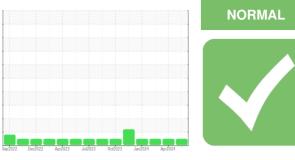


OIL ANALYSIS REPORT

Sample Rating Trend



812093 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.

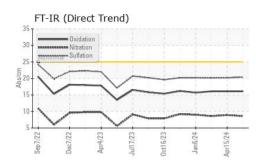
Fluid Condition

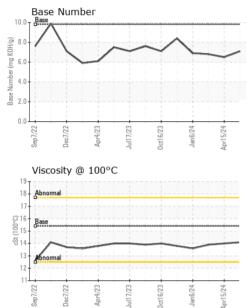
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

				0510400445		
Sample Number		Client Info		GFL0126115	GFL0113613	GFL0113604
Sample Date		Client Info		28 Jun 2024	15 Apr 2024	01 Apr 2024
Machine Age	hrs	Client Info		6378	5850	5823
Oil Age	hrs	Client Info		8	574	547
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	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	13	15	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	1
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	1	3	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
			11 11 11			la la taran O
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	limit/base	current 2	history1 <1	nistory2 3
	ppm ppm					
Boron		ASTM D5185m	0	2	<1	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	2 0	<1 0	3 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 57	<1 0 60	3 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 57 <1	<1 0 60 <1	3 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	2 0 57 <1 1013	<1 0 60 <1 1007	3 0 57 <1 940
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	2 0 57 <1 1013 1188	<1 0 60 <1 1007 1155	3 0 57 <1 940 1053
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	2 0 57 <1 1013 1188 1035	<1 0 60 <1 1007 1155 1040	3 0 57 <1 940 1053 994
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	2 0 57 <1 1013 1188 1035 1320	<1 0 60 <1 1007 1155 1040 1267	3 0 57 <1 940 1053 994 1235
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	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	2 0 57 <1 1013 1188 1035 1320 3320	<1 0 60 <1 1007 1155 1040 1267 3307	3 0 57 <1 940 1053 994 1235 2692
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	2 0 57 <1 1013 1188 1035 1320 3320 current	<1 0 60 <1 1007 1155 1040 1267 3307 history1	3 0 57 <1 940 1053 994 1235 2692 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 method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	2 0 57 <1 1013 1188 1035 1320 3320 current 4	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4	3 0 57 <1 940 1053 994 1235 2692 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 method ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4	3 0 57 <1 940 1053 994 1235 2692 history2 4 3
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 limit/base >25 >20	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4 1	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4 3	3 0 57 <1 940 1053 994 1235 2692 history2 4 3 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4 3 <u>history1</u> 0.7	3 0 57 <1 940 1053 994 1235 2692 history2 4 3 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 >20	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4 1 2 4 1 2 0.7	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4 3 3 history1	3 0 57 <1 940 1053 994 1235 2692 history2 4 3 1 history2 0.6
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 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	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4 1 current 0.7 8.6	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4 3 history1 0.7 8.9	3 0 57 <1 940 1053 994 1235 2692 history2 4 3 1 history2 0.6 8.6
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 TS ppm ppm ppm ppm ppm ppm Abs/cm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >4 >20 >30 imit/base	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4 4 1 current 0.7 8.6 20.4 current	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4 4 3 history1 0.7 8.9 20.2 history1	3 0 57 <1 940 1053 994 1235 2692 history2 4 3 1 history2 0.6 8.6 20.1 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 ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	2 0 57 <1 1013 1188 1035 1320 3320 current 4 4 1 1 current 0.7 8.6 20.4	<1 0 60 <1 1007 1155 1040 1267 3307 history1 4 4 3 <u>history1</u> 0.7 8.9 20.2	3 0 57 <1 940 1053 994 1235 2692 history2 4 3 1 history2 0.6 8.6 20.1



OIL ANALYSIS REPORT



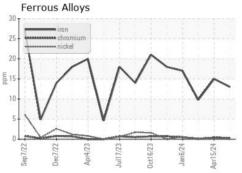


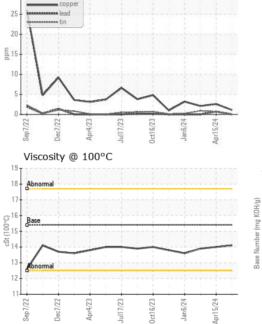
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.1	14.0	13.9

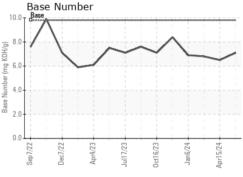
GRAPHS

Non-ferrous Metals

30







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 654S - Midlothian Sample No. : GFL0126115 Received : 05 Jul 2024 12230 Deergrove Road Lab Number : 06229612 Tested : 08 Jul 2024 Midlothian, VA Unique Number : 11113105 Diagnosed : 08 Jul 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:

Submitted By: GFL654,GFL654S,GFL659 - Chuck Warr

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