

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

810041 Component

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.

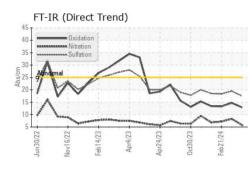
Fluid Condition

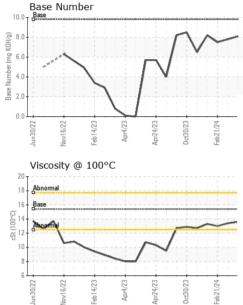
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0115719	GFL0115750	GFL0112288
Sample Date		Client Info		05 Apr 2024	12 Mar 2024	21 Feb 2024
Machine Age	hrs	Client Info		18792	18608	18475
Oil Age	hrs	Client Info		699	416	283
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	>100	13	28	22
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	- 1	<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	4	3
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	5	7	7
Tin	ppm	ASTM D5185m	>15		0	<1
Vanadium	ppm	ASTM D5185m	210	<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES	1-1-	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	10	7	4
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	60	61	59	59
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm					
-		ASTM D5185m	1010	871	859	856
Calcium		ASTM D5185m	1010	871 1040	859 1015	856 991
Calcium Phosphorus	ppm	ASTM D5185m	1070	1040	1015	991
Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	1070 1150	1040 939	1015 952	991 931
	ppm	ASTM D5185m	1070	1040	1015	991
Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1040 939 1136	1015 952 1180	991 931 1114
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060	1040 939 1136 2887	1015 952 1180 3068	991 931 1114 2658
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060 limit/base	1040 939 1136 2887 current	1015 952 1180 3068 history1	991 931 1114 2658 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1070 1150 1270 2060 limit/base >25	1040 939 1136 2887 current 7	1015 952 1180 3068 history1 6	991 931 1114 2658 history2 3
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1040 939 1136 2887 current 7 7 7	1015 952 1180 3068 history1 6 20	991 931 1114 2658 history2 3 23
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25 >20	1040 939 1136 2887 current 7 7 2	1015 952 1180 3068 history1 6 20 4	991 931 1114 2658 history2 3 23 <1
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 imit/base >25 >20 imit/base	1040 939 1136 2887 current 7 7 2 2 current	1015 952 1180 3068 history1 6 20 4 history1	991 931 1114 2658 history2 3 23 <1 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	1040 939 1136 2887 current 7 7 2 2 current 0.4	1015 952 1180 3068 history1 6 20 4 4 history1 0.9	991 931 1114 2658 history2 3 23 <1 23 <1 history2 0.6
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	1040 939 1136 2887 current 7 7 2 2 current 0.4 5.8	1015 952 1180 3068 history1 6 20 4 history1 0.9 8.3	991 931 1114 2658 history2 3 23 <1 history2 0.6 7.2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	1040 939 1136 2887 current 7 7 2 2 current 0.4 5.8 17.5	1015 952 1180 3068 history1 6 20 4 history1 0.9 8.3 19.5	991 931 1114 2658 history2 3 23 <1 history2 0.6 7.2 18.3
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm TS ppm ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20 >30 imit/base	1040 939 1136 2887 current 7 7 2 2 current 0.4 5.8 17.5 current	1015 952 1180 3068 history1 6 20 4 history1 0.9 8.3 19.5 history1	991 931 1114 2658 history2 3 23 <1 history2 0.6 7.2 18.3 history2



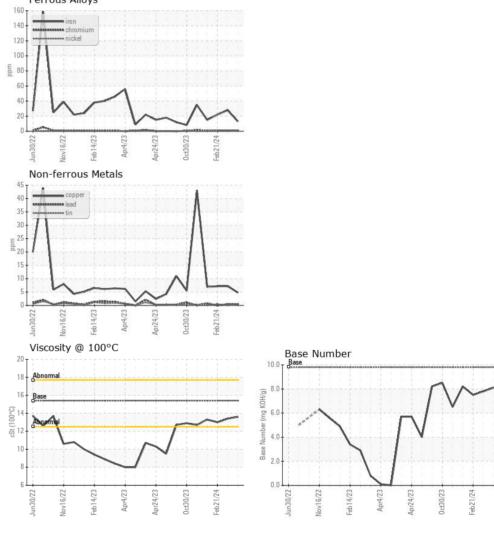
OIL ANALYSIS REPORT





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	13.6	13.4	13.0
GRAPHS						

Ferrous Alloys



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 010 - Stockbridge Sample No. : GFL0115719 Received : 08 Apr 2024 1280 Rum Creek Parkway Lab Number : 06140901 Tested : 09 Apr 2024 Stockbridge, GA US 30281 Unique Number : 10965709 Diagnosed : 09 Apr 2024 - Wes Davis Test Package : FLEET Contact: JOSHUA TINKER Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. joshuatinker@gflenv.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)