

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine Fluid

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

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

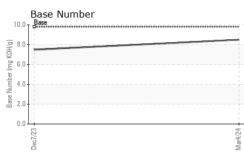
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

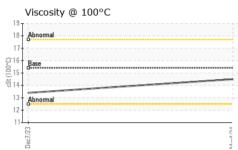
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0104325	GFL0059300	
Sample Date		Client Info		04 Mar 2024	07 Dec 2023	
Machine Age	hrs	Client Info		23074	23071	
Oil Age	hrs	Client Info		600	23071	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	7	39	
Chromium	ppm	ASTM D5185m	>20	0	2	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>30	2	3	
Lead	ppm	ASTM D5185m	>30	0	1	
Copper	ppm	ASTM D5185m	>30	1	3	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 0	history1 <1	history2
	ppm ppm					
Boron		ASTM D5185m	0 0 60	0 0 55	<1	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	0 0	<1 0	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 55	<1 0 52	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 55 0 909 969	<1 0 52 <1 948 1026	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 55 0 909 969 1003	<1 0 52 <1 948 1026 1005	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	0 0 55 0 909 969	<1 0 52 <1 948 1026 1005 1193	
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	0 0 60 0 1010 1070 1150	0 0 55 0 909 969 1003	<1 0 52 <1 948 1026 1005	
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	0 0 60 0 1010 1070 1150 1270	0 0 55 0 909 969 1003 1185	<1 0 52 <1 948 1026 1005 1193	
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 0 1010 1070 1150 1270 2060	0 0 555 0 909 969 1003 1185 2795 current 4	<1 0 52 <1 948 1026 1005 1193 2713 history1 7	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 1010 1070 1150 1270 2060 limit/base	0 0 555 0 909 969 1003 1185 2795 current 4 4	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37	 history2
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 555 0 909 969 1003 1185 2795 current 4	<1 0 52 <1 948 1026 1005 1193 2713 history1 7	 history2
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	0 0 60 1010 1070 1150 1270 2060 limit/base	0 0 555 0 909 969 1003 1185 2795 current 4 4	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37	 history2
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30	0 0 55 0 909 969 1003 1185 2795 current 4 <1 <1 <1 current	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37 1 history1 1	 history2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 200 imit/base >3 20	0 0 55 0 909 969 1003 1185 2795 current 4 <1 <1 <1	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37 1 7 37 1 history1 1 1 13.5	 history2 history2
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30 limit/base >20	0 0 55 0 909 969 1003 1185 2795 current 4 <1 <1 <1 current	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37 1 history1 1	 history2 history2
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 200 imit/base >3 20	0 0 55 0 909 969 1003 1185 2795 <i>current</i> 4 <1 <1 <1 <i>current</i> 0.3 5.7	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37 1 7 37 1 history1 1 1 13.5	 history2 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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 imit/base >3 20	0 0 55 0 909 969 1003 1185 2795 <u>current</u> 4 <1 <1 <1 current 0.3 5.7 18.2	<1 0 52 <1 948 1026 1005 1193 2713 history1 7 37 1 7 37 1 history1 1 1 13.5 24.8	 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





	VISUAL		method	limit/base	current	history1	history
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	current	history1	history
	Visc @ 100°C	cSt	ASTM D445	15.4	14.5	13.4	
	GRAPHS						
	Ferrous Alloys						
	40 iron						
	35 - chromium						
	30						
E	25-						
ndd	20						
	15						
	10-						
	5-						
	Dec7/23			Mar4/24			
	Õ			ž			
	Non-ferrous Meta	ls					
	10 copper						
	8 - Copper						
	essesses tin						
	6 -						
maa							
	4						
	2+						
	Statistan Statistics Character						
	0	************					
	Dec7/23			Mar4/24			
	e			Ma			
	Viscosity @ 100°	2			Base Numbe	r	
	19 19			10.0			
	18 - Abnormal						
	17-			(B/H0			
0	Base				D		
100	16 Base			Jer (m			
St	14-				0		
	13 - Abnormal			(b)HOX (b)HOX (b)HOX (b)HOX (c)			
	12			° 2.0	0		
	11				0		
	11.1.1						
	Dec7/23			Mar4/24	Dec7/23		
:	WearCheck USA - 50	1 Madiso	on Ave., Carv	, NC 27513	GFL En	vironmental - 410	- Michigan V
	GFL0104325	Rece		6 Mar 2024			0 Van Borr
	06109937	Teste		7 Mar 2024			Wayne
	10913434			Mar 2024 - W	les Davis		115 48



Unique Number : 10913434 Diagnosed : 07 Mar 2024 - Wes Davis Test Package : FLEET Contact: Belal Dgheish Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. bdgheish@gflenv.com * - 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)

US 48184

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