

OIL ANALYSIS REPORT

Sample Rating Trend



812094 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.

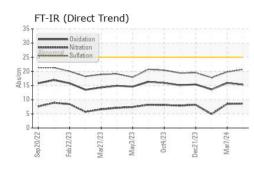
Fluid Condition

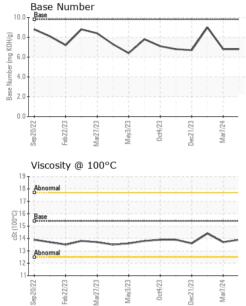
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM		method	iimit/base	current	nistory i	nistoryz
Sample Number		Client Info		GFL0113614	GFL0113592	GFL0103834
Sample Date		Client Info		28 May 2024	07 Mar 2024	29 Dec 2023
Machine Age	hrs	Client Info		7619	7051	6514
Oil Age	hrs	Client Info		568	580	40
Oil Changed		Client Info		Changed	Changed	N/A
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	e	method	limit/base	current	biotory (1	biotory?
	5				history1	history2
Iron	ppm	ASTM D5185m	>120	6	9	0
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	<1	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	2	<1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 1	history1 2	history2 7
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	1	2	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	1 0	2	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 0 56	2 0 54	7 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 0 56 <1	2 0 54 0	7 0 57 <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	1 0 56 <1 929	2 0 54 0 909	7 0 57 <1 921
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	1 0 56 <1 929 1061	2 0 54 0 909 1057	7 0 57 <1 921 1058
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	1 0 56 <1 929 1061 943	2 0 54 0 909 1057 880	7 0 57 <1 921 1058 1026
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	1 0 56 <1 929 1061 943 1208	2 0 54 0 909 1057 880 1121	7 0 57 <1 921 1058 1026 1247
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 1010 1070 1150 1270 2060	1 0 56 <1 929 1061 943 1208 2755 current	2 0 54 0 909 1057 880 1121 2949 history1	7 0 57 <1 921 1058 1026 1247 3101 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 1010 1070 1150 1270 2060	1 0 56 <1 929 1061 943 1208 2755 current 3	2 0 54 0 909 1057 880 1121 2949 history1 3	7 0 57 <1 921 1058 1026 1247 3101 history2 3
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	1 0 56 <1 929 1061 943 1208 2755 current 3 3	2 0 54 0 909 1057 880 1121 2949 history1 3 4	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Jimit/base >25	1 0 56 <1 929 1061 943 1208 2755 current 3 3 0	2 0 54 0 909 1057 880 1121 2949 history1 3 4 4 <1	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 2 <1
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 Imit/base >25	1 0 56 <1 929 1061 943 1208 2755 current 3 3 0 0	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 history1	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	1 0 56 <1 929 1061 943 1208 2755 current 3 3 0 current 0.4	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 3 4 <1 0.6	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2 0.1
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	1 0 56 <1 929 1061 943 1208 2755 <i>current</i> 3 3 0 <i>current</i> 0.4 8.6	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 history1 0.6 8.5	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2 0.1 4.9
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	1 0 56 <1 929 1061 943 1208 2755 current 3 3 0 current 0.4	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 3 4 <1 0.6	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	1 0 56 <1 929 1061 943 1208 2755 <i>current</i> 3 3 0 <i>current</i> 0.4 8.6	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 history1 0.6 8.5	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2 0.1 4.9
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >4 >20	1 0 56 <1 929 1061 943 1208 2755 current 3 3 0 current 0.4 8.6 20.7	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 \$ history1 0.6 8.5 19.8	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2 0.1 4.9 17.8
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 D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >20 >20 >30 imit/base	1 0 56 <1 929 1061 943 1208 2755 current 3 3 3 0 current 0.4 8.6 20.7 current	2 0 54 0 909 1057 880 1121 2949 history1 3 4 <1 5 4 <1 0.6 8.5 19.8 history1	7 0 57 <1 921 1058 1026 1247 3101 history2 3 2 <1 history2 0.1 4.9 17.8 history2



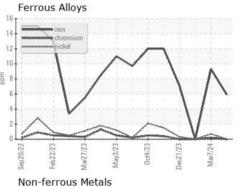
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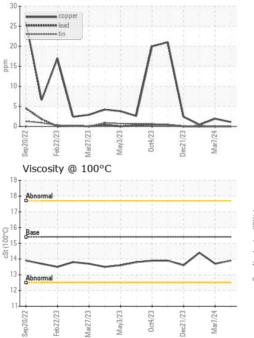


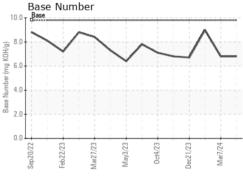


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.7	14.4

GRAPHS







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 654S - Midlothian Sample No. : GFL0113614 Received : 03 Jun 2024 12230 Deergrove Road Lab Number : 06198504 Tested : 04 Jun 2024 Midlothian, VA Unique Number : 11060627 Diagnosed : 04 Jun 2024 - Wes Davis US 23112 Test Package : FLEET Contact: Corbin Umphlet Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. cumphlet@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL654S [WUSCAR] 06198504 (Generated: 06/04/2024 15:10:25) Rev: 1

Submitted By: GFL654,GFL654S,GFL659 - Chuck Warr

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