

# **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



## Machine Id

# 912082

#### Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (10 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.

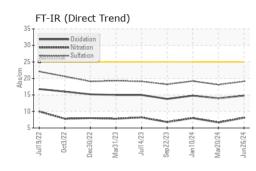
### Fluid Condition

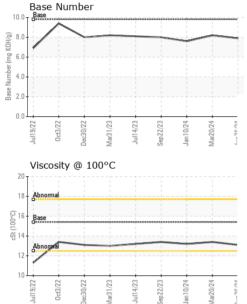
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0095346	GFL0095359	GFL0095369
Sample Date		Client Info		26 Jun 2024	20 Mar 2024	10 Jan 2024
Machine Age	hrs	Client Info		4601	4012	3715
Oil Age	hrs	Client Info		589	302	578
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
		ام م مالح میں			Internet	histow.0
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	>110	8	7	12
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	4	4	5
Lead	ppm	ASTM D5185m	>45	0	<1	0
Copper	ppm	ASTM D5185m	>85	0	<1	1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 5	history1 4	history2 4
	ppm ppm					
Boron		ASTM D5185m	0	5	4	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	5 0	4 <1	4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 0 56	4 <1 60	4 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 0 56 <1	4 <1 60 <1	4 0 61 <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 56 <1 959	4 <1 60 <1 935	4 0 61 <1 958
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 56 <1 959 1083	4 <1 60 <1 935 1095	4 0 61 <1 958 1142
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 56 <1 959 1083 1069	4 <1 60 <1 935 1095 1028	4 0 61 <1 958 1142 1049
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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 56 <1 959 1083 1069 1267	4 <1 60 <1 935 1095 1028 1207	4 0 61 <1 958 1142 1049 1240
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 0 1010 1070 1150 1270 2060	5 0 56 <1 959 1083 1069 1267 3514	4 <1 60 <1 935 1095 1028 1207 3085	4 0 61 <1 958 1142 1049 1240 3065
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	5 0 56 <1 959 1083 1069 1267 3514 current	4 <1 60 <1 935 1095 1028 1207 3085 history1	4 0 61 <1 958 1142 1049 1240 3065 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 <b>method</b>	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	5 0 56 <1 959 1083 1069 1267 3514 <i>current</i> 3	4 <1 60 <1 935 1095 1028 1207 3085 history1 4	4 0 61 <1 958 1142 1049 1240 3065 history2 4
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	5 0 56 <1 959 1083 1069 1267 3514 current 3 1	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1	4 0 61 <1 958 1142 1049 1240 3065 history2 4 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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 -20 <b>Imit/base</b>	5 0 56 <1 959 1083 1069 1267 3514 <i>current</i> 3 1 3 3 <i>current</i>	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 ×1 4 ×1 4	4 0 61 <1 958 1142 1049 1240 3065 history2 4 1 5 5 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 <b>Jimit/base</b> >30 >20 <b>Jimit/base</b>	5 0 56 <1 959 1083 1069 1267 3514 <i>current</i> 3 1 3 <i>current</i> 0.4	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 ×1 4 Nistory1 0.2	4 0 61 <1 958 1142 1049 1240 3065 history2 4 1 5 <u>history2</u> 0.4
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Jimit/base</b> >30 >20 <b>Jimit/base</b>	5 0 56 <1 959 1083 1069 1267 3514 <i>current</i> 3 1 3 3 <i>current</i>	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 ×1 4 ×1 4	4 0 61 <1 958 1142 1049 1240 3065 history2 4 1 5 5 history2
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 <b>Imit/base</b> >30 >20 <b>Imit/base</b> >3 >20	5 0 56 <1 959 1083 1069 1267 3514 <b>current</b> 3 1 3 1 3 <b>current</b> 0.4 8.1 19.1	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 history1 0.2 6.7 18.1	4 0 61 <1 958 1142 1049 1240 3065 <b>history2</b> 4 1 5 <b>history2</b> 0.4 8.0 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 TS ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >30 >20 <b>imit/base</b> >3 >20 >30	5 0 56 <1 959 1083 1069 1267 3514 <i>current</i> 3 1 3 1 3 <i>current</i> 0.4 8.1 19.1	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 <1 4 history1 0.2 6.7 18.1 history1	4 0 61 <1 958 1142 1049 1240 3065 history2 4 1 5 <u>history2</u> 0.4 8.0 19.2 history2
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 TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	5 0 56 <1 959 1083 1069 1267 3514 <i>current</i> 3 1 3 1 3 <i>current</i> 0.4 8.1 19.1 <i>current</i> 14.8	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 <1 4 <1 4 <1 6.7 18.1 history1 14.0	4 0 61 <1 958 1142 1049 1240 3065 history2 4 1 1 5 history2 0.4 8.0 19.2 history2 14.8
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 TS 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 56 <1 959 1083 1069 1267 3514 <i>current</i> 3 1 3 1 3 <i>current</i> 0.4 8.1 19.1	4 <1 60 <1 935 1095 1028 1207 3085 history1 4 <1 4 <1 4 history1 0.2 6.7 18.1 history1	4 0 61 <1 958 1142 1049 1240 3065 history2 4 1 5 <u>history2</u> 0.4 8.0 19.2 history2



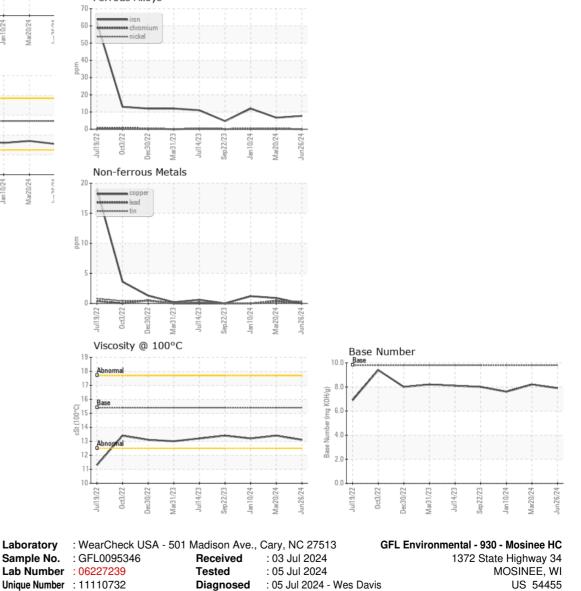
# **OIL ANALYSIS REPORT**





VISUAL		method	limit/base	current	history i	nistory2
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	13.1	13.4	13.2
GRAPHS						

Ferrous Alloys





 Certificate 12367
 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.

Contact: Kirk Koss T: (715)571-2784

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

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Submitted By: see also GFL927, GFL930 - Kirk Koss