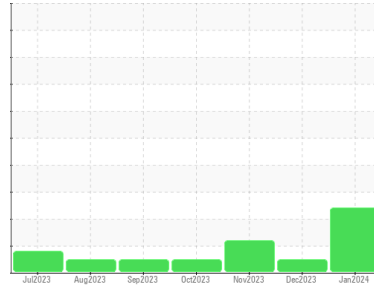


# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**MRC-319**  
 Component  
**Compressor**  
 Fluid  
**TULCO LUBSOIL LPG WS 150 (--- GAL)**

## DIAGNOSIS

**Recommendation**  
 No corrective action is recommended at this time. Resample at the next service interval to monitor.

**Wear**  
 All component wear rates are normal.

**Contamination**  
 There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal.

**Fluid Condition**  
 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	<b>TO60001966</b>	TO60001927	TO60001733
Sample Date	Client Info	<b>10 Jan 2024</b>	02 Dec 2023	04 Nov 2023
Machine Age	hrs	<b>4117</b>	3602	3259
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	Not Chngd	N/A
Sample Status		<b>ABNORMAL</b>	NORMAL	ATTENTION

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >50	<b>2</b>	0	1
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>2</b>	<1	<1
Lead	ppm	ASTM D5185m >25	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>104</b>	105	97
Barium	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	<1
Manganese	ppm	ASTM D5185m	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m 0	<b>10</b>	9	8
Calcium	ppm	ASTM D5185m 0	<b>1199</b>	1227	1280
Phosphorus	ppm	ASTM D5185m 0	<b>317</b>	270	318
Zinc	ppm	ASTM D5185m 0	<b>280</b>	300	336
Sulfur	ppm	ASTM D5185m 0	<b>2796</b>	2571	2696

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>▲ 30</b>	4	8
Sodium	ppm	ASTM D5185m	<b>4</b>	2	4
Potassium	ppm	ASTM D5185m >20	<b>2</b>	2	1
Water	%	ASTM D6304 >2.26	<b>0.004</b>	0.009	0.017
ppm Water	ppm	ASTM D6304 >22600	<b>48</b>	100	174.1

## FLUID CLEANLINESS

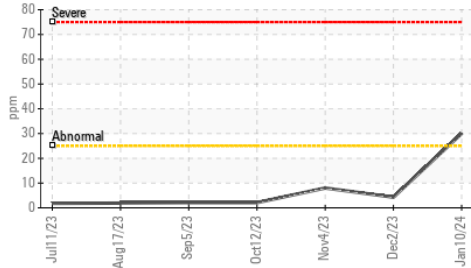
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	<b>▲ 12324</b>	2154	▲ 15090
Particles >6µm	ASTM D7647 >1300	<b>734</b>	633	▲ 3045
Particles >14µm	ASTM D7647 >320	<b>18</b>	24	106
Particles >21µm	ASTM D7647 >80	<b>5</b>	4	11
Particles >38µm	ASTM D7647 >20	<b>0</b>	0	0
Particles >71µm	ASTM D7647 >4	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >20/17/15	<b>▲ 21/17/11</b>	18/16/12	▲ 21/19/14

## FLUID DEGRADATION

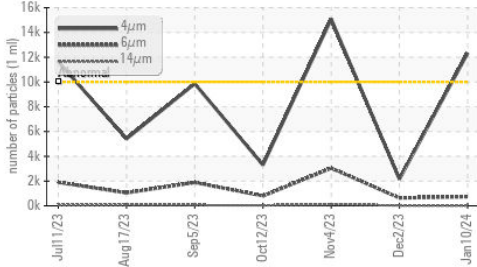
method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.36</b>	1.40	0.68

# OIL ANALYSIS REPORT

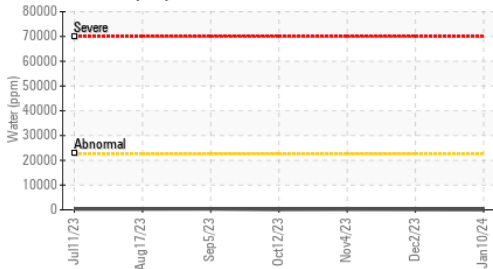
## ▲ Silicon (ppm)



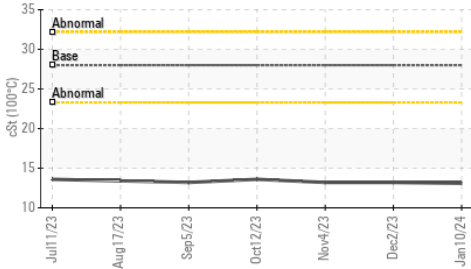
## ▲ Particle Trend



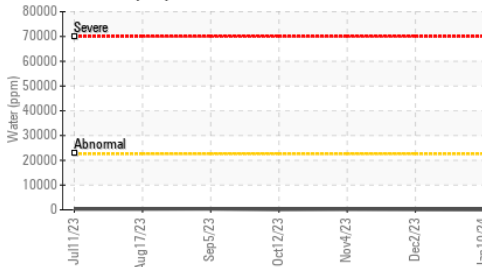
## Water (KF)



## Viscosity @ 100°C



## Water (KF)



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	>2.26	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	151	126	127
Visc @ 100°C	cSt	ASTM D445	28	13.1	13.2
Viscosity Index (VI)	Scale	ASTM D2270	224	97	96

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

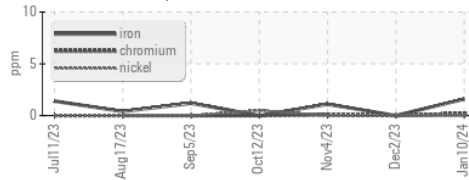


Bottom

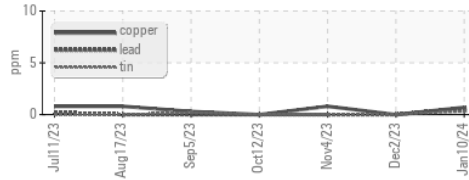


## GRAPHS

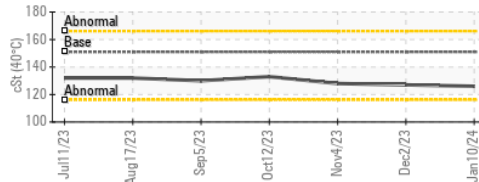
### Ferrous Alloys



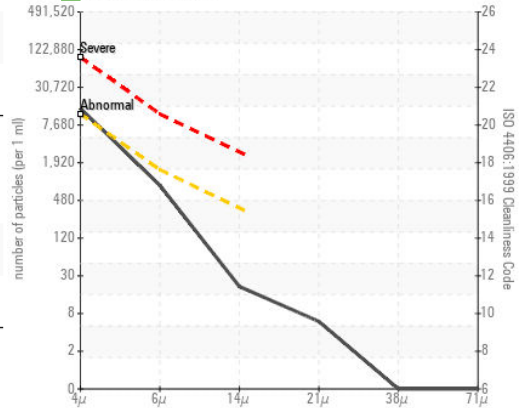
### Non-ferrous Metals



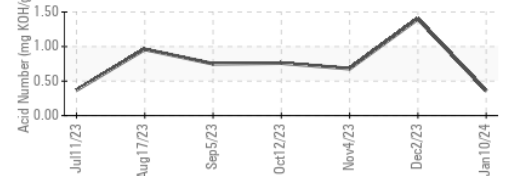
### Viscosity @ 40°C



### ▲ Particle Count



### Acid Number



Certificate L2367

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

Sample No. : TO60001966

Lab Number : 06065056

Unique Number : 10836438

Test Package : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

Received : 18 Jan 2024

Tested : 22 Jan 2024

Diagnosed : 22 Jan 2024 - Don Baldrige

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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