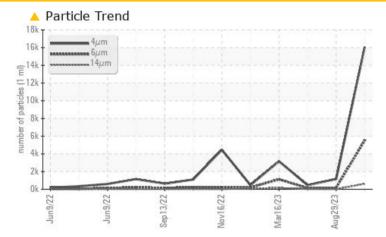


## **PROBLEM SUMMARY**

#### Machine Id 6840713 (S/N 1277) Component

Compressor Fluid KAESER SIGMA (OEM) S-460 (--- GAL)

#### COMPONENT CONDITION SUMMARY



#### RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

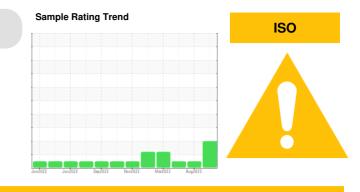
PROBLEMATIC T	EST RESULTS				
Sample Status			ABNORMAL	NORMAL	NORMAL
Particles >6µm	ASTM D7647	>1300	<u> </u>	172	138
Particles >14µm	ASTM D7647	>80	<b>6</b> 11	8	18
Particles >21µm	ASTM D7647	>20	<u> </u>	2	3
Particles >38µm	ASTM D7647	>4	🔺 11	0	0
Oil Cleanliness	ISO 4406 (c)	>/17/13	<u> </u>	17/15/10	16/14/11

#### Customer Id: STACHE Sample No.: KCPA007594 Lab Number: 05997389 Test Package: IND 2

Test Package: IND 2

To discuss the diagnosis or test data: Don Baldridge +1 don.b505@comcast.net

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com



RECOMMENDED AC	TIONS			
Action	Status	Date	Done By	Description
Change Filter			?	We recommend you service the filters on this component.

#### HISTORICAL DIAGNOSIS

#### NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



view report

#### 23 May 2023 Diag: Don Baldridge

29 Aug 2023 Diag: Don Baldridge

#### NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

ISO

#### 16 Mar 2023 Diag: Don Baldridge

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





### **OIL ANALYSIS REPORT**

# Sample Rating Trend ISO

Machine Id 6840713 (S/N 1277) Component

Compressor Fluid KAESER SIGMA (OEM) S-460 (--- GAL)

#### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component. 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.

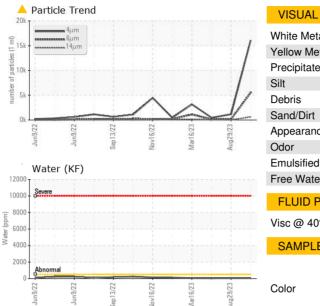
Sample Date         Client Info         30 Oct 2023         29 Aug 2023         23 May 2023           Machine Age         hrs         Client Info         4671         6213         5423           Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         method         limit/base         current         history1         history2           Iron         ppm         ASTM 05185n         >50         0         <1         0           Nickel         ppm         ASTM 05185n         >3         0         0         0           Silver         ppm         ASTM 05185n         >10         7         8         4           Lead         ppm         ASTM 05185n         >10         0         0         0           Vanadium         ppm         ASTM 05185n         >10         0         0         0           Vanadium         ppm         ASTM 05185n         >10         0         0         0           Adminim         ppm         ASTM 05185n         >10         0         0         0           Readi	SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Date         Client Info         30 Oct 2023         29 Aug 2023         23 May 2023           Machine Age         hrs         Client Info         4671         6213         5423           Oil Age         hrs         Client Info         N/A         N/A         N/A         N/A           Sample Status         Client Info         N/A         N/A         N/A         N/A         N/A           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM 05185m         >3         0         0         0           Nickel         ppm         ASTM 05185m         >3         0         0         0           Silver         ppm         ASTM 05185m         >10         0         0         0           Quandum         ppm         ASTM 05185m         10         0         0         0           Vanadum         ppm         ASTM 05185m         0         0         0         0           Adaminu         ppm         ASTM 05185m         0         0         0         0           Vanadum         ppm         ASTM 05185m         0         0         0         16 </td <td>Sample Number</td> <td></td> <td>Client Info</td> <td></td> <th>KCPA007594</th> <td>KCPA002235</td> <td>KCPA001261</td>	Sample Number		Client Info		KCPA007594	KCPA002235	KCPA001261
Oil Age         hrs         Client Info         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         Image         Client Info         N/A         N/A         N/A         N/A           WEAR METALS         method         Imit/base         current         history2         history2           Iron         ppm         ASTM D5185m         >50         0         <1	Sample Date		Client Info		30 Oct 2023	29 Aug 2023	23 May 2023
Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         Image Status         Image Status         Image Status         Normal Norm	Machine Age	hrs	Client Info		4671	-	
Oil Changed         Client Info         N/A         N/A         N/A         N/A           Sample Status         Image Status         Image Status         Image Status         Normal Norm	Oil Age	hrs	Client Info		0	0	0
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0         <1	Oil Changed		Client Info		N/A	N/A	N/A
Iron         ppm         ASTM D5185m         >50         0         <1	Sample Status				ABNORMAL	NORMAL	NORMAL
Ppm         ASTM D5185m         >10         <1	WEAR METALS		method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185m         >10         <1         0         <1           Nickel         ppm         ASTM D5185m         >3         0         <1	Iron	ppm	ASTM D5185m	>50	0	<1	0
Titanium         ppm         ASTM D5185m         >3         0         <1         0           Silver         ppm         ASTM D5185m         >2         0         0         <1	Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Titanium         ppm         ASTM D5185m         >3         0         <1         0           Silver         ppm         ASTM D5185m         >2         0         0         <1	Nickel		ASTM D5185m	>3	0		0
Silver         ppm         ASTM D5185m         >2         0         0         <1           Aluminum         ppm         ASTM D5185m         >10         0         0         <1	Titanium		ASTM D5185m	>3	0	<1	0
Aluminum         ppm         ASTM D5185m         >10         7         8         4           Lead         ppm         ASTM D5185m         >10         0         0         <1	Silver			>2	0	0	<1
Lead         ppm         ASTM D5185m         >10         0         0         <1           Copper         ppm         ASTM D5185m         >50         <1	Aluminum		ASTM D5185m	>10	7	8	4
Copper         ppm         ASTM D5185m         >50         <1         <1         0           Tin         ppm         ASTM D5185m         >10         0         0         0           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         0         0         <1	Lead				0		
Tin         ppm         ASTM D5185m         >10         0         0         0           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         6         0         0           Barium         ppm         ASTM D5185m         90         6         0         0           Magnese         ppm         ASTM D5185m         90         5         0         10           Calcium         ppm         ASTM D5185m         90         5         0         0         0           Phosphorus         ppm         ASTM D5185m         2         0         0         0         0           Sulfur         ppm         ASTM D5185m         2         0         5         0         0           Sulfur         ppm         ASTM D5185m         2         1         1         1         1           Sulfur         ppm         ASTM D5185m	Copper		ASTM D5185m	>50	<1	<1	0
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         6         0         0           Maganese         ppm         ASTM D5185m         0         0         <1	Tin						
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         6         0         0         <1           Manganese         ppm         ASTM D5185m         0         0         <1         <1           Magnesium         ppm         ASTM D5185m         0         0         <1         <1           Magnese         ppm         ASTM D5185m         0         0         <10         <10           Calcium         ppm         ASTM D5185m         2         0         0         0         0           Calcium         ppm         ASTM D5185m         2         0         0         0         2           Sulfur         ppm         ASTM D5185m         146         193         200         2           Sulfur         ppm         ASTM D5185m         2         1         1         1           Solicon         ppm         ASTM D5185m         20 <th< td=""><td>Vanadium</td><td></td><td></td><td>-</td><th></th><td></td><td></td></th<>	Vanadium			-			
Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         90         6         0         0           Molybdenum         ppm         ASTM D5185m         0         0         <1	Cadmium						
Barium         ppm         ASTM D5185m         90         6         0         0           Molybdenum         ppm         ASTM D5185m         0         0         <1         <1           Manganese         ppm         ASTM D5185m         90         5         0         10           Calcium         ppm         ASTM D5185m         90         5         0         0           Calcium         ppm         ASTM D5185m         2         0         0         0           Calcium         ppm         ASTM D5185m         146         193         200         2           Zinc         ppm         ASTM D5185m         1557         1872         2140           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1         <1         <1           Sodium         ppm         ASTM D5185m         >20         2         1         <1         <1           Water         %         ASTM D5185m         >20         2         1         <1         <1           Water         ppm         ASTM D6304         >0.05	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         90         5         0         10           Calcium         ppm         ASTM D5185m         90         5         0         0           Calcium         ppm         ASTM D5185m         2         0         0         0           Calcium         ppm         ASTM D5185m         146         193         200           Zinc         ppm         ASTM D5185m         146         193         200           Sulfur         ppm         ASTM D5185m         1557         1872         2140           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese         ppm         ASTM D5185m         0         <1         <1           Magnesium         ppm         ASTM D5185m         90         5         0         10           Calcium         ppm         ASTM D5185m         2         0         0         0           Phosphorus         ppm         ASTM D5185m         146         193         200           Zinc         ppm         ASTM D5185m         146         193         200           Sulfur         ppm         ASTM D5185m         2         0         5           Sulfur         ppm         ASTM D5185m         2         0         3         2           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1	Barium	ppm	ASTM D5185m	90	6	0	0
Magnesium         ppm         ASTM D5185m         90         5         0         10           Calcium         ppm         ASTM D5185m         2         0         0         0           Phosphorus         ppm         ASTM D5185m         146         193         200           Zinc         ppm         ASTM D5185m         1557         1872         2140           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1	Molybdenum	ppm	ASTM D5185m		0	0	<1
Calcium       ppm       ASTM D5185m       2       0       0       0         Phosphorus       ppm       ASTM D5185m       146       193       200         Zinc       ppm       ASTM D5185m       2       0       5         Sulfur       ppm       ASTM D5185m       1557       1872       2140         CONTAMINANTS       method       limit/base       current       history1       history2         Silicon       ppm       ASTM D5185m       >25       <1	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus         ppm         ASTM D5185m         146         193         200           Zinc         ppm         ASTM D5185m         2         0         5           Sulfur         ppm         ASTM D5185m         1557         1872         2140           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1	Magnesium	ppm	ASTM D5185m	90	5	0	10
Zinc         ppm         ASTM D5185m         2         0         5           Sulfur         ppm         ASTM D5185m         1557         1872         2140           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1	Calcium	ppm	ASTM D5185m	2	0	0	0
Sulfur         ppm         ASTM D5185m         1557         1872         2140           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1         <1         <1           Sodium         ppm         ASTM D5185m         >25         <1         <1         <1         <1           Sodium         ppm         ASTM D5185m         >20         2         1         <1         <1           Potassium         ppm         ASTM D5185m         >20         2         1         <1         <1           Water         %         ASTM D6304         >0.05         0.006         0.005         0.004           ppm Water         ppm         ASTM D6304         >500         60.8         55.9         49.0           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         1300         5520         172         138           Particles >1µm         ASTM D7647         >80         611         8         18           Particles >38µm         ASTM D7647	Phosphorus	ppm	ASTM D5185m		146	193	200
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         <1	Zinc	ppm	ASTM D5185m		2	0	5
Silicon         ppm         ASTM D5185m         >25         <1         <1         <1           Sodium         ppm         ASTM D5185m         0         3         2           Potassium         ppm         ASTM D5185m         >20         2         1         <1	Sulfur	ppm	ASTM D5185m		1557	1872	2140
Sodium         ppm         ASTM D5185m         0         3         2           Potassium         ppm         ASTM D5185m<>20         2         1         <1           Water         %         ASTM D6304         >0.05         0.006         0.005         0.004           ppm Water         ppm         ASTM D6304         >500         60.8         55.9         49.0           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         16068         1158         456           Particles >6µm         ASTM D7647         >1300         5520         172         138           Particles >14µm         ASTM D7647         >80         611         8         18           Particles >21µm         ASTM D7647         >20         190         2         3           Particles >38µm         ASTM D7647         >3         1         0         0           Particles >71µm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION <td< th=""><th>CONTAMINANTS</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         2         1         <1           Water         %         ASTM D6304         >0.05         0.006         0.005         0.004           ppm         ASTM D6304         >500         60.8         55.9         49.0           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         16068         1158         456           Particles >6µm         ASTM D7647         >1300         5520         172         138           Particles >14µm         ASTM D7647         >80         611         8         18           Particles >21µm         ASTM D7647         >20         190         2         3           Particles >38µm         ASTM D7647         >3         1         0         0           Particles >71µm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Silicon	ppm	ASTM D5185m	>25	<1	<1	<1
Water       %       ASTM D6304       >0.05       0.006       0.005       0.004         ppm       Water       ppm       ASTM D6304       >500       60.8       55.9       49.0         FLUID CLEANLINESS       method       limit/base       current       history1       history2         Particles >4µm       ASTM D7647       16068       1158       456         Particles >6µm       ASTM D7647       >1300       5520       172       138         Particles >6µm       ASTM D7647       >80       611       8       18         Particles >14µm       ASTM D7647       >20       190       2       3         Particles >21µm       ASTM D7647       >4       11       0       0         Particles >38µm       ASTM D7647       >3       1       0       0         Oil Cleanliness       ISO 4406 (c)       >/17/13       21/20/16       17/15/10       16/14/11         FLUID DEGRADATION       method       limit/base       current       history1       history2	Sodium	ppm	ASTM D5185m		0	3	2
ppm Water         ppm         ASTM D6304         >500         60.8         55.9         49.0           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         16068         1158         456           Particles >6µm         ASTM D7647         >1300         5520         172         138           Particles >6µm         ASTM D7647         >80         611         8         18           Particles >14µm         ASTM D7647         >20         190         2         3           Particles >21µm         ASTM D7647         >4         11         0         0           Particles >38µm         ASTM D7647         >3         1         0         0           Particles >71µm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)        /17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Potassium	ppm	ASTM D5185m	>20	2	1	<1
FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         16068         1158         456           Particles >6µm         ASTM D7647         >1300         5520         172         138           Particles >14µm         ASTM D7647         >80         611         8         18           Particles >21µm         ASTM D7647         >20         190         2         3           Particles >38µm         ASTM D7647         >4         11         0         0           Particles >71µm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Water	%	ASTM D6304	>0.05	0.006	0.005	0.004
Particles >4µm       ASTM D7647       16068       1158       456         Particles >6µm       ASTM D7647       >1300       5520       172       138         Particles >14µm       ASTM D7647       >80       611       8       18         Particles >21µm       ASTM D7647       >20       190       2       3         Particles >21µm       ASTM D7647       >20       11       0       0         Particles >38µm       ASTM D7647       >4       11       0       0         Particles >71µm       ASTM D7647       >3       1       0       0         Oil Cleanliness       ISO 4406 (c)       >/17/13       21/20/16       17/15/10       16/14/11	ppm Water	ppm	ASTM D6304	>500	60.8	55.9	49.0
Particles >6µm         ASTM D7647         >1300         5520         172         138           Particles >14µm         ASTM D7647         >80         611         8         18           Particles >21µm         ASTM D7647         >20         190         2         3           Particles >38µm         ASTM D7647         >4         11         0         0           Particles >38µm         ASTM D7647         >4         11         0         0           Particles >71µm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14µm       ASTM D7647       >80       ▲ 611       8       18         Particles >21µm       ASTM D7647       >20       ▲ 190       2       3         Particles >38µm       ASTM D7647       >4       ▲ 11       0       0         Particles >71µm       ASTM D7647       >3       1       0       0         Oil Cleanliness       ISO 4406 (c)       >/17/13       ▲ 21/20/16       17/15/10       16/14/11	Particles >4µm						
Particles >21μm         ASTM D7647         >20         190         2         3           Particles >38μm         ASTM D7647         >4         11         0         0           Particles >71μm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >6µm		ASTM D7647	>1300		172	
Particles >38μm         ASTM D7647         >4         ▲ 11         0         0           Particles >71μm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2							
Particles >71μm         ASTM D7647         >3         1         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >21µm			>20			
Oil Cleanliness         ISO 4406 (c)         >/17/13         21/20/16         17/15/10         16/14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >38µm				<u> </u>	0	0
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3			
	Oil Cleanliness		ISO 4406 (c)	>/17/13	<b>A</b> 21/20/16	17/15/10	16/14/11
Acid Number (AN)         mg KOH/g         ASTM D8045         0.4         0.457         0.44         0.42	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.457	0.44	0.42

Contact/Location: Service Manager - STACHE



Built for a lifetime

## **OIL ANALYSIS REPORT**



en

Acid Number

0.50

(B/HOX Ê0.3 Ê 0.20 Pio 0.1

1000

600 Water (

4000

200

52

5

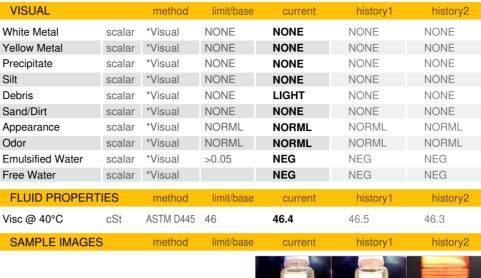
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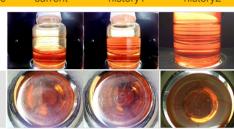
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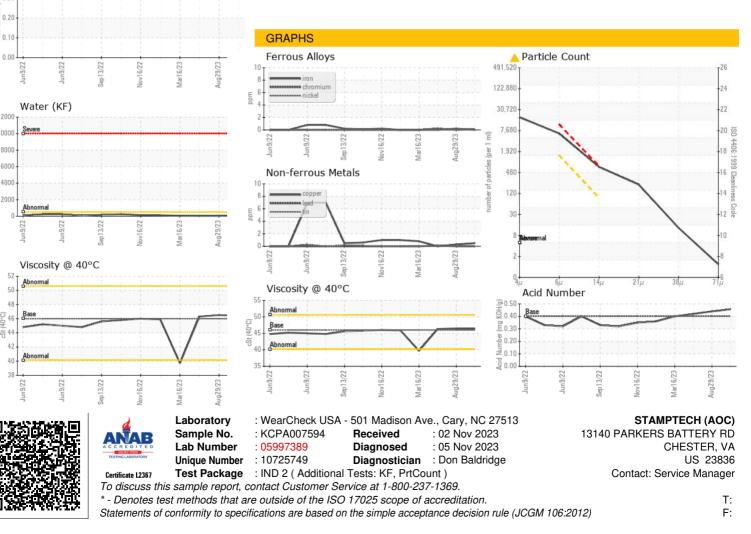
muu







Bottom



Contact/Location: Service Manager - STACHE