

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend





DIAGNOSIS

Recommendation Resample at the next service interval to monitor.

Wear

Machine Id 811043 Component Diesel Engine

Fluid

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

PETRO CANADA DURON SHP 15W40 (--- GAL)

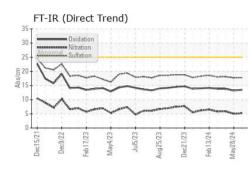
Fluid Condition

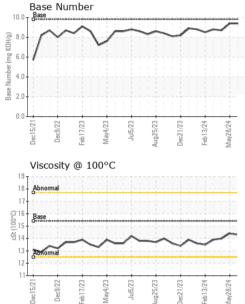
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	limit/base	current	nistory i	nistory2
Sample Number		Client Info		GFL0122998	GFL0123030	GFL0115356
Sample Date		Client Info		24 Jun 2024	28 May 2024	14 Mar 2024
Machine Age	hrs	Client Info		7711	7509	6987
Oil Age	hrs	Client Info		202	522	60
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
-				Noninae		
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	3	3	10
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	4
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	0	<1	2
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m	210	0	<1	<1
Cadmium		ASTM D5185m		0	<1	<1
	ppm	AGTIM DJ TOJII		U		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	8	17	17
Boron Barium	ppm ppm	ASTM D5185m		8 0	17 <1	17 0
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	8 0 60	17 <1 61	17 0 66
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60 0	8 0	17 <1 61 0	17 0 66 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	8 0 60 0 956	17 <1 61	17 0 66 <1 1008
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	8 0 60 0	17 <1 61 0	17 0 66 <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	8 0 60 0 956	17 <1 61 0 929 1019 1055	17 0 66 <1 1008
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	8 0 60 0 956 1123	17 <1 61 0 929 1019	17 0 66 <1 1008 1220
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	8 0 60 0 956 1123 1070	17 <1 61 0 929 1019 1055	17 0 66 <1 1008 1220 1152
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	8 0 60 956 1123 1070 1253	17 <1 61 0 929 1019 1055 1170	17 0 66 <1 1008 1220 1152 1302
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	8 0 60 956 1123 1070 1253 3663	17 <1 61 0 929 1019 1055 1170 2821	17 0 66 <1 1008 1220 1152 1302 3497
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	8 0 60 956 1123 1070 1253 3663 current	17 <1 61 0 929 1019 1055 1170 2821 history1	17 0 66 <1 1008 1220 1152 1302 3497 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 limit/base	8 0 60 956 1123 1070 1253 3663 current	17 <1 61 0 929 1019 1055 1170 2821 history1 5	17 0 66 <1 1008 1220 1152 1302 3497 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	8 0 60 956 1123 1070 1253 3663 <u>current</u> 5 70	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25 -20	8 0 60 956 1123 1070 1253 3663 current 5 70 2 2 current	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 2 history1	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 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 2060 225 >25 >20 limit/base >3	8 0 60 956 1123 1070 1253 3663 <i>current</i> 5 70 2 <i>current</i> 0.1	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 2 history1 0.1	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	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 >20 imit/base >3 >20	8 0 60 956 1123 1070 1253 3663 <i>current</i> 5 70 2 <i>current</i> 0.1 5.2	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 history1 0.1 5.0	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 history2 0.2 5.9
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >3 >20	8 0 60 956 1123 1070 1253 3663 <i>current</i> 5 70 2 2 <i>current</i> 0.1 5.2 17.8	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 history1 0.1 5.0 17.7	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 history2 0.2 5.9 18.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	8 0 60 956 1123 1070 1253 3663 <i>current</i> 5 70 2 <i>current</i> 0.1 5.2	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 history1 0.1 5.0	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 history2 0.2 5.9
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >3 >20	8 0 60 956 1123 1070 1253 3663 <i>current</i> 5 70 2 2 <i>current</i> 0.1 5.2 17.8	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 history1 0.1 5.0 17.7	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 history2 0.2 5.9 18.1
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 TS ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >3 >20 30 imit/base	8 0 60 956 1123 1070 1253 3663 <i>current</i> 5 70 2 <i>current</i> 0.1 5.2 17.8	17 <1 61 0 929 1019 1055 1170 2821 history1 5 7 2 2 history1 0.1 5.0 17.7 history1	17 0 66 <1 1008 1220 1152 1302 3497 history2 5 10 6 kistory2 0.2 5.9 18.1 kistory2



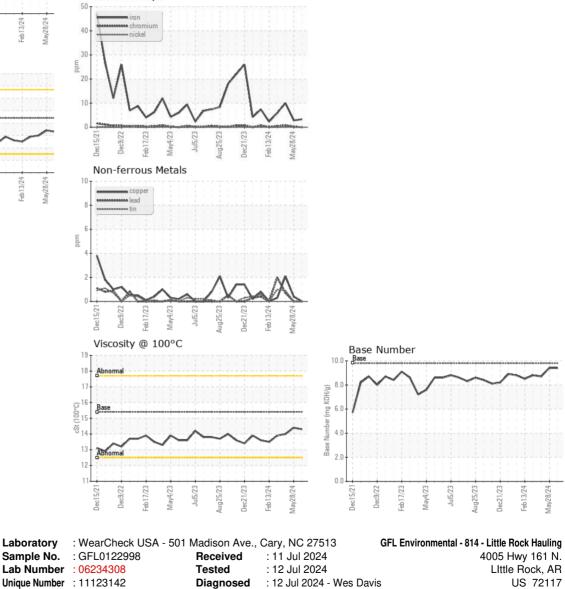
OIL ANALYSIS REPORT





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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.4	14.0
GRAPHS						

Ferrous Alloys



Test Package : FLEET

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate 12367

Submitted By: Nicole Walls Page 2 of 2

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