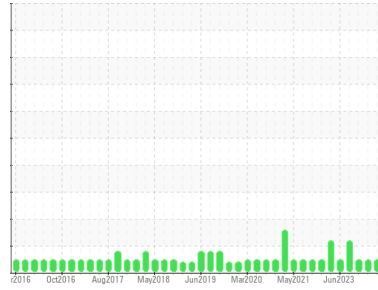


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Cranes**

Machine Id

**Crane - Mid Ship Slewing Gearbox #1 (S/N Sample Tag MA-04002-S7)**

Component

**Gearbox**

Fluid

**PETRO CANADA GEARLUBE TOS 80W90 (33 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### 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 INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PC</b>	PC0080329	PC0076228
Sample Date	Client Info	<b>19 Mar 2024</b>	20 Jan 2024	04 Oct 2023
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## 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>&lt;1</b>	2	<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	<1
Aluminum	ppm ASTM D5185(m) >5	<b>0</b>	<1	0
Lead	ppm ASTM D5185(m) >65	<b>0</b>	0	0
Copper	ppm ASTM D5185(m) >80	<b>0</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

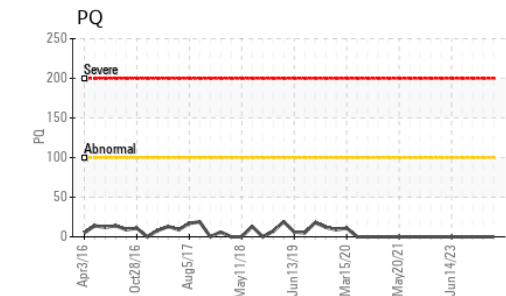
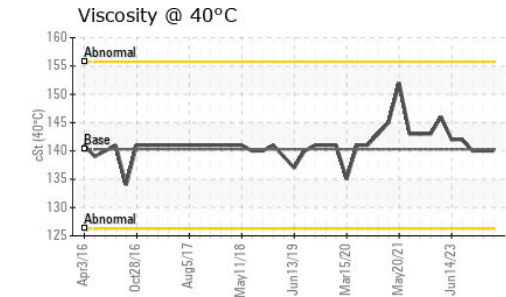
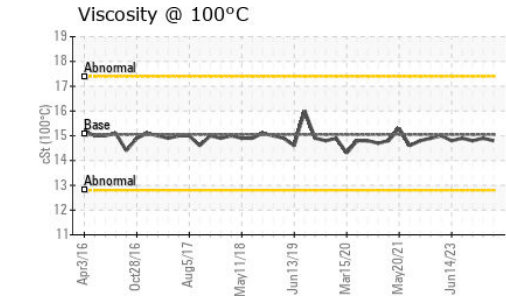
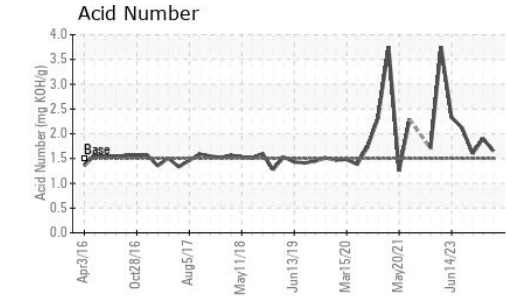
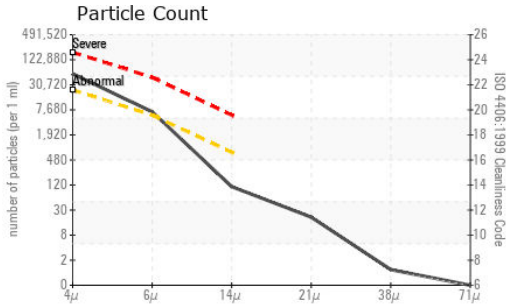
## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 240	<b>250</b>	238	267
Barium	ppm ASTM D5185(m) 1	<b>&lt;1</b>	0	<1
Molybdenum	ppm ASTM D5185(m) 0.0	<b>0</b>	0	0
Manganese	ppm ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m) 2	<b>1</b>	<1	<1
Calcium	ppm ASTM D5185(m) 6	<b>3</b>	16	3
Phosphorus	ppm ASTM D5185(m) 1000	<b>986</b>	993	976
Zinc	ppm ASTM D5185(m) 3	<b>4</b>	12	3
Sulfur	ppm ASTM D5185(m) 19400	<b>17514</b>	19738	17429
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>3</b>	3	4
Sodium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Potassium	ppm ASTM D5185(m) >20	<b>0</b>	<1	0

# OIL ANALYSIS REPORT



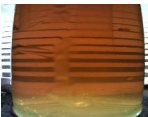
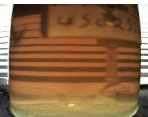
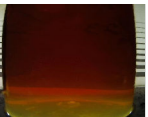
**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC **Received** : 02 Apr 2024  
**Lab Number** : **02626215** **Tested** : 03 Apr 2024  
**Unique Number** : 5759347 **Diagnosed** : 03 Apr 2024 - Kevin Marson  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, PrtCount, TAN Man, VI )  
 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.

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>48677</b>	35203	65427	
Particles >6µm	ASTM D7647	>5000	<b>6028</b>	6594	12838	
Particles >14µm	ASTM D7647	>640	<b>97</b>	379	192	
Particles >21µm	ASTM D7647	>160	<b>18</b>	103	34	
Particles >38µm	ASTM D7647	>40	<b>1</b>	7	5	
Particles >71µm	ASTM D7647	>10	<b>0</b>	2	4	
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>23/20/14</b>	22/20/16	23/21/15	

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.5	<b>1.65</b>	1.90	1.60

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>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	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)	140.3	<b>140</b>	140	140
Visc @ 100°C	cSt	ASTM D7279(m)	15.05	<b>14.8</b>	14.9	14.8
Viscosity Index (VI)	Scale	ASTM D2270*	109	<b>105</b>	106	105

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom				