

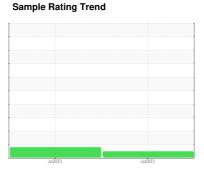
# **OIL ANALYSIS REPORT**

EX0358

Component

Rear Diesel Engine

PETRO CANADA DURON SHP 15W40 (24 LTR)





### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

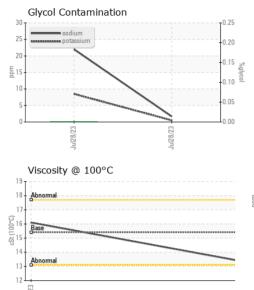
### **Fluid Condition**

The condition of the oil is acceptable for the time in service.

N SHP 15W40 (	24 LTR)		Jul2023	Jul2023		
SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0087357	GFL0087357	
Sample Date		Client Info		28 Jul 2023	28 Jul 2023	
Machine Age	hrs	Client Info		22000	22000	
Oil Age	hrs	Client Info		500	500	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ABNORMAL	
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
-uel		WC Method	>5	<1.0	<1.0	
WEAR METAI	LS	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185(m)	>100	6	14	
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	
Nickel	ppm	ASTM D5185(m)	>4	0	<1	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)	>3	<1	0	
Aluminum	ppm	ASTM D5185(m)	>20	2	4	
_ead	ppm	ASTM D5185(m)	>40	<1	4	
Copper	ppm	ASTM D5185(m)	>330	3	2	
Γin	ppm	ASTM D5185(m)	>15	0	<1	
Antimony	ppm	ASTM D5185(m)		0	0	
/anadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	4	41	
Barium	ppm	ASTM D5185(m)	0	0	0	
Molybdenum	ppm	ASTM D5185(m)	60	66	55	
Manganese	ppm	ASTM D5185(m)	0	<1	<1	
Magnesium	ppm	ASTM D5185(m)	1010	1013	41	
Calcium	ppm	ASTM D5185(m)	1070	1156	2658	
Phosphorus	ppm	ASTM D5185(m)	1150	1076	1104	
Zinc	ppm	ASTM D5185(m)	1270	1228	1261	
Sulfur	ppm	ASTM D5185(m)	2060	2476	2983	
ithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINA	NTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	5	4	
Sodium	ppm	ASTM D5185(m)		22	2	
Potassium	ppm	ASTM D5185(m)	>20	8	<1	
Glycol	%	ASTM D7922*		0.0	NEG	
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	<b>▲</b> 3.4	
Nitration	Abs/cm	ASTM D7624*	>20	6.5	12.9	
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.4	28.4	
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	13.1	17.4	



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VISUAL		method	limit/base	current	history1	history2
Emulsified Water Free Water	scalar scalar	Visual* Visual*	>0.2	NEG NEG	NEG NEG	
FLUID PROPEI	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.3	16.1	
GRAPHS						
Severe  Abnormal  Aluminum (ppm)  Severe  Abnormal  Abnormal  Abnormal  Abnormal  Abnormal  Abnormal  Abnormal			90. 80. 70. 60. 40. 30. 10. 20. 35. 45. 40. 35. 35. 36. 20. 20. 35.	Lead (ppm) Severe Abnormal Chromium (p	opm)	Jul28/23
Copper (ppm)  400 350 250 250 250			10 · 5 · 60 · 50 · 60 · 60 · 60 · 60 · 60	Silicon (ppm)		JuZ8/23
Viscosity @ 100°C			30. 20. 10. 50. 6.0. 5.0. 4.0. 2.0. 1.0.	Abnormal  Scot %  Severe		70/28/23
Jul28/23			Jul28/23	Jul28/23		Jul28/23



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5620391

: GFL0087357 : 02575340

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill Received

Diagnosed Diagnostician : Wes Davis Test Package : MOB 1 ( Additional Tests: Glycol )

: 11 Aug 2023 : 11 Aug 2023

17125 Lafleche Road, Moose Creek, ON CA K0C 1W0 Contact: Charles Bergeron cbergeron@gflenv.com T: (613)538-4853

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.