

## **OIL ANALYSIS REPORT**

Sample Rating Trend



DIAGNOSIS

Wear

oil.

Machine Id 914058 Component

**Diesel Engine** Fluid

PETRO CANADA DURON SHP 15W40 (--- GAL)

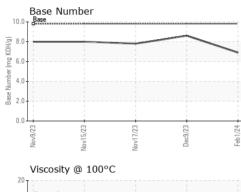
SAMPLE INFORMATION method

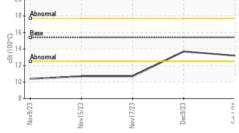
## Sa Recommendation Resample at the next service interval to monitor. Sa Ma All component wear rates are normal. Oil Oil Contamination Sa There is no indication of any contamination in the Fluid Condition Fu The BN result indicates that there is suitable Wa alkalinity remaining in the oil. The condition of the oil is suitable for further service. Gly V Iro Ch Nic Tita Sil Alι Le Co Tir Va Ca

Sample Number Sample Date		Client Info Client Info		GFL0108700 01 Feb 2024	GFL0105594 09 Dec 2023	GFL0101597 17 Nov 2023
Machine Age	hrs	Client Info		1250	10107	10107
Oil Age	hrs	Client Info Client Info		600 Changed	780	548 Changed
Oil Changed Sample Status		Client Inio		Changed NORMAL	Not Changd	Changed ABNORMAL
				NORMAL	NORMAL	ADNORIVIAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>120	23	8	42
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>5	4	<1	4
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	3	2	5
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	200	36	318
Tin	ppm	ASTM D5185m	>15	2	<1	3
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES			Pres 1 /le se se s			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 7	history1 13	history2 192
	ppm ppm					
Boron		ASTM D5185m	0	7	13	192
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	7 0	13 0	192 10
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 0 63	13 0 60	192 10 114
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 63 2	13 0 60 <1	192 10 114 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 63 2 911	13 0 60 <1 938 1094 1057	192 10 114 4 719
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 63 2 911 1076	13 0 60 <1 938 1094	192 10 114 4 719 1333
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	7 0 63 2 911 1076 974	13 0 60 <1 938 1094 1057	192 10 114 4 719 1333 722
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	7 0 63 2 911 1076 974 1217	13 0 60 <1 938 1094 1057 1264	192 10 114 4 719 1333 722 868
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 1010 1070 1150 1270 2060	7 0 63 2 911 1076 974 1217 2619	13 0 60 <1 938 1094 1057 1264 3211	192 10 114 4 719 1333 722 868 2374
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	7 0 63 2 911 1076 974 1217 2619 current	13 0 60 <1 938 1094 1057 1264 3211 history1	192 10 114 4 719 1333 722 868 2374 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	7 0 63 2 911 1076 974 1217 2619 current 8	13 0 60 <1 938 1094 1057 1264 3211 history1 9	192 10 114 4 719 1333 722 868 2374 kistory2 ▲ 58
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	7 0 63 2 911 1076 974 1217 2619 <u>current</u> 8 4	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26	192 10 114 4 719 1333 722 868 2374 history2 ▲ 58 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	7 0 63 2 911 1076 974 1217 2619 current 8 4 5	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26 1	192 10 114 4 719 1333 722 868 2374 history2 ▲ 58 <1 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 	7 0 63 2 911 1076 974 1217 2619 <i>current</i> 8 4 5 <i>current</i>	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26 1 1 history1	192 10 114 4 719 1333 722 868 2374 bistory2 \$58 <1 8 8 x1 8
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4	7 0 63 2 911 1076 974 1217 2619 <i>current</i> 8 4 5 <i>current</i> 0.6	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26 1 1 history1 0.2	192 10 114 4 719 1333 722 868 2374 bistory2 ▲ 58 <1 8 bistory2 0.6
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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base	7 0 63 2 911 1076 974 1217 2619 current 8 4 5 current 0.6 8.6	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26 1 9 26 1 history1 0.2 5.9	192 10 114 4 719 1333 722 868 2374 history2 58 <1 8 history2 0.6 9.8
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 D7844	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base >4 >20 >30	7 0 63 2 911 1076 974 1217 2619 current 8 4 5 current 0.6 8.6 20.3	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26 1 9 26 1 <i>history1</i> 0.2 5.9 18.8 <i>history1</i>	192 10 114 4 719 1333 722 868 2374 history2 58 <1 8 history2 0.6 9.8 23.7 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 D5185m	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 <b>imit/base</b> >20 <b>imit/base</b> >4 >20	7 0 63 2 911 1076 974 1217 2619 <i>current</i> 8 4 5 <i>current</i> 0.6 8.6 20.3	13 0 60 <1 938 1094 1057 1264 3211 history1 9 26 1 1 history1 0.2 5.9 18.8	192 10 114 4 719 1333 722 868 2374 <b>bistory2</b> 58 <1 8 <b>bistory2</b> 0.6 9.8 23.7

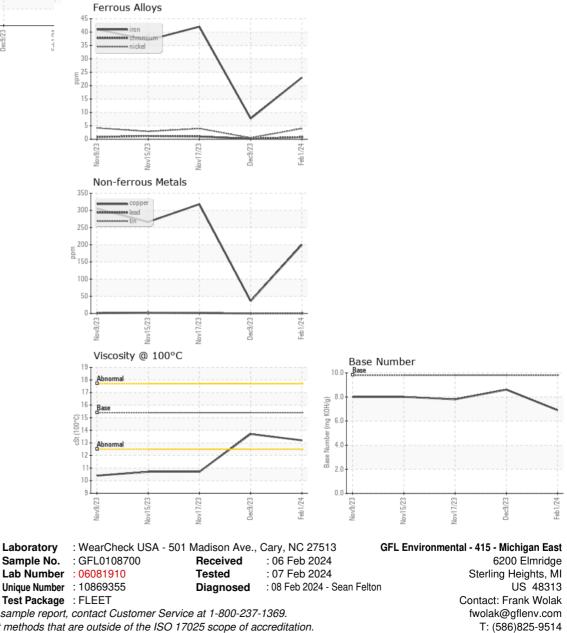


## **OIL ANALYSIS REPORT**





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	13.2	13.7	<b>1</b> 0.7
GRAPHS						





Test Package : FLEET Certificate L2367 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)

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