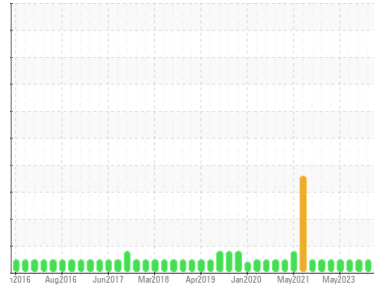


Area
Cranes [450255637]
 Machine Id
Crane - Mid Ship Slewing Gearbox #2 (S/N Sample Tag MA-04002-S8)
 Component
Gearbox
 Fluid
PETRO CANADA GEARLUBE TOS 80W90 (33 LTR)



DIAGNOSIS

Recommendation
 Confirm the source of the lubricant being utilized for top-up/fill. 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
 Additive levels indicate the addition of a different brand, or type of oil. 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			PC0080323	PC0076224	PC0052591
Sample Date	Client Info			20 Jan 2024	04 Oct 2023	12 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

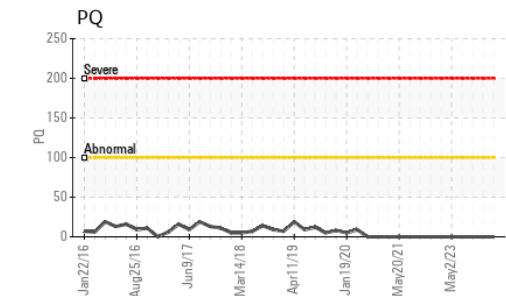
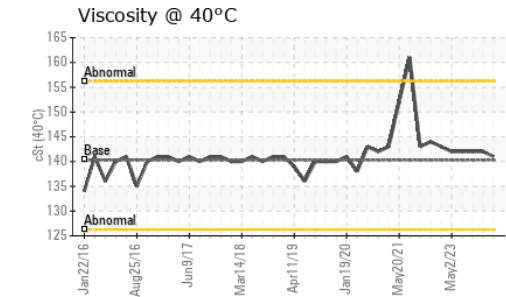
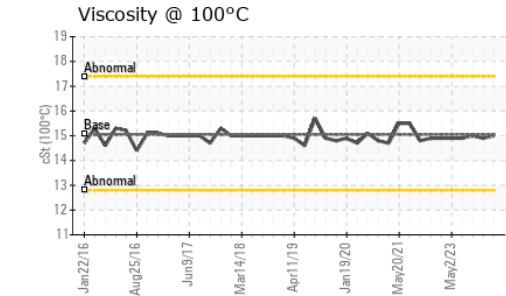
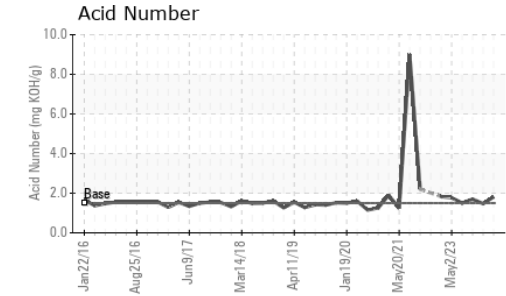
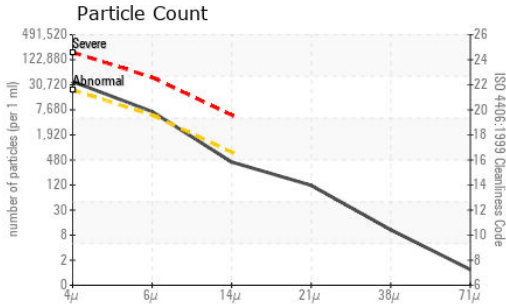
CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>150	9	8	7
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	0	<1
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	<1	<1	0
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	223	253	240
Barium	ppm	ASTM D5185(m)	1	<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0.0	0	0	0
Manganese	ppm	ASTM D5185(m)		<1	0	<1
Magnesium	ppm	ASTM D5185(m)	2	2	<1	2
Calcium	ppm	ASTM D5185(m)	6	17	4	15
Phosphorus	ppm	ASTM D5185(m)	1000	1011	927	1094
Zinc	ppm	ASTM D5185(m)	3	144	12	114
Sulfur	ppm	ASTM D5185(m)	19400	23108	19622	23664
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	3	4	3
Sodium	ppm	ASTM D5185(m)		2	<1	2
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080323 **Received** : 09 Feb 2024
Lab Number : **02614808** **Tested** : 13 Feb 2024
Unique Number : 5723903 **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.


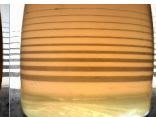
Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Street
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 joshhynes@suncor.com
 T: (709)778-3575
 F: (709)724-2835

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	31878	91068	26705	
Particles >6µm	ASTM D7647	>5000	6070	16440	2904	
Particles >14µm	ASTM D7647	>640	377	68	19	
Particles >21µm	ASTM D7647	>160	104	17	5	
Particles >38µm	ASTM D7647	>40	9	7	1	
Particles >71µm	ASTM D7647	>10	1	6	1	
Oil Cleanliness	ISO 4406 (c)	>21/19/16	22/20/16	24/21/13	22/19/11	

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.5	1.81	1.47	1.70

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	NORML
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	141	142	142
Visc @ 100°C	cSt	ASTM D7279(m)	15.05	15.0	14.9	15.0
Viscosity Index (VI)	Scale	ASTM D2270*	109	107	105	106

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom				