

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

821083

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.

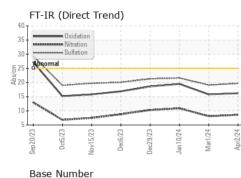
Fluid Condition

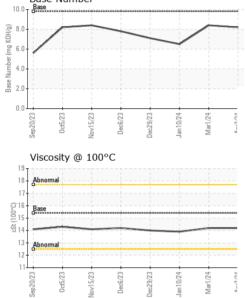
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111938	GFL0111969	GFL0102577
Sample Date		Client Info		02 Apr 2024	01 Mar 2024	10 Jan 2024
Machine Age	hrs	Client Info		1738	1681	1421
Oil Age	hrs	Client Info		600	0	600
Oil Changed		Client Info		Changed	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	>100	12	10	16
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	2	4
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	1	<1	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 <1	history2 0
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	<1	<1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	<1 0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 62	<1 0 57	0 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 62 <1	<1 0 57 0	0 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 62 <1 1027	<1 0 57 0 1056	0 0 60 <1 1018
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 62 <1 1027 1136	<1 0 57 0 1056 1169	0 0 60 <1 1018 1087
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 62 <1 1027 1136 1022	<1 0 57 0 1056 1169 1044	0 0 60 <1 1018 1087 1082
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 62 <1 1027 1136 1022 1340	<1 0 57 0 1056 1169 1044 1334	0 0 60 <1 1018 1087 1082 1378
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	<1 0 62 <1 1027 1136 1022 1340 3763	<1 0 57 0 1056 1169 1044 1334 3089	0 0 60 <1 1018 1087 1082 1378 3209
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 0 1010 1070 1150 1270 2060	<1 0 62 <1 1027 1136 1022 1340 3763 current	<1 0 57 0 1056 1169 1044 1334 3089 history1	0 0 60 <1 1018 1087 1082 1378 3209 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 0 1010 1070 1150 1270 2060 kimit/base >25	<1 0 62 <1 1027 1136 1022 1340 3763 <u>current</u> 3	<1 0 57 0 1056 1169 1044 1334 3089 history1 3	0 0 60 <1 1018 1087 1082 1378 3209 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	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	<1 0 62 <1 1027 1136 1022 1340 3763 <u>current</u> 3 4	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 0 bistory1	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25	<1 0 62 <1 1027 1136 1022 1340 3763 <u>current</u> 3 4 2	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 0 history1 0.4	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	<1 0 62 <1 1027 1136 1022 1340 3763 <i>current</i> 3 4 2 <i>current</i>	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 0 bistory1	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	<1 0 62 <1 1027 1136 1022 1340 3763 <i>current</i> 3 4 2 <i>current</i> 0.4	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 0 history1 0.4	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3 history2 0.6
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>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	<1 0 62 <1 1027 1136 1022 1340 3763 <i>current</i> 3 4 2 <i>current</i> 0.4 8.6	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 3 0 history1 0.4 8.1	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3 history2 0.6 10.9
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 imit/base >25 imit/base >3 >20	<1 0 62 <1 1027 1136 1022 1340 3763 current 3 4 2 2 current 0.4 8.6 19.7	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 0 history1 0.4 8.1 19.1	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3 history2 0.6 10.9 21.6
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 33 220 330 20 330	<1 0 62 <1 1027 1136 1022 1340 3763 Current 3 4 2 Current 0.4 8.6 19.7 Current	<1 0 57 0 1056 1169 1044 1334 3089 history1 3 3 3 0 history1 0.4 8.1 19.1 history1	0 0 60 <1 1018 1087 1082 1378 3209 history2 4 3 3 3 history2 0.6 10.9 21.6 history2



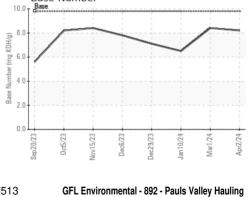
OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.2	13.9
GRAPHS						
Ferrous Alloys						
iron						
nickel						
•						
·						
<u> </u>	23-	/24 /24	24			
Sep 20/23 Oct5/23 Nov15/23	Dec6/23 Dec29/23	Jan 10/24 Mar 1/24	Apr2/24			
Non-ferrous Meta	als					
copper]						
assessment []]						
6 -						
		and the second second	\leq			
	23-23	24	24			
Sep20/23 0ct5/23 Nov15/23	Dec6/23 Dec29/23	Jan 10/24 Mar1/24	Apr2/24			
∽ ≥ Viscosity @ 100°		7		Paco Number		
T			10.0	Base Number		******
Abnormal						

Besc29/23 Apri2/24 Ap



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : GFL0111938 1910 S CHICKASAW STREET Received : 04 Apr 2024 Lab Number : 06138395 Tested : 05 Apr 2024 Pauls Valley, OK Unique Number : 10963203 : 05 Apr 2024 - Wes Davis US 73075 Diagnosed Test Package : FLEET Contact: Tony Graham Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. tgraham2@wcamerica.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Contact/Location: Tony Graham - GFL892 Page 2 of 2