

## **OIL ANALYSIS REPORT**

Sample Rating Trend



929112 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

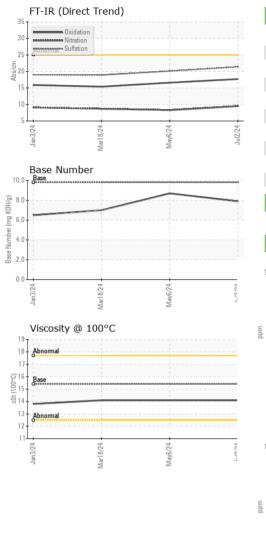
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number		Client Info		GFL0120597	GFL0120609	GFL0108485
Sample Date		Client Info		02 Jul 2024	06 May 2024	18 Mar 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
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	8	8	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	4	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES			Provide Mariana			Is to take with 0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	Method ASTM D5185m	limit/base	9	history1 16	nistory2 8
	ppm ppm					
Boron		ASTM D5185m	0	9	16	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	9 0	16 0	8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	9 0 64	16 0 83	8 0 55
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	9 0 64 <1	16 0 83 0	8 0 55 <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	9 0 64 <1 965	16 0 83 0 1288	8 0 55 <1 943
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	9 0 64 <1 965 1141	16 0 83 0 1288 1483	8 0 55 <1 943 1054
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	9 0 64 <1 965 1141 1035	16 0 83 0 1288 1483 1497	8 0 55 <1 943 1054 996
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	9 0 64 <1 965 1141 1035 1274	16 0 83 0 1288 1483 1497 1760	8 0 55 <1 943 1054 996 1233
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 <b>method</b>	0 0 60 0 1010 1070 1150 1270 2060	9 0 64 <1 965 1141 1035 1274 3169	16 0 83 0 1288 1483 1497 1760 4807	8 0 55 <1 943 1054 996 1233 3423
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 <b>method</b>	0 0 60 1010 1070 1150 1270 2060	9 0 64 <1 965 1141 1035 1274 3169 current	16 0 83 0 1288 1483 1497 1760 4807 history1	8 0 55 <1 943 1054 996 1233 3423 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 <b>limit/base</b>	9 0 64 <1 965 1141 1035 1274 3169 current 4	16 0 83 0 1288 1483 1497 1487 1497 1760 4807 history1 7	8 0 55 <1 943 1054 996 1233 3423 history2 3
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 <b>limit/base</b>	9 0 64 <1 965 1141 1035 1274 3169 current 4 3	16 0 83 0 1288 1483 1497 1760 4807 <b>history1</b> 7 5	8 0 55 <1 943 1054 996 1233 3423 history2 3 1
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 >20	9 0 64 <1 965 1141 1035 1274 3169 current 4 3 3	16 0 83 0 1288 1483 1497 1760 4807 <b>history1</b> 7 5 3	8 0 55 <1 943 1054 996 1233 3423 history2 3 1 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 2060 225 >25	9 0 64 <1 965 1141 1035 1274 3169 current 4 3 3 3	16 0 83 0 1288 1483 1497 1760 4807 history1 7 5 3 3 history1	8 0 55 <1 943 1054 996 1233 3423 history2 3 1 1 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	9 0 64 <1 965 1141 1035 1274 3169 current 4 3 3 3 current 0.5	16 0 83 0 1288 1483 1497 1760 4807 history1 7 5 3 3 history1 0.4	8 0 55 <1 943 1054 996 1233 3423 history2 3 1 1 1 history2 0.3
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 <b>imit/base</b> >25 >20 <b>imit/base</b> >4 >20	9 0 64 <1 965 1141 1035 1274 3169 <i>current</i> 4 3 3 <i>current</i> 0.5 9.5	16 0 83 0 1288 1483 1497 1760 4807 history1 7 5 3 5 3 1 5 3 1 9 1 7 5 3 1 9 1 5 1 9 1 9 1 9 1 9 1 9 1 1 7 1 9 1 9 1 1 9 1 5 3	8 0 55 <1 943 1054 996 1233 3423 history2 3 1 1 1 history2 0.3 8.7
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 2060 225 220 220 220 220 220 230 20 20 20 20 20 20 20 20 20 20 20 20 20	9 0 64 <1 965 1141 1035 1274 3169 current 4 3 3 3 current 0.5 9.5 21.4 current	16 0 83 0 1288 1483 1497 1760 4807 <b>history1</b> 7 5 3 <b>history1</b> 0.4 8.3 20.1 <b>history1</b>	8 0 55 <1 943 1054 996 1233 3423 <b>history2</b> 3 1 1 1 <b>history2</b> 0.3 8.7 18.9
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> >20 <b>imit/base</b> >20	9 0 64 <1 965 1141 1035 1274 3169 <u>current</u> 4 3 3 3 <u>current</u> 0.5 9.5 21.4	16 0 83 0 1288 1483 1497 1760 4807 history1 7 5 3 3 history1 0.4 8.3 20.1	8 0 55 <1 943 1054 996 1233 3423 history2 3 1 1 1 history2 0.3 8.7 18.9 history2

Contact/Location: See also GFL904,A,B,C, 927, 938) - Andy Kane - GFL904 Page 1 of 2



# **OIL ANALYSIS REPORT**



		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT	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	14.1	14.1	14.1
GRAPHS						
Ferrous Alloys						
iron						
8 - newsanning nickel	_					
6	/					
2-						
0			(11555550			
Jan3/24 -		May6/24 -	Jul2/24 -			
Jan Mar1		May	Jul			
8+ E. 2+						
Jan3/24		6/24	Jul2/24			
2		May6/24	Juľ			
Viscosity @ 100°(			10 0	Base Number	r 	
18 - Abnormal					_	
17-			(B)H 8.0	-		
P <sup>16</sup> Base			9 2 6.0			
Ö <b>Q</b>			0.8 (0.14) 0.9 (mg k0H/d) 1.4 (mg k0H/d)			
0015 8			§ 4.0	1		
G 16 Base 15 3 14			00			
13 - Abnormal			2.0			
13 - Abnormal 12 -			2.0			
13 - Abnormal		May6/24	9.0 9.0 9.0 9.0 9.0 9.0		Mart 8/24	

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) T: (715)202-3420 F:

Certificate L2367

Contact/Location: See also GFL904,A,B,C, 927, 938) - Andy Kane - GFL904