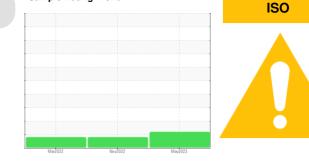


OIL ANALYSIS REPORT

Sample Rating Trend



KAESER 7894333 Component

Compressor KAESER SIGMA (OEM) S-460 (--- QTS)

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.

Sample Date IClient Info 10 May 2023 16 Nov 2022 17 Mar 2022 Machine Age hrs Client Info 9126 5460 833 Oil Age hrs Client Info 3661 5460 833 Oil Age Irs Client Info Not Chargd Chargd Not Chargd Sample Status Client Info Math Mathematication Math Mathematication Math Mathematication Math Mathematication WEAR METALS method Imitibase current history1 Althory2 Iron ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >10 0 -1 0 Cadmium ppm ASTM D5185m >10 0 0 0 0 Cadmium ppm ASTM D5185m 0 12 9 43 Cadmium ppm ASTM D5185m 0 <th>SAMPLE INFORM</th> <th>IATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Date Client Info 10 May 2023 16 Nov 2022 17 Mar 2022 Machine Age hrs Client Info 9126 5460 833 Oil Age hrs Client Info 3661 5460 833 Oil Changed Client Info 3661 5460 833 Sample Status method Imit/base current history1 ABNORMAL WEAR METALS method Imit/base current history1 AINO 5560 Iron ppm ASTM D5185m >3 0 1 0 Nickel ppm ASTM D5185m >3 0 0 0 Auminum ppm ASTM D5185m >10 0 <1 0 Aumanum ppm ASTM D5185m 0 0 0 0 0 Auminum ppm ASTM D5185m 0 0 0 0 0 Auminum ppm ASTM D5185m 0 0 0 0	Sample Number		Client Info		KCP53801	KCP47060	KCP44152
Machine Age hrs Client Info 9126 5460 833 Oil Age hrs Client Info 3661 5460 833 Oil Changed Client Info Not Changd Antrextmont ABNORMAL Sample Status Image Limit/base current history1 history1 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >30 0 0 0 Nickel ppm ASTM D5185m >30 0 0 0 Silver ppm ASTM D5185m >10 0 <1	Sample Date		Client Info		10 May 2023	16 Nov 2022	17 Mar 2022
Oil Age hrs Client Info 3661 5460 833 Oil Changed Client Info Not Changed ATTENTION ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >50 0 <1	Machine Age	hrs			-	5460	833
Oil Changed Client Info Not Changd ABNORMAL Changed ATTENTION Not Changed ABNORMAL WEAR METALS method limit/base current history1 fibrory2 Iron ppm ASTM D5185n >50 0 <1	Oil Age	hrs	Client Info		3661	5460	833
Sample Status method Imit/base current history1 ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185n >50 0 <1	Oil Changed				Not Changd	Changed	Not Changd
Iron ppm ASTM D5185m >50 0 <1 <1 Chromium ppm ASTM D5185m >30 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1	Sample Status				-	ATTENTION	ABNORMAL
Dromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >10 0 <1 <1 Lead ppm ASTM D5185m >10 0 <1 <1 Lead ppm ASTM D5185m >10 0 <1 <1 Vanadium ppm ASTM D5185m >10 <1 <1 <1 Vanadium ppm ASTM D5185m >10 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 12 9 48 Molybdenum ppm ASTM D5185m 0 54 47 88 Calcium ppm ASTM D5185m 2 <1 1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >3 0 1 0 Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >10 0 <1	Iron	ppm	ASTM D5185m	>50	0	<1	<1
Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1	Nickel	ppm	ASTM D5185m	>3	0	1	0
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1	Titanium	ppm	ASTM D5185m	>3	0	0	0
Aluminum ppm ASTM D5185m >10 0 <1 <1 Lead ppm ASTM D5185m >10 0 <1	Silver		ASTM D5185m	>2	0	0	0
Lead ppm ASTM D5185m >10 0 <1 0 Copper ppm ASTM D5185m >50 1 9 1 Tin ppm ASTM D5185m >10 <1	Aluminum		ASTM D5185m	>10		<1	<1
Copper ppm ASTM D5185m >50 1 9 1 Tin ppm ASTM D5185m >10 <1						<1	
Tin ppm ASTM D5185m >10 <1 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 90 12 9 48 Molybdenum ppm ASTM D5185m 90 54 47 88 Galcium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 4 8 4 Phosphorus ppm ASTM D5185m 6 25 0 11 4 Sulfur ppm ASTM D5185m 20 3 8 6 Sulfur ppm ASTM D5185m >20 3 8 6 Sulfur ppm ASTM D5185m >20							
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 90 12 9 48 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnese ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 <1					<1	<1	<1
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 12 9 48 Molybdenum ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 <1 1 4 Phosphorus ppm ASTM D5185m 2 <1 1 4 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >2 <1 2 1 Otassium ppm ASTM D585m >25 <1 2 1 Sodium ppm ASTM D585m >20 3 8 6 <td></td> <td></td> <td></td> <td></td> <th></th> <td></td> <td></td>							
Boron ppm ASTM D5185m 0 12 9 48 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 -1 <1							
Barium ppm ASTM D5185m 90 12 9 48 Molybdenum ppm ASTM D5185m 0 0 0 Maganese ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 <1 1 4 Phosphorus ppm ASTM D5185m 2 <1 1 4 Zinc ppm ASTM D5185m 4 8 4 Zinc ppm ASTM D5185m 22751 21000 17281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 2 1 Potassium ppm ASTM D5185m >20 3 8 6 Water % ASTM D6304 >0.05 0.019 0.019 0.026	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 <1	Barium	ppm	ASTM D5185m	90	12	9	48
Magnesium ppm ASTM D5185m 90 54 47 88 Calcium ppm ASTM D5185m 2 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 2 <1	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 4 8 4 Zinc ppm ASTM D5185m 6 25 0 Sulfur ppm ASTM D5185m 22751 21000 17281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Magnesium	ppm	ASTM D5185m	90	54	47	88
Zinc ppm ASTM D5185m 6 25 0 Sulfur ppm ASTM D5185m 22751 21000 17281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Calcium	ppm	ASTM D5185m	2	<1	1	4
Sulfur ppm ASTM D5185m 22751 21000 17281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 2 1 Sodium ppm ASTM D5185m >25 <1 2 1 Potassium ppm ASTM D5185m >20 3 8 6 Water % ASTM D6304 >0.05 0.019 0.019 0.026 ppm Water ppm ASTM D6304 >500 196.5 195.2 269.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 2722 1773 3556 Particles >6µm ASTM D7647 >20 20 11 18 Particles >21µm ASTM D7647 >20 20 11 18 Particles >38µm ASTM D7647 3 0 0 0	Phosphorus	ppm	ASTM D5185m		4	8	4
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Zinc	ppm	ASTM D5185m		6	25	0
Silicon ppm ASTM D5185m >25 <1 2 1 Sodium ppm ASTM D5185m >20 3 8 6 Potassium ppm ASTM D5185m >20 3 8 6 Water % ASTM D6304 >0.05 0.019 0.019 0.026 ppm Water ppm ASTM D6304 >500 196.5 195.2 269.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 11354 4473 15921 Particles >6µm ASTM D7647 >1300 2722 1773 3556 Particles >1µm ASTM D7647 >20 20 111 18 Particles >21µm ASTM D7647 >20 20 111 18 Particles >38µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1	Sulfur	ppm	ASTM D5185m		22751	21000	17281
Sodium ppm ASTM D5185m 14 19 14 Potassium ppm ASTM D5185m >20 3 8 6 Water % ASTM D50804 >0.05 0.019 0.019 0.026 ppm Water ppm ASTM D6304 >500 196.5 195.2 269.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 11354 4473 15921 Particles >6µm ASTM D7647 >1300 2722 ▲ 1773 ▲ 3556 Particles >14µm ASTM D7647 >80 ▲ 122 68 ● 95 Particles >14µm ASTM D7647 >20 20 11 18 Particles >38µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1 history2 <	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 8 6 Water % ASTM D6304 >0.05 0.019 0.019 0.026 ppm ASTM D6304 >500 196.5 195.2 269.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 11354 4473 15921 Particles >6µm ASTM D7647 >1300 2722 1773 3556 Particles >14µm ASTM D7647 >80 122 68 95 Particles >14µm ASTM D7647 >20 20 11 18 Particles >21µm ASTM D7647 >4 1 0 2 Particles >38µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>25	<1	2	1
Water % ASTM D6304 >0.05 0.019 0.019 0.026 ppm Water ppm ASTM D6304 >500 196.5 195.2 269.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 11354 4473 15921 Particles >6µm ASTM D7647 >1300 2722 1773 3556 Particles >14µm ASTM D7647 >20 20 111 18 Particles >21µm ASTM D7647 >20 20 111 18 Particles >38µm ASTM D7647 >4 1 0 2 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) /17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		14	19	14
ppm Water ppm ASTM D6304 >500 196.5 195.2 269.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 11354 4473 15921 Particles >6µm ASTM D7647 >1300 2722 ▲ 1773 ▲ 3556 Particles >14µm ASTM D7647 >80 ▲ 122 68 ▲ 95 Particles >21µm ASTM D7647 >20 20 111 18 Particles >38µm ASTM D7647 >4 1 0 2 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) /17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	3	8	6
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 11354 4473 15921 Particles >6µm ASTM D7647 >1300 2722 1773 3556 Particles >14µm ASTM D7647 >80 122 68 95 Particles >21µm ASTM D7647 >20 20 11 18 Particles >38µm ASTM D7647 >4 1 0 2 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 21/19/14 19/18/13 19/14	Water	%	ASTM D6304	>0.05	0.019	0.019	0.026
Particles >4μm ASTM D7647 11354 4473 15921 Particles >6μm ASTM D7647 >1300 2722 1773 3556 Particles >14μm ASTM D7647 >80 122 68 95 Particles >21μm ASTM D7647 >20 20 11 18 Particles >21μm ASTM D7647 >4 1 0 2 Particles >38μm ASTM D7647 >4 1 0 2 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>500	196.5	195.2	269.6
Particles >6µm ASTM D7647 >1300 ▲ 2722 ▲ 1773 ▲ 3556 Particles >14µm ASTM D7647 >80 ▲ 122 68 ▲ 95 Particles >21µm ASTM D7647 >20 20 11 18 Particles >38µm ASTM D7647 >4 1 0 2 Particles >38µm ASTM D7647 >4 1 0 2 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 21/19/14 ▲ 19/18/13 ▲ 19/14	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14µm ASTM D7647 >80 ▲ 122 68 ▲ 95 Particles >21µm ASTM D7647 >20 20 11 18 Particles >38µm ASTM D7647 >4 1 0 2 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 21/19/14 ▲ 19/18/13 ▲ 19/14 FLUID DEGRADATION method limit/base current history1 history2	•						
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Particles >38μm ASTM D7647 >4 1 0 2 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 21/19/14 ▲ 19/18/13 ▲ 19/14 FLUID DEGRADATION method limit/base current history1 history2							▲ 95
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 21/19/14 ▲ 19/18/13 ▲ 19/14 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>20	20	11	18
Oil Cleanliness ISO 4406 (c) >/17/13 21/19/14 19/18/13 19/14 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>4	1	0	
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0	0	0
	Oil Cleanliness		ISO 4406 (c)	>/17/13	A 21/19/14	1 9/18/13	▲ 19/14
Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.35 0.31 0.34	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.35	0.31	0.34

Contact/Location: BOB KIPP - AMASTN



Built for a lifetime."

20

/1 ml)

umber 2

r of particles

0

12000

1000

(mdd) 600

V ater (p

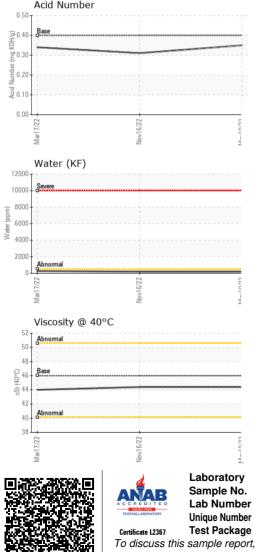
200

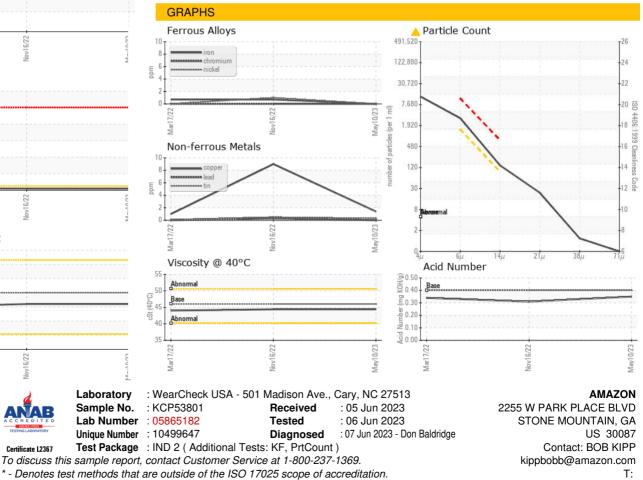
Marl

Water (KF)

OIL ANALYSIS REPORT

VISUAL		method	limit/base	current	history1
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	LIGHT
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1
Visc @ 40°C	cSt	ASTM D445	46	44.4	44.4
SAMPLE IMAGES		method	limit/base	current	history1
Color					
Bottom				(3)	6





Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F:

history2

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

history2

history2

NEG

NEG

44.0