

OIL ANALYSIS REPORT

NORMAL

Machine Id

CHP3 (S/N 2209852)

Biogas Engine Fluid MOBIL PEGASUS 1005 (120 GAL)

Recommendation

Resample at the next service interval to monitor.

Wear

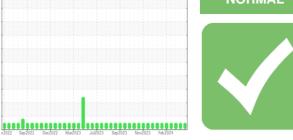
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

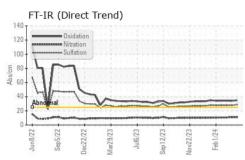
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

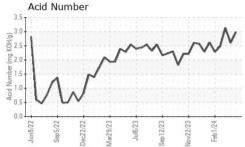


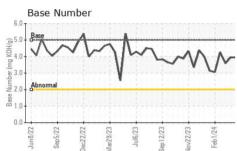
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0887498	WC0887494	WC0887429
Sample Date		Client Info		10 Apr 2024	26 Mar 2024	27 Feb 2024
Machine Age	hrs	Client Info		54437	54078	53442
Oil Age	hrs	Client Info		9126	8767	8131
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	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	7 0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>15	8	8	9
Chromium	ppm	ASTM D5185m		<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1 0
Silver	ppm	ASTM D5185m ASTM D5185m		0 4	0	5
	ppm					
Lead	ppm	ASTM D5185m	>10	0	0	<1
Copper Tin	ppm	ASTM D5185m			<1 <1	<1 <1
Vanadium	ppm	ASTM D5185m ASTM D5185m	>5	<1 0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	ppm					
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		105	105	102
Barium	ppm ppm	ASTM D5185m		1	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		1 2	0 <1	0
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1	0 <1 <1	0 1 0
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1 18	0 <1 <1 11	0 1 0 8
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1 18 2248	0 <1 <1 11 2314	0 1 0 8 1995
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1 18 2248 346	0 <1 <1 11 2314 363	0 1 0 8 1995 351
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1 18 2248 346 469	0 <1 <1 11 2314 363 498	0 1 0 8 1995 351 461
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1 18 2248 346 469 3126	0 <1 <1 11 2314 363 498 3374	0 1 0 8 1995 351 461 3008
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm 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	1 2 1 18 2248 346 469 3126 current	0 <1 <1 11 2314 363 498 3374 history1	0 1 0 8 1995 351 461 3008 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 2 1 18 2248 346 469 3126 current 3	0 <1 <1 11 2314 363 498 3374 history1 3	0 1 0 8 1995 351 461 3008 history2 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>300	1 2 1 18 2248 346 469 3126 current 3 6	0 <1 <1 11 2314 363 498 3374 history1 3 6	0 1 0 8 1995 351 461 3008 history2 4 7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>300	1 2 1 18 2248 346 469 3126 current 3	0 <1 <1 11 2314 363 498 3374 history1 3	0 1 0 8 1995 351 461 3008 history2 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>300	1 2 1 18 2248 346 469 3126 current 3 6	0 <1 <1 11 2314 363 498 3374 history1 3 6	0 1 0 8 1995 351 461 3008 history2 4 7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>300 >20	1 2 1 18 2248 346 469 3126 current 3 6 0	0 <1 <1 11 2314 363 498 3374 history1 3 6 0 0 history1 0.1	0 1 0 8 1995 351 461 3008 history2 4 7 2 4 7 2 history2 0.1
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	ASTM D5185m ASTM D5185m	>300 >20	1 2 1 18 2248 346 469 3126 current 3 6 0	0 <1 <1 11 2314 363 498 3374 history1 3 6 0 history1	0 1 0 8 1995 351 461 3008 history2 4 7 2 history2
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 ASTM D5185m	>300 >20 limit/base	1 2 1 18 2248 346 469 3126 current 3 6 0 current 0.1	0 <1 <1 11 2314 363 498 3374 history1 3 6 0 0 history1 0.1	0 1 0 8 1995 351 461 3008 history2 4 7 2 4 5 7 2 2 history2 0.1
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 ASTM D5185m	>300 >20 limit/base	1 2 1 18 2248 346 469 3126 current 3 6 0 0 current 0.1 11.0	0 <1 <1 11 2314 363 498 3374 history1 3 6 0 history1 0.1 10.9	0 1 0 8 1995 351 461 3008 history2 4 7 2 history2 0.1 10.6
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 ASTM D5185m	>300 >20 limit/base >20 >30 limit/base	1 2 1 18 2248 346 469 3126 <u>current</u> 3 6 0 <u>current</u> 0.1 11.0 28.5	0 <1 <1 11 2314 363 498 3374 history1 3 6 0 history1 0.1 10.9 27.8	0 1 0 8 1995 351 461 3008 history2 4 7 2 history2 0.1 10.6 27.6
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 ASTM D7844 *ASTM D7624 *ASTM D7415	>300 >20 limit/base >20 >30 limit/base	1 2 1 18 2248 346 469 3126 current 3 6 0 current 0.1 11.0 28.5 current	0 <1 <1 11 2314 363 498 3374 history1 3 6 0 0 history1 0.1 10.9 27.8 history1	0 1 0 8 1995 351 461 3008 history2 4 7 2 history2 0.1 10.6 27.6 history2

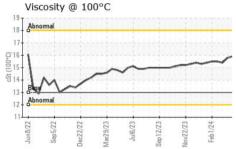


OIL ANALYSIS REPORT









VISUAL		method	limit/base	current	history1	histo
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	NORM
Odor	scalar	*Visual	NORML	NORML	NORML	NORM
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE		method	limit/base	current	history1	histo
Visc @ 100°C	cSt	ASTM D445	13	15.9	15.8	15.4
GRAPHS Iron (ppm)				Lead (ppm)		
			25	T 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		
Severe			20	Severe		
0 - Abnormal			E 15			
q			¹⁵ 10	Abnormal		
	~~	m	5			
	23	33 23	• 0		23	23
Jun8/22 Sep5/22 Dec22/22	Mar29/23 Jul6/23	Sep12/23 . Nov22/23 .	F601/24	Jun8/22 Sep5/22 Dec22/22	Mar29/23 Jul6/23 Sep12/23	Nov22/23 Feb1/24
Aluminum (ppn	1777 C	S N		Chromium (pp	_	Ž
¹⁵ T			12	T 3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		1000000000
0 - Severe			10	Severe		
5			8 5 6	Abnormal		
5- 0- Abnormal			4			
5	~~~	h	<u>></u> 2	\sim		
22	23	23 -	+ 0 5		23	23
Jun8/22 Sep5/22 Dec22/22	Mar29/23 Jul6/23	Sep12/23 Nov22/23	re0 i/24	Jun8/22 Sep5/22 Jec22/22	Mar29/23 Jul6/23 Sep12/23	Nov22/23 Feb1/24
Copper (ppm)	2	0 2		Silicon (ppm)	2 0	2
¹⁵ T	1700000000		600	T3000000000000		
0 - Severe			500	Severe		
5			400 톮 300			
5 - Abnormal			200			
5-			100			
	23		- 0 5		23	23
Jun8/22 Sep5/22 Dec22/22	Mar29/23 Jul6/23	Sep 12/23 Nov22/23	reo 1/24	Jun 8/22 Sep 5/22 Dec2 2/22	Mar29/23 Jul6/23 Sep12/23	Nov22/23 Feb1/24
Viscosity @ 100		0 Z		Base Number	2 0	2
¹⁰ T			6.0	TRADORISAL		1000500007
8 Abnormal			B/HO) 5.0	Base	<u> </u>	
6-			E ^{4.0}		- Mar	m
4 Basen	~~~		10 3.0 4 1 2.0	Abnormal	4	
2 Abnormal		and a long of a part of a long of a long of a	(b)HOX Bull addument and a set of the set of			
2 2 0	3 3		+ 0.0	2	m m m	
Jun8/22 Sep5/22 Dec22/22	Mar29/23 Jul6/23	Sep12/23 Nov22/23	re01/24	Jun8/22 Sep5/22 Dec22/22	Mar29/23 Jul6/23 Sep12/23	Nov22/23 Feb1/24

KB BIOENERGY INC

2677 RIVERVIEW RD AKRON, OH US 44313 Contact: JASON SHICK jasons@kbbioenergy.com T: F: (330)864-7023

Certificate 12367

Unique Number : 10991609 Diagnosed : 24 Apr 2024 - Sean Felton Test Package : MOB 2 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)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Tested

: 22 Apr 2024

: 23 Apr 2024

Report Id: KBBAKR [WUSCAR] 06156186 (Generated: 04/24/2024 11:57:49) Rev: 1

Laboratory

Sample No. : WC0887498

Lab Number : 06156186

Submitted By: ?

Page 2 of 2