

OIL ANALYSIS REPORT

Sample Rating Trend





Diesel Engine

Fluid 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 suitable for further service.

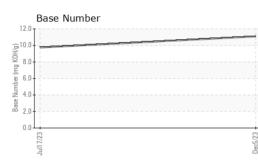
			Jul2023	Dec2023		
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0098662	PCA0098681	
Sample Date		Client Info		05 Dec 2023	17 Jul 2023	
Machine Age	mls	Client Info		325990	308684	
Oil Age	mls	Client Info		16000	12000	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	۹	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	16	39	
Chromium	ppm		>6	<1	1	
Nickel	ppm	ASTM D5185m	>3	0	0	
Titanium	ppm	ASTM D5185m		3	<1	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm		>50	5	11	
Lead	ppm	ASTM D5185m	>10	0	0	
Copper	ppm		>50	2	6	
Tin	ppm	ASTM D5185m	>6	0	<1	
Vanadium	ppm	ASTM D5185m		<1	<1	
Cadmium						
oddinidin	ppm	ASTM D5185m		0	0	
ADDITIVES	ppin	method	limit/base	current	0 history1	history2
	ppm		limit/base			
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 6	history1 8	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 6 0	history1 8 0	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 6 0 58	history1 8 0 64	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 6 0 58 0	history1 8 0 64 <1	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 6 0 58 0 961	history1 8 0 64 <1 1035	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	Current 6 0 58 0 961 1103	history1 8 0 64 <1 1035 1126	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 6 0 58 0 961 1103 1029	history1 8 0 64 <1 1035 1126 1035	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 6 0 58 0 961 1103 1029 1270	history1 8 0 64 <1 1035 1126 1035 1292	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 6 0 58 0 961 1103 1029 1270 2901	history1 8 0 64 <1 1035 1126 1035 1292 3607	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	2 0 50 950 1050 995 1180 2600	current 6 0 58 0 961 1103 1029 1270 2901 current	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium 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 limit/base	current 6 0 58 0 961 1103 1029 1270 2901 current 4	history1 8 0 64 <1 1035 1126 1035 1292 3607 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 ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2	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 50 950 1050 995 1180 2600 limit/base >50	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2 2	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2 10	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 ppm TS	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >50 >20	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2 2 2 current	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2 10 history1	history2 history2 history2 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 TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >50 >20 limit/base	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2 2 current 0.6	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2 10 history1 0 0.5	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 <i>limit/base</i> >50 >20 <i>limit/base</i> >3 >20	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2 current 0.6 8.6	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2 10 history1 0 5 10 5 8 0.5 8.5	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 TS ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7415 method	2 0 50 0 950 1050 995 1180 2600 imit/base >50 >20 imit/base >3 >20 >30	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2 current 0.6 8.6 20.2	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2 10 history1 0.5 8.5 19.6 history1	history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAG	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 >50 >20 imit/base >3 >20 >30	current 6 0 58 0 961 1103 1029 1270 2901 current 4 2 current 0.6 8.6 20.2	history1 8 0 64 <1 1035 1126 1035 1292 3607 history1 4 2 10 history1 0.5 8.5 19.6	history2 history2 history2 history2 history2 history2 history2 history2 history2 history2 history2

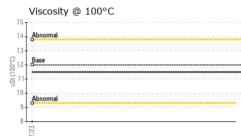


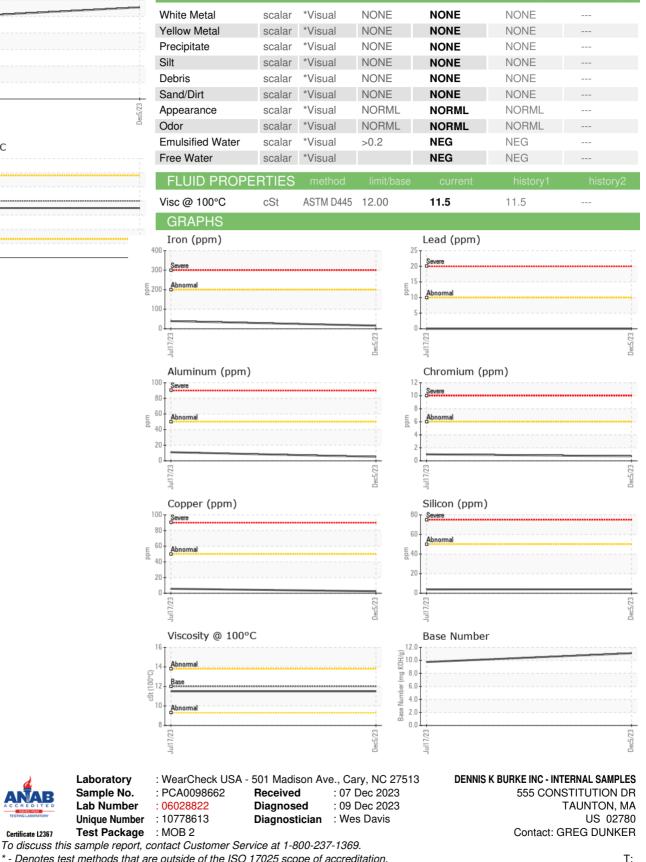
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VISUAL







* - 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)

F: (617)889-6422

Certificate L2367

Laboratory

Sample No.

Lab Number

Submitted By: JOHN MEDEIROS