

OIL ANALYSIS REPORT

Area {UNASSIGNED} 2220630 (S/N U130239A)

Component **Diesel Engine** Fluid

PETRO CANADA DURON ADVANCED 10W30 (9 QTS)

DIAGNOSIS

Recommendation

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

Wear

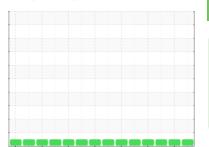
All component wear rates are normal.

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 Rating Trend

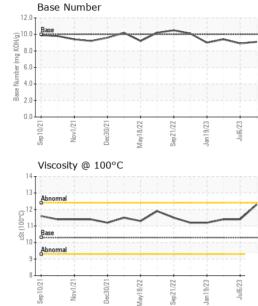


NORMAL

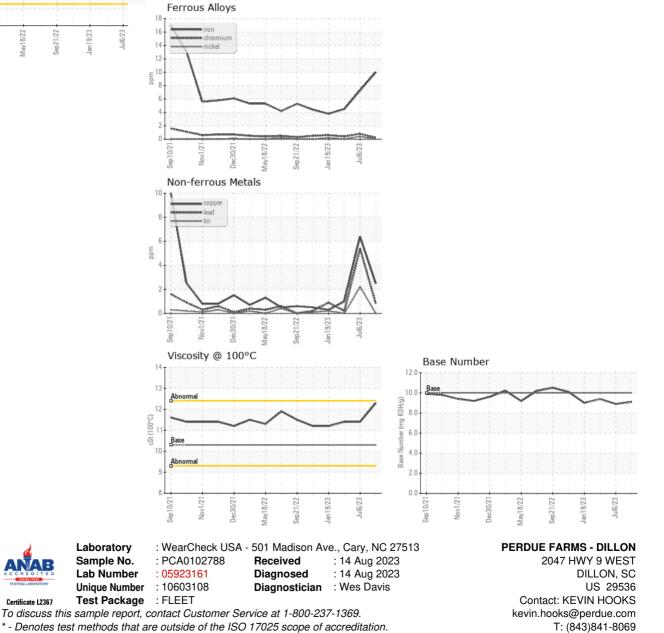
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0102788	PCA0102025	PCA0100099
Sample Date		Client Info		07 Aug 2023	06 Jul 2023	06 Jun 2023
Machine Age	hrs	Client Info		3709	3470	2017
Oil Age	hrs	Client Info		3470	150	2017
Oil Changed		Client Info		N/A	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	10	7	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	1	6	<1
Lead	ppm	ASTM D5185m	>40	<1	5	<1
Copper	ppm	ASTM D5185m	>330	2	6	1
Tin	ppm	ASTM D5185m	>15	0	2	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 1	history1 5	history2 2
	ppm ppm		0			
Boron		ASTM D5185m	0	1	5	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	1 2	5	2 2
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 2 68	5 0 58	2 2 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 2 68 <1	5 0 58 2	2 2 61 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	1 2 68 <1 945	5 0 58 2 1067	2 2 61 0 889
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	1 2 68 <1 945 1229	5 0 58 2 1067 1119	2 2 61 0 889 1070
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	1 2 68 <1 945 1229 1108	5 0 58 2 1067 1119 1181	2 2 61 0 889 1070 1046
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	1 2 68 <1 945 1229 1108 1299	5 0 58 2 1067 1119 1181 1447	2 2 61 0 889 1070 1046 1196
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	1 2 68 <1 945 1229 1108 1299 3390	5 0 58 2 1067 1119 1181 1447 4206	2 2 61 0 889 1070 1046 1196 3060
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	1 2 68 <1 945 1229 1108 1299 3390 current	5 0 58 2 1067 1119 1181 1447 4206 history1	2 2 61 0 889 1070 1046 1196 3060 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 <i>limit/base</i> >25	1 2 68 <1 945 1229 1108 1299 3390 current 4	5 0 58 2 1067 1119 1181 1447 4206 history1 5	2 2 61 0 889 1070 1046 1196 3060 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 <i>limit/base</i> >25	1 2 68 <1 945 1229 1108 1299 3390 current 4 0	5 0 58 2 1067 1119 1181 1447 4206 history1 5 1	2 2 61 0 889 1070 1046 1196 3060 history2 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	1 2 68 <1 945 1229 1108 1299 3390 current 4 0 1	5 0 58 2 1067 1119 1181 1447 4206 history1 5 1 8	2 2 61 0 889 1070 1046 1196 3060 history2 3 0 1
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 20 20	1 2 68 <1 945 1229 1108 1299 3390 current 4 0 1	5 0 58 2 1067 1119 1181 1447 4206 history1 5 1 8 8 history1	2 2 61 0 889 1070 1046 1196 3060 history2 3 0 1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 20 20	1 2 68 <1 945 1229 1108 1299 3390 current 4 0 1 1 current 0.4	5 0 58 2 1067 1119 1181 1447 4206 history1 5 1 8 <i>history1</i> 0.3	2 2 61 0 889 1070 1046 1196 3060 history2 3 0 1 history2 0.2
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	1 2 68 <1 945 1229 1108 1299 3390 current 4 0 1 current 0.4 6.4	5 0 58 2 1067 1119 1181 1447 4206 history1 5 1 8 <i>history1</i> 0.3 5.7	2 2 61 0 889 1070 1046 1196 3060 history2 3 0 1 history2 0.2 5.5
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	1 2 68 <1 945 1229 1108 1299 3390 current 4 0 1 current 0.4 6.4 18.0	5 0 58 2 1067 1119 1181 1447 4206 history1 5 1 8 history1 0.3 5.7 18.2	2 2 61 0 889 1070 1046 1196 3060 history2 3 0 1 history2 0.2 5.5 17.7



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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	10.3	12.3	11.4	11.4
GRAPHS						



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