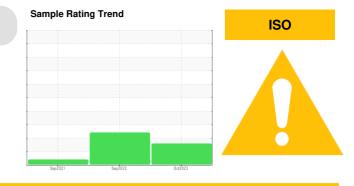


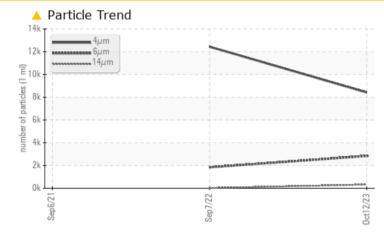
## **PROBLEM SUMMARY**



## Machine Id 7334401 (S/N 1476) Component

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

## COMPONENT CONDITION SUMMARY



## 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.

#### **PROBLEMATIC TEST RESULTS** Sample Status ABNORMAL ABNORMAL ABNORMAL Particles >6µm ASTM D7647 >1300 2841 **1838** -Particles >14µm ASTM D7647 >80 324 17 2 Particles >21µm ASTM D7647 >20 105 **Oil Cleanliness** ISO 4406 (c) >--/17/13 **A 20/19/16** 21/18/11

Customer Id: SILNEWCA Sample No.: KCPA006846 Lab Number: 05980423 Test Package: IND 2



To manage this report scan the QR code

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 <u>customerservice@wearcheck.com</u> There are no recommended actions for this sample.

## **HISTORICAL DIAGNOSIS**

## 07 Sep 2022 Diag: Don Baldridge



## Oil and filter change at the time of sampling has been noted. We recommend an early resample in 500 hours to monitor this condition.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a light concentration of water present in the oil. The AN level is acceptable for this fluid.

### 06 Sep 2021 Diag: Don Baldridge



No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



view report





## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method limit/base

# Sample Rating Trend ISO ISO

current

history1

historv2

Machine Id 7334401 (S/N 1476) 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.

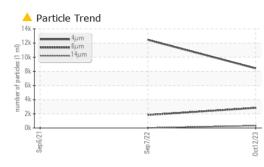
Sample Date    Client Info    12 Oct 2023    07 Sep 2022    06 Sep 20      Machine Age    hrs    Client Info    16665    12148    3418      Oil Age    hrs    Client Info    0    14000    2000      Sample Status    Client Info    N/A    ABNORMAL    ABNORMAL    ABNORMAL      WEAR METALS    method    Imit/base    current    history1    history1      Iron    ppm    ASTM D5185m    >50    0    0    <1      Nickel    ppm    ASTM D5185m    >3    0    0    0      Silver    ppm    ASTM D5185m    >10    0    0    0      Capper    ppm    ASTM D5185m    >10    0    0    0      Aritimony    ppm    ASTM D5185m    >10    1    0    0      Aritimony    ppm    ASTM D5185m    0    0    0    0      Aritimony    ppm    ASTM D5185m    0    0    0    0	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age    hrs    Client Info    16665    12148    3418      Oil Age    hrs    Client Info    0    14000    2000      Oil Changed    Client Info    N/A    Changed    Changed      Sample Status    method    imit/base    current    history1    history1      Iron    ppm    ASTM D5185m    >50    0    0    0      Nickel    ppm    ASTM D5185m    >3    <1	Sample Number		Client Info		KCPA006846	KCP30909	KCP41766
Oll Age    Ins    Client Info    0    14000    2000      Oil Changed    Client Info    N/A    Changed    Changed      Sample Status    method    limit/base    current    history1    history1      Iron    ppm    ASTM D5185m    >50    0    0    <1	Sample Date		Client Info		12 Oct 2023	07 Sep 2022	06 Sep 2021
Oil Changed    Client Info    N/A    Changed    Changed    ABNORMAL    ABNORMAL	Machine Age	hrs	Client Info		16665	12148	3418
Sample Status    method    limit/base    current    history1    ABNORMAL    ABNORMAL    ABNORMAL      WEAR METALS    method    limit/base    current    history1    history1      Iron    ppm    ASTM D5185m    >50    0    0    0      Nickel    ppm    ASTM D5185m    >3    <1	Oil Age	hrs	Client Info		0	14000	2000
WEAR METALS    method    limit/base    current    history1    history1      Iron    ppm    ASTM D5185m    >50    0    0    <1	Oil Changed		Client Info		N/A	Changed	Changed
Iron    ppm    ASTM D5185m    >50    0    0    <1      Chromium    ppm    ASTM D5185m    >3    <1	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Chromium    ppm    ASTM D5185m    >10    0    0    0      Nickel    ppm    ASTM D5185m    >3    0    0    0      Silver    ppm    ASTM D5185m    >2    0    0    0      Aluminum    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    >3    0    0    0      Silver    ppm    ASTM D5185m    >2    0    0    0      Aluminum    ppm    ASTM D5185m    >10    <1	Iron	ppm	ASTM D5185m	>50	0	0	<1
Titanium    ppm    ASTM D5185m    >3    0    0    0      Silver    ppm    ASTM D5185m    >2    0    0    0      Aluminum    ppm    ASTM D5185m    >10    <1	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver    ppm    ASTM D5185m    >2    0    0    0      Aluminum    ppm    ASTM D5185m    >10    <1	Nickel	ppm	ASTM D5185m	>3	<1	0	0
Atuminum    ppm    ASTM D5185m    >10    <1    <1    <1    <1      Lead    ppm    ASTM D5185m    >10    0    0    0      Copper    ppm    ASTM D5185m    >50    7    12    24      Tin    ppm    ASTM D5185m    >10    <1	Titanium	ppm	ASTM D5185m	>3	0	0	0
Lead    ppm    ASTM D5185m    >10    0    0    0      Copper    ppm    ASTM D5185m    >50    7    12    24      Tin    ppm    ASTM D5185m    >10    <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper    ppm    ASTM D5185m    >50    7    12    24      Tin    ppm    ASTM D5185m    >10    <1	Aluminum	ppm	ASTM D5185m	>10	<1	<1	<1
Tin    ppm    ASTM D5185m    >10    <1    0    0      Antimony    ppm    ASTM D5185m    0    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    history1      Boron    ppm    ASTM D5185m    0    0    0    0      Molybdenum    ppm    ASTM D5185m    0    0    0    0      Magnesium    ppm    ASTM D5185m    0    <1	Lead	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      ADDITIVES    method    limit/base    current    history1    history1      Boron    ppm    ASTM D5185m    0    0    0    0      Molybdenum    ppm    ASTM D5185m    0    0    0    0      Manganese    ppm    ASTM D5185m    0    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	Copper	ppm	ASTM D5185m	>50	7	12	24
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    0        Boron    ppm    ASTM D5185m    0    0    0        Boron    ppm    ASTM D5185m    0    0    0        Molybdenum    ppm    ASTM D5185m    0    0    0    0    0      Marganese    ppm    ASTM D5185m    0    <.1    2    3      Zinc    ppm    ASTM D5185m    0    <.1    0    71      Sulfur    ppm    ASTM D5185m    23500    21708    15895    15888      CONTAMINANTS    method    limit/base    current    history1    history1      Silicon    ppm    ASTM D5	Tin	ppm	ASTM D5185m	>10	<1	0	0
Cadmium    ppm    ASTM D5185m    0    0    0      ADDITIVES    method    limit/base    current    history1    history1      Boron    ppm    ASTM D5185m    0    0    0    -1      Barium    ppm    ASTM D5185m    90    0    1    0      Molybdenum    ppm    ASTM D5185m    0    0    0    0      Magnese    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    100    21    0    0      Calcium    ppm    ASTM D5185m    0    <11	Antimony	ppm	ASTM D5185m				0
ADDITIVES    method    limit/base    current    history1    history1      Boron    ppm    ASTM D5185m    0    0    0    1    0      Barium    ppm    ASTM D5185m    90    0    1    0      Molybdenum    ppm    ASTM D5185m    0    0    0    0      Magnesium    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron    ppm    ASTM D5185m    0    0    0    1    0      Barium    ppm    ASTM D5185m    90    0    1    0      Molybdenum    ppm    ASTM D5185m    0    0    0    0      Manganese    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium    ppm    ASTM D5185m    90    0    1    0      Molybdenum    ppm    ASTM D5185m    0    0    0    0      Manganese    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum    ppm    ASTM D5185m    0    0    0    0    0      Manganese    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	Boron	ppm	ASTM D5185m	0	0	0	<1
Marganese    ppm    ASTM D5185m    0    0    0    0      Magnesium    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	Barium	ppm	ASTM D5185m	90	0	1	0
Magnesium    ppm    ASTM D5185m    100    2    0    7      Calcium    ppm    ASTM D5185m    0    <1	Molybdenum	ppm	ASTM D5185m	0	0	0	0
Calcium    ppm    ASTM D5185m    0    <1    0    0      Phosphorus    ppm    ASTM D5185m    0    <1	Manganese	ppm	ASTM D5185m		0	0	0
Phosphorus    ppm    ASTM D5185m    0    <1    2    3      Zinc    ppm    ASTM D5185m    0    <1    0    71      Sulfur    ppm    ASTM D5185m    23500    21708    15895    15888      CONTAMINANTS    method    limit/base    current    history1    history1      Silicon    ppm    ASTM D5185m    >25    <1    0    1      Sodium    ppm    ASTM D5185m    >25    <1    0    1      Sodium    ppm    ASTM D5185m    >20    1    0    0      Potassium    ppm    ASTM D6304    >0.05    0.007    △    0.147    0.006      pm Water    pm    ASTM D6304    >500    72.2    △    1474.7    67.4      FLUID CLEANLINESS    method    limit/base    current    history1    history1      Particles >4µm    ASTM D7647    >1300    28411    △    1838       Particles >21µm<	Magnesium	ppm	ASTM D5185m	100	2	0	7
Zinc  ppm  ASTM D5185m  0  <1  0  71    Sulfur  ppm  ASTM D5185m  23500  21708  15895  15888    CONTAMINANTS  method  limit/base  current  history1  history1    Silicon  ppm  ASTM D5185m  >25  <1  0  1    Sodium  ppm  ASTM D5185m  >25  <1  0  1    Sodium  ppm  ASTM D5185m  >20  1  0  0    Potassium  ppm  ASTM D5185m  >20  1  0  0    Water  %  ASTM D6304  >0.05  0.007  △  0.147  0.006    ppm Water  ppm  ASTM D6304  >500  72.2  △  1474.7  67.4    FLUID CLEANLINESS  method  limit/base  current  history1  history1    Particles >4µm  ASTM D7647  8419  12441     Particles >6µm  ASTM D7647  >1300  28411  1838     Particles >14µm  ASTM D7647	Calcium	ppm	ASTM D5185m	0	<1	0	0
Sulfur  ppm  ASTM D5185m  23500  21708  15895  15888    CONTAMINANTS  method  limit/base  current  history1  history1    Silicon  ppm  ASTM D5185m  >25  <1  0  1    Sodium  ppm  ASTM D5185m  >20  1  0  1    Potassium  ppm  ASTM D5185m  >20  1  0  0    Vater  %  ASTM D50304  >0.05  0.0007  △  0.147  0.006    ppm Water  ppm  ASTM D6304  >500  72.2  △  1474.7  67.4    FLUID CLEANLINESS  method  limit/base  current  history1  history1    Particles >4µm  ASTM D7647  8419  12441     Particles >6µm  ASTM D7647  >1300  2841  △  1838     Particles >14µm  ASTM D7647  >80  △  324  17     Particles >21µm  ASTM D7647  >4  4  0      Particles >21µm<	Phosphorus	ppm	ASTM D5185m	0	<1	2	3
CONTAMINANTS    method    limit/base    current    history1    history1      Silicon    ppm    ASTM D5185m    >25    <1	Zinc	ppm	ASTM D5185m	0	<1	0	71
Silicon  ppm  ASTM D5185m  >25  <1  0  1    Sodium  ppm  ASTM D5185m  >20  0  <1  0  0    Potassium  ppm  ASTM D5185m  >20  1  0  0  0    Water  %  ASTM D6304  >0.05  0.007  ▲ 0.147  0.006    ppm Water  ppm  ASTM D6304  >500  72.2  ▲ 1474.7  67.4    FLUID CLEANLINESS  method  limit/base  current  history1  history1    Particles >4µm  ASTM D7647  >1300  ▲ 2841  ▲ 1838     Particles >6µm  ASTM D7647  >80  ▲ 324  17     Particles >1µm  ASTM D7647  >20  ▲ 105  2     Particles >21µm  ASTM D7647  >4  4  0     Particles >38µm  ASTM D7647  >3  0  0     Particles >71µm  ASTM D7647  >3  0  0     Oil Cleanliness  ISO 4406 (c) /17/13  <	Sulfur	ppm	ASTM D5185m	23500	21708	15895	15888
Sodium    ppm    ASTM D5185m    0    <1    0      Potassium    ppm    ASTM D5185m    >20    1    0    0      Water    %    ASTM D6304    >0.05    0.007    ▲ 0.147    0.006      ppm Water    ppm    ASTM D6304    >500    72.2    ▲ 1474.7    67.4      FLUID CLEANLINESS    method    limit/base    current    history1    history1      Particles >4µm    ASTM D7647    8419    12441       Particles >6µm    ASTM D7647    >1300    2841    1838       Particles >14µm    ASTM D7647    >80    324    17       Particles >21µm    ASTM D7647    >20    105    2       Particles >38µm    ASTM D7647    >3    0    0       Particles >71µm    ASTM D7647    >3    0    0       Oil Cleanliness    ISO 4406 (c)    >/17/13    20/19/16    21/18/11	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium    ppm    ASTM D5185m    >20    1    0    0      Water    %    ASTM D6304    >0.05    0.007    ▲ 0.147    0.006      ppm Water    ppm    ASTM D6304    >500    72.2    ▲ 1474.7    67.4      FLUID CLEANLINESS    method    limit/base    current    history1    history1      Particles >4µm    ASTM D7647    8419    12441       Particles >6µm    ASTM D7647    >1300    2841    ▲ 1838       Particles >14µm    ASTM D7647    >80    ▲ 324    17       Particles >21µm    ASTM D7647    >20    ▲ 105    2       Particles >21µm    ASTM D7647    >4    0        Particles >38µm    ASTM D7647    >3    0    0       Oil Cleanliness    ISO 4406 (c)    >/17/13    20/19/16    21/18/11	Silicon	ppm	ASTM D5185m	>25	<1	0	1
Water    %    ASTM D6304    >0.05    0.007    0.147    0.006      ppm Water    ppm    ASTM D6304    >500    72.2    1474.7    67.4      FLUID CLEANLINESS    method    limit/base    current    history1    history1      Particles >4µm    ASTM D7647    8419    12441       Particles >6µm    ASTM D7647    >1300    2841    1838       Particles >6µm    ASTM D7647    >80    324    17       Particles >21µm    ASTM D7647    >20    105    2       Particles >38µm    ASTM D7647    >4    0       Particles >71µm    ASTM D7647    >3    0    0       Oil Cleanliness    ISO 4406 (c)    >/17/13    20/19/16    21/18/11       FLUID DEGRADATION    method    limit/base    current    history1    history1	Sodium	ppm	ASTM D5185m		0	<1	0
ppm Water    ppm    ASTM D6304    >500    72.2    ▲ 1474.7    67.4      FLUID CLEANLINESS    method    limit/base    current    history1    history1      Particles >4µm    ASTM D7647    8419    12441       Particles >6µm    ASTM D7647    >1300    ▲ 2841    ▲ 1838       Particles >14µm    ASTM D7647    >80    ▲ 324    17       Particles >21µm    ASTM D7647    >20    ▲ 105    2       Particles >38µm    ASTM D7647    >4    0       Particles >71µm    ASTM D7647    >3    0       Oil Cleanliness    ISO 4406 (c)   /17/13    20/19/16    21/18/11       FLUID DEGRADATION    method    limit/base    current    history1    history1	Potassium	ppm	ASTM D5185m	>20	1	0	0
FLUID CLEANLINESS    method    limit/base    current    history1    history1      Particles >4µm    ASTM D7647    8419    12441     Particles >6µm    ASTM D7647    >1300    2841    1838     Particles >14µm    ASTM D7647    >80    324    17     Particles >21µm    ASTM D7647    >20    105    2     Particles >38µm    ASTM D7647    >4    4    0     Particles >71µm    ASTM D7647    >3    0    0     Particles >71µm    ASTM D7647    3    0    0     Particles >71µm    ASTM D7647    >3    0    0     Particles >71µm    ASTM D7647    >3    0    0     Particles >71µm    ASTM D7647    >3    20/19/16    21/18/11	Water	%	ASTM D6304	>0.05	0.007	<b>0</b> .147	0.006
Particles >4μm  ASTM D7647  8419  12441     Particles >6μm  ASTM D7647  >1300  2841  1838     Particles >14μm  ASTM D7647  >80  324  17     Particles >14μm  ASTM D7647  >20  105  2     Particles >21μm  ASTM D7647  >20  105  2     Particles >38μm  ASTM D7647  >4  4  0     Particles >71μm  ASTM D7647  >3  0  0     Oil Cleanliness  ISO 4406 (c)  >/17/13  20/19/16  21/18/11     FLUID DEGRADATION  method  limit/base  current  history1  history1	ppm Water	ppm	ASTM D6304	>500	72.2	▲ 1474.7	67.4
Particles >6µm  ASTM D7647  >1300  ▲ 2841  ▲ 1838     Particles >14µm  ASTM D7647  >80  ▲ 324  17     Particles >21µm  ASTM D7647  >20  ▲ 105  2     Particles >38µm  ASTM D7647  >4  4  0     Particles >71µm  ASTM D7647  >3  0  0     Oil Cleanliness  ISO 4406 (c)  >/17/13  ▲ 20/19/16  ▲ 21/18/11     FLUID DEGRADATION  method  limit/base  current  history1  history1	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14µm  ASTM D7647  >80  ▲ 324  17     Particles >21µm  ASTM D7647  >20  ▲ 105  2     Particles >38µm  ASTM D7647  >4  4  0     Particles >71µm  ASTM D7647  >3  0  0     Oil Cleanliness  ISO 4406 (c)  >/17/13  ▲ 20/19/16  ▲ 21/18/11     FLUID DEGRADATION  method  limit/base  current  history1  history1	Particles >4µm		ASTM D7647		8419	12441	
Particles >21μm    ASTM D7647    >20    ▲ 105    2       Particles >38μm    ASTM D7647    >4    4    0       Particles >38μm    ASTM D7647    >4    4    0       Particles >71μm    ASTM D7647    >3    0    0       Oil Cleanliness    ISO 4406 (c)    >/17/13    ▲ 20/19/16    ▲ 21/18/11       FLUID DEGRADATION    method    limit/base    current    history1    history1	Particles >6µm		ASTM D7647	>1300	<u> </u>	<u> </u>	
Particles >38μm    ASTM D7647    >4    4    0       Particles >71μm    ASTM D7647    >3    0    0       Oil Cleanliness    ISO 4406 (c)    >/17/13    ▲ 20/19/16    ▲ 21/18/11       FLUID DEGRADATION    method    limit/base    current    history1    history1	Particles >14µm		ASTM D7647	>80	<b>A</b> 324	17	
Particles >71μm    ASTM D7647    >3    0    0       Oil Cleanliness    ISO 4406 (c)    >/17/13    ▲ 20/19/16    ▲ 21/18/11       FLUID DEGRADATION    method    limit/base    current    history1    history1	Particles >21µm		ASTM D7647	>20	🔺 105	2	
Oil Cleanliness  ISO 4406 (c) >/17/13   20/19/16   21/18/11    FLUID DEGRADATION  method  limit/base  current  history1  history1	Particles >38µm		ASTM D7647	>4	4	0	
FLUID DEGRADATION method limit/base current history1 history	Particles >71µm		ASTM D7647	>3	0	0	
· · · · ·	Oil Cleanliness		ISO 4406 (c)	>/17/13	<b>A</b> 20/19/16	▲ 21/18/11	
Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.39 0.42 0.410	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
1:14:36) Rev: 1 Contact/Location: CAITLIN N SILNEV	Acid Number (AN)	mg KOH/g	ASTM D8045	1.0			

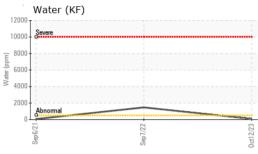
Report Id: SILNEWCA [WUSCAR] 05980423 (Generated: 10/19/2023 08:14:36) Rev: 1

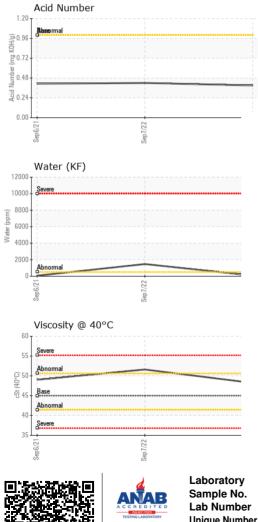
Deee

## KAESER COMPRESSORS Built for a lifetime."

# **OIL ANALYSIS REPORT**



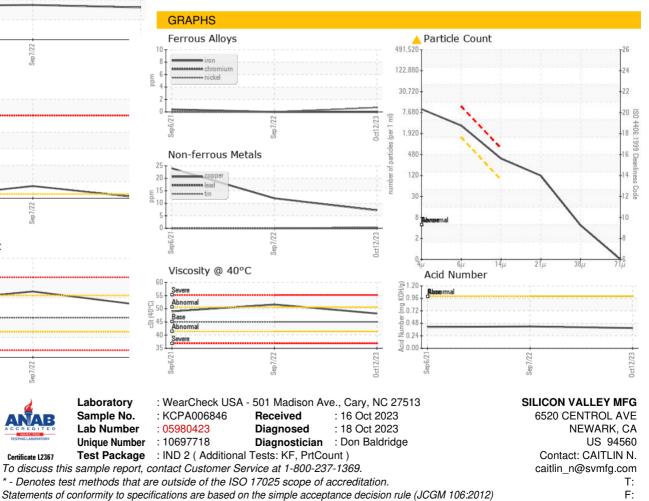




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	🔺 MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	48.2	51.6	49.0
SAMPLE IMAGES	S	method	limit/base	current	history1	history2
Color						



Bottom



Contact/Location: CAITLIN N. - SILNEWCA