

## **OIL ANALYSIS REPORT**

### NORMAL

# Area (DUX582) Machine Id 10690

Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (7 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.

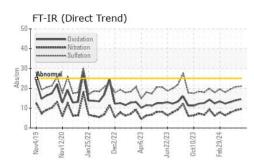
#### Fluid Condition

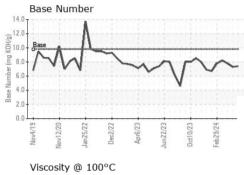
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

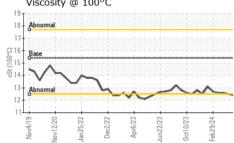
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122156	GFL0122204	GFL0118053
Sample Date		Client Info		08 Jul 2024	12 Jun 2024	02 May 2024
Machine Age	hrs	Client Info		850	653	562
Oil Age	hrs	Client Info		580	383	292
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>75	49	45	40
Chromium	ppm	ASTM D5185m	>5	2	2	2
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	7	8	7
Lead	ppm	ASTM D5185m	>25	0	0	<1
Copper	ppm	ASTM D5185m	>100	1	2	2
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	2	<1
e da man	ppm			U	2	
ADDITIVES	ppm	method	limit/base	-	2 history1	history2
	ppm	method	limit/base	-		
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 3	history1 3	history2 4
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 3 0	history1 3 0	history2 4 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 3 0 60	history1 3 0 63	history2 4 0 63 <1 851
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current           3           0           60           <1	history1 3 0 63 2	history2 4 0 63 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 3 0 60 <1 853	history1 3 0 63 2 869	history2 4 0 63 <1 851
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	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 3 0 60 <1 853 1109	history1 3 0 63 2 869 1093	history2 4 0 63 <1 851 1067
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 3 0 60 <1 853 1109 988	history1 3 0 63 2 869 1093 949	history2           4           0           63           <1           851           1067           983
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 3 0 60 <1 853 1109 988 1182 3035	history1 3 0 63 2 869 1093 949 1159	history2           4           0           63           <1           851           1067           983           1163
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 3 0 60 <1 853 1109 988 1182 3035	history1 3 0 63 2 869 1093 949 1159 3031	history2           4           0           63           <1           851           1067           983           1163           3097
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 3 0 60 <1 853 1109 988 1182 3035 Current	history1 3 0 63 2 869 1093 949 1159 3031 history1	history2         4         0         63         <1         851         1067         983         1163         3097         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	Current 3 0 60 <1 853 1109 988 1182 3035 Current 10	history1         3         0         63         2         869         1093         949         1159         3031         history1	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	Current           3           0           60           <1           853           1109           988           1182           3035           Current           10           7           <1	history1         3         0         63         2         869         1093         949         1159         3031         history1         10         8	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9         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 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25	Current           3           0           60           <1           853           1109           988           1182           3035           Current           10           7           <1	history1         3         0         63         2         869         1093         949         1159         3031         history1         10         8         3         history1         10         13         14         15         3031	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9         6         2
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 ppm	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25	Current         3         0         60         <1         853         1109         988         1182         3035         current         10         7         <1         current	history1         3         0         63         2         869         1093         949         1159         3031         history1         10         8         3         40         10         10         8         3         history1	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9         6         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 <b>T</b> S	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	current           3           0           60           <1           853           1109           988           1182           3035           current           10           7           <1           current           1.8	history1         3         0         63         2         869         1093         949         1159         3031         history1         10         8         3         history1         10         13         14         15         3031	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9         6         2         history2         1.4
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           ASTM D7844           *ASTM D7624           *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	Current           3           0           60           <1           853           1109           988           1182           3035           current           10           7           <1           current           1.8           9.5           21.0	history1         3         0         63         2         869         1093         949         1159         3031         history1         10         8         3         history1         10         8         3         1.7         8.9	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9         6         2         history2         1.4         7.8
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 D7844           *ASTM D7624           *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 <b>imit/base</b> >6 >20	Current           3           0           60           <1           853           1109           988           1182           3035           current           10           7           <1           current           1.8           9.5           21.0	history1         3         0         63         2         869         1093         949         1159         3031         history1         10         8         3         history1         1.7         8.9         20.7	history2         4         0         63         <1         851         1067         983         1163         3097         history2         9         6         2         history2         1.4         7.8         19.6



# **OIL ANALYSIS REPORT**





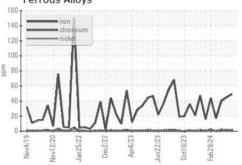


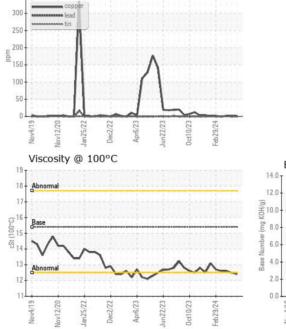
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	12.4	12.5	12.6
GRAPHS						

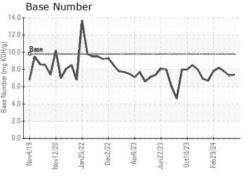
Ferrous Alloys

Non-ferrous Metals

350







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 010 - Stockbridge Sample No. Received : GFL0122156 : 09 Jul 2024 1280 Rum Creek Parkway Lab Number : 06231323 Tested : 10 Jul 2024 Stockbridge, GA Unique Number : 11114816 Diagnosed : 10 Jul 2024 - Wes Davis US 30281 Test Package : FLEET Contact: TECHNICIAN ACCOUNT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wcgfldemo@gmail.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL010 [WUSCAR] 06231323 (Generated: 07/10/2024 10:35:31) Rev: 1

Submitted By: JOSHUA TINKER Page 2 of 2