

LIEBHERR

CONSTRUCTION EQUIPMENT



054454-194 - Hydraulic System

Sample No: LHMC130519

Oil Type: TDH FLUID SAE 70W80



UNITED STATES GYPSUM
 301 RILEY RD
 EAST CHICAGO, IN
 US 43612
 Contact: Service Manager



SAMPLE INFORMATION

Sample Number	LHMC130519	LHMC96953	LHMC72745	LHMC73531
Sample Date	09 Jan 2020	26 Apr 2018	08 Feb 2017	16 May 2016
Machine Hours	3409	2587	1682	986
Oil Hours	3409	0	0	0
Oil Changed	Not Chngd	Not Chngd	Not Chngd	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 40°C	cSt	38.6	36.39	36.73	38.99
Acid Number (AN)	mg KOH/g	1.139	1.146	1.93	0.835



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles 5-15µm	count	---	---	36225	---
Particles 15-25µm	count	---	---	3007	---
Particles 25-50µm	count	---	---	1298	---
Particles 50-100µm	count	---	---	33	---
Particles >100µm	count	---	---	0	---
NAS Code		---	---	8	---
Particles >4µm		11036	8347	3622	5472
Particles >6µm		1976	1031	420	939
Particles >14µm		80	55	44	106
ISO 4406:1999 (c)		21/18/13	20/17/13	19/16/13	20/17/14
Silicon	ppm	3	3	4	2
Sodium	ppm	4	4	4	5
Potassium	ppm	<1	1	2	2



WEAR METALS

Iron	ppm	9	6	5	6
Copper	ppm	16	15	7	9
Lead	ppm	2	2	<1	<1
Tin	ppm	<1	0	0	0
Aluminum	ppm	<1	<1	<1	<1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	<1	<1	<1	0
Nickel	ppm	<1	0	<1	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	2027	2468	2437	1257
Magnesium	ppm	8	7	12	7
Zinc	ppm	899	1033	989	696
Phosphorus	ppm	782	846	910	558
Barium	ppm	0	0	<1	0
Boron	ppm	2	3	2	<1

T:
F:

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

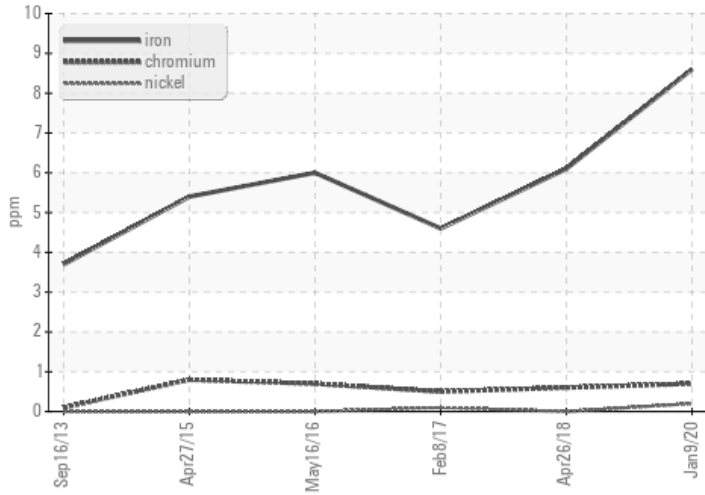
Depot: UNIEASLH
 Unique No: 8883193
 Signed: Doug Bogart
 Report Date: 16 Jan 2020

Contact/Location: Service Manager - UNIEASLH

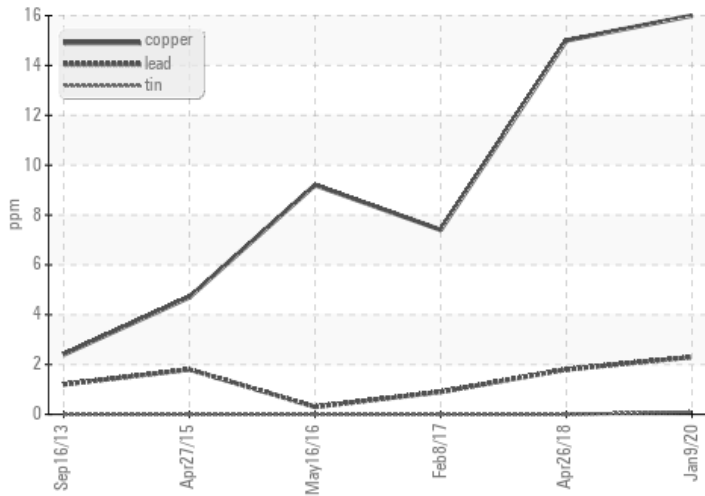


GRAPHS

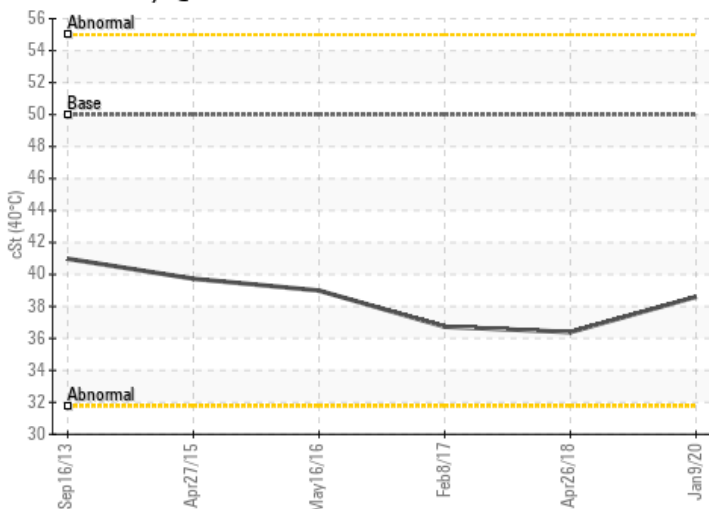
Ferrous Alloys



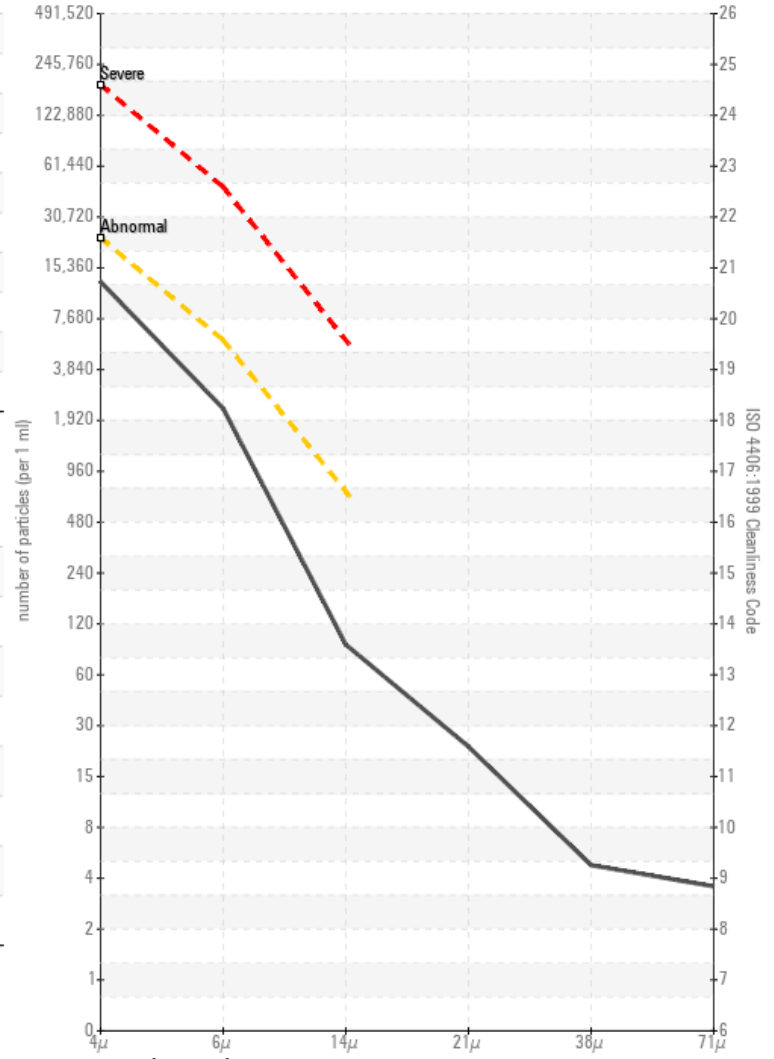
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

