

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 3P3184

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.

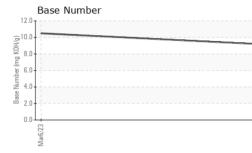
Fluid Condition

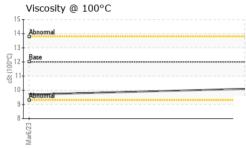
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

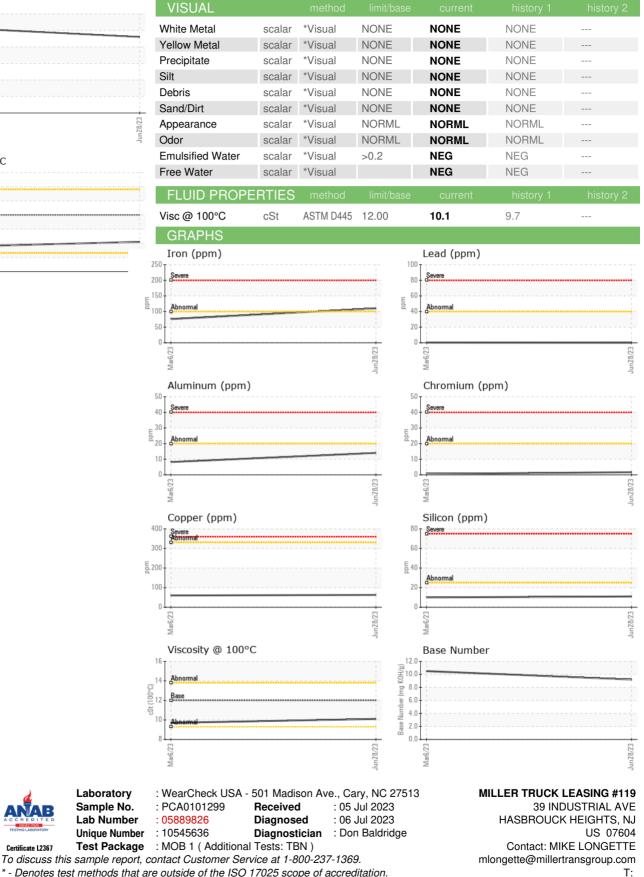
SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		PCA0101299	PCA0094265	
Sample Date		Client Info		28 Jun 2023	06 Mar 2023	
Machine Age	mls	Client Info		12508	6722	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Not Changd	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	110	76	
Chromium	ppm	ASTM D5185m	>20	2	<1	
Nickel	ppm	ASTM D5185m	>4	2	<1	
Titanium	ppm	ASTM D5185m	~	0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	14	8	
Lead		ASTM D5185m	>20	0	<1	
Copper	ppm ppm	ASTM D5185m	>330	63	60	
Tin		ASTM D5185m	>15	6	5	
Vanadium	ppm ppm	ASTM D5185m	>15	0	<1	
Cadmium		ASTM D5185m		0	0	
	ppm	ASTIVI DOTODIII		0	0	
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	2	41	50	history 2
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	2 0	41 0	50 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	41 0 51	50 0 48	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0	41 0	50 0 48 9	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	41 0 51 10 575	50 0 48 9 536	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	41 0 51 10 575 1672	50 0 48 9	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995	41 0 51 10 575 1672 830	50 0 48 9 536 1692 749	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	41 0 51 10 575 1672 830 1005	50 0 48 9 536 1692 749 925	
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	2 0 50 950 1050 995	41 0 51 10 575 1672 830	50 0 48 9 536 1692 749	
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	2 0 50 950 1050 995 1180	41 0 51 10 575 1672 830 1005	50 0 48 9 536 1692 749 925	
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	2 0 50 950 1050 995 1180 2600	41 0 51 10 575 1672 830 1005 2446	50 0 48 9 536 1692 749 925 2559	
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	2 0 50 950 1050 995 1180 2600	41 0 51 10 575 1672 830 1005 2446 current	50 0 48 9 536 1692 749 925 2559 history 1	 history 2
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	41 0 51 10 575 1672 830 1005 2446 current 11	50 0 48 9 536 1692 749 925 2559 history 1 10	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	41 0 51 10 575 1672 830 1005 2446 <u>current</u> 11 5	50 0 48 9 536 1692 749 925 2559 history 1 10 5	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 -20 imit/base	41 0 51 10 575 1672 830 1005 2446 <u>current</u> 11 5 14	50 0 48 9 536 1692 749 925 2559 history 1 10 5 7	 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3	41 0 51 10 575 1672 830 1005 2446 current 11 5 14 current	50 0 48 9 536 1692 749 925 2559 history 1 10 5 7 7 history 1	 history 2 history 2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3	41 0 51 10 575 1672 830 1005 2446 <u>current</u> 11 5 14 <u>current</u> 0.4	50 0 48 9 536 1692 749 925 2559 history 1 10 5 7 7 history 1 0.2	 history 2 history 2
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	41 0 51 10 575 1672 830 1005 2446 <i>current</i> 11 5 14 <i>current</i> 0.4 10.5	50 0 48 9 536 1692 749 925 2559 history 1 10 5 7 7 history 1 0.2 7.8	 history 2 history 2 history 2
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 >30	41 0 51 10 575 1672 830 1005 2446 <u>current</u> 11 5 14 <u>current</u> 0.4 10.5 23.4	50 0 48 9 536 1692 749 925 2559 history 1 10 5 7 history 1 0.2 7.8 22.2	 history 2 history 2 history 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 >30	41 0 51 10 575 1672 830 1005 2446 Current 11 5 14 Current 0.4 10.5 23.4 Current	50 0 48 9 536 1692 749 925 2559 history 1 10 5 7 history 1 0.2 7.8 22.2 history 1	 history 2 history 2 history 2 history 2



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* - 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)

Certificate L2367

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