

## **OIL ANALYSIS REPORT**

### Area INJECT B ROOM [99046596] KR-GR-003237 - AGITATOR (S/N INJECT B - 11513039)

Gearbox

Fluid PETRO CANADA 220 (6 QTS)

#### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. ( Customer Sample Comment: 99046596 )

#### Wear

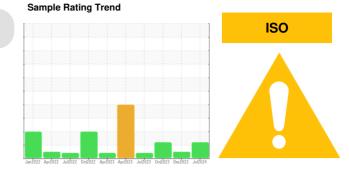
All component wear rates are normal.

#### Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



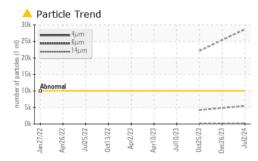
SAMPLE INFOR		method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0118007	PCA0112153	PCA0104787
Sample Date		Client Info		02 Jul 2024	26 Dec 2023	25 Oct 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	0	0	0
Chromium	ppm	ASTM D5185m	>15	0	0	0
Nickel	ppm	ASTM D5185m		0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	0	0
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>200	0	<1	0
Tin	ppm	ASTM D5185m	>25	0	0	0
Vanadium	ppm	ASTM D5185m	-	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
		ACTM DE10Em		0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m		0	0	0
Danum	ppm	ASTIVI DOTODITI		U	0	0
				0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Molybdenum Manganese	ppm ppm	ASTM D5185m		<1	<1	<1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m		<1 <1	<1 0	<1 5
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		<1 <1 1	<1 0 1	<1 5 4
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 <1 1 415	<1 0 1 410	<1 5 4 430
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 <1 1 415 5	<1 0 1 410 0	<1 5 4 430 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 <1 1 415	<1 0 1 410	<1 5 4 430
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	<1 <1 1 1 415 5 3729 current	<1 0 1 410 0 3462 history1	<1 5 4 430 0 3726 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m		<1 <1 1 1 415 5 3729 current 3	<1 0 1 410 0 3462 history1 3	<1 5 4 430 0 3726
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		<1 <1 1 1 415 5 3729 current	<1 0 1 410 0 3462 history1	<1 5 4 430 0 3726 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50	<1 <1 1 1 415 5 3729 current 3	<1 0 1 410 0 3462 history1 3	<1 5 4 430 0 3726 history2 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 limit/base	<1 <1 1 415 5 3729 current 3 2 <1 current	<1 0 1 410 0 3462 history1 3 2	<1 5 4 430 0 3726 history2 3 0 0 0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m	>50 >20 limit/base >10000	<1 <1 <1 <1 <1 <1 <1 <1 <1 <15 <5 3729    current   3   2   <1   current   2   <1   current   28689	<1 0 1 410 0 3462 history1 3 2 1	<1 5 4 430 0 3726 history2 3 0 0 0 history2 22143
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 limit/base >10000	<1 <1 1 415 5 3729 current 3 2 <1 current	<1 0 1 410 0 3462 history1 3 2 1 1 history1	<1 5 4 430 0 3726 history2 3 0 0 0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>415</li> <li>5</li> <li>3729</li> </ul> <ul> <li>current</li> <li>3</li> <li>2</li> <li>&lt;1</li> <li>current</li> <li>28689</li> <li>5455</li> <li>175</li> </ul>	<1 0 1 410 0 3462 history1 3 2 1 1 history1 	<1 5 4 430 0 3726 bistory2 3 0 0 bistory2 4 22143 4230 111
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>415</li> <li>5</li> <li>3729</li> <li>current</li> <li>3</li> <li>2</li> <li>&lt;1</li> <li>current</li> <li>28689</li> <li>5455</li> </ul>	<1 0 1 410 0 3462 history1 3 2 1 1 history1 	<1 5 4 430 0 3726 history2 3 0 0 0 0 history2 2 22143 ▲ 22143 ▲ 2230 111 19
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>1</li> <li>415</li> <li>5</li> <li>3729</li> <li>current</li> <li>3</li> <li>2</li> <li>&lt;1</li> <li>current</li> <li>28689</li> <li>5455</li> <li>175</li> <li>34</li> <li>1</li> </ul>	<1 0 1 410 0 3462 history1 3 2 1 1 history1 	<1 5 4 430 0 3726 bistory2 3 0 0 bistory2 4230 111 19 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40 >40 >10	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>415</li> <li>5</li> <li>3729</li> <li>current</li> <li>3</li> <li>2</li> <li>&lt;1</li> <li>28689</li> <li>5455</li> <li>175</li> <li>34</li> <li>1</li> <li>1</li> </ul>	<1 0 1 410 0 3462 history1 3 2 1 history1  	<1 5 4 430 0 3726 bistory2 3 0 0 bistory2 3 0 0 bistory2 4 22143 4230 111 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm <b>VTS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>1</li> <li>415</li> <li>5</li> <li>3729</li> <li>current</li> <li>3</li> <li>2</li> <li>&lt;1</li> <li>current</li> <li>28689</li> <li>5455</li> <li>175</li> <li>34</li> <li>1</li> </ul>	<1 0 1 410 0 3462 history1 3 2 1 history1   	<1 5 4 430 0 3726 bistory2 3 0 0 bistory2 4230 111 19 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm yTS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40 >40 >10	<1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>415</li> <li>5</li> <li>3729</li> <li>current</li> <li>3</li> <li>2</li> <li>&lt;1</li> <li>28689</li> <li>5455</li> <li>175</li> <li>34</li> <li>1</li> <li>1</li> </ul>	<1 0 1 410 0 3462 history1 3 2 1 history1    	<1 5 4 430 0 3726 history2 3 0 0 bistory2 22143 22143 4230 111 19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

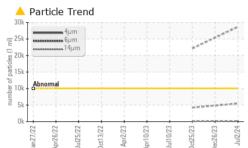
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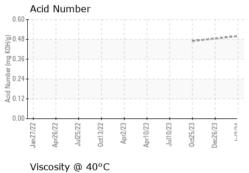
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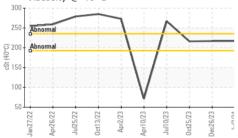


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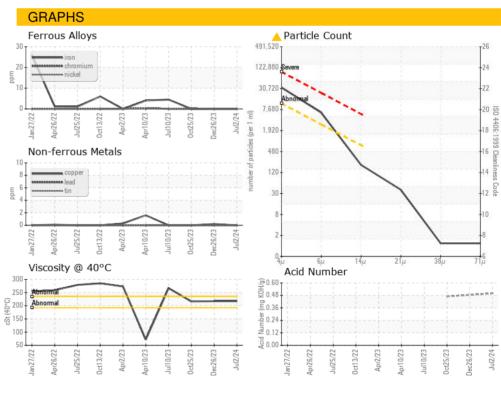


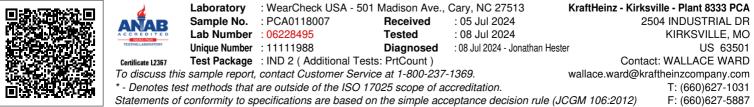






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		217	217	216
SAMPLE IMAG	ES	method	limit/base	current	history1	history2
Color						
Bottom				(3)		





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