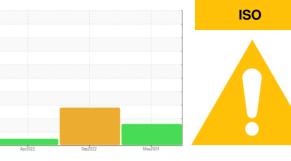


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

KAESER 7870119

Component Compressor Fluid KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

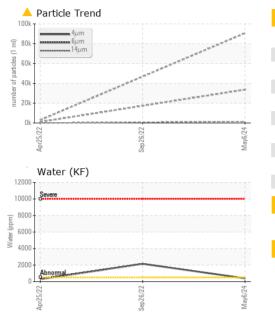
Fluid Condition

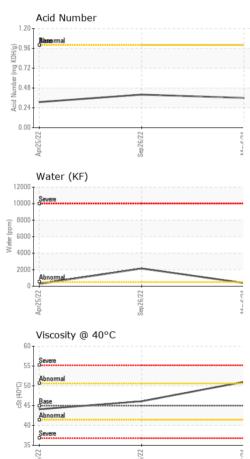
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Machine Age hrs Client Info 3737 973 666 Oil Age hrs Client Info Not Changed SO7 666 Oil Age Kist Client Info Not Changed Not Changed Changed Sample Status Image Lint Info Not Changed Not Changed Not Changed WEAR METALS method Imit/base current Nistory1 Nistory2 Iron ppm ASTM 05185m >50 1 <1 1 Chromium ppm ASTM 05185m >10 <1 0 0 Silver ppm ASTM 05185m >10 <1 <1 <1 Cadmium ppm ASTM 05185m >10 <1 <1 0 0 ASTM 05185m >10 <1 <1 0 0 0 0 Cadmium ppm ASTM 05185m 0 0 <1 0 0 Manganese ppm ASTM 05185m	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 3737 973 666 Oil Age hrs Client Info 2169 307 666 Oil Age Client Info Not Changed Changed Changed Sample Status Image Limit/base current Nato Changed Nort Changed WEAR METALS method limit/base current Nistory1 Nistory2 Iron ppm ASTM 05185m >50 1 <1	Sample Number		Client Info		KCPA016782	KCP47276	KCP45526
Oil Age hrs Client Info 2169 307 666 Oil Changed Client Info Not Changd ABNORMAL ABNORMAL ABNORMAL Not Changd Sample Status method limit/base current history1 instory2 Iron ppm ASTM D5185m >50 1 <1	Sample Date		Client Info		06 May 2024	26 Sep 2022	25 Apr 2022
Oli Changed Client Info Not Changd ABNORMAL Not Changd ABNORMAL Changed ABNORMAL Changed NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185n >50 1 <1	Machine Age	hrs	Client Info		3737	973	666
Sample Status method imit/base current history1 NORMAL WEAR METALS method imit/base current history2 history2 Iron ppm ASTM D5185m >50 1 <1	Oil Age	hrs	Client Info		2169	307	666
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 1 <1	Oil Changed		Client Info		Not Changd	Not Changd	Changed
Iron ppm ASTM D5185m >50 1 <1	Sample Status				ABNORMAL	ABNORMAL	NORMAL
Chromium ppm ASTM D5185m >10 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >3 <1 0 0 Titanium ppm ASTM D5185m >2 <1	Iron	ppm	ASTM D5185m	>50	1	<1	1
Titanium ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >2 <1	Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Silver ppm ASTM D5185m >2 <1 0 <1 Aluminum ppm ASTM D5185m >10 2 <1	Nickel	ppm	ASTM D5185m	>3	<1	0	0
Aluminum ppm ASTM D5165m >10 2 <1 <1 Lead ppm ASTM D5165m >10 <1	Titanium	ppm	ASTM D5185m	>3	<1	0	0
Lead ppm ASTM D5185m >10 <1 <1 <1 Copper ppm ASTM D5185m >50 10 10 1 Tin ppm ASTM D5185m >10 <1	Silver	ppm	ASTM D5185m	>2	<1	0	<1
Copper ppm ASTM D5185m >50 10 10 1 Tin ppm ASTM D5185m >10 <1	Aluminum	ppm	ASTM D5185m	>10	2	<1	<1
Copper ppm ASTM D5185m >50 10 10 1 Tin ppm ASTM D5185m >10 <1	Lead		ASTM D5185m	>10	<1	<1	<1
Tin ppm ASTM D5185m >10 <1 <1 0 Vanadium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 0 Magnese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 0 4 3 2 Phosphorus ppm ASTM D5185m 0 4 3 2 Sulfur ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 25 <1 7 <1 Sulfur ppm ASTM D5185m 25 <1 7	Copper		ASTM D5185m	>50	10	10	
Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m <1			ASTM D5185m	>10	<1	<1	0
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 0 <1 0 0 Molybdenum ppm ASTM D5185m 0 <1 0 0 Manganese ppm ASTM D5185m 0 <1 0 <1 <1 Magnesium ppm ASTM D5185m 0 4 3 2 Calcium ppm ASTM D5185m 0 4 3 2 Sulfur ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 225 <1 7 <1 Sodium ppm ASTM D5185m 20 10 6	Vanadium		ASTM D5185m		<1	0	<1
Boron ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 90 55 20 23 Molybdenum ppm ASTM D5185m 0 <1	Cadmium		ASTM D5185m		<1		0
Barium ppm ASTM D5185m 90 55 20 23 Molybdenum ppm ASTM D5185m 0 <1 0 0 Manganese ppm ASTM D5185m 100 73 84 67 Calcium ppm ASTM D5185m 100 73 84 67 Calcium ppm ASTM D5185m 0 4 3 2 Phosphorus ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 0.55 <1 7 <1 Solium ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 6 14 Water % ASTM D5185m >20 10 6 14 Water ppm ASTM D6304 >500 391<	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 <1 0 0 Manganese ppm ASTM D5185m 100 73 84 67 Calcium ppm ASTM D5185m 100 73 84 67 Calcium ppm ASTM D5185m 0 4 3 2 Phosphorus ppm ASTM D5185m 0 0 433 8 Zinc ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Boron	ppm	ASTM D5185m	0	0	0	0
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 100 73 84 67 Calcium ppm ASTM D5185m 0 4 3 2 Phosphorus ppm ASTM D5185m 0 0 433 8 Zinc ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Barium	ppm	ASTM D5185m	90	55	20	23
Magnesium ppm ASTM D5185m 100 73 84 67 Calcium ppm ASTM D5185m 0 4 3 2 Phosphorus ppm ASTM D5185m 0 0 43 8 Zinc ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Molybdenum	ppm	ASTM D5185m	0	<1	0	0
Calcium ppm ASTM D5185m 0 4 3 2 Phosphorus ppm ASTM D5185m 0 0 43 8 Zinc ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Magnesium	ppm	ASTM D5185m	100	73	84	67
Zinc ppm ASTM D5185m 0 4 16 2 Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Calcium	ppm	ASTM D5185m	0	4	3	2
Sulfur ppm ASTM D5185m 23500 23804 24622 11473 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 7 <1 Sodium ppm ASTM D5185m >25 <1 7 <1 Sodium ppm ASTM D5185m >20 10 6 14 Water % ASTM D5304 >0.05 0.039 △ 0.215 0.028 ppm Water ppm ASTM D6304 >500 391 △ 2150 283.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >1300 A 33648 1095 Particles >1µm ASTM D7647 >20 183 11 Particles >21µm ASTM D7647 >3	Phosphorus	ppm	ASTM D5185m	0	0	43	8
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Zinc	ppm	ASTM D5185m	0	4	16	2
Silicon ppm ASTM D5185m >25 <1 7 <1 Sodium ppm ASTM D5185m 29 11 10 Potassium ppm ASTM D5185m >20 10 6 14 Water % ASTM D6304 >0.05 0.039 ▲ 0.215 0.028 ppm Water ppm ASTM D6304 >500 391 ▲ 2150 283.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >1300 ▲ 33648 74 Particles >14µm ASTM D7647 >20 ▲ 183 74 Particles >21µm ASTM D7647 >20 ▲ 183 11 Particles >38µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 <t< td=""><td>Sulfur</td><td>ppm</td><td>ASTM D5185m</td><td>23500</td><th>23804</th><td>24622</td><td>11473</td></t<>	Sulfur	ppm	ASTM D5185m	23500	23804	24622	11473
Sodium ppm ASTM D5185m 29 11 10 Potassium ppm ASTM D5185m >20 10 6 14 Water % ASTM D6304 >0.05 0.039 0.215 0.028 ppm Water ppm ASTM D6304 >500 391 2150 283.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >100 33648 1095 Particles >14µm ASTM D7647 >80 1459 74 Particles >21µm ASTM D7647 >20 183 11 Particles >38µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 10 6 14 Water % ASTM D6304 >0.05 0.039 △ 0.215 0.028 ppm Water ppm ASTM D6304 >500 391 △ 2150 283.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >1300 △ 33648 1095 Particles >14µm ASTM D7647 >80 △ 1459 74 Particles >21µm ASTM D7647 >20 △ 183 11 Particles >38µm ASTM D7647 >3 O 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>25	<1	7	<1
Water % ASTM D6304 >0.05 0.039 ▲ 0.215 0.028 ppm Water ppm ASTM D6304 >500 391 ▲ 2150 283.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >1300 ▲ 33648 1095 Particles >14µm ASTM D7647 >80 ▲ 1459 74 Particles >21µm ASTM D7647 >20 ▲ 183 11 Particles >38µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		29	11	10
ppm Water ppm ASTM D6304 >500 391 ▲ 2150 283.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >1300 ▲ 33648 1095 Particles >14µm ASTM D7647 >80 ▲ 1459 74 Particles >21µm ASTM D7647 >20 ▲ 183 11 Particles >38µm ASTM D7647 >4 2 1 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) /17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	10	6	14
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 90618 2957 Particles >6µm ASTM D7647 >1300 33648 1095 Particles >14µm ASTM D7647 >80 1459 74 Particles >21µm ASTM D7647 >20 183 11 Particles >21µm ASTM D7647 >4 2 11 Particles >38µm ASTM D7647 >4 2 1 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>0.05	0.039	0.215	0.028
Particles >4μm ASTM D7647 90618 2957 Particles >6μm ASTM D7647 >1300 ▲ 33648 1095 Particles >14μm ASTM D7647 >80 ▲ 1459 74 Particles >21μm ASTM D7647 >20 ▲ 183 11 Particles >21μm ASTM D7647 >4 2 11 Particles >38μm ASTM D7647 >4 2 1 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>500	391	A 2150	283.6
Particles >6µm ASTM D7647 >1300 ▲ 33648 1095 Particles >14µm ASTM D7647 >80 ▲ 1459 74 Particles >21µm ASTM D7647 >20 ▲ 183 11 Particles >38µm ASTM D7647 >4 2 1 Particles >38µm ASTM D7647 >4 2 1 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14µm ASTM D7647 >80 ▲ 1459 74 Particles >21µm ASTM D7647 >20 ▲ 183 11 Particles >38µm ASTM D7647 >4 2 1 Particles >38µm ASTM D7647 >3 0 0 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647				2957
Particles >21μm ASTM D7647 >20 ▲ 183 11 Particles >38μm ASTM D7647 >4 2 1 Particles >38μm ASTM D7647 >4 2 1 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>1300	<u> </u>		1095
Particles >38μm ASTM D7647 >4 2 1 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>80	<u> </u>		74
Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>20	<u> </u>		11
Oil Cleanliness ISO 4406 (c) >/17/13 24/22/18 19/17/13 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>4	2		1
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0		0
	Oil Cleanliness		ISO 4406 (c)	>/17/13	A 24/22/18		19/17/13
Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.36 0.40 0.31	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.36	0.40	0.31



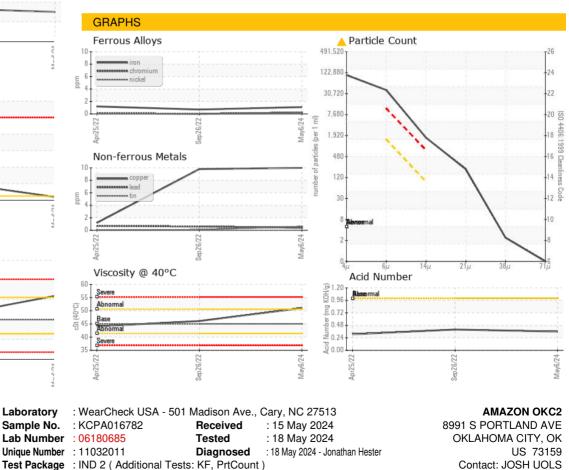
OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	🔺 MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	- HAZY	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	51.0	46.1	44.1
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Rottom						

Bottom





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)

Certificate 12367

Laboratory

Contact/Location: JOSH UOLS - AMAOKLOKC2

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