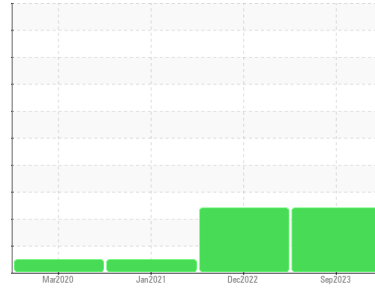




Machine Id
INTERNATIONAL 32
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (--- Oz)



DIAGNOSIS

Recommendation
 We advise that you check for possible coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
 All component wear rates are normal.

Contamination
 Sodium and/or potassium levels remain high.

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		PCA0083484	PCA0028058	PCA0028048
Sample Date	Client Info		13 Sep 2023	14 Dec 2022	09 Jan 2021
Machine Age	mls	Client Info	726637	3822	5566
Oil Age	mls	Client Info	10000	3822	5566
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>2.0	<1.0	<1.0	<1.0

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	17	30	22
Chromium	ppm	ASTM D5185m	>20	2	3	1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	3	5	1
Copper	ppm	ASTM D5185m	>330	67	24	371
Tin	ppm	ASTM D5185m	>15	1	2	3
Antimony	ppm	ASTM D5185m		---	---	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		0	2	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		57	61	51
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		1002	968	890
Calcium	ppm	ASTM D5185m		1153	1044	989
Phosphorus	ppm	ASTM D5185m		1034	1002	892
Zinc	ppm	ASTM D5185m		1311	1281	1057
Sulfur	ppm	ASTM D5185m		3764	3405	2099

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	17	3	3
Sodium	ppm	ASTM D5185m		▲ 19	▲ 91	11
Potassium	ppm	ASTM D5185m	>20	▲ 146	▲ 242	3
Glycol	%	*ASTM D2982		NEG	NEG	NEG

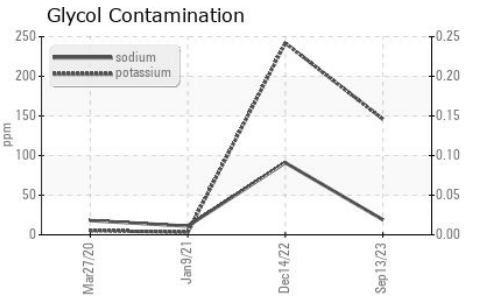
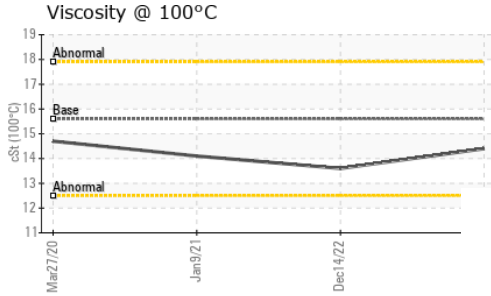
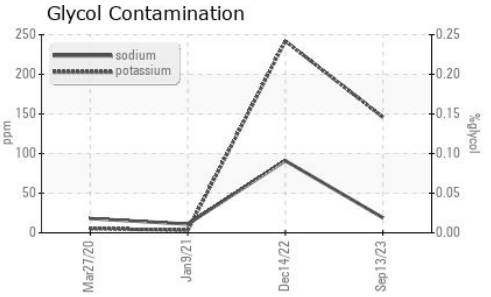
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.1	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.7	9.6	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.5	21.1	20.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.5	16.2	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.6	9.0	---

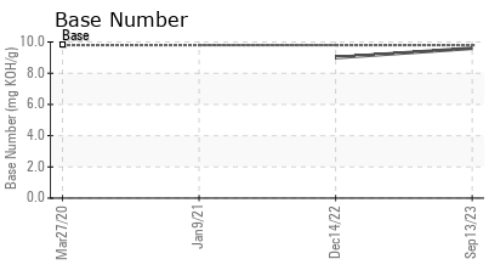
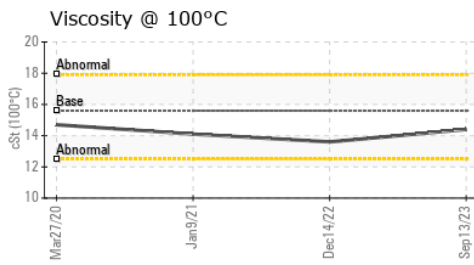
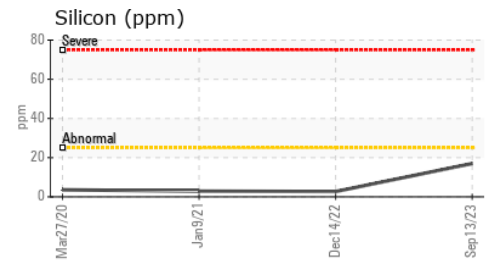
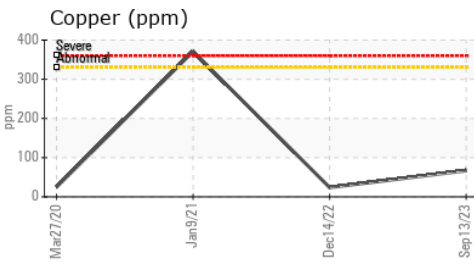
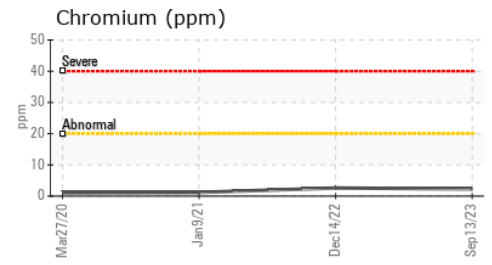
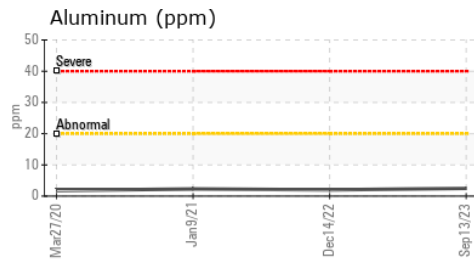
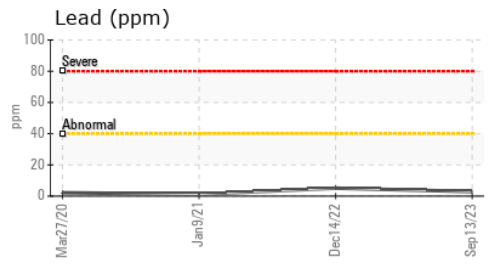
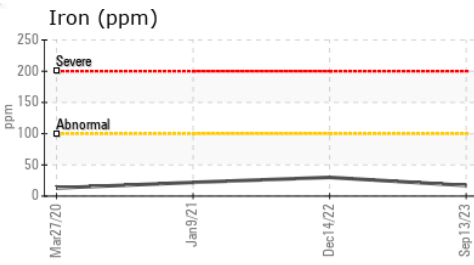
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	14.4	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0083484 **Received** : 18 Sep 2023
Lab Number : 05953631 **Diagnosed** : 20 Sep 2023
Unique Number : 10649590 **Diagnostician** : Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

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 EL DORADO, KS
 US 67042
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 loren@hogoboom.net
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 F: (316)321-1396

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)