

OIL ANALYSIS REPORT

Sample Rating Trend





an2020 Jun2020 Dec2020 Jul2021 Dec2021 Jul2022 Dec2022 Jun2023 Oct20

	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
	Sample Number		Client Info		GFL0099827	GFL0080526	GFL0080589
rval to monitor.	Sample Date		Client Info		19 Dec 2023	17 Oct 2023	14 Aug 2023
		nrs	Client Info		12482	5169	5169
rmal.	Oil Age	nrs	Client Info		1082	5169	5169
	Oil Changed		Client Info		Changed	Changed	Changed
amination in the	Sample Status				NORMAL	ABNORMAL	NORMAL
	CONTAMINATIC) N	method	limit/base	current	history1	history2
	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
is suitable condition of the	Water		WC Method		NEG	NEG	NEG
	WEAR METALS		method	limit/base	current	history1	history2
		opm	ASTM D5185m		1	5	5
		opm	ASTM D5185m		<1	<1	<1
			ASTM D5185m	>4	0	0	0
		opm			0		0
		opm	ASTM D5185m			0	
		opm	ASTM D5185m	>2	0	0	0
		opm	ASTM D5185m		1	2	1
		opm	ASTM D5185m	>25	1	8	<1
		opm	ASTM D5185m		0	0	0
		opm	ASTM D5185m	>4	2	0	<1
	Vanadium p	opm	ASTM D5185m		0	0	0
	Cadmium p	opm	ASTM D5185m		0	0	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron p	opm	ASTM D5185m	0	14	8	11
	Barium p	opm	ASTM D5185m	0	0	<1	0
	Molybdenum p	opm	ASTM D5185m	60	46	52	50
	Manganese p	opm	ASTM D5185m	0	<1	<1	<1
	Magnesium p	opm	ASTM D5185m		537	595	586
			ASTM D5185m ASTM D5185m	1010	537 1490		586 1582
	Calcium p	opm	ASTM D5185m	1010 1070	1490	595 1562	1582
	Calcium p Phosphorus p	opm opm	ASTM D5185m ASTM D5185m	1010 1070 1150	1490 748	595 1562 765	1582 731
	Calcium p Phosphorus p Zinc p	opm	ASTM D5185m	1010 1070 1150 1270	1490	595 1562	1582
	Calcium p Phosphorus p Zinc p	opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270	1490 748 1003	595 1562 765 996	1582 731 972
	Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANT	opm opm opm opm S	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060 limit/base	1490 748 1003 2437	595 1562 765 996 2397	1582 731 972 2872
	Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANT Silicon p	opm opm opm opm opm S	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1010 1070 1150 1270 2060 limit/base	1490 748 1003 2437 current	595 1562 765 996 2397 history1 5	1582 731 972 2872 history2 4
	Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANT Silicon p Sodium p	opm opm opm opm opm S opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	1490 748 1003 2437 current 4 7	595 1562 765 996 2397 history1 5 6	1582 731 972 2872 history2 4 5
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiump	opm opm opm opm opm S	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	1490 748 1003 2437 current 4	595 1562 765 996 2397 history1 5	1582 731 972 2872 history2 4
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiump	oppm oppm oppm oppm oppm oppm oppm oppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	1490 748 1003 2437 current 4 7 81 0.0	595 1562 765 996 2397 history1 5 6 0	1582 731 972 2872 history2 4 5 <1 NEG
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiumpGlycolpINFRA-RED	opm opm opm opm opm opm opm opm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method	1010 1070 1150 22060 limit/base >25 >20	1490 748 1003 2437 current 4 7 81 0.0 current	595 1562 765 996 2397 history1 5 6 0 NEG history1	1582 731 972 2872 history2 4 5 <1 NEG history2
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiumpGlycolpINFRA-REDSoot %	oppm oppm oppm oppm oppm oppm oppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844	1010 1070 1150 2260 imit/base >25 >20 imit/base >6	1490 748 1003 2437 current 4 7 81 0.0 current 0	595 1562 765 996 2397 history1 5 6 0 NEG NEG history1 0	1582 731 972 2872 history2 4 5 <1 NEG history2 0.1
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiumpGlycolpINFRA-REDSoot %pNitrationp	oppm oppm oppm oppm oppm oppm oppm oppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method	1010 1070 1150 2260 imit/base >25 >20 imit/base base >6 >20	1490 748 1003 2437 current 4 7 81 0.0 current 0 10.7	595 1562 765 996 2397 history1 5 6 0 NEG NEG history1 0 11.4	1582 731 972 2872 history2 4 5 <1 NEG history2 0.1 10.4
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiumpGlycolpINFRA-REDSoot %pNitrationASulfationA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 Method *ASTM D7844 *ASTM D7844 *ASTM D7824	1010 1070 1150 2260 limit/base >25 >20 limit/base >6 >20 >30	1490 748 1003 2437 <i>current</i> 4 7 81 0.0 <i>current</i> 0 10.7 21.0	595 1562 765 996 2397 history1 5 6 0 NEG history1 0 11.4 24.3	1582 731 972 2872 history2 4 5 <1 NEG history2 0.1 10.4 20.2
	Calcium p Phosphorus p Zinc p Sulfur p CONTAMINANT p Silicon p Sodium p Potassium p Glycol p Soot % p Nitration A FLUID DEGRADA	oppm oppm oppm oppm oppm oppm oppm oppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7624	1010 1070 1150 1270 2060 imit/base >20 imit/base >6 >20 >30 imit/base	1490 748 1003 2437 current 4 7 81 0.0 current 0 10.7 21.0 current	595 1562 765 996 2397 history1 5 6 0 NEG history1 0 11.4 24.3 history1	1582 731 972 2872 history2 4 5 <1 NEG history2 0.1 10.4 20.2 history2
	CalciumpPhosphoruspZincpSulfurpCONTAMINANTSiliconpSodiumpPotassiumpGlycolpINFRA-REDSoot %pNitrationASulfationAFLUID DEGRADAOxidationA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 Method *ASTM D7844 *ASTM D7844 *ASTM D7824	1010 1070 1150 1270 2060 Iimit/base >25 -20 Iimit/base >30 Iimit/base >25	1490 748 1003 2437 <i>current</i> 4 7 81 0.0 <i>current</i> 0 10.7 21.0	595 1562 765 996 2397 history1 5 6 0 NEG history1 0 11.4 24.3	1582 731 972 2872 history2 4 5 <1 NEG history2 0.1 10.4 20.2

Machine Id 2856C

Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

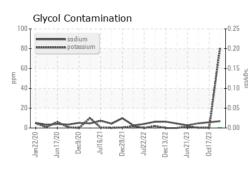
There is no indication of any contamination in the oil.

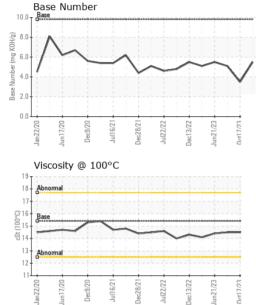
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



OIL ANALYSIS REPORT





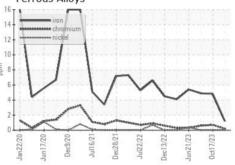
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.6	14.5	14.5
GRAPHS						

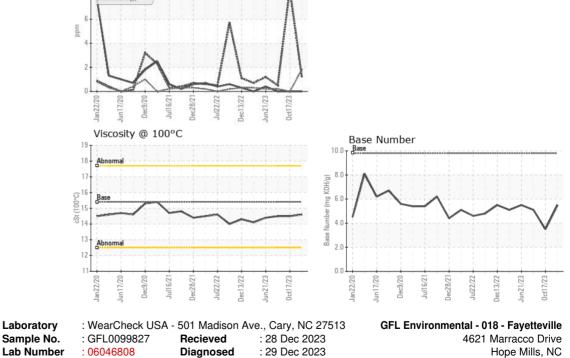
Ferrous Alloys

Non-ferrous Metals

lead

10





Diagnostician : Don Baldridge

 Certificate 12367
 Test Package
 : FLEET (Additional Tests: Glycol)

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
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 * - 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)

: 10807416

Unique Number

FL Environmental - 018 - Fayetteville 4621 Marracco Drive Hope Mills, NC US 28348 Contact: Robert Carter robert.carter@gflenv.com T: (910)596-1170 :2012) F:



Submitted By: CHRIS HALL