

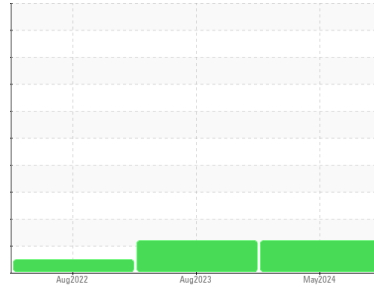


# OIL ANALYSIS REPORT



Machine Id  
**OR859**  
 Component  
**Hydraulic System**  
 Fluid  
**PETRO CANADA PRODURO TO-4 SAE 10W (--- GAL)**

### Sample Rating Trend



ISO



## DIAGNOSIS

### Recommendation

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

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

### Fluid Condition

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	<b>GFL0100569</b>	GFL0077004	GFL0054674	
Sample Date	Client Info	<b>23 May 2024</b>	25 Aug 2023	25 Aug 2022	
Machine Age	hrs	Client Info	<b>11720</b>	0	10896
Oil Age	hrs	Client Info	<b>2000</b>	0	826
Oil Changed	Client Info	<b>Not Changed</b>	Not Changd	Not Changed	
Sample Status		<b>ABNORMAL</b>	ABNORMAL	NORMAL	

## CONTAMINATION

method	limit/base	current	history1	history2	
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185(m)	>20	<b>17</b>	8	13
Chromium	ppm	ASTM D5185(m)	>10	<b>1</b>	<1	1
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>2</b>	1	2
Lead	ppm	ASTM D5185(m)	>10	<b>3</b>	3	3
Copper	ppm	ASTM D5185(m)	>75	<b>10</b>	11	4
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185(m)	1	<b>5</b>	2	7
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	1	<b>&lt;1</b>	2	2
Manganese	ppm	ASTM D5185(m)	1	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1	<b>13</b>	10	13
Calcium	ppm	ASTM D5185(m)	2864	<b>2469</b>	3039	2946
Phosphorus	ppm	ASTM D5185(m)	987	<b>933</b>	956	865
Zinc	ppm	ASTM D5185(m)	1162	<b>1150</b>	1116	1023
Sulfur	ppm	ASTM D5185(m)	3713	<b>3476</b>	3658	3170
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>20	<b>8</b>	7	6
Sodium	ppm	ASTM D5185(m)		<b>4</b>	4	3
Potassium	ppm	ASTM D5185(m)	>20	<b>2</b>	<1	2

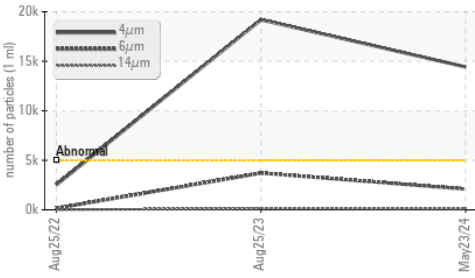
## FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	<b>▲ 14420</b>	▲ 19191	2513
Particles >6µm	ASTM D7647	>1300	<b>● 2091</b>	▲ 3714	147
Particles >14µm	ASTM D7647	>160	<b>88</b>	119	13
Particles >21µm	ASTM D7647	>40	<b>13</b>	28	3
Particles >38µm	ASTM D7647	>10	<b>1</b>	2	0
Particles >71µm	ASTM D7647	>3	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>▲ 21/18/14</b>	▲ 21/19/14	19/14/11

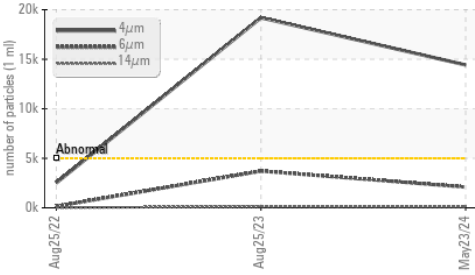


# OIL ANALYSIS REPORT

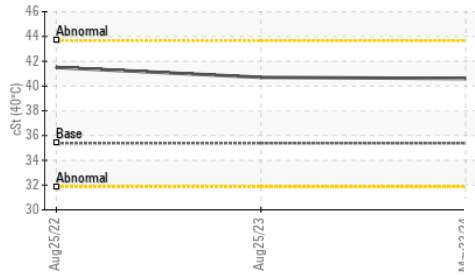
## Particle Trend



## Particle Trend



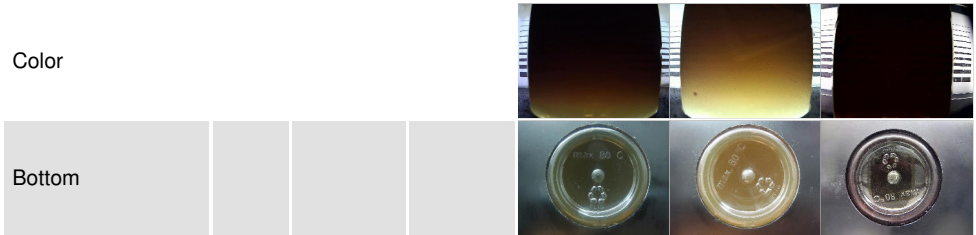
## Viscosity @ 40°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	VLITE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

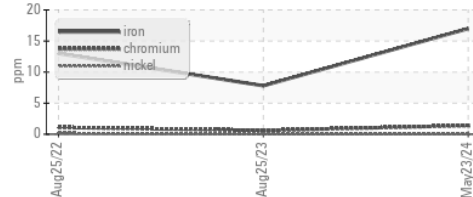
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	35.38	40.6	40.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
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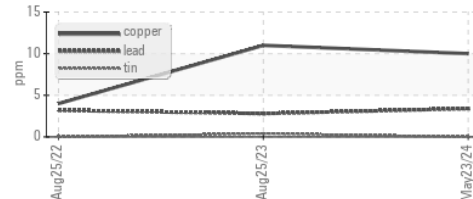


## GRAPHS

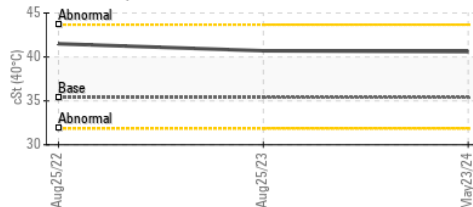
### Ferrous Alloys



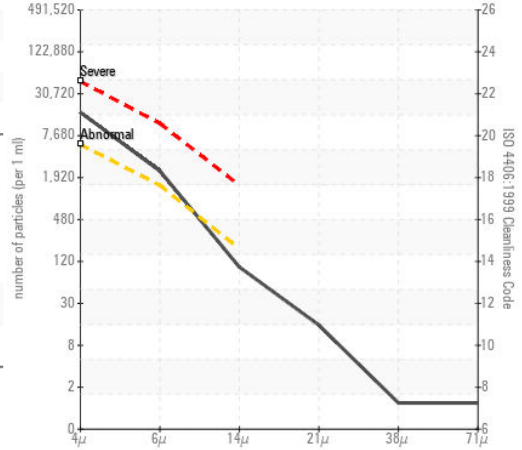
### Non-ferrous Metals



### Viscosity @ 40°C



### Particle Count



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0100569  
**Lab Number** : 02638134  
**Unique Number** : 5787296  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )  
**Received** : 28 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 2024 - Wes Davis

**GFL Environmental - 575 - Squamish Hauling**  
 38950 Queens Way,  
 Squamish, BC  
 CA V8B 0K8  
 Contact: Dean Imbeau  
 dimbeau@gflenv.com  
 T: (604)892-5604  
 F: (604)892-5238

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.