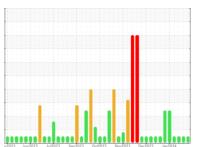


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id WVTM02BE Component Biogas Engine Fluid CHEVRON HDAX 6500 LFG GAS ENGINE OIL (--- GAL)

OTETION TIDAN COOK ET CLANCE CITE (CA

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Oil sample only)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

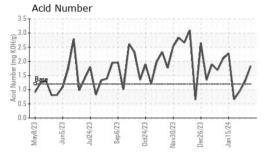
Fluid Condition

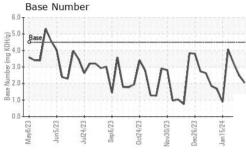
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

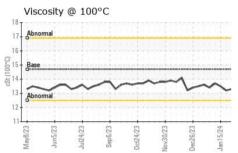
Sample Number Client Info WC0785353 WC0785347 WC0785345 Sample Date Client Info 29 Jan 2024 26 Jan 2024 24 Jan 2024 24 Jan 2024 26 Jan 2024 27 Jan 2024 28 J	GAS ENGINE OIL (-	GAL)	y2023 Jun20	23 Jul2023 Sep2023	Oct2023 Nov2023 Dec2023	Jan2024	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 43234 48164 43091	Sample Number		Client Info		WC0785353	WC0785347	WC0785345
Oil Changed	Sample Date		Client Info		29 Jan 2024	26 Jan 2024	24 Jan 2024
Oil Changed	Machine Age	hrs	Client Info		43234	48164	43091
Oil Changed Client Info Not Changed N/A Not Changed NORMAL NO		hrs	Client Info		306	236	163
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2			Client Info		Not Changd	N/A	Not Changd
Fuel							Ü
Water WC Method >0.1 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >1 <1	CONTAMINATION	V	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.1	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	
Chromium ppm ASTM D5185m >4 0 0 0 Nickel ppm ASTM D5185m >2 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>15	1	<1	<1
Nickel	Chromium		ASTM D5185m	>4	0	0	0
Description	Nickel		ASTM D5185m	>2	<1	0	0
Silver ppm ASTM D5185m >5 0 0 0 Aluminum ppm ASTM D5185m >6 2 2 2 Lead ppm ASTM D5185m >9 3 2 1 Copper ppm ASTM D5185m >6 1 1 <1 <1 Tin ppm ASTM D5185m >6 1 1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m <1 <1			ASTM D5185m				
Aluminum				>5	-		
Lead							
Copper ppm ASTM D5185m >6 1 1 <1 <1 Tin ppm ASTM D5185m >4 3 2 2 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m <1							
Tin							
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m <1 <1 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m <1 <1 0 Manganese ppm ASTM D5185m <1 <1 <1 <1 Magnesium ppm ASTM D5185m 9 8 9 Calcium ppm ASTM D5185m 1680 1633 1761 Phosphorus ppm ASTM D5185m 267 266 271 Zinc ppm ASTM D5185m 319 310 331 Sulfur ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m >20 2							
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m <1				>4			
ADDITIVES							
Boron		ррпп					
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m <1	ADDITIVES		method	limit/base		· ·	•
Molybdenum ppm ASTM D5185m <1 <1 0 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 9 8 9 Calcium ppm ASTM D5185m 1680 1633 1761 Phosphorus ppm ASTM D5185m 267 266 271 Zinc ppm ASTM D5185m 319 310 331 Sulfur ppm ASTM D5185m 3445 3128 2842 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m >1 <1 <1 <1 Potassium ppm ASTM D5185m >20 2 2 2 INFRA-RED method limit/base current history1 history2 Soot % % "ASTM	Boron	ppm	ASTM D5185m				0
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 <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 <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>-</th> <td>0</td> <td>0</td>	Barium	ppm	ASTM D5185m		-	0	0
Magnesium ppm ASTM D5185m 9 8 9 Calcium ppm ASTM D5185m 1680 1633 1761 Phosphorus ppm ASTM D5185m 267 266 271 Zinc ppm ASTM D5185m 319 310 331 Sulfur ppm ASTM D5185m 3445 3128 2842 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1	Molybdenum	ppm			<1	<1	0
Calcium ppm ASTM D5185m 1680 1633 1761 Phosphorus ppm ASTM D5185m 267 266 271 Zinc ppm ASTM D5185m 319 310 331 Sulfur ppm ASTM D5185m 3445 3128 2842 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 267 266 271 Zinc ppm ASTM D5185m 319 310 331 Sulfur ppm ASTM D5185m 3445 3128 2842 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1	Magnesium	ppm	ASTM D5185m		9	8	9
Zinc ppm ASTM D5185m 319 310 331 Sulfur ppm ASTM D5185m 3445 3128 2842 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1 <1 <1 Potassium ppm ASTM D5185m >20 2 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0 Sulfation Abs/.mm *ASTM D7624 >20 5.0 5.0 5.0 Sulfation Abs/.mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.mm *ASTM D7414 >25 12.7 <	Calcium	ppm	ASTM D5185m		1680	1633	1761
Sulfur ppm ASTM D5185m 3445 3128 2842 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1	Phosphorus	ppm	ASTM D5185m		267	266	271
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1	Zinc	ppm	ASTM D5185m		319	310	331
Silicon ppm ASTM D5185m >181 94 78 69 Sodium ppm ASTM D5185m 1 <1 <1 <1 Potassium ppm ASTM D5185m >20 2 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0 Nitration Abs/cm *ASTM D7624 >20 5.0 5.0 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	Sulfur	ppm	ASTM D5185m		3445	3128	2842
Sodium ppm ASTM D5185m 1 <1 <1 <1 <1 <1 <1 <1 <21 <2 3 2 3 3 1 3 3 3	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 2 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0 Nitration Abs/cm *ASTM D7624 >20 5.0 5.0 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	Silicon	ppm	ASTM D5185m	>181	94	78	69
INFRA-RED	Sodium	ppm	ASTM D5185m		1	<1	<1
Soot % % *ASTM D7844 0 0 0 Nitration Abs/cm *ASTM D7624 >20 5.0 5.0 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	Potassium	ppm	ASTM D5185m	>20	2	2	2
Nitration Abs/cm *ASTM D7624 >20 5.0 5.0 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	Soot %	%	*ASTM D7844		0	0	0
Sulfation Abs/.1mm *ASTM D7415 >30 23.3 21.3 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	Nitration	Abs/cm	*ASTM D7624	>20	5.0	5.0	5.0
Oxidation Abs/.1mm *ASTM D7414 >25 12.7 11.1 9.8 Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941				>30		21.3	19.5
Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 1.2 1.83 1.30 0.941	Oxidation	Abs/.1mm	*ASTM D7414	>25	12.7	11.1	9.8
, ,							
	Base Number (BN)	mg KOH/g	ASTM D2896	4.5	2.04	2.49	3.23



OIL ANALYSIS REPORT



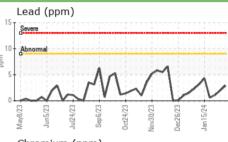


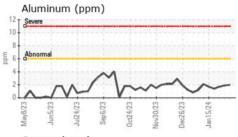


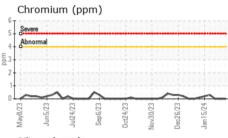
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

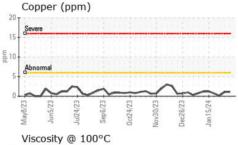
FLUID PROPER	THES	method	ilmit/base		nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	14.7	13.3	13.3	13.3

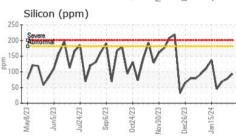
						A	
Severe						/\	
Abno	rmal				/		
	Α	~			1		
^	1	V	/V	~	V	-	~
May8/23	Jun5/23	62	Sep6/23	0ct24/23	Nov30/23	Dec26/23	Jan15/24

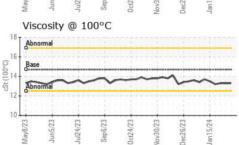


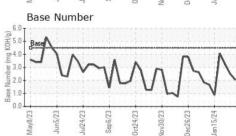
















Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : MOB 2

: WC0785353 : 06076011 : 10858102

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Recieved : 31 Jan 2024 : 01 Feb 2024 Diagnosed Diagnostician : Sean Felton

EDL NA Recips-Watervliet Watervliet Powerstation, 3563 Hennessey Road

Watervliet, MI US 49098 Contact: Scott Eastman

scott.eastman@edlenergy.com

* - 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: