



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
IBACO [CONHER]
Machine Id
BM ISMAR 8 MAIN ENGINE
Component
Auxiliary Engine
Fluid
XTRA REV 15W40 (8 LTR)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013483	KL0012880	KL0011415
Sample Date		Client Info		18 Jan 2024	20 Sep 2023	06 Apr 2023
Machine Age	hrs	Client Info		0	15718	15618
Oil Age	hrs	Client Info		185	100	240
Filter Age	hrs	Client Info		185	100	240
Oil Changed		Client Info		Changed	Changed	Not Chngd
Filter Changed		Client Info		Changed	Changed	Not Chngd
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	70	8	25
Chromium	ppm	ASTM D5185m	>20	3	<1	<1
Nickel	ppm	ASTM D5185m	>2	2	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	<1
Lead	ppm	ASTM D5185m	>40	<1	1	1
Copper	ppm	ASTM D5185m	>330	3	2	1
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

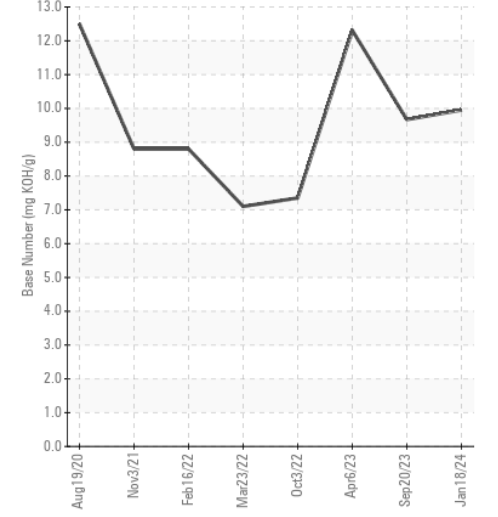
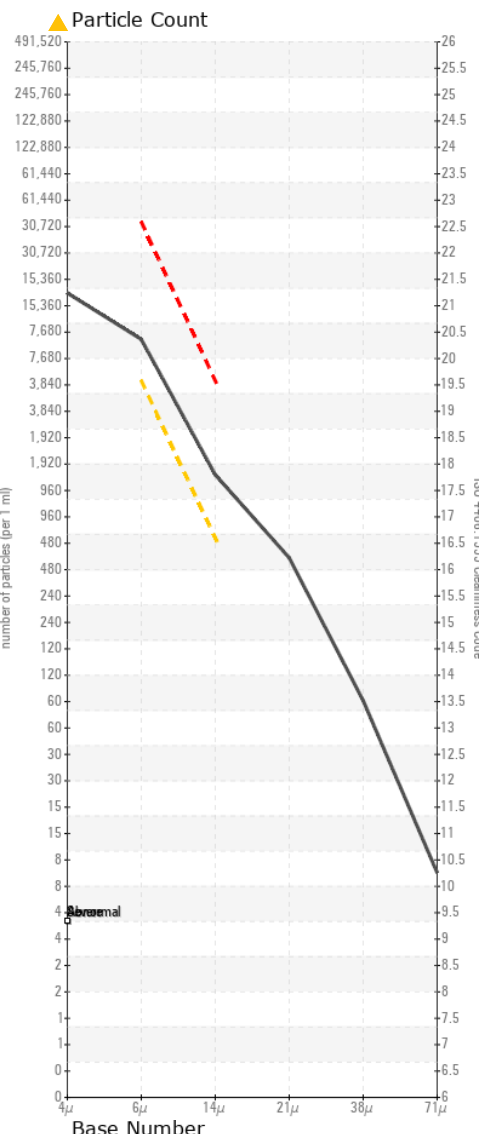
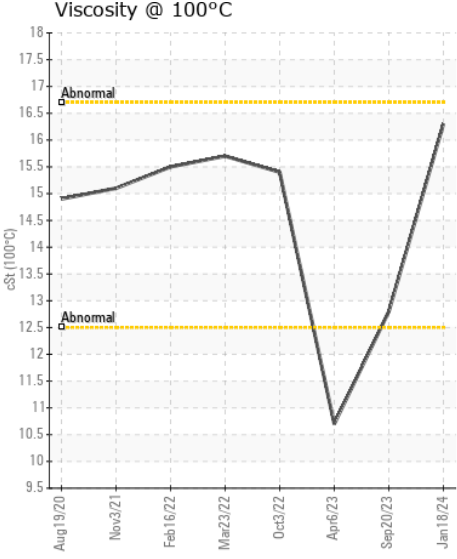
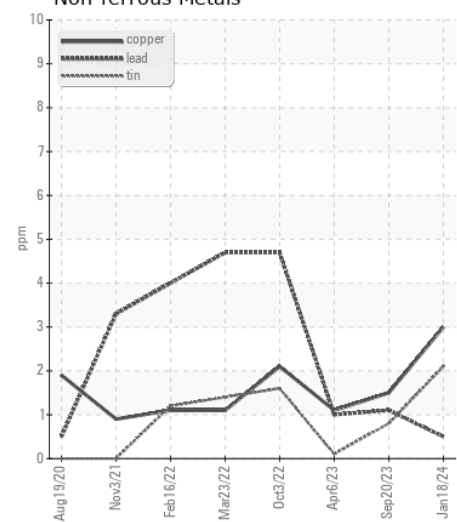
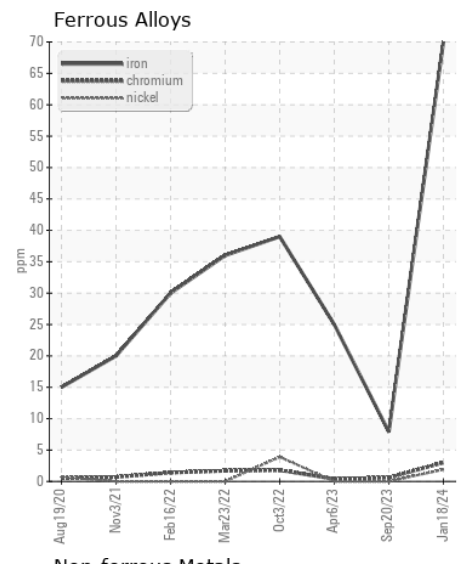
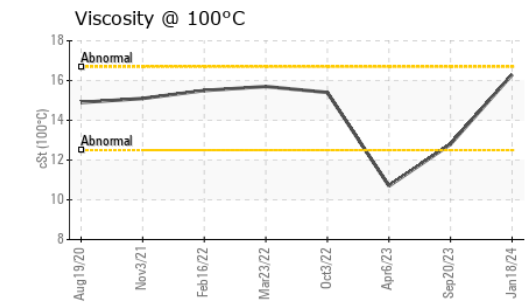
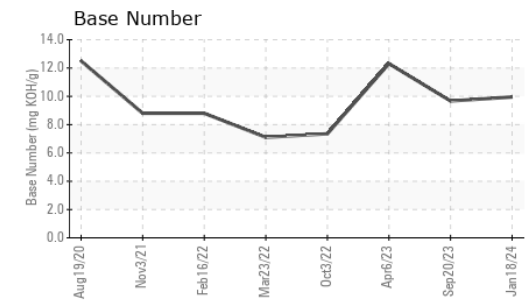
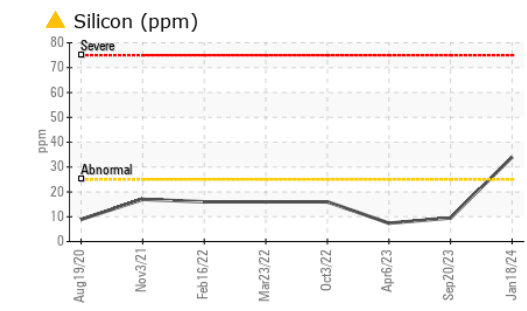
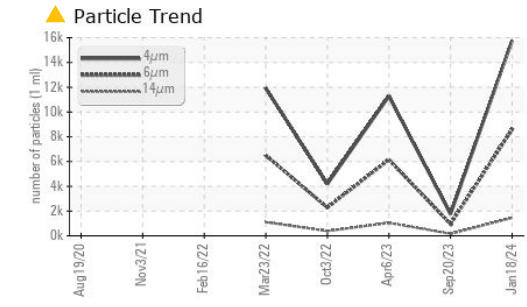
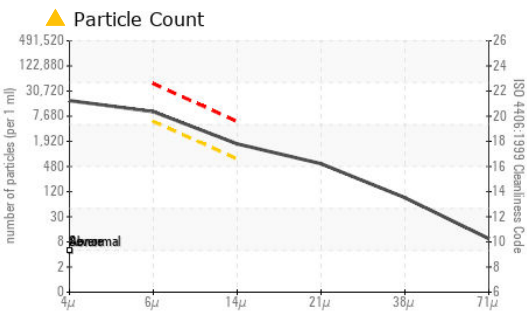
There is a high amount of particulates present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>25	▲ 34	10	7
Potassium	ppm	ASTM D5185m	>20	6	<1	3
Fuel		WC Method	>4.0	<1.0	1.3	▲ 7.2
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0	0.2
Nitration	Abs/cm	*ASTM D7624	>20	4.3	6.1	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.3	13.8	19.2
Particles >4µm		ASTM D7647		15764	1757	11275
Particles >6µm		ASTM D7647	>5000	▲ 8587	957	▲ 6142
Particles >14µm		ASTM D7647	>640	▲ 1461	163	▲ 1045
Particles >21µm		ASTM D7647	>160	▲ 492	55	▲ 352
Particles >38µm		ASTM D7647	>40	▲ 76	8	▲ 54
Particles >71µm		ASTM D7647	>10	8	1	6
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 20/18	17/15	▲ 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		6	<1	1
Boron	ppm	ASTM D5185m		<1	0	4
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	3
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		11	6	19
Calcium	ppm	ASTM D5185m		3823	2674	3185
Phosphorus	ppm	ASTM D5185m		1263	1102	1203
Zinc	ppm	ASTM D5185m		1118	1367	1602
Sulfur	ppm	ASTM D5185m		8829	3655	3757
Oxidation	Abs/.1mm	*ASTM D7414	>25	5.8	8.2	17.7
Base Number (BN)	mg KOH/g	ASTM D2896		9.95	9.67	12.31
Visc @ 100°C	cSt	ASTM D445		16.3	12.8	▲ 10.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013483 **Received** : 30 Jan 2024
Lab Number : 06075012 **Diagnosed** : 02 Feb 2024
Unique Number : 10857103 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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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)