

OIL ANALYSIS REPORT

Sample Rating Trend



913038 Component Diesel Engine Fluid

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

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Area

(TB7549)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

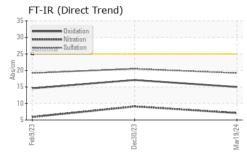
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

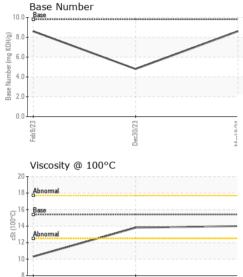
		method	iiiiii/base	current	nistory i	nistoryz
Sample Number		Client Info		GFL0069956	GFL0069953	GFL0059603
Sample Date		Client Info		19 Mar 2024	30 Dec 2023	09 Feb 2023
Machine Age	hrs	Client Info		3263	2737	680
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ATTENTION
·					-	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	0.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
			>120			57
Iron	ppm	ASTM D5185m		12	22	1
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>5	2	1	8
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m		<1	2	9
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm		>330	3	9	89
Tin	ppm		>15	0	1	6
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base 0	current 0	history1 5	history2 202
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	0	5	202
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	0 0	5 0	202 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 65	5 0 59	202 0 117
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 65 <1	5 0 59 <1	202 0 117 5
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 65 <1 1099 1240	5 0 59 <1 946	202 0 117 5 697
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 0 65 <1 1099	5 0 59 <1 946 1038	202 0 117 5 697 1482
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 0 65 <1 1099 1240 1136	5 0 59 <1 946 1038 910	202 0 117 5 697 1482 656
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 0 65 <1 1099 1240 1136 1359 3625	5 0 59 <1 946 1038 910 1252 2523	202 0 117 5 697 1482 656 812 2564
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	0 0 60 0 1010 1070 1150 1270 2060	0 0 65 <1 1099 1240 1136 1359 3625 current	5 0 59 <1 946 1038 910 1252 2523 history1	202 0 117 5 697 1482 656 812 2564 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 0 1010 1070 1150 1270 2060	0 0 65 <1 1099 1240 1136 1359 3625 current 5	5 0 59 <1 946 1038 910 1252 2523 history1 4	202 0 117 5 697 1482 656 812 2564 history2 62
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	0 0 60 0 1010 1070 1150 1270 2060 limit/base	0 0 65 <1 1099 1240 1136 1359 3625 <u>current</u> 5 3	5 0 59 <1 946 1038 910 1252 2523 history1 4 3	202 0 117 5 697 1482 656 812 2564 bistory2 62 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 0 65 <1 1099 1240 1136 1359 3625 current 5	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0	202 0 117 5 697 1482 656 812 2564 history2 62
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	0 0 65 <1 1099 1240 1136 1359 3625 <u>current</u> 5 3	5 0 59 <1 946 1038 910 1252 2523 history1 4 3	202 0 117 5 697 1482 656 812 2564 bistory2 62 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 0 65 <1 1099 1240 1136 1359 3625 current 5 3 0	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0	202 0 117 5 697 1482 656 812 2564 history2 62 62 6 21
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	0 0 65 <1 1099 1240 1136 1359 3625 current 5 3 0 0	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0 Vistory1	202 0 117 5 697 1482 656 812 2564 bistory2 62 6 21 bistory2
Boron Barium 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 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	0 0 65 <1 1099 1240 1136 1359 3625 <i>current</i> 5 3 0 <i>current</i> 0.4	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0 history1 0.8	202 0 117 5 697 1482 656 812 2564 history2 62 62 6 21 history2 0.1
Boron Barium 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 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	0 0 65 <1 1099 1240 1136 1359 3625 <i>current</i> 5 3 3 0 <i>current</i> 0.4 7.1	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0 history1 0.8 9.1	202 0 117 5 697 1482 656 812 2564 history2 62 6 21 history2 0.1 5.9 19.2
Boron Barium 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 D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 20 20 20 20 20 20 20 20	0 0 65 <1 1099 1240 1136 1359 3625 <i>current</i> 5 3 0 <i>current</i> 0.4 7.1 19.2 <i>current</i>	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0 history1 0.8 9.1 20.5 history1	202 0 117 5 697 1482 656 812 2564 history2 62 62 6 21 history2 0.1 5.9 19.2 history2
Boron Barium 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 0 0 1010 1070 1150 1270 2060 2060 225 25 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	0 0 65 <1 1099 1240 1136 1359 3625 current 5 3 0 current 0.4 7.1 19.2	5 0 59 <1 946 1038 910 1252 2523 history1 4 3 0 V history1 0.8 9.1 20.5	202 0 117 5 697 1482 656 812 2564 history2 62 6 21 history2 0.1 5.9 19.2



Feb 9/23

OIL ANALYSIS REPORT





Dec30/23

	VISUAL		method	limit/base	current	history1	history2		
	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		
Mar19/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML		
Mar	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	RTIES	method	limit/base	current	history1	history2		
	Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.8	0.3		
	GRAPHS								
	Ferrous Alloys								
VC	iron								
110/	50 - chromium								
4	40								
	튭 30								
	20	-							
	10-			_					
				1					
	3	/23 -		/24					
	Feb9/23	Dec30/23		Mar19/24					
	Non-ferrous Meta	s							
ACL D Town	90 80 copper								
N.I.	80 - Copper								
	60								
	E 50 40								
	30								
	10-	1							
		53		24					
	Feb9/23	Dec30/23		Mar19/24					
	Viscosity @ 100°C			2					
	19 T			10.	Base Number				
	18 - Abnormal								
	16 Base			(B/H)	0				
				Q	.0-	>			
	#			Base Number (mg KOH/g)		\sim			
	Abnormal			4. N 92	.0+				
	11			^{se} 2.	.0 -				
	10								
	Feb 9/23	0/23 -			Feb9/23	1/23 -	+ 1/6		
	Feb	Dec30/23		Mar19/24	Feb	Dec30/23	Mar19/24		
	: WearCheck USA - 50 : GFL0069956 : 06142738 : 10967546	Rece Teste	ived : 09 ed : 09	, NC 27513 Apr 2024 Apr 2024 Apr 2024		ivironmental - 9	02 - Chilton HC 428 High St Chilton, WI US 53014		
	age : FLEET Contact: Keith Mu								

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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Certificate L2367

Contact/Location: See also GFL903 - Keith Mueller - GFL902

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