



OIL ANALYSIS REPORT

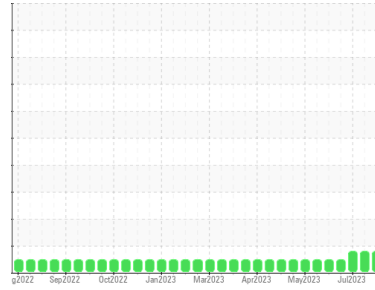
Sample Rating Trend

WEAR



Machine Id
CAPTIS ENERGY ENG 2 (S/N 1251397)

Component
Natural Gas Engine
Fluid
Q8G8 (--- GAL)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The tin level is abnormal. All other 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0835682	WC0835631	WC0835628
Sample Date	Client Info		21 Aug 2023	24 Jul 2023	18 Jul 2023
Machine Age	hrs	Client Info	46000	45476	45423
Oil Age	hrs	Client Info	3975	3451	3398
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	13	7	7
Chromium	ppm	ASTM D5185m >4	1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >9	6	4	4
Lead	ppm	ASTM D5185m >30	2	<1	1
Copper	ppm	ASTM D5185m >35	5	3	3
Tin	ppm	ASTM D5185m >4	▲ 8	▲ 5	▲ 6
Vanadium	ppm	ASTM D5185m	0	<1	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	1	<1	1
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	11	8	2
Calcium	ppm	ASTM D5185m	3478	2446	2751
Phosphorus	ppm	ASTM D5185m	603	426	466
Zinc	ppm	ASTM D5185m	745	496	564
Sulfur	ppm	ASTM D5185m	3771	3101	3566

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	61	46	53
Sodium	ppm	ASTM D5185m	18	12	13
Potassium	ppm	ASTM D5185m >20	14	7	9

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	8.2	8.0	8.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.9	19.6	19.7

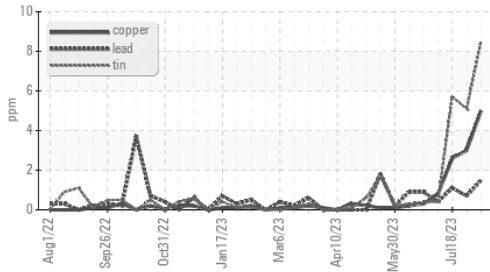
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.2	14.7	15.0
Acid Number (AN)	mg KOH/g	ASTM D8045	1.34	1.26	1.45
Base Number (BN)	mg KOH/g	ASTM D2896	6.48	6.90	6.31



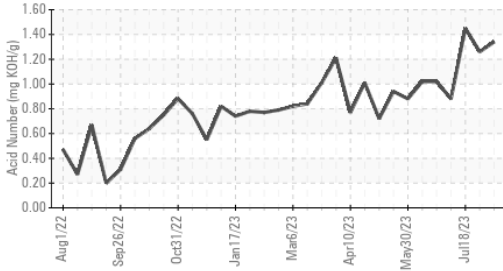
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▲ Non-ferrous Metals



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

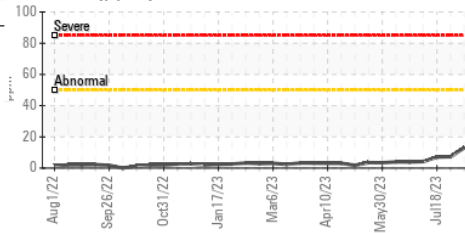
Acid Number



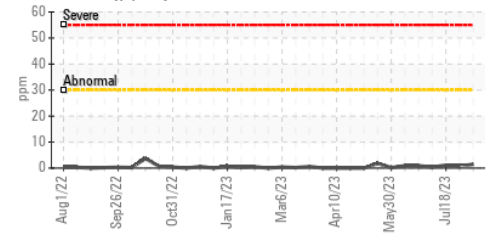
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	13.9	13.9

GRAPHS

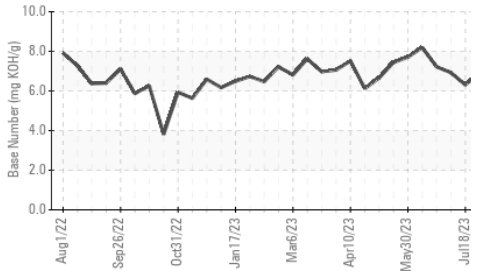
Iron (ppm)



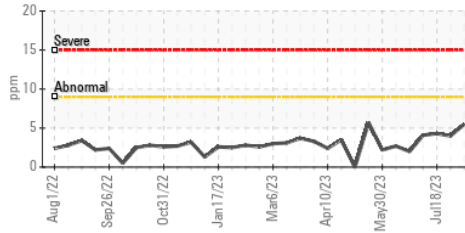
Lead (ppm)



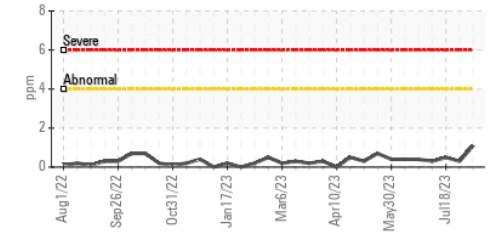
Base Number



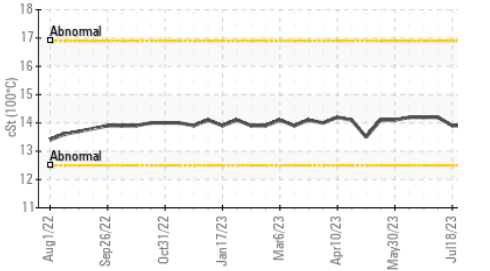
Aluminum (ppm)



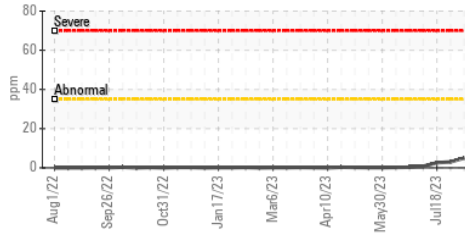
Chromium (ppm)



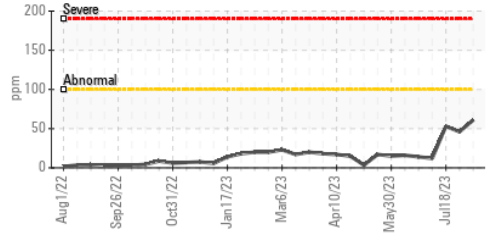
Viscosity @ 100°C



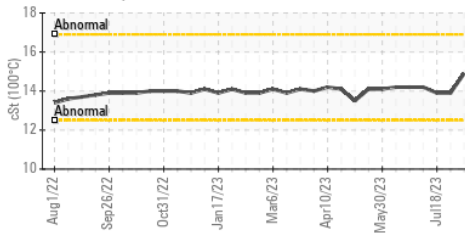
Copper (ppm)



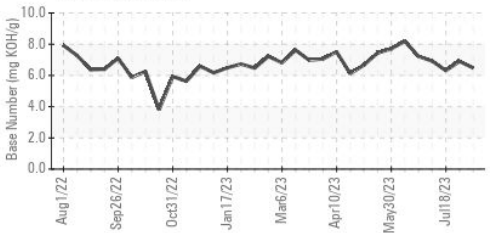
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0835682
Lab Number : 05931660
Unique Number : 10616931
Test Package : MOB 2

CUBE DISTRICT ENERGY
 1000 WINDWARD CONCOURSE SUITE 150
 ALPHARETTA, GA
 US 30005
 Contact: RYAN INGALLS
 ryan.ingalls@cubedistrictenergy.com

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)

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F: