

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 928043

Component Diesel Engine

Fluid 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

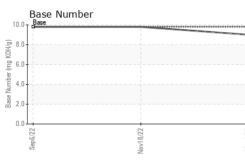
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

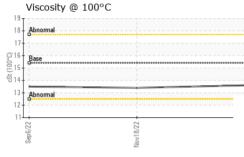
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0071284	GFL0060640	GFL0060623
Sample Date		Client Info		04 May 2023	18 Nov 2022	06 Sep 2022
Machine Age	hrs	Client Info		15652	14436	13833
Oil Age	hrs	Client Info		15652	14436	13833
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	9	9	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	<1	0
Lead	ppm	ASTM D5185m	>40	<1	2	3
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		and the second	11			biete m.O
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	0	<1	history1 5	nistory∠ 4
	ppm ppm					
Boron		ASTM D5185m	0	<1	5	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	5 0	4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 65	5 0 57	4 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 65 <1	5 0 57 <1	4 0 60 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 65 <1 1047	5 0 57 <1 930	4 0 60 <1 956
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 65 <1 1047 1178	5 0 57 <1 930 1080	4 0 60 <1 956 1103
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	<1 0 65 <1 1047 1178 1092	5 0 57 <1 930 1080 957	4 0 60 <1 956 1103 997
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	<1 0 65 <1 1047 1178 1092 1325	5 0 57 <1 930 1080 957 1187	4 0 60 <1 956 1103 997 1215
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 65 <1 1047 1178 1092 1325 3762	5 0 57 <1 930 1080 957 1187 3214	4 0 60 <1 956 1103 997 1215 3153
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	<1 0 65 <1 1047 1178 1092 1325 3762 current	5 0 57 <1 930 1080 957 1187 3214 history1	4 0 60 <1 956 1103 997 1215 3153 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 1010 1070 1150 1270 2060	<1 0 65 <1 1047 1178 1092 1325 3762 current 4	5 0 57 <1 930 1080 957 1187 3214 history1 4	4 0 60 <1 956 1103 997 1215 3153 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 65 <1 1047 1178 1092 1325 3762 current 4 5	5 0 57 <1 930 1080 957 1187 3214 history1 4 3	4 0 60 <1 956 1103 997 1215 3153 history2 4 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	<1 0 65 <1 1047 1178 1092 1325 3762 current 4 5 0	5 0 57 <1 930 1080 957 1187 3214 history1 4 3 0	4 0 60 <1 956 1103 997 1215 3153 history2 4 3 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 65 <1 1047 1178 1092 1325 3762 current 4 5 0	5 0 57 <1 930 1080 957 1187 3214 history1 4 3 0 bistory1	4 0 60 <1 956 1103 997 1215 3153 history2 4 3 <1 history2
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	<1 0 65 <1 1047 1178 1092 1325 3762 <i>current</i> 4 5 0 <i>current</i> 0.3	5 0 57 <1 930 1080 957 1187 3214 history1 4 3 0 history1 0.4	4 0 60 <1 956 1103 997 1215 3153 history2 4 3 <1 history2 0.4
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	<1 0 65 <1 1047 1178 1092 1325 3762 <i>current</i> 4 5 0 <i>current</i> 0.3 7.0	5 0 57 <1 930 1080 957 1187 3214 history1 4 3 0 history1 0.4 8.1	4 0 60 <1 956 1103 997 1215 3153 history2 4 3 <1 53 4 3 <1 history2 0.4 8.4
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	<1 0 65 <1 1047 1178 1092 1325 3762 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 0 57 <1 930 1080 957 1187 3214 history1 4 3 0 history1 0.4 8.1 20.6 history1	4 0 60 <1 956 1103 997 1215 3153 history2 4 3 <1 kistory2 0.4 8.4 20.8
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 ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	<1 0 65 <1 1047 1178 1092 1325 3762 <u>current</u> 4 5 0 <u>current</u> 0.3 7.0 18.2	5 0 57 <1 930 1080 957 1187 3214 history1 4 3 0 history1 0.4 8.1 20.6	4 0 60 <1 956 1103 997 1215 3153 history2 4 3 <1 history2 0.4 8.4 20.8 history2



OIL ANALYSIS REPORT

VISUAL





President Lizaria	Laboratory Sample No. Lab Number Unique Number Test Package	: WearCheck USA - : GFL0071284 : 05941890 : 10632502 : FLEET contact Customer Ser	501 Madia Received Diagnos Diagnosi	d : 05 3 ed : 06 3 tician : We	ry, NC 2751 Sep 2023 Sep 2023 s Davis		vironmental - 93 W144 S6	2 - Muskego H 400 College C Muskego, V US 5315 rian Schloman
		12	Nov18/22		2. 0.		Nav18/22	
		Base 15 37 14 13 Abnormal			Base Number (mg KOH(g)	0-		
		19 - Abnormal			10. (B _{HD} 8.	Base		
		Viscosity @ 100°	O Nov18/22		May4,/23	Base Number	-	
		22- 0						
		6- 6- 4-						
		Non-ferrous Meta	115					
		Sep6/222	Nov18/22		May4/23			
		2 - ***********************						
Nov18/22		8 - nickel						
22		Ferrous Alloys						
		Visc @ 100°C GRAPHS	cSt	ASTM D445	15.4	13.6	13.4	13.5
		Free Water	scalar ERTIES	*Visual method	limit/base	NEG current	NEG history1	NEG history2
2	2	Odor Emulsified Water	scalar	*Visual *Visual	NORML >0.2	NORML NEG	NORML NEG	NORML NEG
Nov18/22	May4/23	Sand/Dirt Appearance	scalar scalar	*Visual *Visual	NONE NORML	NONE	NORML	NONE
		Debris	scalar	*Visual	NONE	NONE	NONE	NONE
		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
		Yellow Metal Precipitate Silt	scalar	*Visual *Visual *Visual	NONE NONE	NONE NONE NONE	NONE NONE NONE	NONE NONE NONE

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Submitted By: BECKY FLETCHER

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