

CHEMICAL ANALYSIS  
for  
PAN AMERICAN PETROLEUM CORPORATION  
Pan Am Beaver **YT-6-01**  
Beaver River  
Yukon Territories

LABORATORY REPORT  
BY: [Illegible]  
DATE: [Illegible]

CHEMICAL ANALYSIS

for

PAN AMERICAN PETROLEUM CORPORATION

Pan Am Beaver *YF-6-01*

Beaver River

Yukon Territories



**CORE LABORATORIES – CANADA LTD.**  
PETROLEUM RESERVOIR ENGINEERING



GAS ANALYSIS

Company Pan American Petroleum Corporation Page 1 of 5  
 Well Pan Am Beaver YT G-01 File CAL-2-296  
 Field Beaver River, Yukon Territories Analyst H.P.  
 Location 60°10'N, 124°10'W Elevation: K.B. \_\_\_\_\_ Grd. \_\_\_\_\_  
 Formation Mississippian Depth 10170' - 10220'  
 Sampled from DST #2 by \_\_\_\_\_  
 Sampling pressure 30 psig Sampling temp. \_\_\_\_\_ °F Ambient temp. \_\_\_\_\_ °F  
 Date sampled May 29/69 Date received June 2/69 Date analyzed June 2/69  
 Container pressure \_\_\_\_\_ Mud \_\_\_\_\_ Water cushion \_\_\_\_\_  
 Recovery or flowrate: \_\_\_\_\_

<u>COMPONENT</u>	<u>MOLE %</u>	<u>IMP. GPM @ 14.65 psia and 60°F</u>	<u>SPECIFIC GRAVITY</u>
Hydrogen	_____	_____	Calculated <u>0.588</u> Measured _____
Helium	<u>0.04</u>	_____	
Nitrogen	<u>1.11</u>	_____	<u>GROSS B.T.U. per SCF 997.4</u>
Carbon Dioxide	<u>3.03</u>	_____	Calculated @ 14.65 psia, 60°F, moisture and acid - gas free.
Hydrogen Sulphide	_____	_____	
Methane	<u>95.78</u>	_____	<u>VAPOR PRESSURE of PENTANES PLUS</u>
Ethane	<u>0.04</u>	_____	(calculated) _____
Propane	_____	_____	
Iso Butane	_____	_____	Critical Pressure <u>682.9</u> psia
Normal Butane	_____	_____	Critical Temperature <u>348.0</u> °R
Iso Pentane	_____	_____	
Normal Pentane	_____	_____	Remarks _____
Hexanes	_____	_____	_____
Heptanes Plus	_____	_____	_____
Total	<u>100.00</u>	_____	_____
Pentanes Plus	_____	_____	_____



**CORE LABORATORIES – CANADA LTD.**  
 PETROLEUM RESERVOIR ENGINEERING  
 WATER ANALYSIS



CAL-2-296  
 File CBH-2-4755 Page 2 of 5

Company Pan American Petroleum Corporation  
 Well Pan Am Beaver YF 6-01 K.B. \_\_\_\_\_ Grd. \_\_\_\_\_  
 Location 60°10'N, 124°10'W Field Beaver River Province Yukon Territories  
 Formation Mississippian Interval 10170'-10220'  
 Sampled from DST #2 (Top of Tool) by \_\_\_\_\_  
 Date sampled May 30/69 Date analyzed June 4/69 Analyst M.B.  
 Recovery \_\_\_\_\_

\_\_\_\_\_ Mud type \_\_\_\_\_ Water cushion \_\_\_\_\_

Resistivity 0.160 Ohm-meters @ 75 of \_\_\_\_\_ Total Solids: \_\_\_\_\_  
 Specific gravity 1.0326 @ 60°F \_\_\_\_\_ Calculated 46,730 mg/liter  
 pH 6.65 H<sub>2</sub>S Absent \_\_\_\_\_ By evaporation @ 110°C \_\_\_\_\_ mg/liter  
 Refractive Index 1.342 @ 75°F \_\_\_\_\_ By evaporation @ 180°C \_\_\_\_\_ mg/liter  
 \_\_\_\_\_ At ignition \_\_\_\_\_ mg/liter

**MILLIGRAMS PER LITER**

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO <sub>3</sub>	SO <sub>4</sub>	CO <sub>3</sub>	OH
13,908	3,562	296	Pres.	Abs.	-	-	28,115	849	-	-	-

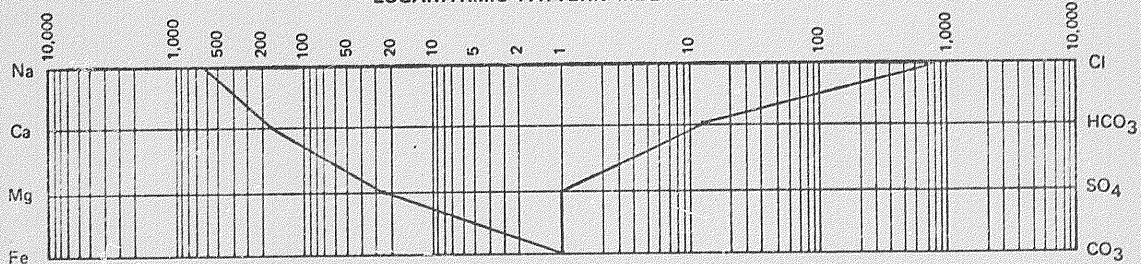
**PER CENT CALCULATED SOLIDS**

29.8	7.6	0.6	Pres.	Abs.	-	-	60.2	1.8	-	-	-
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**MEQ PER LITER**

604.7	177.7	24.3	Pres.	Abs.	-	-	792.8	13.9	-	-	-
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**LOGARITHMIC PATTERN MEQ PER LITER**





**CORE LABORATORIES - CANADA LTD.**  
 PETROLEUM RESERVOIR ENGINEERING  
 WATER ANALYSIS



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Company Pan American Petroleum Corporation  
 Well Pan Am Beaver *YT 6-01* K.B. \_\_\_\_\_ Grd. \_\_\_\_\_  
 Location 60°10'N, 124°10'W Field Beaver River Province Yukon Territories  
 Formation Mississippian Interval 10170'-10220'  
 Sampled from DST #2 (Middle) by \_\_\_\_\_  
 Date sampled May 30/69 Date analyzed June 4/69 Analyst M.B.  
 Recovery \_\_\_\_\_  
 Mud type \_\_\_\_\_ Water cushion \_\_\_\_\_

Resistivity	<u>0.160</u>	Ohm-meters @	<u>75</u>	°F	Total Solids:	Calculated	<u>46,030</u>	mg/liter
Specific gravity	<u>1.0324</u>	@	<u>60</u>	°F	By evaporation @ 110°C	<u>-</u>	mg/liter	
pH	<u>6.35</u>	H <sub>2</sub> S	<u>Absent</u>		By evaporation @ 180°C	<u>-</u>	mg/liter	
Refractive Index	<u>1.341 @ 75°F</u>				At ignition	<u>-</u>	mg/liter	

**MILLIGRAMS PER LITER**

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO <sub>3</sub>	SO <sub>4</sub>	CO <sub>3</sub>	OH
13,349	3,604	450	Pres.	Abs.	-	-	27,768	859	-	-	-

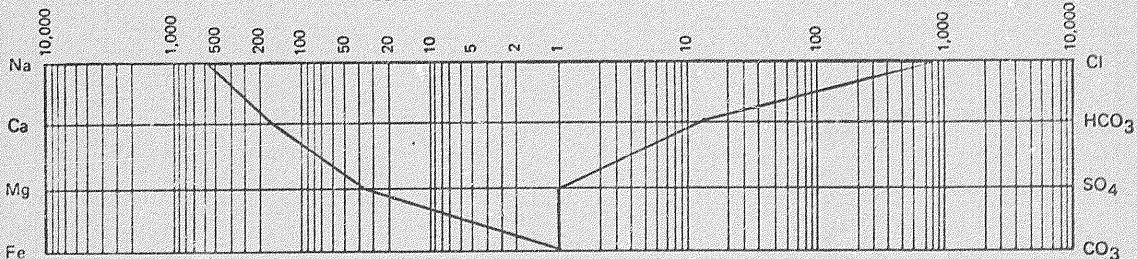
**PER CENT CALCULATED SOLIDS**

29.0	7.8	1.0	Pres.	Abs.	-	-	60.3	1.9	-	-	-
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**MEQ PER LITER**

580.4	179.8	37.0	Pres.	Abs.	-	-	783.1	14.1	-	-	-
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**LOGARITHMIC PATTERN MEQ PER LITER**





**CORE LABORATORIES - CANADA LTD.**  
 PETROLEUM RESERVOIR ENGINEERING  
 WATER ANALYSIS



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Company Pan American Petroleum Corporation  
 Well Pan Am Beaver 4-T C-01 K.B. \_\_\_\_\_ Grd. \_\_\_\_\_  
 Location 60°10'N, 124°10'W Field Beaver River Province Yukon Territories  
 Formation Mississippian Interval 10170'-10220'  
 Sampled from DST #2 (Middle) by \_\_\_\_\_  
 Date sampled May 30/69 Date analyzed June 4/69 Analyst M.B.  
 Recovery \_\_\_\_\_  
 \_\_\_\_\_ Mud type \_\_\_\_\_ Water cushion \_\_\_\_\_

Resistivity 0.160 Ohm-meters @ 75 °F Total Solids: \_\_\_\_\_  
 Specific gravity 1.0324 @ 60°F Calculated 46,030 mg/liter  
 pH 6.35 H<sub>2</sub>S Absent By evaporation @ 110°C \_\_\_\_\_ mg/liter  
 Refractive Index 1.341 @ 75°F By evaporation @ 180°C \_\_\_\_\_ mg/liter  
 At ignition \_\_\_\_\_ mg/liter

**MILLIGRAMS PER LITER**

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO <sub>3</sub>	SO <sub>4</sub>	CO <sub>3</sub>	OH
13,349	3,604	450	Pres.	Abs.	-	-	27,768	859	-	-	-

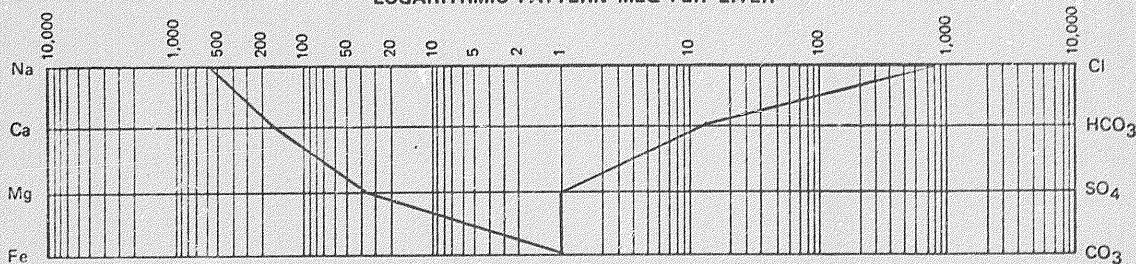
**PER CENT CALCULATED SOLIDS**

29.0	7.8	1.0	Pres.	Abs.	-	-	60.3	1.9	-	-	-
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**MEQ PER LITER**

580.4	179.8	37.0	Pres.	Abs.	-	-	783.1	14.1	-	-	-
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**LOGARITHMIC PATTERN MEQ PER LITER**





**CORE LABORATORIES - CANADA LTD.**  
 PETROLEUM RESERVOIR ENGINEERING  
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Company Pan American Petroleum Corporation  
 Well Pan Am Beaver YT G-01 K.B. \_\_\_\_\_ Grd. \_\_\_\_\_  
 Location 60°10'N, 124°10'W Field Beaver River Province Yukon Territories  
 Formation Mississippian Interval 10170'-10220'  
 Sampled from DST #2 (Top of Fluid) by \_\_\_\_\_  
 Date sampled May 30/69 Date analyzed June 4/69 Analyst M.B.  
 Recovery \_\_\_\_\_  
 \_\_\_\_\_ Mud type \_\_\_\_\_ Water cushion \_\_\_\_\_

Resistivity 1.440 Ohm-meters @ 73 °F  
 Specific gravity 1.0048 @ 60°F  
 pH 8.00 H<sub>2</sub>S Absent  
 Refractive Index 1.334 @ 73°F

Total Solids:  
 Calculated 5,826 mg/liter  
 By evaporation @ 110°C - mg/liter  
 By evaporation @ 180°C - mg/liter  
 At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO <sub>3</sub>	SO <sub>4</sub>	CO <sub>3</sub>	OH
1,559	212	41	Pres.	Abs.	-	-	1,250	275	-	-	-

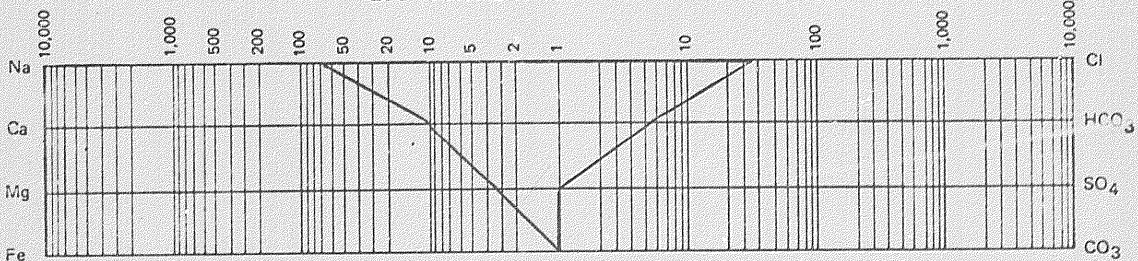
PER CENT CALCULATED SOLIDS

26.8	3.6	0.7	Pres.	Abs.	-	-	21.5	4.7	-	-	-
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MEQ PER LITER

67.8	10.6	3.4	Pres.	Abs.	-	-	35.3	5.7	-	-	-
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LOGARITHMIC PATTERN MEQ PER LITER





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 PETROLEUM RESERVOIR ENGINEERING  
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Company Pan American Petroleum Corporation

Well Pan Am Beaver VET G-01 K.B. \_\_\_\_\_ Grd. \_\_\_\_\_

Location 60°10'N, 124°10'W Field Beaver River Province Yukon Territories

Formation \_\_\_\_\_ Interval \_\_\_\_\_

Sampled from Mud Tanks by \_\_\_\_\_

Date sampled May 30/69 Date analyzed June 4/69 Analyst M.B.

Recovery \_\_\_\_\_

\_\_\_\_\_ Mud type \_\_\_\_\_ Water cushion \_\_\_\_\_

Resistivity 2.200 Ohm-meters @ 73 °F

Specific gravity 1.0034 @ 60°F

pH 9.35 H<sub>2</sub>S Absent

Refractive Index 1.334 @ 73° F

Total Solids:

Calculated 3,070 mg/liter

By evaporation @ 110°C - mg/liter

By evaporation @ 180°C - mg/liter

At ignition - mg/liter

**MILLIGRAMS PER LITER**

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO <sub>3</sub>	SO <sub>4</sub>	CO <sub>3</sub>	OH
1,026	30	8	Trace	Abs.	-	-	1,000	717	227	62	-

**PER CENT CALCULATED SOLIDS**

33.4	1.0	0.3	Trace	Abs.	-	-	32.6	23.3	7.4	2.0	-
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**MEQ PER LITER**

44.6	1.5	0.7	Trace	Abs.	-	-	28.2	11.8	4.7	2.1	-
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**LOGARITHMIC PATTERN MEQ PER LITER**

