

OIL ANALYSIS REPORT

Sample Rating Trend



912000 Component Diesel Engine

Machine Id

PETRO CANADA DURON SHP 15W40 (9 QTS)

SAMPLE INFORMATION meth

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.

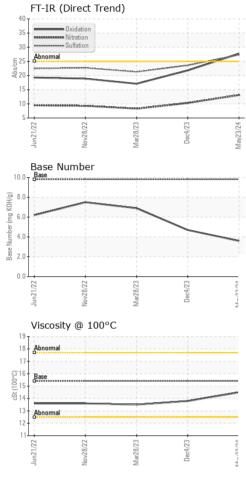
Fluid Condition

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

SAMPLE INFOR		method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0115202	GFL0097746	GFL0072927	
Sample Date		Client Info		23 May 2024	04 Dec 2023	28 Mar 2023	
Machine Age	hrs	Client Info		4682	7154	5047	
Oil Age	hrs	Client Info		200	625	700	
Oil Changed		Client Info	Changed Changed		Changed		
Sample Status				NORMAL	NORMAL	NORMAL	
-		and the set	Presidente en el		In the transmitter	la i at a mu O	
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>120	50	30	17	
Chromium	ppm	ASTM D5185m	>20	1	<1	<1	
Nickel	ppm	ASTM D5185m	>5	3	3	3	
Titanium	ppm	ASTM D5185m		0	0	0	
Silver	ppm	ASTM D5185m	>2	<1	0	<1	
Aluminum	ppm	ASTM D5185m	>20	15	3	<1	
Lead	ppm	ASTM D5185m	>40	5	3	0	
Copper	ppm	ASTM D5185m	>330	4	4	5	
Tin	ppm	ASTM D5185m	>15	1	0	<1	
Vanadium	ppm	ASTM D5185m		0	0	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 2	history1 0	history2 5	
	ppm ppm						
Boron Barium		ASTM D5185m	0	2	0	5	
Boron	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0	0	5	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 65	0 0 59	5 0 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 65 1	0 0 59 <1	5 0 60 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	2 0 65 1 984	0 0 59 <1 978	5 0 60 <1 905	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	2 0 65 1 984 1171	0 0 59 <1 978 1119	5 0 60 <1 905 1119	
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	2 0 65 1 984 1171 1097	0 0 59 <1 978 1119 976	5 0 60 <1 905 1119 963	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	2 0 65 1 984 1171 1097 1362	0 0 59 <1 978 1119 976 1266	5 0 60 <1 905 1119 963 1258	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 1010 1070 1150 1270 2060	2 0 65 1 984 1171 1097 1362 2676	0 0 59 <1 978 1119 976 1266 2331	5 0 60 <1 905 1119 963 1258 3058	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	2 0 65 1 984 1171 1097 1362 2676 current	0 0 59 <1 978 1119 976 1266 2331 history1	5 0 60 <1 905 1119 963 1258 3058 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 method	0 0 60 0 1010 1070 1150 1270 2060 limit/base	2 0 65 1 984 1171 1097 1362 2676 2676 current 7	0 0 59 <1 978 1119 976 1266 2331 history1 5	5 0 60 <1 905 1119 963 1258 3058 history2 3	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	2 0 65 1 984 1171 1097 1362 2676 <u>current</u> 7 11	0 0 59 <1 978 1119 976 1266 2331 history1 5 8	5 0 60 <1 905 1119 963 1258 3058 history2 3 4	
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	2 0 65 1 984 1171 1097 1362 2676 current 7 11 4	0 0 59 <1 978 1119 976 1266 2331 history1 5 8 <1	5 0 60 <1 905 1119 963 1258 3058 history2 3 4 4 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	2 0 65 1 984 1171 1097 1362 2676 <i>current</i> 7 11 4 <i>current</i>	0 0 59 <1 978 1119 976 1266 2331 history1 5 8 <1 5	5 0 60 <1 905 1119 963 1258 3058 history2 3 4 <1 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	2 0 65 1 984 1171 1097 1362 2676 <i>current</i> 7 11 4 <i>current</i>	0 0 59 <1 978 1119 976 1266 2331 history1 5 8 <1 5 8 <1 history1 1.2	5 0 60 <1 905 1119 963 1258 3058 history2 3 4 <1 <1 history2 0.8	
Boron Barium Molybdenum Manganese Magnesium 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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	2 0 65 1 984 1171 1097 1362 2676 <i>current</i> 7 11 4 <i>current</i> 1.4 1.4 13.1	0 0 59 <1 978 1119 976 1266 2331 history1 5 8 <1 5 8 <1 history1 1.2 10.3	5 0 60 <1 905 1119 963 1258 3058 history2 3 4 <1 ×1 history2 0.8 8.3	
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	2 0 65 1 984 1171 1097 1362 2676 <i>current</i> 7 11 4 <i>current</i> 1.4 13.1 27.3 <i>current</i>	0 0 59 <1 978 1119 976 1266 2331 history1 5 8 <1 5 8 <1 1.2 10.3 23.6 history1	5 0 60 <1 905 1119 963 1258 3058 history2 3 4 <1 history2 0.8 8.3 21.3 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 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	2 0 65 1 984 1171 1097 1362 2676 <i>current</i> 7 11 4 <i>current</i> 1.4 1.4 13.1 27.3	0 0 59 <1 978 1119 976 1266 2331 history1 5 8 <1 5 8 <1 1.2 1.2 10.3 23.6	5 0 60 <1 905 1119 963 1258 3058 history2 3 4 <1 history2 0.8 8.3 21.3	



OIL ANALYSIS REPORT



end)		VISUAL		method	limit/base	current	history1	history2	
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Sheeting and the second s		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
		Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
1	No. of Concession, Name of Street, or other Designment of the Ocean of Street, or other Designment of Stre	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Ma/28/23 - Dec4/23 - Ma/23/24 -	c4/23 23/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
	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	current	history1	history2	
		Visc @ 100°C	cSt	ASTM D445	15.4	14.5	13.8	13.5	
		GRAPHS							
		Ferrous Alloys							
3/23 -	4/23 -	iron							
Mar28/23	Dec4/23 мм	40-	1	/					
°C		30-							
		20-							
			_						
		10-							
*******		0		*********	******				
		Jun 21/22 Vov 28/22	Mar28/23	Dec4/23	May23/24				
	1	, –	_	De	May				
13		Non-ferrous Metal	S						
Mar28/23	Dec4/23	copper							
2	μ.u	15 - tin							
		톨 10-							
		5		AND DESCRIPTION OF THE OWNER OF T	ALC: NO.				
		ANNERS STREET,		NACAD DESCRIPTION OF THE OWNER	and a line of the				
		Jun21/22	lar28/23 -	Dec4/23 -	lay23/24 -				
		Jun2 Nov2	Mar2	Dec	May2				
		Viscosity @ 100°C	;			Base Number			
		19 18 - Abnormal			10.0				
		18 Abnormal		1	- 8.0				
					B/HOX				
		016 Base 15 75 14			Ē 6.0	D-		<	
		13 - Abnormal			6.0 Base Number (mg KOH/d)				
		12 -			² .0				
			23 -	23	0.0	52 52	23	23 +	
		Jun21/22 Nov28/22	Mar28/23	Dec4/23	May23/24	Jun21/22 Nov28/22	Mar28/23	Dec4/23 May23/24	
		-, Z	~		2	, 2	~	2	
d	Laboratory	: WearCheck USA - 50				GFL Env		105 - Arbor Hills	
ANAB	Sample No.	: GFL0115202	Recei		3 May 2024			7811 Chubb Rd	
	Lab Number Unique Number		Teste Diagr) May 2024 May 2024 - Se	an Felton	N	US 48168	
Certificate L2367	Test Package		Diayi	. 3300 .30	may 2024 - 36		an Felton US 48 Contact: John Na		
To discuss th	is sample report	, contact Customer Servi						hal@gflenv.com	
		are outside of the ISO 1				rula (ICCM 106	·2012)	T: F'	

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

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Submitted By: John Nahal Page 2 of 2

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