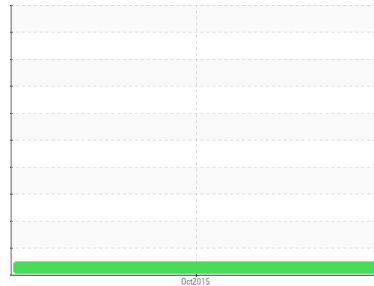


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
TULSA DIVISION - TO1
Machine Id
LUBSOIL SUP HYD AW 46 - ANCHOR STONE TANK
Component
New (Unused) Oil
Fluid
TULCO LUBSOIL SUPER HYDRAULIC AW 46 (--- QTS)

DIAGNOSIS

Recommendation

This is a baseline read-out on the submitted sample.

Contamination

The water content is negligible. There is no indication of any contamination in the component.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			TO1005088	---	---
Sample Date	Client Info			06 Oct 2015	---	---
Machine Age	mls	Client Info		0	---	---
Oil Age	mls	Client Info		0	---	---
Oil Changed	Client Info			N/A	---	---
Sample Status				NORMAL	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>10	0	---	---
Chromium	ppm	ASTM D5185m	>10	0	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>10	0	---	---
Lead	ppm	ASTM D5185m	>10	0	---	---
Copper	ppm	ASTM D5185m	>50	0	---	---
Tin	ppm	ASTM D5185m	>10	0	---	---
Antimony	ppm	ASTM D5185m		0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
Cadmium	ppm	ASTM D5185m		0	---	---

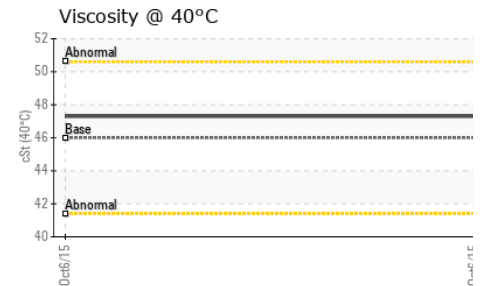
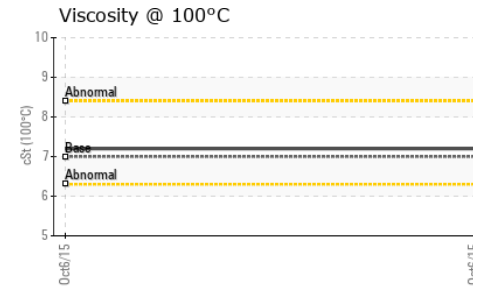
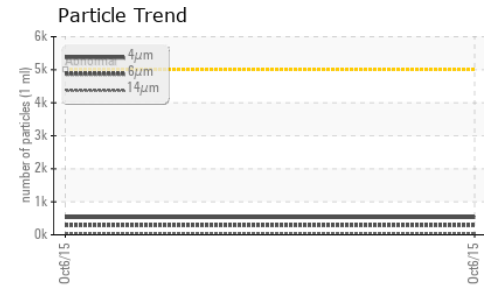
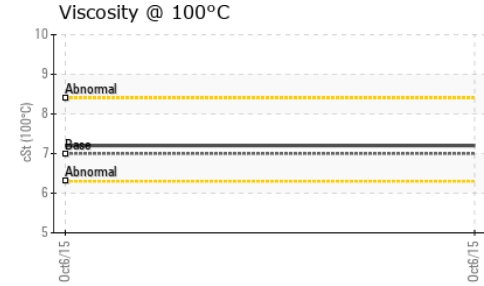
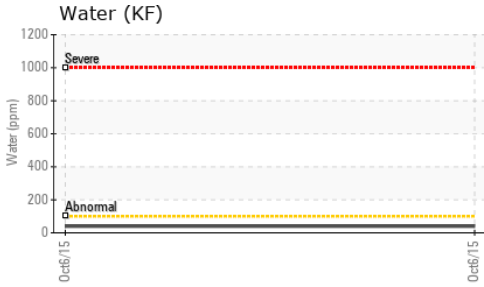
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		0	---	---
Manganese	ppm	ASTM D5185m		0	---	---
Magnesium	ppm	ASTM D5185m		<1	---	---
Calcium	ppm	ASTM D5185m		171	---	---
Phosphorus	ppm	ASTM D5185m	450	406	---	---
Zinc	ppm	ASTM D5185m	540	489	---	---
Sulfur	ppm	ASTM D5185m	1825	1710	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	1	---	---
Sodium	ppm	ASTM D5185m		0	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Water	%	ASTM D6304		0.004	---	---
ppm Water	ppm	ASTM D6304		40	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	531	---	---
Particles >6µm		ASTM D7647	>1300	289	---	---
Particles >14µm		ASTM D7647	>160	49	---	---
Particles >21µm		ASTM D7647	>40	16	---	---
Particles >38µm		ASTM D7647	>10	2	---	---
Particles >71µm		ASTM D7647	>3	0	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/15/13	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	.7	0.596	---	---

OIL ANALYSIS REPORT

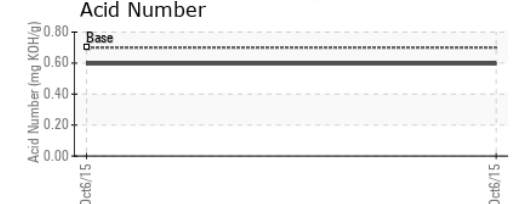
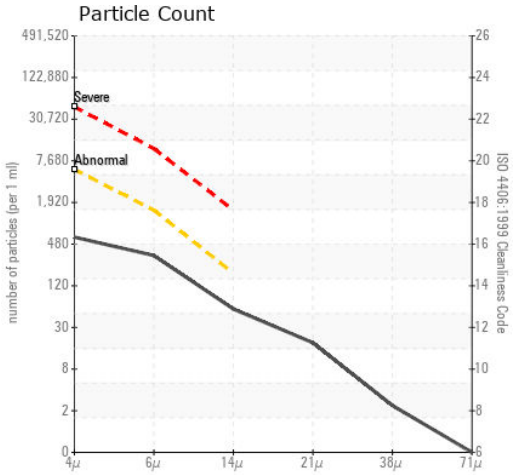
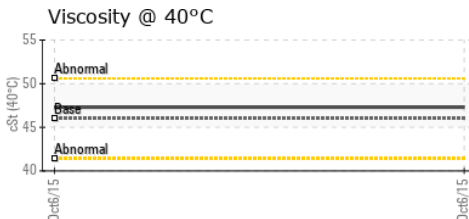
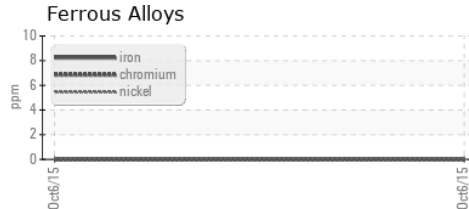


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	47.3	---
Visc @ 100°C	cSt	ASTM D445	7	7.2	---
Viscosity Index (VI)	Scale	ASTM D2270	109	111	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS



Certificate L2367

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

Sample No. : TO1005088

Lab Number : 03838319

Unique Number : 7163515

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

Received : 07 Oct 2015

Tested : 08 Oct 2015

Diagnosed : 08 Oct 2015 - Doug Bogart

TULCO OILS INC CORPORATE - BASELINE SAMPLES

5240 EAST PINE

TULSA, OK

US 74115

Contact: DARRYL THOMPSON

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)

T:

F: