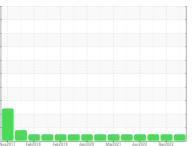


Machine Id 380804 Component Diesel Engine

OIL ANALYSIS REPORT

Sample Rating Trend





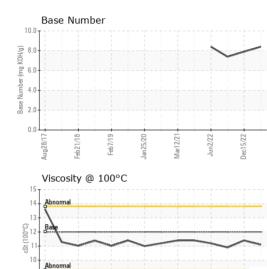
NORMAL

Resample at the next service interval to monitor. Smarple Date Client Info D2 Aug 2023 15 Dec 2022 00 2 Sep 2022. Machine Age mis Client Info D 219468 211722 Machine Age mis Client Info D 219468 211722 Machine Age mis Client Info D 219468 211722 There is no indication of any contamination in the off. Changed Client Info D 219468 211722 Full Combine Sample Status NORMAL		,		Aug2017 Fr	eb2018 Feb2019 Ja	12020 Mar2021 Jun2022	Dec2022	
Reample Date Client Info 00 Aug 2023 15 Dec 2022 02 Sep 2022 Machine Age mis Client Info 0 2184480 211722 Machine Age mis Client Info 0 2184480 211722 There is no indication of any contamination in the oil. There is no indication of any contamination in the oil. Client Info 0 Changed	DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Wear Nachine Age mis Client Info 0 219488 211722 All component wear rates are normal. 010 Changed Client Info 0 10000 10000 Contamination 010 Changed Client Info 0 10000 10000 Fuld Condition The sol indicates that there is suitable adultity remaining in the oil. The condition of the oil is suitable for further service. North Mall NORMAL NORMAL <t< th=""><th>Recommendation</th><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>PCA0100945</th><th>PCA0082505</th><th>PCA0079685</th></t<>	Recommendation	Sample Number		Client Info		PCA0100945	PCA0082505	PCA0079685
All companent wear rates are normal. Contamination 01 App mis Client Info 0 10000 Changed Changed <td>Resample at the next service interval to monitor.</td> <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>02 Aug 2023</td> <td>15 Dec 2022</td> <td>02 Sep 2022</td>	Resample at the next service interval to monitor.	Sample Date		Client Info		02 Aug 2023	15 Dec 2022	02 Sep 2022
Contamination Control of any contamination in hold. Control of any contaminat	Wear	Machine Age	mls	Client Info		0	218468	211722
Sample Status NORMAL NORMAL NORMAL NORMAL Difference CONTAMINATION method limit/base current history1 history1 history1 history2 Fuel WC Method S5 4.0 <1.0	All component wear rates are normal.	Oil Age	mls	Client Info		0	10000	10000
Sample Status NORMAL NORMAL NORMAL NORMAL Distriction The Poil Condition Imitibase current history1 history1 Sample Status WC Method >5 <1.0	Contamination	Oil Changed		Client Info		Changed	Changed	Changed
Oil CONTAMINATION method fundbass current history1 history2 Fuel WC Method >5 1.0 <1.0		Sample Status				NORMAL	NORMAL	NORMAL
The BV result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Fuel WCA Method SS <10	oil.	CONTAMINAT	ION	method	limit/base	current	history1	history2
Bits suitable for further service. Citycol WC Method NEG NEG NEG is is suitable for further service. VEAR METALS method current history1 history2 iron ppm ASTM 05185 >10.00 17 17 10 Chromium ppm ASTM 05185 >20 -1 -1 -1 Nickel ppm ASTM 05185 >3 -1 0 0 0 Silver ppm ASTM 05185 >3 -1 0 0 -1 -1 -1 Copper ppm ASTM 05185 >30 -1 1 -2 -1 0 0 -1 -1 -1 -1 -1 -1 -1 -1 0 0 -1 -1 0 0 -1 0 0 -1 -1 1 1 2 8 -1 0 0 0 -1 -1 -1 -1 1 1 -1		Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method linitbase current history1 history2 tron ppm ASTM 05185m >10.0 17 17 10 Chromium ppm ASTM 05185m >4 0 0 0 Nickel ppm ASTM 05185m >4 0 0 0 Silver ppm ASTM 05185m >3 <1		Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 <1 <1 <1 Nickel ppm ASTM D5185m -4 0 0 0 Titanium ppm ASTM D5185m -3 <1	oil is suitable for further service.	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel ppm ASTM D518m >4-4 0 0 Titanium ppm ASTM D518m >3 -1 0.0 Aluminum ppm ASTM D518m >20 2 0.0 0 Lead ppm ASTM D518m >30 -1 -1 -1 Copper ppm ASTM D518m >40 1 -1 -1 Tin ppm ASTM D518m >40 1 -1 -1 Vanadium ppm ASTM D518m >40 1 -1 -1 Vanadium ppm ASTM D518m >41 0.0 -1 -1 Vanadium ppm ASTM D518m >15 <1		Iron	ppm	ASTM D5185m	>100	17	17	10
Nickel ppm ASTM D518m >-4 0 0 Titanium ppm ASTM D518m -3 -1 0.0 Aluminum ppm ASTM D518m >20 2 0.0 0 Aluminum ppm ASTM D518m >20 2 0.0 0 Lead ppm ASTM D518m >40 1 -1 -1 Copper ppm ASTM D518m >40 1 -1 -1 Tin ppm ASTM D518m >40 1 0.0 -1 Vanadium ppm ASTM D518m >41 0.0 0 Cadmium ppm ASTM D518m -1 0.0 0 Cadmium ppm ASTM D518m -1 0.0 0 Barium ppm ASTM D518m 2 11 12.8 Barium ppm ASTM D518m 50 64 66 68 Magnesium ppm ASTM D518m 950 902 815 889 Calcium ppm ASTM D518m 950 902 815 889 Calcium ppm ASTM D518m 950 906 1041 1023 <		Chromium		ASTM D5185m	>20		<1	<1
Titanium ppm ASTM D518sn 0 0 Silver ppm ASTM D518sn >3.0 0 0 Aluminum ppm ASTM D518sn >3.0 2.0 2 0.0 0 Lead ppm ASTM D518sn >3.30 1 1 2 Tin ppm ASTM D518sn >1.5 1 0.0 0 0 Variadium ppm ASTM D518sn >1.5 1 0.0 0 0 Cadmium ppm ASTM D518sn 1.5 1 0.0 0 0 ADDITIVES method imit/base current history1 history1 history2 Boron ppm ASTM D518sn 0 6 6 6 6 Magnesium ppm ASTM D518sn 0.0 6 6 6 6 Galoinum ppm ASTM D518sn 0.0 6 6 6 6 Magnesium ppm ASTM D518sn		Nickel				0	0	0
Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >40 1 <1 <1 Lead ppm ASTM D5185m >430 <1 <1 <1 <1 Copper ppm ASTM D5185m >15 <1 0 <1 <2 Tin ppm ASTM D5185m >15 <1 0 <1 <2 Vanadium ppm ASTM D5185m >15 <1 0 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <1 <2 <2 <1 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2 <2		Titanium						
Aluminum ppm ASTM D5185m >20 2 0 0 Lead ppm ASTM D5185m >40 1 <1					>3			
Lead ppm ASTM D5185m >400 1 <1								
Copper ppm ASTM D5185m >330 <1 1 2 Tin ppm ASTM D5185m >15 <1		Lead					<1	<1
Tin ppm ASTM D5188m >15 <1		Copper		ASTM D5185m	>330	<1	1	2
Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 11 12 8 Barium ppm ASTM D5185m 0 0 istory1 history2 Manganese ppm ASTM D5185m 0 0							0	
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 12 8 Barium ppm ASTM D5185m 0 <1 12 8 Barium ppm ASTM D5185m 0 <1 0 0 Molybdenum ppm ASTM D5185m 0 <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 <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		Vanadium		ASTM D5185m				
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Boron ppm ASTM D5185m 2 11 12 8 Barium ppm ASTM D5185m 0 <1 0 0 Molybdenum ppm ASTM D5185m 50 64 66 68 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 902 815 889 Calcium ppm ASTM D5185m 1050 1106 1202 1105 Phosphorus ppm ASTM D5185m 1050 1006 1041 1023 Zinc ppm ASTM D5185m 2600 3608 2866 3654 Sulfur ppm ASTM D5185m 2600 3608 2866 3654 Sodium ppm ASTM D5185m 260 3608 2866 3654 Sodium ppm ASTM D5185m 22 3 2 3 Potassium ppm ASTM D5185m 20 2 2 3 Soot % % 'ASTM D5185m		ADDITIVES			limit/base	current	history1	history2
Barium ppm ASTM D5185m 0 <1 0 0 Molybdenum ppm ASTM D5185m 50 64 66 68 Manganese ppm ASTM D5185m 0 <1		Boron	nnm	ASTM D5185m	2	11	12	8
Molybdenum ppm ASTM D5185m 50 64 66 68 Manganesee ppm ASTM D5185m 0 <1								
Manganesse ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 902 815 889 Calcium ppm ASTM D5185m 1050 1160 1202 1105 Phosphorus ppm ASTM D5185m 995 1006 1041 1023 Zinc ppm ASTM D5185m 995 1006 1041 1023 Sulfur ppm ASTM D5185m 2600 3608 2866 3654 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >26 3 3 2 Sodium ppm ASTM D5185m >20 2 3 3 Potassium ppm ASTM D5185m >20 2 3 3 Soot % % *ASTM D7844 >3 0.4 0.4 1.1 Nitration Abs/cm *ASTM D7624 >20 8.6 10.1 6.5 Sulfation Abs/tm								
Magnesium ppm ASTM D5185m 950 902 815 889 Calcium ppm ASTM D5185m 1050 1160 1202 1105 Phosphorus ppm ASTM D5185m 995 1006 1041 1023 Zinc ppm ASTM D5185m 1180 1233 1228 1215 Sulfur ppm ASTM D5185m 2600 3608 2866 3654 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 2 Sodium ppm ASTM D5185m >20 2 2 3 Potassium ppm ASTM D5185m >20 2 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.4 1.1 Nitration Abs/m *ASTM D7844 >3 0.4 0.4 1.9.3 Sulfation Abs/m								
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Phosphorus ppm ASTM D5185m 995 1006 1041 1023 Zinc ppm ASTM D5185m 1180 1233 1228 1215 Sulfur ppm ASTM D5185m 2600 3608 2866 3654 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 2 Sodium ppm ASTM D5185m >25 3 3 2 Sodium ppm ASTM D5185m >20 2 3 3 Potassium ppm ASTM D5185m >20 2 3 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7644 >3 0.4 0.4 1.1 Nitration Abs/cm *ASTM D7644 >3 0.4 0.4 1.9 Sulfation Abs/tm *ASTM D7644 >3 0.4 0.4 1.9 Sulfation Abs/tm *ASTM D76		-						
Zinc ppm ASTM D5185m 1180 1233 1228 1215 Sulfur ppm ASTM D5185m 2600 3608 2866 3654 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 3 2 Sodium ppm ASTM D5185m >25 3 3 2 Sodium ppm ASTM D5185m >20 2 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D5185m >20 2 2 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.4 1.1 Nitration Abs/cm *ASTM D7644 >3 0.4 0.4 1.1 Nitration Abs/tmm *ASTM D7645 >30 18.3 19.0 19.3 FLUID DEGRADATION method limit/b								
SulfurppmASTM D5185m2600360828663654CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25332SodiumppmASTM D5185m>20443PotassiumppmASTM D5185m>20223INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.40.41.1NitrationAbs/cm*ASTM D7624>208.610.16.5SulfationAbs/cm*ASTM D7415>3018.319.019.3FLUID DEGRADATION methodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2515.816.912.8		•						
SiliconppmASTM D5185m>25332SodiumppmASTM D5185m443PotassiumppmASTM D5185m>20223INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.40.41.1NitrationAbs/cm*ASTM D7624>208.610.16.5SulfationAbs/tm*ASTM D7415>3018.319.019.3FLUID DEGRADATION methodlimit/basecurrenthistory1history2OxidationAbs/tm*ASTM D7414>2515.816.912.8								
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Soot % % *ASTM D7844 >3 0.4 0.4 1.1 Nitration Abs/cm *ASTM D7624 >20 8.6 10.1 6.5 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 19.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 16.9 12.8		Potassium	ppm	ASTM D5185m	>20	2	2	3
Nitration Abs/cm *ASTM D7624 >20 8.6 10.1 6.5 Sulfation Abs/1mm *ASTM D7415 >30 18.3 19.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/1mm *ASTM D7414 >25 15.8 16.9 12.8		INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 8.6 10.1 6.5 Sulfation Abs/.tmm *ASTM D7415 >30 18.3 19.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 15.8 16.9 12.8		Soot %	%	*ASTM D7844	>3	0.4	0.4	1.1
SulfationAbs/.1mm*ASTM D7415>3018.319.019.3FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2515.816.912.8								
Oxidation Abs/.1mm *ASTM D7414 >25 15.8 16.9 12.8								
		FLUID DEGRA	DATION	method	limit/base	current	history1	history2
		Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	16.9	12.8
		Base Number (BN)			-	8.4	7.9	7.4

PETRO CANADA DURON SHP 10W30 (16 QTS)



OIL ANALYSIS REPORT



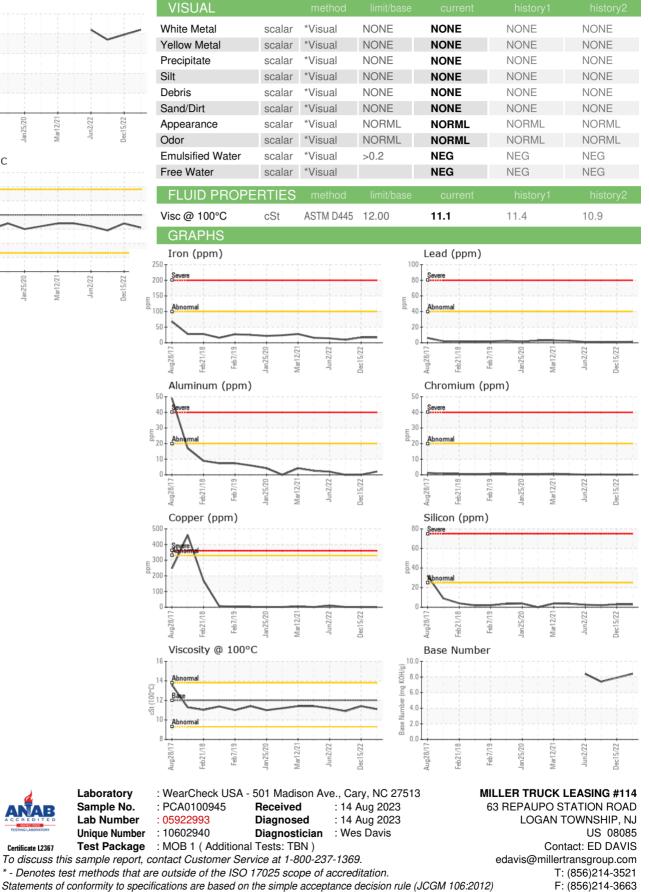
ah7/19

Aug28/17

eb21/18

Mar12/21

Dec15/22



Certificate L2367

Laboratory

Sample No.

Lab Number