

### **OIL ANALYSIS REPORT**

Sample Rating Trend



### Machine Id

## 820039-2500

**Diesel Engine** 

Fluid PETRO CANADA DURON SHP 15W40 (35 QTS)

#### 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.

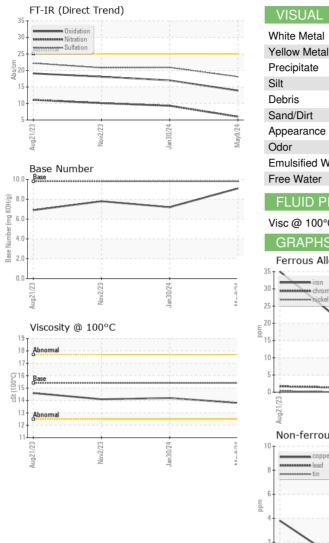
#### Fluid Condition

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	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0108542	GFL0108560	GFL0066144
Sample Date		Client Info		09 May 2024	30 Jan 2024	02 Nov 2023
Machine Age	hrs	Client Info		0	6945	6392
Oil Age	hrs	Client Info		0	600	600
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
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	>100	17	10	19
Chromium	ppm	ASTM D5185m	>20	2	0	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	4	2	0
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	3	0
Barium	ppm	ASTM D5185m	0	0	0	4
Molybdenum	ppm	ASTM D5185m	60	60	59	63
Manganese		ASTM D5185m	0	<1	0	0
Manganooo	ppm	ASTIN DOTODII	•	· ·	0	0
Magnesium	ppm ppm	ASTM D5185m	1010	996	937	941
•		ASTM D5185m				
Magnesium	ppm	ASTM D5185m	1010	996	937	941
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m	1010 1070	996 1149	937 1131	941 1058
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150	996 1149 1057	937 1131 990	941 1058 986
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270	996 1149 1057 1233	937 1131 990 1143	941 1058 986 1231
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060	996 1149 1057 1233 3610	937 1131 990 1143 3099	941 1058 986 1231 2928
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060 limit/base	996 1149 1057 1233 3610 current	937 1131 990 1143 3099 history1	941 1058 986 1231 2928 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	996 1149 1057 1233 3610 current 9	937 1131 990 1143 3099 history1 3	941 1058 986 1231 2928 history2 1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >25	996 1149 1057 1233 3610 current 9 17	937 1131 990 1143 3099 history1 3 9	941 1058 986 1231 2928 history2 1 0
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 22060 <i>limit/base</i> >25 >20	996 1149 1057 1233 3610 <u>current</u> 9 17 <1	937 1131 990 1143 3099 history1 3 9 1	941 1058 986 1231 2928 history2 1 0 0
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b>	996 1149 1057 1233 3610 current 9 17 <1 current	937 1131 990 1143 3099 history1 3 9 1 1 history1	941 1058 986 1231 2928 history2 1 0 0 0
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3	996 1149 1057 1233 3610 current 9 17 <1 <1 current 0.2	937 1131 990 1143 3099 history1 3 9 1 1 history1 0.6	941 1058 986 1231 2928 history2 1 0 0 history2 0.6
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D51854	1010 1070 1150 2260 imit/base >25 >20 imit/base >3 >20	996 1149 1057 1233 3610 current 9 17 <1 current 0.2 6.0	937 1131 990 1143 3099 history1 3 9 1 1 history1 0.6 9.3	941 1058 986 1231 2928 history2 1 0 0 history2 0.6 10.1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	1010 1070 1150 1270 2060 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30 <b>imit/base</b>	996 1149 1057 1233 3610 current 9 17 <1 current 0.2 6.0 18.1 current	937 1131 990 1143 3099 history1 3 9 1 1 history1 0.6 9.3 20.9 history1	941 1058 986 1231 2928 history2 1 0 0 0 history2 0.6 10.1 20.8 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	1010 1070 1150 22060 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >3 >20	996 1149 1057 1233 3610 current 9 17 <1 current 0.2 6.0 18.1	937 1131 990 1143 3099 history1 3 9 1 1 history1 0.6 9.3 20.9	941 1058 986 1231 2928 history2 1 0 0 history2 0.6 10.1 20.8



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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 PROPI	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.2	14.1
GRAPHS						
Ferrous Alloys						
iron						
nannannan nickel						
25						
E 15	-					
15-			and the second			
10-						
5						
0		-				
Aug21/23 Nov2/23		Jan 30/24	May9/24			
A		Jar	W			
Non-ferrous Meta	ils					
copper						
8 - tin						
u d						
4						
2	_					
O O						
ug21/23 Nov2/23		Jan 30/24	May9/24			
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		i di				
Aug21/23 Nov2/23		La.	W			
Viscosity @ 100°	с	с Г		Base Number		
Viscosity @ 100°	с	eL	10.0	Base Number	-	
Viscosity @ 100°	С		10.0			
Viscosity @ 100°	C		10.0			
Viscosity @ 100°	с		10.0			
Viscosity @ 100°	c		10.0			
Viscosity @ 100°	c		0.0 0.8 0.0 0.0 0.0 0.0 0.0			
Viscosity @ 100°	c		10.0 (C)HOX 6.0 Lu Jaquiny 880 2.0		_	
Viscosity @ 100°	C	Jan30/24	10.0 (0)(10) (0)(10) (0)(10) (0)(10) (0)(10) (0)(10)(10)(10)(10)(10)(10)(10)(10)(10)(		Nov2/23	Participant Partic

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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Certificate L2367

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