

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2422** Component **Biogas Engine** Fluid **{not provided} (--- GAL)**

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

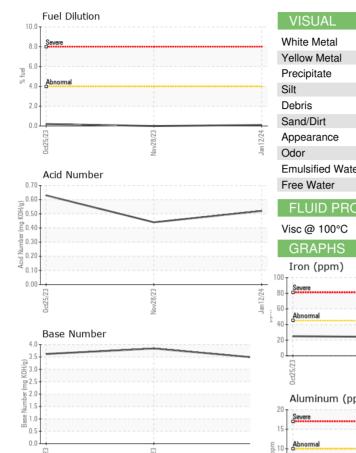
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

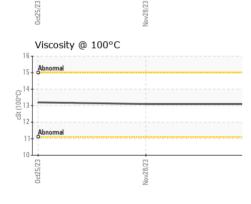
	UECUL3 NOVZU23					Z3 Jan2029			
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		PCA0111227	PCA0111230	PCA0099784			
Sample Date		Client Info		12 Jan 2024	28 Nov 2023	25 Oct 2023			
Machine Age	hrs	Client Info		50700	49707	48904			
Oil Age	hrs	Client Info		0	947	954			
Oil Changed		Client Info		N/A	N/A	N/A			
Sample Status				NORMAL	ABNORMAL	NORMAL			
CONTAMINAT	ION	method	limit/base	current	history1	history2			
Water		WC Method	>0.1	NEG	NEG	NEG			
Glycol		WC Method	20.1	NEG	NEG	NEG			
	<u> </u>		l'an it //n an an			-			
WEAR METAL	5	method	limit/base	current	history1	history2			
Iron	ppm	ASTM D5185m	>45	20	24	25			
Chromium	ppm	ASTM D5185m		0	0	0			
Nickel	ppm	ASTM D5185m	>2	0	0	0			
Titanium	ppm	ASTM D5185m		0	0	0			
Silver	ppm	ASTM D5185m	>5	0	0	0			
Aluminum	ppm	ASTM D5185m	>10	1	1	<1			
Lead	ppm	ASTM D5185m	>5	1	2	<1			
Copper	ppm	ASTM D5185m	>14	13	<u> </u>	6			
Tin	ppm	ASTM D5185m	>13	<1	<1	0			
Vanadium	ppm	ASTM D5185m		<1	0	0			
Cadmium	ppm	ASTM D5185m		0	0	0			
ADDITIVES		method	limit/base	current	history1	history2			
Boron	ppm	ASTM D5185m		0	0	0			
Barium	ppm	ASTM D5185m		0	0	0			
Molybdenum	ppm	ASTM D5185m		2	<1	2			
Manganese	ppm	ASTM D5185m		<1	<1	<1			
Magnesium	ppm	ASTM D5185m		30	33	30			
Calcium	ppm	ASTM D5185m		1300	1221	1223			
Phosphorus	ppm	ASTM D5185m		306	309	304			
Zinc	ppm	ASTM D5185m		382	394	392			
Sulfur	ppm	ASTM D5185m		2315	2485	2550			
CONTAMINAN	TS	method	limit/base	current	history1	history2			
Silicon	ppm	ASTM D5185m	>200	2	3	3			
Sodium	ppm	ASTM D5185m		3	1	3			
Potassium	ppm	ASTM D5185m	>20	0	0	<1			
Fuel	%	ASTM D3524	>4.0	0.1	0.0	0.2			
INFRA-RED		method	limit/base	current	history1	history2			
Soot %	%	*ASTM D7844		0	0	0			
Nitration	Abs/cm	*ASTM D7624	>20	4.3	3.8	3.2			
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.7	15.3	14.8			
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2			
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.2	9.2	8.0			
Acid Number (AN)	mg KOH/g	ASTM D8045		0.52	0.44	0.63			
Base Number (BN)	mg KOH/g	ASTM D2896		3.45	3.84	3.62			
4:02:16) Rev: 1	5 . 9		Contact/Location: JASON KUZNESKI - USAMAN						
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	VISUAL		method	limit/base	e 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
Jan 12/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jar	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPE	ERTIES	method	limit/base	e current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		13.1	13.1	13.2
	GRAPHS						
	Iron (ppm)				Lead (ppm)		
Jan 12/24	80 - Severe		****************		8 -		
Jani	60 Abnormal				⁶ Abnormal		
	40-0				4		
	20-			_	2-		
	ilo	23-		24		23-	24 +
	0ct25/23	Vov28/23		Jan 12/24	0ct25/23	Nov28/23	Jan 12/24
	Aluminum (ppm)				Chromium (ppm)	
	20 Severe	1		1	5 4 Severe		
	15-						
	Abnormal				Abnormal		
	5-						1
	0ct25/23 -	Nov28/23 -		Jan 12/24 ·	0ct25/23	Vav28/23 -	Jan 12/24 .
		Nov		Jan		_	Jan
	Copper (ppm)				Silicon (ppm)	
	25				300 Severe		
	20			ε.	200 - Abnormal		
	10				Ī		
	5-				100 -		
	10	23		24	23	23	24
	0ct25/23	Nov28/23		Jan 12/24	0ct25/23	Nav28/23	Jan 12/24
	- Viscosity @ 100°			_,	Base Numbe		رت ا
	16 15 Abnormal			(B/)	4.0		
ş				a Koł	3.0		
0	2714			ber (n	2.0		
c	3 12 Abnormal			e Nur	1.0		
				Base	0.0		
	0ct25/23	Vov28/23		Jan 12/24	0ct25/23	Nov28/23	Jan 12/24
	00	Novi		Jan	Octi	Nová	Janì
Laboratory	: WearCheck USA -	501 Madi	son Ave., Ca	ry, NC 275	13	USA C	OMPRESSION
Sample No.	: PCA0111227	Recieve		Jan 2024			MAIN STREET
Lab Number	: 06068707	Diagnos		Jan 2024		М	ANSFIELD, PA
Unique Number Test Package	: 10845384 : MOB 2 (Additional		t ician : Sea uelDilution, P)	Contact. IAS	US 16933 ON KUZNESKI
	contact Customer Ser					kuzneski@usaco	
	ra autaida af tha ISO						_

To discuss this sample repor * - 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)

Certificate L2367

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