

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 423070 Component Diesel Engi Fluid PETRO CAN

Component Diesel Engine Fluid

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

SAMPLE INFORMATION method

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.

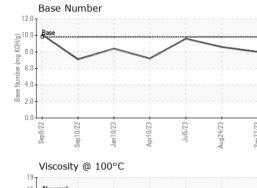
Fluid Condition

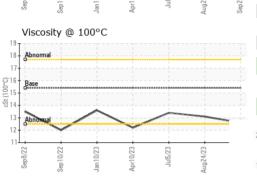
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFURIN		methoa	iinii/base	current	riistory i	riistory2
Sample Number		Client Info		GFL0069111	GFL0069150	GFL0068751
Sample Date		Client Info		27 Sep 2023	24 Aug 2023	05 Jul 2023
Machine Age	hrs	Client Info		24776	24680	24561
Oil Age	hrs	Client Info		252	156	37
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	8	7	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	4	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	3	9	9
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	61	61	61
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium						
-	ppm	ASTM D5185m	1010	844	942	849
-			1010 1070	844 1008		
Calcium Phosphorus	ppm	ASTM D5185m		-	942	849
Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	1070	1008	942 1061 1052 1271	849 1072
Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150	1008 963	942 1061 1052	849 1072 981
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060 limit/base	1008 963 1156 3390 current	942 1061 1052 1271 3930 history1	849 1072 981 1119 3038 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base	1008 963 1156 3390 current 4	942 1061 1052 1271 3930 history1 4	849 1072 981 1119 3038
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1008 963 1156 3390 current	942 1061 1052 1271 3930 history1 4 2	849 1072 981 1119 3038 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25 >20	1008 963 1156 3390 current 4	942 1061 1052 1271 3930 history1 4	849 1072 981 1119 3038 history2 3
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1008 963 1156 3390 current 4 2 1 1 current	942 1061 1052 1271 3930 history1 4 2 2 2 history1	849 1072 981 1119 3038 history2 3 0 2 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20 limit/base >4	1008 963 1156 3390 current 4 2 1 1 current 0.2	942 1061 1052 1271 3930 history1 4 2 2 2 history1 0.2	849 1072 981 1119 3038 history2 3 0 2 history2 0.1
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20 limit/base >4	1008 963 1156 3390 current 4 2 1 1 current	942 1061 1052 1271 3930 history1 4 2 2 history1 0.2 6.0	849 1072 981 1119 3038 history2 3 0 2 history2 0.1 5.7
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20	1008 963 1156 3390 current 4 2 1 1 current 0.2	942 1061 1052 1271 3930 history1 4 2 2 2 history1 0.2	849 1072 981 1119 3038 history2 3 0 2 history2 0.1
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	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	1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20	1008 963 1156 3390 current 4 2 1 current 0.2 7.2	942 1061 1052 1271 3930 history1 4 2 2 history1 0.2 6.0	849 1072 981 1119 3038 history2 3 0 2 history2 0.1 5.7
Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	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 D7844 *ASTM D7824	1070 1150 1270 2060 Imit/base >25 >20 Imit/base >4 >20 >30	1008 963 1156 3390 current 4 2 1 current 0.2 7.2 17.7	942 1061 1052 1271 3930 history1 4 2 2 2 history1 0.2 6.0 16.9	849 1072 981 1119 3038 history2 3 0 2 history2 0.1 5.7 17.7

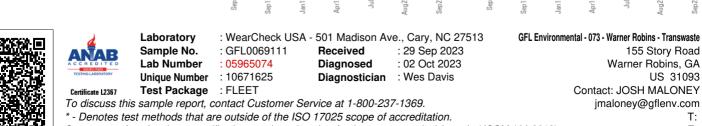


OIL ANALYSIS REPORT





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	NORM
Odor Emulsified Water	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water	scalar scalar	*Visual *Visual	>0.2	NEG NEG	NEG NEG	NEG NEG
			11 - 11/1			
FLUID PROPE		method	limit/base	current	history1	histor
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	13.1	13.4
GRAPHS						
Ferrous Alloys						
iton	Λ					
chromium	I					
15 - nickel	11					
10						
		1	1			
s /						
s-/V		~				
5 V						
5- V			**********			
0	23		53			
0	10/23		27/23			
0	Apr10/23		Sep 27/23			
Sep 8/22 Sep 10/22	Apr10/23		Sep27/23			
0			Sep21/23			
Sep 8/22 Sep 10/22			Sep21/23			
CZ280 des CZ280 des CZ201 des Non-ferrous Metal			Sep27/23			
CZ2/8045 CZ2/8045 Non-ferrous Metal			Sep27/23			
CZ280 des CZ280 des CZ201 des Non-ferrous Metal			Sep21/23			
Non-ferrous Metal			Sep27/23			
Non-ferrous Metal			Sep27723			
0 2Z2 86 Non-ferrous Metal			Sep21/23			
Non-ferrous Metal			Sep27/23			
0 2Z2 86 Non-ferrous Metal			Sep27/23			
0 2Z2 86 Non-ferrous Metal			Sep 21/23			
Non-ferrous Metal			Sep27/23			
0 2Z2 86 Non-ferrous Metal			Sep27/23			
Non-ferrous Metal			Sep 21/23			
Non-ferrous Metal	S	Jul5/23	Sep27/23			
Non-ferrous Metal	S	Jul5/23				
Non-ferrous Metal	S	Jul5/23				
Non-ferrous Metal			Sep21/23			
Displaying the second s	S Aprilo23	Jul5/23				
Non-ferrous Metal	S Aprilo23	Jul5/23		Bace Numbe	r	
Displaying the second s	S Aprilo23	Jul5/23	Sep21/23	Base Numbe	r	
Non-ferrous Metal	S Aprilo23	Jul5/23		Base Numbe	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	EZUZZABS 12.0	Base Numbe	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base Numbe	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base Numbe	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base Numbe	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	E27 E27 E26 B B 12.0 10.0	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	EZL/Z/dag (0)H00 Bull January 12.0 (0)H00 Bull January 4.0	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	12.0 (0)HOX 0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23	EZL/Z/dag (0)H00 Bull January 12.0 (0)H00 Bull January 4.0	Base	r	
Non-ferrous Metal	S Aprilo23	Jul5/23 Jul5/23 Jul5/23 Jul5/23 Aug24/23 Aug24/23Aug24/23 Aug24/23 Aug24/	EZ/LZ/des 12.0 (P)HOX Buil Jagumy Veeg 2.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Base	~	
Non-ferrous Metal	S Aprilo23	Jul5/23 Jul5/23 Jul5/23 Jul5/23 Aug24/23 Aug24/23Aug24/23 Aug24/23 Aug24/	EZ/LZ/des 12.0 (P)HOX Buil Jagumy Veeg 2.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Base	~	123
Non-ferrous Metal	S Aprilo23	Jul5/23	E2/LZdeg (0,HQ) Dul 10.0 (0,HQ) Dul 10.0 10.0 HQ) Dul 10.0 10.0 HQ) Dul 10.0 10.0 HQ) Dul 10.0 E0 2.0	Base	~	Jubi22 Aug24/23



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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