

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 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	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0110186	GFL0085574	GFL0060473
Sample Date		Client Info		05 Mar 2024	17 Oct 2023	27 Feb 2023
Machine Age	hrs	Client Info		4863	4125	2560
Oil Age	hrs	Client Info		600	600	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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 METALS	S	method	limit/base	current	history1	history2
Iron	nnm	ASTM D5185m	>100	13	3	7
Chromium	nnm	ASTM D5185m	>20	-1	-1	-1
Nickel	ppm	ASTM D5185m	>4	2	<1	<1
Titanium	nnm	ASTM D5185m	T	0	0	<1
Silver	npm	ASTM D5185m	>3	0	<1	<1
Aluminum	nnm	ASTM D5185m	>20	3	2	1
Lead	nnm	ASTM D5185m	>40	0	~1	0
Conner	nnm	ASTM D5185m	>330	2	<1	10
Tin	ppm	ASTM D5185m	>15	-1	1	<1
Vanadium	ppm	ASTM D5185m	210	<1	0	<1
Vanadiani	PPIII				0	
Cadmium	maa	ASTM D5185m		0	0	0
	ppm	ASTM D5185m	limit/base	0 current	0 history1	0 history2
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
Cadmium ADDITIVES Boron Parium	ppm ppm	ASTM D5185m method ASTM D5185m	limit/base 0	0 current <1	0 history1 3	0 history2 3
Cadmium ADDITIVES Boron Barium	ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	limit/base 0 0	0 current <1 0	0 history1 3 0	0 history2 3 0
Cadmium ADDITIVES Boron Barium Molybdenum Manganoco	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	0 current <1 0 63	0 history1 3 0 59	0 history2 3 0 52
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magneeium	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	0 current <1 0 63 <1 941	0 history1 3 0 59 <1 962	0 history2 3 0 52 1 822
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calaium	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070	0 current <1 0 63 <1 941 1070	0 history1 3 0 59 <1 962 1061	0 history2 3 0 52 1 822 1026
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phoephorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150	0 current <1 0 63 <1 941 1070 958	0 history1 3 0 59 <1 962 1061 1051	0 history2 3 0 52 1 822 1026 859
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270	0 current <1 0 63 <1 941 1070 958 1205	0 history1 3 0 59 <1 962 1061 1051 1309	0 history2 3 0 52 1 822 1026 859 1079
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060	0 current <1 0 63 <1 941 1070 958 1205 2819	0 history1 3 0 59 <1 962 1061 1051 1309 3127	0 history2 3 0 52 1 822 1026 859 1079 2789
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060	0 current <1 0 63 <1 941 1070 958 1205 2819	0 history1 3 0 59 <1 962 1061 1051 1309 3127 biotory1	0 history2 3 0 52 1 822 1026 859 1079 2789
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060	0 current <1 0 63 <1 941 1070 958 1205 2819 current	0 history1 3 0 59 <1 962 1061 1051 1051 1309 3127 history1	0 history2 3 0 52 1 822 1026 859 1079 2789 history2
Cadmium ADDITIVES Boron Barium Molybdenum Magnesiem Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base 0 0 0 60 0 1010 1070 1150 1270 2060 s>25	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 12	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Datasajum	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	limit/base 0 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3
Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 6	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >20 limit/base	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 6 current	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7 history1	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2 2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m	limit/base 0 0 60 1010 1070 1150 1270 2060 limit/base >20 limit/base >3	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 6 current 0.3	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7 history1 0.2	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2 history2 0.2
Cadmium ADDITIVES 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 Method ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >20	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 4 6 current 0.3 8.7	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7 history1 0.2 6.8	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2 2 history2 0.2 7.1
Cadmium ADDITIVES 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 Method ASTM D5185m ASTM D5185m	imit/base 0 0 60 0 1010 1070 1150 1270 2060 imit/base >20 imit/base >3 >20 >30	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 6 current 0.3 8.7 19.6	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7 0.2 6.8 19.2	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2 2 history2 0.2 7.1 18.7
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	limit/base 0 0 60 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20 >30	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 4 6 current 0.3 8.7 19.6 current	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7 history1 0.2 6.8 19.2 history1	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2 bistory2 0.2 7.1 18.7 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	imit/base 0 0 0 1010 1070 1150 1270 2060 imit/base >25 1 >20 imit/base >3 >20 imit/base >3 >20 imit/base >3 >20 >30 imit/base	0 current <1 0 63 <1 941 1070 958 1205 2819 current 4 4 4 6 current 0.3 8.7 19.6 current 16.0	0 history1 3 0 59 <1 962 1061 1051 1309 3127 history1 5 13 7 history1 0.2 6.8 19.2 history1 15.0	0 history2 3 0 52 1 822 1026 859 1079 2789 history2 4 3 2 2 history2 0.2 7.1 18.7 history2 14.3



8 May23/22

Aug21/22 .

OIL ANALYSIS REPORT

VISUAL



		~	White Metal	scala	r *Visual	NONE	NONE	NONE	NONE
			Yellow Meta	al scala	r *Visual	NONE	NONE	NONE	NONE
			Precipitate	scala	r "Visual	NONE	NONE	NONE	NONE
			Silt	scala		NONE	NONE	NONE	NONE
			Debris	scala		NONE	NONE	NONE	NONE
22	23 -	23 -		scala	r *Visual	NORM	NORM	NORM	NORM
lov30/	-eb27/	Det17/		scala	r *Vicual	NORM	NORML	NORM	NORM
~		-	Emulsified \	Nator scala	r *Visual		NEG	NEG	NEG
°C			Free Water	scala	r *Visual	20.L	NEG	NEG	NEG
			FI UID F	PROPERTIES	S method	limit/base	e current	historv1	history2
			Visc @ 100	°C cSt	ASTM D44	15 15.4	13.2	13.6	13.2
		1	GRAPH	S					
			Ferrous A	lloys					
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ov30/2	sb27/2	ct17/2	30 - 30 - newspace chro	mium el					
N	ű	0	25						
			<u>۾</u> 20						
			15						
			10						
			5		\sim				
			52 0	22	23	24			
			Aay23,	Vav30,	Feb27, Oct17,	Mar5,			
			≥ ⊲ Non-ferro	us Metals					
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			200 +	per					
			tin	\mathbf{X}					
			150-	\sim					
			B 100						
			50-						
			0						
			23/22	30/22	17/23	ar5/24			
			May	Nov	Pet 0c	Z			
			Viscosity (@ 100°C	-,		Base Numbe	r	
			Abnormal			1	0.0 Base		
			18 Aphorma			(B)	8.0		-
			G Base			KOH			
			00_14 -			er (m)	6.0		
			경 12 Abnormal		-1	Numb	4.0		
						Base	2.0-		
			10						
			22 8	22	23	24		22+	23+
			1ay23/	lov30/	Feb27, 0ct17/	Mar5/	/ay23/ wg21/	vov30)	0ct17, Mar5/
-			2 4			NO 6	< <		
	_	Laboratory	ry : WearCheck L	JSA - 501 Madis	son Ave., Ca	ary, NC 27513	GFL Env	vironmental - 660 - 1	Lynchburg Hauling
	B	Sample No. Lab Number Unique Number	ber :06111866	Hec Tes	ted :	07 Iviai 2024 08 Mar 2024		24101	Lynchburg VA
TESTING LABOR	ATORY		nber : 10915363	Diag	gnosed	08 Mar 2024 -	Wes Davis		US 24501
Certificate	L2367	Test Packa	age : FLEET	0	000 00-			Contact:	Delbert Beasley
To discu	uss this	sample rep	port, contact Custor	ner Service at 1	-800-237-13	369. reditation		dbeasley@cou	ntyrecycling.net
Stateme	ents of	conformity i	to specifications are	based on the s	imple accep	eananon. Mance decisio	n rule (JCGM 10	1 16:2012)	. (+34)003-3998 F:

Report Id: GFL660 [WUSCAR] 06111866 (Generated: 03/08/2024 12:42:47) Rev: 1

Submitted By: ? MOB2FLEET

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