

OIL ANALYSIS REPORT

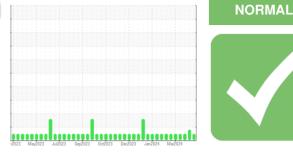
Sample Rating Trend



Machine Id Coopersville CAT 4 CPVM04BE

Biogas Engine Fluid

CHEVRON HDAX 9500 GAS ENGINE OIL 40 (105 GAL)





	SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
	Sample Number		Client Info		WC0871564	WC0871560	WC0871588
l to monitor.	Sample Date		Client Info		15 Apr 2024	08 Apr 2024	28 Mar 2024
	Machine Age	hrs	Client Info		80013	79844	79580
Ι.	Oil Age	hrs	Client Info		433	264	1
	Oil Changed		Client Info		Not Changd	Not Changd	Changed
ination in the	Sample Status				NORMAL	ABNORMAL	NORMAL
	CONTAMINATION	١	method	limit/base	current	history1	history2
- de la la	Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
suitable I level is	Water		WC Method	>.11	NEG	NEG	NEG
n of the oil is	Glycol		WC Method		NEG	NEG	NEG
	WEAR METALS		method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>15	<1	1	1
	Chromium	ppm	ASTM D5185m	>4	0	<1	0
	Nickel	ppm	ASTM D5185m		0	<1	0
	Titanium	ppm	ASTM D5185m		0	<1	<1
	Silver	ppm	ASTM D5185m		0	0	0
	Aluminum	ppm	ASTM D5185m	>6	2	2	2
	Lead	ppm	ASTM D5185m	>9	1	3	0
	Copper	ppm	ASTM D5185m	>6	<1	1	<1
	Tin	ppm	ASTM D5185m	>4	3	<u> </u>	<1
	Vanadium	ppm	ASTM D5185m		0	<1	<1
	Cadmium	ppm	ASTM D5185m		0	<1	0
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m		0	2	3
	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m		2	3	3
	Manganese	ppm	ASTM D5185m		<1	<1	<1
	Magnesium	ppm	ASTM D5185m		7	7	6
	Calcium	ppm	ASTM D5185m		2047	1891	1715
	Phosphorus	ppm	ASTM D5185m		290	296	236
	Zinc	ppm	ASTM D5185m		356	354	313
	Sulfur	ppm	ASTM D5185m		2541	2245	1946
	CONTAMINANTS		method	limit/base	current	history1	history2
	Silicon	ppm	ASTM D5185m	>181	103	85	27
	Sodium	ppm	ASTM D5185m	>21	2	2	2
	Potassium	ppm	ASTM D5185m	>20	4	3	<1
	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	*ASTM D7844		0.1	0	0
	• • • •						= 0

Soot %	%	*ASTM D7844		0.1	0	0
Nitration	Abs/cm	*ASTM D7624		7.4	7.1	5.2
Sulfation	Abs/.1mm	*ASTM D7415		20.1	18.4	15.4
FLUID DEGRADA		method	limit/base	current	history1	history?
I LOID DEGITIND		method			TIISTOLA	history2
Oxidation	Abs/.1mm	*ASTM D7414	IIIIIVJase	16.7	14.0	8.7
					,	

DIAGNOSIS

Recommendation

Resample at the next service interval

Wear

All component wear rates are normal.

Contamination

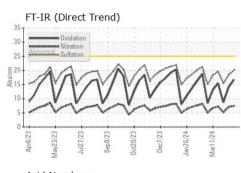
There is no indication of any contamin oil.

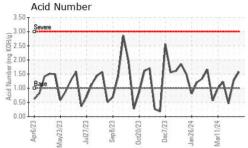
Fluid Condition

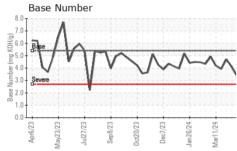
The BN result indicates that there is su alkalinity remaining in the oil. The AN acceptable for this fluid. The condition suitable for further service.

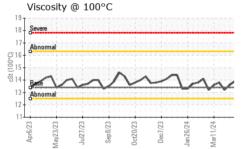


OIL ANALYSIS REPORT









Vhite Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Ddor Emulsified Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm) Severe Abnomal Content Severe Abnomal	cSt	*Visual *Visual	pmmq	13.9 Lead (ppm)	NONE NONE NONE NONE NOR NOR NEG NEG history1 13.6	NONE NONE NONE NONE NORE NORML NORML NEG NEG 13.2	2
Precipitate Silt Debris Sand/Dirt Appearance Ddor Emulsified Water Free Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm) Severe Ahnormal EXECT END EXECT END EXECT END EXECT END EXECT END EXECT END EXECT END EXECT END EXECT END EXECTED END EXECUTED END	scalar scalar scalar scalar scalar scalar scalar IES cSt	*Visual *Visual *Visual *Visual *Visual *Visual *Visual method ASTM D445	NONE NONE NONE NORML NORML >.11 limit/base 13.4	NONE NONE NONE NORML NORML NEG NEG Current 13.9	NONE NONE NONE NORML NEG NEG history1 13.6	NONE NONE NONE NORML NEG NEG history 13.2	2
Silt Debris Sand/Dirt Appearance Ddor Emulsified Water Free Water FLUID PROPERT /isc @ 100°C GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar scalar IES cSt	*Visual *Visual *Visual *Visual *Visual *Visual Method ASTM D445	NONE NONE NORML NORML >.11 Iimit/base 13.4	NONE NONE NORML NORML NEG NEG Current 13.9	NONE NOR NORML NORML NEG history1 13.6	NONE NONE NORML NORML NEG history 13.2	2
Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar scalar IES cSt	*Visual *Visual *Visual *Visual *Visual method ASTM D445	NONE NORML NORML >.11 limit/base 13.4	NONE NORML NORML NEG NEG Current 13.9	NONE NORML NORML NEG history1 13.6	NONE NORML NORML NEG NEG history 13.2	2
Sand/Dirt Appearance Door Emulsified Water Free Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm)	scalar scalar scalar scalar scalar IES cSt	*Visual *Visual *Visual *Visual *Visual Method ASTM D445	NONE NORML >.11 limit/base 13.4	NORML NORML NEG NEG Current 13.9	NONE NORML NEG NEG history1 13.6	NONE NORML NEG NEG history 13.2	2
Appearance Door Emulsified Water Free Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm)	scalar scalar scalar scalar iES cSt	*Visual *Visual *Visual *Visual Method ASTM D445	NORML NORML >.11 limit/base 13.4	NORML NEG NEG Current 13.9	NORML NEG NEG history1 13.6	NORML NORML NEG NEG history 13.2	2
Aluminum (ppm)	scalar scalar scalar IES cSt	*Visual *Visual *Visual Method ASTM D445	NORML >.11 limit/base 13.4	NORML NEG NEG Current 13.9 Lead (ppm)	NORML NEG history1 13.6	NORML NEG NEG history 13.2	2
Emulsified Water Free Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm) Severe Ahnomal CZ CZ C	scalar scalar IES cSt	*Visual *Visual method ASTM D445	>.11 limit/base 13.4	NEG NEG current 13.9 Lead (ppm)	NEG NEG history1 13.6	NEG NEG history 13.2	2
Free Water FLUID PROPERT Visc @ 100°C GRAPHS Iron (ppm) Severe Abnormal EZZQUE EZZCE M Aluminum (ppm)	scalar IES cSt	*Visual method ASTM D445	>.11 limit/base 13.4	NEG NEG current 13.9 Lead (ppm)	NEG NEG history1 13.6	NEG NEG history 13.2	2
FLUID PROPERT /isc @ 100°C GRAPHS Iron (ppm) Severe Abnomal EZIGNAL	scalar IES cSt	method ASTM D445	13.4	Chromium (p	history1 13.6	history: 13.2	2
Visc @ 100°C GRAPHS Iron (ppm)	cSt	ASTM D445	13.4	13.9 Lead (ppm)	13.6	13.2	2
GRAPHS Iron (ppm) Severe Abnomal EZIGNATION EZIGN	1		und dia dia dia dia dia dia dia dia dia di	Lead (ppm)	Sep 8/23	M	<u> </u>
Iron (ppm)	0ct20/23	Jan26/24	pmmq	Abnormal 5 0 Chromium (p		Dec1/23	<u> </u>
Abnormal	0ct2023	Dec7/23 Jan26/24 +	pmmq	Abnormal 5 0 Chromium (p		Jan26/23	~
Abnormal Abnormal EZUZDAN EZUZDAN Aluminum (ppm) Severe	0et20/23	Dec1/23 Jan26/24 Mar11/24	pmmq	Severe Abnormal 5 0 CZ/gudy Chromium (p 6 T		Jan26/24	~
Abnomal CZ/gudy CZ/gudy Aluminum (ppm)	0et20/23	Jan26/24	udd	5 0 EZ/EZ/eW Chromium (p		Jan26/24	~
Aluminum (ppm)	0ct20/23	Dec7/23 { Jan26/24 } Mart1724	udd	5 0 EZ/EZ/eW Chromium (p		Dec1/23	^
Aluminum (ppm)	0ct20/23	Jan 26/24	<u> </u>	Chromium (p		Jan 26/23	^
Aluminum (ppm)	0ct20/23	Jan26/24		Chromium (p		Jan 26/23	^
Aluminum (ppm)	0ct20/23	Jan 26/24		Chromium (p			
Aluminum (ppm)	0ct20	Jan26		E Chromium (p		Jan26	
Aluminum (ppm)				Chromium (p	pm)		
Severe				6 T			
		in the second second					
Abnormal				5 - Severe Abnormal			
1. MA			5	4-0			
A. MA		1	8	2			
	100	m	~	1			
	V	24			33 53	24	<u>A</u>
Apr6/23 May23/23 Jul27/23 Sep8/23	0ct20/23	Dec7/23 Jan26/24 Mar11/24		Apr6/23 May23/23 Jul27/23	Sep 8/23 0ct20/23	Dec7/23 Jan26/24 Mar11/24	
Zopper (ppm)		, 2		≥ Silicon (ppm)		, 2	
		11111111		50 T	in the second	in an	
Severe				00 - Severe		1.	
			unit in the second seco	50 11	ALAA	MA	
Abnormal			² 1	00-	VVV	11/10	1
min	1 -	Ma		50-	V	Y Y Y	1
23	23	24	×	23	23 -		
Apr6/23 - May23/23 - Jul27/23 - Sep8/23 -	0ct20/23	Dec7/23 Jan26/24 Mar11/24		Apr6/23 May23/23 Jul27/23	Sep8/23 . 0ct20/23 .	Dec7/23 - Jan26/24 - Mar11/24 -	
2		l P	E	× ,		J ₽ſ W	
Viscosity @ 100°C				Base Number		10000000000000000	
Severe		d real and	(B/HC	- A			
Abnormal			Base Number (mg KOH/g)	Base / h			
Base	2	~ ~	ther (r	Severe	V V	~~~~	1
Abnormal			e Num	2.0 -			
			⁸⁸	0.0			
Apr6/23 - 1ay23/23 - Jul27/23 - Sep8/23 -	0ct20/23 -	Dec7/23 - Jan26/24 -	12	Apr6/23 - Apr6/2	Sep8/23 - 0ct20/23 -	Dec7/23 - Jan26/24 - Aari 1/24 -	
Apr6/23 May23/23 Jul27/23 Sep8/23	lct2	Dec7/23 Jan26/24 Mar11/24	- -	2 2	Sep lct2(Dec7/23 Jan26/24 Mar11/24	

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **EDL NA Recips-Coopersville** Sample No. : WC0871564 Received : 18 Apr 2024 Coopersville Powerstation, 15362 68th Avenue Lab Number : 06153278 Tested : 19 Apr 2024 Coopersville, MI US 49404 Unique Number : 10983356 Diagnosed : 22 Apr 2024 - Sean Felton Contact: Daniel Young Test Package : MOB 2 Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. daniel.young@edlenergy.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: EDLCOO [WUSCAR] 06153278 (Generated: 04/22/2024 17:57:52) Rev: 1

Submitted By: Chad Conroy Page 2 of 2

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