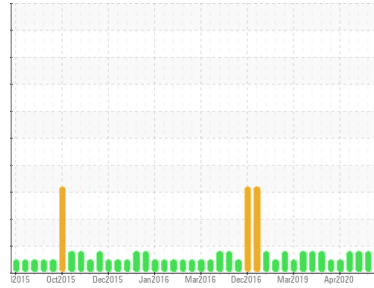


Area
Cranes [450207985]
 Machine Id
Crane - Fwd Engine Crank Case (S/N Sample Tag MA-04003-S10)
 Component
Forward Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (42 LTR)



DIAGNOSIS

Recommendation
 We advise that you check for visible metal particles in the oil. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear
 Light concentration of visible metal present.

Contamination
 Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
 The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0076454	PC0029590	PC0029599
Sample Date	Client Info			04 Oct 2023	28 Mar 2021	21 Jul 2020
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				MARGINAL	MARGINAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol	WC Method			NEG	NEG	NEG

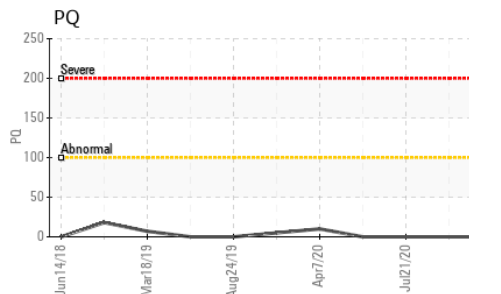
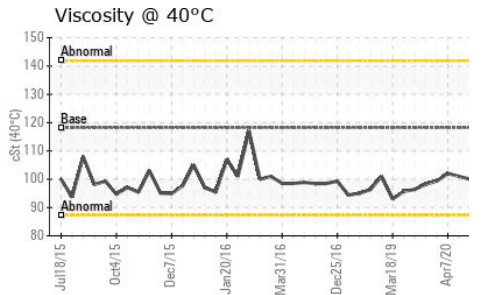
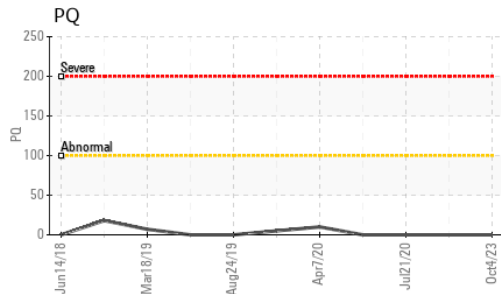
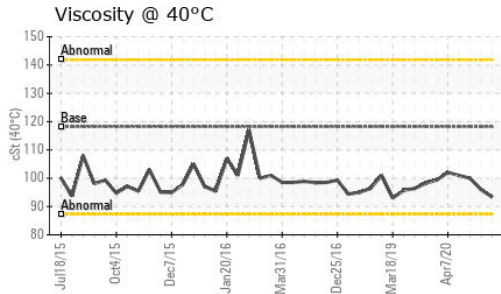
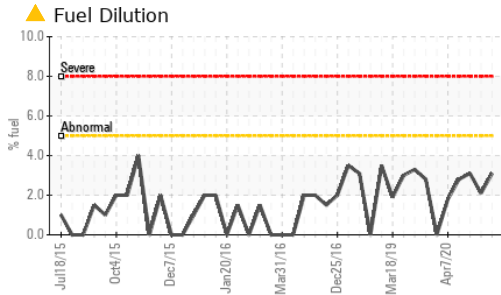
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>100	6	2	11
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	2
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	1	2
Lead	ppm	ASTM D5185(m)	>40	2	<1	2
Copper	ppm	ASTM D5185(m)	>330	1	<1	1
Tin	ppm	ASTM D5185(m)	>15	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)	0	<1	1	2
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	60	59	57	72
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	929	926	1062
Calcium	ppm	ASTM D5185(m)	1070	1007	977	1064
Phosphorus	ppm	ASTM D5185(m)	1150	953	960	1077
Zinc	ppm	ASTM D5185(m)	1270	1157	1185	1325
Sulfur	ppm	ASTM D5185(m)	2060	2393	2634	2636
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	2	3	3
Sodium	ppm	ASTM D5185(m)		2	2	<1
Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1
Fuel	%	ASTM D7593*	>5	▲ 3.1	▲ 2.1	▲ 3.1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	9.4	6.3	13.3
Sulfation	Abs./1mm	ASTM D7415*	>30	19.1	18.6	26.5

OIL ANALYSIS REPORT

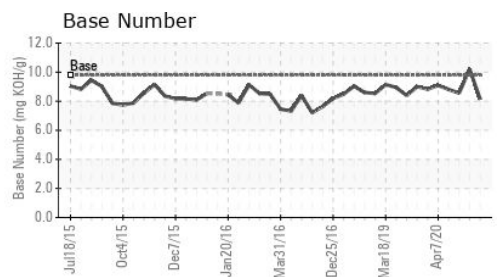
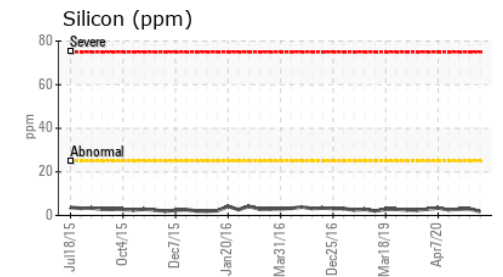
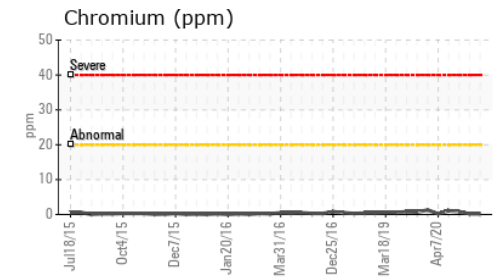
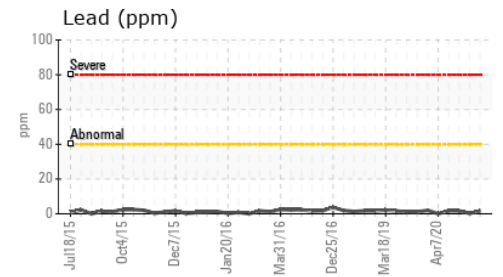
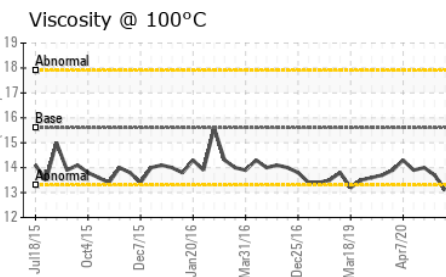
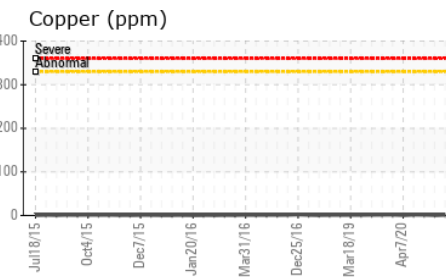
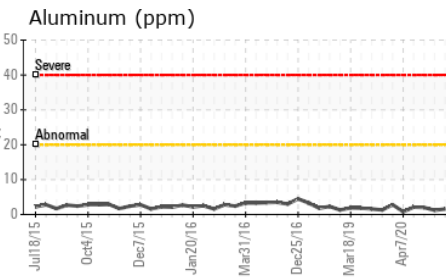
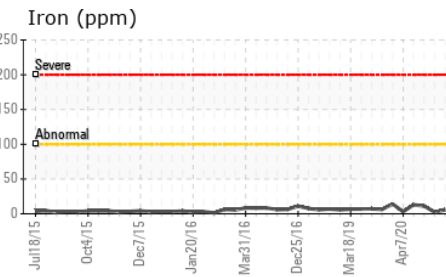


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	18.2	14.8	23.0
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	8.14	10.21	8.56

VISUAL		method	limit/base	current	history1	history2
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)	118.2	93.3	96.0	100
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	13.1	13.7	14.0
Viscosity Index (VI)	Scale	ASTM D2270*	139	139	144	142

GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076454
Lab Number : 02589967
Unique Number : 5659033
Test Package : MOB 2 (Additional Tests: BottomAnalysis, FILTERPATCH, FuelDilution, KV40, PercentFuel, PQ, VI)

Received : 18 Oct 2023
Diagnosed : 20 Oct 2023
Diagnostician : Kevin Marson

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 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.