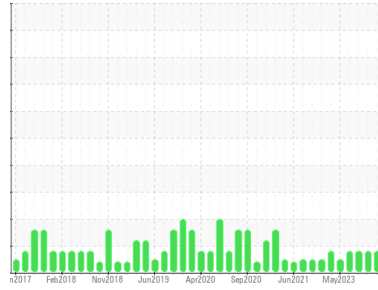


OIL ANALYSIS REPORT

Area
Cranes
 Machine Id
Crane - Fwd Distribution Gearbox (S/N Sample Tag MA-04003-S11)
 Component
Gearbox
 Fluid
PETRO CANADA GEARLUBE TOS 80W90 (6 LTR)

Sample Rating Trend



VISCOSITY



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**
Viscosity of sample indicates oil is within SAE 80 range, advise investigate. 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	PC	PC0040629
Sample Date	Client Info		16 May 2024	20 Mar 2024	24 Jan 2024
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			ABNORMAL	ABNORMAL	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	24	24	24
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	0	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >5	<1	<1	<1
Lead	ppm	ASTM D5185(m) >65	0	0	<1
Copper	ppm	ASTM D5185(m) >80	1	2	2
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

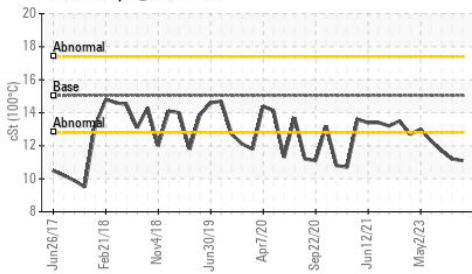
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 240	180	181	187
Barium	ppm	ASTM D5185(m) 1	<1	<1	0
Molybdenum	ppm	ASTM D5185(m) 0.0	0	0	0
Manganese	ppm	ASTM D5185(m)	<1	0	<1
Magnesium	ppm	ASTM D5185(m) 2	3	2	2
Calcium	ppm	ASTM D5185(m) 6	46	34	31
Phosphorus	ppm	ASTM D5185(m) 1000	751	756	807
Zinc	ppm	ASTM D5185(m) 3	53	56	55
Sulfur	ppm	ASTM D5185(m) 19400	12306	12635	13744
Lithium	ppm	ASTM D5185(m)	4	5	5

CONTAMINANTS

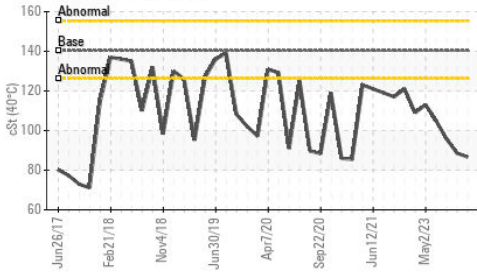
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >20	4	3	4
Sodium	ppm	ASTM D5185(m)	2	2	2
Potassium	ppm	ASTM D5185(m) >20	1	<1	1

OIL ANALYSIS REPORT

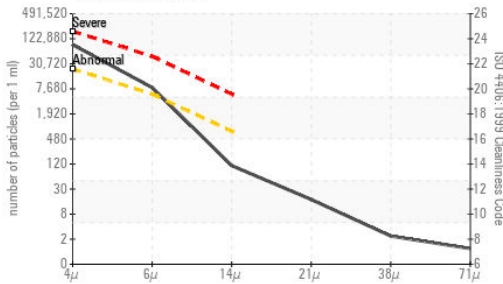
▲ Viscosity @ 100°C



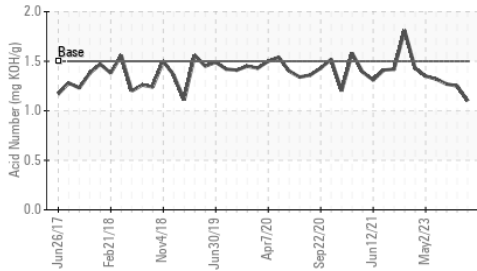
▲ Viscosity @ 40°C



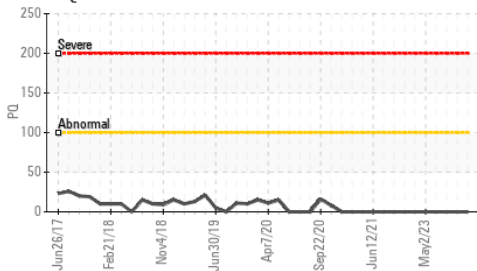
Particle Count



Acid Number



PQ



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	76177	23004	28341
Particles >6µm	ASTM D7647	>5000	7193	1923	2678
Particles >14µm	ASTM D7647	>640	97	39	53
Particles >21µm	ASTM D7647	>160	15	7	9
Particles >38µm	ASTM D7647	>40	2	1	2
Particles >71µm	ASTM D7647	>10	1	0	1
Oil Cleanliness	ISO 4406 (c)	>21/19/16	23/20/14	22/18/12	22/19/13

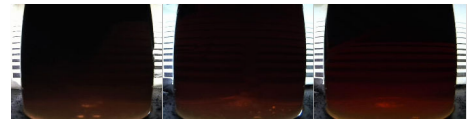
FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	1.5	1.10	1.25	1.27

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	NONE	NONE	VLITE
Sand/Dirt	scalar Visual*	NONE	NONE	VLITE	NONE
Appearance	scalar Visual*	NORML	NORML	NORML	NORML
Odor	scalar Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	.2%
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	140.3	▲ 86.6	▲ 88.6	▲ 95.7
Visc @ 100°C	cSt ASTM D7279(m)	15.05	▲ 11.1	▲ 11.2	▲ 11.7
Viscosity Index (VI)	Scale ASTM D2270*	109	115	113	111

SAMPLE IMAGES

Color



Bottom



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02638939
Unique Number : 5788101
Test Package : MAR 2 (Additional Tests: KV100, PQ, PrtCount, VI)
Received : 30 May 2024
Tested : 31 May 2024
Diagnosed : 03 Jun 2024 - Kevin Marson

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

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.