

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

6064900 (S/N 1018)

Component

Compressor

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.

Sample Number Client Info KCPA010382 KCP51841 KCP389893 Sample Date Client Info 23 Jan 2024 13 Jul 2022 27 Oct 20 27 Oct 20 Machine Age hrs Client Info 0 3200 0 Oil Age hrs Client Info N/A Changed Changed Changed Sample Status Client Info N/A Changed							
SAMPLE INFORMATION method limit/base current history1 history1 Sample Number Client Info KCPA010382 KCP51841 KCP88933 Sample Date Client Info 17176 10565 7736 Oil Age hrs Client Info N/A Changed Changed Oil Changed Client Info N/A Changed Changed Sample Status MEAN MEAL ABNORMAL ATTENTIK WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 <1 <1 Kornonium ppm ASTM D5185m >50 0 <1 <1 Nickel ppm ASTM D5185m >3 •1 0 0 Silver ppm ASTM D5185m >3 •1 0 0 Copper ppm ASTM D5185m >10 •1 1 1 Chadiumium ppm ASTM			00	2021	Jul/2022 Jan/202	4	
Sample Number Client Info KCPA010382 KCP51841 KCP389893 Sample Date Client Info 23 Jan 2024 13 Jul 2022 27 Oct 20 Machine Age hrs Client Info 0 3200 0 Oil Age hrs Client Info N/A Changed Changed Sample Status Client Info N/A Changed Changed Changed WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 <1	SAMPLE INFOR	RMATION					history2
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Machine Age Dil Age hrs Client Info 17176 10565 7736 Oil Age hrs Client Info 0 3200 0 Oil Changed Client Info N/A Changed Changed Sample Status MBNORMAL NORMAL ATTENTIC WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 <1			Client Info		23 Jan 2024	13 Jul 2022	27 Oct 2021
Dil Age	•	hrs	Client Info		17176	10565	7736
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WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 <1	-		Client Info		N/A	Changed	Changed
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Nickel	Iron	ppm	ASTM D5185m	>50	0	<1	<1
Titanium ppm ASTM D5185m >3 <1 0 0 0 Silver ppm ASTM D5185m >2 0 <1 0 Aluminum ppm ASTM D5185m >10 0 1 Lead ppm ASTM D5185m >10 <1 0 0 Copper ppm ASTM D5185m >50 15 2 2 Tin ppm ASTM D5185m >10 <1 0 <1 0 <1 Antimony ppm ASTM D5185m >0 0 0 0 Cadmium ppm ASTM D5185m >0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 ADDITIVES method limit/base current history1 histor Boron ppm ASTM D5185m 0 0 0 0 0 0 ADDITIVES method limit/base current history1 histor Barium ppm ASTM D5185m 0 0 0 48 43 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 62 62 62 Calcium ppm ASTM D5185m 0 0 0 0 10 Sulfur ppm ASTM D5185m 0 0 0 0 10 Sulfur ppm ASTM D5185m 0 0 0 0 10 Sulfur ppm ASTM D5185m 0 0 0 0 10 Sulfur ppm ASTM D5185m 0 0 0 0 10 CONTAMINANTS method limit/base current history1 histor Sulficon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 10 Vater % ASTM D5185m >20 0 1 1 0 Vater % ASTM D5185m >20 0 1 10 Vater % ASTM D5185m >20 0 1 1 0 Vater % ASTM D5185m >20 0 1 10 Vater % ASTM	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>3	0	0	0
Aluminum ppm ASTM D5185m >10 0 1 1 Lead ppm ASTM D5185m >10 <1	Titanium	ppm	ASTM D5185m	>3	<1	0	0
Lead ppm ASTM D5185m >10 <1 0 0 Copper ppm ASTM D5185m >50 15 2 2 Tin ppm ASTM D5185m >50 15 2 2 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 history1 Boron ppm ASTM D5185m 0 0 8 <1 Barium ppm ASTM D5185m 0 0 48 43 Molybdenum ppm ASTM D5185m 0 0 48 43 Molybdenum ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 2 1	Silver	ppm	ASTM D5185m	>2	0	<1	0
Copper ppm ASTM D5185m >50 15 2 2 Tin ppm ASTM D5185m >10 <1	Aluminum	ppm	ASTM D5185m	>10	0	1	1
Copper ppm ASTM D5185m >50 15 2 2 Tin ppm ASTM D5185m >10 <1	Lead	ppm	ASTM D5185m	>10	<1	0	0
Tin ppm ASTM D5185m >10 <1 0 <1 0 <1 0 <1 Antimony ppm ASTM D5185m > 0 0 < 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Copper	ppm	ASTM D5185m	>50	15	2	2
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 histor Boron ppm ASTM D5185m 0 0 8 <1 Barium ppm ASTM D5185m 0 0 48 43 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Manganesium ppm ASTM D5185m 100 0 62 62 Calcium ppm ASTM D5185m 100 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 10 2 Zinc ppm ASTM D5185m 20 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128		ppm	ASTM D5185m	>10	<1	0	<1
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 0 8 <1 Barium ppm ASTM D5185m 0 0 48 43 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 100 0 62 62 Calcium ppm ASTM D5185m 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 10 Zinc ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 9 <	Antimony	ppm	ASTM D5185m				0
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Barium ppm ASTM D5185m 90 0 48 43 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 62 62 Calcium ppm ASTM D5185m 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 10 Zinc ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 0 Water % ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 100 0 62 62 Calcium ppm ASTM D5185m 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 0 10 Zinc ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history1 history1 Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 0 Water % ASTM D5185m >20 0 0 0 0 0 0 0 0 <	Boron	ppm	ASTM D5185m	0	0	8	<1
Manganese ppm ASTM D5185m <1 1 1 Magnesium ppm ASTM D5185m 100 0 62 62 Calcium ppm ASTM D5185m 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 10 Zinc ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history1 history1 Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base <	Barium	ppm	ASTM D5185m	90	0	48	43
Magnesium ppm ASTM D5185m 100 0 62 62 Calcium ppm ASTM D5185m 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 10 Zinc ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 0 Water % ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D7647 82954 2781	Molybdenum	ppm	ASTM D5185m	0	0	0	0
Calcium ppm ASTM D5185m 0 0 2 1 Phosphorus ppm ASTM D5185m 0 0 0 10 Zinc ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history1 history Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 0 Potassium ppm ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4µm ASTM D7647 <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td><1</td> <td>1</td> <td>1</td>	Manganese	ppm	ASTM D5185m		<1	1	1
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Zinc ppm ASTM D5185m 0 0 4 5 Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m <1 16 19 Potassium ppm ASTM D5185m >20 0 1 0 Water % ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >1300 25120 391 2233 Particles >21μm ASTM D7647 >80 1681	Calcium	ppm	ASTM D5185m	0	0	2	1
Sulfur ppm ASTM D5185m 23500 18657 23128 16839 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m >20 0 1 0 Potassium ppm ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 <td< td=""><td>Phosphorus</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>0</td><td>0</td><td>10</td></td<>	Phosphorus	ppm	ASTM D5185m	0	0	0	10
CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m	0	0	4	5
Silicon ppm ASTM D5185m >25 9 6 8 Sodium ppm ASTM D5185m <1 16 19 Potassium ppm ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	Sulfur	ppm	ASTM D5185m	23500	18657	23128	16839
Sodium ppm ASTM D5185m <1 16 19 Potassium ppm ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 history1 Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 1 0 Water % ASTM D6304 >0.05 0.006 0.021 0.021 ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	Silicon	ppm	ASTM D5185m	>25	9	6	8
Water % ASTM D6304 > 0.05 0.006 0.021 0.021 ppm Water 0.021 ppm ASTM D6304 ppm ASTM D6304 ppm ASTM D6304 ppm ASTM D6404 ppm ASTM D7647 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 histor Particles >4μm ASTM D7647 ppm ASTM D7647 p	Sodium	ppm	ASTM D5185m		<1	16	19
ppm Water ppm ASTM D6304 >500 70 212.7 210.7 FLUID CLEANLINESS method limit/base current history1 history1 history1 Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 Δ 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	Potassium	ppm	ASTM D5185m	>20	0	1	0
FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	Water	%	ASTM D6304	>0.05	0.006	0.021	0.021
Particles >4μm ASTM D7647 82954 2781 9978 Particles >6μm ASTM D7647 >1300 Δ 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	ppm Water	ppm	ASTM D6304	>500	70	212.7	210.7
Particles >6μm ASTM D7647 >1300 Δ 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	FLUID CLEANL	INESS	method	limit/base	current	history1	history2
Particles >6μm ASTM D7647 >1300 Δ 25120 391 Δ 2233 Particles >14μm ASTM D7647 >80 Δ 1681 33 Δ 132 Particles >21μm ASTM D7647 >20 Δ 385 10 Δ 31	Particles >4µm		ASTM D7647		82954	2781	9978
Particles >14μm ASTM D7647 >80 ▲ 1681 33 ▲ 132 Particles >21μm ASTM D7647 >20 ▲ 385 10 ▲ 31	•		ASTM D7647	>1300	<u>^</u> 25120	391	2233
Particles >21μm ASTM D7647 >20 ▲ 385 10 ▲ 31	- Particles >14μm						
	Particles >21µm		ASTM D7647	>20			
_ _			ASTM D7647	>4	<u>^</u> 9		

Particles >71µm Oil Cleanliness

method

ASTM D7647 >3

0

current

ISO 4406 (c) >--/17/13 **424/22/18**

limit/base

0

FLUID DEGRADATION

19/16/12

history1

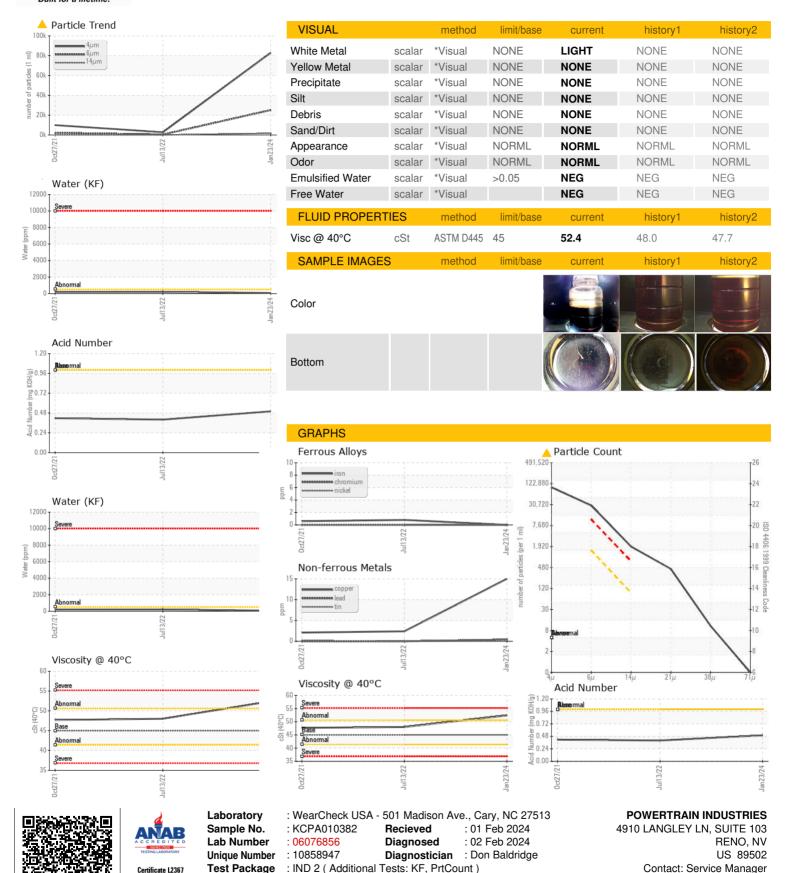
history2

0

18/14



OIL ANALYSIS REPORT



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)

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