

## **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id **1128M** Component **Diesel Engine** Fluid

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

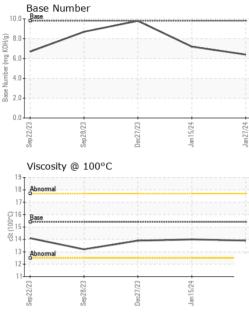
DIAGNOSIS	SAMPLE INFO	
Recommendation	Sample Number	
Resample at the next service interval to monitor.	Sample Date	
Wear	Machine Age	hrs
All component wear rates are normal.	Oil Age	hrs
Contamination	Oil Changed	
There is no indication of any contamination in the	Sample Status	
oil.	CONTAMIN	ATION
Fluid Condition The BN result indicates that there is suitable	Fuel	
alkalinity remaining in the oil. The condition of the	Water	
oil is suitable for further service.	Glycol	
	WEAR MET	ALS
	WEAR MET.	ALS ppm
	Iron	ppm
	Iron Chromium	ppm ppm
	Iron Chromium Nickel	ppm ppm ppm
	Iron Chromium Nickel Titanium	ppm ppm ppm ppm
	Iron Chromium Nickel Titanium Silver	ppm ppm ppm ppm ppm
	Iron Chromium Nickel Titanium Silver Aluminum	ppm ppm ppm ppm ppm ppm
	Iron Chromium Nickel Titanium Silver Aluminum Lead	ppm ppm ppm ppm ppm ppm ppm
	Iron Chromium Nickel Titanium Silver Aluminum Lead Copper	ppm ppm ppm ppm ppm ppm ppm ppm

		Sep2023				
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0110045	GFL0109991	GFL0104279
Sample Date		Client Info		27 Jan 2024	15 Jan 2024	27 Dec 2023
Machine Age	hrs	Client Info		14724	14579	14500
Oil Age	hrs	Client Info		600	600	14440
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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 METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	18	16	20
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	5	4	5
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>30	<1	7	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	<1	5
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	48	61	58
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium						
iviagnesium	ppm	ASTM D5185m	1010	808	1031	940
0	ppm ppm			808 882	1031 1069	
Calcium		ASTM D5185m ASTM D5185m ASTM D5185m	1010			940
Calcium Phosphorus	ppm	ASTM D5185m ASTM D5185m	1010 1070	882	1069	940 1093
Calcium Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150	882 919	1069 1073	940 1093 1039
Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270	882 919 1093	1069 1073 1326	940 1093 1039 1245
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060	882 919 1093 2514	1069 1073 1326 2831 history1 6	940 1093 1039 1245 3216 history2 11
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060 limit/base	882 919 1093 2514 current	1069 1073 1326 2831 history1	940 1093 1039 1245 3216 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30	882 919 1093 2514 current 4	1069 1073 1326 2831 history1 6	940 1093 1039 1245 3216 history2 11
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30	882 919 1093 2514 current 4 3	1069 1073 1326 2831 history1 6 2	940 1093 1039 1245 3216 history2 11 5
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 22060 limit/base >30 >20	882 919 1093 2514 current 4 3 2	1069 1073 1326 2831 history1 6 2 3	940 1093 1039 1245 3216 history2 11 5 2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 <b>limit/base</b> >30 >20 <b>limit/base</b>	882 919 1093 2514 current 4 3 2 2 current	1069 1073 1326 2831 history1 6 2 3 history1	940 1093 1039 1245 3216 history2 11 5 2 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 imit/base >30 imit/base >33	882 919 1093 2514 current 4 3 2 2 current 0.6	1069 1073 1326 2831 <u>history1</u> 6 2 3 <u>history1</u> 0.7	940 1093 1039 1245 3216 history2 11 5 2 2 history2 0.2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/tmm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	1010 1070 1150 22060 imit/base >30 >20 imit/base >3 >20	882 919 1093 2514 current 4 3 2 2 current 0.6 8.3	1069 1073 1326 2831 history1 6 2 3 history1 0.7 8.5	940 1093 1039 1245 3216 history2 11 5 2 history2 0.2 5.3
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/tmm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	1010 1070 1150 22060 <b>Imit/base</b> >30 >20 <b>Imit/base</b> >3 >20 >3 >20	882 919 1093 2514 <i>current</i> 4 3 2 <i>current</i> 0.6 8.3 18.4	1069 1073 1326 2831 history1 6 2 3 history1 0.7 8.5 20.1	940 1093 1039 1245 3216 history2 11 5 2 history2 0.2 5.3 17.5

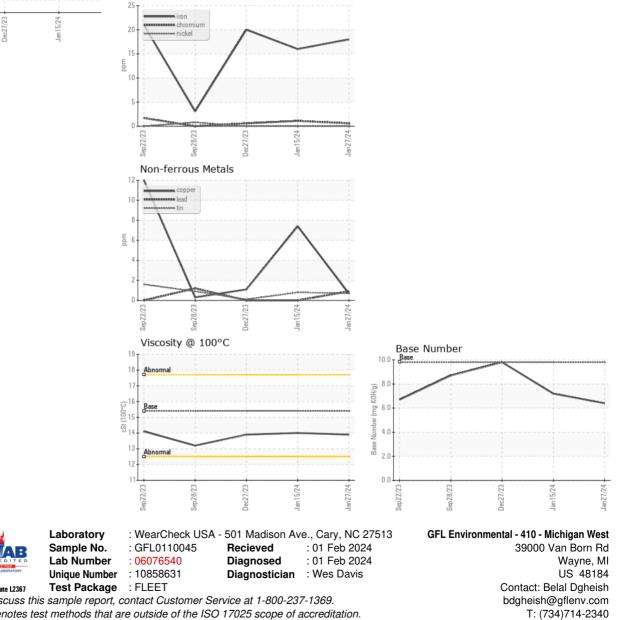


## **OIL ANALYSIS REPORT**

Ferrous Alloys



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	13.9	14.0	13.9
GRAPHS						



Certificate L2367 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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