

Area
Cranes [450255637]
 Machine Id
Crane - Mid Ship Luffing Winch Gearbox (S/N Sample Tag MA-04002-S6)
 Component
Gearbox
 Fluid
PETRO CANADA GEARLUBE TOS 80W90 (40 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	PC	PC0076229	PC0061647
Sample Date	Client Info	20 Jan 2024	04 Oct 2023	12 Aug 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	ABNORMAL

CONTAMINATION method limit/base current history1 history2

Water	WC Method	>0.2	NEG	NEG	NEG
-------	-----------	------	------------	-----	-----

WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >150	4	3	2
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	<1	<1	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	<1	0
Aluminum	ppm	ASTM D5185(m) >5	<1	0	0
Lead	ppm	ASTM D5185(m) >65	0	0	<1
Copper	ppm	ASTM D5185(m) >80	<1	<1	<1
Tin	ppm	ASTM D5185(m) >8	0	0	0
Antimony	ppm	ASTM D5185(m) >5	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

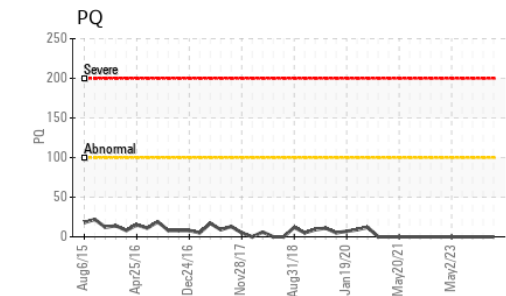
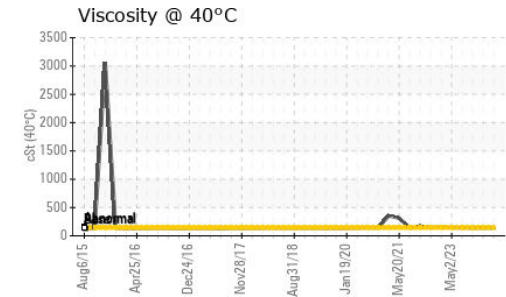
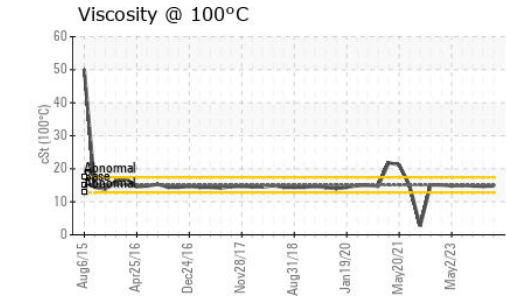
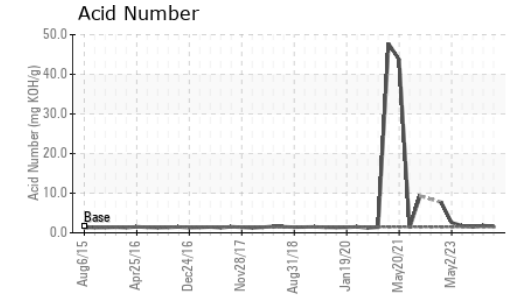
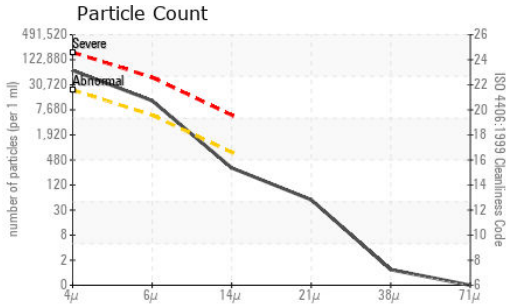
ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185(m) 240	238	262	263
Barium	ppm	ASTM D5185(m) 1	0	<1	0
Molybdenum	ppm	ASTM D5185(m) 0.0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 2	1	1	<1
Calcium	ppm	ASTM D5185(m) 6	5	5	3
Phosphorus	ppm	ASTM D5185(m) 1000	989	985	1130
Zinc	ppm	ASTM D5185(m) 3	9	10	5
Sulfur	ppm	ASTM D5185(m) 19400	17804	17139	18522
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS method limit/base current history1 history2

Silicon	ppm	ASTM D5185(m) >20	3	3	15
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	0	<1

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC **Received** : 09 Feb 2024
Lab Number : 02614809 **Tested** : 13 Feb 2024
Unique Number : 5723904 **Diagnosed** : 13 Feb 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.

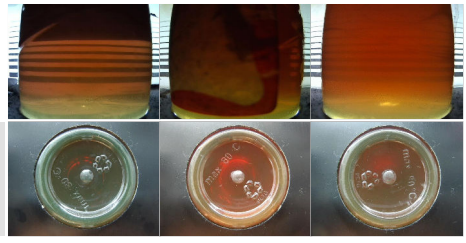
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	58867	65124	133780
Particles >6µm	ASTM D7647	>5000	11067	12468	59708
Particles >14µm	ASTM D7647	>640	272	212	▲ 1747
Particles >21µm	ASTM D7647	>160	47	46	▲ 259
Particles >38µm	ASTM D7647	>40	1	7	2
Particles >71µm	ASTM D7647	>10	0	5	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	23/21/15	23/21/15	▲ 24/23/18

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	1.5	1.67	1.82	1.55

VISUAL	method	limit/base	current	history1	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	VLITE	NONE	NONE
Sand/Dirt	scalar Visual*	NONE	NONE	NONE	NONE
Appearance	scalar Visual*	NORML	NORML	NORML	HAZY
Odor	scalar Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	140.3	139	140	139
Visc @ 100°C	cSt ASTM D7279(m)	15.05	14.8	14.7	14.8
Viscosity Index (VI)	Scale ASTM D2270*	109	106	104	106

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



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