

## **OIL ANALYSIS REPORT**

Sample Rating Trend





Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (10 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.

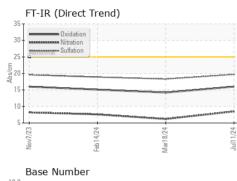
#### Fluid Condition

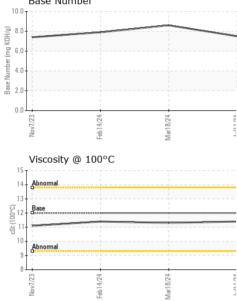
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0130586	PCA0117755	PCA0110799
Sample Date		Client Info		11 Jul 2024	18 Mar 2024	14 Feb 2024
Machine Age	mls	Client Info		242406	235242	217034
Oil Age	mls	Client Info		7164	18208	15141
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
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	18	8	14
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	1	3
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	4	1	2
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	PP			U	0	0
ADDITIVES	66	method	limit/base	current	history1	history2
	ppm		limit/base		-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current <1	history1 2	history2 3
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current <1 <1	history1 2 0	history2 3 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current <1 <1 65	history1 2 0 63	history2 3 0 56
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current <1 <1 65 0	history1 2 0 63 0	history2 3 0 56 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current <1 <1 65 0 982	history1 2 0 63 0 1010	history2 3 0 56 <1 911
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	<1     <1     65     0     982     1154	history1 2 0 63 0 1010 1205	history2 3 0 56 <1 911 1044
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	<1     <1     65     0     982     1154     972	history1 2 0 63 0 1010 1205 1152	history2 3 0 56 <1 911 1044 992
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	<1     <1     65     0     982     1154     972     1301	history1 2 0 63 0 1010 1205 1152 1320	history2 3 0 56 <1 911 1044 992 1207
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	Current <1 <1 65 0 982 1154 972 1301 2837	history1 2 0 63 0 1010 1205 1152 1320 3973	history2     3     0     56     <1     911     1044     992     1207     2768
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current <1 <5 0 982 1154 972 1301 2837 current	history1 2 0 63 0 1010 1205 1152 1320 3973 history1	history2     3     0     56     <1     911     1044     992     1207     2768     history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	<1   <1   65   0   982   1154   972   1301   2837   current   5	history1     2     0     63     0     1010     1205     1152     1320     3973     history1     3	history2     3     0     56     <1     911     1044     992     1207     2768     history2     5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	<1   <1   65   0   982   1154   972   1301   2837   current   5   0	history1     2     0     63     0     1010     1205     1152     1320     3973     history1     3     2	history2   3   0   56   <1   911   1044   992   1207   2768   history2   5   4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	<1   <1   65   0   982   1154   972   1301   2837   current   5   0   5   0   5   0   5   0   5   0   5	history1   2   0   63   0   1010   1205   1152   1320   3973   history1   3   2   0   history1   0   0   0   0.2	history2   3   0   56   <1   911   1044   992   1207   2768   history2   5   4   2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >20	<1   <1   65   0   982   1154   972   1301   2837   current   5   0   5   10	history1   2   0   63   0   1010   1205   1152   1320   3973   history1   3   2   0   history1	history2   3   0   56   <1   911   1044   992   1207   2768   history2   5   4   2   history2
ADDITIVES 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	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >20	current   <1   65   0   982   1154   972   1301   2837   current   5   0   5   0   5   0   5   0.4	history1   2   0   63   0   1010   1205   1152   1320   3973   history1   3   2   0   history1   0   0   0   0.2	history2   3   0   56   <1   911   1044   992   1207   2768   history2   5   4   2   history2   0.3
ADDITIVES 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	method     ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >4 >20	<1   <1   65   0   982   1154   972   1301   2837   current   5   0   5   0   5   0   5   0.4   8.5	history1   2   0   63   0   1010   1205   1152   1320   3973   history1   3   2   0   history1   3   2   0   history1   0.2   6.2	history2   3   0   56   <1   911   1044   992   1207   2768   history2   5   4   2   history2   0.3   7.6
ADDITIVES 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	method     ASTM D5185m     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 20 <b>imit/base</b> >4 >20 >30	<1   <1   65   0   982   1154   972   1301   2837   current   5   0   5   0   5   0.4   8.5   19.7	history1   2   0   63   0   1010   1205   1152   1320   3973   history1   3   2   0   history1   3   2   0   history1   0.2   6.2   18.3	history2   3   0   56   <1   911   1044   992   1207   2768   history2   5   4   2   history2   0.3   7.6   18.9



## OIL





# **OIL ANALYSIS REPORT**

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
ellow 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
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	RTIES	method	limit/base	current	history1	history2
/isc @ 100°C	cSt	ASTM D445	12.00	11.4	11.3	11.4
GRAPHS						
Ferrous Alloys						
iron 1						
iron chromium nickel		/				
		/				
-						
		$\sim$				
-						
23		/24	/24			
Nov7/23 Feb14/24		Mar18/24	Jul11/24			
Viscosity @ 100°C		Mart8/24	471 LUP	Base Numb	er	
- Abnormal			8.0			
			(0,7.0 HOX 6.0 E 5.0 em 4.0 N 3.0 8 2.0			
Base			¥ 6.0 Ē⊆n	1		
			N 3.0	1		
Abnormal		1	e 2.0	1		
			1.0			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		24		53	24	/ar18/24 +
Nov7/23 Feb14/24		Mar18/24	Jul11/24	Nov7/23	Feb14/24	Mar18/24
Fel N		Ma	ŗ	Z	Fee	Ň
/earCheck USA - 50 <sup>-</sup> CA0130586 <mark>6235577</mark>	1 Madiso Recei Teste	ved : 15	r, NC 27513 5 Jul 2024 5 Jul 2024	1	015 E. WESTING	<b>IAX TRUCKIN</b> GHOUSE BLVI HARLOTTE, N



Report Id: BLUCHA [WUSCAR] 06235577 (Generated: 07/15/2024 16:45:51) Rev: 1

Certificate L2367

Laboratory Sample No. Lab Number Unique Number

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)

Submitted By: Jody Greer

jgreer@bluemaxtrucking.com

Contact: Jody Greer

T: (980)225-9968

F: (704)588-2901

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