

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 927056

Fluid

Component
Diesel Engine

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.

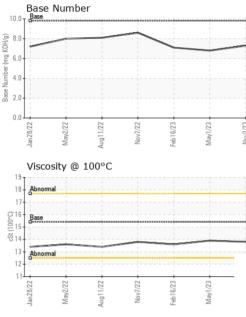
Fluid Condition

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		GFL0092528	GFL0077935	GFL0071645
Sample Date		Client Info		02 Nov 2023	01 May 2023	16 Feb 2023
Machine Age	hrs	Client Info		16900	15831	15378
Oil Age	hrs	Client Info		449	460	605
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	8	7	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	1
Lead	ppm	ASTM D5185m	>40	1	0	<1
Copper	ppm	ASTM D5185m		1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<1	2	0
Barium	ppm	ASTM D5185m		5	0	0
				-	-	÷
			60	62	59	63
Molybdenum	ppm	ASTM D5185m	60 0	62 <1	59 <1	63 <1
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	0	<1	<1	<1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010	<1 926	<1 1023	<1 902
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	<1 926 1046	<1 1023 1081	<1 902 1045
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150	<1 926 1046 1065	<1 1023 1081 1047	<1 902 1045 951
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	<1 926 1046	<1 1023 1081	<1 902 1045
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270	<1 926 1046 1065 1207	<1 1023 1081 1047 1320	<1 902 1045 951 1167
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm 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 limit/base	<1 926 1046 1065 1207 2997 current	<1 1023 1081 1047 1320 3644 history1	<1 902 1045 951 1167 3182 history2
Molybdenum 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 limit/base	<1 926 1046 1065 1207 2997 current 5	<1 1023 1081 1047 1320 3644 history1 3	<1 902 1045 951 1167 3182 history2 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	<1 926 1046 1065 1207 2997 current 5 2	<1 1023 1081 1047 1320 3644 history1 3 2	<1 902 1045 951 1167 3182 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 1010 1070 1150 1270 2060 /////////////////////////////////	<1 926 1046 1065 1207 2997 current 5 2 2 2	<1 1023 1081 1047 1320 3644 history1 3 2 <1	<1 902 1045 951 1167 3182 history2 3 2 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20	<1 926 1046 1065 1207 2997 current 5 2 2 2 2	<1 1023 1081 1047 1320 3644 history1 3 2 <1 history1	<1 902 1045 951 1167 3182 history2 3 2 0 history2
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 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4	<1 926 1046 1065 1207 2997 current 5 2 2 2 2 2 current 0.4	<1 1023 1081 1047 1320 3644 history1 3 2 <1 2 <1 history1 0.3	<1 902 1045 951 1167 3182 history2 3 2 0 history2 0.6
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	ASTM D5185m ASTM D51854	0 1010 1070 1150 1270 2060 limit/base >25 -20 limit/base >4 >20	<1 926 1046 1065 1207 2997 current 5 2 2 2 current 0.4 8.9	<1 1023 1081 1047 1320 3644 history1 3 2 <1 history1 0.3 8.5	<1 902 1045 951 1167 3182 history2 3 2 0 history2 0.6 9.9
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 /////////////////////////////////	<1 926 1046 1065 1207 2997 current 5 2 2 2 current 0.4 8.9 21.2	<1 1023 1081 1047 1320 3644 history1 3 2 <1 history1 0.3 8.5 18.5	<1 902 1045 951 1167 3182 history2 3 2 0 history2 0.6 9.9 21.2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	0 1010 1070 1150 1270 2060 /////////////////////////////////	<1 926 1046 1065 1207 2997 current 5 2 2 2 current 0.4 8.9 21.2 current	<1 1023 1081 1047 1320 3644 history1 3 2 <1 history1 0.3 8.5 18.5 history1	<1 902 1045 951 1167 3182 history2 3 2 0 history2 0.6 9.9 21.2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	0 1010 1070 1150 1270 2060 /////////////////////////////////	<1 926 1046 1065 1207 2997 current 5 2 2 2 current 0.4 8.9 21.2 current 18.5	<1 1023 1081 1047 1320 3644 history1 3 2 <1 history1 0.3 8.5 18.5 18.5 history1 16.3	<1 902 1045 951 1167 3182 history2 3 2 0 history2 0.6 9.9 21.2 history2 17.8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	0 1010 1070 1150 1270 2060 /////////////////////////////////	<1 926 1046 1065 1207 2997 current 5 2 2 2 current 0.4 8.9 21.2 current	<1 1023 1081 1047 1320 3644 history1 3 2 <1 history1 0.3 8.5 18.5 history1	<1 902 1045 951 1167 3182 history2 3 2 0 history2 0.6 9.9 21.2 history2



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history
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	ERTIES	method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.9	13.6
GRAPHS						
Ferrous Alloys						
25 iron						
20 - new nickel						
15						
10-						
5-						
0						
		~ ~	2			
	22/1	6/23	52			
Jan 28/22	Nov7/22	Feb 16/23 May1/23	Nov2/23			
Jan 28/22 May 2/222 Mou-ferrous Meta		Feb 16/23 May1/23	Nov2/7			
Jan28/22 May2/22 Aug11/22		Feb16/2 May1/2	Nov27			
Non-ferrous Meta 10		Feb16/23 May1/23	Nov2/7			
Non-ferrous Meta		Feb16/2 May1/2	Nov22			
Non-ferrous Meta		Feb16/2 May1/2	Nov27			
22/11/Dmy Meta		Feb 16/2 May/72	Nov21			
ZZUILBINK Non-ferrous Meta		Fab16/2 May1/2	Nov21			
ZZ/11/0mW Meta		Feb 16/2 May1/2	Nov2/			
ZZULIDINY Non-ferrous Meta			Nov21			
ZZULIDINY Non-ferrous Meta	IIS					
ZZ/11 lbny ZZ/22/eW Non-ferrous Meta		Feb 16/23 Feb 16/23 Feb 16/22 May/123 May/123	Nov212 Nov22			
ZZUILIDINY Roon-ferrous Meta CZUILIDINY Roon-ferrous META ROON-FERROUS ME	IIS			Base Number		
ZZIZIJEW Non-ferrous Meta CZZZ/EW Non-ferrous Meta CZZZ/EW Non-ferrous Meta CZZZ/EW Viscosity @ 100°	IIS		Nov2/23 +	Base Number		
ZZUILIDINY Roon-ferrous Meta CZUILIDINY Roon-ferrous META ROON-FERROUS ME	IIS		10.0			
ZZULI DINY Non-ferrous Meta Non-ferrous Meta CZUZVEW Non-ferrous Meta CZUZVEW Viscosity @ 10000	IIS		10.0			
ZZULI DINY Non-ferrous Meta Non-ferrous Meta CZUZVEW Non-ferrous Meta CZUZVEW Viscosity @ 10000 Abnormal	IIS		10.0			

Base Number

0.0

Jan 28/22

May2/22 .

Aug11/22 -

Nov7/22 -



 Certificate 12367
 Test Package
 : FLEET

 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)

Aug11/22 -

Nov7/22 -

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

Received

Diagnosed

Feb16/23

Diagnostician : Wes Davis

May1/23.

Nov2/23 -

: 06 Nov 2023

: 07 Nov 2023

13 - Abnormal

12

Laboratory Sample No.

Lab Number

Unique Number : 10728137

Jan28/22

May2/22 .

: GFL0092528

: 05999777

Feb16/23

May1/23 -

Nov2/23