

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Machine Id

## 725049-361604

#### 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.

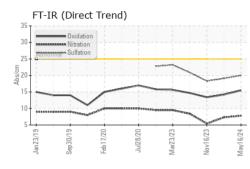
### Fluid Condition

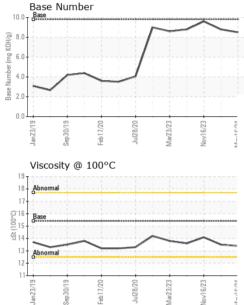
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0117831	GFL0117772	GFL0100483
Sample Date		Client Info		16 May 2024	02 May 2024	16 Nov 2023
Machine Age	hrs	Client Info		20020	19962	19718
Oil Age	hrs	Client Info		0	19962	19718
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>110	34	32	10
Chromium	ppm	ASTM D5185m	>4	2	1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	1	0	0
Aluminum	ppm	ASTM D5185m	>25	2	1	1
Lead	ppm	ASTM D5185m	>45	2	2	<1
Copper	ppm	ASTM D5185m	>85	3	2	1
Tin	ppm	ASTM D5185m	>4	1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES	ppm	ASIM D5185m method	limit/base	<1 current	0 history1	0 history2
	ppm ppm		limit/base		-	
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 1	history1 0	history2 <1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 1 0	history1 0 0	history2 <1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 1 0 67	history1 0 0 63	history2 <1 0 67
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 1 0 67 <1	history1 0 0 63 <1	history2 <1 0 67 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 1 0 67 <1 1035	history1 0 0 63 <1 1088	history2 <1 0 67 <1 1113
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 1070	current           1           0           67           <1           1035           1210	history1 0 0 63 <1 1088 1217	history2 <1 0 67 <1 1113 1215
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           67           <1           1035           1210           1062	history1 0 63 <1 1088 1217 1161	history2           <1           0           67           <1           1113           1215           1158
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           67           <1           1035           1210           1062           1337	history1 0 63 <1 1088 1217 1161 1411	history2           <1           0           67           <1           1113           1215           1158           1426
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	Current 1 0 67 <1 1035 1210 1062 1337 3474	history1 0 0 63 <1 1088 1217 1161 1411 4040	<1         0         67         <1         1113         1215         1158         1426         3730
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         67         <1         1035         1210         1062         1337         3474         current	history1           0           0           63           <1           1088           1217           1161           1411           4040           history1	<1         0         67         <1         1113         1215         1158         1426         3730         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus 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           67           <1           1035           1210           1062           1337           3474           current           8	history1           0           0           63           <1           1088           1217           1161           1411           4040           history1           6	<1         0         67         <1         1113         1215         1158         1426         3730         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>	1         0         67         <1         1035         1210         1062         1337         3474         current         8         7	history1           0           0           63           <1           1088           1217           1161           1411           4040           history1           6           6           6	<1         0         67         <1         1113         1215         1158         1426         3730         history2         5         6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b> >30	current           1           0           67           <1           1035           1210           1062           1337           3474           current           8           7           2	history1           0           0           63           <1           1088           1217           1161           1411           4040           history1           6           6           0           0	<1         0         67         <1         1113         1215         1158         1426         3730         history2         5         6         1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 >20	current         1         0         67         <1         1035         1210         1062         1337         3474         current         8         7         2         current	history1         0         0         63         <1         1088         1217         1161         1411         4040         history1         6         6         0         history1	<1         0         67         <1         1113         1215         1158         1426         3730         history2         5         6         1         1         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon 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 limit/base >30 limit/base >20	current         1         0         67         <1         1035         1210         1062         1337         3474         current         8         7         2         current         0.6	history1           0           0           63           <1           1088           1217           1161           1411           4040           history1           6           6           0           history1           0           0.8	<1         0         67         <1         1113         1215         1158         1426         3730         history2         5         6         1         history2         0         history2         0.4
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 imit/base >30 220 imit/base >3 >20	current         1         0         67         <1         1035         1210         1062         1337         3474         current         8         7         2         current         0.6         7.8	history1           0           0           63           <1           1088           1217           1161           1411           4040           history1           6           6           0           history1           0           7.3	history2         <1         0         67         <1         1113         1215         1158         1426         3730         history2         5         6         1         history2         0         0.4         5.4
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 ppm	method           ASTM D5185m           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 20 <b>Imit/base</b> >3 >20	current         1         0         67         <1         1035         1210         1062         1337         3474         current         8         7         2         current         0.6         7.8         20.0	history1         0         0         63         <1         1088         1217         1161         1411         4040         history1         6         6         0         history1         0.8         7.3         19.1	<1         0         67         <1         1113         1215         1158         1426         3730         history2         5         6         1         history2         5         6         1         history2         0.4         5.4         18.3



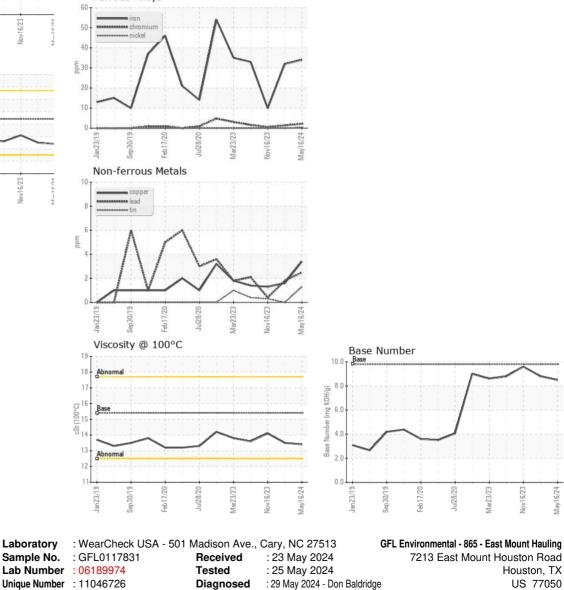
# **OIL ANALYSIS REPORT**





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	13.4	13.5	14.1
GRAPHS						

Ferrous Alloys





 Vertificate L2367
 Unique Number
 : 11046726
 Diagnosed
 : 29 May 2024 - Don Baldridge

 Certificate L2367
 Test Package
 : FLEET
 : 20 May 2024 - Don Baldridge

 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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Submitted By: TECHNICIAN ACCOUNT

Page 2 of 2