MOB II

TULCO OILS 006 - National Division

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
GOLDEN BEAR
Machine Id
MRC-271
Component
Natural Gas Engine
Fluid
TULCO LUBSOIL GEO XL LOW ASH 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

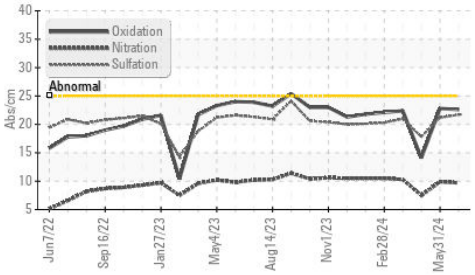
There is no indication of any contamination in the oil.

FLUID CONDITION

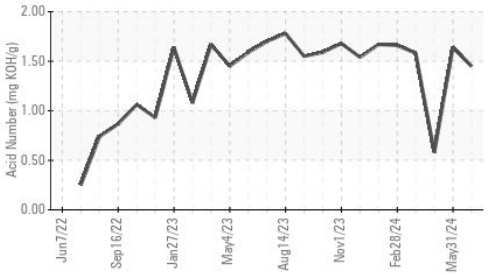
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO60002284	TO60002267	TO60002463
Sample Date		Client Info		02 Jul 2024	31 May 2024	07 May 2024
Machine Age	hrs	Client Info		18078	17318	16743
Oil Age	hrs	Client Info		0	1	1
Filter Age	hrs	Client Info		0	1	1
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	7	8	3
Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	2	0
Lead	ppm	ASTM D5185m	>30	13	19	0
Copper	ppm	ASTM D5185m	>35	7	12	<1
Tin	ppm	ASTM D5185m	>4	<1	2	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>+100	2	4	1
Potassium	ppm	ASTM D5185m	>20	4	7	0
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	9.7	9.9	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	21.2	17.8
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
Sodium	ppm	ASTM D5185m		8	10	4
Boron	ppm	ASTM D5185m	100	40	55	41
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	1	1	4	0
Manganese	ppm	ASTM D5185m		0	2	<1
Magnesium	ppm	ASTM D5185m	10	9	11	7
Calcium	ppm	ASTM D5185m	1150	1398	1608	1365
Phosphorus	ppm	ASTM D5185m	290	303	330	286
Zinc	ppm	ASTM D5185m	272	377	399	343
Sulfur	ppm	ASTM D5185m	1900	2973	3726	3416
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.6	22.8	14.1
Acid Number (AN)	mg KOH/g	ASTM D8045		1.45	1.64	0.58
Base Number (BN)	mg KOH/g	ASTM D2896	4.2	3.21	3.15	4.01
Visc @ 40°C	cSt	ASTM D445	122	155	157	143
Visc @ 100°C	cSt	ASTM D445	13	15.0	15.1	14.2
Viscosity Index (VI)	Scale	ASTM D2270	103	96	96	96

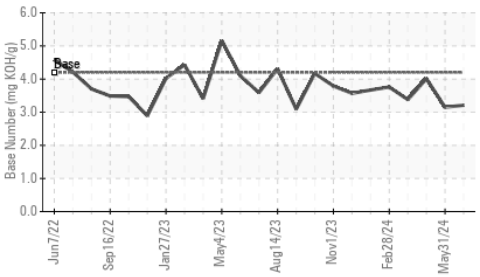
FT-IR (Direct Trend)



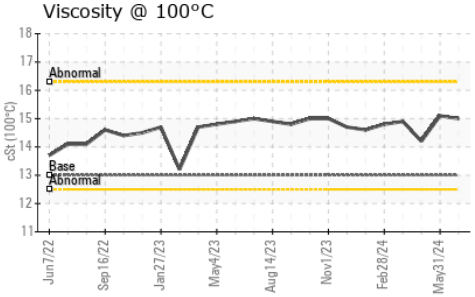
Acid Number



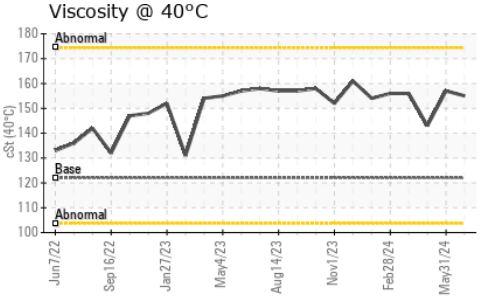
Base Number



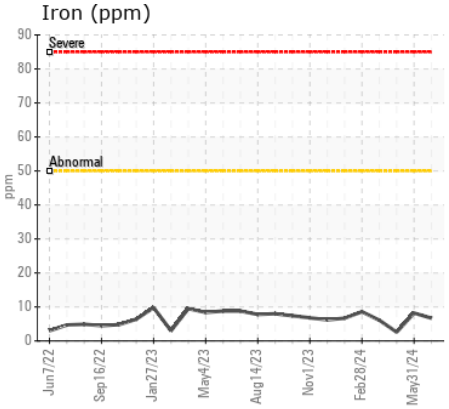
Viscosity @ 100°C



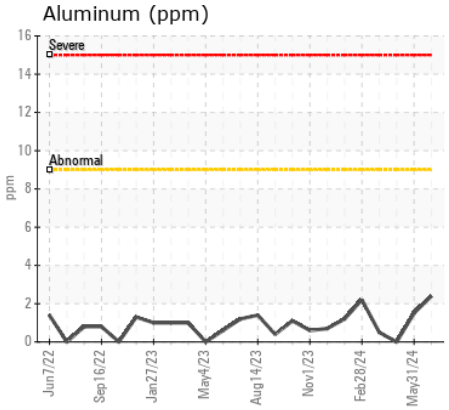
Viscosity @ 40°C



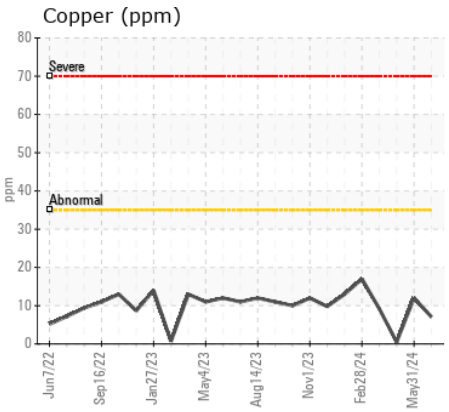
Iron (ppm)



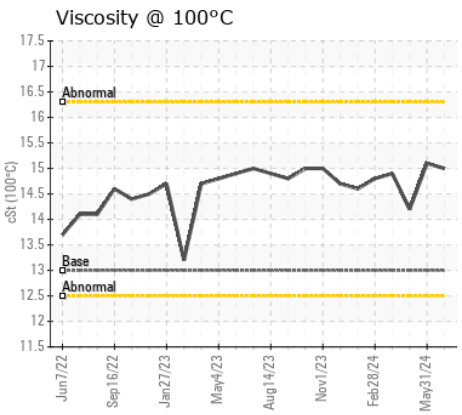
Aluminum (ppm)



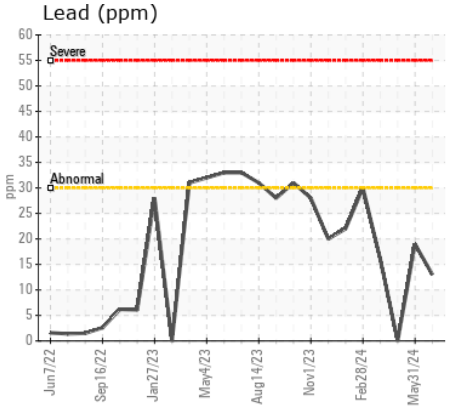
Copper (ppm)



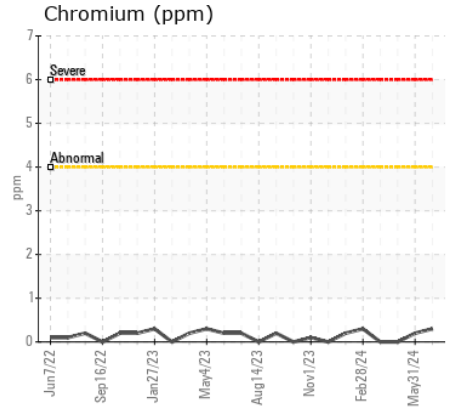
Viscosity @ 100°C



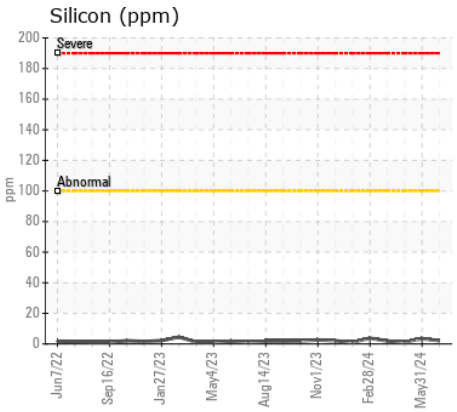
Lead (ppm)



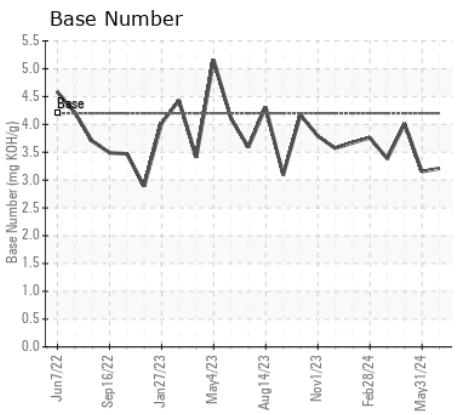
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60002284
Lab Number : 06238552
Unique Number : 11127386
Test Package : MOB 2 (Additional Tests: KV40, VI)

Received : 16 Jul 2024
Tested : 17 Jul 2024
Diagnosed : 17 Jul 2024 - Wes Davis

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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