



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WATER ANALYSIS REPORT

OPERATOR Husky Oil Company DATE March 21, 1980 LAB NO. 2980-2
 WELL NO. Ipikouk No. 1 LOCATION _____
 FIELD NPRA FORMATION _____
 COUNTY _____ INTERVAL DST No. 1 (2-22-80)
 STATE Alaska SAMPLE FROM First Fluid to Surface

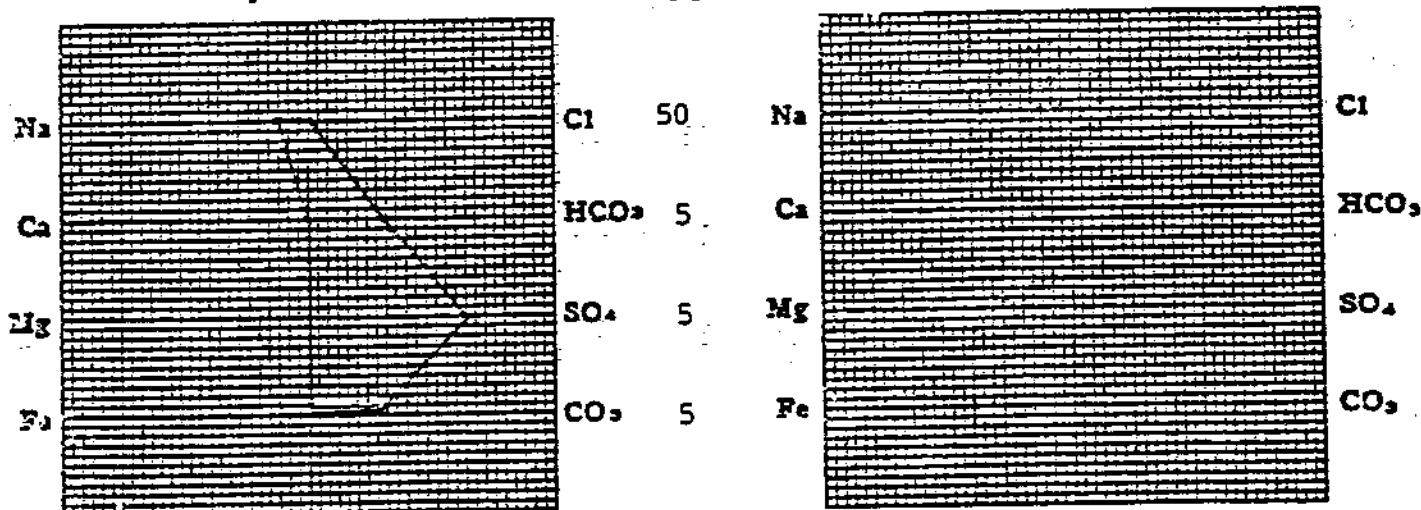
REMARKS & CONCLUSIONS: Mud, Quebracho Filtrate
Oil & Grease, mg/l-----168 (Appears to be pipe dope)

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	3764	163.75	Sulfate	3830	79.66
Potassium	96	2.46	Chloride	500	14.10
Calcium	21	1.05	Carbonate	1080	35.96
Magnesium	1	0.08	Bicarbonate	2294	37.62
Iron	-	-	Hydroxide	-	-
Total Cations		167.34	Total Anions		167.34

Total dissolved solids, mg/l 10432 Specific resistance @ 68°F.:
 NaCl equivalent, mg/l 8076 Observed 0.84 ohm-centimeters
 Observed pH 10.2 Calculated 0.82 ohm-centimeters

WATER ANALYSIS PATTERN

Sample above described Scale
MEQ per Unit



(No value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter (mg/l) = Milligram equivalent per liter
 Sodium chloride equivalent by Dupont & Hawthorne calculation from components



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WATER ANALYSIS REPORT

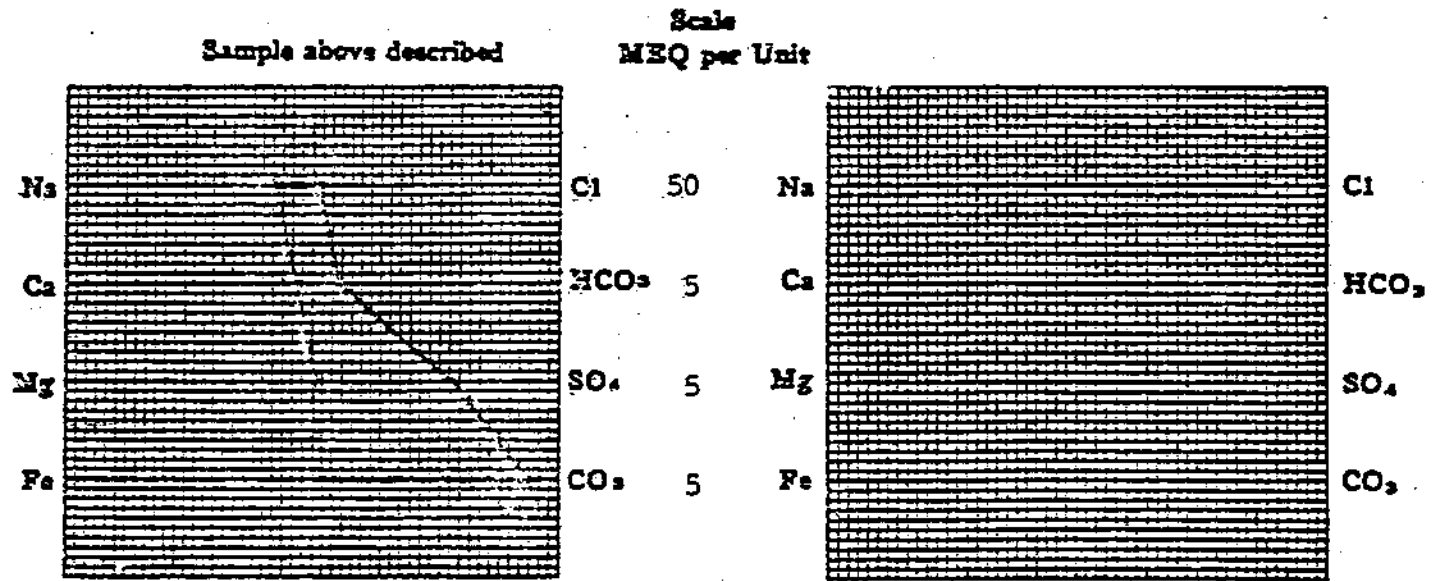
OPERATOR <u>Husky Oil Company</u>	DATE <u>March 21, 1980</u>	LAB NO. <u>2980-3</u>
WELL NO. <u>Toikouk No. 1</u>	LOCATION _____	
FIELD <u>NPRA</u>	FORMATION _____	
COUNTY _____	INTERVAL <u>DST No. 1 (2-22-80)</u>	
STATE <u>Alaska</u>	SAMPLE FROM <u>Middle of Fluid</u>	

REMARKS & CONCLUSIONS: Mud, Quebracho Filtrate

<u>Cations</u>	<u>mg/l</u>	<u>meq/l</u>	<u>Anions</u>	<u>mg/l</u>	<u>meq/l</u>
Sodium	4583	199.38	Sulfate	3330	69.26
Potassium	98	2.51	Chloride	750	21.15
Calcium	175	8.73	Carbonate	3240	107.89
Magnesium	1	0.08	Bicarbonate	756	12.40
Iron	-	-	Hydroxide	-	-
Total Cations		210.70	Total Anions		210.70

Total dissolved solids, mg/l	12553	Specific resistance @ 68°F.:	
NaCl equivalent, mg/l	11500	Observed	0.62 ohm-centers
Observed pH	12.2	Calculated	0.58 ohm-centers

WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, X, and Li)
NOTE: Mg/l = Milligrams per liter Meq/l = Milliequivalents per liter
Sodium chloride equivalent by Doolap & Hawthorne calculation from components



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WATER ANALYSIS REPORT

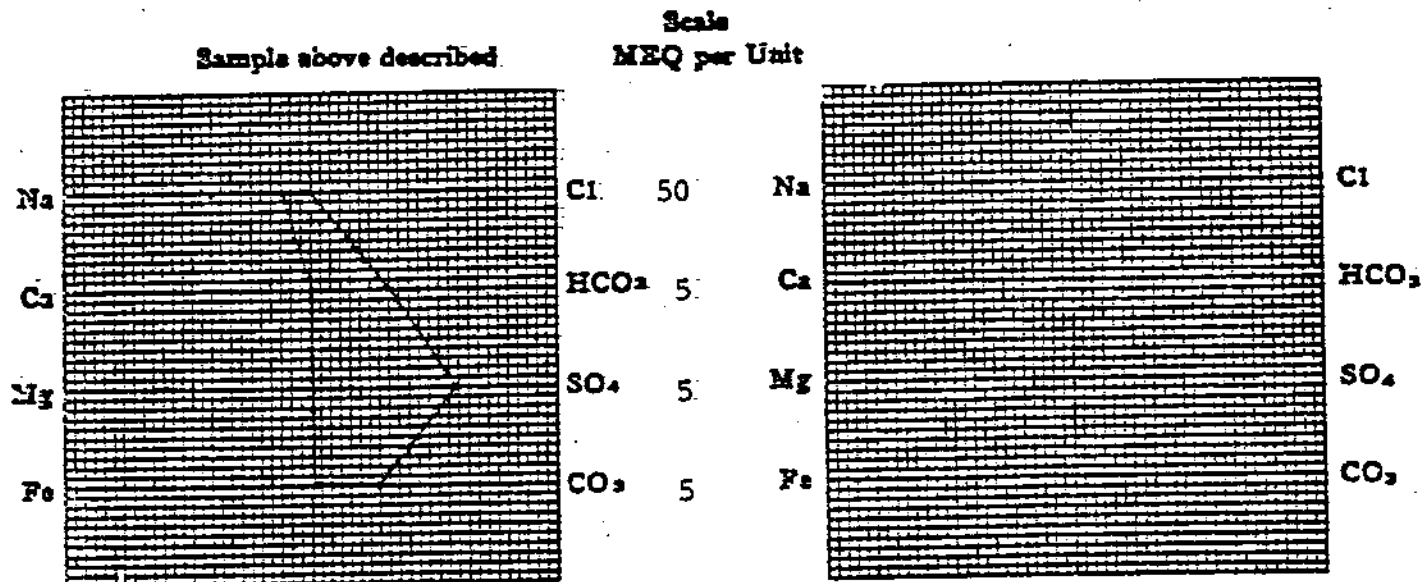
OPERATOR Husky Oil Company **DATE** March 21, 1980 **LAB NO.** 2980-4
WELL NO. Ipiqpuq No. 1 **LOCATION** _____
FIELD NPRA **FORMATION** _____
COUNTY _____ **INTERVAL** DST No. 1 (2-22-80)
STATE Alaska **SAMPLE FROM** Final Fluid

REMARKS & CONCLUSIONS: Mud, Quebracho Filtrate
Chloride Content of gas cut mud from tool, mg/l ---- 1500

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	3363	146.29	Sulfate	3500	72.80
Potassium	97	2.48	Chloride	100	2.82
Calcium	12	0.60	Carbonate	1040	34.63
Magnesium	1	0.08	Bicarbonate	2390	39.20
Iron	-	-	Hydroxide	-	-
Total Cations		149.45	Total Anions		149.45

Total dissolved solids, mg/l 9300 Specific resistance @ 68°F.:
 NaCl equivalent, mg/l 7279 Observed 0.99 ohm-centimeters
 Observed pH 10.7 Calculated 0.90 ohm-centimeters

WATER ANALYSIS PATTERN



(Na value in above graph includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter (Meq/l = Milligram equivalent per liter)
 Sodium chloride equivalent by Dupont & Hachmann calculation from components



Ipiikouk Well File

*Old Dousher
4565 Menlo Park*

CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WELL FILE

WATER ANALYSIS REPORT

ONPRA
MENLO PARK
2983-2

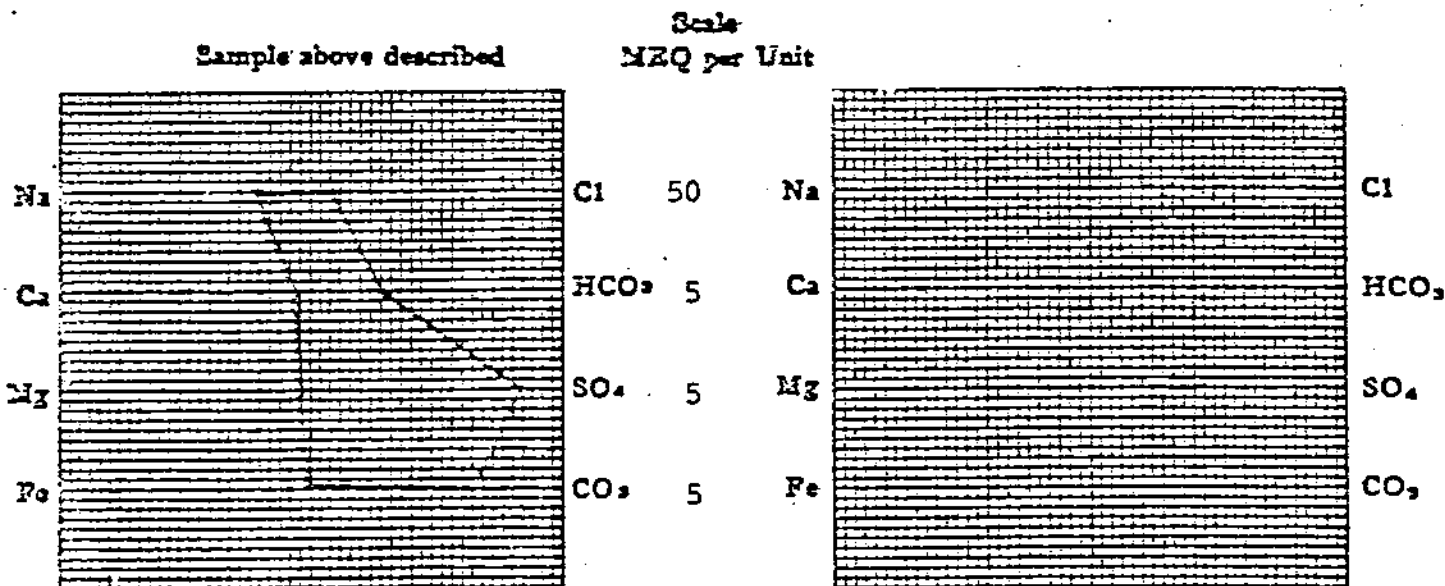
OPERATOR Husky Oil Company DATE March 21, 1980
 WELL NO. Ipiikouk No. 1 LOCATION _____
 FIELD NPRA FORMATION _____
 COUNTY _____ INTERVAL DST #2 (2-26-80)
 STATE Alaska SAMPLE FROM First Fluid to Surface

REMARKS & CONCLUSIONS: Mud, Quebracho filtrate.
Chloride content on background mud prior to test, mg/l—800
Oil & Grease, mg/l—69 (Appears to be Pipe Dope)

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	4994	217.23	Sulfate	5050	105.04
Potassium	102	2.61	Chloride	500	14.10
Calcium	165	8.23	Carbonate	2400	79.92
Magnesium	85	6.99	Bicarbonate	2195	36.00
Iron	—	—	Hydroxide	—	—
Total Cations		235.06	Total Anions		235.06

Total dissolved solids, mg/l	14387	Specific resistance @ 68°F.:	
NaCl equivalent, mg/l	12064	Observed	0.58 ohm-centimeters
Observed pH	11.2	Calculated	0.55 ohm-centimeters

WATER ANALYSIS PATTERN



(No value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per Liter; Meq/l = Milligram equivalents per liter
 Sodium chloride equivalent by DeLong & Hachmann calculation from composition



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WATER ANALYSIS REPORT

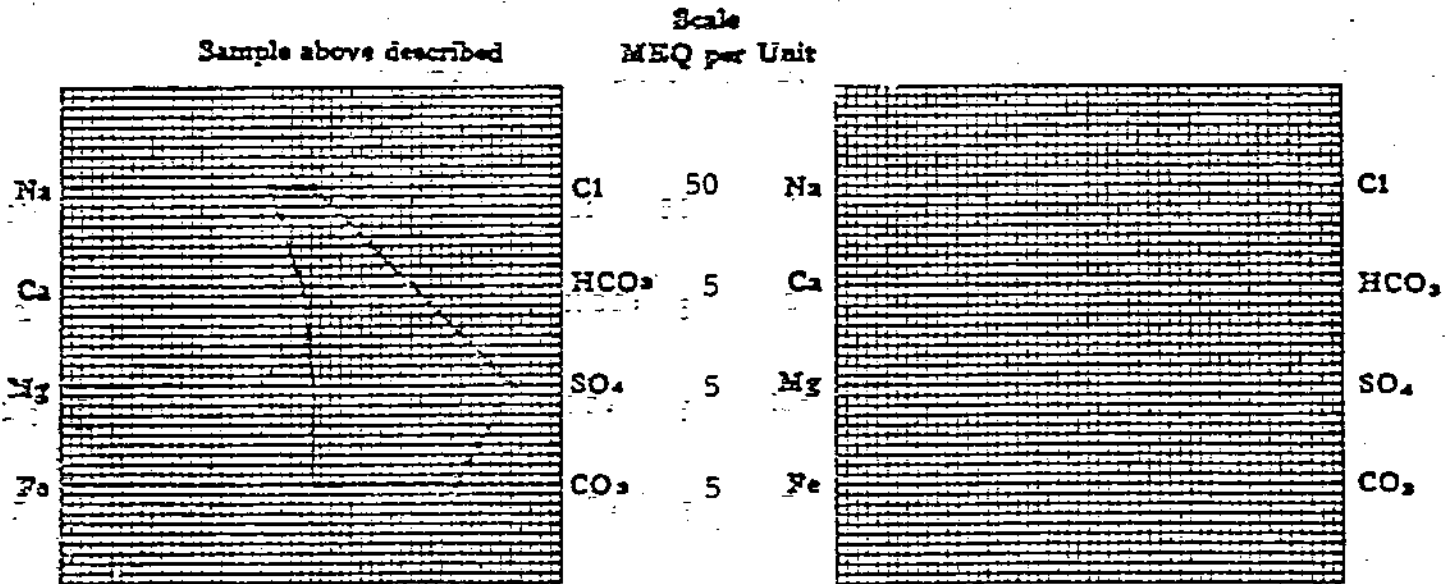
OPERATOR Husky Oil Company **DATE** March 21, 1980 **LAB NO.** 2983-3
WELL NO. Toikruk No. 1 **LOCATION** _____
FIELD NPRA **FORMATION** _____
COUNTY _____ **INTERVAL** DST #2 (2-26-80)
STATE Alaska **SAMPLE FROM** Middle of Fluid

REMARKS & CONCLUSIONS: Mud, Quebracho Filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	5328	231.76	Sulfate	4800	99.84
Potassium	114	2.92	Chloride	520	14.66
Calcium	100	4.99	Carbonate	2200	73.26
Magnesium	1	0.08	Bicarbonate	3170	51.99
Iron	-	-	Hydroxide	-	-
Total Cations		239.75	Total Anions		239.75

Total dissolved solids, mg/l 14638 Specific resistance @ 68°F.:
 NaCl equivalent, mg/l 12087 Observed 0.55 ohm-centimeters
 Observed pH 11.3 Calculated 0.55 ohm-centimeters

WATER ANALYSIS PATTERN



(No value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = MEQ/l x 1.2 NaCl eq/l = MEQ/l x 1.2
 Sodium chloride equivalent = by Deering & Hawthorne calculation from composition



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WATER ANALYSIS REPORT

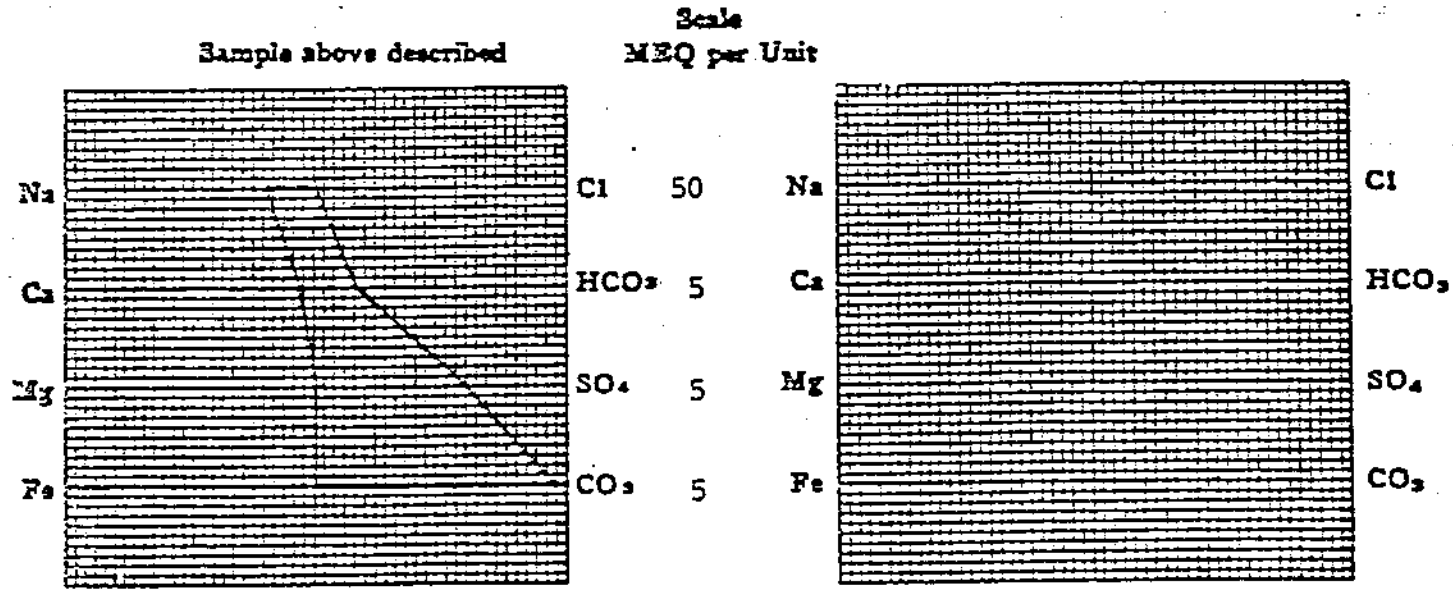
OPERATOR Husky Oil Company **DATE** March 21, 1980 **LAB NO.** 2983-4
WELL NO. Ipikduk No. 1 **LOCATION** _____
FIELD NPRA **FORMATION** _____
COUNTY _____ **INTERVAL** DST #2 (2-26-80)
STATE Alaska **SAMPLE FROM** Final Fluid

REMARKS & CONCLUSIONS: Mud, Quebracho Filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	5085	221.20	Sulfate	3600	74.88
Potassium	90	2.30	Chloride	520	14.66
Calcium	150	7.49	Carbonate	3600	119.88
Magnesium	5	0.41	Bicarbonate	1340	21.98
Iron	-	-	Hydroxide	-	-
Total Cations		231.40	Total Anions		231.40

Total dissolved solids, mg/l 13716 Specific resistance @ 68°F.:
 NaCl equivalent, mg/l 12548 Observed 0.54 ohm-centimeters
 Observed pH 11.2 Calculated 0.53 ohm-centimeters

WATER ANALYSIS PATTERN



(No value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter; Meq/l = Milligram equivalents per liter
 Sodium chloride equivalent = by Dilling & Henderson calculation from composition



CHEMICAL & GEOLOGICAL LABORATORIES OF ALASKA, INC.

P.O. BOX 4-1276
Anchorage, Alaska 99509

TELEPHONE (907)-279-4014
274-3364

ANCHORAGE INDUSTRIAL CENTER
5633 B Street

WATER ANALYSIS REPORT

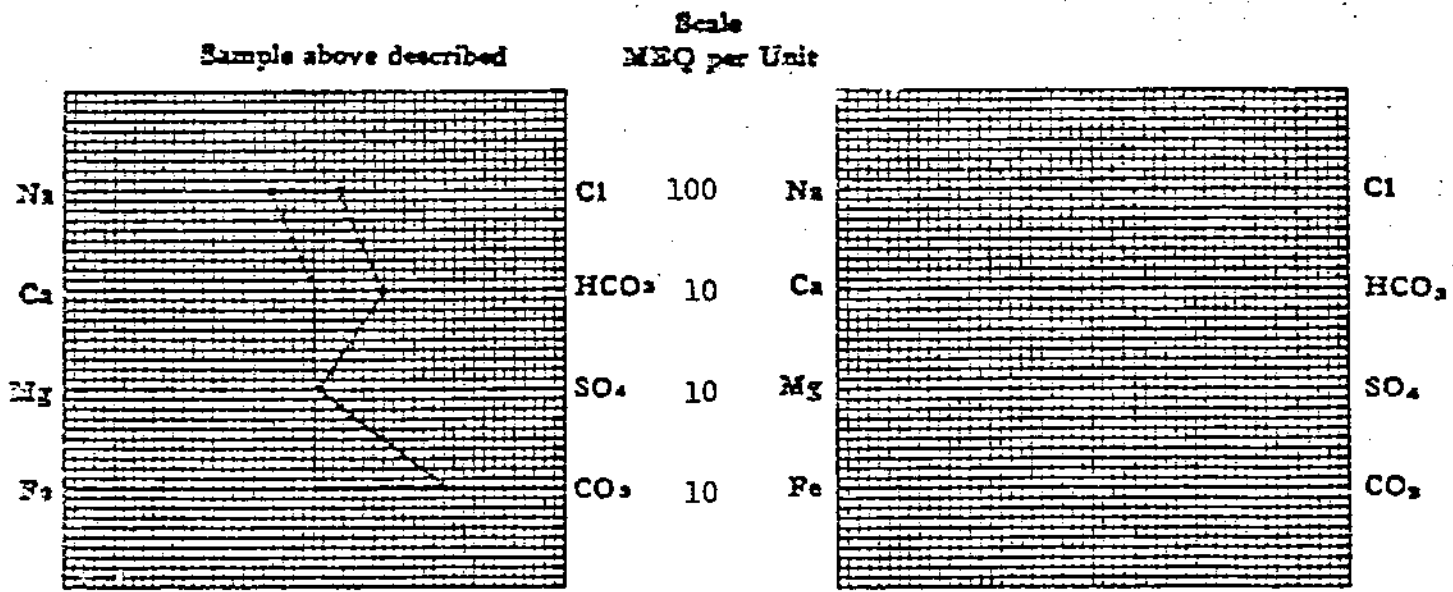
OPERATOR <u>Husky Oil Company</u>	DATE <u>March 21, 1980</u>	LAB NO. <u>2983-5</u>
WELL NO. <u>Ipikpuk No. 1</u>	LOCATION _____	
FIELD <u>NPRA</u>	FORMATION _____	
COUNTY _____	INTERVAL <u>DST #2 (2-26-80)</u>	
STATE <u>Alaska</u>	SAMPLE FROM <u>Test Tool Sample</u>	

REMARKS & CONCLUSIONS: Mud, Quebracho Filtrate

Cations	mg/l	meq/l	Anions	mg/l	meq/l
Sodium	10068	437.97	Sulfate	130	2.70
Potassium	135	3.46	Chloride	8400	236.88
Calcium	26	1.30	Carbonate	4000	133.20
Magnesium	1	0.08	Bicarbonate	4270	70.03
Iron	-	-	Hydroxide	-	-
Total Cations			Total Anions		
442.81			442.81		

Total dissolved solids, mg/l	24881	Specific resistance @ 68°F:	
NaCl equivalent, mg/l	24887	Observed	0.34
Observed pH	10.9	Calculated	0.28

WATER ANALYSIS PATTERN



(No value is shown given includes Na, K, and Li)
NOTE: Mg/l = Milligrams per liter; meq/l = Milligram equivalents per liter
Sodium chloride equivalent = by Dupont & Hawthorne calculation from composition