



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL



Area
GUAY SON [CONHER]
Machine Id
CATERPILLAR NAUTICO 5
Component
Auxiliary Power Unit Auxiliary Engine
Fluid
XTRA REV 15W40 (8 LTR)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013489	KL0012825	KL0009184
Sample Date		Client Info		20 Jan 2024	15 Sep 2023	20 Mar 2022
Machine Age	hrs	Client Info		0	13005	11217
Oil Age	hrs	Client Info		72	60	408
Filter Age	hrs	Client Info		72	60	408
Oil Changed		Client Info		Not Chngd	Not Chngd	Changed
Filter Changed		Client Info		Not Chngd	Not Chngd	Changed
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	63	60	▲ 120
Chromium	ppm	ASTM D5185m	>20	2	<1	▲ 23
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	1
Aluminum	ppm	ASTM D5185m	>20	2	<1	▲ 21
Lead	ppm	ASTM D5185m	>40	12	1	20
Copper	ppm	ASTM D5185m	>330	28	3	7
Tin	ppm	ASTM D5185m	>15	3	<1	▲ 21
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

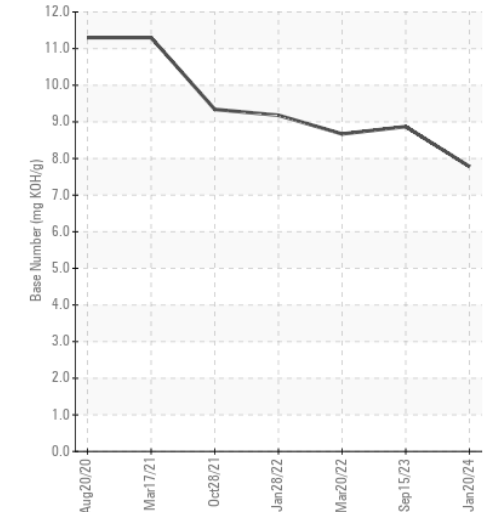
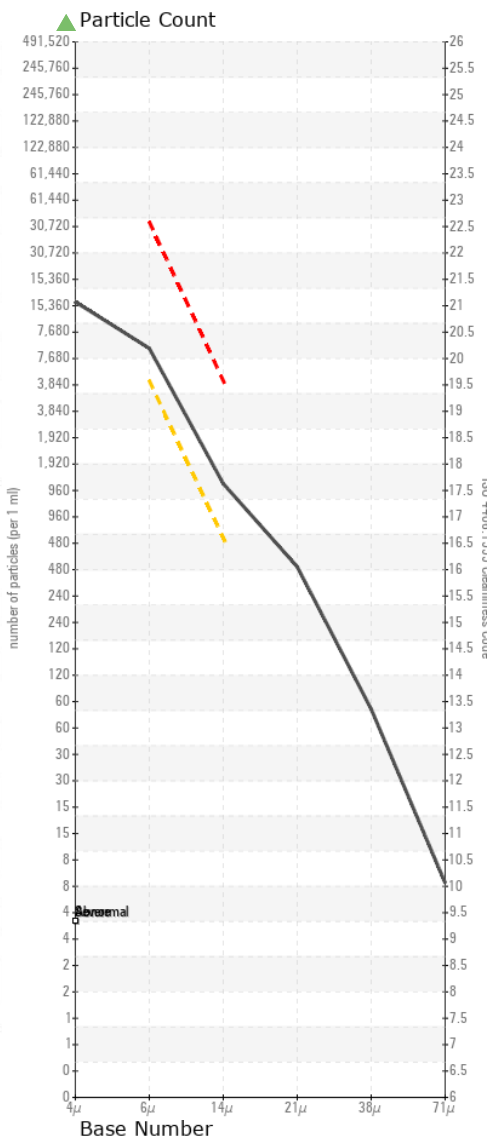
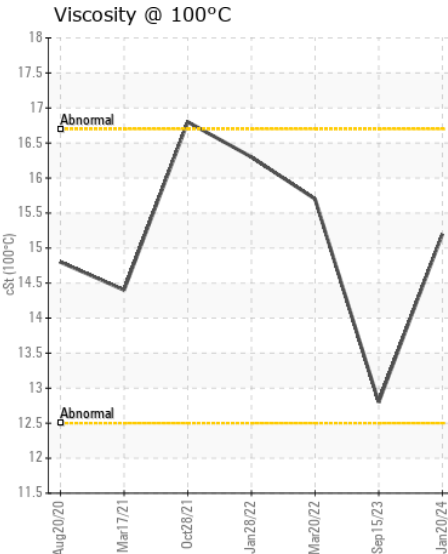
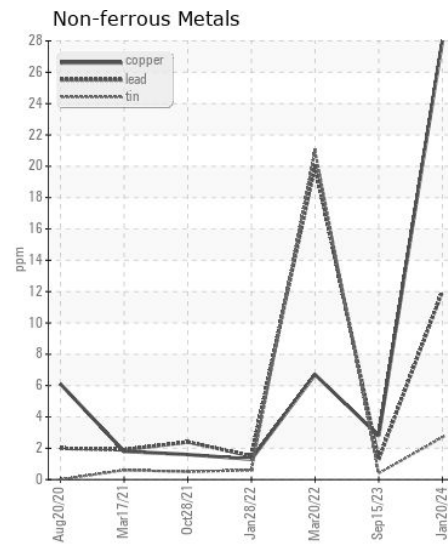
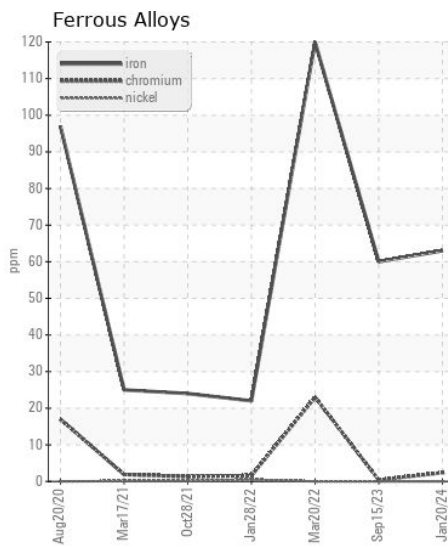
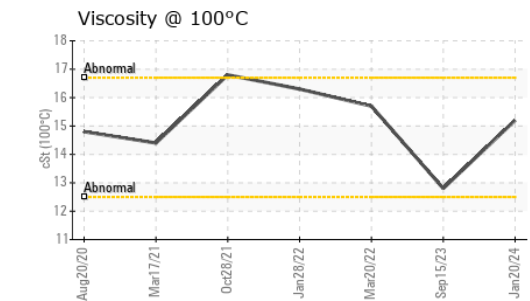
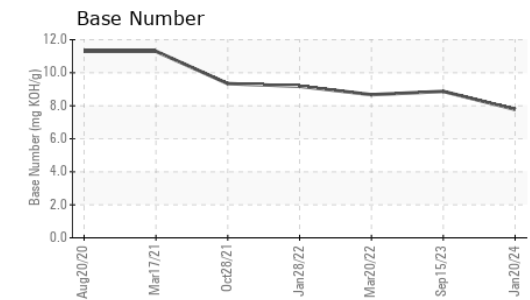
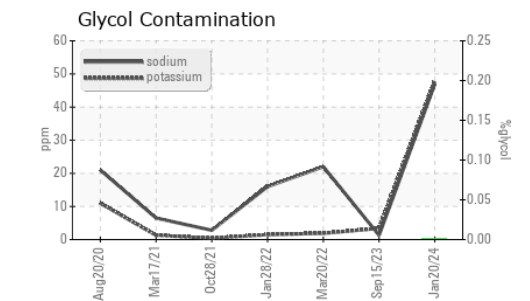
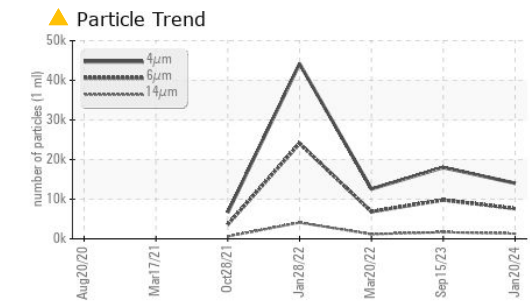
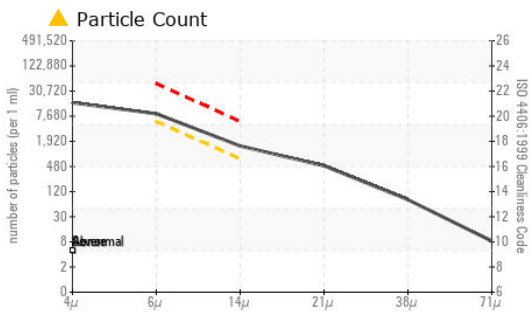
There is a moderate amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>25	12	▲ 42	▲ 47
Potassium	ppm	ASTM D5185m	>20	48	3	2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.0	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0	0.7
Nitration	Abs/cm	*ASTM D7624	>20	10.6	7.2	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	16.9	25.2
Particles >4µm		ASTM D7647		14024	18000	12578
Particles >6µm		ASTM D7647	>5000	▲ 7640	▲ 9805	▲ 6852
Particles >14µm		ASTM D7647	>640	▲ 1300	▲ 1669	▲ 1166
Particles >21µm		ASTM D7647	>160	▲ 438	▲ 562	▲ 393
Particles >38µm		ASTM D7647	>40	▲ 68	▲ 87	▲ 61
Particles >71µm		ASTM D7647	>10	▲ 7	9	6
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 20/17	▲ 20/18	▲ 20/17
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	>0.1	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		47	1	22
Boron	ppm	ASTM D5185m		8	0	286
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		12	0	107
Manganese	ppm	ASTM D5185m		0	<1	4
Magnesium	ppm	ASTM D5185m		61	7	639
Calcium	ppm	ASTM D5185m		2490	2702	1677
Phosphorus	ppm	ASTM D5185m		964	1072	897
Zinc	ppm	ASTM D5185m		1102	1319	1103
Sulfur	ppm	ASTM D5185m		3789	4019	2642
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8	10.9	22.4
Base Number (BN)	mg KOH/g	ASTM D2896		7.78	8.87	8.67
Visc @ 100°C	cSt	ASTM D445		15.2	12.8	15.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013489 **Received** : 30 Jan 2024
Lab Number : 06075011 **Diagnosed** : 02 Feb 2024
Unique Number : 10857102 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: Glycol, PrtCount)

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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