

OIL ANALYSIS REPORT

Sample Rating Trend

Rating Trend NORMAL



Machine Id
212002
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

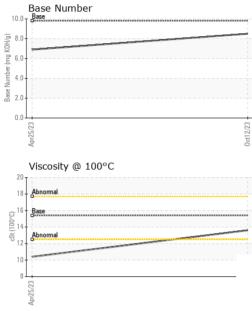
Fluid Condition

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

ON SHP 15W40 (- GAL)		Apr2023	Oct2023		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0089139	GFL0069865	
Sample Date		Client Info		12 Oct 2023	25 Apr 2023	
Machine Age	hrs	Client Info		7235	5709	
Oil Age	hrs	Client Info		600	600	
Oil Changed	1110	Client Info		Changed	Changed	
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel	ION	WC Method	>5	<1.0	<1.0	HIStory2
Glycol		WC Method	75	NEG	NEG	
WEAR METAL	c	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	15	22	
Chromium	ppm	ASTM D5185m	>5	<1	<1	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>30	3	2	
Lead	ppm	ASTM D5185m	>30	0	0	
Copper	ppm	ASTM D5185m	>150	<1	0	
Tin	ppm	ASTM D5185m	>5	0	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	1	4	
Barium	ppm	ASTM D5185m	0	<1	0	
Molybdenum	ppm	ASTM D5185m	60	57	51	
Manganese	ppm ppm	ASTM D5185m ASTM D5185m	0	57 0	51 <1	
Manganese	ppm	ASTM D5185m	0	0	<1	
Manganese Magnesium	ppm	ASTM D5185m ASTM D5185m	0 1010	0 861	<1 854	
Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	0 861 1005	<1 854 911	
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150	0 861 1005 978	<1 854 911 937	
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270	0 861 1005 978 1186	<1 854 911 937 1152	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060	0 861 1005 978 1186 2798	<1 854 911 937 1152 2610	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060	0 861 1005 978 1186 2798	<1 854 911 937 1152 2610 history1	 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	0 1010 1070 1150 1270 2060	0 861 1005 978 1186 2798 current	<1 854 911 937 1152 2610 history1	 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base	0 861 1005 978 1186 2798 current 3	<1 854 911 937 1152 2610 history1 5	history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >20	0 861 1005 978 1186 2798 current 3 1	<1 854 911 937 1152 2610 history1 5 3	history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >20 	0 861 1005 978 1186 2798 current 3 1 3 current	<1 854 911 937 1152 2610 history1 5 3 1 history1 0.7	history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >20 >20	0 861 1005 978 1186 2798 current 3 1	<1 854 911 937 1152 2610 history1 5 3 1	history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415	0 1010 1070 1150 1270 2060 limit/base >20 20 limit/base	0 861 1005 978 1186 2798 current 3 1 3 current 0.6 7.8	<1 854 911 937 1152 2610 history1 5 3 1 history1 0.7 9.1	history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 1010 1070 1150 1270 2060 limit/base >20 >20 limit/base >3 >20 >30 limit/base	0 861 1005 978 1186 2798 current 3 1 3 current 0.6 7.8 19.2	<1 854 911 937 1152 2610 history1 5 3 1 history1 0.7 9.1 19.1 history1	history2 history2 history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7624 *ASTM D7624 *ASTM D7415 method *ASTM D7414	0 1010 1070 1150 1270 2060 limit/base >20 >20 limit/base >3 >20 >3	0 861 1005 978 1186 2798 current 3 1 3 current 0.6 7.8 19.2	<1 854 911 937 1152 2610 history1 5 3 1 history1 0.7 9.1 19.1	history2 history2



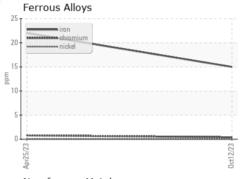
OIL ANALYSIS REPORT



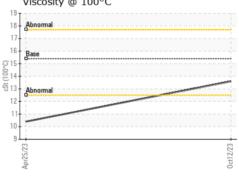
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
- FILUR DD 000						

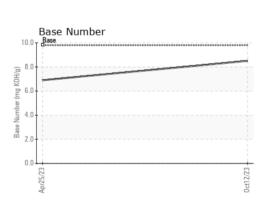
FLUID PROPI	ERHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	10.4	

GRAPHS



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4							
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Apr25/23		**************************************		 			Oct12/23







Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10701729 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0089139 : 05984434

Received Diagnosed

: 20 Oct 2023 : 20 Oct 2023 Diagnostician : Wes Davis

GFL Environmental - 418 - Metro/MI East

22001 Hoover Dr Warren, MI US 48089 Contact: JIM HESS

jhess@gflenv.com T:

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)

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