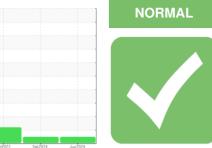


## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id

## 421041

#### Component Diesel Engine Fluid

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.

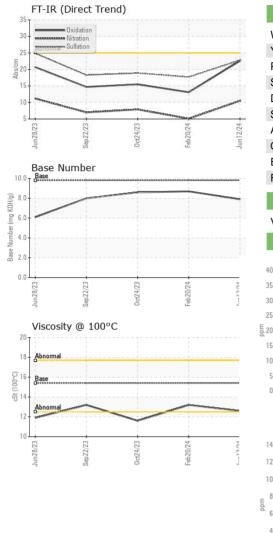
#### Fluid Condition

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

SAMPLE INFORM		motriou	iimi/base	current	nistory i	nistoryz
Sample Number		Client Info		GFL0116049	GFL0092886	GFL0097461
Sample Date		Client Info		12 Jun 2024	20 Feb 2024	24 Oct 2023
Machine Age	hrs	Client Info		7404	7404	7404
Oil Age	hrs	Client Info		7404	7404	7404
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
-						
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<b>A</b> 3.5
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	27	6	9
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	0	0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		2	2	2
Lead	ppm	ASTM D5185m	>40	2	0	0
Copper	ppm	ASTM D5185m	>330	1	2	0
Tin	ppm		>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 7	history1 20	history2 18
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	7	20	18
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	7 0	20 0	18 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 0 60	20 0 54	18 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 60 0	20 0 54 <1	18 0 63 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 60 0 974	20 0 54 <1 794	18 0 63 0 939
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 60 0 974 1113	20 0 54 <1 794 1077	18 0 63 0 939 1083
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	7 0 60 0 974 1113 1123	20 0 54 <1 794 1077 988	18 0 63 0 939 1083 1038
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	0 0 60 0 1010 1070 1150 1270	7 0 60 0 974 1113 1123 1302	20 0 54 <1 794 1077 988 1162 3195	18 0 63 0 939 1083 1038 1256 3069
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	0 0 60 1010 1070 1150 1270 2060	7 0 60 0 974 1113 1123 1302 3440 current	20 0 54 <1 794 1077 988 1162 3195 history1	18 0 63 0 939 1083 1038 1256 3069 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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 0 60 1010 1070 1150 1270 2060	7 0 60 0 974 1113 1123 1302 3440 current 5	20 0 54 <1 794 1077 988 1162 3195 history1 5	18 0 63 0 939 1083 1083 1038 1256 3069 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 <b>imit/base</b>	7 0 60 974 1113 1123 1302 3440 current 5 2	20 0 54 <1 794 1077 988 1162 3195 history1 5 2	18 0 63 0 939 1083 1038 1256 3069 history2 5 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 >20	7 0 60 974 1113 1123 1302 3440 current 5 2 2 <1	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 0 60 1010 1070 1150 1270 2060 <b>imit/base</b>	7 0 60 974 1113 1123 1302 3440 current 5 2 <1 <1	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 history1	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 0 0
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 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 >20	7 0 60 974 1113 1123 1302 3440 current 5 2 2 <1	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 2 history1 0.1	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 0 history2 0.1
Boron Barium Molybdenum 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	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25 -20 <b>Imit/base</b>	7 0 60 974 1113 1123 1302 3440 current 5 2 <1 <1	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 history1	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 0 0
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 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >3	7 0 60 974 1113 1123 1302 3440 current 5 2 <1 2 <1 current 0.3	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 2 history1 0.1	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 0 history2 0.1
Boron Barium 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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >20	7 0 60 0 974 1113 1123 1302 3440 <i>current</i> 5 2 <1 2 <1 <i>current</i> 0.3 10.5	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 history1 0.1 5.1	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 3 0 history2 0.1 7.9
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 TS ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >3 >20 >30 imit/base	7 0 60 974 1113 1123 1302 3440 <i>current</i> 5 2 2 <1 <i>current</i> 0.3 10.5 22.8 <i>current</i>	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 history1 0.1 5.1 17.7 history1	18 0 63 0 939 1083 1038 1256 3069 history2 5 3 0 0 history2 0.1 7.9 18.9 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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 20 <b>imit/base</b> >3 >20 >3	7 0 60 0 974 1113 1123 1302 3440 <u>current</u> 5 2 <1 <u>current</u> 0.3 10.5 22.8	20 0 54 <1 794 1077 988 1162 3195 history1 5 2 2 2 <b>history1</b> 0.1 5.1 17.7	18 0 63 0 939 1083 1038 1256 3069 <b>history2</b> 5 3 0 <b>history2</b> 0.1 7.9 18.9



# **OIL ANALYSIS REPORT**



nd)		VISUAL		method	limit/base	currei	nt	history1	histo	ry2
		White Metal	scalar	*Visual	NONE	NONE		NONE	NONE	
		Yellow Metal	scalar	*Visual	NONE	NONE		NONE	NONE	
	1	Precipitate	scalar	*Visual	NONE	NONE		NONE	NONE	
	/	Silt	scalar	*Visual	NONE	NONE		NONE	NONE	
	-	Debris	scalar	*Visual	NONE	NONE		NONE	NONE	
and the second division of the second divisio	Salar out that the a mark that the salar	Sand/Dirt	scalar	*Visual	NONE	NONE		NONE	NONE	
0ct24/23 -	Feb20/24 . Jun12/24 .	Appearance	scalar	*Visual	NORML	NORM	_	NORML	NORN	1L
0ct2	Feb 20/24 Jun 12/24	Odor	scalar	*Visual	NORML	NORM	-	NORML	NORM	1L
		Emulsified Water	scalar	*Visual	>0.2	NEG		NEG	NEG	
	-	Free Water	scalar	*Visual		NEG		NEG	NEG	
		FLUID PROPE			limit/base	currei	nt	history1	histo	rv2
		Visc @ 100°C	cSt	ASTM D445		12.6			▲ 11.6	
		GRAPHS	001							
		Ferrous Alloys								
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23	24	Non-ferrous Meta	ls							
0ct24/23	Feb20/24	copper								
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			33	4	2					
		Jun 28/23 Sep 22/23	0ct24/23	Feb20/24	Jun 12/24					
				Ë	ηr					
	Viscosity @ 100°				Base Nur	nber				
	18 Abnormal	1	1	10.0	Base					
	17			(B <sup>8.0</sup>					-	
		G Base			KOH KOH					
		00 15 00 15 14			E 6.0					
		12		-	4.0					
		13 Abnormal	<		(0) (0) (0) (0) (0) (0) (0) (0) (0) (0)					
		11	~		<sup>2</sup> .0					
		10		4	0.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	4	+
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		Jun28/23 Sep22/23	Ő							
,	l oborstam.				NC 07510			likonmentel	6/1 AL	no=
4	Laboratory Sample No.	: WearCheck USA - 50	)1 Madiso	n Ave., Cary				vironmental		
ANAB	Laboratory Sample No. Lab Number	: WearCheck USA - 50 : GFL0116049		n Ave., Cary i <b>ved</b> : 17	v, NC 27513 7 Jun 2024 3 Jun 2024			vironmental 41 KING SET		T RD
	Sample No. Lab Number Unique Number	: WearCheck USA - 50 : GFL0116049 : 06211260 : 11084124	)1 Madiso <b>Rece</b> i	n Ave., Cary ived : 17	7 Jun 2024			41 KING SET	TLEMEN ALPEN US 4	T RD A, MI 9707
Certificate L2367	Sample No. Lab Number Unique Number Test Package	: WearCheck USA - 50 : GFL0116049 : 06211260 : 11084124 : FLEET	01 Madiso Recei Teste Diagr	in Ave., Cary ived : 17 id : 18 nosed : 18	7 Jun 2024 3 Jun 2024 3 Jun 2024 - We			41 KING SET Contact: D	TLEMEN ALPEN US 4 DYLAN TO	T RD A, MI 9707 DLAN
To discuss this	Sample No. Lab Number Unique Number Test Package s sample report,	: WearCheck USA - 50 : GFL0116049 : 06211260 : 11084124	)1 Madiso Recei Teste Diagr	n Ave., Cary ived : 17 id : 18 nosed : 18	7 Jun 2024 3 Jun 2024 3 Jun 2024 - We 9.			41 KING SET Contact: D dylan.tola	TLEMEN ALPEN US 4 DYLAN TO	T RD A, MI 9707 DLAN 2.com

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Submitted By: GFL463 and GFL641 - DYLAN TOLAN