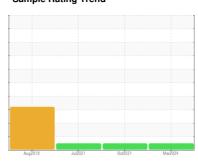


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

Component **Diesel Engine**

PETRO CANADA DURON HP 15W40 (--- 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.

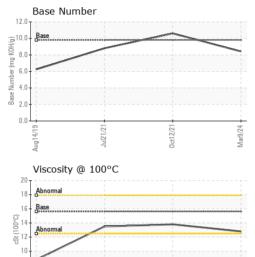
Fluid Condition

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

SAMPLE INFORMATION method Imitibase Current history1 history2	AL)		Aug201	9 Jul2021	0ct2021 M	w2024	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 41286 36629 0 Oil Age hrs Client Info 360 0 0 Oil Changed Client Info Changed Changed NA Sample Status NoRMAL NORMAL NORMAL NORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >5 <1.0	Sample Number		Client Info		PCA0118519	PCA0016890	PCA05309732
Oil Age hrs Client Info 360 0 0 Oil Changed Sample Status Client Info Changed Changed N/A N/A N/A CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Sample Date		Client Info		09 Mar 2024	12 Oct 2021	21 Jul 2021
Oil Changed Status Client Info Changed NORMAL Changed NORMAL NIA NORMAL N	Machine Age	hrs	Client Info		41286	36629	0
CONTAMINATION	Oil Age	hrs	Client Info		360	0	0
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Changed	Changed	N/A
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method Glycol >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185m >10.0 22 17 19 Chromium ppm ASTM DS185m >4 0 0 0 Nickel ppm ASTM DS185m >4 0 0 0 Silver ppm ASTM DS185m >4 0 0 0 Silver ppm ASTM DS185m >20 2 3 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
Second S	Fuel		WC Method	>5	<1.0	<1.0	1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >4 0 0 0 Tittanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m >20 2 3 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100		17	19
Titanium	Chromium	ppm	ASTM D5185m	>20	<1		<1
Silver	Nickel	ppm		>4			
Aluminum ppm ASTM D5185m >20 2 3 <1 Lead ppm ASTM D5185m >40 2 <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead	Silver	ppm	ASTM D5185m	>3	0		0
Copper ppm ASTM D5185m >330 16 5 7 Tin ppm ASTM D5185m >15 0 <1	Aluminum	ppm	ASTM D5185m	>20	2	3	<1
Tin ppm ASTM D5185m >15 0 <1 <1 Antimony ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 25 27 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 </td <td>Lead</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>40</td> <th>2</th> <td><1</td> <td></td>	Lead	ppm	ASTM D5185m	>40	2	<1	
Antimony ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 25 27 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m >25 3 3 3	Copper	ppm	ASTM D5185m	>330	16	5	
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 25 27 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 22	Tin	ppm	ASTM D5185m	>15	0	<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 25 27 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m 20 <td>Antimony</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th></th> <td>0</td> <td>0</td>	Antimony	ppm	ASTM D5185m			0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 25 27 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m >20 <1	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron ppm ASTM D5185m 2 25 27 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m <1 <1 <1 <1 Magnesium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 20 <1 <1 <1 INFRA-RED method limit/base	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 58 68 64 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		2	25	27
Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 937 718 752 Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m		58	68	64
Calcium ppm ASTM D5185m 1284 1401 1315 Phosphorus ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 2 2 1 -1 Potassium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 1109 1063 1024 Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m		937	718	752
Zinc ppm ASTM D5185m 1347 1218 1194 Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 22 2 1 Potassium ppm ASTM D5185m >20 <1 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >3 0.4 0.5 0.5 Nitration Abs/.mm *ASTM D7624 >20 8.2 7.4 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7	Calcium	ppm	ASTM D5185m		1284	1401	1315
Sulfur ppm ASTM D5185m 3761 2875 2822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m		1109	1063	1024
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m		1347	1218	1194
Silicon ppm ASTM D5185m >25 3 3 3 Sodium ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m >20 <1 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 8.2 7.4 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	Sulfur	ppm	ASTM D5185m		3761	2875	2822
Sodium ppm ASTM D5185m 2 2 1 Potassium ppm ASTM D5185m >20 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 8.2 7.4 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	Silicon	ppm	ASTM D5185m	>25	3	3	3
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 8.2 7.4 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	Sodium	ppm	ASTM D5185m		2	2	1
Soot % % *ASTM D7844 >3 0.4 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 8.2 7.4 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	Potassium	ppm	ASTM D5185m	>20	<1	<1	<1
Nitration Abs/cm *ASTM D7624 >20 8.2 7.4 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.3 19.2 20.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	Soot %	%	*ASTM D7844	>3	0.4	0.5	0.5
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2516.714.515.4	Nitration	Abs/cm	*ASTM D7624	>20	8.2	7.4	8.2
Oxidation Abs/.1mm *ASTM D7414 >25 16.7 14.5 15.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	19.2	20.3
	FLUID DEGRAI	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.42 10.6 8.81	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	14.5	15.4
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.42	10.6	8.81

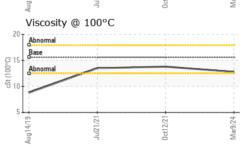


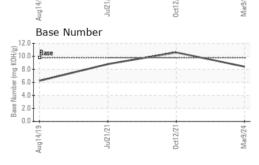
OIL ANALYSIS REPORT



VISUAL		method				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	historv1	historv2

Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	12.8	13.8	13.5
GRAPHS						
Iron (ppm)			100	Lead (ppm)		
200 Severe				Smuoro		
150 Abnormal			E 60 € 40	Abnormal		
50			20			
Aug14/19 +-		0ct12/21 +	Mar9/24	Aug14/19	Jul21/21	Oct 1/21 -
Aluminum (ppm)				Chromium (p	ppm)	
Severe			50	Severe	1	
E 20 Abnormal				Abnormal		
10			10	1		
Aug14/19		Oct12/21+	Mar9/24	Aug14/19	Jul21/21-	Uct1 2/21
Copper (ppm)				Silicon (ppm))	
800			80	Severe		1 1
600 - SEVERTINA			60 E 40			
8.400 BW65ma			료 ⁺⁰	Abnormal		-
200			0			
19.		21.	24.	19	21.	24.







Laboratory Sample No.

Lab Number : 06121035 Unique Number: 10929868 Test Package : MOB 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0118519 Received : 18 Mar 2024

Tested : 19 Mar 2024 Diagnosed : 19 Mar 2024 - Wes Davis

SCRAP METAL SERVICES (SMS Mill Services LLC)

1500 COMMERCIAL AVE MINGO JUNCTION, OH US 43938

Contact: FRANK NALLY fnally@scrapmetalservices.com

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)

T:

F: