

# **OIL ANALYSIS REPORT**

## Sample Rating Trend







# Machine Id SJNM03BE Component Biogas Engine Fluid CHEVRON HDAX 6500

CHEVRON HDAX 6500 LFG GAS ENGINE OIL (--- 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

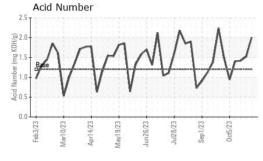
### **Fluid Condition**

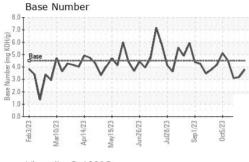
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

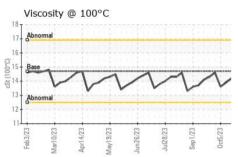
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
	W/ (1101 <b>)</b>		IIIIIIIIIII		,	•
Sample Number		Client Info		WC0865648	WC0865683	WC0865681
Sample Date	laa	Client Info		02 Nov 2023	26 Oct 2023	19 Oct 2023
Machine Age	hrs	Client Info		101861	101693	101530
Oil Age	hrs	Client Info		832	664	501
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>15	3	2	0
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m		1	1	2
Lead	ppm	ASTM D5185m	>9	2	<1	1
Copper	ppm	ASTM D5185m		_ 1	2	<1
Tin	ppm	ASTM D5185m	>4	3	3	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1
	ррііі	AOTIVI DOTOSIII		<u> </u>	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 4	history1 4	history2 4
	ppm		limit/base			
Boron		ASTM D5185m	limit/base	4	4	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	4 2	4	4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 2 3	4 0 4	4 9 4
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 2 3 0	4 0 4 <1	4 9 4 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 2 3 0 23	4 0 4 <1 18	4 9 4 0 22
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 2 3 0 23 1892	4 0 4 <1 18 1918	4 9 4 0 22 1916
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 2 3 0 23 1892 296	4 0 4 <1 18 1918 264	4 9 4 0 22 1916 328
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 2 3 0 23 1892 296 363	4 0 4 <1 18 1918 264 358	4 9 4 0 22 1916 328 378
Boron Barium 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 ASTM D5185m ASTM D5185m	limit/base	4 2 3 0 23 1892 296 363 2641	4 0 4 <1 18 1918 264 358 2242	4 9 4 0 22 1916 328 378 2730
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	4 2 3 0 23 1892 296 363 2641	4 0 4 <1 18 1918 264 358 2242 history1	4 9 4 0 22 1916 328 378 2730 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >181	4 2 3 0 23 1892 296 363 2641 current	4 0 4 <1 18 1918 264 358 2242 history1	4 9 4 0 22 1916 328 378 2730 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >181	4 2 3 0 23 1892 296 363 2641 current 170	4 0 4 <1 18 1918 264 358 2242 history1 173	4 9 4 0 22 1916 328 378 2730 history2 147 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >181 >20	4 2 3 0 23 1892 296 363 2641 current 170 0 3	4 0 4 <1 18 1918 264 358 2242 history1 173 2	4 9 4 0 22 1916 328 378 2730 history2 147 0 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >181 >20 limit/base	4 2 3 0 23 1892 296 363 2641 current 170 0 3	4 0 4 <1 18 1918 264 358 2242 history1 173 2 1	4 9 4 0 22 1916 328 378 2730 history2 147 0 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >181 >20 limit/base	4 2 3 0 23 1892 296 363 2641 current 170 0 3 current 0.1	4 0 4 <1 18 1918 264 358 2242 history1 173 2 1 history1	4 9 4 0 22 1916 328 378 2730 history2 147 0 2 history2 0.1
Boron 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  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >181 >20 limit/base >20	4 2 3 0 23 1892 296 363 2641  current 170 0 3  current 0.1 8.3	4 0 4 <1 18 1918 264 358 2242 history1 173 2 1 history1 0.1 8.1	4 9 4 0 22 1916 328 378 2730 history2 147 0 2 history2 0.1 7.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m  MEthod  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D7415  Method	limit/base >181 >20 limit/base >20 >30 limit/base	4 2 3 0 23 1892 296 363 2641  current 170 0 3  current 0.1 8.3 24.6  current	4 0 4 18 1918 264 358 2242 history1 173 2 1 history1 0.1 8.1 24.1 history1	4 9 4 0 22 1916 328 378 2730 history2 147 0 2 history2 0.1 7.7 22.4 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm	ASTM D5185m  METHOD  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  ASTM D5185m  METHOD  *ASTM D7844  *ASTM D7624  *ASTM D7415  METHOD  *ASTM D7414	limit/base >181 >20 limit/base >20 >30 limit/base >25	4 2 3 0 23 1892 296 363 2641 current 170 0 3 current 0.1 8.3 24.6 current 22.6	4 0 4 1 18 1918 264 358 2242 history1 173 2 1 history1 0.1 8.1 24.1 history1 21.5	4 9 4 0 22 1916 328 378 2730 history2 147 0 2 history2 0.1 7.7 22.4 history2 18.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m  MEthod  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D7415  Method	limit/base >181 >20 limit/base >20 >30 limit/base	4 2 3 0 23 1892 296 363 2641  current 170 0 3  current 0.1 8.3 24.6  current	4 0 4 18 1918 264 358 2242 history1 173 2 1 history1 0.1 8.1 24.1 history1	4 9 4 0 22 1916 328 378 2730 history2 147 0 2 history2 0.1 7.7 22.4 history2



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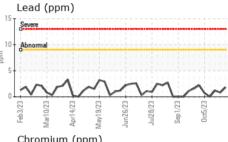


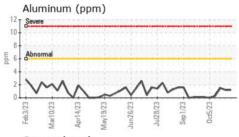


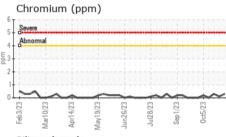
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

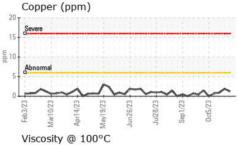
FLUID PROPER	TIES	method				history2
Visc @ 100°C	cSt	ASTM D445	14.7	14.6	14.3	14.2

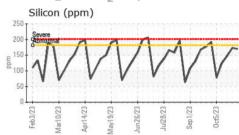
Iron (ppm)						
Severe						
E 15 - Abnormal						-
E 10 - 11 - 11 - 11 - 11 - 11 - 11 - 11	Λ					
5	$/ \setminus$	<b>~</b> ~	~/	1	2	
Feb3/23 4	9/23	Jun26/23	Jul28/23	Sep 1/23	Oct5/23	
Feb3 Mar10	May1	Junz	Jul	Set	0	

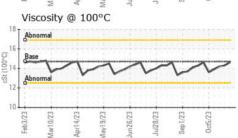


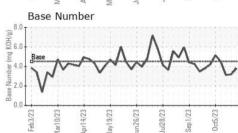
















Certificate L2367

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

: 05999196 : 10727556

: WC0865648

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 06 Nov 2023 Diagnosed Diagnostician : Sean Felton

: 07 Nov 2023

**EDL NA Recips-South Jordan** 

South Jordan Powerstation, 10473 S. Bacchus Hwy. South Jordan, UT US 84095

Contact: Aaron Klein

aaron.klein@edlenergy.com

T:

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)

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