



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id
9111
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Check for low coolant level. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0064985	GFL0064994	GFL0064989
Sample Date		Client Info		05 Jan 2024	06 Sep 2023	06 Jul 2023
Machine Age	hrs	Client Info		475557	1691	1375
Oil Age	hrs	Client Info		528	316	282
Filter Age	hrs	Client Info		528	316	282
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>110	30	25	29
Chromium	ppm	ASTM D5185(m)	>4	1	1	2
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	4	5	5
Lead	ppm	ASTM D5185(m)	>45	6	4	4
Copper	ppm	ASTM D5185(m)	>85	20	8	55
Tin	ppm	ASTM D5185(m)	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

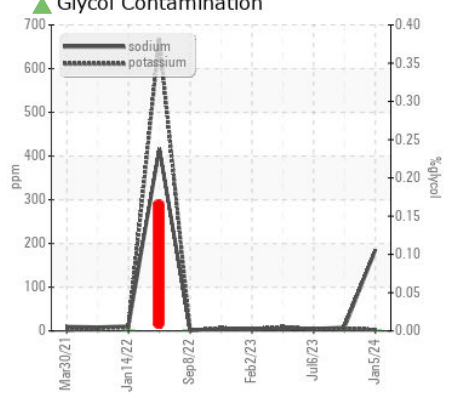
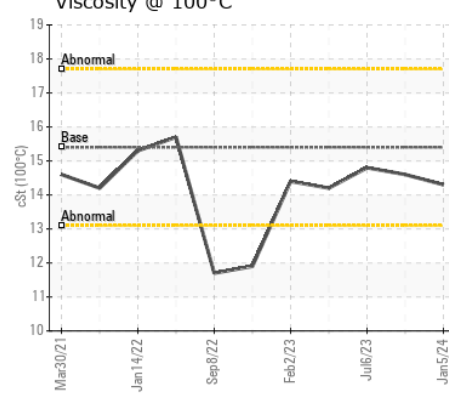
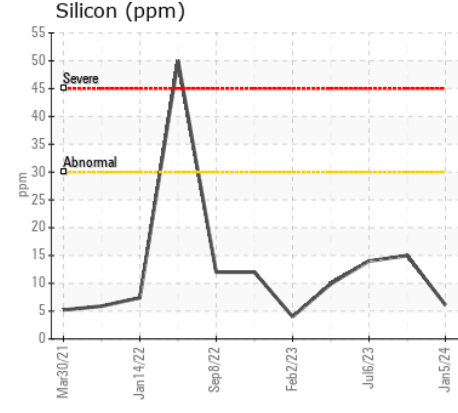
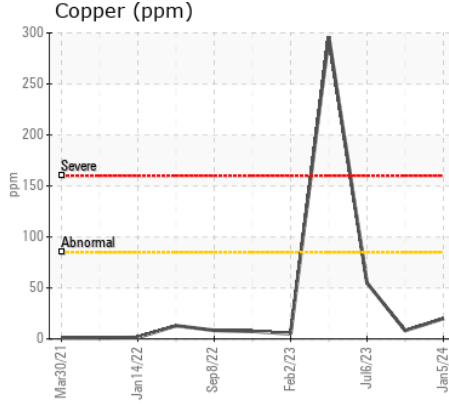
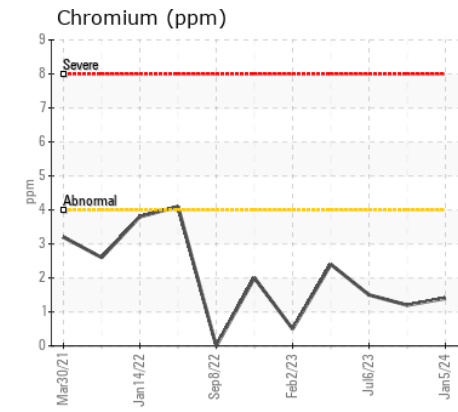
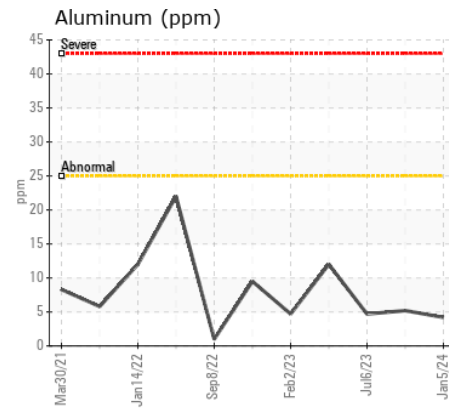
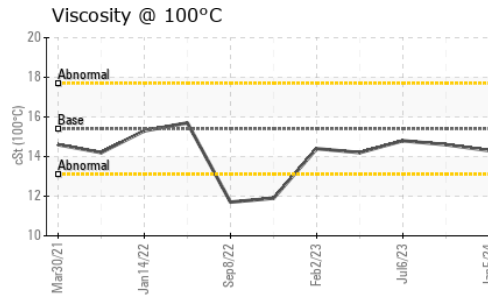
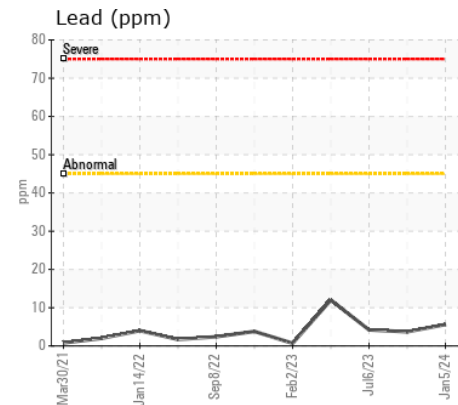
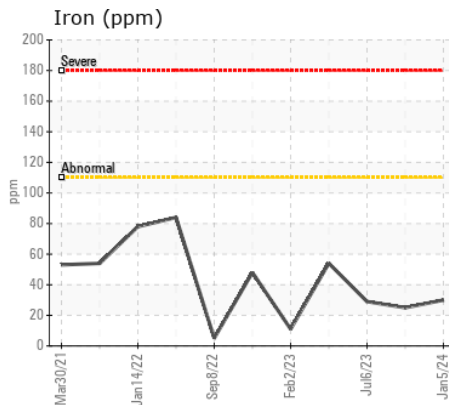
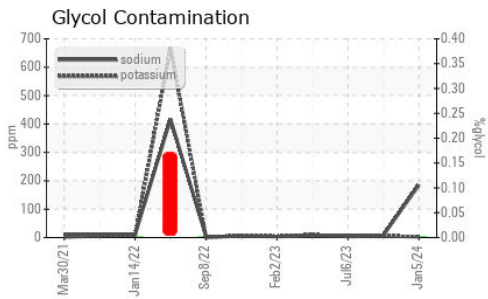
Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>30	6	15	14
Potassium	ppm	ASTM D5185(m)	>20	3	5	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	0.0	NEG
Soot %	%	ASTM D7844*	>3	0.8	0.6	0.5
Nitration	Abs/cm	ASTM D7624*	>20	9.6	8.1	7.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.5	21.9	21.2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service (see recommendation).

Sodium	ppm	ASTM D5185(m)		▲ 185	8	5
Boron	ppm	ASTM D5185(m)	0	1	2	3
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	67	57	57
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	965	946	950
Calcium	ppm	ASTM D5185(m)	1070	1052	1011	1090
Phosphorus	ppm	ASTM D5185(m)	1150	1010	1005	1030
Zinc	ppm	ASTM D5185(m)	1270	1188	1163	1181
Sulfur	ppm	ASTM D5185(m)	2060	2575	2409	2433
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.7	15.9	16.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.3	14.6	14.8



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 556 - Whitecourt**
Sample No. : GFL0064985 **Received** : 09 Jan 2024 4138 - 42 Street,
Lab Number : 02607367 **Diagnosed** : 10 Jan 2024 Whitecourt, AB
Unique Number : 5708453 **Diagnostician** : Kevin Marson CA T7S 1P1
Test Package : MOB 1 (Additional Tests: Glycol)
 Contact: Kash Wagoner
 kwagoner@gflenv.com
 T: (780)778-4888
 F: (780)778-8707

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.