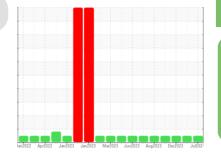


## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend





Machine Id

### 920100-63

Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (12 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.

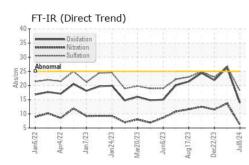
#### Fluid Condition

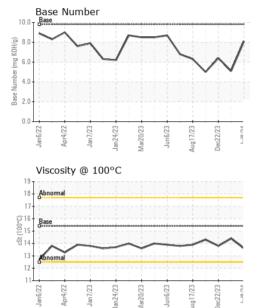
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0125893	GFL0110608	GFL0100263
Sample Date		Client Info		08 Jul 2024	04 Mar 2024	22 Dec 2023
Machine Age	hrs	Client Info		11353	600	117727
Oil Age	hrs	Client Info		600	600	117727
Oil Changed	1110	Client Info		Not Changd	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
				NORIVIAL	NORMAL	NORIVIAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	3	75	36
Chromium	ppm	ASTM D5185m	>4	<1	5	2
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	2	14	4
Lead	ppm	ASTM D5185m	>45	0	14	4
Copper	ppm	ASTM D5185m	>85	<1	3	<1
Tin	ppm	ASTM D5185m	>4	0	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 48	history2 0
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	1	48	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	1 0	48 0	0
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 0 58	48 0 77	0 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 0 58 0	48 0 77 1	0 0 66 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	1 0 58 0 931	48 0 77 1 1013	0 0 66 <1 1045
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	1 0 58 0 931 1099	48 0 77 1 1013 1211	0 0 66 <1 1045 1162 1089
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	1 0 58 0 931 1099 1054	48 0 77 1 1013 1211 1150	0 0 66 <1 1045 1162
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	1 0 58 0 931 1099 1054 1233	48 0 77 1 1013 1211 1150 1352	0 0 66 <1 1045 1162 1089 1293
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	1 0 58 0 931 1099 1054 1233 2953	48 0 77 1 1013 1211 1150 1352 3093	0 0 66 <1 1045 1162 1089 1293 3027
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	1 0 58 0 931 1099 1054 1233 2953 current	48 0 77 1 1013 1211 1150 1352 3093 history1	0 0 66 <1 1045 1162 1089 1293 3027 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	1 0 58 0 931 1099 1054 1233 2953 current 2	48 0 77 1 1013 1211 1150 1352 3093 history1 29	0 0 66 <1 1045 1162 1089 1293 3027 history2 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	1 0 58 0 931 1099 1054 1233 2953 current 2 2 2	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b> >30	1 0 58 0 931 1099 1054 1233 2953 current 2 2 2 3 3	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6 33 33 history1	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 200 imit/base	1 0 58 0 931 1099 1054 1233 2953 current 2 2 3 2 3 current	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6 33 33 history1 0.5	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4 3 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 >20 imit/base >3 >20	1 0 58 0 931 1099 1054 1233 2953 <i>current</i> 2 2 2 3 <i>current</i> 0.2 6.1	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6 33 6 33 history1 0.5 13.7	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4 3 3 <u>history2</u> 0.4 11.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 >20 <b>Imit/base</b> >3 >20	1 0 58 0 931 1099 1054 1233 2953 <u>current</u> 2 2 3 <u>current</u> 0.2 6.1 18.1	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6 333 history1 0.5 13.7 26.7	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4 3 <u>history2</u> 0.4 11.5 22.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 >20 imit/base >3 >20	1 0 58 0 931 1099 1054 1233 2953 current 2 2 2 3 current 0.2 6.1 18.1	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6 33 history1 0.5 13.7 26.7 history1	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4 3 history2 0.4 11.5 22.9 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 >20 <b>Imit/base</b> >3 >20	1 0 58 0 931 1099 1054 1233 2953 <u>current</u> 2 2 3 <u>current</u> 0.2 6.1 18.1	48 0 77 1 1013 1211 1150 1352 3093 history1 29 6 333 history1 0.5 13.7 26.7	0 0 66 <1 1045 1162 1089 1293 3027 history2 13 4 3 <u>history2</u> 0.4 11.5 22.9



# **OIL ANALYSIS REPORT**





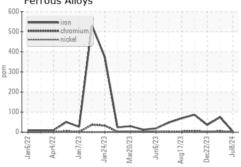
1=r20/22

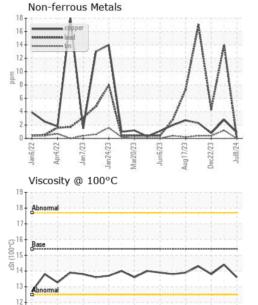
un6/23 Aug17/23 Jec22/23

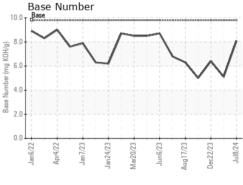
Apr4/22 Jan7/23

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	13.6	14.4	13.8
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 166 - Phenix City Sample No. : GFL0125893 Received : 12 Jul 2024 18 Old Brickyard Rd Lab Number : 06234532 Tested : 12 Jul 2024 Phenix City, AL Unique Number : 11123366 Diagnosed : 12 Jul 2024 - Wes Davis US 36869 Test Package : FLEET Contact: LOGAN PEACE Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. logan.peace@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

r/20/23 n6/73 Aug17/23

Dec22/23

Jul8/24

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Jan7/23 an24/23

Apr4/22

11-

Jan 6/22

Report Id: GFL166 [WUSCAR] 06234532 (Generated: 07/12/2024 16:35:00) Rev: 1

Submitted By: DEAN PEACE JR Page 2 of 2