



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Area
TPR-Houston Port
 Machine Id
513177 LIEBHERR 118831
 Component
Swing Drive
 Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

Excessive free water present. There is a moderate concentration of water present in the oil.

FLUID CONDITION

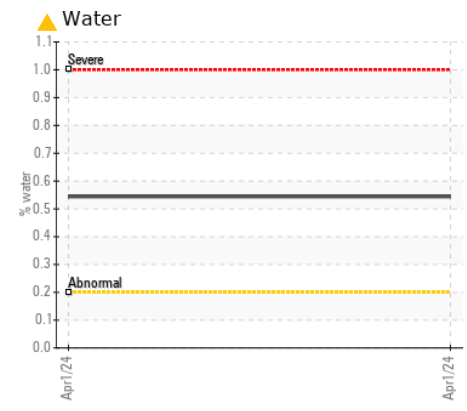
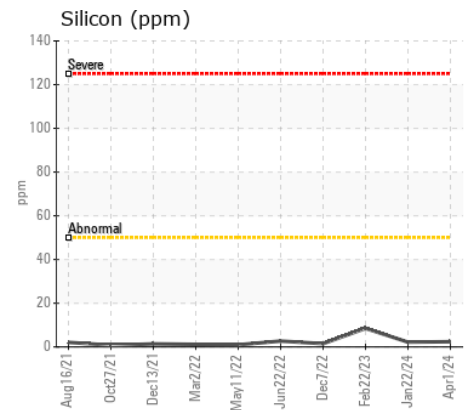
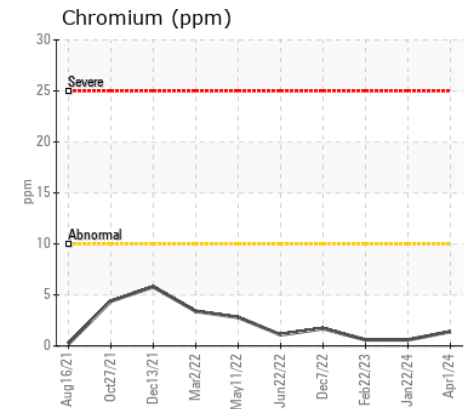
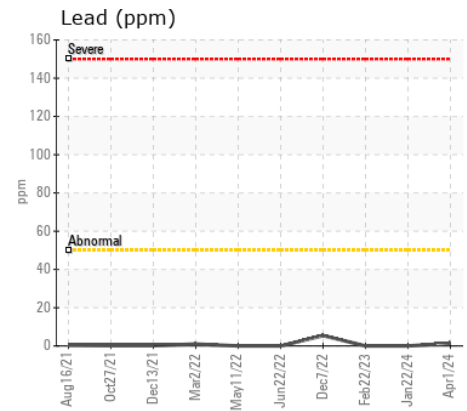
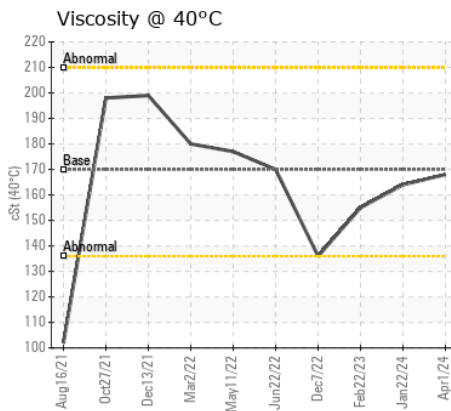
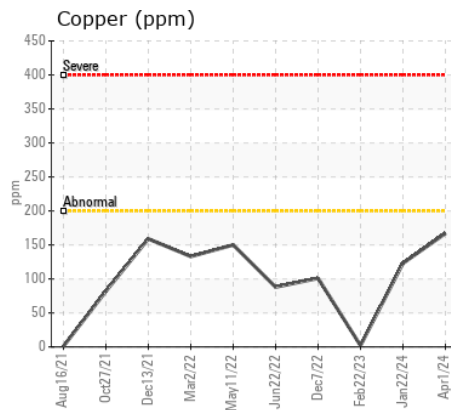
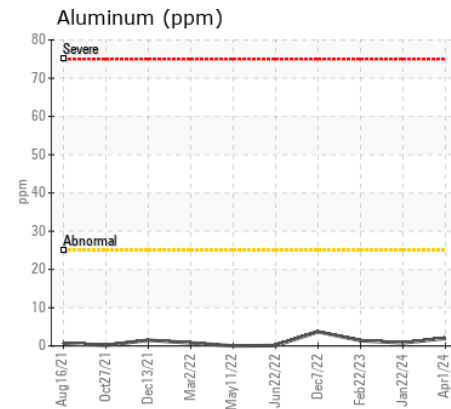
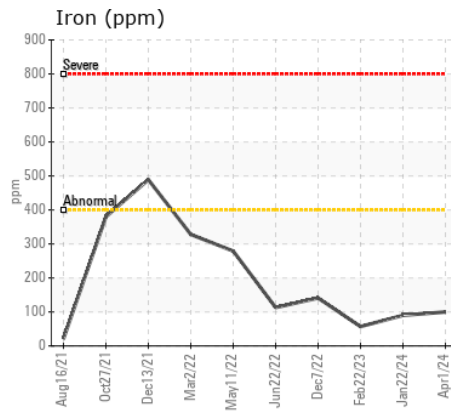
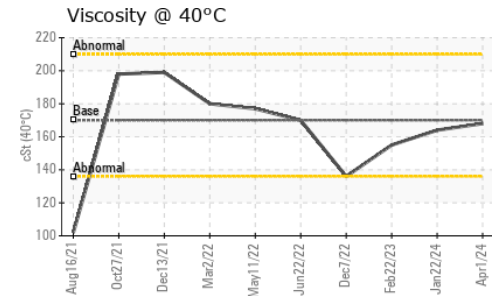
The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0023424	DJJ0018803	DJJ0018857
Sample Date		Client Info		01 Apr 2024	22 Jan 2024	22 Feb 2023
Machine Age	hrs	Client Info		10682	10024	8372
Oil Age	hrs	Client Info		500	0	0
Filter Age	hrs	Client Info		500	0	0
Oil Changed		Client Info		Not Changd	N/A	Changed
Filter Changed		Client Info		Not Changd	N/A	Changed
Sample Status				SEVERE	NORMAL	NORMAL

Iron	ppm	ASTM D5185m	>400	100	90	57
Chromium	ppm	ASTM D5185m	>10	1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	<1	1
Lead	ppm	ASTM D5185m	>50	1	0	0
Copper	ppm	ASTM D5185m	>200	167	123	2
Tin	ppm	ASTM D5185m	>10	7	6	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>50	2	2	8
Potassium	ppm	ASTM D5185m	>20	1	1	0
Water	%	ASTM D6304	>0.2	▲ 0.544	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ 5440	---	---
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	>0.2	0.2%	NEG	NEG

Sodium	ppm	ASTM D5185m		<1	1	2
Boron	ppm	ASTM D5185m	0	43	63	28
Barium	ppm	ASTM D5185m	0	2	0	0
Molybdenum	ppm	ASTM D5185m	0	1	0	<1
Manganese	ppm	ASTM D5185m	0	2	1	<1
Magnesium	ppm	ASTM D5185m	<1	27	48	4
Calcium	ppm	ASTM D5185m	<1	69	87	45
Phosphorus	ppm	ASTM D5185m	2143	2046	1980	1866
Zinc	ppm	ASTM D5185m	<1	58	53	66
Sulfur	ppm	ASTM D5185m	23468	28858	24617	27674
Visc @ 40°C	cSt	ASTM D445	170	168	164	155



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0023424
Lab Number : 06153466
Unique Number : 10983544
Test Package : MOBCE (Additional Tests: KF)

TEXAS PORT RECYCLING - HOUSTON PORT
 8945 MANCHESTER ST
 HOUSTON, TX
 US 77012
 Contact: Dale Shaw
 dale.shaw@tmrecycling.com

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: (713)921-5545