

OIL ANALYSIS REPORT



Machine Id 121439

Component Diesel Engine Fluid

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. 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.

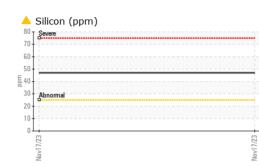
Fluid Condition

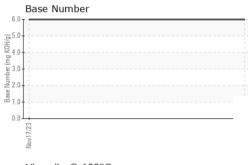
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

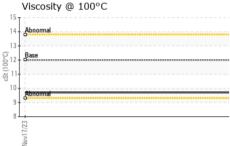
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0113368		
Sample Date		Client Info		17 Nov 2023		
Machine Age	mls	Client Info		5993		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	<u>د</u>	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	37		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m	0	<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	8		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm		>330	91		
Tin	ppm	ASTM D5185m	>15	2		
Vanadium Cadmium	ppm ppm	ASTM D5185m ASTM D5185m		0		
Gaumum						
	PP	AO INI DO IOSIII		U		
ADDITIVES	рр	method	limit/base	current	history1	history2
	ppm		limit/base			
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 138	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 138 1	history1 	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 138 1 19 2 164	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 138 1 19 2	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	current 138 1 19 2 164	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 1180	current 138 1 19 2 164 994 830 1035	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	2 0 50 0 950 1050 995 1180 2600	current 138 1 19 2 164 994 830	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	2 0 50 0 950 1050 995 1180	current 138 1 19 2 164 994 830 1035	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 138 1 19 2 164 994 830 1035 2903 current ▲ 47	history1	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 0 950 1050 995 1180 2600 limit/base >25	current 138 1 19 2 164 994 830 1035 2903 current 47 4	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 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 limit/base >25 >20	current 138 1 19 2 164 994 830 1035 2903 current ▲ 47	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 TS	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	current 138 1 19 2 164 994 830 1035 2903 current 47 4	history1 history1	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 limit/base >25 >20	current 138 1 19 2 164 994 830 1035 2903 current 4 3 current 0.2	history1 history1 <td>history2</td>	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 TS	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current 138 1 19 2 164 994 830 1035 2903 current 47 4 3 current	history1 history1 history1 history1 history1	history2 history2 history2 history2 history2 history2
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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 Imit/base >25 >20 Imit/base >3 >20 >30 Imit/base	current 138 1 19 2 164 994 830 1035 2903 current 4 3 current 0.2 7.5 20.5	history1 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 Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7185M ASTM D7624 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3 >20 >30 Imit/base	current 138 1 19 2 164 994 830 1035 2903 current ▲ 47 4 3 current 0.2 7.5 20.5	history1 history1 history1 history1 history1 history1 history1	history2 history2 history2 history2 history2 history2 history2 history2 history2 history2

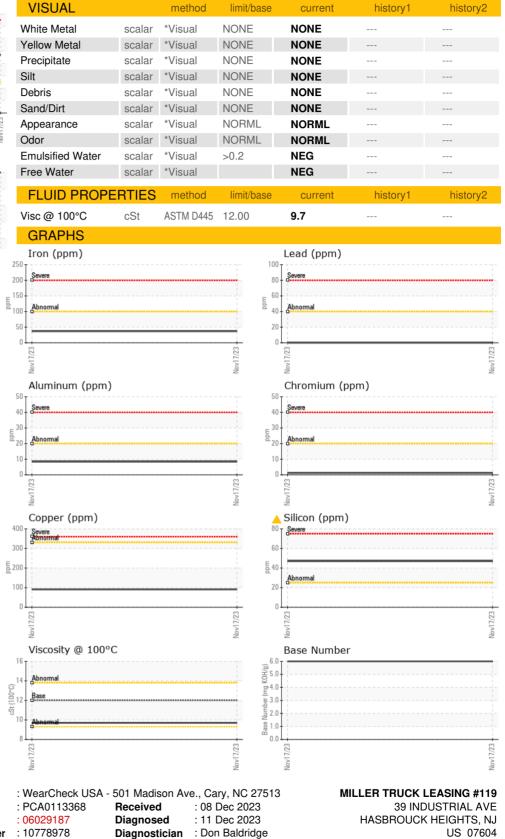


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Unique Number Test Package : MOB 1 (Additional Tests: TBN) Contact: MIKE LONGETTE Certificate L2367 mlongette@millertransgroup.com To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside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

Laboratory

Sample No.

Lab Number

Contact/Location: MIKE LONGETTE - MILRUT

F: (201)528-7053

T: