

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL



# DEAWOO EX0192

Component

Diesel Engine

PETRO CANADA DURON HP 15W40 (--- G

## 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

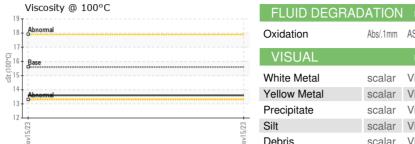
### **Fluid Condition**

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

L)				Nov2023		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0096339		
Sample Date		Client Info		15 Nov 2023		
Machine Age	hrs	Client Info		75160		
Oil Age	hrs	Client Info		1000		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method	7 U.L	NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
			>100			
ron	ppm	ASTM D5185(m)		25		
Chromium	ppm	( /	>20	1		
Nickel	ppm	ASTM D5185(m)	>4	0		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)	>3	<1		
Aluminum	ppm	ASTM D5185(m)	>20	2		
_ead	ppm	ASTM D5185(m)	>40	4		
Copper	ppm	ASTM D5185(m)	>330	16		
Γin	ppm	ASTM D5185(m)	>15	<1		
Antimony	ppm	ASTM D5185(m)		0		
/anadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	29		
Barium	ppm	ASTM D5185(m)	0	<1		
Molybdenum	ppm	ASTM D5185(m)	60	57		
Manganese	ppm	ASTM D5185(m)	0	0		
Magnesium	nnm	AOTA DELOC	1010			
	ppm	ASTM D5185(m)	1010	852		
Calcium	ppm	ASTM D5185(m) ASTM D5185(m)		852 1174		
			1070			
Phosphorus	ppm	ASTM D5185(m)	1070 1150	1174		
Phosphorus Zinc	ppm ppm	ASTM D5185(m) ASTM D5185(m)	1070 1150	1174 943		
Phosphorus Zinc Sulfur	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1070 1150 1270	1174 943 1128		
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1070 1150 1270	1174 943 1128 2582		
Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1070 1150 1270 2060	1174 943 1128 2582 <1		
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1070 1150 1270 2060	1174 943 1128 2582 <1		   history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)  MSTM D5185(m)  Method  ASTM D5185(m)	1070 1150 1270 2060	1174 943 1128 2582 <1 current		   history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)  MSTM D5185(m)  Method  ASTM D5185(m)  ASTM D5185(m)	1070 1150 1270 2060 limit/base >25	1174 943 1128 2582 <1 current 5	   history1	   history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)  Method  ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1070 1150 1270 2060 limit/base >25 >20	1174 943 1128 2582 <1 current 5 5	   history1	   history2
Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)  METHOD  METHOD  ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1070 1150 1270 2060 limit/base >25 >20 limit/base	1174 943 1128 2582 <1 current 5 5 2	   history1	   history2



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FLUID DEGRAL	JATION	method			history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	13.3		
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
<b>Emulsified Water</b>	scalar	Visual*	>0.2	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	13.6		

Vis	sc @ 100°C	cSt	ASTM D7279(m)	15.6		13.6		
(	GRAPHS							
	ron (ppm)					Lead (ppm)	)	
250	Severe				100 T 80 T	Severe		
E 150 - 1	Abnormal				E 60	Abnormal		
50-	Abriotitiai December 2				20 -	Abrioritai		-
0					0	m		3
Mout E /92	0 1 7			Nov15/23		Nov15/23		Nov15/23
	: Aluminum (ppm)			Z		≥ Chromium	(ppm)	2
50 T	Severe				50 T	Severe	(PP)	
40+					40 + = 30 +	0		
E 30 - 1	Abnormal			-	E 30 -	Abnormal		
10					10			
Nov1E/22	77/0			Nov15/23		Nov15/23 -		Nov15/23 -
				Nov				Nov
400	Copper (ppm)				80 <sub>T</sub>	Silicon (ppn	n)	
300 -	Severe Abmormal				60 -			
틆 200					튎40-	Abnormal		
100					20 -	A.D.IIOIIII.		
⊥ <sub>0</sub>	57			73	01	723		23
New1E/22				Nov15/23		Nov15/23		Nov15/23
	iscosity @ 100°C/					Soot %		
20	Abnormal				6.0 T	Severe		
(18 - 0 (100 °C)	Base				** 4.0 <del>*</del> *** 2.0 <b>*</b>	Abnormal		
र्खें 14-	Abnormal				<sup>SS</sup> 2.0 −			
12	2				0.0	m		
Moved E /92	77			Nov15/23		Nov15/23		Nov15/23
N				ž		ž		Š



**CALA** ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5695812

: GFL0096339 : 02602727

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received

Diagnosed Diagnostician : Wes Davis

Test Package : MOB 1 (Additional Tests: Visual)

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. 740 Pine Street South

CA P4N 8S9 Contact: Martin St-Pierre martinstpierre@gflenv.com T: (705)264-8700

GFL Environmental - 527

Validity of results and interpretation are based on the sample and information as supplied.

: 13 Dec 2023

: 13 Dec 2023

Report Id: GFL527 [WCAMIS] 02602727 (Generated: 12/13/2023 15:46:19) Rev: 1

Contact/Location: Martin St-Pierre - GFL527

Timmins, ON

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