

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **564** Component **Diesel Engine** Fluid **PETRO CANADA DURON HP 15W40 (11 GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

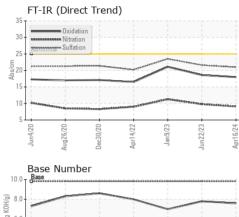
Fluid Condition

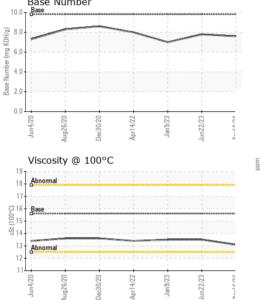
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0082742	PCA0069591	PCA0069527
Sample Date		Client Info		16 Apr 2024	22 Jun 2023	09 Jan 2023
Machine Age	hrs	Client Info		0	7562	7027
Oil Age	hrs	Client Info		0	535	833
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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 METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	13	16	20
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	6	3
Lead	ppm	ASTM D5185m	>40	2	1	4
Copper	ppm	ASTM D5185m	>330	2	2	3
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		3	4	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		65	67	64
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		65 <1	67 <1	64 <1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m		<1 967	<1 1036	<1 949
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		<1 967 1134	<1 1036 1236	<1 949 1081
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 967 1134 1125	<1 1036 1236 1145	<1 949 1081 949
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 967 1134 1125 1284	<1 1036 1236 1145 1405	<1 949 1081 949 1262
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	<1 967 1134 1125 1284 3372	<1 1036 1236 1145 1405 3861	<1 949 1081 949 1262 3079
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		<1 967 1134 1125 1284 3372 current	<1 1036 1236 1145 1405 3861 history1	<1 949 1081 949 1262 3079 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25	<1 967 1134 1125 1284 3372 current 8	<1 1036 1236 1145 1405 3861 history1 7	<1 949 1081 949 1262 3079 history2 8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>25	<1 967 1134 1125 1284 3372 current 8 <	<1 1036 1236 1145 1405 3861 history1 7 2	<1 949 1081 949 1262 3079 history2 8 <
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base >3	<1 967 1134 1125 1284 3372 current 8 <1 7	<1 1036 1236 1145 1405 3861 history1 7 2 6 history1 0.4	<1 949 1081 949 1262 3079 history2 8 <1 8 <1 8 history2 0.6
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base >3	<1 967 1134 1125 1284 3372 current 8 <1 7 current	<1 1036 1236 1145 1405 3861 history1 7 2 6 history1	<1 949 1081 949 1262 3079 history2 8 <1 8 ×1 8 ×1 8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base >3	<1 967 1134 1125 1284 3372 current 8 <1 7 current 0.4	<1 1036 1236 1145 1405 3861 history1 7 2 6 history1 0.4	<1 949 1081 949 1262 3079 history2 8 <1 8 <1 8 history2 0.6
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7845	>25 >20 limit/base >3 >20	<1 967 1134 1125 1284 3372 <u>current</u> 8 <1 7 <u>current</u> 0.4 9.1	<1 1036 1236 1145 1405 3861 history1 7 2 6 history1 0.4 9.8	<1 949 1081 949 1262 3079 history2 8 <1 8 <1 8 history2 0.6 11.3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7845	>25 >20 limit/base >3 >20 >30	<1 967 1134 1125 1284 3372 current 8 <1 7 current 0.4 9.1 21.0	<1 1036 1236 1145 1405 3861 history1 7 2 6 history1 0.4 9.8 21.6	<1 949 1081 949 1262 3079 history2 8 <1 8 <1 8 history2 0.6 11.3 23.5

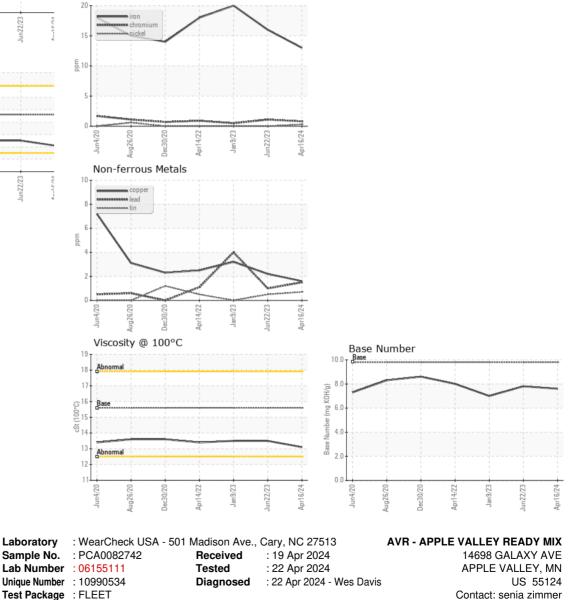


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	13.1	13.5	13.5
GRAPHS						
Ferrous Alloys						



To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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 12367

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