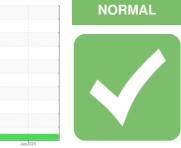


OIL ANALYSIS REPORT

Sample Rating Trend





713075 Component Diesel Engine Fluid

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

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

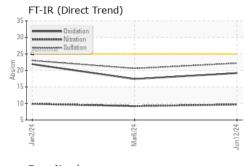
Fluid Condition

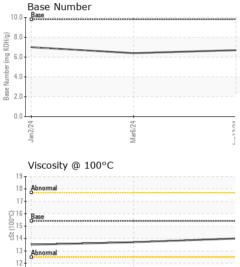
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		method	iiiiii/base	current	TIIStOLYT	mstoryz
Sample Number		Client Info		GFL0103575	GFL0103550	GFL0085346
Sample Date		Client Info		12 Jun 2024	06 Mar 2024	02 Jan 2024
Machine Age	hrs	Client Info		2645	1972	1411
Oil Age	hrs	Client Info		2645	0	0
Oil Changed		Client Info		Changed	Changed	Changed
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	c	method	limit/base	current	history1	history2
	0					
Iron	ppm	ASTM D5185m		20	17	25
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	<1	2
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	2
Lead	ppm	ASTM D5185m	>40	0	<1	1
Copper	ppm	ASTM D5185m	>330	14	34	138
Tin	ppm	ASTM D5185m	>15	2	<1	3
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base		history1	history2
ADDITIVES		methou	iiiiii/base	current	TIISTOLA	Thatoryz
Boron	ppm		0	3	6	9
	ppm ppm		0			
Boron		ASTM D5185m	0	3	6	9
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	3 0	6 0	9 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 63	6 0 63	9 0 68
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 63 1	6 0 63 <1	9 0 68 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 63 1 1044	6 0 63 <1 1064	9 0 68 1 1021
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	3 0 63 1 1044 1142	6 0 63 <1 1064 1174	9 0 68 1 1021 1148
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	3 0 63 1 1044 1142 1117	6 0 63 <1 1064 1174 1046	9 0 68 1 1021 1148 1066
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	3 0 63 1 1044 1142 1117 1372	6 0 63 <1 1064 1174 1046 1329	9 0 68 1 1021 1148 1066 1359
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	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	3 0 63 1 1044 1142 1117 1372 3305	6 0 63 <1 1064 1174 1046 1329 3299	9 0 68 1 1021 1148 1066 1359 2598
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm TS	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	3 0 63 1 1044 1142 1117 1372 3305 current 5	6 0 63 <1 1064 1174 1046 1329 3299 history1	9 0 68 1 1021 1148 1066 1359 2598 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 0 1010 1070 1150 1270 2060	3 0 63 1 1044 1142 1117 1372 3305 current	6 0 63 <1 1064 1174 1046 1329 3299 history1 4	9 0 68 1 1021 1148 1066 1359 2598 history2 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	3 0 63 1 1044 1142 1117 1372 3305 <u>current</u> 5 5	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 <i>current</i>	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 <1 history1	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 current 0.6	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 <1 history1 0.5	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 <1 <1 history2 0.5
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 <i>current</i>	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 <1 history1	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 <1 history2
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 TS ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >4 >20	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 current 0.6 9.7 22.2	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 <1 4 3 <1 0.5 9.2 20.6	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 <1 <1 history2 0.5 9.9 23.0
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 TS ppm ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 220 20 20 20 20 20 20 20 20 20 20 20	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 current 0.6 9.7 22.2 current	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 3 <1 0.5 9.2 20.6 history1	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 <1 history2 0.5 9.9 23.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >4 >20 30 imit/base	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 current 0.6 9.7 22.2 current 19.2	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 3 <1 0.5 9.2 20.6 history1 17.4	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 4 <1 kistory2 0.5 9.9 23.0 history2 23.0
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 TS ppm ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 220 20 20 20 20 20 20 20 20 20 20 20	3 0 63 1 1044 1142 1117 1372 3305 current 5 5 3 3 current 0.6 9.7 22.2 current	6 0 63 <1 1064 1174 1046 1329 3299 history1 4 3 3 <1 0.5 9.2 20.6 history1	9 0 68 1 1021 1148 1066 1359 2598 history2 9 4 <1 history2 0.5 9.9 23.0 history2



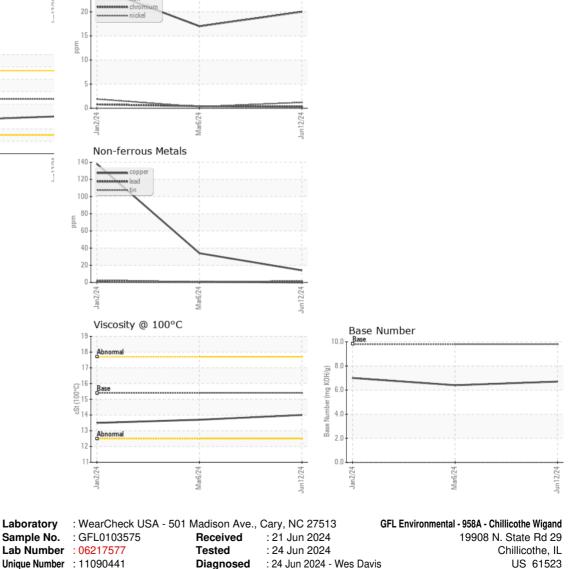
OIL ANALYSIS REPORT





Mar6/24

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	14.0	13.7	13.5
GRAPHS						
Ferrous Alloys						
25 iron chromium						





11 Jan2/24

> Unique Number : 11090441 Diagnosed : 24 Jun 2024 - Wes Davis Test Package : FLEET Contact: Bryan Link Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. blink@gflenv.com * - 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: DREW MOOBERRY

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