

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine

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.

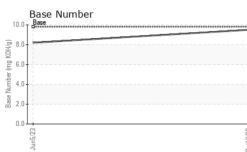
Fluid Condition

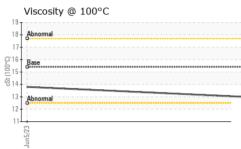
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0089138	GFL0069842	
Sample Date		Client Info		13 Oct 2023	05 Jun 2023	
Machine Age	hrs	Client Info		20226	19330	
Oil Age	hrs	Client Info		2400	600	
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	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	18	52	
Chromium	ppm	ASTM D5185m	>20	1	2	
Nickel	ppm	ASTM D5185m	>2	- <1	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m		4	4	
Lead	ppm	ASTM D5185m	>40	- <1	<1	
Copper	ppm	ASTM D5185m		1	2	
Tin	ppm	ASTM D5185m	>15	- <1	<1	
Vanadium	ppm	ASTM D5185m	>15	<1	0	
Cadmium		ASTM D5185m		0	0	
	ppm	ASTIVI DUTOJIII		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	1	1	nistory2
Boron Barium	ppm ppm		0	1 <1	1 0	
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 <1 56	1 0 55	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	1 <1	1 0 55 <1	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 <1 56	1 0 55	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 <1 56 0	1 0 55 <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	1 <1 56 0 836	1 0 55 <1 878	
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	1 <1 56 0 836 981	1 0 55 <1 878 1032	
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	1 <1 56 0 836 981 936	1 0 55 <1 878 1032 919	
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	1 <1 56 0 836 981 936 1154	1 0 55 <1 878 1032 919 1152	
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 1010 1070 1150 1270 2060	1 <1 56 0 836 981 936 1154 3067	1 0 55 <1 878 1032 919 1152 3328	
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 0 1010 1070 1150 1270 2060 limit/base	1 <1 56 0 836 981 936 1154 3067 current	1 0 55 <1 878 1032 919 1152 3328 history1	
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 >25	1 <1 56 0 836 981 936 1154 3067 current 5	1 0 55 <1 878 1032 919 1152 3328 history1 4	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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 limit/base >25	1 <1 56 0 836 981 936 1154 3067 current 5 5	1 0 55 <1 878 1032 919 1152 3328 history1 4 3	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm 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	1 <1 56 0 836 981 936 1154 3067 current 5 5 4	1 0 55 <1 878 1032 919 1152 3328 history1 4 3 12	 history2
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 limit/base >25 >20 limit/base >6	1 <1 56 0 836 981 936 1154 3067 current 5 5 4	1 0 55 <1 878 1032 919 1152 3328 history1 4 3 12 history1	 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 >25 .20 limit/base >6 >20	1 <1 56 0 836 981 936 1154 3067 <i>current</i> 5 5 4 <i>current</i> 0.8	1 0 55 <1 878 1032 919 1152 3328 history1 4 3 12 history1 2	 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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 .20 limit/base >6 >20	1 <1 56 0 836 981 936 1154 3067 current 5 5 4 current 0.8 8.2	1 0 55 <1 878 1032 919 1152 3328 history1 4 3 12 history1 2 13.4	 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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base >6 >20 >30	1 <1 56 0 836 981 936 1154 3067 current 5 5 4 current 0.8 8.2 19.7	1 0 55 <1 878 1032 919 1152 3328 history1 4 3 12 history1 2 13.4 24.8	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >6 >20 imit/base >30 imit/base	1 <1 56 0 836 981 936 1154 3067 current 5 5 4 current 0.8 8.2 19.7 current	1 0 55 <1 878 1032 919 1152 3328 history1 4 3 12 history1 2 13.4 24.8 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
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	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.0	13.8	
GRAPHS						
Ferrous Alloys						
с,с						
iron						
) - chromium						
nickel						
D -						
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Jun5/23			0ct13/23			
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Non-ferrous Meta	s					
-						
copper						
tin						
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2-						

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Jun5/23			0ct13/2:			
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Viccocity @ 1000/				Base Number		
Viscosity @ 100°				Base		
VISCOSILY @ 100°C			10.0			
•T:			10.0	••••••		
• T :				0		
•T:						
3 + <mark>Abnormal</mark>						
3 + <mark>Abnormal</mark>				D		
3 + <mark>Abnormal</mark>						
3 + <mark>Abnormal</mark>				Q		
3 - Abnormal 7 -						
Abnormal Base						
3 + <mark>Abnormal</mark>			0.8 () () () () () () () () () () () () ()			
Abnormal Base			6.0 Bull KOHOS Bull Action Base See Name			
Abnormal Abnormal Base Base Abnormal			(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,			
Abnormal Base			6.0 Bull KOHOS Bull Action Base See Name	9		

Oct13/23 -

: 20 Oct 2023

: 20 Oct 2023

lun5/23



 Unique Number
 : 10701730
 Diagnostician
 : Wes Davis

 Certificate 12367
 Test Package
 : FLEET

 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)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

un5/23

: GFL0089138

: 05984435

Laboratory Sample No.

Lab Number

0ct13/23