



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MRC-298
 Component
Natural Gas Engine
 Fluid
TULCO LUBSOIL GEO XL LOW ASH 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO60002324	TO60002116	TO60001961
Sample Date		Client Info		01 Apr 2024	01 Mar 2024	05 Jan 2024
Machine Age	hrs	Client Info		9485	8723	7619
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	6	4	5
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	2	<1
Lead	ppm	ASTM D5185m	>30	18	18	15
Copper	ppm	ASTM D5185m	>35	3	2	2
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

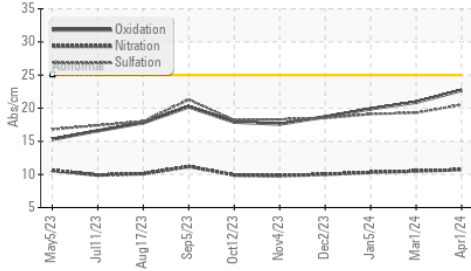
Silicon	ppm	ASTM D5185m	>+100	2	2	2
Potassium	ppm	ASTM D5185m	>20	0	2	1
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0	0
Nitration	Abs/cm	*ASTM D7624	>20	10.7	10.5	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.5	19.3	19.1
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	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

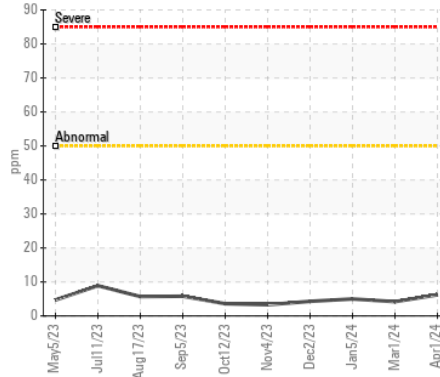
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	1	3
Boron	ppm	ASTM D5185m	100	77	81	81
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	1	1	1	2
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	10	14	16	21
Calcium	ppm	ASTM D5185m	1150	1445	1380	1402
Phosphorus	ppm	ASTM D5185m	290	281	292	286
Zinc	ppm	ASTM D5185m	272	313	354	327
Sulfur	ppm	ASTM D5185m	1900	2375	2166	1676
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.7	20.9	19.9
Acid Number (AN)	mg KOH/g	ASTM D8045		1.96	1.76	1.58
Base Number (BN)	mg KOH/g	ASTM D2896	4.2	3.11	3.77	3.81
Visc @ 40°C	cSt	ASTM D445	122	156	153	153
Visc @ 100°C	cSt	ASTM D445	13	14.8	14.6	14.5
Viscosity Index (VI)	Scale	ASTM D2270	103	93	93	92

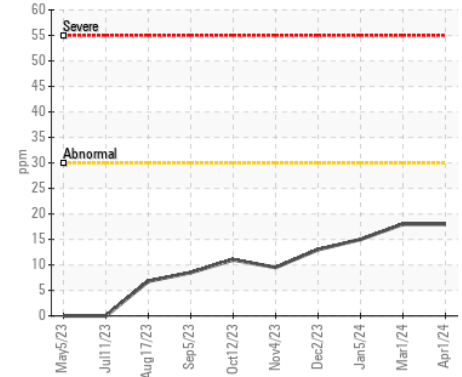
FT-IR (Direct Trend)



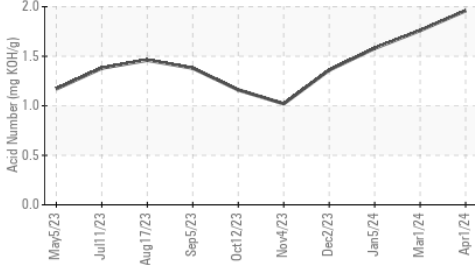
Iron (ppm)



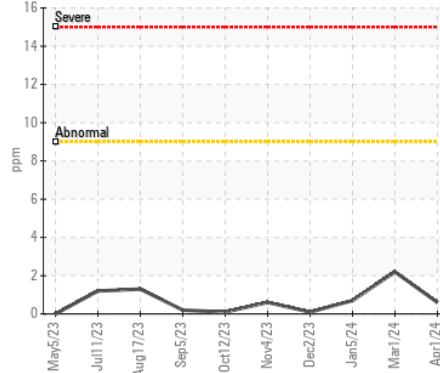
Lead (ppm)



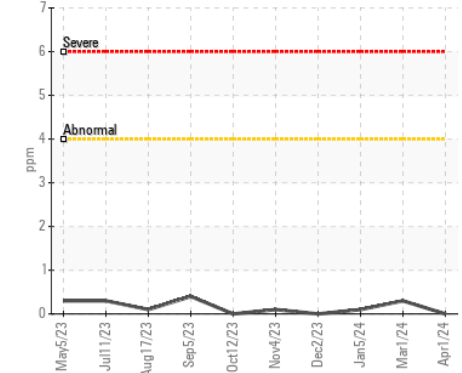
Acid Number



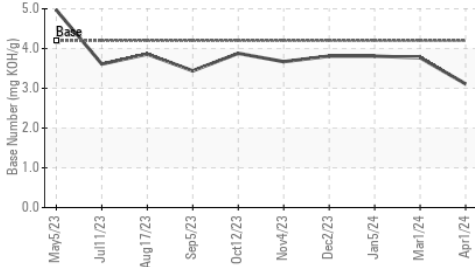
Aluminum (ppm)



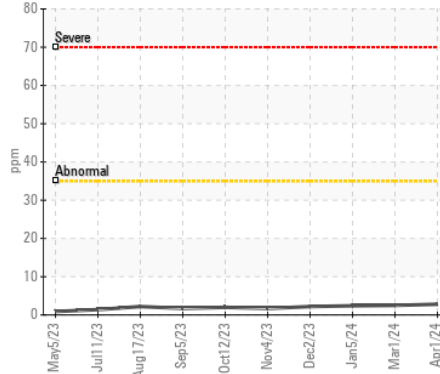
Chromium (ppm)



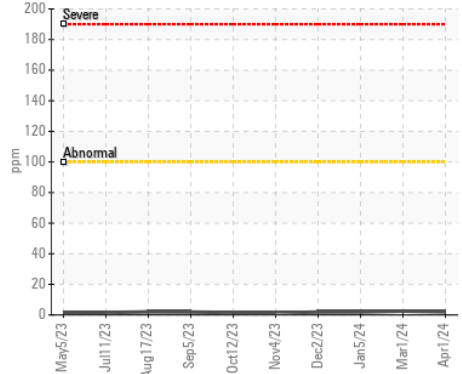
Base Number



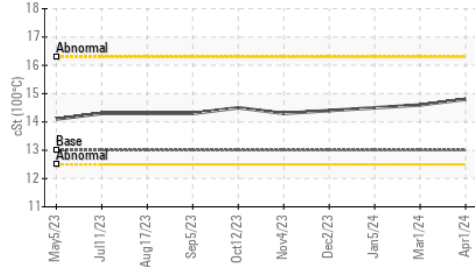
Copper (ppm)



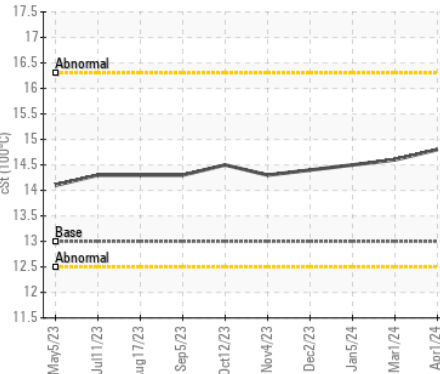
Silicon (ppm)



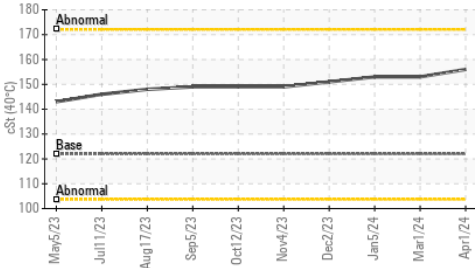
Viscosity @ 100°C



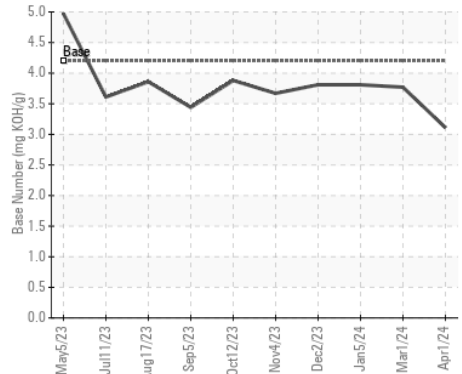
Viscosity @ 100°C



Viscosity @ 40°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TO60002324

Lab Number : 06154631

Unique Number : 10990054

Test Package : MOB 2 (Additional Tests: KV40, VI)

Received : 19 Apr 2024

Tested : 23 Apr 2024

Diagnosed : 23 Apr 2024 - Wes Davis

MIDLAND - EOG RESOURCES INC.

5509 CHAMPIONS DRIVE

MIDLAND, TX

US 79706

Contact: HERMAN GARZA

herman_garza@eogresources.com

T: (432)686-3600

F:

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)