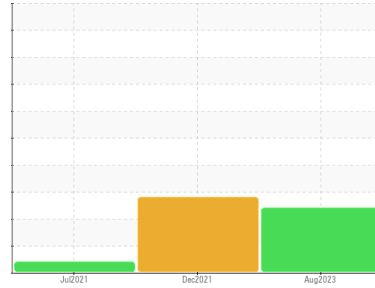




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
401101

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX MV 32 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. **DISCLAIMER:** Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. Light concentration of visible dirt/debris present in the oil.

Fluid Condition

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0084152	GFL0039307	GFL0020811
Sample Date	Client Info	22 Aug 2023	24 Dec 2021	22 Jul 2021
Machine Age	hrs	2221	18047	16362
Oil Age	hrs	0	1200	1200
Oil Changed	Client Info	N/A	Changed	Changed
Sample Status		ABNORMAL	SEVERE	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >20	13	11	5
Chromium	ppm	ASTM D5185(m) >10	2	1	<1
Nickel	ppm	ASTM D5185(m) >10	0	0	<1
Titanium	ppm	ASTM D5185(m)	<1	0	0
Silver	ppm	ASTM D5185(m)	0	0	<1
Aluminum	ppm	ASTM D5185(m) >10	1	<1	<1
Lead	ppm	ASTM D5185(m) >10	<1	<1	<1
Copper	ppm	ASTM D5185(m) >75	5	6	2
Tin	ppm	ASTM D5185(m) >10	0	<1	<1
Antimony	ppm	ASTM D5185(m)	0	<1	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) 0	2	4	4
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	<1	<1	<1
Manganese	ppm	ASTM D5185(m) 1	0	<1	0
Magnesium	ppm	ASTM D5185(m) 0	10	13	13
Calcium	ppm	ASTM D5185(m) 50	91	105	108
Phosphorus	ppm	ASTM D5185(m) 330	358	352	360
Zinc	ppm	ASTM D5185(m) 430	418	414	420
Sulfur	ppm	ASTM D5185(m) 760	770	793	783
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

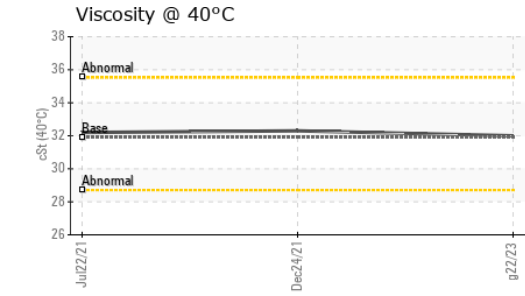
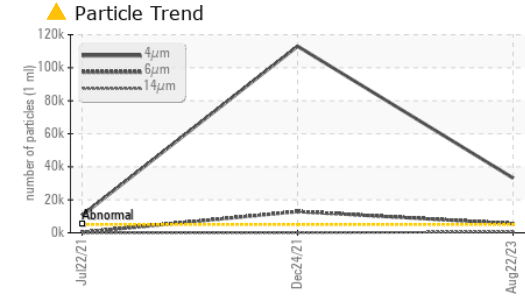
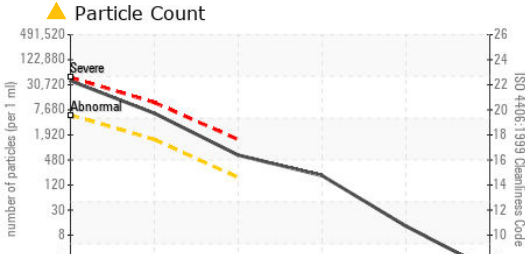
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	4	8	2
Sodium	ppm	ASTM D5185(m)	3	1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	▲ 33165	● 113026	▲ 10553
Particles >6µm	ASTM D7647 >1300	▲ 5535	● 12886	278
Particles >14µm	ASTM D7647 >160	▲ 551	55	16
Particles >21µm	ASTM D7647 >40	▲ 178	8	6
Particles >38µm	ASTM D7647 >10	11	0	1
Particles >71µm	ASTM D7647 >3	1	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 22/20/16	● 24/21/13	▲ 21/15/11

Particle Filter (Magn: 100 x)

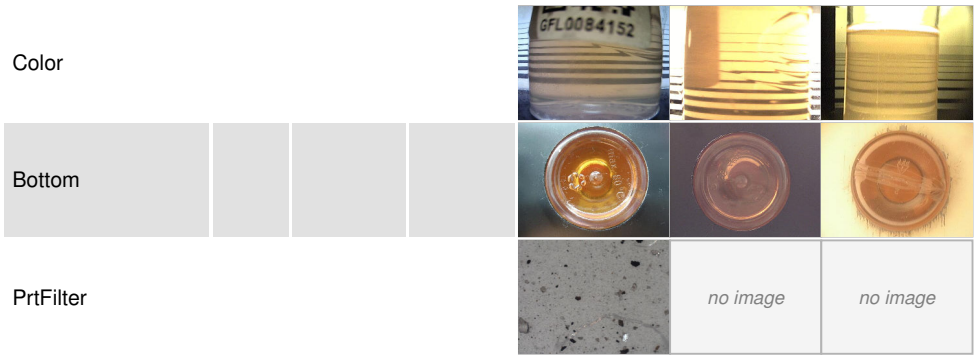




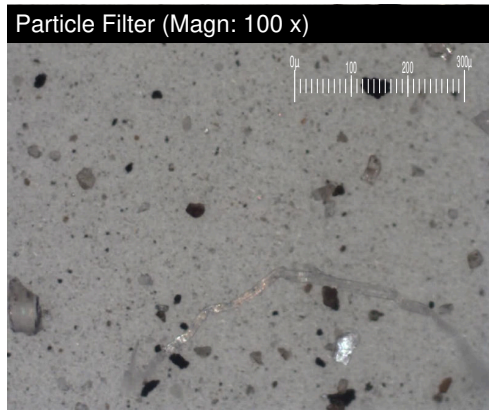
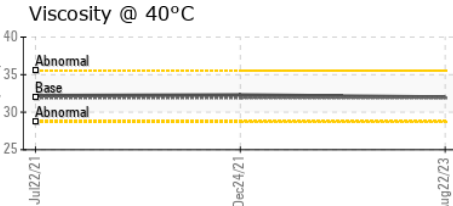
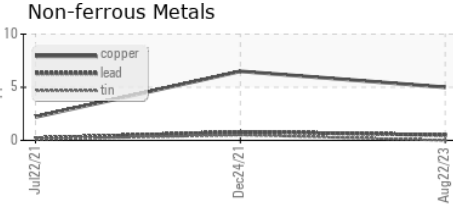
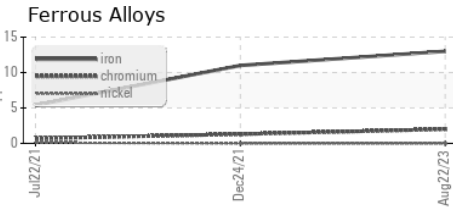
PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	31.9	32.0	32.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 573 - Vancouver Hauling
Sample No. : GFL0084152 **Received** : 08 Sep 2023 70 Golden Drive, Coquitlam, BC
Lab Number : 02581174 **Diagnosed** : 11 Sep 2023 CA V3K 6B5
Unique Number : 5642239 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PrtCount, PrtFilter)
 Contact: Catia Klagenberg Alves
 cklagenbergalves@gflenv.com
 T:
 F:

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.