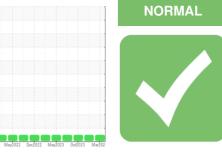


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 2026868

Component Diesel Engine Fluid PETRO CANADA DURON UHP 5W30 (35)

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.

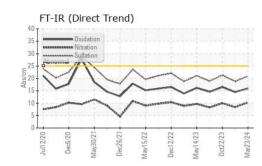
Fluid Condition

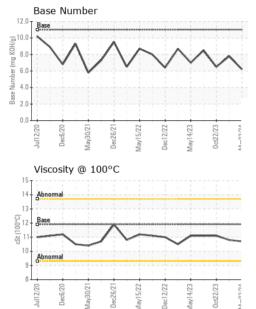
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0119537	PCA0115436	PCA0109384
Sample Date		Client Info		23 Mar 2024	07 Jan 2024	22 Oct 2023
Machine Age	mls	Client Info		436090	415485	393973
Oil Age	mls	Client Info		0	21312	42900
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<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	40	21	35
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	1	<1	<1
Titanium	ppm	ASTM D5185m		8	<1	1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	5	2	3
Lead	ppm	ASTM D5185m	>40	<1	3	2
Copper	ppm	ASTM D5185m	>330	9	5	8
Tin	ppm	ASTM D5185m	>15	0	1	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	<1
	le le			0		
ADDITIVES	le le tru	method	limit/base	current	history1	history2
	ppm		limit/base			
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 8	history1 4	history2 0
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 64	current 8 0	history1 4 0	history2 0 12
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64	current 8 0 54	history1 4 0 51	history2 0 12 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64 0	current 8 0 54 1	history1 4 0 51 1	history2 0 12 62 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 64 0 1160	current 8 0 54 1 939	history1 4 0 51 1 834	history2 0 12 62 <1 936
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 64 0 1160 820	current 8 0 54 1 939 1203	history1 4 0 51 1 834 1005	history2 0 12 62 <1 936 1108
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	0 0 64 0 1160 820 1160	current 8 0 54 1 939 1203 1029	history1 4 0 51 1 834 1005 944	history2 0 12 62 <1 936 1108 995
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 64 0 1160 820 1160 1260	current 8 0 54 1 939 1203 1029 1280	history1 4 0 51 1 834 1005 944 1055	history2 0 12 62 <1 936 1108 995 1238
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	0 0 64 0 1160 820 1160 1260 3000	Current 8 0 54 1 939 1203 1029 1280 3635	history1 4 0 51 1 834 1005 944 1055 3237	history2 0 12 62 <1 936 1108 995 1238 3259
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 64 0 1160 820 1160 1260 3000	current 8 0 54 1 939 1203 1029 1280 3635 current	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2	history2 0 12 62 <1 936 1108 995 1238 3259 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus 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	0 0 64 1160 820 1160 1260 3000 limit/base >25	current 8 0 54 1 939 1203 1029 1280 3635 current 7	history1 4 0 51 1 834 1005 944 1055 3237 history1 4	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium 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	0 0 64 1160 820 1160 1260 3000 limit/base >25	current 8 0 54 1 939 1203 1029 1280 3635 current 7 2	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6 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	0 0 64 0 1160 820 1160 1260 3000 limit/base >25 >20	current 8 0 54 1 939 1203 1029 1280 3635 current 7 2 2	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2 2	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6 0 4
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	0 0 64 0 1160 820 1160 1260 3000 Imit/base >25 >20 Imit/base >3	current 8 0 54 1 939 1203 1029 1280 3635 current 7 2 2 current	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2 2 history1	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6 0 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 64 0 1160 820 1160 1260 3000 Imit/base >25 >20 Imit/base >3	current 8 0 54 1 939 1203 1029 1280 3635 current 7 2 current 0.6	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2 history1 0 0.4	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6 0 4 history2 0.6
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	0 0 64 0 1160 820 1160 1260 3000 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	current 8 0 54 1 939 1203 1029 1280 3635 current 7 2 current 0.6 10.3	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2 history1 0.4 8.4	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6 0 4 history2 0.6 10.0
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 64 1160 820 1160 1260 3000 imit/base >25 imit/base >3 >20 >3	current 8 0 54 1 939 1203 1029 1280 3635 current 7 2 current 0.6 10.3 20.9	history1 4 0 51 1 834 1005 944 1055 3237 history1 4 2 history1 0.4 8.4 18.8	history2 0 12 62 <1 936 1108 995 1238 3259 history2 6 0 4 history2 0.6 10.0 21.3



OIL ANALYSIS REPORT





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	11.9	10.7	10.8	11.1
GRAPHS						

