

# **OIL ANALYSIS REPORT**

Sample Rating Trend



## Area (MC11741) 828074-258

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (10 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 INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0108608	GFL0066100	
Sample Date		Client Info		29 Mar 2024	19 May 2023	
Machine Age	mls	Client Info		0	0	
Oil Age	mls	Client Info		500	0	
Oil Changed		Client Info		Changed	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS	S .	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	2	11	
Chromium	ppm	ASTM D5185m	>4	0	1	
Nickel	ppm	ASTM D5185m	>4	0	<1	
Titanium	ppm	ASTM D5185m	>2	0	<1	
Silver	ppm	ASTM D5185m	>2	0	<1	
Aluminum	ppm	ASTM D5185m	>15	1	2	
Lead	ppm	ASTM D5185m	>50	<1	6	
Copper	ppm	ASTM D5185m	>55	1	15	
Tin	ppm	ASTM D5185m	>4	<1	<1	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	4	10	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	60	53	58	
Manganese	ppm	ASTM D5185m	0	<1	<1	
Magnesium	ppm	AOTH DELOF				
	le le	ASTM D5185m	1010	906	915	
Calcium	ppm	ASTM D5185m	1070	1014	1095	
Phosphorus		ASTM D5185m ASTM D5185m	1070 1150	1014 998	1095 982	
Phosphorus Zinc	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1014 998 1177	1095 982 1162	
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1070 1150 1270 2060	1014 998 1177 3448	1095 982	
Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1014 998 1177 3448	1095 982 1162	
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1070 1150 1270 2060	1014 998 1177 3448 current 3	1095 982 1162 3241	
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >15	1014 998 1177 3448 current	1095 982 1162 3241 history1	   history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1070 1150 1270 2060 limit/base	1014 998 1177 3448 current 3	1095 982 1162 3241 history1 3	   history2 
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >15	1014 998 1177 3448 current 3 2 0	1095 982 1162 3241 history1 3 5	   history2 
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >15 >20	1014 998 1177 3448 current 3 2 0 current 0.2	1095 982 1162 3241 history1 3 5 1 1 history1 0.7	  history2  
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> *ASTM D7844 *ASTM D7624	1070 1150 1270 2060 limit/base >15 >20 limit/base	1014 998 1177 3448 current 3 2 0 current	1095 982 1162 3241 history1 3 5 1 history1 0.7 7.0	  history2   history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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	1070 1150 1270 2060 limit/base >15 >20 limit/base >6	1014 998 1177 3448 current 3 2 0 current 0.2	1095 982 1162 3241 history1 3 5 1 1 history1 0.7	  history2   history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/.tmm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7415	1070 1150 1270 2060 limit/base >15 >20 limit/base >6 >20	1014 998 1177 3448 <u>current</u> 3 2 0 <u>current</u> 0.2 5.3 17.5	1095 982 1162 3241 history1 3 5 1 history1 0.7 7.0	  history2   history2  history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/.tmm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1070 1150 1270 2060 <b>limit/base</b> >15 >20 <b>limit/base</b> >6 >20 >20 >30	1014 998 1177 3448 <u>current</u> 3 2 0 <u>current</u> 0.2 5.3 17.5	1095 982 1162 3241 history1 3 5 1 1 history1 0.7 7.0 20.2	  history2   history2  history2 
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7415	1070 1150 1270 2060 <b>limit/base</b> >15 >20 <b>limit/base</b> >20 >30 <b>limit/base</b>	1014 998 1177 3448 current 3 2 0 current 0.2 5.3 17.5 current	1095 982 1162 3241 history1 3 5 1 history1 0.7 7.0 20.2 history1	  history2  history2  history2   

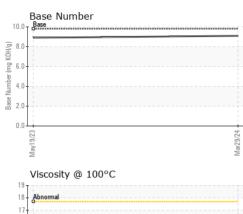


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> 13 Abnormal 12 11 May19/23

# **OIL ANALYSIS REPORT**

VISUAL



						,	,
	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	
- 24	Appearance	scalar	*Visual	NORML	NORML	NORML	
Mar29/24	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
)°C	Free Water	scalar		>0.2	NEG	NEG	
			*Visual		NEG	NEG	
	FLUID PROPE	RTIES	method				history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.4	
	GRAPHS						
	Ferrous Alloys						
An of the second se	Non-ferrous Metal	ls		Ma29/24			
	Viscosity @ 100°C	2		0.01 Mar29)24	Base Number		
	0 15 3 14 13 2 12 11			(b)HOX four 4.0 Base group 4.0 6.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	23		24
	May19/23			Mar29/24	May19/23		Mar29,24
Laboratory Sample No. Lab Number Unique Number Test Package To discuss this sample report * - Denotes test methods that Statements of conformity to sp	: 10956524 : FLEET ; contact Customer Serv are outside of the ISO 1	Recei Teste Diagn vice at 1-8	ved : 03 d : 03 losed : 03 00-237-1369 pe of accrea	3 Apr 2024 3 Apr 2024 9 Apr 2024 - W 9. <i>litation.</i>	es Davis	11888 & 1186 Chip Contac mdoy	hippewa Falls HC 3 30th Avenue pewa Falls, WI US 54729 tt: Mandi Doyle le@gflenv.com T: F:

Submitted By: See also GFL904,A,B,C, 927, 938 - Andy Kane Page 2 of 2