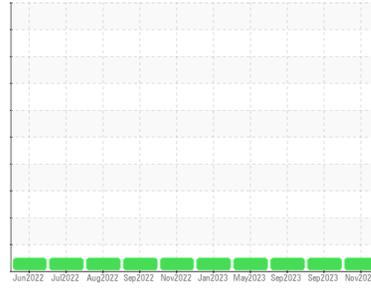


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
JAL NM
Machine Id
MRC-284

Component
Natural Gas Engine

Fluid
TULCO LUBSOIL GEO XL LOW ASH 40 (--- GAL)

DIAGNOSIS

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		TO60001638	TO60001458	TO60001460
Sample Date	Client Info		01 Nov 2023	30 Sep 2023	06 Sep 2023
Machine Age	hrs	Client Info	13348	12585	13017
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	Not Changed	Not Changed
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	6	6	5
Chromium	ppm	ASTM D5185m >4	0	0	<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	<1	0
Lead	ppm	ASTM D5185m >30	0	2	0
Copper	ppm	ASTM D5185m >35	<1	<1	<1
Tin	ppm	ASTM D5185m >4	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 100	80	86	96
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m 1	0	<1	0
Manganese	ppm	ASTM D5185m	<1	0	<1
Magnesium	ppm	ASTM D5185m 10	11	0	14
Calcium	ppm	ASTM D5185m 1150	1215	1406	1323
Phosphorus	ppm	ASTM D5185m 290	191	287	277
Zinc	ppm	ASTM D5185m 272	282	362	299
Sulfur	ppm	ASTM D5185m 1900	1114	1412	1420

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	2	2	2
Sodium	ppm	ASTM D5185m	4	3	4
Potassium	ppm	ASTM D5185m >20	0	2	1

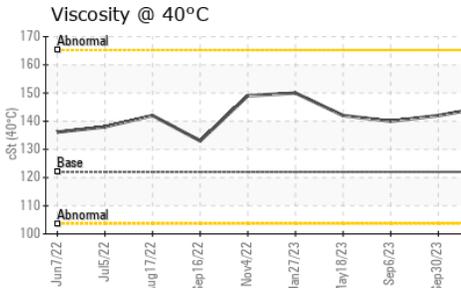
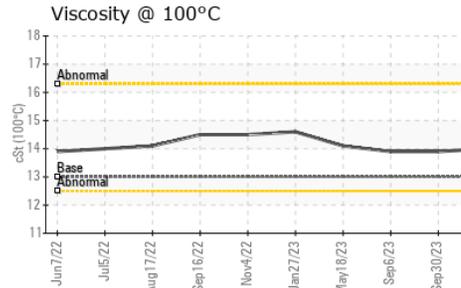
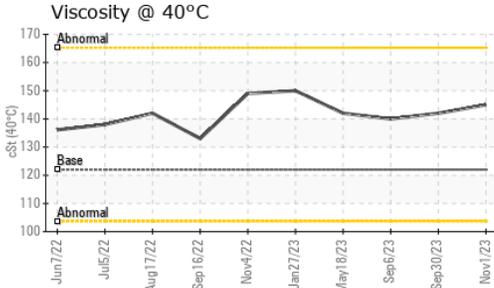
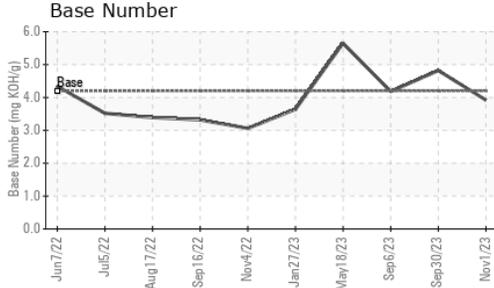
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0	0	0
Nitration	Abs/cm	*ASTM D7624 >20	9.5	9.1	9.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	16.2	15.2	17.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.8	12.0	13.0
Acid Number (AN)	mg KOH/g	ASTM D8045	1.08	1.16	0.84
Base Number (BN)	mg KOH/g	ASTM D2896 4.2	3.92	4.82	4.18

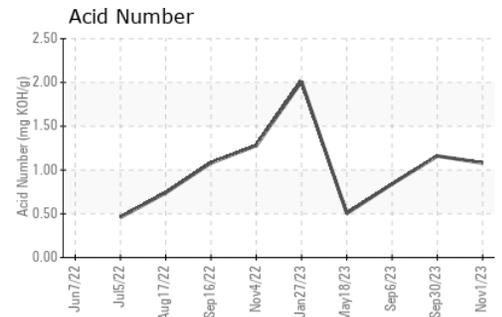
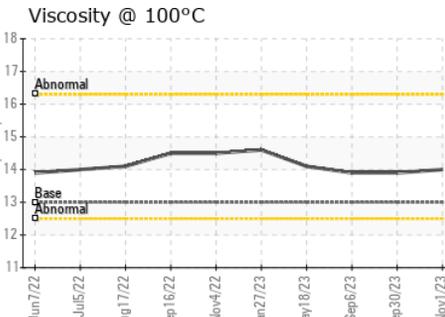
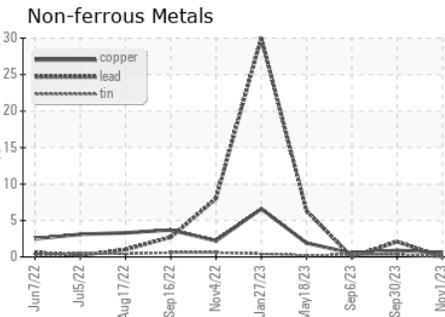
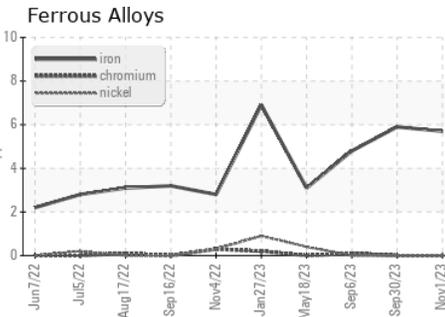
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	122	145	142	140
Visc @ 100°C	cSt	ASTM D445	13	14.0	13.9	13.9
Viscosity Index (VI)	Scale	ASTM D2270	103	92	93	95

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60001638 **Received** : 15 Nov 2023
Lab Number : 06008530 **Diagnosed** : 17 Nov 2023
Unique Number : 10742292 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: FT-IR, KV40, VI)

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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