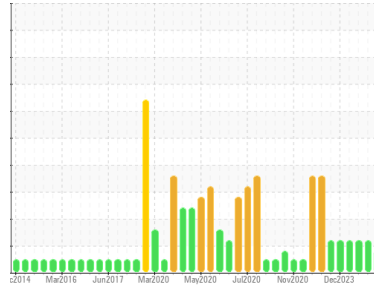


# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

**Fwd Machinery Space [450341072]**

Machine Id  
**Pump Fire Water (Port) - Gearbox (S/N Sample Tag PA-71001A-S2)**

Component

**Gearbox**

Fluid

**PETRO CANADA PREMIUM R&O 220 (98 LTR)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. 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 AN level is acceptable for this fluid. 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>PC</b>	PC0076357	PC
Sample Date	Client Info			<b>26 Mar 2024</b>	20 Mar 2024	10 Mar 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ATTENTION	ATTENTION

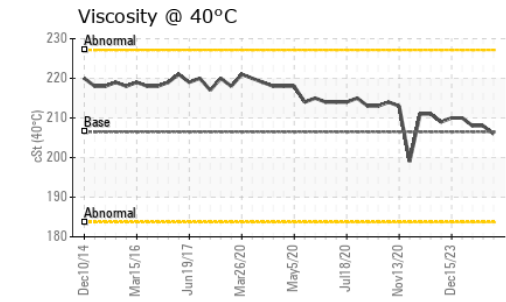
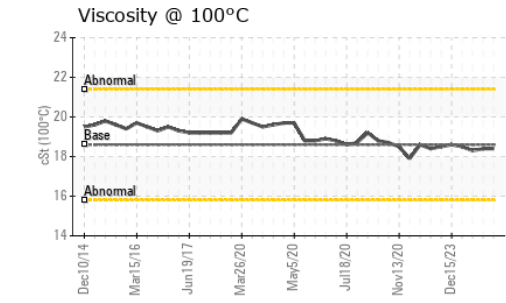
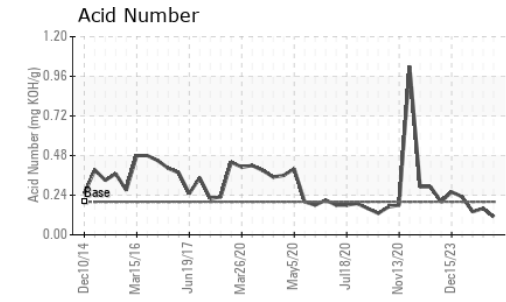
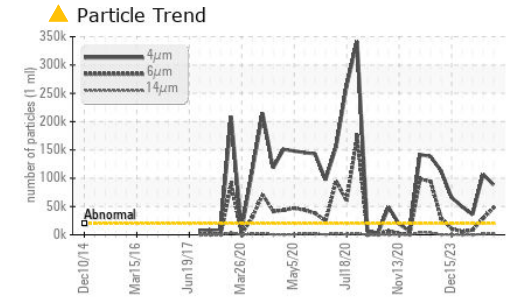
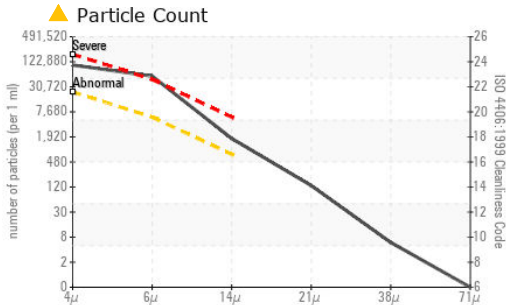
CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>150	<b>2</b>	1	1
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>5	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m)	>65	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>80	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>8	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	>5	<b>0</b>	0	0
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>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Calcium	ppm	ASTM D5185(m)		<b>3</b>	3	3
Phosphorus	ppm	ASTM D5185(m)	0	<b>14</b>	14	15
Zinc	ppm	ASTM D5185(m)		<b>2</b>	2	2
Sulfur	ppm	ASTM D5185(m)	500	<b>1605</b>	1827	1645
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>0</b>	0	0
Sodium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0

# OIL ANALYSIS REPORT



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC  
**Lab Number** : 02631236  
**Unique Number** : 5772389  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, PrtCount, VI )  
**Received** : 24 Apr 2024  
**Tested** : 25 Apr 2024  
**Diagnosed** : 25 Apr 2024 - Kevin Marson

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.

**Suncor - Terra Nova Projects**  
 Scotia Centre, 235 Water Street  
 St. John's, NL  
 CA A1C 1B6  
 Contact: Josh Hynes  
 joshynes@suncor.com  
 T: (709)778-3575  
 F: (709)724-2835

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>88266</b>	107053	35669
Particles >6µm	ASTM D7647	>5000	<b>48060</b>	28979	8422
Particles >14µm	ASTM D7647	>640	<b>1544</b>	1211	304
Particles >21µm	ASTM D7647	>160	<b>115</b>	264	70
Particles >38µm	ASTM D7647	>40	<b>5</b>	20	3
Particles >71µm	ASTM D7647	>10	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>24/23/18</b>	24/22/17	22/20/15

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	0.20	<b>0.11</b>	0.16	0.14

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar Visual*	NONE	<b>VLITE</b>	NONE	NONE
Sand/Dirt	scalar Visual*	NONE	<b>NONE</b>	VLITE	NONE
Appearance	scalar Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	206.5	<b>206</b>	208	208
Visc @ 100°C	cSt ASTM D7279(m)	18.6	<b>18.4</b>	18.4	18.3
Viscosity Index (VI)	Scale ASTM D2270*	96	<b>98</b>	97	96

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter				no image	no image