

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- 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

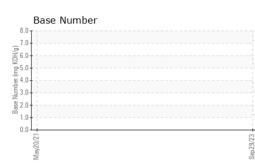
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

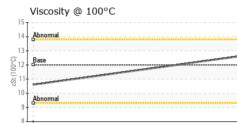
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0087281	PCA0050475	
Sample Date		Client Info		29 Sep 2023	20 May 2021	
Machine Age	mls	Client Info		175462	40549	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Changed	N/A	
Sample Status				NORMAL	ABNORMAL	
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	42	149	
Chromium	ppm	ASTM D5185m	>20	1	4	
Nickel	ppm	ASTM D5185m	>4	<1	2	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	<1	<1	
Aluminum	ppm	ASTM D5185m	>20	10	47	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm	ASTM D5185m	>330	8	26	
Tin	ppm	ASTM D5185m	>15	1	5	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	<1	
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	<1 history1	 history2
	ppm ppm		limit/base	-		
ADDITIVES		method		current	history1 23 0	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current	history1 23 0 22	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 11 0	history1 23 0	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 11 0 76	history1 23 0 22	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 11 0 76 <1	history1 23 0 22 7	history2
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 11 0 76 <1 1069	history1 23 0 22 7 770	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 11 0 76 <1 1069 1286	history1 23 0 22 7 770 1350	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	Current 11 0 76 <1 1069 1286 1197	history1 23 0 22 7 770 1350 795	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 50 950 1050 995 1180	current 11 0 76 <1 1069 1286 1197 1443	history1 23 0 22 7 770 1350 795 931	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 11 0 76 <1 1069 1286 1197 1443 3305	history1 23 0 22 7 770 1350 795 931 2560	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 11 0 76 <1 1069 1286 1197 1443 3305 current	history1 23 0 22 7 770 1350 795 931 2560 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	2 0 50 950 1050 995 1180 2600	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7	history1 23 0 22 7 770 1350 795 931 2560 history1 10	history2 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 50 950 1050 995 1180 2600 limit/base >25	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8	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 TS	method ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2 6 current 0.8	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8 78	history2 history2 history2
ADDITIVES 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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 -20 Imit/base	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2 6 current	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8 78 history1	history2 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 >3	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2 6 current 0.8	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8 78 history1 0.9	history2 history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sidium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2 6 current 0.8 13.6	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8 78 history1 0.9 12.6	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 t ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 >30	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2 6 current 0.8 13.6 27.5	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8 78 history1 0.9 12.6 25.2	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 DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7814 *ASTM D7624 *ASTM D7414	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 30 20 20 20	current 11 0 76 <1 1069 1286 1197 1443 3305 current 7 2 6 current 0.8 13.6 27.5 current	history1 23 0 22 7 770 1350 795 931 2560 history1 10 8 78 history1 0.9 12.6 25.2 history1	history2 history2 history2 history2 history2 history2 history2 history2

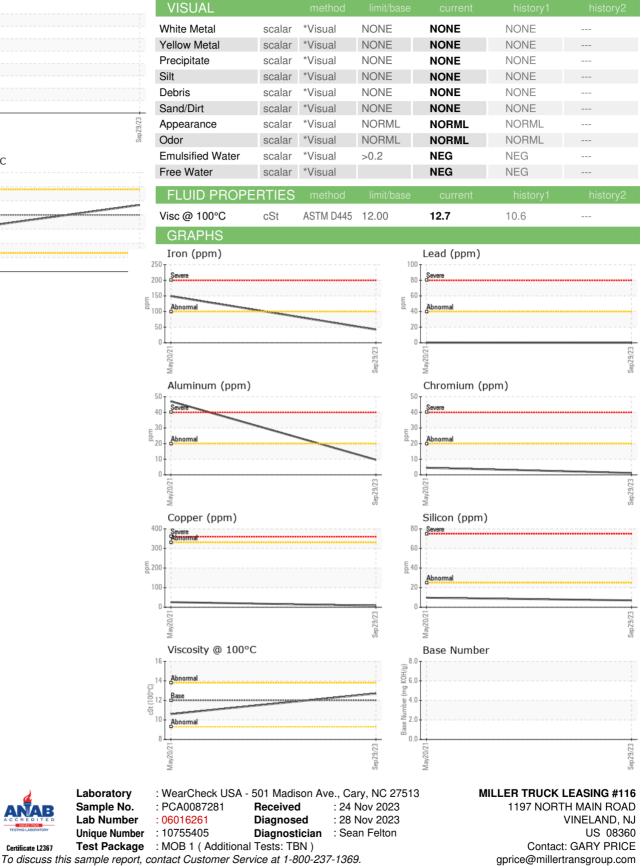
Contact/Location: GARY PRICE - MILVIN



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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

Laboratory

Sample No.

Lab Number

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