

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

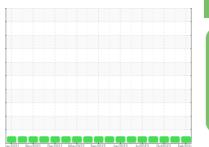
All component wear rates are normal.

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

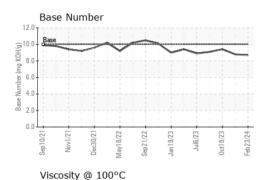


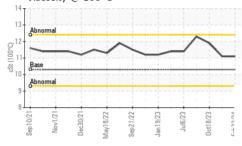
NORMAL

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		PCA0116255	PCA0108082	PCA0108123		
Sample Date		Client Info		23 Feb 2024	03 Dec 2023	18 Oct 2023		
Machine Age	hrs	Client Info		4623	3856	3856		
Oil Age	hrs	Client Info		250	3470	3617		
Oil Changed		Client Info		Changed	N/A	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		
Water		WC Method	>0.2	NEG	NEG	NEG		
Glycol		WC Method		NEG	NEG	NEG		
WEAR METALS method limit/base current history1 history2								
Iron	ppm	ASTM D5185m	>100	5	2	6		
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	2	1	1		
Lead	ppm	ASTM D5185m	>40	<1	0	0		
Copper	ppm	ASTM D5185m	>330	<1	1	0		
Tin	ppm	ASTM D5185m	>15	<1	0	0		
Vanadium	ppm	ASTM D5185m		<1	0	0		
Cadmium	ppm	ASTM D5185m		<1	0	0		
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	<1 current	0 history1	0 history2		
	ppm ppm		limit/base		-			
ADDITIVES		method ASTM D5185m		current	history1	history2		
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 12	history1 8	history2 5		
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 12 1	history1 8 0	history2 5 0		
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 12 1 58	history1 8 0 58	history2 5 0 59		
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 12 1 58 <1	history1 8 0 58 <1	history2 5 0 59 0		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 12 1 58 <1 805	history1 8 0 58 <1 915	history2 5 0 59 0 904		
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	0 0 60 0 1010 1070	current 12 1 58 <1 805 996	history1 8 0 58 <1 915 1069	history2 5 0 59 0 904 1025		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 12 1 58 <1 805 996 978	history1 8 0 58 <1 915 1069 1151	history2 5 0 59 0 904 1025 972		
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	0 0 60 0 1010 1070 1150 1270	current 12 1 58 <1 805 996 978 1124	history1 8 0 58 <1 915 1069 1151 1289	history2 5 0 59 0 904 1025 972 1236		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	0 0 60 0 1010 1070 1150 1270 2060	12 1 58 <1 805 996 978 1124 3345	history1 8 0 58 <1 915 1069 1151 1289 33345	history2 5 0 59 0 904 1025 972 1236 3015		
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	0 0 60 1010 1070 1150 1270 2060	12 1 58 <1 805 996 978 1124 3345 current	history1 8 0 58 <1 915 1069 1151 1289 3345 history1	history2 5 0 59 0 904 1025 972 1236 3015 history2		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 12 1 58 <1 805 996 978 1124 3345 current 4	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3	history2 5 0 59 0 904 1025 972 1236 3015 history2 4		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base	current 12 1 58 <1 805 996 978 1124 3345 current 4 <1	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3 3 3	history2 5 0 59 0 904 1025 972 1236 3015 history2 4 0		
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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20	current 12 1 58 <1 805 996 978 1124 3345 current 4 <1 3 current 0.2	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3 0 history1 0.2	history2 5 0 59 0 904 1025 972 1236 3015 history2 4 0 0 history2 0 0.3		
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 TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current 12 1 58 <1 805 996 978 1124 3345 current 4 <1 3 current 0.2 6.1	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3 0 history1 0 history1 0.2 5.6	history2 5 0 59 0 904 1025 972 1236 3015 history2 4 0 0 history2 4 0 0.3 6.0		
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	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	current 12 1 58 <1 805 996 978 1124 3345 current 4 <1 3 current 0.2	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3 0 history1 0.2	history2 5 0 59 0 904 1025 972 1236 3015 history2 4 0 0 history2 4. 0.3		
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 TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 1imit/base >22 20	current 12 1 58 <1 805 996 978 1124 3345 current 4 <1 3 current 0.2 6.1	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3 0 history1 0 history1 0.2 5.6	history2 5 0 59 0 904 1025 972 1236 3015 history2 4 0 0 history2 4 0 0.3 6.0		
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	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20 >3	current 12 1 58 <1 805 996 978 1124 3345 current 4 <1 3 current 0.2 6.1 16.9	history1 8 0 58 <1 915 1069 1151 1289 3345 history1 3 0 history1 0.2 5.6 16.7	history2 5 0 59 0 904 1025 972 1236 3015 history2 4 0 0 history2 0.3 6.0 17.6		

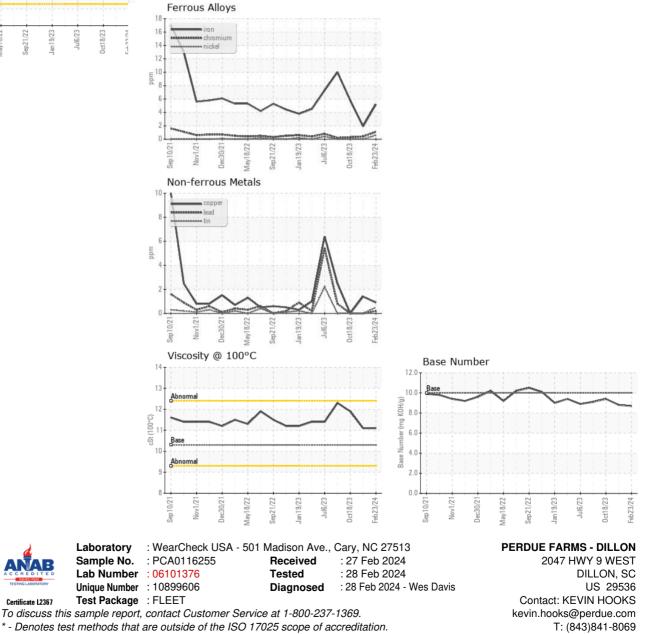


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	11.1	11.1	11.9
GRAPHS						



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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