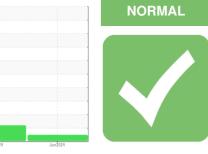


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

871 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.

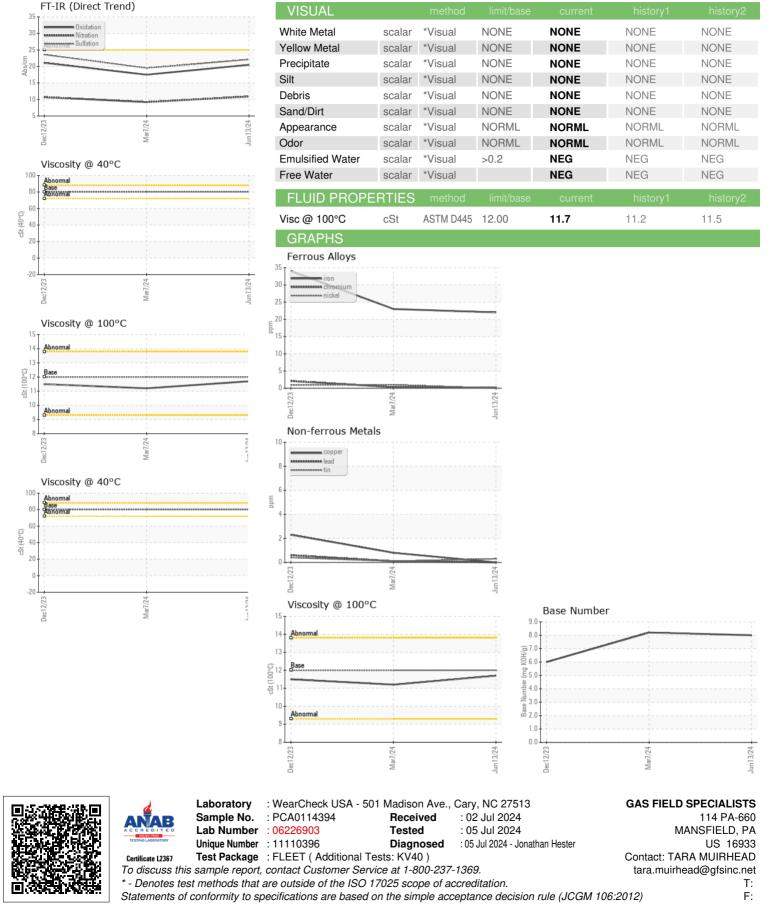
Contamination

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	history1	history2
Sample Number		Client Info		PCA0114394	PCA0114428	PCA0114445
Sample Date		Client Info		13 Jun 2024	07 Mar 2024	12 Dec 2023
Machine Age	mls	Client Info		268791	259728	251722
Oil Age	mls	Client Info		7500	8000	8000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	22	23	34
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>4	0	1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	5	5
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	0	<1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
	pp	no ni boroom		0	0	
ADDITIVES	66	method	limit/base	current	history1	history2
	ppm		limit/base		-	
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 3	history1 8	history2 99
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 3 0	history1 8 0	history2 99 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 3 0 60	history1 8 0 58	history2 99 0 5
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 3 0 60 <1	history1 8 0 58 <1	history2 99 0 5 <1
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 3 0 60 <1 975	history1 8 0 58 <1 921	history2 99 0 5 <1 23
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 3 0 60 <1 975 1071	history1 8 0 58 <1 921 1025	history2 99 0 5 <1 23 2173
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 50 950 1050 995	current 3 0 60 <1 975 1071 1092	history1 8 0 58 <1 921 1025 1023	history2 99 0 5 <1 23 2173 983
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 0 950 1050 995 1180	current 3 0 60 <1 975 1071 1092 1280	history1 8 0 58 <1 921 1025 1023 1224	history2 99 0 5 <1 23 2173 983 1173
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	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 3 0 60 <1 975 1071 1092 1280 3493	history1 8 0 58 <1 921 1025 1023 1224 3377	history2 99 0 5 <1 23 2173 983 1173 3575
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 3 0 60 <1 975 1071 1092 1280 3493 current	history1 8 0 58 <1 921 1025 1023 1224 3377 history1	history2 99 0 5 <1 23 2173 983 1173 3575 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	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 Limit/base >25	current 3 0 60 <1 975 1071 1092 1280 3493 current 9	history1 8 0 58 <1 921 1025 1023 1224 3377 history1 10	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base >25	current 3 0 60 <1 975 1071 1092 1280 3493 current 9 9 9 9 9 9	history1 8 0 58 <1 921 1025 1023 1224 3377 history1 10 18	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13 0
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 >25	current 3 0 60 <1 975 1071 1092 1280 3493 current 9 9 9 22	history1 8 0 58 <1 921 1025 1224 3377 history1 10 18 48 history1 0.4	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13 0 8
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 ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 -20 imit/base	current 3 0 60 <1 975 1071 1092 1280 3493 current 9 9 22 current	history1 8 0 58 <1 921 1025 1023 1224 3377 history1 10 18 48 history1	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13 0 8 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 limit/base	current 3 0 60 <1 975 1071 1092 1280 3493 current 9 9 22 current 0.6	history1 8 0 58 <1 921 1025 1224 3377 history1 10 18 48 history1 0.4	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13 0 8 history2 0.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	method 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	current 3 0 60 <1 975 1071 1092 1280 3493 current 9 9 22 current 0.6 10.9	history1 8 0 58 <1 921 1025 1023 1224 3377 history1 10 18 48 history1 0.4 9.2	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13 0 8 history2 0.3 10.7
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	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	Current 3 0 60 <1 975 1071 1092 1280 3493 current 9 9 22 current 0.6 10.9 22.1	history1 8 0 58 <1 921 1025 1023 1224 3377 history1 10 18 48 history1 0.4 9.2 19.5	history2 99 0 5 <1 23 2173 983 1173 3575 history2 13 0 8 history2 0.3 10.7 23.6



OIL ANALYSIS REPORT

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OIL

DIAGNOSTICS

Contact/Location: TARA MUIRHEAD - GASMAN