

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Component Front Right Final Drive

PETRO CANADA DURATRAN ALL-SEASON (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Pm2 performed. All oil samples taken. Engine oil, transmission oil, and all filters changed.)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

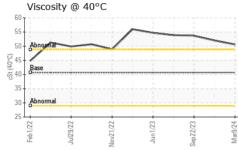
The condition of the oil is acceptable for the time in service.

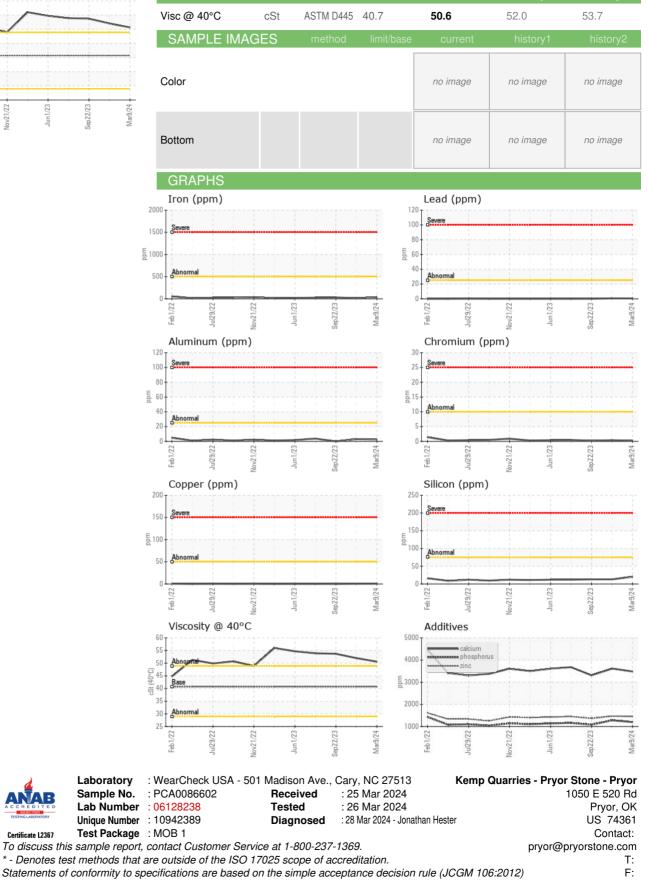
N (GAL)		Feb2022	Jul2022 Nov2022	Jun2023 Sep2023	Mar2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0086602	PCA0084343	PCA0084278
Sample Date		Client Info		09 Mar 2024	28 Nov 2023	22 Sep 2023
Machine Age	hrs	Client Info		9946	9324	8861
Oil Age	hrs	Client Info		1075	463	1977
Oil Changed		Client Info		Oil Added	Oil Added	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	37	14	31
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	0
Lead	ppm	ASTM D5185m	>25	<1	<1	<1
Copper	ppm	ASTM D5185m	>50	<1	<1	0
Tin	ppm	ASTM D5185m	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		103	114	115
Barium	ppm	ASTM D5185m		0	8	0
Molybdenum	ppm	ASTM D5185m		1	2	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		33	31	28
Calcium	ppm	ASTM D5185m		3482	3613	3310
				1200	1280	1082
Phosphorus	ppm	ASTM D5185m				
Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m		1451	1470	1363
	ppm ppm ppm				1470 3689	1363 3190
Zinc	ppm ppm	ASTM D5185m	limit/base	1451		
Zinc Sulfur	ppm ppm	ASTM D5185m ASTM D5185m		1451 3829	3689	3190
Zinc Sulfur CONTAMINAN	ppm ppm TS	ASTM D5185m ASTM D5185m method		1451 3829 current	3689 history1	3190 history2
Zinc Sulfur CONTAMINAN Silicon	ppm ppm TS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	>75	1451 3829 current 20	3689 history1 13	3190 history2 13
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>75	1451 3829 current 20 2	3689 history1 13 0	3190 history2 13 <1
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	>75 >20	1451 3829 current 20 2 2 2	3689 history1 13 0 2	3190 history2 13 <1 0
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m Method	>75 >20 limit/base	1451 3829 current 20 2 2 2 current	3689 history1 13 0 2 history1	3190 history2 13 <1 0 history2
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm TS ppm ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *Visual	>75 >20 limit/base NONE	1451 3829 current 20 2 2 2 current NONE	3689 history1 13 0 2 history1 NONE	3190 history2 13 <1 0 history2 NONE
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm TS ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *Visual	>75 >20 limit/base NONE NONE	1451 3829 current 20 2 2 2 current NONE NONE	3689 history1 13 0 2 history1 NONE NONE	3190 history2 13 <1 0 history2 NONE NONE
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm TS ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *Visual *Visual *Visual	>75 >20 limit/base NONE NONE NONE	1451 3829 current 20 2 2 2 current NONE NONE NONE	3689 history1 13 0 2 history1 NONE NONE NONE	3190 history2 13 <1 0 history2 NONE NONE NONE
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *Visual *Visual *Visual	>75 >20 limit/base NONE NONE NONE NONE	1451 3829 20 2 2 2 Current NONE NONE NONE NONE	3689 history1 13 0 2 history1 NONE NONE NONE NONE	3190 history2 13 <1 0 history2 NONE NONE NONE NONE
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm TS ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual	>75 >20 limit/base NONE NONE NONE NONE NONE	1451 3829 current 20 2 2 2 current NONE NONE NONE NONE NONE	3689 history1 13 0 2 history1 NONE NONE NONE NONE NONE NONE	3190 history2 13 <1 0 history2 NONE NONE NONE NONE NONE
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal	ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>75 >20 limit/base NONE NONE NONE NONE NONE	1451 3829 current 20 2 2 2 current NONE NONE NONE NONE NONE NONE	3689 history1 13 0 2 history1 NONE NONE NONE NONE NONE NONE NONE	3190 history2 13 <1 0 history2 NONE NONE NONE NONE NONE NONE
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>75 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON	1451 3829 current 20 2 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	3689 history1 13 0 2 history1 NONE NONE NONE NONE NONE NONE NONE NON	3190 history2 13 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE NON
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>75 20 imit/base NONE NONE NONE NONE NONE NONE NONE NON	1451 3829 current 20 2 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	3689 history1 13 0 2 history1 NONE NONE NONE NONE NONE NONE NONE NON	3190 history2 13 <1 0 history2 NONE NONE NONE NONE NONE NONE NONE NON



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FLUID PROPERTIES





Certificate L2367