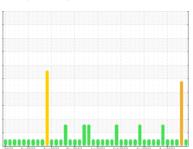


OIL ANALYSIS REPORT

Sample Rating Trend









Component **Biogas Engine**

SHELL SHELL MYSELLA S3 N 40 (--- GAL)

DIAGNOSIS

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

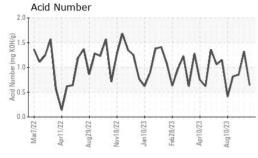
Fluid Condition

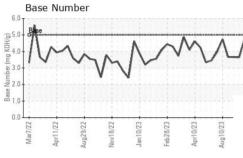
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

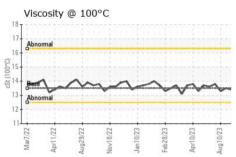
				Jan2023 Feb2023 Apr2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0775286	WC0775293	WC0775135
Sample Date		Client Info		05 Oct 2023	27 Sep 2023	18 Sep 2023
Machine Age	hrs	Client Info		39148	39055	38846
Oil Age	hrs	Client Info		31	523	314
Oil Changed		Client Info		Changed	Not Changd	N/A
Sample Status				NORMAL	SEVERE	NORMAL
CONTAMINATION	V	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	7	4
Chromium	ppm	ASTM D5185m	>4	0	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>6	0	5	<1
Lead	ppm	ASTM D5185m	>9	<1	0	<1
Copper	ppm	ASTM D5185m	>6	<1	2	<1
Tin	ppm	ASTM D5185m	>4	<1	4	3
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 5	history1 1	history2 <1
	ppm		limit/base			
Boron		ASTM D5185m	limit/base	5	1	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	5 0	1	<1
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 4	1 0 3	<1 0 2
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 4 0	1 0 3 <1	<1 0 2 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 4 0 14	1 0 3 <1 17	<1 0 2 <1 16
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 4 0 14 1365	1 0 3 <1 17	<1 0 2 <1 16 1702
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	5 0 4 0 14 1365 307	1 0 3 <1 17 1717 368	<1 0 2 <1 16 1702 346
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	5 0 4 0 14 1365 307 387	1 0 3 <1 17 1717 368 446	<1 0 2 <1 16 1702 346 418
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		5 0 4 0 14 1365 307 387 3597	1 0 3 <1 17 1717 368 446 3554	<1 0 2 <1 16 1702 346 418 3845
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	5 0 4 0 14 1365 307 387 3597	1 0 3 <1 17 1717 368 446 3554 history1	<1 0 2 <1 16 1702 346 418 3845 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	5 0 4 0 14 1365 307 387 3597 current	1 0 3 < 1 17 177 368 446 3554 history1	<1 0 2 <1 16 1702 346 418 3845 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	5 0 4 0 14 1365 307 387 3597 current 41	1 0 3 < 1 17 177 368 446 3554 history1	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1
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	5 0 4 0 14 1365 307 387 3597 current 41 0 <1	1 0 3 <1 17 1717 368 446 3554 history1 246 2 0	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1
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 limit/base	5 0 4 0 14 1365 307 387 3597 current 41 0 <1	1 0 3 <1 17 1717 368 446 3554 history1 • 246 2 0	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1 1
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 method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >181 >20 limit/base	5 0 4 0 14 1365 307 387 3597 current 41 0 <1	1 0 3 <1 17 1717 368 446 3554 history1 246 2 0 history1 0.1	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1 1 history2 0
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 ASTM D5185m	limit/base >181 >20 limit/base >20	5 0 4 0 14 1365 307 387 3597 current 41 0 <1	1 0 3 <1 17 1717 368 446 3554 history1 246 2 0 history1 0.1 5.3	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1 1 history2 0 5.5
Boron 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 method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D7624 *ASTM D7624 *ASTM D76145	limit/base >181 >20 limit/base >20 >30	5 0 4 0 14 1365 307 387 3597 current 41 0 <1 current 0 3.6 17.3	1 0 3 <1 17 1717 368 446 3554 history1 246 2 0 history1 0.1 5.3 23.2	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1 1 history2 0 5.5 23.5
Boron 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 method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7624 *ASTM D7624 *ASTM D7415 method	limit/base >181 >20 limit/base >20 >30 limit/base	5 0 4 0 14 1365 307 387 3597 current 41 0 <1 current 0 3.6 17.3 current	1 0 3 <1 17 1717 368 446 3554 history1 246 2 0 history1 0.1 5.3 23.2 history1	<1 0 2 <1 16 1702 346 418 3845 history2 168 <1 1 history2 0 5.5 23.5 history2



OIL ANALYSIS REPORT





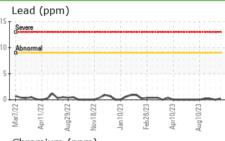


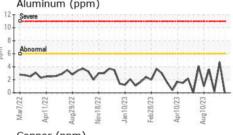
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance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

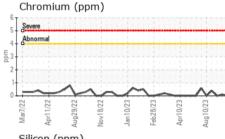
FLUID PROPER	TILO	memod			riistory i	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	13.5	13.2	13.6	13.4

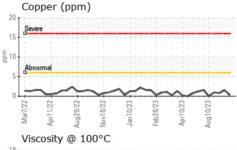
Sevi	ere				11111		
Abn	ormal						
							A
1	1	A			^		Λ
~	1	1	V	~	V	V.	N
-	1	V 22/628/A	Vov18/22	V	Yeb28/23	N	Aug 10/23

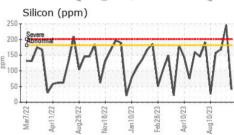
GRAPHS

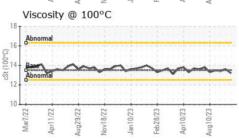


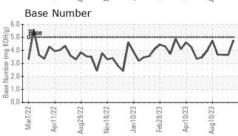
















Certificate L2367

Laboratory Sample No. Lab Number

Unique Number Test Package : MOB 2

: WC0775286 : 05977763

: 10695058

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 12 Oct 2023 Diagnosed : 16 Oct 2023 Diagnostician

: Don Baldridge

EDL NA Recips-Morgantown

Morgantown Powerstation, 950 Shiloh Morgantown, PA US 19543

Contact: ARON GUNN aron.gunn@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)

F: