

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend

#### NORMAL

# Machine Id 723021-361635

#### Component Diesel Engine

Fluid

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

#### 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.

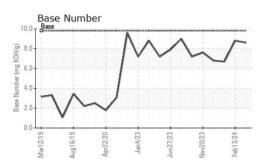
#### Fluid Condition

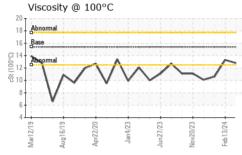
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114150	GFL0108025	GFL0102483
Sample Date		Client Info		13 Mar 2024	13 Feb 2024	27 Dec 2023
Machine Age	hrs	Client Info		26151	26014	25859
Oil Age	hrs	Client Info		25859	1099	0
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	MARGINAL	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<b>2</b> .3	<b>1</b> 3.5
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	>100	19	9	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	-	0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	0	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ouumun	ppiii	AO INI DO IODIII		U	0	0
ADDITIVES	ppin	method	limit/base	current	history1	history2
			limit/base	current	history1	
ADDITIVES	ppm	method ASTM D5185m		-	-	history2
ADDITIVES Boron Barium	ppm ppm	method	0	current	history1 3 0	history2 2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current <1 0	history1 3	history2 2 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current <1 0 58	history1 3 0 53	history2 2 0 49
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current <1 0 58 0	history1 3 0 53 <1	history2 2 0 49 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<pre>current &lt;1 0 58 0 954</pre>	history1 3 0 53 <1 833	history2 2 0 49 <1 803
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current <1 0 58 0 954 1122	history1 3 0 53 <1 833 932	history2 2 0 49 <1 803 871
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current           <1           0           58           0           954           1122           1053	history1 3 0 53 <1 833 932 964	history2           2           0           49           <1           803           871           866
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current           <1           0           58           0           954           1122           1053           1226	history1 3 0 53 <1 833 932 964 1150	history2           2           0           49           <1           803           871           866           1050
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	Current <1 0 58 0 954 1122 1053 1226 3573	history1 3 0 53 <1 833 932 964 1150 2804	history2 2 0 49 <1 803 871 866 1050 2479
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current           <1           0           58           0           954           1122           1053           1226           3573           current	history1         3         0         53         <1         833         932         964         1150         2804         history1	history2 2 0 49 <1 803 871 866 1050 2479 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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 <b>limit/base</b>	current           <1           0           58           0           954           1122           1053           1226           3573           current           7	history1           3           0           53           <1           833           932           964           1150           2804           history1           6	history2           2           0           49           <1           803           871           866           1050           2479           history2           5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	current           <1           0           58           0           954           1122           1053           1226           3573           current           7           19	history1         3         0         53         <1         833         932         964         1150         2804         history1         6         8	history2         2         0         49         <1         803         871         866         1050         2479         history2         5         26         2         history2
ADDITIVES 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	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current           <1           0           58           0           954           1122           1053           1226           3573           current           7           19           2	history1         3         0         53         <1         833         932         964         1150         2804         history1         6         8         3         history1         0         0.2	history2         2         0         49         <1         803         871         866         1050         2479         history2         5         26         2         history2         0.6
ADDITIVES 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	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current         <1         0         58         0         954         1122         1053         1226         3573         current         7         19         2         current	history1           3           0           53           <1           833           932           964           1150           2804           history1           6           8           3           0.2           5.6	history2         2         0         49         <1         803         871         866         1050         2479         history2         5         26         2         history2         0         9.5
ADDITIVES 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	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current         <1         0         58         0         954         1122         1053         1226         3573         current         7         19         2         current         0.4	history1         3         0         53         <1         833         932         964         1150         2804         history1         6         8         3         history1         0         0.2	history2         2         0         49         <1         803         871         866         1050         2479         history2         5         26         2         history2         0.6
ADDITIVES 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 <b>TS</b> ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 1imit/base >22 20	current         <1         0         58         0         954         1122         1053         1226         3573         current         7         19         2         current         0.4         7.4	history1         3         0         53         <1         833         932         964         1150         2804         history1         6         8         3         0.2         5.6	history2         2         0         49         <1         803         871         866         1050         2479         history2         5         26         2         history2         0         9.5
ADDITIVES 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 <b>TS</b> ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 320 33 20 20	current         <1         0         58         0         954         1122         1053         1226         3573         current         7         19         2         current         0.4         7.4         18.6	history1         3         0         53         <1         833         932         964         1150         2804         history1         6         8         3         history1         0.2         5.6         18.0	history2         2         0         49         <1         803         871         866         1050         2479         history2         5         26         2         history2         0.6         9.5         21.1

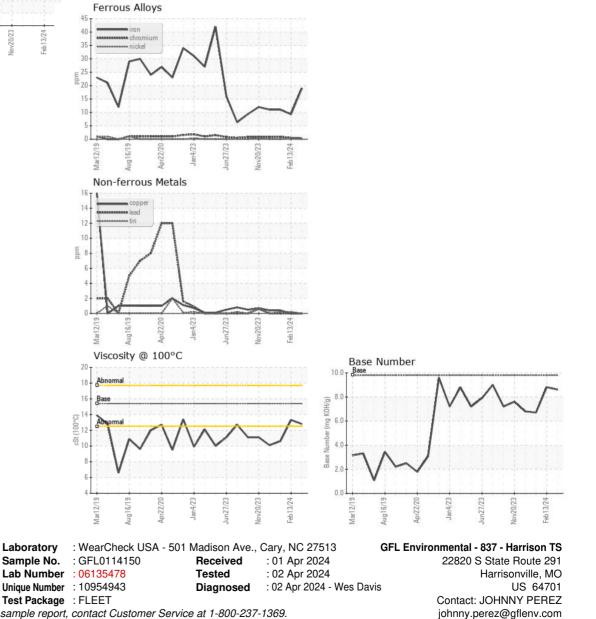


## **OIL ANALYSIS REPORT**





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	12.8	13.3	<b>1</b> 0.6
GRAPHS						





 Certificate 12367
 Test Package
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 To discuss this sample report, contact Customer Service at 1-800-237-1369.
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 \* - 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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