SPECIAL CORE ANALYSIS STUDY

for

MOBIL OIL CORPORATION

NIX NO. 1 UNIT NO. 3 WELL
HUGOTON FIELD
STEVENS COUNTY, KANSAS

FILE: TEMP EOSPRINT A1 VM/XA SP 2.1 CMS 5.6

From: ZDKL04 --TRCVM Date and time 04/29/91 07:05:38
To: ZTMO02 --DENVER

Reply to note of 04/26/91 15:51
From: Debra K. Lee Ext. 4462 - TRC Core
Subject: api request
In that state and county there is only one Nix #3 with a comp date in 1984, but it is not a Mobil well. It is the
Nix No 1 Unit, #3 well, Northern Nat Gas Prod, location sect 25 twp 33s rng 36w compdate 03/19/1984.

Could that be it?

7501 STEMMONS FREEWAY, BOX 47547, DALLAS TEXAS 75247 • 214/631-8270

CORE LABORATORIES, INC.

Reply To
10703 E. BETHANY DRIVE
AURORA, COLORADO 80014

July 10, 1984

Mobil Oil Corporation
1225 17th Street
Denver, Colorado 80217

Attention: Mr. George Liveris

Subject:

Special Core Analysis Study
Nix No. 1 Unit No. 3 Well
Hugoton Field
Chase Group
Stevens County, Kansas
File Number: SCAL 203-840030

Gentlemen:

On February 21, Mr. E. J. Carr and Mr. Mercer L. Brugler of Core Laboratories met with Ms. Eileen A. McMullin, Mr. Tom Besly and Mr. Dave Morgan of Mobil Oil Corporation and discussed a special core analysis program for the subject well. The conventional full diameter core was obtained and analyzed the the Core Laboratories Casper Wyoming laboratory. Sampling guidelines for special core analysis tests were discussed at the meeting and utilized by representatives of Mobil Oil Corporation for their final selection on core intervals for special testing. The sampling interval data was recorded and telecopied to the Casper Wyoming laboratory for core plug drilling. After drilling the core samples, the plugs were sent to the Aurora Special Core Analysis laboratory for the special tests listed below:

1) Formation Resistivity Factor and Resistivity Index Measurements at Ambient Conditions.

2) Formation Resistivity Factor at Overburden Pressure Studies.

3) Unsteady-State Gas-Water Relative Permeability Studies.

4) Mercury Injection Capillary Pressure and Pore Size Distribution Studies.

Twenty four samples representing five separate formations were selected for Special Core analysis tests from the Nix No. 1 Unit No. 3 well, the second of a total of four wells. These samples were drilled in the Core Laboratories Casper Wyoming facilities with a 1 1/2-inch diameter diamond core bit, using tap water as the bit coolant and lubricant. Upon receiving the core plug samples at the Aurora laboratory facilities, each was trimmed to a right cylinder using a diamond trim saw and a saturated brine solution as the blade coolant and lubricant. The samples were briefly extracted of hydrocarbons using cool toluene and leached of salts using cool methyl alcohol in a centrifuge solvent reflux apparatus. Using a vacuum oven, all core samples were dried at 180°F until the individual sample weights stabilized. Permeability to air and Boyle's Law porosity values were obtained and presented on Pages 4 and 5. Permeability to air versus porosity crossplot data for each formation is presented on Pages 6 through 10 representing the whole core conventional core analysis data. Prior to testing, the core plugs were lithologically described and properly identified on Pages 1 through 3.

On March 2, two water samples from adjacent wells were received by the Aurora laboratory and a subsequent analysis was performed by the Core Laboratories Chemistry Group. The data results were reported to Ms. McMullin, who selected the proper water analysis presented on Page 11 of this report.

1) Formation Resistivity Factor and Resistivity Index Measurements at Ambient Conditions:

   Fifteen samples were selected for formation resistivity factor and resistivity index measurements. The samples were placed into a saturater cell, evacuated and pressure saturated with the simulated formation brine. The brine was synthesized in the laboratory with reagent grade salts. Additional $CaSO_4$ was added to prevent possible dissolution problems from the presence of anhydrite. The resistivities of the fully saturated core plug samples and the simulated formation brine were measured on successive days until the results stabilized, indicating that ionic equilibrium had been attained. The resistivity of the brine was 0.0522 ohm-meters at 72°F.

   The core plugs were then placed into a high speed centrifuge and desaturated using rates of rotation equivalent to pressures ranging from 50 to 500 psi. After the completion of each of four total runs, the core plugs were weighed, wrapped in saran wrap and aluminium foil and then the pore fluids were allowed to redistribute for a period of 18 to 36 hours. Immediately following the waiting period, the samples were reweighed, a resistance value measured and then the cycle was repeated again. By gravimetric means (also confirmed by volumetric readings) the individual saturation values for all core plugs were calculated. The formation resistivity factor and resistivity index values were calculated from the resistivity measurements. The formation resistivity factor was plotted as a function of porosity from which a cementation exponent "m" was derived. The formation resistivity index determinations were graphed as a function of water saturation from which a saturation exponent "n" was calculated. These data are summarized on the following page with references made to the corresponding tabular and graphic presentations.

(TABLE ONE)

CEMENTATION EXPONENT "m" AT OVERBURDEN PRESSURE

Formation	"a"	0.0 psi	200 psi	1300 psi	1400 psi	Tabular Data	Graphic Data
Herrington	1.0	1.88	1.94	1.99		Page 36	Pages 37-39
Krider	1.0	1.91	1.97	2.02		Page 40	Pages 41-43
Winfield	1.0	1.93	2.00	2.06		Page 44	Pages 45-47
Towanda	1.0	1.98	2.07		2.08	Page 48	Pages 49-51
Fort Riley	1.0	1.81	1.90		1.87	Page 52	Pages 53-55

SATURATION EXPONENT "n"

Herrington	2.15	Page 12	Pages 13
Krider	1.97	Page 14	Pages 15-19
Winfield	1.89	Page 20	Pages 21-24
Towanda	1.78	Page 25	Pages 26-30
Fort Riley	2.13	Page 31	Pages 32-35

2) Formation Resistivity Factor at Overburden Pressure:

The samples were recleaned and resaturated in the same manner described previously. The electrical resistivities were measured at effective overburden pressures of 0.0, 200 and depending on the formation either 1300 or 1400 psi. The samples exhibited normal trends of increasing formation resistivity factors and cementation exponents with increasing effective overburden pressures. The results are presented in Table One above.

3) Unsteady-State Gas-Water Relative Permeability Studies:

Eight core intervals were selected for relative permeability studies. All eight core samples were drilled and prepared in the same manner as stated previously. Each core plug was evacuated and pressure saturated with the simulated formation brine. Afterwards, the samples were placed into a hydrostatic core holder for specific permeability to fluid determinations. At this point, sample number 118 (2758-2759 ft.) fell below the testing limit of 0.08 millidarcys permeability and thus was eliminated from the testing program. No alternate sample intervals were choosen. Next, humidified nitrogen gas was injected to displace dynamically the water present in each sample and incremental volumes of water and gas production were measured as a function of time. The production data were used to calculate the gas-water relative permeability characteristics for each core plug. The results are presented in tabular form on Pages 57 through 64 and in graphic form on Pages 65 throught 80. A summary page is provided on Page 56.

4) Mercury Injection Capillary Pressure and Pore Size Distribution Studies:

Nine core samples were prepared for Mercury Injection Capillary Pressure tests. Each core sample was placed into a mercury cell, evacuated and injected with mercury from 0-2000 psia. The incremental data are presented in tabular form on Pages 81 and 82 and in graphic form on Pages 83 through 91. A composite graph is presented on Page 92.

Pore size distribution calculations were performed on the Air-Mercury data and tabular results are presented on Pages 93 and 94 and graphical data follows on Pages 95 through 103.

It has been a pleasure working with Mobil Oil Corporation on this study. Should you have any questions pertaining to these test results or if we can be of further assistance, please do not hesitate to contact us at (303)751-9334.

Very truly yours,

CORE LABORATORIES, Inc.

Mercer L. Brugler

Mercer L. Brugler
Special Core Analysis Supervisor

MLB/sss
6 cc addressee

IDENTIFICATION AND LITHOLOGICAL DESCRIPTION OF SAMPLES

Company: Mobil Oil Corporation

Well: Nix No. 1 Unit No. 3

Formation: As Noted

Field: Hugoton

County, State: Stevens, Kansas

Sample Identification	Depth, feet	Lithological Description
		Herrington Formation
5	2629-2630	Sst,sil,ltgry,fgr,wl srtd,wl consol,slty tr mic
5A	2629-2630	Sst,sil,ltgry,fgr,wl srtd,wl consol,sl slty,tr mic,anhy
		Krider Formation
28	2661-2662	Sst,sil,ltgry,fgr,wl srtd,wl consol, tr anhy
28A	2661-2662	Sst,sil,ltgry,fgr,wl srtd,wl consol, tr anhy
48	2684-2685	Dol,ltgry,grst,sl shly
63	2699-2700	Dol,bu,grst,ool,ppvug,sl shly
63A	2699-2700	Dol,bu,grst,ool,ppvug,sl shly
82	2718-2719	Dol,bu,grst,scat ppvug,anhy

IDENTIFICATION AND LITHOLOGICAL DESCRIPTION OF SAMPLES

Company: Mobil Oil Corporation

Well: Nix No. 1 Unit No. 3

Formation: As Noted

Field: Hugoton

County, State: Stevens, Kansas

Sample Identification	Depth, feet	Lithological Description
Winfield Formation		
103	2743-2744	Dol,bu,grst,psool,ppvug
103A	2743-2744	Dol,bu,grst,psool,ppvug
107	2747-2748	Dol,bu,grst,psool,ppvug
118	2758-2759	Dol,bu,grst,psool,ppvug
118A	2758-2759	Dol,bu,grst,psool,ppvug
Towanda Formation		
135	2796-2797	Dol,bu,grst,abd anhy nod,tr pyr
135A	2796-2797	Dol,bu-ltgry,scat ppvug,tr anhy
147	2808-2809	Dol,bu-ltgry,grst,psool,vug,scat anhy
159	2820-2821	Dol,ltgry,grst,vug,abd anhy
159A	2820-2821	Dol,ltgry,grst,vug,anhy
173	2834-2835	Dol,ltgry,ppvug,anhy nod

IDENTIFICATION AND LITHOLOGICAL DESCRIPTION OF SAMPLES

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: As Noted Field: Hugoton

County, State: Stevens, Kansas

Sample Identification	Depth, feet	Lithological Description
Fort Riley Formation		
197	2858-2859	Dol,ltgry-pksh,grst,tr anhy,sl shly
197A	2858-2859	Dol,ltgry-pksh,grst,tr anhy,sl shly
214	2875-2876	Ls,ltgry,grst,foss,sl shly
214A	2875-2876	Ls,ltgry,grst,foss,sl shly
233	2894-2895	Dol,ltgry,grst,anhy,nod

PERMEABILITY TO AIR AND POROSITY

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: As Noted Field: Hugoton

County, State: Stevens, Kansas

Formation	Sample Identification	Depth, feet	Permeability to Air, millidarcys	Porosity, percent
Herrington	5	2629-2630	22	19.3
	5A	2629-2630	4.1	11.8
der	28	2661-2662	0.13	7.6
	28A	2661-2662	0.59	10.3
	48	2684-2685	0.02	6.4
	63	2699-2700	18	16.6
	63A	2699-2700	7.7	16.1
	82	2718-2719	6.1	17.4
Winfield	103	2743-2744	42	13.0
	103A	2743-2744	51	14.9
	107	2747-2748	4.8	13.0
	118	2758-2759	0.24	8.1
	118A	2758-2759	0.09	7.6

PERMEABILITY TO AIR AND POROSITY

Company: Mobil Oil Corporation

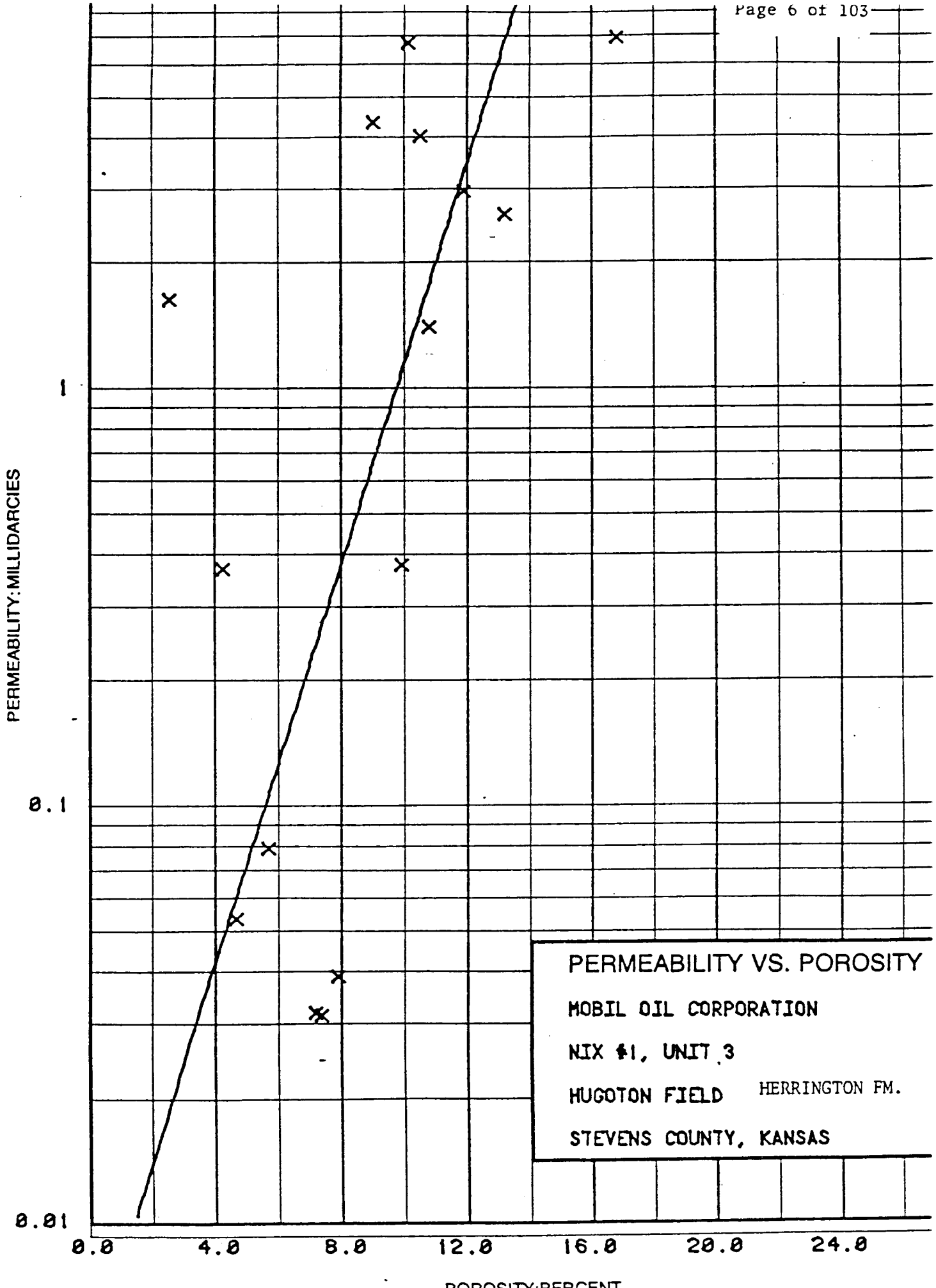
Well: Nix No. 1 Unit No. 3

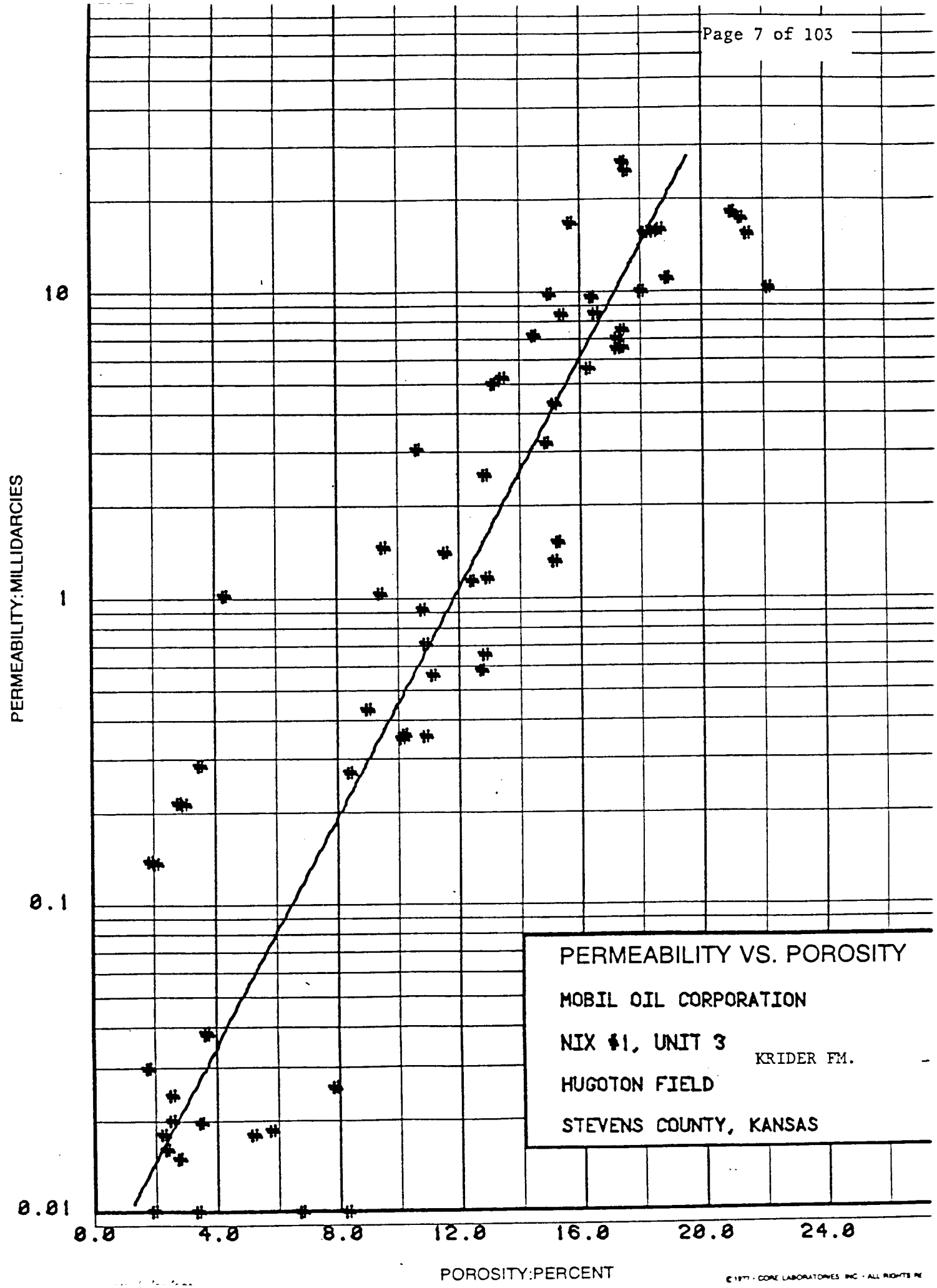
Formation: As Noted

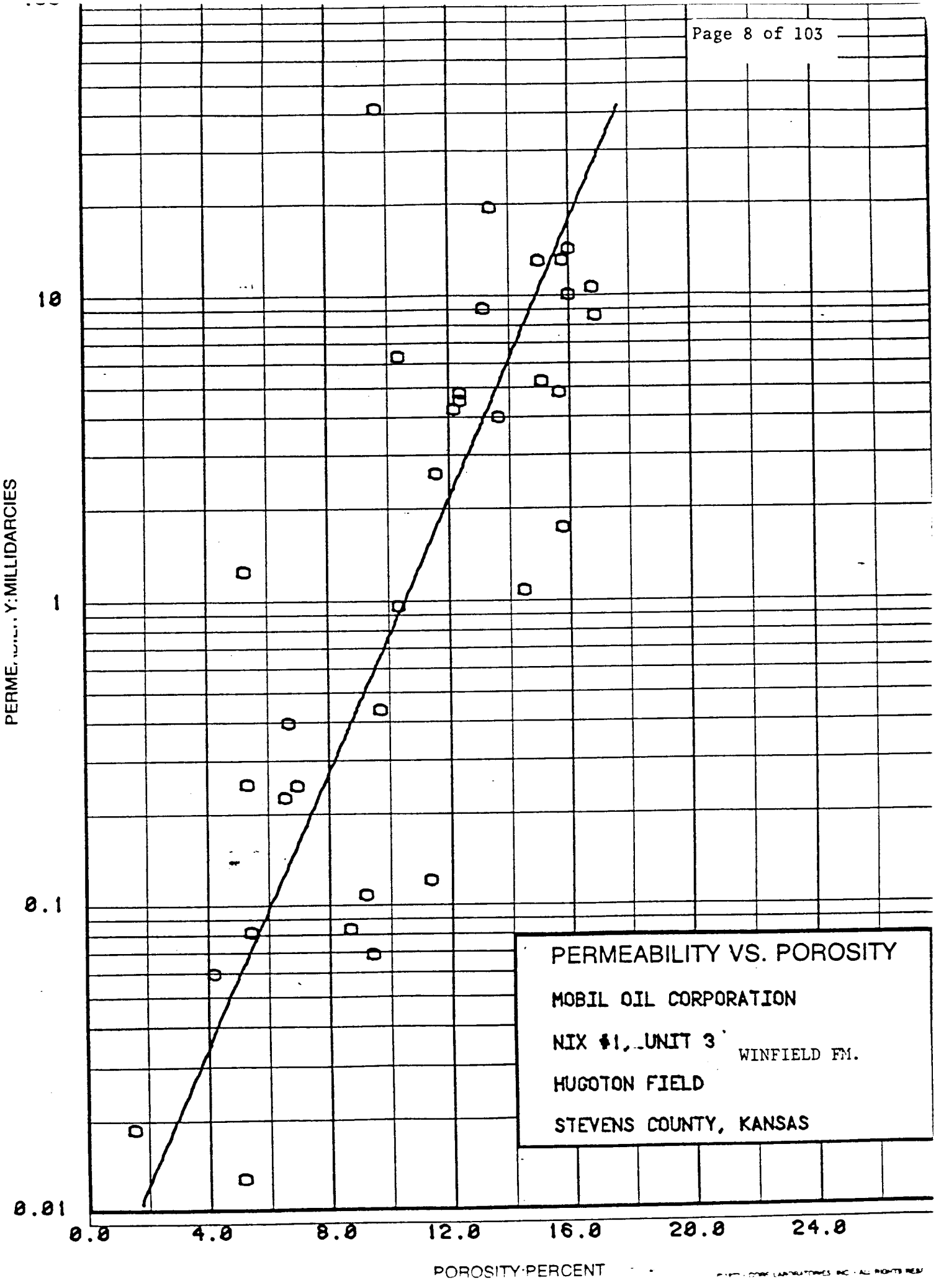
Field: Hugoton

County, State: Stevens, Kansas

Formation	Sample Identification	Depth, feet	Permeability to Air, millidarcys	Porosity, percent
Towanda	135	2796-2797	1.8	13.8
	135A	2796-2797	1.1	13.9
	147	2808-2809	0.62	11.4
	159	2820-2821	40	24.3
	159A	2820-2821	36	18.0
	173	2834-2835	6.6	17.6
Fort Riley	197	2858-2859	1.1	14.7
	197A	2858-2859	1.2	14.0
	214	2875-2876	0.43	11.6
	214A	2875-2876	0.13	10.7
	233	2894-2895	<0.01	10.3



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4.0
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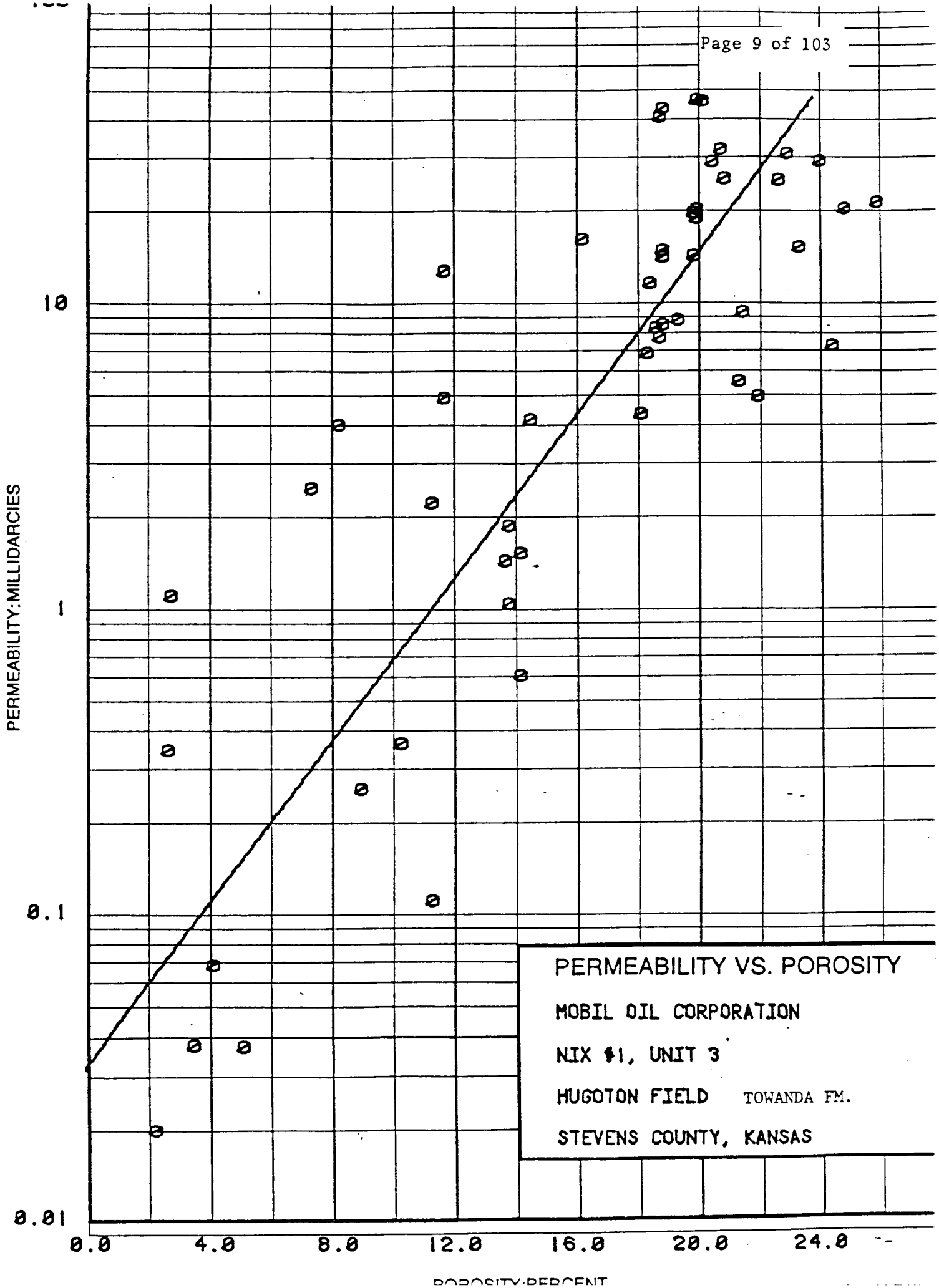
12.0
16.0
20.0
24.0
POROSITY-PERCENT
PERMEABILITY VS. POROSITY
MOBIL OIL CORPORATION
NIX #1, UNIT 3
WINFIELD FM.
HUGOTON FIELD
STEVENS COUNTY, KANSAS



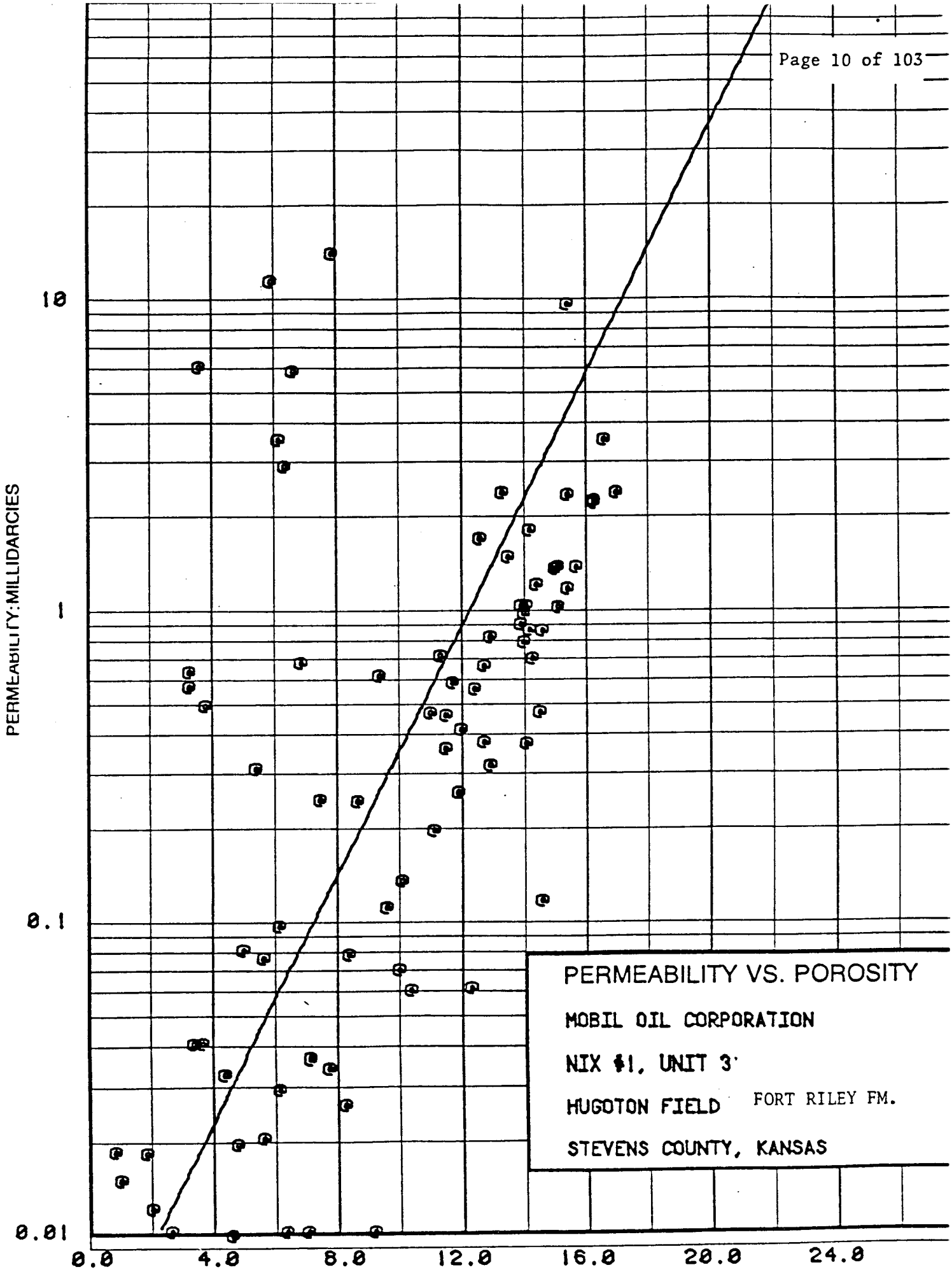
PERMEABILITY VS. POROSITY

MOBIL OIL CORPORATION

NIX #1, UNIT 3

HUGOTON FIELD TOWANDA FM.

STEVENS COUNTY, KANSAS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20.0
24.0
POROSITY:PERCENT
PERMEABILITY VS. POROSITY
MOBIL OIL CORPORATION
NIX #1, UNIT 3
HUGOTON FIELD
FORT RILEY FM.
STEVENS COUNTY, KANSAS

SIMULATED BRINE COMPOSITION

Constituents	Concentration, g/L
Sodium Chloride (NaCl)	164.91
Calcium Chloride ($CaCl_2$) 2 H_2O	35.27
Magnesium Chloride ($MgCl_2 \cdot 6H_2O$)	20.07
Sodium Bicarbonate ($NaHCO_3$)	0.04
Sodium Sulfate (Na_2SO_4)	1.32
Potassium Chloride (KCL)	0.40
Calcium Sulfate ($CaSO_4$)	7.00

The brine composition was prepared from the following analysis:

Company: Mobil Oil Corporation Well: Finley No. 1

Formation: Chase Field: Hugoton

County, State: Stevens, Kansas

Constituent	Concentration, mg/L	Constituent	Concentration, mg/L
Sodium	65295	Chloride	124210
Calcium	9600	Bicarbonate	26
Magnesium	240	Sulfate	890
Potassium	208	Carbonate	<0.1

FORMATION RESISTIVITY FACTOR AND RESISTIVITY INDEX

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Herrington Field: Hugoton

County, State: Stevens, Kansas

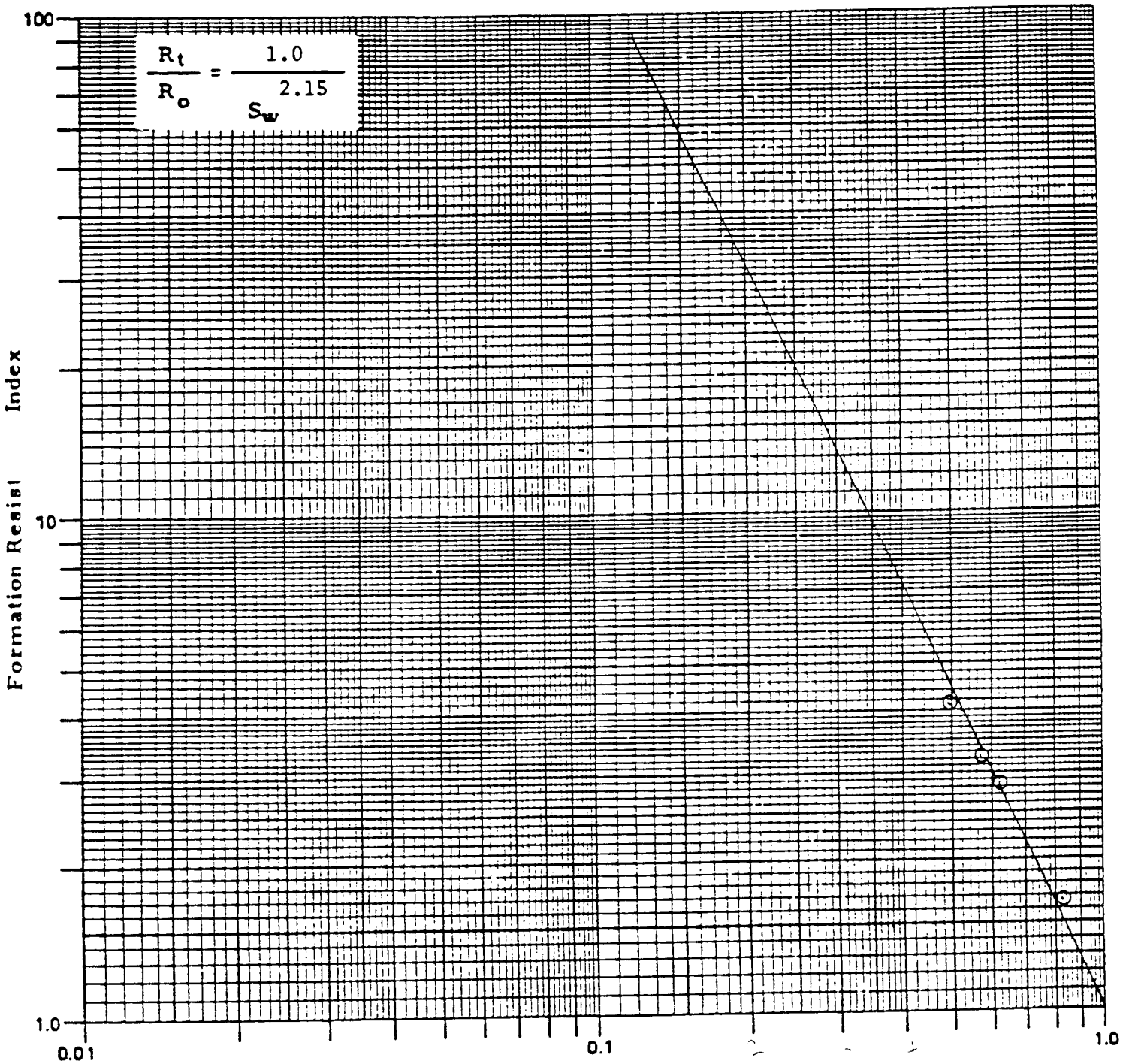
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Formation Resistivity Factor	Brine Saturation, percent pore space	Resistivity Index
5A	2629-30	4.1	11.8	54.6	100.0	1.0
					82.3	1.66
					62.3	2.36
					56.5	3.22
					49.6	4.06

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Herrington
County Stevens
State Kansas

Sample No. 5A



FORMATION RESISTIVITY FACTOR AND RESISTIVITY INDEX

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Krider Field: Hugoton

County, State: Stevens, Kansas

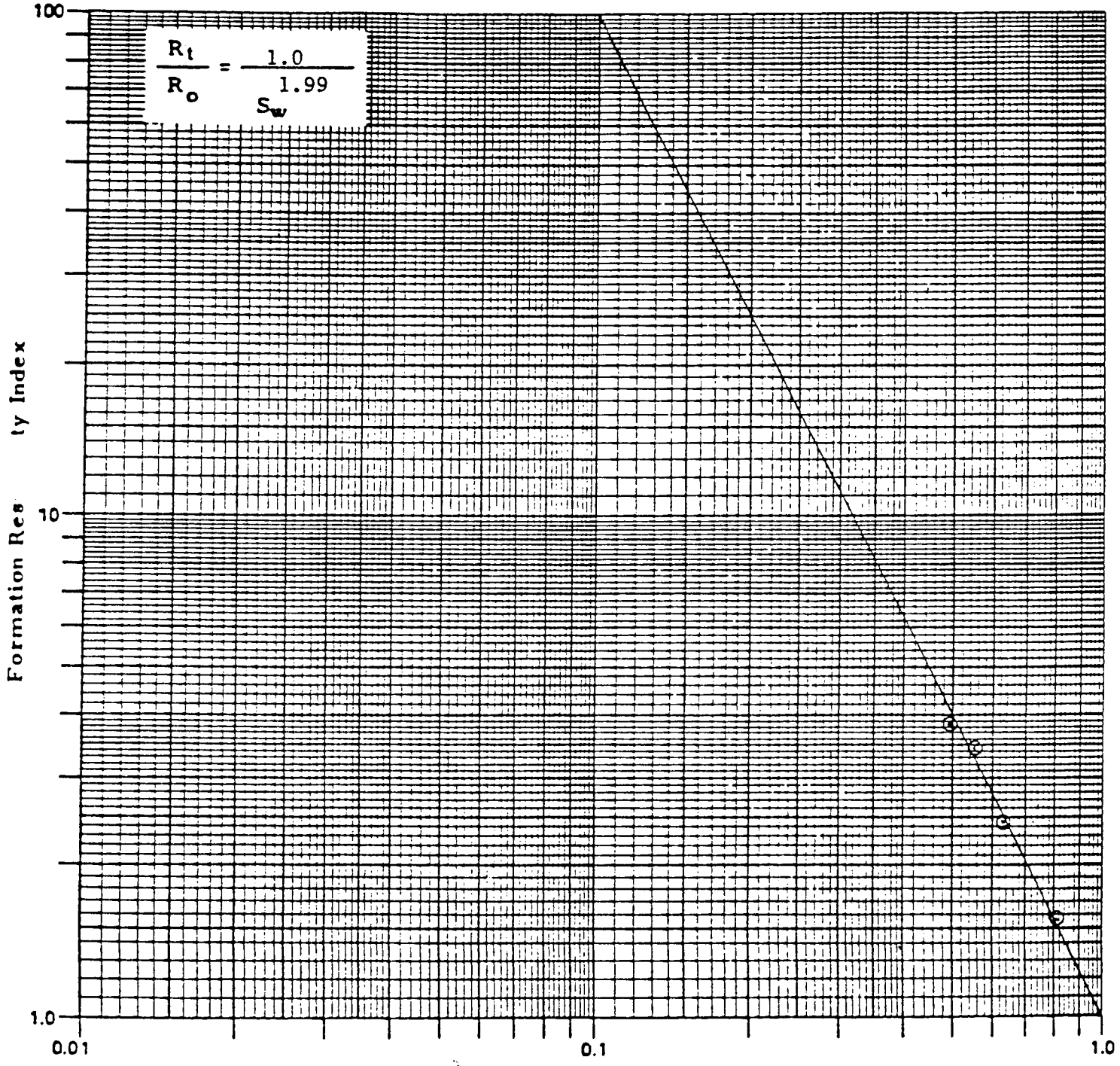
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Formation Resistivity Factor	Brine Saturation, percent pore space	Resistivity Index
28	2661-62	0.13	7.6	118.1	100.0	1.0
					81.5	1.56
					62.6	2.48
					55.2	3.44
					49.7	3.82
48	2684-85	0.02	6.4	79.5	100.0	1.0
					91.0	1.16
					74.4	1.42
					62.1	1.53
					51.0	1.90
63	2699-2700	18	16.6	36.5	100.0	1.0
					64.9	2.28
					49.4	3.65
					42.7	5.62
					40.0	6.14
82	2718-19	6.1	17.4	27.4	100.0	1.0
					81.3	1.63
					72.2	1.77
					65.7	2.59
					60.2	2.98

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas

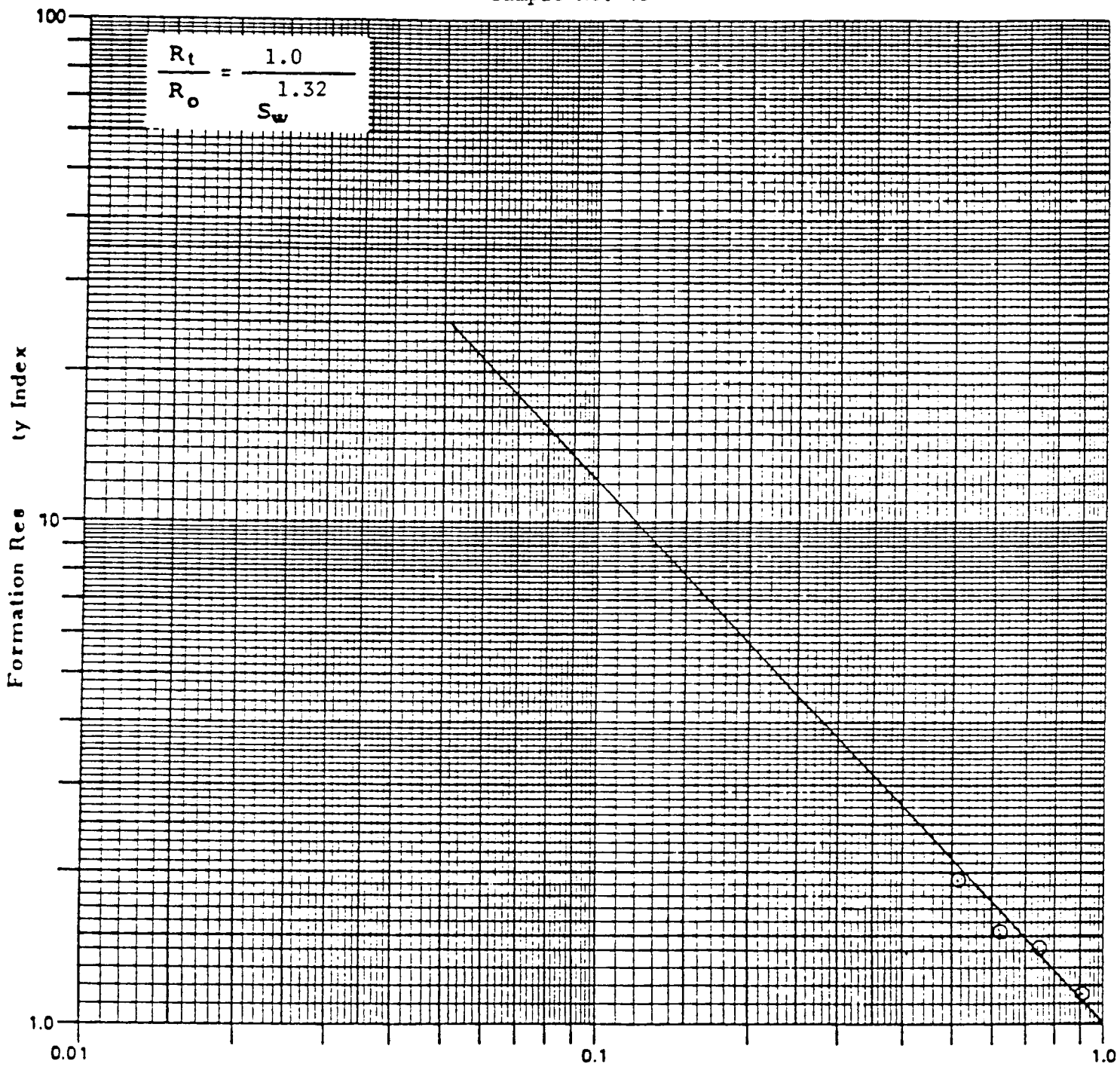
Sample No. 28



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas

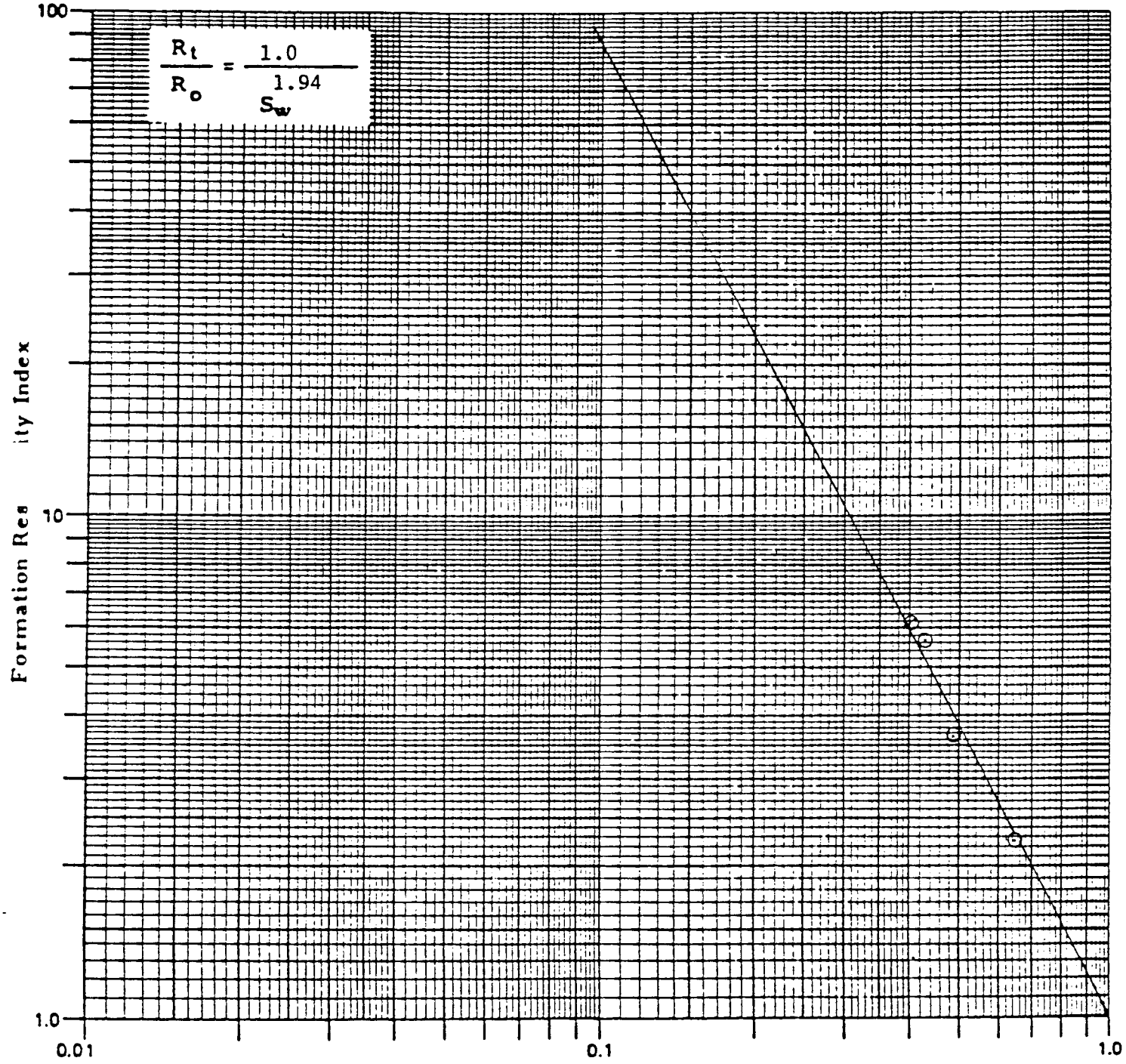
Sample No. 48



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

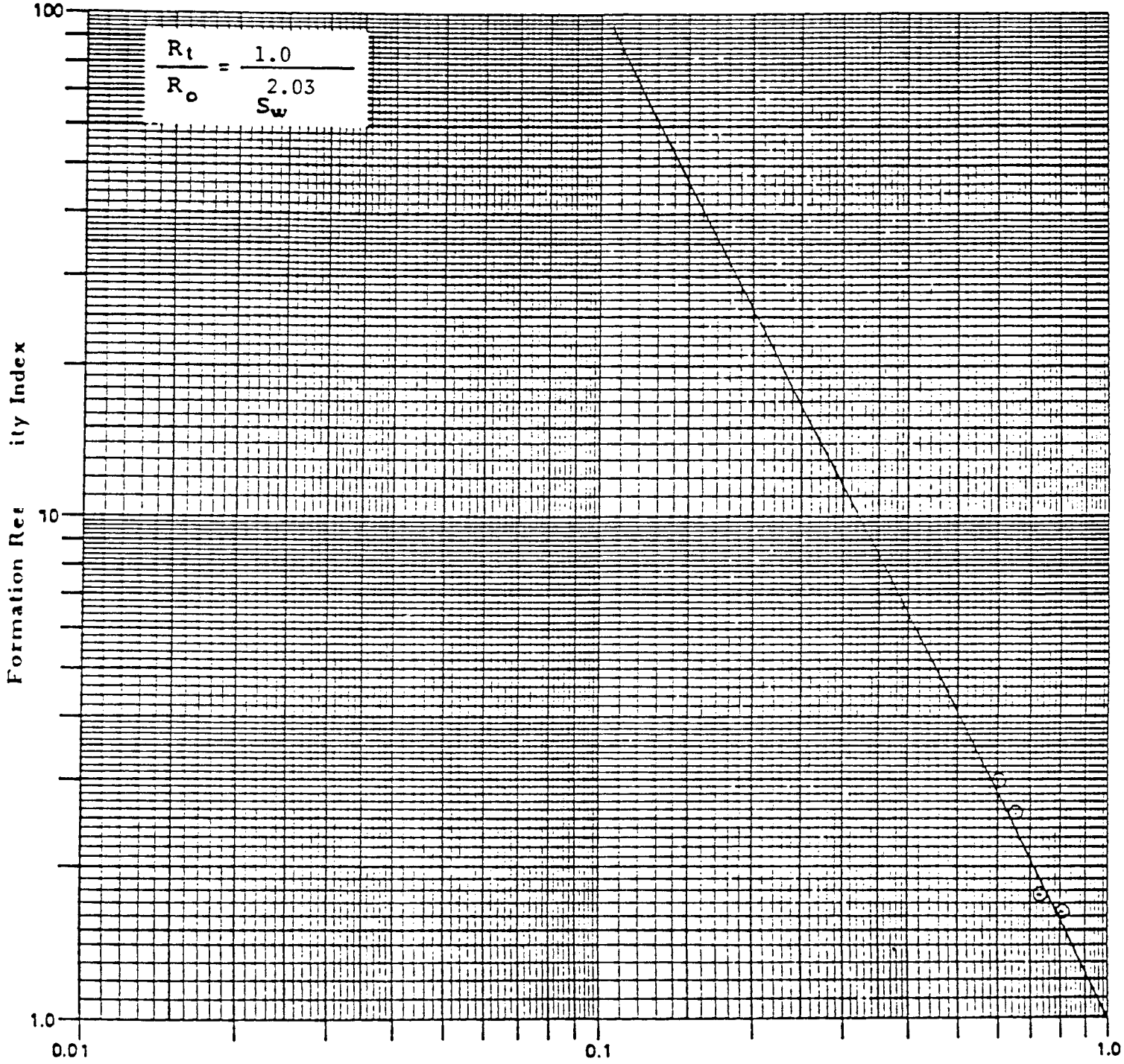
Formation Krider
County Stevens
State Kansas

Sample No. 63



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Krider
County Stevens
State Kansas

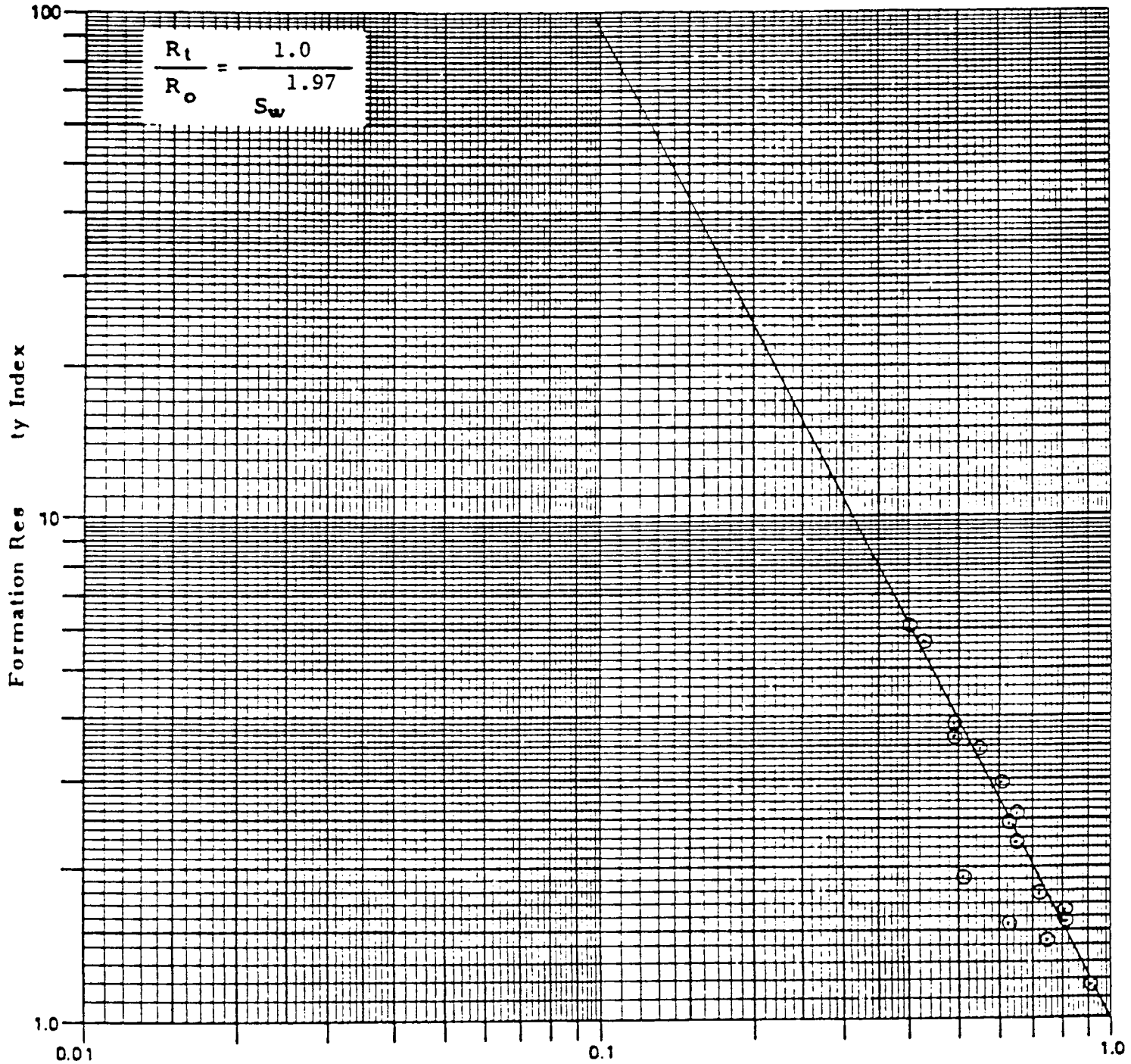
Sample No. 82



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas

Composite Plot



FORMATION RESISTIVITY FACTOR AND RESISTIVITY INDEX

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Winfield Field: Hugoton

County, State: Stevens, Kansas

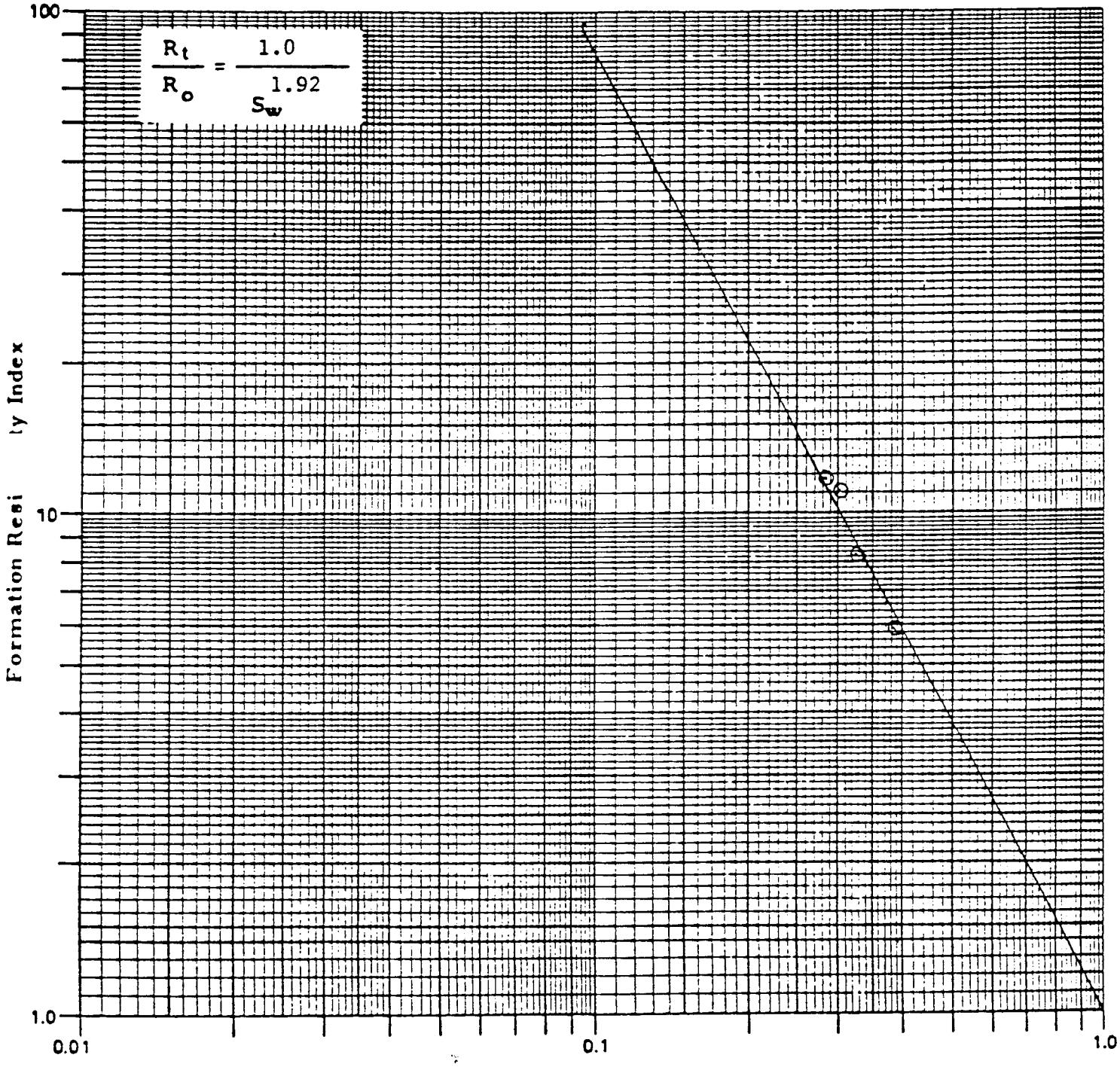
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Formation Resistivity Factor	Brine Saturation, percent pore space	Resistivity Index
103A	2743-44	51	14.9	47.6	100.0	1.0
					38.4	5.90
					32.9	8.21
					30.2	11.00
					28.0	11.82
107	2747-48	4.8	13.0	58.5	100.0	1.0
					68.2	2.26
					56.3	2.94
					46.0	3.86
					42.4	4.52
118A	2758-59	0.09	7.6	110.4	100.0	1.0
					74.6	1.89
					49.6	3.87
					44.2	4.05
					34.0	5.62

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

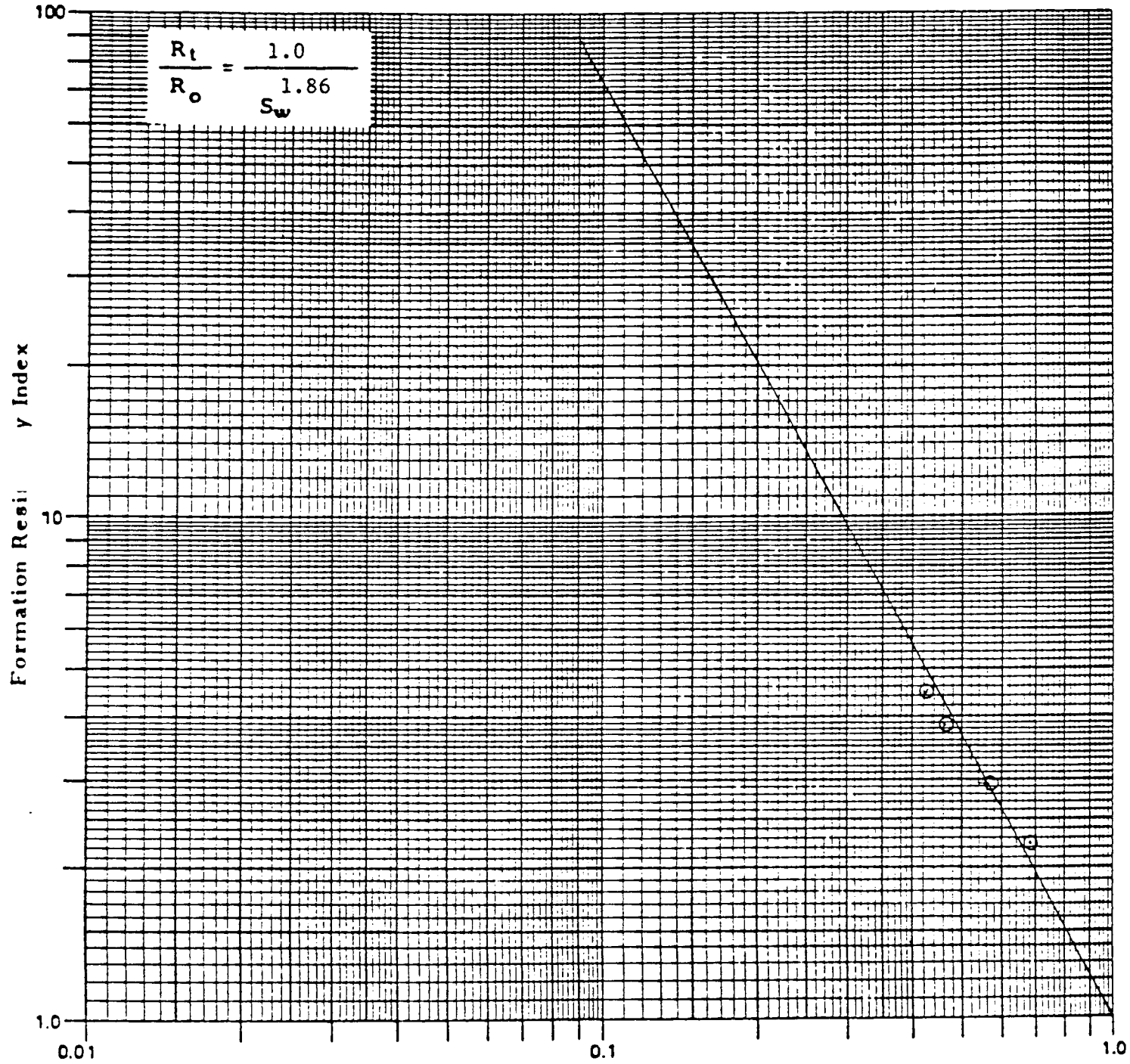
Formation Winfield
County Stevens
State Kansas

Sample No. 103A



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Winfield
County Stevens
State Kansas

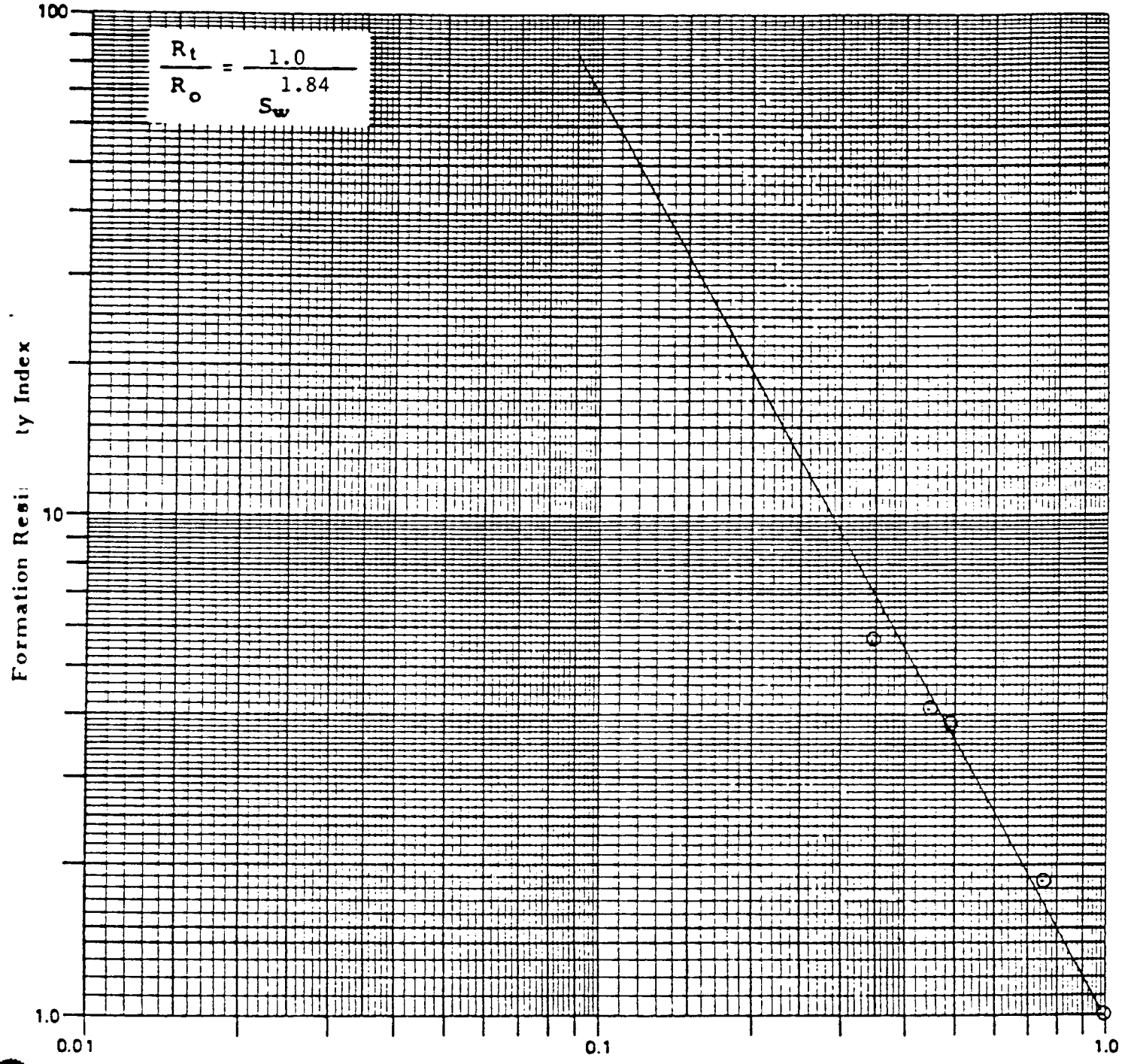
Sample No. 107



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Winfield
County Stevens
State Kansas

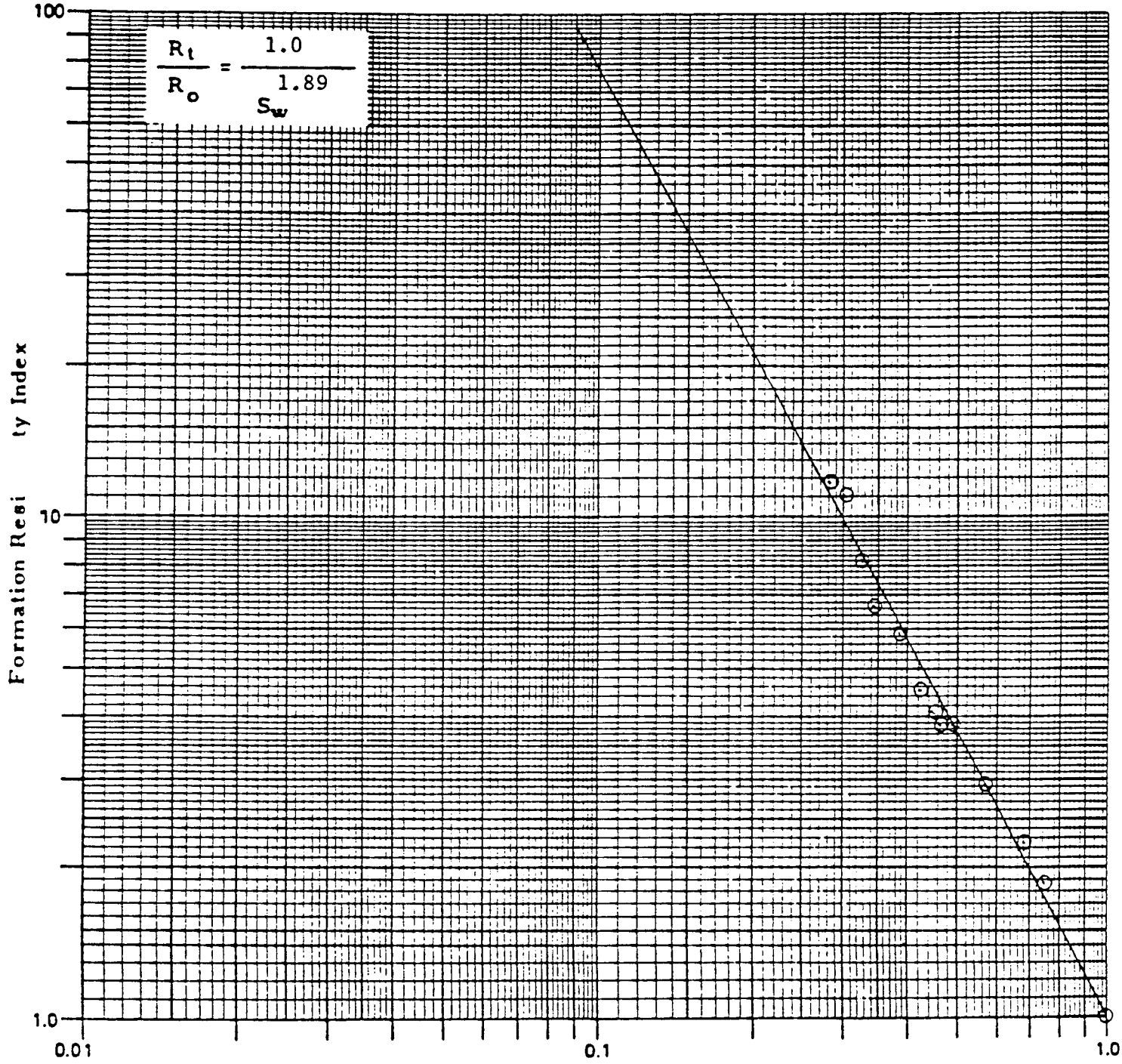
Sample No. 118A



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Winfield
County Stevens
State Kansas

Composite Plot



FORMATION RESISTIVITY FACTOR AND RESISTIVITY INDEX

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Towanda Field: Hugoton

County, State: Stevens, Kansas

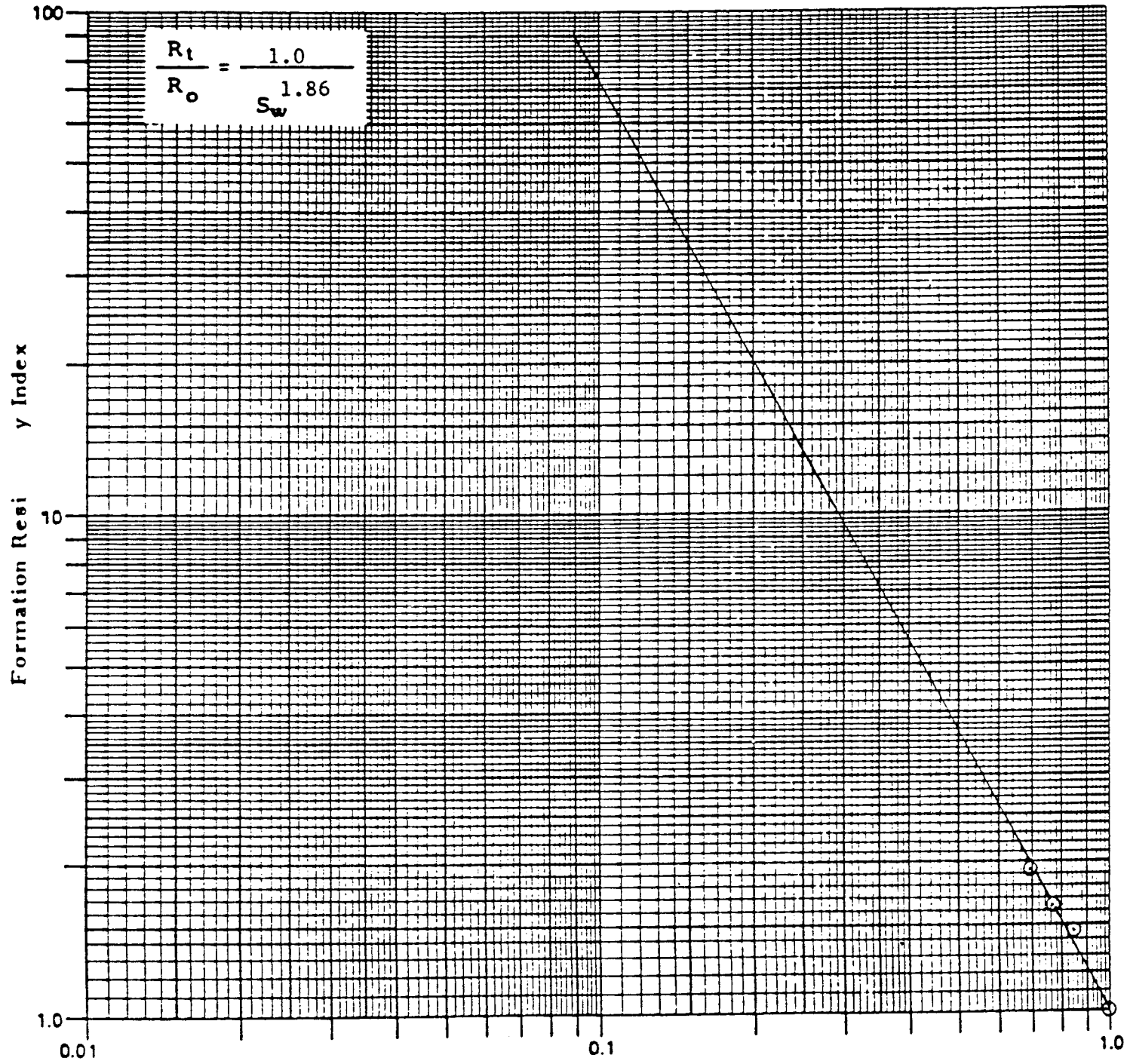
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Formation Resistivity Factor	Brine Saturation, percent pore space	Resistivity Index
135	2796-97	1.8	13.8	43.2	100.0	1.0
					85.5	1.46
					83.0	1.46
					76.5	1.63
					69.9	1.93
147	2808-09	0.62	11.4	102.8	100.0	1.0
					64.0	2.29
					43.4	3.63
					35.0	4.91
					29.1	5.75
159A	2820-21	36	18.0	23.1	100.0	1.0
					49.5	3.73
					36.5	5.35
					35.8	5.73
					30.8	6.58
173	2834-35	6.6	17.6	37.8	100.0	1.0
					69.5	2.39
					55.4	3.10
					47.7	3.97

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

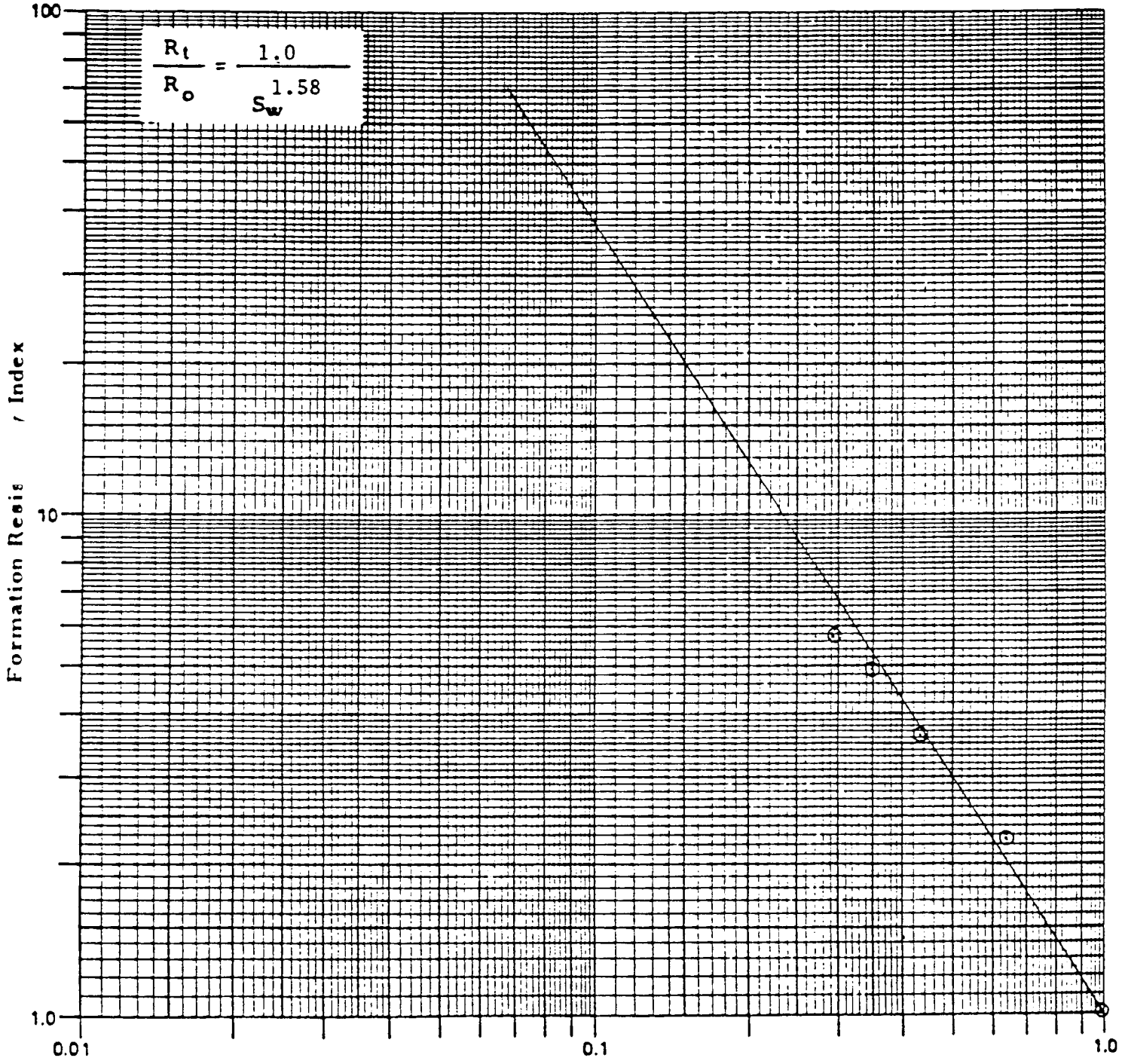
Formation Towanda
County Stevens
State Kansas

Sample No. 135



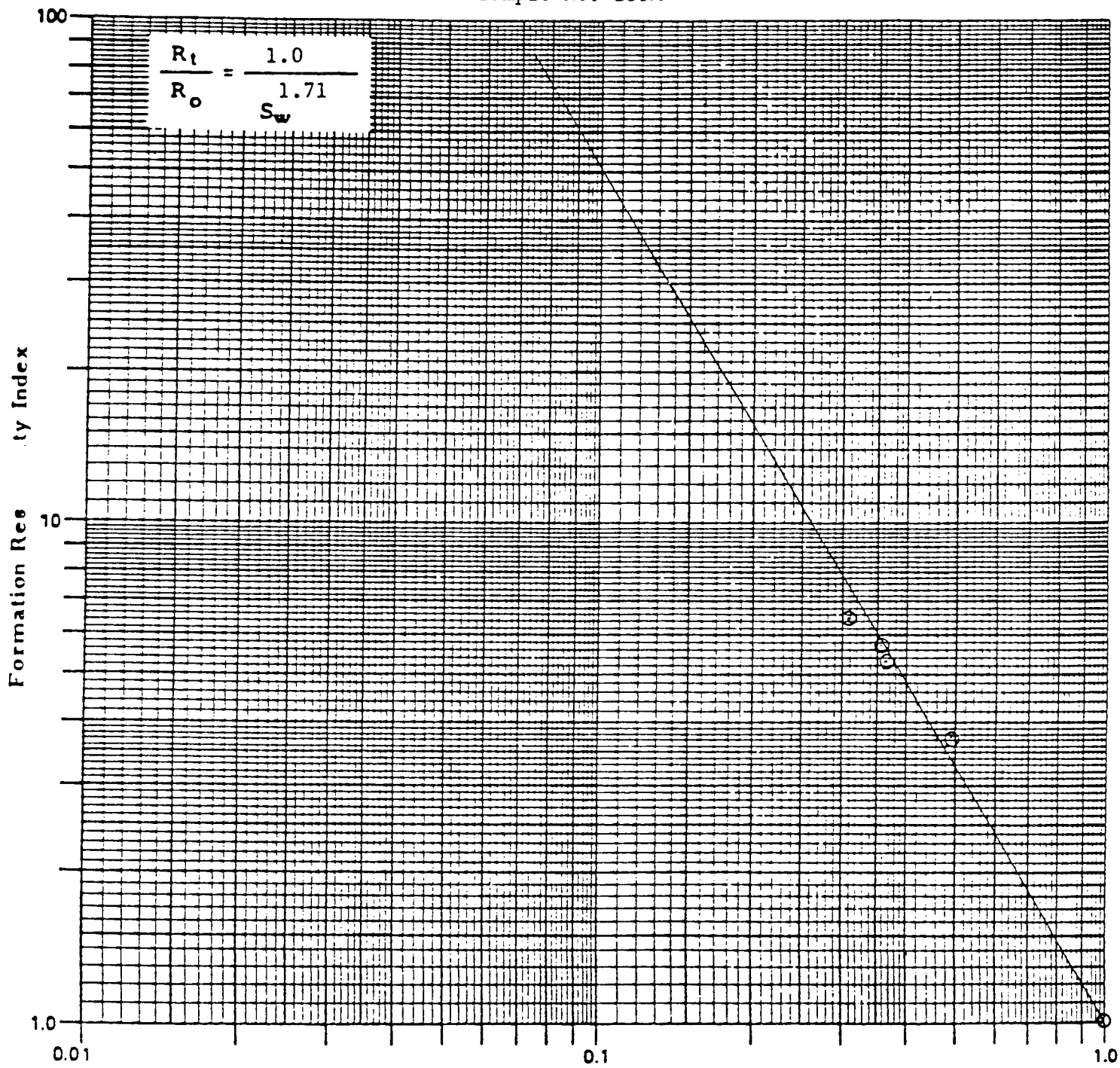
Company Mobil Oil Corporation — Formation Towanda
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample No. 147



Company Mobil Oil Corporation — Formation Towanda
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

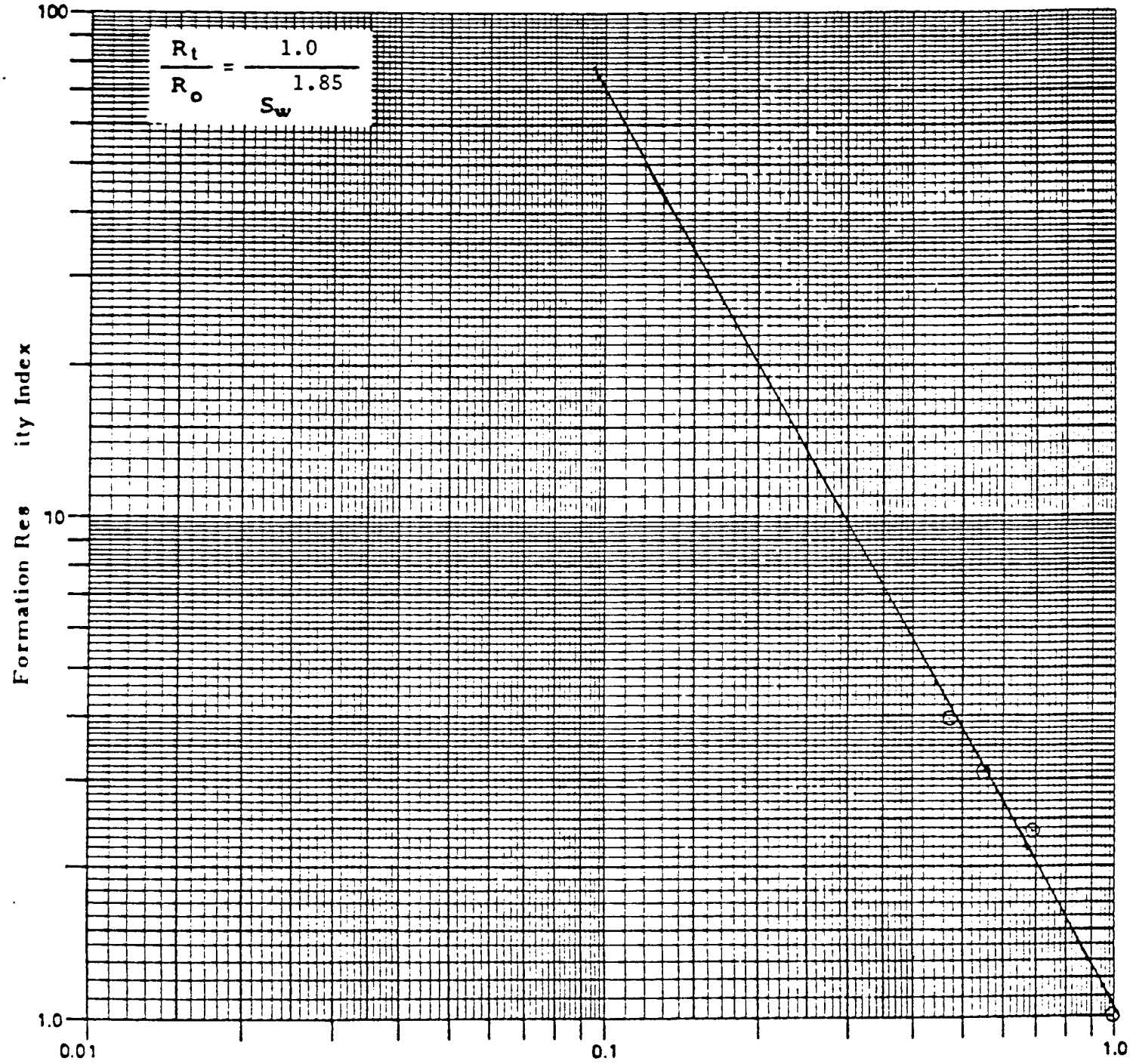
Sample No. 159A



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Towanda
County Stevens
State Kansas

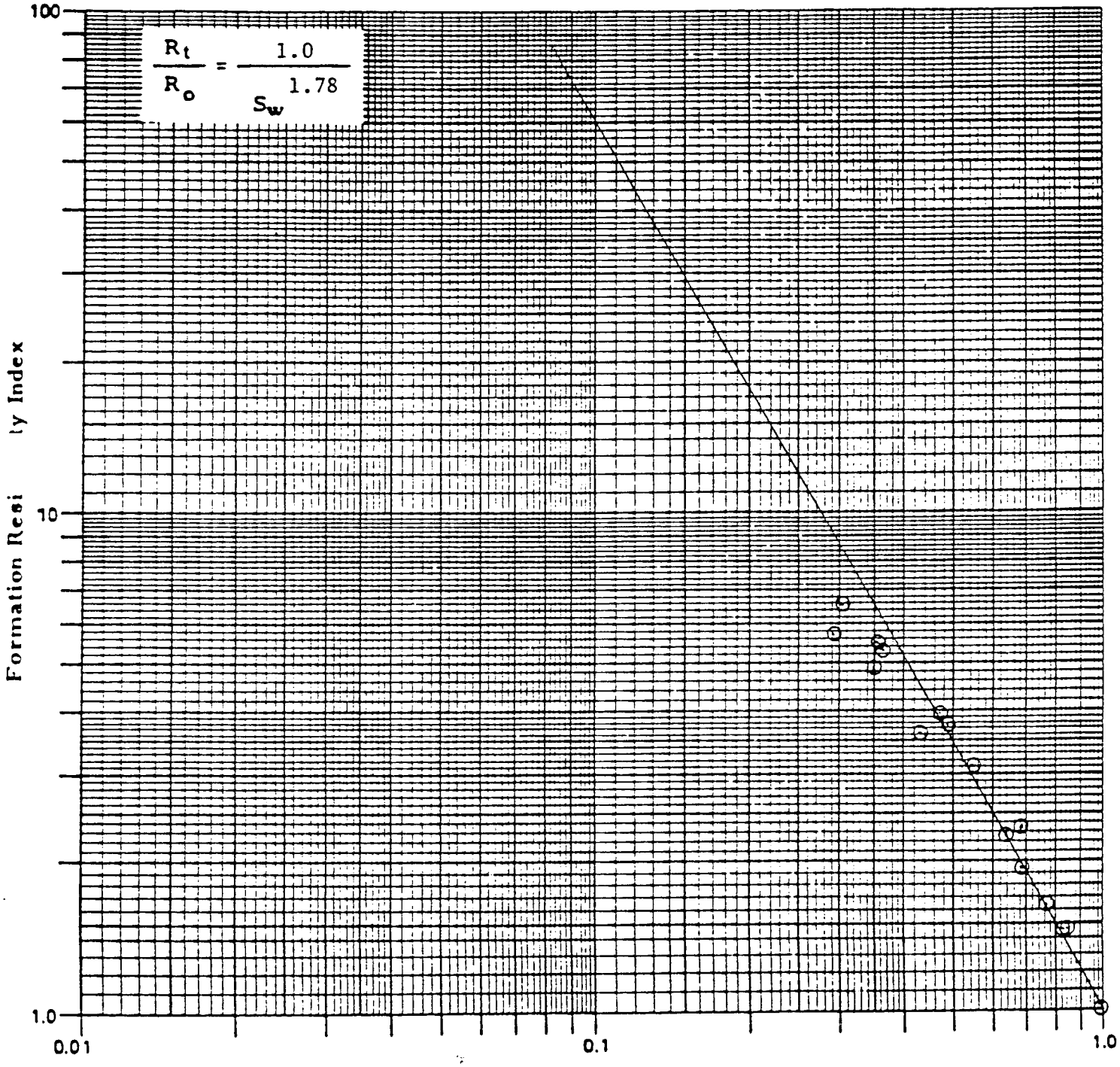
Sample No. 173



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Towanda
County Stevens
State Kansas

Composite Plot



FORMATION RESISTIVITY FACTOR AND RESISTIVITY INDEX

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Fort Riley Field: Hugoton

County, State: Stevens, Kansas

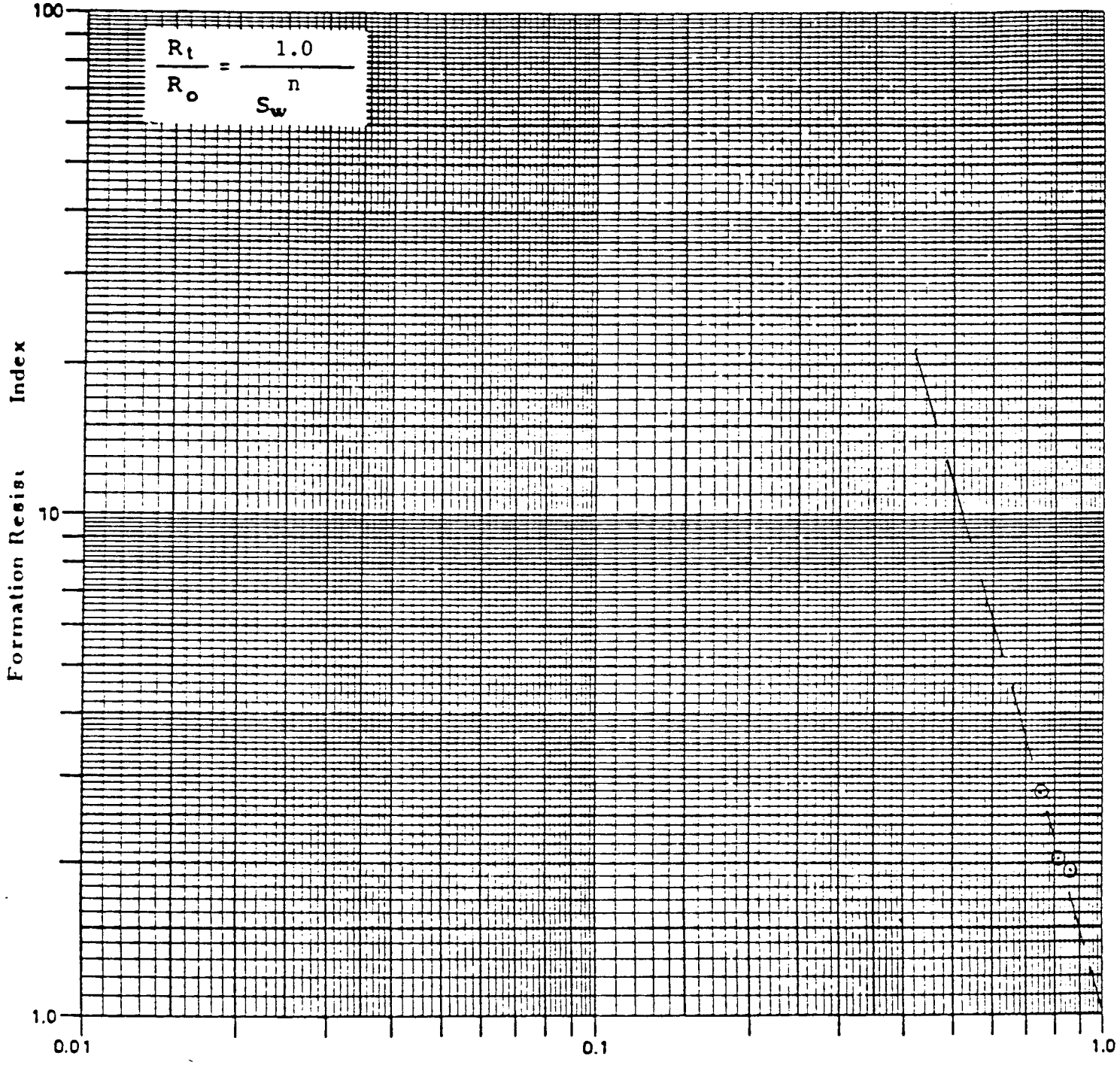
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Formation Resistivity Factor	Brine Saturation, percent pore space	Resistivity Index
197A	2858-59	1.2	14.0	27.3	100.0	1.0
					86.3	1.92
					81.7	2.03
					75.7	2.79
214A	2875-76	0.13	10.7	43.5	100.0	1.0
					91.7	1.20
					74.3	1.84
					58.2	2.88
233	2894-95	<0.01	10.3	68.7	100.0	1.0
					92.9	1.17
					83.7	1.45
					79.9	1.52
					70.7	1.68

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Fort Riley
County Stevens
State Kansas

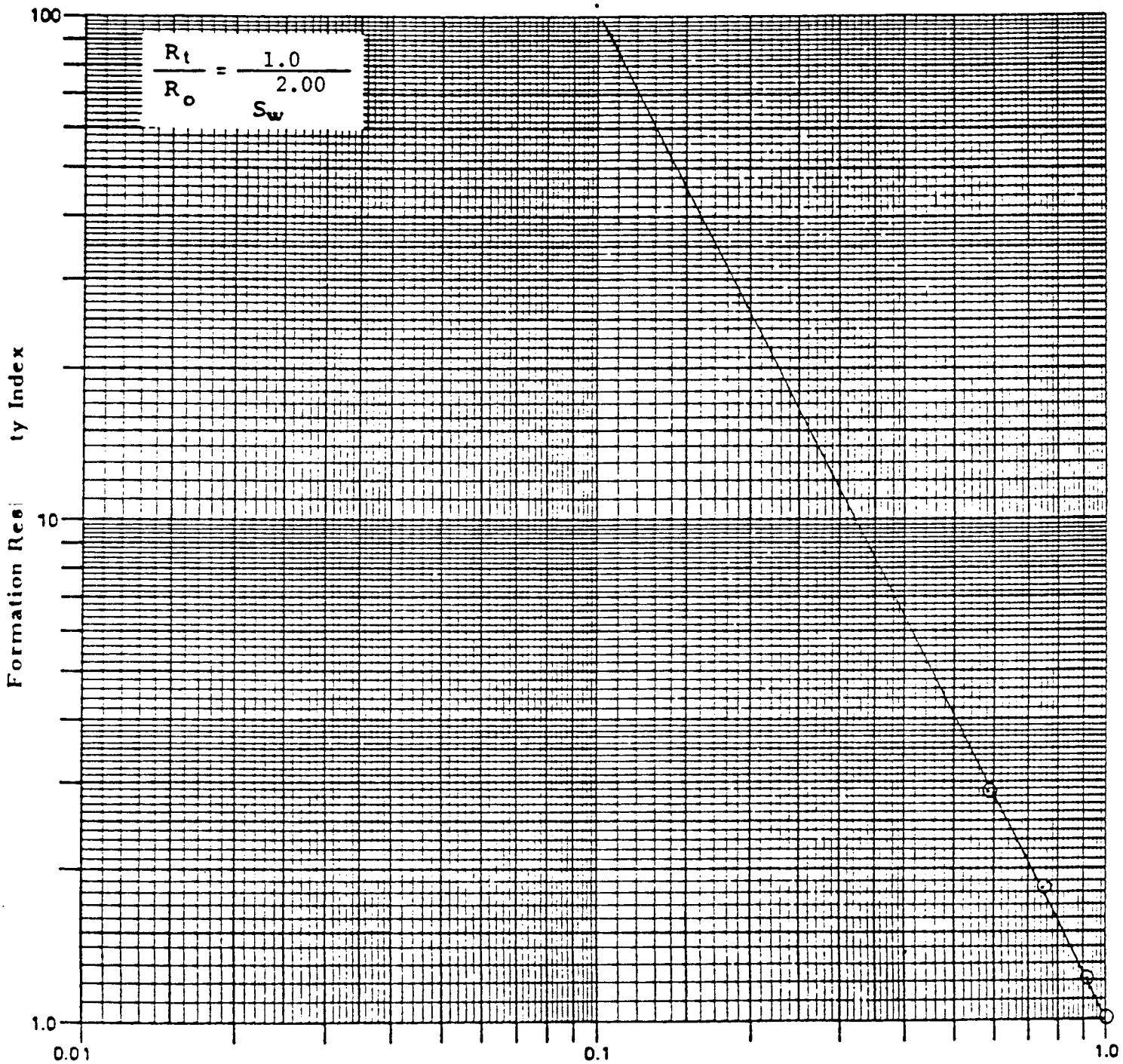
Sample No. 197A



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

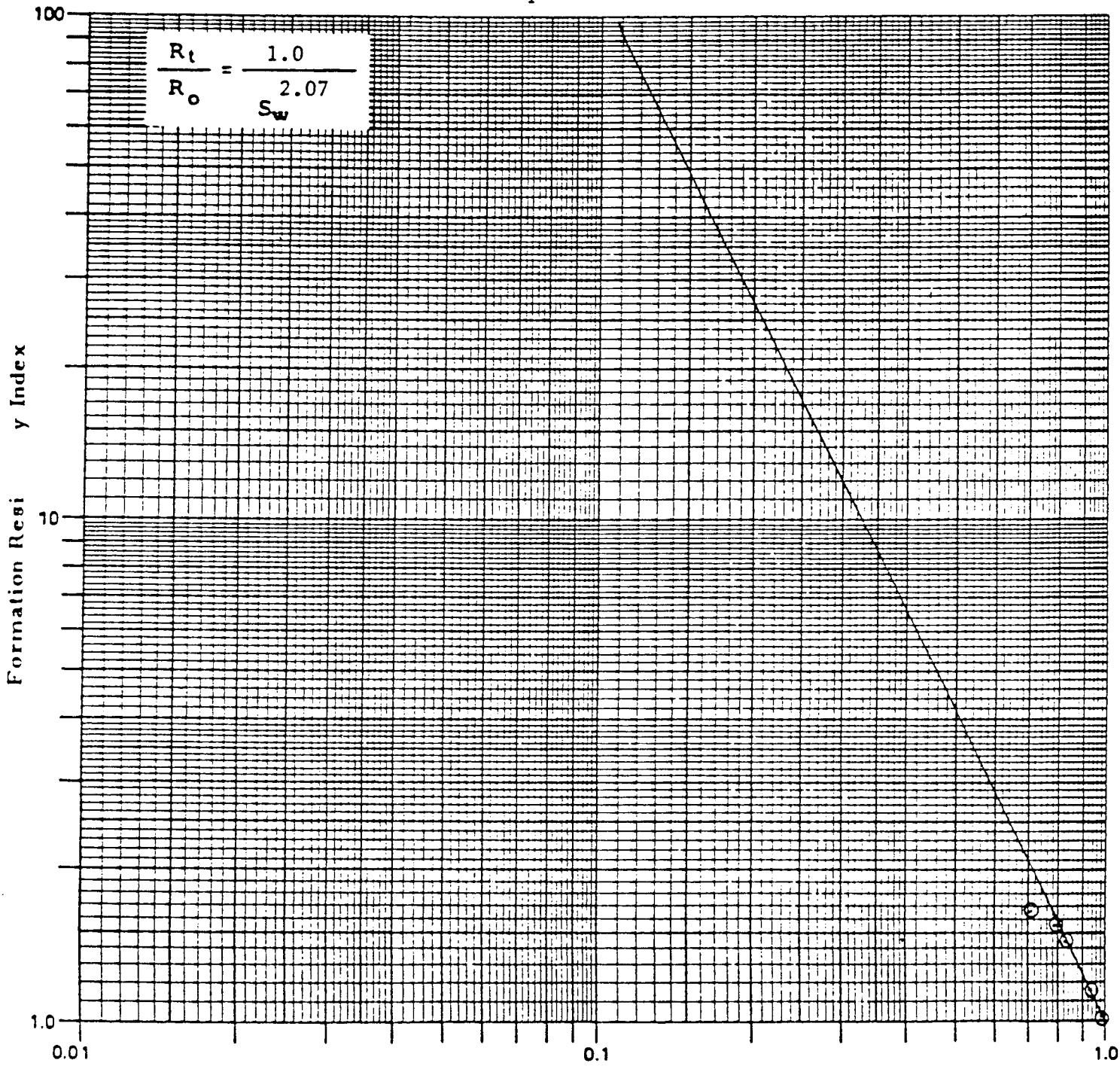
Formation Fort Riley
County Stevens
State Kansas

Sample No. 214A



Company Mobil Oil Corporation — Formation Fort Riley
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

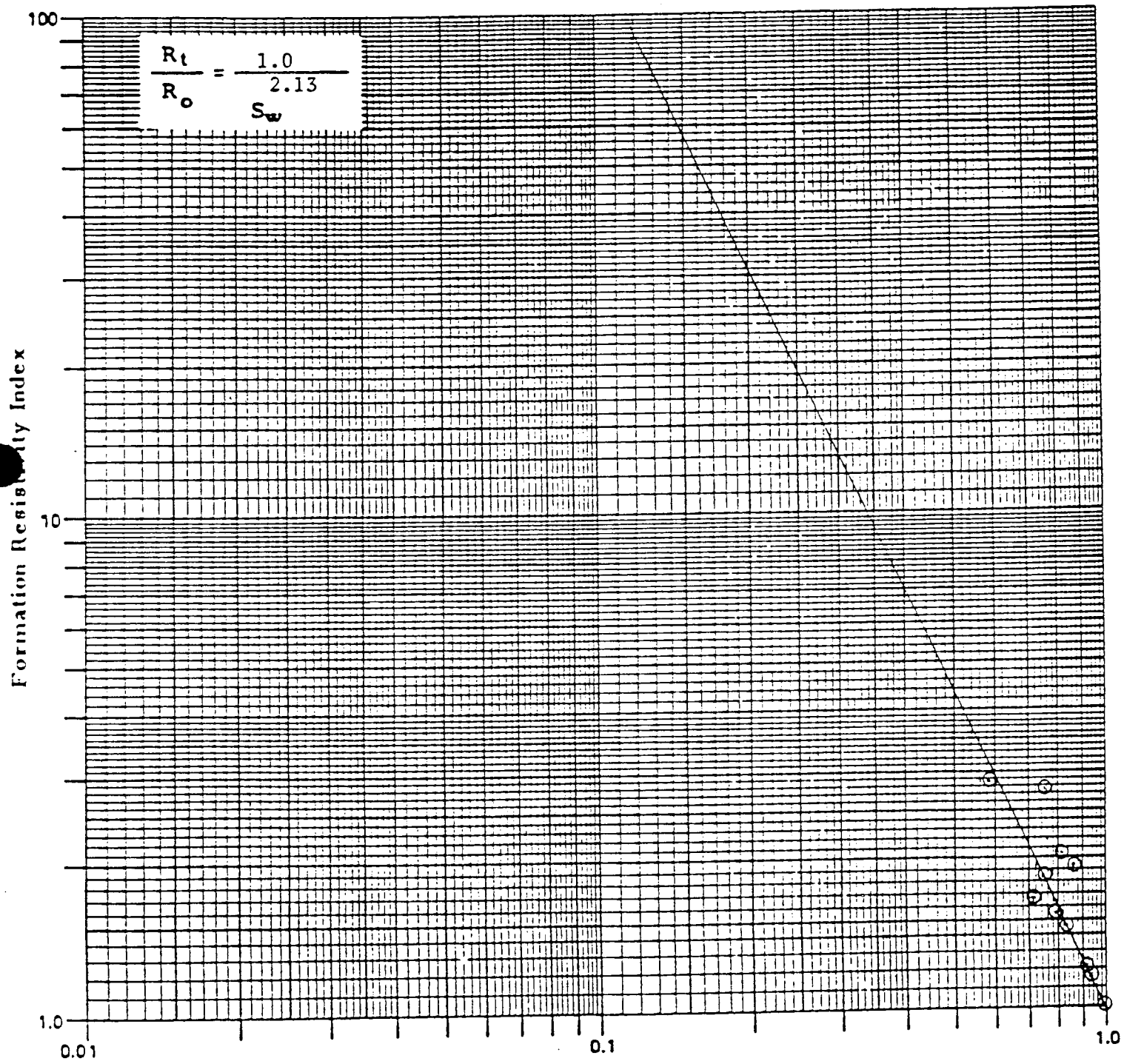
Sample No. 233



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Fort Riley
County Stevens
State Kansas

Composite Plot



FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN PRESSURE

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Herrington Field: Hugoton

County, State: Stevens, Kansas

Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

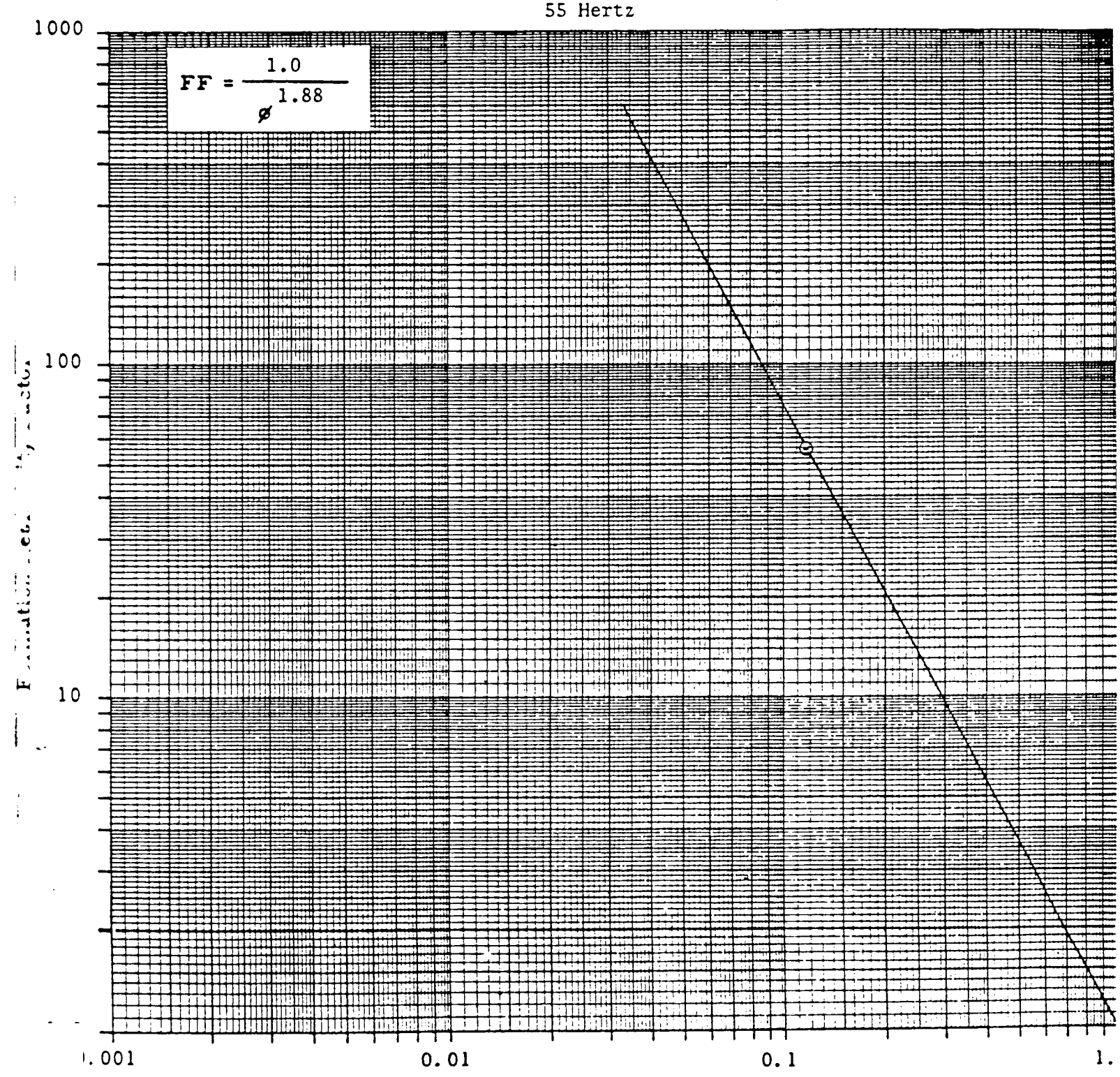
Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Overburden Pressure, psi 0.0	200	1300
				Formation Resistivity Factor		
5A	2629-30	4.1	11.8	54.6	63.5	
5A			11.5*			70.8

*POROSITY AT OVERBURDEN CALCULATED FROM PORE VOLUME SQUEEZE OUT.

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

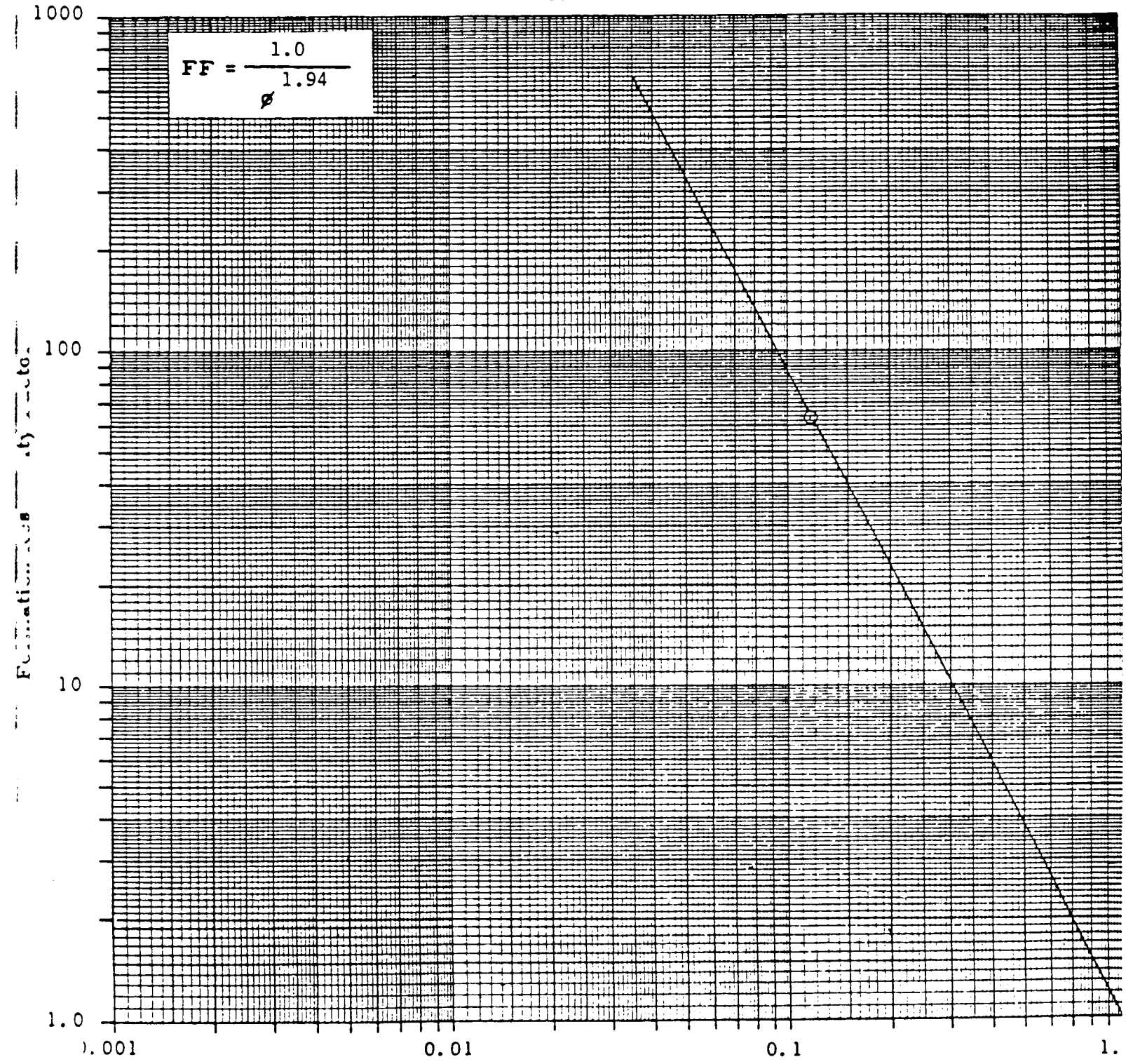
Formation Herrington
County Stevens
State Kansas

Sample No. 5A
0.0 psi Overburden
55 Hertz



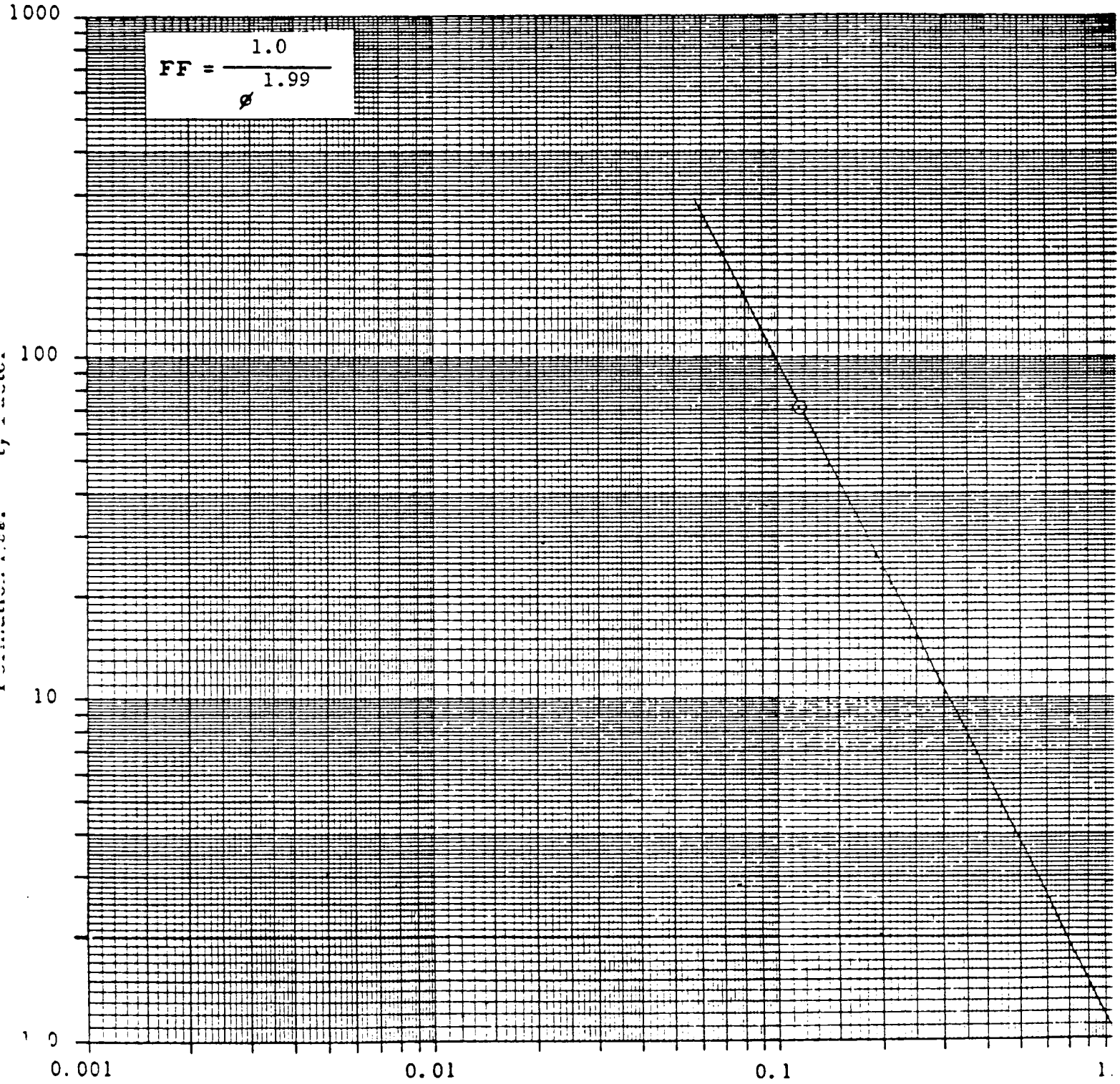
Company Mobil Oil Corporation
Formation Herrington
Well Nix No. 1 Unit No. 3
County Stevens
Field Hugoton
State Kansas

Sample No. 5A
200 psi Effective Overburden Pressure
55 Hertz



Company Mobil Oil Corporation — Formation Herrington
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample No. 5A
1300 psi Effective Overburden Pressure
55 Hertz



FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN PRESSURE

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Krider Field: Hugoton

County, State: Stevens, Kansas

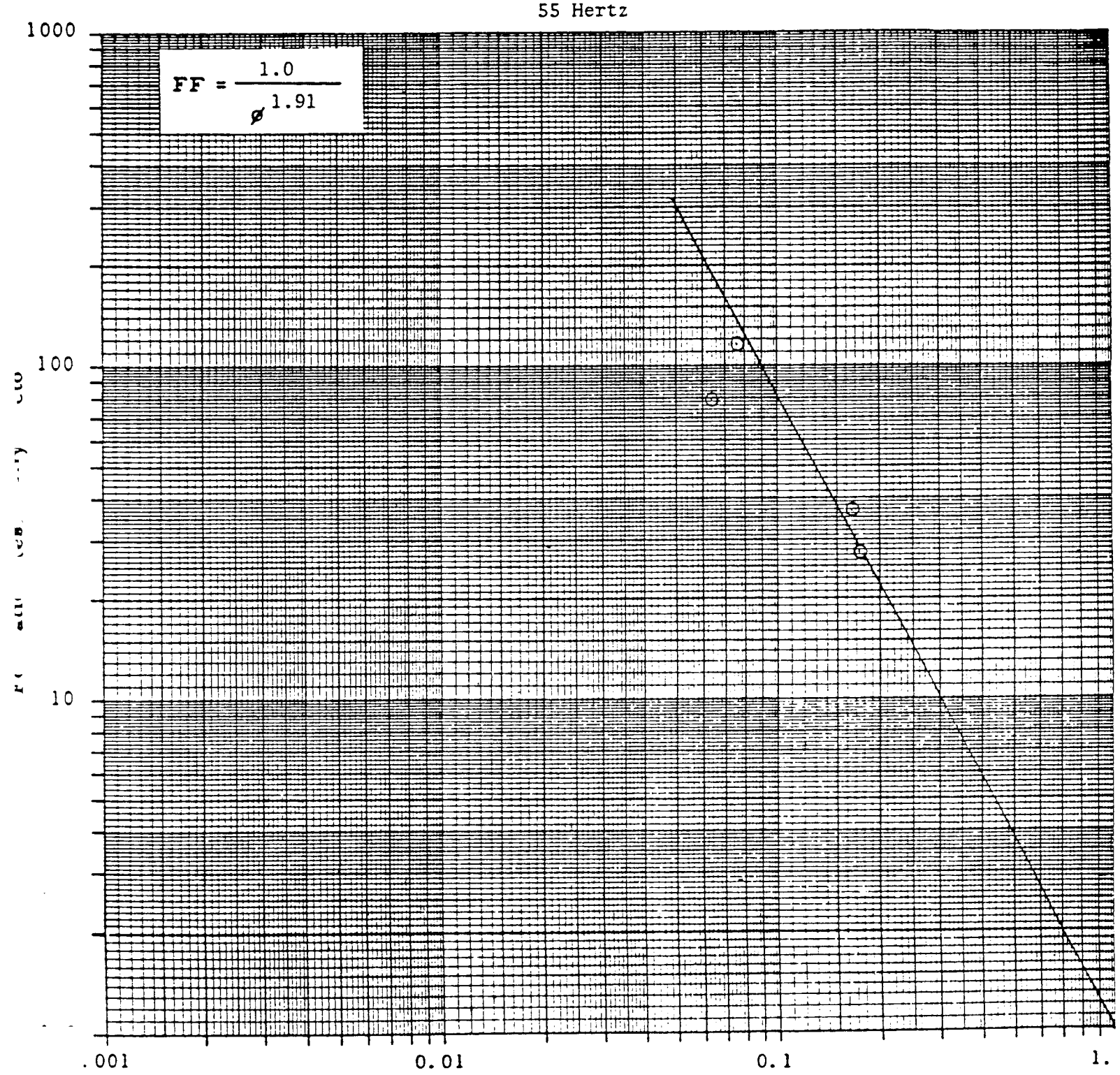
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Overburden Pressure, psi 0.0	200	1300
				Formation Resistivity Factor		
28	2661-62	0.13	7.6	118.1	144.6	
48	2684-85	0.02	6.4	79.5	94.5	
63	2699-2700	18	16.6	36.5	43.1	
82	2718-19	6.1	17.4	27.4	28.6	
28			7.5*			156.7
48			6.4*			101.7
63			16.5*			44.9
82			17.2*			30.6

*POROSITY AT OVERBURDEN CALCULATED FROM PORE VOLUME SQUEEZE OUT.

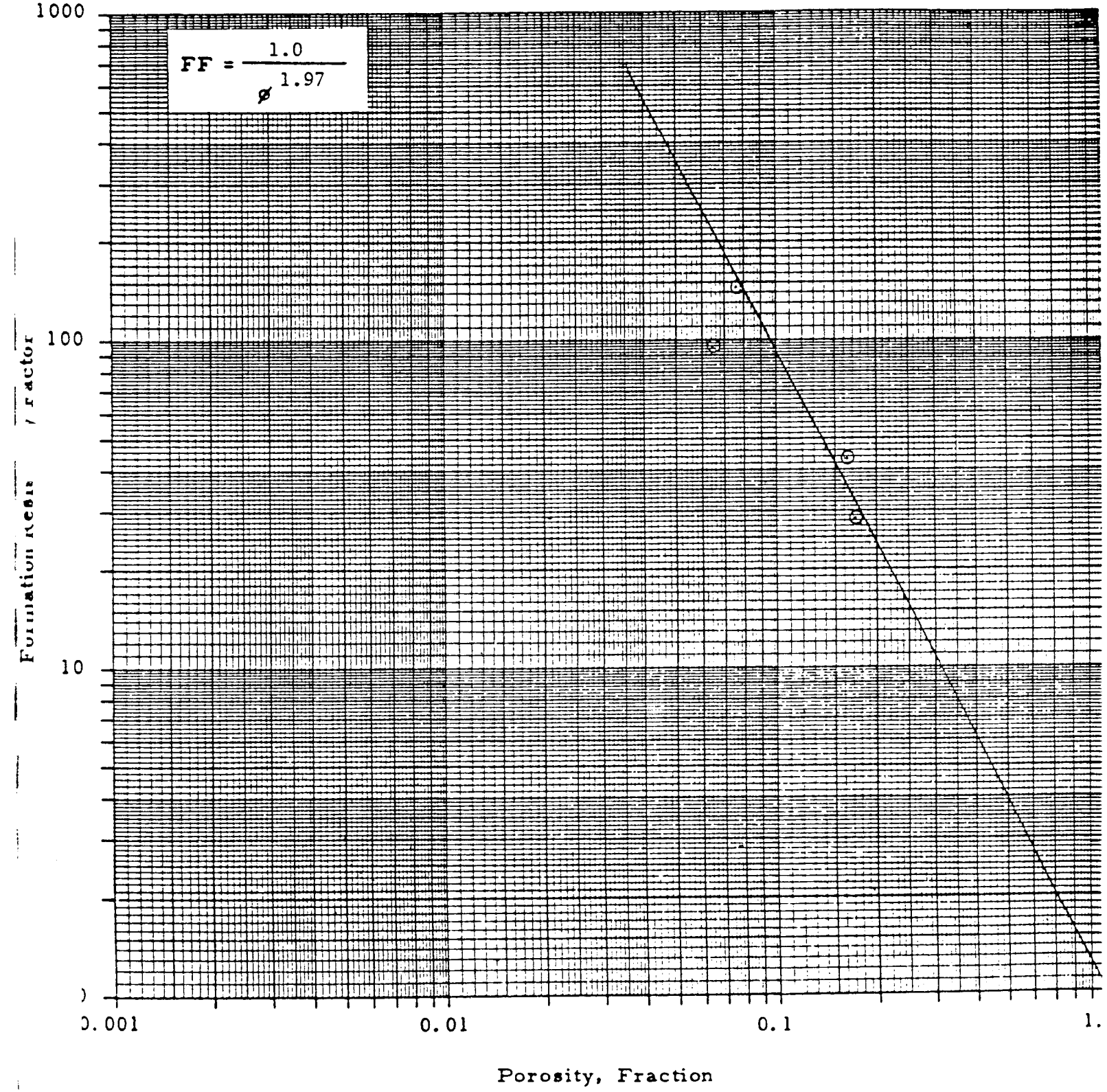
Company Mobil Oil Corporation — Formation Krider
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 28, 48, 63, 82
0.0 psi Overburden
55 Hertz



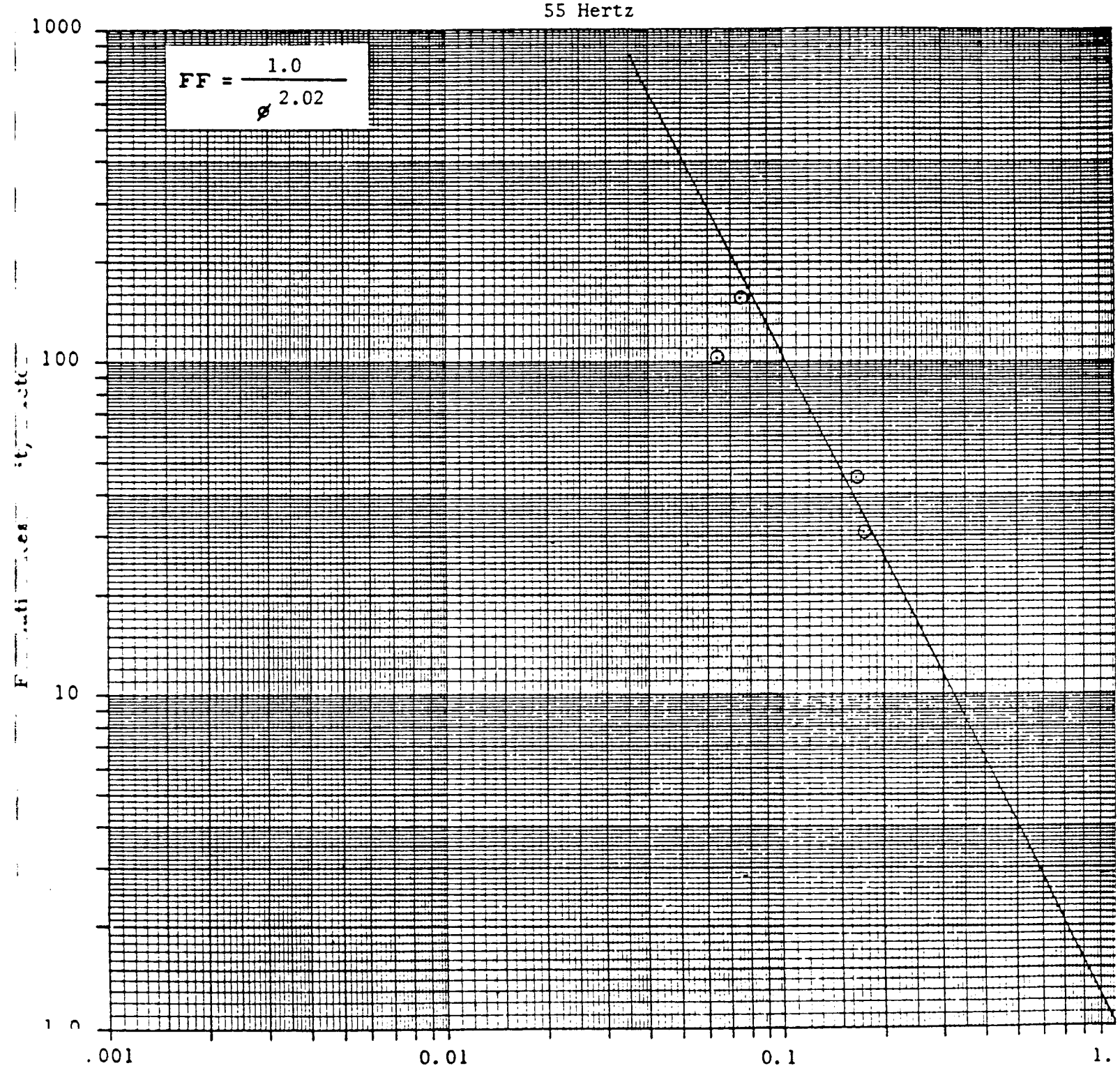
Company Mobil Oil Corporation — Formation Krider
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 28, 48, 63, 82
200 psi Effective Overburden Pressure
55 Hertz



Company Mobil Oil Corporation — Formation Krider
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 28, 48, 63, 82
1300 psi Effective Overburden Pressure
55 Hertz



FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN PRESSURE

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Winfield Field: Hugoton

County, State: Stevens, Kansas

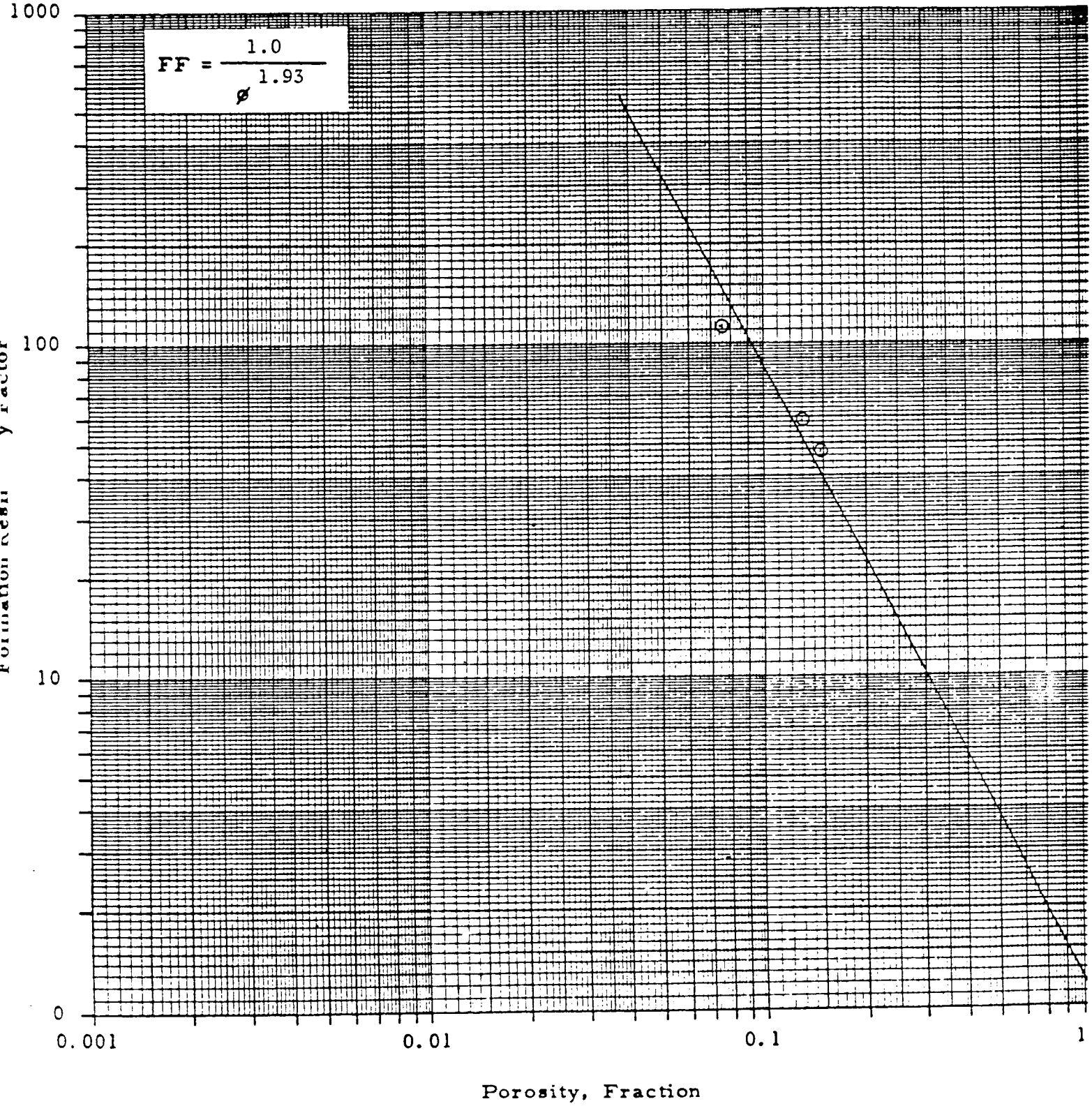
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Overburden Pressure, psi 0.0	200	1300
				Formation Resistivity Factor		
103A	2743-44	51	14.9	47.6	51.9	
107	2747-48	4.8	13.0	58.5	67.7	
118A	2758-59	0.09	7.6	110.4	148.2	
103A			14.8*			55.9
107			12.9*			75.1
118A			7.6*			168.7

*POROSITY AT OVERBURDEN CALCULATED FROM PORE VOLUME SQUEEZE OUT.

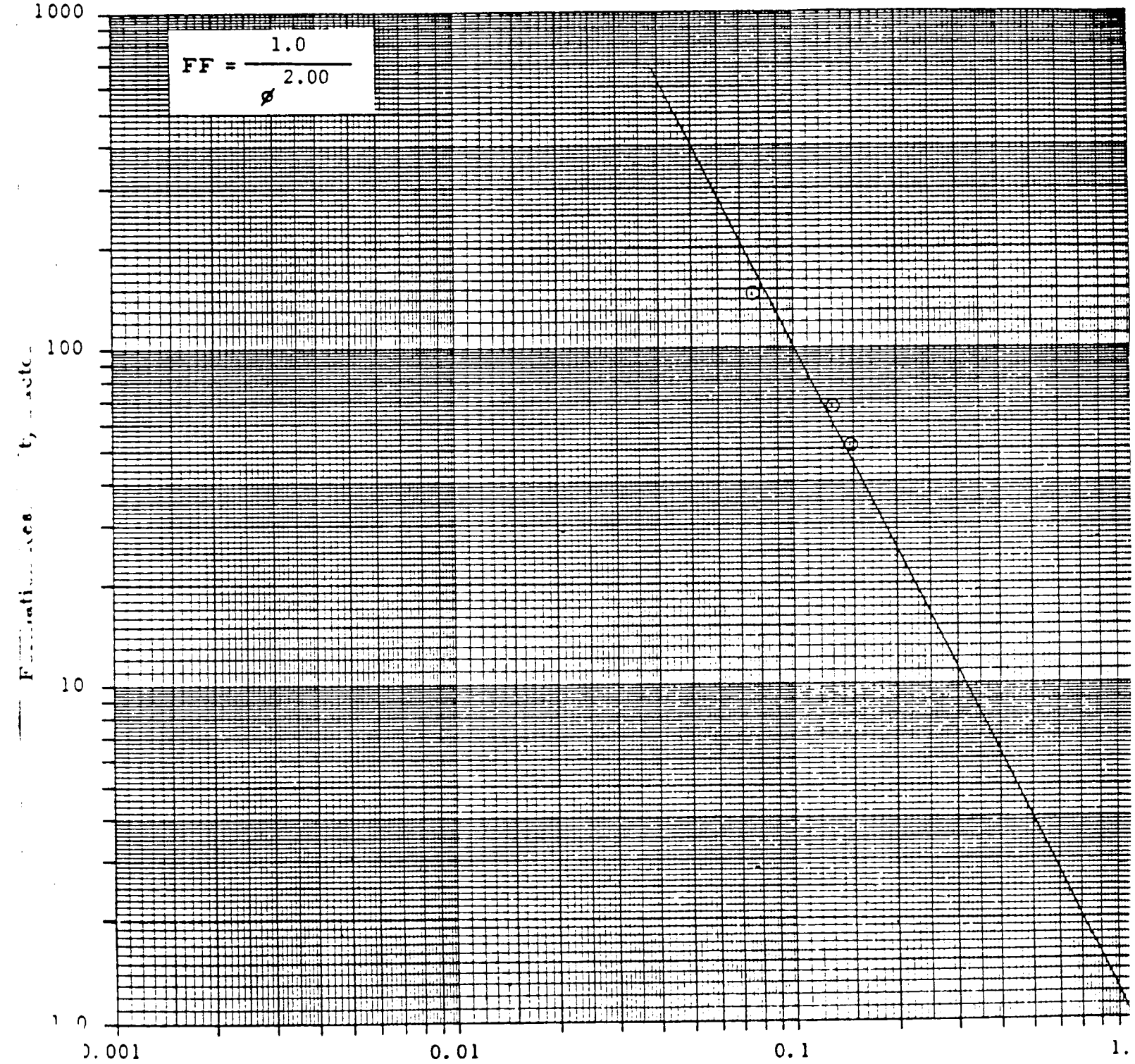
Company Mobil Oil Corporation — Formation Winfield
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 103A, 107, 118A
0.0 psi Overburden
55 Hertz



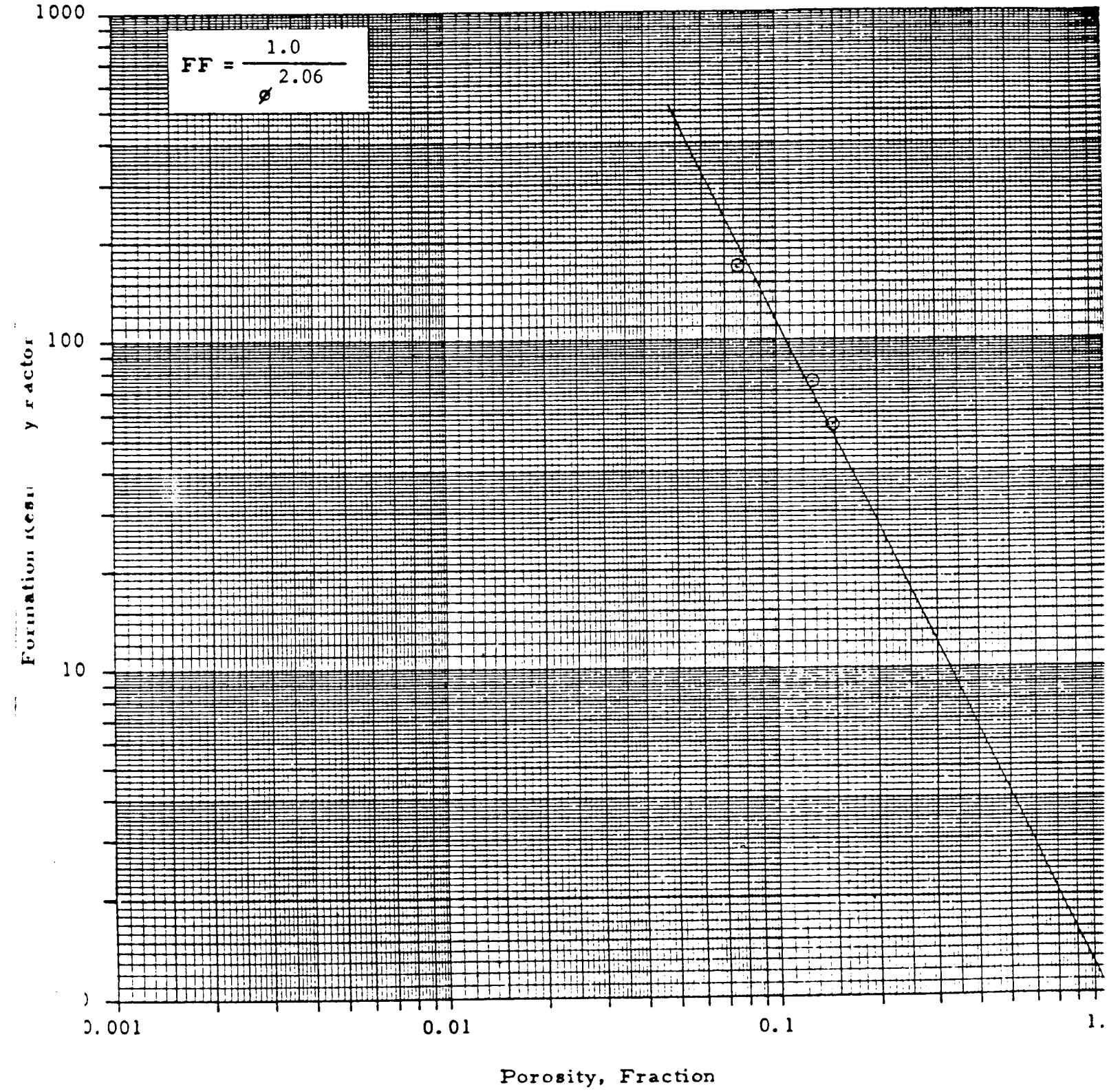
Company Mobil Oil Corporation — Formation Winfield
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 103A, 107, 118A
200 psi Effective Overburden Pressure
55 Hertz



Company Mobil Oil Corporation — Formation Winfield
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 103A, 107, 118A
1300 psi Effective Overburden Pressure
55 Hertz



FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN PRESSURE

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Towanda Field: Hugoton

County, State: Stevens, Kansas

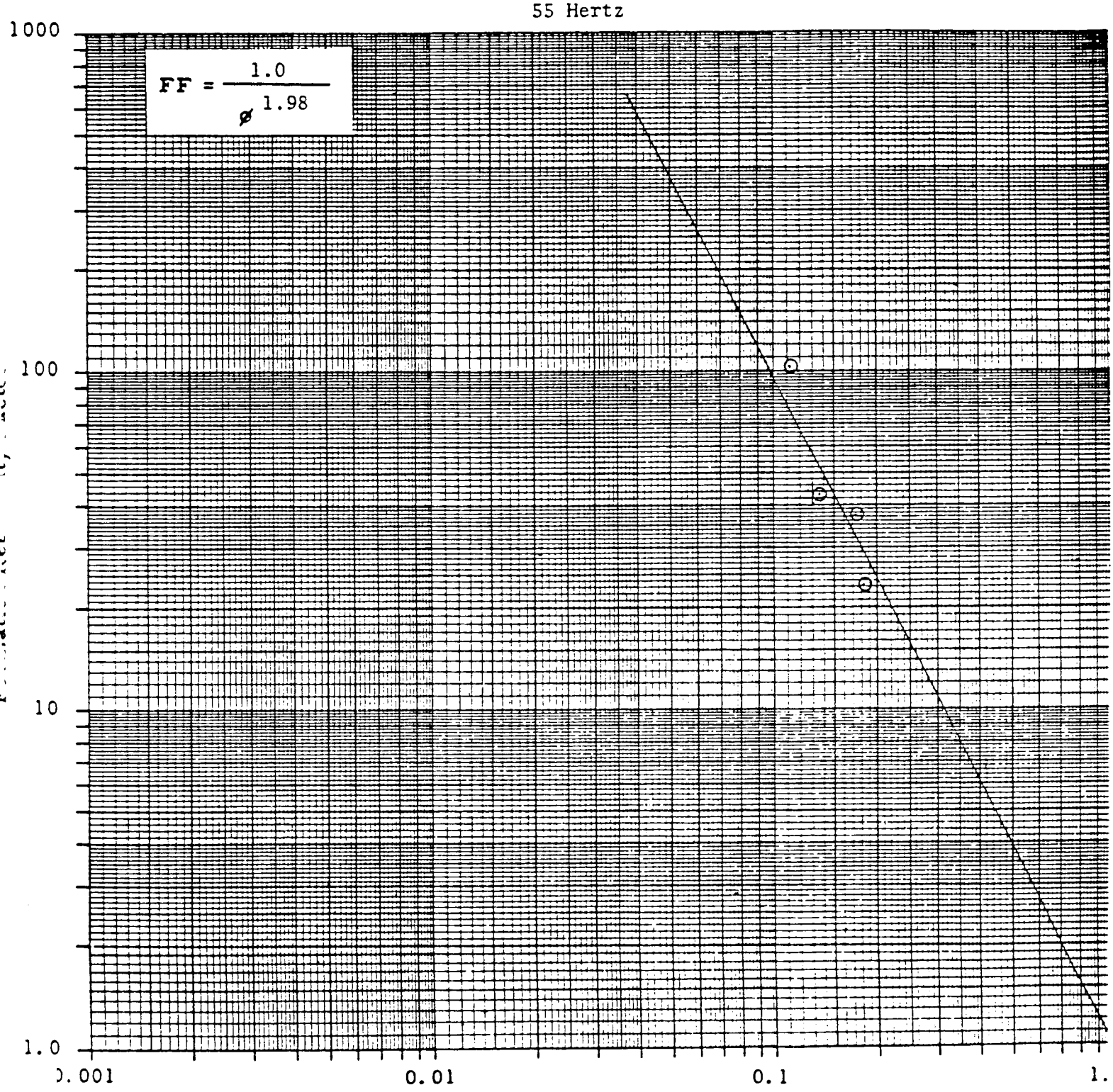
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Overburden Pressure, psi 0.0	200	1400
				Formation Resistivity Factor		
135	2796-97	1.8	13.8	43.2	48.0	
147	2808-09	0.62	11.4	102.8	130.9	
159A	2820-21	36	18.0	23.1	23.3	
173	2834-35	6.6	17.6	37.8	42.7	
135			13.4*			51.3
147			11.0*			160.4
159A			17.8*			24.6
173			17.4*			43.8

*POROSITY AT OVERBURDEN CALCULATED FROM PORE VOLUME SQUEEZE OUT.

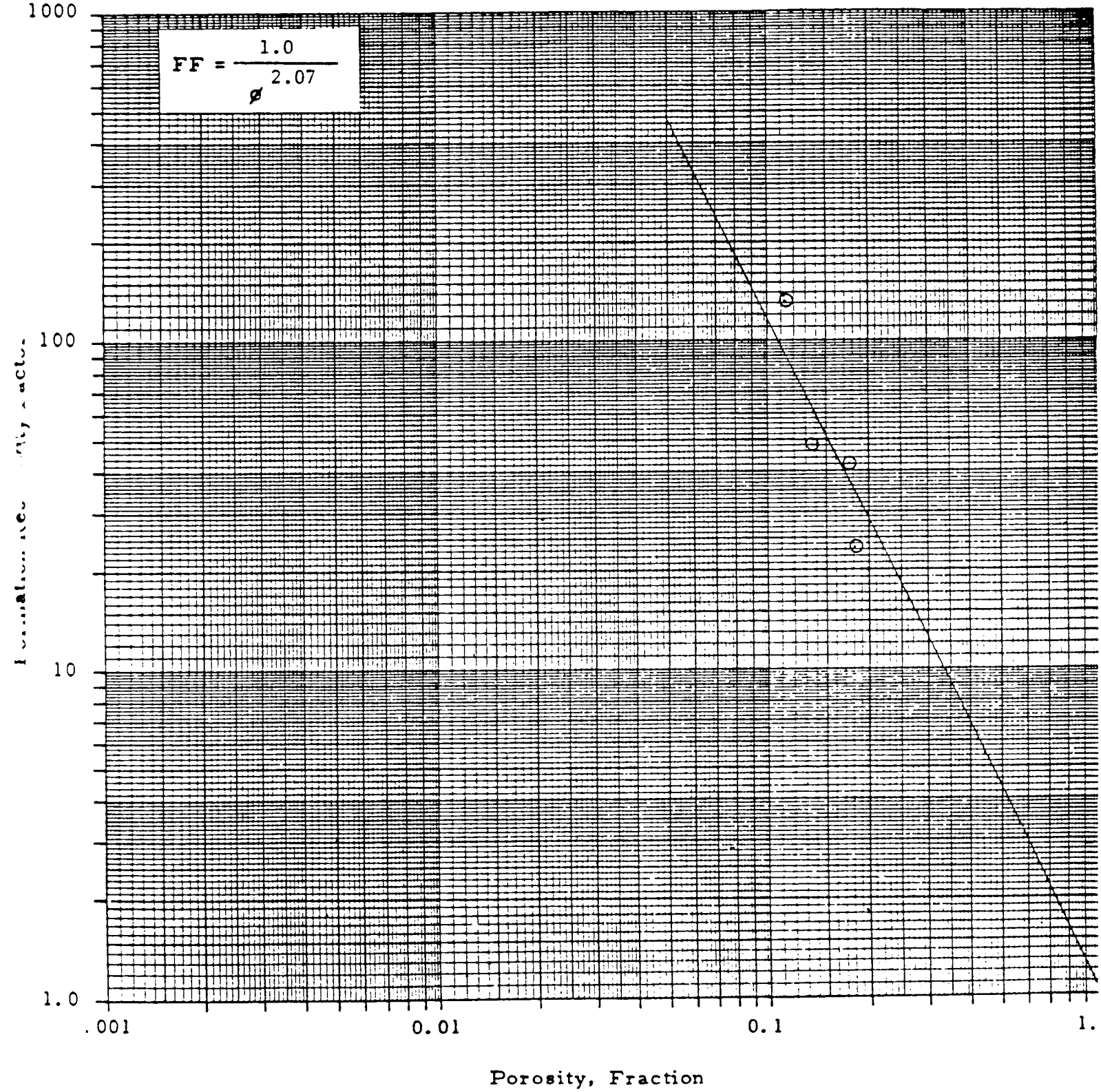
Company Mobil Oil Corporation — Formation Towanda
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample Nos. 135, 147, 159A, 173
0.0 psi Overburden
55 Hertz



Company Mobil Oil Corporation
Formation Towanda
Well Nix No. 1 Unit No. 3
County Stevens
Field Hugoton
State Kansas

Sample Nos. 135, 147, 159A, 173
200 psi Effective Overburden Pressure
55 Hertz

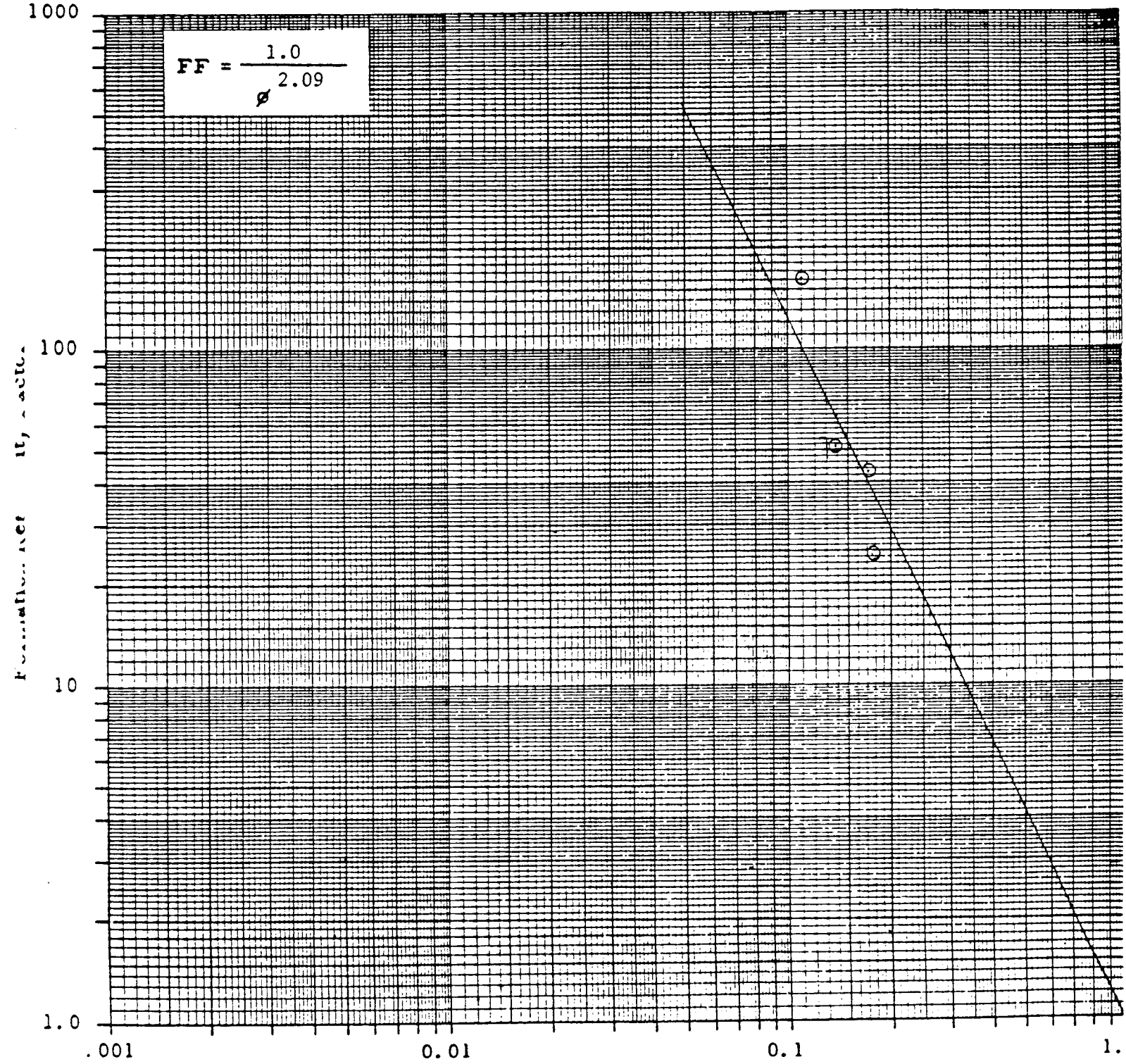


Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203-840030

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Towanda
County Stevens
State Kansas

Sample Nos. 135, 147, 159A, 173
1400 psi Effective Overburden Pressure
55 Hertz



FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN PRESSURE

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Fort Riley Field: Hugoton

County, State: Stevens, Kansas

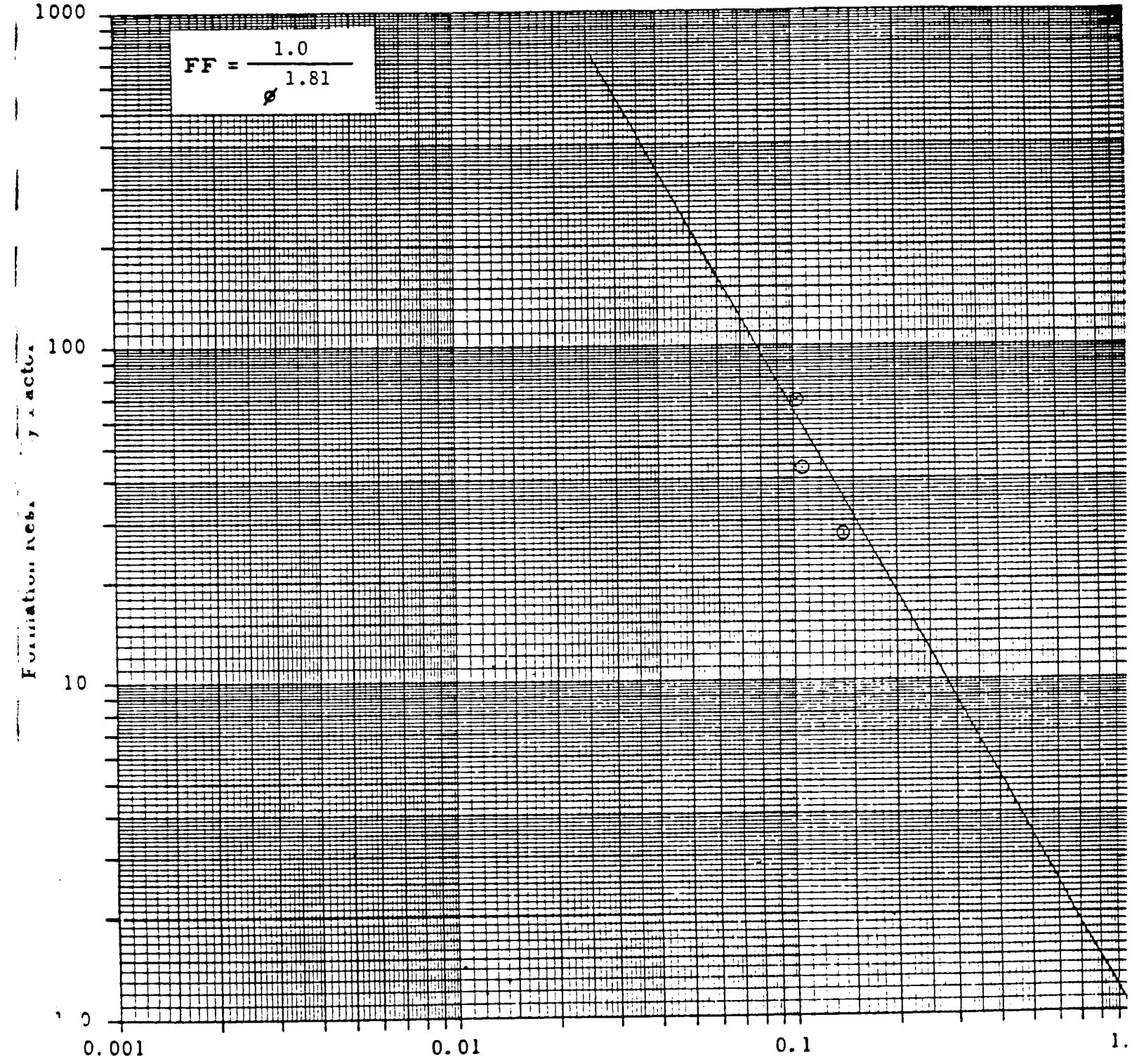
Saturant: Simulated Formation Brine
Resistivity of Saturant: 0.0522 ohm-meters at 72°F

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Overburden Pressure, psi 0.0	200	1400
				Formation Resistivity Factor		
197A	2858-59	1.2	14.0	27.3	30.2	
214A	2875-76	0.13	10.7	43.5	49.9	
233	2894-95	<0.01	10.3	68.7	79.5	
197A			13.7*			33.0
214A			10.6*			54.1
233			10.3*			83.8

*POROSITY AT OVERBURDEN CALCULATED FROM PORE VOLUME SQUEEZE OUT.

Company Mobil Oil Corporation — Formation Fort Riley
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

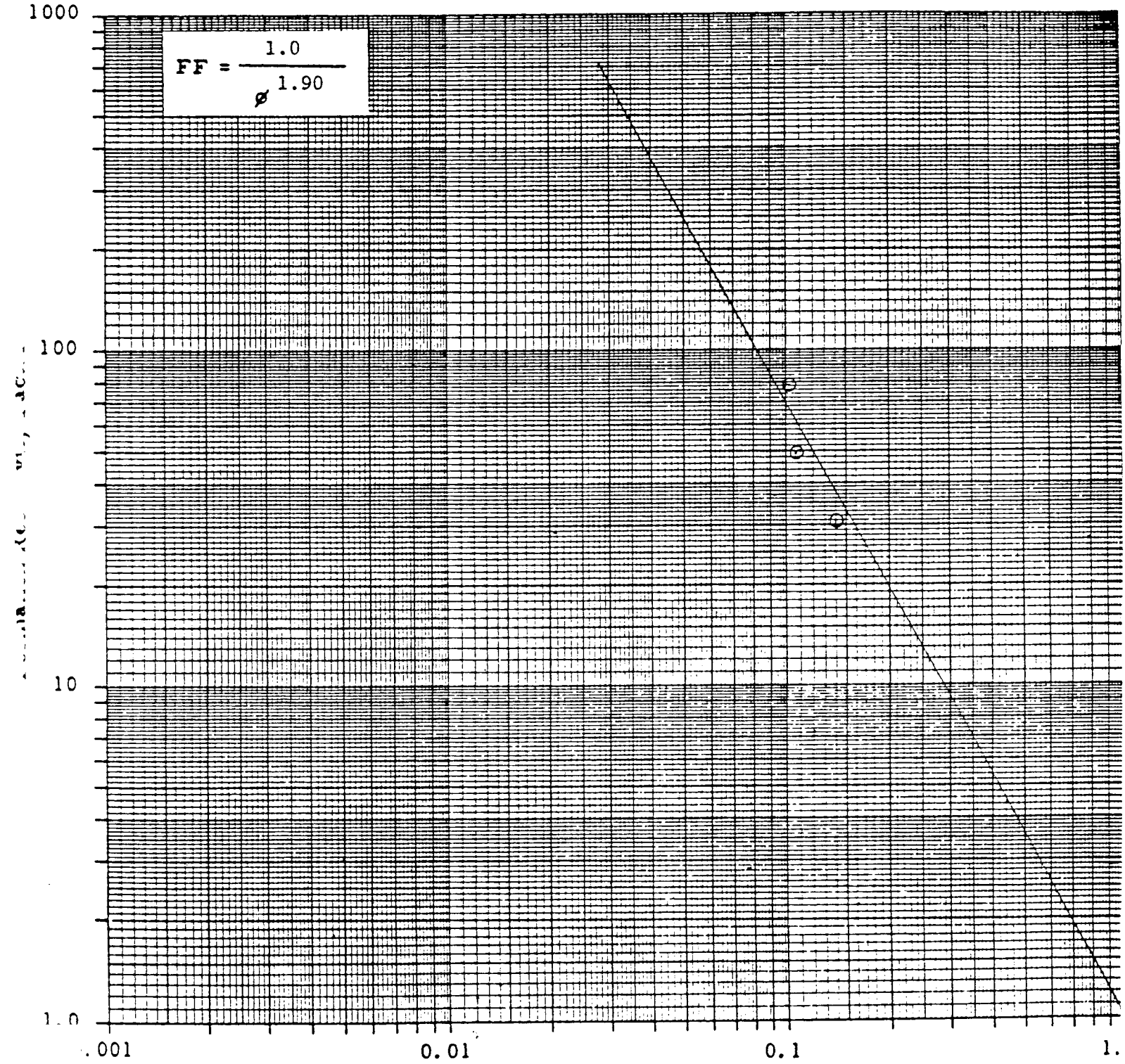
Sample Nos. 197A, 214A, 233
0.0 psi Overburden
55 Hertz



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Fort Riley
County Stevens
State Kansas

Sample Nos. 197A, 214A, 233
200 psi Effective Overburden Pressure
55 Hertz

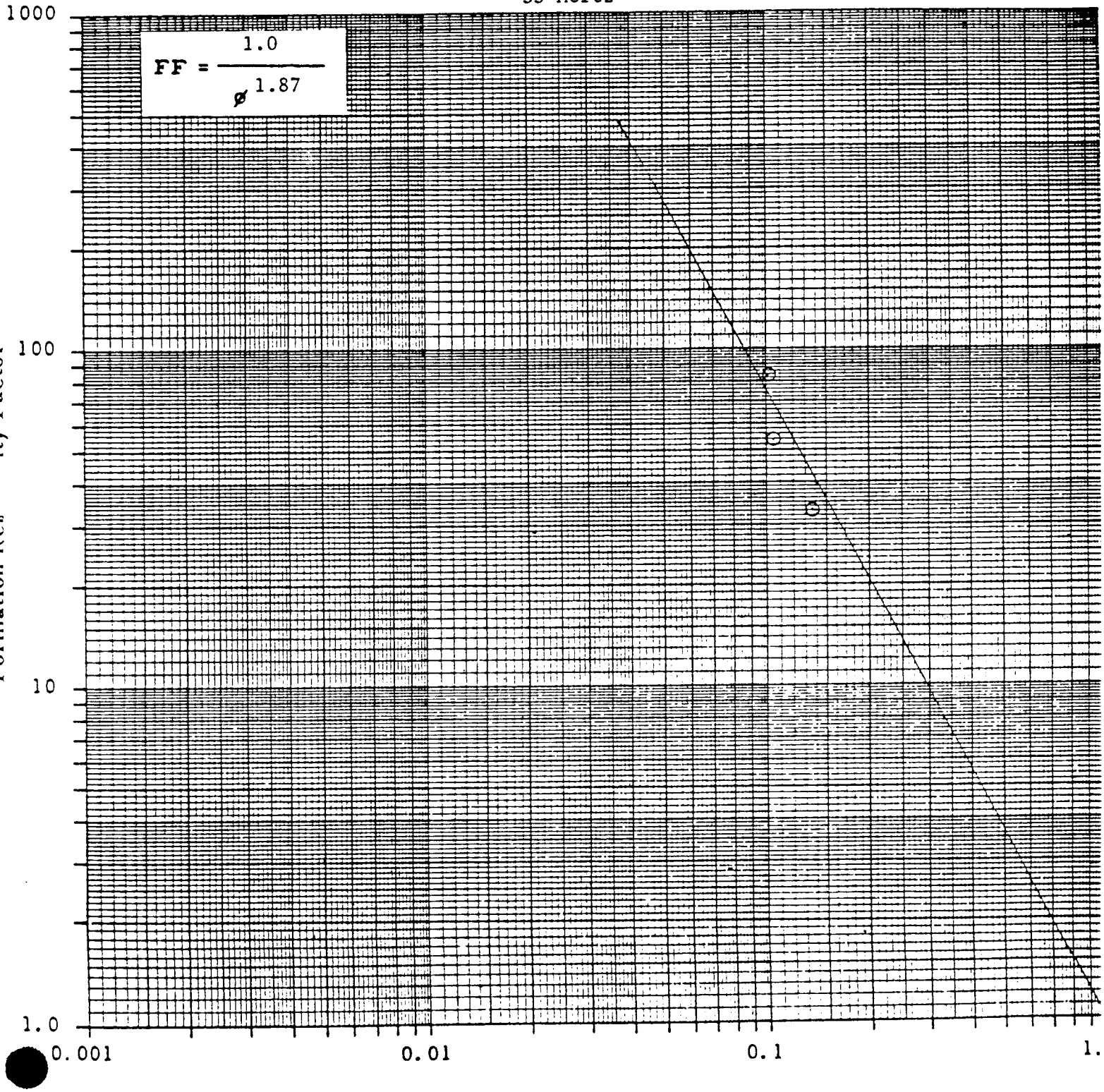


Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203-840030

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Fort Riley
County Stevens
State Kansas

Sample Nos. 197A, 214A, 233
1400 psi Effective Overburden Pressure
55 Hertz



SUMMARY OF GAS-WATER RELATIVE PERMEABILITY TEST RESULTS

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3 Formation: As Noted

Field: Hugoton County, State: Stevens, Kansas

Sample I.D.	Depth, feet	Permeability to Air, millidarcys	Porosity, percent	Initial Conditions: Residual Oil Saturation, percent pore space	Initial Conditions: Effective Permeability to Water, millidarcys	Terminal Conditions: Water Saturation, percent pore space	Terminal Conditions: Effective Permeability to Gas, millidarcys	Water Recovered: percent pore space	Water Recovered: percent water in place
Herrington Formation									
5	2629-30	22	19.4	0.0	7.4	45.4	6.2	54.6	54.6
Krider Formation									
28A	2661-62	0.59	9.7	0.0	0.20	52.0	0.13	48.0	48.0
63A	2699-2700	7.7	16.3	0.0	1.4	50.8	1.0	49.2	49.2
Winfield Formation									
103	2743-44	42	13.3	0.0	6.5	45.0	5.4	55.0	55.0
Towanda Formation									
135A	2796-97	1.1	13.9	0.0	0.36	77.6	0.29	22.4	22.4
159	2820-21	40	24.5	0.0	10	36.3	8.5	63.7	63.7
Fort Riley Formation									
197	2858-59	1.1	14.4	0.0	0.44	44.5	0.25	55.5	55.5
214	2875-76	0.43	11.5	0.0	0.06	47.1	0.03	52.9	52.9

GAS-WATER RELATIVE PERMEABILITY

Company:	Mobil Oil Corporation	Sample Identification:	5	
Well:	Nix No. 1 Unit No. 3	Sample Depth:	2629-30	feet
Formation:	Herrington	Permeability to Air:	22	md
Field:	Hugoton	Porosity:	19.4	percent
County:	Stevens	Specific Permeability to Water:	7.4	md
State:	Kansas			

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
10.7	0.109	0.048	0.440
14.0	0.191	0.066	0.343
16.3	0.286	0.079	0.277
18.1	0.400	0.093	0.231
19.8	0.542	0.110	0.203
22.5	0.905	0.137	0.151
24.7	1.37	0.171	0.125
27.7	2.24	0.211	0.094
31.5	4.36	0.279	0.064
34.0	6.87	0.320	0.046
35.8	9.42	0.377	0.040
39.0	15.4	0.447	0.029
44.1	39.8	0.605	0.015
47.6	89.0	0.721	0.0081
50.5	206	0.788	0.0038

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company: Mobil Oil Corporation

Well: Nix No. 1 Unit No. 3

Formation: Krider

Field: Hugoton

County: Stevens

State: Kansas

Sample Identification: 28A

Sample Depth: 2661-62 feet

Permeability to Air: 0.59 md

Porosity: 9.7 percent

Specific Permeability to Water: 0.20 md

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
7.7	0.055	0.031	0.560
10.2	0.092	0.041	0.445
11.9	0.129	0.048	0.373
13.2	0.165	0.056	0.338
14.2	0.198	0.061	0.306
18.0	0.365	0.085	0.234
21.5	0.637	0.109	0.170
24.7	1.10	0.134	0.123
28.5	2.11	0.173	0.082
31.4	3.66	0.211	0.058
33.3	5.37	0.242	0.045
36.3	9.15	0.298	0.033
40.3	21.7	0.372	0.017
43.8	65.6	0.476	0.0072
47.4	622	0.558	0.00090

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company:	Mobil Oil Corporation	Sample Identification:	63A	
Well:	Nix No. 1 Unit No. 3	Sample Depth:	2699-2700	feet
Formation:	Krider	Permeability to Air:	7.7	md
Field:	Hugoton	Porosity:	16.3	percent
County:	Stevens	Specific Permeability to Water:	1.4	md
State:	Kansas			

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
8.5	0.091	0.045	0.495
10.6	0.144	0.056	0.392
12.2	0.200	0.067	0.335
13.7	0.268	0.077	0.288
15.0	0.352	0.091	0.259
19.3	0.798	0.136	0.170
22.4	1.39	0.179	0.129
25.4	2.33	0.235	0.101
28.2	3.79	0.285	0.075
30.7	5.83	0.340	0.058
33.9	10.1	0.421	0.042
37.5	19.4	0.498	0.026
40.6	36.5	0.568	0.016
42.4	58.1	0.633	0.011
44.2	94.5	0.689	0.0073

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company:	Mobil Oil Corporation	Sample Identification:	103	
Well:	Nix No. 1 Unit No. 3	Sample Depth:	2743-44	feet
Formation:	Winfield	Permeability to Air:	42	md
Field:	Hugoton	Porosity:	13.3	percent
County:	Stevens	Specific Permeability to Water:	6.5	md
State:	Kansas			

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
14.4	0.360	0.077	0.215
17.1	0.617	0.102	0.166
18.7	0.864	0.119	0.138
20.1	1.13	0.135	0.119
21.2	1.43	0.150	0.105
22.1	1.71	0.165	0.096
25.1	2.91	0.216	0.074
28.0	4.90	0.258	0.053
31.4	8.98	0.322	0.036
33.2	12.6	0.381	0.030
34.9	16.0	0.400	0.025
39.6	33.2	0.498	0.015
45.7	107	0.640	0.0060
46.9	155	0.664	0.0043

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company:	Mobil Oil Corporation	Sample Identification:	135A	
Well:	Nix No. 1 Unit No. 3	Sample Depth:	2796-97	feet
Formation:	Towanda	Permeability to Air:	1.1	md
Field:	Hugoton	Porosity:	13.9	percent
County:	Stevens	Specific Permeability to Water:	0.36	md
State:	Kansas			

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
3.2	0.110	0.067	0.605
4.8	0.205	0.092	0.449
5.6	0.284	0.114	0.402
6.4	0.394	0.134	0.341
7.1	0.539	0.159	0.295
9.5	1.58	0.248	0.157
10.8	2.45	0.305	0.125
12.2	4.04	0.367	0.091
13.4	5.84	0.430	0.074
15.0	9.71	0.485	0.050
17.2	20.3	0.595	0.029
19.1	46.2	0.662	0.014
19.8	71.6	0.720	0.010
21.1	163	0.802	0.0049

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company:	Mobil Oil Corporation	Sample Identification:	159	
Well:	Nix No. 1 Unit No. 3	Sample Depth:	2820-21	feet
Formation:	Towanda	Permeability to Air:	40	md
Field:	Hugoton	Porosity:	24.5	percent
County:	Stevens	Specific Permeability to Water:	10	md
State:	Kansas			

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
11.8	0.189	0.065	0.342
15.2	0.334	0.087	0.261
17.6	0.504	0.110	0.218
21.1	0.928	0.151	0.163
22.3	1.16	0.172	0.148
24.9	1.73	0.204	0.118
27.6	2.50	0.250	0.100
33.5	5.20	0.341	0.066
36.7	8.40	0.412	0.049
38.8	11.1	0.464	0.042
43.7	20.0	0.540	0.027
49.3	45.3	0.655	0.014
52.0	71.0	0.720	0.010
54.5	111	0.788	0.0071
57.1	188	0.847	0.0045

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company: Mobil Oil Corporation

Well: Nix No. 1 Unit No. 3

Formation: Fort Riley

Field: Hugoton

County: Stevens

State: Kansas

Sample Identification: 197

Sample Depth: 2858-59 feet

Permeability to Air: 1.1 md

Porosity: 14.4 percent

Specific Permeability to Water: 0.44 md

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
7.5	0.027	0.017	0.625
9.2	0.034	0.019	0.561
12.1	0.055	0.025	0.455
14.3	0.079	0.031	0.393
16.2	0.107	0.036	0.341
17.9	0.142	0.043	0.300
21.7	0.283	0.061	0.215
24.3	0.455	0.079	0.174
26.8	0.694	0.097	0.140
29.5	1.06	0.118	0.111
32.7	1.75	0.147	0.084
35.5	2.67	0.179	0.067
39.6	5.07	0.228	0.045
42.9	8.93	0.279	0.031
45.5	14.0	0.323	0.023
51.5	62.6	0.461	0.0074

*Relative to the specific permeability to water.

GAS-WATER RELATIVE PERMEABILITY

Company: Mobil Oil Corporation

Well: Nix No. 1 Unit No. 3

Formation: Fort Riley

Field: Hugoton

County: Stevens

State: Kansas

Sample Identification: 214

Sample Depth: 2875-76 feet

Permeability to Air: 0.43 md

Porosity: 11.5 percent

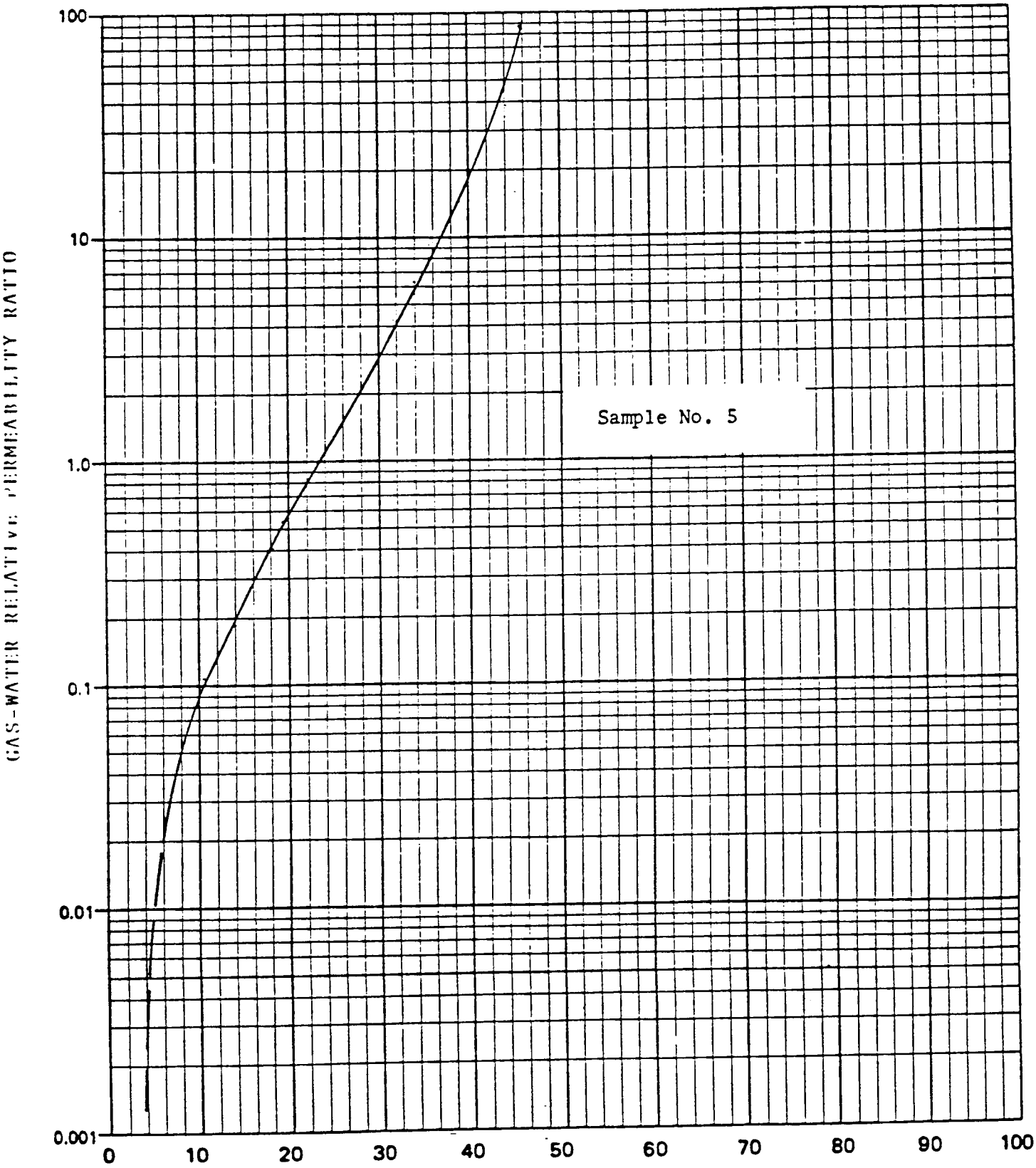
Specific Permeability to Water: 0.06 md

Gas Saturation, percent pore space	Gas-Water Relative Permeability Ratio	Relative Permeability to Gas,* fraction	Relative Permeability to Water,* fraction
0.0	0.000	0.000	1.000
6.3	0.215	0.121	0.565
10.3	0.430	0.167	0.388
14.1	0.594	0.178	0.299
21.7	1.13	0.201	0.178
27.2	1.92	0.217	0.113
34.6	4.16	0.264	0.064
40.0	8.36	0.318	0.038
42.4	11.7	0.335	0.029
44.4	14.9	0.358	0.024

*Relative to the specific permeability to water.

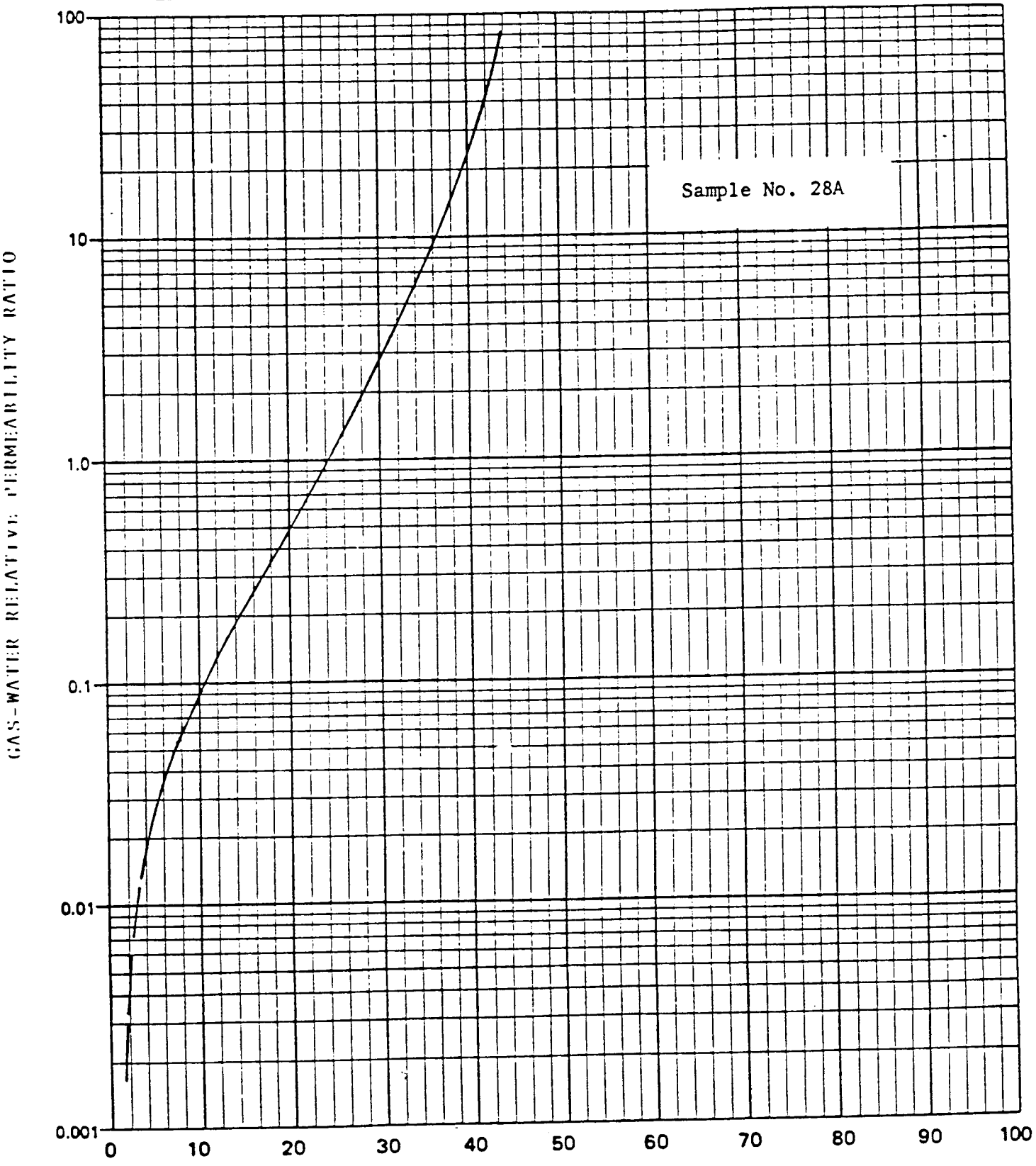
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Herrington
County Stevens
State Kansas



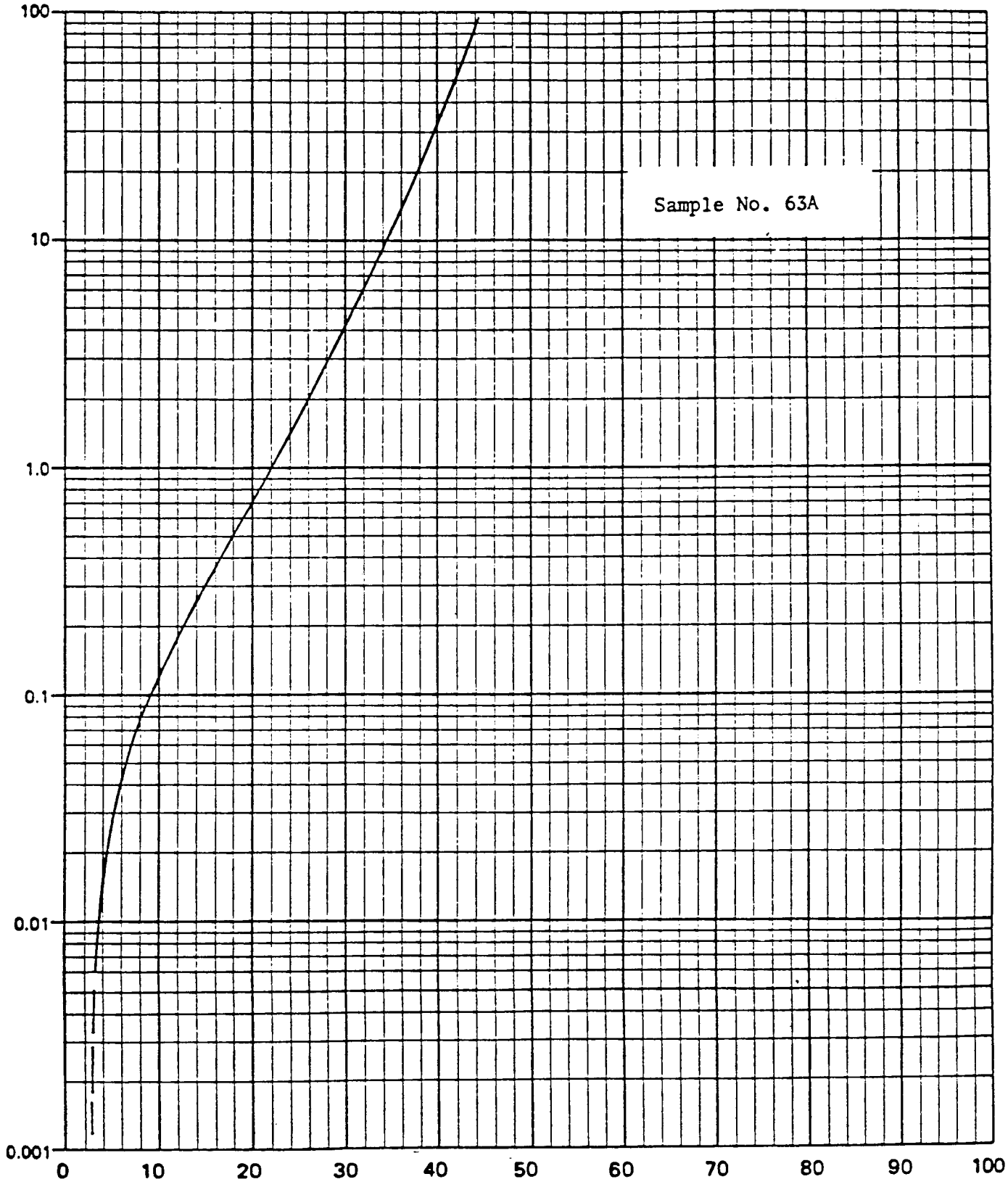
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas



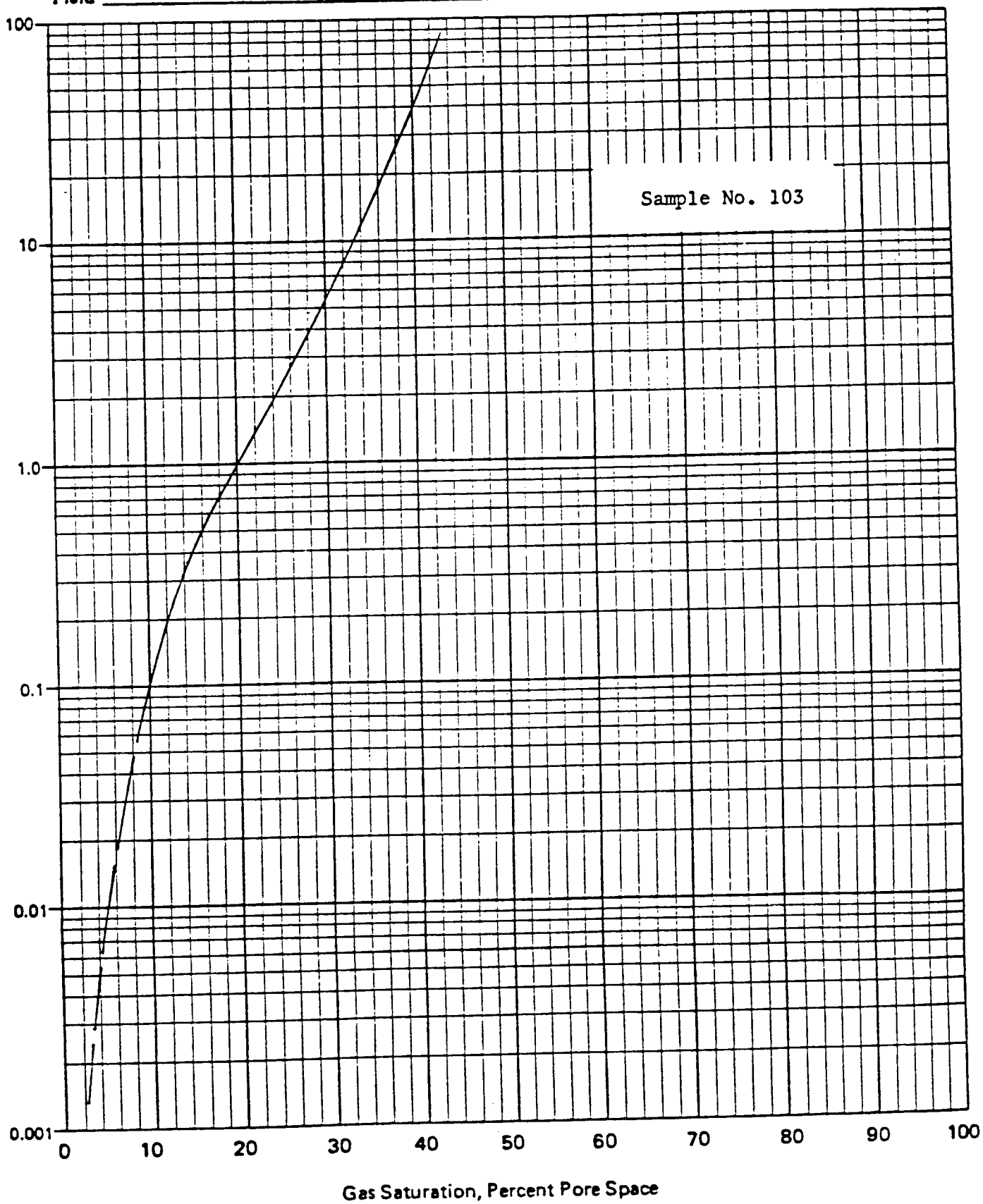
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas



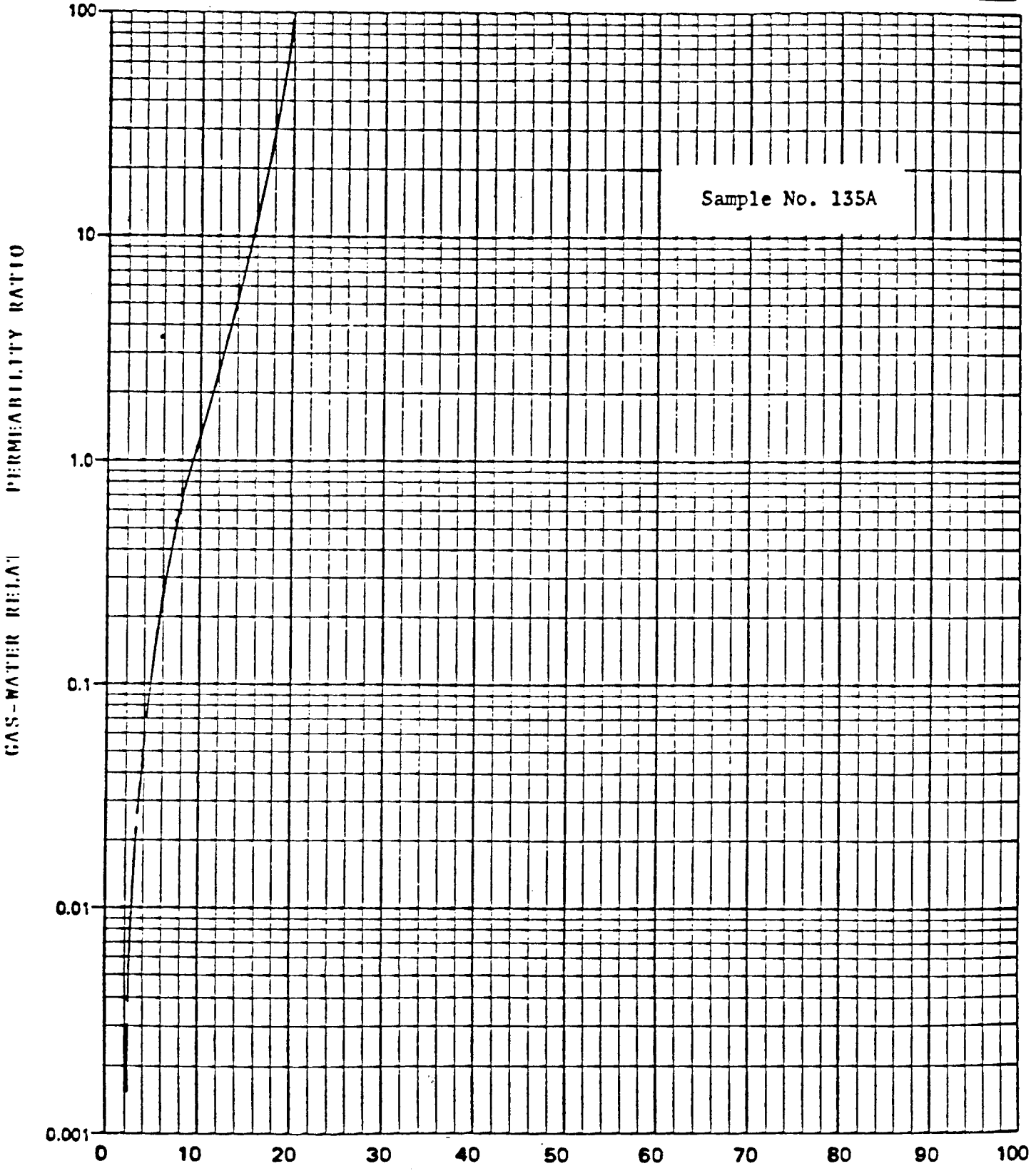
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Winfield
County Stevens
State Kansas

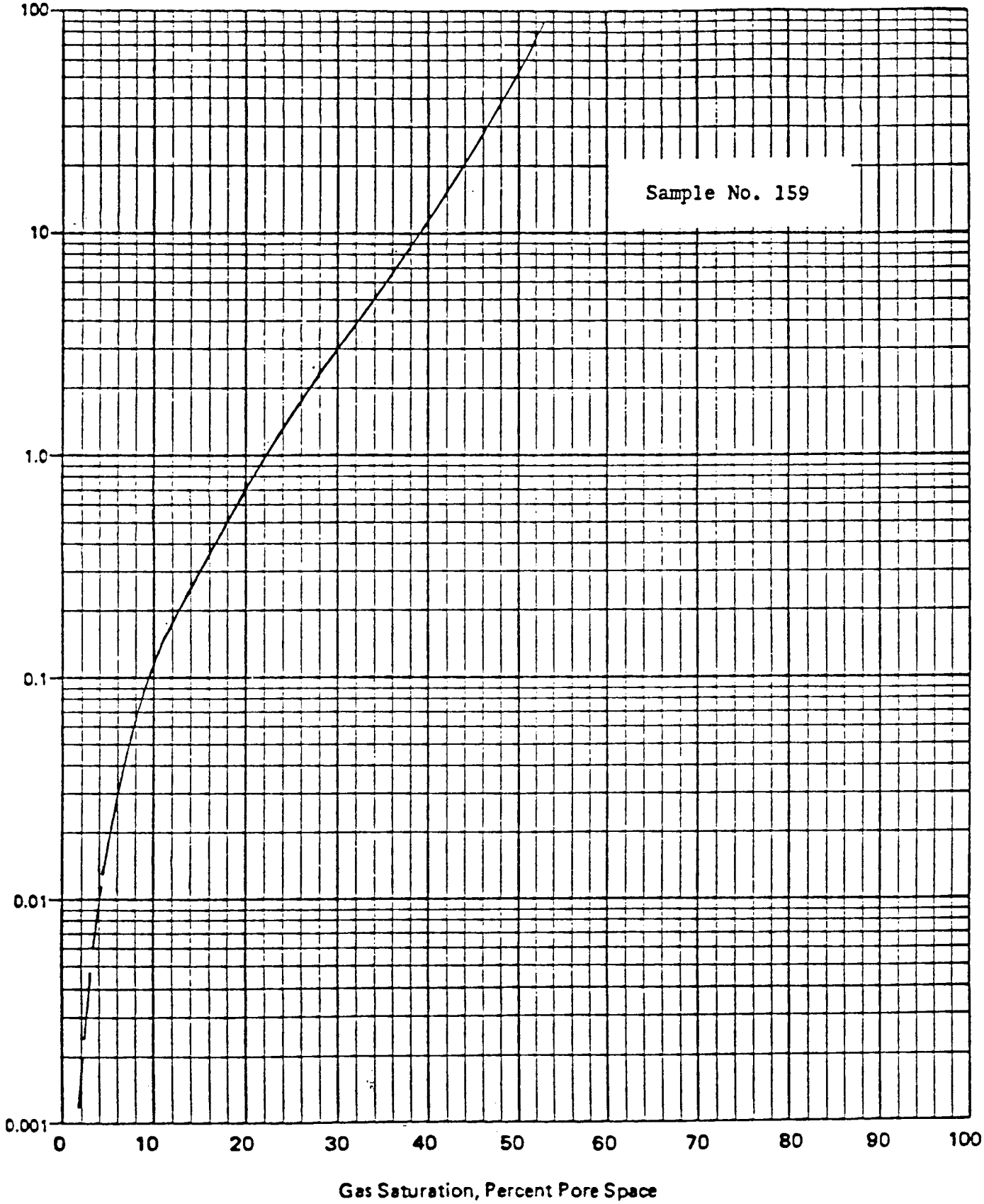


Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

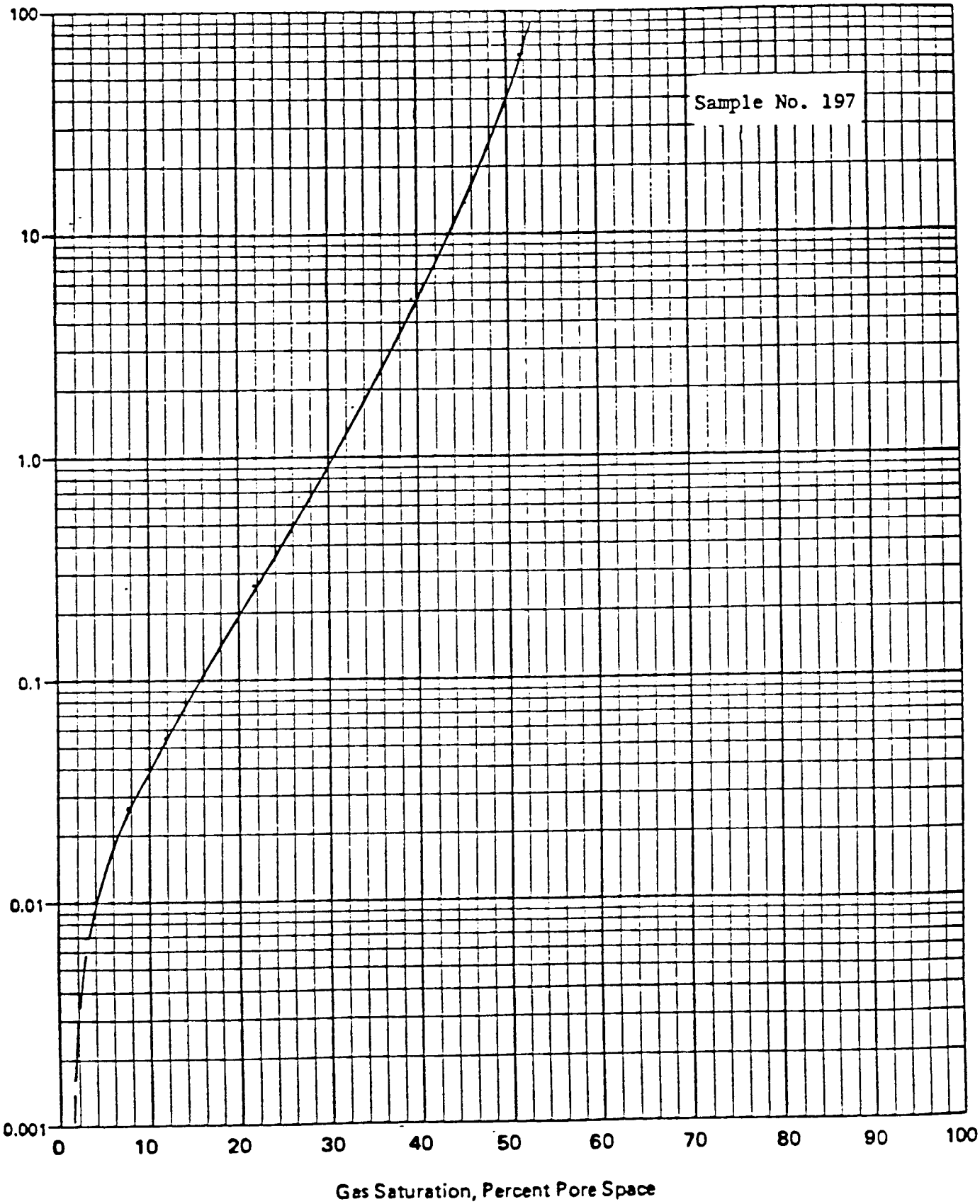
Formation Towanda
County Stevens
State Kansas



Company Mobil Oil Corporation
Formation Towanda
Well Nix No. 1 Unit No. 3
County Stevens
Field Hugoton
State Kansas

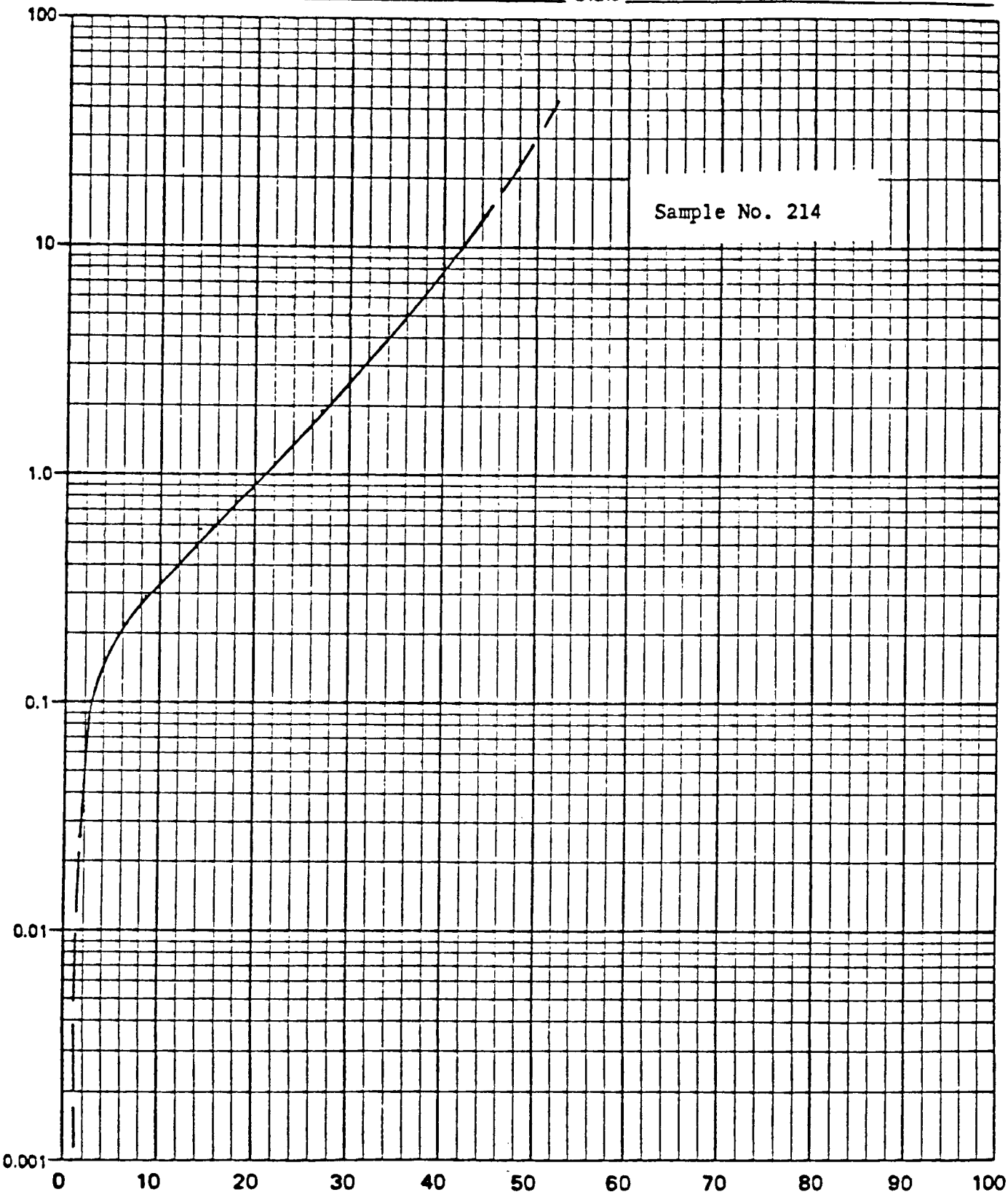


Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Fort Riley
County Stevens
State Kansas



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

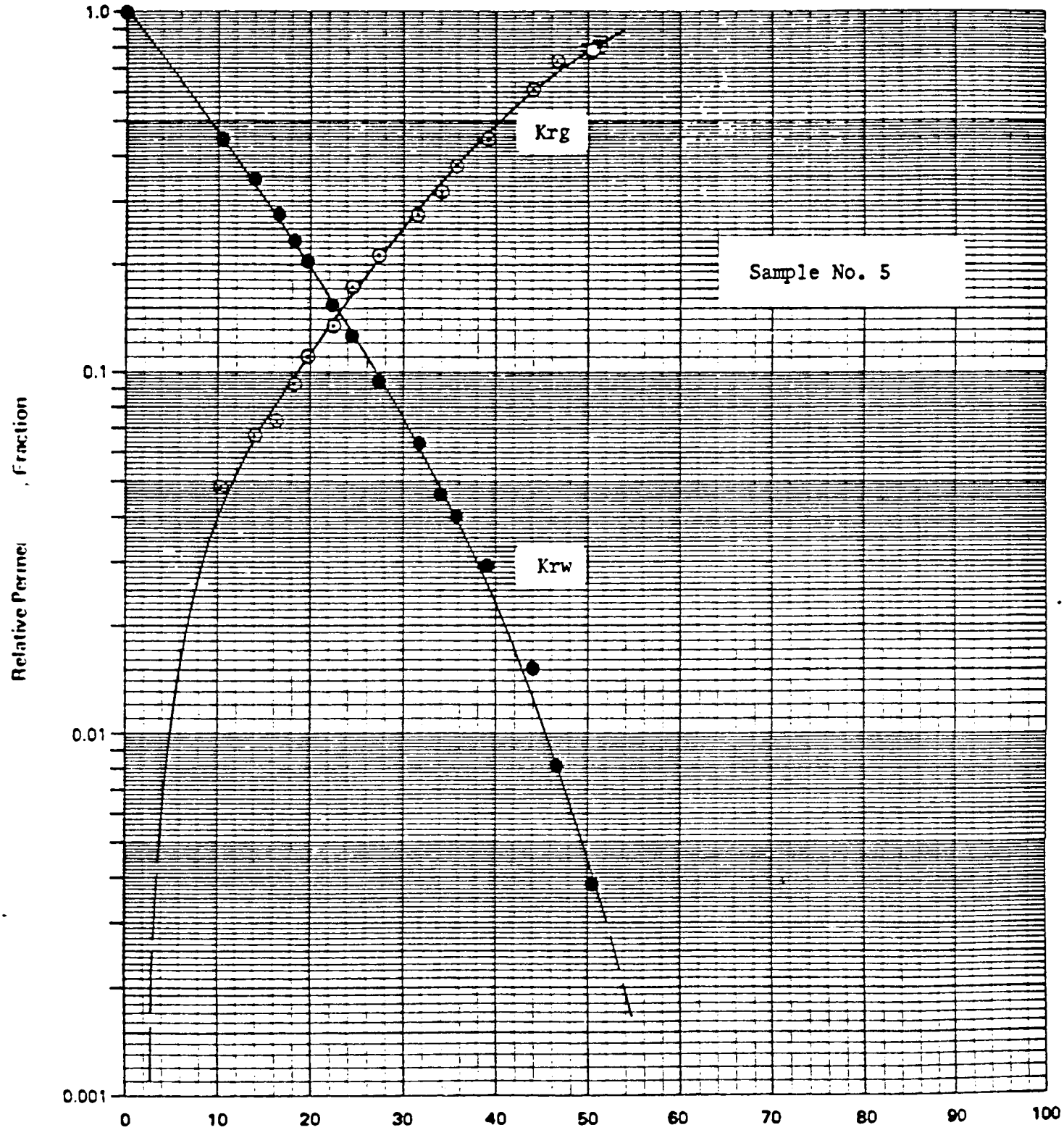
Formation Fort Riley
County Stevens
State Kansas



GAS-WATER RE E PERMEABILITY RATIO

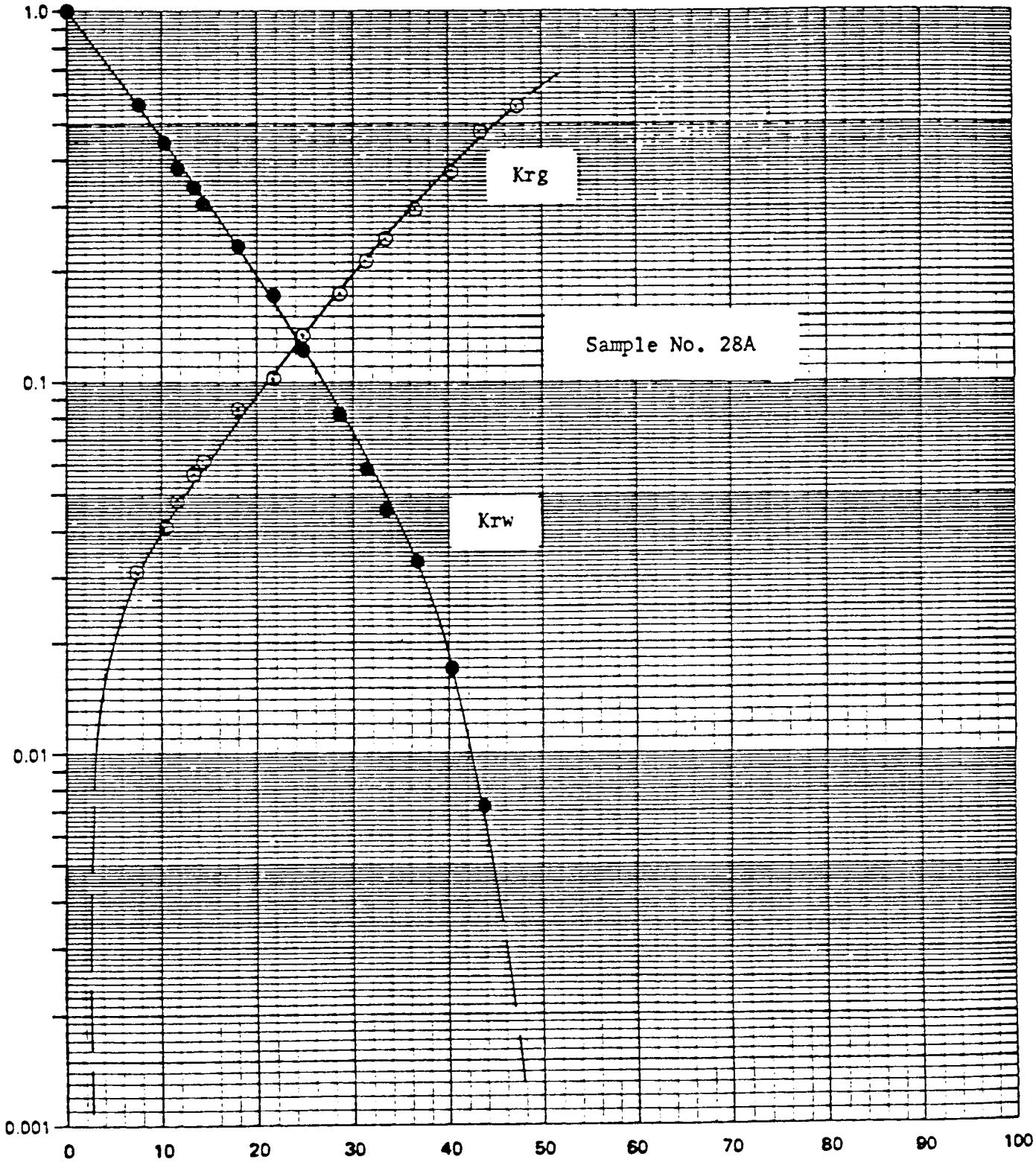
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Herrington
County Stevens
State Kansas



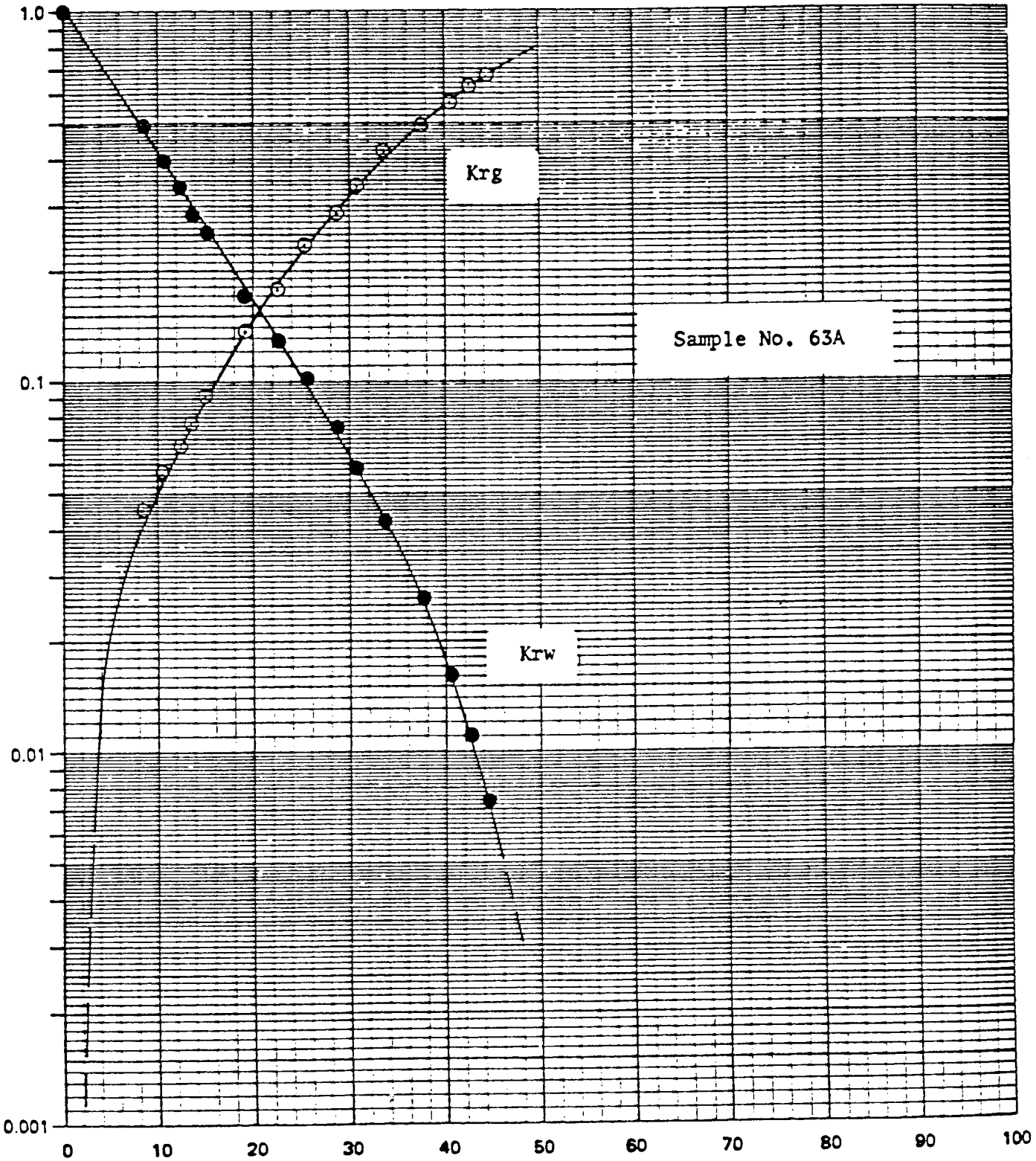
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas

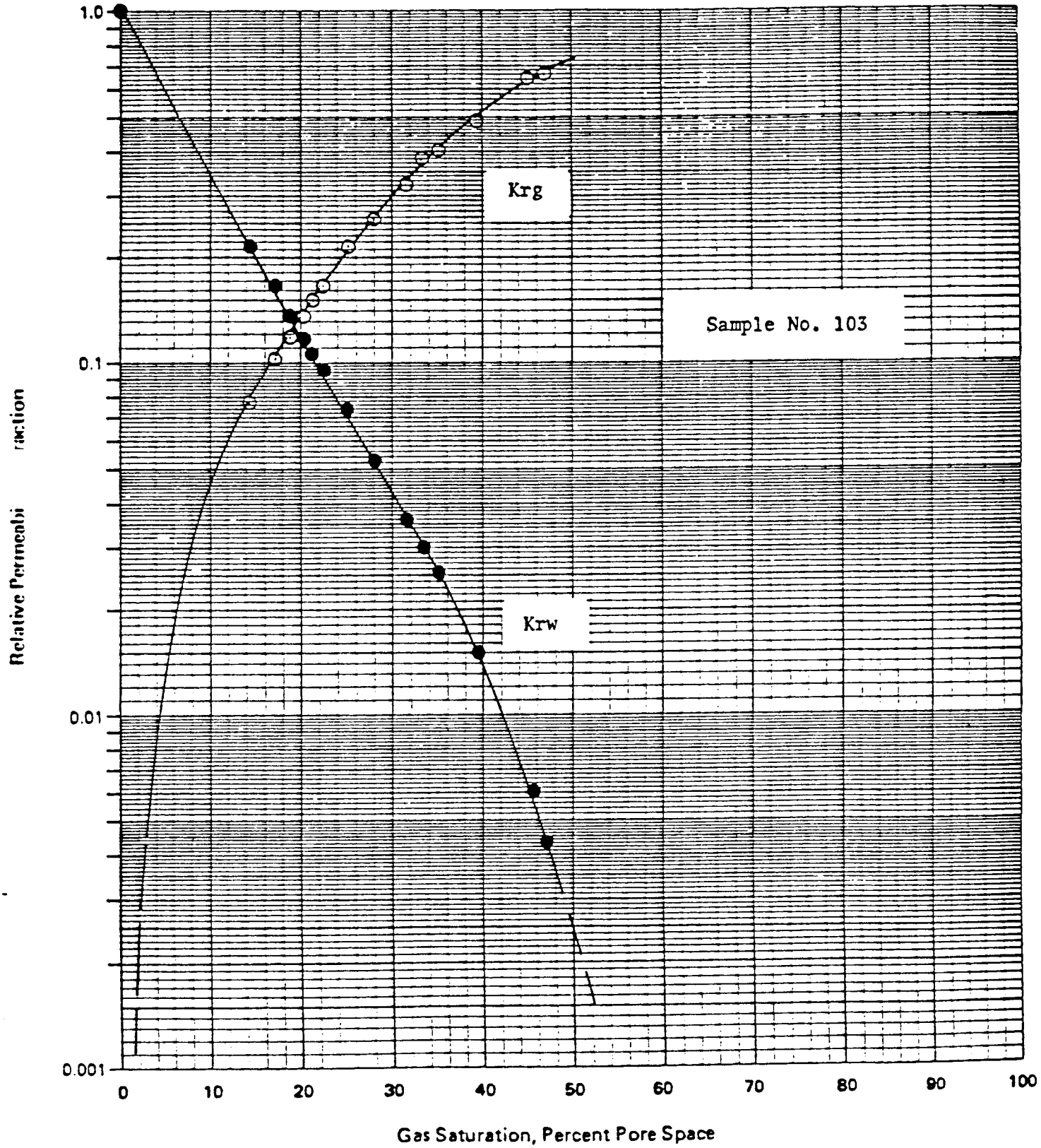


Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Winfield
County Stevens
State Kansas

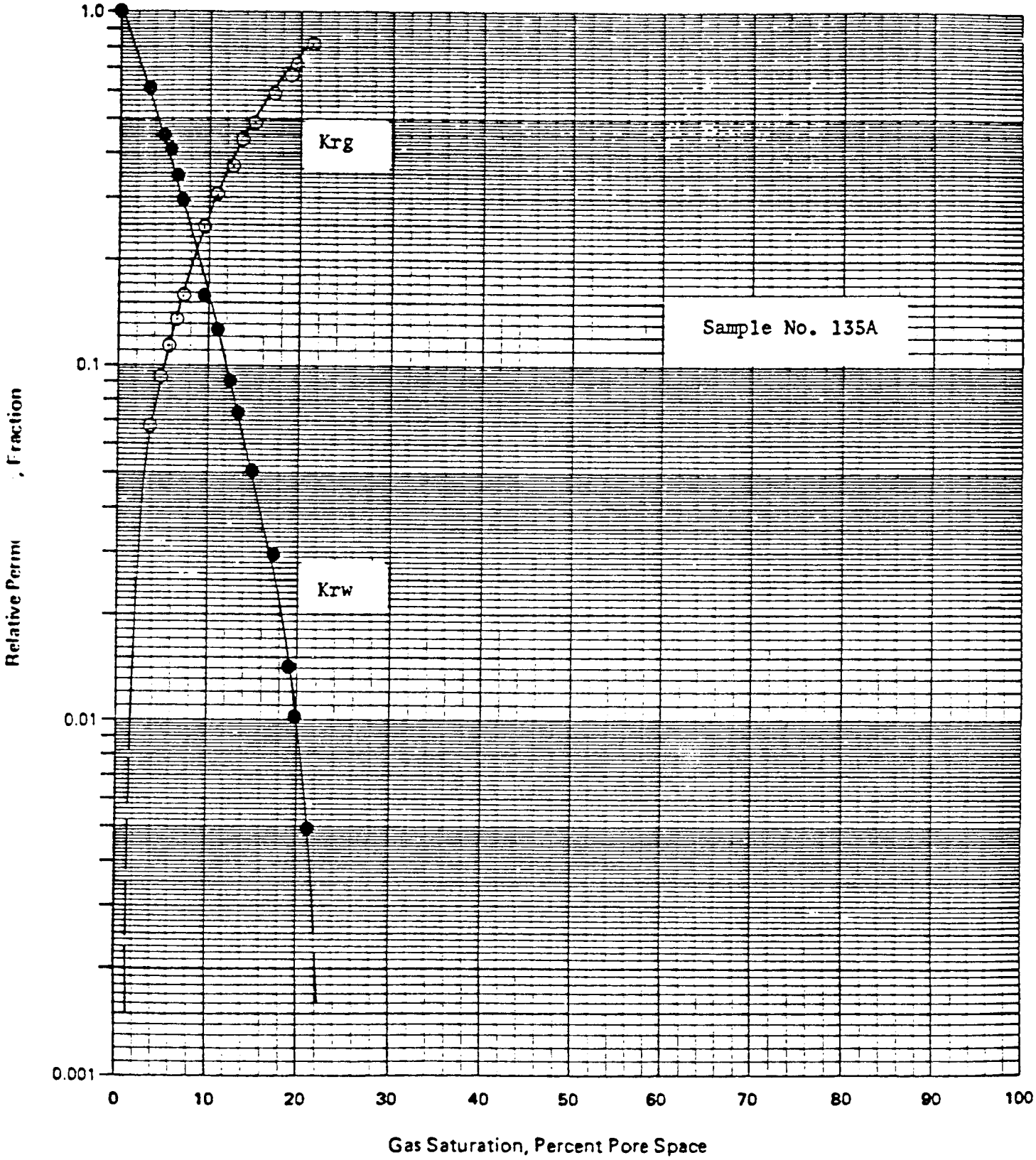


Has bad Cap Press Curve
Poor efficiency
Fractured high perm streak

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203-840030

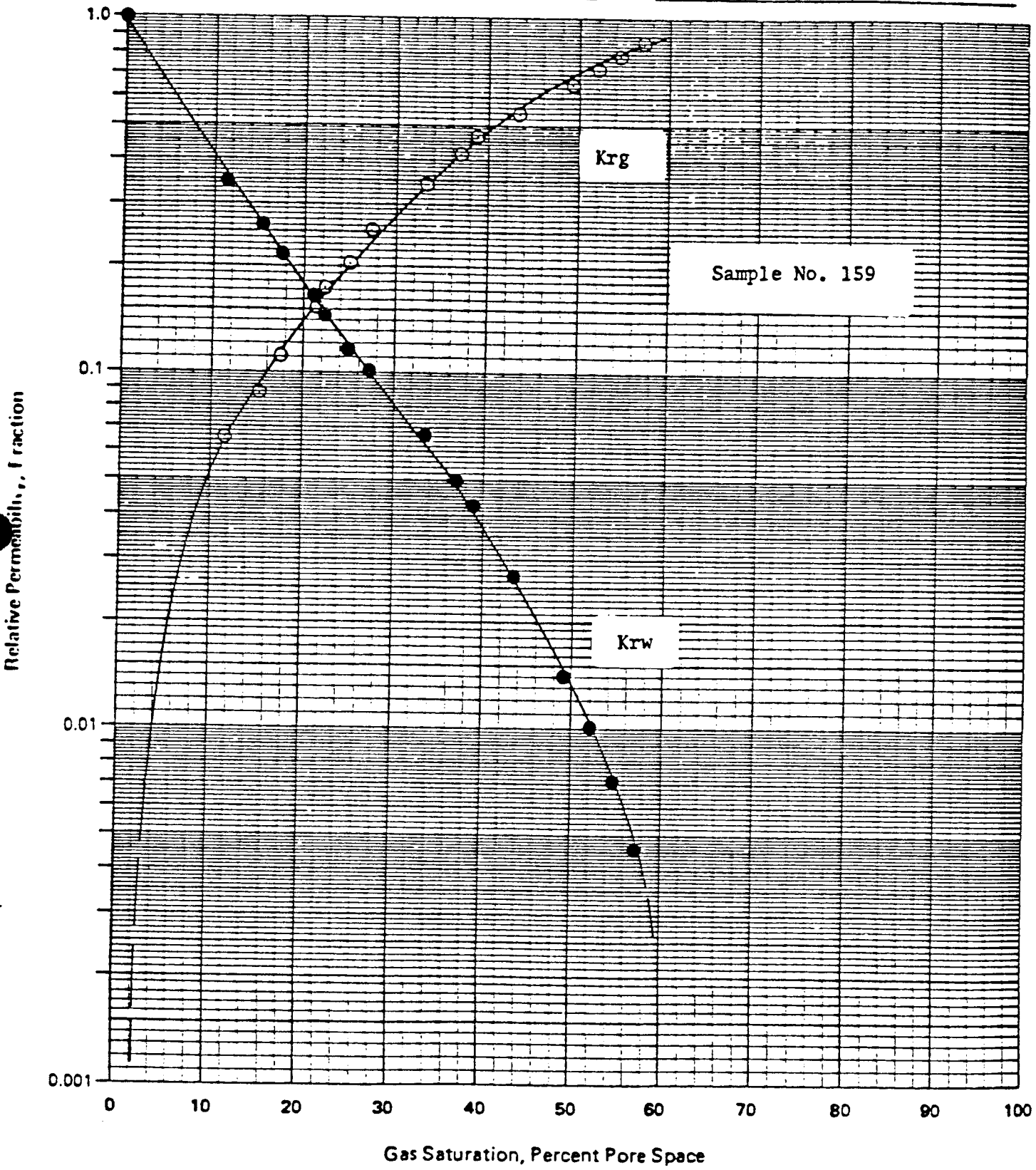
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Towanda
County Stevens
State Kansas



CL-739 (R-79)

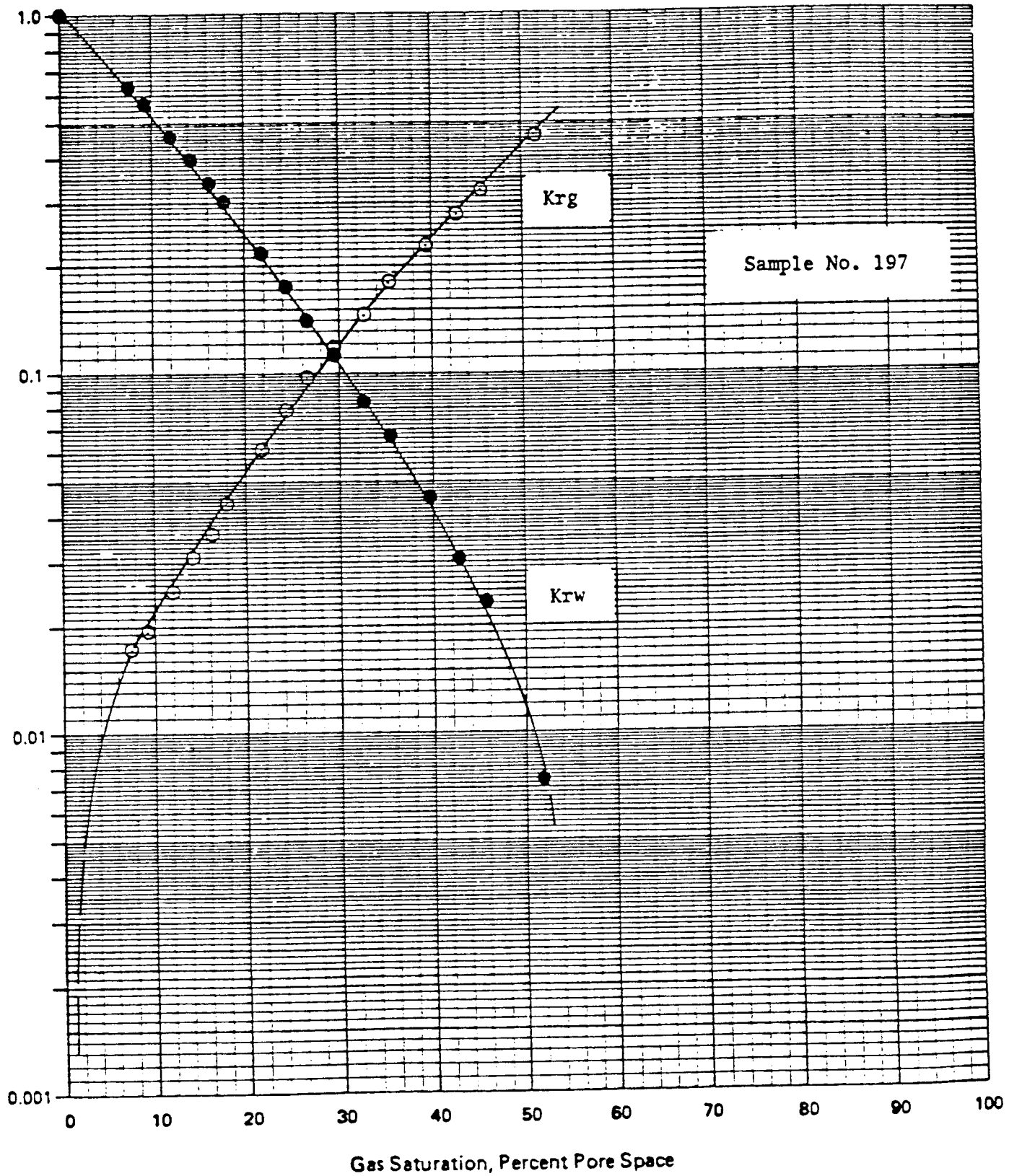
Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Towanda
County Stevens
State Kansas



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Fort Riley
County Stevens
State Kansas

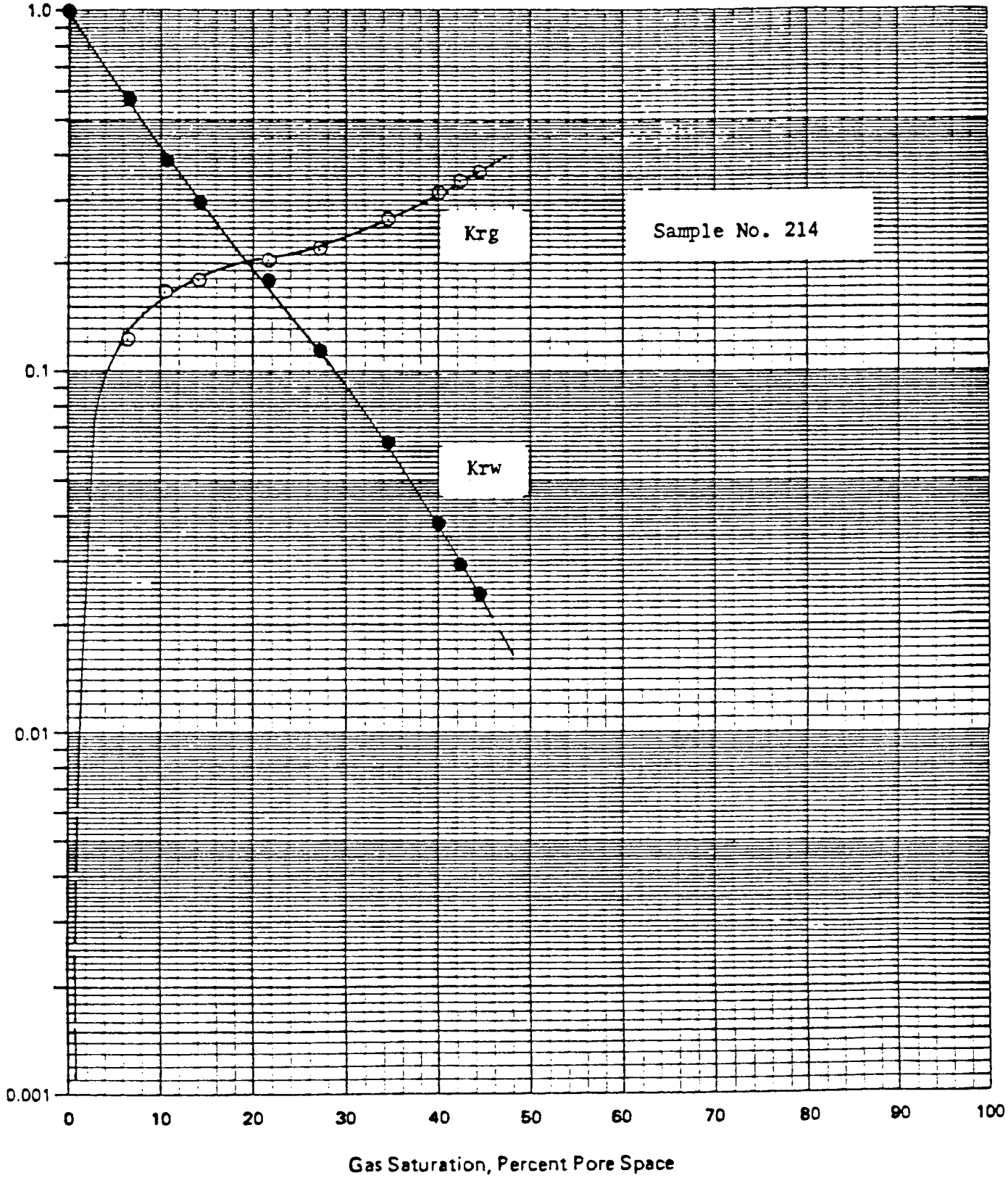


1, Cor Press Curve
Post Ils By Pass

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

File 203-840030

Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton
Formation Fort Riley
County Stevens
State Kansas



CL-729 (R-79)

SUMMARY OF MERCURY INJECTION TEST RESULTS

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Chase Group Field: Hugoton

County, State: Stevens, Kansas

Sample Identification:	5	28A	63A	103	118
Depth, feet:	2629-30	2661-62	2699-00	2743-44	2758-59
Permeability to Air, md:	22	0.60	7.7	42	0.24
Porosity, percent:	19.3	10.3	16.1	13.0	8.1

Injection Pressure, psia	Percent Pore Space Occupied by Mercury				
3	0.0	0.0	0.0	0.9	0.0
6	0.0	0.0	0.0	2.6	0.0
9	0.0	0.0	0.0	8.0	0.0
12	0.0	0.0	0.9	23.9	0.0
15	0.0	0.0	1.9	43.5	0.0
18	0.0	0.0	4.3	50.5	0.0
21	0.0	0.0	8.0	53.0	0.0
24	0.0	0.0	11.3	55.5	0.0
27	0.0	0.0	14.6	57.6	0.0
30	0.0	0.0	18.0	60.5	0.0
40	14.0	0.0	28.2	66.3	1.0
60	58.7	0.0	39.4	71.7	3.9
80	66.7	0.0	45.1	74.6	7.1
100	71.8	20.5	48.7	75.3	12.0
200	79.4	56.5	58.9	79.6	30.8
300	82.5	65.3	64.2	81.0	52.3
500	85.6	71.4	76.2	83.3	68.5
750	87.5	74.7	79.7	85.9	74.3
1000	88.8	76.7	84.6	88.4	79.9
1250	89.9	78.4	87.4	90.3	80.6
1500	90.5	79.6	90.0	92.2	82.4
1750	91.0	80.5	91.4	93.4	84.8
2000	91.4	81.4	92.5	94.5	85.6

SUMMARY OF MERCURY INJECTION TEST RESULTS

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Chase Group Field: Hugoton

County, State: Stevens, Kansas

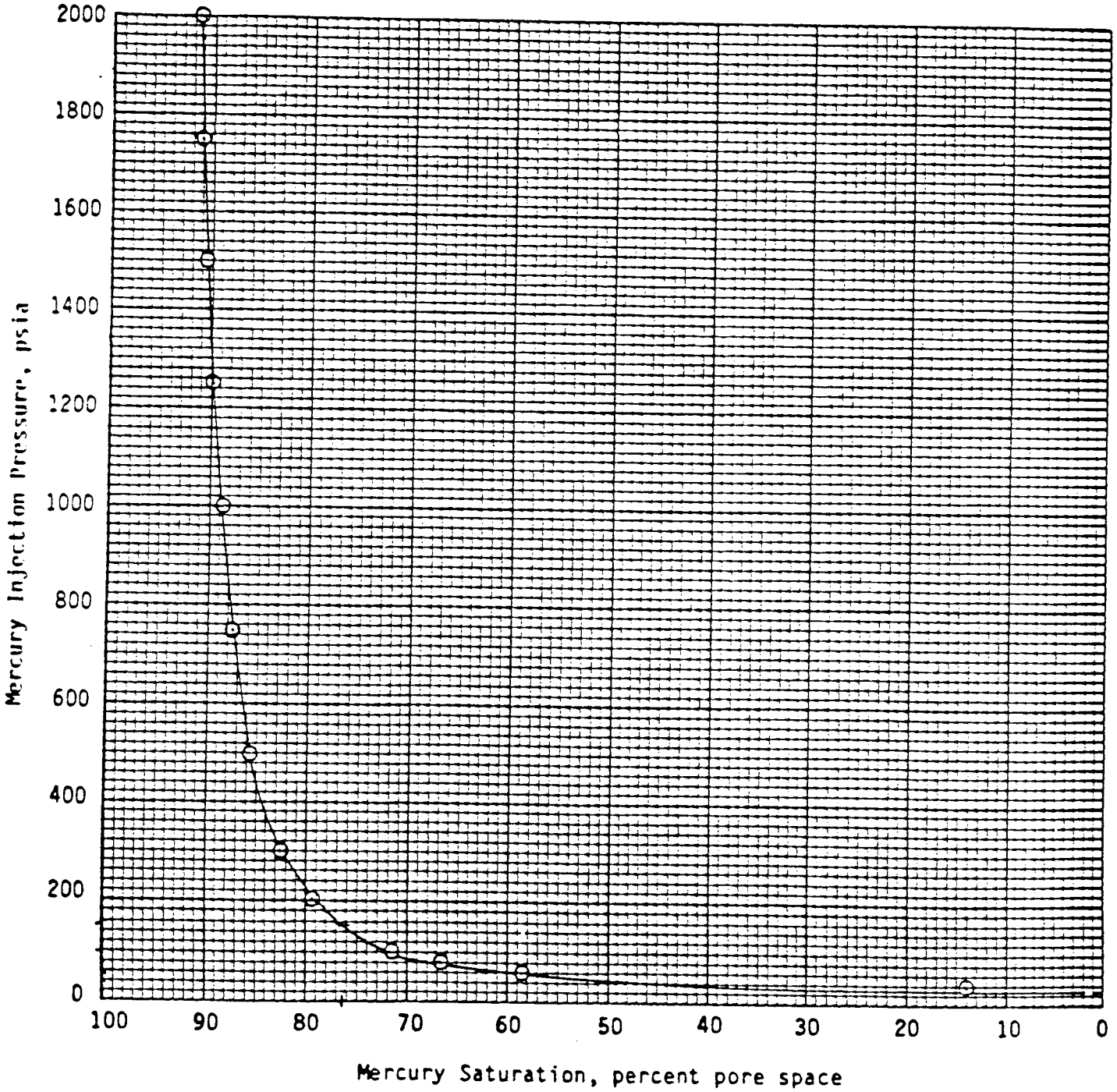
Sample Identification:	135A	159	197	214
Depth, feet:	2796-97	~~2720~~ 2820-21	2858-59	2875-76
Permeability to Air, md:	1.1	40	1.1	0.43
Porosity, percent:	13.9	24.3	14.7	11.6

Injection Pressure, psia	Percent Pore Space Occupied by Mercury			
3	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.7
12	0.0	0.0	0.0	2.0
15	0.0	0.0	0.0	2.6
18	0.0	2.5	0.0	2.9
21	0.0	5.8	0.0	3.1
24	0.0	10.1	0.0	3.4
27	0.0	17.6	0.0	3.5
30	0.0	24.9	0.0	3.8
40	2.0	43.3	0.0	4.3
60	7.0	63.2	0.6	4.6
80	10.7	71.1	4.0	4.9
100	14.1	76.0	10.6	5.1
200	22.0	87.7	41.2	6.2
300	25.9	91.3	55.3	8.0
500	29.4	93.9	68.7	28.4
750	31.3	95.2	76.0	64.1
1000	32.9	95.6	80.4	72.5
1250	36.0	95.7	83.6	77.5
1500	45.7	96.1	86.4	80.4
1750	56.6	96.2	88.0	83.1
2000	61.0	96.3	89.8	85.6

MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Herrington
Field: Hugoton
County, State: Stevens, Kansas

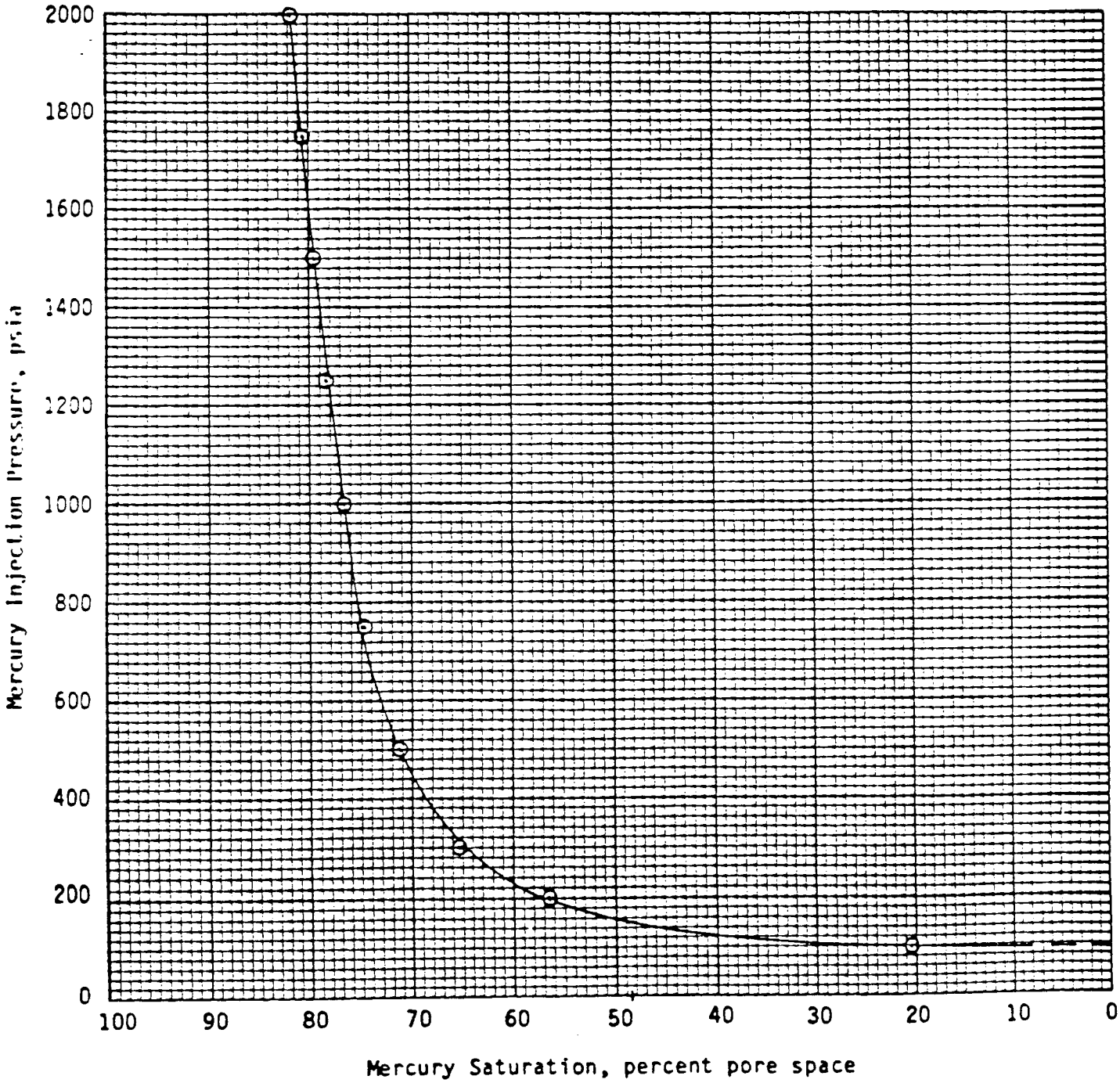
Sample Identification: 5
Sample Depth: 2629.0 feet
Permeability to Air: 22. md
Porosity: 19.3 percent



MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit NO. 3
Formation: Krider
Field: Hugoton
County, State: Stevens, Kansas

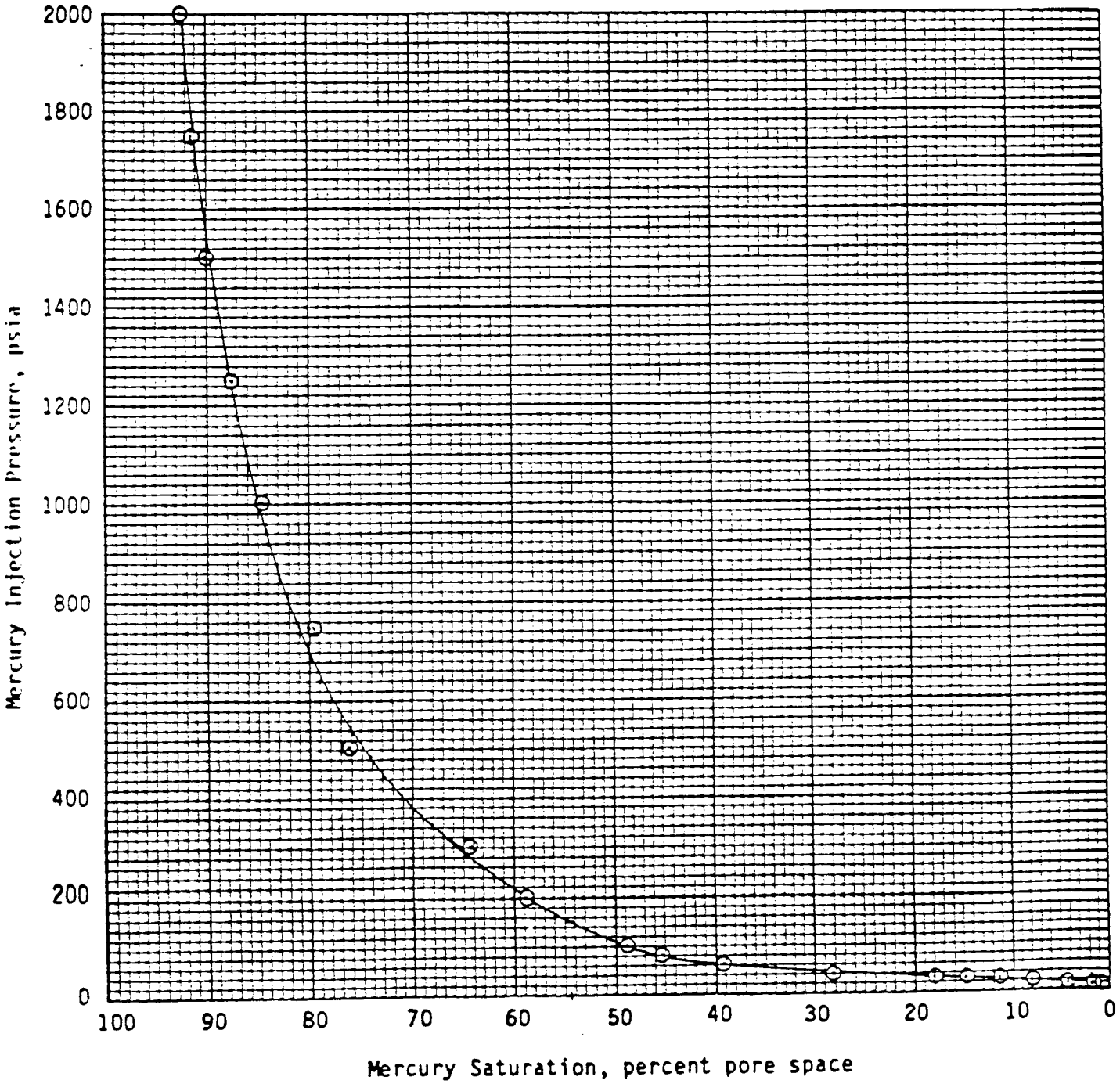
Sample Identification: 28A
Sample Depth: 2661.0 feet
Permeability to Air: 0.60 md
Porosity: 10.3 percent



MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Krider
Field: Hugoton
County, State: Stevens, Kansas

Sample Identification: 63A
Sample Depth: 2699.0 feet
Permeability to Air: 7.7 md
Porosity: 16.1 percent

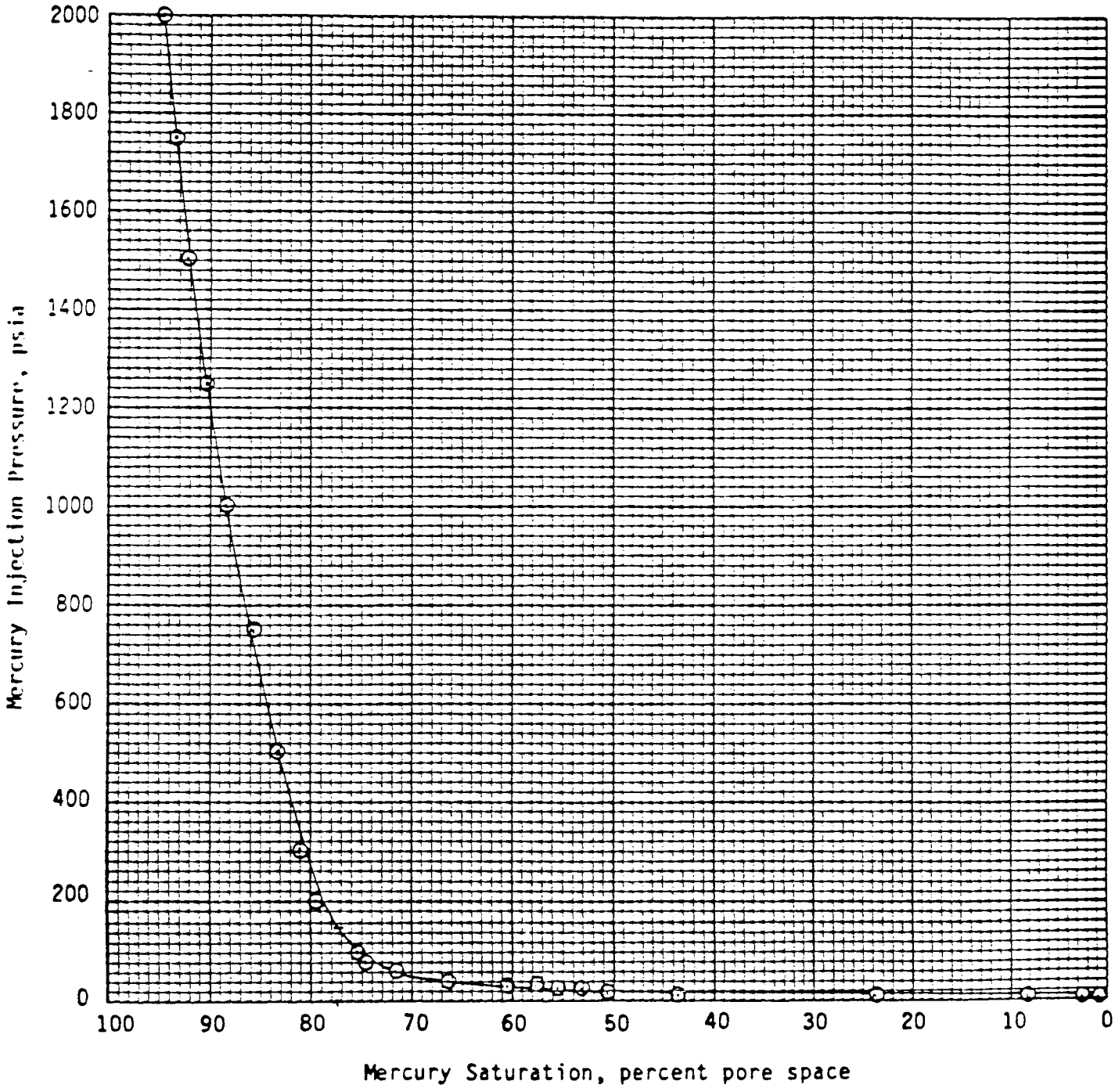


Special Core Analysis

MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Winfield
Field: Hugoton
County, State: Stevens, Kansas

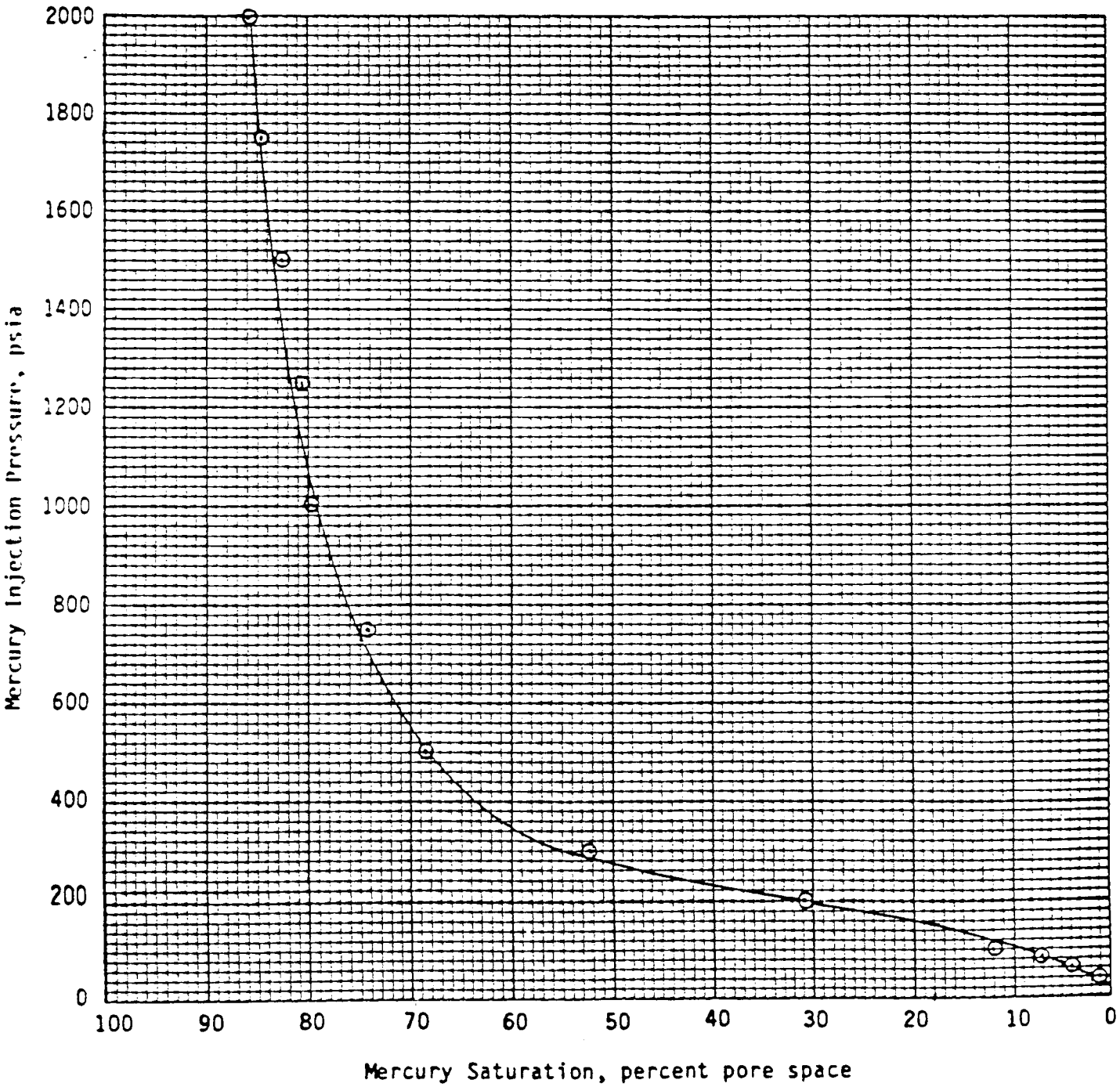
Sample Identification: 103
Sample Depth: 2743.0 feet
Permeability to Air: 42. md
Porosity: 13.0 percent



MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Winfield
Field: Hugoton
County, State: Stevens, Kansas

Sample Identification: 118
Sample Depth: 2758.0 feet
Permeability to Air: 0.24 md
Porosity: 8.1 percent



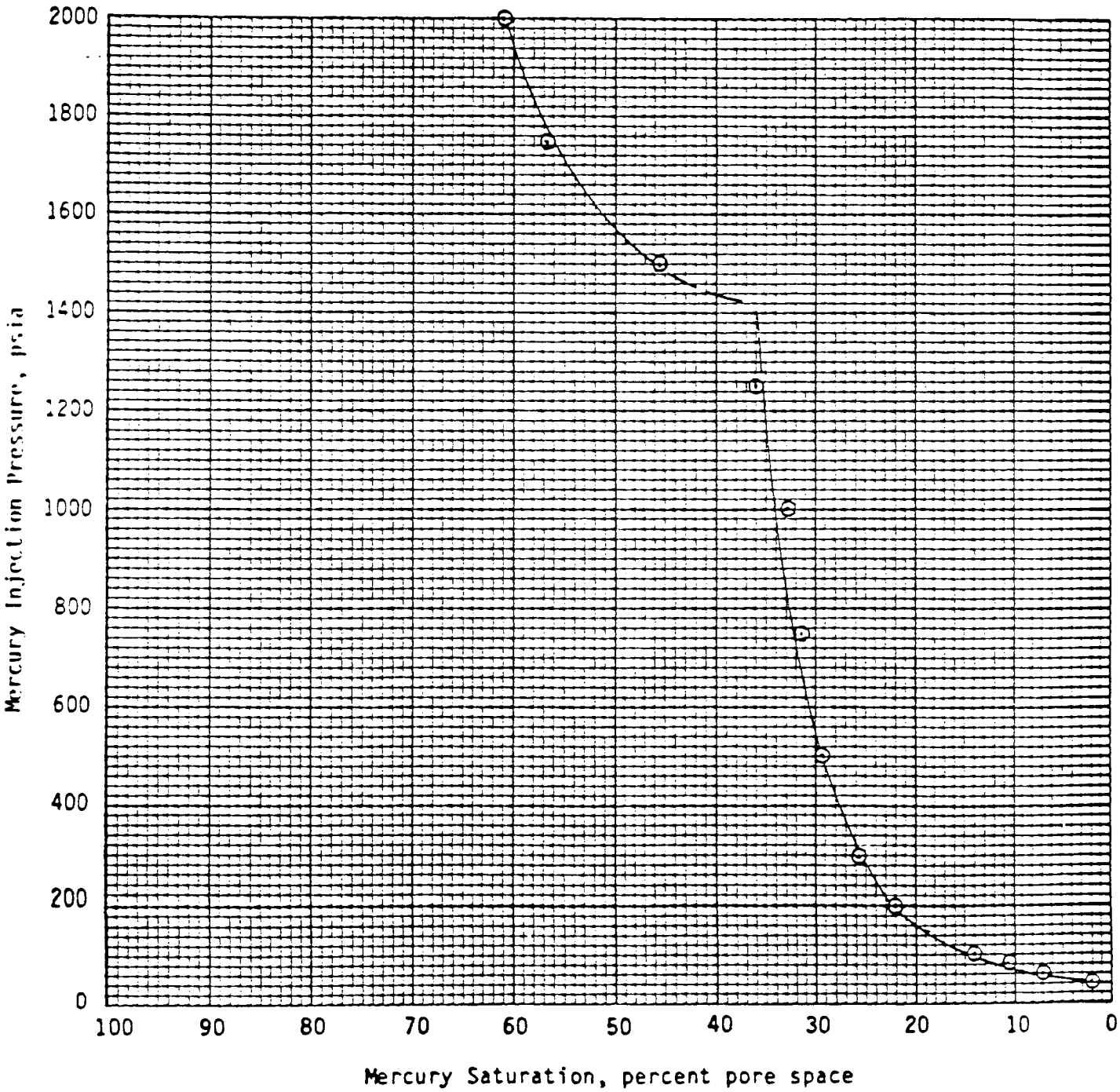
CORE LABORATORIES, INC.
Special Core Analysis

Do Not use

MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Towanda
Field: Hugoton
County, State: Stevens, Kansas

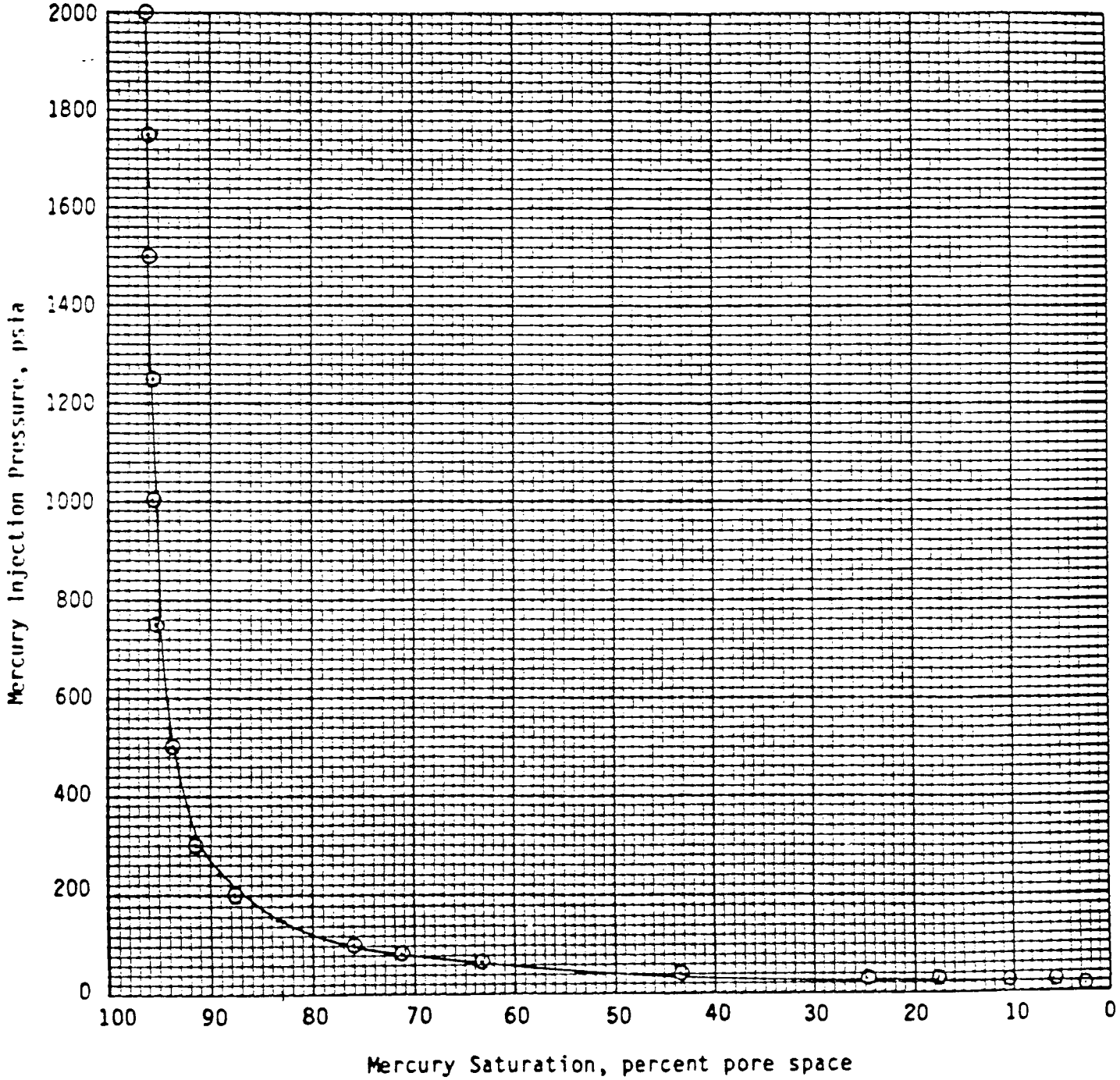
Sample Identification: 135A
Sample Depth: 2796.0 feet
Permeability to Air: 1.1 md
Porosity: 14.2 percent



MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Towanda
Field: Hugoton
County, State: Stevens, Kansas

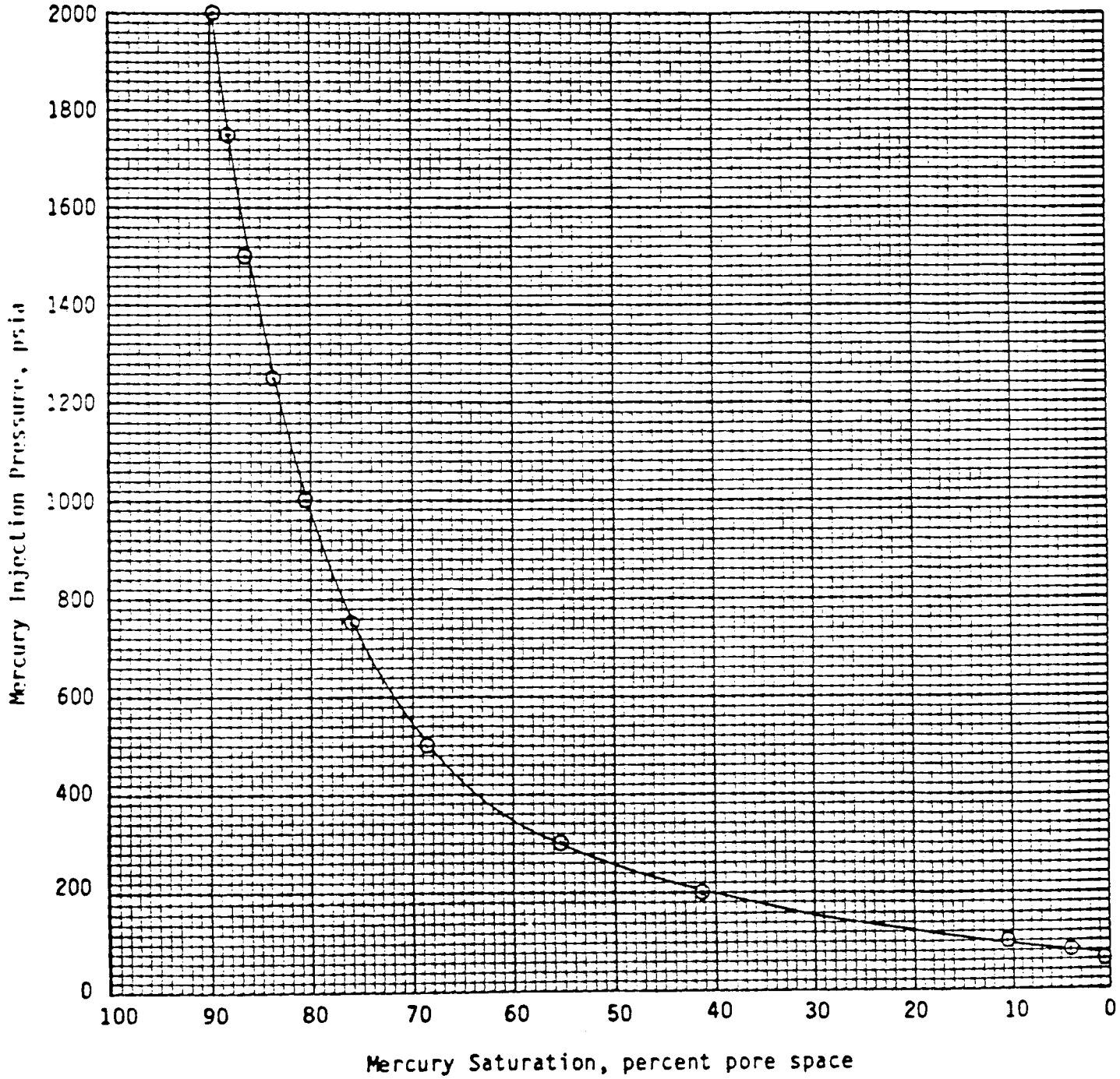
Sample Identification: 159
Sample Depth: 2820.0 feet
Permeability to Air: 40. md
Porosity: 24.3 percent



MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Fort Riley
Field: Hugoton
County, State: Stevens, Kansas

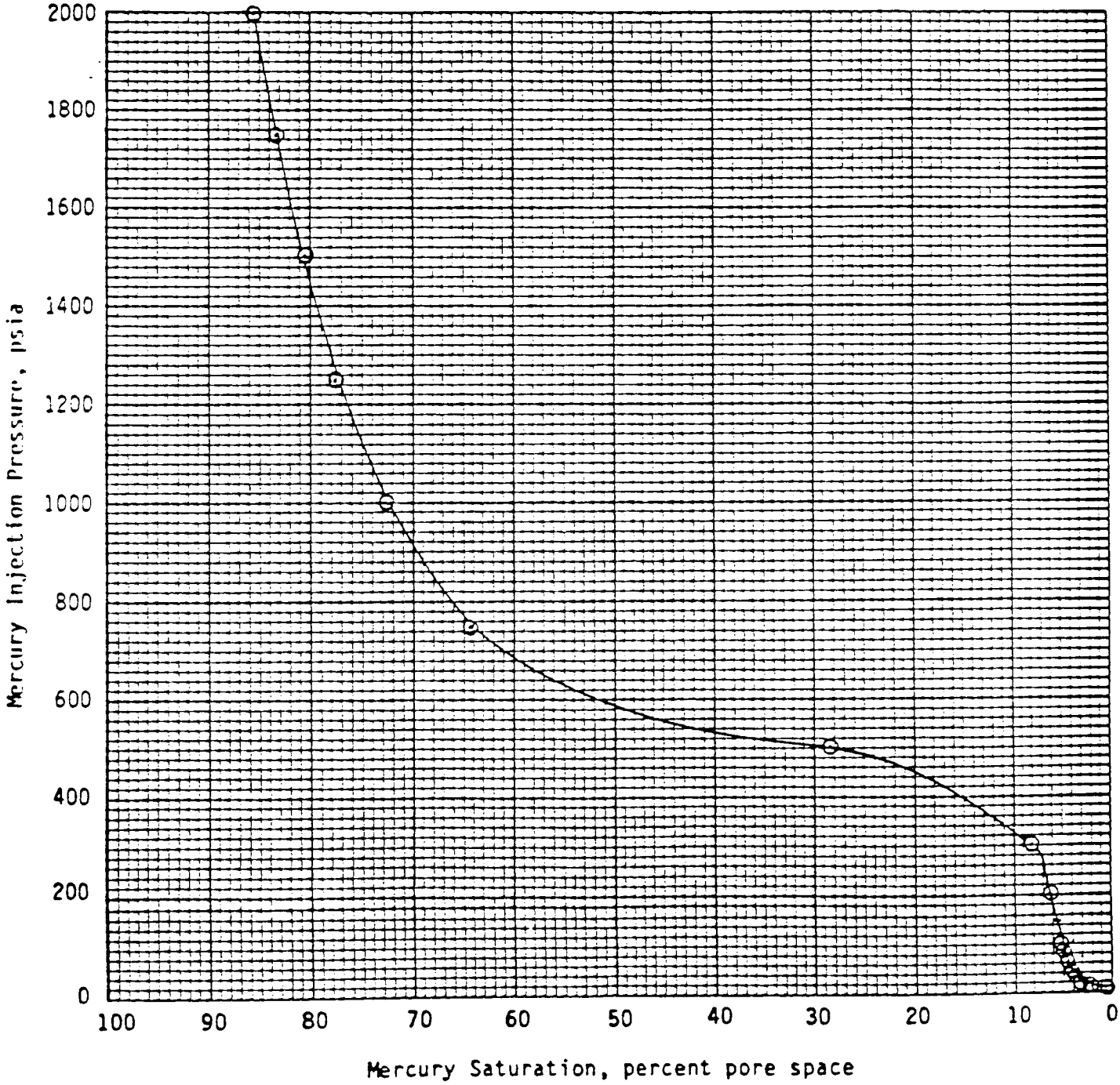
Sample Identification: 197
Sample Depth: 2858.0 feet
Permeability to Air: 1.1 md
Porosity: 14.7 percent



MERCURY INJECTION

Company: Mobil Oil Corporation
Well: Nix No. 1 Unit No. 3
Formation: Fort Riley
Field: Hugoton
County, State: Stevens, Kansas

Sample Identification: 214
Sample Depth: 2875.0 feet
Permeability to Air: 0.43 md
Porosity: 11.6 percent

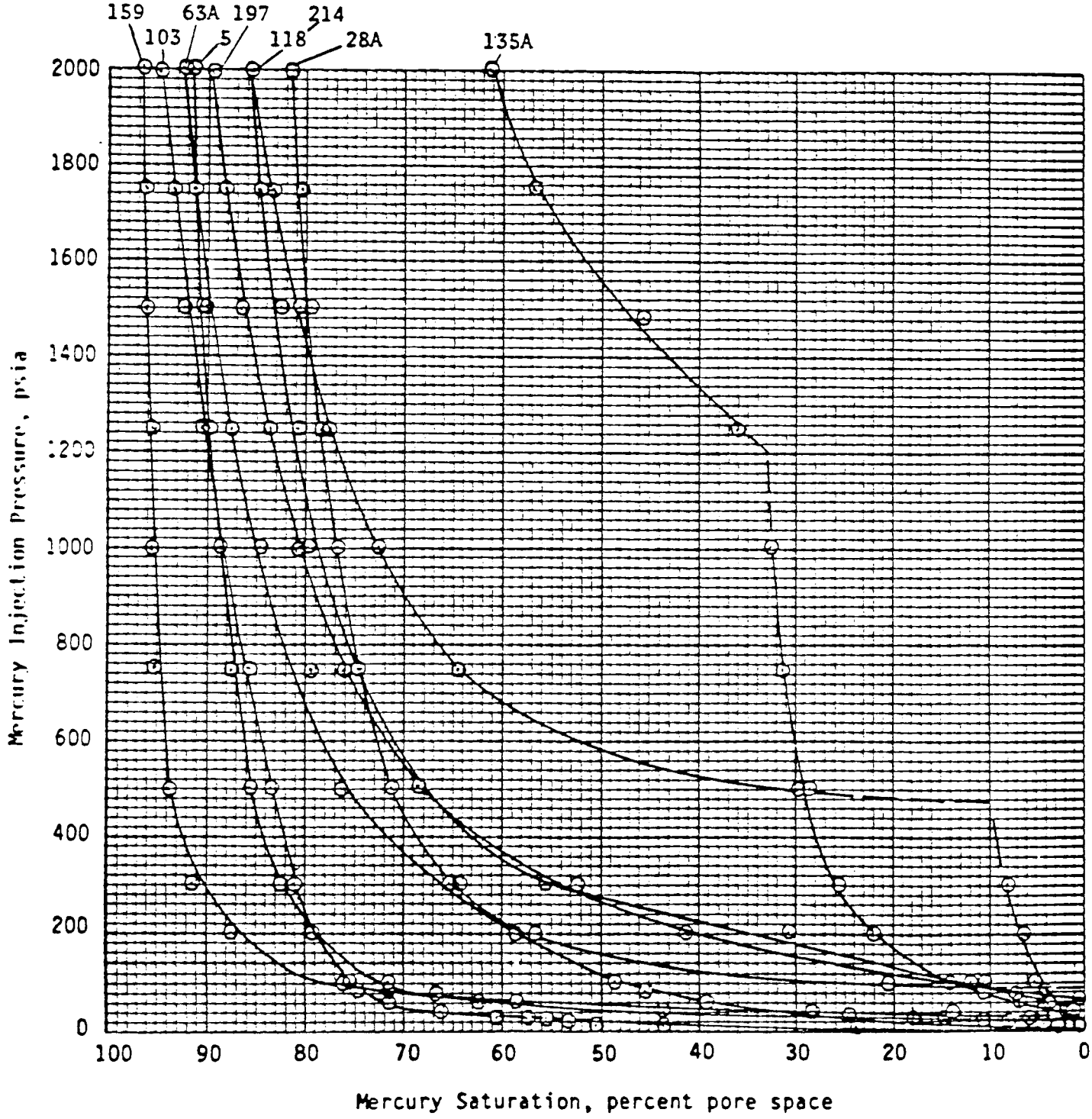


Special Core Analysis

File 203-840030

MERCURY INJECTION

Company:	Mobil Oil Corporation	Sample Identification:	
Well:	Nix No. 1 Unit No. 3	Sample Depth:	feet
Formation:	Chase Group-Composite Plot	Permeability to Air:	md
Field:	Hugoton	Porosity:	percent
County, State:	Stevens, Kansas		



SUMMARY OF PORE SIZE DISTRIBUTION

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Chase Group Field: Hugoton

County, State: Stevens, Kansas

Sample Identification:	5	28A	63A	103	118
Depth, feet:	2629-30	2661-62	2699-00	2743-44	2758-59
Permeability to Air, md:	22	0.60	7.7	42	0.24
Porosity, percent:	19.3	10.3	16.1	13.0	8.1

Pore Aperature Radius Microns	Cumulative Percent Pore Space				
35.	100.0	100.0	100.0	99.2	100.0
30.	100.0	100.0	100.0	99.8	100.0
25.	100.0	100.0	100.0	99.1	100.0
20.	100.0	100.0	100.0	97.9	100.0
15.	100.0	100.0	100.0	95.8	100.0
10.	100.0	100.0	98.2	84.3	100.0
8.	100.0	100.0	98.9	66.4	100.0
6.	100.0	100.0	95.9	49.8	100.0
4.	100.0	100.0	85.8	42.7	100.0
3.	100.0	100.0	75.9	35.9	98.9
2.	48.0	100.0	63.5	29.6	97.1
1.	27.1	74.6	50.3	24.2	86.9
.8	24.3	60.1	46.6	22.6	83.6
.6	21.7	47.3	42.5	20.9	74.7
.4	18.4	36.8	37.5	19.3	53.2
.3	16.4	32.4	31.8	18.3	41.3
.2	14.1	28.0	23.1	16.4	30.2
.10	10.8	22.8	14.5	11.1	19.7
.09	10.3	21.9	13.3	10.2	19.7
.08	9.9	21.1	11.7	9.1	18.9
.07	9.4	20.3	9.9	7.7	17.4
.06	8.9	19.4	8.5	6.5	15.0
.055	8.7	18.8	7.8	5.8	14.5

SUMMARY OF PORE SIZE DISTRIBUTION

Company: Mobil Oil Corporation Well: Nix No. 1 Unit No. 3

Formation: Chase Group Field: Hugoton

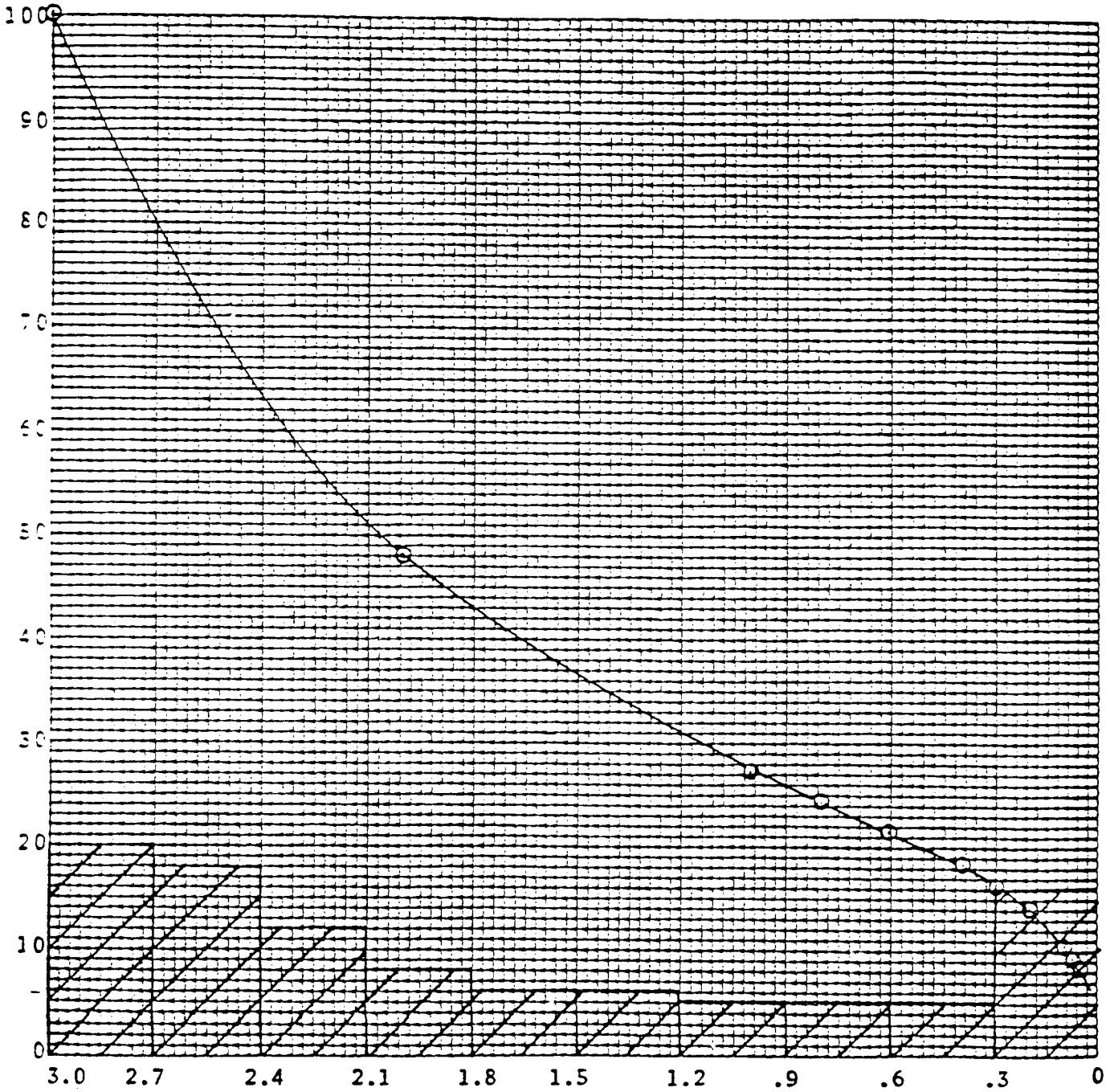
County, State: Stevens, Kansas

Sample Identification:	135A	159	197	214
Depth, feet:	2796-97	2820 ~~2720~~-21	2858-59	2875-76
Permeability to Air, md:	1.1	40	1.1	0.43
Porosity, percent:	13.9	24.3	14.7	11.6

Pore Aperature Radius Microns	Cumulative Percent Pore Space			
35.	100.0	100.0	100.0	100.0
30.	100.0	100.0	100.0	100.0
25.	100.0	100.0	100.0	100.0
20.	100.0	100.0	100.0	100.0
15.	100.0	100.0	100.0	100.0
10.	100.0	100.0	100.0	98.5
8.	100.0	100.0	100.0	97.7
6.	100.0	97.7	100.0	97.1
4.	100.0	83.4	100.0	96.5
3.	99.2	63.8	100.0	95.9
2.	94.4	41.5	97.6	95.5
1.	85.0	22.7	86.7	94.9
.8	82.3	18.3	76.5	94.5
.6	79.2	13.7	63.6	93.9
.4	75.2	9.5	48.6	92.6
.3	72.8	7.7	39.6	88.4
.2	70.3	5.9	30.0	66.6
.10	66.6	4.4	18.7	26.0
.09	65.0	4.4	17.2	23.6
.08	61.6	4.2	15.4	21.4
.07	53.4	3.9	13.4	19.4
.06	42.7	3.8	11.8	16.7
.055	39.7	3.7	10.7	15.0

Company Mobil Oil Corporation — Formation Herrington
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

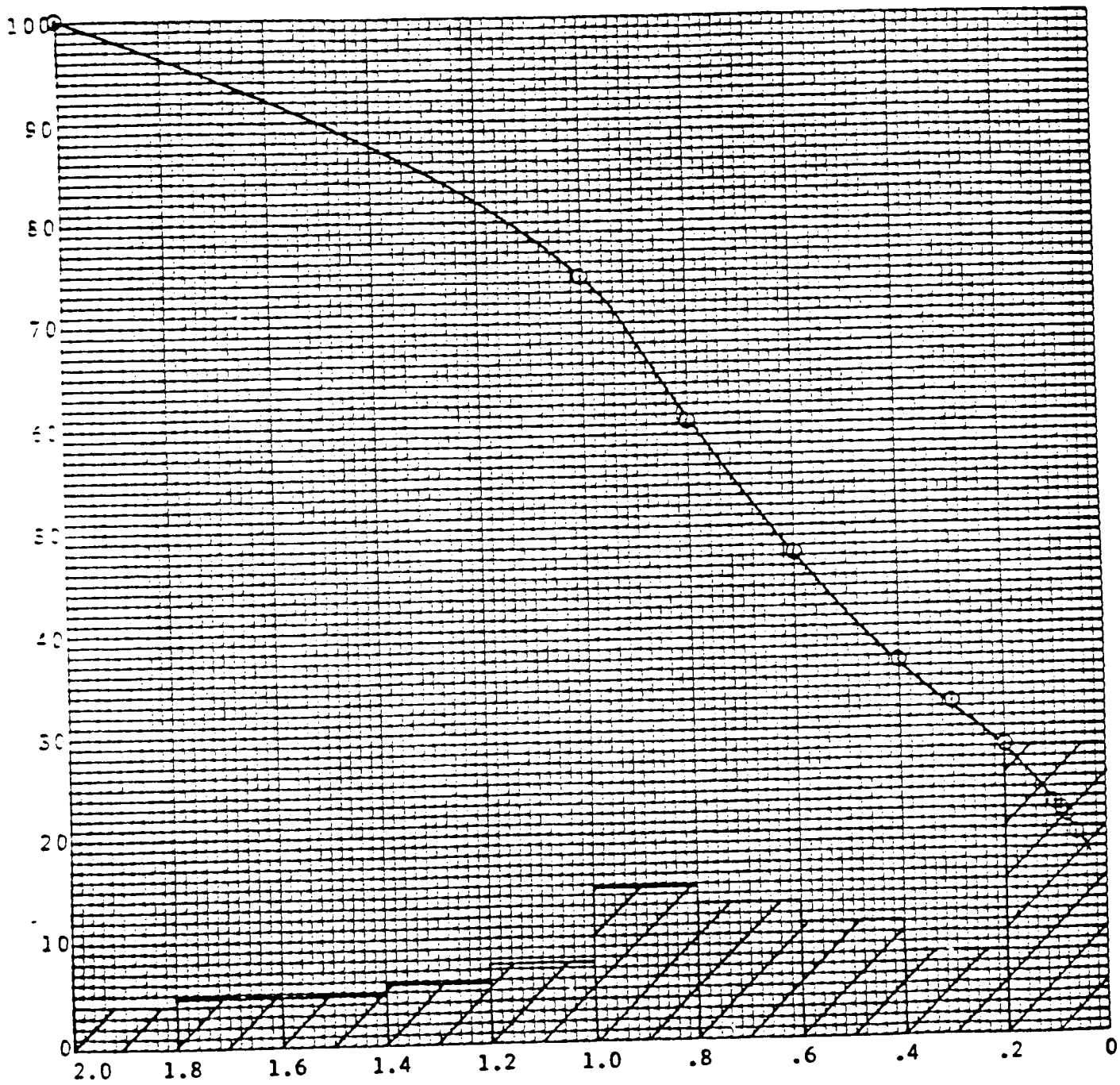
Sample No. 5
Depth = 2629.0 ft.
Permeability to air, md. = 22 Porosity = 19.3%



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

Formation Krider
County Stevens
State Kansas

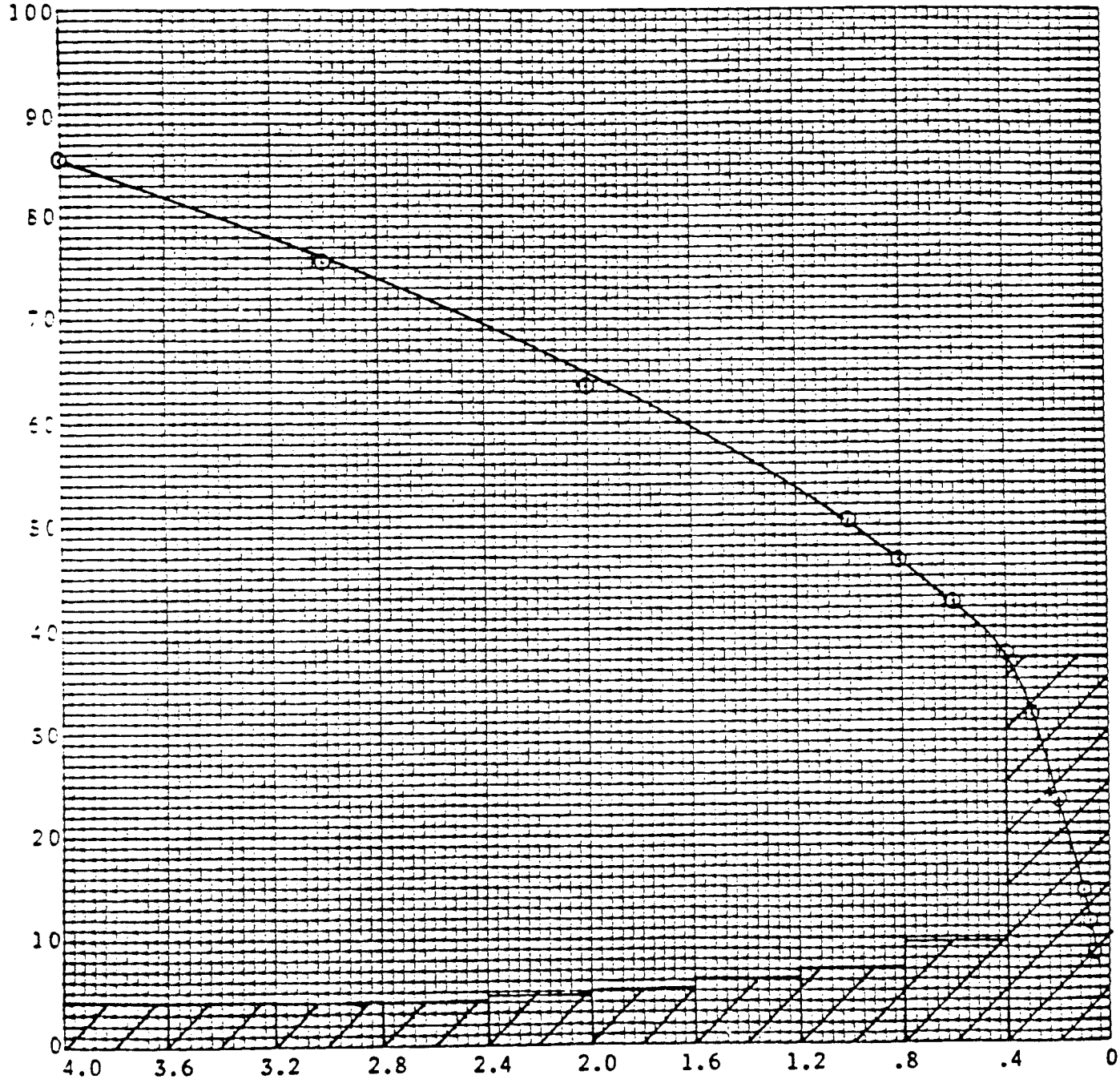
Sample No. 28A
Depth = 2661.0 ft.
Permeability to air, md. = 0.60 Porosity = 10.3%



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

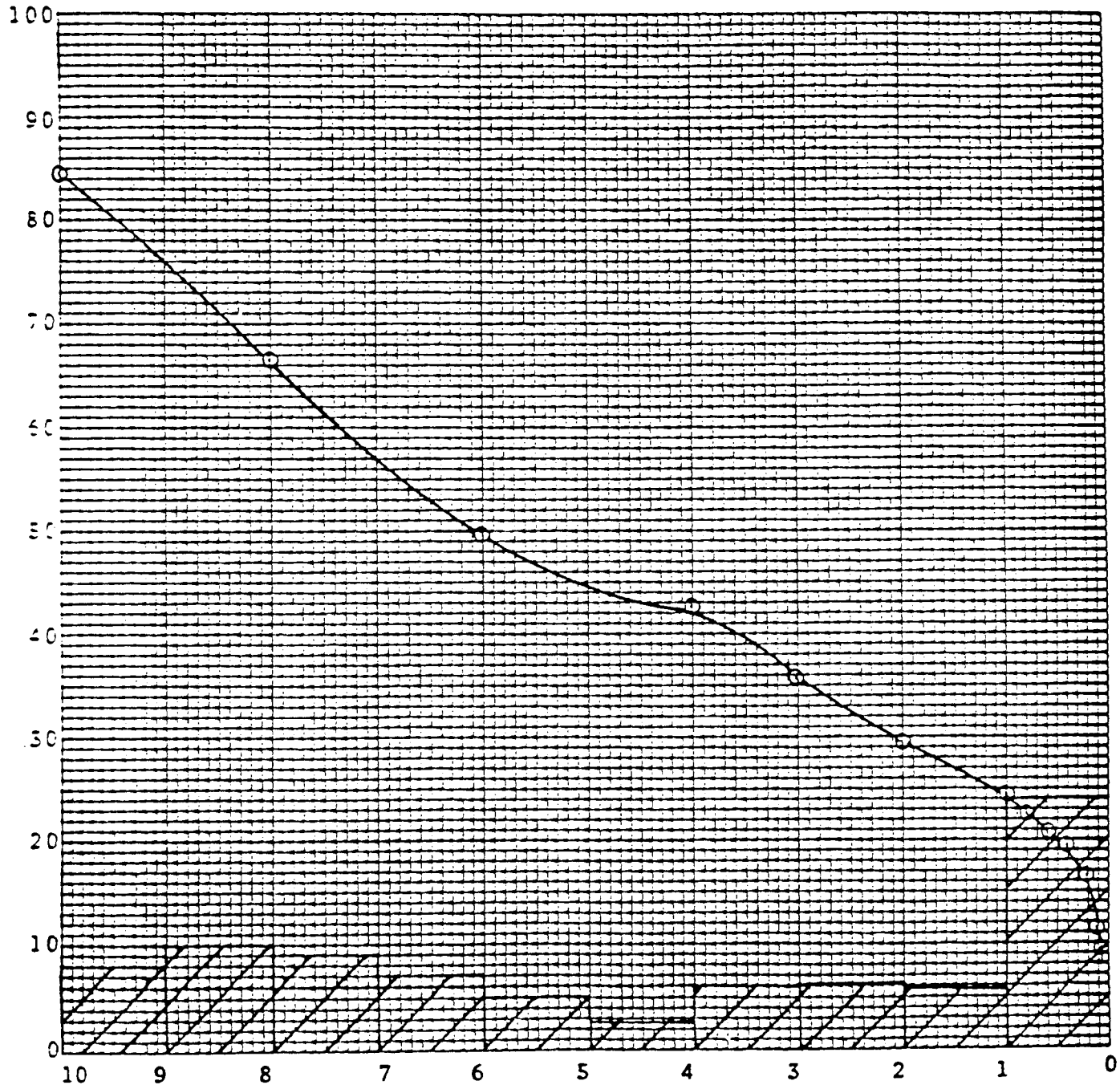
Formation Krider
County Stevens
State Kansas

Sample No. 63A
Depth = 2699.0 ft.
Permeability to air, md. = 7.7 Porosity = 16.1%



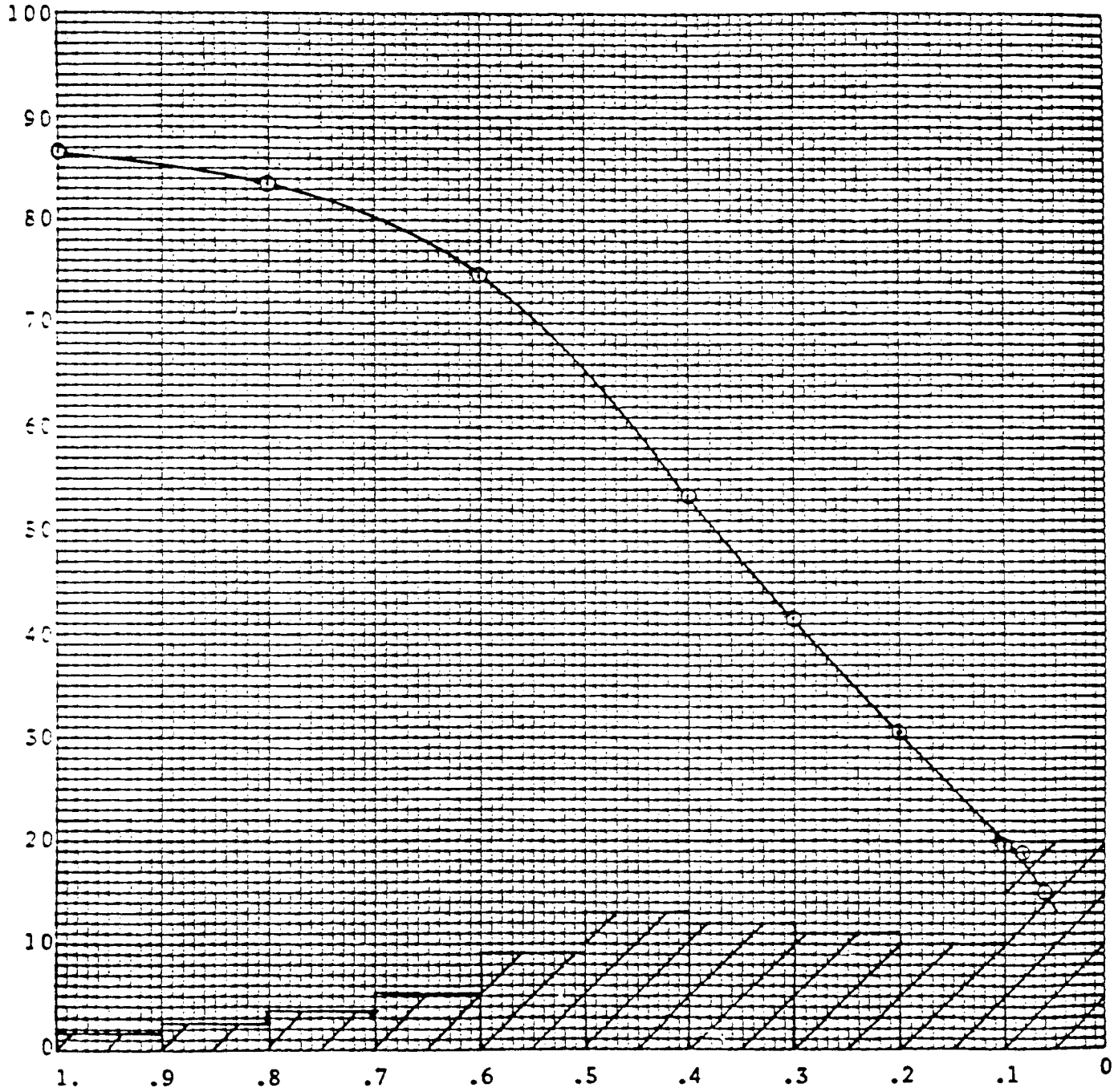
Company Mobil Oil Corporation — Formation Winfield
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample No. 103
Depth = 2743.0 ft.
Permeability to air, md. = 42 Porosity = 13.0%



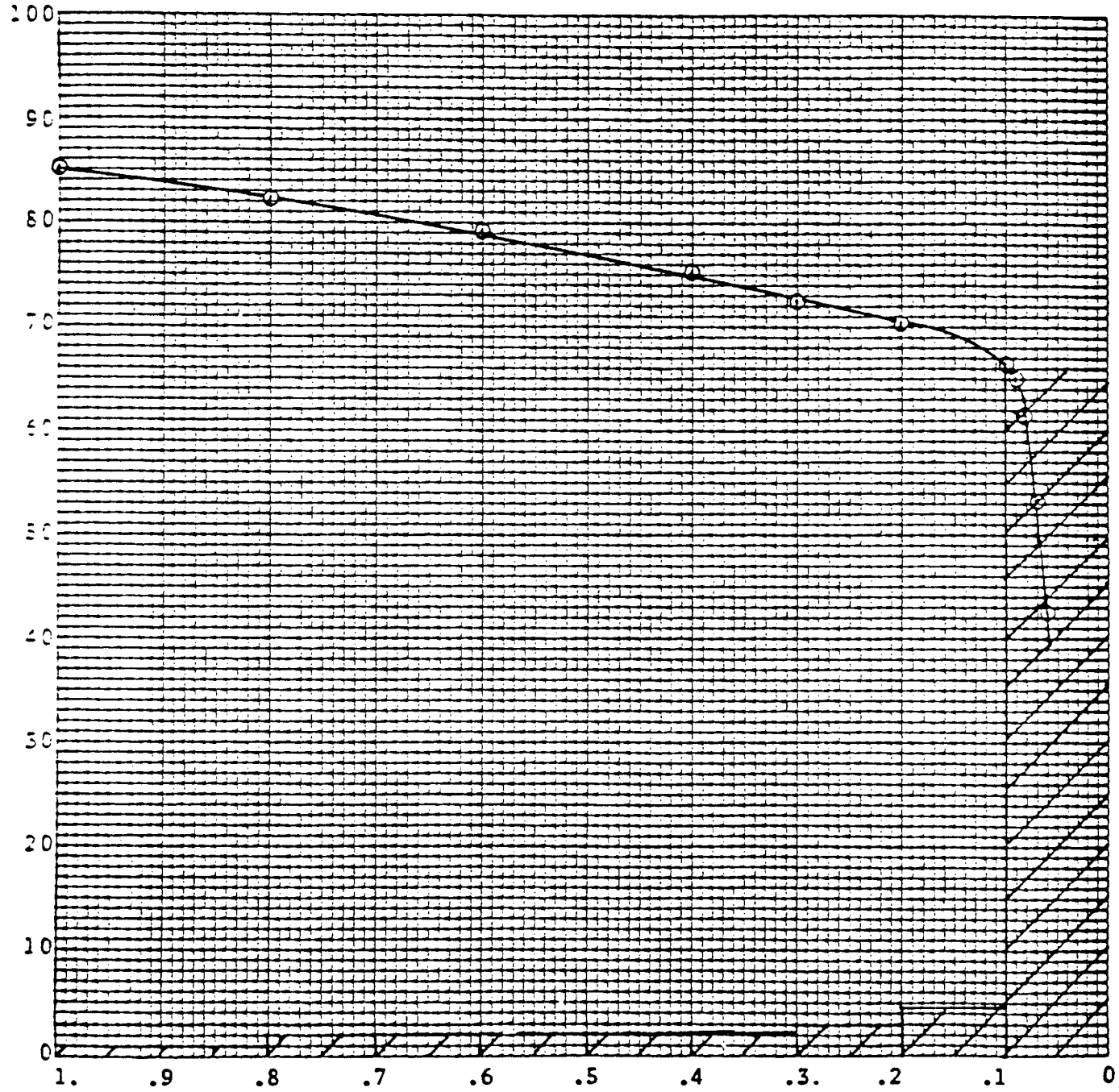
Company Mobil Oil Corporation — Formation Winfield
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample No. 118
Depth = 2758.0 ft.
Permeability to air, md. = 0.24 Porosity = 8.1%



Company Mobil Oil Corporation — Formation Towanda
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

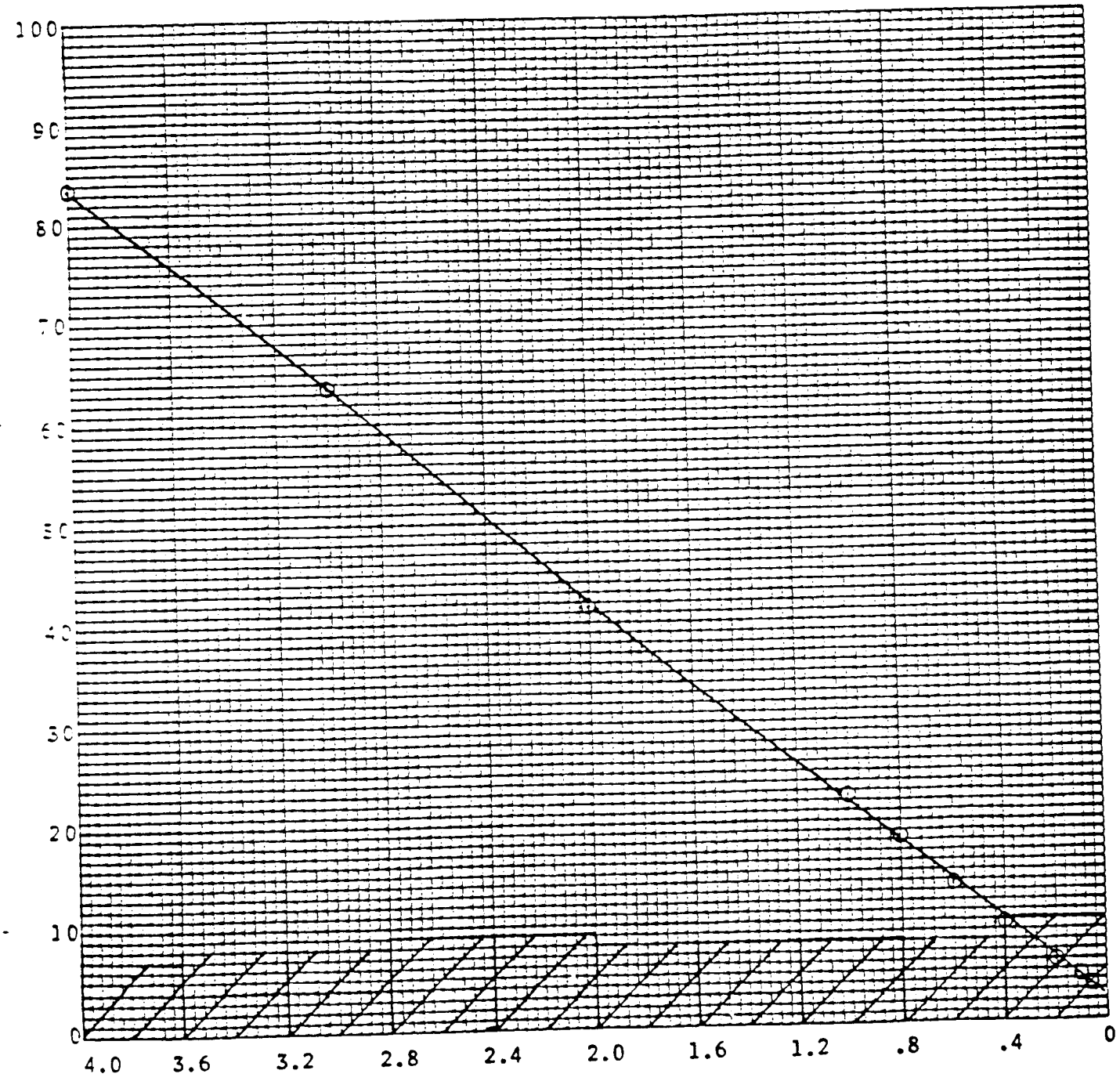
Sample No. 135A
Depth = 2796.0 ft.
Permeability to air, md. = 1.1 Porosity = 14.2%



Company Mobil Oil Corporation
Well Nix No. 1 Unit No. 3
Field Hugoton

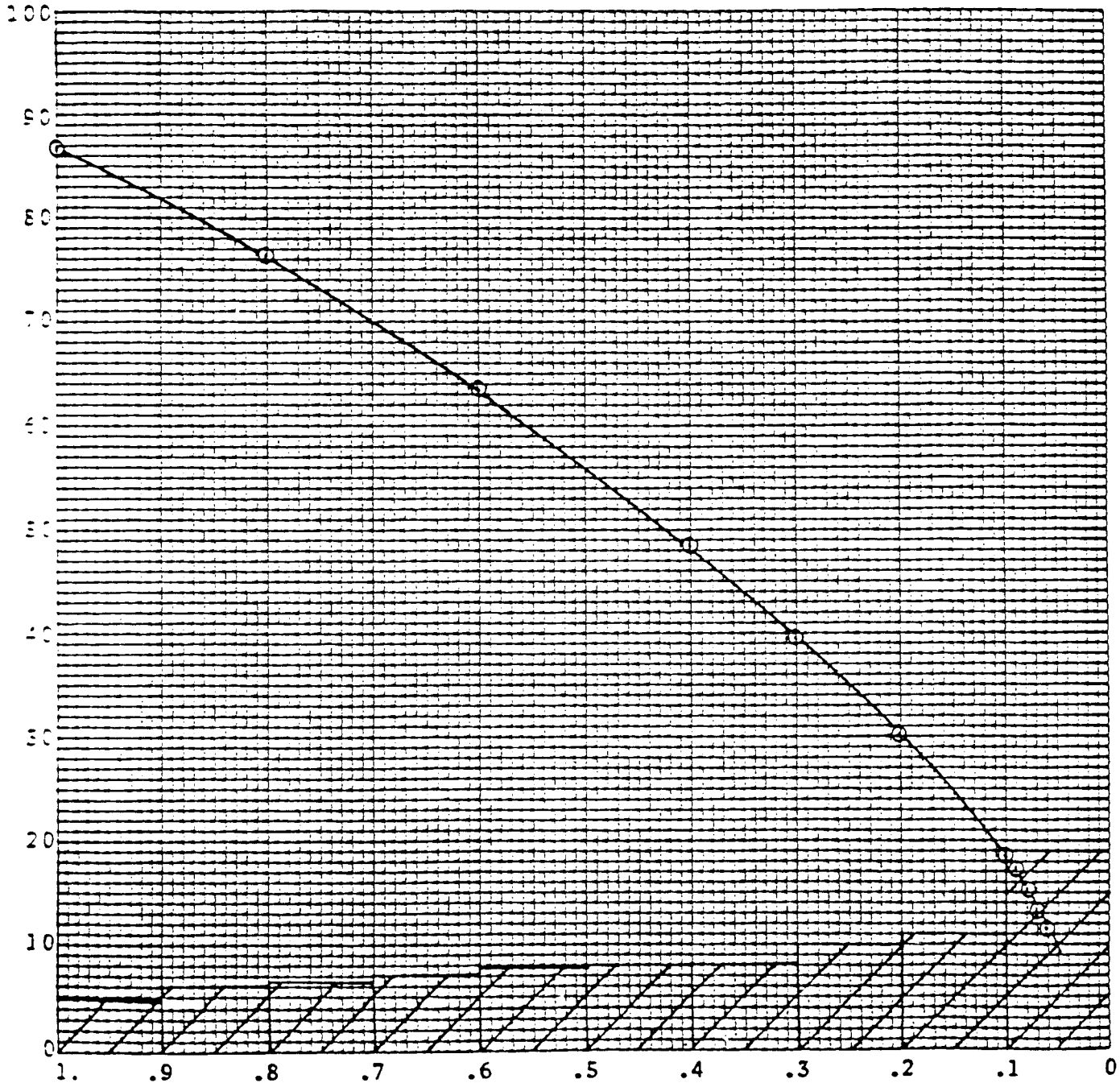
Formation Towanda
County Stevens
State Kansas

Sample No. 159
Depth = 2920.0 ft.
Permeability to air, md. = 40 Porosity = 24.3%



Company Mobil Oil Corporation — Formation Fort Riley
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample No. 197
Depth = 2858.0 ft.
Permeability to air, md. = 1.1 Porosity = 14.7%



PORE ENTRY RADIUS, MICRONS

Company Mobil Oil Corporation — Formation Fort Riley
Well Nix No. 1 Unit No. 3 — County Stevens
Field Hugoton — State Kansas

Sample No. 214
Depth = 2875.0 ft.
Permeability to air, md. = 0.43 Porosity = 11.6%