

# **OIL ANALYSIS REPORT**



Machine Id 130113

### Component Diesel Engine

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

## DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

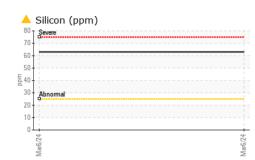
#### Fluid Condition

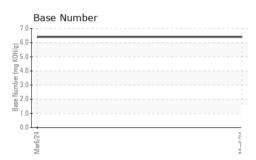
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

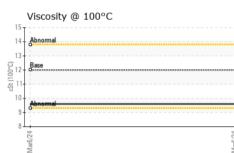
				Mar2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0120640		
Sample Date		Client Info		06 Mar 2024		
Machine Age	mls	Client Info		714		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	53		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	6		
Lead	ppm	ASTM D5185m	>40	1		
Copper	ppm	ASTM D5185m	>330	57		
Tin	ppm	ASTM D5185m	>15	1		
Vanadium	ppm	ASTM D5185m	210	0		
Vanadium	ppin	AUTIW DUTUUIII		U		
Cadmium	nnm	<b>ASTM D5185m</b>		0		
Cadmium	ppm	ASTM D5185m		0		
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	 history1	 history2
	ppm ppm		limit/base	-		
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 238	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 238 4	history1 	history2 
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 238 4 11	history1  	history2  
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 238 4 11 2	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 238 4 11 2 11	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	2 0 50 0 950 1050	current 238 4 11 2 11 955	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	2 0 50 0 950 1050 995	current           238           4           11           2           11           955           768	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180	current           238           4           11           2           11           955           768           881	history1	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	2 0 50 950 1050 995 1180 2600	current           238           4           11           2           11           955           768           881           2790	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 50 950 1050 995 1180 2600	current           238           4           11           2           11           955           768           881           2790           current	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	2 0 50 950 1050 995 1180 2600	current         238         4         11         2         11         955         768         881         2790         current         ▲	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base	current         238         4         11         2         11         955         768         881         2790         current         63         0	history1   history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current         238         4         11         2         11         955         768         881         2790         current         ▲         63         0         4	history1 history1	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	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	current         238         4         11         2         11         955         768         881         2790         current         63         0         4         current	history1                        history1            history1            history1               history1	history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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 >20	current         238         4         11         2         11         955         768         881         2790         current         63         0         4         current         0.1	history1 history1 history1 history1	history2 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 ppm	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 20 limit/base >20	current         238         4         11         2         11         955         768         881         2790         current         ▲         63         0         4         0.1         5.1	history1   history1            history1	history2 history2 history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method         ASTM D5185m         ASTM D7185M         *ASTM D7624         *ASTM D7415         method	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	current         238         4         11         2         11         955         768         881         2790         current         ▲         63         0         4         current         0.1         5.1         18.6         current	history1                              history1            history1            history1                        history1	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 ppm	method           ASTM D5185m           ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 >30	current         238         4         11         2         11         955         768         881         2790         current         63         0         4         current         0.1         5.1         18.6	history1                           history1            history1               history1                  history1            history1            history1	history2                              history2            history2               history2

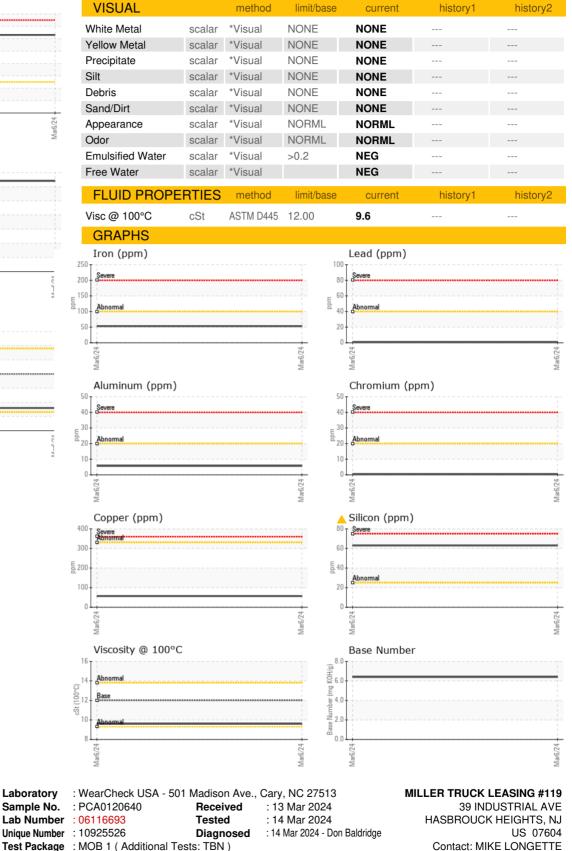


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Test Package : MOB 1 (Additional Tests: TBN) Certificate L2367 mlongette@millertransgroup.com To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: MILRUT [WUSCAR] 06116693 (Generated: 03/14/2024 13:53:26) Rev: 1

Laboratory

Sample No.

F: (201)528-7053

T: