

# **OIL ANALYSIS REPORT**

## Sample Rating Trend







# Machine Id SJNM02BE Component Biogas Engine Fluid 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.

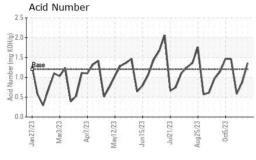
#### **Fluid Condition**

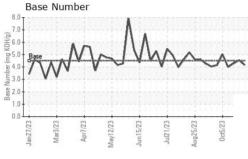
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

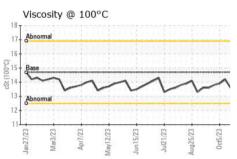
GAS ENGINE OIL (-	•	12023 Widt20				
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0865672	WC0865671	WC0865679
Sample Date		Client Info		02 Nov 2023	26 Oct 2023	19 Oct 2023
Machine Age	hrs	Client Info		111663	111495	111332
Oil Age	hrs	Client Info		501	333	170
Oil Changed		Client Info		Not Changd	Not Changd	Not Change
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	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	2	<1	0
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>6	<1	<1	2
Lead	ppm	ASTM D5185m	>9	3	1	1
Copper	ppm	ASTM D5185m	>6	1	2	<1
Tin	ppm	ASTM D5185m	>4	2	2	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		4	3	4
Barium	ppm	ASTM D5185m		2	0	9
Molybdenum	ppm	ASTM D5185m		3	3	4
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium				~		
	ppm	ASTM D5185m		21	17	20
Calcium	ppm	ASTM D5185m ASTM D5185m			17 1771	20 1750
				21		
Phosphorus	ppm	ASTM D5185m		21 1735	1771	1750
Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m		21 1735 290	1771 250	1750 306
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	21 1735 290 340	1771 250 336	1750 306 344
Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		21 1735 290 340 2175	1771 250 336 1998	1750 306 344 2249
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		21 1735 290 340 2175 current	1771 250 336 1998 history1	1750 306 344 2249 history2 80
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	>181	21 1735 290 340 2175 current	1771 250 336 1998 history1	1750 306 344 2249 history2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>181	21 1735 290 340 2175 current 142	1771 250 336 1998 history1 120	1750 306 344 2249 history2 80
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	>181	21 1735 290 340 2175 current 142 0 2 current	1771 250 336 1998 history1 120 1	1750 306 344 2249 history2 80 0
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	>181 >20 limit/base	21 1735 290 340 2175 current 142 0 2	1771 250 336 1998 history1 120 1 1	1750 306 344 2249 history2 80 0 2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method  *ASTM D5185m	>181 >20 limit/base	21 1735 290 340 2175 current 142 0 2 current	1771 250 336 1998 history1 120 1 1 history1	1750 306 344 2249 history2 80 0 2 history2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m D5185m ASTM D5185m ASTM D7624	>181 >20 limit/base >20	21 1735 290 340 2175 current 142 0 2 current 0 7.1	1771 250 336 1998 history1 120 1 1 history1 0 6.7	1750 306 344 2249 history2 80 0 2 history2 0 6.1
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	>181 >20 limit/base >20 >30	21 1735 290 340 2175 current 142 0 2 current 0 7.1 20.8	1771 250 336 1998 history1 120 1 1 history1 0 6.7 19.2	1750 306 344 2249 history2 80 0 2 history2 0 6.1 17.3
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm Abs/.tmm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  ASTM D5185m  *ASTM D76185m  *ASTM D7844  *ASTM D7624  *ASTM D76185m  *ASTM D76144  *ASTM D76145  Method  *ASTM D7414	>181 >20 limit/base >20 >30 limit/base	21 1735 290 340 2175 current 142 0 2 current 0 7.1 20.8	1771 250 336 1998 history1 120 1 1 history1 0 6.7 19.2 history1	1750 306 344 2249 history2 80 0 2 history2 0 6.1 17.3



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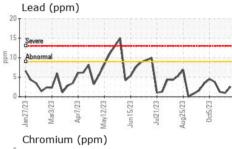


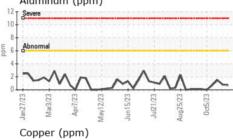


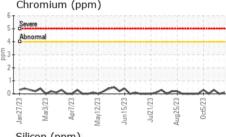
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

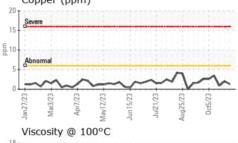
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Visc @ 100°C	cSt	ASTM D445	14.7	13.9	13.7	13.6

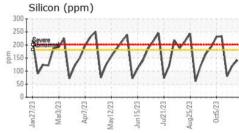
Iron (ppm)				
Severe				
Abnormal	1111	11 11	11   11	
10				
5		^		
			$\stackrel{\sim}{\sim}$	~~
Jan 27/23 Mar 3/23 Apr 7/23	n15/23	Jul21/23	Aug25/23	Oct5/23
Āluminum (nnm)	Jun	3	Auı	J

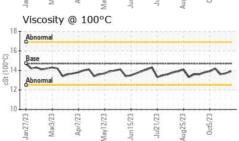


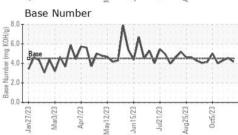
















Certificate L2367

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

: WC0865672 : 05999195 : 10727555

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

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

: 06 Nov 2023 : 07 Nov 2023 Diagnosed Diagnostician : Sean Felton

**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:

\* - 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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