

INTER-OFFICE CORRESPONDENCE SHEET

THE DIVISION OF GEOLOGICAL SURVEY MAKES  
AN AFFIRMATION CONCERNING THE COMPLETENESS  
AND ACCURACY OF THIS INFORMATION.

SUN OIL COMPANY

Erie Co.  
Florence Twp.

SUBJECT: Waterflood Tests: Hume #1 and  
Schlechter #1, Erie Co., Ohio

3404320016  
3404320012

DATE: April 11, 1967

FROM: Production Service Laboratory

OFFICE: Dallas

To: Mr. Jerry R. Vaughn  
Evansville Office

Attached are the results of waterflood tests made on the samples submitted from the subject wells.

The water/oil viscosity ratio of the laboratory fluids was approximately 0.7/1, whereas the reservoir fluids have a ratio of about 1.2/1. Therefore we may expect the breakthrough recoveries, under reservoir conditions, to be more favorable than those listed on the attached.

Three low permeability samples were not waterflooded due to pressure limitations of our equipment.

If there are questions concerning these data, please let us know.

MORRIS BOCK

By: W.M. Hensel, Jr.  
W.M. Hensel, Jr.

WMH:mm

cc: Mr. Ray Ellison  
File (2)

Attach.

WATERFLOOD RESULTS  
Hume #1 and Schlechter #1  
Erie Co., Ohio

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Depth	Porosity (%)	Horizontal Permeability (MD.)			Irreducible Water (%)	Oil Recovered At Water Break-Through (% of Oil in Place)	Residual Oil to Waterflood		Core No.
		To Air	To Oil (At Irreducible Water Sat'n)	To Water (At Residual Oil Sat'n)			Percent of Pore Volume	Percent of Hydrocarbon Pore Volume	
<u>KRYSIK SAND:</u>									
<u>Hume #1</u>									
3874	12.3	27.4	23.6	4.06	17.6	28.6	39.1	47.4	U41-3
3878	18.1	109.	103.	17.0	10.6	55.4	29.5	33.0	U41-4
3883	15.3	127.	120.	13.7	7.2	59.0	33.5	36.0	U41-5
<u>Schlechter#1</u>									
3900.1-01.7	16.3	6.57	3.43	No Test	19.1	N.T.	N.T.	N.T.	V41-3
3904.3-05.5	17.1	251.	233.	66.4	8.9	38.5	28.2	31.0	V41-4
3906.4-07.5	15.0	56.0	48.0	13.8	13.0	37.9	31.6	36.3	V41-5
3910.9-12.0	17.0	239.	221.	71.8	7.6	41.3	29.6	32.1	V41-6
<u>BASAL GLENWOOD:</u>									
<u>Hume #1</u>									
3838.5	8.2	0.13	N.T.	N.T.	91.9	N.T.	N.T.	N.T.	U41-1
3844.	8.7	10.9	9.21	2.40	17.9	47.8	26.8	32.7	U41-2
<u>Schlechter #1</u>									
3864.4-65.5	9.8	2.61	0.88	N.T.	39.1	N.T.	N.T.	N.T.	V41-1
3867.6-68.4	12.8	97.9	93.0	34.8	20.3	34.6	26.8	33.6	V41-2

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Summary:

	Krysik Sand	Basal Glenwood
No. Samples Analyzed	6	2
Average Porosity	15.8%	10.8%
Average Permeability (Air)	135. md.	54.4 md.
Average Permeability (Oil)	125. md.	51.1 md.
Average Permeability (Water)	31.1 md.	18.6 md.
Average Irreducible Water	10.8%	19.1%
Average Recovery at Breakthrough	43.5%	41.2%
Average Residual Oil (Pore Volume)	31.9%	26.8%
Average Residual Oil (Hydro. Pore Volume)	36.0%	33.2%