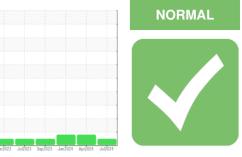


# **OIL ANALYSIS REPORT**

Sample Rating Trend





922010 Component Diesel Engine Fluid

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

SAMPLE INFORMATION method

DIAGNOSIS	
Recommendation	

Resample at the next service interval to monitor.

Machine Id

### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

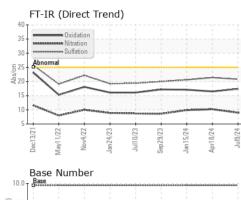
### Fluid Condition

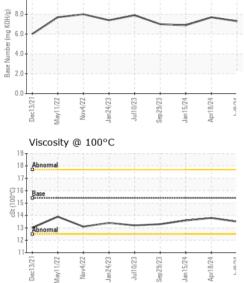
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number		Client Info		GFL0125458	GFL0116139	GFL0104550
Sample Date		Client Info		09 Jul 2024	18 Apr 2024	15 Jan 2024
Machine Age	hrs	Client Info		31240	30647	30040
Oil Age	hrs	Client Info		593	619	596
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>120	15	29	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	3	<u> </u>	<b>▲</b> 8
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	8	3
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	2	<1	1
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		mathad	line it /le e e e		In the second	la la tamu O
ADDITIVE3		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	4	nistory i 2	nistory2 0
	ppm ppm		0		· · · · ·	
Boron		ASTM D5185m	0	4	2	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	4 0	2 0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	4 0 60	2 0 60	0 0 53
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	4 0 60 0	2 0 60 <1	0 0 53 <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	4 0 60 0 940	2 0 60 <1 947	0 0 53 <1 900
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	4 0 60 0 940 1136	2 0 60 <1 947 1034	0 0 53 <1 900 975
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	4 0 60 0 940 1136 1069	2 0 60 <1 947 1034 1038	0 0 53 <1 900 975 953
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	4 0 60 0 940 1136 1069 1274	2 0 60 <1 947 1034 1038 1228	0 0 53 <1 900 975 953 1141
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	4 0 60 0 940 1136 1069 1274 2777	2 0 60 <1 947 1034 1038 1228 3316	0 0 53 <1 900 975 953 1141 2741
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	4 0 60 940 1136 1069 1274 2777 current	2 0 60 <1 947 1034 1038 1228 3316 history1	0 0 53 <1 900 975 953 1141 2741 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> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	4 0 60 940 1136 1069 1274 2777 current 8	2 0 60 <1 947 1034 1038 1228 3316 history1 10	0 0 53 <1 900 975 953 1141 2741 <b>history2</b> 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 <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	4 0 60 940 1136 1069 1274 2777 current 8 4 2	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8	0 0 53 <1 900 975 953 1141 2741 <b>history2</b> 4 4
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	4 0 60 940 1136 1069 1274 2777 current 8 4 2	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8 2	0 0 53 <1 900 975 953 1141 2741 history2 4 4 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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20	4 0 60 940 1136 1069 1274 2777 current 8 4 2 2 current	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8 2 2 history1	0 0 53 <1 900 975 953 1141 2741 history2 4 4 4 1 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 limit/base >25 >20 limit/base	4 0 60 940 1136 1069 1274 2777 current 8 4 2 2 current 0.6	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8 2 history1 1.5	0 0 53 <1 900 975 953 1141 2741 <b>history2</b> 4 4 4 1 <b>history2</b> 0.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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> >4 >20	4 0 60 940 1136 1069 1274 2777 current 8 4 2 2 current 0.6 9.0 20.8	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8 2 history1 1.5 10.2	0 0 53 <1 900 975 953 1141 2741 history2 4 4 4 1 history2 0.9 9.9
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 <b>imit/base</b> >25 <b>imit/base</b> >4 >20	4 0 60 940 1136 1069 1274 2777 current 8 4 2 2 current 0.6 9.0 20.8	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8 2 <u>history1</u> 1.5 10.2 21.4	0 0 53 <1 900 975 953 1141 2741 <b>history2</b> 4 4 4 1 <b>history2</b> 0.9 9.9 20.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >4 >20 >30 imit/base	4 0 60 940 1136 1069 1274 2777 Current 8 4 2 2 Current 0.6 9.0 20.8 Current	2 0 60 <1 947 1034 1038 1228 3316 history1 10 8 2 history1 1.5 10.2 21.4 history1	0 0 53 <1 900 975 953 1141 2741 history2 4 4 4 1 1 history2 0.9 9.9 20.6 history2

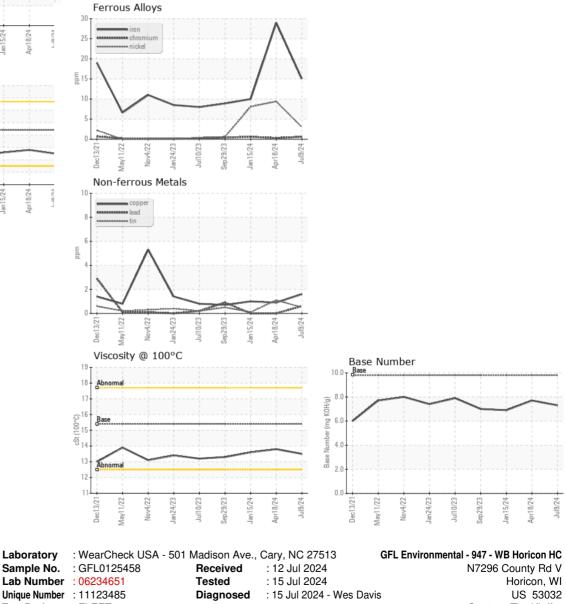


# **OIL ANALYSIS REPORT**





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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.8	13.6
GRAPHS						





 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.

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

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