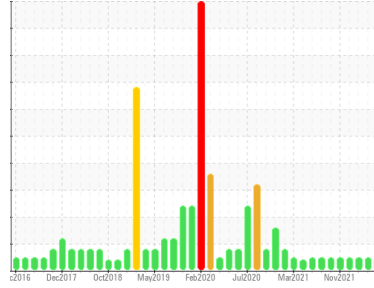


Area
Cranes [450255636]
 Machine Id
Crane - Fwd Luffing Winch Gearbox (S/N Sample Tag MA-04003-S6)
 Component
Gearbox
 Fluid
PETRO CANADA GEARLUBE TOS 80W90 (40 LTR)



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	PC0081073	PC0011837	PC
Sample Date	Client Info	24 Jan 2024	04 Oct 2023	13 Aug 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	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	5	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)	<1	<1	<1
Aluminum	ppm ASTM D5185(m) >5	<1	0	0
Lead	ppm ASTM D5185(m) >65	<1	<1	0
Copper	ppm ASTM D5185(m) >80	2	<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

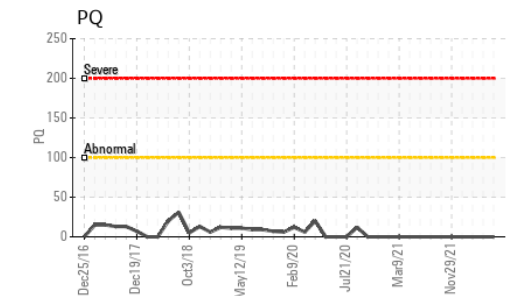
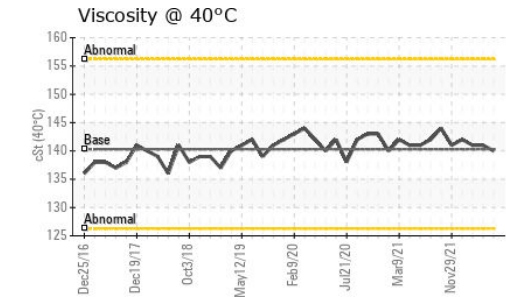
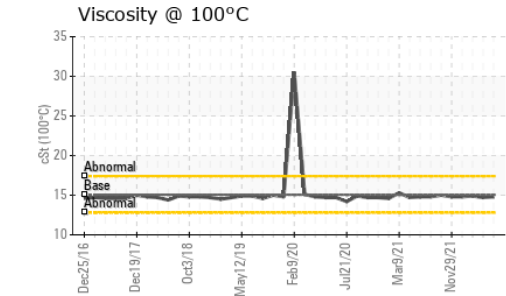
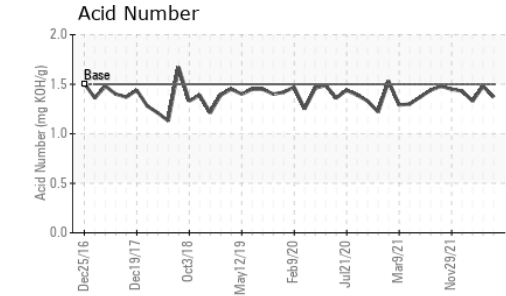
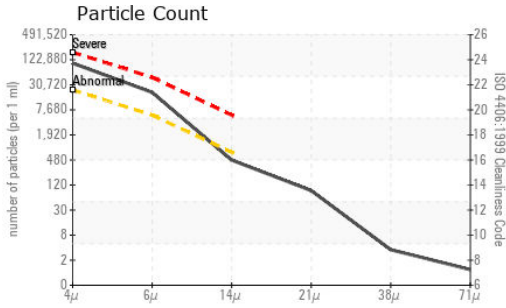
ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 240	229	251	249
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	2	2	2
Phosphorus	ppm ASTM D5185(m) 1000	943	925	1069
Zinc	ppm ASTM D5185(m) 3	36	18	8
Sulfur	ppm ASTM D5185(m) 19400	17012	16487	17681
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >20	4	2	1
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. : PC0081073 **Received** : 16 Feb 2024
Lab Number : **02616452** **Tested** : 21 Feb 2024
Unique Number : 5733562 **Diagnosed** : 21 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.

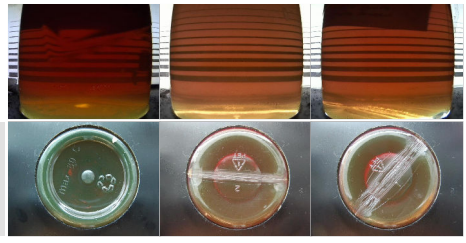
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	87826	53888	61634
Particles >6µm	ASTM D7647	>5000	17554	12013	12038
Particles >14µm	ASTM D7647	>640	420	437	304
Particles >21µm	ASTM D7647	>160	78	98	52
Particles >38µm	ASTM D7647	>40	3	8	1
Particles >71µm	ASTM D7647	>10	1	4	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	24/21/16	23/21/16	23/21/15

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	1.5	1.37	1.48	1.33

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	VLITE
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	141	141
Visc @ 100°C	cSt ASTM D7279(m)	15.05	14.8	14.7	14.9
Viscosity Index (VI)	Scale ASTM D2270*	109	105	103	106

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



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