

## **OIL ANALYSIS REPORT**

#### Area **RP-107** Machine Id **B57042 SCREEN DISCHARGE TRAMCO** Component

**Gearbox** Fluid

PETRO CANADA ENDURATEX EP 320 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

#### Wear

All component wear rates are normal.

## Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

#### Fluid Condition

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



Sample Rating Trend

SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0930413	WC0894924	WC0866753
Sample Date		Client Info		05 Jun 2024	15 Mar 2024	05 Dec 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				NORMAL	ABNORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	3	5	3
Chromium	ppm	ASTM D5185m	>15	0	<1	0
Nickel	ppm	ASTM D5185m	>15	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	0	0
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>200	0	1	0
Tin	ppm	ASTM D5185m	>25	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 55	current 22	history1 18	history2 20
	ppm ppm					
Boron		ASTM D5185m	55	22	18	20
Boron Barium	ppm	ASTM D5185m ASTM D5185m	55 0	22 <1	18 0	20 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0	22 <1 0	18 0 <1	20 0 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0 0	22 <1 0 <1	18 0 <1 <1	20 0 0 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0 0 0	22 <1 0 <1 3	18 0 <1 <1 0	20 0 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0 0 0 0	22 <1 0 <1 3 16	18 0 <1 <1 0 2	20 0 0 <1 <1 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0 0 0 0 0 240	22 <1 0 <1 3 16 431	18 0 <1 <1 0 2 441	20 0 <1 <1 4 492
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0 0 0 0 240 1	22 <1 0 <1 3 16 431 85	18 0 <1 <1 0 2 441 56	20 0 <1 <1 4 492 72
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	55 0 0 0 0 0 240 1 13700	22 <1 0 <1 3 16 431 85 7011	18 0 <1 <1 0 2 441 56 6438	20 0 () () () () () () () () () () () () ()
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	55 0 0 0 0 0 240 1 13700	22 <1 0 <1 3 16 431 85 7011 current	18 0 <1 <1 0 2 441 56 6438 history1	20 0 0 <1 <1 4 492 72 6099 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	55 0 0 0 0 240 1 13700 limit/base >50	22 <1 0 <1 3 16 431 85 7011 current 9	18 0 <1 <1 0 2 441 56 6438 history1 7	20 0 0 <1 <1 4 492 72 6099 history2 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	55 0 0 0 0 240 1 13700 limit/base >50	22 <1 0 <1 3 16 431 85 7011 current 9 2	18 0 <1 <1 0 2 441 56 6438 history1 7 1	20 0 0 <1 <1 4 492 72 6099 history2 9 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	55 0 0 0 0 240 1 13700 <b>limit/base</b> >50	22 <1 0 <1 3 16 431 85 7011 current 9 2 3	18 0 <1 <1 0 2 441 56 6438 history1 7 1 0	20 0 0 <1 <1 4 492 72 6099 history2 9 <1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	55 0 0 0 0 240 1 13700 <b>Imit/base</b> >50 >20 <b>Imit/base</b>	22 <1 0 <1 3 16 431 85 7011 <i>current</i> 9 2 3 <i>current</i>	18 0 <1 (1 0 2 441 56 6438 history1 7 1 0 0 history1	20 0 0 <1 <1 4 492 72 6099 history2 9 <1 1 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	55 0 0 0 240 1 13700 <b>Imit/base</b> >50 >20 <b>Imit/base</b>	22 <1 0 <1 3 16 431 85 7011 <i>current</i> 9 2 3 <i>current</i> 16476	18 0 <1 (1 0 2 441 56 6438 history1 7 1 0 history1 	20 0 0 <1 <1 4 492 72 6099 history2 9 <1 1 1 history2 9267
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	55 0 0 0 240 1 13700 imit/base >50 20 imit/base >20	22 <1 0 <1 3 16 431 85 7011 <i>current</i> 9 2 3 <i>current</i> 16476 3927	18 0 <1 <1 0 2 441 56 6438 history1 7 1 0 history1 	20 0 0 <1 <1 4 492 72 6099 history2 9 <1 1 history2 9267 2095
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	55 0 0 0 240 1 13700 bimit/base >50 20 bimit/base >20 bimit/base >20	22 <1 0 <1 3 16 431 85 7011 <i>current</i> 9 2 3 <i>current</i> 16476 3927 454	18 0 <1 <1 0 2 441 56 6438 history1 7 1 0 <i>history1</i> 	20 0 0 <1 <1 4 492 72 6099 history2 9 <1 1 1 history2 9267 2095 276
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	55 0 0 0 2 40 1 13700 1 imit/base >50 2 2 0 imit/base >50 3 2 0 2 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2	22 <1 0 <1 3 16 431 85 7011 <i>current</i> 9 2 3 <i>current</i> 16476 3927 454 167	18 0 <1 (1) 2 441 56 6438 history1 7 1 0 history1  	20 0 0 <1 <1 4 492 72 6099 history2 9 <1 1 1 history2 9267 2095 276 78

FLUID DEGRADATION n

Acid Number (AN) mg KOH/g ASTM D8045 0.4

**1.22** 1.34

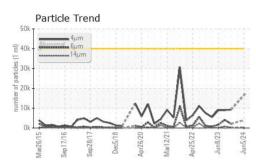
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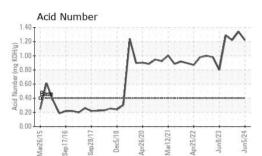
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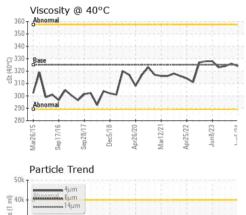
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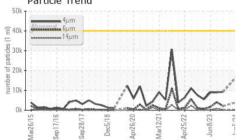


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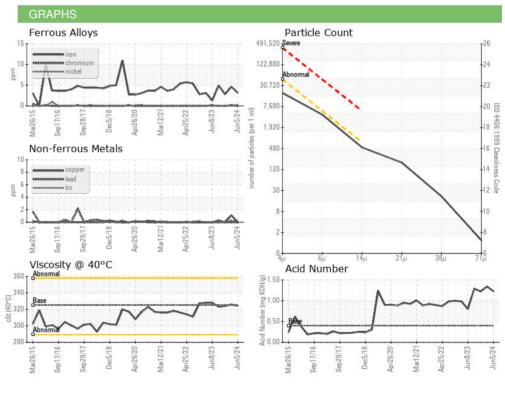


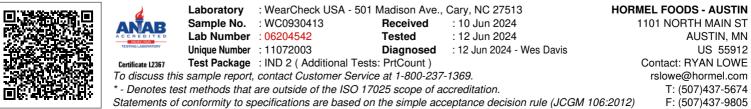






VISUAL		method	limit/base	ourropt	history1	history
VISUAL		method	IIIIII/Dase	current	TIISTOLA I	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	🔺 MODER	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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	325	324	326	324
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color				•	•	
Bottom						





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