

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend



# Machine Id 834004

Component
Natural Gas Engine

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

#### 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

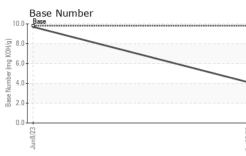
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

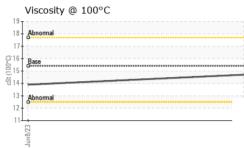
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0084618	GFL0084702	
Sample Date		Client Info		27 Oct 2023	08 Jun 2023	
Machine Age	mls	Client Info		11754	1184	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Changed	Not Changd	
Sample Status				NORMAL	NORMAL	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	14	28	
Chromium	ppm	ASTM D5185m	>4	<1	<1	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	<1	0	
Aluminum	ppm	ASTM D5185m	>9	4	4	
Lead	ppm	ASTM D5185m	>30	1	0	
Copper	ppm	ASTM D5185m	>35	4	13	
Tin	ppm	ASTM D5185m	>4	<1	<1	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		<1	<1	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	6	64	
Barium	ppm	ASTM D5185m	0	4	0	
Molybdenum	ppm	ASTM D5185m	60	57	54	
Manganese	ppm	ASTM D5185m	0	2	11	
Magnesium	ppm	ASTM D5185m	1010	584	781	
Calcium	ppm	ASTM D5185m	1070	1477	1328	
Phosphorus	ppm	ASTM D5185m	1150	714	740	
Zinc	ppm	ASTM D5185m	1270	941	897	
Sulfur	ppm	ASTM D5185m	2060	2559	2846	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	10	32	
Sodium	ppm	ASTM D5185m		4	4	
Potassium	ppm	ASTM D5185m	>20	26	20	
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0	0.1	
Nitration	Abs/cm	*ASTM D7624	>20	10.9	7.7	
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.1	19.9	
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	16.6	
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	4.1	9.7	
	0 0					



## **OIL ANALYSIS REPORT**

VISUAL





					current		
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
<u> </u>	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
/23	Appearance	scalar	*Visual	NORML	NORML	NORML	
0ct27/23	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
	Free Water	scalar	*Visual	20.1	NEG	NEG	
					MEG		
	FLUID PROPE		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	14.7	13.9	
	GRAPHS						
	Ferrous Alloys						
	iron						
	25 - nickel	_					
	20-						
	<u>۾</u> 15-			_			
	10-						
	5						
	Jun8/23			0ct27/23			
	Jur			5			
				Ó			
	Non-ferrous Meta	ls		ō			
	<sup>14</sup> T	ls		0			
	14 12 copper lead	ls		0			
	14 copper	ls		0			
	14 12 10 8	ls		0			
	14 12 - copper lead	ls	<u> </u>	0			
	14 12 10 8	ls		0			
	14 12 10 Ead 6 4	ls		•			
	14 12 10 8	ls					
	E 6 4 2 0 0	ls					
	E 6 4 2 0 0	ls					
	14 12 10 10 4 2 10 5 6 4 2 10 10 10 10 10 10 10 10 10 10 10 10 10			0-c27/23			
	Viscosity @ 100°			0et27/23	Base Number	r	
	Viscosity @ 100°					r	
	Viscosity @ 100°			EZ(2200	Base	r	
	Viscosity @ 100°			EZ(2200	Base	r	
	Viscosity @ 100°			EZ(2200	D Base	r	
	Viscosity @ 100°			EZ(2200	D + Base	r	
	Viscosity @ 100° Viscosity @ 100°			EZ(2200	D + Base	F	
	Viscosity @ 100° Viscosity @ 100°			1.01 0ct27/23	D - Base	r	
	Viscosity @ 100° Viscosity @ 100°			10.1 (b) KOX (b) KOX (c)	D - Base 0	r	
	Viscosity @ 100° Base Viscosity @ 100° Abnomal Abnomal			10. 1.0 1.0 1.0 1.0 1.0 1.0 1.0	D - Base 0	r	
	Viscosity @ 100° Viscosity @ 100°			10. 1.0 1.0 1.0 1.0 1.0 1.0 1.0	D - Base 0	r	
	Viscosity @ 100° Base Viscosity @ 100° Abnomal Abnomal			10.1 (b) KOX (b) KOX (c)	Base Base EXPlant		0662723
aboratory	Viscosity @ 100° Viscosity @ 100° Abnomal 10 10 10 10 10 10 10 10 10 10	501 Madis		EZ/(Z2P0 (0)HOX Bul Jaquing ase EZ/(Z2P0 EZ/(Z2P0 ary, NC 2751:	Base Base EZgun	vironmental - 856	6 - Houston South
aboratory ample No.	Viscosity @ 100° Viscosity @ 100° Abnomal Control of the second secon	501 Madia	<b>d</b> :31	EZUZZPO 10. (0)HOX Bul Jaquing asse EZUZPO 10. (0)HOX Bul Jaquing asse EZUZPO 10. 10. 10. 10. 10. 10. 10. 10.	Base Base EZgun	vironmental - 856	<b>5 - Houston Sout</b> lighway 6 South
aboratory ample No. ab Number nique Number	Viscosity @ 100° Viscosity @ 100° <sup>19</sup> <sup>19</sup> <sup>19</sup> <sup>19</sup> <sup>19</sup> <sup>19</sup> <sup>10</sup> <sup>19</sup> <sup>19</sup> <sup>19</sup> <sup>19</sup> <sup>10</sup> <sup>19</sup> <sup>10</sup> <sup>19</sup> <sup>10</sup> <sup>19</sup> <sup>10</sup> <sup>19</sup> <sup>10</sup> <sup>19</sup> <sup>10</sup> <sup>10</sup> <sup>10</sup> <sup>10</sup> <sup>10</sup> <sup>10</sup> <sup>10</sup> <sup>10</sup>	501 Madis	d : 31 ed : 02	EZ/(Z2P0 (0)HOX Bul Jaquing ase EZ/(Z2P0 EZ/(Z2P0 ary, NC 2751:	Base Base EZgun	vironmental - 856	



\* - 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)

Contact/Location: See also 983,856,859 - Gino Griego - GFL856