

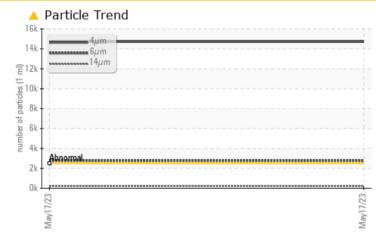
## **PROBLEM SUMMARY**

Area CAMPBELLFORD PLANT 1 Machine Id G3 MIDDLE Component

Turbine

PETRO CANADA PURITY FG EP GEAR OIL 100 (40 LTR)

## COMPONENT CONDITION SUMMARY



RECO	MENDA	ATION
112001		

PROBLEMATIC TES	T RESULTS			
Sample Status			ABNORMAL	 
Particles >4µm	ASTM D7647	>2500	<u> </u>	 
Particles >6µm	ASTM D7647	>640	<b>A</b> 2770	 
Particles >14µm	ASTM D7647	>80	<u> </u>	 
Particles >21µm	ASTM D7647	>20	<u> </u>	 
Oil Cleanliness	ISO 4406 (c)	>18/16/13	<u> </u>	 

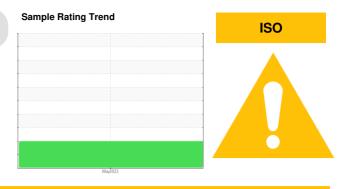
Customer Id: PET412PET Sample No.: WC0774042 Lab Number: 02560146 Test Package: IND 2



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*To discuss the diagnosis or test data:* Kevin Marson +1 (289)291-4644 x4644 Kevin.Marson@wearcheck.com

*To change component or sample information:* Gloria Gonzalez +1 (289)291-4643 x4643 gloria.gonzalez@wearcheck.com



RECOMMENDE	COMMENDED ACTIONS			
Action	Status	Date	Done By	Description
Change Filter			?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample			?	We recommend an early resample to monitor this condition.
Filter Fluid			?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS



## **OIL ANALYSIS REPORT**

Area CAMPBELLFORD PLANT 1 Machine Id G3 MIDDLE

Component Turbine Fluid

PETRO CANADA PURITY FG EP GEAR OIL 100 (40 LTR

DIAGNOSIS

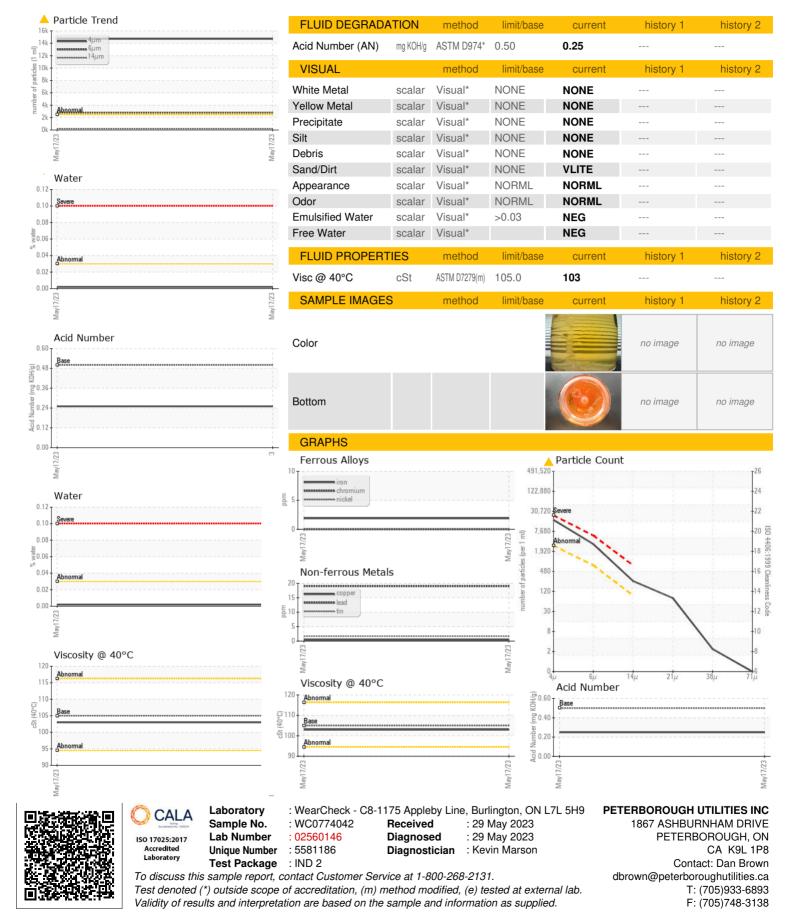
. 100 (40 LTR)				May2023		
SAMPLE INFORM	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		WC0774042		
Sample Date		Client Info		17 May 2023		
Machine Age	yrs	Client Info		60		
Oil Age	yrs	Client Info		2		
Oil Changed	910	Client Info		- Not Changd		
Sample Status				ABNORMAL		
WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185(m)	>15	2		
Chromium	ppm	ASTM D5185(m)	>4	0		
Nickel	ppm	ASTM D5185(m)	>2	0		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)	>10	<1		
Lead	ppm	ASTM D5185(m)		19		
Copper	ppm	ASTM D5185(m)	>5	<1		
Tin	ppm	ASTM D5185(m)	>5	2		
Antimony	ppm	ASTM D5185(m)		2		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
	ppin	. ,		-		
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185(m)		0		
Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)		0		
Barium						
Barium Molybdenum	ppm	ASTM D5185(m)		0		
Barium Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		0 0 0 0		
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		0 0 0		
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	135	0 0 0 0		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	135	0 0 0 0		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	135 660	0 0 0 0 0 144		  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		0 0 0 0 0 144 100	   	   
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		0 0 0 0 0 144 100 649	   	    
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	660	0 0 0 0 144 100 649 <1		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	660 limit/base	0 0 0 0 144 100 649 <1 current	     history 1	     history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	660 limit/base	0 0 0 0 144 100 649 <1 current 0	     history 1	     history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m) ASTM D5185(m)	660 limit/base >15	0 0 0 0 144 100 649 <1 current 0 <1	     history 1	      history 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	660 limit/base >15 >20	0 0 0 0 144 100 649 <1 <i>current</i> 0 <1 0	     history 1	      history 2  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	660 limit/base >15 >20 >0.03	0 0 0 0 144 100 649 <1 current 0 <1 0 0 <100 0 0.002	      history 1	      history 2  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	660 limit/base >15 >20 >0.03 >300	0 0 0 0 144 100 649 <1 <i>current</i> 0 <1 0 <1 0 0 20.8	     history 1	       history 2    
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	660 limit/base >15 >20 >0.03 >300 limit/base	0 0 0 0 144 100 649 <1 current 0 <1 0 0 0.002 20.8 current	      history 1     history 1	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li>history 2</li> <li></li> <li></li></ul>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304*	660 limit/base >15 >20 >0.03 >300 limit/base >2500	0 0 0 0 144 100 649 <1 <1 0 <1 0 <1 0 0 0.002 20.8 current 0	history 1 history 1 history 1	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li>history 2</li> <li></li> <li></li> <li></li> <li>history 2</li> </ul>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304* ASTM D7647 ASTM D7647	660 imit/base >15 >20 >20 >0.03 >300 imit/base >2500 >640	0 0 0 0 144 100 649 <1 current 0 <1 0 <1 0 0 0.002 20.8 current 20.8 current 14712 ▲ 14712	      history 1     history 1	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li>history 2</li> <li></li> <li></li> <li>history 2</li> <li></li> <li></li></ul>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	660 limit/base >15 >20 >0.03 >300 limit/base >2500 >640 >80	0 0 0 0 144 100 649 <1 0 <1 0 <1 0 0 20.8 0 20.8 0 20.8 0 0 14712 2770 ↓ 217	       history 1    history 1	<ul> <li></li> <li>history 2</li> <li></li> <li>history 2</li> <li></li> </ul>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5304* ASTM D6304* ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	660 imit/base >15 >20 >0.03 >300 imit/base >2500 >640 >80 >20	0 0 0 0 144 100 649 <1 0 <1 0 <1 0 0.002 20.8 0.002 20.8 0.002 20.8 0.002 20.8 0.002 20.8		<ul> <li></li> <li>history 2</li> <li></li> <li></li> <li>history 2</li> <li></li> &lt;</ul>

Sample Rating Trend

ISO



## **OIL ANALYSIS REPORT**



Contact/Location: Dan Brown - PET412PET