

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 723050

Component Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Sample only) $% \label{eq:commutative}$

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

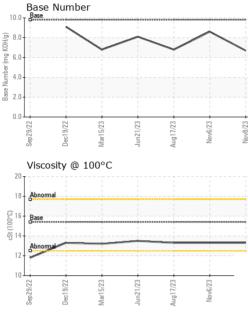
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

·		3892022	Deczozz Marzozs v	Jun2023 Aug2023 Nov2023		
SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0094864	GFL0094857	GFL0088261
Sample Date		Client Info		08 Nov 2023	06 Nov 2023	17 Aug 2023
Machine Age	hrs	Client Info		2414	2393	2097
Oil Age	hrs	Client Info		84	63	570
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	6	6	60
Chromium	ppm	ASTM D5185m	>20	<1	<1	4
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	17
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	0	<1	2
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	5	2	2
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	57	57	65
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		57 0	57 0	65 1
Manganese	ppm	ASTM D5185m	0	0	0	1
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	0 1010	0 908	0 867	1 961
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	0 908 1047	0 867 993	1 961 1126
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150	0 908 1047 1044	0 867 993 876	1 961 1126 953
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	0 908 1047	0 867 993	1 961 1126
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	0 908 1047 1044 1241	0 867 993 876 1160	1 961 1126 953 1232
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 1010 1070 1150 1270 2060 limit/base	0 908 1047 1044 1241 3134 current	0 867 993 876 1160 3012 history1	1 961 1126 953 1232 3089
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 1010 1070 1150 1270 2060	0 908 1047 1044 1241 3134	0 867 993 876 1160 3012	1 961 1126 953 1232 3089 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 1010 1070 1150 1270 2060 limit/base >25	0 908 1047 1044 1241 3134 current 3	0 867 993 876 1160 3012 history1 3	1 961 1126 953 1232 3089 history2 9
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	0 908 1047 1044 1241 3134 current 3 1	0 867 993 876 1160 3012 history1 3 0	1 961 1126 953 1232 3089 history2 9 3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 limit/base >25 >20	0 908 1047 1044 1241 3134 <u>current</u> 3 1 8	0 867 993 876 1160 3012 history1 3 0 7	1 961 1126 953 1232 3089 history2 9 3 31
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	0 908 1047 1044 1241 3134 <u>current</u> 3 1 8 <u>current</u>	0 867 993 876 1160 3012 history1 3 0 7 history1	1 961 1126 953 1232 3089 history2 9 3 31 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	0 908 1047 1044 1241 3134 current 3 1 8 current 1.3	0 867 993 876 1160 3012 history1 3 0 7 history1 0.1	1 961 1126 953 1232 3089 history2 9 3 31 31 history2 0.9
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	0 908 1047 1044 1241 3134 current 3 1 8 current 1.3 10.8	0 867 993 876 1160 3012 history1 3 0 7 history1 0.1 5.1	1 961 1126 953 1232 3089 history2 9 3 31 history2 0.9 10.0
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 D7844 *ASTM D7624	0 1010 1070 1150 1270 2060 limit/base >25 	0 908 1047 1044 1241 3134 <u>current</u> 3 1 8 <u>current</u> 1.3 10.8 23.2	0 867 993 876 1160 3012 history1 3 0 7 history1 0.1 5.1 17.6	1 961 1126 953 1232 3089 history2 9 3 31 history2 0.9 10.0 21.2



OIL ANALYSIS REPORT

VISUAL



	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate		*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris		*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt		*Visual	NONE	NONE	NONE	NONE
723-	Appearance		*Visual	NORML	NORML	NORML	NORML
Nov6/23 Nov8/23	Odor		*Visual	NORML	NORML	NORML	NORML
	Emulsified Water		*Visual	>0.2	NEG	NEG	NEG
	Free Water		*Visual	20.2	NEG	NEG	NEG
			VISUAI				
	FLUID PROP		method	limit/base		history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.3	13.3
	GRAPHS						
	Ferrous Alloys						
23	iron						
Nov6/23	60						
_	50						
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	30						
	20 -		$ \rangle$				
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	Sep 29/22 Dec 19/22 Mar 15/23	Jun21/23	Aug17/23 Nov6/23	Nov8/23			
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	Non forrous Mot	ale					
	Non-ferrous Met	als					
	45 40 copper	als					
	45 I	als					
	45 40 35 30	als					
	45 40 35 30	als					
	45 40 35 30 <u>E</u> 20	als					
	45 40 35 30 45 20 15	als					
	45 40 35 30 45 20 15 10	als					
	45 40 35 30 45 10 5	als					
	45 40 35 30 25 20 15 10 5 0 40 10 10 10 10 10 10 10 10 10 1		7/23				
	45 40 35 30 45 10 5		Aug17/23	Nov6/23 a			
	45 40 35 30 25 20 15 10 5 0 27/612 8 0 27/612 8 0 27/612 8 0 27/612 8 0 27/612 8 0 27/612 8 0 27/612 9 0 27/612 9 0 10 10 10 10 10 10 10 10 10 10 10 10 1	Junz1/23	Aug17/23				
	45 40 35 30 25 20 15 10 5 0 40 10 10 10 10 10 10 10 10 10 1	Junz1/23	Aug 17/23	Nov8/23	Base Numb	per	
	45 40 35 30 22 20 15 10 5 0 72/67 88 Viscosity @ 100°	Junz1/23	Aug 17/23	Nov8/23	Base Numb)er	
	45 40 35 30 45 10 5 10 5 10 5 10 5 10 5 10 5 10 10 10 10 10 10 10 10 10 10	Junz1/23		Nov6/23	Base Numb	ber	
	45 40 35 30 45 40 35 30 46 25 20 15 10 5 10 5 10 5 10 10 10 10 10 10 10 10 10 10	Junz1/23	Aug17/23 / Aug12/23 /	Nov6/23	8.0	per	
	45 40 35 30 45 40 35 30 46 25 20 15 10 5 10 5 10 5 10 10 10 10 10 10 10 10 10 10	Junz1/23	Aug17/23 / Museline	Nov6/23	0.0 Base	ber	
	45 40 35 30 45 40 35 40 35 40 40 40 40 40 40 40 40 40 40	Junz1/23	Aug17/23 A Aug17/23 Aug	Nov6/23	8.0	ber	
	45 40 35 30 45 40 35 40 35 40 50 15 10 50 15 10 50 15 10 50 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10	Junz1/23	Aug17/23 / Mor6/23	Nov6/23	0.0 Base 0.0	per	
	45 40 35 30 45 40 35 40 50 10 50 15 10 50 15 10 50 15 10 50 15 10 50 15 10 15 10 15 10 15 10 15 10 15 10 15 15 10 15 15 10 15 15 15 15 15 15 15 15 15 15	Junz1/23	Aug17/23 / Mor6/23	ase Number (mg KOH(g)	0.0 Base 0.0	ber	
	45 40 35 30 45 40 35 40 35 40 50 10 50 10 50 10 50 10 10 10 10 10 10 10 10 10 1	Junz1/23	Aug17/23 / Mor6/23	Rase Number (ng KOH(g)	0.0 Base	ber	
	45 40 35 30 45 40 35 40 35 40 50 10 50 10 50 10 50 10 50 10 50 10 10 10 10 10 10 10 10 10 1	C C		Base Number (mg KOH(g)	Base 3.0 1.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0 0		
	45 40 35 30 45 40 35 40 35 40 50 10 50 10 50 10 50 10 50 10 50 10 10 10 10 10 10 10 10 10 1	C C		Base Number (mg KOH(g)	Base 3.0 1.0 2.0 0.0 0.0 0.0 0.0 0.0 0.0 0		ug17/23
	45 40 35 30 45 40 35 40 35 40 50 10 50 10 50 10 50 10 10 10 10 10 10 10 10 10 1	C C	Aug17/23	Rase Number (ng KOH(g)	0.0 Base		Aug 17/23
ratory	<pre>45 40 35 30 30 30 30 30 30 30 30 30 30 30 30 30</pre>	C EZIJZUNF 501 Madise	Power, Ca	EZ8000N (HDX bu) Jaquini 4 EZ8000N (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	Base Base 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	EZYIZUNG EZYIZUNG Environmental - 625	- Harrison Hauli
oratory ple No.	45 40 35 30 30 30 30 30 30 30 30 30 30	C 501 Madise Received	EZULI BINY on Ave., Ca : 13	10 10 10 10 10 10 10 10 10 10	Base Base 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	EZYIZUNG EZYIZUNG Environmental - 625	- Harrison Hauli 2 Industrial Pkv
oratory ple No. Number ue Number	45 40 35 30 45 40 35 40 35 40 50 10 50 10 50 10 10 10 10 10 10 10 10 10 1	C EZIJZUNF 501 Madise	EZULIBINY on Ave., Ca : 13 d : 15	EZ8000N (HDX bu) Jaquini 4 EZ8000N (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	Base Base 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	EZYIZUNG EZYIZUNG Environmental - 625	- Harrison Hauli



Test Package : FLEET Certificate L2367 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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