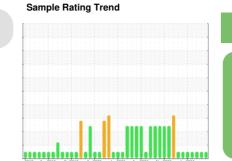


# **OIL ANALYSIS REPORT**







TAYM07BE (S/N 1256580) Component Biogas Engine Fluid

CHEVRON HDAX 9500 GAS ENGINE OIL 40 (200 GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### 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.

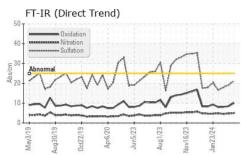
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0901605	WC0901598	WC0901590
Sample Date		Client Info		03 Apr 2024	27 Mar 2024	21 Mar 2024
Machine Age	hrs	Client Info		112819	112819	112819
Oil Age	hrs	Client Info		667	499	355
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
		mathad	limit/booo			
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method		NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>14	<1	5	4
Chromium	ppm	ASTM D5185m	>3	<1	2	<1
Nickel	ppm	ASTM D5185m		0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	<1	2	<1
Lead	ppm	ASTM D5185m	>6	0	<1	<1
Copper	ppm	ASTM D5185m	>5	<1	1	2
Tin	ppm	ASTM D5185m	>6	2	2	2
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<1	2	<1
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		<1 0	2 0	<1 0
Barium	ppm	ASTM D5185m		0	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		0 3	0 6	0 3
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 3 <1	0 6 <1	0 3 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 3 <1 6	0 6 <1 14	0 3 <1 6
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 3 <1 6 1751	0 6 <1 14 1703	0 3 <1 6 1757
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 3 <1 6 1751 237	0 6 <1 14 1703 239	0 3 <1 6 1757 248
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 3 <1 6 1751 237 292	0 6 <1 14 1703 239 308	0 3 <1 6 1757 248 289
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 3 <1 6 1751 237 292 3386	0 6 <1 14 1703 239 308 3195	0 3 <1 6 1757 248 289 3308
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 3 <1 6 1751 237 292 3386 current	0 6 <1 14 1703 239 308 3195 history1	0 3 <1 6 1757 248 289 3308 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>180	0 3 <1 6 1751 237 292 3386 <u>current</u> 11	0 6 <1 14 1703 239 308 3195 history1 13	0 3 <1 6 1757 248 289 3308 history2 12
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	>180	0 3 <1 6 1751 237 292 3386 current 11 4	0 6 <1 14 1703 239 308 3195 history1 13 4	0 3 <1 6 1757 248 289 3308 history2 12 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	>180 >20	0 3 <1 6 1751 237 292 3386 <u>current</u> 11 4 4	0 6 <1 14 1703 239 308 3195 history1 13 4 7	0 3 <1 6 1757 248 289 3308 history2 12 4 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>180 >20 limit/base >2	0 3 <1 6 1751 237 292 3386 <u>current</u> 11 4 4	0 6 <1 14 1703 239 308 3195 history1 13 4 7 history1	0 3 <1 6 1757 248 289 3308 history2 12 4 4 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm i ppm i	ASTM D5185m ASTM D5185m	>180 >20 limit/base >2	0 3 <1 6 1751 237 292 3386 <u>current</u> 11 4 4 4 0	0 6 <1 14 1703 239 308 3195 history1 13 4 7 7 history1 0	0 3 <1 6 1757 248 289 3308 history2 12 12 4 4 4 4 history2 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>180 >20 limit/base >2 >20	0 3 <1 6 1751 237 292 3386 <u>current</u> 11 4 4 4 <u>current</u> 0 5.0	0 6 <1 14 1703 239 308 3195 history1 13 4 7 history1 0 4.8	0 3 <1 6 1757 248 289 3308 history2 12 12 4 4 4 4 bistory2 0 4.6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>180 >20 limit/base >2 >20 >30	0 3 <1 6 1751 237 292 3386 <u>current</u> 11 4 4 4 <u>current</u> 0 5.0 21.3	0 6 <1 14 1703 239 308 3195 history1 13 4 7 history1 0 4.8 19.2	0 3 <1 6 1757 248 289 3308 history2 12 4 4 4 history2 0 4.6 18.0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	>180 >20 limit/base >2 >20 >30 limit/base	0 3 <1 6 1751 237 292 3386 <u>current</u> 11 4 4 4 <u>current</u> 0 5.0 21.3	0 6 3 14 1703 239 308 3195 history1 13 4 7 history1 0 4.8 19.2 history1	0 3 <1 6 1757 248 289 3308 history2 12 12 4 4 4 4 history2 0 4.6 18.0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	>180 >20 limit/base >2 >20 >30 limit/base >15	0 3 <1 6 1751 237 292 3386 current 11 4 4 4 current 0 5.0 21.3 current 10.1	0 6 3 14 1703 239 308 3195 history1 13 4 7 history1 0 4.8 19.2 history1 8.5	0 3 <1 6 1757 248 289 3308 history2 12 4 4 4 history2 0 4.6 18.0 history2 8.1

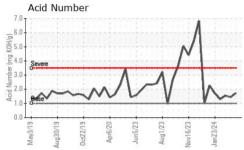
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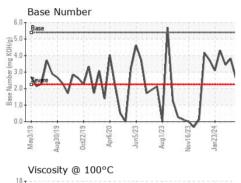
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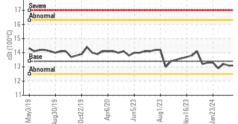


# **OIL ANALYSIS REPORT**









White Metal		scalar	*Visual	NONE	NONE	NO
Yellow Metal		scalar	*Visual	NONE	NONE	NO
Precipitate		scalar	*Visual	NONE	NONE	NO
Silt		scalar	*Visual	NONE	NONE	NO
Debris		scalar	*Visual	NONE	NONE	NO
Sand/Dirt		scalar	*Visual	NONE	NONE	NO
Appearance		scalar	*Visual	NORML	NORML	NO
Odor		scalar	*Visual	NORML	NORML	NO
Emulsified Wa	ater	scalar	*Visual		NEG	NE
Free Water		scalar	*Visual		NEG	NE
FLUID PRC	PERTI	ES	method	limit/base	current	hi
Visc @ 100°C	;	cSt	ASTM D445	13.4	13.1	13.1
GRAPHS						
Iron (ppm)					Lead (ppm)	
25 Severe			In constant		12 Severe	
20 - Severe				der i de	10 - devele	
	٨	٨	A	mqq	6 - Abnormal	
	VI. /	1		Α.	4	
	V	4	Mh	M		Λ_
	Apr6/20 -	Jun5/23 -	Aug1/23		May3/19 Aug30/19 Oct22/19	Apr6/20
		-	B	1	Jay; Jg3(	Apré
May3/19 Aug30/19 Oct22/19	Apr	Ju	Au Nov	3	A A	4
Aluminum (		Ju	Nov 1	3		
Aluminum (		nr	Au Nov		Chromium (p	
Aluminum (		Ju	Nov H		Chromium (p	
Aluminum ()		nf	Au Noo		Chromium (p	
Aluminum (		nf	No No		Chromium (p	
Aluminum ( Severe Abnomal					Chromium (p	
Aluminum ( Severe Abnormal	ppm)	1	~~~~		Chromium (p	pm)
Aluminum ( Severe Abnomal	ppm)	1	Aug 1/23 + Au Nov16/23 + Au Nov23/24		Chromium (p	
Aluminum (1 Severe Abnomal 0 6 L/02b0 Copper (ppr	ppm)	1	~~~~		Chromium (p	pm)
Aluminum ( Severe	ppm)	1	~~~~		Chromium (p	pm)
Aluminum (1 Severe Abnomal 0 6 L/02b0 Copper (ppr	ppm)	1	~~~~	2	Chromium (p	pm)
Aluminum ()	ppm)	1	~~~~		Chromium (p	pm)
Aluminum ( Aluminum ( Severe	ppm)	1	~~~~	2 2 2 2 2 2	Chromium (p	pm)
Aluminum ()	ppm)	1	~~~~	2 2 2 2 2 2	Chromium (p	pm)
Aluminum ( Severe	ppm)		3 Aug 1/23 A		Chromium (p	pm)
Aluminum ( Severe	ppm)		3 Aug 1/23 A		Chromium (p	pm)
Aluminum ( Aluminum ( Severe	yhugodo Angelo Ang	1	~~~~		Chromium (p	Apr6/20
Aluminum ()	yhugodo Angelo Ang		3 Aug 1/23 A		Chromium (p	Apr6/20
Aluminum (1 Aluminum (1 Severe Abnormal Copper (ppr Copper (ppr blue bl	yhugizo		3 Aug 1/23 A		Chromium (p	Apr6/20
Aluminum ( Aluminum ( Severe	yhugizo		3 Aug 1/23 A		Chromium (p	Apr6/20
Aluminum ()	yhugizo		3 Aug 1/23 A		Chromium (p	Apr6/20
Aluminum ( Severe Abnormal Copper (ppr Copper (ppr Abnormal Copper (ppr Copper (ppr Copper (ppr Viscosity @	yhugizo		3 Aug 1/23 A		Chromium (p	Apr6/20
Aluminum (i Aluminum (i Severe Copper (ppr Copper (ppr Abnomal Copper (ppr Viscosity @ Severe Abnomal Copper (ppr Viscosity @	ppm)	Jun5/23	Aug.1/23 +	2 2 India (b)H(d) 2 2 India (b)H(d) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Chromium (p	pm)
Aluminum () Aluminum () Aluminum () Abnomal Copper (ppr Copper (ppr Abnomal Copper (ppr Viscosity @ Severe Abnomal Copper (ppr Copper (ppr	ppm)	Jun5/23	3 Aug 1/23 A	2 2 India (b)H(d) 2 2 India (b)H(d) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Chromium (p	Apr6/20

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **EDL NA Recips-Taylor County** Sample No. : WC0901605 Received : 09 Apr 2024 TAYLOR COUNTY POWER STATION, COUNTY ROAD 33 & STEWART ROAD Lab Number : 06143243 Tested : 10 Apr 2024 MAUK, GA Unique Number : 10968051 Diagnosed : 10 Apr 2024 - Jonathan Hester US 31058 Test Package : MOB 2 Contact: STEVEN BABB Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. 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)

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Submitted By: Steven Sedler

Aug1/23 6/23 l'vul

Aug1/23 .

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F:

Jan23/24

NONE

NONE

NONE NONE NONE

NONE

NEG

13.2

NORML NORML NEG