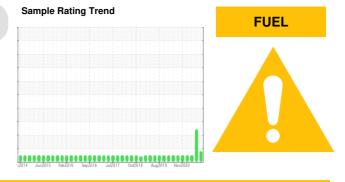


PROBLEM SUMMARY

TENNESSEE MERCHANT (S/N 85201420)

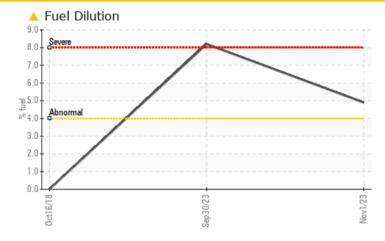
CHEVRON DELO 400 MULTIGRADE 15W40 (7 GAL)



COMPONENT CONDITION SUMMARY

Component Port Genset

Inic



RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS							
Sample Status				ABNORMAL	SEVERE	NORMAL	
Fuel	%	ASTM D3524	>4.0	<u> </u>	8.2	<1.0	

Customer Id: AMELOU Sample No.: MWM731207 Lab Number: 05998710 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS						
Action	Status	Date	Done By	Description		
Resample			?	We recommend an early resample to monitor this condition.		

HISTORICAL DIAGNOSIS

FUEL



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

05 Aug 2023 Diag: Sean Felton

30 Sep 2023 Diag: Wes Davis



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

23 Mar 2021 Diag: Wes Davis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



view report

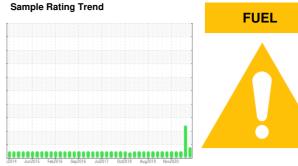
view report







OIL ANALYSIS REPORT



K

Machine Id **TENNESSEE MERCHANT (S/N 85201420)** Component **Port Genset**

CHEVRON DELO 400 MULTIGRADE 15W40 (7 GAL)

SAMPLE INFORMATION method limitbase current history1 history2 Sample Number Client Info 01 Nov233 08 Sep 2023 05 Aug 2023 Machine Age hrs Client Info 2809 2566 1851 Oil Age hrs Client Info 2809 2566 1851 Oil Age hrs Client Info 2809 2566 1851 Oil Age hrs Client Info Changed Not Changed Not Changed Sample Status Client Info ABNORMAL SEVERE NORMAL Glycol WC Method Imit/base current history1 history2 Glycol WC Method NEG NEG NEG NEG Tran ppm ASTM 05185m >4 0 -1 -1 Silver ppm ASTM 05185m >12 c1 0 2 Tran ppm ASTM 05185m >12 c1 0 2 Sil			s2014 Jun20		Jul2017 Oct2018 Aug2019 P		
Sample Date Client Info 01 Nov 2023 30 Sep 2033 05 Aug 2023 Machine Age hrs Client Info 2809 2566 1851 Oil Age hrs Client Info 162 434 325 Oil Changed Client Info 162 434 325 Oil Changed Client Info 162 434 325 Oil Changed Client Info NEG Not Changed Not Changed Glycol WC Method Imitbase current history1 history2 Rinco ppm ASTM 05185n >50 4 10 13 Chromium ppm ASTM 05185n >20 <1 0 Nickel ppm ASTM 05185n >12 <1 0 2 Silver ppm ASTM 05185n >17 0 <1 1 2 Aumium ppm ASTM 05185n >17 0 <1 0 0 0 0 0 0	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 2809 2566 1851 Oil Age hrs Client Info 162 434 325 Oil Changed Client Info Changed Changed Not Changed Sample Status Client Info ABNORMAL SEVERE NORMAL CONTAMINATION method Imit/base current history1 history2 Glycol WC Method Imit/base current history1 history2 Glycol WC Method Imit/base current history1 history2 Iron ppm ASTM 0518m >2 0 <1	Sample Number		Client Info		MWM731207	MW0044752	MW0044735
Oli Age Ins Client Info 162 434 325 Oil Changed Client Info Changed Changed Not Changed Sample Status Imitbase current history1 history2 Glycol WC Method Imitbase current history1 history2 Glycol WC Method Imitbase current history1 history2 Iron ppm ASTM D5185m >50 4 10 13 Chromium ppm ASTM D5185m >4 0 -1 -1 Nickel ppm ASTM D5185m >5 0 0 0 Aluminum ppm ASTM D5185m >17 0 -1 -1 Aluminum ppm ASTM D5185m >17 0 -1 0 Aluminum ppm ASTM D5185m >17 0 -1 0 Antimony ppm ASTM D5185m >17 0 -1 0 Antimony ppm ASTM D5185m >16 0 0 0 Antimony ppm ASTM D5185m >15 0 -1 0 Astm M5185m >15 0 -1 0 <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>01 Nov 2023</td> <td>30 Sep 2023</td> <td>05 Aug 2023</td>	Sample Date		Client Info		01 Nov 2023	30 Sep 2023	05 Aug 2023
Oil Changed Sample Status Client Ind ABNORMAL Changed ABNORMAL Not Changed SEVERE Not Changed NORMAL CONTAMINATION method Imit/base current history1 history2 Glycol WC Method NEG NEG NEG NEG WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM D5185n >50 4 10 13 Chromium ppm ASTM D5185n >52 0 -1 0 Nickel ppm ASTM D5185n >52 0 0 0 Tatanium ppm ASTM D5185n >55 0 0 0 Itanium ppm ASTM D5185n >70 0 1 2 Itanium ppm ASTM D5185n >70 0 1 2 Itanium ppm ASTM D5185n >70 0 0 0 Cadmium ppm ASTM D5185n >70 0 1 2 Itanium ppm ASTM D5185n 151 159 116 61 Baron ppm ASTM D5185n 0 645 653 622 Cadmium	Machine Age	hrs	Client Info		2809	2566	1851
Sample StatusImage: statusABNORMALSEVERENORMALCONTAMINATIONmethodlimit/basecurrenthistory1history2GlycolWC MethodNEGNEGNEGWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D518m>5041013ChromiumppmASTM D518m>440<1	Oil Age	hrs	Client Info		162	434	325
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Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 4 10 13 Chromium ppm ASTM D5185m >2 0 <1	Sample Status				ABNORMAL	SEVERE	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 4 10 13 Chromium ppm ASTM D5185m >4 0 <1	CONTAMINATION	N	method	limit/base	current	history1	history2
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Nickel ppm ASTM D5185m >2 0 <1 0 Titanium ppm ASTM D5185m 5 0 0 0 Silver ppm ASTM D5185m >5 0 0 2 Aluminum ppm ASTM D5185m >12 <1	Iron	ppm	ASTM D5185m	>50	4	10	13
Titanium ppm ASTM D5185m 5 0 0 0 Silver ppm ASTM D5185m<>5 0 0 0 Aluminum ppm ASTM D5185m >12 <1	Chromium	ppm	ASTM D5185m	>4	0	<1	<1
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Lead ppm ASTM D5185m >17 0 <1 <1 Copper ppm ASTM D5185m >70 0 1 2 Tin ppm ASTM D5185m >15 0 <1	Aluminum		ASTM D5185m	>12	<1	0	2
Copper ppm ASTM D5185m >70 0 1 2 Tin ppm ASTM D5185m >15 0 <1	Lead		ASTM D5185m	>17	0	<1	<1
Tin ppm ASTM D5185m >15 0 <1 0 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 <1	Copper		ASTM D5185m	>70	0	1	2
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Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 0 645 653 622 Calcium ppm ASTM D5185m 2046 1367 1351 1423 Phosphorus ppm ASTM D5185m 1043 669 680 666 Zinc ppm ASTM D5185m 943 810 843 786 Sulfur ppm ASTM D5185m 5012 2831 2897 2760 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 0 4 5 Fuel % ASTM D5185m >20 0 4 9 8.2 <1.0 INFRA-RED method limit/base current history1 history2 0.2 Soot % % *ASTM D7844 0.1 0.2 0.2 0.2 0.2 Nitratio	Barium	ppm	ASTIVIUSIASM	0.4	U	0	0
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Zinc ppm ASTM D5185m 943 810 843 786 Sulfur ppm ASTM D5185m 5012 2831 2897 2760 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >25 4 4 4 Sodium ppm ASTM D5185m >20 0 4 5 Fuel % ASTM D3524 >4.0 4.9 8.2 <1.0	Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 645	<1 653	<1 622
SulfurppmASTM D5185m5012283128972760CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25444SodiumppmASTM D5185m>20045PotassiumppmASTM D5185m>20045Fuel%ASTM D5185m>20045INFRA-RED%ASTM D524>4.04.98.2<1.0	Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 2046	0 645 1367	<1 653 1351	<1 622 1423
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>25444SodiumppmASTM D5185m302PotassiumppmASTM D5185m>20045Fuel%ASTM D5185m>20045SodiumppmASTM D5185m>20045Fuel%ASTM D524>4.04.98.2<1.0	Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 2046 1043	0 645 1367 669	<1 653 1351 680	<1 622 1423 666
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Potassium ppm ASTM D5185m >20 0 4 5 Fuel % ASTM D3524 >4.0 4.9 8.2 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.8 10.9 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 20.4 19.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 2046 1043 943 5012 limit/base	0 645 1367 669 810 2831	<1 653 1351 680 843 2897	<1 622 1423 666 786 2760
Fuel % ASTM D3524 >4.0 4.9 8.2 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.8 10.9 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 20.4 19.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 2046 1043 943 5012 limit/base	0 645 1367 669 810 2831 current	<1 653 1351 680 843 2897 history1	<1 622 1423 666 786 2760 history2
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Soot % % *ASTM D7844 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 8.8 10.9 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 20.4 19.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 2046 1043 943 5012 limit/base >25	0 645 1367 669 810 2831 current 4 3	<1 653 1351 680 843 2897 history1 4 0	<1 622 1423 666 786 2760 history2 4 2
Nitration Abs/cm *ASTM D7624 >20 8.8 10.9 10.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.1 20.4 19.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 2046 1043 943 5012 limit/base >25	0 645 1367 669 810 2831 <u>current</u> 4 3 0	<1 653 1351 680 843 2897 history1 4 0 4	<1 622 1423 666 786 2760 history2 4 2 5
Sulfation Abs/.1mm *ASTM D7415 >30 19.1 20.4 19.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 2046 1043 943 5012 limit/base >25 >20 >20	0 645 1367 669 810 2831 current 4 3 0 0 ▲ 4.9	<1 653 1351 680 843 2897 history1 4 0 4 8.2	<1 622 1423 666 786 2760 history2 4 2 5 5 <1.0
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m	0 2046 1043 943 5012 limit/base >25 >20 >20	0 645 1367 669 810 2831 current 4 3 0 4.9 ▲ 4.9	<1 653 1351 680 843 2897 history1 4 0 4 0 4 8.2 history1	<1 622 1423 666 786 2760 history2 4 2 5 <1.0 history2
Oxidation Abs/.1mm *ASTM D7414 >25 15.5 19.1 16.9	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D3524	0 2046 1043 943 5012 limit/base >25 >20 >4.0	0 645 1367 669 810 2831 current 4 3 0 ▲ 4.9 current 0.1	<1 653 1351 680 843 2897 history1 4 0 4 0 4 8.2 history1 0.2	<1 622 1423 666 786 2760 history2 4 2 5 <1.0 history2 0.2
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844	0 2046 1043 943 5012 limit/base >25 >20 >4.0 limit/base	0 645 1367 669 810 2831 current 4 3 0 4.9 € current 0.1 8.8	<1 653 1351 680 843 2897 history1 4 0 4 0 4 8.2 history1 0.2 10.9	<1 622 1423 666 2760 history2 4 2 5 <1.0 history2 0.2 10.7
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7624	0 2046 1043 943 5012 limit/base >25 >20 >4.0 limit/base >20 >30	0 645 1367 669 810 2831 current 4 3 0 ▲ 4.9 current 0.1 8.8 19.1	<1 653 1351 680 843 2897 history1 4 0 4 0 4 0 4 0 4 0 2 10.9 20.4	<1 622 1423 666 786 2760 history2 4 2 5 <1.0 history2 0.2 10.7 19.1
	Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624 *ASTM D7415	0 2046 1043 943 5012 imit/base >25 >20 >4.0 imit/base >20 >30 imit/base	0 645 1367 669 810 2831 current 4 3 0 ▲ 4.9 current 0.1 8.8 19.1 current	<1 <1 653 1351 680 843 2897 history1 4 0 4 8.2 history1 0.2 10.9 20.4 history1 	<1 622 1423 666 2760 history2 4 2 5 <1.0 history2 0.2 10.7 19.1 history2

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Fluid

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.



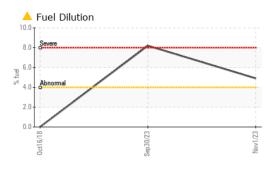
cSt (100°C) Ba

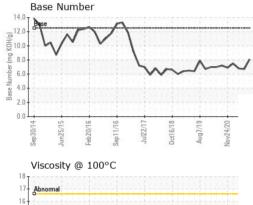
> 12 11

10.

Sep 30/14

OIL ANALYSIS REPORT





Sep11/16.

eb20/1

Oct16/18

Aug7/19

Vov24/20

16

(100°C) (100°C) (100°C)

12

10

Laboratory

Sample No.

Lab Number

Unique Number

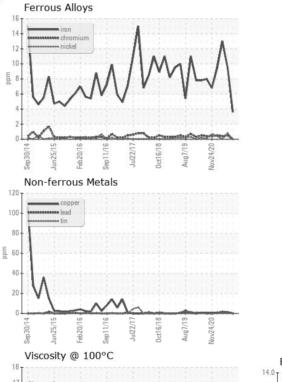
Sen30/

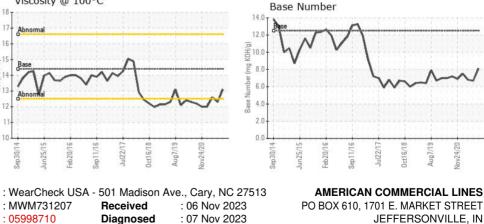
: MWM731207

: 05998710

: 10727070

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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.1	1 2.3	12.6
GRAPHS						





JEFFERSONVILLE, IN US 47130 Contact: RONALD SCHNEIDER ronald.schneider@bargeacbl.com T: F: (812)288-1644



Test Package : MAR 2 (Additional Tests: PercentFuel) Certificate L2367 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)

Sen11/16

Aug7/19 Nov24/20

Diagnostician : Wes Davis

Oct16/18

Received

Diagnosed

Feb20/16

Report Id: AMELOU [WUSCAR] 05998710 (Generated: 11/09/2023 12:02:53) Rev: 1

Contact/Location: RONALD SCHNEIDER - AMELOU