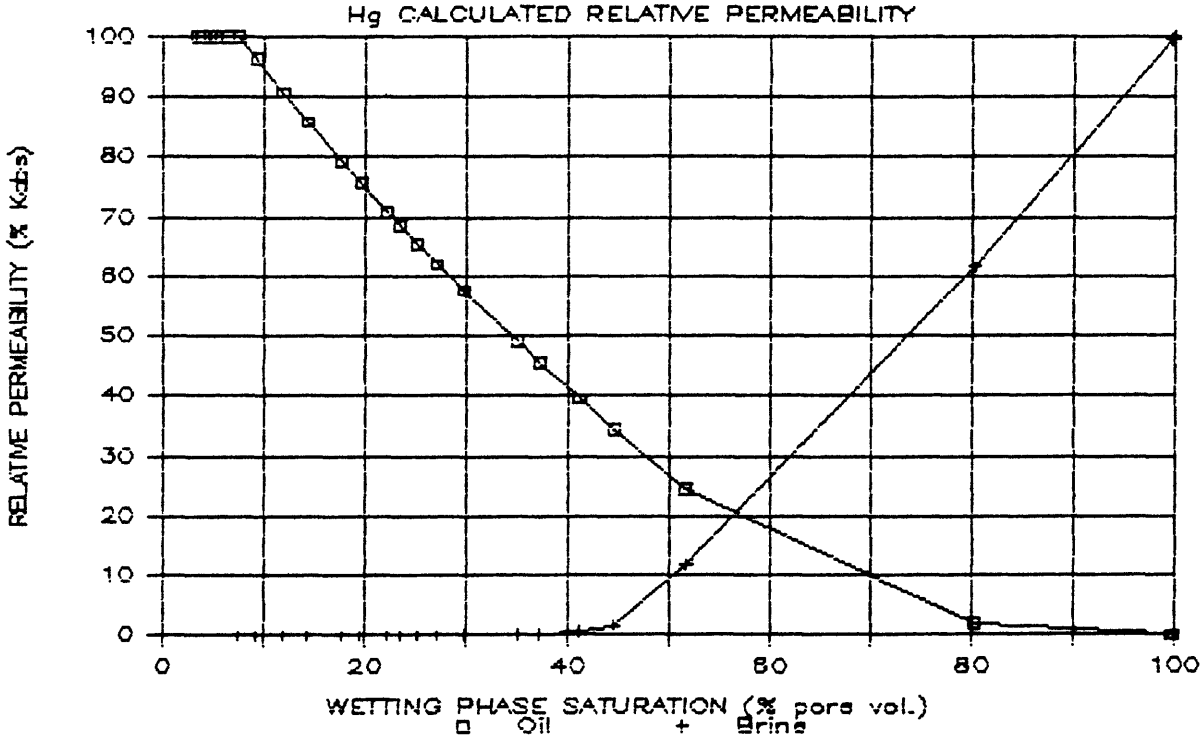
BIA Southern Ute 1—1163

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1—1163

Hg CALCULATED RELATIVE PERMEABILITY

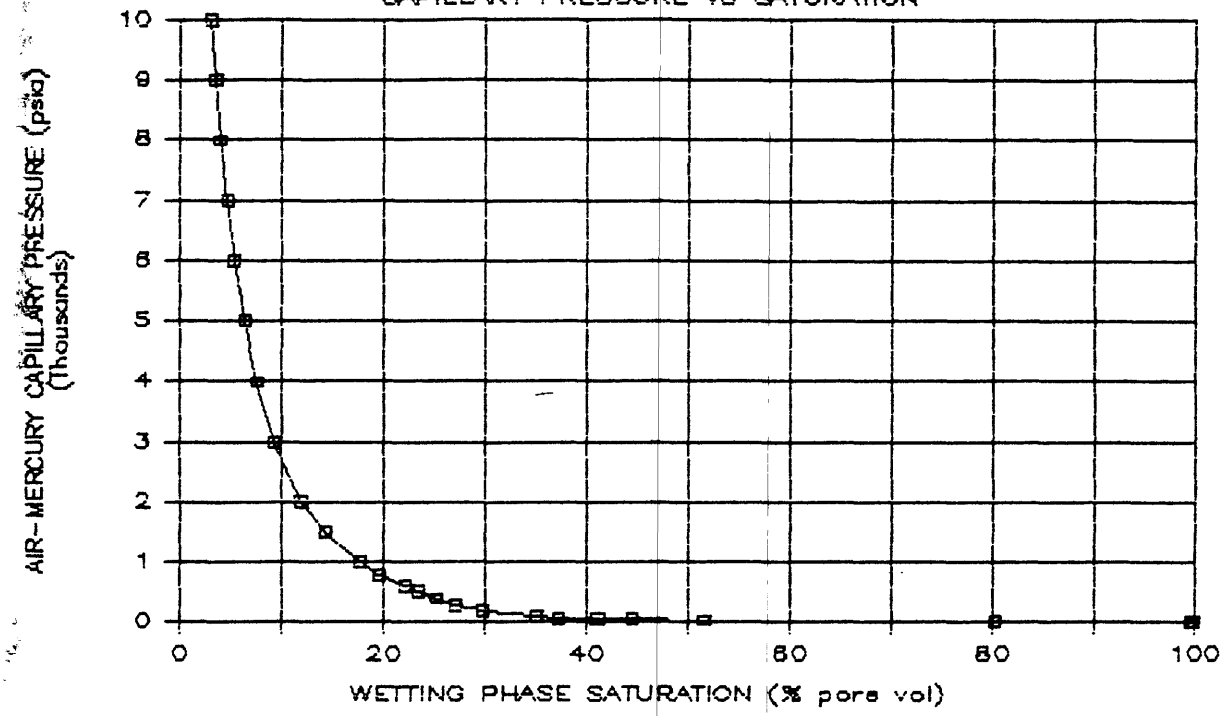


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

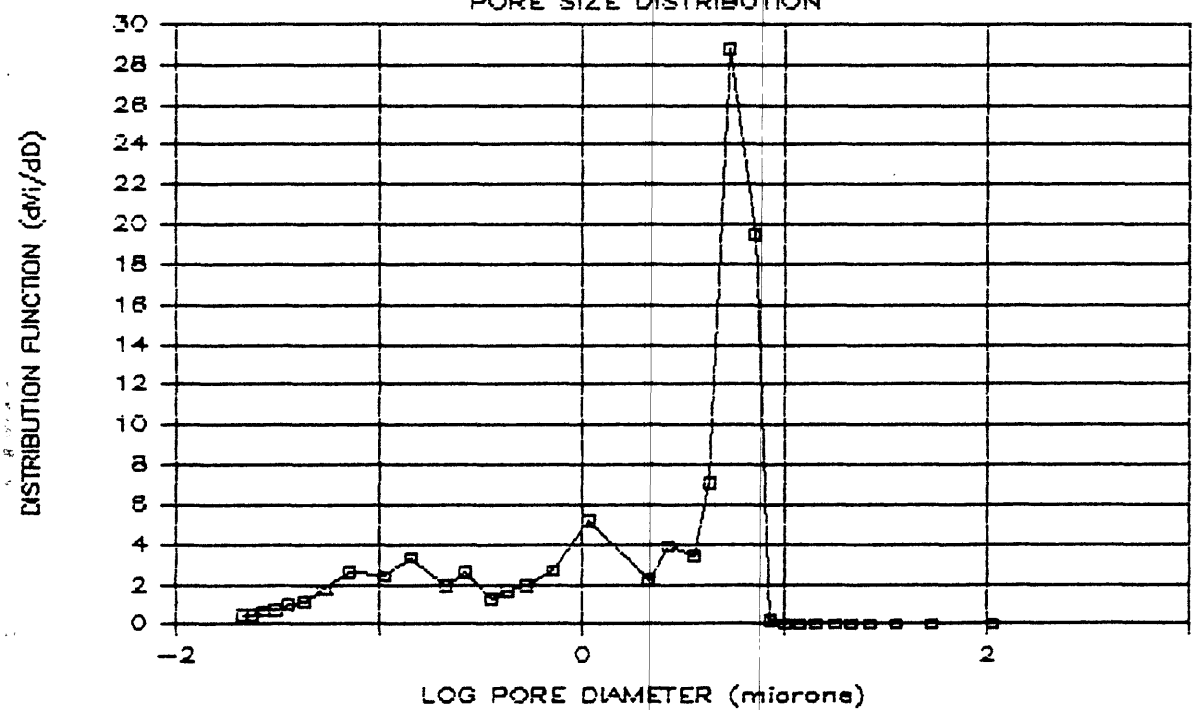
BIA Southern Ute 1—1163

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1163

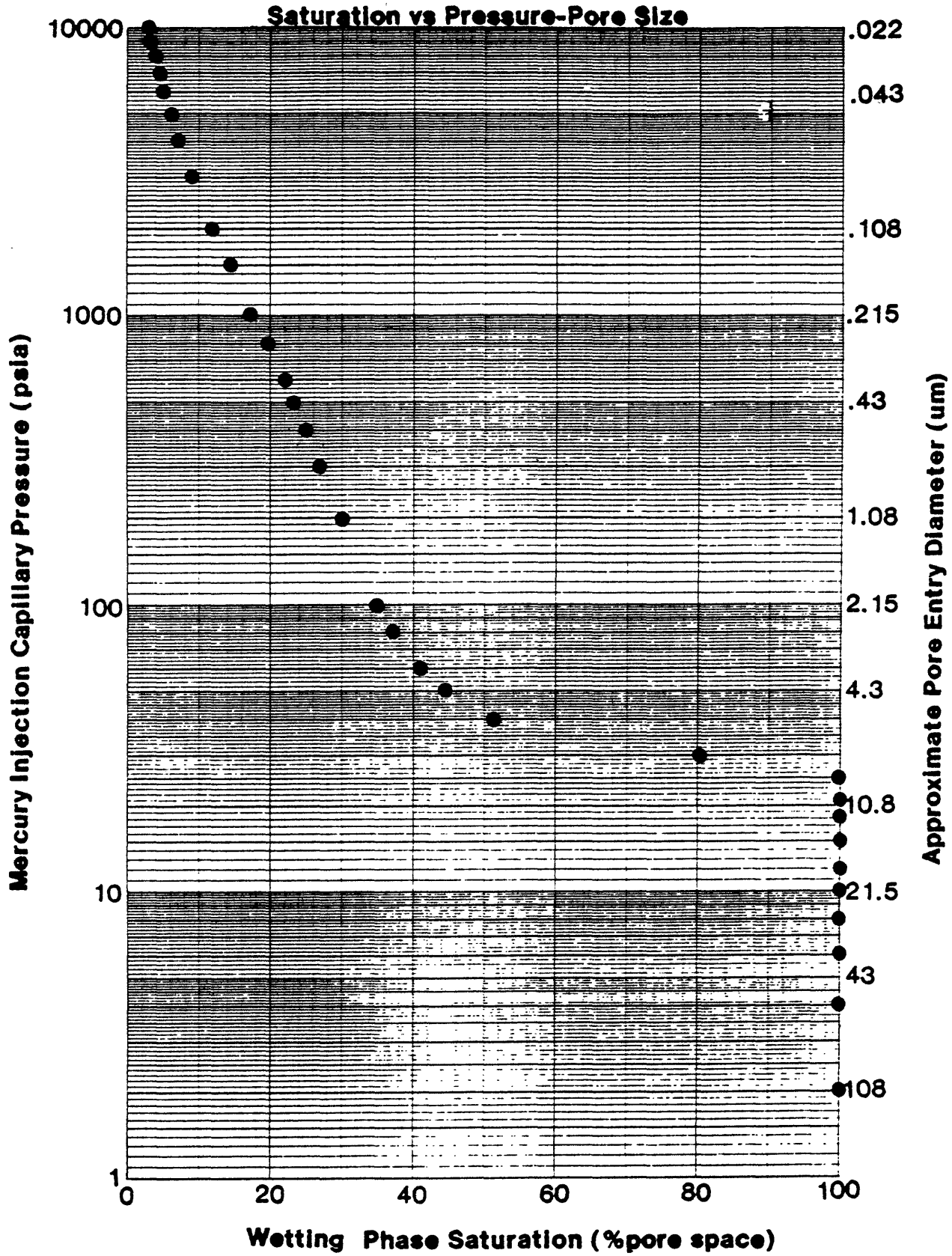
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1163



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

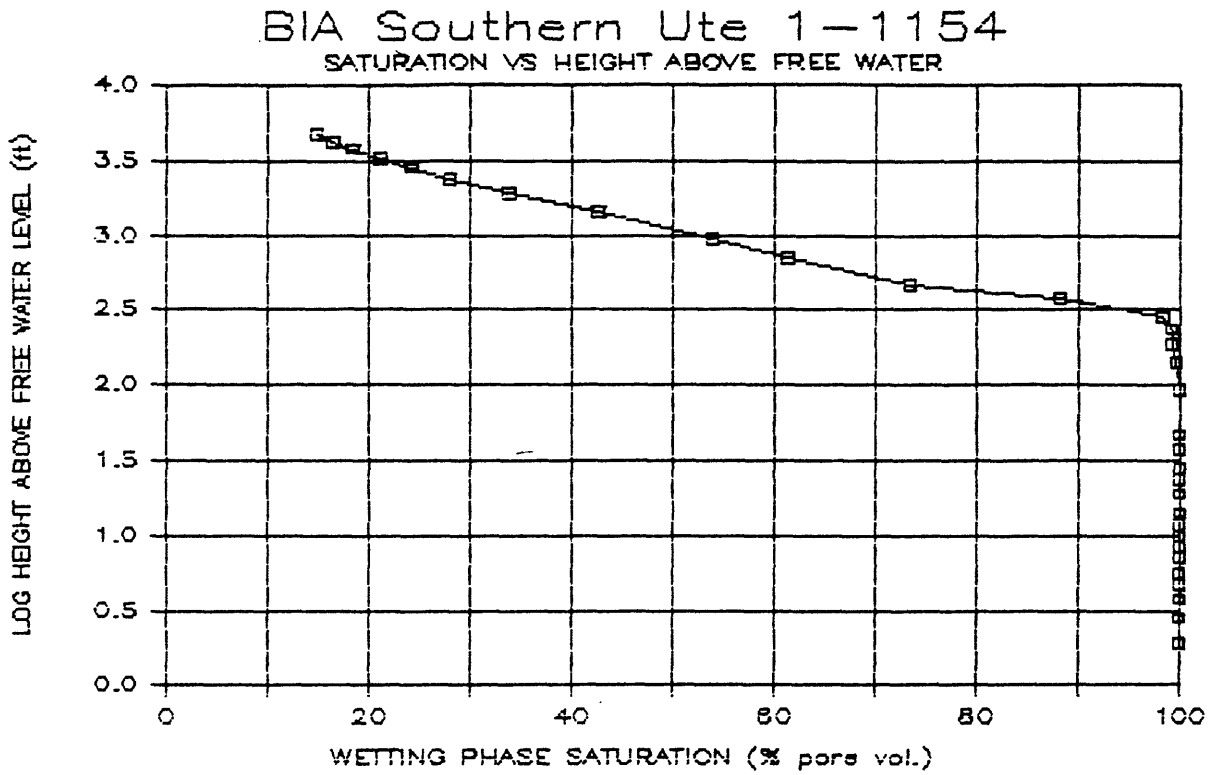
BIA Southern Ute 1-1163

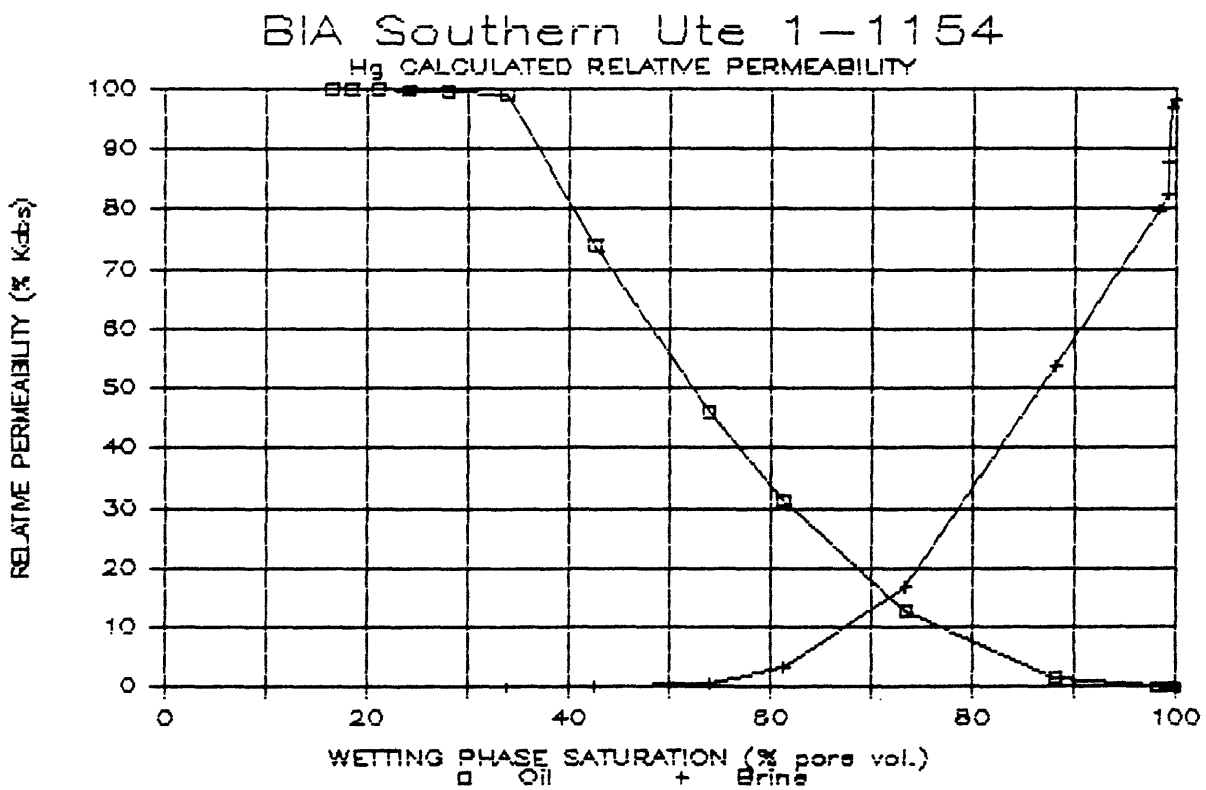
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	99.8	0.2	0.000	7.111	4.72	11.7	0.00	100.00
30	7.17	80.4	19.4	0.009	5.926	5.66	14.1	2.12	61.55
40	5.37	51.6	28.8	0.025	4.444	7.55	18.8	24.47	12.03
50	4.30	44.5	7.1	0.031	3.556	9.44	23.5	34.39	1.72
60	3.58	41.1	3.4	0.034	2.963	11.33	28.2	39.52	0.59
80	2.69	37.2	3.9	0.038	2.222	15.10	37.6	45.62	0.26
100	2.15	35.0	2.2	0.041	1.778	18.88	47.0	49.13	0.09
200	1.08	29.9	5.2	0.057	0.889	37.76	93.9	57.48	0.03
300	.717	27.2	2.7	0.068	0.593	56.63	140.9	62.04	0.01
400	.537	25.2	2.0	0.080	0.444	75.51	187.8	65.44	0.00
500	.430	23.5	1.7	0.092	0.356	94.39	234.8	68.48	0.00
600	.358	22.2	1.3	0.104	0.296	113.27	281.8	70.77	0.00
800	.268	19.6	2.6	0.134	0.222	151.02	375.7	75.57	0.00
1000	.215	17.7	1.9	0.162	0.178	188.78	469.6	79.22	0.00
1500	.143	14.4	3.4	0.236	0.119	283.17	704.4	85.83	0.00
2000	.107	11.9	2.4	0.307	0.089	377.56	939.2	90.75	0.00
3000	.072	9.3	2.6	0.422	0.059	566.34	1408.8	96.25	0.00
4000	.054	7.6	1.8	0.525	0.044	755.12	1878.4	100.00	0.00
5000	.043	6.4	1.1	0.608	0.036	943.91	2348.0	100.00	0.00
6000	.035	5.4	1.0	0.699	0.030	1132.69	2817.6	100.00	0.00
7000	.031	4.7	0.7	0.771	0.025	1321.47	3287.2	100.00	0.00
8000	.027	4.0	0.7	0.851	0.022	1510.25	3756.8	100.00	0.00
9000	.024	3.5	0.5	0.914	0.020	1699.03	4226.4	100.00	0.00
10000	.022	3.1	0.5	0.981	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



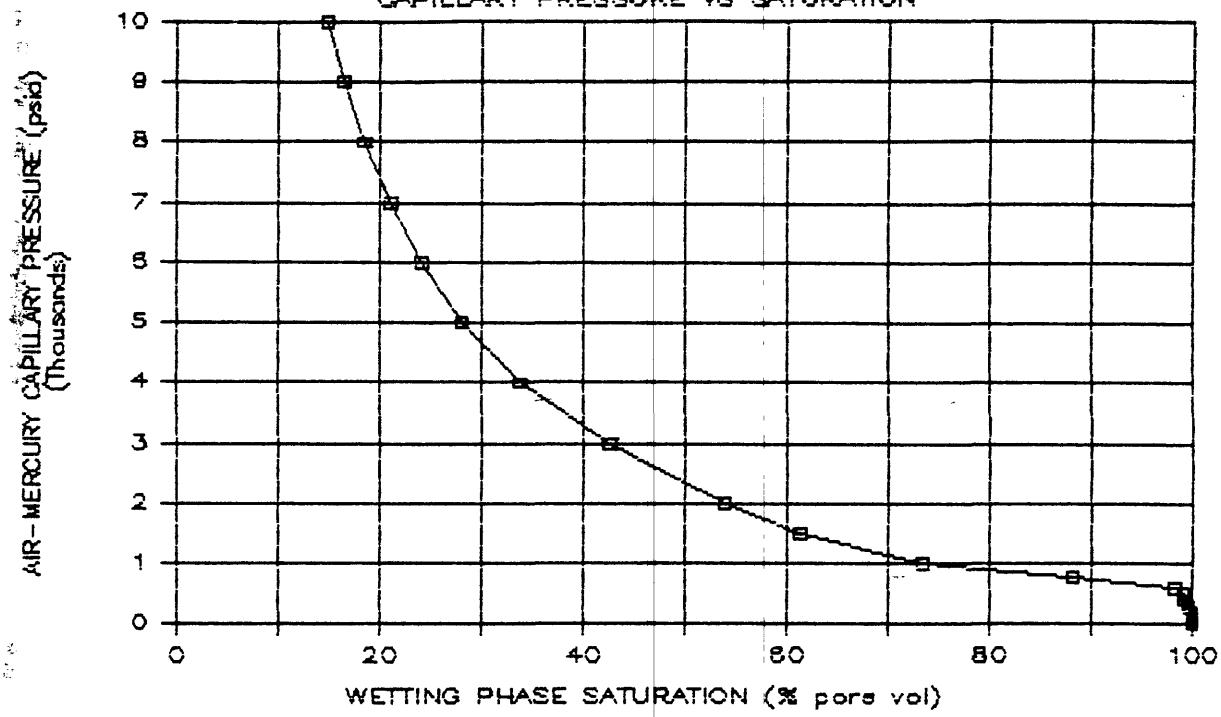


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

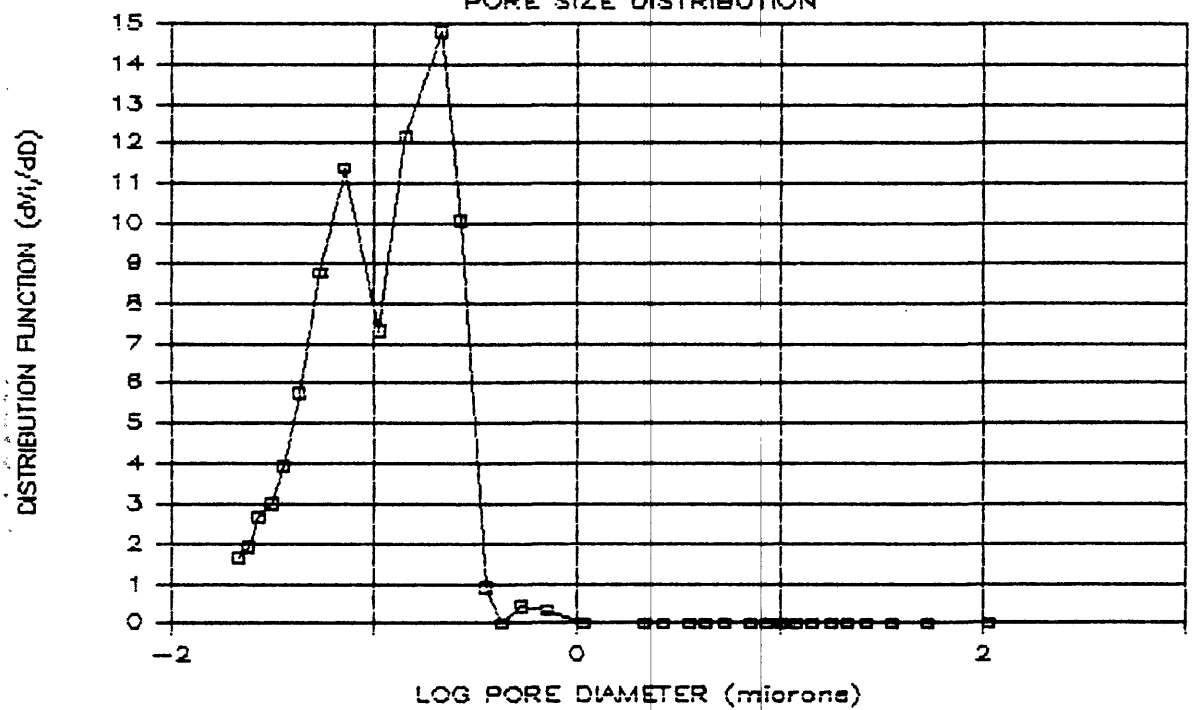
BIA Southern Ute 1—1154

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1154

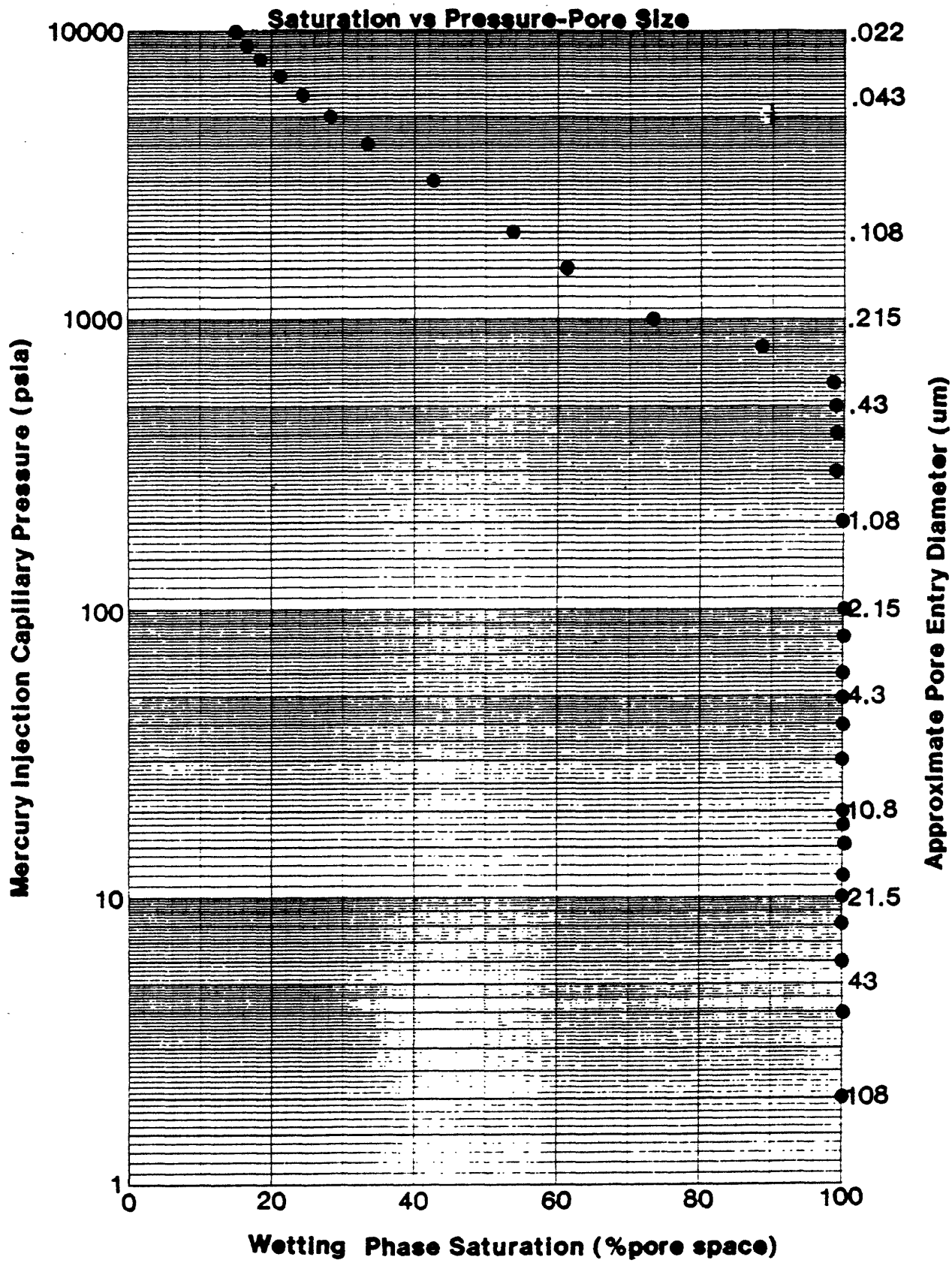
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1154



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1154

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	97.98
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	97.98
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	97.98
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	97.98
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	97.98
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	97.98
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	97.98
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	97.98
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	97.98
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	97.98
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	97.98
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	97.98
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	97.98
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	97.98
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	97.98
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	97.98
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	97.98
200	1.08	100.0	0.0	0.000	0.000	37.76	93.9	0.00	97.98
300	.717	99.7	0.3	0.001	0.593	56.63	140.9	0.00	97.00
400	.537	99.2	0.4	0.002	0.444	75.51	187.8	0.00	87.62
500	.430	99.2	0.0	0.002	0.000	94.39	234.8	0.00	82.22
600	.358	98.3	0.9	0.007	0.296	113.27	281.8	0.01	79.94
800	.268	88.2	10.1	0.071	0.222	151.02	375.7	1.60	53.73
1000	.215	73.4	14.8	0.189	0.178	188.78	469.6	12.76	16.95
1500	.143	61.3	12.2	0.335	0.119	283.17	704.4	31.28	3.23
2000	.107	54.0	7.3	0.451	0.089	377.56	939.2	46.03	0.61
3000	.072	42.6	11.4	0.724	0.059	566.34	1408.8	73.77	0.05
4000	.054	33.8	8.8	1.004	0.044	755.12	1878.4	99.10	0.00
5000	.043	28.1	5.8	1.234	0.036	943.91	2348.0	99.54	0.00
6000	.035	24.1	3.9	1.422	0.030	1132.69	2817.6	99.74	0.00
7000	.031	21.1	3.0	1.590	0.025	1321.47	3287.2	99.86	0.00
8000	.027	18.5	2.7	1.760	0.022	1510.25	3756.8	99.93	0.00
9000	.024	16.6	1.9	1.898	0.020	1699.03	4226.4	99.97	0.00
10000	.022	14.9	1.6	2.030	0.018	1887.81	4696.0	100.00	0.00

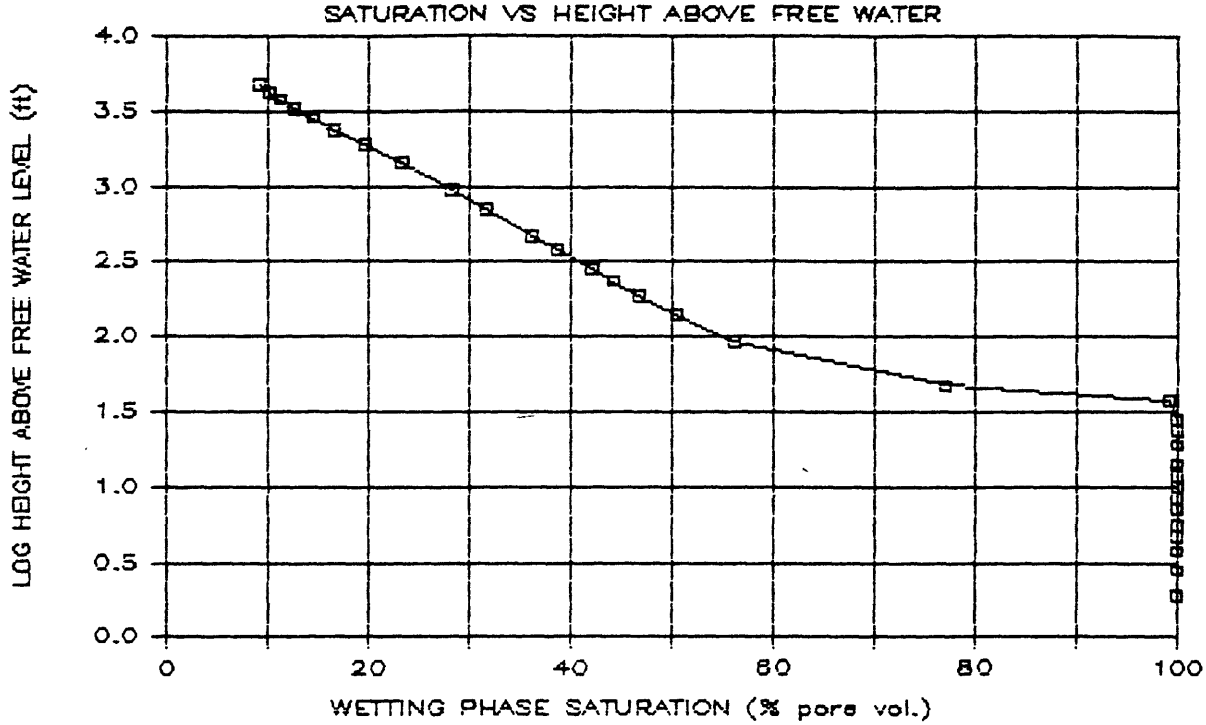
All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

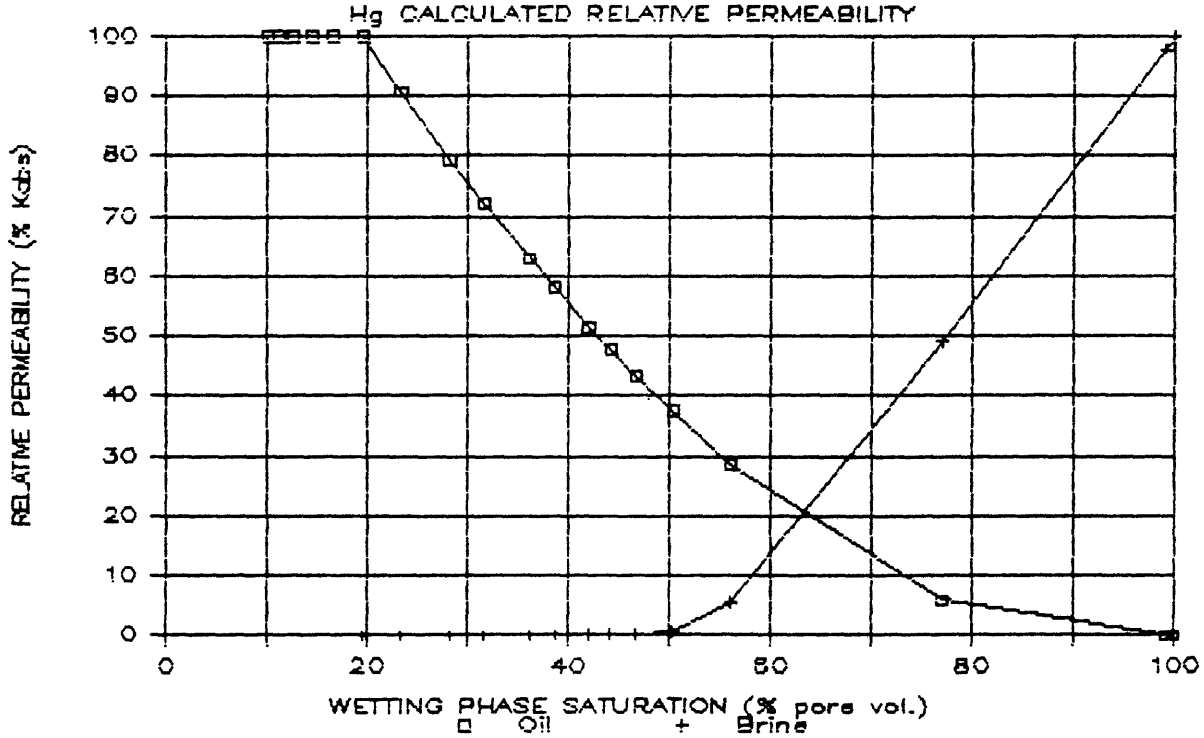
BIA Southern Ute 1—1130

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1—1130

Hg CALCULATED RELATIVE PERMEABILITY

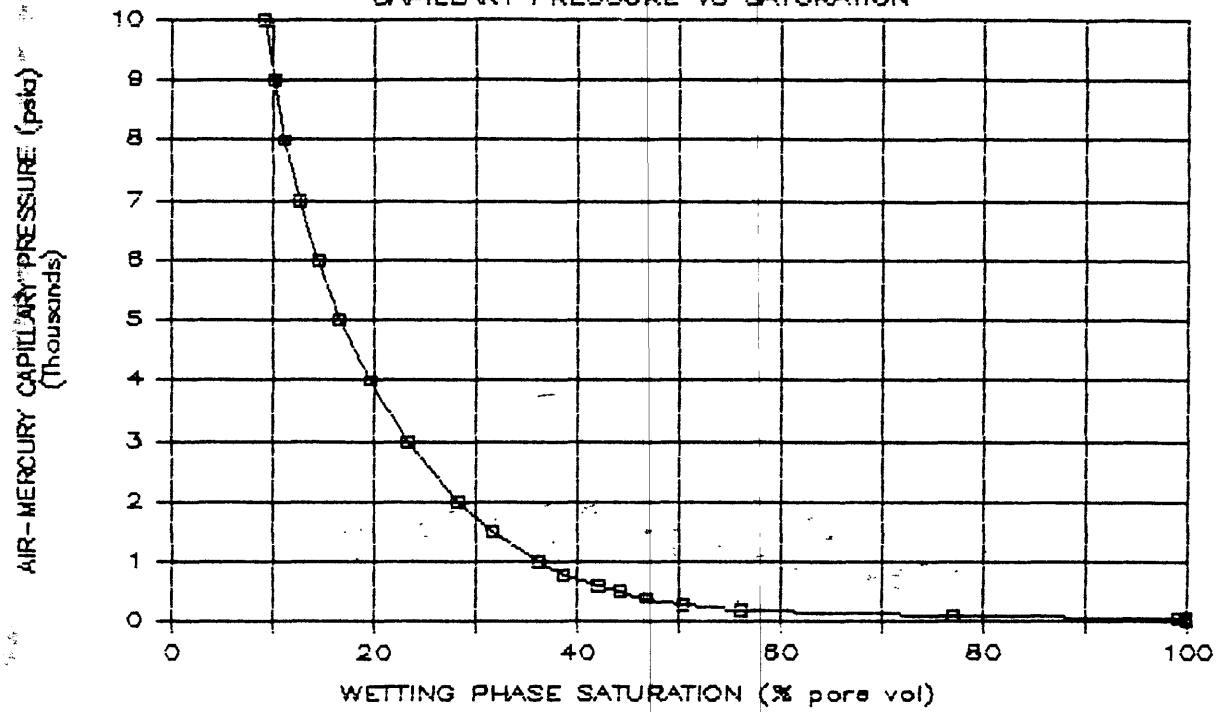


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

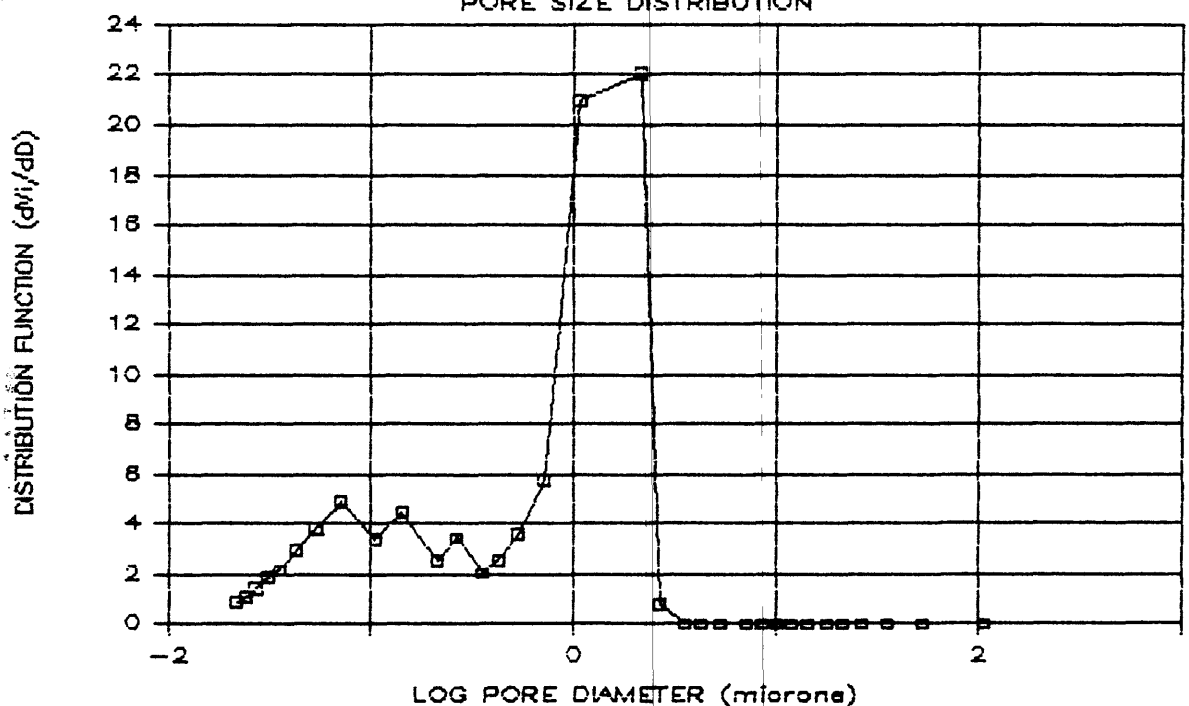
BIA Southern Ute 1—1130

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1130

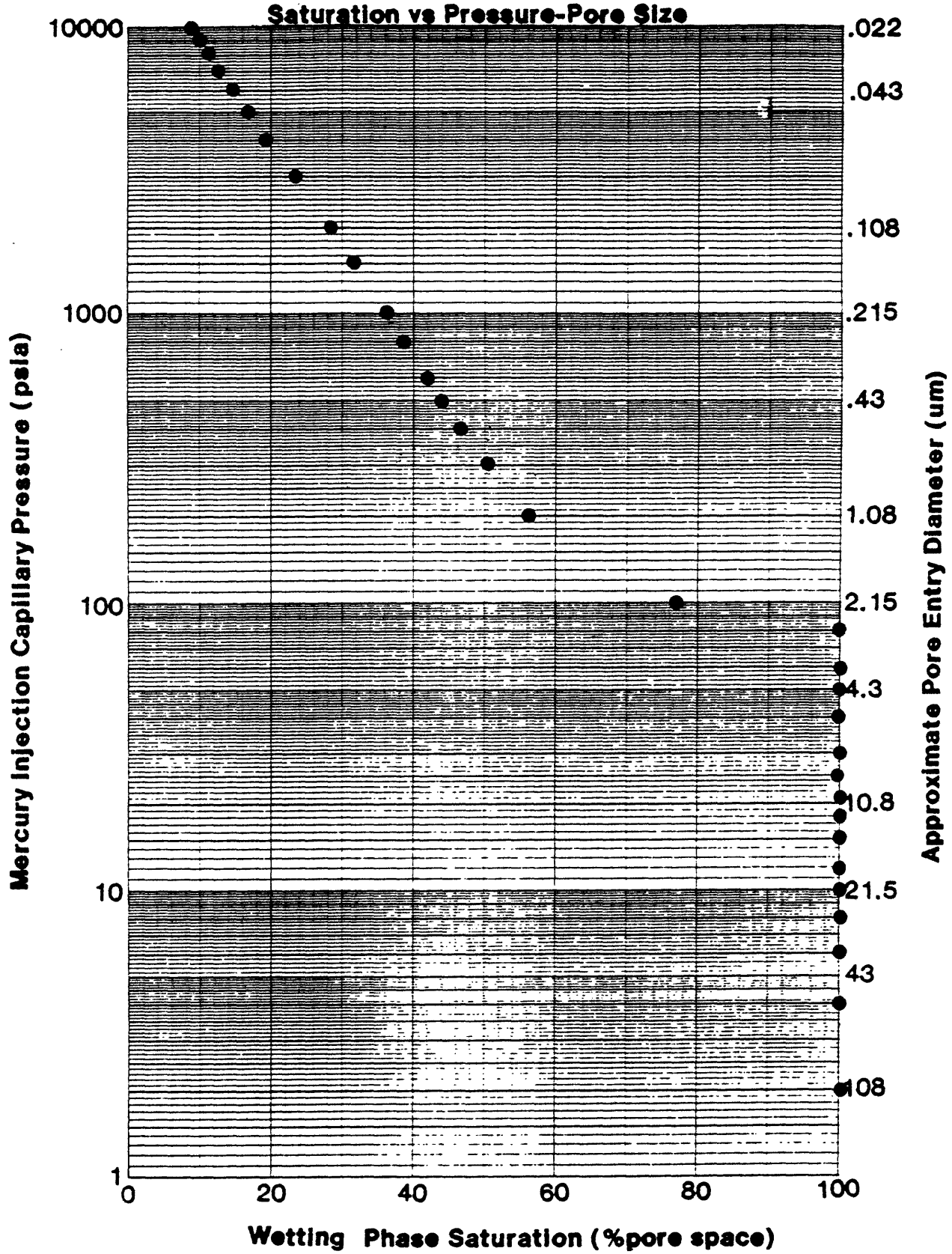
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1130



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

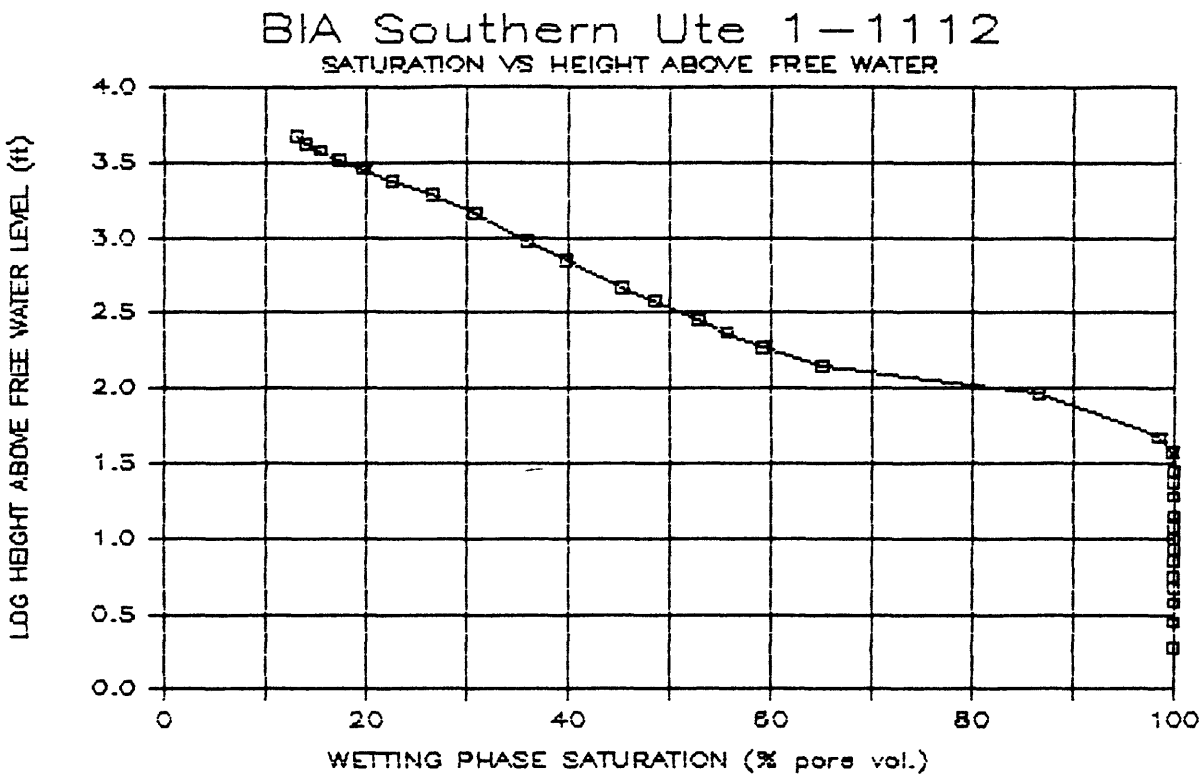
BIA Southern Ute 1-1130

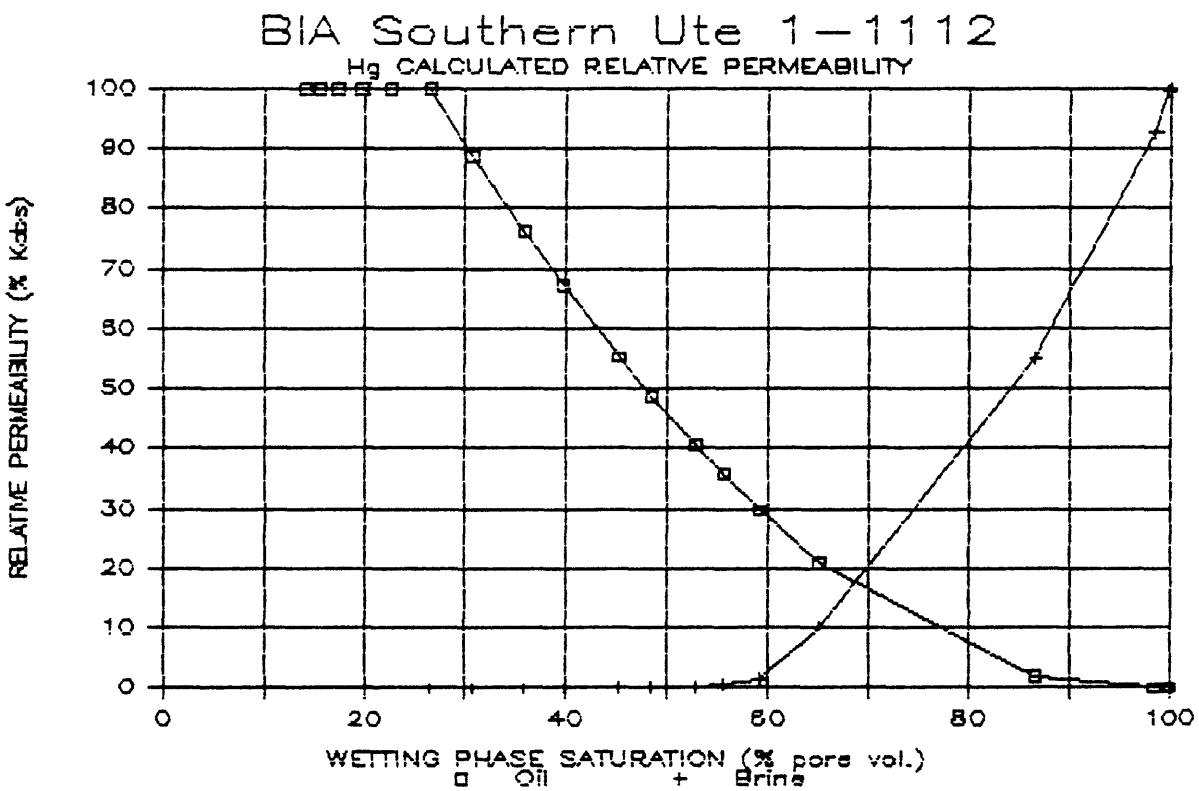
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	99.2	0.8	0.001	2.222	15.10	37.6	0.00	97.95
100	2.15	77.1	22.0	0.032	1.778	18.88	47.0	5.86	49.06
200	1.08	56.2	21.0	0.091	0.889	37.76	93.9	28.53	5.67
300	.717	50.4	5.8	0.116	0.593	56.63	140.9	37.46	0.58
400	.537	46.7	3.6	0.136	0.444	75.51	187.8	43.46	0.18
500	.430	44.2	2.6	0.155	0.356	94.39	234.8	47.90	0.08
600	.358	42.1	2.1	0.172	0.296	113.27	281.8	51.58	0.04
800	.268	38.7	3.4	0.211	0.222	151.02	375.7	58.01	0.02
1000	.215	36.2	2.5	0.247	0.178	188.78	469.6	62.92	0.01
1500	.143	31.7	4.5	0.342	0.119	283.17	704.4	72.16	0.00
2000	.107	28.3	3.4	0.437	0.089	377.56	939.2	79.44	0.00
3000	.072	23.4	4.9	0.645	0.059	566.34	1408.8	90.73	0.00
4000	.054	19.6	3.8	0.861	0.044	755.12	1878.4	99.99	0.00
5000	.043	16.6	2.9	1.068	0.036	943.91	2348.0	100.00	0.00
6000	.035	14.5	2.2	1.251	0.030	1132.69	2817.6	100.00	0.00
7000	.031	12.6	1.8	1.433	0.025	1321.47	3287.2	100.00	0.00
8000	.027	11.2	1.4	1.596	0.022	1510.25	3756.8	100.00	0.00
9000	.024	10.1	1.1	1.736	0.020	1699.03	4226.4	100.00	0.00
10000	.022	9.2	0.9	1.867	0.018	1887.81	4696.0	100.00	0.00

ALL Hg CALCULATIONS ASSUME AIR-MERCURY T=484 DYNE/CM2, CONTACT ANGLE=140DEG.
GAS-WATER Pc ASSUMES GAS-WATER TCosθ= 70 DYNES/CM
DENSITY GRADIENT FOR GAS=0.068PSI/FT; BRINE=0.47PSI/FT.

Location/Formation: **BIA Southern Ute**

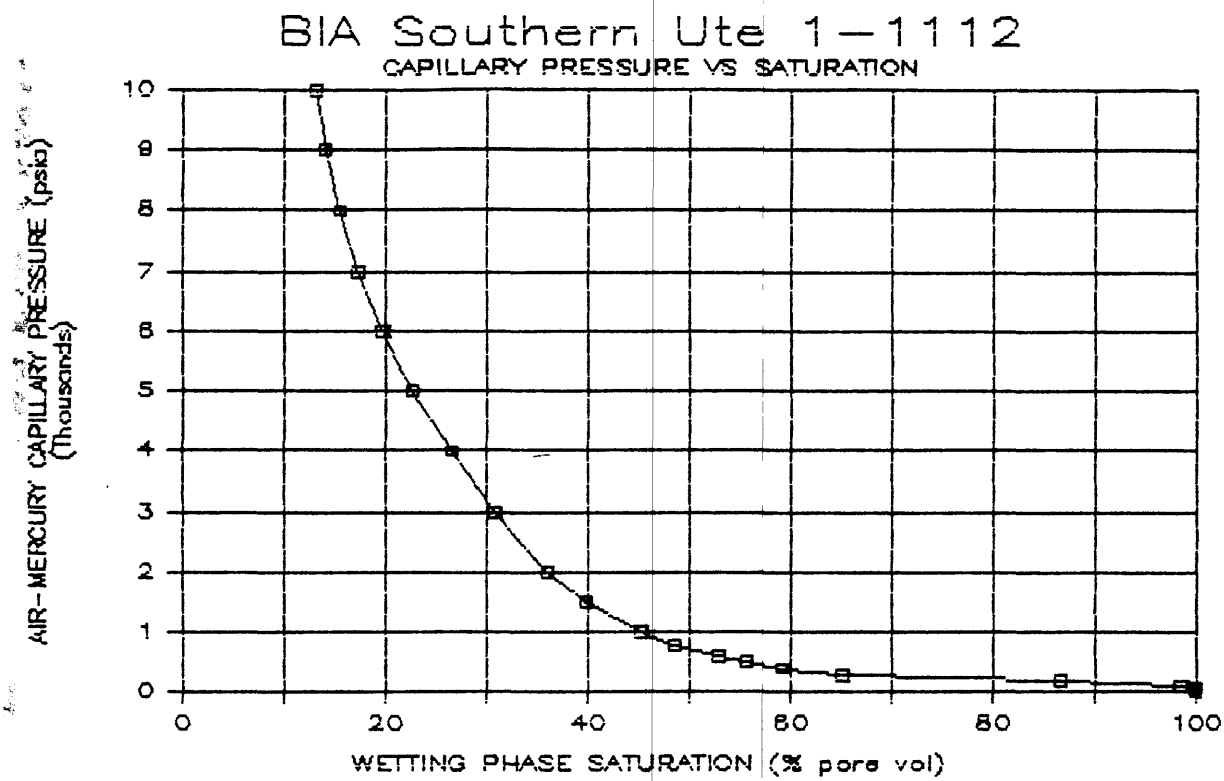
Company: **USGS Denver**

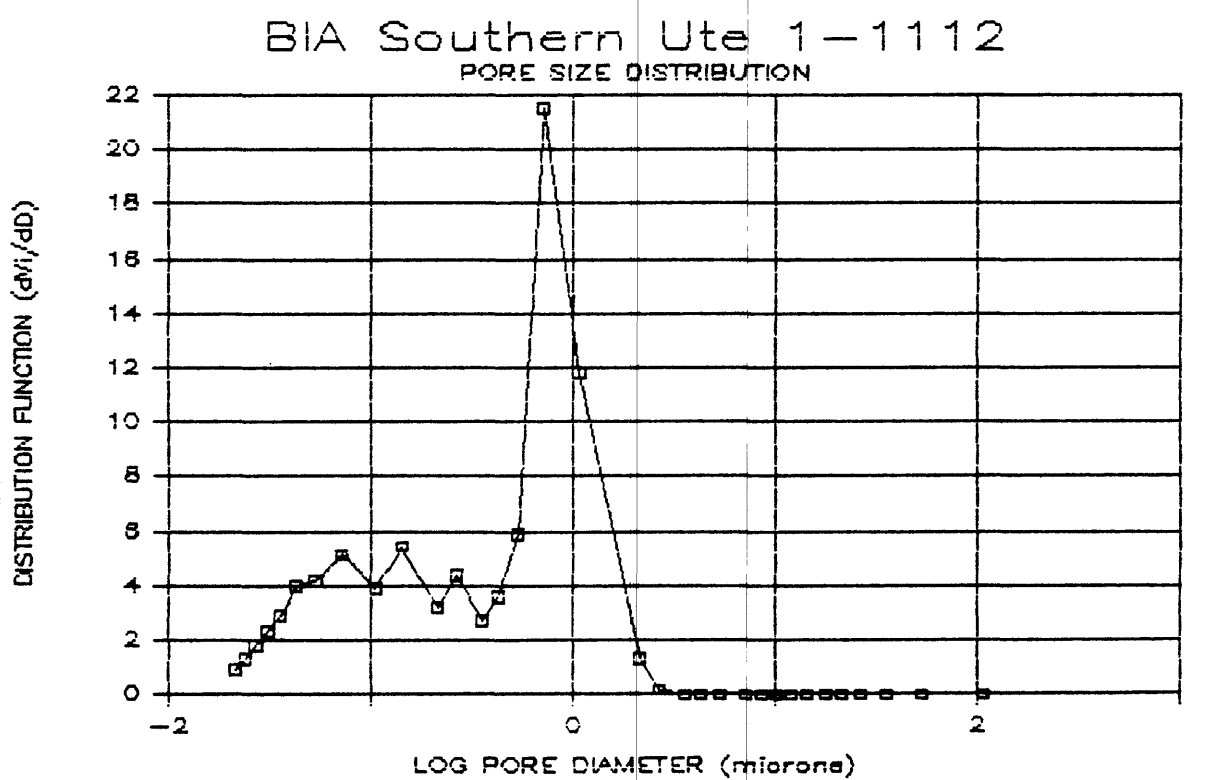




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

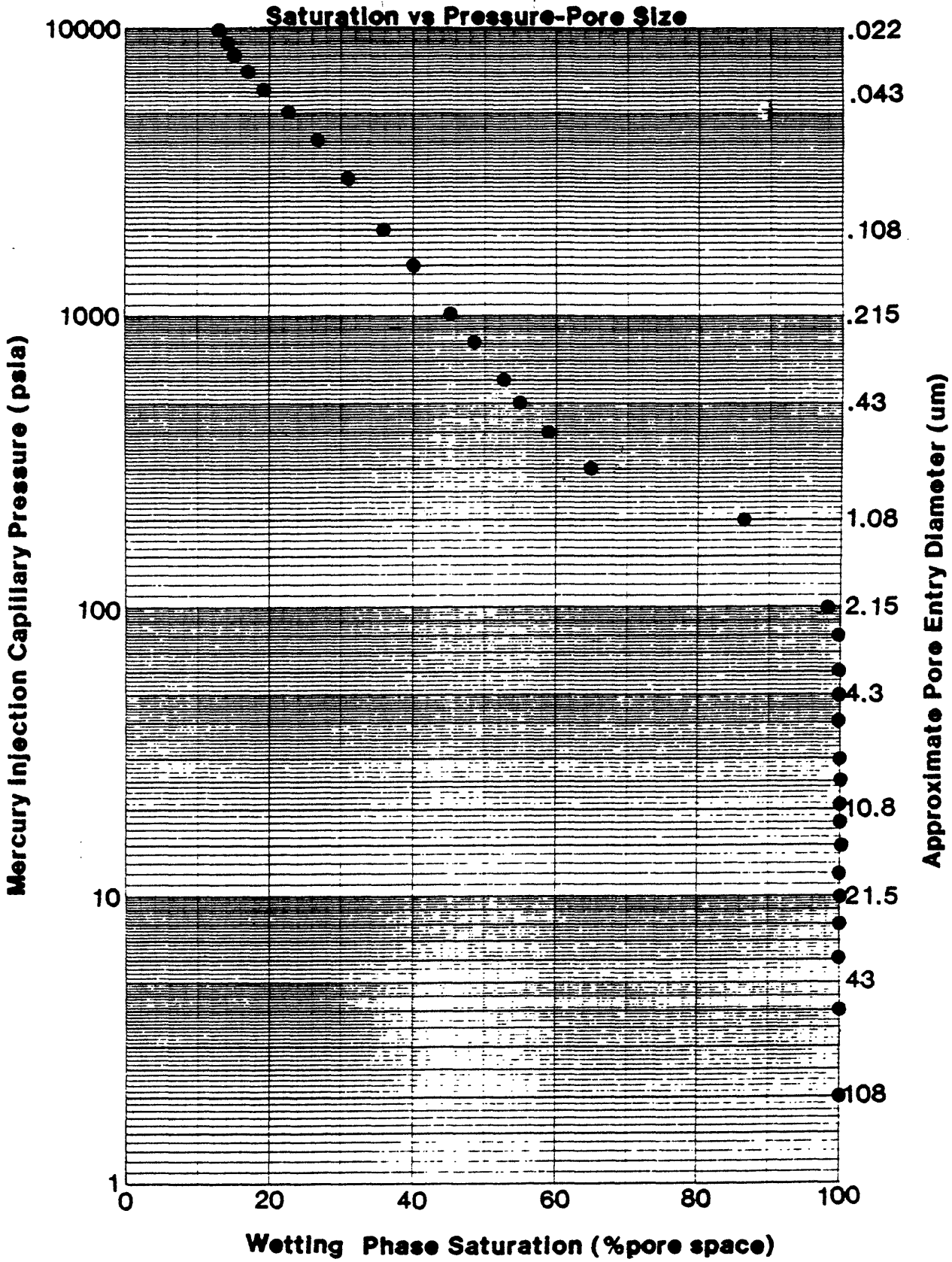




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1112



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

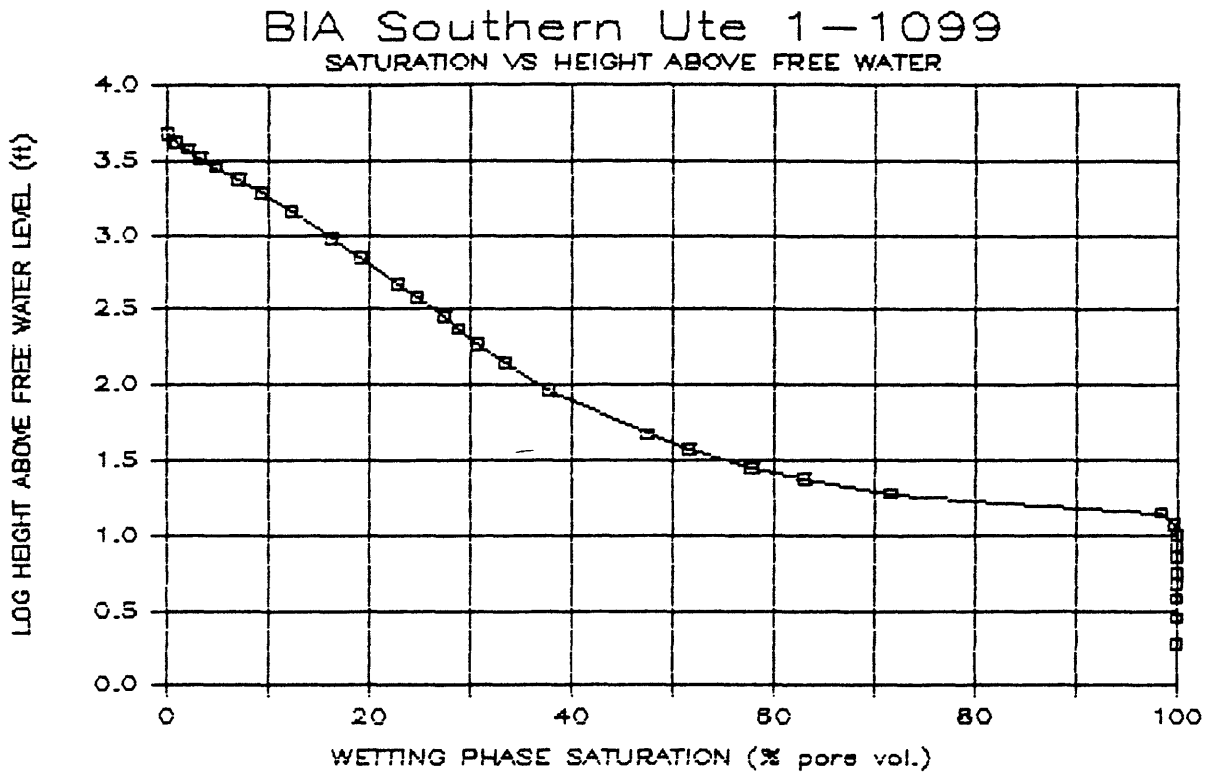
BIA Southern Ute 1-1112

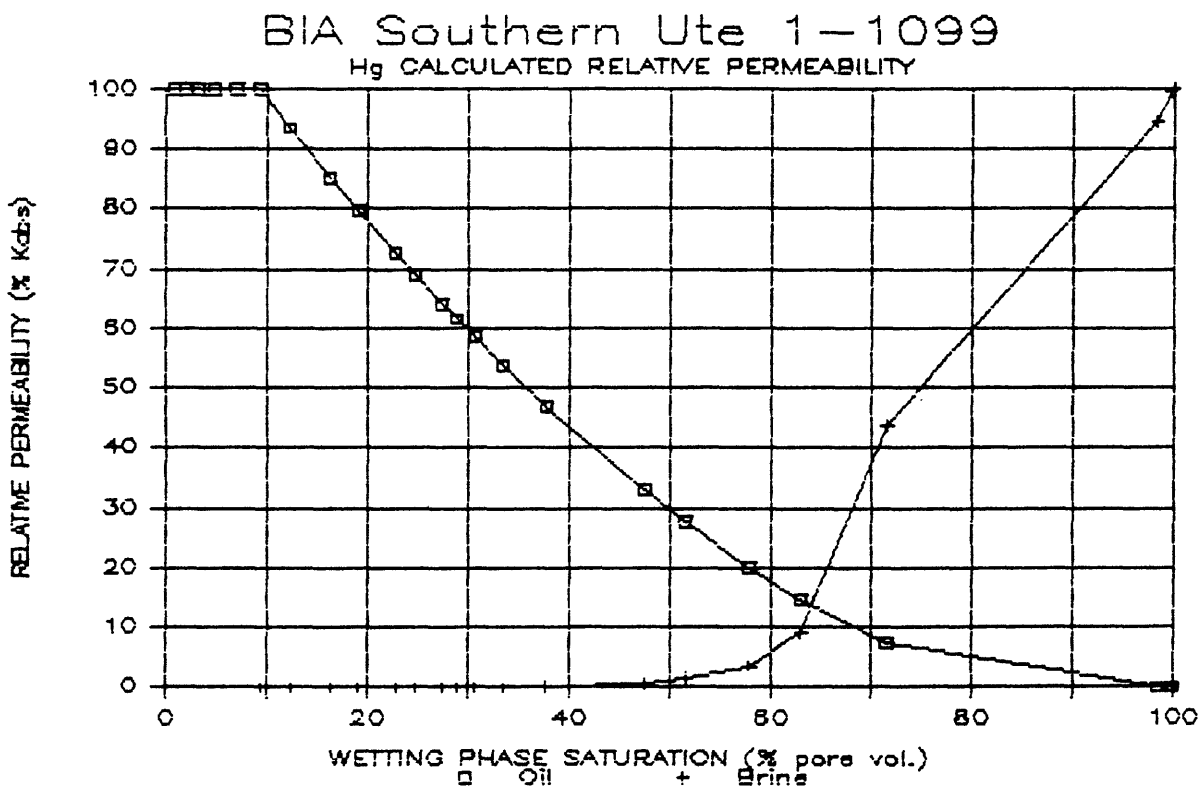
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	99.8	0.2	0.000	2.222	15.10	37.6	0.00	100.00
100	2.15	98.4	1.4	0.002	1.778	18.88	47.0	0.01	92.61
200	1.08	86.6	11.8	0.030	0.889	37.76	93.9	2.08	55.00
300	.717	65.1	21.5	0.106	0.593	56.63	140.9	20.80	10.27
400	.537	59.2	5.9	0.134	0.444	75.51	187.8	29.64	1.57
500	.430	55.6	3.6	0.155	0.356	94.39	234.8	35.67	0.61
600	.358	52.9	2.7	0.175	0.296	113.27	281.8	40.49	0.30
800	.268	48.5	4.4	0.217	0.222	151.02	375.7	48.82	0.14
1000	.215	45.3	3.2	0.255	0.178	188.78	469.6	55.30	0.05
1500	.143	39.9	5.4	0.351	0.119	283.17	704.4	67.01	0.02
2000	.107	36.0	3.9	0.444	0.089	377.56	939.2	76.10	0.00
3000	.072	30.8	5.1	0.627	0.059	566.34	1408.8	88.89	0.00
4000	.054	26.6	4.2	0.824	0.044	755.12	1878.4	99.96	0.00
5000	.043	22.6	4.0	1.062	0.036	943.91	2348.0	99.98	0.00
6000	.035	19.7	2.9	1.271	0.030	1132.69	2817.6	99.99	0.00
7000	.031	17.3	2.3	1.465	0.025	1321.47	3287.2	99.99	0.00
8000	.027	15.5	1.9	1.640	0.022	1510.25	3756.8	100.00	0.00
9000	.024	14.1	1.4	1.785	0.020	1699.03	4226.4	100.00	0.00
10000	.022	13.2	1.0	1.899	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



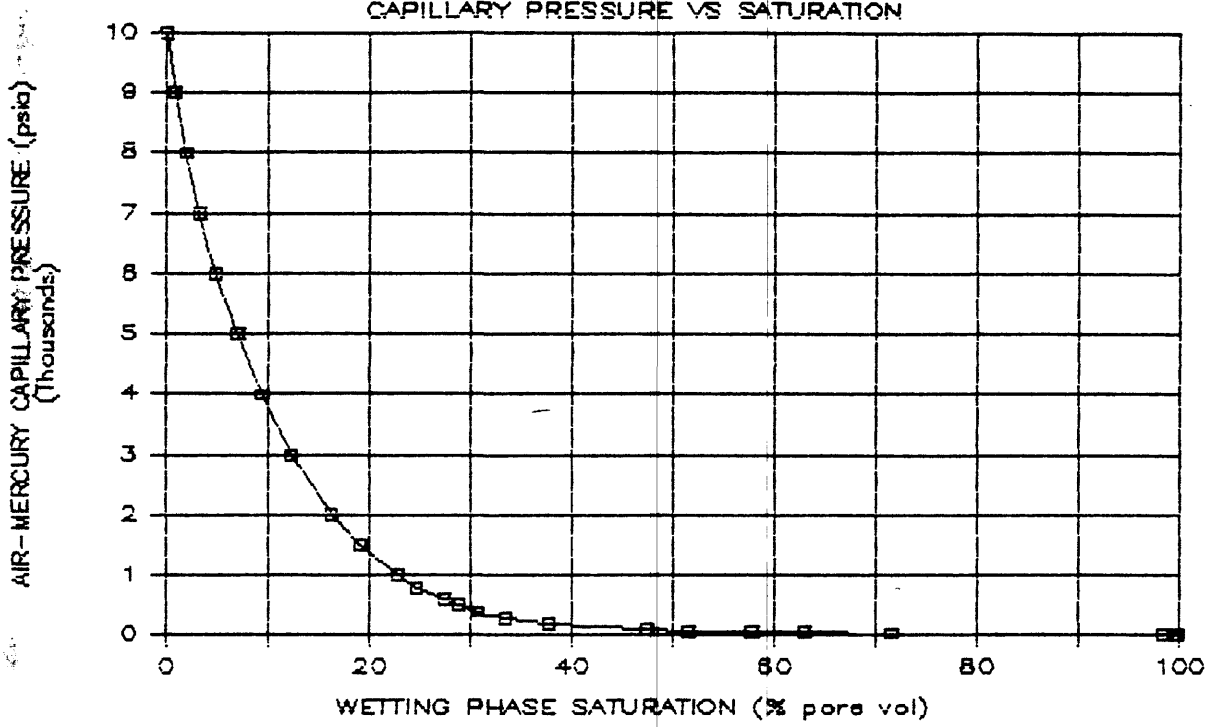


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

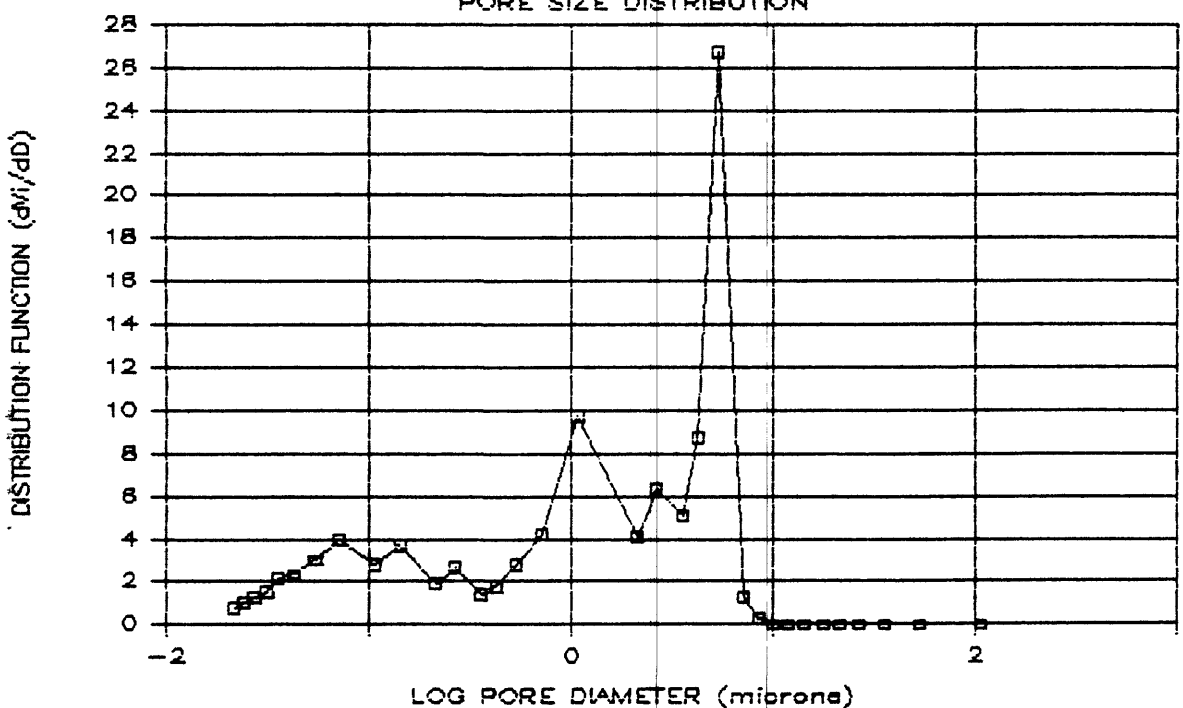
BIA Southern Ute 1—1099

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1099

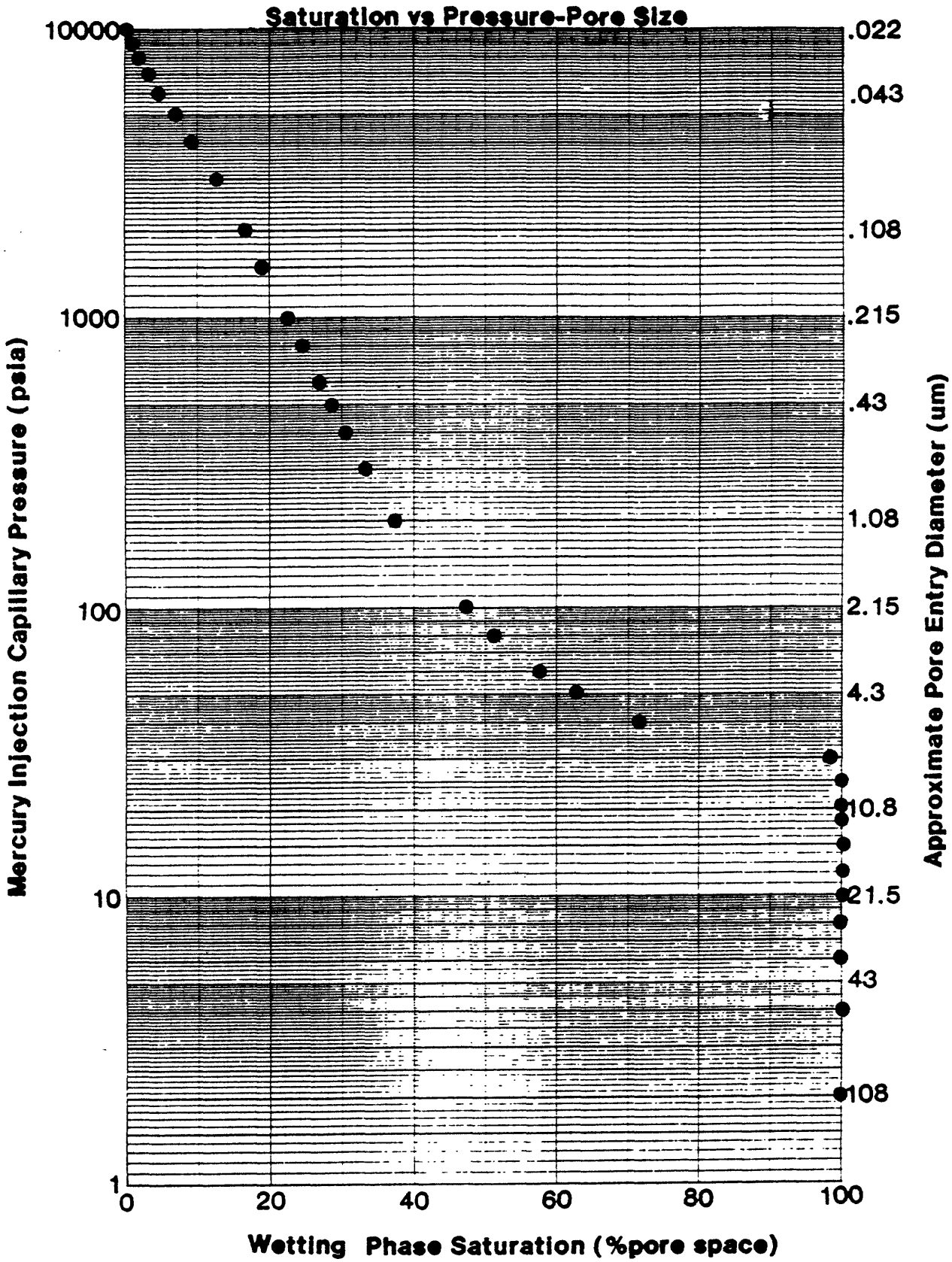
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1099



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

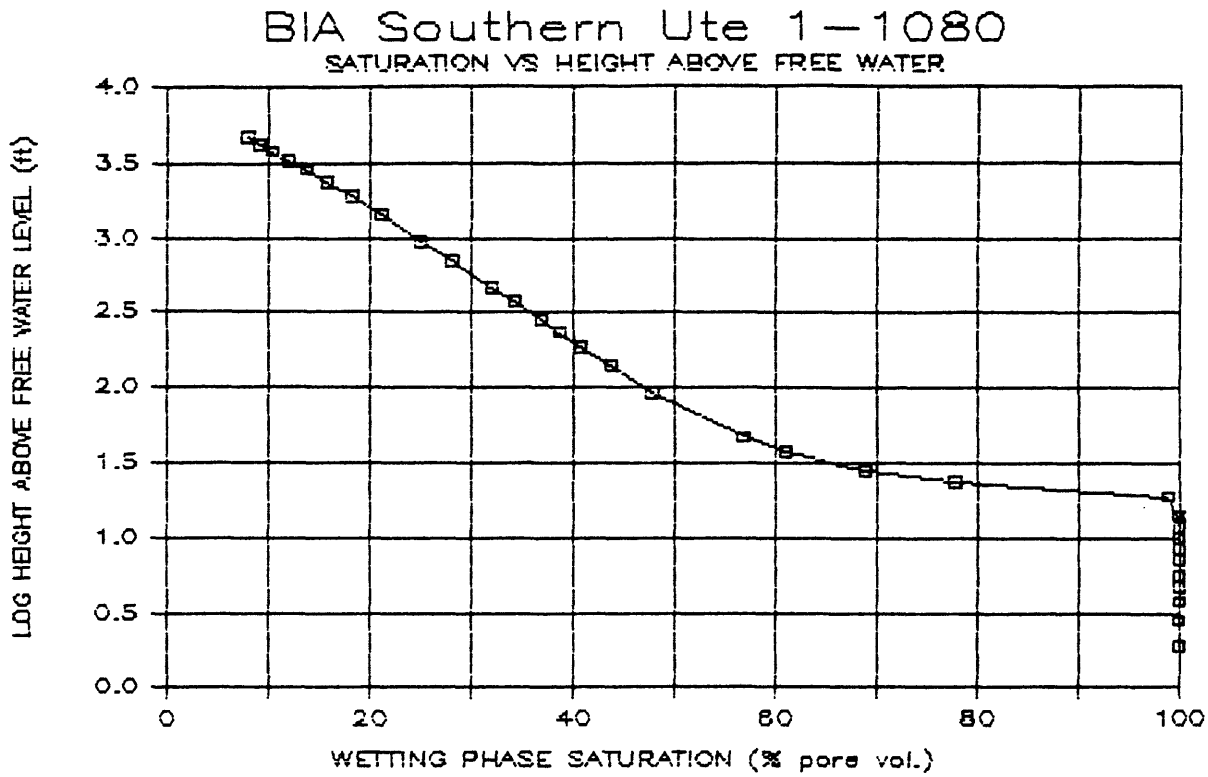
BIA Southern Ute 1-1099

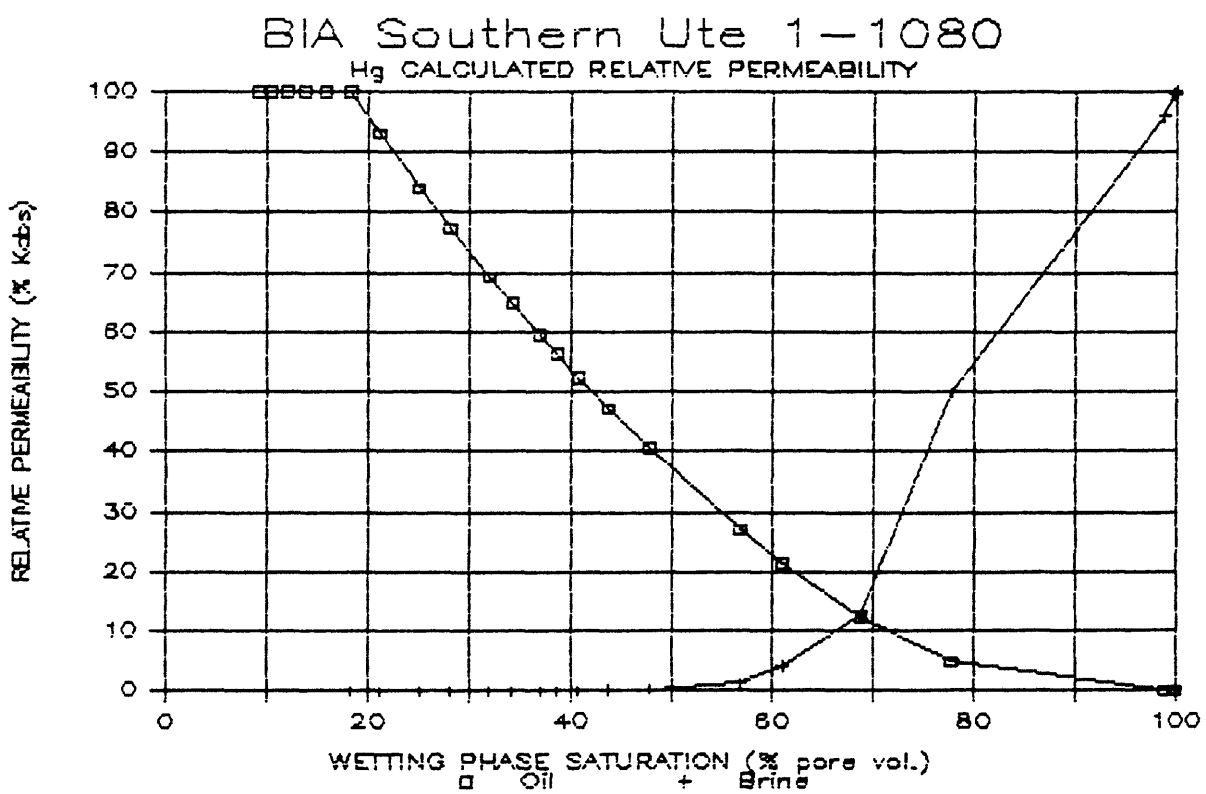
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	99.7	0.3	0.000	7.111	4.72	11.7	0.00	100.00
30	7.17	98.4	1.3	0.001	5.926	5.66	14.1	0.00	94.74
40	5.37	71.7	26.7	0.016	4.444	7.55	18.8	7.26	43.91
50	4.30	63.0	8.7	0.022	3.556	9.44	23.5	14.62	8.98
60	3.58	57.9	5.1	0.026	2.963	11.33	28.2	20.06	3.56
80	2.69	51.6	6.3	0.034	2.222	15.10	37.6	27.64	1.56
100	2.15	47.5	4.1	0.039	1.778	18.88	47.0	33.01	0.57
200	1.08	37.7	9.8	0.067	0.889	37.76	93.9	47.05	0.17
300	.717	33.5	4.2	0.085	0.593	56.63	140.9	53.74	0.03
400	.537	30.7	2.8	0.101	0.444	75.51	187.8	58.46	0.01
500	.430	28.9	1.8	0.114	0.356	94.39	234.8	61.55	0.00
600	.358	27.5	1.4	0.126	0.296	113.27	281.8	64.06	0.00
800	.268	24.7	2.7	0.157	0.222	151.02	375.7	68.96	0.00
1000	.215	22.8	1.9	0.184	0.178	188.78	469.6	72.48	0.00
1500	.143	19.1	3.7	0.264	0.119	283.17	704.4	79.63	0.00
2000	.107	16.3	2.8	0.343	0.089	377.56	939.2	85.23	0.00
3000	.072	12.4	3.9	0.511	0.059	566.34	1408.8	93.44	0.00
4000	.054	9.4	3.0	0.684	0.044	755.12	1878.4	100.00	0.00
5000	.043	7.0	2.4	0.854	0.036	943.91	2348.0	100.00	0.00
6000	.035	4.8	2.2	1.039	0.030	1132.69	2817.6	100.00	0.00
7000	.031	3.3	1.5	1.192	0.025	1321.47	3287.2	100.00	0.00
8000	.027	1.9	1.3	1.344	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.9	1.0	1.475	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.1	0.8	1.587	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



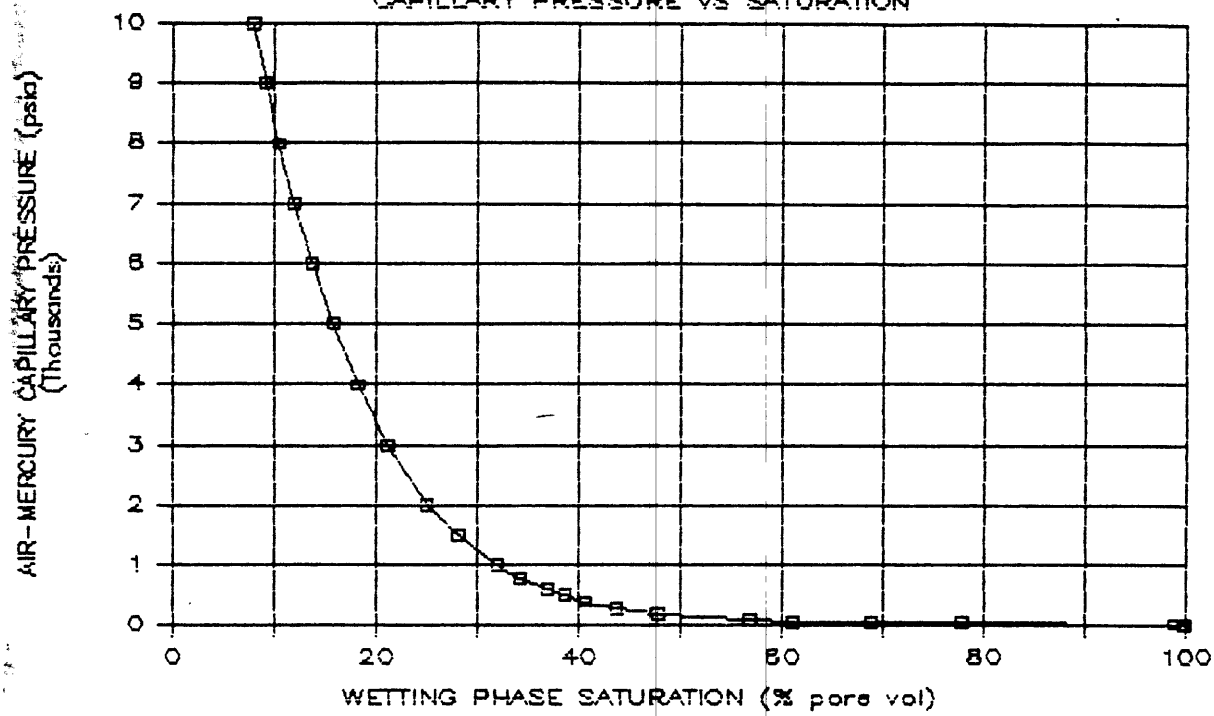


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

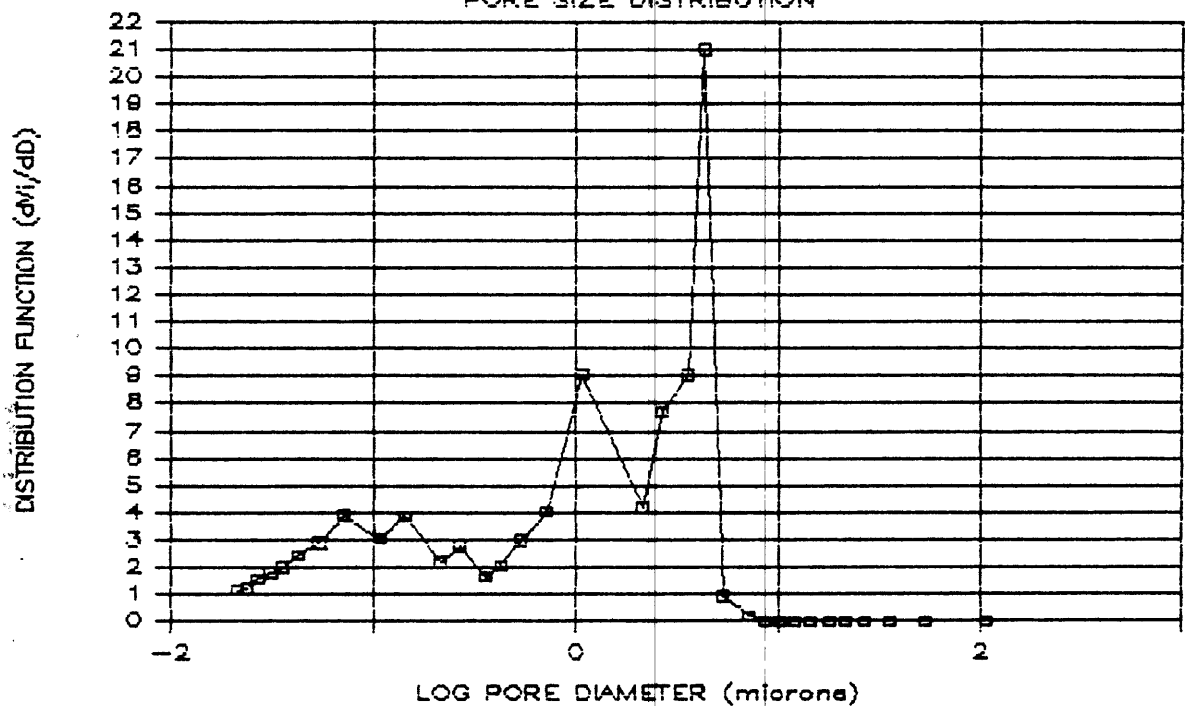
BIA Southern Ute 1—1080

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1080

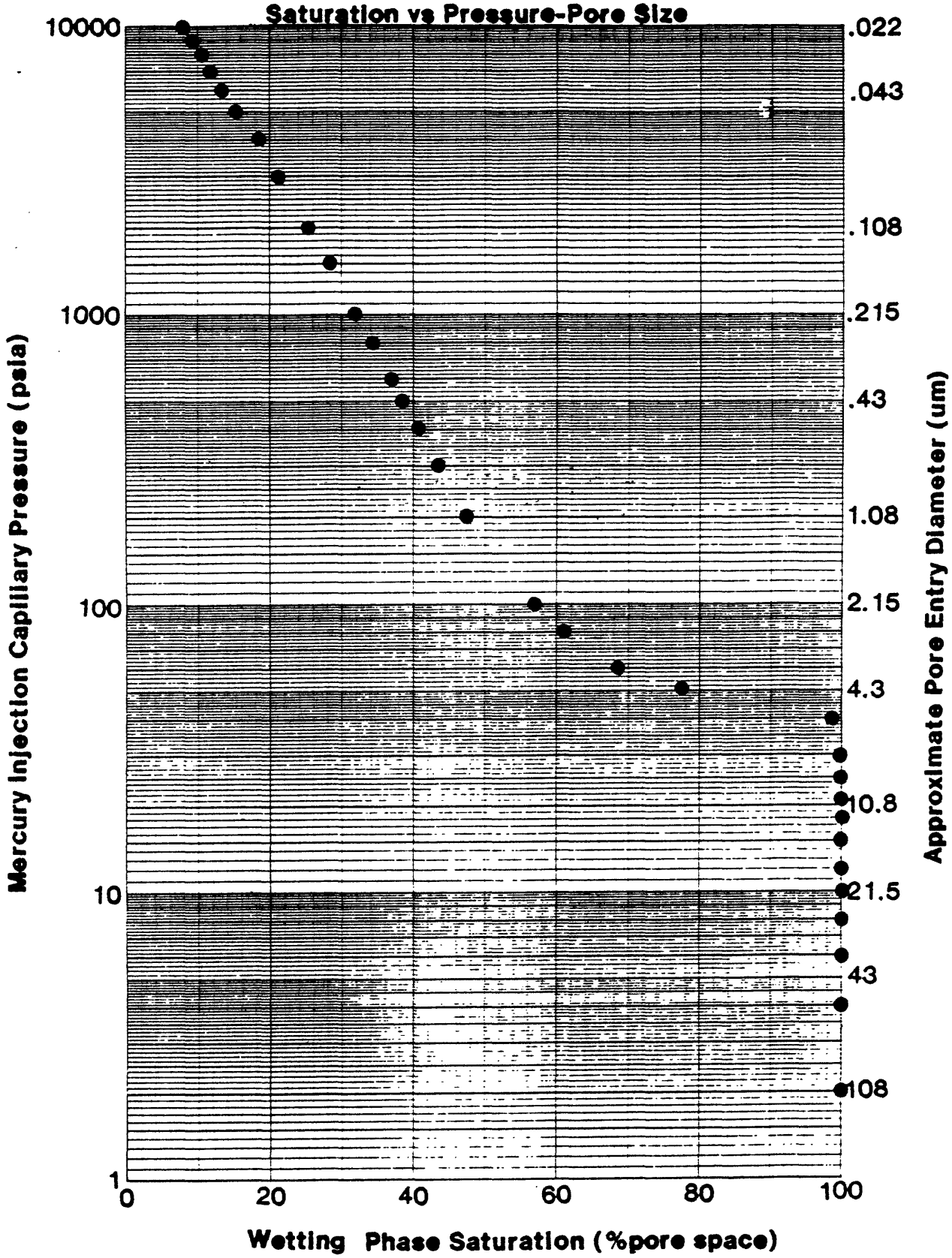
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1080



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1080

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	99.8	0.2	0.000	5.926	5.66	14.1	0.00	100.00
40	5.37	98.9	1.0	0.001	4.444	7.55	18.8	0.00	95.71
50	4.30	77.8	21.0	0.015	3.556	9.44	23.5	4.93	49.88
60	3.58	68.8	9.0	0.023	2.963	11.33	28.2	12.32	12.59
80	2.69	61.1	7.7	0.032	2.222	15.10	37.6	21.26	4.22
100	2.15	56.9	4.2	0.037	1.778	18.88	47.0	26.98	1.37
200	1.08	47.8	9.1	0.063	0.889	37.76	93.9	40.51	0.40
300	.717	43.8	4.0	0.080	0.593	56.63	140.9	47.20	0.07
400	.537	40.7	3.0	0.097	0.444	75.51	187.8	52.50	0.02
500	.430	38.6	2.1	0.111	0.356	94.39	234.8	56.27	0.01
600	.358	37.0	1.7	0.125	0.296	113.27	281.8	59.40	0.01
800	.268	34.2	2.8	0.157	0.222	151.02	375.7	64.81	0.00
1000	.215	32.0	2.2	0.187	0.178	188.78	469.6	69.23	0.00
1500	.143	28.1	3.9	0.268	0.119	283.17	704.4	77.32	0.00
2000	.107	25.1	3.0	0.354	0.089	377.56	939.2	84.03	0.00
3000	.072	21.2	3.9	0.518	0.059	566.34	1408.8	93.02	0.00
4000	.054	18.3	2.9	0.680	0.044	755.12	1878.4	100.00	0.00
5000	.043	15.8	2.5	0.853	0.036	943.91	2348.0	100.00	0.00
6000	.035	13.8	2.0	1.021	0.030	1132.69	2817.6	100.00	0.00
7000	.031	11.9	1.8	1.201	0.025	1321.47	3287.2	100.00	0.00
8000	.027	10.4	1.6	1.378	0.022	1510.25	3756.8	100.00	0.00
9000	.024	9.1	1.2	1.532	0.020	1699.03	4226.4	100.00	0.00
10000	.022	8.0	1.2	1.696	0.018	1887.81	4696.0	100.00	0.00

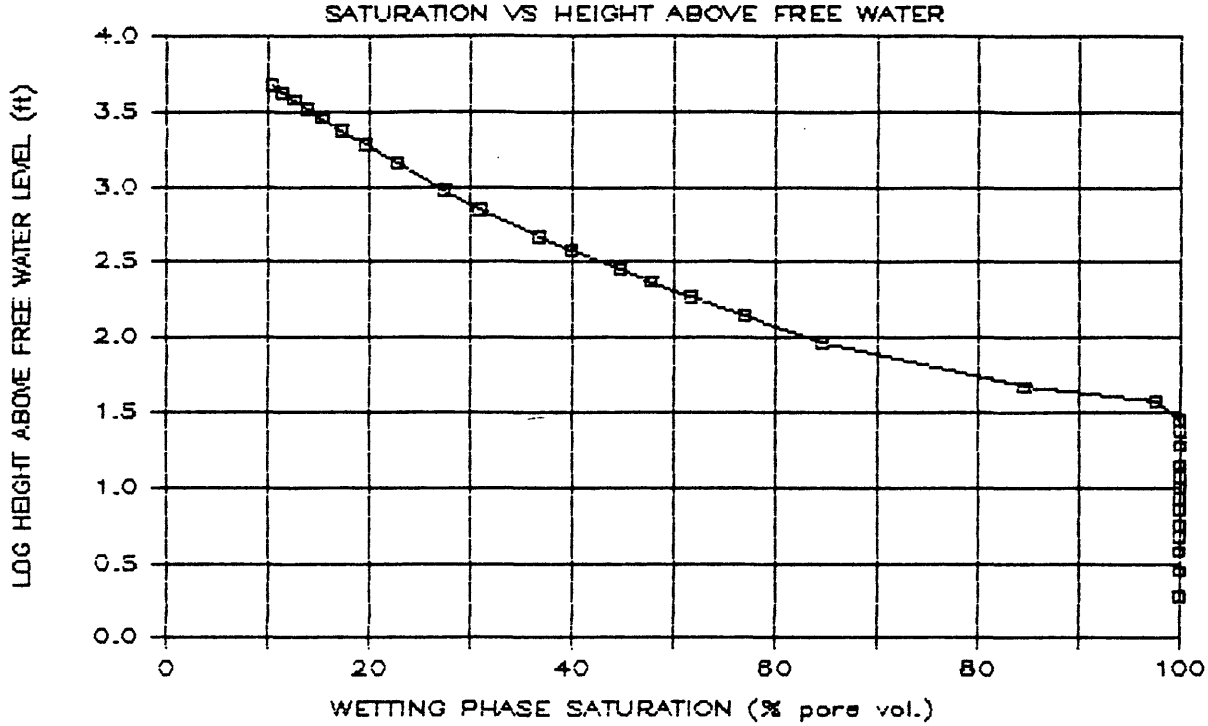
All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

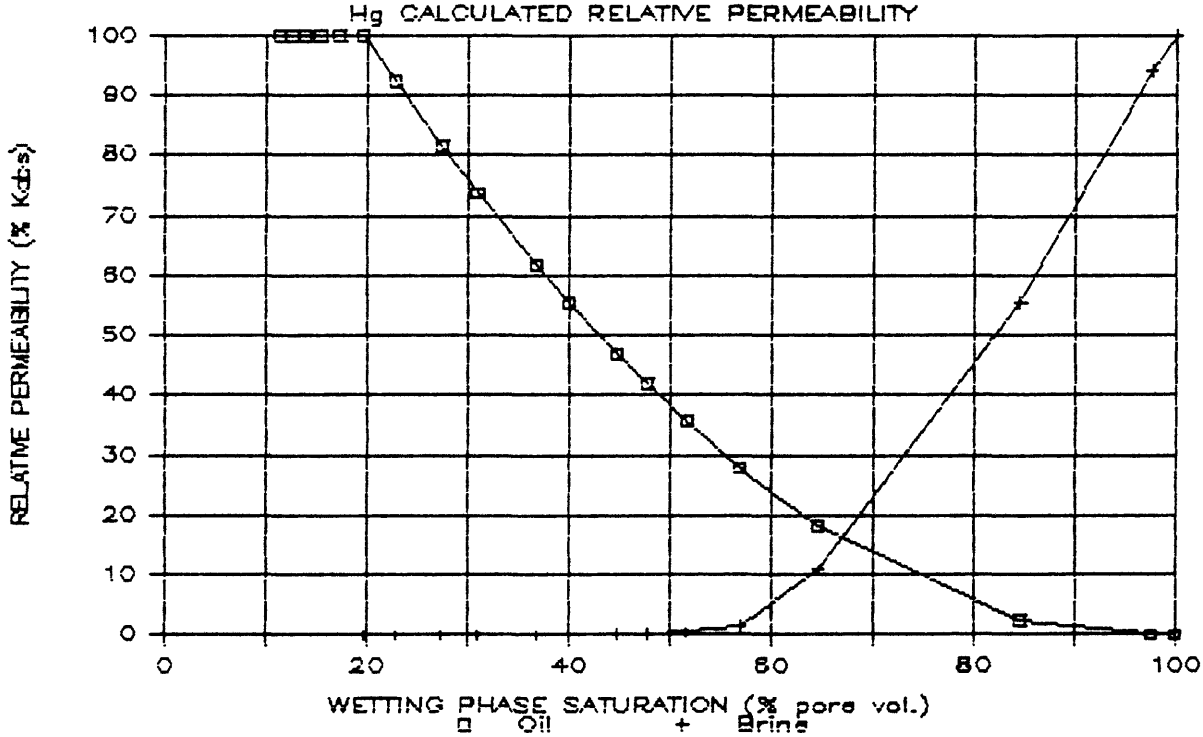
BIA Southern Ute 1—1054

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1—1054

Hg CALCULATED RELATIVE PERMEABILITY

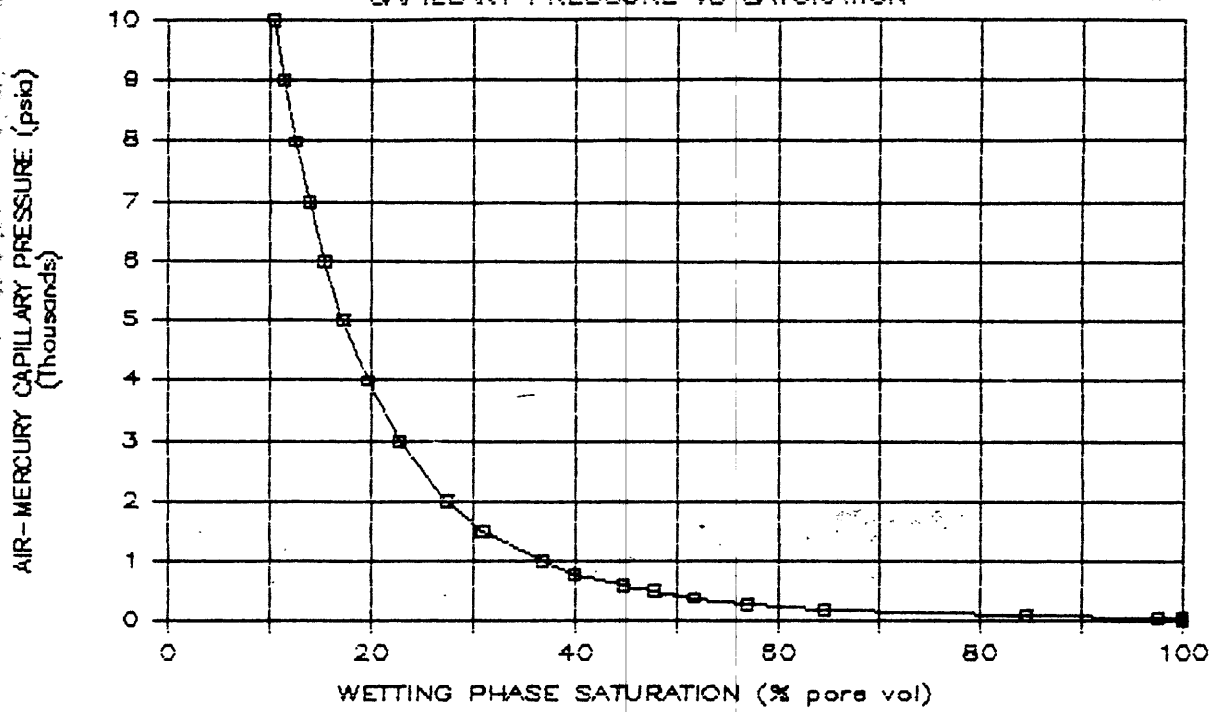


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

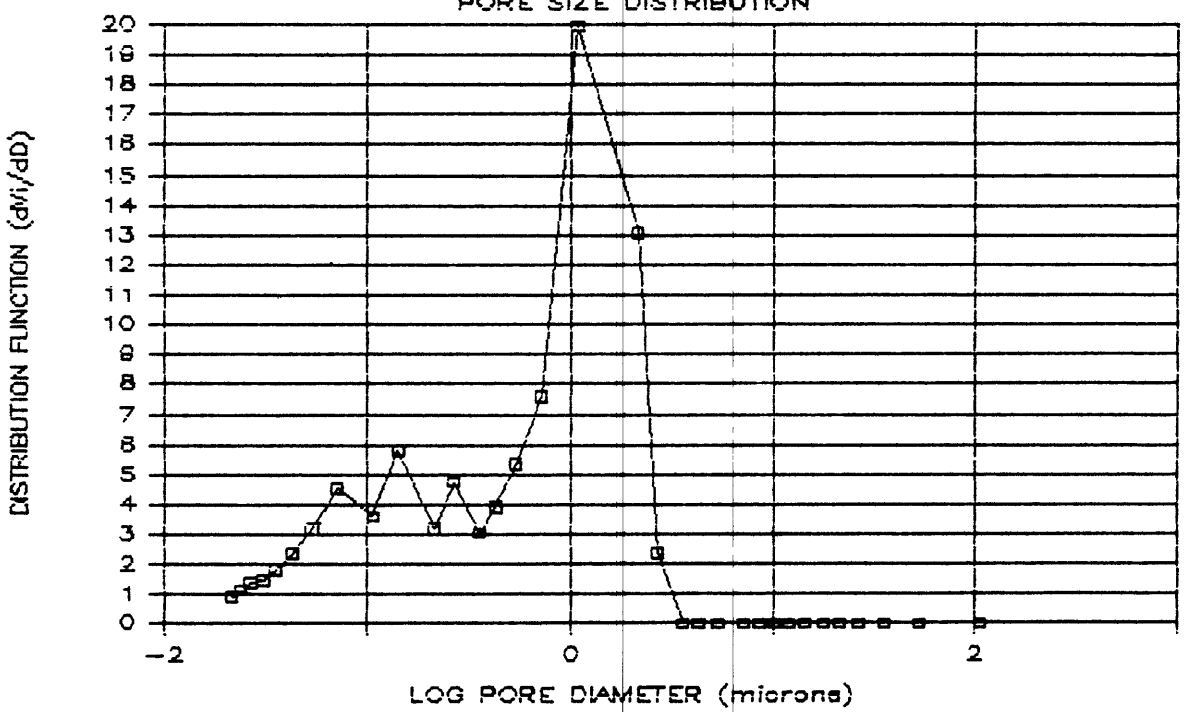
BIA Southern Ute 1—1054

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1054

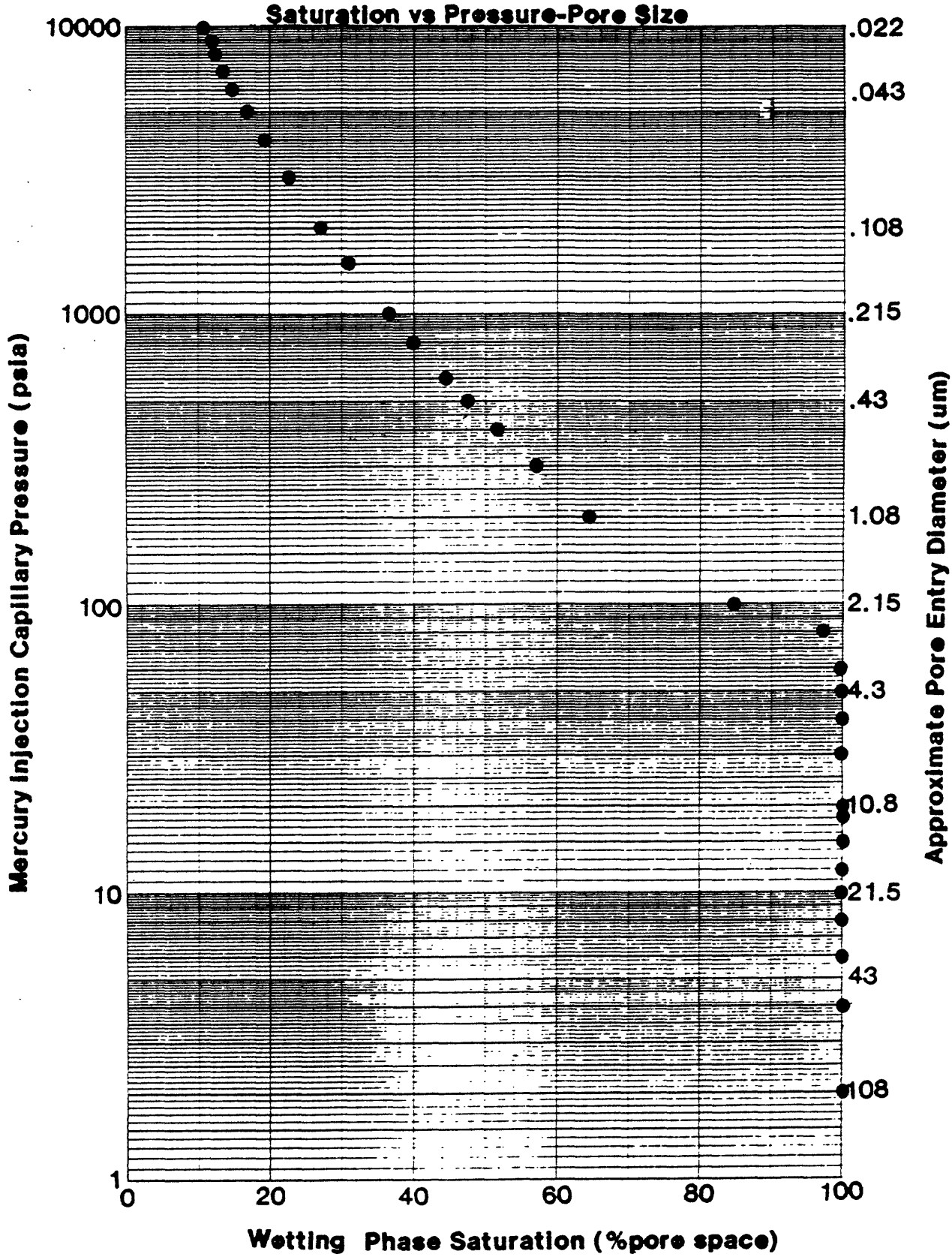
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1054



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 1-1054

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	97.7	2.3	0.002	2.222	15.10	37.6	0.01	94.24
100	2.15	84.6	13.1	0.018	1.778	18.88	47.0	2.42	55.50
200	1.08	64.6	20.0	0.065	0.889	37.76	93.9	18.09	10.79
300	.717	57.0	7.6	0.092	0.593	56.63	140.9	27.79	1.45
400	.537	51.7	5.3	0.117	0.444	75.51	187.8	35.58	0.46
500	.430	47.8	3.9	0.140	0.356	94.39	234.8	41.84	0.19
600	.358	44.7	3.0	0.161	0.296	113.27	281.8	47.01	0.09
800	.268	40.0	4.7	0.206	0.222	151.02	375.7	55.60	0.04
1000	.215	36.8	3.2	0.244	0.178	188.78	469.6	61.74	0.01
1500	.143	31.0	5.8	0.347	0.119	283.17	704.4	73.71	0.00
2000	.107	27.4	3.6	0.432	0.089	377.56	939.2	81.62	0.00
3000	.072	22.8	4.6	0.593	0.059	566.34	1408.8	92.20	0.00
4000	.054	19.6	3.2	0.744	0.044	755.12	1878.4	99.99	0.00
5000	.043	17.2	2.4	0.885	0.036	943.91	2348.0	100.00	0.00
6000	.035	15.4	1.8	1.014	0.030	1132.69	2817.6	100.00	0.00
7000	.031	13.9	1.5	1.137	0.025	1321.47	3287.2	100.00	0.00
8000	.027	12.6	1.4	1.265	0.022	1510.25	3756.8	100.00	0.00
9000	.024	11.4	1.2	1.387	0.020	1699.03	4226.4	100.00	0.00
10000	.022	10.5	1.0	1.500	0.018	1887.81	4696.0	100.00	0.00

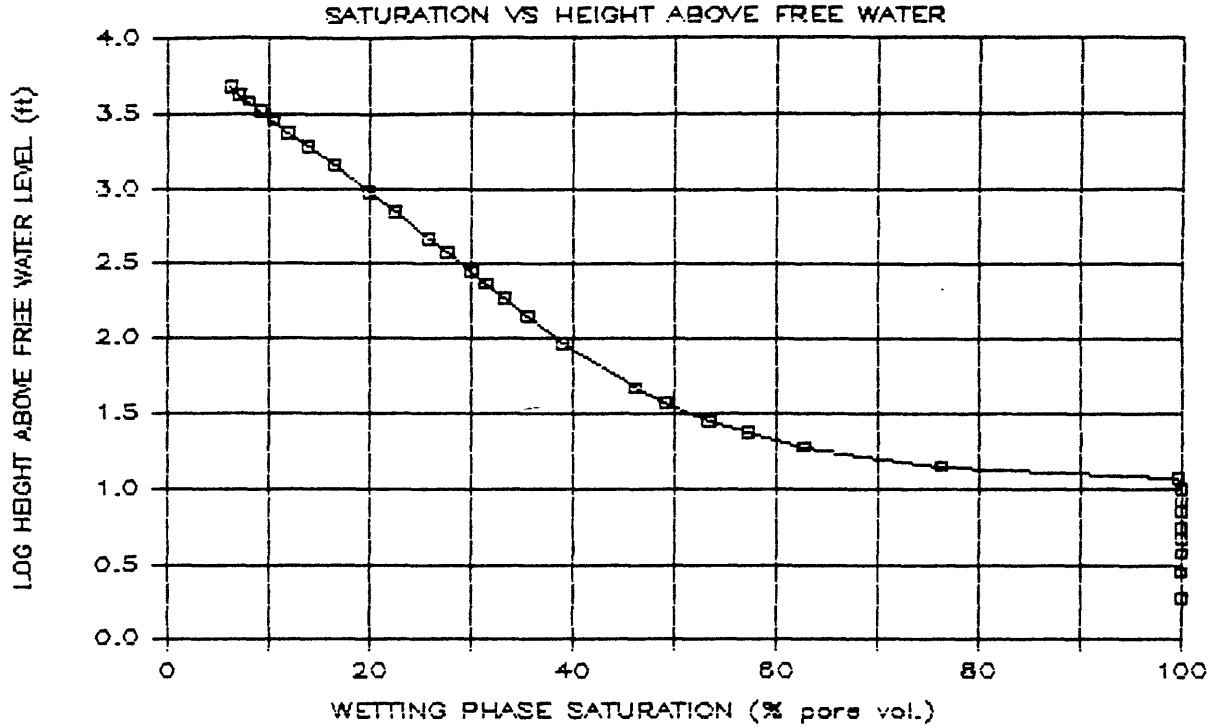
ALL Hg CALCULATIONS ASSUME AIR-MERCURY T=484 DYNE/CM2, CONTACT ANGLE=140DEG.
GAS-WATER Pc ASSUMES GAS-WATER TCosθ= 70 DYNES/CM
DENSITY GRADIENT FOR GAS=0.068PSI/FT; BRINE=0.47PSI/FT.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

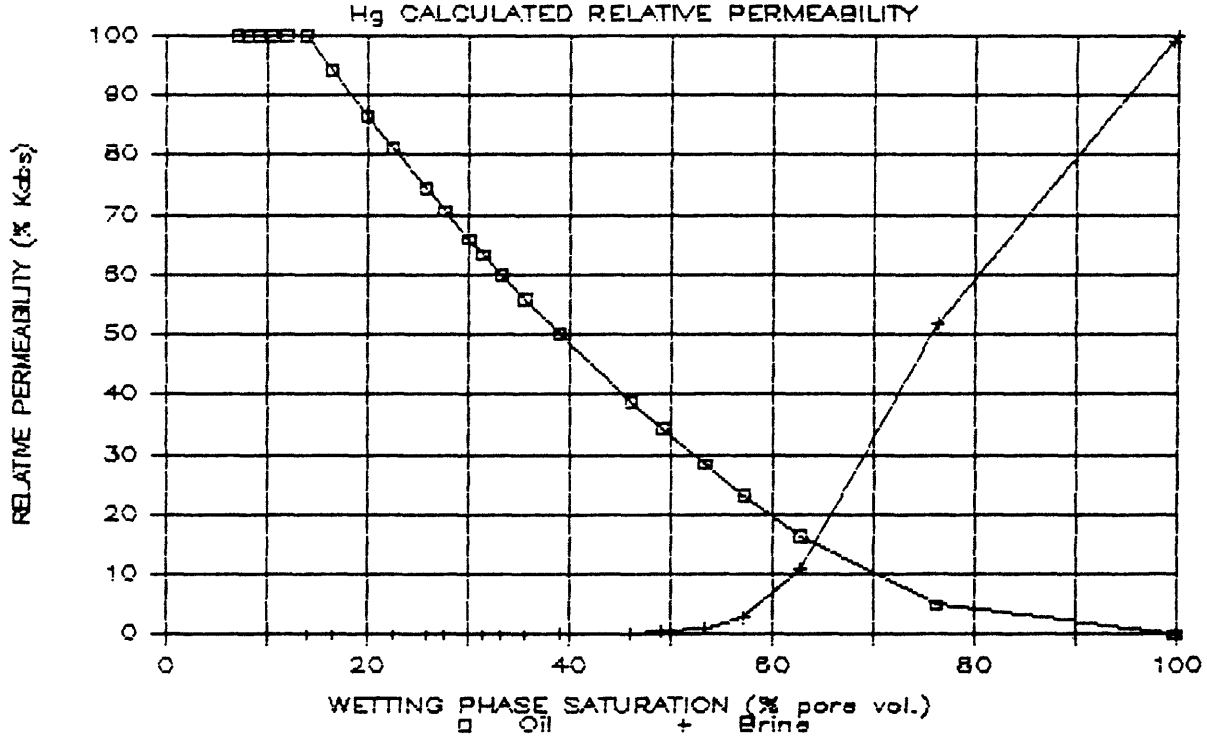
BIA Southern Ute 1—1034

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 1—1034

Hg CALCULATED RELATIVE PERMEABILITY

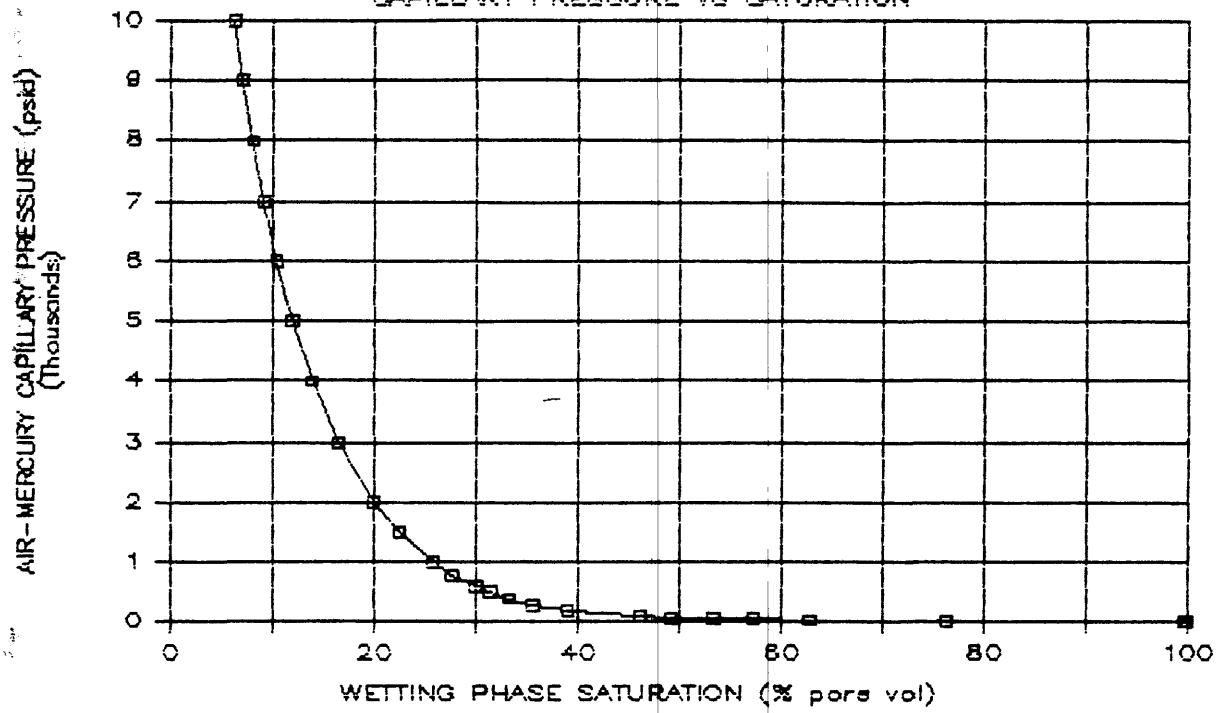


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

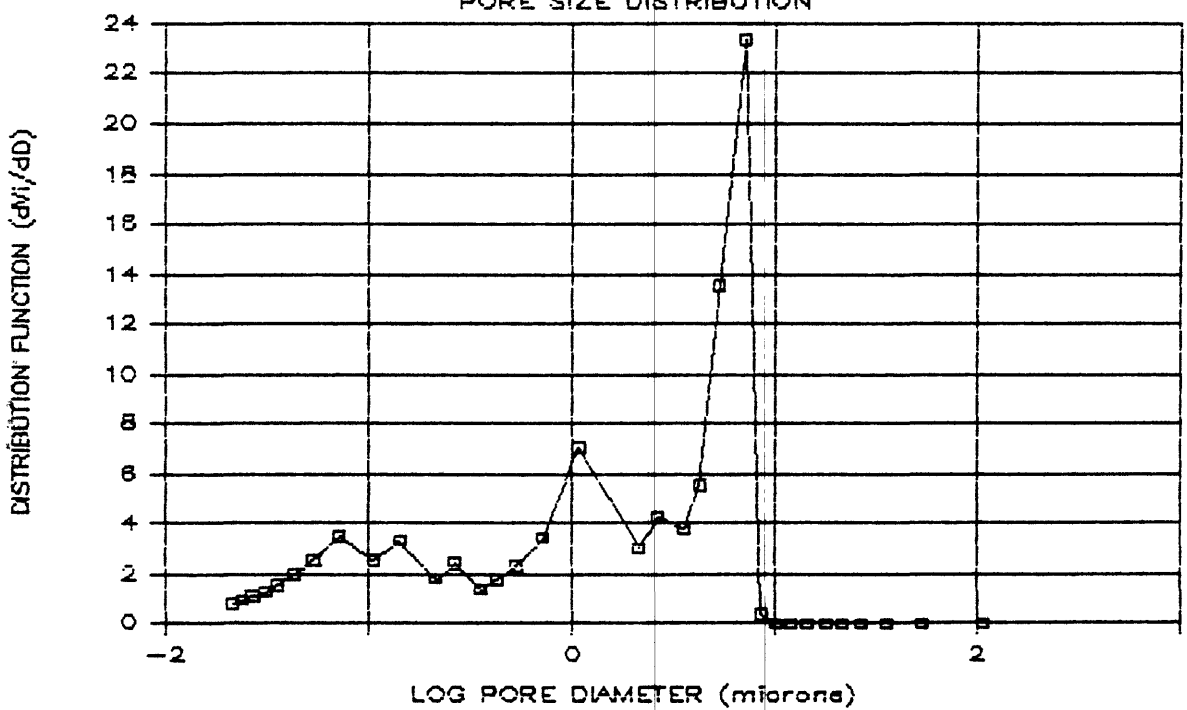
BIA Southern Ute 1—1034

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 1—1034

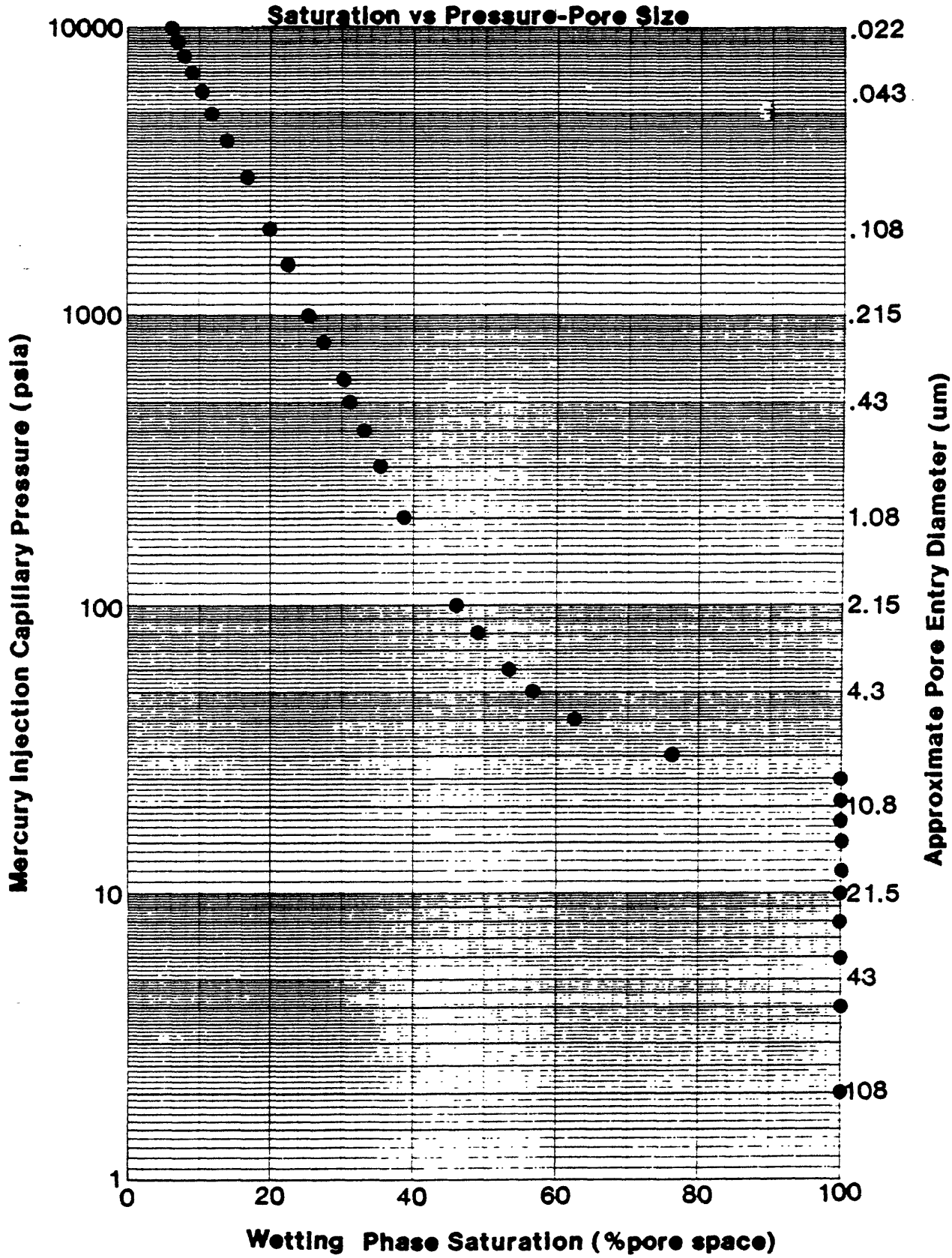
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 1-1034



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

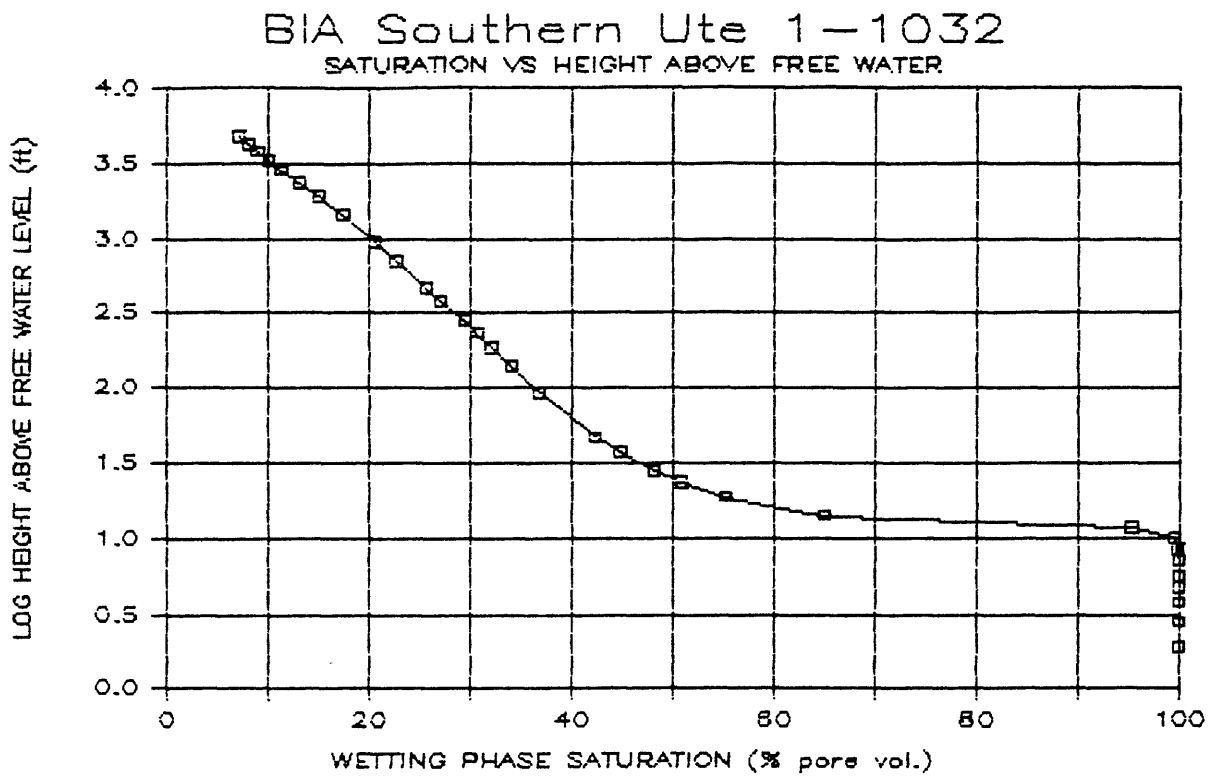
BIA Southern Ute 1-1034

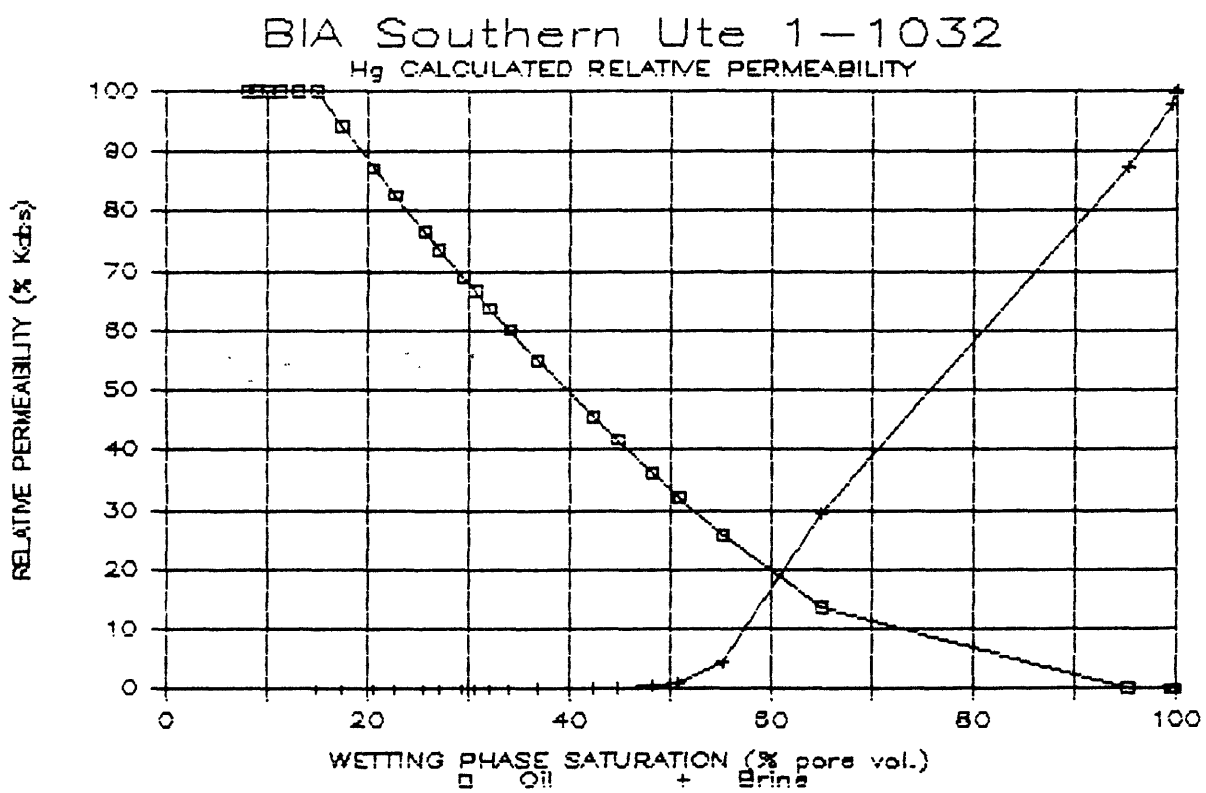
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	00.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	99.7	0.3	0.000	7.111	4.72	11.7	0.00	100.00
30	7.17	76.3	23.3	0.011	5.926	5.66	14.1	4.93	51.90
40	5.37	62.8	13.6	0.019	4.444	7.55	18.8	16.49	11.19
50	4.30	57.2	5.5	0.024	3.556	9.44	23.5	23.17	2.98
60	3.58	53.4	3.9	0.027	2.963	11.33	28.2	28.31	1.28
80	2.69	49.1	4.2	0.033	2.222	15.10	37.6	34.33	0.57
100	2.15	46.1	3.0	0.037	1.778	18.88	47.0	38.84	0.23
200	1.08	39.0	7.1	0.059	0.889	37.76	93.9	50.05	0.07
300	.717	35.6	3.4	0.075	0.593	56.63	140.9	55.92	0.01
400	.537	33.3	2.3	0.090	0.444	75.51	187.8	60.07	0.00
500	.430	31.4	1.8	0.104	0.356	94.39	234.8	63.39	0.00
600	.358	30.1	1.4	0.117	0.296	113.27	281.8	66.00	0.00
800	.268	27.7	2.4	0.147	0.222	151.02	375.7	70.59	0.00
1000	.215	25.8	1.8	0.175	0.178	188.78	469.6	74.19	0.00
1500	.143	22.5	3.3	0.253	0.119	283.17	704.4	81.00	0.00
2000	.107	20.0	2.5	0.332	0.089	377.56	939.2	86.40	0.00
3000	.072	16.5	3.5	0.495	0.059	566.34	1408.8	94.13	0.00
4000	.054	13.9	2.6	0.655	0.044	755.12	1878.4	100.00	0.00
5000	.043	11.9	2.0	0.810	0.036	943.91	2348.0	100.00	0.00
6000	.035	10.4	1.5	0.953	0.030	1132.69	2817.6	100.00	0.00
7000	.031	9.1	1.3	1.092	0.025	1321.47	3287.2	100.00	0.00
8000	.027	8.0	1.1	1.228	0.022	1510.25	3756.8	100.00	0.00
9000	.024	7.1	1.0	1.363	0.020	1699.03	4226.4	100.00	0.00
10000	.022	6.3	0.8	1.483	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCosO= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

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BIA Southern Ute 2-7A1

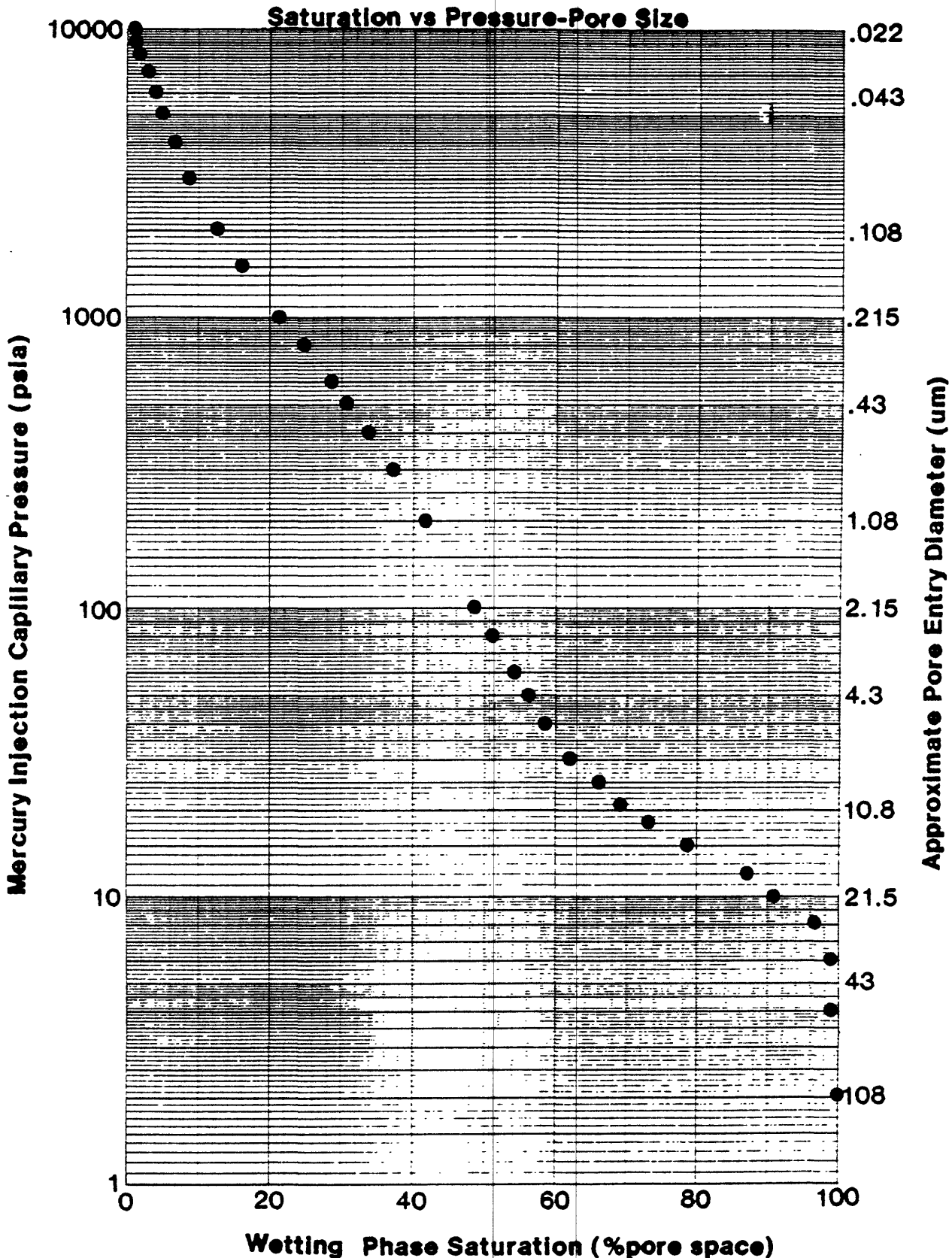
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.5	0.5	0.000	44.444	0.76	1.9	0.00	98.88
6	35.8	98.8	0.7	0.000	29.630	1.13	2.8	0.00	80.02
8	26.9	96.3	2.5	0.000	22.222	1.51	3.8	0.07	67.61
10	21.5	91.6	4.7	0.001	17.778	1.89	4.7	0.48	48.01
12	17.9	87.0	4.6	0.002	14.815	2.27	5.6	1.39	29.85
15	14.3	78.9	8.1	0.004	11.852	2.83	7.0	4.36	17.08
18	11.9	73.4	5.4	0.006	9.877	3.40	8.5	7.39	7.61
21	10.2	69.3	4.1	0.007	8.466	3.96	9.9	10.21	3.93
25	8.60	66.0	3.3	0.008	7.111	4.72	11.7	12.76	2.19
30	7.17	62.1	4.0	0.010	5.926	5.66	14.1	16.19	1.24
40	5.37	58.4	3.7	0.013	4.444	7.55	18.8	19.65	0.58
50	4.30	56.1	2.3	0.015	3.556	9.44	23.5	21.99	0.27
60	3.58	54.2	1.9	0.016	2.963	11.33	28.2	23.98	0.16
80	2.69	51.0	3.2	0.021	2.222	15.10	37.6	27.49	0.10
100	2.15	48.7	2.3	0.024	1.778	18.88	47.0	30.18	0.05
200	1.08	41.4	7.2	0.048	0.889	37.76	93.9	39.32	0.02
300	.717	37.1	4.3	0.069	0.593	56.63	140.9	45.32	0.00
400	.537	33.8	3.3	0.090	0.444	75.51	187.8	50.18	0.00
500	.430	30.9	3.0	0.114	0.356	94.39	234.8	54.76	0.00
600	.358	28.6	2.3	0.136	0.296	113.27	281.8	58.46	0.00
800	.268	24.5	4.1	0.190	0.222	151.02	375.7	65.41	0.00
1000	.215	21.3	3.1	0.241	0.178	188.78	469.6	70.96	0.00
1500	.143	16.1	5.2	0.367	0.119	283.17	704.4	80.63	0.00
2000	.107	12.7	3.4	0.477	0.089	377.56	939.2	87.32	0.00
3000	.072	8.8	3.9	0.667	0.059	566.34	1408.8	95.29	0.00
4000	.054	6.6	2.2	0.811	0.044	755.12	1878.4	100.00	0.00
5000	.043	5.1	1.5	0.930	0.036	943.91	2348.0	100.00	0.00
6000	.035	4.1	1.1	1.035	0.030	1132.69	2817.6	100.00	0.00
7000	.031	3.2	0.8	1.128	0.025	1321.47	3287.2	100.00	0.00
8000	.027	2.5	0.7	1.225	0.022	1510.25	3756.8	100.00	0.00
9000	.024	1.8	0.7	1.325	0.020	1699.03	4226.4	100.00	0.00
10000	.022	1.4	0.4	1.395	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-741

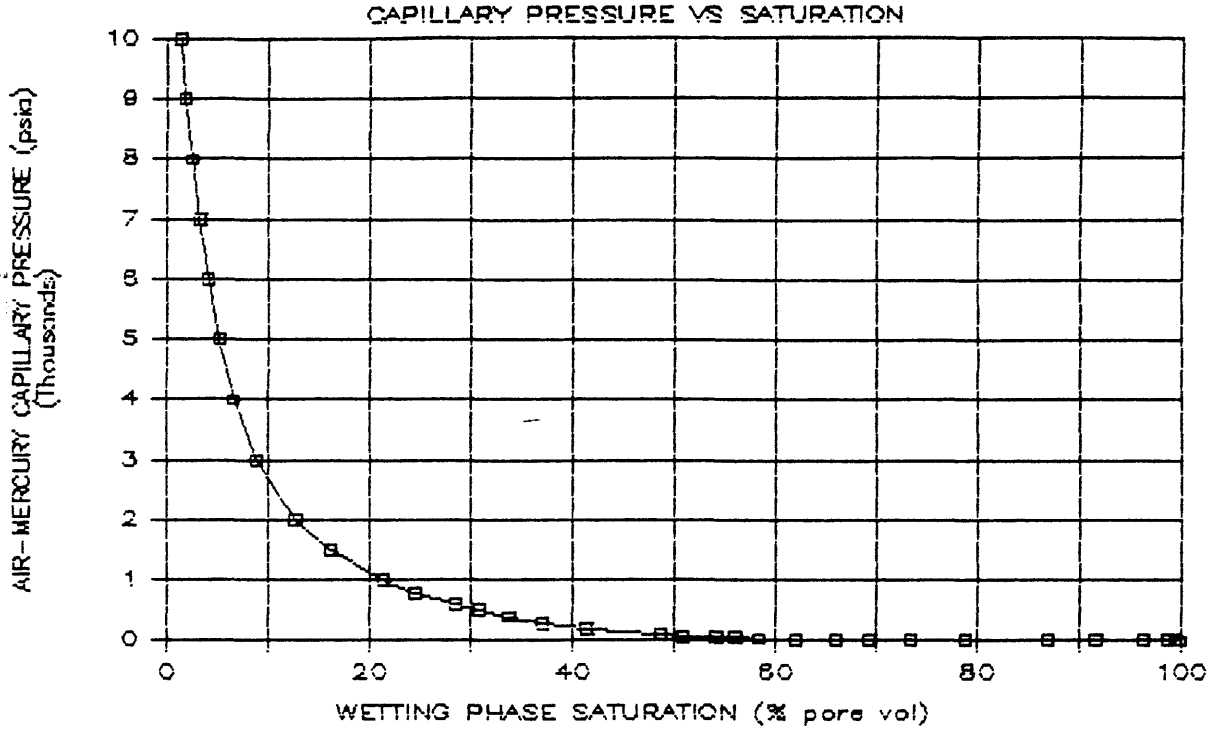


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

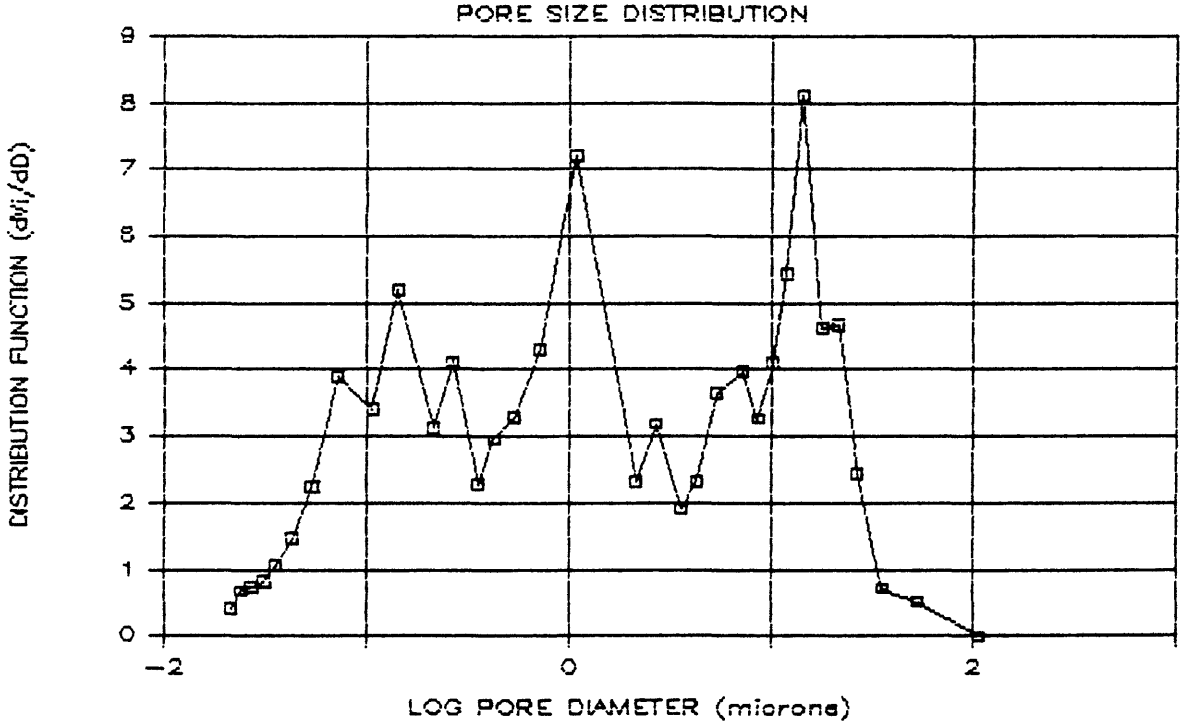
BIA Southern Ute 2-741

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-741

PORE SIZE DISTRIBUTION

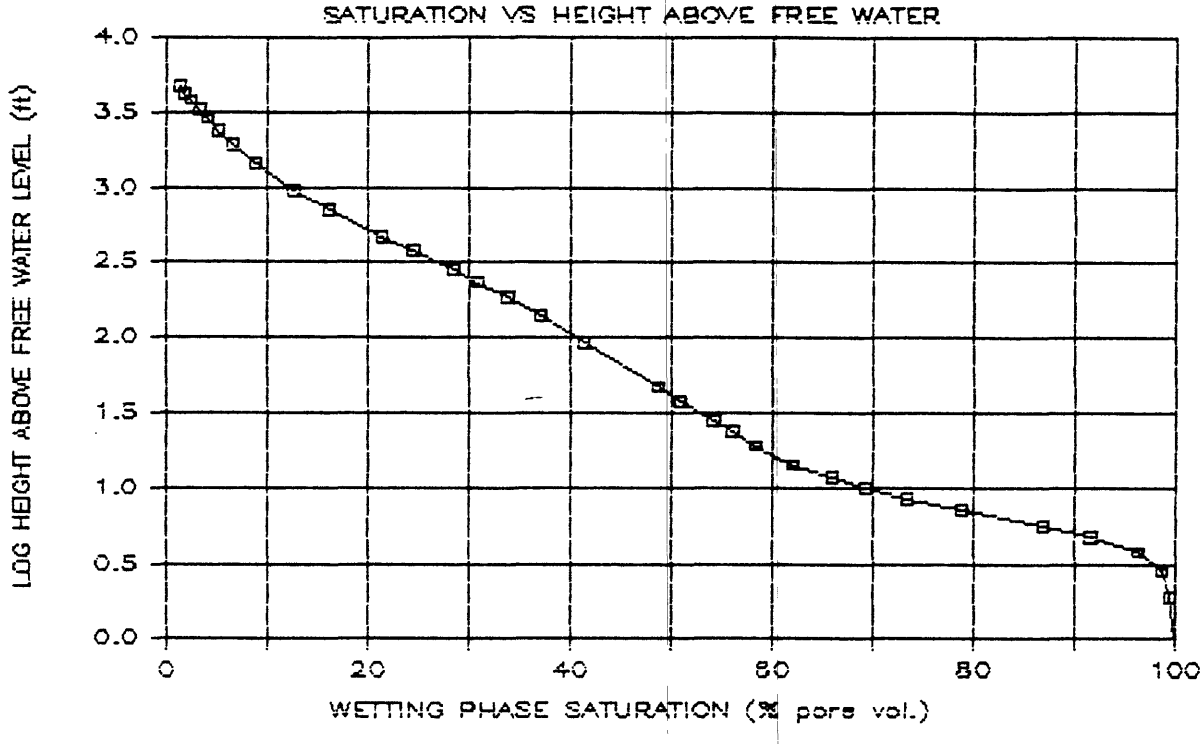


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

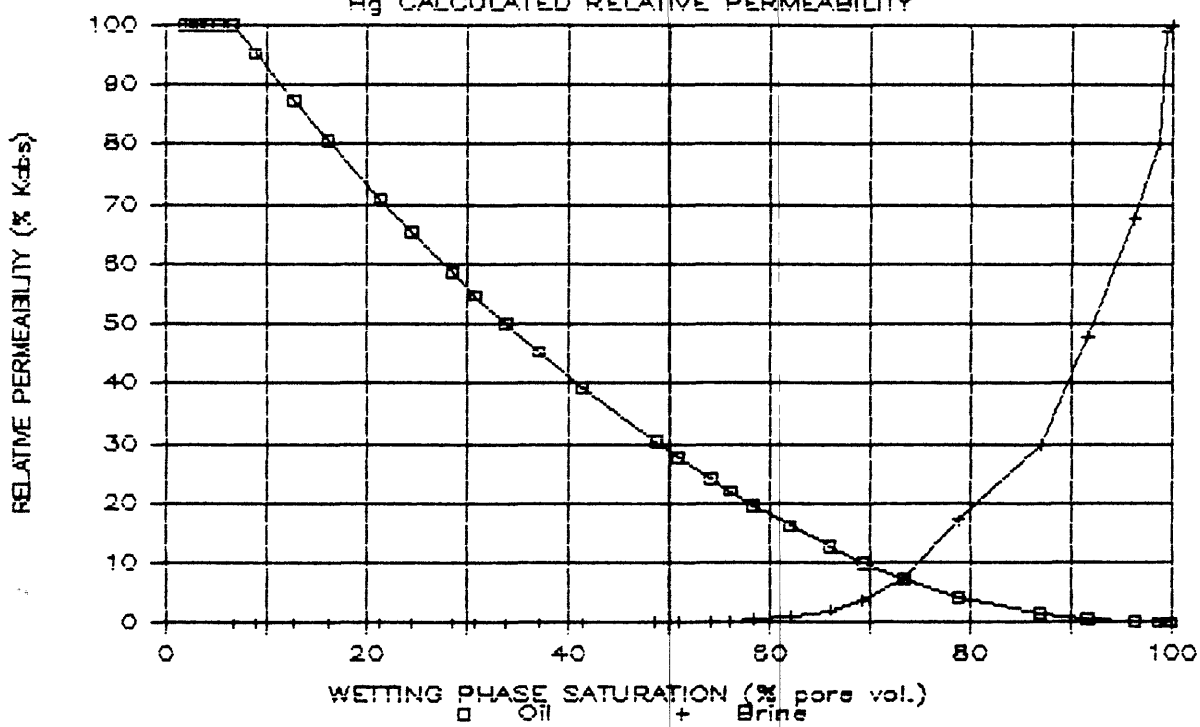
BIA Southern Ute 2-741

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-741

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-770.5

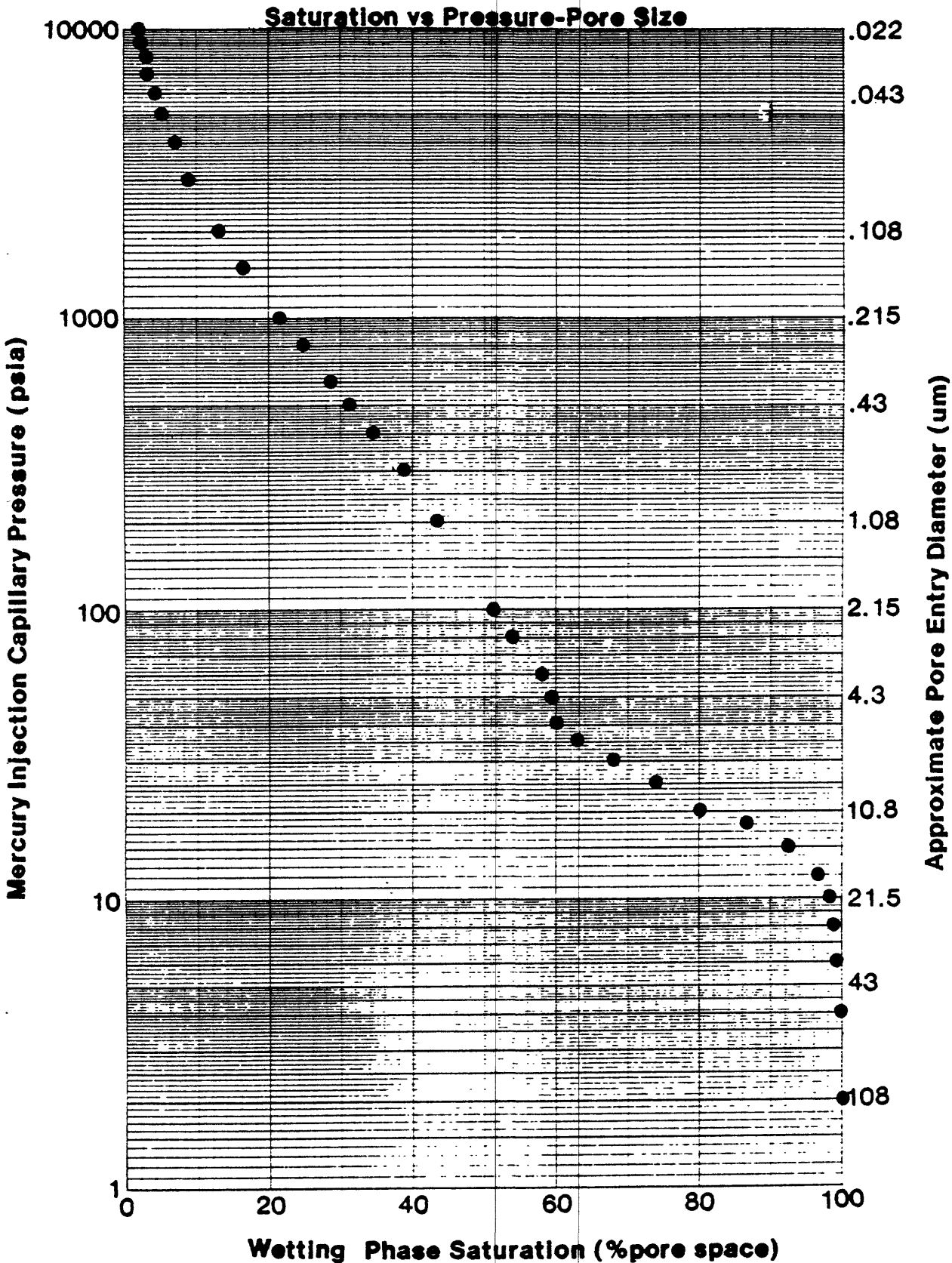
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	99.6	0.4	0.000	29.630	1.13	2.8	0.00	100.00
8	26.9	99.2	0.4	0.000	22.222	1.51	3.8	0.00	86.95
10	21.5	98.2	1.0	0.000	17.778	1.89	4.7	0.01	79.09
12	17.9	96.6	1.6	0.001	14.815	2.27	5.6	0.05	68.42
15	14.3	92.1	4.5	0.002	11.852	2.83	7.0	0.39	53.74
18	11.9	86.6	5.5	0.003	9.877	3.40	8.5	1.41	34.06
21	10.2	80.0	6.6	0.006	8.466	3.96	9.9	3.71	19.73
25	8.60	74.1	5.9	0.008	7.111	4.72	11.7	6.86	10.18
30	7.17	67.8	6.3	0.011	5.926	5.66	14.1	11.34	4.92
40	5.37	62.9	4.8	0.015	4.444	7.55	18.8	15.46	1.99
50	4.30	60.1	2.8	0.017	3.556	9.44	23.5	18.10	0.87
60	3.58	57.7	2.4	0.019	2.963	11.33	28.2	20.45	0.49
80	2.69	54.4	3.3	0.024	2.222	15.10	37.6	23.93	0.28
100	2.15	51.7	2.6	0.028	1.778	18.88	47.0	26.84	0.14
200	1.08	43.6	8.1	0.056	0.889	37.76	93.9	36.72	0.06
300	.717	38.4	5.2	0.081	0.593	56.63	140.9	43.78	0.01
400	.537	34.6	3.8	0.107	0.444	75.51	187.8	49.43	0.00
500	.430	31.4	3.2	0.134	0.356	94.39	234.8	54.32	0.00
600	.358	28.9	2.5	0.159	0.296	113.27	281.8	58.39	0.00
800	.268	24.7	4.2	0.215	0.222	151.02	375.7	65.45	0.00
1000	.215	21.7	3.1	0.266	0.178	188.78	469.6	70.88	0.00
1500	.143	16.5	5.2	0.397	0.119	283.17	704.4	80.63	0.00
2000	.107	13.1	3.3	0.510	0.089	377.56	939.2	87.22	0.00
3000	.072	9.2	3.9	0.707	0.059	566.34	1408.8	95.28	0.00
4000	.054	7.0	2.2	0.856	0.044	755.12	1878.4	100.00	0.00
5000	.043	5.4	1.5	0.984	0.036	943.91	2348.0	100.00	0.00
6000	.035	4.3	1.1	1.095	0.030	1132.69	2817.6	100.00	0.00
7000	.031	3.5	0.8	1.195	0.025	1321.47	3287.2	100.00	0.00
8000	.027	2.8	0.6	1.282	0.022	1510.25	3756.8	100.00	0.00
9000	.024	2.2	0.6	1.376	0.020	1699.03	4226.4	100.00	0.00
10000	.022	1.7	0.5	1.454	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCosO= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-770.5

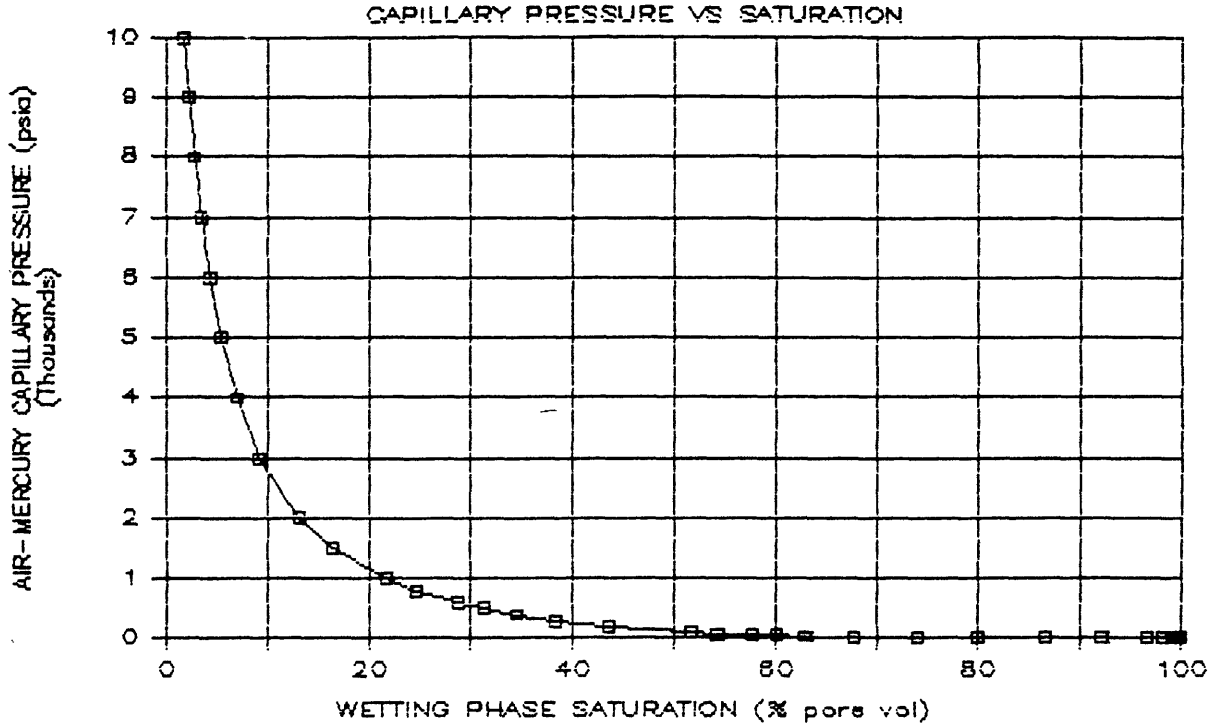


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

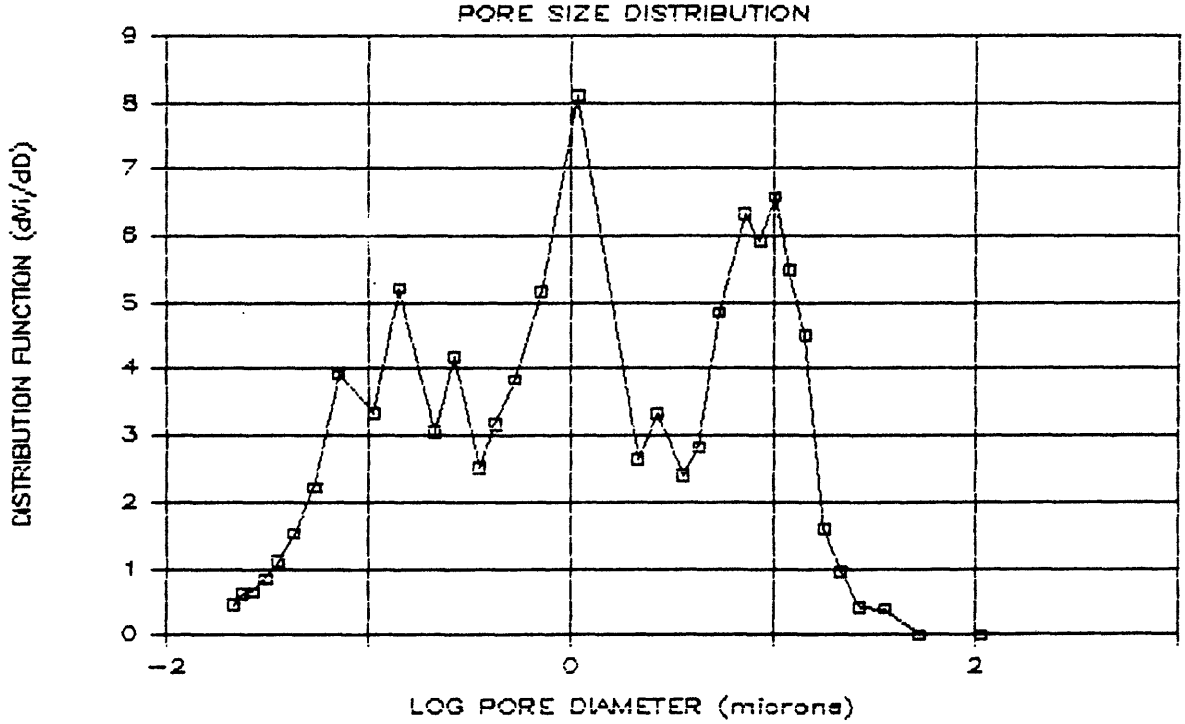
BIA Southern Ute 2-770.5

CAPILLARY PRESSURE VS SATURATION



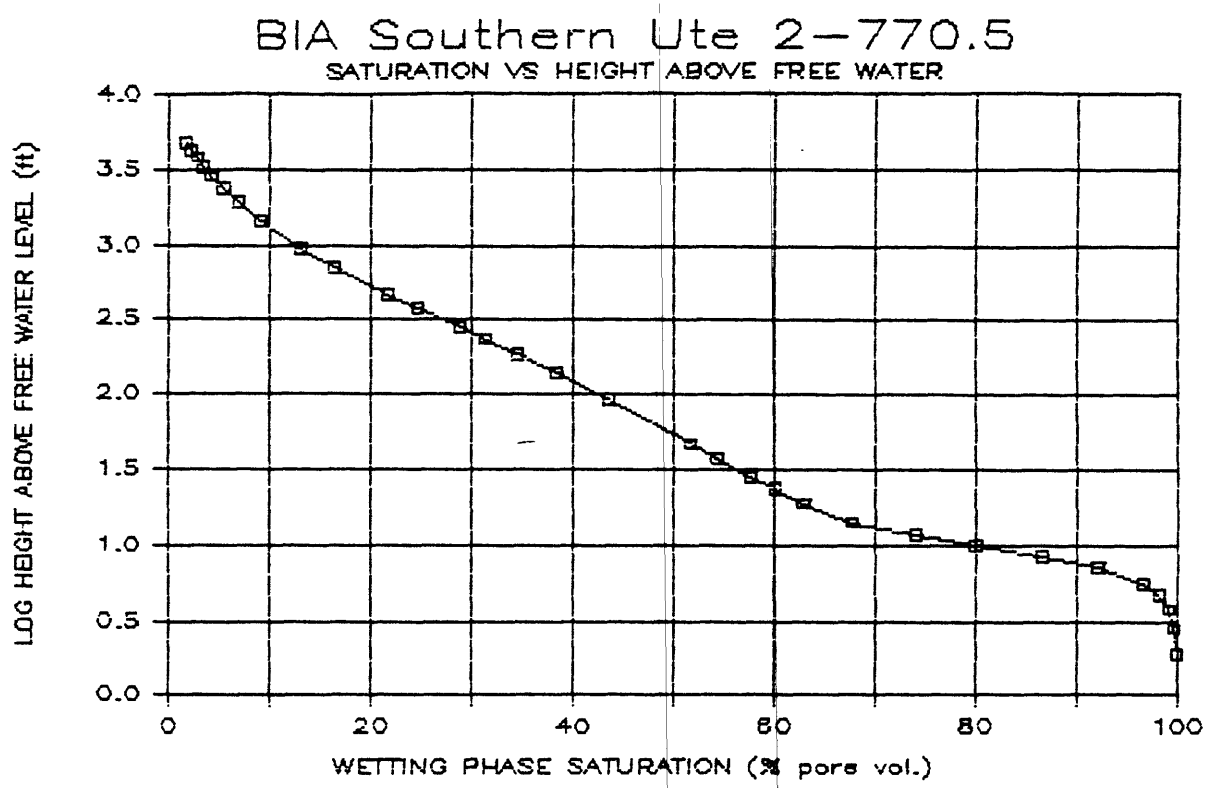
BIA Southern Ute 2-770.5

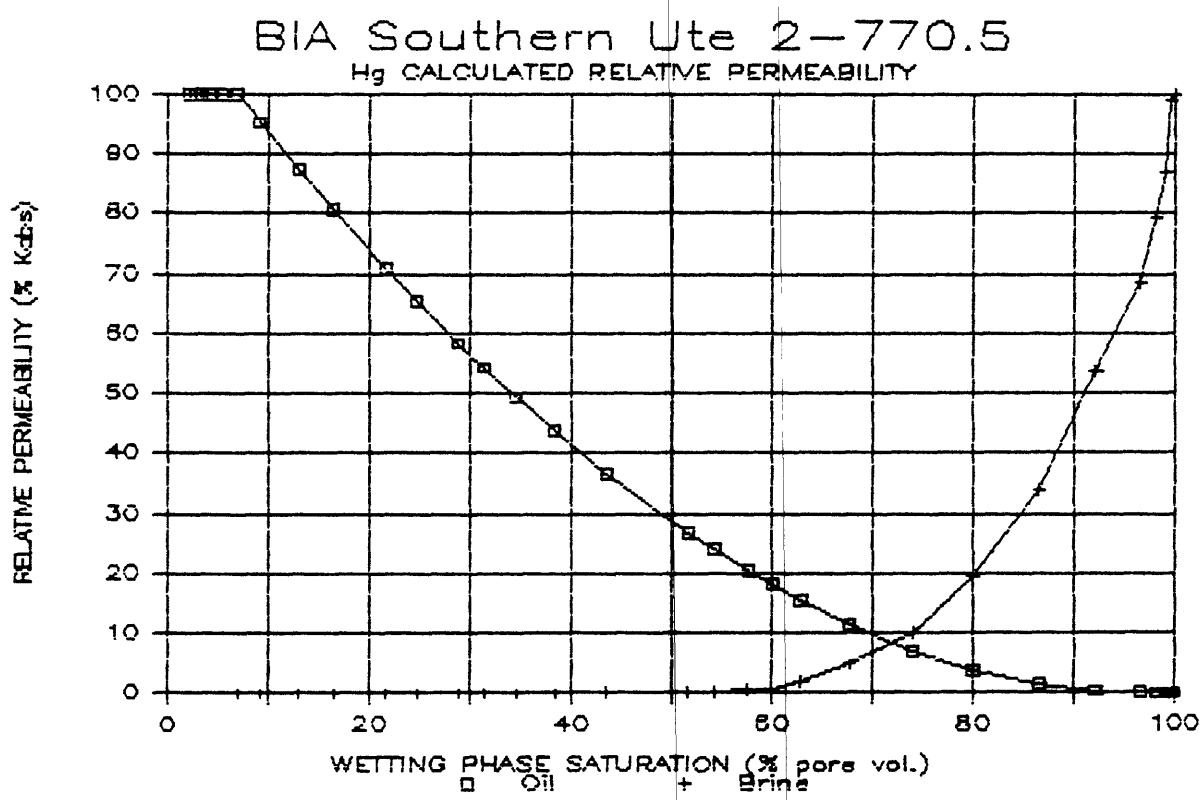
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-789

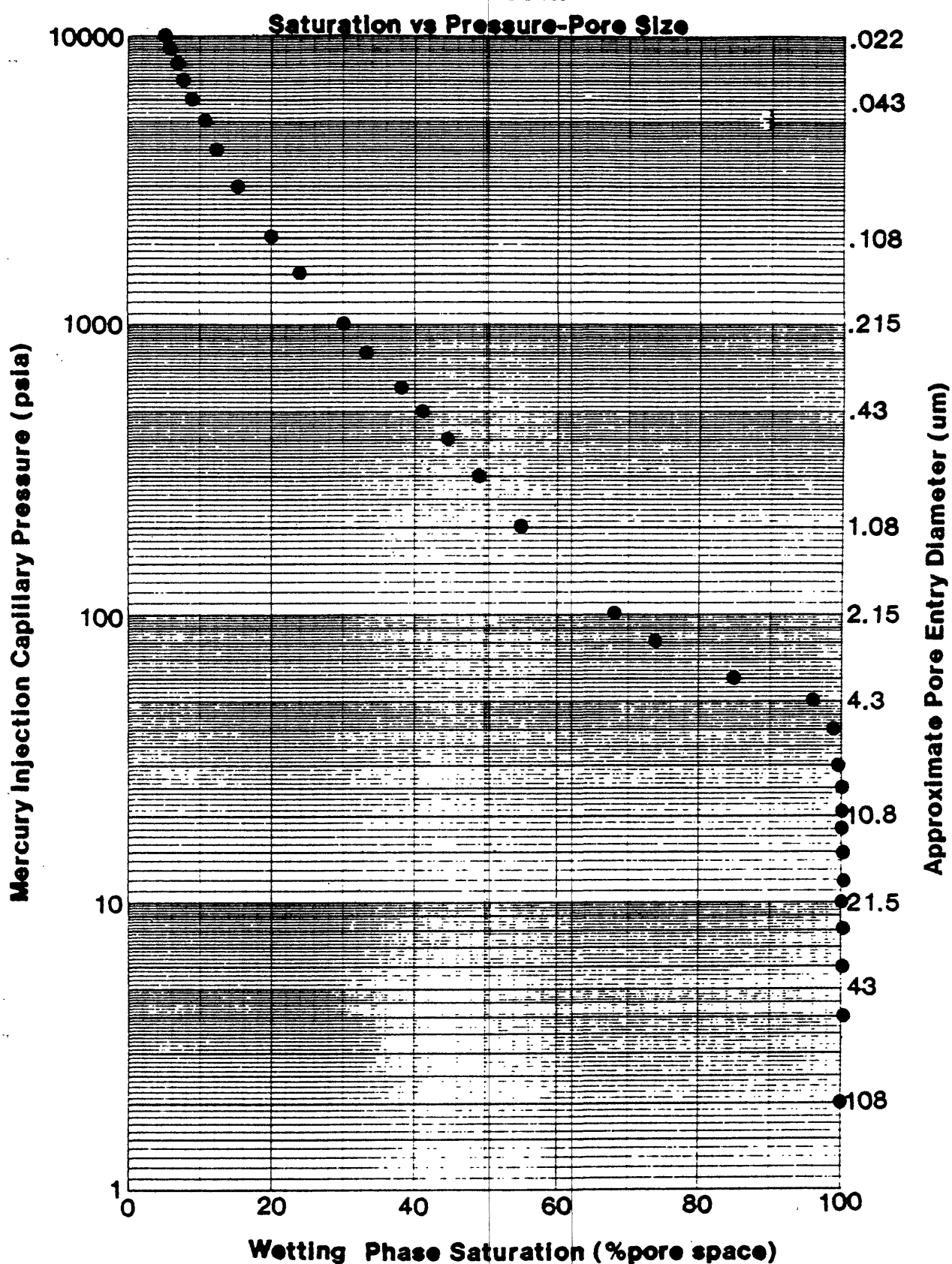
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated: Gas Relative Permeability (%)	Burdine-Purcell Calculated: Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	99.8	0.2	0.000	5.926	5.66	14.1	0.00	100.00
40	5.37	99.1	0.6	0.000	4.444	7.55	18.8	0.00	99.99
50	4.30	96.0	3.1	0.003	3.556	9.44	23.5	0.05	83.39
60	3.58	85.1	10.9	0.012	2.963	11.33	28.2	1.75	52.32
80	2.69	74.0	11.2	0.024	2.222	15.10	37.6	7.43	19.30
100	2.15	67.5	6.4	0.033	1.778	18.88	47.0	12.66	6.23
200	1.08	55.0	12.6	0.067	0.889	37.76	93.9	25.88	1.79
300	.717	48.9	6.1	0.092	0.593	56.63	140.9	33.70	0.32
400	.537	44.3	4.5	0.117	0.444	75.51	187.8	40.10	0.11
500	.430	40.9	3.5	0.141	0.356	94.39	234.8	45.30	0.05
600	.358	38.0	2.8	0.164	0.296	113.27	281.8	49.78	0.03
800	.268	33.5	4.6	0.214	0.222	151.02	375.7	57.45	0.01
1000	.215	29.8	3.6	0.264	0.178	188.78	469.6	63.93	0.00
1500	.143	23.9	6.0	0.388	0.119	283.17	704.4	75.31	0.00
2000	.107	19.9	3.9	0.496	0.089	377.56	939.2	83.31	0.00
3000	.072	15.2	4.7	0.690	0.059	566.34	1408.8	93.43	0.00
4000	.054	12.3	2.9	0.851	0.044	755.12	1878.4	100.00	0.00
5000	.043	10.4	1.9	0.981	0.036	943.91	2348.0	100.00	0.00
6000	.035	9.0	1.4	1.094	0.030	1132.69	2817.6	100.00	0.00
7000	.031	7.8	1.2	1.209	0.025	1321.47	3287.2	100.00	0.00
8000	.027	6.9	0.9	1.307	0.022	1510.25	3756.8	100.00	0.00
9000	.024	6.1	0.8	1.404	0.020	1699.03	4226.4	100.00	0.00
10000	.022	5.6	0.5	1.478	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-789

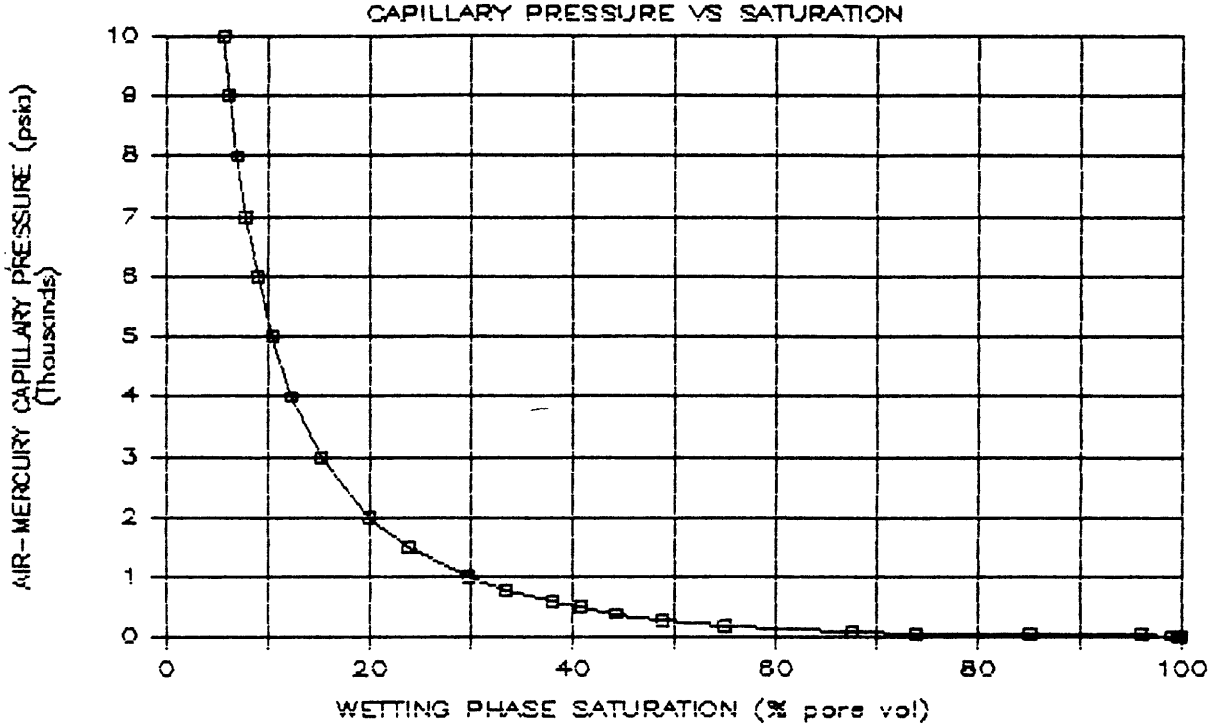


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

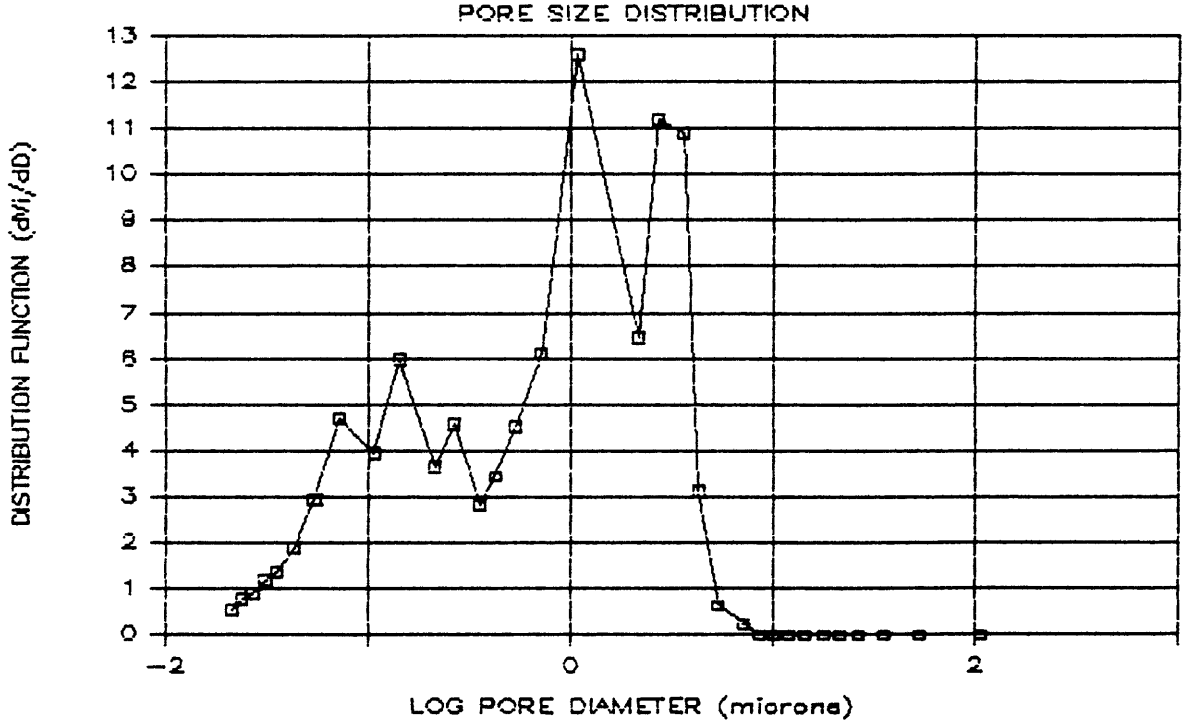
BIA Southern Ute 2-789

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-789

PORE SIZE DISTRIBUTION

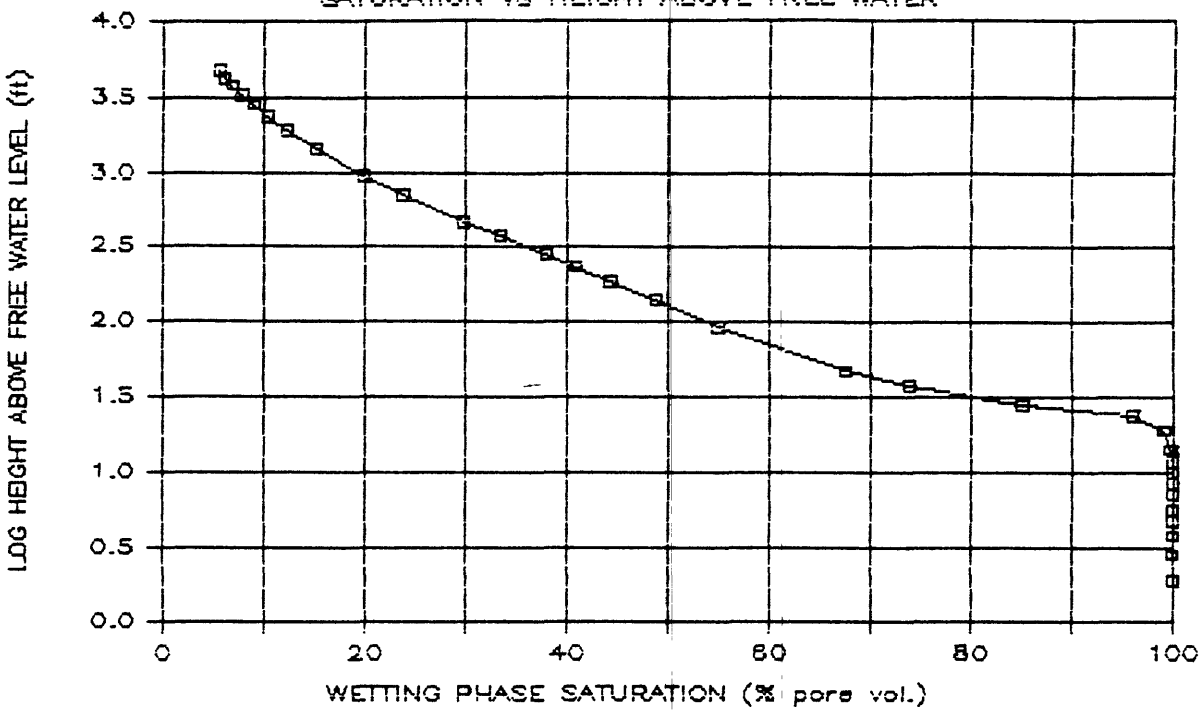


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

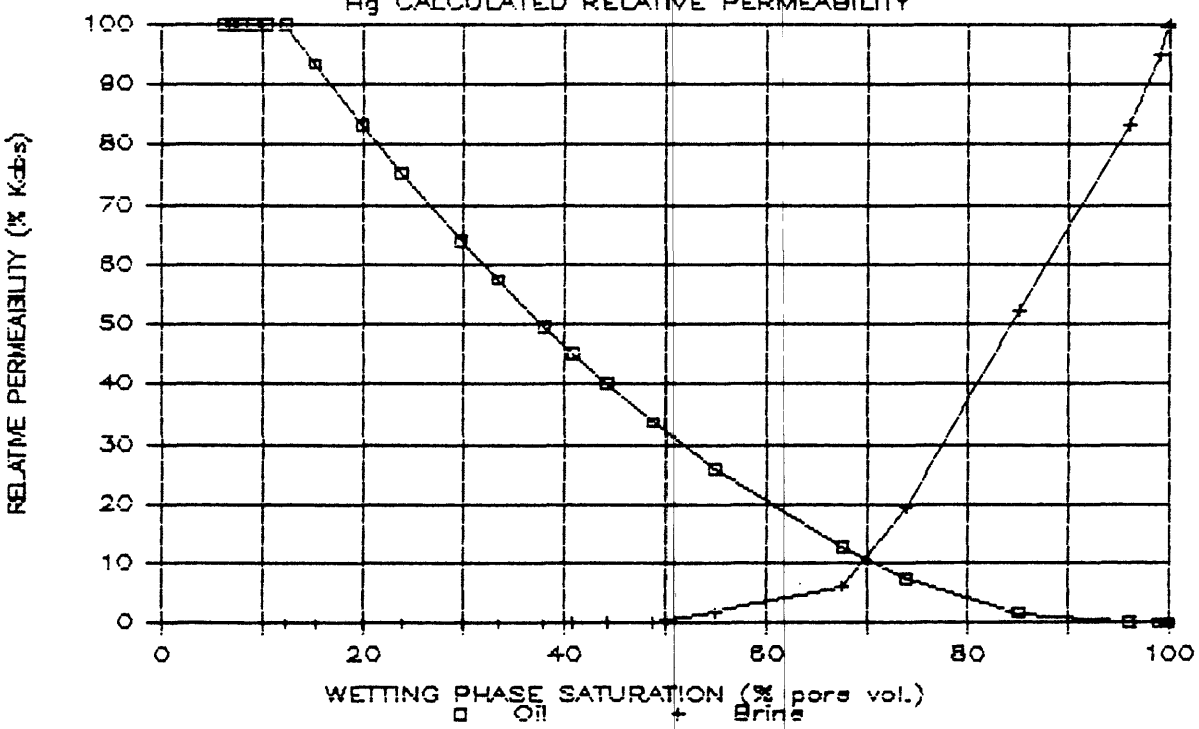
BIA Southern Ute 2—789

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2—789

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-809.2

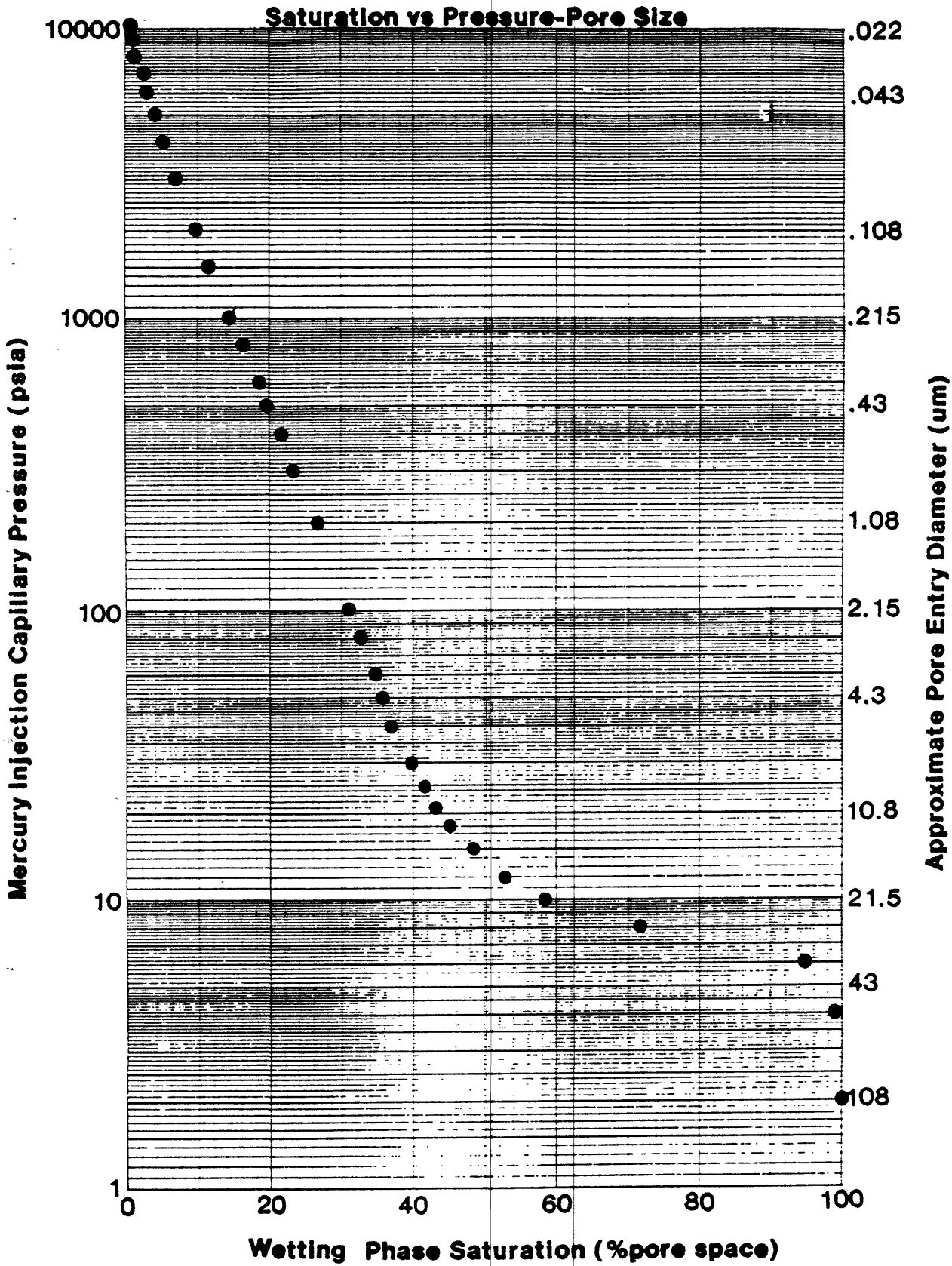
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.1	0.9	0.000	44.44	0.76	1.9	0.00	98.01
6	35.8	95.0	4.0	0.000	29.630	1.13	2.8	0.07	80.37
8	26.9	71.5	23.5	0.003	22.222	1.51	3.8	6.75	35.91
10	21.5	58.8	12.7	0.005	17.778	1.89	4.7	17.06	8.12
12	17.9	53.4	5.5	0.006	14.815	2.27	5.6	22.98	2.51
15	14.3	48.6	4.8	0.007	11.852	2.83	7.0	28.69	1.09
18	11.9	45.7	3.0	0.008	9.877	3.40	8.5	32.44	0.47
21	10.2	43.8	1.9	0.009	8.466	3.96	9.9	34.87	0.25
25	8.60	41.9	1.9	0.009	7.111	4.72	11.7	37.36	0.15
30	7.17	40.0	1.9	0.010	5.926	5.66	14.1	39.97	0.09
40	5.37	37.4	2.6	0.012	4.444	7.55	18.8	43.58	0.05
50	4.30	35.9	1.6	0.013	3.556	9.44	23.5	45.81	0.02
60	3.58	34.7	1.2	0.014	2.963	11.33	28.2	47.59	0.01
80	2.69	32.7	1.9	0.016	2.222	15.10	37.6	50.44	0.01
100	2.15	31.1	1.6	0.019	1.778	18.88	47.0	52.88	0.00
200	1.08	26.6	4.5	0.032	0.889	37.76	93.9	60.05	0.00
300	.717	23.7	2.9	0.045	0.593	56.63	140.9	64.85	0.00
400	.537	21.5	2.3	0.059	0.444	75.51	187.8	68.77	0.00
500	.430	19.8	1.7	0.071	0.356	94.39	234.8	71.76	0.00
600	.358	18.5	1.3	0.083	0.296	113.27	281.8	74.05	0.00
800	.268	16.4	2.1	0.108	0.222	151.02	375.7	77.97	0.00
1000	.215	14.7	1.7	0.133	0.178	188.78	469.6	81.11	0.00
1500	.143	11.9	2.8	0.197	0.119	283.17	704.4	86.61	0.00
2000	.107	9.8	2.1	0.260	0.089	377.56	939.2	90.77	0.00
3000	.072	7.0	2.7	0.384	0.059	566.34	1408.8	96.38	0.00
4000	.054	5.3	1.7	0.487	0.044	755.12	1878.4	100.00	0.00
5000	.043	4.1	1.3	0.582	0.036	943.91	2348.0	100.00	0.00
6000	.035	3.1	1.0	0.670	0.030	1132.69	2817.6	100.00	0.00
7000	.031	2.3	0.7	0.747	0.025	1321.47	3287.2	100.00	0.00
8000	.027	1.6	0.7	0.832	0.022	1510.25	3756.8	100.00	0.00
9000	.024	1.2	0.4	0.889	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.8	0.4	0.945	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

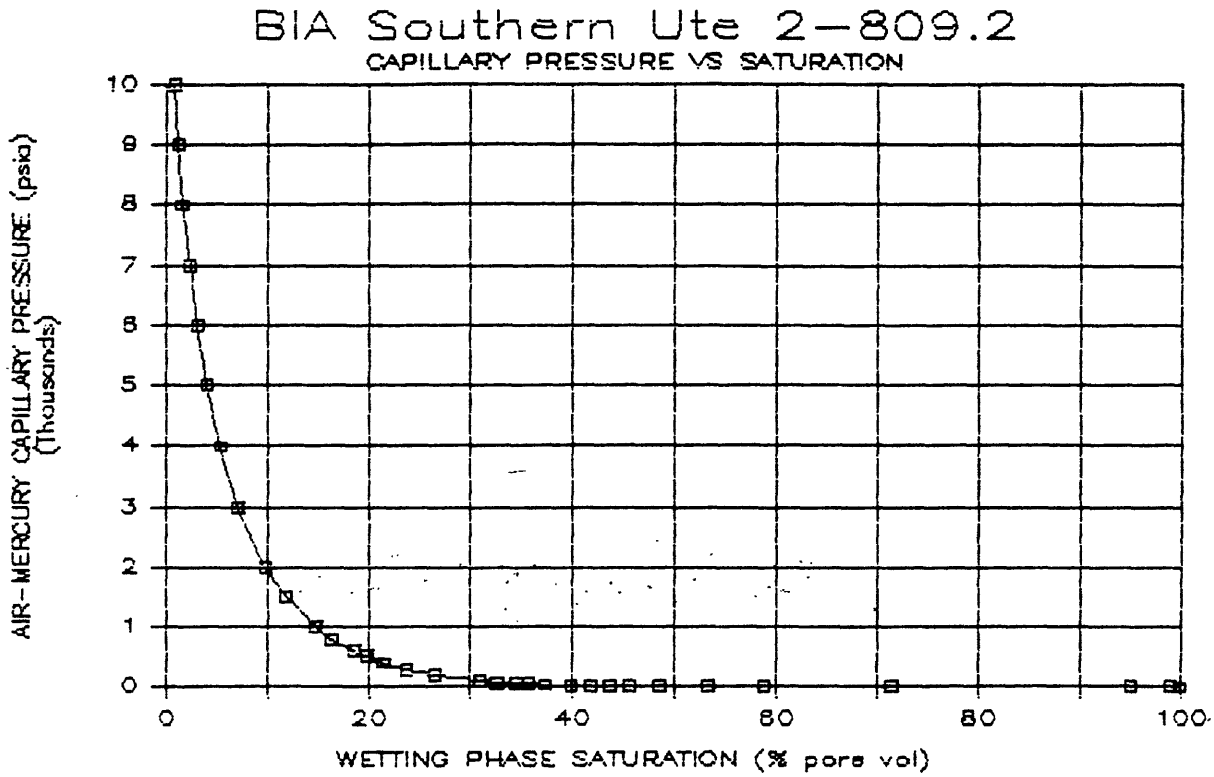
Company: **USGS Denver**

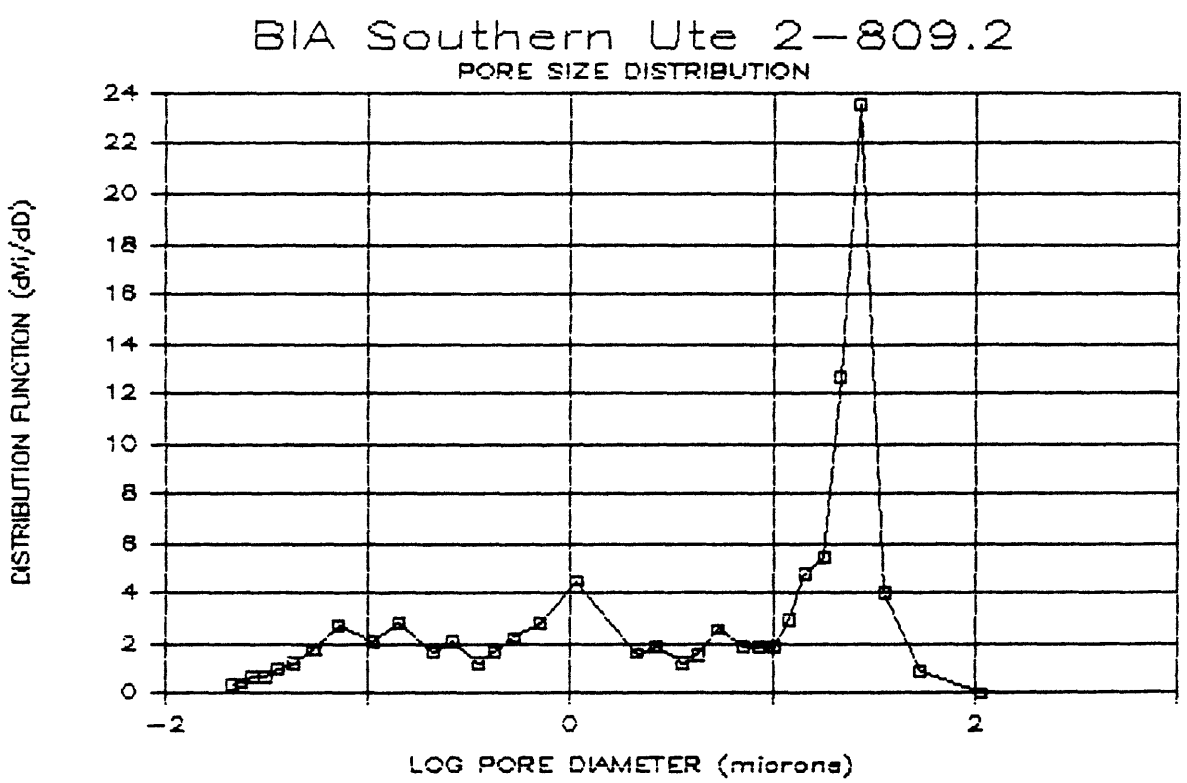
BIA SOUTHERN UTE 2-809.2



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



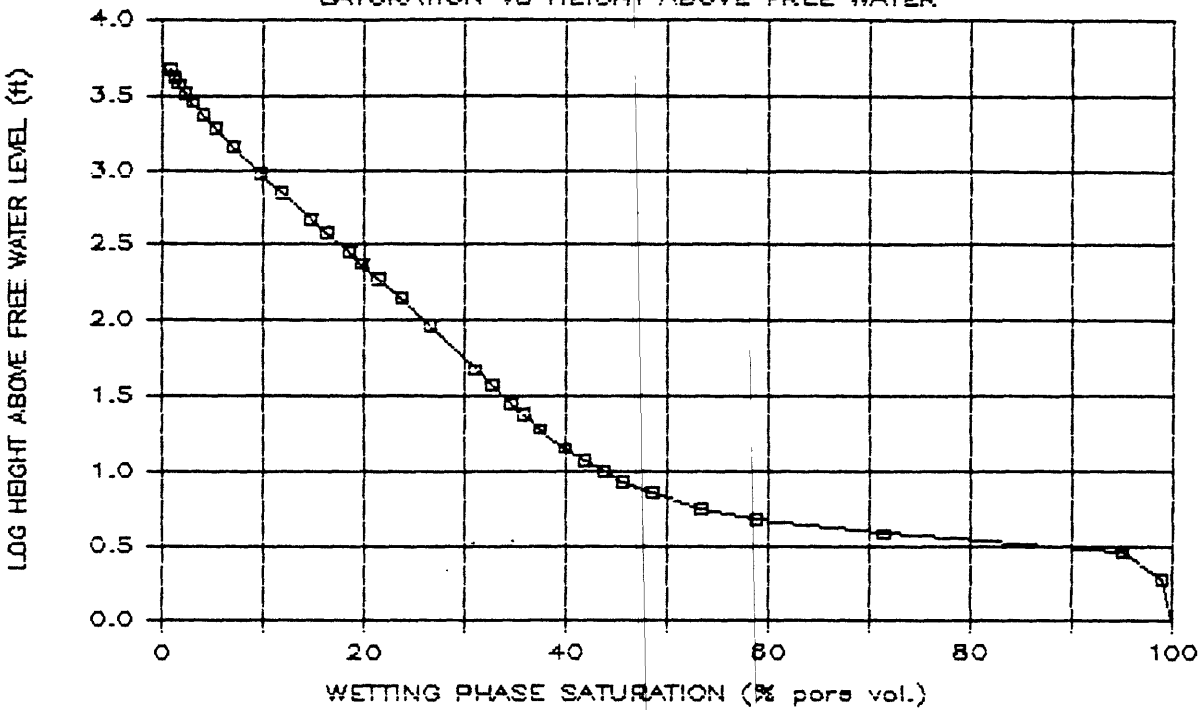


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

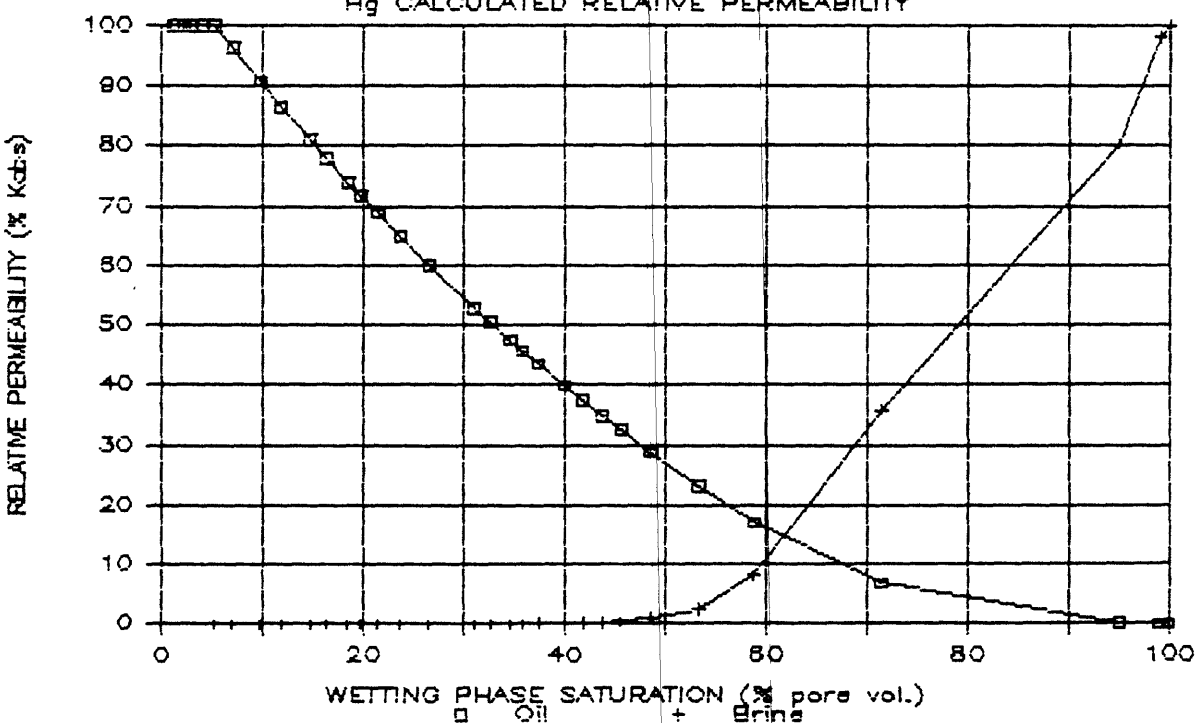
BIA Southern Ute 2-809.2

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-809.2

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-830

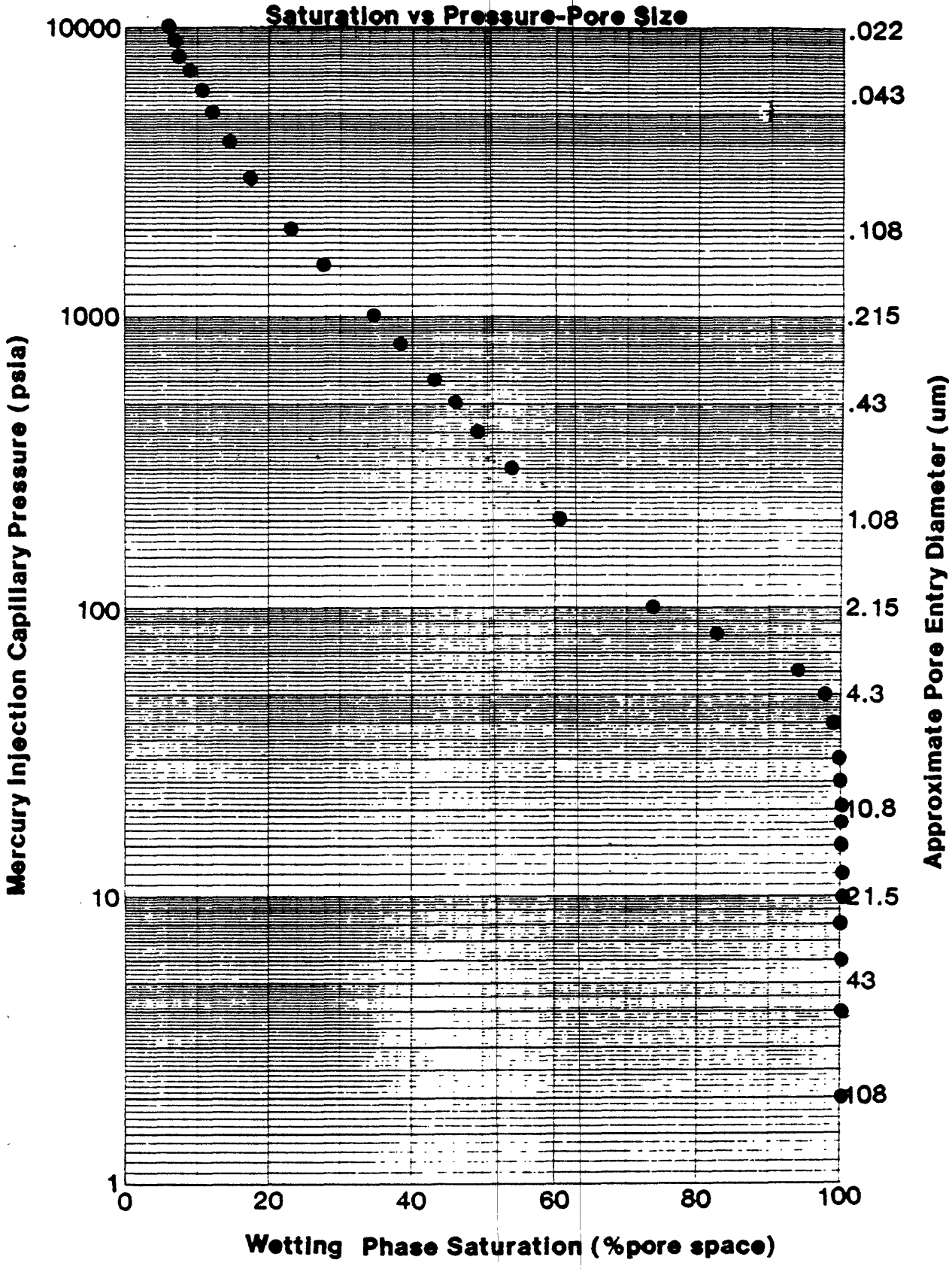
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	99.6	0.4	0.000	4.444	7.55	18.8	0.00	100.00
50	4.30	97.5	2.1	0.002	3.556	9.44	23.5	0.02	89.01
60	3.58	94.0	3.4	0.004	2.963	11.33	28.2	0.18	68.52
80	2.69	82.8	11.3	0.015	2.222	15.10	37.6	2.91	39.77
100	2.15	73.8	9.0	0.027	1.778	18.88	47.0	8.27	13.53
200	1.08	60.5	13.3	0.060	0.889	37.76	93.9	20.66	3.36
300	.717	54.1	6.3	0.084	0.593	56.63	140.9	28.24	0.60
400	.537	49.6	4.5	0.106	0.444	75.51	187.8	34.28	0.22
500	.430	46.0	3.6	0.129	0.356	94.39	234.8	39.45	0.10
600	.358	43.1	2.9	0.151	0.296	113.27	281.8	43.87	0.05
800	.268	38.2	5.0	0.200	0.222	151.02	375.7	51.93	0.02
1000	.215	34.3	3.9	0.249	0.178	188.78	469.6	58.72	0.01
1500	.143	27.6	6.7	0.375	0.119	283.17	704.4	71.31	0.00
2000	.107	23.2	4.4	0.485	0.089	377.56	939.2	80.31	0.00
3000	.072	17.7	5.4	0.689	0.059	566.34	1408.8	92.06	0.00
4000	.054	14.3	3.5	0.863	0.044	755.12	1878.4	100.00	0.00
5000	.043	12.1	2.2	1.000	0.036	943.91	2348.0	100.00	0.00
6000	.035	10.4	1.7	1.126	0.030	1132.69	2817.6	100.00	0.00
7000	.031	8.9	1.5	1.256	0.025	1321.47	3287.2	100.00	0.00
8000	.027	7.7	1.3	1.382	0.022	1510.25	3756.8	100.00	0.00
9000	.024	6.8	0.8	1.476	0.020	1699.03	4226.4	100.00	0.00
10000	.022	6.0	0.8	1.575	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

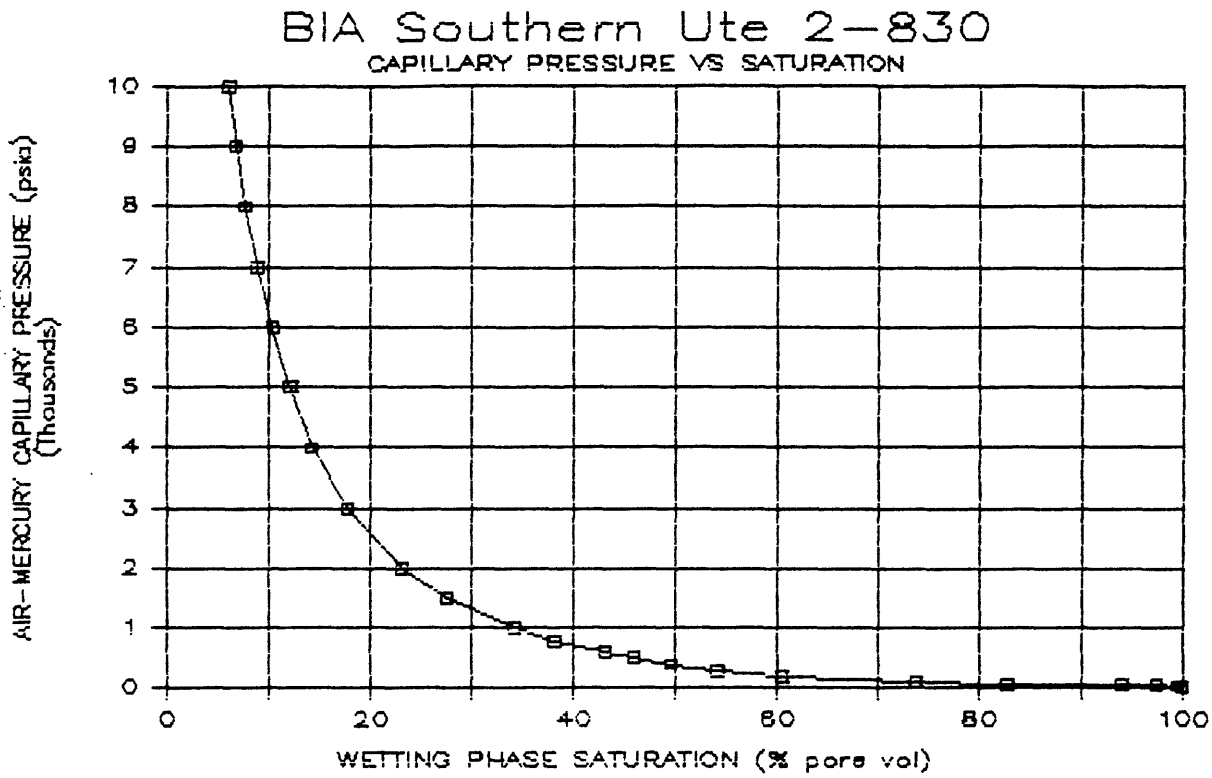
Company: **USGS Denver**

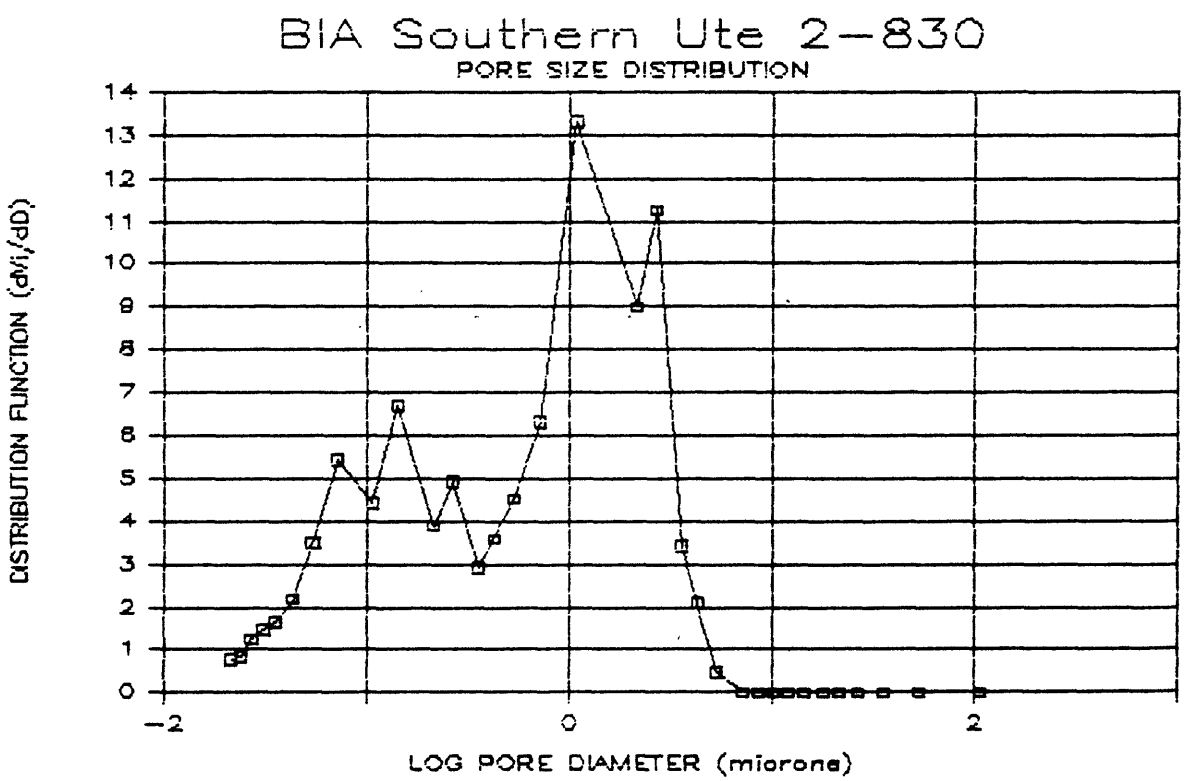
BIA SOUTHERN UTE 2-830



Location/Formation: **BIA Southern Ute**

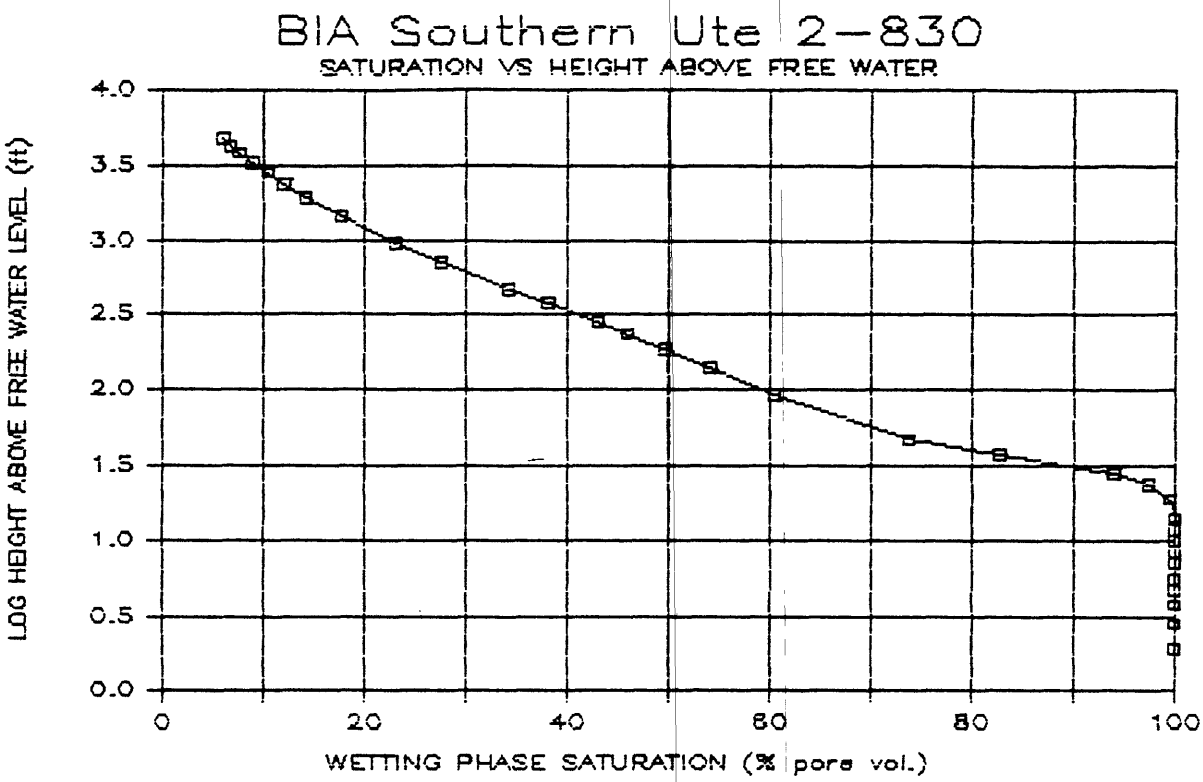
Company: **USGS Denver**

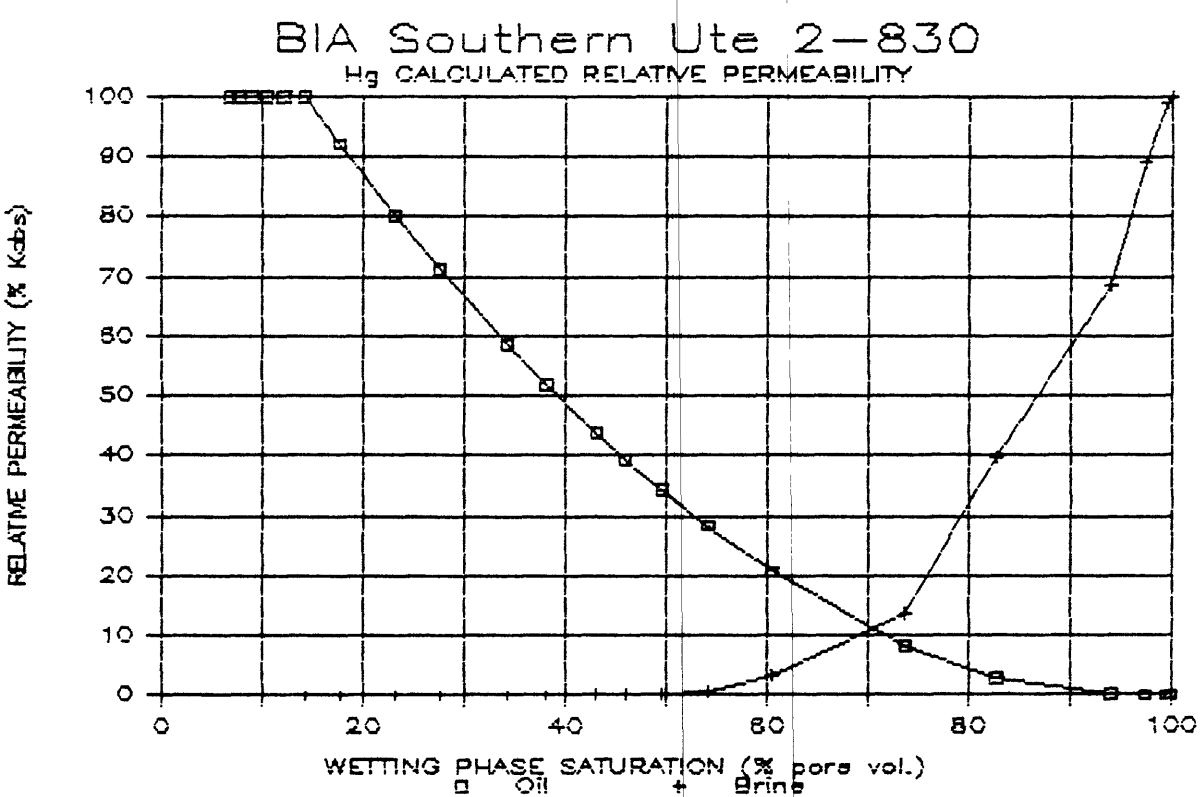




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-852

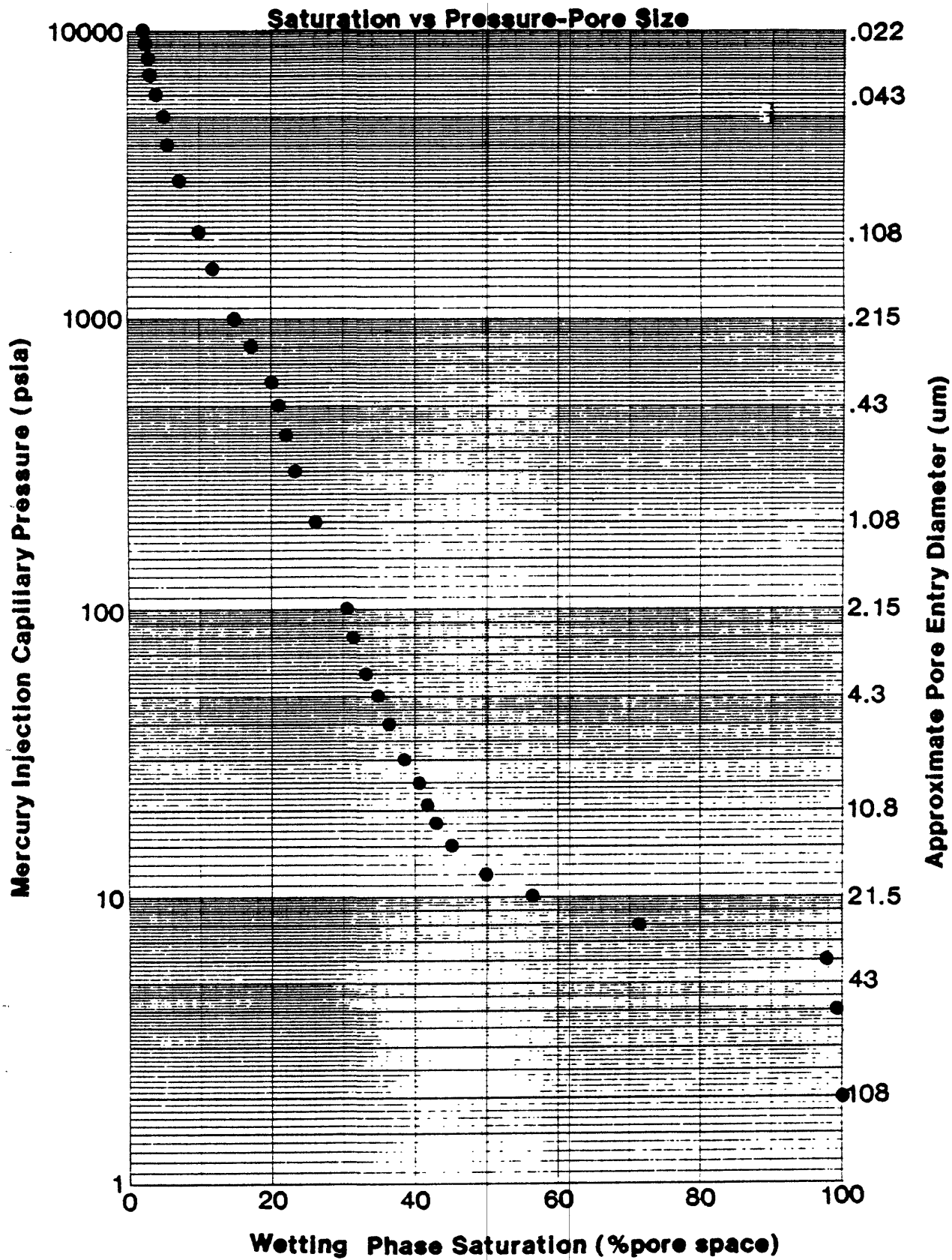
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.5	0.5	0.000	44.444	0.76	1.9	0.00	100.00
6	35.8	97.7	1.8	0.000	29.630	1.13	2.8	0.01	90.06
8	26.9	71.7	26.0	0.004	22.222	1.51	3.8	6.29	42.45
10	21.5	56.2	15.5	0.007	17.778	1.89	4.7	19.42	8.71
12	17.9	50.1	6.1	0.008	14.815	2.27	5.6	26.70	2.24
15	14.3	45.7	4.4	0.009	11.852	2.83	7.0	32.47	0.86
18	11.9	43.5	2.2	0.010	9.877	3.40	8.5	35.41	0.36
21	10.2	42.0	1.5	0.010	8.466	3.96	9.9	37.50	0.21
25	8.60	40.4	1.6	0.011	7.111	4.72	11.7	39.74	0.13
30	7.17	38.7	1.8	0.012	5.926	5.66	14.1	42.21	0.08
40	5.37	36.5	2.2	0.014	4.444	7.55	18.8	45.36	0.04
50	4.30	34.9	1.6	0.015	3.556	9.44	23.5	47.66	0.02
60	3.58	33.6	1.3	0.016	2.963	11.33	28.2	49.63	0.01
80	2.69	31.9	1.7	0.019	2.222	15.10	37.6	52.19	0.01
100	2.15	30.5	1.5	0.022	1.778	18.88	47.0	54.45	0.00
200	1.08	26.1	4.3	0.037	0.889	37.76	93.9	61.46	0.00
300	.717	23.9	2.3	0.049	0.593	56.63	140.9	65.29	0.00
400	.537	22.2	1.6	0.061	0.444	75.51	187.8	68.14	0.00
500	.430	21.1	1.1	0.071	0.356	94.39	234.8	70.17	0.00
600	.358	20.0	1.1	0.083	0.296	113.27	281.8	72.13	0.00
800	.268	17.4	2.5	0.119	0.222	151.02	375.7	76.78	0.00
1000	.215	15.1	2.3	0.160	0.178	188.78	469.6	81.13	0.00
1500	.143	12.0	3.1	0.244	0.119	283.17	704.4	87.22	0.00
2000	.107	9.9	2.1	0.318	0.089	377.56	939.2	91.38	0.00
3000	.072	7.3	2.7	0.461	0.059	566.34	1408.8	96.86	0.00
4000	.054	5.8	1.5	0.568	0.044	755.12	1878.4	100.00	0.00
5000	.043	4.8	0.9	0.652	0.036	943.91	2348.0	100.00	0.00
6000	.035	4.1	0.7	0.727	0.030	1132.69	2817.6	100.00	0.00
7000	.031	3.7	0.5	0.788	0.025	1321.47	3287.2	100.00	0.00
8000	.027	3.2	0.4	0.851	0.022	1510.25	3756.8	100.00	0.00
9000	.024	2.8	0.4	0.911	0.020	1699.03	4226.4	100.00	0.00
10000	.022	2.6	0.2	0.955	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-852

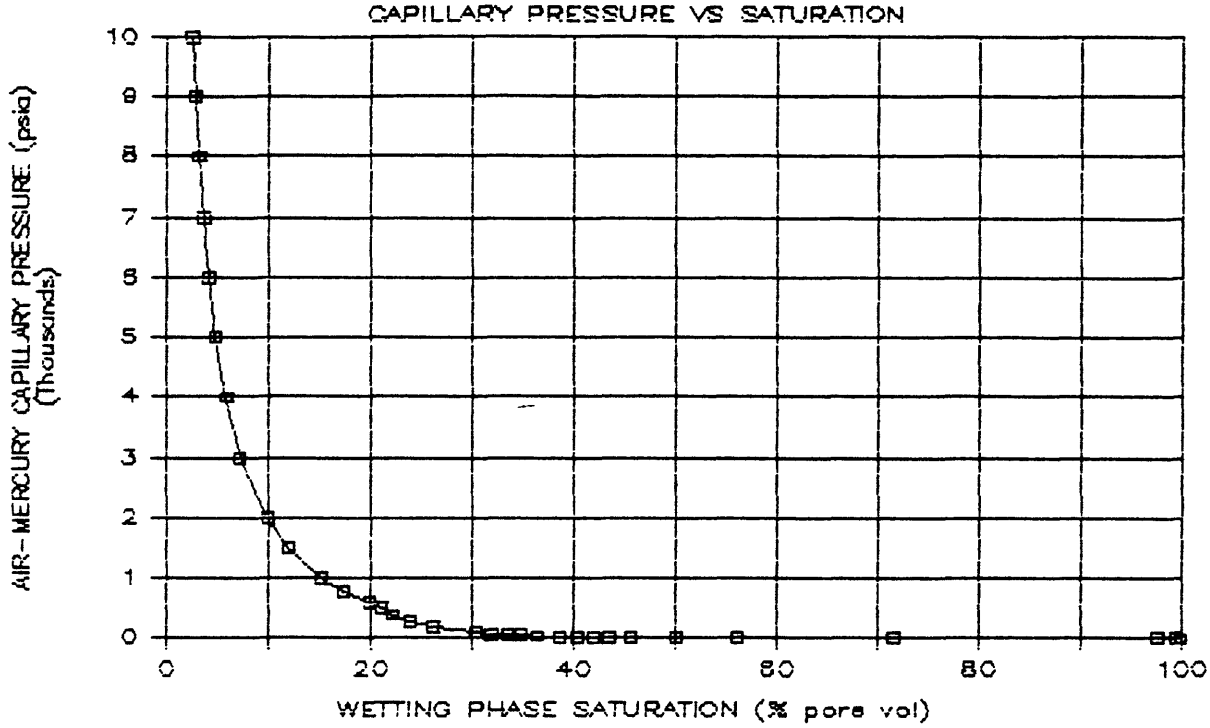


Location/Formation. **BIA Southern Ute**

Company: **USGS Denver**

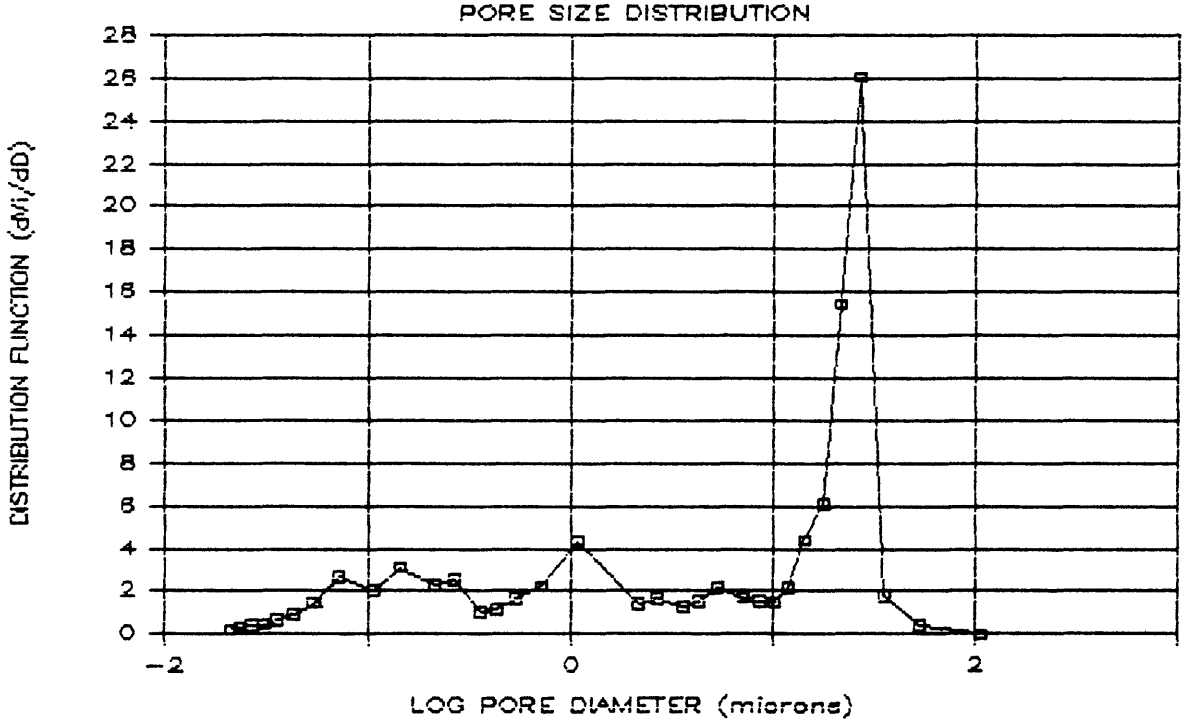
BIA Southern Ute 2-852

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-852

PORE SIZE DISTRIBUTION

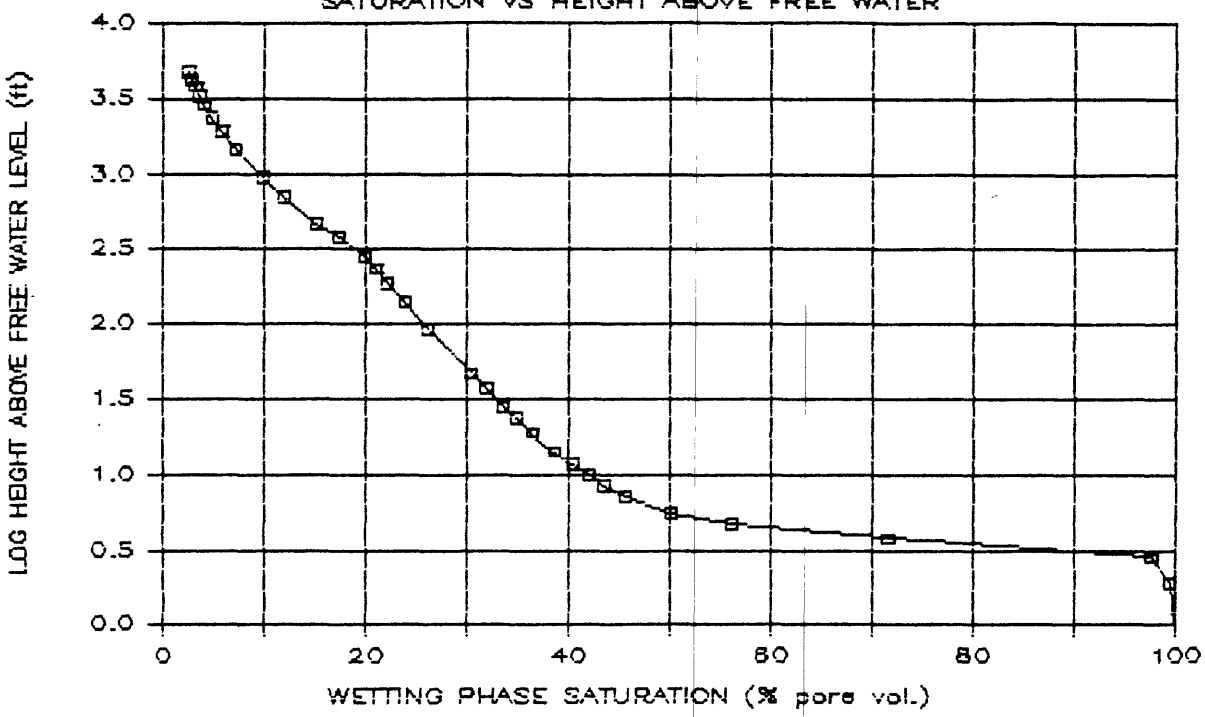


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

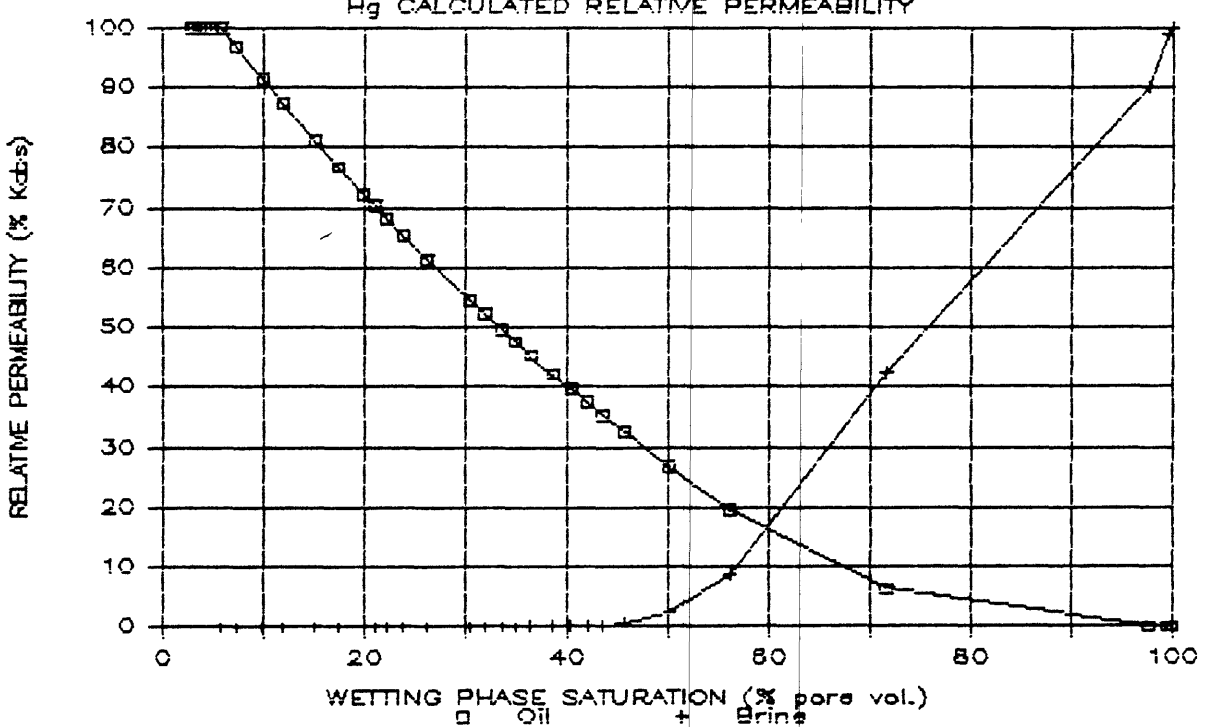
BIA Southern Ute 2-852

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-852

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-864

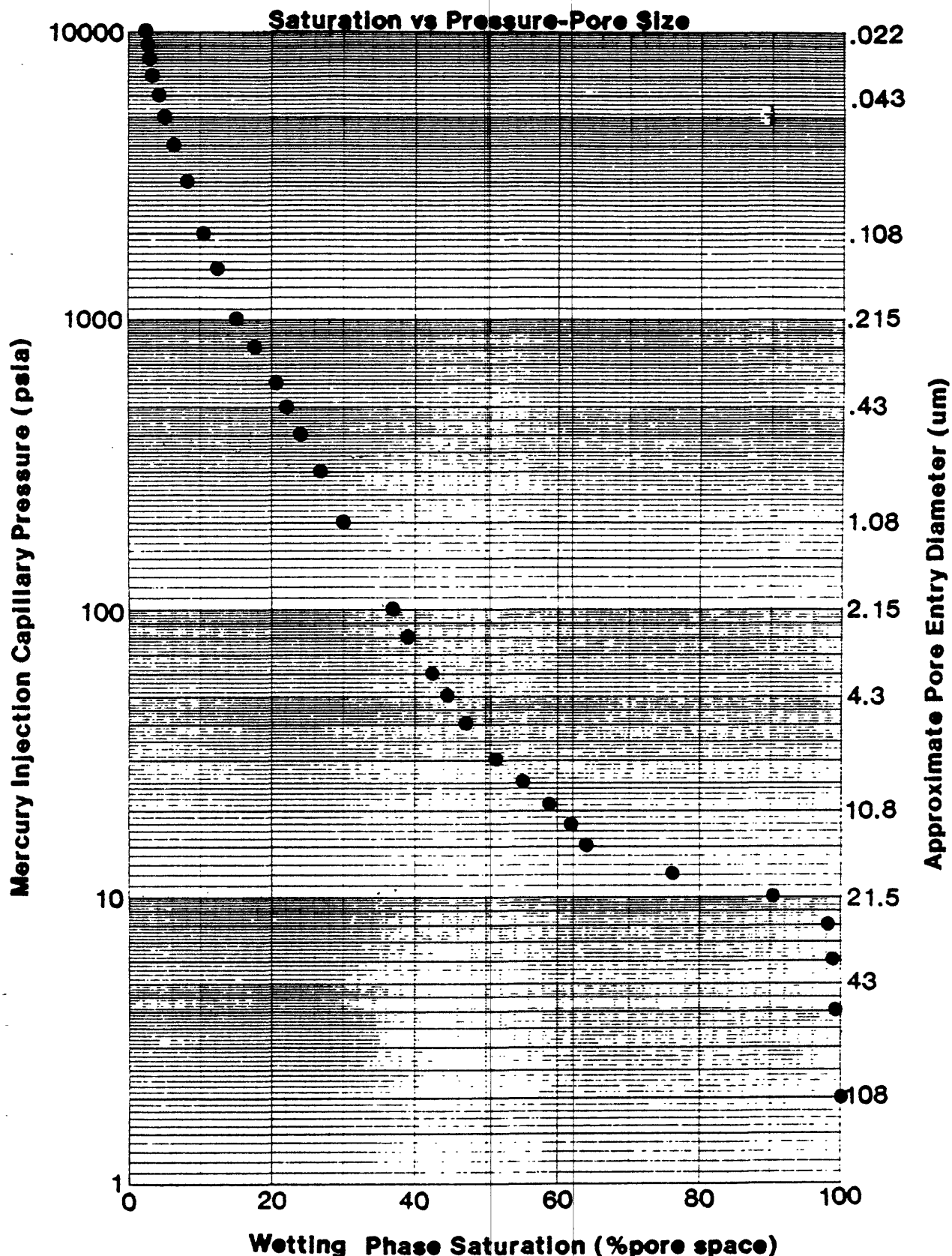
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.5	0.5	0.000	44.444	0.76	1.9	0.00	98.89
6	35.8	99.0	0.5	0.000	29.630	1.13	2.8	0.00	84.00
8	26.9	98.2	0.8	0.000	22.222	1.51	3.8	0.01	78.19
10	21.5	90.5	7.7	0.001	17.778	1.89	4.7	0.48	62.34
12	17.9	76.2	14.3	0.004	14.815	2.27	5.6	4.84	29.96
15	14.3	64.0	12.2	0.007	11.852	2.83	7.0	13.48	9.43
18	11.9	62.0	2.0	0.008	9.877	3.40	8.5	15.32	2.98
21	10.2	58.8	3.2	0.009	8.466	3.96	9.9	18.45	2.07
25	8.60	55.4	3.4	0.010	7.111	4.72	11.7	21.97	1.24
30	7.17	51.5	3.9	0.012	5.926	5.66	14.1	26.28	0.69
40	5.37	47.3	4.2	0.015	4.444	7.55	18.8	31.33	0.32
50	4.30	44.5	2.8	0.017	3.556	9.44	23.5	34.82	0.14
60	3.58	42.6	2.0	0.019	2.963	11.33	28.2	37.41	0.07
80	2.69	39.1	3.4	0.023	2.222	15.10	37.6	42.07	0.04
100	2.15	36.9	2.2	0.027	1.778	18.88	47.0	45.24	0.02
200	1.08	30.1	6.8	0.049	0.889	37.76	93.9	55.59	0.01
300	.717	26.6	3.5	0.065	0.593	56.63	140.9	61.27	0.00
400	.537	24.0	2.6	0.082	0.444	75.51	187.8	65.64	0.00
500	.430	22.1	2.0	0.098	0.356	94.39	234.8	69.10	0.00
600	.358	20.4	1.7	0.114	0.296	113.27	281.8	72.12	0.00
800	.268	17.4	3.0	0.152	0.222	151.02	375.7	77.59	0.00
1000	.215	15.4	2.0	0.184	0.178	188.78	469.6	81.41	0.00
1500	.143	12.4	3.0	0.257	0.119	283.17	704.4	87.30	0.00
2000	.107	10.4	2.0	0.321	0.089	377.56	939.2	91.36	0.00
3000	.072	7.9	2.5	0.440	0.059	566.34	1408.8	96.46	0.00
4000	.054	6.3	1.7	0.547	0.044	755.12	1878.4	100.00	0.00
5000	.043	5.2	1.1	0.633	0.036	943.91	2348.0	100.00	0.00
6000	.035	4.4	0.8	0.712	0.030	1132.69	2817.6	100.00	0.00
7000	.031	3.7	0.7	0.789	0.025	1321.47	3287.2	100.00	0.00
8000	.027	3.1	0.6	0.864	0.022	1510.25	3756.8	100.00	0.00
9000	.024	2.6	0.5	0.941	0.020	1699.03	4226.4	100.00	0.00
10000	.022	2.2	0.4	1.005	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-86A

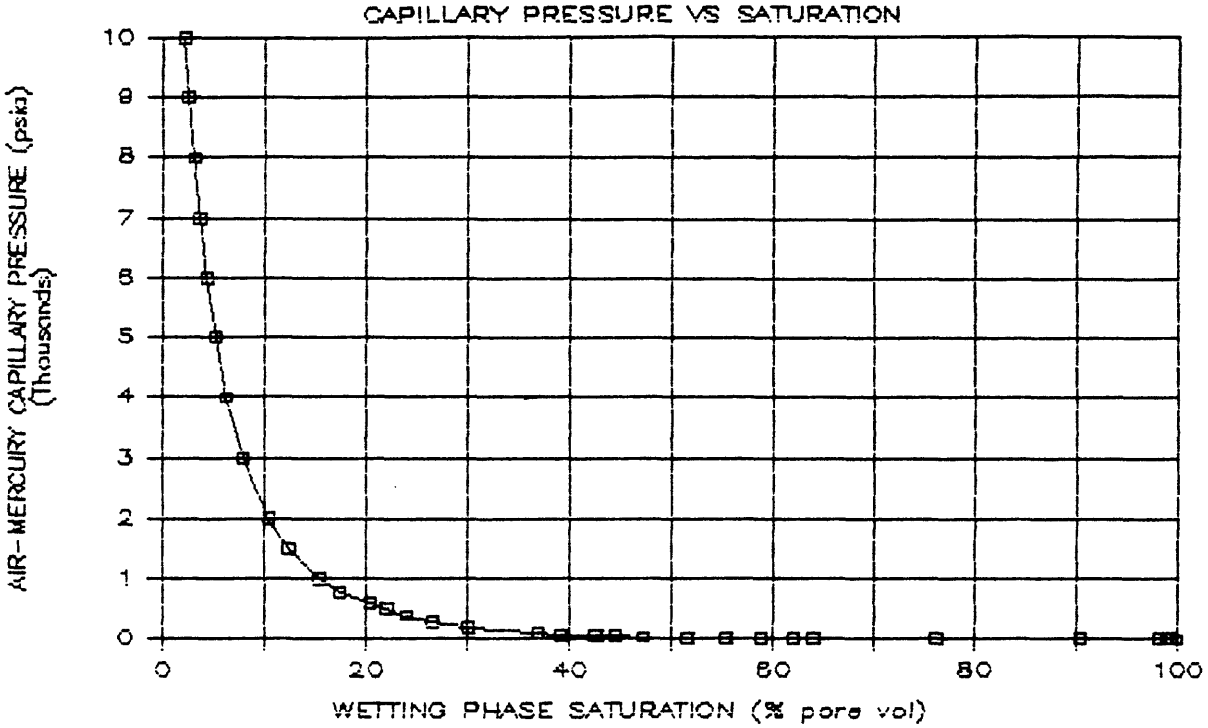


Location/Formation. **BIA Southern Ute**

Company: **USGS Denver**

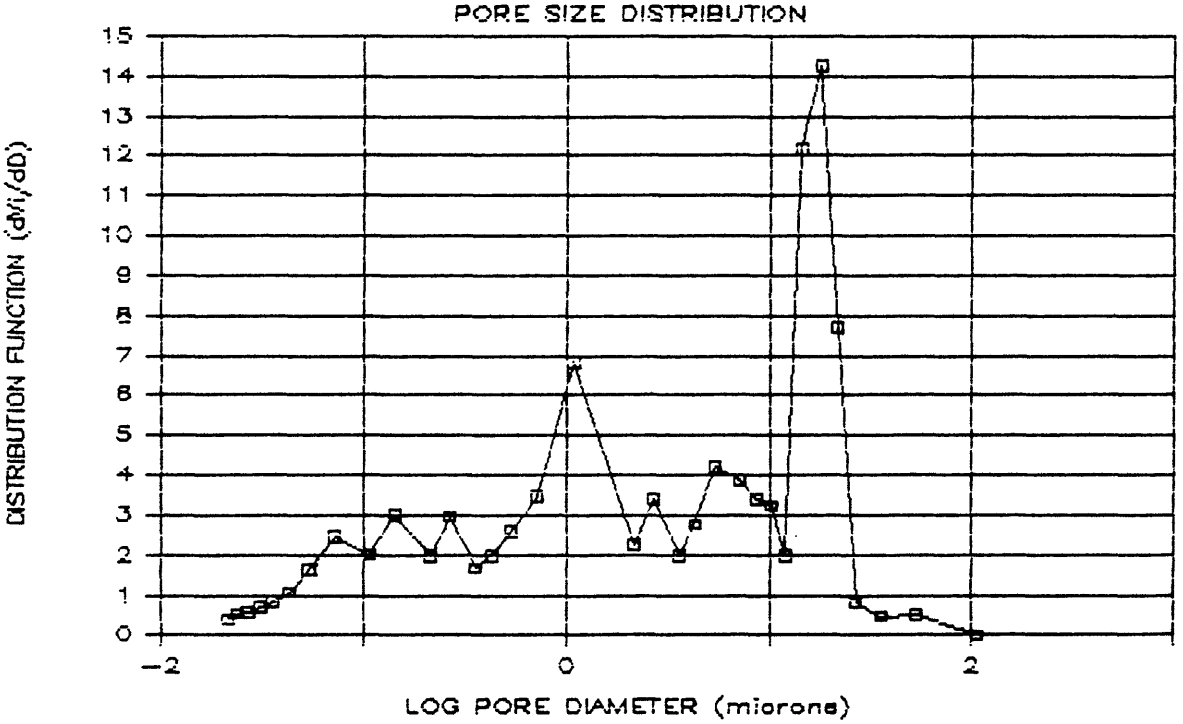
BIA Southern Ute 2-864

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-864

PORE SIZE DISTRIBUTION

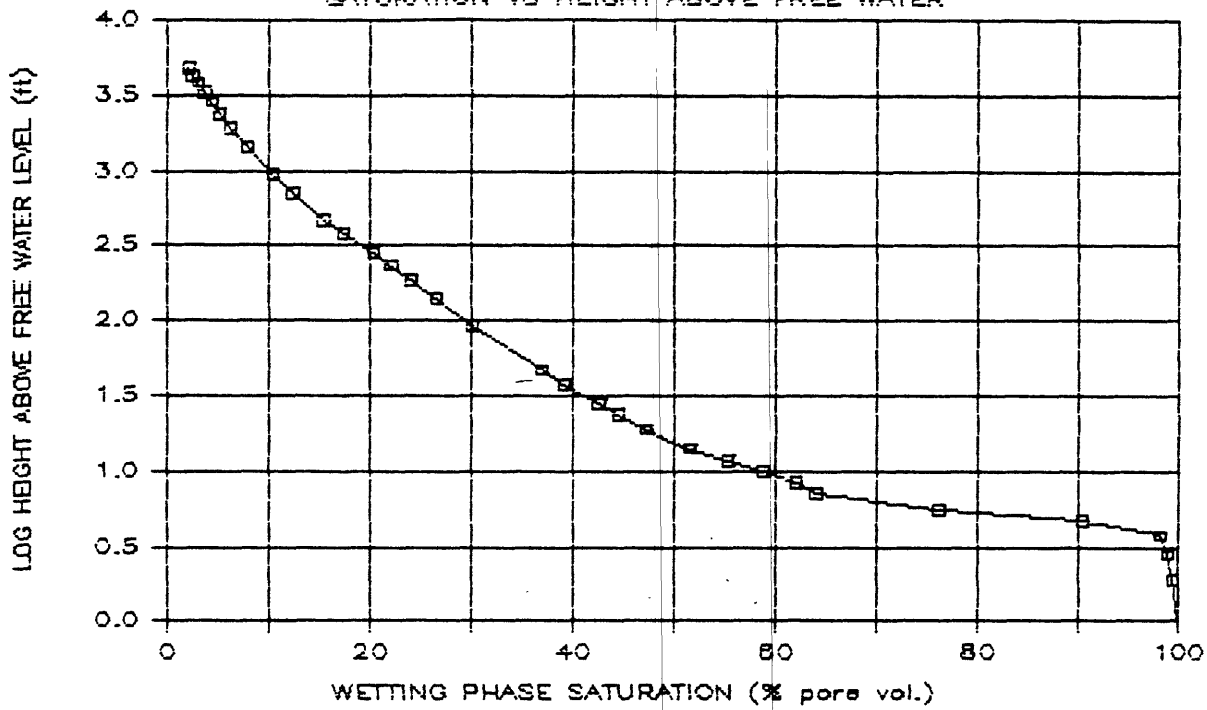


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

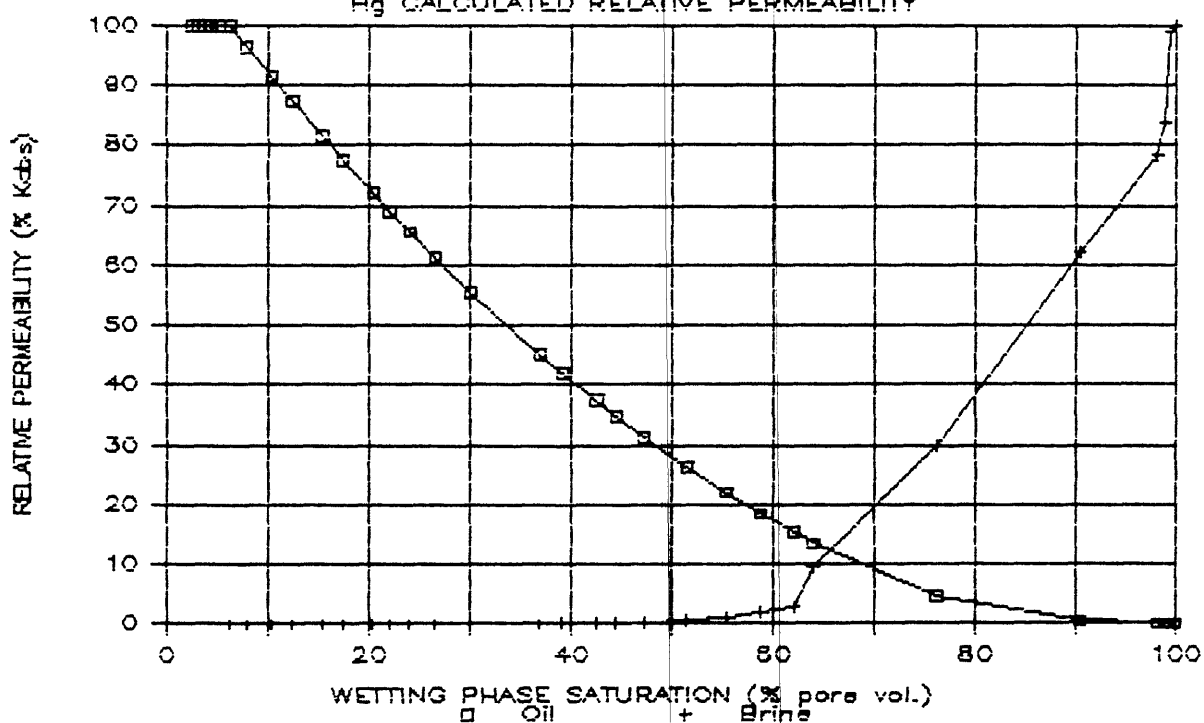
BIA Southern Ute 2-864

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-864

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-883

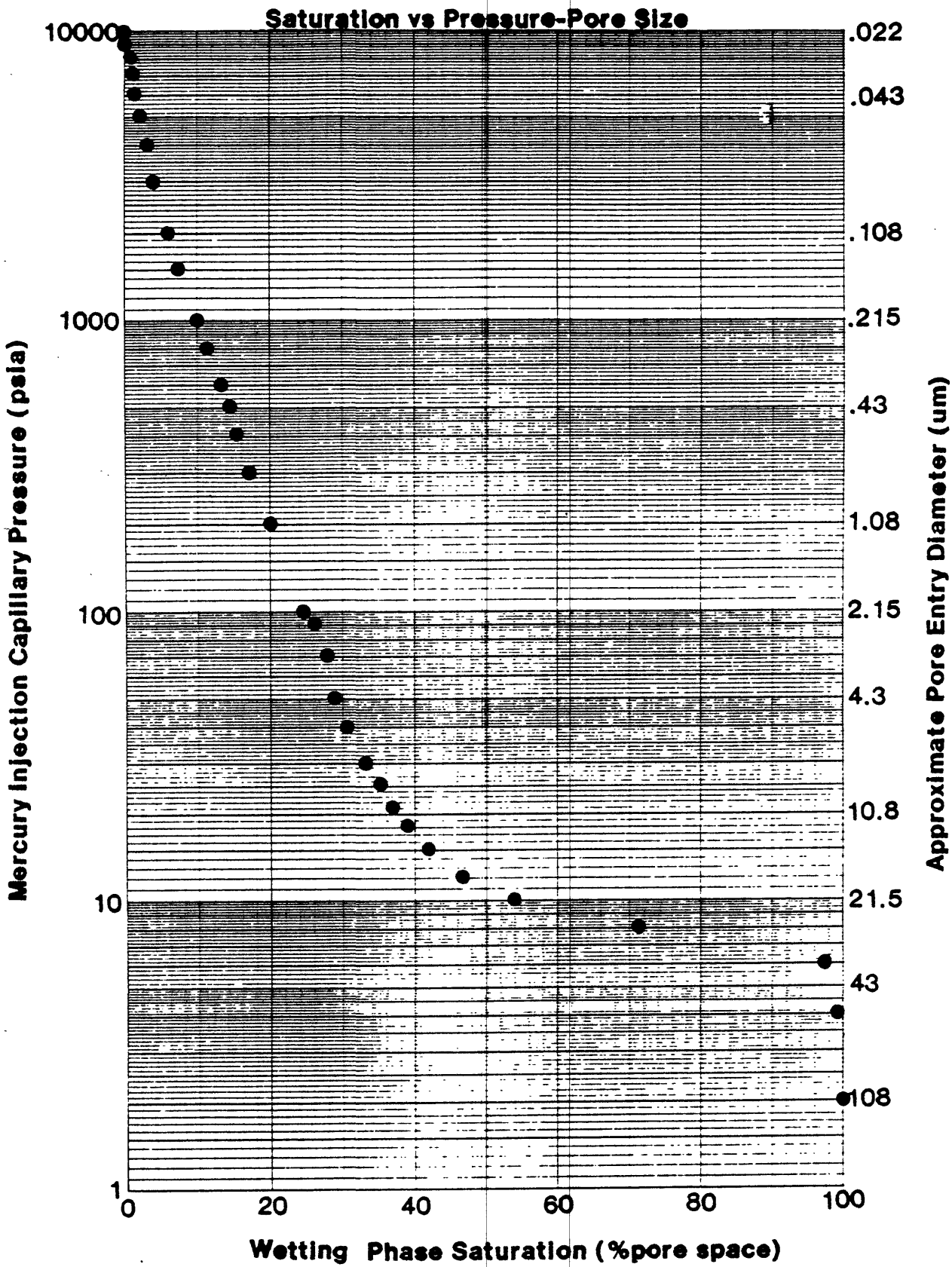
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.4	0.6	0.000	44.444	0.76	1.9	0.00	98.73
6	35.8	97.2	2.1	0.000	29.630	1.13	2.8	0.01	87.98
8	26.9	71.2	26.0	0.003	22.222	1.51	3.8	5.95	41.96
10	21.5	53.9	17.3	0.006	17.778	1.89	4.7	19.95	8.91
12	17.9	46.7	7.2	0.007	14.815	2.27	5.6	28.45	2.27
15	14.3	41.8	5.0	0.008	11.852	2.83	7.0	35.01	0.84
18	11.9	38.9	2.8	0.009	9.877	3.40	8.5	38.92	0.35
21	10.2	37.1	1.8	0.010	8.466	3.96	9.9	41.50	0.18
25	8.60	35.4	1.7	0.010	7.111	4.72	11.7	43.94	0.11
30	7.17	33.0	2.3	0.011	5.926	5.66	14.1	47.28	0.07
40	5.37	30.7	2.3	0.013	4.444	7.55	18.8	50.69	0.03
50	4.30	29.2	1.5	0.014	3.556	9.44	23.5	52.93	0.01
60	3.58	28.1	1.2	0.015	2.963	11.33	28.2	54.73	0.01
80	2.69	26.1	1.9	0.017	2.222	15.10	37.6	57.75	0.00
100	2.15	24.6	1.5	0.019	1.778	18.88	47.0	60.10	0.00
200	1.08	20.1	4.5	0.033	0.889	37.76	93.9	67.57	0.00
300	.717	17.5	2.6	0.044	0.593	56.63	140.9	72.00	0.00
400	.537	15.7	1.8	0.055	0.444	75.51	187.8	75.26	0.00
500	.430	14.3	1.4	0.065	0.356	94.39	234.8	77.78	0.00
600	.358	13.2	1.1	0.075	0.296	113.27	281.8	79.82	0.00
800	.268	11.3	1.9	0.098	0.222	151.02	375.7	83.36	0.00
1000	.215	9.9	1.4	0.118	0.178	188.78	469.6	85.97	0.00
1500	.143	7.6	2.3	0.170	0.119	283.17	704.4	90.44	0.00
2000	.107	6.0	1.6	0.216	0.089	377.56	939.2	93.51	0.00
3000	.072	4.0	2.0	0.305	0.059	566.34	1408.8	97.58	0.00
4000	.054	2.8	1.2	0.375	0.044	755.12	1878.4	100.00	0.00
5000	.043	2.0	0.8	0.434	0.036	943.91	2348.0	100.00	0.00
6000	.035	1.4	0.7	0.492	0.030	1132.69	2817.6	100.00	0.00
7000	.031	0.9	0.5	0.543	0.025	1321.47	3287.2	100.00	0.00
8000	.027	0.4	0.5	0.597	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.0	0.4	0.651	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.0	0.0	0.651	0.000	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-883

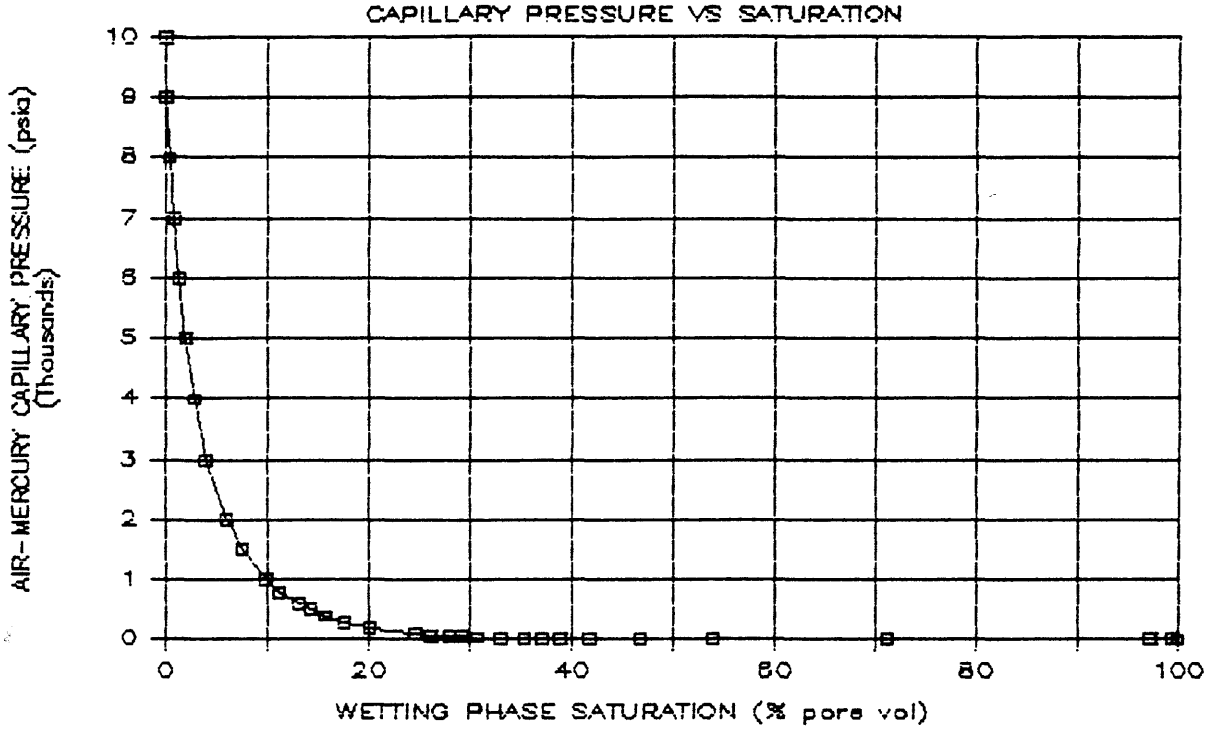


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

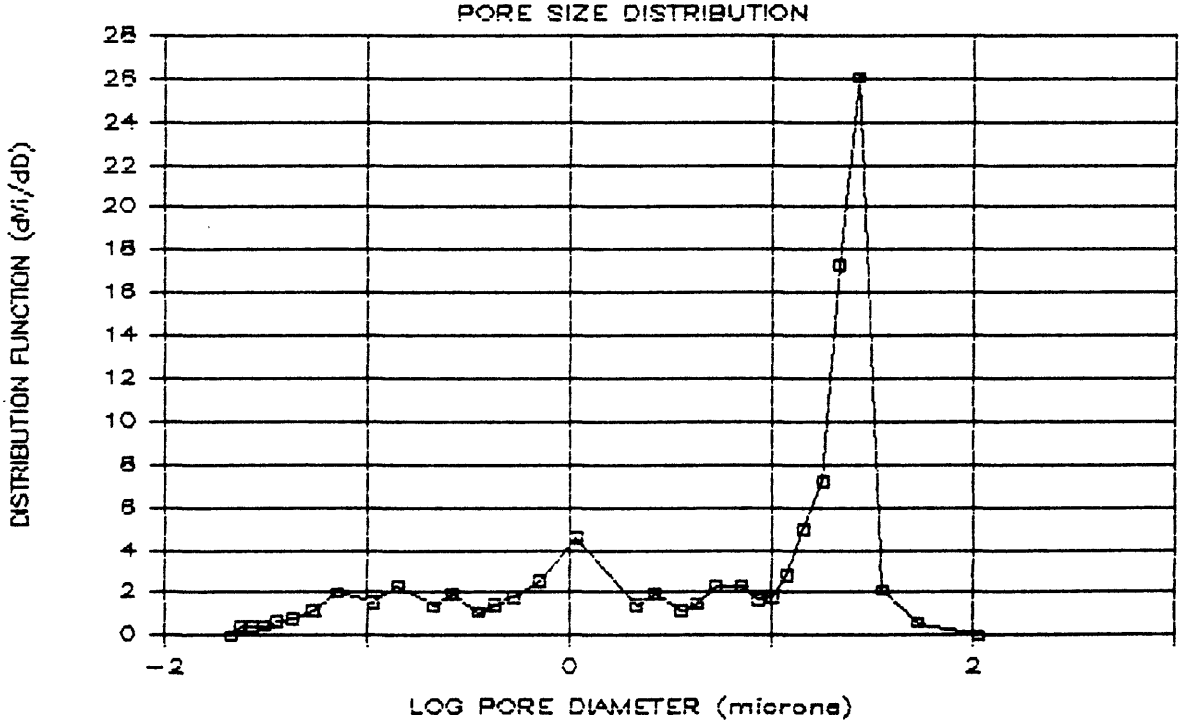
BIA Southern Ute 2-883

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-883

PORE SIZE DISTRIBUTION

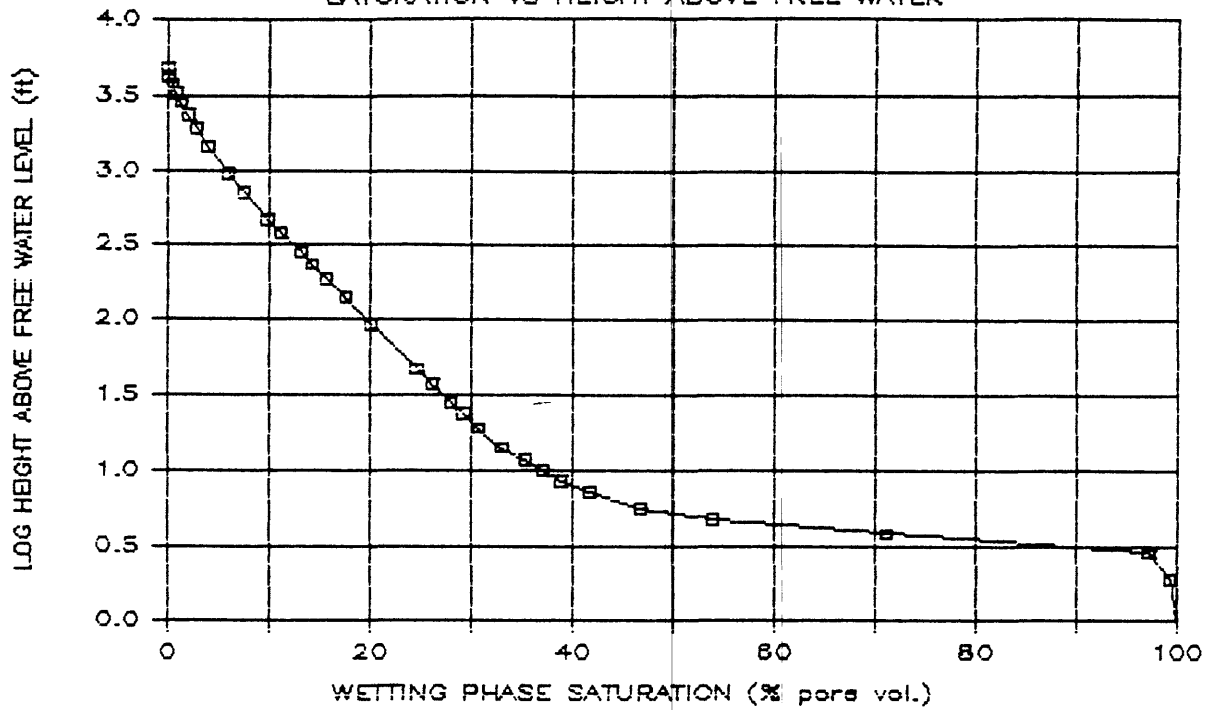


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

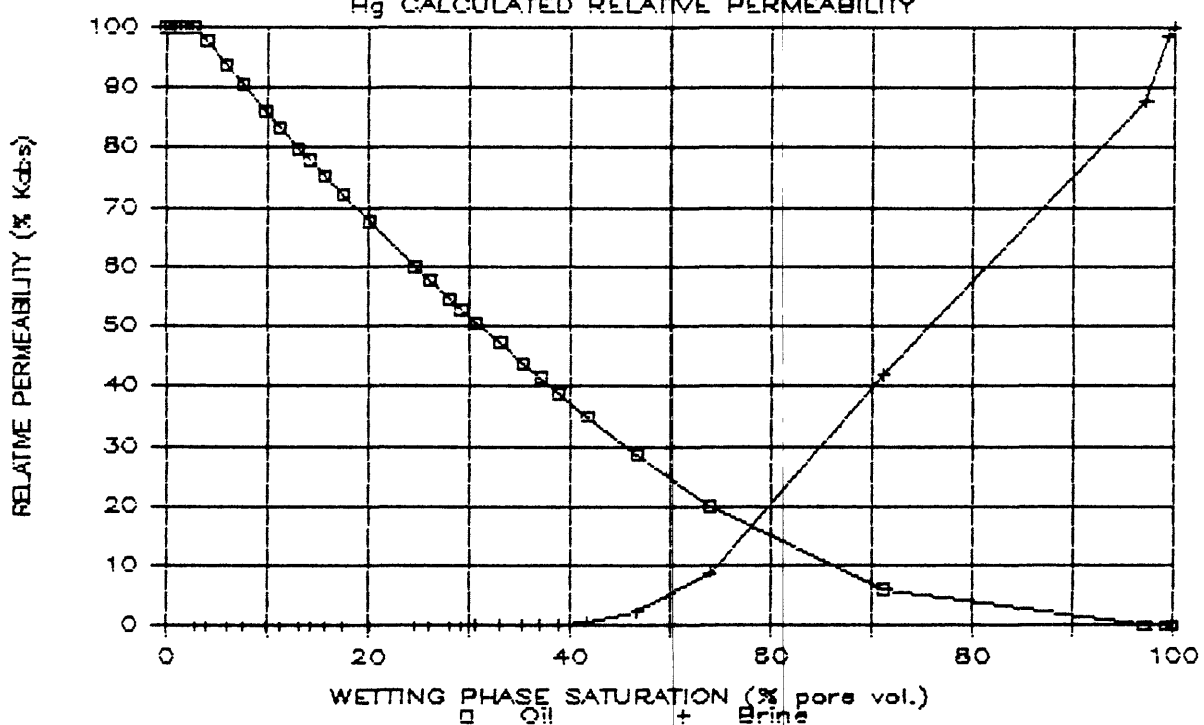
BIA Southern Ute 2-883

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-883

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-907

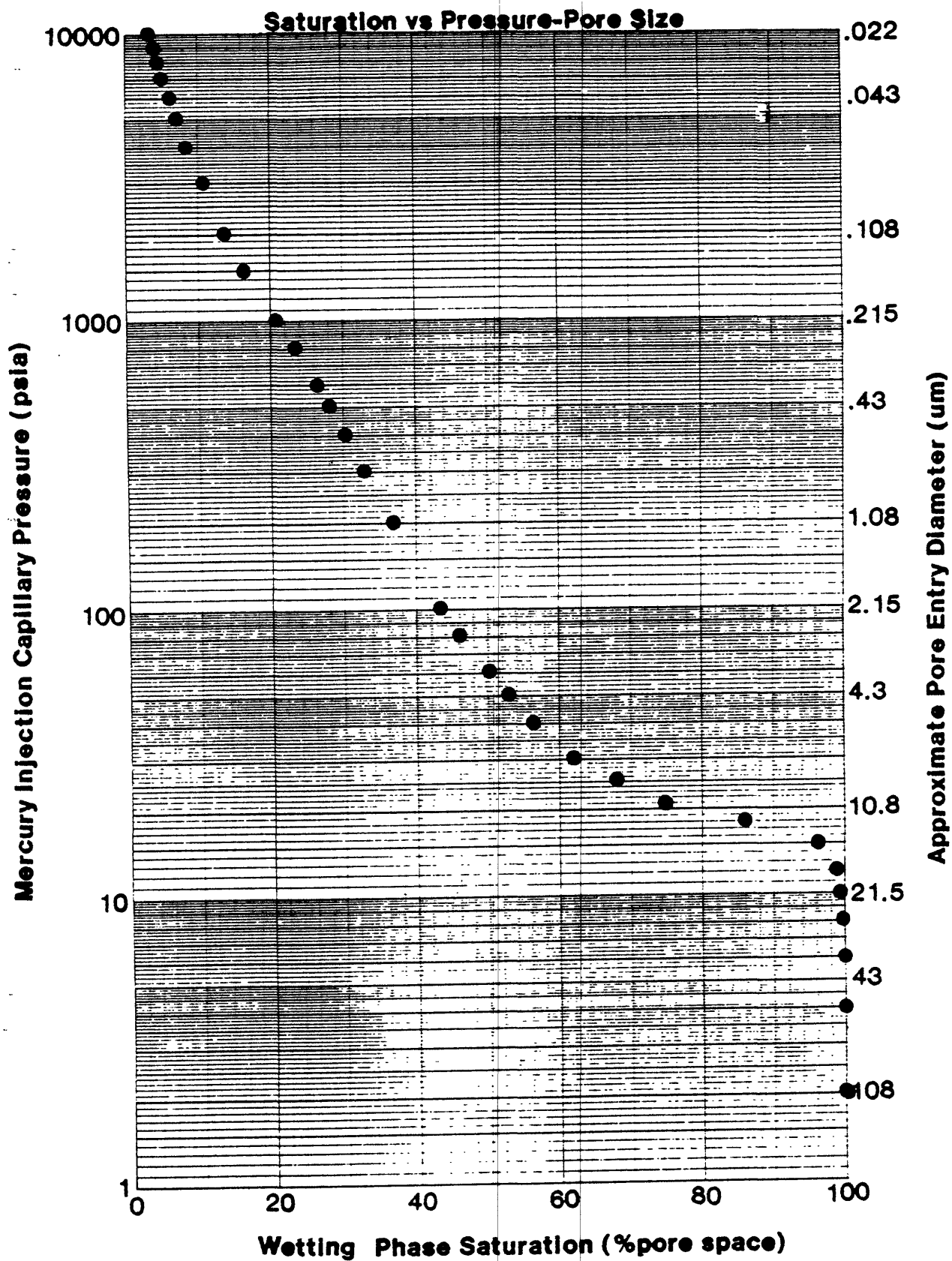
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	99.9	0.1	0.000	29.630	1.13	2.8	0.00	100.00
8	26.9	99.7	0.1	0.000	22.222	1.51	3.8	0.00	94.82
10	21.5	99.5	0.2	0.000	17.778	1.89	4.7	0.00	91.99
12	17.9	99.0	0.5	0.000	14.815	2.27	5.6	0.00	88.95
15	14.3	96.8	2.2	0.001	11.852	2.83	7.0	0.03	81.89
18	11.9	85.8	11.0	0.004	9.877	3.40	8.5	1.30	55.89
21	10.2	74.9	10.9	0.008	8.466	3.96	9.9	5.79	24.30
25	8.60	68.0	6.9	0.011	7.111	4.72	11.7	10.65	9.90
30	7.17	62.3	5.7	0.013	5.926	5.66	14.1	15.79	4.54
40	5.37	56.3	6.0	0.017	4.444	7.55	18.8	22.13	1.96
50	4.30	52.9	3.4	0.020	3.556	9.44	23.5	26.05	0.78
60	3.58	50.0	2.9	0.023	2.963	11.33	28.2	29.56	0.41
80	2.69	46.0	4.0	0.028	2.222	15.10	37.6	34.71	0.21
100	2.15	43.5	2.5	0.032	1.778	18.88	47.0	38.08	0.08
200	1.08	36.5	7.0	0.056	0.889	37.76	93.9	48.25	0.03
300	.717	32.6	3.8	0.075	0.593	56.63	140.9	54.28	0.01
400	.537	30.2	2.5	0.091	0.444	75.51	187.8	58.33	0.00
500	.430	28.1	2.0	0.108	0.356	94.39	234.8	61.78	0.00
600	.358	26.6	1.6	0.123	0.296	113.27	281.8	64.52	0.00
800	.268	23.6	3.0	0.163	0.222	151.02	375.7	69.85	0.00
1000	.215	21.3	2.3	0.201	0.178	188.78	469.6	74.16	0.00
1500	.143	16.8	4.5	0.312	0.119	283.17	704.4	82.83	0.00
2000	.107	13.9	2.9	0.407	0.089	377.56	939.2	88.68	0.00
3000	.072	10.7	3.2	0.566	0.059	566.34	1408.8	95.41	0.00
4000	.054	8.6	2.1	0.706	0.044	755.12	1878.4	100.00	0.00
5000	.043	7.2	1.4	0.823	0.036	943.91	2348.0	100.00	0.00
6000	.035	6.2	1.0	0.925	0.030	1132.69	2817.6	100.00	0.00
7000	.031	5.2	1.0	1.038	0.025	1321.47	3287.2	100.00	0.00
8000	.027	4.6	0.6	1.113	0.022	1510.25	3756.8	100.00	0.00
9000	.024	4.0	0.6	1.209	0.020	1699.03	4226.4	100.00	0.00
10000	.022	3.4	0.5	1.295	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

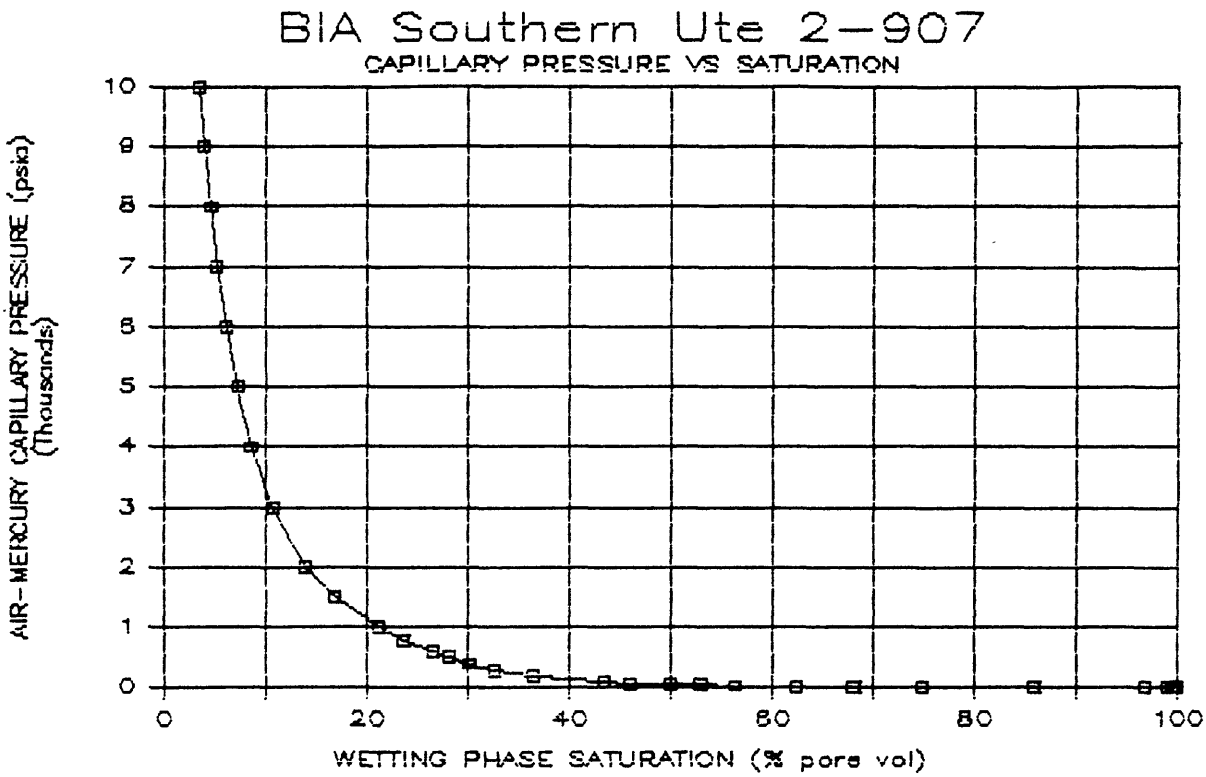
Company: **USGS Denver**

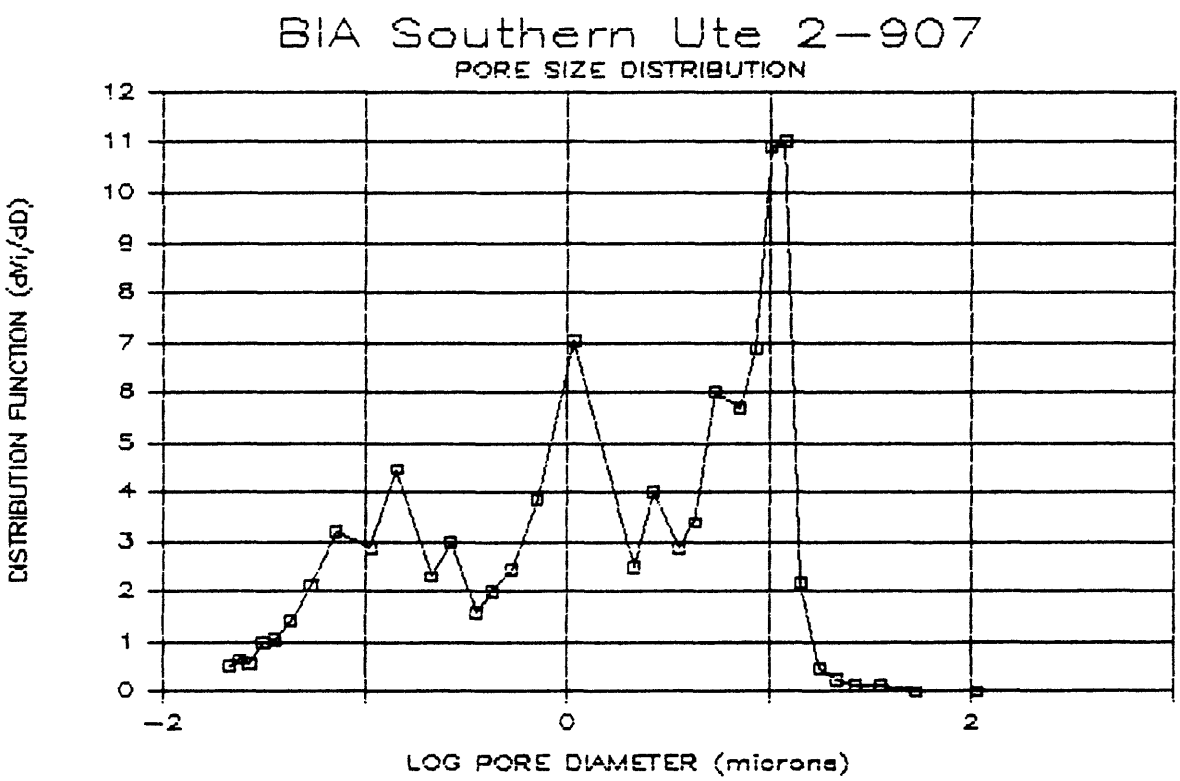
BIA SOUTHERN UTE 2-907



Location/Formation: **BIA Southern Ute**

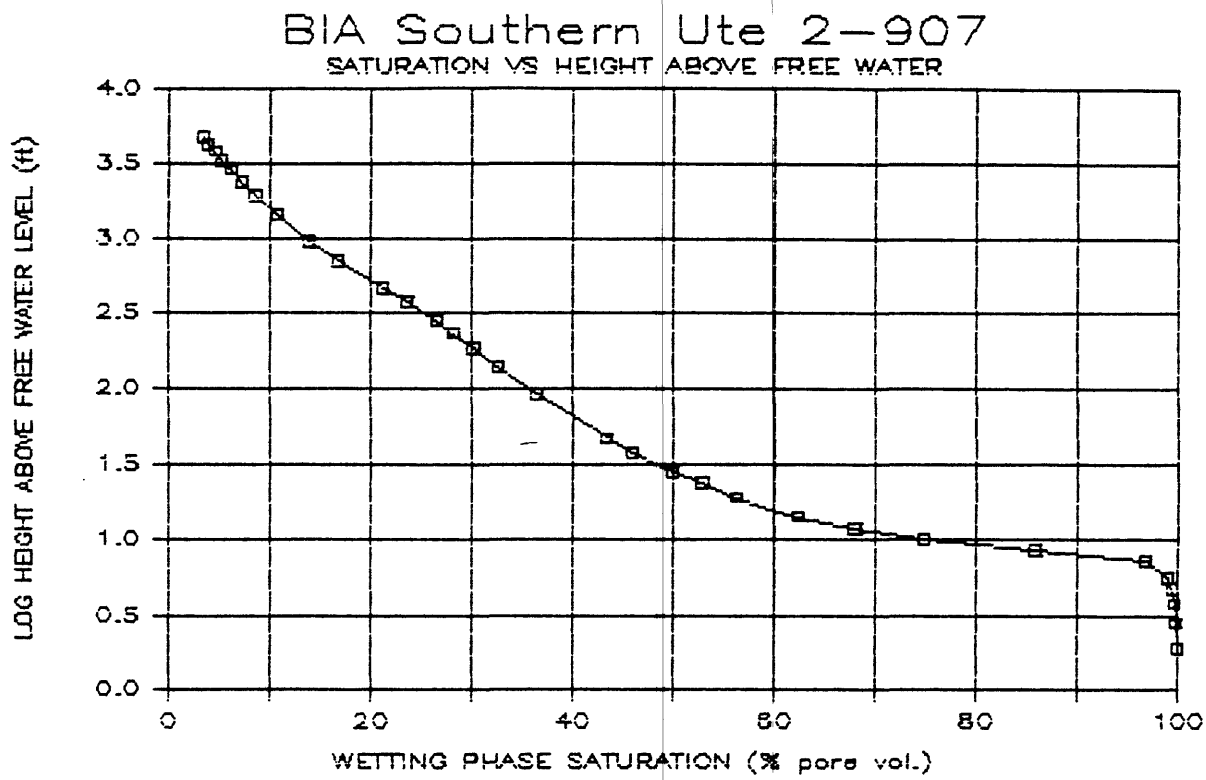
Company: **USGS Denver**

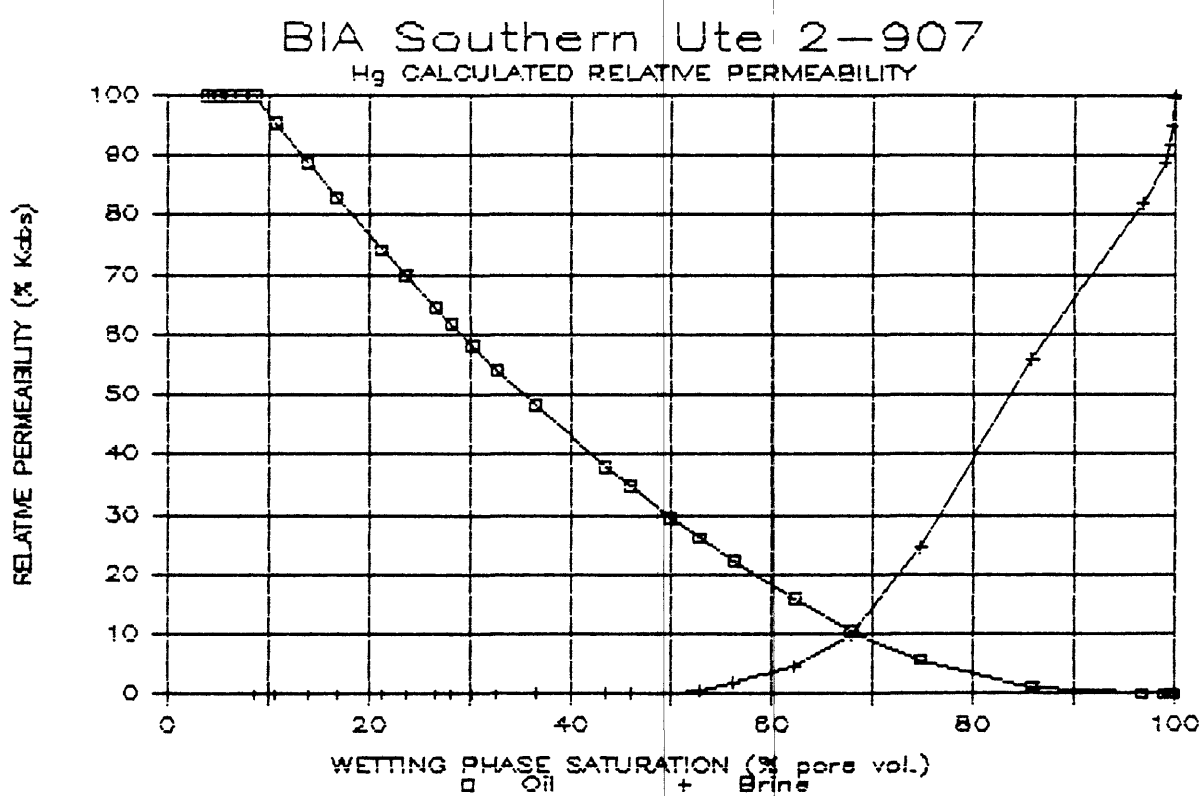




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-916.5

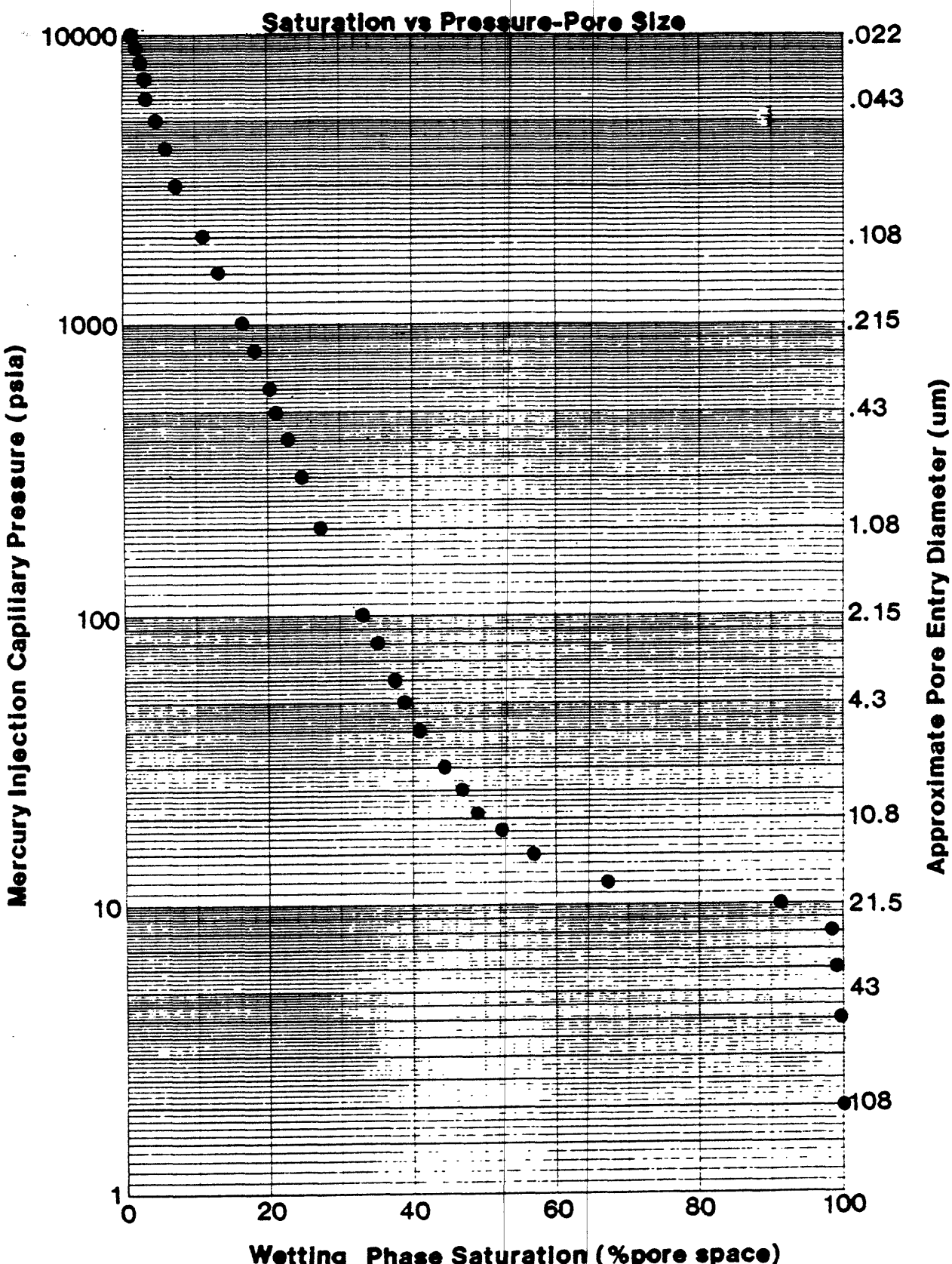
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	99.7	0.3	0.000	44.444	0.76	1.9	0.00	100.00
6	35.8	99.3	0.4	0.000	29.630	1.13	2.8	0.00	92.02
8	26.9	98.6	0.7	0.000	22.222	1.51	3.8	0.00	86.87
10	21.5	91.6	7.0	0.001	17.778	1.89	4.7	0.26	71.72
12	17.9	67.7	24.0	0.006	14.815	2.27	5.6	9.25	28.74
15	14.3	57.0	10.7	0.008	11.852	2.83	7.0	19.14	6.42
18	11.9	52.5	4.5	0.010	9.877	3.40	8.5	24.25	2.09
21	10.2	49.5	3.1	0.011	8.466	3.96	9.9	28.00	1.03
25	8.60	47.0	2.4	0.012	7.111	4.72	11.7	31.11	0.57
30	7.17	44.6	2.5	0.013	5.926	5.66	14.1	34.34	0.32
40	5.37	41.3	3.2	0.015	4.444	7.55	18.8	38.67	0.17
50	4.30	39.3	2.0	0.017	3.556	9.44	23.5	41.44	0.07
60	3.58	37.8	1.5	0.018	2.963	11.33	28.2	43.55	0.04
80	2.69	35.3	2.6	0.021	2.222	15.10	37.6	47.30	0.02
100	2.15	33.2	2.0	0.025	1.778	18.88	47.0	50.36	0.01
200	1.08	27.4	5.8	0.043	0.889	37.76	93.9	59.51	0.00
300	.717	24.7	2.7	0.056	0.593	56.63	140.9	64.11	0.00
400	.537	22.9	1.8	0.068	0.444	75.51	187.8	67.26	0.00
500	.430	21.5	1.4	0.079	0.356	94.39	234.8	69.74	0.00
600	.358	20.3	1.2	0.090	0.296	113.27	281.8	71.85	0.00
800	.268	18.3	2.0	0.116	0.222	151.02	375.7	75.52	0.00
1000	.215	16.6	1.7	0.143	0.178	188.78	469.6	78.71	0.00
1500	.143	13.2	3.4	0.225	0.119	283.17	704.4	85.25	0.00
2000	.107	10.8	2.4	0.302	0.089	377.56	939.2	90.03	0.00
3000	.072	7.8	3.0	0.445	0.059	566.34	1408.8	96.17	0.00
4000	.054	5.9	1.8	0.561	0.044	755.12	1878.4	100.00	0.00
5000	.043	4.7	1.3	0.665	0.036	943.91	2348.0	100.00	0.00
6000	.035	3.7	1.0	0.759	0.030	1132.69	2817.6	100.00	0.00
7000	.031	3.0	0.7	0.836	0.025	1321.47	3287.2	100.00	0.00
8000	.027	2.3	0.6	0.918	0.022	1510.25	3756.8	100.00	0.00
9000	.024	1.8	0.5	0.991	0.020	1699.03	4226.4	100.00	0.00
10000	.022	1.3	0.5	1.068	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-916.5

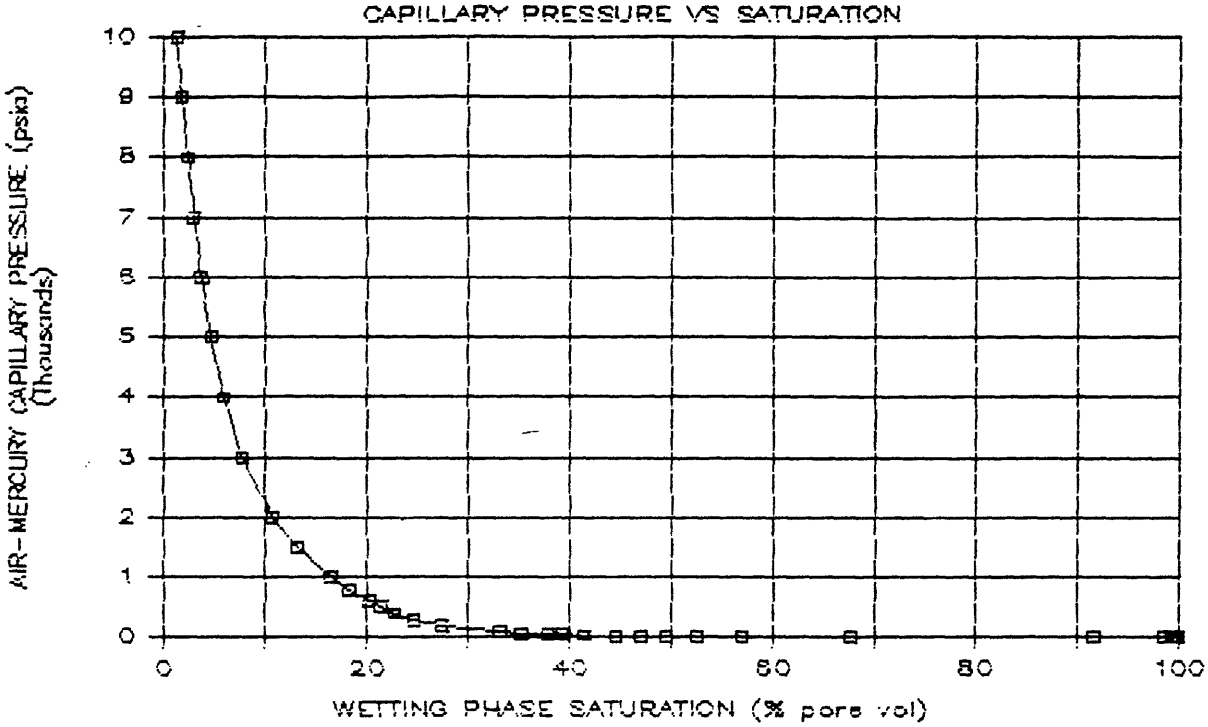


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

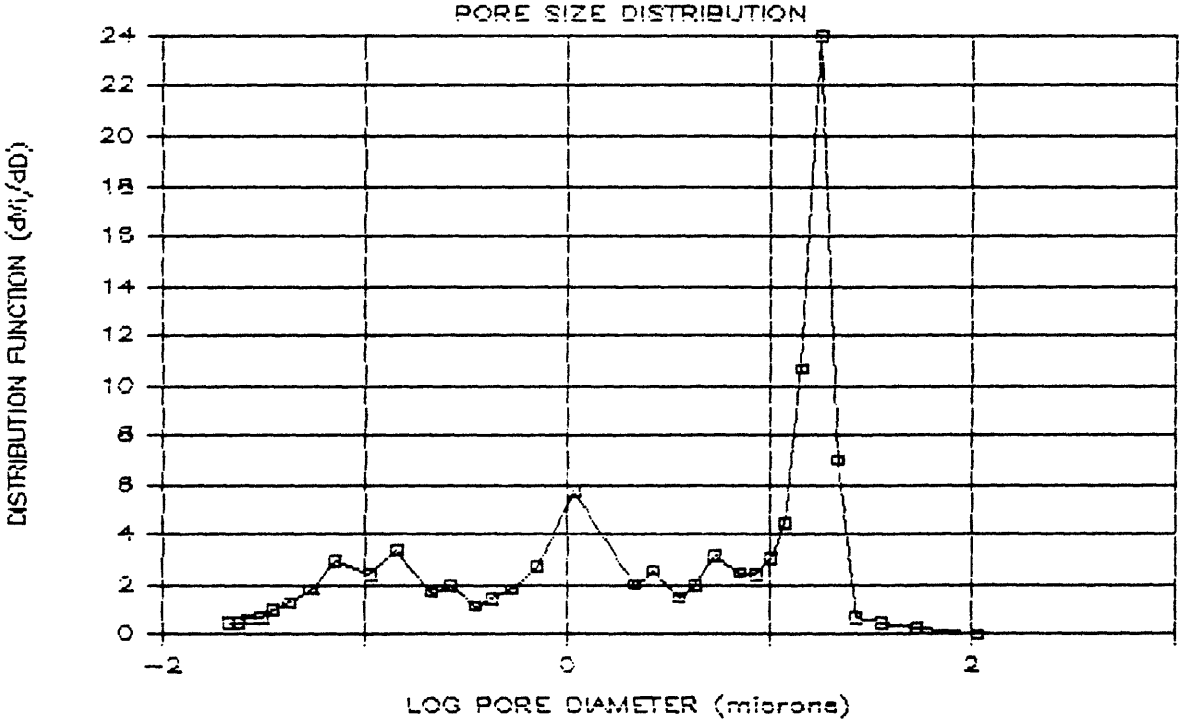
BIA Southern Ute 2—916.5

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2—916.6

PORE SIZE DISTRIBUTION

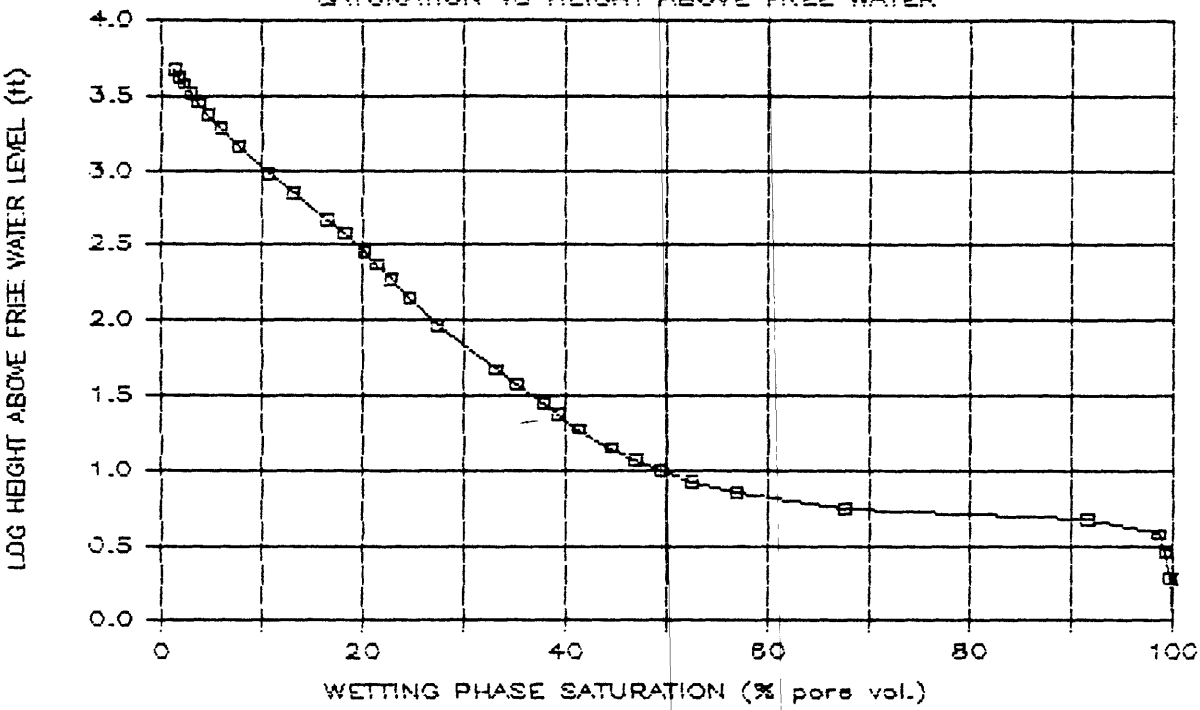


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

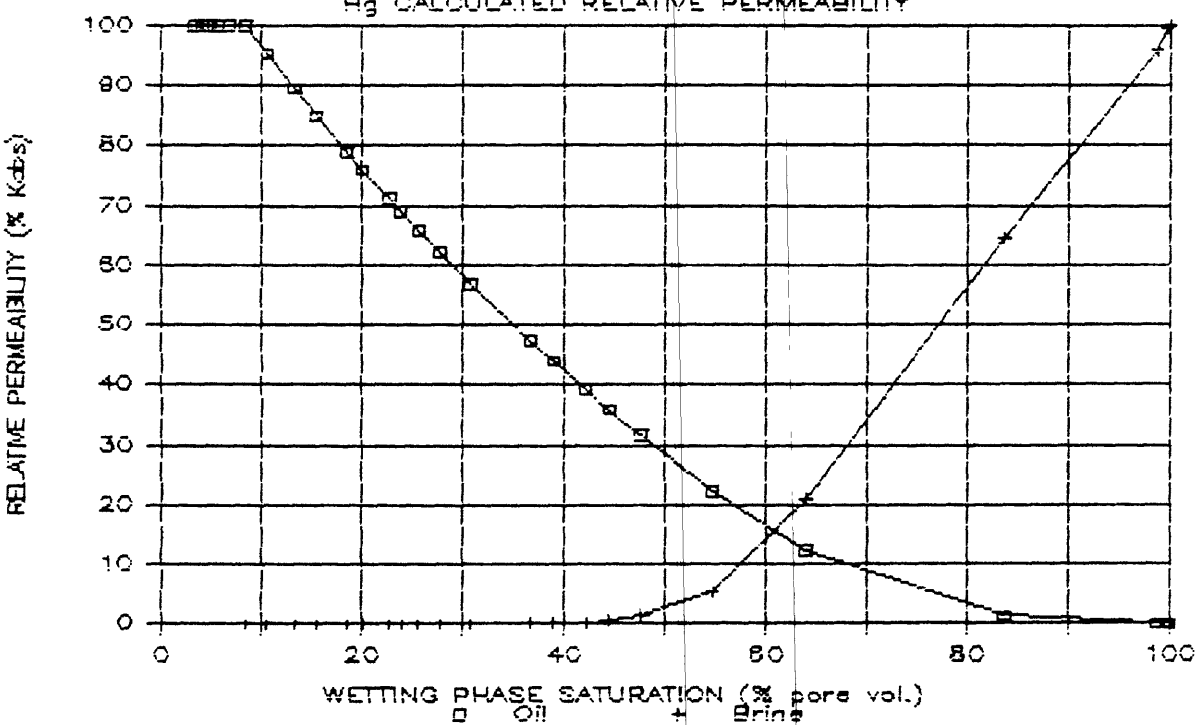
BIA Southern Ute 2–916.6

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2–961.5

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-925

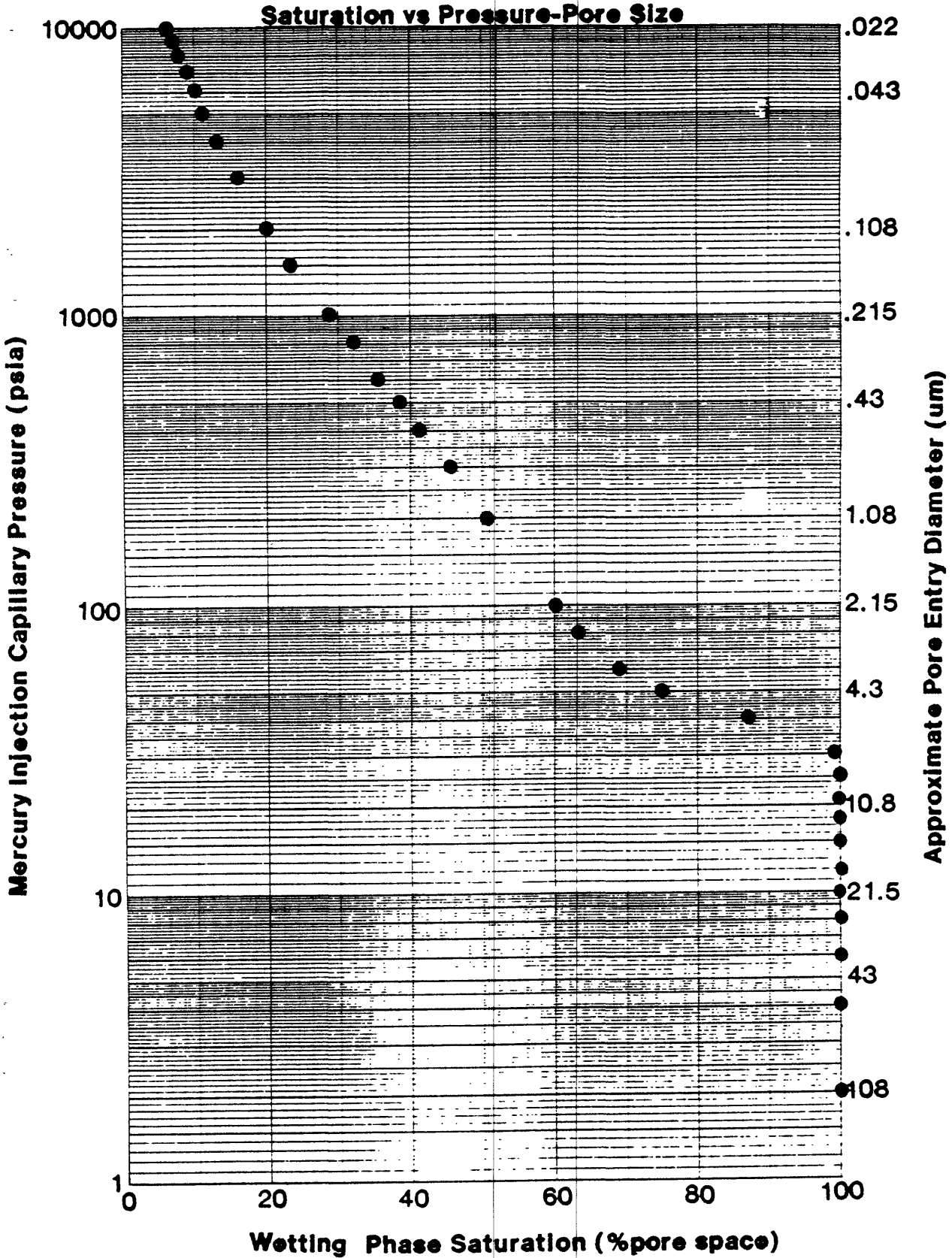
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	99.8	0.2	0.000	7.111	4.72	11.7	0.00	100.00
30	7.17	99.2	0.6	0.000	5.926	5.66	14.1	0.00	96.09
40	5.37	87.0	12.2	0.007	4.444	7.55	18.8	1.19	68.01
50	4.30	75.0	11.9	0.016	3.556	9.44	23.5	6.68	23.91
60	3.58	69.4	5.6	0.021	2.963	11.33	28.2	11.14	8.07
80	2.69	63.6	5.8	0.027	2.222	15.10	37.6	16.74	3.53
100	2.15	59.9	3.7	0.033	1.778	18.88	47.0	20.82	1.41
200	1.08	50.5	9.3	0.059	0.889	37.76	93.9	32.28	0.50
300	.717	45.3	5.2	0.082	0.593	56.63	140.9	39.60	0.10
400	.537	41.4	3.9	0.104	0.444	75.51	187.8	45.49	0.04
500	.430	38.4	3.0	0.126	0.356	94.39	234.8	50.29	0.02
600	.358	35.9	2.5	0.147	0.296	113.27	281.8	54.51	0.01
800	.268	31.9	4.0	0.193	0.222	151.02	375.7	61.60	0.00
1000	.215	28.8	3.1	0.238	0.178	188.78	469.6	67.37	0.00
1500	.143	23.3	5.5	0.356	0.119	283.17	704.4	78.14	0.00
2000	.107	19.9	3.4	0.452	0.089	377.56	939.2	85.18	0.00
3000	.072	16.0	3.9	0.622	0.059	566.34	1408.8	93.79	0.00
4000	.054	13.2	2.7	0.779	0.044	755.12	1878.4	100.00	0.00
5000	.043	11.5	1.7	0.900	0.036	943.91	2348.0	100.00	0.00
6000	.035	10.0	1.5	1.028	0.030	1132.69	2817.6	100.00	0.00
7000	.031	8.9	1.2	1.146	0.025	1321.47	3287.2	100.00	0.00
8000	.027	7.8	1.1	1.270	0.022	1510.25	3756.8	100.00	0.00
9000	.024	7.0	0.8	1.377	0.020	1699.03	4226.4	100.00	0.00
10000	.022	6.3	0.7	1.470	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-925

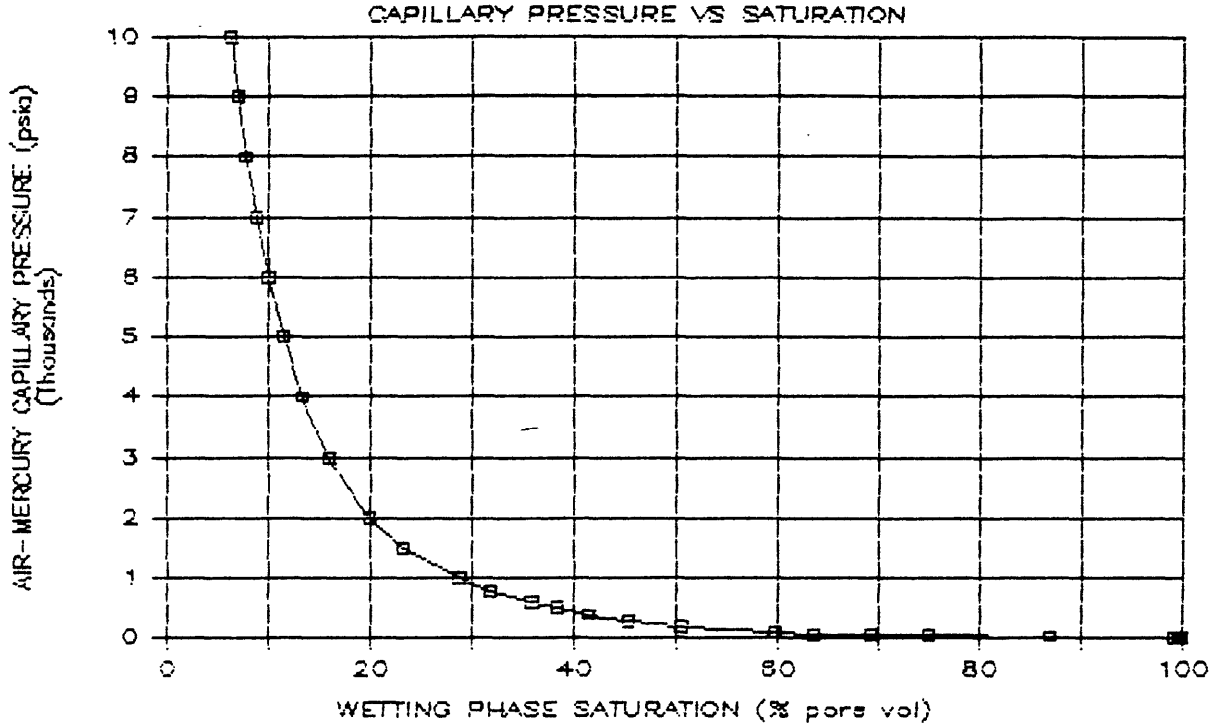


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

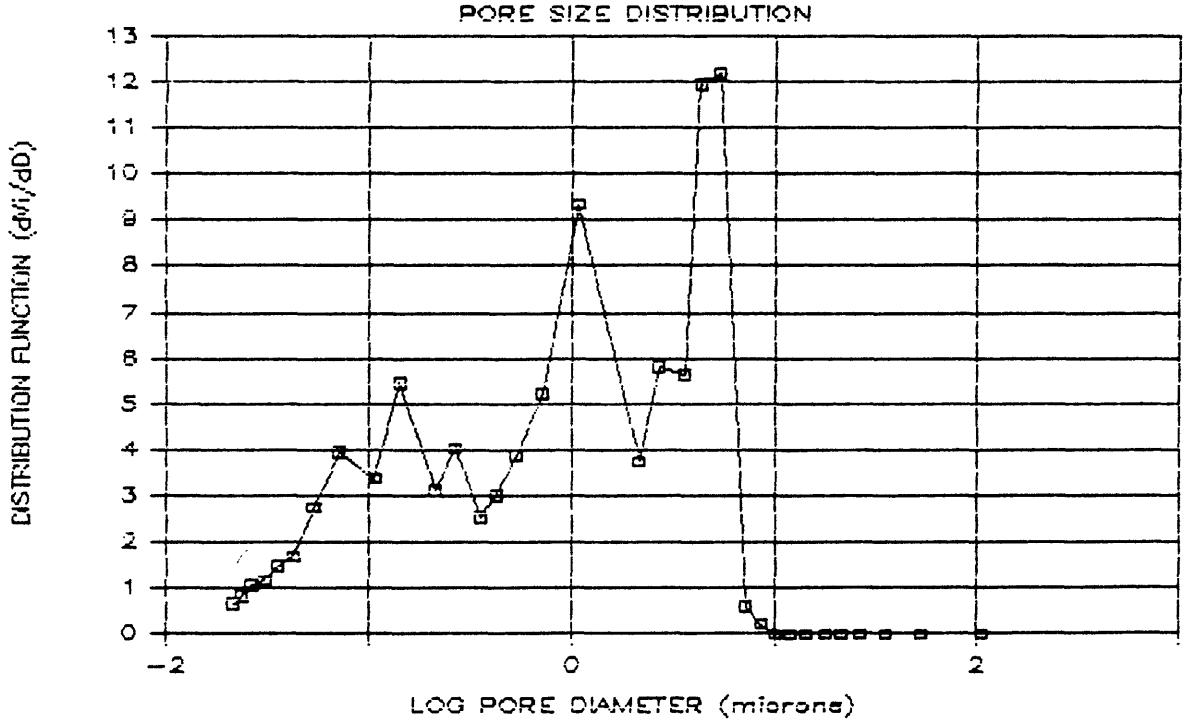
BIA Southern Ute 2-925

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-925

PORE SIZE DISTRIBUTION

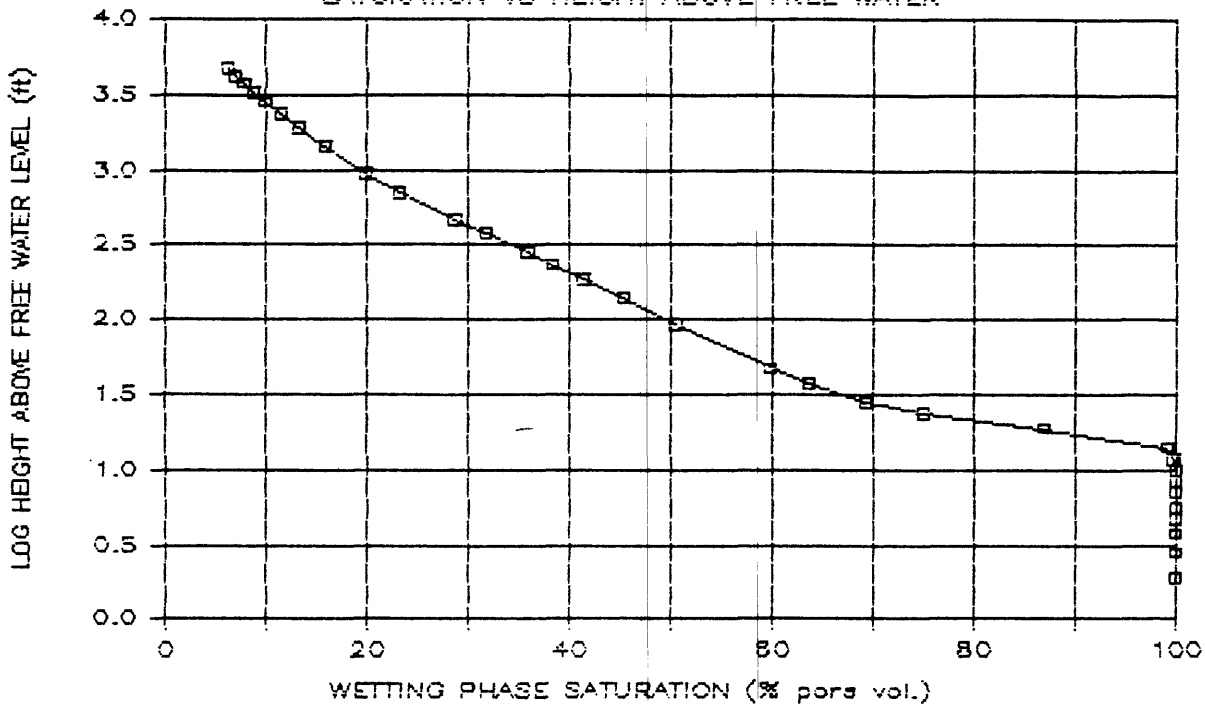


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

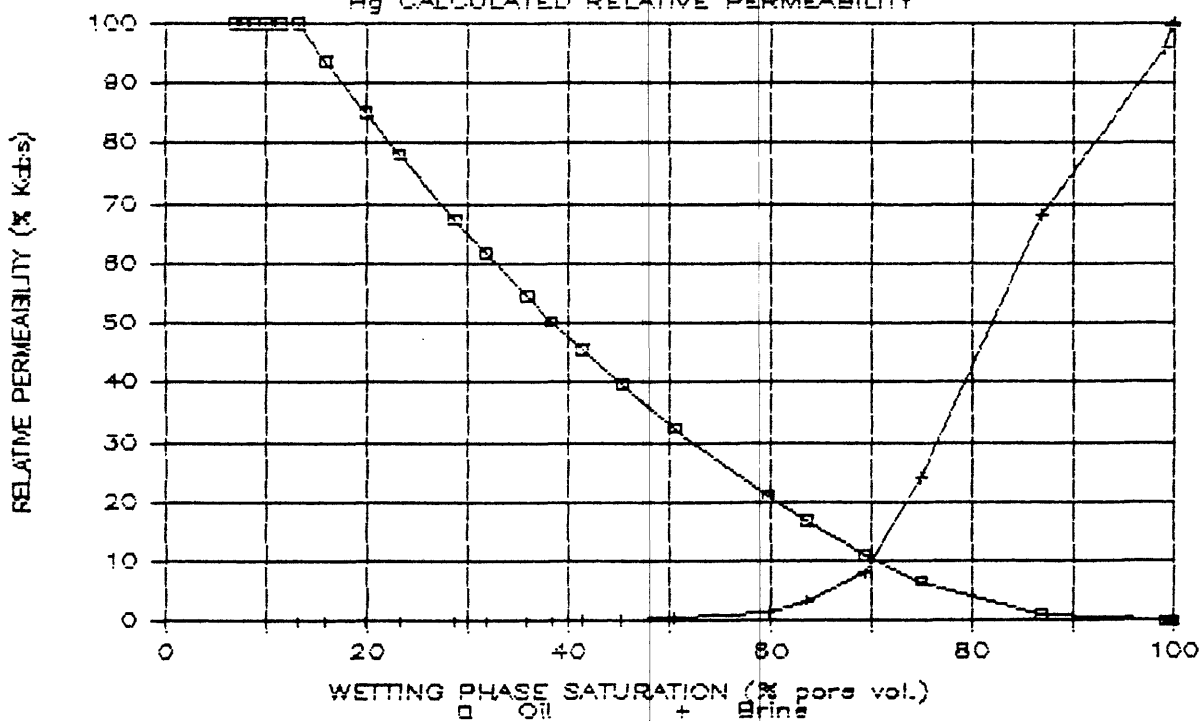
BIA Southern Ute 2-925

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-925

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-932

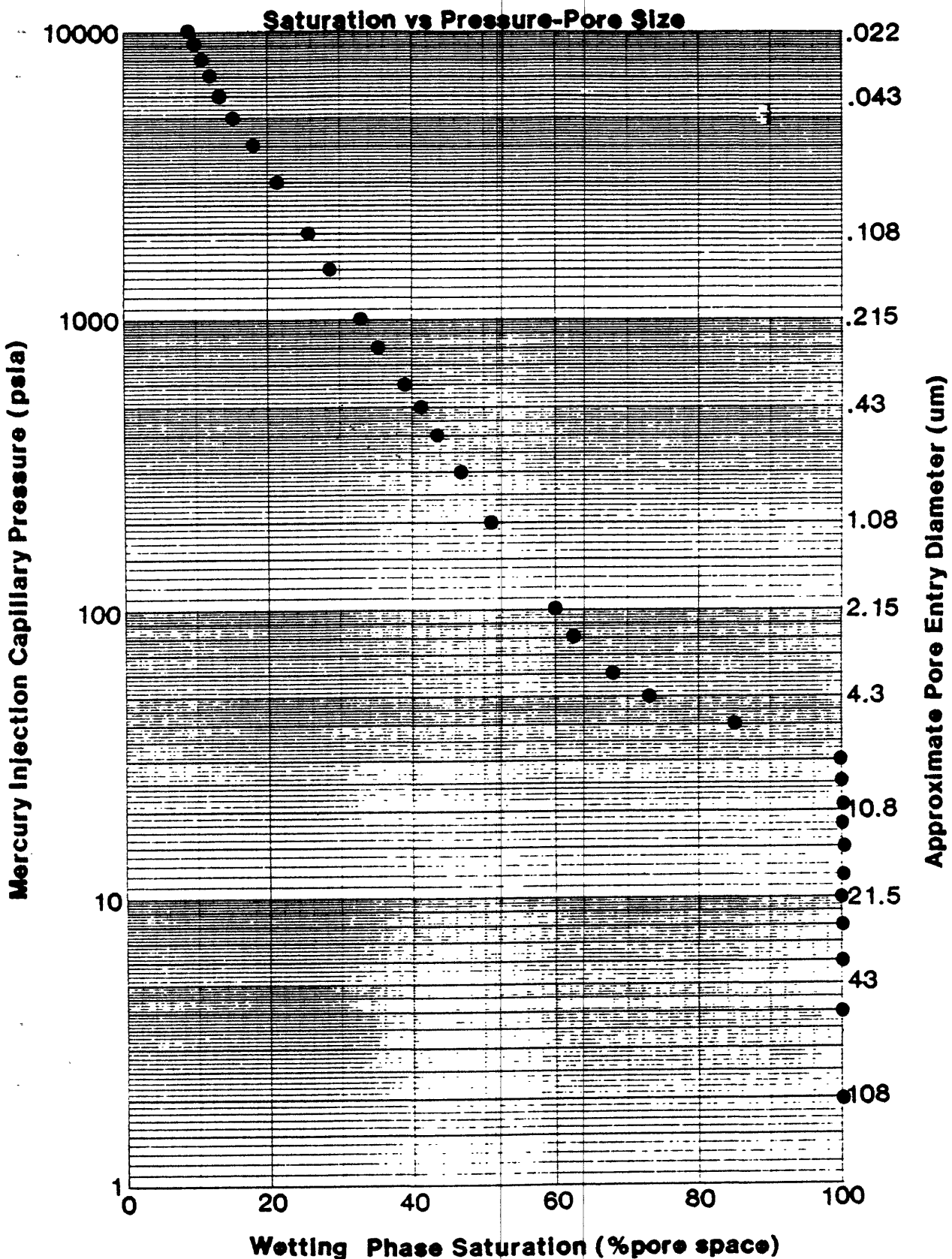
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	99.7	0.3	0.000	5.926	5.66	14.1	0.00	100.00
40	5.37	84.9	14.8	0.008	4.444	7.55	18.8	1.91	65.59
50	4.30	73.1	11.8	0.017	3.556	9.44	23.5	8.93	19.59
60	3.58	68.1	5.1	0.021	2.963	11.33	28.2	13.76	6.26
80	2.69	62.5	5.6	0.027	2.222	15.10	37.6	20.05	2.70
100	2.15	59.5	3.0	0.031	1.778	18.88	47.0	23.85	1.02
200	1.08	51.3	8.2	0.054	0.889	37.76	93.9	35.08	0.37
300	.717	46.8	4.5	0.073	0.593	56.63	140.9	41.93	0.07
400	.537	43.6	3.2	0.091	0.444	75.51	187.8	47.25	0.03
500	.430	41.1	2.5	0.108	0.356	94.39	234.8	51.55	0.01
600	.358	39.0	2.1	0.126	0.296	113.27	281.8	55.28	0.01
800	.268	35.5	3.4	0.164	0.222	151.02	375.7	61.72	0.00
1000	.215	33.0	2.6	0.200	0.178	188.78	469.6	66.73	0.00
1500	.143	28.4	4.6	0.295	0.119	283.17	704.4	76.15	0.00
2000	.107	25.3	3.1	0.383	0.089	377.56	939.2	83.00	0.00
3000	.072	21.2	4.1	0.554	0.059	566.34	1408.8	92.34	0.00
4000	.054	18.0	3.2	0.733	0.044	755.12	1878.4	100.00	0.00
5000	.043	15.6	2.4	0.897	0.036	943.91	2348.0	100.00	0.00
6000	.035	13.7	1.9	1.054	0.030	1132.69	2817.6	100.00	0.00
7000	.031	12.2	1.6	1.208	0.025	1321.47	3287.2	100.00	0.00
8000	.027	10.9	1.2	1.345	0.022	1510.25	3756.8	100.00	0.00
9000	.024	9.9	1.0	1.474	0.020	1699.03	4226.4	100.00	0.00
10000	.022	9.0	0.9	1.593	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-932

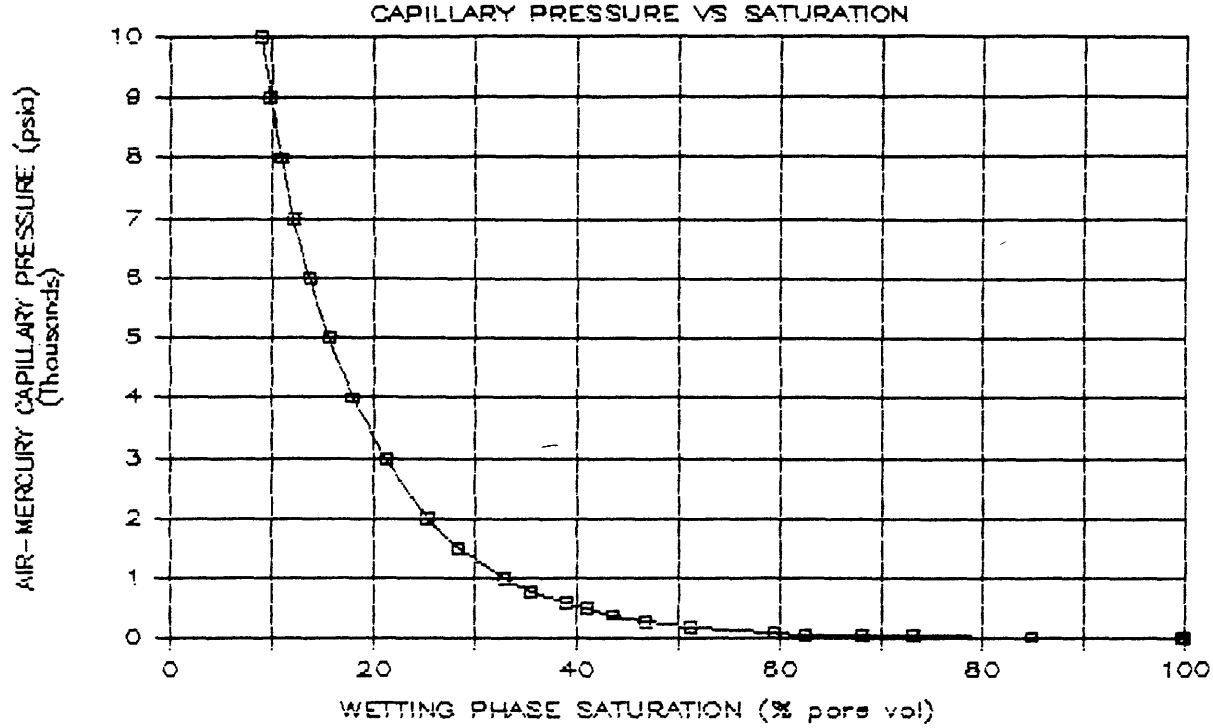


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

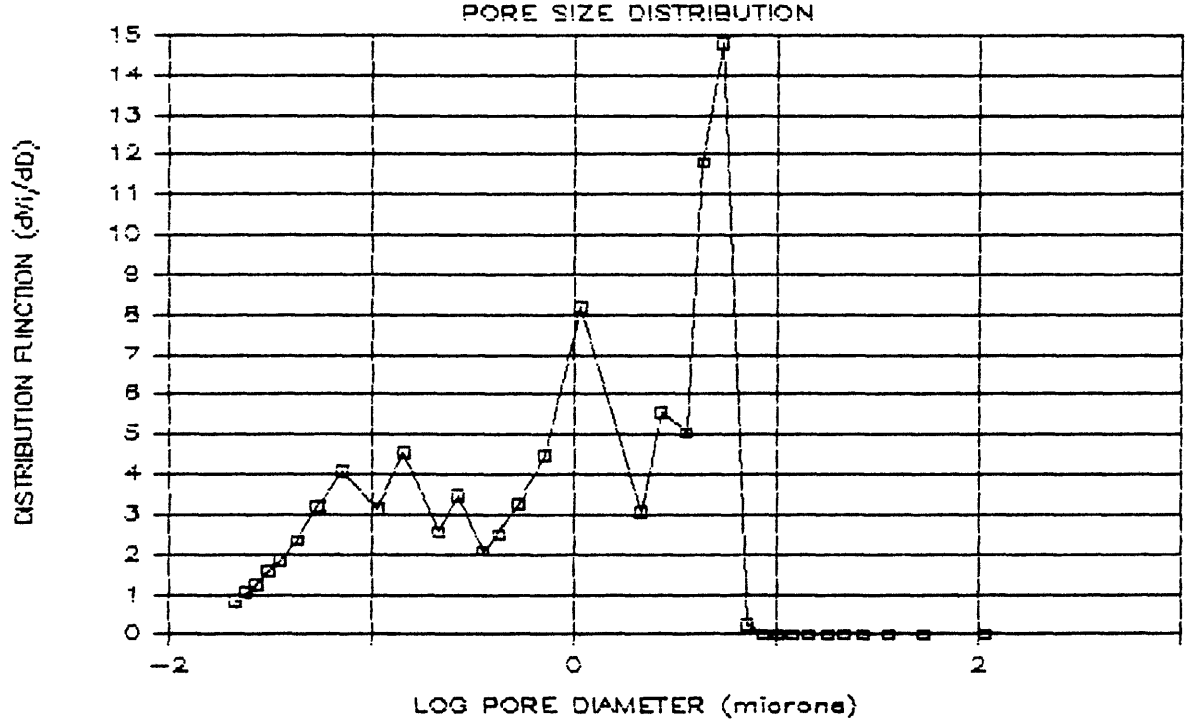
BIA Southern Ute 2-932

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-932

PORE SIZE DISTRIBUTION

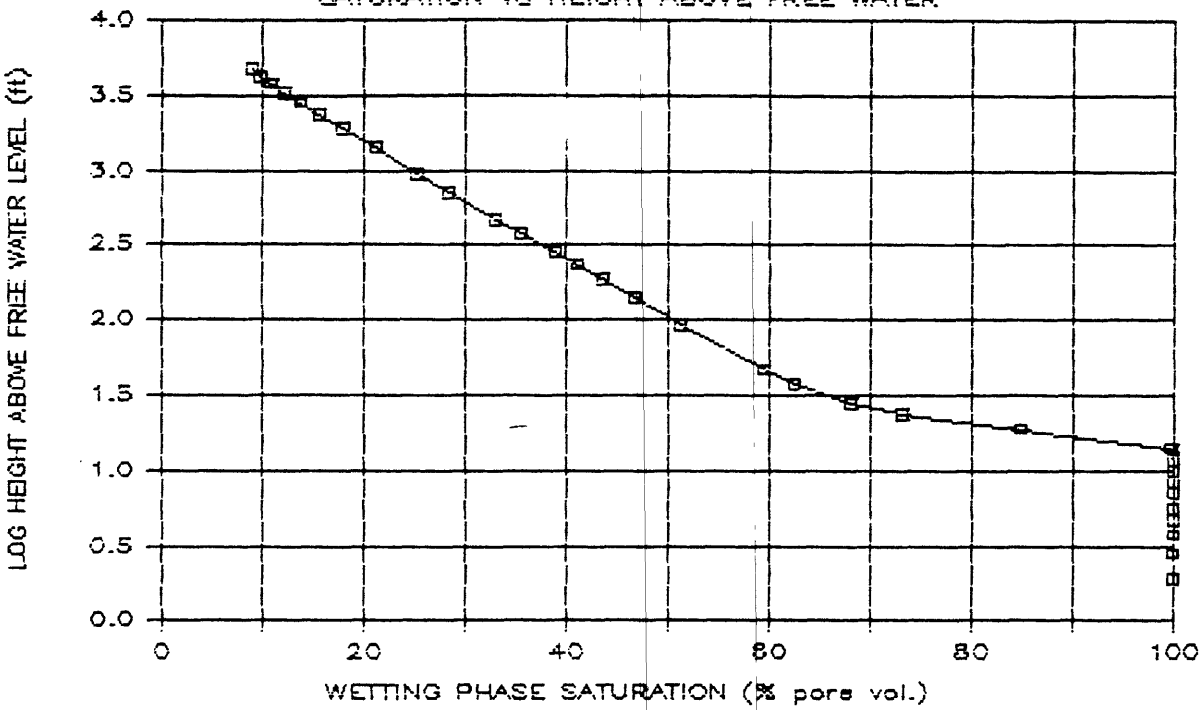


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

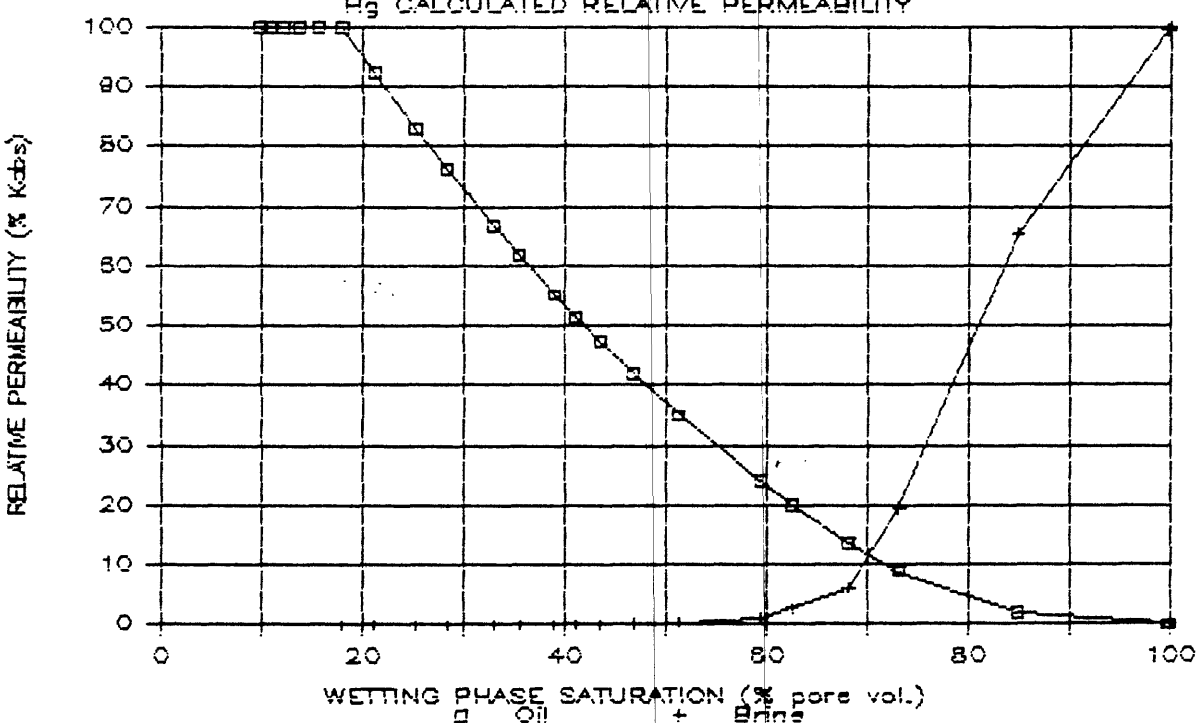
BIA Southern Ute 2-932

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-932

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-961.5

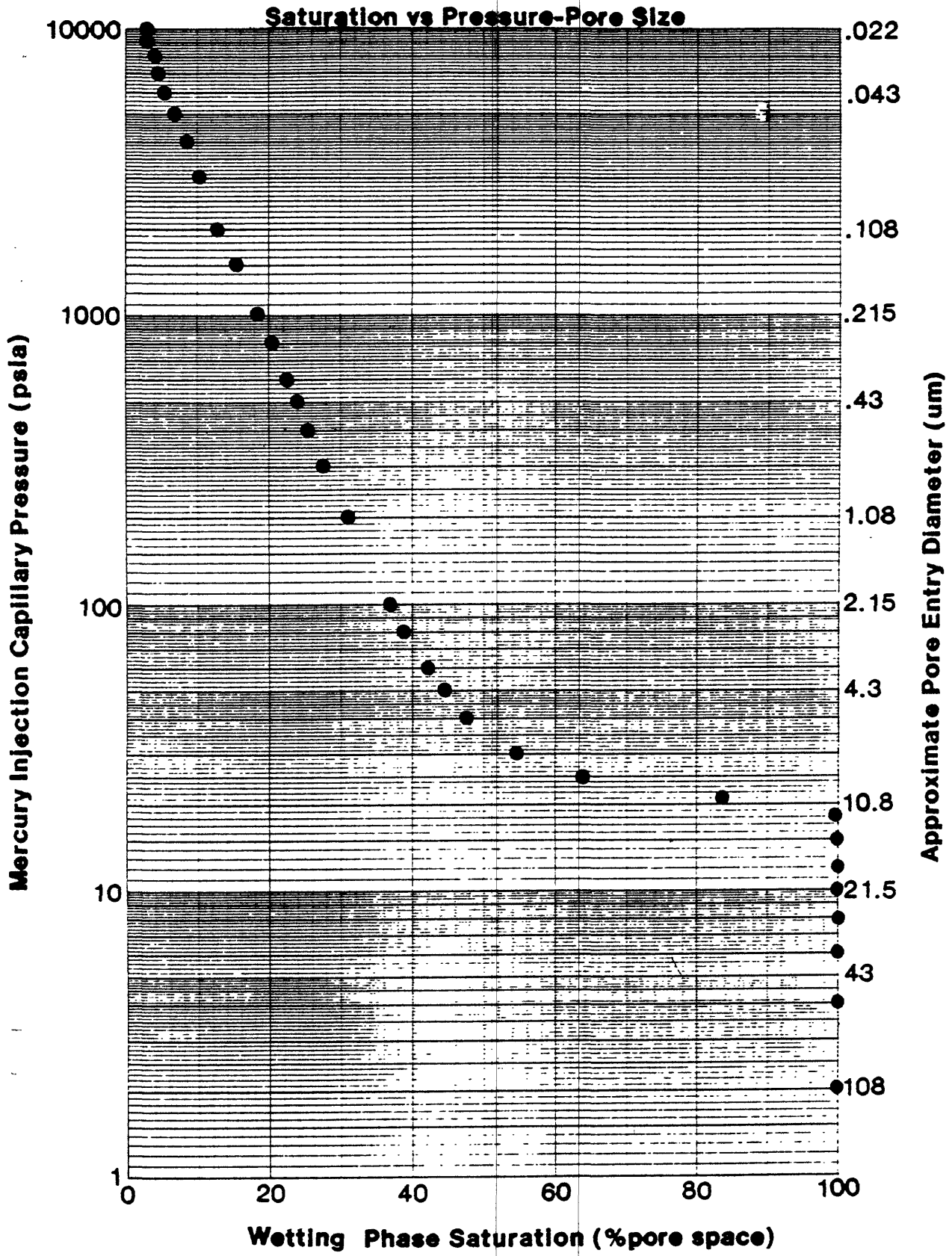
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	99.7	0.3	0.000	11.852	2.83	7.0	0.00	100.00
18	11.9	98.8	0.9	0.000	9.877	3.40	8.5	0.00	95.73
21	10.2	83.7	15.1	0.005	8.466	3.96	9.9	1.36	64.31
25	8.60	64.0	19.7	0.011	7.111	4.72	11.7	12.17	20.98
30	7.17	54.8	9.3	0.015	5.926	5.66	14.1	22.17	5.37
40	5.37	47.6	7.1	0.019	4.444	7.55	18.8	31.53	1.67
50	4.30	44.5	3.1	0.021	3.556	9.44	23.5	35.90	0.54
60	3.58	42.2	2.4	0.023	2.963	11.33	28.2	39.32	0.27
80	2.69	39.0	3.2	0.027	2.222	15.10	37.6	44.04	0.14
100	2.15	36.8	2.3	0.030	1.778	18.88	47.0	47.50	0.06
200	1.08	30.9	5.9	0.046	0.889	37.76	93.9	56.91	0.02
300	.717	27.8	3.0	0.059	0.593	56.63	140.9	62.06	0.00
400	.537	25.7	2.1	0.071	0.444	75.51	187.8	65.80	0.00
500	.430	24.0	1.7	0.083	0.356	94.39	234.8	68.87	0.00
600	.358	22.7	1.2	0.093	0.296	113.27	281.8	71.09	0.00
800	.268	20.2	2.6	0.121	0.222	151.02	375.7	75.93	0.00
1000	.215	18.6	1.6	0.143	0.178	188.78	469.6	79.01	0.00
1500	.143	15.6	3.0	0.206	0.119	283.17	704.4	84.95	0.00
2000	.107	13.4	2.2	0.266	0.089	377.56	939.2	89.42	0.00
3000	.072	10.6	2.8	0.382	0.059	566.34	1408.8	95.27	0.00
4000	.054	8.4	2.2	0.503	0.044	755.12	1878.4	100.00	0.00
5000	.043	6.8	1.6	0.612	0.036	943.91	2348.0	100.00	0.00
6000	.035	5.6	1.2	0.709	0.030	1132.69	2817.6	100.00	0.00
7000	.031	4.8	0.9	0.792	0.025	1321.47	3287.2	100.00	0.00
8000	.027	4.0	0.7	0.874	0.022	1510.25	3756.8	100.00	0.00
9000	.024	3.3	0.7	0.966	0.020	1699.03	4226.4	100.00	0.00
10000	.022	2.9	0.4	1.020	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

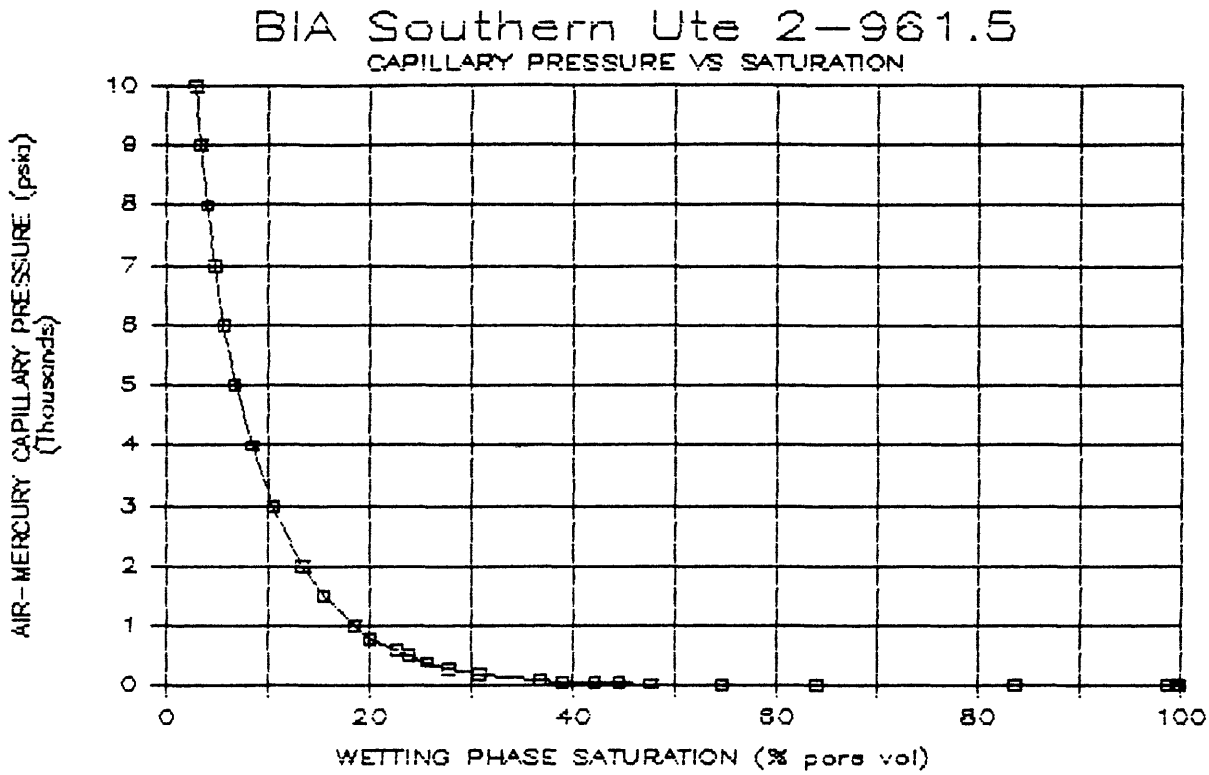
Company: **USGS Denver**

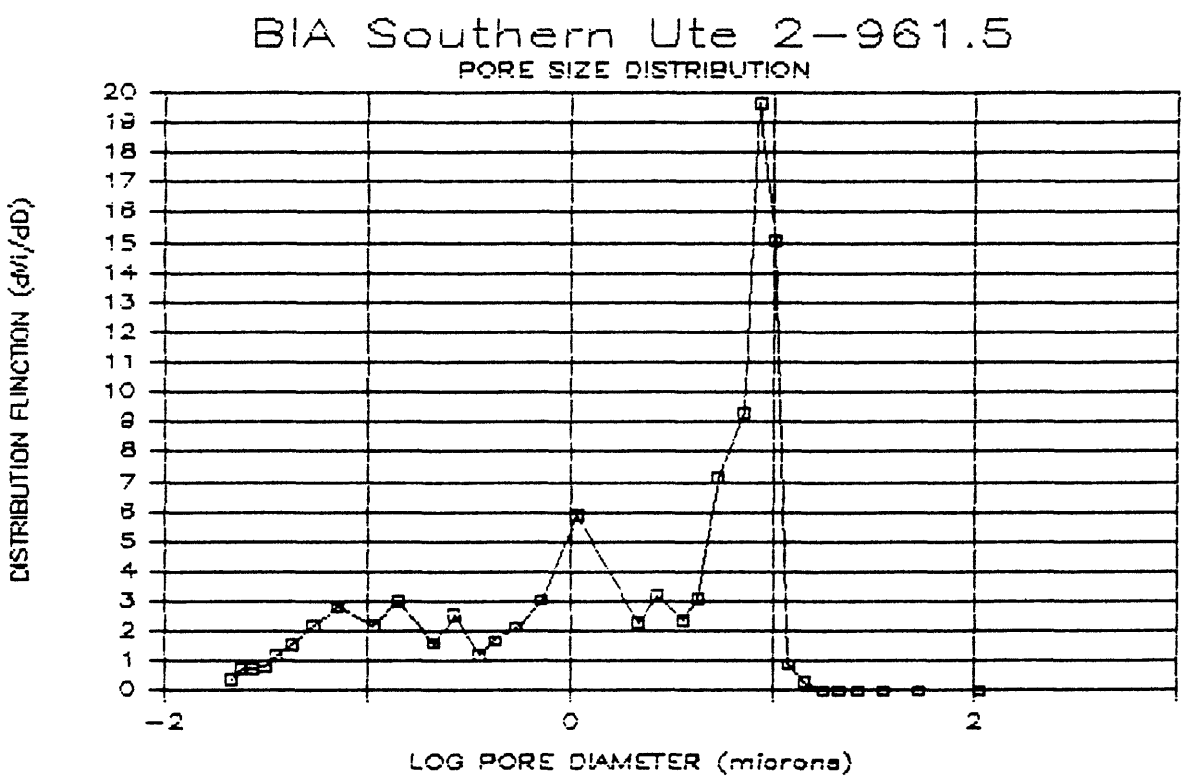
BIA SOUTHERN UTE 2-961



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



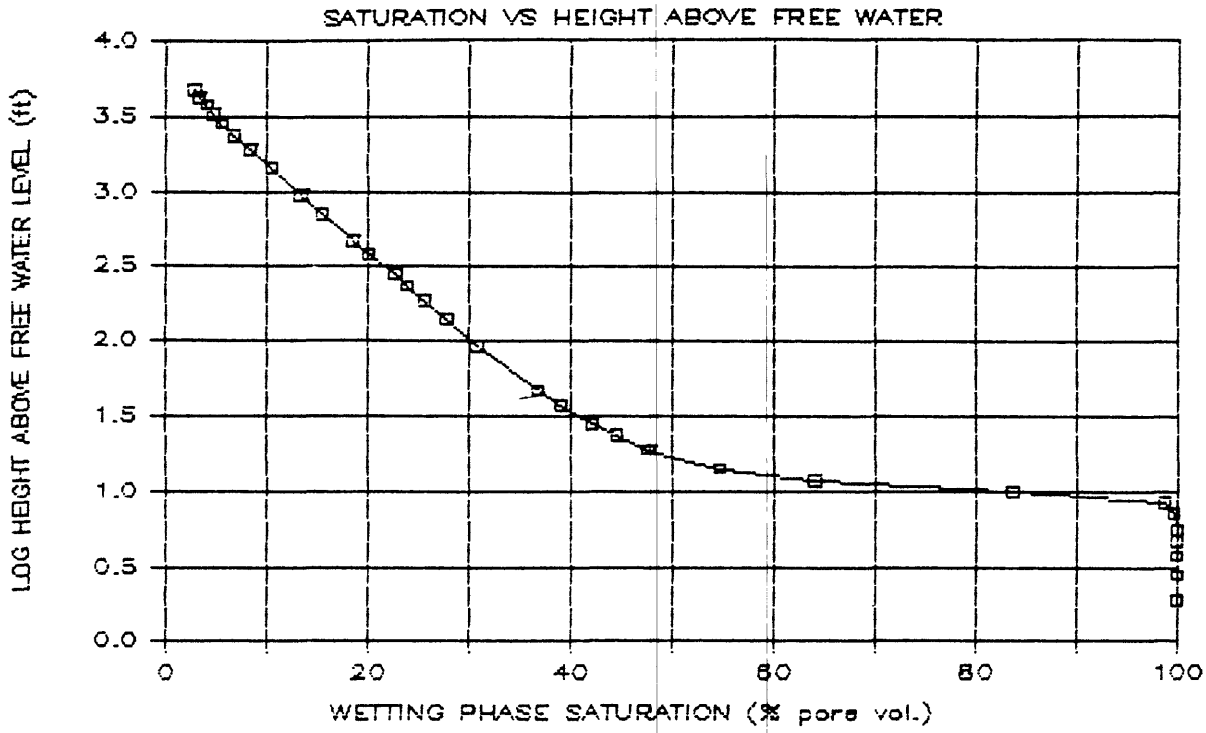


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

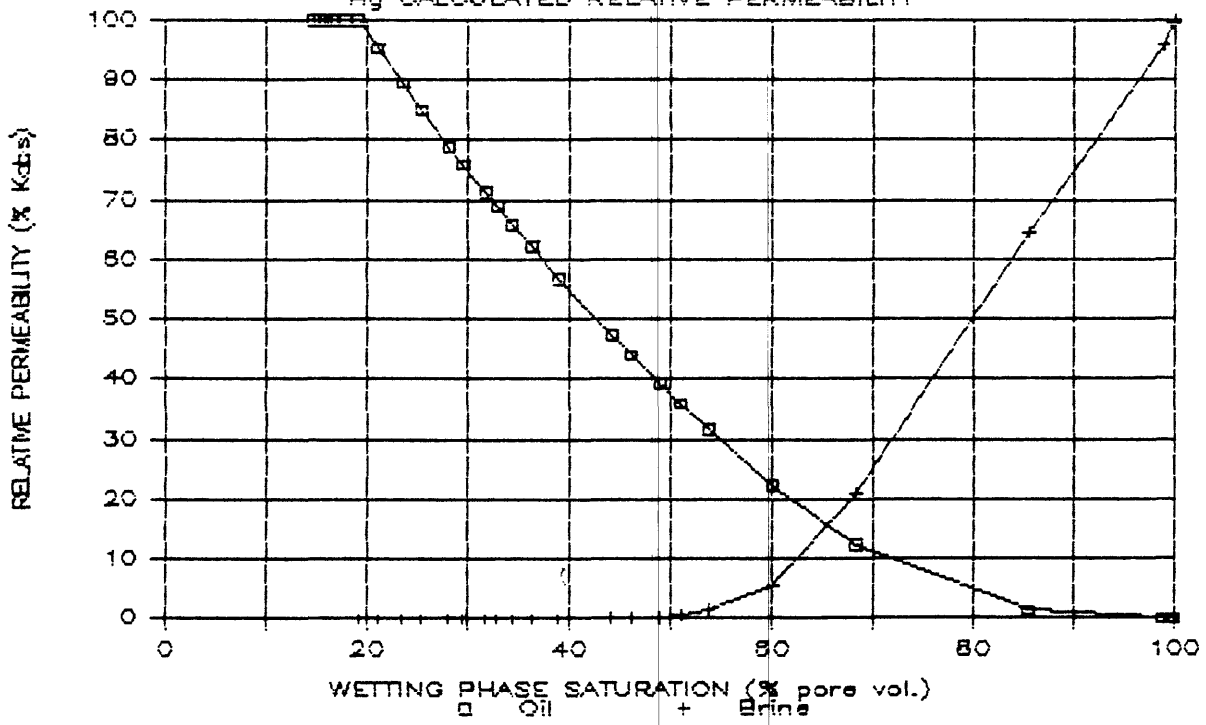
BIA Southern Ute 2-961.5

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-961.5

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-972

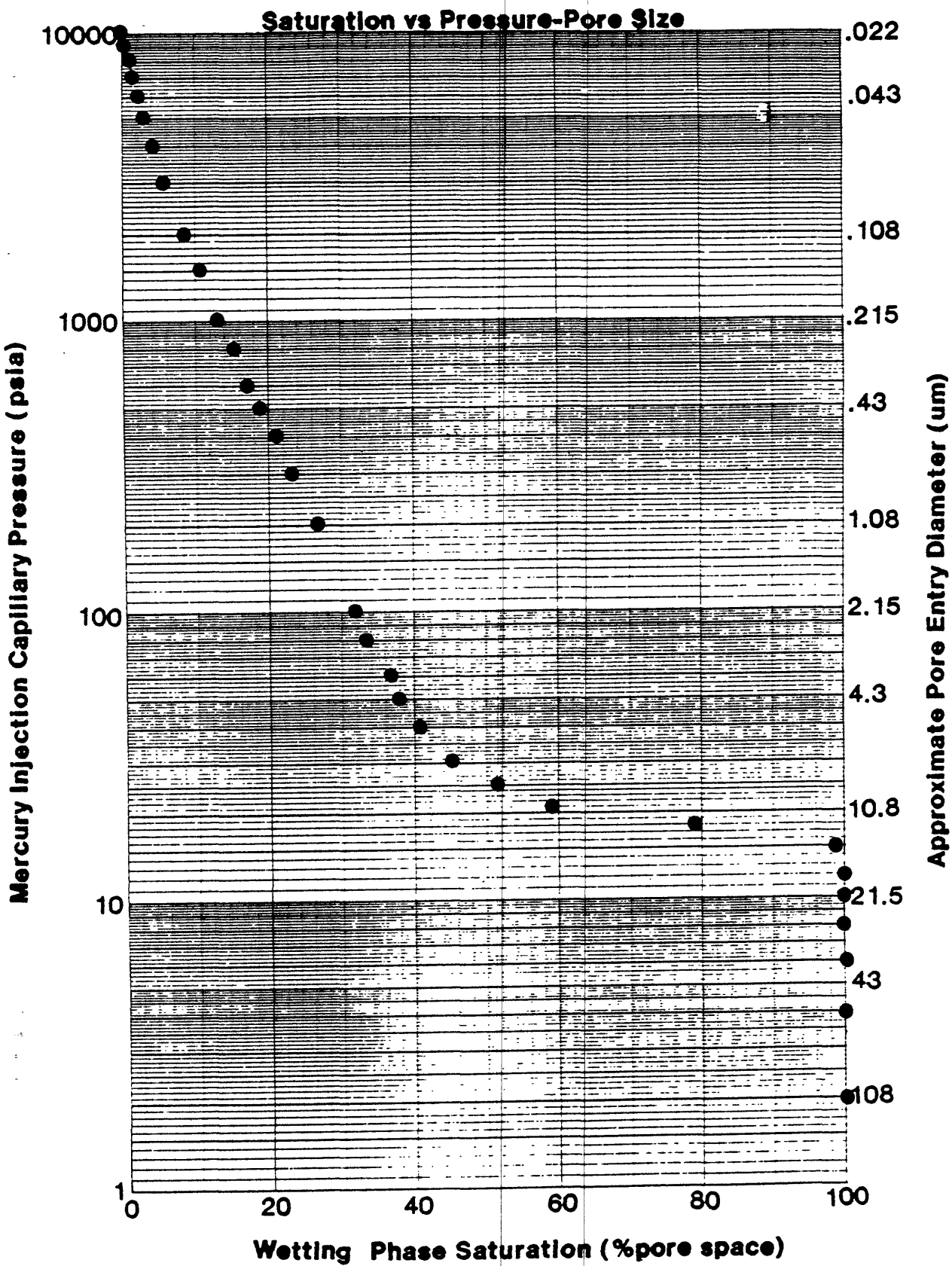
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	99.8	0.2	0.000	17.778	1.89	4.7	0.00	100.00
12	17.9	99.7	0.2	0.000	14.815	2.27	5.6	0.00	98.11
15	14.3	98.8	0.8	0.000	11.852	2.83	7.0	0.00	95.44
18	11.9	78.9	19.9	0.006	9.877	3.40	8.5	2.44	57.70
21	10.2	59.4	19.5	0.012	8.466	3.96	9.9	14.67	16.56
25	8.60	51.4	8.0	0.015	7.111	4.72	11.7	23.38	4.46
30	7.17	45.5	6.0	0.017	5.926	5.66	14.1	31.03	1.69
40	5.37	40.6	4.9	0.020	4.444	7.55	18.8	37.78	0.61
50	4.30	37.9	2.7	0.022	3.556	9.44	23.5	41.62	0.22
60	3.58	36.3	1.6	0.024	2.963	11.33	28.2	43.92	0.11
80	2.69	33.8	2.5	0.027	2.222	15.10	37.6	47.61	0.06
100	2.15	31.9	1.9	0.029	1.778	18.88	47.0	50.51	0.03
200	1.08	26.4	5.4	0.045	0.889	37.76	93.9	58.98	0.01
300	.717	23.3	3.1	0.059	0.593	56.63	140.9	64.08	0.00
400	.537	21.0	2.3	0.073	0.444	75.51	187.8	67.97	0.00
500	.430	19.2	1.9	0.087	0.356	94.39	234.8	71.21	0.00
600	.358	17.7	1.5	0.100	0.296	113.27	281.8	73.83	0.00
800	.268	15.3	2.4	0.128	0.222	151.02	375.7	78.15	0.00
1000	.215	13.5	1.8	0.155	0.178	188.78	469.6	81.58	0.00
1500	.143	10.5	3.0	0.222	0.119	283.17	704.4	87.32	0.00
2000	.107	8.6	1.9	0.279	0.089	377.56	939.2	91.11	0.00
3000	.072	5.9	2.7	0.397	0.059	566.34	1408.8	96.48	0.00
4000	.054	4.2	1.7	0.498	0.044	755.12	1878.4	100.00	0.00
5000	.043	3.0	1.2	0.587	0.036	943.91	2348.0	100.00	0.00
6000	.035	2.2	0.8	0.659	0.030	1132.69	2817.6	100.00	0.00
7000	.031	1.5	0.7	0.731	0.025	1321.47	3287.2	100.00	0.00
8000	.027	0.9	0.6	0.803	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.4	0.4	0.863	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.1	0.3	0.913	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCosO= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-972

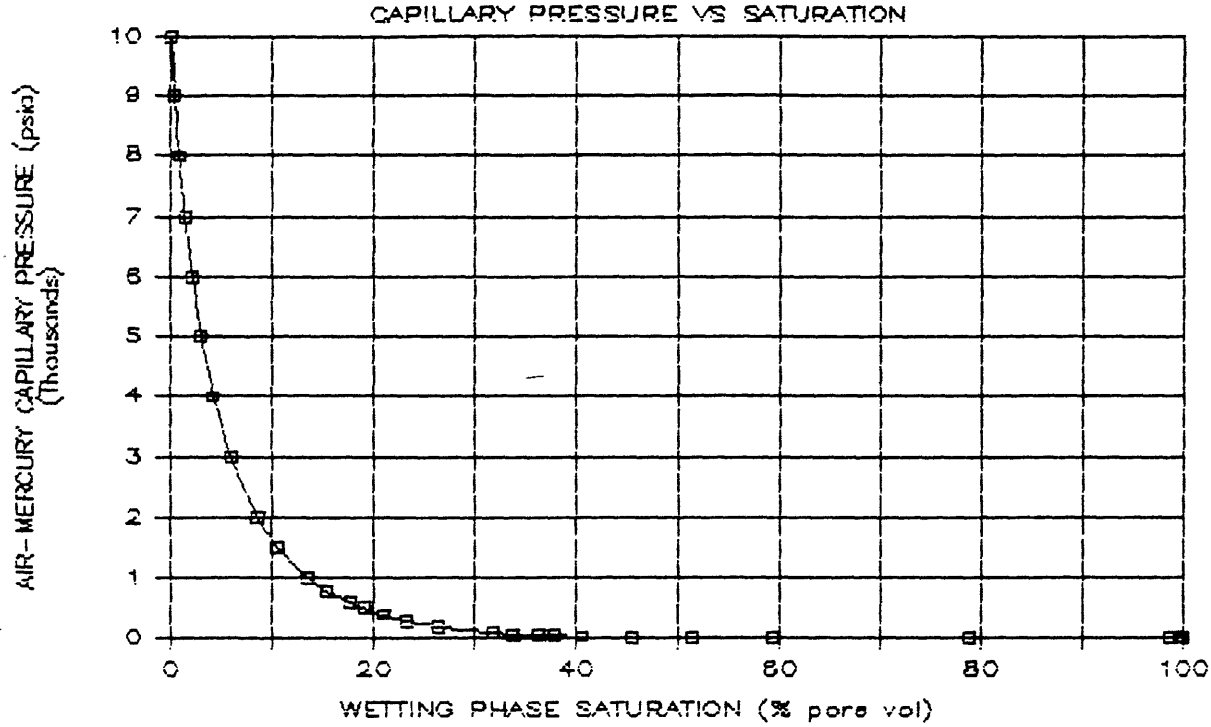


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

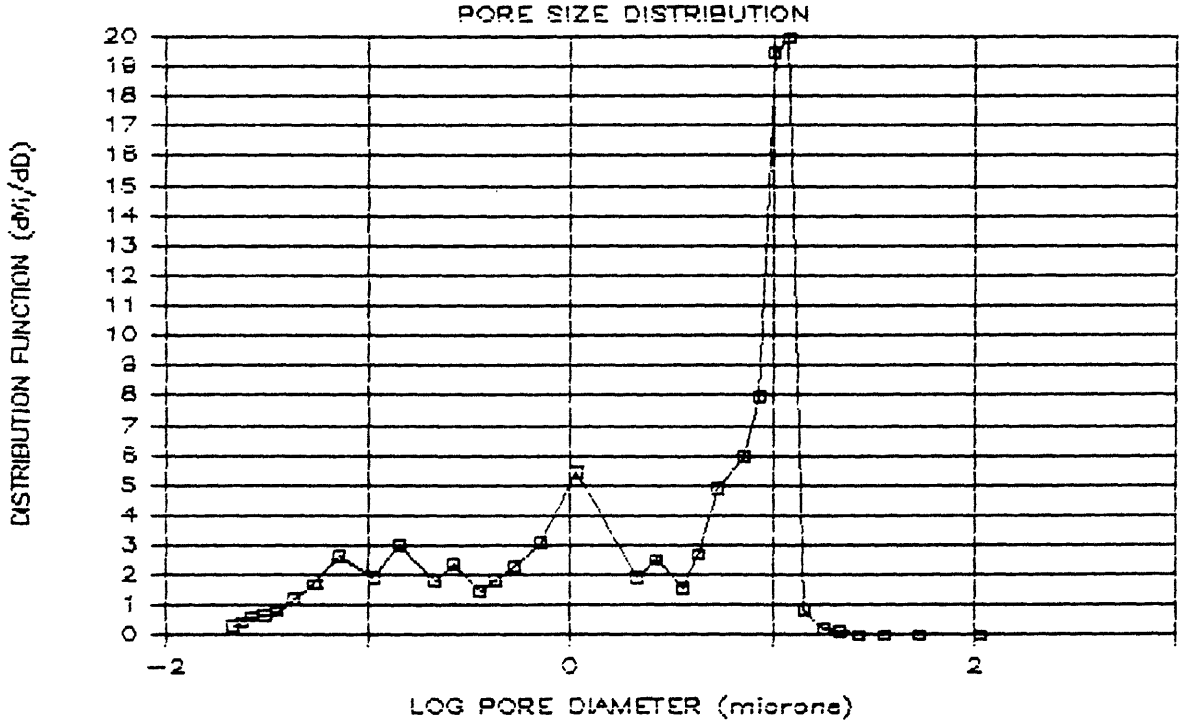
BIA Southern Ute 2-972

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-972

PORE SIZE DISTRIBUTION

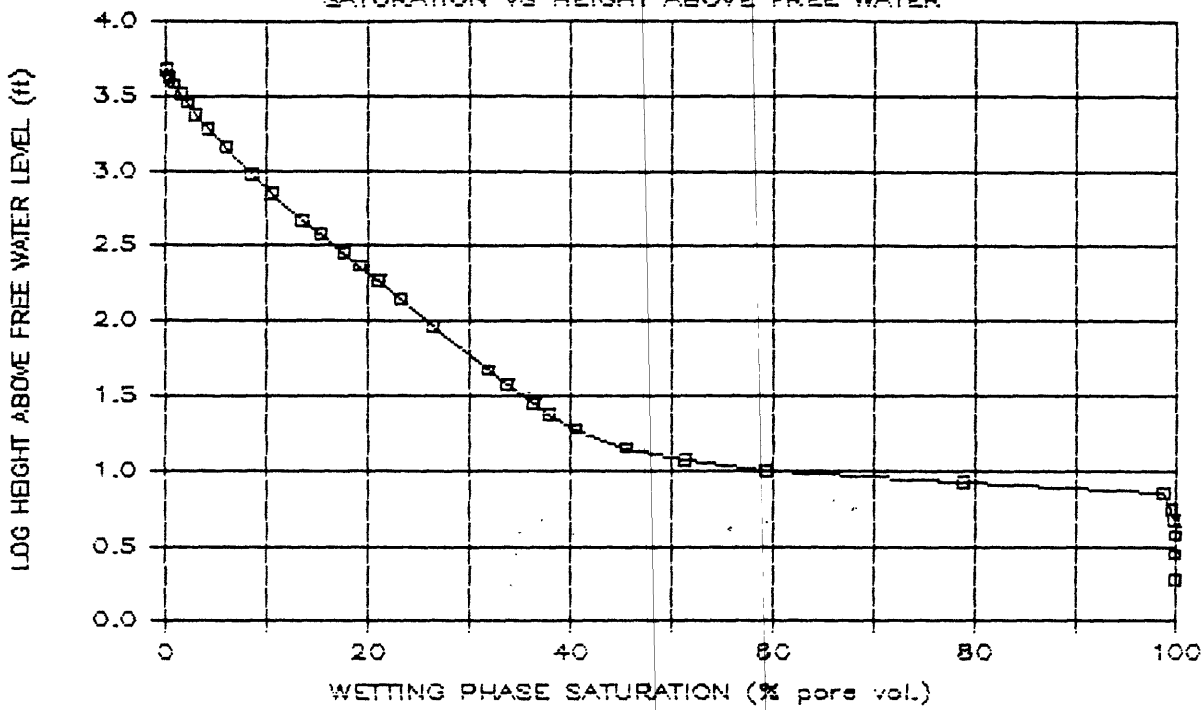


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

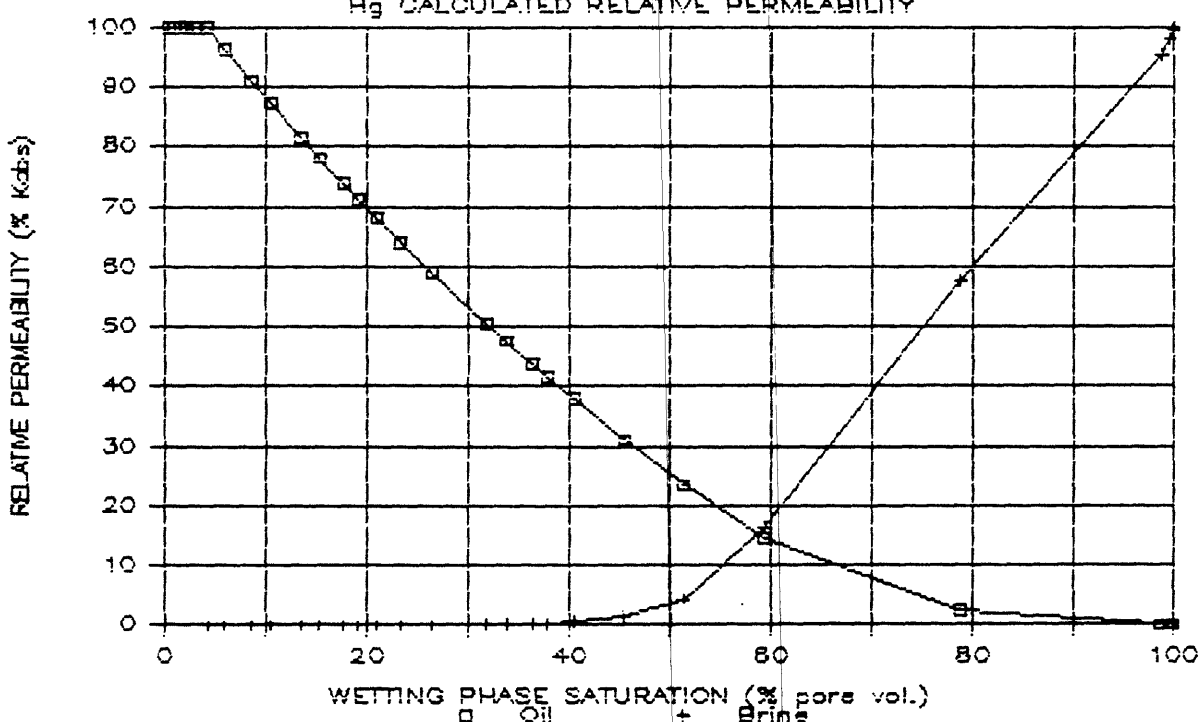
BIA Southern Ute 2-972

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-972

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1006

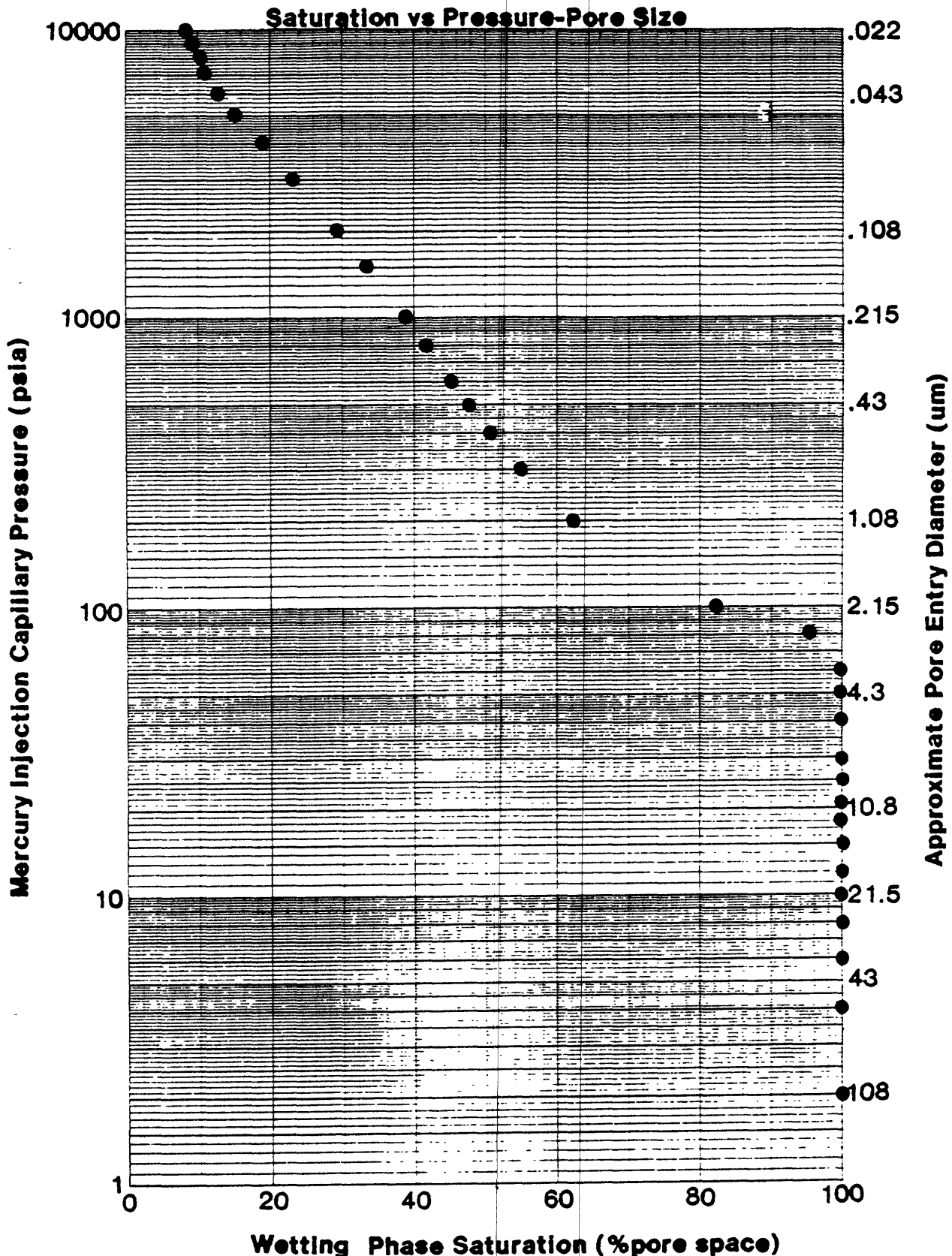
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	95.5	4.5	0.004	2.222	15.10	37.6	0.08	89.19
100	2.15	82.3	13.2	0.019	1.778	18.88	47.0	3.37	45.57
200	1.08	62.4	19.9	0.064	0.889	37.76	93.9	20.41	8.50
300	.717	55.3	7.2	0.089	0.593	56.63	140.9	29.93	1.05
400	.537	50.9	4.3	0.108	0.444	75.51	187.8	36.33	0.32
500	.430	47.8	3.2	0.126	0.356	94.39	234.8	41.37	0.14
600	.358	45.8	1.9	0.140	0.296	113.27	281.8	44.59	0.07
800	.268	42.0	3.8	0.174	0.222	151.02	375.7	51.22	0.04
1000	.215	39.0	3.0	0.208	0.178	188.78	469.6	56.68	0.02
1500	.143	33.6	5.5	0.301	0.119	283.17	704.4	67.35	0.01
2000	.107	29.5	4.1	0.394	0.089	377.56	939.2	75.93	0.00
3000	.072	23.4	6.0	0.600	0.059	566.34	1408.8	89.49	0.00
4000	.054	19.1	4.4	0.798	0.044	755.12	1878.4	99.99	0.00
5000	.043	15.7	3.4	0.991	0.036	943.91	2348.0	100.00	0.00
6000	.035	13.5	2.2	1.142	0.030	1132.69	2817.6	100.00	0.00
7000	.031	11.8	1.7	1.276	0.025	1321.47	3287.2	100.00	0.00
8000	.027	10.4	1.4	1.399	0.022	1510.25	3756.8	100.00	0.00
9000	.024	9.3	1.1	1.512	0.020	1699.03	4226.4	100.00	0.00
10000	.022	8.3	1.0	1.627	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

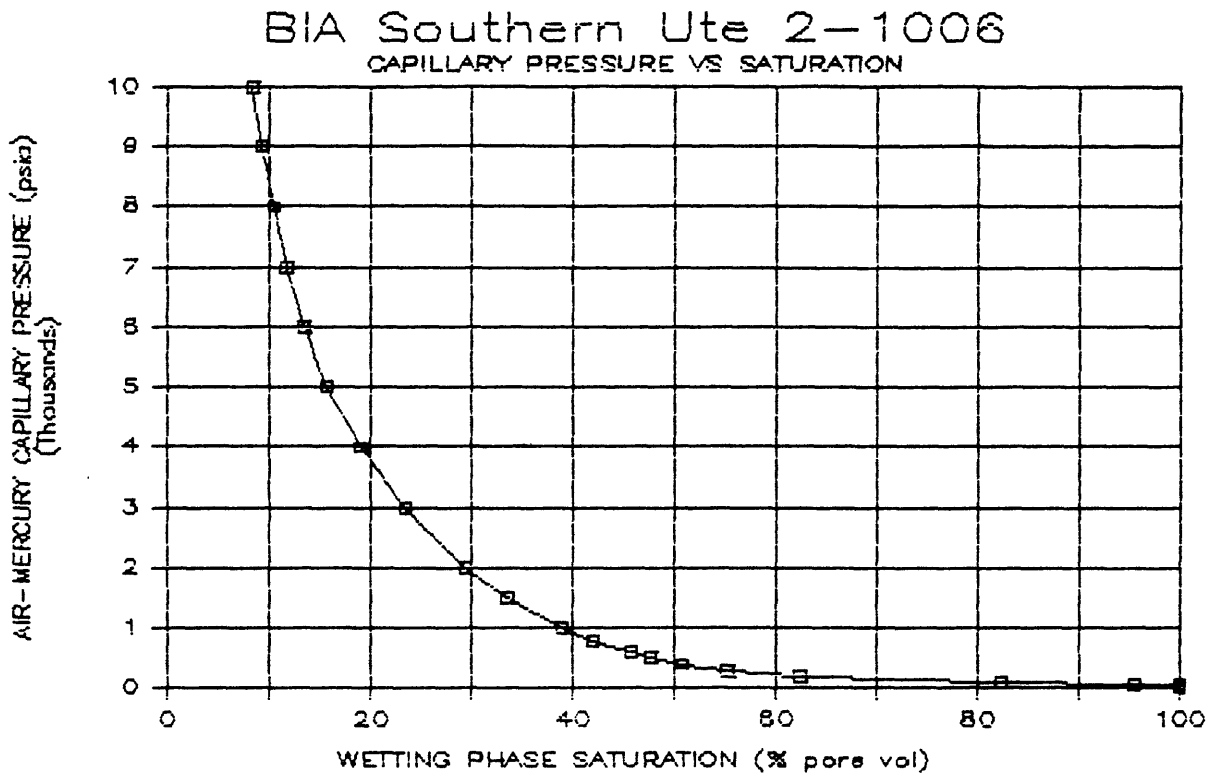
Company: **USGS Denver**

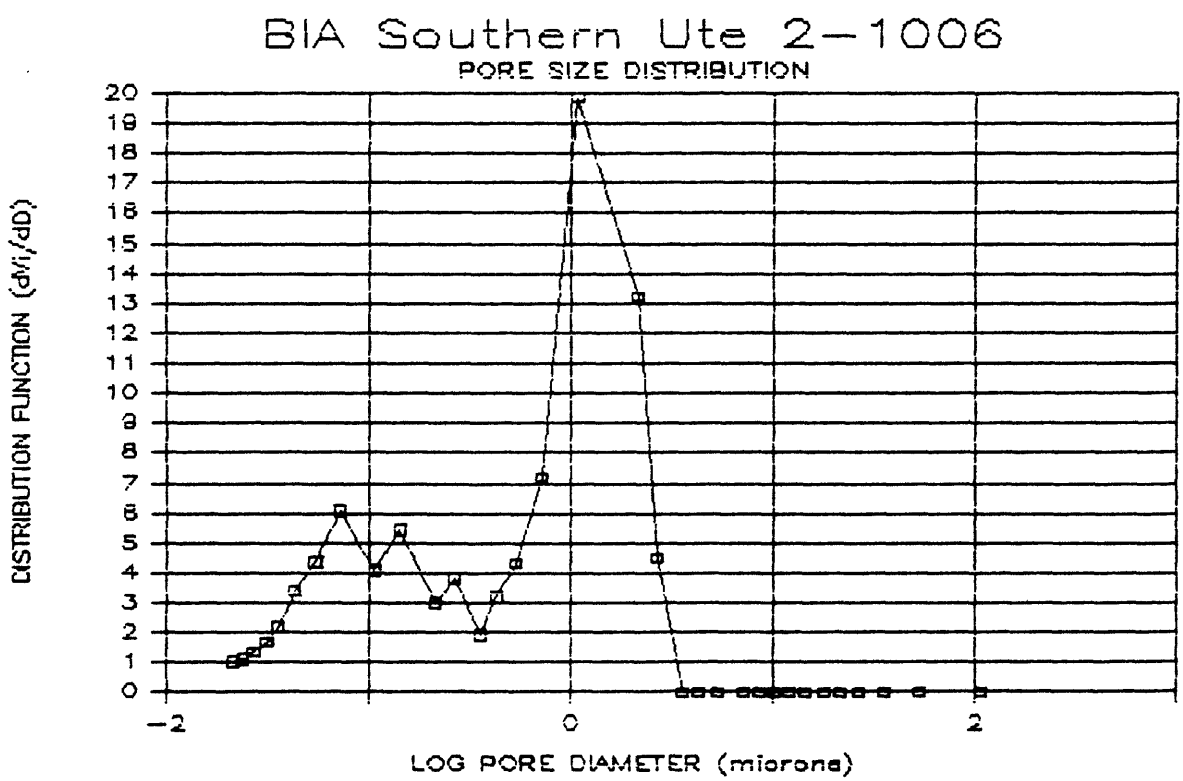
BIA SOUTHERN UTE 2-1006



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



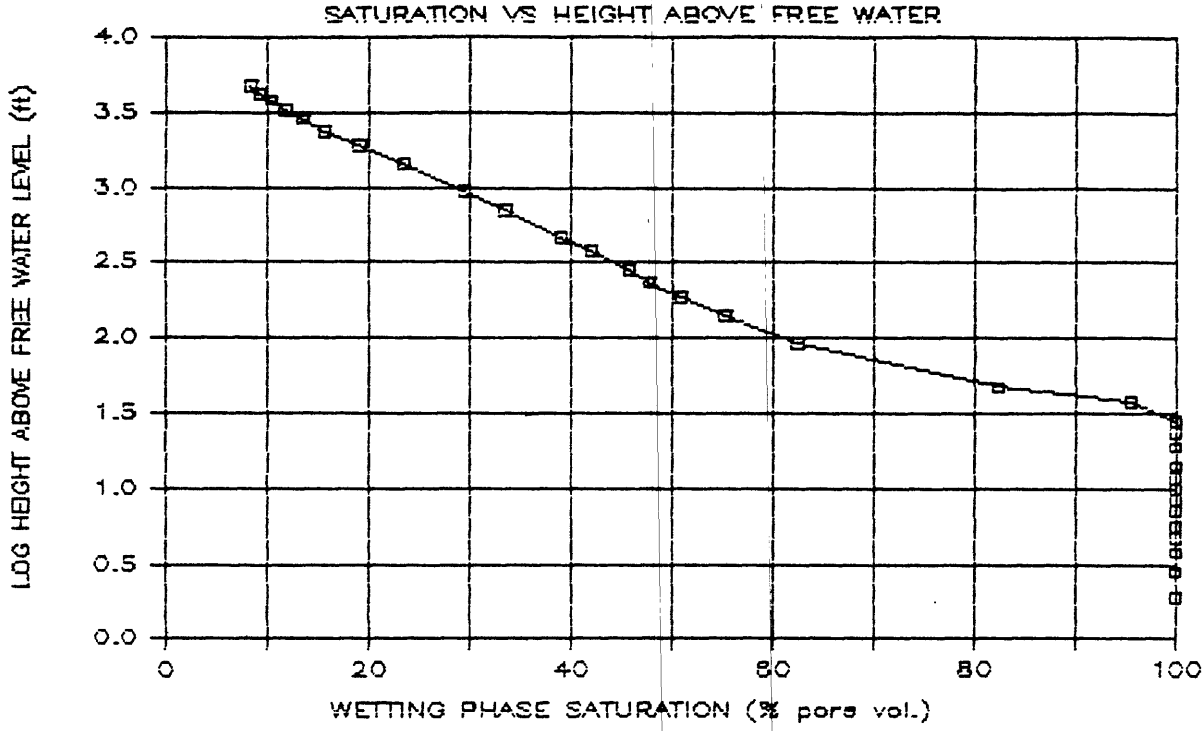


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

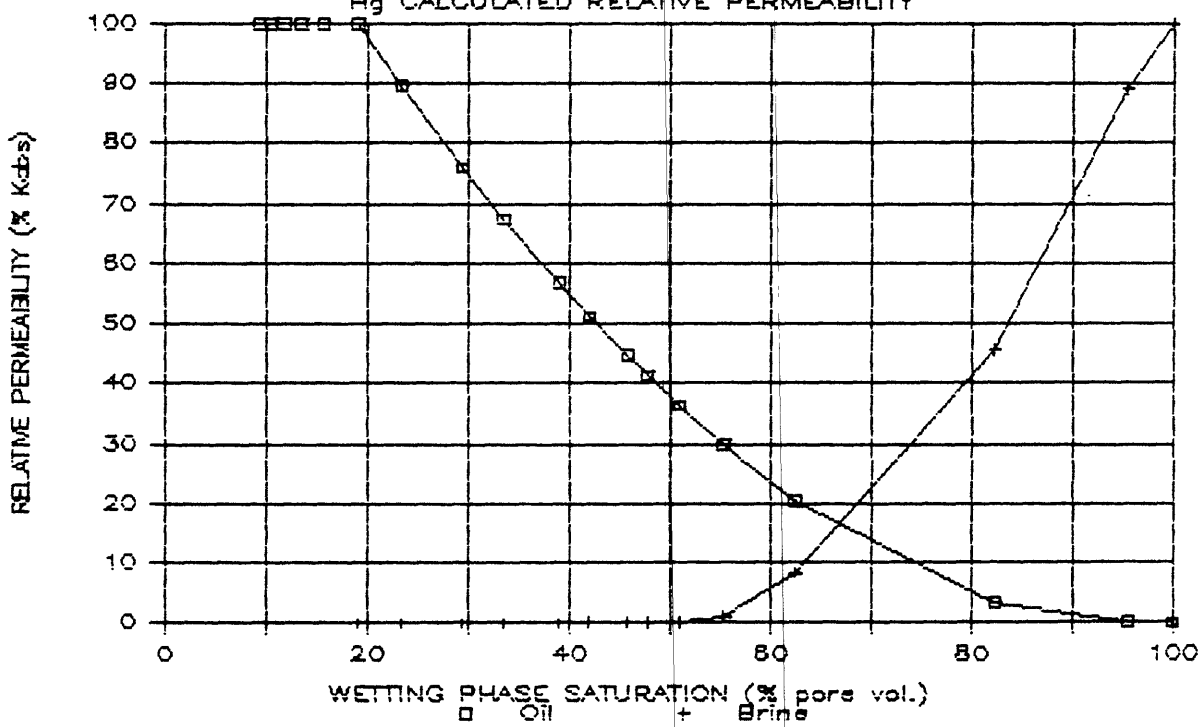
BIA Southern Ute 2-1006

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-1006

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1033.3

Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	100.00
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	100.00
200	1.08	71.8	28.2	0.073	0.889	37.76	93.9	10.06	42.66
300	.717	62.2	9.5	0.110	0.593	56.63	140.9	20.17	4.69
400	.537	56.7	5.6	0.139	0.444	75.51	187.8	27.44	1.34
500	.430	53.5	3.1	0.159	0.356	94.39	234.8	31.91	0.57
600	.358	50.8	2.7	0.180	0.296	113.27	281.8	35.96	0.32
800	.268	45.8	5.0	0.232	0.222	151.02	375.7	43.89	0.16
1000	.215	42.1	3.7	0.280	0.178	188.78	469.6	50.27	0.07
1500	.143	35.3	6.8	0.412	0.119	283.17	704.4	63.00	0.02
2000	.107	30.1	5.2	0.546	0.089	377.56	939.2	73.56	0.00
3000	.072	23.3	6.8	0.809	0.059	566.34	1408.8	88.65	0.00
4000	.054	18.6	4.7	1.054	0.044	755.12	1878.4	99.98	0.00
5000	.043	15.5	3.1	1.253	0.036	943.91	2348.0	99.99	0.00
6000	.035	13.5	2.0	1.407	0.030	1132.69	2817.6	99.99	0.00
7000	.031	11.9	1.6	1.551	0.025	1321.47	3287.2	100.00	0.00
8000	.027	10.6	1.3	1.687	0.022	1510.25	3756.8	100.00	0.00
9000	.024	9.7	0.9	1.789	0.020	1699.03	4226.4	100.00	0.00
10000	.022	8.9	0.8	1.890	0.018	1887.81	4696.0	100.00	0.00

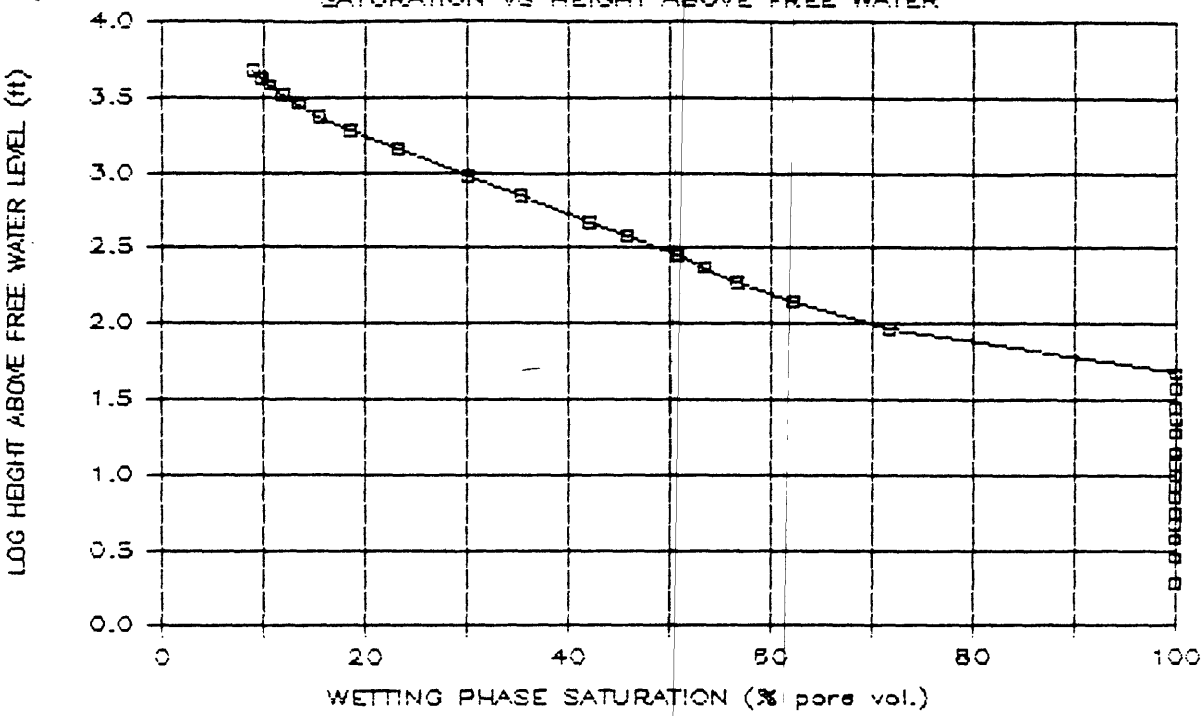
All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

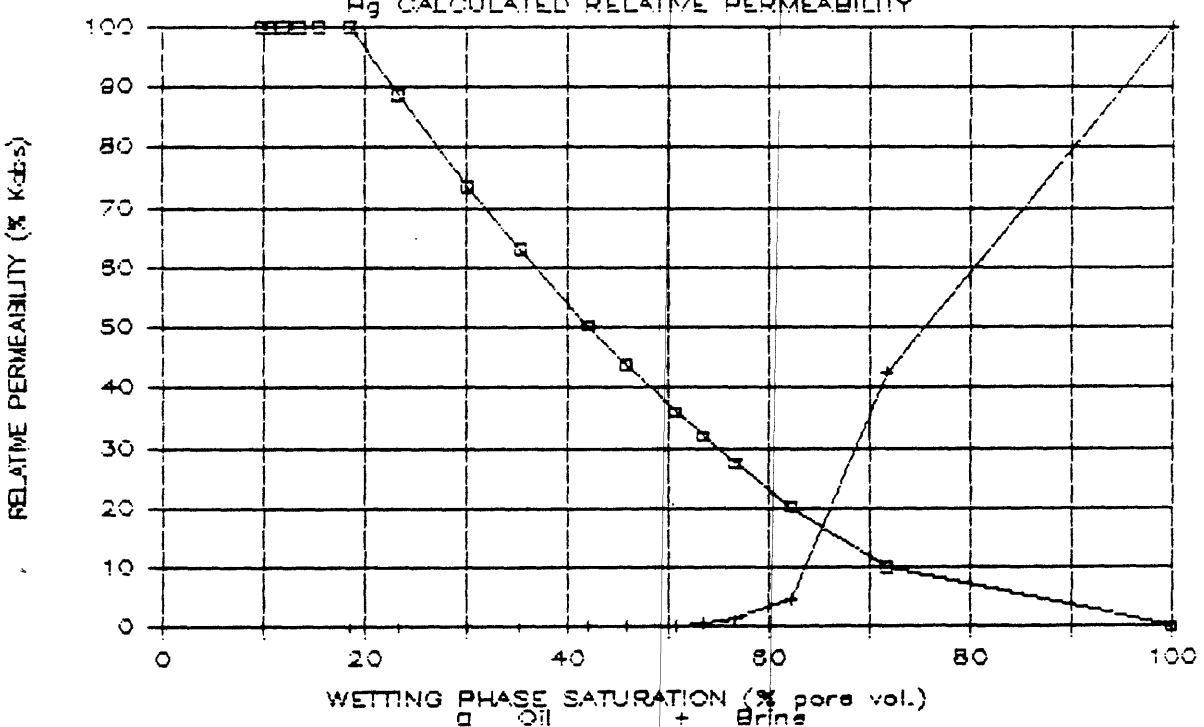
BIA Southern Ute 2—1033.3

SATURATION VS HEIGHT ABOVE FREE WATER



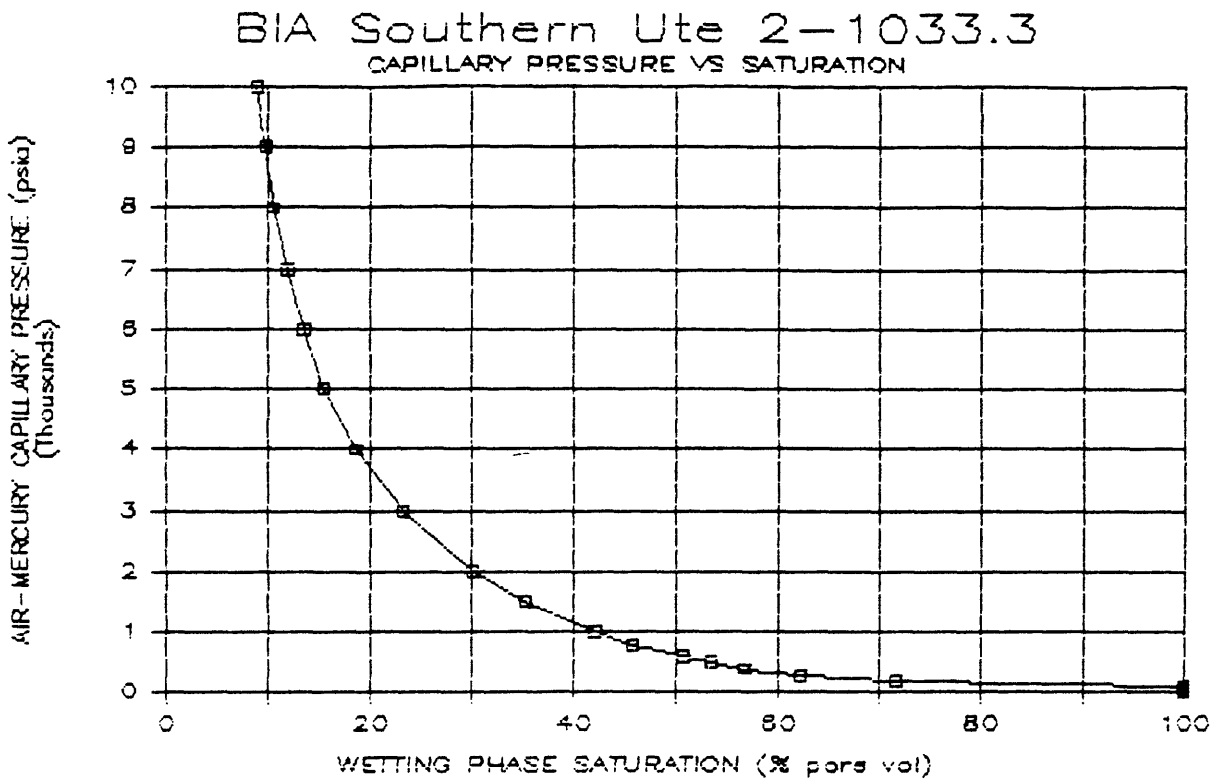
BIA Southern Ute 2—1033.3

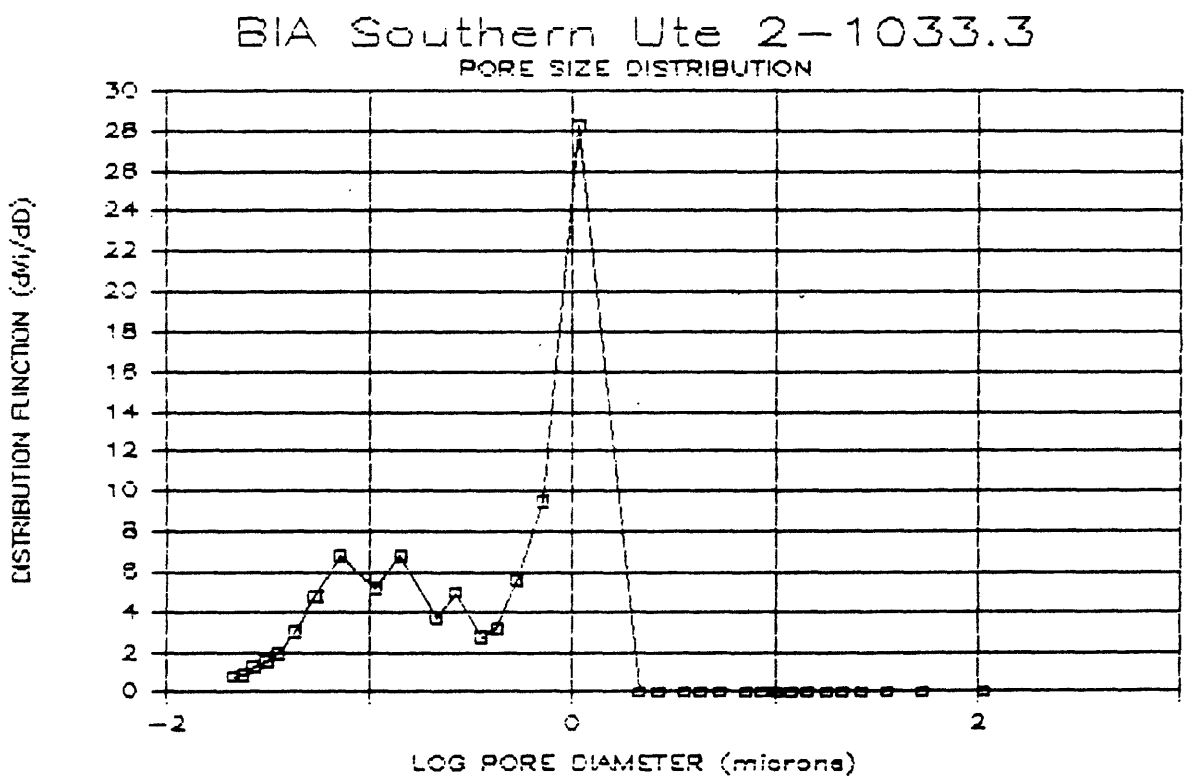
Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

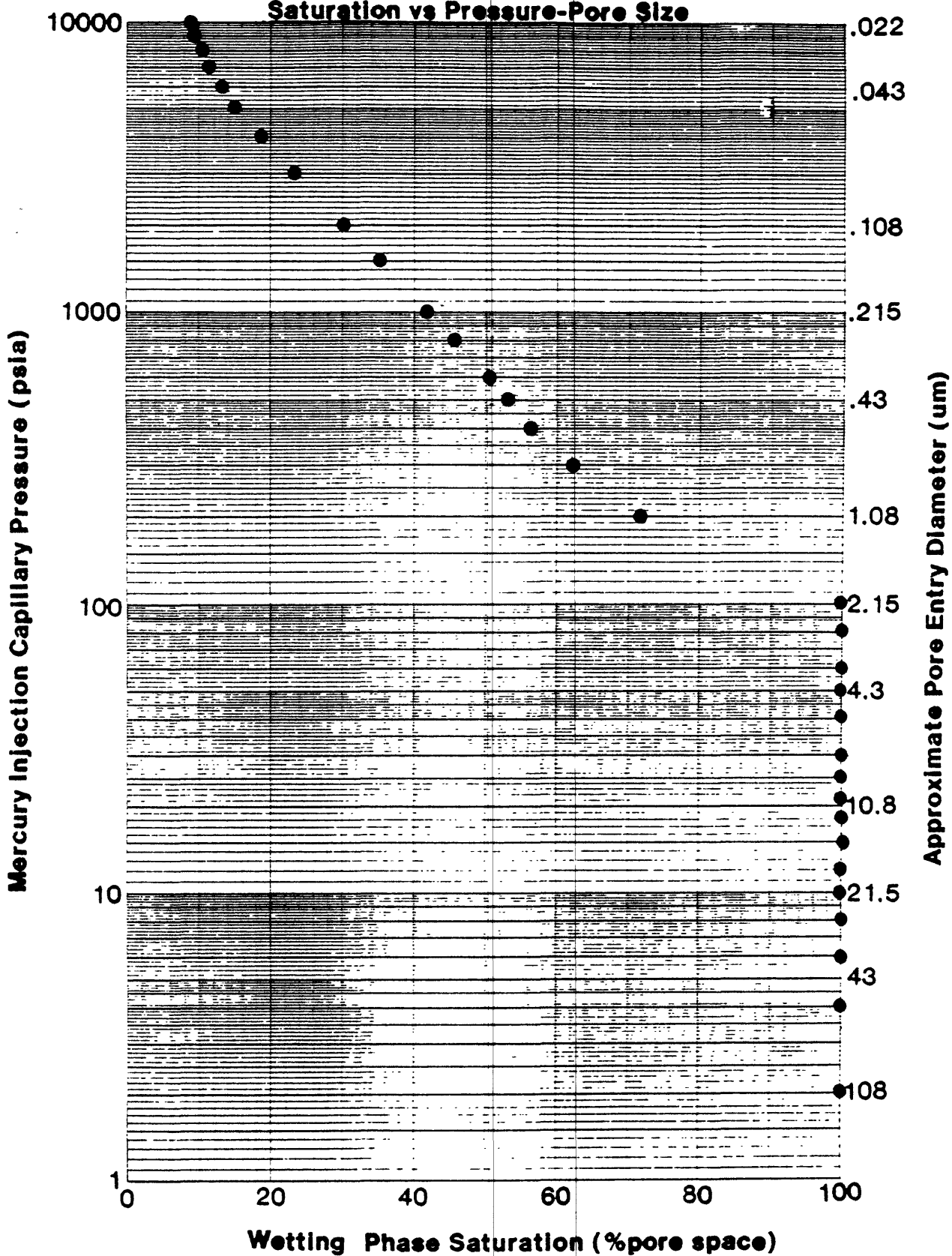




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-1033.3



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1041

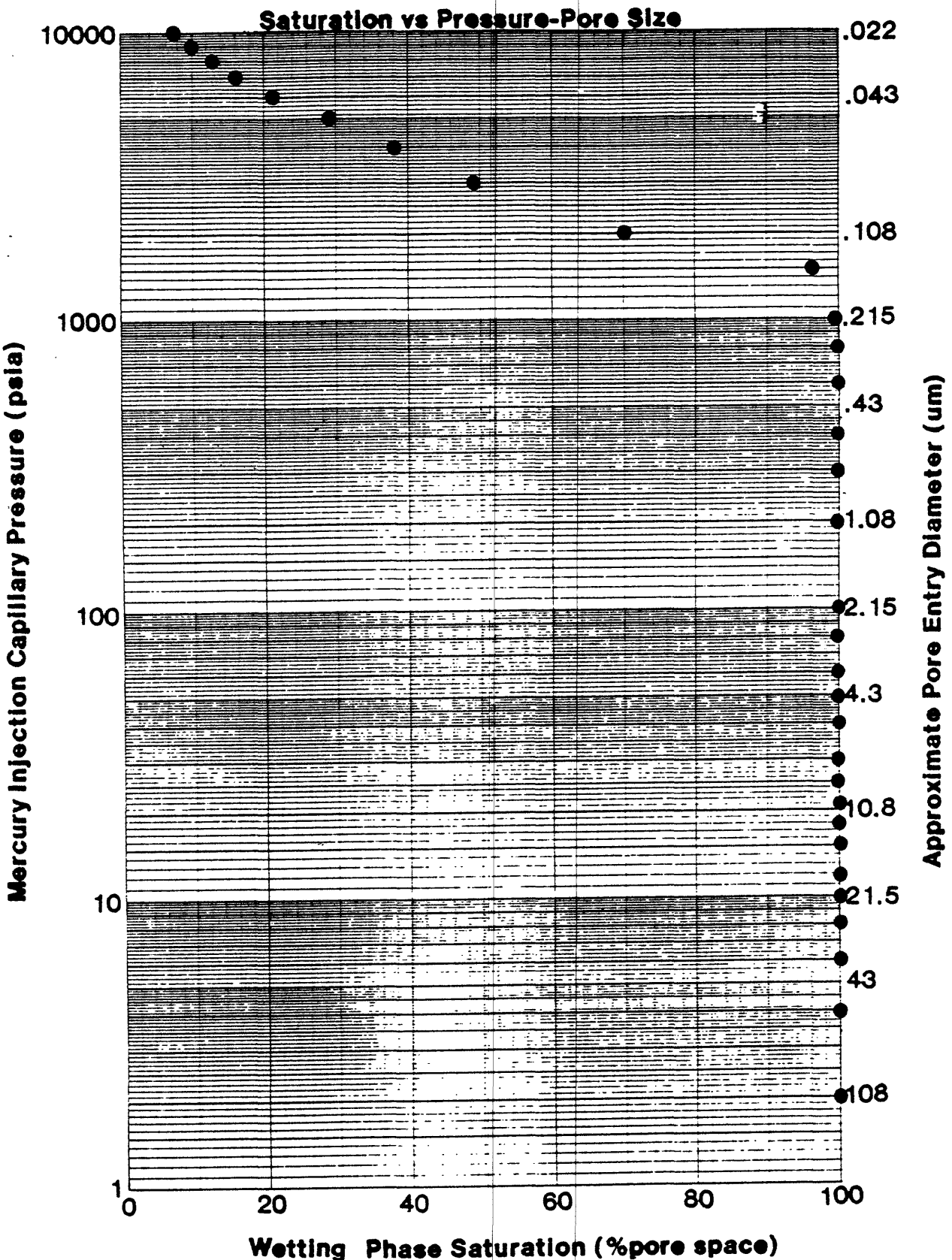
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated: Gas Relative Permeability (%)	Burdine-Purcell Calculated: Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	88.83
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	88.83
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	88.83
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	88.83
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	88.83
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	88.83
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	88.83
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	88.83
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	88.83
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	88.83
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	88.83
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	88.83
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	88.83
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	88.83
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	88.83
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	88.83
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	88.83
200	1.08	100.0	0.0	0.000	0.000	37.76	93.9	0.00	88.83
300	.717	100.0	0.0	0.000	0.000	56.63	140.9	0.00	88.83
400	.537	100.0	0.0	0.000	0.000	75.51	187.8	0.00	88.83
500	.430	100.0	0.0	0.000	0.000	94.39	234.8	0.00	88.83
600	.358	100.0	0.0	0.000	0.000	113.27	281.8	0.00	88.83
800	.268	100.0	0.0	0.000	0.000	151.02	375.7	0.00	88.83
1000	.215	99.4	0.6	0.003	0.178	188.78	469.6	0.00	86.99
1500	.143	96.3	3.1	0.026	0.119	283.17	704.4	0.06	74.23
2000	.107	70.5	25.8	0.280	0.089	377.56	939.2	15.52	19.66
3000	.072	49.2	21.4	0.596	0.059	566.34	1408.8	60.34	0.64
4000	.054	38.3	10.8	0.809	0.044	755.12	1878.4	94.23	0.00
5000	.043	29.6	8.7	1.025	0.036	943.91	2348.0	96.86	0.00
6000	.035	21.4	8.2	1.266	0.030	1132.69	2817.6	98.50	0.00
7000	.031	16.1	5.3	1.447	0.025	1321.47	3287.2	99.26	0.00
8000	.027	13.0	3.2	1.572	0.022	1510.25	3756.8	99.60	0.00
9000	.024	10.2	2.8	1.695	0.020	1699.03	4226.4	99.84	0.00
10000	.022	7.8	2.4	1.815	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-1041

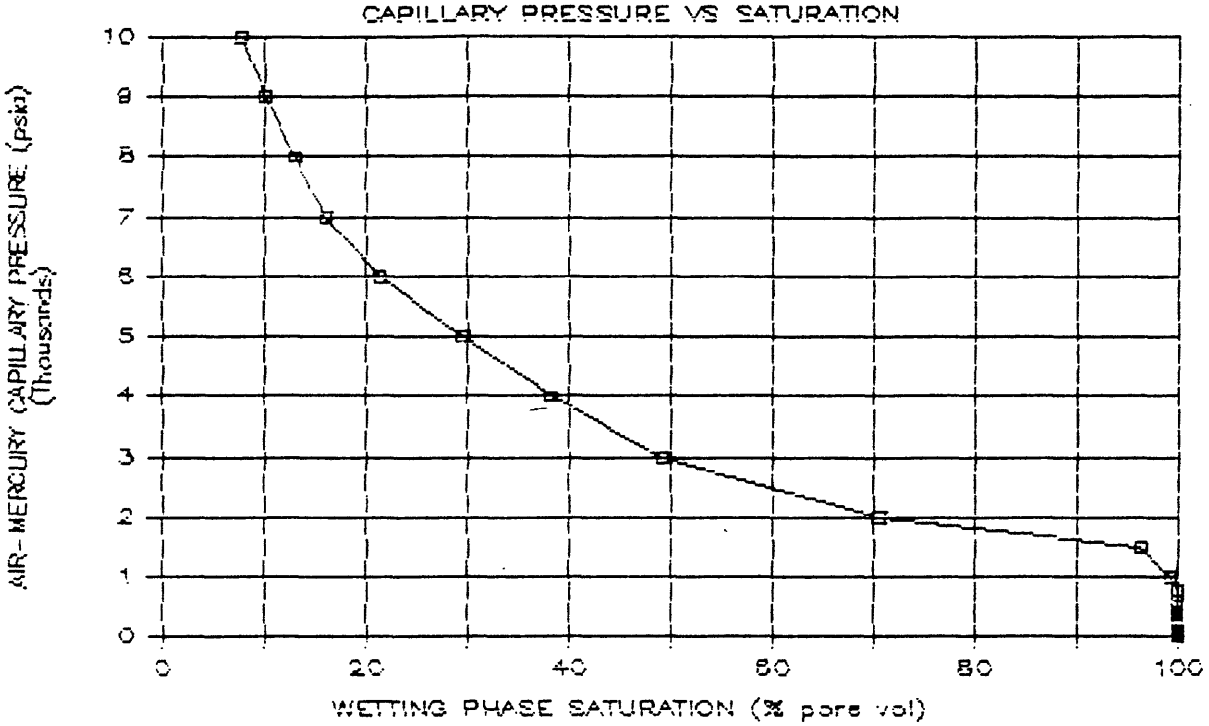


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

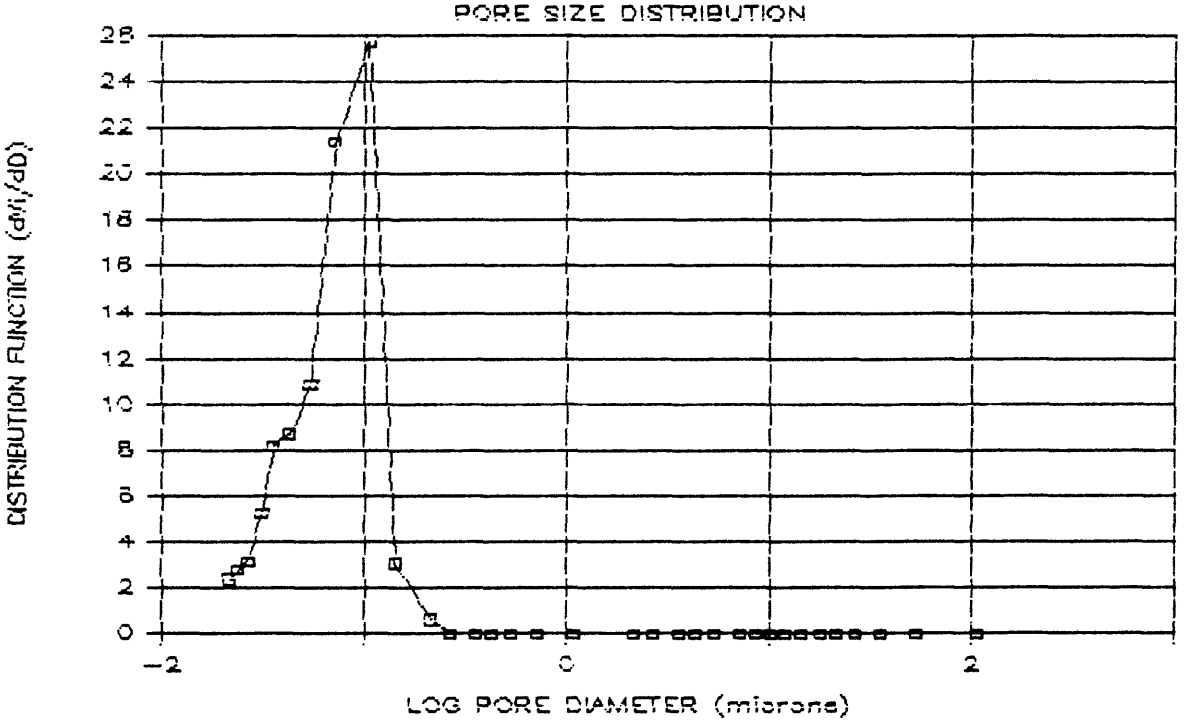
BIA Southern Ute 2—1041

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2—1041

PORE SIZE DISTRIBUTION

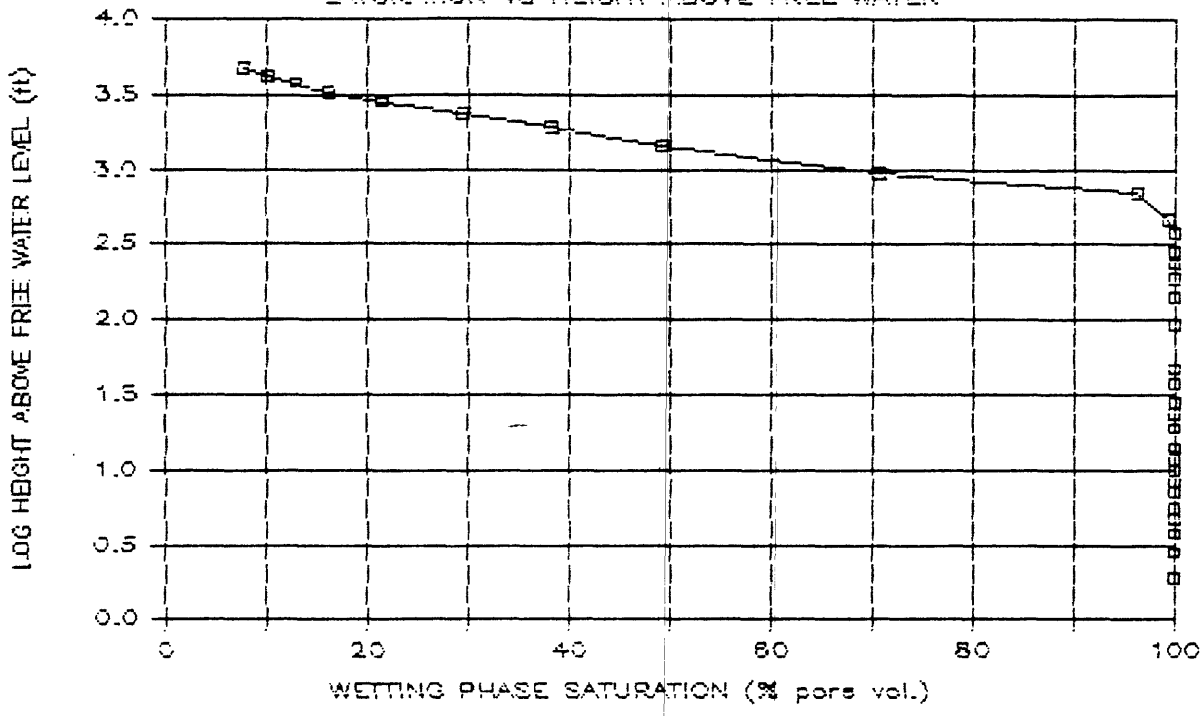


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

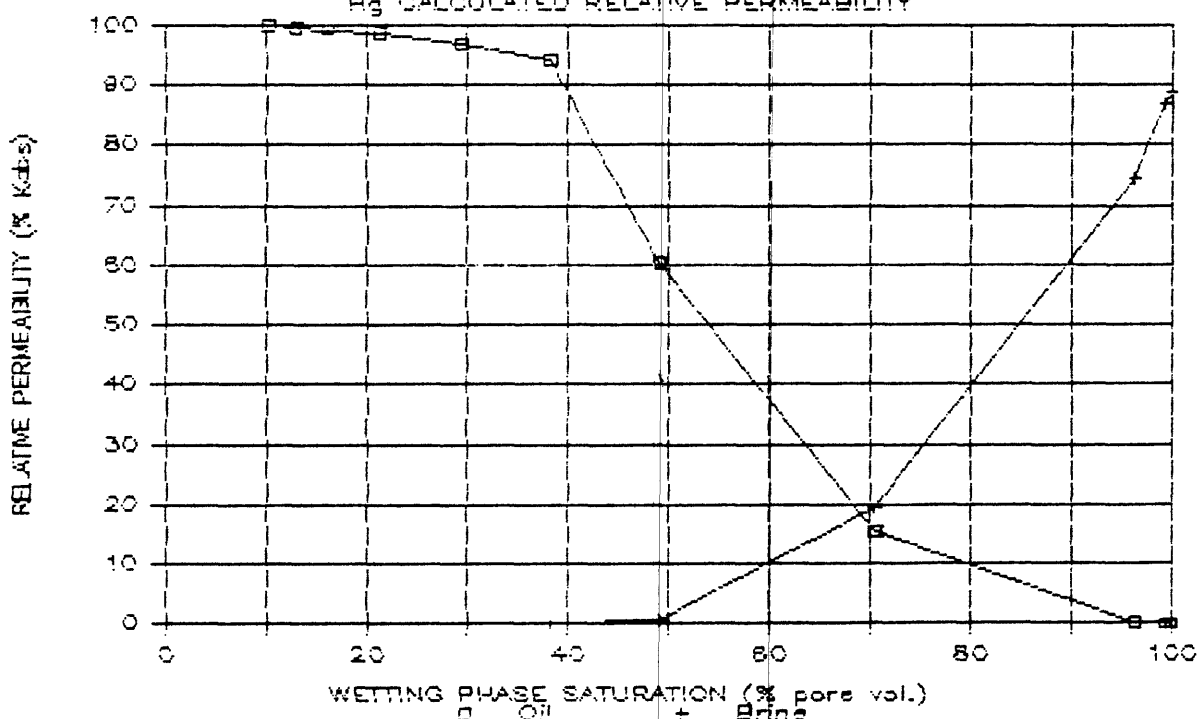
BIA Southern Ute 2-1041

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2-1041

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1042.4

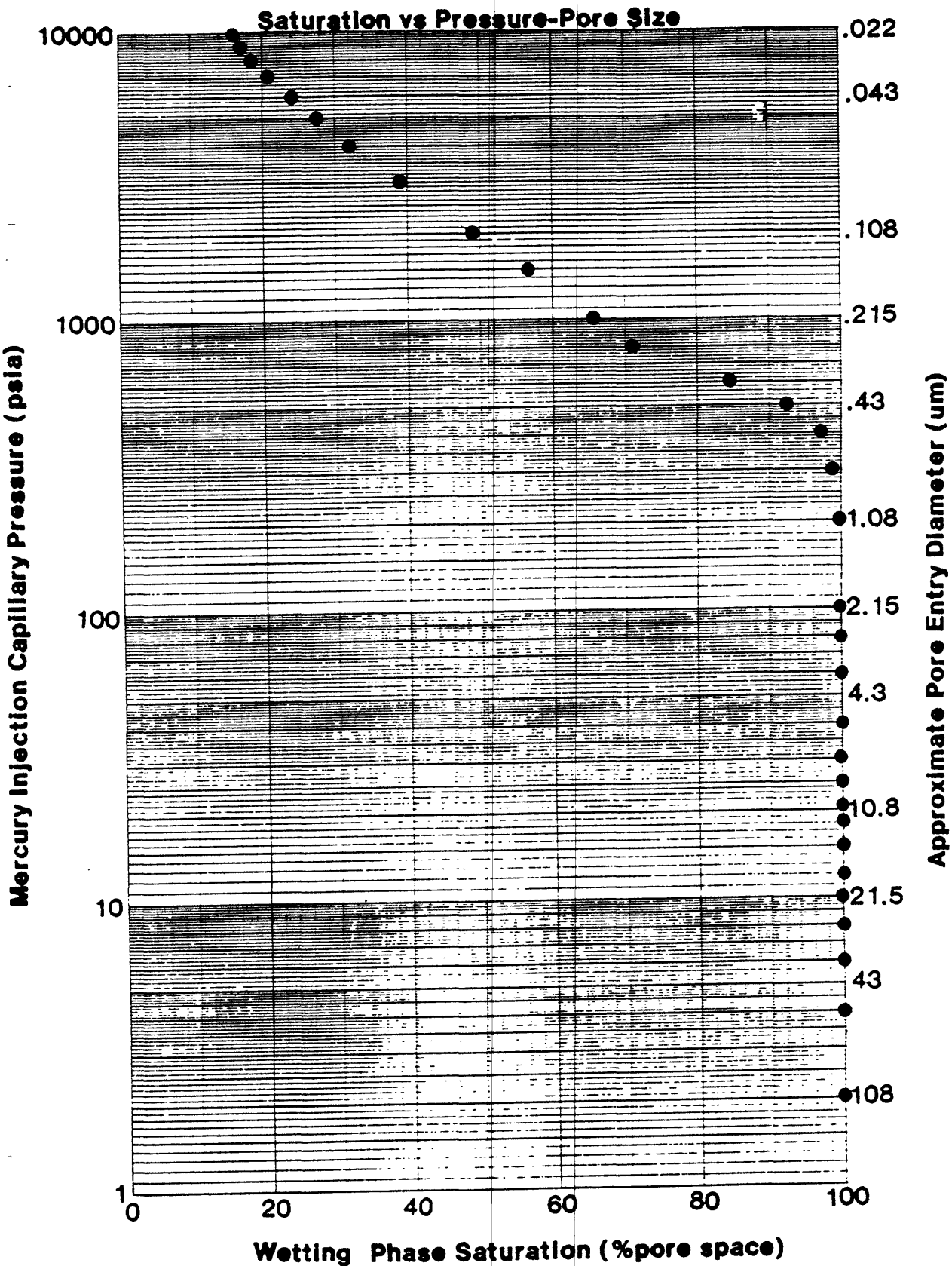
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	100.00
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	100.00
200	1.08	100.0	0.0	0.000	0.000	37.76	93.9	0.00	100.00
300	.717	99.1	0.9	0.002	0.593	56.63	140.9	0.00	96.66
400	.537	97.2	2.0	0.007	0.444	75.51	187.8	0.04	80.96
500	.430	92.5	4.7	0.022	0.356	94.39	234.8	0.53	59.36
600	.358	84.3	8.1	0.054	0.296	113.27	281.8	3.44	33.38
800	.268	71.2	13.1	0.122	0.222	151.02	375.7	15.50	11.53
1000	.215	65.7	5.5	0.158	0.178	188.78	469.6	23.39	3.25
1500	.143	56.5	9.2	0.247	0.119	283.17	704.4	39.51	1.01
2000	.107	49.2	7.3	0.342	0.089	377.56	939.2	54.87	0.20
3000	.072	39.4	9.9	0.534	0.059	566.34	1408.8	79.33	0.01
4000	.054	32.2	7.1	0.720	0.044	755.12	1878.4	99.60	0.00
5000	.043	27.7	4.6	0.869	0.036	943.91	2348.0	99.78	0.00
6000	.035	24.0	3.7	1.012	0.030	1132.69	2817.6	99.88	0.00
7000	.031	20.7	3.3	1.161	0.025	1321.47	3287.2	99.94	0.00
8000	.027	18.8	1.9	1.258	0.022	1510.25	3756.8	99.97	0.00
9000	.024	17.2	1.6	1.352	0.020	1699.03	4226.4	99.99	0.00
10000	.022	15.9	1.3	1.437	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-1042.4

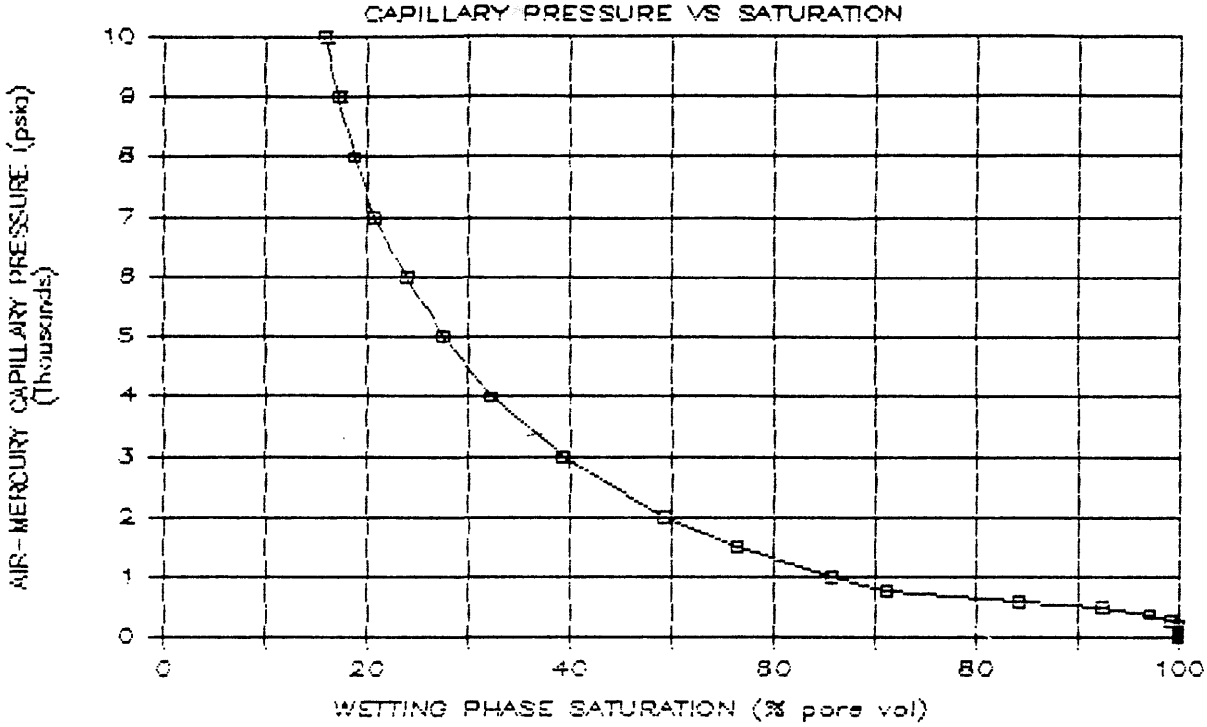


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

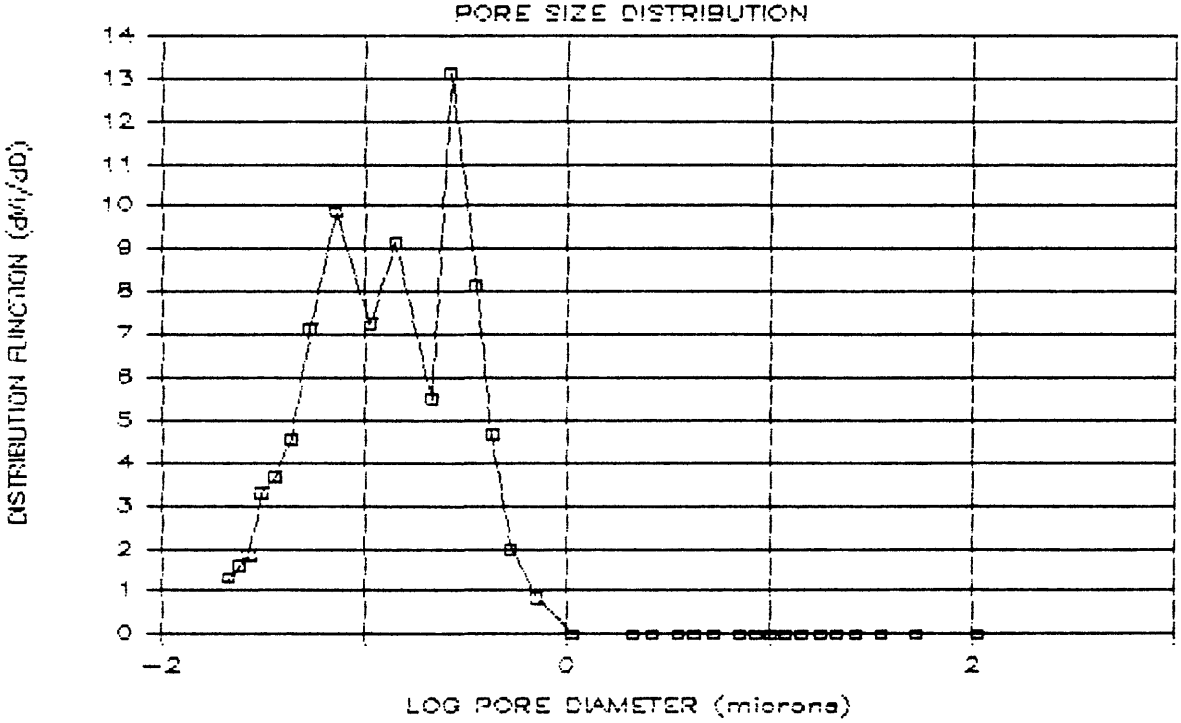
BIA Southern Ute 2-1042.4

CAPILLARY PRESSURE VS SATURATION



BIA Southern Ute 2-1042.4

PORE SIZE DISTRIBUTION

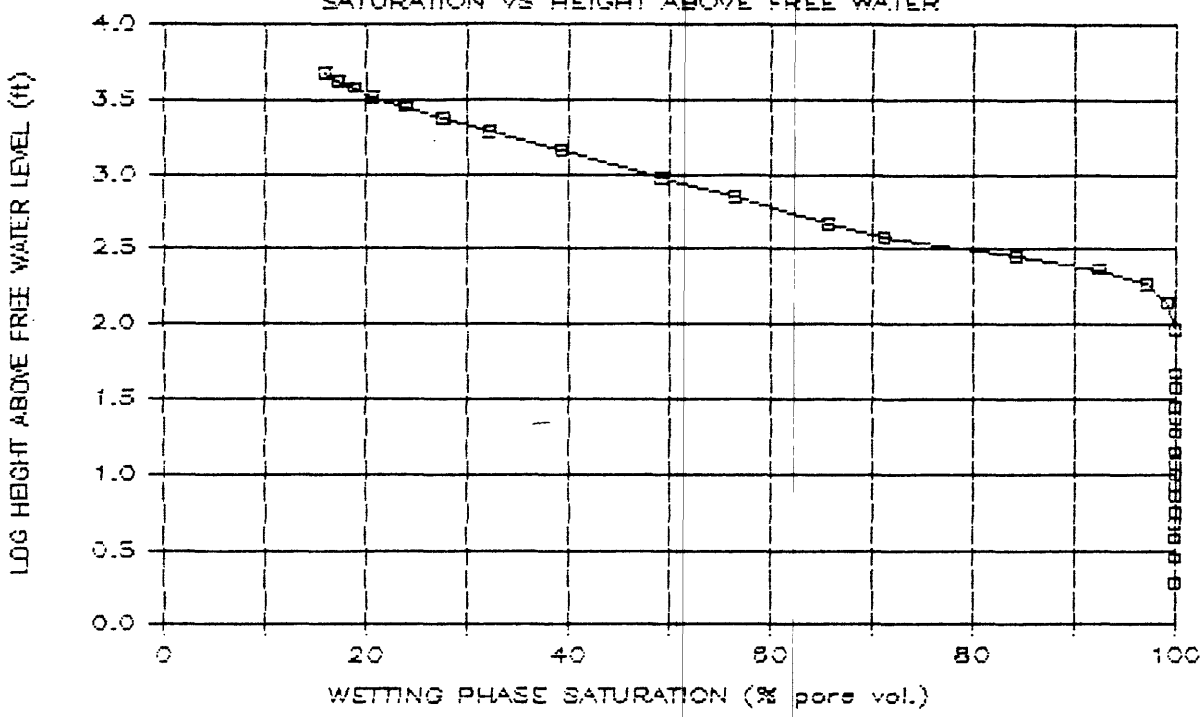


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

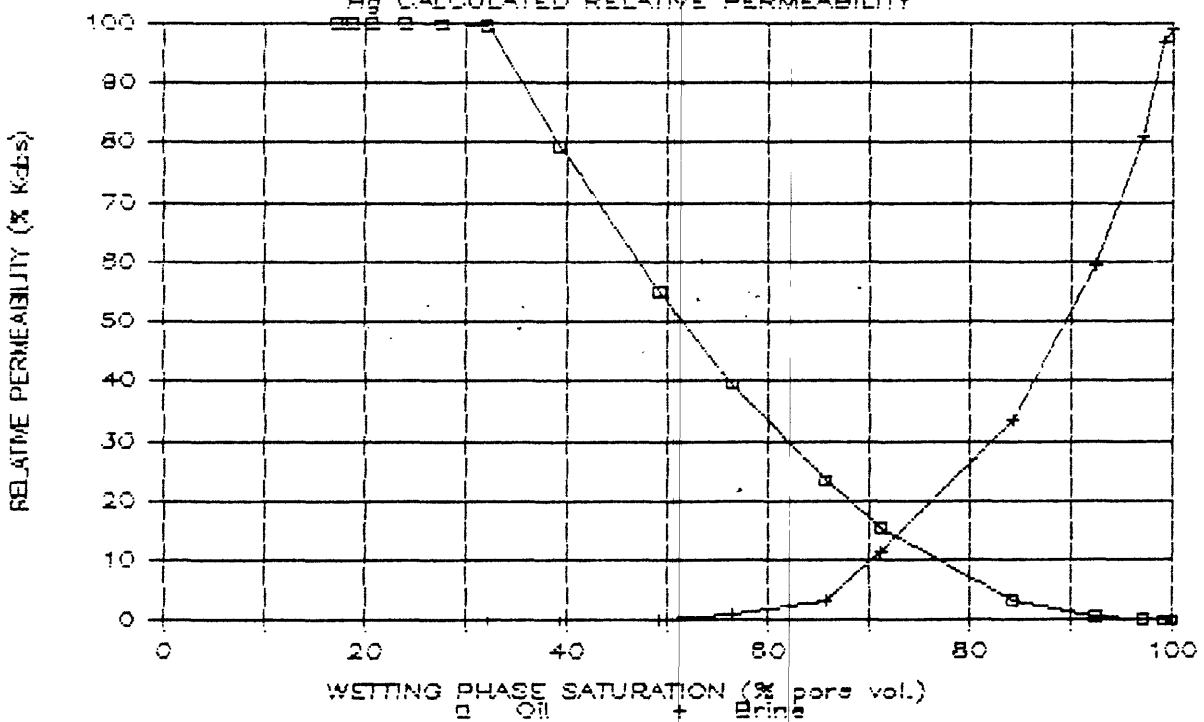
BIA Southern Ute 2—1042.4

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2—1042.4

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1067

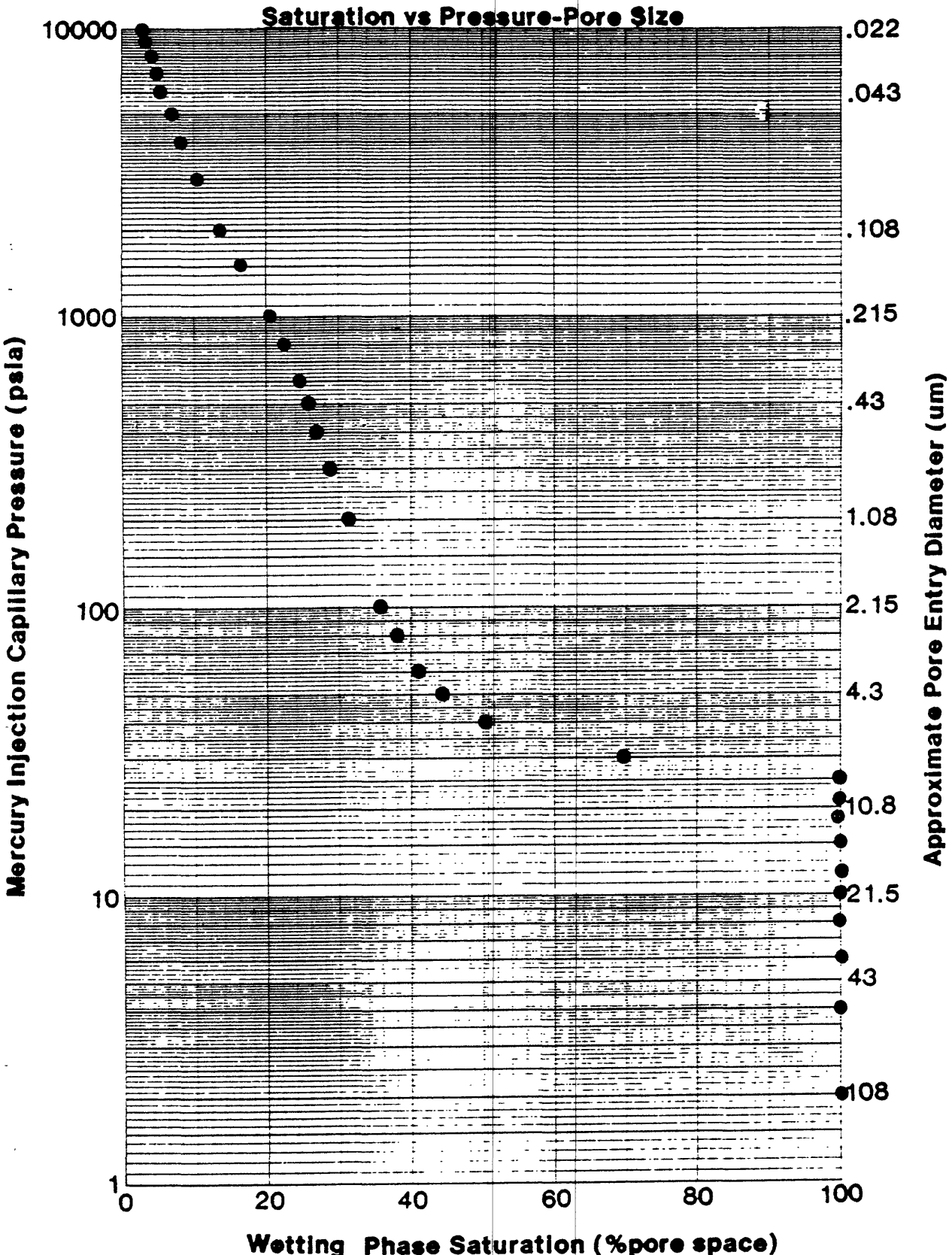
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	99.6	0.4	0.000	7.111	4.72	11.7	0.00	100.00
30	7.17	69.4	30.3	0.012	5.926	5.66	14.1	7.41	43.85
40	5.37	50.4	19.0	0.023	4.444	7.55	18.8	26.80	7.08
50	4.30	44.6	5.8	0.027	3.556	9.44	23.5	35.18	1.30
60	3.58	41.6	2.9	0.029	2.963	11.33	28.2	39.65	0.48
80	2.69	38.2	3.4	0.033	2.222	15.10	37.6	44.95	0.21
100	2.15	36.1	2.1	0.035	1.778	18.88	47.0	48.21	0.08
200	1.08	31.5	4.6	0.048	0.889	37.76	93.9	55.60	0.03
300	.717	29.2	2.4	0.057	0.593	56.63	140.9	59.53	0.01
400	.537	27.4	1.8	0.067	0.444	75.51	187.8	62.56	0.00
500	.430	25.9	1.4	0.077	0.356	94.39	234.8	65.08	0.00
600	.358	24.7	1.2	0.087	0.296	113.27	281.8	67.28	0.00
800	.268	22.3	2.5	0.113	0.222	151.02	375.7	71.74	0.00
1000	.215	20.3	2.0	0.140	0.178	188.78	469.6	75.46	0.00
1500	.143	16.3	3.9	0.220	0.119	283.17	704.4	83.09	0.00
2000	.107	13.8	2.6	0.289	0.089	377.56	939.2	88.26	0.00
3000	.072	10.2	3.5	0.432	0.059	566.34	1408.8	95.64	0.00
4000	.054	8.2	2.0	0.541	0.044	755.12	1878.4	100.00	0.00
5000	.043	6.9	1.3	0.632	0.036	943.91	2348.0	100.00	0.00
6000	.035	5.8	1.0	0.717	0.030	1132.69	2817.6	100.00	0.00
7000	.031	5.0	0.8	0.793	0.025	1321.47	3287.2	100.00	0.00
8000	.027	4.4	0.7	0.865	0.022	1510.25	3756.8	100.00	0.00
9000	.024	3.7	0.6	0.939	0.020	1699.03	4226.4	100.00	0.00
10000	.022	3.3	0.5	1.000	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

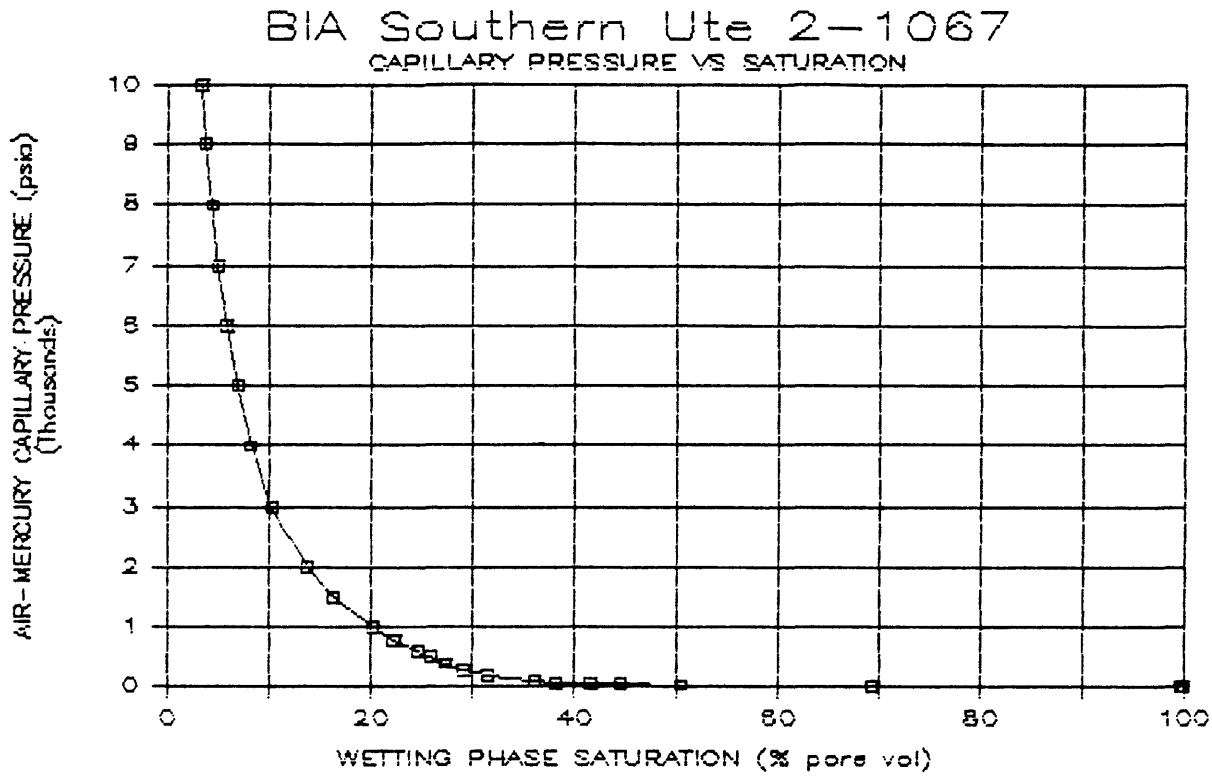
Company: **USGS Denver**

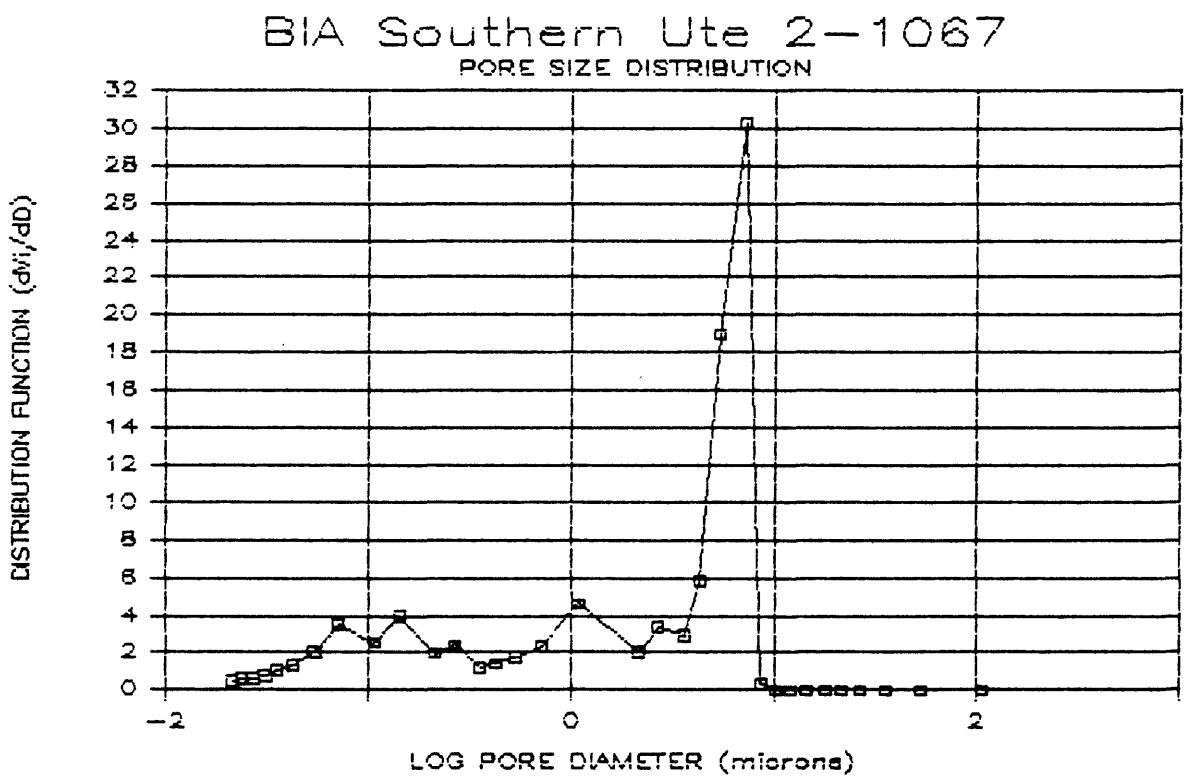
BIA SOUTHERN UTE 2-1067



Location/Formation: **BIA Southern Ute**

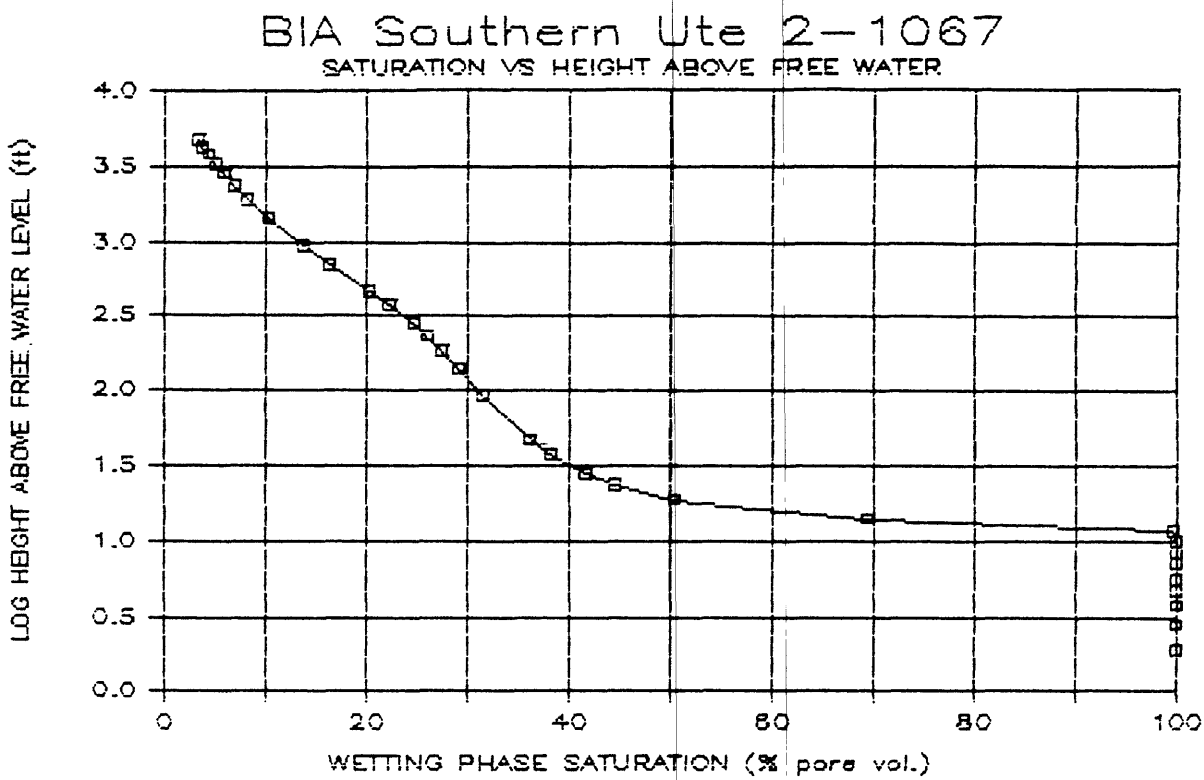
Company: **USGS Denver**

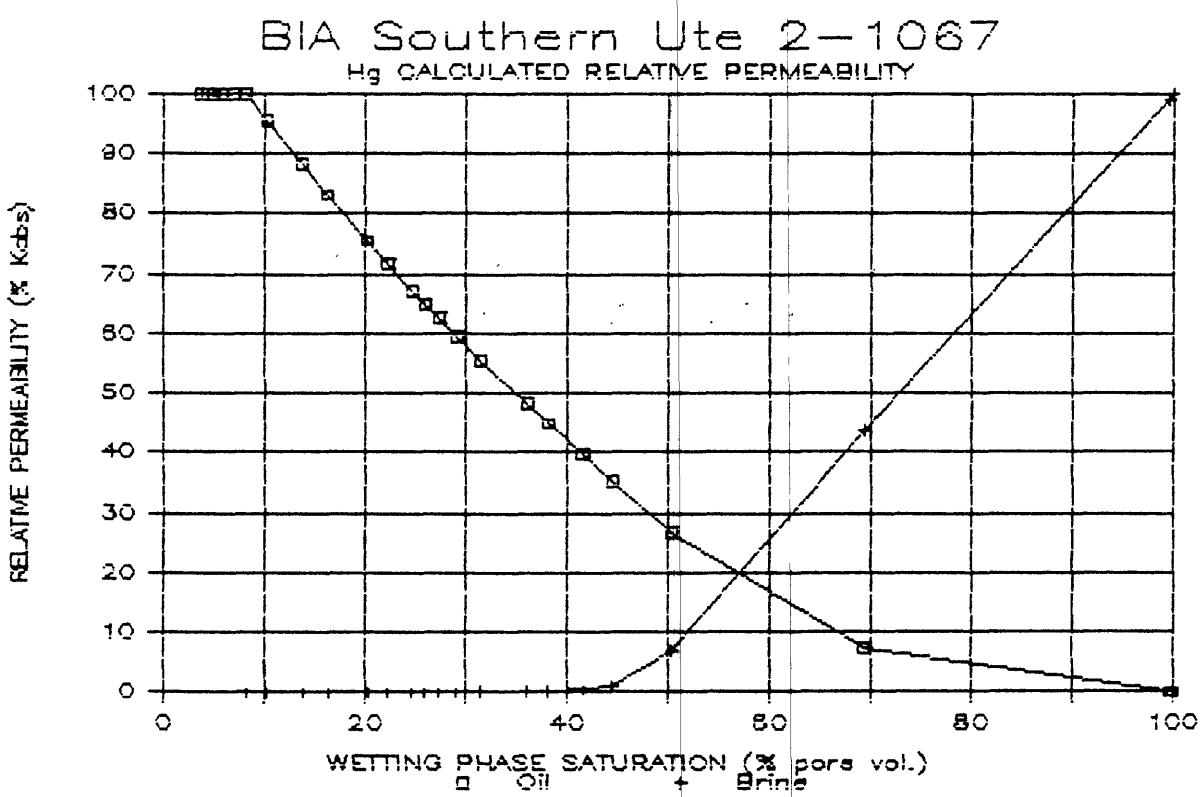




Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1094

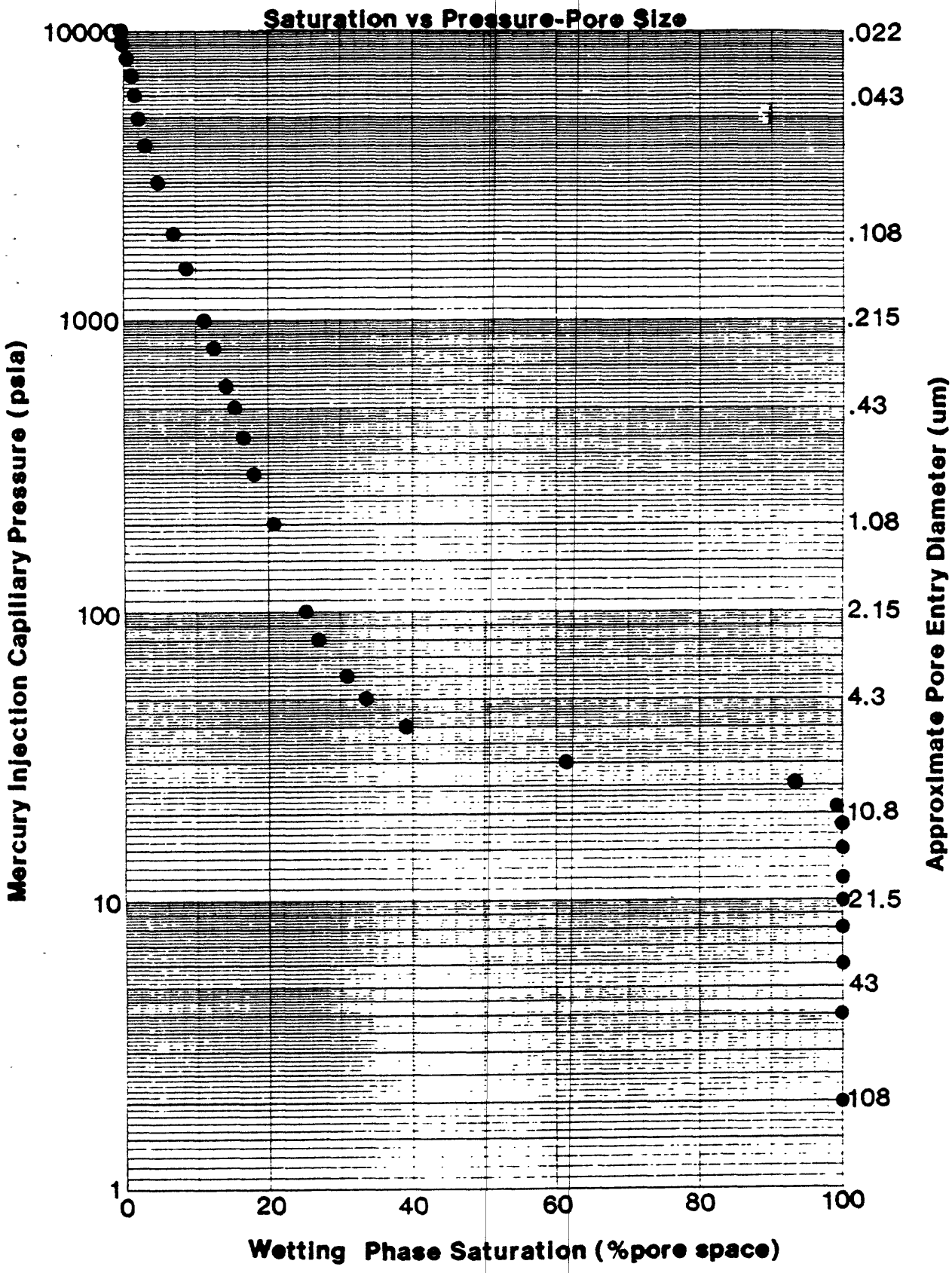
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	99.8	0.2	0.000	9.877	3.40	8.5	0.00	100.00
21	10.2	99.4	0.4	0.000	8.466	3.96	9.9	0.00	97.81
25	8.60	93.6	5.8	0.002	7.111	4.72	11.7	0.07	85.28
30	7.17	61.4	32.2	0.012	5.926	5.66	14.1	11.27	30.21
40	5.37	39.5	21.9	0.021	4.444	7.55	18.8	36.55	4.11
50	4.30	33.7	5.8	0.024	3.556	9.44	23.5	45.63	0.65
60	3.58	30.7	3.0	0.026	2.963	11.33	28.2	50.51	0.23
80	2.69	27.0	3.6	0.029	2.222	15.10	37.6	56.49	0.10
100	2.15	25.2	1.9	0.031	1.778	18.88	47.0	59.64	0.03
200	1.08	20.6	4.6	0.040	0.889	37.76	93.9	67.36	0.01
300	.717	18.3	2.2	0.047	0.593	56.63	140.9	71.20	0.00
400	.537	16.7	1.6	0.054	0.444	75.51	187.8	74.02	0.00
500	.430	15.4	1.3	0.061	0.356	94.39	234.8	76.37	0.00
600	.358	14.5	0.9	0.067	0.296	113.27	281.8	78.02	0.00
800	.268	12.7	1.9	0.082	0.222	151.02	375.7	81.44	0.00
1000	.215	11.1	1.6	0.099	0.178	188.78	469.6	84.41	0.00
1500	.143	8.7	2.4	0.136	0.119	283.17	704.4	89.01	0.00
2000	.107	6.7	2.1	0.179	0.089	377.56	939.2	93.08	0.00
3000	.072	4.6	2.1	0.245	0.059	566.34	1408.8	97.28	0.00
4000	.054	3.2	1.3	0.300	0.044	755.12	1878.4	100.00	0.00
5000	.043	2.2	1.0	0.352	0.036	943.91	2348.0	100.00	0.00
6000	.035	1.5	0.7	0.397	0.030	1132.69	2817.6	100.00	0.00
7000	.031	1.1	0.5	0.432	0.025	1321.47	3287.2	100.00	0.00
8000	.027	0.5	0.5	0.476	0.022	1510.25	3756.8	100.00	0.00
9000	.024	0.0	0.5	0.526	0.020	1699.03	4226.4	100.00	0.00
10000	.022	0.0	0.0	0.526	0.000	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCos0= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA SOUTHERN UTE 2-1094

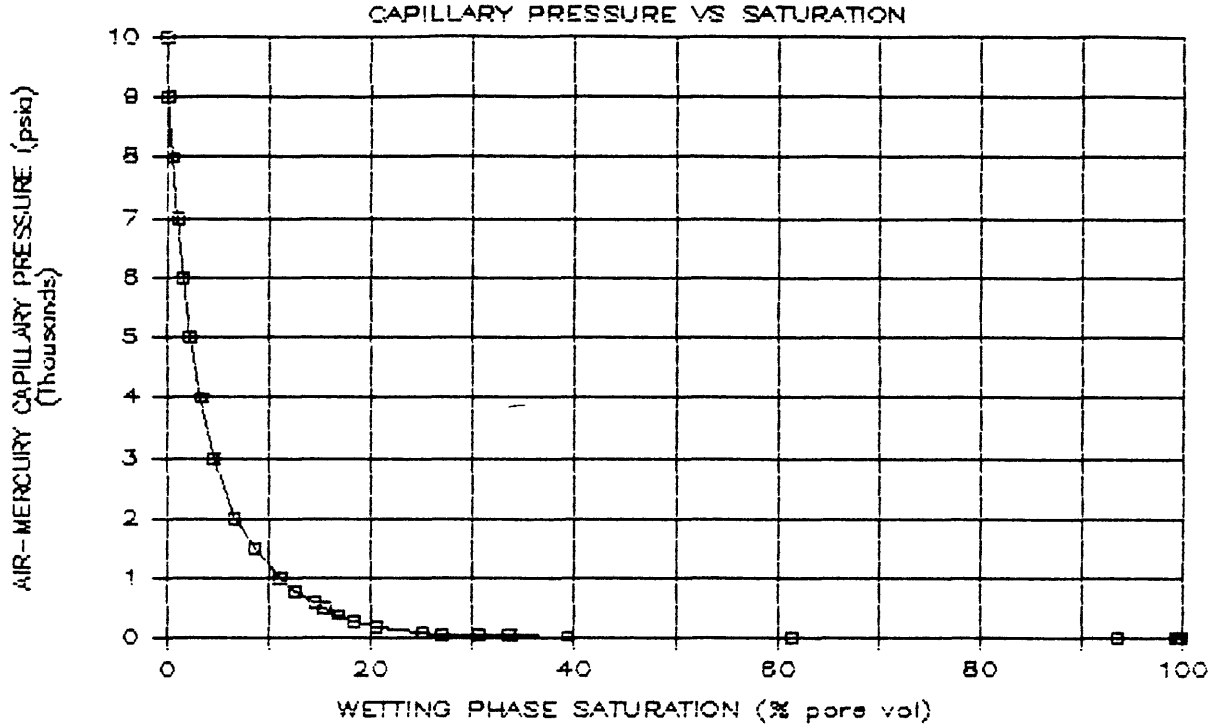


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

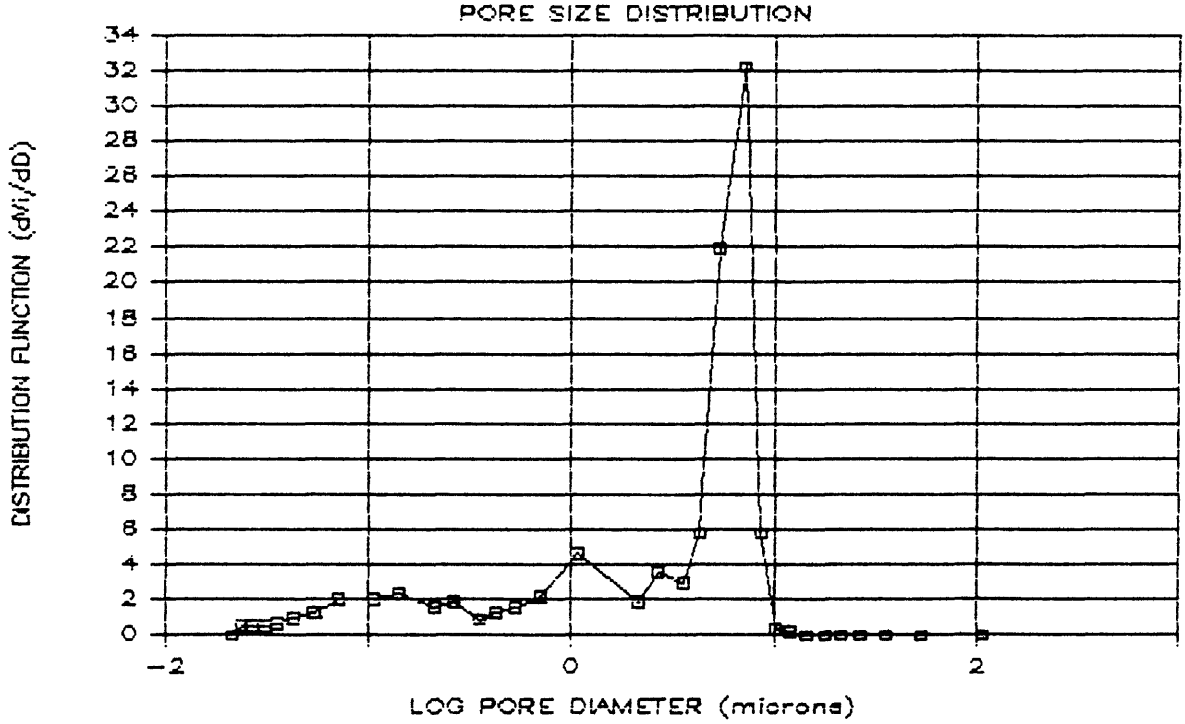
BIA Southern Ute 2—1094

CAPILLARY PRESSURE VS SATURATION



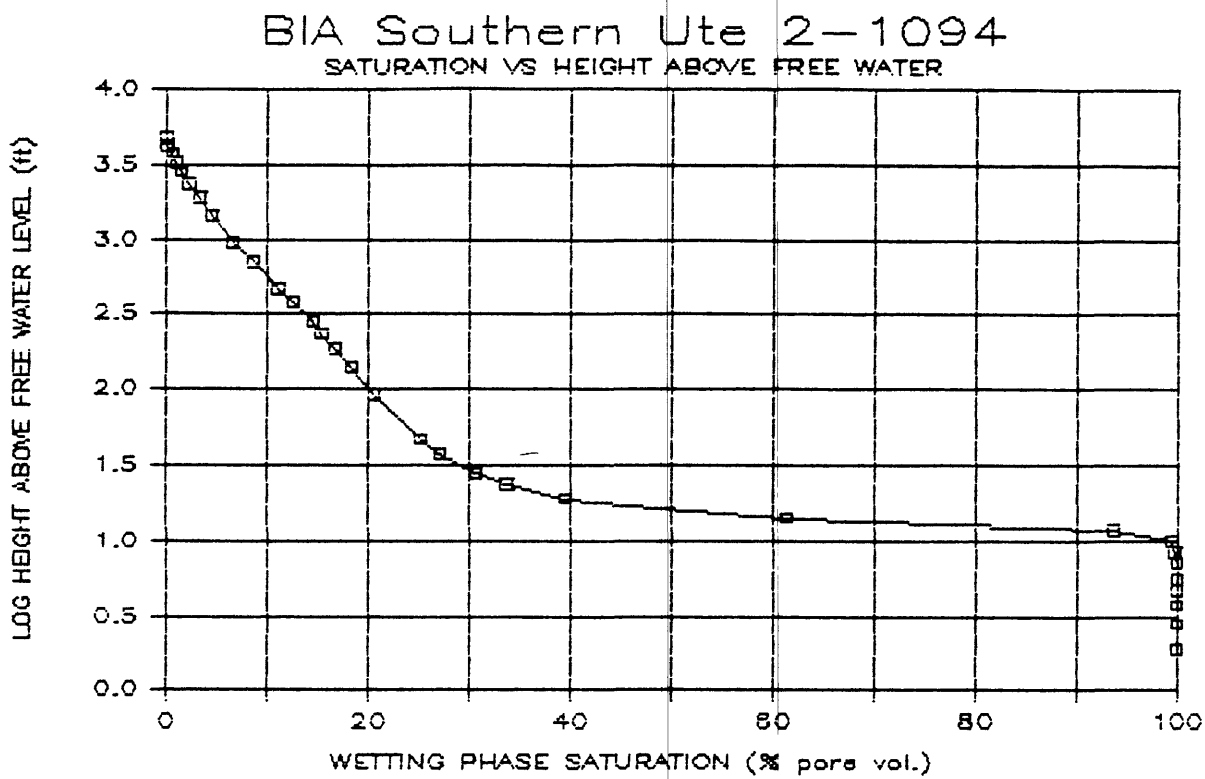
BIA Southern Ute 2—1094

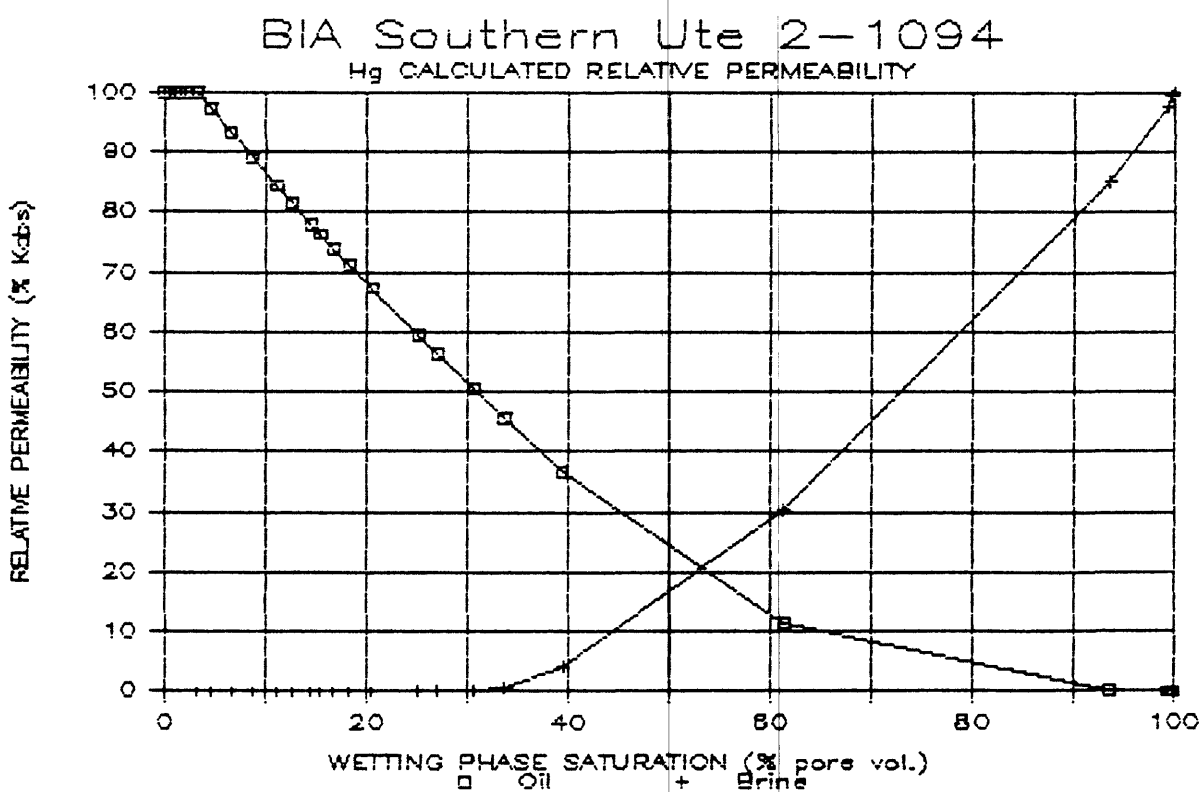
PORE SIZE DISTRIBUTION



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**





Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1115

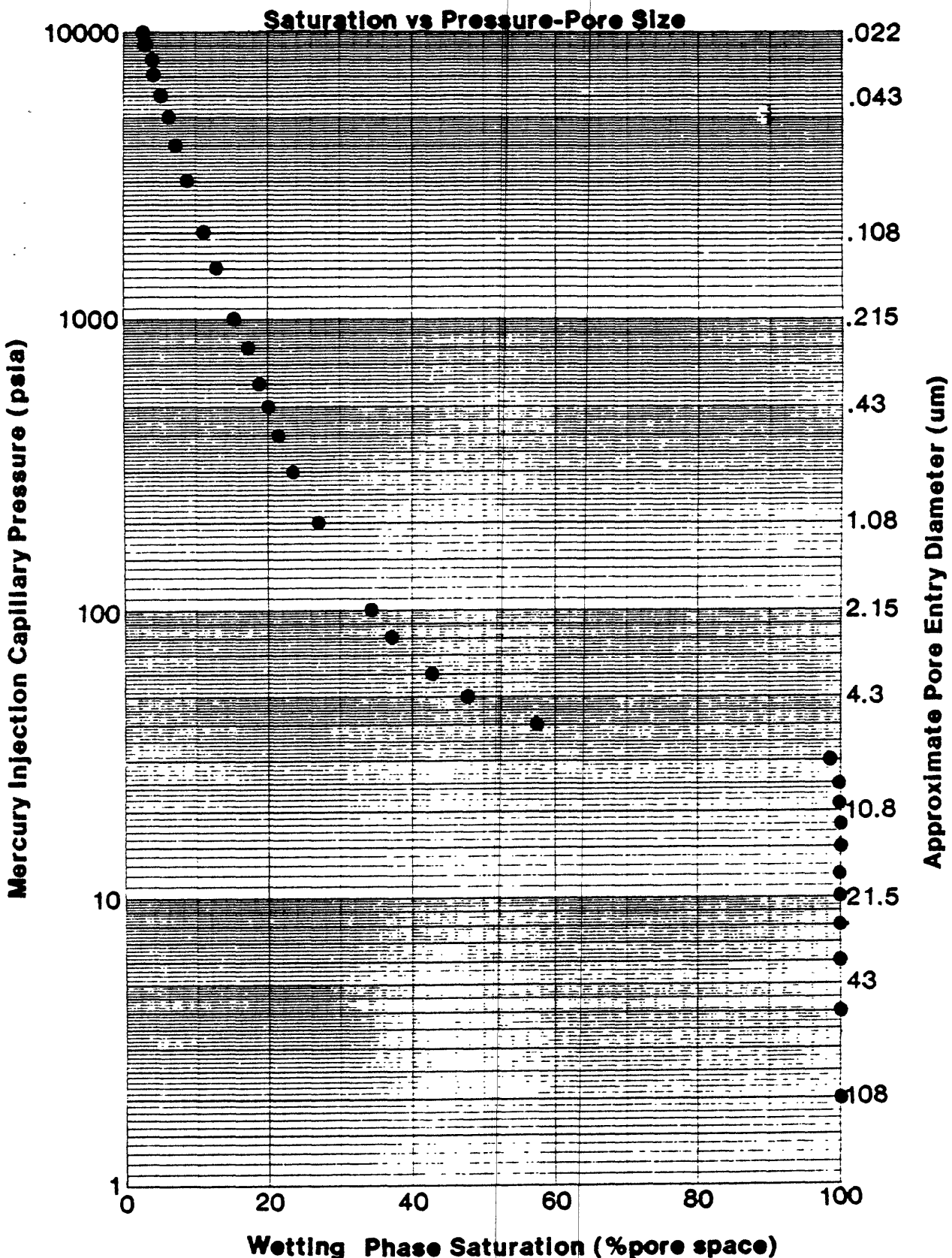
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated Gas Relative Permeability (%)	Burdine-Purcell Calculated Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	98.4	1.6	0.001	5.926	5.66	14.1	0.00	96.62
40	5.37	57.8	40.6	0.022	4.444	7.55	18.8	16.77	28.22
50	4.30	48.1	9.7	0.029	3.556	9.44	23.5	28.82	3.71
60	3.58	42.9	5.1	0.033	2.963	11.33	28.2	36.27	1.21
80	2.69	37.6	5.4	0.039	2.222	15.10	37.6	44.57	0.46
100	2.15	34.5	3.1	0.043	1.778	18.88	47.0	49.53	0.16
200	1.08	27.1	7.3	0.063	0.889	37.76	93.9	61.72	0.04
300	.717	23.8	3.4	0.076	0.593	56.63	140.9	67.66	0.01
400	.537	21.7	2.0	0.087	0.444	75.51	187.8	71.36	0.00
500	.430	20.3	1.4	0.097	0.356	94.39	234.8	73.93	0.00
600	.358	19.4	0.9	0.104	0.296	113.27	281.8	75.70	0.00
800	.268	17.4	2.0	0.125	0.222	151.02	375.7	79.42	0.00
1000	.215	15.9	1.5	0.145	0.178	188.78	469.6	82.37	0.00
1500	.143	13.1	2.8	0.201	0.119	283.17	704.4	87.90	0.00
2000	.107	11.3	1.8	0.249	0.089	377.56	939.2	91.57	0.00
3000	.072	9.0	2.3	0.344	0.059	566.34	1408.8	96.48	0.00
4000	.054	7.3	1.6	0.432	0.044	755.12	1878.4	100.00	0.00
5000	.043	6.2	1.1	0.508	0.036	943.91	2348.0	100.00	0.00
6000	.035	5.3	0.9	0.578	0.030	1132.69	2817.6	100.00	0.00
7000	.031	4.6	0.8	0.652	0.025	1321.47	3287.2	100.00	0.00
8000	.027	3.9	0.7	0.723	0.022	1510.25	3756.8	100.00	0.00
9000	.024	3.4	0.5	0.782	0.020	1699.03	4226.4	100.00	0.00
10000	.022	2.9	0.5	0.852	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCosO= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

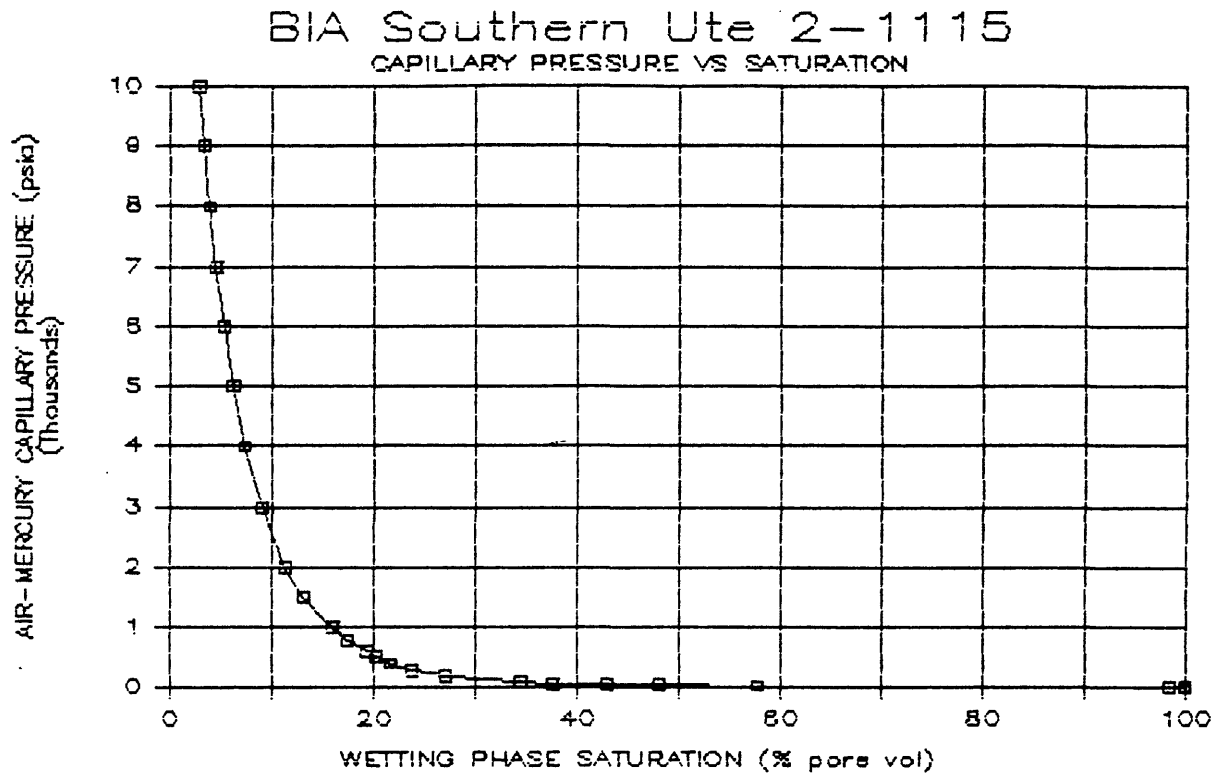
Company: **USGS Denver**

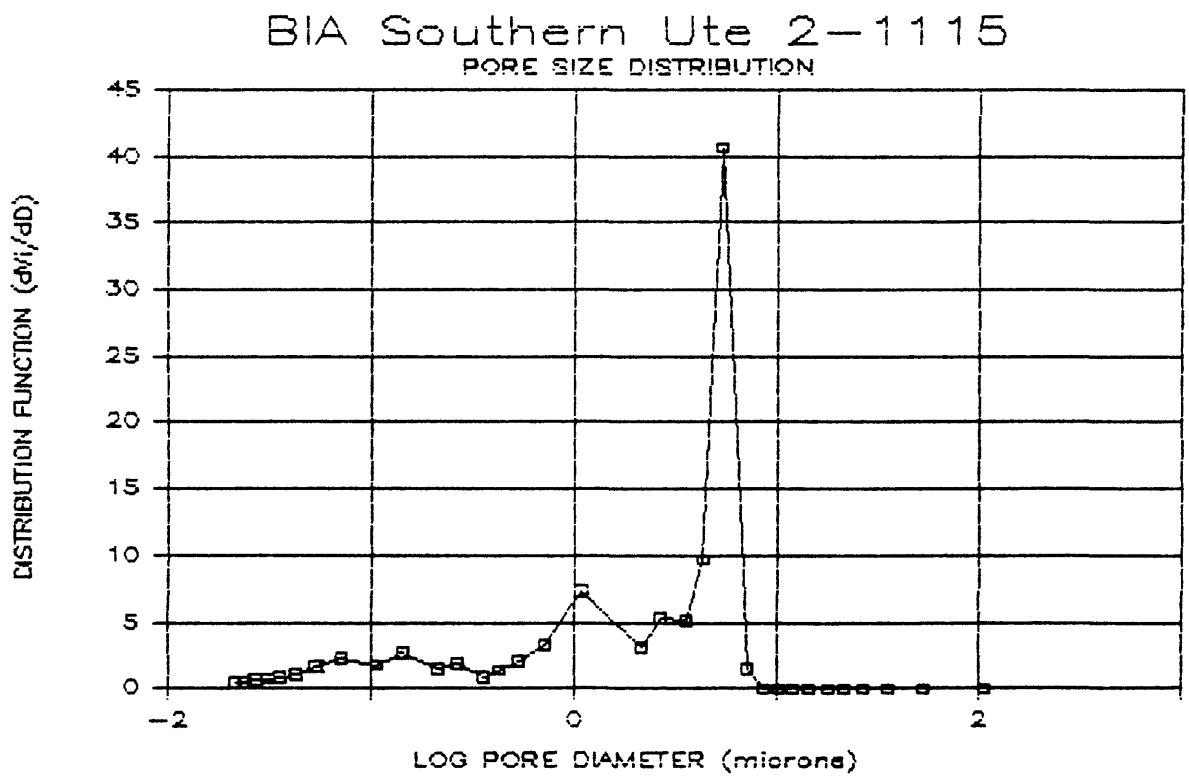
BIA SOUTHERN UTE 2-1115



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



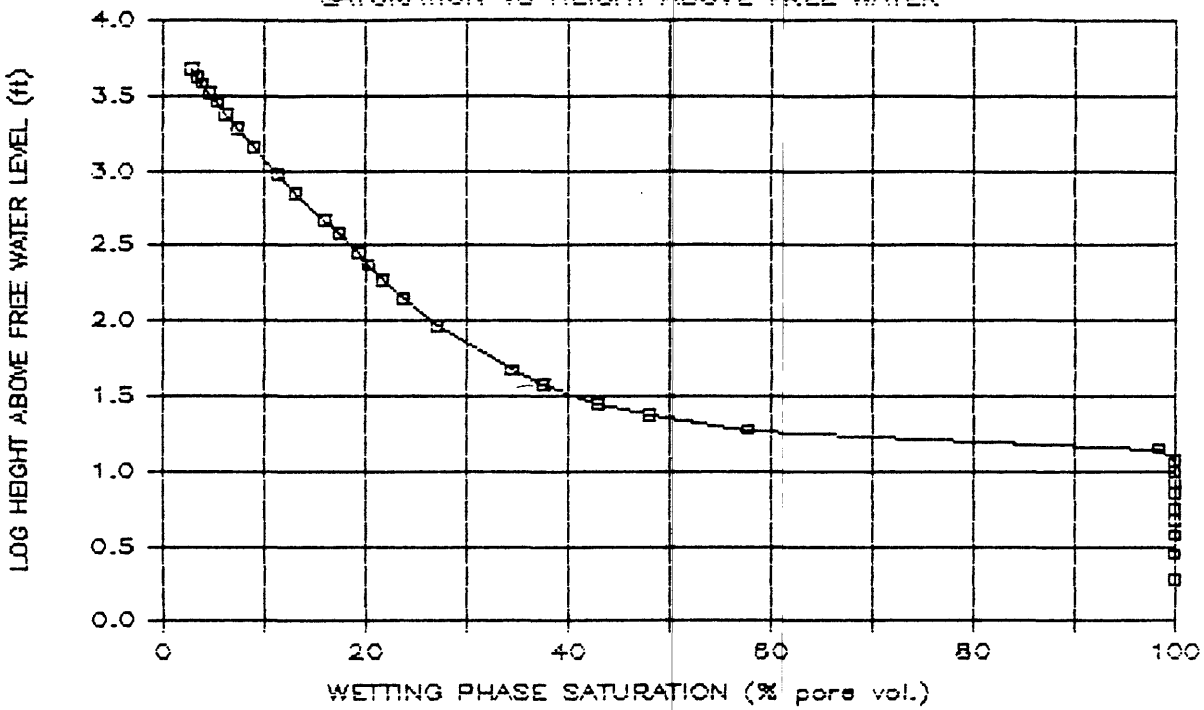


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

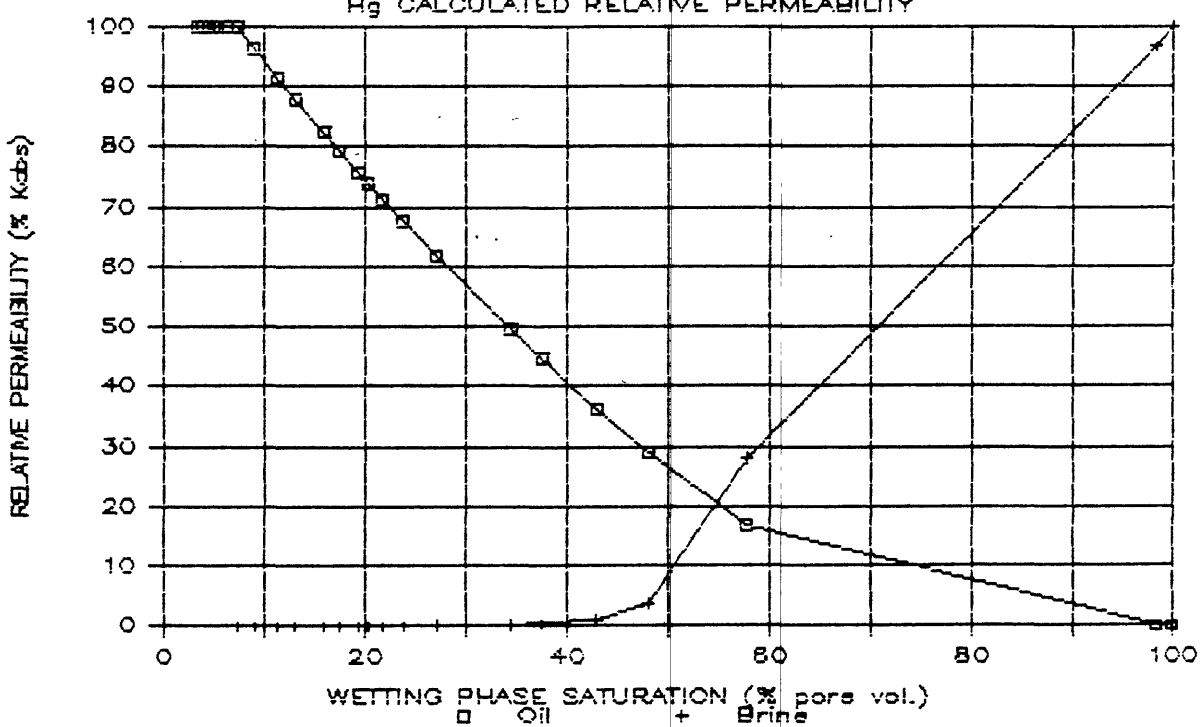
BIA Southern Ute 2—1115

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2—1115

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

BIA Southern Ute 2-1149

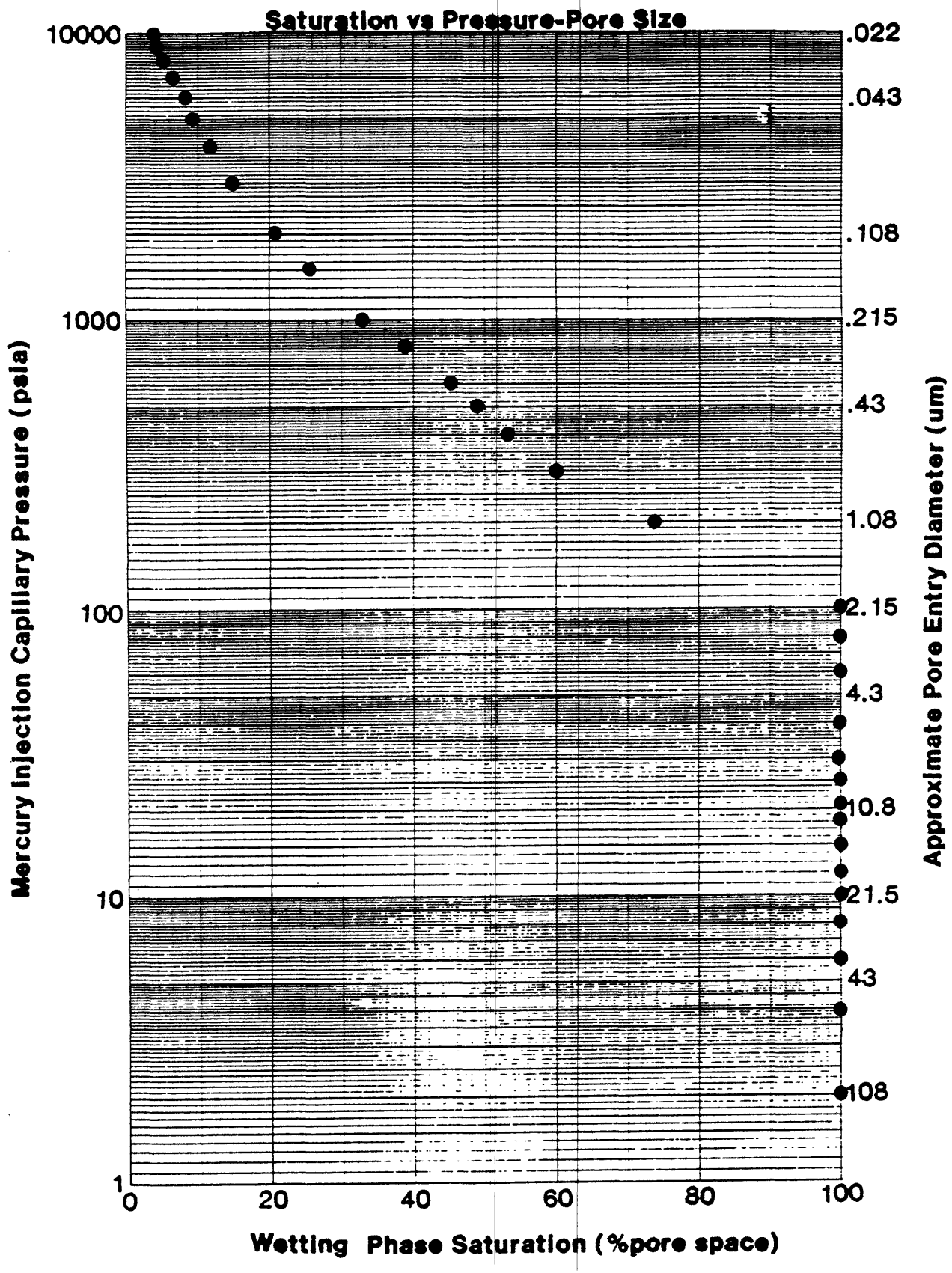
Mercury Injection Capillary Pressure (psia)	Approx. Pore Entry Diameter (um)	Cumulative Wetting Phase Saturation (% pore vol)	Distribution Function	Cumulative Surface Area (m2/g)	Equivalent Cylindrical Pore Diameter (um)	Approx. Reservoir Gas-Water Capillary Pressure (psia)	Approx. Gas-Water Height Above Free Water Level (ft)	Burdine-Purcell Calculated	
								Gas Relative Permeability (%)	Brine Relative Permeability (%)
0	0	100.0	0.0	0.000	0.000	0.00	0.0	0.00	100.00
2	107.	100.0	0.0	0.000	0.000	0.38	0.9	0.00	100.00
4	53.8	100.0	0.0	0.000	0.000	0.76	1.9	0.00	100.00
6	35.8	100.0	0.0	0.000	0.000	1.13	2.8	0.00	100.00
8	26.9	100.0	0.0	0.000	0.000	1.51	3.8	0.00	100.00
10	21.5	100.0	0.0	0.000	0.000	1.89	4.7	0.00	100.00
12	17.9	100.0	0.0	0.000	0.000	2.27	5.6	0.00	100.00
15	14.3	100.0	0.0	0.000	0.000	2.83	7.0	0.00	100.00
18	11.9	100.0	0.0	0.000	0.000	3.40	8.5	0.00	100.00
21	10.2	100.0	0.0	0.000	0.000	3.96	9.9	0.00	100.00
25	8.60	100.0	0.0	0.000	0.000	4.72	11.7	0.00	100.00
30	7.17	100.0	0.0	0.000	0.000	5.66	14.1	0.00	100.00
40	5.37	100.0	0.0	0.000	0.000	7.55	18.8	0.00	100.00
50	4.30	100.0	0.0	0.000	0.000	9.44	23.5	0.00	100.00
60	3.58	100.0	0.0	0.000	0.000	11.33	28.2	0.00	100.00
80	2.69	100.0	0.0	0.000	0.000	15.10	37.6	0.00	100.00
100	2.15	100.0	0.0	0.000	0.000	18.88	47.0	0.00	100.00
200	1.08	72.9	27.1	0.043	0.889	37.76	93.9	7.48	47.89
300	.717	59.8	13.1	0.074	0.593	56.63	140.9	19.26	6.23
400	.537	53.6	6.2	0.094	0.444	75.51	187.8	26.63	1.66
500	.430	49.0	4.6	0.112	0.356	94.39	234.8	32.62	0.72
600	.358	45.4	3.5	0.129	0.296	113.27	281.8	37.59	0.38
800	.268	39.0	6.5	0.171	0.222	151.02	375.7	47.45	0.17
1000	.215	33.0	6.0	0.218	0.178	188.78	469.6	57.50	0.06
1500	.143	25.2	7.8	0.312	0.119	283.17	704.4	71.92	0.01
2000	.107	20.4	4.7	0.387	0.089	377.56	939.2	81.39	0.00
3000	.072	14.9	5.5	0.518	0.059	566.34	1408.8	93.09	0.00
4000	.054	11.9	3.1	0.617	0.044	755.12	1878.4	99.98	0.00
5000	.043	9.7	2.2	0.704	0.036	943.91	2348.0	99.99	0.00
6000	.035	8.1	1.6	0.779	0.030	1132.69	2817.6	100.00	0.00
7000	.031	6.7	1.4	0.858	0.025	1321.47	3287.2	100.00	0.00
8000	.027	5.5	1.1	0.930	0.022	1510.25	3756.8	100.00	0.00
9000	.024	4.7	0.8	0.988	0.020	1699.03	4226.4	100.00	0.00
10000	.022	4.1	0.7	1.042	0.018	1887.81	4696.0	100.00	0.00

All Hg calculations assume air-mercury T=484 dyne/cm2, Contact Angle=140deg.
Gas-Water Pc assumes gas-water TCosO= 70 dynes/cm
Density gradient for gas=0.068psi/ft; brine=0.47psi/ft.

Location/Formation: **BIA Southern Ute**

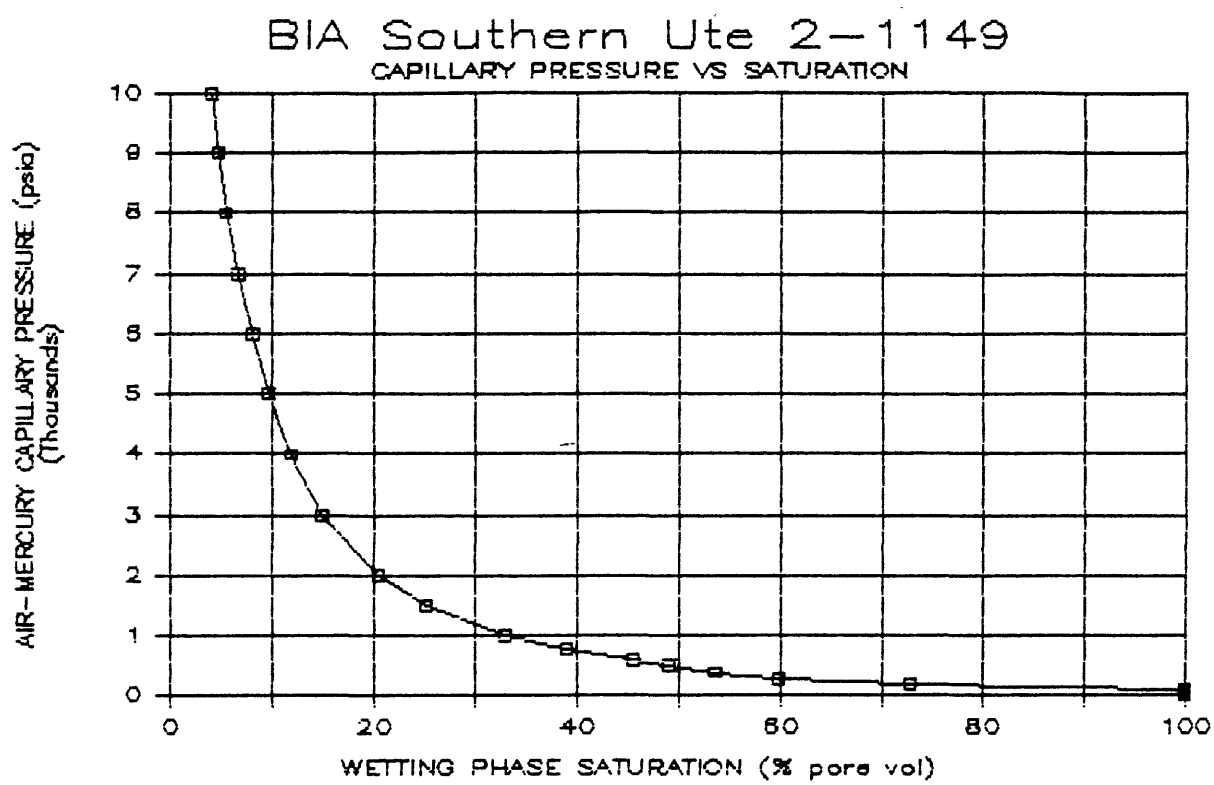
Company: **USGS Denver**

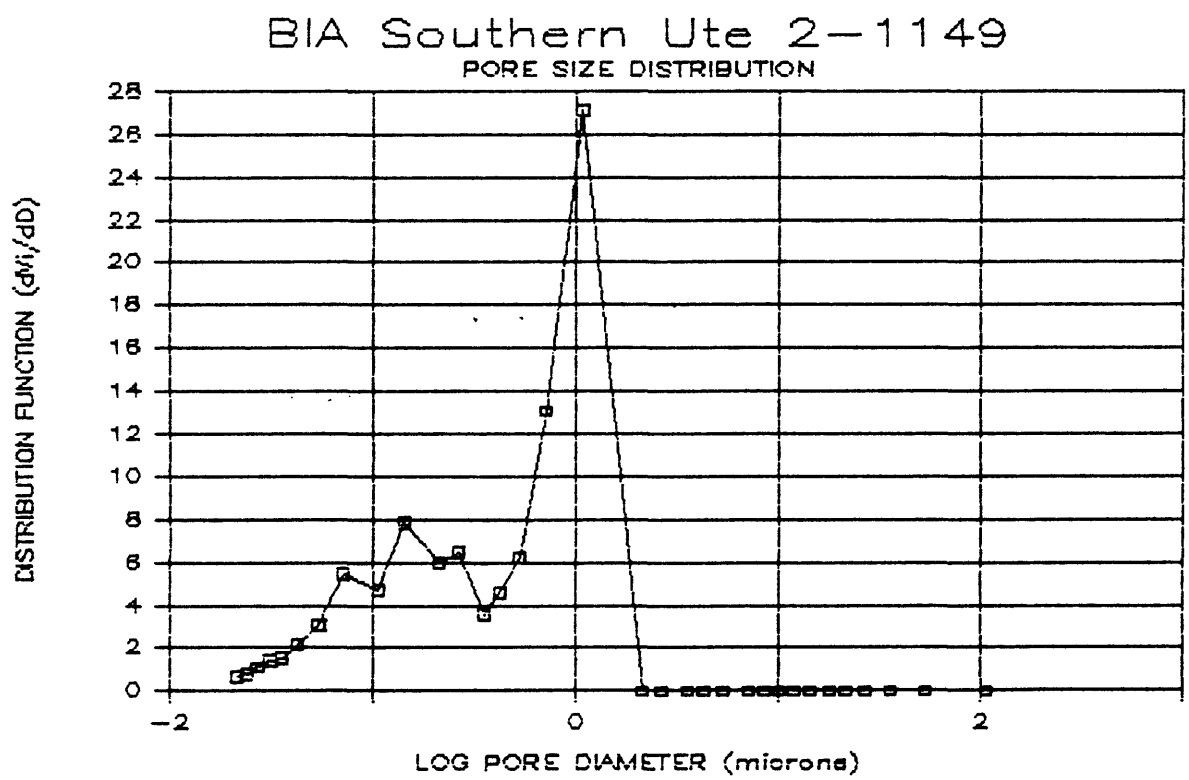
BIA SOUTHERN UTE 2-1149



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**



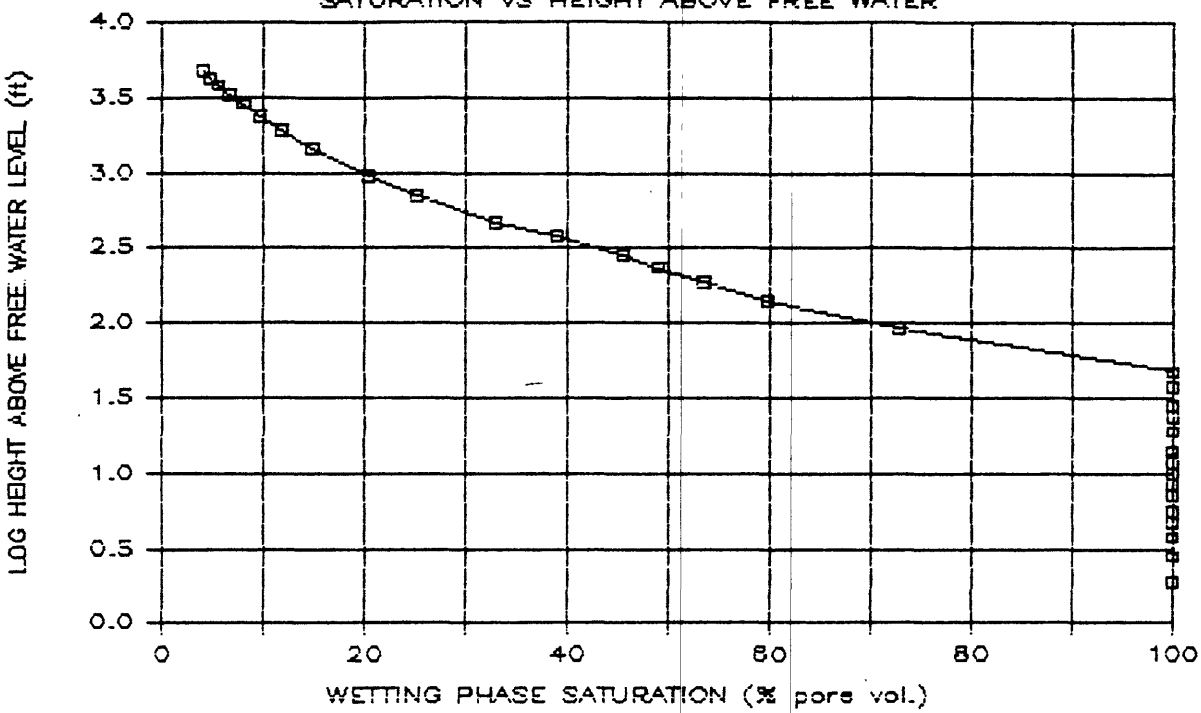


Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

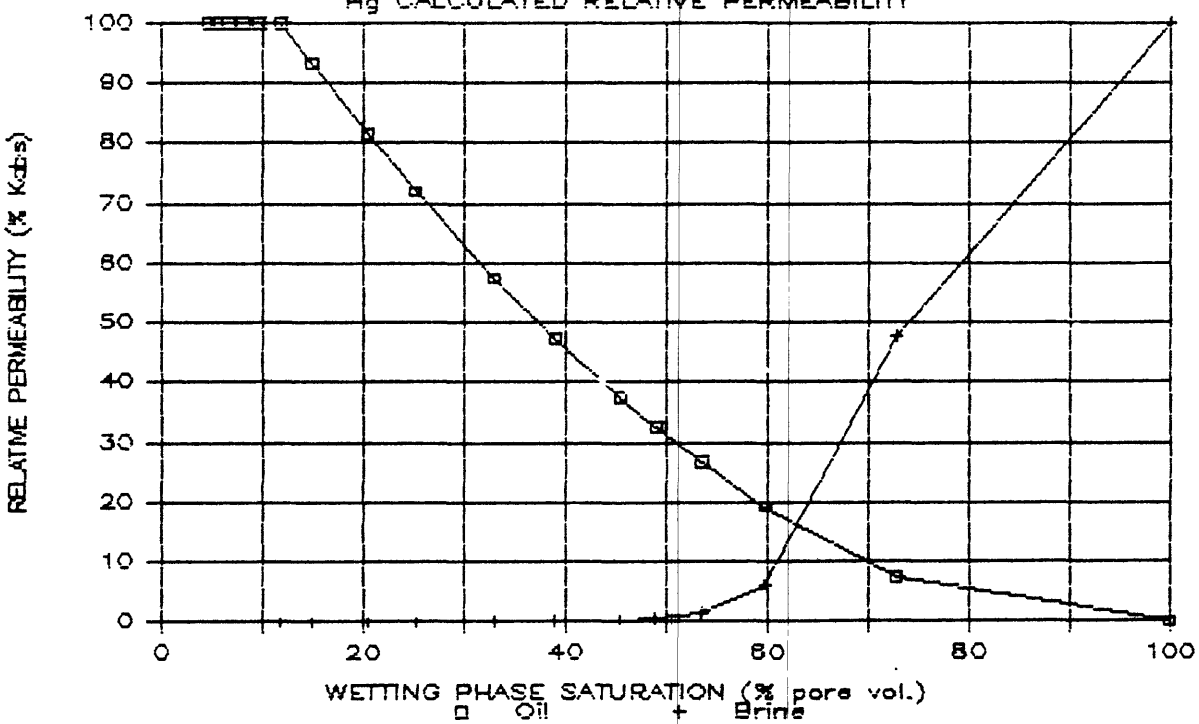
BIA Southern Ute 2—1149

SATURATION VS HEIGHT ABOVE FREE WATER



BIA Southern Ute 2—1149

Hg CALCULATED RELATIVE PERMEABILITY



Location/Formation: **BIA Southern Ute**

Company: **USGS Denver**

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