

OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

CHP3 (S/N 2209852)

Biogas Engine

MOBIL PEGASUS 1005 (120 GAL)

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

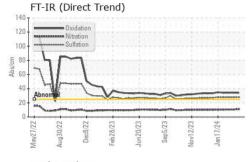
Fluid Condition

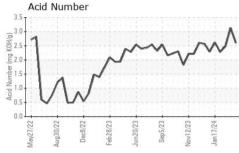
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

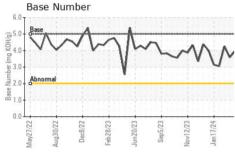
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0887494	WC0887429	WC0887431
Sample Date		Client Info		26 Mar 2024	27 Feb 2024	13 Feb 2024
Machine Age	hrs	Client Info		54078	53442	53127
Oil Age	hrs	Client Info		8767	8131	7815
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>15	8	9	8
Chromium	ppm	ASTM D5185m	>5	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	4	5	3
Lead	ppm	ASTM D5185m	>10	0	<1	0
Copper	ppm	ASTM D5185m	>10	<1	<1	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1	history2 105
	ppm		limit/base			
Boron	• •	ASTM D5185m	limit/base	105	102	105
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	105 0	102 0	105 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	105 0 <1	102 0 1	105 0 1
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	105 0 <1 <1	102 0 1	105 0 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	105 0 <1 <1 11	102 0 1 0 8	105 0 1 0 6
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	105 0 <1 <1 11 2314	102 0 1 0 8 1995	105 0 1 0 6 2007
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	105 0 <1 <1 11 2314 363	102 0 1 0 8 1995 351	105 0 1 0 6 2007 285
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	105 0 <1 <1 11 2314 363 498	102 0 1 0 8 1995 351 461	105 0 1 0 6 2007 285 446
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		105 0 <1 <1 11 2314 363 498 3374	102 0 1 0 8 1995 351 461 3008	105 0 1 0 6 2007 285 446 2715
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	105 0 <1 <1 11 2314 363 498 3374 current	102 0 1 0 8 1995 351 461 3008 history1	105 0 1 0 6 2007 285 446 2715
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	105 0 <1 <1 11 2314 363 498 3374 current	102 0 1 0 8 1995 351 461 3008 history1	105 0 1 0 6 2007 285 446 2715 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >300	105 0 <1 <1 11 2314 363 498 3374 current 3 6	102 0 1 0 8 1995 351 461 3008 history1 4	105 0 1 0 6 2007 285 446 2715 history2 3 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >300 >20	105 0 <1 <1 11 2314 363 498 3374 current 3 6	102 0 1 0 8 1995 351 461 3008 history1 4 7	105 0 1 0 6 2007 285 446 2715 history2 3 5 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	ASTM D5185m	limit/base >300 >20	105 0 <1 <1 11 2314 363 498 3374 current 3 6 0	102 0 1 0 8 1995 351 461 3008 history1 4 7 2	105 0 1 0 6 2007 285 446 2715 history2 3 5 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 Method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m	limit/base >300 >20 limit/base	105 0 <1 <1 <1 11 2314 363 498 3374 current 3 6 0 current 0.1	102 0 1 0 8 1995 351 461 3008 history1 4 7 2 history1	105 0 1 0 6 2007 285 446 2715 history2 3 5 2 history2
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 >300 >20 limit/base >20	105 0 <1 <1 <1 11 2314 363 498 3374 current 3 6 0 current 0.1 10.9	102 0 1 0 8 1995 351 461 3008 history1 4 7 2 history1 0.1 10.6	105 0 1 0 6 2007 285 446 2715 history2 3 5 2 history2 0.1 10.6
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 D7844 *ASTM D7624 *ASTM D76145	limit/base >300	105 0 <1 <1 <1 11 2314 363 498 3374 current 3 6 0 current 0.1 10.9 27.8	102 0 1 0 8 1995 351 461 3008 history1 4 7 2 history1 0.1 10.6 27.6	105 0 1 0 6 2007 285 446 2715 history2 3 5 2 history2 0.1 10.6 27.7
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 method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	limit/base >300 >20 limit/base >20 >30 limit/base	105 0 <1 <1 <1 11 2314 363 498 3374 current 3 6 0 current 0.1 10.9 27.8 current	102 0 1 0 8 1995 351 461 3008 history1 4 7 2 history1 0.1 10.6 27.6 history1	105 0 1 0 6 2007 285 446 2715 history2 3 5 2 history2 0.1 10.6 27.7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	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 Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method *ASTM D7414	limit/base >300 >20 limit/base >20 >30 limit/base	105 0 <1 <1 <1 11 2314 363 498 3374 current 3 6 0 current 0.1 10.9 27.8 current 34.1	102 0 1 0 8 1995 351 461 3008 history1 4 7 2 history1 0.1 10.6 27.6 history1 34.4	105 0 1 0 6 2007 285 446 2715 history2 3 5 2 history2 0.1 10.6 27.7 history2 34.4

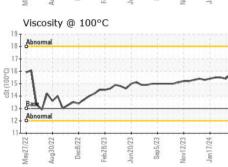


OIL ANALYSIS REPORT







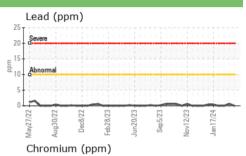


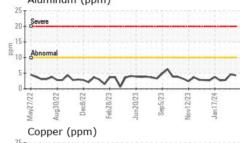
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

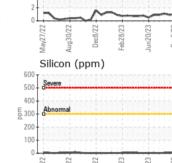
FLUID PROPE	RTIES	method				history2
/icc @ 100°C	cSt	ASTM DAAS	12	15.8	15./	15.5

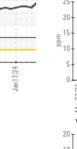
Seve	ere						
0	ormal						
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1	-			~	~	~~	1
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May27/22	Aug30/22	Dec8/22 -	Feb28/23 -	Jun20/23 }	Sep5/23	Nov12/23 -	Jan17/24

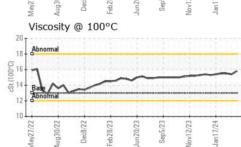
GRAPHS

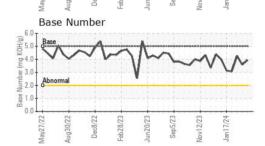
















Laboratory

Sample No. Lab Number : 06141530

: WC0887494 Unique Number : 10966338

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 08 Apr 2024 **Tested** : 09 Apr 2024

Diagnosed

: 10 Apr 2024 - Sean Felton

Contact: JASON SHICK jasons@kbbioenergy.com

KB BIOENERGY INC

2677 RIVERVIEW RD

Test Package : MOB 2 Certificate 12367 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)

T: F: (330)864-7023

AKRON, OH

US 44313