

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



# Machine Id 639731

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

### 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.

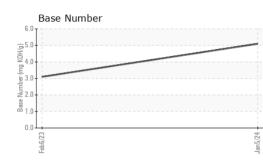
#### Fluid Condition

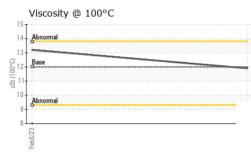
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

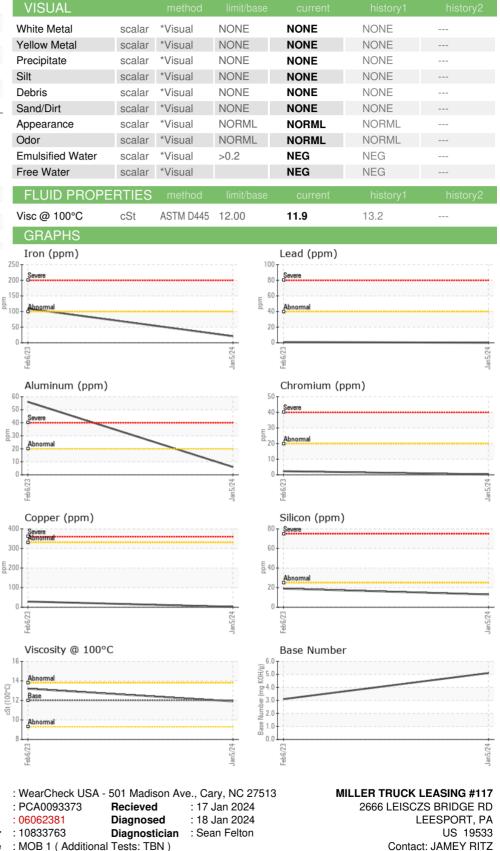
			Feb2023	Jan2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0093373	PCA0078777	
Sample Date		Client Info		05 Jan 2024	06 Feb 2023	
Machine Age	mls	Client Info		106506	41296	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>100	21	109	
Chromium	ppm	ASTM D5185m	>20	<1	2	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		3	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	6	56	
Lead	ppm	ASTM D5185m	>40	0	1	
Copper	ppm		>330	2	29	
Tin	ppm		>15	- <1	3	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES	ppm	method	limit/base	0 current	0 history1	 history2
		method	limit/base			
ADDITIVES	ppm	method		current	history1	
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2	current 4 0	history1 16	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0	current 4 0 37	history1 16 0	history2 
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 4 0	history1 16 0 20	history2  
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 4 0 37 <1	history1 16 0 20 3	history2   
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 4 0 37 <1 593	history1 16 0 20 3 692	history2   
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm 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	Current 4 0 37 <1 593 1713	history1 16 0 20 3 692 1659	history2    
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	2 0 50 0 950 1050 995	Current 4 0 37 <1 593 1713 988	history1 16 0 20 3 692 1659 832	history2
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 0 950 1050 995 1180	current           4           0           37           <1           593           1713           988           1221	history1 16 0 20 3 692 1659 832 1030	history2
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	Current 4 0 37 <1 593 1713 988 1221 3673	history1 16 0 20 3 692 1659 832 1030 2980	history2
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 4 0 37 <1 593 1713 988 1221 3673 current	history1 16 0 20 3 692 1659 832 1030 2980 history1	history2 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 50 950 1050 995 1180 2600	current           4           0           37           <1           593           1713           988           1221           3673           current           13	history1         16         0         20         3         692         1659         832         1030         2980         history1         19	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	current           4           0           37           <1           593           1713           988           1221           3673           current           13           2	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	current         4         0         37         <1         593         1713         988         1221         3673         current         13         2         11	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8         133	history2 history2 history2
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 0 950 1050 995 1180 2600 <b>limit/base</b> >25 -20 <b>limit/base</b>	current         4         0         37         <1         593         1713         988         1221         3673         current         13         2         11         current	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8         133         history1	history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium 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 limit/base >25 >20 limit/base >3	current         4         0         37         <1         593         1713         988         1221         3673         current         13         2         11         current         0.4	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8         133         history1         0.7	history2 history2 history2 history2
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 <b>TS</b> ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	current         4         0         37         <1         593         1713         988         1221         3673         current         13         2         11         current         0.4         10.4	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8         133         history1         0.7         15.2	history2                        history2               history2                  history2                           history2
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 <b>TS</b> ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	Current         4         0         37         <1         593         1713         988         1221         3673         current         13         2         11         current         0.4         10.4         23.6	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8         133         history1         0.7         15.2         32.7	history2                           history2               history2               history2  <
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method         ASTM D5185m         ASTM D7185m         ASTM D7624         *ASTM D7624         *ASTM D7415         method	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 20 20 20 20 20	current         4         0         37         <1         593         1713         988         1221         3673         current         13         2         11         current         0.4         10.4         23.6         current	history1         16         0         20         3         692         1659         832         1030         2980         history1         19         8         133         history1         0.7         15.2         32.7         history1	history2                           history2            history2            history2            history2            history2            history2            history2            history2            history2               history2



## **OIL ANALYSIS REPORT**







Test Package : MOB 1 (Additional Tests: TBN) Certificate L2367 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)

Laboratory

Sample No.

Lab Number

Unique Number

jritz@millertransgroup.com

T:

F: