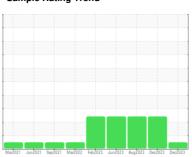


OIL ANALYSIS REPORT

Sample Rating Trend







Machi 58 Comp Dies Fluid PET

Machine Id
586M
Component
Diesel Engine
Fluid

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

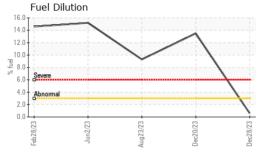
Fluid Condition

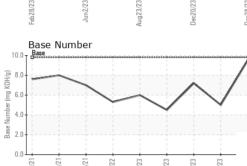
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

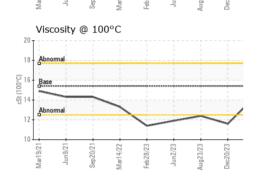
N SHP 15W40 (GAL)	Mar2021 Jui	2021 Sep2021 Mar2022	Feb2023 Jun2023 Aug2023 Dec203	23 DBC2U23	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0107677	GFL0107047	GFL0091478
Sample Date		Client Info		28 Dec 2023	20 Dec 2023	23 Aug 2023
Machine Age	hrs	Client Info		10476	10408	8746
Oil Age	hrs	Client Info		600	600	8746
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	SEVERE	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	>90	3	28	16
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	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	4
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
			_	•		0
Boron	ppm	ASTM D5185m	0	2	1	3
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 60	0 57	0 63	0 56
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 57 0	0 63 0	0 56 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 57 0 930	0 63 0 983	0 56 <1 915
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 57 0 930 1041	0 63 0 983 1088	0 56 <1 915 1021
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 57 0 930 1041 1077	0 63 0 983 1088 1010	0 56 <1 915 1021 992
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 60 0 1010 1070 1150 1270	0 57 0 930 1041 1077 1214	0 63 0 983 1088 1010	0 56 <1 915 1021 992 1220
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	0 60 0 1010 1070 1150 1270 2060	0 57 0 930 1041 1077 1214 3192	0 63 0 983 1088 1010 1287 3027	0 56 <1 915 1021 992 1220 3439
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 60 0 1010 1070 1150 1270 2060	0 57 0 930 1041 1077 1214 3192 current	0 63 0 983 1088 1010 1287 3027 history1	0 56 <1 915 1021 992 1220 3439 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 57 0 930 1041 1077 1214 3192 current	0 63 0 983 1088 1010 1287 3027 history1	0 56 <1 915 1021 992 1220 3439 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 57 0 930 1041 1077 1214 3192 current 4	0 63 0 983 1088 1010 1287 3027 history1 4	0 56 <1 915 1021 992 1220 3439 history2 3 5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 57 0 930 1041 1077 1214 3192 current 4 2 <1	0 63 0 983 1088 1010 1287 3027 history1 4 <1	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	0 57 0 930 1041 1077 1214 3192 current 4 2 <1	0 63 0 983 1088 1010 1287 3027 history1 4 <1 2	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	0 57 0 930 1041 1077 1214 3192 current 4 2 <1 0.6	0 63 0 983 1088 1010 1287 3027 history1 4 <1 2 13.5 history1	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1 9.3 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6	0 57 0 930 1041 1077 1214 3192 current 4 2 <1 0.6 current	0 63 0 983 1088 1010 1287 3027 history1 4 <1 2 13.5 history1 0.4	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1 ● 9.3 history2 0.5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20	0 57 0 930 1041 1077 1214 3192 current 4 2 <1 0.6 current 0.1	0 63 0 983 1088 1010 1287 3027 history1 4 <1 2 13.5 history1 0.4 12.5	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1 ● 9.3 history2 0.5 11.0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7824 *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20 >30 limit/base	0 57 0 930 1041 1077 1214 3192 current 4 2 <1 0.6 current 0.1 5.4 17.6	0 63 0 983 1088 1010 1287 3027 history1 4 <1 2 13.5 history1 0.4 12.5 24.0	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1 ● 9.3 history2 0.5 11.0 20.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20 >30	0 57 0 930 1041 1077 1214 3192 current 4 2 <1 0.6 current 0.1 5.4 17.6	0 63 0 983 1088 1010 1287 3027 history1 4 <1 2 13.5 history1 0.4 12.5 24.0 history1	0 56 <1 915 1021 992 1220 3439 history2 3 5 <1 ● 9.3 history2 0.5 11.0 20.7 history2



OIL ANALYSIS REPORT



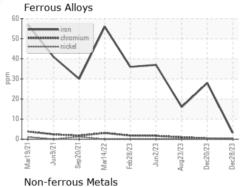


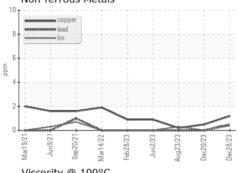


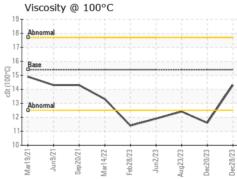
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

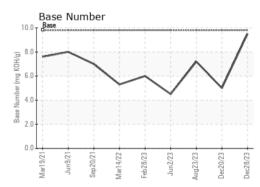
FLUID FROFERITES		memou			HISTOLAL	HISTOLYZ	
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	<u> </u>	<u> </u>	

GRAPHS











Laboratory Sample No. Lab Number **Unique Number**

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0107677 : 06053306

: 10819255

Recieved Diagnosed

: 08 Jan 2024 : 09 Jan 2024 Diagnostician : Wes Davis

Test Package : FLEET (Additional Tests: PercentFuel) To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

GFL Environmental - 465 - Pontiac

888 Baldwin Pontiac, MI US 48340

Contact: Ricky Matthews rickymathews@gflenv.com T: (586)825-9514

Report Id: GFL465 [WUSCAR] 06053306 (Generated: 01/09/2024 16:32:36) Rev: 1