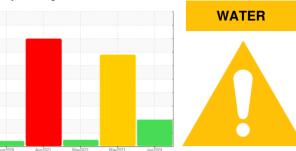


OIL ANALYSIS REPORT



Machine Id

KAESER 7186505

Component Compressor Fluid KAESER SIGMA (OEM) S-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

All component wear rates are normal.

Contamination

Moderate concentration of visible dirt/debris present in the oil. There is a light concentration of water present in the oil.

Fluid Condition

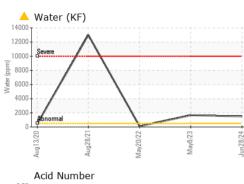
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

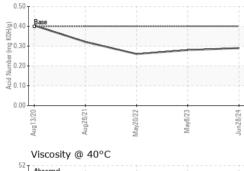
Sample Date Client Info 28 Jun 2024 08 May 2023 20 May 2023 Machine Age hrs Client Info 4077 2772 1693 Oil Age hrs Client Info 0 1072 500 Oil Changed Client Info Changed Not Changed Not Changed Nort Changed Sample Status method Imit/base current history1 history2 Iron ppm ASTM 05185m >50 <1 <1 0 Chromium ppm ASTM 05185m >3 0 1 0 Nickel ppm ASTM 05185m >3 0 0 0 Auminum ppm ASTM 05185m >10 0 0 0 Auminum ppm ASTM 05185m >10 0 0 0 Auminum ppm ASTM 05185m 0 0 0 0 Auminum ppm ASTM 05185m 0 0 0 0	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 4077 2772 1693 Oil Age hrs Client Info 0 1072 500 Oil Age hrs Client Info 0 1072 500 Oil Age Kith Distory ABNORMAL SEVERE NORMAL WEAR METALS method limit/base current history! NorMal Iron ppm ASTM Dist8m >50 <1	Sample Number		Client Info		KC130960	KCP46225	KC106303
Oil Age hrs Client Info 0 1072 500 Oil Changed Client Info Changed Not Changed Changed Sample Status method limit/base current history1 history2 Iron ppm ASTM 05185m >50 <1	Sample Date		Client Info		28 Jun 2024	08 May 2023	20 May 2022
Oil Changed Sample Status Client Info Changed ABNORMAL Not Changed SEVERE Changed NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5165n >50 <1	Machine Age	hrs	Client Info		4077	2772	1693
Sample Status method Imit/base current history1 history2 Iron ppm ASTM D5185n >50 <1	Oil Age	hrs	Client Info		0	1072	500
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5165m >50 <1	Oil Changed		Client Info		Changed	Not Changd	Changed
Iron ppm ASTM D5185m >50 <1	Sample Status				ABNORMAL	SEVERE	NORMAL
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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	<1	<1	0
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
Aluminum ppm ASTM D5185m >10 0 <1 <1 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 43 26 15 Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 90 0 0 0 Magnesium ppm ASTM D5185m 90 0 9 6 Calcium ppm ASTM D5185m 0 2 5 5 Zinc ppm ASTM D5185m 2.0 -1 0	Titanium	ppm	ASTM D5185m	>3	0	0	0
Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 43 26 15 Tin ppm ASTM D5185m >10 0 0 0 Antimony 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 Molybdenum ppm ASTM D5185m 0 0 0 0 Maganese ppm ASTM D5185m 0 <11	Silver	ppm	ASTM D5185m	>2	0	0	0
Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 43 26 15 Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Maganese ppm ASTM D5185m 0 <1	Aluminum	ppm	ASTM D5185m	>10	0	<1	<1
Copper ppm ASTM D5185m >50 43 26 15 Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Magnaese ppm ASTM D5185m 0 0 0 0 Magnese ppm ASTM D5185m 0 0 0 0 Colacium ppm ASTM D5185m 90 0 9 6 Colacium ppm ASTM D5185m 90 0 8 14 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Lead		ASTM D5185m	>10	0	0	0
Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 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 0 0 0 0 Magnesium ppm ASTM D5185m 90 0 91 61 0 Calcium ppm ASTM D5185m 90 0 2 5 Zinc ppm ASTM D5185m 2 0 2 5 Zinc ppm ASTM D5185m 25 4 2 5 Silicon ppm ASTM D5185m 20 <1 0 0 Sodium ppm ASTM D5185m 20 <1 21 0	Copper		ASTM D5185m	>50	43	26	15
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Barium ppm ASTM D5185m 90 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 90 0 9 6 Magnesium ppm ASTM D5185m 90 0 9 6 Calcium ppm ASTM D5185m 2 0 <1 0 Phosphorus ppm ASTM D5185m 2 0 2 5 Zinc ppm ASTM D5185m 0 8 14 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 2 5 Sodium ppm ASTM D5185m >20 <1 2 5 Potassium ppm ASTM D6304 >0.05 0.150 0.166 0.010 ppm Water ppm ASTM D6407 === === 2971 Par	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 90 0 9 6 Magnesium ppm ASTM D5185m 90 0 9 6 Calcium ppm ASTM D5185m 2 0 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 90 0 9 6 Calcium ppm ASTM D5185m 2 0 <1	Barium	ppm	ASTM D5185m	90	0	0	0
Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 90 0 9 6 Calcium ppm ASTM D5185m 2 0 <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 2 0 <1 0 Phosphorus ppm ASTM D5185m 0 2 5 Zinc ppm ASTM D5185m 0 2 5 Zinc ppm ASTM D5185m 0 8 14 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 2 5 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		0	<1	0
PhosphorusppmASTM D5185m025ZincppmASTM D5185mImit/basecurrenthistory1history2SoliconppmASTM D5185m>25425SodiumppmASTM D5185m>20<1210PotassiumppmASTM D5185m>20<1<100Water%ASTM D6304>0.05▲0.150▲0.1660.010ppm WaterppmASTM D6304>500▲1500▲1656106.1FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4µmASTM D7647>13002971Particles >4µmASTM D7647>3012Particles >21µmASTM D7647>3012Particles >38µmASTM D7647>30Particles >71µmASTM D7647>319/17/13FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Magnesium	ppm	ASTM D5185m	90	0	9	6
Zinc ppm ASTM D5185m 0 8 14 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 2 5 Sodium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	2	0	<1	0
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25425SodiumppmASTM D5185m>20<1	Phosphorus	ppm	ASTM D5185m		0	2	5
Silicon ppm ASTM D5185m >25 4 2 5 Sodium ppm ASTM D5185m >20 <1 2 5 Potassium ppm ASTM D5185m >20 <1 21 0 Water % ASTM D6304 >0.05 ▲ 0.150 ▲ 0.166 0.010 ppm Water ppm ASTM D6304 >500 ▲ 1500 ▲ 1656 106.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 694 Particles >6µm ASTM D7647 >1300 55 Particles >14µm ASTM D7647 >20 12 Particles >21µm ASTM D7647 >20 12 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) /17/13 19/17/13 FLUID DEGRADATION method limit/base	Zinc	ppm	ASTM D5185m		0	8	14
Sodium ppm ASTM D5185m <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 <1 0 Water % ASTM D6304 >0.05 ▲ 0.150 ▲ 0.166 0.010 ppm Water ppm ASTM D6304 >500 ▲ 1500 ▲ 1656 106.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2971 Particles >6µm ASTM D7647 >1300 694 Particles >14µm ASTM D7647 >80 55 Particles >21µm ASTM D7647 >20 12 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>25	4	2	5
Water % ASTM D6304 >0.05 ▲ 0.150 ▲ 0.166 0.010 ppm Water ppm ASTM D6304 >500 ▲ 1500 ▲ 1656 106.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2971 Particles >6µm ASTM D7647 >1300 694 Particles >14µm ASTM D7647 >80 55 Particles >21µm ASTM D7647 >20 12 Particles >38µm ASTM D7647 >4 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		<1	2	5
ppm Water ppm ASTM D6304 >500 ▲ 1500 ▲ 1656 106.1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2971 Particles >6µm ASTM D7647 >1300 694 Particles >6µm ASTM D7647 >80 55 Particles >14µm ASTM D7647 >20 12 Particles >21µm ASTM D7647 >4 0 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 19/17/13 Gli Cleanliness ISO 4406 (c) /17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	<1	<1	0
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 2971 Particles >6μm ASTM D7647 >1300 694 Particles >6μm ASTM D7647 >80 55 Particles >14μm ASTM D7647 >20 12 Particles >21μm ASTM D7647 >20 12 Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>0.05	<u> </u>	0 .166	0.010
Particles >4μm ASTM D7647 2971 Particles >6μm ASTM D7647 >1300 694 Particles >14μm ASTM D7647 >80 55 Particles >21μm ASTM D7647 >20 12 Particles >38μm ASTM D7647 >4 0 Particles >38μm ASTM D7647 >3 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>500	1500	1656	106.1
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Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2							55
Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>20			12
Oil Cleanliness ISO 4406 (c) >/17/13 19/17/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>4			0
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3			
	Oil Cleanliness		ISO 4406 (c)	>/17/13			19/17/13
Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.29 0.28 0.26	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.29	0.28	0.26

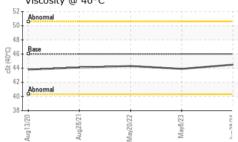
Contact/Location: Service Manager - PLALOUKC Page 1 of 2



OIL ANALYSIS REPORT

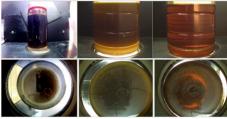




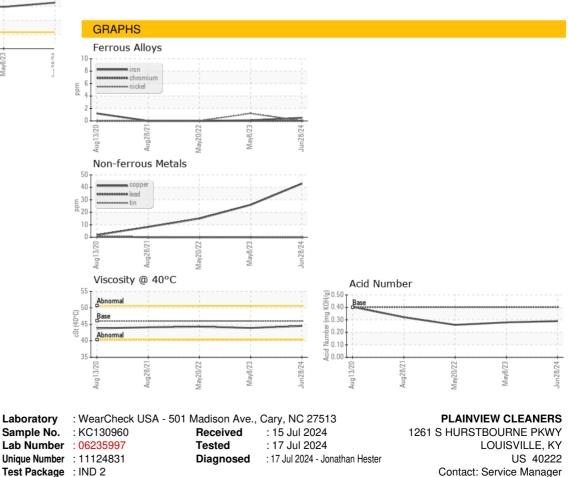


VISUAL method limit/base history1 history2 current NONE NONE White Metal *Visual NONE NONE scalar Yellow Metal *Visual NONE NONE NONE NONE scalar NONE Precipitate scalar *Visua NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris *Visual MODER NONE MODER LIGHT scalar Sand/Dirt NONE NONE NONE scalar *Visual NONE NORML NORML Appearance scalar *Visual NORML NORML Odor *Visual NORML NORML NORML scalar NORML **Emulsified Water** scalar *Visual >0.05 0.2% A 0.2% NEG Free Water scalar *Visual NEG **1**.0 NEG FLUID PROPERTIES method limit/base current history history2 Visc @ 40°C cSt ASTM D445 46 44.5 43.9 44.3 SAMPLE IMAGES method limit/base history1 historv2 current

Color



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)

T: F:

Certificate 12367

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