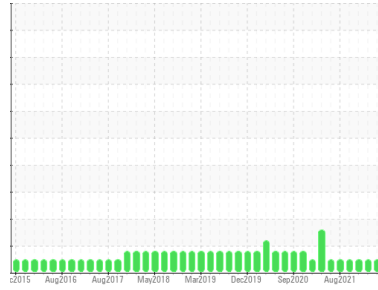


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Cranes
Machine Id
Crane - Aft - Slewing Gearbox N°1 (S/N Sample Tag MA-04001-S7)
Component
Gearbox
Fluid
PETRO CANADA GEARLUBE TOS 80W90 (8 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	PC0039822	PC0039816	PC0039827
Sample Date	Client Info	12 Sep 2023	16 Aug 2023	16 May 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

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184*	0	0	0
Iron	ppm ASTM D5185(m) >150	10	10	7
Chromium	ppm ASTM D5185(m) >10	0	0	0
Nickel	ppm ASTM D5185(m) >10	2	<1	2
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	<1	<1	0
Aluminum	ppm ASTM D5185(m) >5	0	<1	<1
Lead	ppm ASTM D5185(m) >65	<1	0	0
Copper	ppm ASTM D5185(m) >80	7	3	1
Tin	ppm ASTM D5185(m) >8	0	0	0
Antimony	ppm ASTM D5185(m) >5	0	0	<1
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	212	238	207
Barium	ppm ASTM D5185(m) 1	2	2	1
Molybdenum	ppm ASTM D5185(m) 0.0	0	0	0
Manganese	ppm ASTM D5185(m)	<1	<1	<1
Magnesium	ppm ASTM D5185(m) 2	<1	<1	0
Calcium	ppm ASTM D5185(m) 6	24	28	22
Phosphorus	ppm ASTM D5185(m) 1000	1086	1048	1050
Zinc	ppm ASTM D5185(m) 3	251	249	217
Sulfur	ppm ASTM D5185(m) 19400	22882	22311	22646
Lithium	ppm ASTM D5185(m)	<1	<1	<1

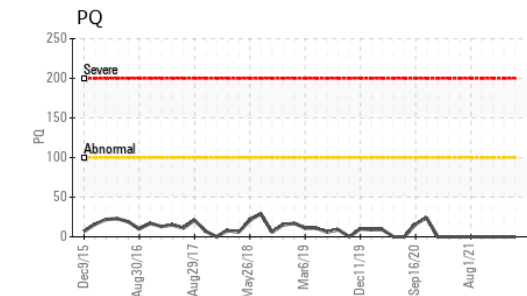
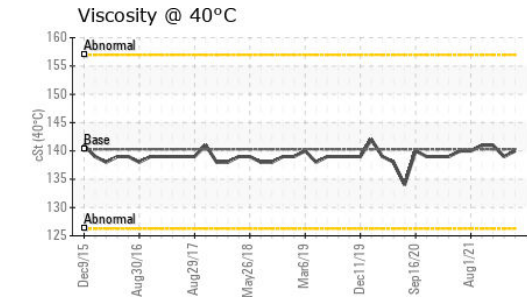
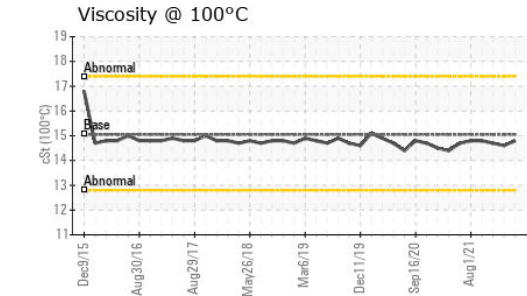
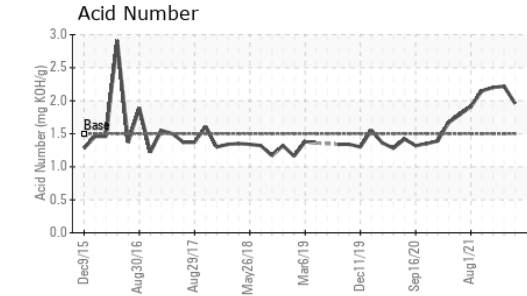
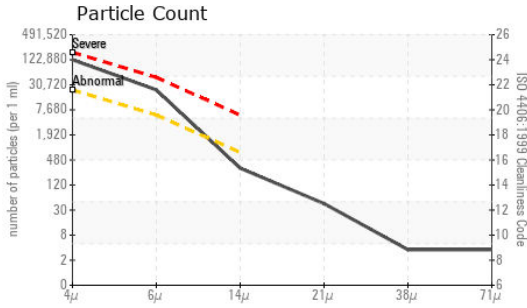
CONTAMINANTS

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

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >20000	106199	83780	102029
Particles >6µm	ASTM D7647 >5000	20151	18792	29865
Particles >14µm	ASTM D7647 >640	269	456	514
Particles >21µm	ASTM D7647 >160	38	82	67
Particles >38µm	ASTM D7647 >40	3	4	2
Particles >71µm	ASTM D7647 >10	3	3	1
Oil Cleanliness	ISO 4406 (c) >21/19/16	24/22/15	24/21/16	24/22/16

OIL ANALYSIS REPORT

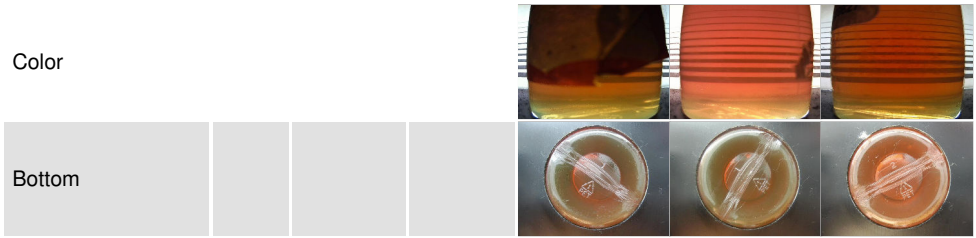


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.5	1.96	2.22	2.20

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	140	139	141
Visc @ 100°C	cSt	ASTM D7279(m)	15.05	14.8	14.6	14.7
Viscosity Index (VI)	Scale	ASTM D2270*	109	105	104	103

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0039822 **Received** : 13 Sep 2023
Lab Number : **02582289** **Diagnosed** : 15 Sep 2023
Unique Number : 5643354 **Diagnostician** : Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, PrtCount, VI)

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Strret
 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.