

## **OIL ANALYSIS REPORT**

### NORMAL

# Machine Id 10690

Component **Diesel Engine** 

Fluic

#### PETRO CANADA DURON SHP 15W40 (7 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.

						1.00					
								Mar2023			



SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0083224	GFL0083245	GFL0082896
Sample Date		Client Info		22 Jun 2023	06 Jun 2023	15 May 2023
Machine Age	hrs	Client Info		18982	18829	18641
Oil Age	hrs	Client Info		1215	480	292
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	s	method	limit/base	current	history 1	history 2
Iron		ASTM D5185m	>75	22	47	44
Chromium	ppm	ASTM D5185m	>5	<1	47	1
Nickel	ppm		>ɔ >4	<1 <1	0	0
	ppm	ASTM D5185m				
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		2	7	6
Lead	ppm	ASTM D5185m	>25	<1	<1	0
Copper	ppm	ASTM D5185m		19	<u>▲</u> 142	▲ 177
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 22	history 1 10	history 2 13
	ppm ppm		0			
Boron		ASTM D5185m	0	22	10	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	22 0	10 0	13 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	22 0 63	10 0 57	13 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	22 0 63 <1	10 0 57 <1	13 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	22 0 63 <1 724	10 0 57 <1 749	13 0 60 <1 781
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	22 0 63 <1 724 1089	10 0 57 <1 749 1099	13 0 60 <1 781 1097
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	22 0 63 <1 724 1089 913	10 0 57 <1 749 1099 854	13 0 60 <1 781 1097 911
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	22 0 63 <1 724 1089 913 1086	10 0 57 <1 749 1099 854 1109	13 0 60 <1 781 1097 911 1129
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 1010 1070 1150 1270 2060	22 0 63 <1 724 1089 913 1086 2894	10 0 57 <1 749 1099 854 1109 2911	13 0 60 <1 781 1097 911 1129 3067
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	22 0 63 <1 724 1089 913 1086 2894 current	10 0 57 <1 749 1099 854 1109 2911 history 1	13 0 60 <1 781 1097 911 1129 3067 history 2
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 <b>method</b>	0 0 60 1010 1070 1150 1270 2060	22 0 63 <1 724 1089 913 1086 2894 current 5	10 0 57 <1 749 1099 854 1109 2911 history 1 7	13 0 60 <1 781 1097 911 1129 3067 history 2 6
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 >25	22 0 63 <1 724 1089 913 1086 2894 current 5 0	10 0 57 <1 749 1099 854 1109 2911 <b>history 1</b> 7 9	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7
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 <b>limit/base</b> >25	22 0 63 <1 724 1089 913 1086 2894 current 5 0 0 <1	10 0 57 <1 749 1099 854 1109 2911 history 1 7 9 1	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7 2
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 <b>limit/base</b> >25	22 0 63 <1 724 1089 913 1086 2894 current 5 0 <1	10 0 57 <1 749 1099 854 1109 2911 history 1 7 9 1 1 history 1	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7 2 2 history 2
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 TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	22 0 63 <1 724 1089 913 1086 2894 <i>current</i> 5 0 <1 <i>current</i>	10 0 57 <1 749 1099 854 1109 2911 history 1 7 9 1 1 <i>history</i> 1 1.8	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7 2 history 2 1.7
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> >20	22 0 63 <1 724 1089 913 1086 2894 <i>current</i> 5 0 <1 <i>current</i> 1 6.3	10 0 57 <1 749 1099 854 1109 2911 history 1 7 9 1 7 9 1 1.8 8.2	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7 2 history 2 1.7 8.1
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 ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 <b>imit/base</b> >6 >20 >30	22 0 63 <1 724 1089 913 1086 2894 <i>current</i> 5 0 <1 <i>current</i> 1 6.3 18.7 <i>current</i>	10 0 57 <1 749 1099 854 1109 2911 history 1 7 9 1 1 history 1 1.8 8.2 20.6	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7 2 history 2 1.7 8.1 20.7 history 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 D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 20 20 20 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	22 0 63 <1 724 1089 913 1086 2894 <u>current</u> 5 0 <1 <u>current</u> 1 6.3 18.7	10 0 57 <1 749 1099 854 1109 2911 history 1 7 9 1 1 history 1 1.8 8.2 20.6 history 1	13 0 60 <1 781 1097 911 1129 3067 history 2 6 7 2 6 7 2 1.7 8.1 20.7



-20 Jan3/17

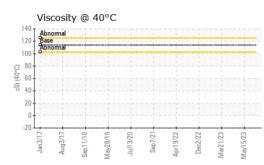
Sep11/18.

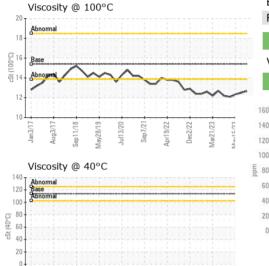
/lay28/19

1017 na

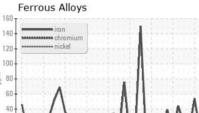
Aug3/17

# **OIL ANALYSIS REPORT**



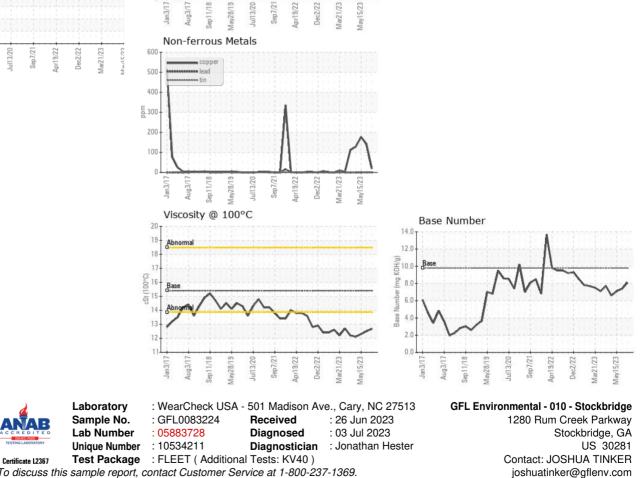


VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	12.67	12.5	<b>1</b> 2.3
GRAPHS						



160

20



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)

Submitted By: TECHNICIAN ACCOUNT

Т:

F: