

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

# **NORMAL**



# **EDLTAY TAYM04BE (S/N 1207234)**

**Biogas Engine** 

CHEVRON HDAX 6500 LFG GAS ENGINE OIL (180 GAL)





#### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the

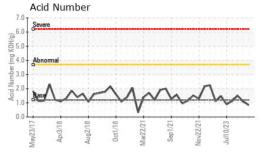
#### Fluid Condition

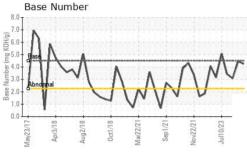
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

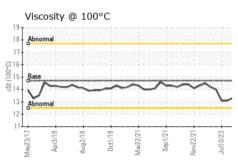
SAMPLE INFORMATION method limit/base  Sample Number Client Info  Sample Date Client Info  Machine Age hrs Client Info  Oil Age hrs Client Info  Oil Changed Client Info  Sample Status  CONTAMINATION method limit/base  Fuel WC Method >4.0  Water WC Method >.2  Glycol WC Method  WEAR METALS method limit/base  Iron ppm ASTM D5185m >15  Chromium ppm ASTM D5185m >2  Titanium ppm ASTM D5185m >5  Aluminum ppm ASTM D5185m >6  Lead ppm ASTM D5185m >6  Lead ppm ASTM D5185m >6  Tin ppm ASTM D5185m >4  Vanadium ppm ASTM D5185m >6  Tin ppm AS	current WC0788153 16 Nov 2023 255116 255116 N/A NORMAL  current <1.0 NEG NEG 0 0 0 <1 0 <1 <1 <1 0 current <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	history1 WC0788229 03 Nov 2023 255116 255116 Changed NORMAL history1 <1.0 NEG NEG  history1 <1 0 0 0 <1 0 2 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	history2 WC0788206 26 Sep 2023 0 255116 N/A ABNORMAL history2 <1.0 NEG NEG  16 <1 0 <1 0 <1 6 4
Sample Date Machine Age Machine Age Machine Age Mrs Client Info Oil Age Mrs Client Info Oil Changed Sample Status  CONTAMINATION  Fuel WC Method Water WC Method WC Method WEAR METALS WC Method WC Method NOTE NOTE WC Method NOTE NOTE WC Method NOTE NOTE NOTE NOTE WC METHOD NOTE NOTE NOTE NOTE NOTE NOTE NOTE NOTE	16 Nov 2023 255116 255116 N/A NORMAL	03 Nov 2023 255116 255116 Changed NORMAL history1 <1.0 NEG NEG 0 0 0 2 <1 0 2 <1 0	26 Sep 2023 0 255116 N/A ABNORMAL history2 <1.0 NEG NEG  history2  16 <1 0 <1 0 <1 1 6 4
Machine Age hrs Client Info Oil Age hrs Client Info Oil Changed Client Info Sample Status  CONTAMINATION method limit/base Fuel WC Method >4.0 Water WC Method >.2 Glycol WC Method  WEAR METALS method limit/base Iron ppm ASTM D5185m >15 Chromium ppm ASTM D5185m >4 Nickel ppm ASTM D5185m >2 Titanium ppm ASTM D5185m >5 Aluminum ppm ASTM D5185m >6 Lead ppm ASTM D5185m >6 Lead ppm ASTM D5185m >6 Tin ppm ASTM D5185m >6 Tin ppm ASTM D5185m >6 Tin ppm ASTM D5185m >6 Cadmium ppm ASTM D5185m >4  Vanadium ppm ASTM D5185m >6  Cadmium ppm ASTM D5185m >6  Imit/base  ADDITIVES method limit/base  Boron ppm ASTM D5185m	255116 255116 N/A NORMAL current <1.0 NEG NEG current 0 0 0 0 0 <1 0 <1 0 <1 0	255116 255116 Changed NORMAL history1 <1.0 NEG NEG 0 0 0 2 <1 0 2 <1 0	0 255116 N/A ABNORMAL history2 <1.0 NEG NEG  history2  ▲ 16 <1 0 <1 0 <1 6 4
Oil Age   hrs   Client Info   Oil Changed   Client Info   Sample Status    CONTAMINATION   method   limit/base   Fuel   WC Method   >.2   Water   WC Method   >.2   Glycol   WC Method   WEAR METALS   method   limit/base   Iron   ppm   ASTM D5185m   >15   Chromium   ppm   ASTM D5185m   >2   Titanium   ppm   ASTM D5185m   >5   Aluminum   ppm   ASTM D5185m   >5   Aluminum   ppm   ASTM D5185m   >6   Lead   ppm   ASTM D5185m   >6   Lead   ppm   ASTM D5185m   >6   Tin   ppm   ASTM D5185m   >6   Tin   ppm   ASTM D5185m   >6   Copper   ppm   ASTM D5185m   >6   Tin   ppm   ASTM D5185m   >6   Tin   ppm   ASTM D5185m   >6   Tanadium   ppm   ASTM D5185m   >4   Vanadium   ppm   ASTM D5185m   >4   Vanadium   ppm   ASTM D5185m   ASTM D5185m   ADDITIVES   method   limit/base   Boron   ppm   ASTM D5185m	255116 N/A NORMAL  current <1.0 NEG NEG 0 0 0 <1 0 <1 0 <1 0 <1 0 0 0 0 0 0 0 0	255116 Changed NORMAL history1 <1.0 NEG NEG 0 0 0 2 <1 0 2 <1 0	255116 N/A ABNORMAL history2 <1.0 NEG NEG  history2  16 <1 0 <1 0 <1 6 4
Oil Changed Sample Status  CONTAMINATION  method  Fuel  WC Method  Water  Glycol  WEAR METALS  Iron  ppm  ASTM D5185m  Silver  ppm  ASTM D5185m  Silver  ppm  ASTM D5185m  Silver  ppm  ASTM D5185m  ASTM D5185m  S6  Lead  ppm  ASTM D5185m  ASTM D5185m  S6  Lead  ppm  ASTM D5185m  S6  Copper  ppm  ASTM D5185m  ASTM D5185m  S6  Cadmium  ppm  ASTM D5185m  ABTM D5185m  ABTM D5185m  ABTM D5185m  ABTM D5185m  ABTM D5185m  ABDDITIVES  method  limit/base  Boron  ppm  ASTM D5185m	N/A NORMAL  current <1.0 NEG NEG 0 0 0 -1 0 <1 0 <1 0 <1 0 0 0 0 0 0 0 0 0 0 0 0	Changed NORMAL  history1  <1.0  NEG NEG  history1  <1  0  0  0  2  <1  0	N/A ABNORMAL  history2 <1.0 NEG NEG  history2  ▲ 16 <1 0 <1 0 <1 6 4
Sample Status  CONTAMINATION method limit/base  Fuel WC Method >4.0  Water WC Method >.2  Glycol WC Method  WEAR METALS method limit/base  Iron ppm ASTM D5185m >15  Chromium ppm ASTM D5185m >2  Titanium ppm ASTM D5185m >2  Titanium ppm ASTM D5185m >5  Aluminum ppm ASTM D5185m >6  Lead ppm ASTM D5185m >6  Lead ppm ASTM D5185m >6  Tin ppm ASTM D5185m >6  Tin ppm ASTM D5185m >4  Vanadium ppm ASTM D5185m >4  Vanadium ppm ASTM D5185m >6  Tompor ASTM D5185m >6  Tin ppm ASTM D5185m >4  Vanadium ppm ASTM D5185m  ADDITIVES method limit/base  Boron ppm ASTM D5185m	Current	NORMAL  history1  <1.0  NEG  NEG  history1  <1  0  0  0  <1  0  2  <1  0	ABNORMAL  history2  <1.0  NEG  NEG  history2  ▲ 16  <1  0  <1  0  <1  6  4
CONTAMINATION         method         limit/base           Fuel         WC Method         >4.0           Water         WC Method         >.2           Glycol         WC Method         >.2           WEAR METALS         method         limit/base           Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         >4           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	current <1.0 NEG NEG  current 0 0 0 0 <1 0 <1 <1 <1 0 <1 <1 0 0	history1 <1.0 NEG NEG history1 <1 0 0 0 <1 0 2 <1 0	history2 <1.0 NEG NEG NEG history2  ▲ 16 <1 0 <1 0 <1 6 4
Fuel         WC Method         >4.0           Water         WC Method         >.2           Glycol         WC Method         >.2           WEAR METALS         method         limit/base           Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         A           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	<1.0 NEG NEG O 0 0 0 0 <1 0 <1 0 <1 0 0 0 0 0 0 0 0 0	<1.0 NEG NEG NEG history1 <1 0 0 0 <1 0 <1 0 2 <1 0	<1.0 NEG NEG NEG  history2  16 <1 0 <1 0 <1 6 4
Water         WC Method         >.2           Glycol         WC Method         >.2           WEAR METALS         method         limit/base           Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         Imit/base           ADDITIVES         method         limit/base	NEG NEG current 0 0 0 0 0 0 <1 0 <1 0 <1 0	<1.0 NEG NEG NEG history1 <1 0 0 0 <1 0 <1 0 2 <1 0	<1.0 NEG NEG NEG  history2  16 <1 0 <1 0 <1 6 4
Water         WC Method         >.2           Glycol         WC Method         >.2           WEAR METALS         method         limit/base           Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         A           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	NEG NEG current 0 0 0 0 0 0 <1 0 <1 0 <1 0	NEG NEG history1 <1 0 0 0 <1 0 <1 0 2 <1 0	NEG NEG history2 ▲ 16 <1 0 <1 0 <1 6 4
Glycol         WC Method           WEAR METALS         method         limit/base           Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Silver         ppm         ASTM D5185m         >6           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         A           Cadmium         ppm         ASTM D5185m         Imit/base           ADDITIVES         method         limit/base	NEG  current  0  0  0  0  0  <1  0  <1  0  <1  0  0  0  0  0  0  0  0  0  0  0  0  0	NEG history1 <1 0 0 0 0 <1 0 2 <1 0	NEG  history2  ▲ 16  <1 0  <1 0  <1 6 4
WEAR METALS         method         limit/base           Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Silver         ppm         ASTM D5185m         >6           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         A           Cadmium         ppm         ASTM D5185m         Iimit/base           Boron         ppm         ASTM D5185m         A	Current  0 0 0 0 0 0 <1 0 <1 0 <1 <1 0 0 <1 0 0 <1 0 0 <1 0 0 <1 0 0 <1 0 0 0 0	history1  <1 0 0 0 0 <1 0 2 <1 0	history2  16 <1 0 <1 0 <1 0 <1 6 4
Iron         ppm         ASTM D5185m         >15           Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Silver         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         A           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0 0 0 0 0 <1 0 <1 <1 <1 0	<1 0 0 0 0 0 <1 0 2 <1	▲ 16 <1 0 <1 0 <1 <1 <1 <1 6 4
Chromium         ppm         ASTM D5185m         >4           Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Silver         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >6           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m           Cadmium         ppm         ASTM D5185m           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0 0 0 0 <1 0 <1 <1 <1 0	0 0 0 0 <1 0 2 <1	<1 0 <1 0 <1 <1 <1 6 4
Nickel         ppm         ASTM D5185m         >2           Titanium         ppm         ASTM D5185m         >5           Silver         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >20           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0 0 0 <1 0 <1 <1 <1 0	0 0 0 <1 0 2 <1	0 <1 0 <1 <1 <1 6 4
Titanium         ppm         ASTM D5185m         >5           Silver         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >20           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m           Cadmium         ppm         ASTM D5185m    ADDITIVES  method limit/base  Boron  ppm     ASTM D5185m	0 0 <1 0 <1 <1 <1 0	0 0 <1 0 2 <1	<1 0 <1 <1 6 4
Silver         ppm         ASTM D5185m         >5           Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >20           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         ASTM D5185m           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0 <1 0 <1 <1 0	0 <1 0 2 <1 0	0 <1 <1 <6 4
Aluminum         ppm         ASTM D5185m         >6           Lead         ppm         ASTM D5185m         >20           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         Cadmium           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	<1 0 <1 <1 0 0	<1 0 2 <1 0	<1 <1 6 4
Lead         ppm         ASTM D5185m         >20           Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         Cadmium           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0 <1 <1 0	0 2 <1 0	<1 6 4
Copper         ppm         ASTM D5185m         >6           Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         Cadmium           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	<1 <1 0	2 <1 0	6
Tin         ppm         ASTM D5185m         >4           Vanadium         ppm         ASTM D5185m         >4           Cadmium         ppm         ASTM D5185m         Imit/base           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	<1 0 0	<1 0	4
Vanadium         ppm         ASTM D5185m           Cadmium         ppm         ASTM D5185m           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0 0	0	
Cadmium         ppm         ASTM D5185m           ADDITIVES         method         limit/base           Boron         ppm         ASTM D5185m	0		
ADDITIVES method limit/base  Boron ppm ASTM D5185m		Ü	0
Boron ppm ASTM D5185m	current		0
		history1	history2
Porium ACTM DE10Em	0	0	0
Barium ppm ASTM D5185m	0	2	0
Molybdenum ppm ASTM D5185m	0	0	<1
Manganese ppm ASTM D5185m	<1	<1	<1
Magnesium ppm ASTM D5185m	6	8	5
Calcium ppm ASTM D5185m	1829	1555	1941
Phosphorus ppm ASTM D5185m	273	253	302
Zinc ppm ASTM D5185m	338	324	373
Sulfur ppm ASTM D5185m	2482	2004	4041
CONTAMINANTS method limit/base	current	history1	history2
Silicon ppm ASTM D5185m >181	16	11	32
Sodium ppm ASTM D5185m >20	3	3	38
Potassium ppm ASTM D5185m >20	6	3	<1
INFRA-RED method limit/base	current	history1	history2
Soot %	0	0	0
Nitration Abs/cm *ASTM D7624 >20	5.0	4.9	5.2
Sulfation Abs/.1mm *ASTM D7415 >30	17.2	16.6	24.2
FLUID DEGRADATION method limit/base	current	history1	history2
Oxidation Abs/.1mm *ASTM D7414 >25	Current		
	8.4	8.1	10.5
Acid Number (AN) mg KOH/g ASTM D8045 1.2		8.1 1.09	



### **OIL ANALYSIS REPORT**



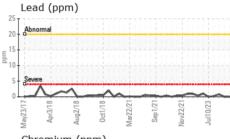


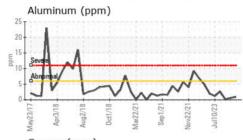


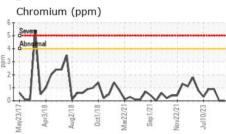
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

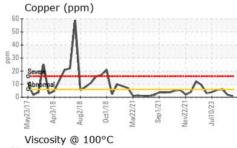
FLUID PHOPER	THES	method			riistory i	nistory∠
Visc @ 100°C	cSt	ASTM D445	14.7	13.1	13.0	13.3

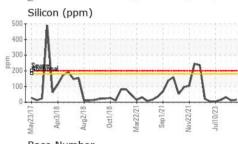
1							
1							
Severe		٨					
Abnom	nal			A -			۸۸
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May23/17	Apr3/18	Aug2/18	9	21-	21.	Nov22/21-	Jul10/23

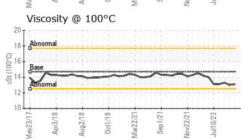


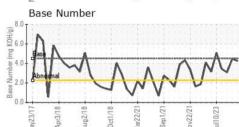
















Certificate L2367

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

: WC0788153 : 06012624

: 10751768

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Nov 2023

Diagnosed : Jonathan Hester Diagnostician

: 22 Nov 2023

TAYLOR COUNTY POWER STATION, COUNTY ROAD 33 & STEWART ROAD

MAUK, GA US 31058

**EDL NA Recips-Taylor County** 

Contact: STEVEN BABB steven.babb@edlenergy.com T:

\* - 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)

Report Id: ENEMAU [WUSCAR] 06012624 (Generated: 11/22/2023 13:22:38) Rev: 1

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