

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- G

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.

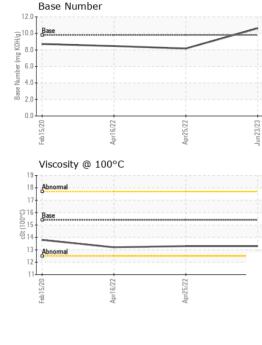
Fluid Condition

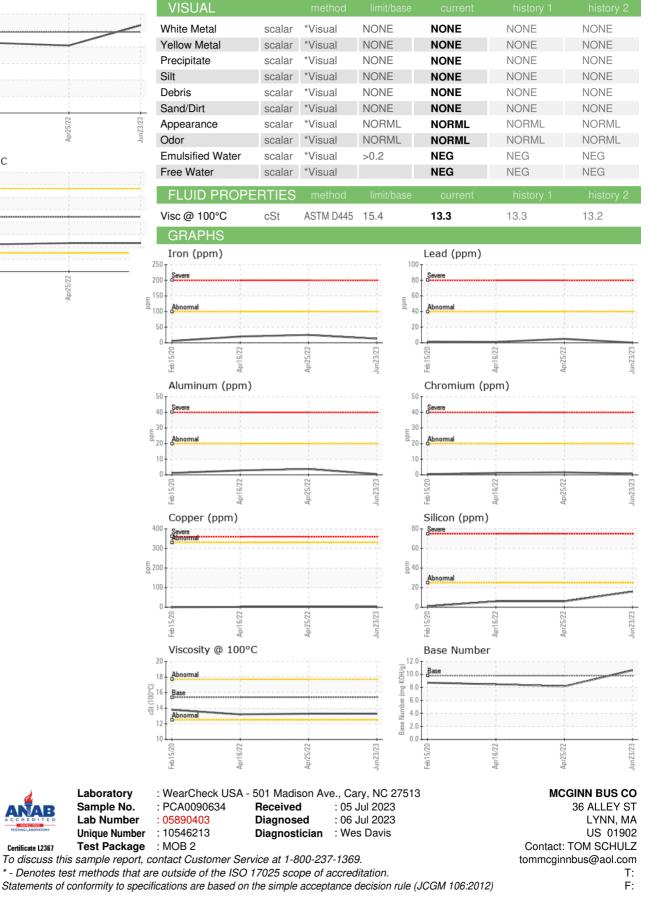
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info PCA0090634 PCA0013308 PCA01308 PCA0100 PCA01308 PCA01030	AL)		Feb202	0 Apr2022	Apr2022 Ju	n2023	
Sample Date Client Info 23 Jun 2023 25 Apr 2022 16 Apr 2024 Machine Age mis Client Info 493139 403325 0 Oil Age mis Client Info 12000 12000 0 Oil Changed Client Info Not Changd NA NORMAL NORMAL CONTAMINATION method imit/base current history history Fuel WC Method >5 <1.0 <1.0 <1.0 Glycol WC Method >5 <1.0 <1.0 <1.0 Chromium ppm ASTM 05165m >100 13 25 20 Chromium ppm ASTM 05165m >20 <1 1 0 Nickel ppm ASTM 05165m >30 0 <1 0 Aluminum ppm ASTM 05165m >30 2 1 <1 Aluminum ppm ASTM 05165m >30 2 1 <1 Alumi	SAMPLE INFOF	RMATION	method	limit/base	current	history 1	history 2
Machine Age mis Client Info 493139 403325 0 Oil Age mis Client Info 12000 12000 0 Oil Age mis Client Info 12000 12000 0 Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history history Fuel WC Method >5 <1.0	Sample Number		Client Info		PCA0090634	PCA0013308	PCA0059661
Di Age mis Client Into 12000 12000 0 Di Changed Client Info Not Changed N/A Sample Status Imitibase Current NormAL NORMAL CONTAMINATION method Imitibase current history1 history1 Fuel WC Method >5 <1.0	Sample Date		Client Info		23 Jun 2023	25 Apr 2022	16 Apr 2022
Dir Changed Sample Status Client Info Not Changd NORMAL Changed NORMAL N/A NORMAL CONTAMINATION method limit/base current history history Fuel WC Method >5 <1.0	Machine Age	mls	Client Info		493139	403325	0
Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history 1 history 1 Fuel WC Method >5 <1.0	Dil Age	mls	Client Info		12000	12000	0
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Baycol WC Method NEG NEG NEG WEAR METALS method limit/base current history 1 history 1 ron ppm ASTM D5185m >100 13 25 20 Chromium ppm ASTM D5185m >20 <1 2 1 Nickel ppm ASTM D5185m >20 <1 0 0 Silver ppm ASTM D5185m >3 0 <1 0 Auminum ppm ASTM D5185m >30 <1 4 3 Lead ppm ASTM D5185m >30 <1 <1 <1 <1 Autimony ppm ASTM D5185m >15 <1 <1 <1 <1 Autimony ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 0 0 0 0 0 0	CONTAMINAT	ΓΙΟΝ	method	limit/base	current	history 1	history 2
WEAR METALS method limit/base current history 1 history 1 ron ppm ASTM D5185m >20 <1 2 20 Chromium ppm ASTM D5185m >20 <1 2 1 Nickel ppm ASTM D5185m >20 <1 2 1 Nickel ppm ASTM D5185m >3 0 <1 0 Bilwer ppm ASTM D5185m >3 0 <1 0 Aluminum ppm ASTM D5185m >30 2 2 2 2 Ead ppm ASTM D5185m >330 2 2 2 2 Copper ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 9 14 15 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m <td< th=""><th>Fuel</th><th></th><th>WC Method</th><th>>5</th><th><1.0</th><th><1.0</th><th><1.0</th></td<>	Fuel		WC Method	>5	<1.0	<1.0	<1.0
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vickel ppm ASTM D5185m >4 <1 0 0 Fitanium ppm ASTM D5185m >3 0 <1	ron	ppm	ASTM D5185m	>100	13	25	20
Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >3 0 <1	Chromium	ppm	ASTM D5185m	>20	<1	2	1
Silver ppm ASTM D5185m >3 0 <1 0 Aluminum ppm ASTM D5185m >20 <1 4 3 Lead ppm ASTM D5185m >40 <1 5 1 Copper ppm ASTM D5185m >330 2 2 2 2 Tin ppm ASTM D5185m >15 <1 <1 <1 <1 Antimony ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 9 14 15 Barium ppm ASTM D5185m 0 9 14 15 Barium ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 0 <1 <1 <1< Magnesium ppm ASTM D5185m 1010 934 964 917 Calcium ppm ASTM D5185m	Nickel	ppm	ASTM D5185m	>4	<1	0	0
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Lead ppm ASTM D5185m >40 <1 5 1 Copper ppm ASTM D5185m >330 2 2 2 Tin ppm ASTM D5185m >15 <1	Silver	ppm	ASTM D5185m	>3	0	<1	0
Copper ppm ASTM D5185m >330 2 2 2 Fin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	<1	4	3
Fin ppm ASTM D5185m >15 <1 <1 <1 <1 Antimony ppm ASTM D5185m >15 <1	_ead	ppm	ASTM D5185m	>40	<1	5	1
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Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history 1 history 1 Boron ppm ASTM D5185m 0 9 14 15 Barium ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 60 63 61 60 Magnesium ppm ASTM D5185m 0 <1 <1 <1 Calcium ppm ASTM D5185m 1010 934 964 917 Calcium ppm ASTM D5185m 1070 1123 1168 1190 Phosphorus ppm ASTM D5185m 1270 1233 1251 1201 Sulfur ppm ASTM D5185m 2060 3133 2684 2711 CONTAMINANTS method limit/base	Гin	ppm	ASTM D5185m	>15	<1	<1	<1
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Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 60 63 61 60 Magnese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history 1	history 2
Molybdenum ppm ASTM D5185m 60 63 61 60 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 934 964 917 Calcium ppm ASTM D5185m 1010 934 964 917 Calcium ppm ASTM D5185m 1070 1123 1168 1190 Phosphorus ppm ASTM D5185m 1070 1233 1251 1201 Sulfur ppm ASTM D5185m 2060 3133 2684 2711 CONTAMINANTS method limit/base current history history Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >20 <1 1 <1 INFRA-RED method limit/base current history 1 history Soot % % *ASTM	Boron	ppm	ASTM D5185m	0	9	14	15
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 934 964 917 Calcium ppm ASTM D5185m 1070 1123 1168 1190 Calcium ppm ASTM D5185m 1070 1123 1168 1190 Phosphorus ppm ASTM D5185m 1070 1233 1251 1201 Zinc ppm ASTM D5185m 1270 1233 1251 1201 Sulfur ppm ASTM D5185m 2060 3133 2684 2711 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	0	0	0
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Calcium ppm ASTM D5185m 1070 1123 1168 1190 Phosphorus ppm ASTM D5185m 1150 1042 1053 1027 Zinc ppm ASTM D5185m 1270 1233 1251 1201 Sulfur ppm ASTM D5185m 2060 3133 2684 2711 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >20 <1	Vanganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 1042 1053 1027 Zinc ppm ASTM D5185m 1270 1233 1251 1201 Sulfur ppm ASTM D5185m 2060 3133 2684 2711 CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >20 <1 5 4 Potassium ppm ASTM D5185m >20 <1 1 <1 INFRA-RED method limit/base current history 1 history Soot % % *ASTM D7844 >3 0.5 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 8.7 10.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 21.9 19.3 FLUID DEGRADATION method <th< td=""><td>Vagnesium</td><td>ppm</td><td>ASTM D5185m</td><td>1010</td><th>934</th><td>964</td><td>917</td></th<>	Vagnesium	ppm	ASTM D5185m	1010	934	964	917
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Sulfur ppm ASTM D5185m 2060 3133 2684 2711 CONTAMINANTS method limit/base current history 1 history 1 Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	1150	1042	1053	1027
CONTAMINANTS method limit/base current history 1 history Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m	1270	1233	1251	1201
Silicon ppm ASTM D5185m >25 16 6 6 Sodium ppm ASTM D5185m <1	Sulfur	ppm	ASTM D5185m	2060	3133	2684	2711
Sodium ppm ASTM D5185m <1 5 4 Potassium ppm ASTM D5185m<>20 <1	CONTAMINAN	NTS	method	limit/base	current	history 1	history 2
Potassium ppm ASTM D5185m >20 <1				>25	16		
INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.5 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 8.7 10.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 21.9 19.3 FLUID DEGRADATION method limit/base current history 1 history 1 Oxidation Abs/.1mm *ASTM D7414 >25 17.5 18.4 15.6	Sodium	ppm	ASTM D5185m		<1	5	4
Soot % % *ASTM D7844 >3 0.5 0.7 0.4 Nitration Abs/cm *ASTM D7624 >20 8.7 10.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.8 21.9 19.3 FLUID DEGRADATION method limit/base current history 1 history 1 Oxidation Abs/.1mm *ASTM D7414 >25 17.5 18.4 15.6	Potassium	ppm	ASTM D5185m	>20	<1	1	<1
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Sulfation Abs/.1mm *ASTM D7415 >30 20.8 21.9 19.3 FLUID DEGRADATION method limit/base current history 1 history 1 Oxidation Abs/.1mm *ASTM D7414 >25 17.5 18.4 15.6				>3			
FLUID DEGRADATION method limit/base current history 1 history 1 Oxidation Abs/.1mm *ASTM D7414 >25 17.5 18.4 15.6	Nitration	Abs/cm		>20	8.7		9.0
Dxidation Abs/.1mm *ASTM D7414 >25 17.5 18.4 15.6	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	21.9	19.3
	FLUID DEGRA	DATION	method	limit/base	current	history 1	history 2
Base Number (BN) mg KOH/g ASTM D2896 9.8 10.62 8.17 8.47				>25			
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	10.62	8.17	8.47



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Certificate L2367