

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 827062-257 Component

Diesel Engine

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

SAMPLE	INFORMATION	method	limit/base	current	history1	history2
Sample Num	nber	Client Info		GFL0103386	GFL0066145	GFL0066120
Sample Date	e	Client Info		02 Jan 2024	27 Nov 2023	29 Aug 2023
Machine Age	e hrs	Client Info		0	11290	10706
Oil Age	hrs	Client Info		0	600	600
Oil Changed		Client Info		N/A	Changed	Changed
Sample Stat				NORMAL	NORMAL	NORMAL
CONTAN	MINATION	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 M	IETALS	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	2	8	10
Chromium	ppm	ASTM D5185m	>20	0	1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum		ASTM D5185m	>20	1	2	3
	ppm					
Lead	ppm	ASTM D5185m	>40	0	0	2
Copper	ppm	ASTM D5185m		0	0	2
Tin	ppm		>15	<1	0	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIV	'ES	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	4	0	4
Barium	ppm	ASTM D5185m	0	0	4	0
Molybdenum		ASTM D5185m	60	57	59	63
Molybdenum Manganese		ASTM D5185m ASTM D5185m	60	57 <1	59 0	63 <1
	n ppm		60			
Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	60 0 1010	<1	0	<1
Manganese Magnesium Calcium	n ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070	<1 941 1068	0 903 1040	<1 893 1095
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070 1150	<1 941 1068 1085	0 903 1040 956	<1 893 1095 972
Manganese Magnesium Calcium	n ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070	<1 941 1068	0 903 1040	<1 893 1095
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070 1150 1270	<1 941 1068 1085 1268	0 903 1040 956 1167	<1 893 1095 972 1191 2770
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	n ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070 1150 1270 2060 limit/base	<1 941 1068 1085 1268 3167	0 903 1040 956 1167 2868	<1 893 1095 972 1191 2770
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	60 0 1010 1070 1150 1270 2060 limit/base	<1 941 1068 1085 1268 3167 current	0 903 1040 956 1167 2868 history1	<1 893 1095 972 1191 2770 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon	ppm ppm ppm ppm ppm ppm ppm MINANTS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	60 0 1010 1070 1150 1270 2060 limit/base >25	<1 941 1068 1085 1268 3167 current 3	0 903 1040 956 1167 2868 history1 0	<1 893 1095 972 1191 2770 history2 4
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm MINANTS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070 1150 1270 2060 limit/base >25	<1 941 1068 1085 1268 3167 current 3 2	0 903 1040 956 1167 2868 history1 0 0	<1 893 1095 972 1191 2770 history2 4 4
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm MINANTS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	60 0 1010 1070 1150 1270 2060 limit/base >25	<1 941 1068 1085 1268 3167 <u>current</u> 3 2 2	0 903 1040 956 1167 2868 history1 0 0 0	<1 893 1095 972 1191 2770 history2 4 4 4 2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon Sodium Potassium INFRA-F Soot %	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 ASTM D5185m	60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 941 1068 1085 1268 3167 current 3 2 2 2 2 current 0.1	0 903 1040 956 1167 2868 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 893 1095 972 1191 2770 history2 4 4 4 2 history2 0.4
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon Sodium Potassium INFRA-F	n ppm ppm 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 ASTM D5185m	60 0 1010 1070 1150 2060 limit/base >25 >20 limit/base >4 >20	<1 941 1068 1085 1268 3167 <u>current</u> 3 2 2 2 <u>current</u>	0 903 1040 956 1167 2868 history1 0 0 0 0 0	<1 893 1095 972 1191 2770 history2 4 4 2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon Sodium Potassium INFRA-F Soot % Nitration Sulfation	ррт ррт ррт ррт ррт ррт ррт ррт	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7824 *ASTM D7415	60 0 1010 1070 1150 2060 limit/base >25 >20 limit/base >4 >20	<1 941 1068 1085 1268 3167 current 3 2 2 current 0.1 5.5	0 903 1040 956 1167 2868 history1 0 0 0 0 history1 0.5 9.3	<1 893 1095 972 1191 2770 history2 4 4 4 2 history2 0.4 8.8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAN Silicon Sodium Potassium INFRA-F Soot % Nitration Sulfation	ррт ррт ррт ррт ррт ррт ррт ррт	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7824 *ASTM D7415	60 0 1010 1070 1150 2060 imit/base >25 20 imit/base >20 imit/base >30	<1 941 1068 1085 1268 3167 <u>current</u> 3 2 2 2 <u>current</u> 0.1 5.5 18.1	0 903 1040 956 1167 2868 history1 0 0 0 history1 0.5 9.3 21.3	<1 893 1095 972 1191 2770 history2 4 4 2 history2 0.4 8.8 20.8

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.

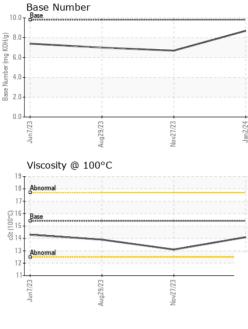
Fluid Condition

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



OIL ANALYSIS REPORT

VISUAL



	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	LIGHT	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Jan2/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jan	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		method	limit/base			history2
	Visc @ 100°C	cSt	ASTM D445		14.1	13.1	13.9
	GRAPHS	001	A0110 0443	13.4	14.1	10.1	10.5
	Ferrous Alloys						
	¹²						
	10- iron						
	nickel						
-	8-						
	6-						
	4						
	2						
			AND DESCRIPTION OF TAXABLE PARTY OF TAXA	and the second se			
	23		/23	124			
	Jun7/23 Aug29/23		Nov27/23	Jan 2/24			
	Non-ferrous Meta	als	~				
	copper						
	8 - exercise tin						
	6-						
200							
	4						
	2-						
	25 moorth 3 model and 6 model and a	Contraction of the local division of the loc					
	133		/23	/24			
	Jun7/23 Aug29/23		Nav27/23	Jan2/24			
	Viscosity @ 100°	С			Baco Num	bor	
	¹⁹			10	Base Num		
	18 - Abnormal			8	0		
	17			(B/HO			
Jour	Base			۵ Ku	.0		1
C+ /10	Base 15			nber (
				Base Number (mg KOH/g)	.0		
	13 Abnormal			2	.0		
	12						
	11		/23 -	0		/23-	
	Jun7/23 Aug29/23		Nov27/23	Jan 2/24	Jun7/23	Aug29/23	Nov2//23
	Aı		Z			4	2
ory	: WearCheck USA -				3 GF	L Environmental -	
No.	: GFL0103386 Recieved : 10 Jan 2024					N149	985 Tieman A
mber	: 06056366	Diagnos		Jan 2024 9 Dovie			Thorp,
lumber ckage	: 10822315 : FLEET	Diagnost	lician : we	s Davis		Con	US 547 tact: Andy Ka
	ontact Customer Ser	vice at 1.0	00-227-1260	9			tact: Andy Ka
	oniaci Cusionier Sen			akane@gflenv.c			

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)

Certificate L2367

F:

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