



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	ATTENTION

Area
GUAY SON [CONHER]
Machine Id
BM SONORENSE II MAIN ENGINE
Component
Bottom Diesel Engine
Fluid
RALOY 15W40 (160 LTR)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy 15W40)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014181	KL0014134	KL0013408
Sample Date		Client Info		20 Mar 2024	06 Feb 2024	14 Nov 2023
Machine Age	hrs	Client Info		12146	11664	10628
Oil Age	hrs	Client Info		348	554	780
Filter Age	hrs	Client Info		348	554	780
Oil Changed		Client Info		Not Chngd	Changed	Changed
Filter Changed		Client Info		Not Chngd	Changed	Changed
Sample Status				ATTENTION	ABNORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	8	8	8
Chromium	ppm	ASTM D5185m	>20	0	0	0
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	>25	1	1	1
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	4	7	9
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

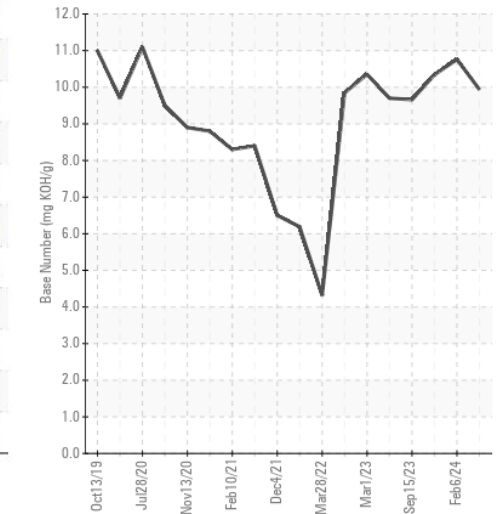
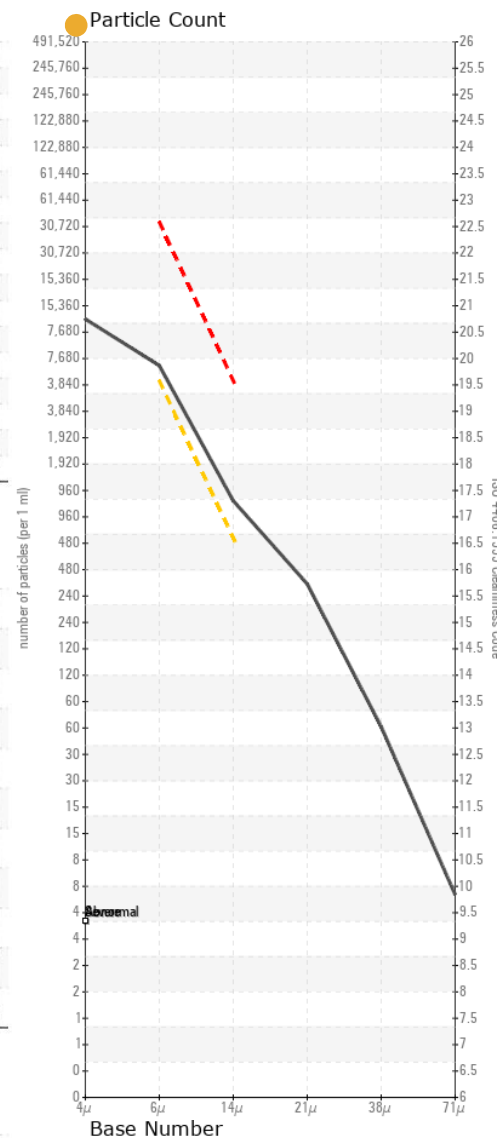
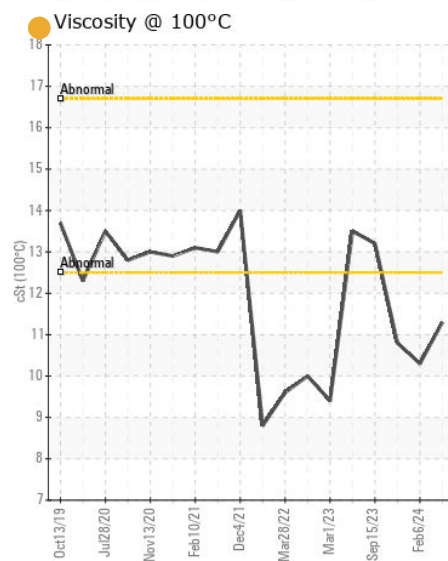
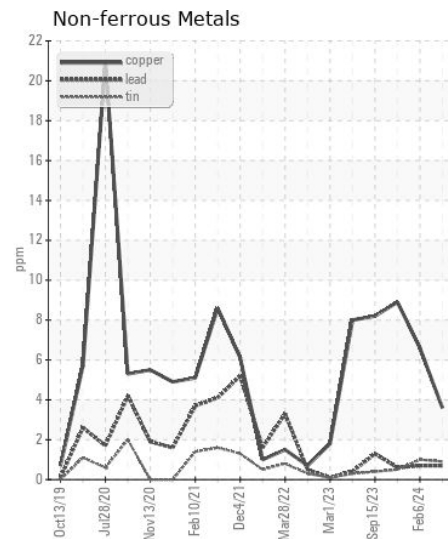
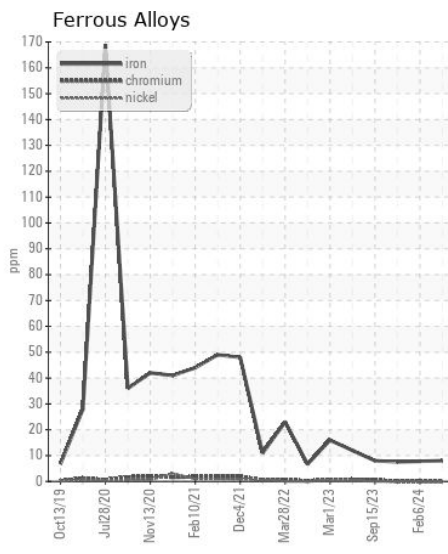
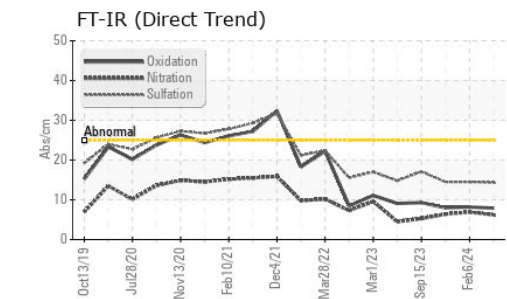
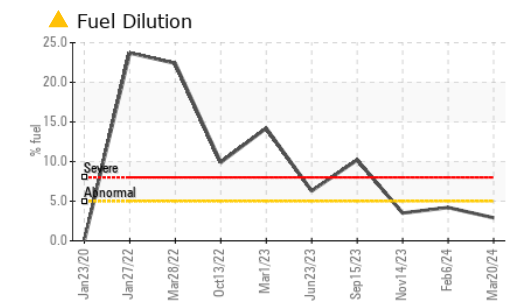
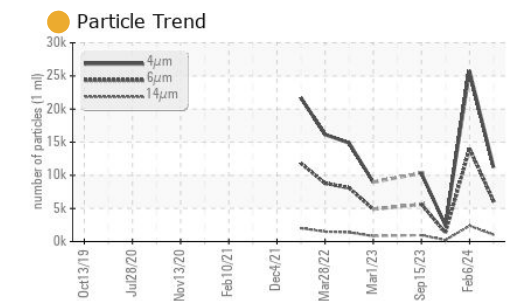
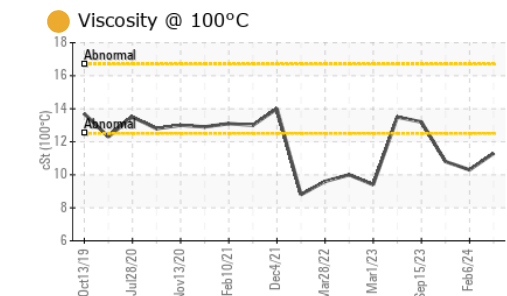
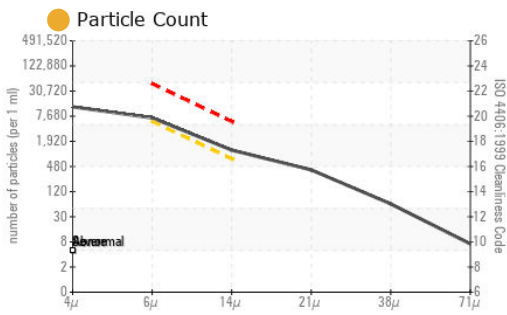
There is a moderate amount of particulates present in the oil. Light fuel dilution occurring.

Silicon	ppm	ASTM D5185m	>25	7	11	14
Potassium	ppm	ASTM D5185m	>20	<1	2	<1
Fuel	%	ASTM D3524	>5	▲ 2.9	▲ 4.2	▲ 3.5
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.2	6.9	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.3	14.5	14.5
Particles >4µm		ASTM D7647		11197	25760	2419
Particles >6µm		ASTM D7647	>5000	● 6099	▲ 14033	1318
Particles >14µm		ASTM D7647	>640	● 1038	▲ 2388	224
Particles >21µm		ASTM D7647	>160	● 350	▲ 804	76
Particles >38µm		ASTM D7647	>40	● 54	▲ 124	12
Particles >71µm		ASTM D7647	>10	6	▲ 13	1
Oil Cleanliness		ISO 4406 (c)	>19/16	● 20/17	▲ 21/18	18/15
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

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		0	<1	1
Boron	ppm	ASTM D5185m		0	1	8
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	1	4
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		7	6	16
Calcium	ppm	ASTM D5185m		2929	2533	2639
Phosphorus	ppm	ASTM D5185m		1143	1041	1202
Zinc	ppm	ASTM D5185m		1309	1242	1309
Sulfur	ppm	ASTM D5185m		4259	3037	3420
Oxidation	Abs/.1mm	*ASTM D7414	>25	7.9	8.2	8.0
Base Number (BN)	mg KOH/g	ASTM D2896		9.94	10.76	10.34
Visc @ 100°C	cSt	ASTM D445		● 11.3	▲ 10.3	● 10.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014181 **Received** : 18 Apr 2024
Lab Number : 06153323 **Tested** : 23 Apr 2024
Unique Number : 10983401 **Diagnosed** : 23 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, 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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