

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 913153 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.

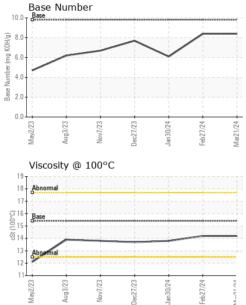
Fluid Condition

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

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0101845	GFL0101894	GFL0101974	
Sample Date		Client Info	21 Mar 2024 27 Feb 2024		30 Jan 2024		
Machine Age	hrs	Client Info	2742 2586		2409		
Oil Age	hrs	Client Info	333		177	505	
Oil Changed		Client Info	Not Changd No		Not Changd	Changed	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>80	3	2	7	
Chromium	ppm	ASTM D5185m	>5	0	0	0	
Nickel	ppm	ASTM D5185m	>2	0	0	<1	
Titanium	ppm	ASTM D5185m		<1	<1	<1	
Silver	ppm	ASTM D5185m	>3	0	0	<1	
Aluminum	ppm	ASTM D5185m	>30	3	3	7	
Lead	ppm	ASTM D5185m	>30	0	0	<1	
Copper	ppm	ASTM D5185m	>150	0	<1	<1	
Tin	ppm	ASTM D5185m	>5	<1	0	<1	
Vanadium	ppm	ASTM D5185m		0	0	<1	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 5	history1 6	history2 3	
	ppm ppm						
Boron		ASTM D5185m	0	5	6	3	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	5 0	6 0	3 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 0 53	6 0 56	3 0 58	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 0 53 <1	6 0 56 <1	3 0 58 <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	5 0 53 <1 925	6 0 56 <1 922	3 0 58 <1 917	
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	5 0 53 <1 925 1056	6 0 56 <1 922 1048	3 0 58 <1 917 1034	
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	5 0 53 <1 925 1056 958	6 0 56 <1 922 1048 1037	3 0 58 <1 917 1034 1077	
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	5 0 53 <1 925 1056 958 1185	6 0 56 <1 922 1048 1037 1233	3 0 58 <1 917 1034 1077 1273	
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	0 0 60 0 1010 1070 1150 1270 2060	5 0 53 <1 925 1056 958 1185 3324	6 0 56 <1 922 1048 1037 1233 3025	3 0 58 <1 917 1034 1077 1273 3052	
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	0 0 60 1010 1070 1150 1270 2060	5 0 53 <1 925 1056 958 1185 3324 current	6 0 56 <1 922 1048 1037 1233 3025 history1	3 0 58 <1 917 1034 1077 1273 3052 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	5 0 53 <1 925 1056 958 1185 3324 current 4	6 0 56 <1 922 1048 1037 1233 3025 history1 4	3 0 58 <1 917 1034 1077 1273 3052 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 ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >20	5 0 53 <1 925 1056 958 1185 3324 current 4 0	6 0 56 <1 922 1048 1037 1233 3025 history1 4 <1	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1	
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 0 1010 1070 1150 1270 2060 limit/base >20	5 0 53 <1 925 1056 958 1185 3324 current 4 0 4	6 0 56 <1 922 1048 1037 1233 3025 history1 4 < 3	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1 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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 200 200 200	5 0 53 <1 925 1056 958 1185 3324 current 4 0 4 0 4 Current	6 0 56 <1 922 1048 1037 1233 3025 history1 4 <1 3 history1	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1 1 11 11 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 TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 20 limit/base	5 0 53 <1 925 1056 958 1185 3324 <i>current</i> 4 0 4 <i>current</i> 0 2	6 0 56 <1 922 1048 1037 1233 3025 history1 4 <1 3 history1 0.2	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1 1 11 history2 0.3	
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> >20 <i>limit/base</i> >20	5 0 53 <1 925 1056 958 1185 3324 <i>current</i> 4 0 4 <i>current</i> 0.2 7.0	6 0 56 <1 922 1048 1037 1233 3025 history1 4 <1 3 history1 0.2 6.4	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1 11 11 history2 0.3 9.0	
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 D5185m	0 0 0 1010 1070 1150 1270 2060 2060 200 200 200 320 320 33 200 330	5 0 53 <1 925 1056 958 1185 3324 <u>current</u> 4 0 4 <u>0</u> 4 0 2 7.0 18.7	6 0 56 <1 922 1048 1037 1233 3025 history1 4 <1 3 <u>history1</u> 0.2 6.4 18.2	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1 11 11 history2 0.3 9.0 19.2	
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 2060 200 200 200 200 200 200	5 0 53 <1 925 1056 958 1185 3324 <i>current</i> 4 0 4 0 4 <i>current</i> 0.2 7.0 18.7	6 0 56 <1 922 1048 1037 1233 3025 history1 4 <1 3 history1 0.2 6.4 18.2 history1	3 0 58 <1 917 1034 1077 1273 3052 history2 4 1 11 11 history2 0.3 9.0 19.2 history2	



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ANAR Sam	Laboratory Sample No. Lab Number	EZICIÓNEW : WearCheck USA - 50 : GFL0101845 : 06126336	01 Madiso Recei Teste	ved : 22	, NC 27513 Mar 2024 Mar 2024 Mar 2024		vironmental - 89 1904 North Bro	4 - Ada Hauling
		13 12 11 11 11 12 11 11 11 12 11 12 11 12 11 12 11 12 12	7/23	0/24	0.0	May2/23 Aug3/23	7/23 7/23	7/24
		Base Base 3 15 3 14			6.0 6.0 8386 Number (mg KOH/6)			
		18 - Abnormal				-	\wedge	
		الالالالالالالالالالالالالالالالالالال		Jan, Feb2	2	Base Number		
		May2/23	ec27/23	an30/24	lar21/24			
		4 2						
		8 and a second s						
		Non-ferrous Meta			W			
		May2/23	Jec27/23	Jan 30/24	Mar21/24			
		15 10						
Dec27/23 Jan30/24	Feb27/24	35 30 25						
		GRAPHS Ferrous Alloys		1 1				
		Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.2	13.8
		Free Water FLUID PROPE	scalar RTIES	*Visual method	limit/base	NEG current	NEG history1	NEG history2
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Dec27/23 Jan30/24	Feb27/24 Mar21/24	Appearance Odor	scalar scalar	*Visual *Visual	NORML NORML	NORML NORML	NORML NORML	NORML NORML
		Debris Sand/Dirt	scalar scalar	*Visual *Visual	NONE	NONE NONE	NONE NONE	NONE
		Silt	scalar	*Visual	NONE	NONE	NONE	NONE
\sim		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
\sim		White Metal Yellow Metal	scalar scalar	*Visual *Visual	NONE	NONE NONE	NONE NONE	NONE NONE

Submitted By: Johnny Spurlock

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