

## **OIL ANALYSIS REPORT**

#### Area NORTH KETTLE ROOM Machine Id B26487 - NORTH KETTLE 2 Component

**Gearbox** 

### PETRO CANADA ENDURATEX SYNTHETIC EP 220 (--- GAL)

### DIAGNOSIS

### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is a moderate amount of visible silt present in the sample.

#### **Fluid Condition**

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

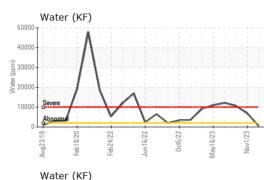
SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0872432	WC0842460	WC0842430
Sample Date		Client Info		26 Dec 2023	01 Nov 2023	06 Sep 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	SEVERE
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	95	171	137
Chromium	ppm	ASTM D5185m	>10	0	1	1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	1	<1
Lead	ppm	ASTM D5185m	>50	0	0	<1
Copper	ppm	ASTM D5185m	>200	0	0	<1
Tin	ppm	ASTM D5185m	>10	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	33	0	0	0
Barium	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
,	ppm ppm	ASTM D5185m ASTM D5185m		0 0	0 1	0
			5	-		
Manganese Magnesium	ppm	ASTM D5185m	5 5	0	1	1
Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m		0	1 0	1 2
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5	0 0 0 0	1 0 0	1 2 3
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 437	0 0 0 90	1 0 0 48	1 2 3 98
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 437 5	0 0 0 90 0	1 0 0 48 0	1 2 3 98 0
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 437 5 5000	0 0 0 90 0 645	1 0 0 48 0 578	1 2 3 98 0 1046
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	5 437 5 5000 limit/base	0 0 90 0 645 current	1 0 0 48 0 578 history1	1 2 3 98 0 1046 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	5 437 5 5000 limit/base	0 0 90 0 645 current 4	1 0 0 48 0 578 history1 5	1 2 3 98 0 1046 history2 5
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	5 437 5 5000 limit/base >50	0 0 90 0 645 current 4 2	1 0 0 48 0 578 history1 5 3	1 2 3 98 0 1046 history2 5 3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 437 5 5000 limit/base >50 >20	0 0 90 0 645 <u>current</u> 4 2 0	1 0 48 0 578 history1 5 3 3 3	1 2 3 98 0 1046 history2 5 3 5
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 437 5 5000 limit/base >50 >20 >0.2	0 0 90 0 645 <u>current</u> 4 2 0 0 0.054	1 0 0 48 0 578 history1 5 3 3 3 (▲ 0.686	1 2 3 98 0 1046 history2 5 3 5 5 € 1.06
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304	5 437 5 5000 <b>limit/base</b> >50 >20 >20 >0.2 >2000	0 0 90 0 645 <u>current</u> 4 2 0 0 0.054 540	1 0 0 48 0 578 history1 5 3 3 3 0.686 ▲ 6860	1 2 3 98 0 1046 history2 5 3 5 5 1.06 € 10600

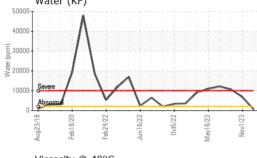
Sample Rating Trend

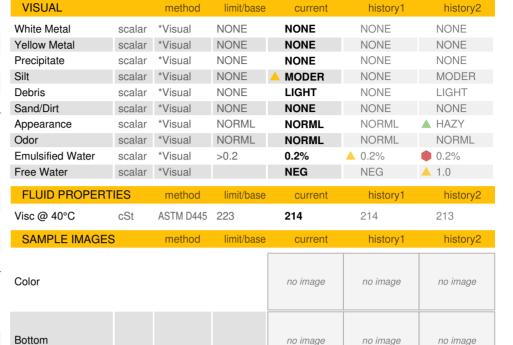
SEDIMENT

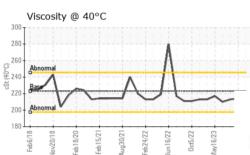


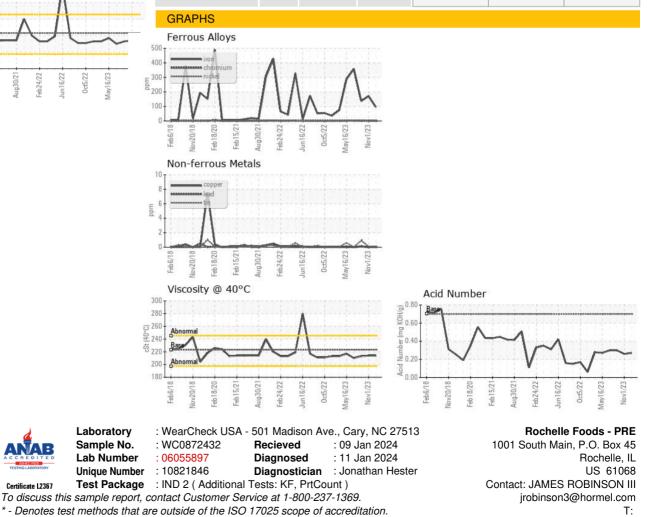
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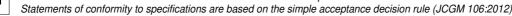












F: (815)562-4147



Certificate L2367

Laboratory

Sample No.