

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

Machine Id **729008** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 15W40 (--- GAL)**

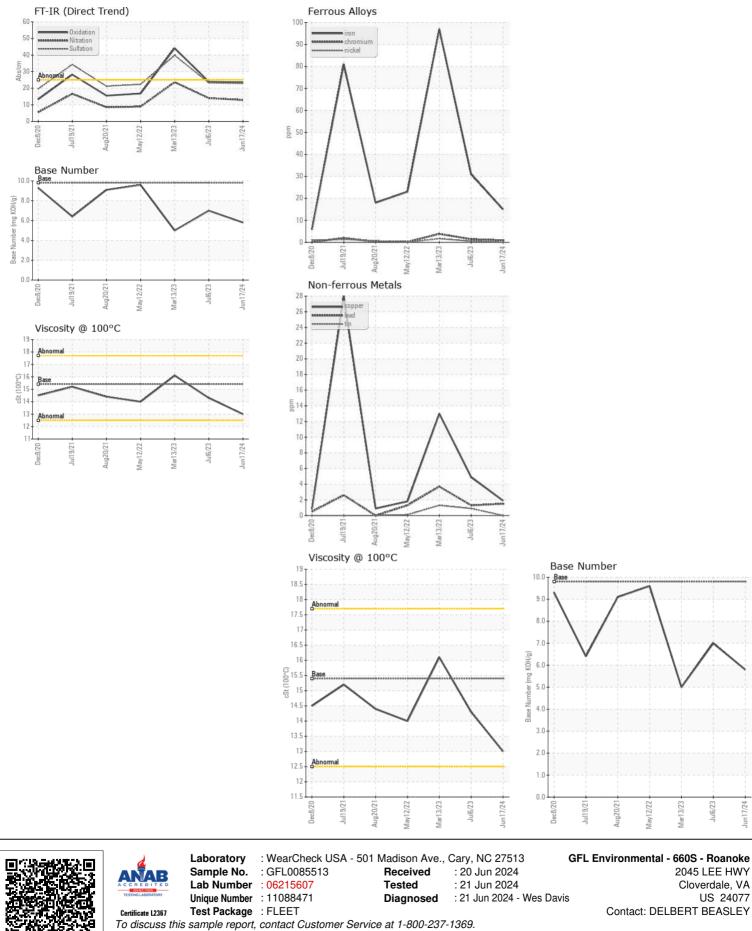
	<u>/</u>						
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		GFL0085513	GFL0060407	GFL0060394
	Sample Date		Client Info		17 Jun 2024	06 Jul 2023	13 Mar 2023
	Machine Age	mls	Client Info		80110	67289	61811
	Oil Age	mls	Client Info		0	0	0
	Filter Age	mls	Client Info		0	0	0
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR All component wear rates are normal.	Iron	ppm	ASTM D5185m	>100	15	31	97
	Chromium	ppm	ASTM D5185m	>20	<1	1	4
	Nickel	ppm	ASTM D5185m	>4	0	<1	2
	Titanium	ppm	ASTM D5185m		<1	10	38
	Silver	ppm	ASTM D5185m	>3	0	<1	0
	Aluminum	ppm	ASTM D5185m		2	6	12
	Lead	ppm	ASTM D5185m		2	1	4
	Copper	ppm	ASTM D5185m		2	5	13
	Tin	ppm	ASTM D5185m		0	<1	1
	Vanadium	ppm	ASTM D5185m		<1	<1	<1
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	<25	7	11	25
	Potassium	ppm	ASTM D5185m		3	5	13
There is no indication of any contamination in the oil.	Fuel	ppiii	WC Method		<1.0	<1.0	<1.0
	Water		WC Method		NEG	NEG	NEG
	Glycol		WC Method	20.2	NEG	NEG	NEG
	Soot %	%	*ASTM D7844	<u>\</u> 3	0.8	1	2.7
	Nitration	Abs/cm	*ASTM D7624	>20	12.9	14.0	23.6
	Sulfation	Abs/.1mm	*ASTM D7024		22.9	23.2	39.8
	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	NORM
	Odor	scalar	*Visual	NORML	NORML	NORML	NORM
	Emulsified Water		*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION					•		
	Sodium	ppm	ASTM D5185m	0	3	6	10
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Boron	ppm	ASTM D5185m		4	2	5
	Barium	ppm	ASTM D5185m		0	<1	0
	Molybdenum	ppm	ASTM D5185m		57	59	33
	Manganese	ppm	ASTM D5185m		<1	1	2
	Magnesium	ppm	ASTM D5185m		838	932	657
	Calcium	ppm	ASTM D5185m		1283	1274	1403
	Phosphorus	ppm	ASTM D5185m		1069	1075	975
	Zinc	ppm	ASTM D5185m		1341	1381	1350
	Sulfur	ppm	ASTM D5185m		3502	3714	2693
	Oxidation	Abs/.1mm	*ASTM D7414		23.4	23.9	44.1
	Base Number (BN)	0 0		9.8	5.8	7.0	5.0
	Vian @ 100°C	~C+	ACTM D44E	15 /	40.0	14.0	10.1

Visc @ 100°C cSt ASTM D445 15.4

16.1

14.3

13.0



^{* -} 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)