

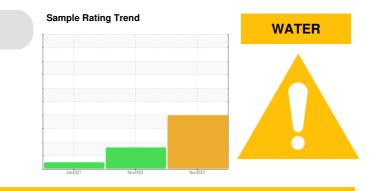
### **PROBLEM SUMMARY**

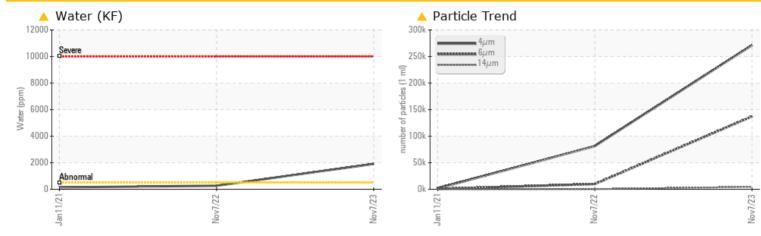
# KAESER ASD 25 6946811 (S/N 1069)

Compressor

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

### COMPONENT CONDITION SUMMARY





### RECOMMENDATION

The filter change at the time of sampling has been noted. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

### PROBLEMATIC TEST RESULTS

FRODLEWATIO I		50L15				
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Water	%	ASTM D6304	>0.05	<b>A</b> 0.191	0.026	0.014
ppm Water	ppm	ASTM D6304	>500	<b>A</b> 1910	267.2	144.4
Particles >6µm		ASTM D7647	>1300	<u> </u>	▲ 9802	625
Particles >14µm		ASTM D7647	>80	<b>4472</b>	<u> </u>	24
Particles >21µm		ASTM D7647	>20	🔺 267	<u> </u>	6
Particles >38µm		ASTM D7647	>4	<b>1</b> 1	4	0
Particles >71µm		ASTM D7647	>3	<u> </u>	0	0
Oil Cleanliness		ISO 4406 (c)	>/17/13	<b>A</b> 25/24/19	🔺 24/20/15	16/12

Customer Id: PAPWAS Sample No.: KCPA009406 Lab Number: 06013353 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

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

### **RECOMMENDED ACTIONS**

There are no recommended actions for this sample.

### HISTORICAL DIAGNOSIS

### 07 Nov 2022 Diag: Jonathan Hester



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a high 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.



#### 11 Jan 2021 Diag: Doug Bogart



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





### **OIL ANALYSIS REPORT**

### Machine Id KAESER ASD 25 6946811 (S/N 1069) Component

Compressor Fluic

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

### DIAGNOSIS

### Recommendation

The filter change at the time of sampling has been noted. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

### Wear

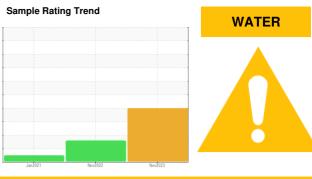
All component wear rates are normal.

### Contamination

There is a high amount of particulates 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.



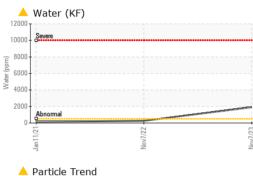
Machine Age   hrs   Client Info   4266   4996   523     Oil Age   irrs   Client Info   0   4473   523     Oil Changed   Canaged Info   N/A   Changed Changed   Changed     Sample Status   n   n   ABNORMAL   NORMAL   NORMAL     WEAR METALS   method   imit/base   current   history1   history2     Iron   ppm   ASTM 05185m   >50   <1   1   3     Chromium   ppm   ASTM 05185m   >10   0   0   0     Nickel   ppm   ASTM 05185m   >2   0   0   0     Silver   ppm   ASTM 05185m   >10   4   2   8     Lead   ppm   ASTM 05185m   >10   <1   0   <1     Antimony   ppm   ASTM 05185m   0   0   0   0     Cadamium   ppm   ASTM 05185m   0   0   0   0     Antimony </th <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
Machine Age hrs Client Info Q 4266 4996 523   Oil Ago hrs Client Info NA Changed Changed   Sample Status Client Info NA Changed Changed NORMAL   Sample Status n Na Changed NoRMAL NoRMAL NoRMAL   WEAR METALS method imit/bas current history NoRMAL NoRMAL NoRMAL NoRMAL   Iron ppm ASTM DS1650 >50 <1	Sample Number		Client Info		KCPA009406	KCP47191	KCP27231
Oil Age   hrs   Client Info   0   4473   523     Oil Changed   Client Info   NA   Changed   Changed     Sample Status   Imitbase   current   history1   Nistory2     Iron   ppm   ASTM D5185m   >50   <1	Sample Date		Client Info		07 Nov 2023	07 Nov 2022	11 Jan 2021
Oil Changed Sample Status   Client Info   N/A ABNORMAL   Changed ABNORMAL   Changed ABNORMAL   Changed ABNORMAL     WEAR METALS   method   limit/base   current   history1   history2     Iron   ppm   ASTM D5185n   >50   <1	Machine Age	hrs	Client Info		4266	4996	523
Sample Status   Image   ABNORMAL   ABNORMAL   NORMAL     WEAR METALS   method   limit/base   current   history1   history2     Iron   ppm   ASTM D5185n   >50   <1	Oil Age	hrs	Client Info		0	4473	523
WEAR METALS   method   limit/base   current   history1   history2     Iron   ppm   ASTM D5185m   >50   <1	Oil Changed		Client Info		N/A	Changed	Changed
Iron   ppm   ASTM D5185m   >50   <1   1   3     Chromium   ppm   ASTM D5185m   >3   <1	Sample Status				ABNORMAL	ABNORMAL	NORMAL
Chromium   ppm   ASTM D5185m   >10   0   0   0     Nickel   ppm   ASTM D5185m   >3   <1   0   <1     Titanium   ppm   ASTM D5185m   >2   0   0   0     Auminum   ppm   ASTM D5185m   >10   4   2   8     Lead   ppm   ASTM D5185m   >10   0   0   <1     Copper   ppm   ASTM D5185m   >10   <1   0   <1     Antimony   ppm   ASTM D5185m   >10   <1   0   0   0     Vanadium   ppm   ASTM D5185m   0   0   0   0   0     Astm D5185m   0   0   0   0   0   0   0     Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   1   1   1   8     Zinc   ppm   AST	WEAR METALS		method	limit/base	current	history1	history2
Nickel   ppm   ASTM D5185m   >3   <1   0   <1     Titanium   ppm   ASTM D5185m   >3   0   0   0     Silver   ppm   ASTM D5185m   >10   4   2   8     Lead   ppm   ASTM D5185m   >10   0   0   <1	Iron	ppm	ASTM D5185m	>50	<1	1	3
Titanium   ppm   ASTM D5185m   >3   0   0   0     Silver   ppm   ASTM D5185m   >10   4   2   8     Lead   ppm   ASTM D5185m   >10   0   0   <1	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver   ppm   ASTM D5185m   >2   0   0   0     Aluminum   ppm   ASTM D5185m   >10   4   2   8     Lead   ppm   ASTM D5185m   >10   0   0   <1	Nickel	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum   ppm   ASTM D5185m   >10   4   2   8     Lead   ppm   ASTM D5185m   >10   0   0   <1	Titanium	ppm	ASTM D5185m	>3	0	0	0
Lead   ppm   ASTM D5185m   >10   0   0   <1     Copper   ppm   ASTM D5185m   >50   11   7   <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper   ppm   ASTM D5185m   >50   11   7   <1     Tin   ppm   ASTM D5185m   >10   <1	Aluminum	ppm	ASTM D5185m	>10	4	2	8
Copper   ppm   ASTM D5185m   >50   11   7   <1     Tin   ppm   ASTM D5185m   >10   <1	Lead		ASTM D5185m	>10	0	0	<1
Tin ppm ASTM D5185m >10 <1 0 <1   Antimony ppm ASTM D5185m 0  0   Vanadium ppm ASTM D5185m 0 0 0 0   Cadmium ppm ASTM D5185m 0 0 0 0 0   ADDITIVES method limit/base current history1 history2   Boron ppm ASTM D5185m 0 0 0 0 0   Barium ppm ASTM D5185m 0 0 0 0 11 164   Magnese ppm ASTM D5185m 0 1 1 18 2   Calcium ppm ASTM D5185m 0 1 1 18 2   Sulfur ppm ASTM D5185m 0 164 100 2 2   Sulfur ppm ASTM D5185m 23500 17840 21357 16817   ContrAMINANTS method limit/base current history1 history2 <t< td=""><td>Copper</td><td></td><td>ASTM D5185m</td><td>&gt;50</td><th>11</th><td>7</td><td>&lt;1</td></t<>	Copper		ASTM D5185m	>50	11	7	<1
Antimony   ppm   ASTM D5185m     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   <1			ASTM D5185m	>10	<1	0	<1
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   10     Barium   ppm   ASTM D5185m   90   <1   0   0   0     Maganese   ppm   ASTM D5185m   0   0   0   0   <1     Magnesium   ppm   ASTM D5185m   100   7   5   66     Calcium   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   1   1   18     Sulfur   ppm   ASTM D5185m   0   1   1   1     Sodium   ppm   ASTM D5185m   225   <1   1   <1     Sodium   ppm   ASTM D6185m   20   1	Antimony		ASTM D5185m				0
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   <1			ASTM D5185m		0	0	0
Boron   ppm   ASTM D5185m   0   0   0   0   10     Barium   ppm   ASTM D5185m   90   <1   0   0     Molybdenum   ppm   ASTM D5185m   0   0   0   0   <1     Manganese   ppm   ASTM D5185m   100   7   5   66     Calcium   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >20   <1   2   53     Sodium   ppm   ASTM D5185m   >20   <1   2   53     Water   %   ASTM D6185m   <	Cadmium	ppm	ASTM D5185m		0	0	0
Boron   ppm   ASTM D5185m   0   0   0   10     Barium   ppm   ASTM D5185m   90   <1   0   0     Molybdenum   ppm   ASTM D5185m   0   0   0   <1   <1     Manganese   ppm   ASTM D5185m   100   7   5   66      Calcium   ppm   ASTM D5185m   100   7   5   66      Calcium   ppm   ASTM D5185m   0   1   1   18      Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >20   <1   2   53     Water   %   ASTM D5185m   >20   <1   2   53     Particles >4µm   ASTM	ADDITIVES		method	limit/base	current	history1	history2
Barium   ppm   ASTM D5185m   90   <1   0   0     Molybdenum   ppm   ASTM D5185m   0   0   0   <1	Boron	ppm	ASTM D5185m	0	0		
Molybdenum   ppm   ASTM D5185m   0   0   0   <1   <1     Manganese   ppm   ASTM D5185m   100   7   5   66     Calcium   ppm   ASTM D5185m   100   7   5   66     Calcium   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1	Barium		ASTM D5185m	90	<1	0	0
Manganese   ppm   ASTM D5185m   <1   <1   <1   <1     Magnesium   ppm   ASTM D5185m   100   7   5   66     Calcium   ppm   ASTM D5185m   0   2   0   2     Phosphorus   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1	Molybdenum		ASTM D5185m	0	0	0	<1
Magnesium   ppm   ASTM D5185m   100   7   5   66     Calcium   ppm   ASTM D5185m   0   2   0   2     Phosphorus   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1	-		ASTM D5185m		<1	<1	<1
Calcium   ppm   ASTM D5185m   0   2   0   2     Phosphorus   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1	•		ASTM D5185m	100	7	5	66
Phosphorus   ppm   ASTM D5185m   0   1   1   18     Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1   1   <1     Sodium   ppm   ASTM D5185m   >25   <1   1   <1     Sodium   ppm   ASTM D5185m   >20   <1   2   53     Water   %   ASTM D5185m   >20   <1   2   53     Water   %   ASTM D5185m   >20   <1   2   53     Particles >4µm   ASTM D5185m   >20   <1   0.026   0.014     ppm   ASTM D5165m   >20   <1910   267.2   144.4     FLUID CLEANLINESS   method   limit/base   current   history1	Calcium		ASTM D5185m	0	2	0	2
Zinc   ppm   ASTM D5185m   0   164   100   21     Sulfur   ppm   ASTM D5185m   23500   17840   21357   16817     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1	Phosphorus		ASTM D5185m	0	1	1	18
CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1			ASTM D5185m	0	164	100	21
Silicon ppm ASTM D5185m >25 <1 1 <1   Sodium ppm ASTM D5185m 2 9 10   Potassium ppm ASTM D5185m >20 <1 2 53   Water % ASTM D6304 >0.05 ▲ 0.191 0.026 0.014   ppm Water ppm ASTM D6304 >500 ▲ 1910 267.2 144.4   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 271288 81426 1555   Particles >6µm ASTM D7647 >1300 ▲ 137078 9802 625   Particles >14µm ASTM D7647 >20 ▲ 267 ▲ 40 6   Particles >21µm ASTM D7647 >3 ▲ 2 0 0   Particles >71µm ASTM D7647 >3 ▲ 2 0 0   Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 25/24/19 ▲ 24/20/15 16/12   FLUID DEGRADATION method limit/base current history1	Sulfur	ppm	ASTM D5185m	23500	17840	21357	16817
Silicon ppm ASTM D5185m >25 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium   ppm   ASTM D5185m   2   9   10     Potassium   ppm   ASTM D5185m   >20   <1	Silicon	ppm	ASTM D5185m	>25	د1		
Potassium ppm ASTM D5185m >20 <1 2 53   Water % ASTM D6304 >0.05 ▲ 0.191 0.026 0.014   ppm Water ppm ASTM D6304 >500 ▲ 1910 267.2 144.4   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 271288 81426 1555   Particles >6µm ASTM D7647 >1300 ▲ 137078 ● 9802 625   Particles >14µm ASTM D7647 >20 ▲ 267 ▲ 40 6   Particles >21µm ASTM D7647 >20 ▲ 267 ▲ 40 6   Particles >38µm ASTM D7647 >3 ▲ 2 0 0   Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 25/24/19 ▲ 24/20/15 16/12   FLUID DEGRADATION method limit/base current history1 history2				- 10			
Water % ASTM D6304 >0.05 ▲ 0.191 0.026 0.014   ppm Water ppm ASTM D6304 >500 ▲ 1910 267.2 144.4   FLUID CLEANLINESS method limit/base current history1 history2   Particles >4µm ASTM D7647 271288 81426 1555   Particles >6µm ASTM D7647 >1300 ▲ 137078 9802 625   Particles >14µm ASTM D7647 >80 ▲ 4472 238 24   Particles >21µm ASTM D7647 >20 ▲ 267 ▲ 40 6   Particles >38µm ASTM D7647 >3 ▲ 2 0 0   Oli Cleanliness ISO 4406 (c) >/17/13 ▲ 25/24/19 ▲ 24/20/15 16/12   FLUID DEGRADATION method limit/base current history1 history2				>20			
ppm Water   ppm   ASTM D6304   >500   ▲ 1910   267.2   144.4     FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   271288   81426   1555     Particles >6µm   ASTM D7647   >1300   ▲ 137078   ● 9802   625     Particles >14µm   ASTM D7647   >80   ▲ 4472   ▲ 238   24     Particles >21µm   ASTM D7647   >20   ▲ 2677   ▲ 40   6     Particles >38µm   ASTM D7647   >4   11   4   0     Particles >71µm   ASTM D7647   >3   ▲ 2   0   0     Oil Cleanliness   ISO 4406 (c)   >/17/13   ▲ 25/24/19   ▲ 24/20/15   16/12							
Particles >4µm ASTM D7647 271288 81426 1555   Particles >6µm ASTM D7647 >1300 137078 9802 625   Particles >14µm ASTM D7647 >80 4472 238 24   Particles >21µm ASTM D7647 >20 267 40 6   Particles >38µm ASTM D7647 >4 11 4 0   Particles >71µm ASTM D7647 >3 2 0 0   Oil Cleanliness ISO 4406 (c) >/17/13 25/24/19 24/20/15 16/12							
Particles >4µm ASTM D7647 271288 81426 1555   Particles >6µm ASTM D7647 >1300 137078 9802 625   Particles >14µm ASTM D7647 >80 4472 238 24   Particles >21µm ASTM D7647 >20 267 40 6   Particles >38µm ASTM D7647 >4 11 4 0   Particles >71µm ASTM D7647 >3 2 0 0   Oil Cleanliness ISO 4406 (c) >/17/13 25/24/19 24/20/15 16/12	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >6µm ASTM D7647 >1300 ▲ 137078 ▲ 9802 625   Particles >14µm ASTM D7647 >80 ▲ 4472 ▲ 238 24   Particles >21µm ASTM D7647 >20 ▲ 267 ▲ 40 6   Particles >38µm ASTM D7647 >4 ▲ 11 4 0   Particles >71µm ASTM D7647 >3 ▲ 2 0 0   Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 25/24/19 ▲ 24/20/15 16/12   FLUID DEGRADATION method limit/base current history1 history2							
Particles >14µm ASTM D7647 >80 ▲ 4472 ▲ 238 24   Particles >21µm ASTM D7647 >20 ▲ 267 ▲ 40 6   Particles >38µm ASTM D7647 >4 ▲ 11 4 0   Particles >71µm ASTM D7647 >3 ▲ 2 0 0   Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 25/24/19 ▲ 24/20/15 16/12   FLUID DEGRADATION method limit/base current history1 history2				>1300			
Particles >21μm   ASTM D7647   >20   ▲ 267   ▲ 40   6     Particles >38μm   ASTM D7647   >4   ▲ 11   4   0     Particles >37μm   ASTM D7647   >3   ▲ 2   0   0     Oil Cleanliness   ISO 4406 (c)   >/17/13   ▲ 25/24/19   ▲ 24/20/15   16/12     FLUID DEGRADATION   method   limit/base   current   history1   history2							
Particles >38μm   ASTM D7647   >4   ▲ 11   4   0     Particles >71μm   ASTM D7647   >3   ▲ 2   0   0     Oil Cleanliness   ISO 4406 (c)   >/17/13   ▲ 25/24/19   ▲ 24/20/15   16/12     FLUID DEGRADATION   method   limit/base   current   history1   history2							
Particles >71μm   ASTM D7647   >3   ▲ 2   0   0     Oil Cleanliness   ISO 4406 (c)   >/17/13   ▲ 25/24/19   ▲ 24/20/15   16/12     FLUID DEGRADATION   method   limit/base   current   history1   history2							
Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 25/24/19 ▲ 24/20/15 16/12   FLUID DEGRADATION method limit/base current history1 history2							
	FLUID DEGRADA		method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.38 0.44 0.268	Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.38	0.44	0.268

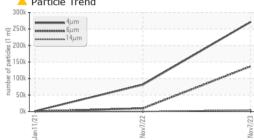
Contact/Location: SERVICE MANAGER ? - PAPWAS

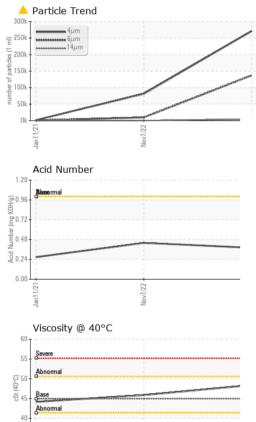
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## **OIL ANALYSIS REPORT**







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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	NONE
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	0.2%	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	48.4	45.9	44.2
SAMPLE IMAGES	S	method	limit/base	current	history1	history2
Color						

Bottom

