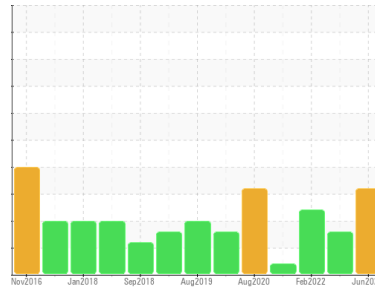




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
KAESER BSD 60 5044905 (S/N 2517)
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. We were unable to perform a particle count due to a high concentration of particles present in this sample. We recommend an early resample in 500 hours to monitor this condition.

Wear

The iron level is marginal. All other component wear rates are normal.

Contamination

There is a moderate amount of visible silt present in the sample. There is a moderate concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KCPA020562	KCP49389	KCP43892
Sample Date	Client Info		26 Jun 2024	24 Aug 2022	24 Feb 2022
Machine Age	hrs	Client Info	37103	30464	27936
Oil Age	hrs	Client Info	0	569	900
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	▲ 48	5	● 37
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m >3	0	0	0
Titanium	ppm	ASTM D5185m >3	0	0	0
Silver	ppm	ASTM D5185m >2	<1	0	<1
Aluminum	ppm	ASTM D5185m >10	<1	<1	<1
Lead	ppm	ASTM D5185m >10	0	0	0
Copper	ppm	ASTM D5185m >50	12	13	17
Tin	ppm	ASTM D5185m >10	0	<1	0
Antimony	ppm	ASTM D5185m	---	---	0
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 0	0	0	0
Barium	ppm	ASTM D5185m 90	0	2	0
Molybdenum	ppm	ASTM D5185m 0	0	0	0
Manganese	ppm	ASTM D5185m	4	1	2
Magnesium	ppm	ASTM D5185m 100	27	13	12
Calcium	ppm	ASTM D5185m 0	14	0	<1
Phosphorus	ppm	ASTM D5185m 0	4	6	4
Zinc	ppm	ASTM D5185m 0	59	61	10
Sulfur	ppm	ASTM D5185m 23500	21501	22752	17212

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<1	<1	1
Sodium	ppm	ASTM D5185m	4	2	2
Potassium	ppm	ASTM D5185m >20	2	2	4
Water	%	ASTM D6304 >0.05	▲ 0.465	0.014	0.007
ppm Water	ppm	ASTM D6304 >500	▲ 4650	147.0	78.5

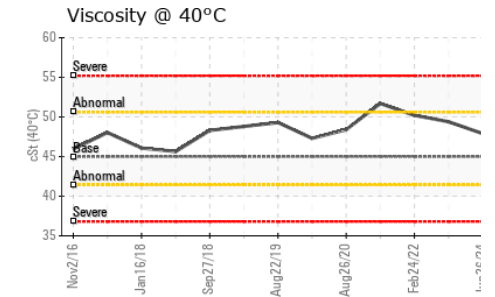
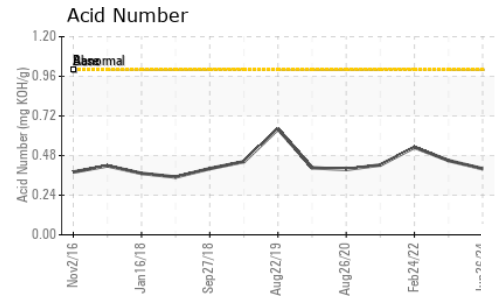
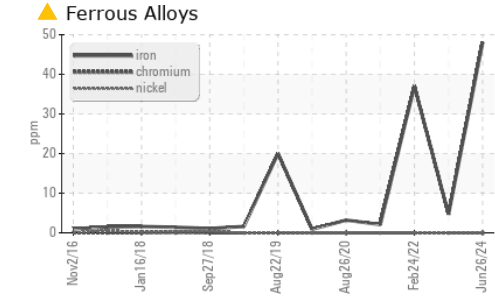
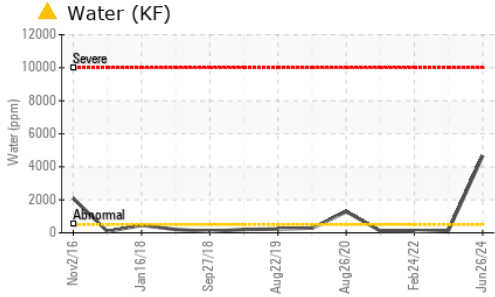
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		---	60083	187237
Particles >6µm	ASTM D7647	>1300	---	▲ 4378	▲ 49673
Particles >14µm	ASTM D7647	>80	---	▲ 260	▲ 2935
Particles >21µm	ASTM D7647	>20	---	▲ 57	▲ 664
Particles >38µm	ASTM D7647	>4	---	2	▲ 15
Particles >71µm	ASTM D7647	>3	---	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/13	---	▲ 23/19/15	▲ 23/19

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	0.40	0.45	0.53

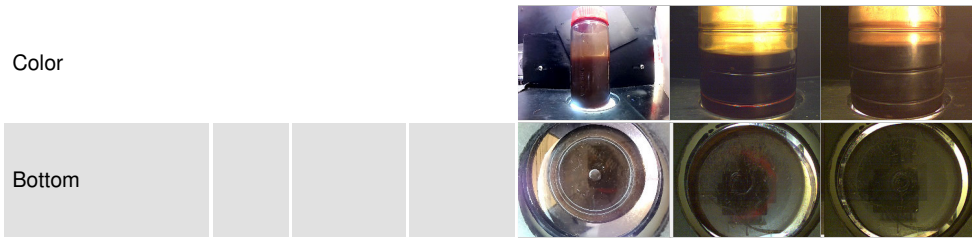
OIL ANALYSIS REPORT



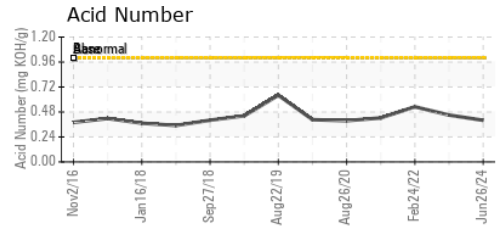
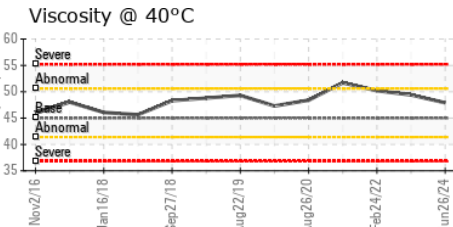
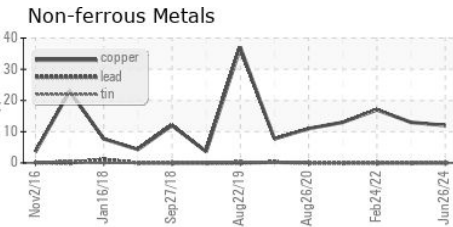
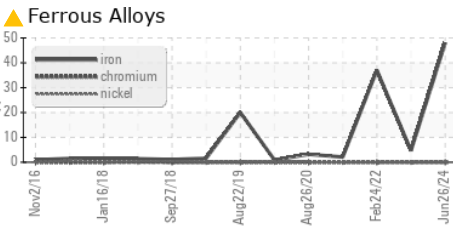
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	▲ MODER	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	▲ 0.2%	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 45	47.9	49.4	50.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA020562 **Received** : 12 Jul 2024
Lab Number : 06234907 **Tested** : 16 Jul 2024
Unique Number : 11123741 **Diagnosed** : 16 Jul 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PftCount)

DOHERTY STEEL INC
 21110 W 311TH ST
 PAOLA, KS
 US 66071

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: CLARENCE COOPER
 clarence.cooper@dohertysteel.com

* - 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: