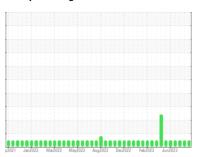


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **CHP3 (S/N 2209852)**

Component Riogas Engine

Biogas Engine

MOBIL PEGASUS 1005 (120 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.

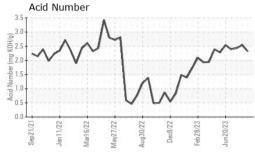
Fluid Condition

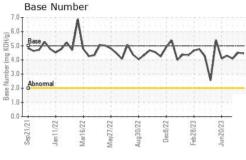
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

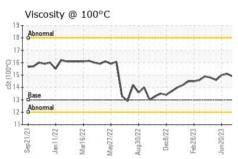
		p2021 Jan202				
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0747977	WC0747975	WC0747979
Sample Date		Client Info		15 Aug 2023	02 Aug 2023	01 Aug 2023
Machine Age	hrs	Client Info		50394	50392	0
Oil Age	hrs	Client Info		5083	5081	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	1	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	7	7	5
Chromium	ppm	ASTM D5185m	>5	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	3	4	4
Lead	ppm	ASTM D5185m	>10	0	<1	0
Copper	ppm	ASTM D5185m	>10	<1	<1	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVEC	''		1::		lai ata mud	histow.0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	IIIIIIVDase	102	95	111
Boron Barium	ppm	ASTM D5185m ASTM D5185m	IIIII/Dase	102 0	95 0	111
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	IIIIII/Dase	102 0 2	95 0 1	111 0 1
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	IIIIII/Dase	102 0 2 <1	95 0 1 <1	111 0 1 <1
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	IIIIII/Dase	102 0 2	95 0 1 <1 8	111 0 1 <1 9
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIII/Dase	102 0 2 <1 6 1785	95 0 1 <1	111 0 1 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIIIIIII	102 0 2 <1 6	95 0 1 <1 8	111 0 1 <1 9
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	IIIIIIVOASE	102 0 2 <1 6 1785	95 0 1 <1 8 1741	111 0 1 <1 9 1969
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	IIIIIIVUASE	102 0 2 <1 6 1785 290	95 0 1 <1 8 1741 289	111 0 1 <1 9 1969 315
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	102 0 2 <1 6 1785 290 397	95 0 1 <1 8 1741 289 399	111 0 1 <1 9 1969 315 411
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 ASTM D5185m		102 0 2 <1 6 1785 290 397 2876	95 0 1 <1 8 1741 289 399 2550	111 0 1 <1 9 1969 315 411 3044
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	102 0 2 <1 6 1785 290 397 2876 current	95 0 1 <1 8 1741 289 399 2550	111 0 1 <1 9 1969 315 411 3044
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >300	102 0 2 <1 6 1785 290 397 2876 current	95 0 1 <1 8 1741 289 399 2550 history1	111 0 1 <1 9 1969 315 411 3044 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	102 0 2 <1 6 1785 290 397 2876 current 2 6	95 0 1 <1 8 1741 289 399 2550 history1 3	111 0 1 <1 9 1969 315 411 3044 history2
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	102 0 2 <1 6 1785 290 397 2876 current 2 6	95 0 1 <1 8 1741 289 399 2550 history1 3 9	111 0 1 <1 9 1969 315 411 3044 history2 1 9
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 limit/base	102 0 2 <1 6 1785 290 397 2876 current 2 6 2	95 0 1 <1 8 1741 289 399 2550 history1 3 9 1	111 0 1 <1 9 1969 315 411 3044 history2 1 9 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 >300 >20 limit/base	102 0 2 <1 6 1785 290 397 2876 current 2 6 2	95 0 1 <1 8 1741 289 399 2550 history1 3 9 1 history1 0	111 0 1 <1 9 1969 315 411 3044 history2 1 9 1
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	limit/base >300 >20 limit/base >20	102 0 2 <1 6 1785 290 397 2876 current 2 6 2 current 0.1 9.8	95 0 1 <1 8 1741 289 399 2550 history1 3 9 1 history1 0 10.2	111 0 1 <1 9 1969 315 411 3044 history2 1 9 1 history2
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 D7844 *ASTM D7624 *ASTM D7415 Method	limit/base >300 >20 limit/base >20 >30 limit/base	102 0 2 <1 6 1785 290 397 2876 current 2 6 2 current 0.1 9.8 25.6 current	95 0 1 <1 8 1741 289 399 2550 history1 3 9 1 history1 0 10.2 26.5 history1	111 0 1 <1 9 1969 315 411 3044 history2 1 9 1 history2 0 10.2 26.6 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 D7185m *ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414	limit/base >300	102 0 2 <1 6 1785 290 397 2876 current 2 6 2 current 0.1 9.8 25.6 current 31.0	95 0 1 <1 8 1741 289 399 2550 history1 3 9 1 history1 0 10.2 26.5 history1 32.5	111 0 1 <1 9 1969 315 411 3044 history2 1 9 1 history2 0 10.2 26.6 history2 32.6
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 D7844 *ASTM D7624 *ASTM D7415 Method	limit/base >300 >20 limit/base >20 >30 limit/base	102 0 2 <1 6 1785 290 397 2876 current 2 6 2 current 0.1 9.8 25.6 current	95 0 1 <1 8 1741 289 399 2550 history1 3 9 1 history1 0 10.2 26.5 history1	111 0 1 <1 9 1969 315 411 3044 history2 1 9 1 history2 0 10.2 26.6 history2



OIL ANALYSIS REPORT



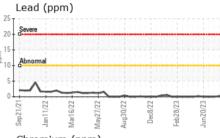


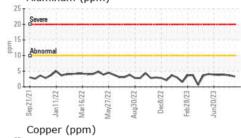


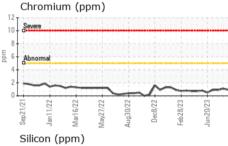
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

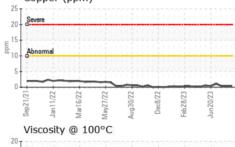
FLUID FROFER	THES	memou			HISTORY	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	13	15.0	14.9	14.9

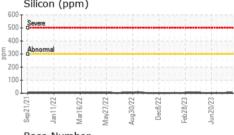
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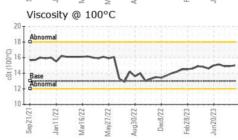


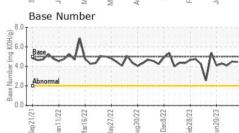
















Certificate L2367

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0747977 Received : 05934945 : 10620216

Diagnosed Diagnostician

: 25 Aug 2023 : 28 Aug 2023 : Sean Felton

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)

KB BIOENERGY INC

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Contact: JASON SHICK jasons@kbbioenergy.com T:

F: (330)864-7023

Submitted By: ?