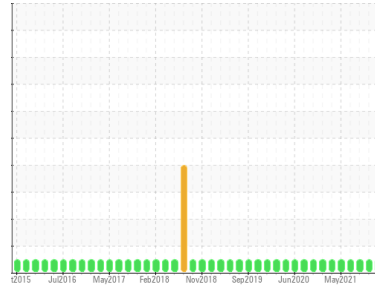


Area
Cranes
Machine Id
Crane - Aft - Hydraulic System (Reservoir) (S/N Sample Tag MA-04001-S4)
Component
Hydraulic System
Fluid
PETRO CANADA ATF DEXRON III/MERCON (1050 LTR)



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	PC0039815	PC0039835	PC0040147
Sample Date	Client Info	16 Aug 2023	29 Nov 2021	20 Sep 2021
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	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184*	0	0	0	
Iron	ppm	ASTM D5185(m) >20	7	6	7
Chromium	ppm	ASTM D5185(m) >10	1	1	1
Nickel	ppm	ASTM D5185(m) >10	0	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	0	<1
Aluminum	ppm	ASTM D5185(m) >10	<1	0	0
Lead	ppm	ASTM D5185(m) >20	1	1	<1
Copper	ppm	ASTM D5185(m) >20	3	3	3
Tin	ppm	ASTM D5185(m) >10	0	<1	<1
Antimony	ppm	ASTM D5185(m)	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) 130	104	102	110
Barium	ppm	ASTM D5185(m) 1.0	19	21	22
Molybdenum	ppm	ASTM D5185(m) 0.0	<1	<1	<1
Manganese	ppm	ASTM D5185(m)	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 1.0	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 20	44	36	38
Phosphorus	ppm	ASTM D5185(m) 280	301	297	310
Zinc	ppm	ASTM D5185(m) 10	64	60	63
Sulfur	ppm	ASTM D5185(m) 440	777	745	829
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

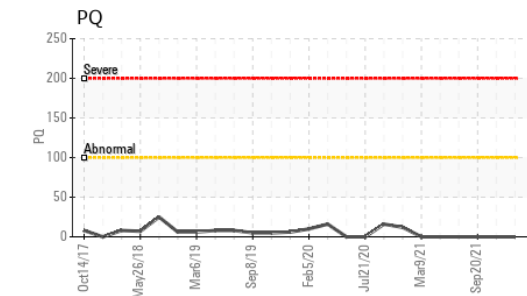
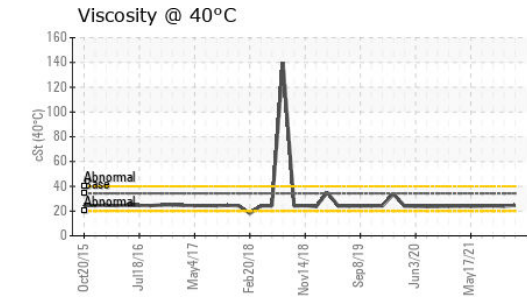
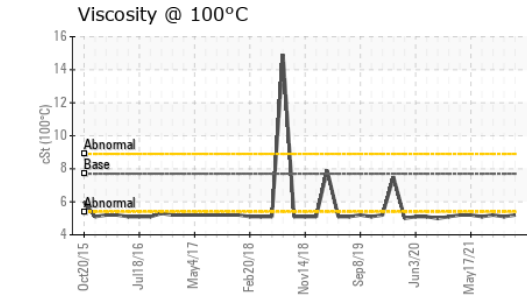
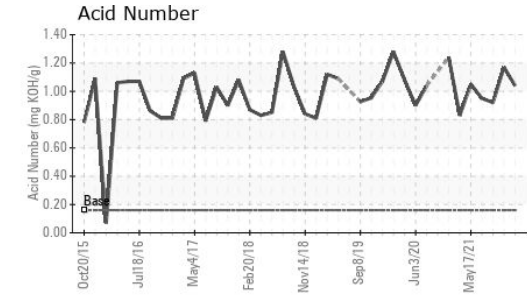
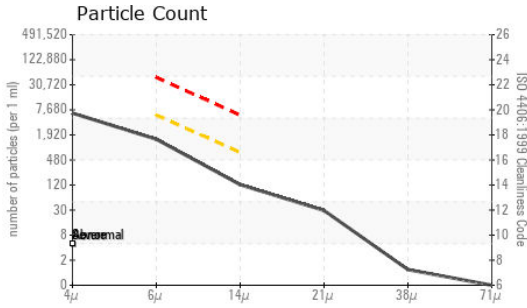
CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >15	2	2	1
Sodium	ppm	ASTM D5185(m)	6	6	6
Potassium	ppm	ASTM D5185(m) >20	1	1	<1

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	5589	519	289
Particles >6µm	ASTM D7647 >5000	1322	68	42
Particles >14µm	ASTM D7647 >640	108	6	7
Particles >21µm	ASTM D7647 >160	26	3	1
Particles >38µm	ASTM D7647 >40	1	0	0
Particles >71µm	ASTM D7647 >10	0	0	0
Oil Cleanliness	ISO 4406 (c) >--/19/16	20/18/14	16/13/10	15/13/10

OIL ANALYSIS REPORT

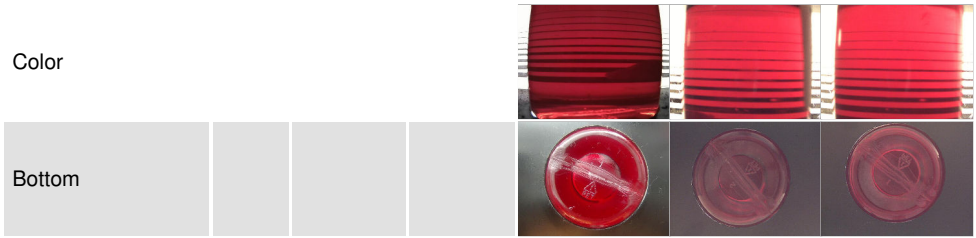


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.16	1.04	1.17	0.92

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	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*	>0.05	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)	34.26	24.6	24.0	24.2
Visc @ 100°C	cSt	ASTM D7279(m)	7.7	5.2	5.1	5.2
Viscosity Index (VI)	Scale	ASTM D2270*	210	148	147	152

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0039815
Lab Number : **02576418**
Unique Number : 5629478
Test Package : MAR 2 (Additional Tests: KV100, PQ, TAN MAN, VI)
Received : 17 Aug 2023
Diagnosed : 23 Aug 2023
Diagnostician : Kevin Marson

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Strret
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
 joshhynes@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.