

### **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# 5112904 (S/N 1022) Compressor

Fluid 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.

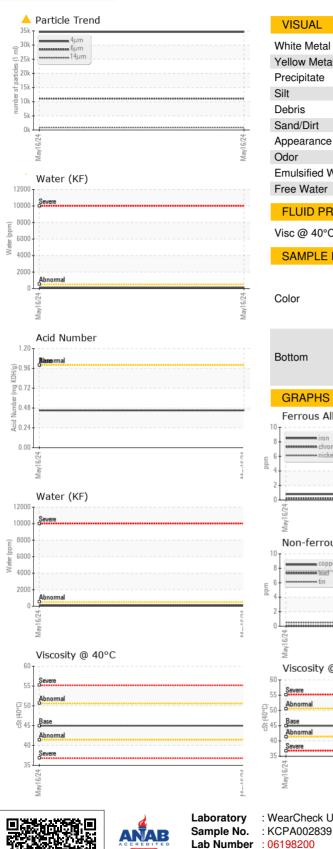
#### Fluid Condition

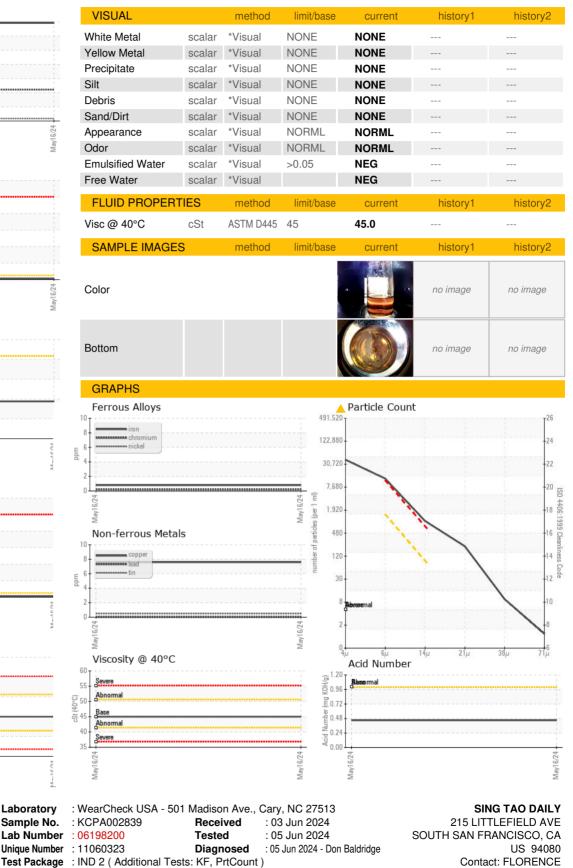
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample NumberClient InfoKCPA002839Sample DateClient Info16 May 202Oll AgehrsClient Info0Oll AgehrsClient InfoN/AOll AngedClient InfoN/ASample StatusClient InfoN/AWEAR METALSmethodImitbaseWEAR METALSmethodImitbaseTronppmASTM 05158-50-1NickelppmASTM 05158-300NickelppmASTM 05158-300SilverppmASTM 05158-102AluminumppmASTM 05158-10-1<AgandumppmASTM 05158-10-1<AdaminumppmASTM 05158-10-1AdaminumppmASTM 0515800AdaminumppmASTM 0515800ManganesppmASTM 0515810022AdaminumppmASTM 0515810023737ManganesppmASTM 05158-206ManganesppmASTM 05158	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age     hrs     Client Info     Intel Info     N/A         Oil Changed     Client Info     N/A         Sample Status     Intel Info     N/A         WEAR METALS     method     Ilmil/base     current     history1        WEAR METALS     method     Ilmil/base     current     history1        Nickel     ppm     ASTM D518m     >30     -1         Titanium     ppm     ASTM D518m     >30     0         Silver     ppm     ASTM D518m     >30     0         Copper     ppm     ASTM D518m     >10     0         Vanadium     ppm     ASTM D518m     >10     0         Vanadium     ppm     ASTM D518m     >10     0         Vanadium     ppm     ASTM D518m     >10     0         Maganese     ppm     ASTM D518m     0     0         Madaunese     ppm     ASTM D518m     0     0         Maganeseu     ppm     ASTM D518m     0     0	Sample Number		Client Info		KCPA002839		
Oil Age         hrs         Client Info         N/A             Sample Status         I         Image         ABNORMAL          Image         <	Sample Date		Client Info		16 May 2024		
Oli Changed         Client Info         N/A             Sample Status         rethod         limit/base         current         history1         history2           WEAR METALS         method         limit/base         current         history1            WEAR METALS         method         limit/base         current         history1            WEAR METALS         method         limit/base         current         history1            Chromium         ppm         ASTM D5185m         >50         <1             Nickel         ppm         ASTM D5185m         >30         <1             Aluminum         ppm         ASTM D5185m         >10         2             Copper         ppm         ASTM D5185m         >10         <1             Vanadium         ppm         ASTM D5185m         0         0             Cadmium         ppm         ASTM D5185m         0         0             Moldenum         ppm         ASTM D5185m         0         2	Machine Age	hrs	Client Info		17420		
Sample Status         Image         ABNORMAL          Inition/2           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         <1	Oil Age	hrs	Client Info		0		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         <1	Oil Changed		Client Info		N/A		
Iron         ppm         ASTM D5185m         >50         <1            Nickel         ppm         ASTM D5185m         >30             Nickel         ppm         ASTM D5185m         >3         0             Nickel         ppm         ASTM D5185m         >3         <1	Sample Status				ABNORMAL		
Chromium         ppm         ASTM D5185m         >10         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >3         0             Titanium         ppm         ASTM D5185m         >3         <1	Iron	ppm	ASTM D5185m	>50	<1		
Titanium         ppm         ASTM D5185m         >3         <1             Silver         ppm         ASTM D5185m         >2         0             Aluminum         ppm         ASTM D5185m         >10         2             Lead         ppm         ASTM D5185m         >10         0             Copper         ppm         ASTM D5185m         >10         <1	Chromium	ppm	ASTM D5185m	>10	<1		
Silver       ppm       ASTM D5185m       >2       0           Aluminum       ppm       ASTM D5185m       >10       2           Lead       ppm       ASTM D5185m       >10       0           Copper       ppm       ASTM D5185m       >10       <1	Nickel	ppm	ASTM D5185m	>3	0		
Aluminum       ppm       ASTM D5185m       >10       2           Lead       ppm       ASTM D5185m       >10       0           Copper       ppm       ASTM D5185m       >50       8           Vanadium       ppm       ASTM D5185m       >10       <1	Titanium	ppm	ASTM D5185m	>3	<1		
Lead         ppm         ASTM D5185m         >10         0             Copper         ppm         ASTM D5185m         >50         8             Tin         ppm         ASTM D5185m         >10         <1	Silver	ppm	ASTM D5185m	>2	0		
Copper         ppm         ASTM D5185m         >50         8             Tin         ppm         ASTM D5185m         >10         <1	Aluminum	ppm	ASTM D5185m	>10	2		
Tin       ppm       ASTM D5185m       >10       <1           Vanadium       ppm       ASTM D5185m       0       0           ADDITIVES       method       limit/base       current       history1       history2         Boron       ppm       ASTM D5185m       0       0           Barium       ppm       ASTM D5185m       0       0           Manganese       ppm       ASTM D5185m       0       0           Manganese       ppm       ASTM D5185m       0       22           Manganese       ppm       ASTM D5185m       0       3           Manganese       ppm       ASTM D5185m       0       3           Calcium       ppm       ASTM D5185m       0       3           Sulfur       ppm       ASTM D5185m       0       3           Sulfur       ppm       ASTM D5185m       25       6           Sulfur       ppm       ASTM D5185m       20	Lead	ppm	ASTM D5185m	>10	0		
Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         <1	Copper	ppm	ASTM D5185m	>50	8		
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0         22             Calcium         ppm         ASTM D5185m         0         3             Calcium         ppm         ASTM D5185m         0         3             Sulfur         ppm         ASTM D5185m         0         3             Sulfur         ppm         ASTM D5185m         0         3             Sulfur         ppm         ASTM D5185m         23500         23737             Sulfur         ppm         ASTM D5185m         220         4 <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;10</td> <th>&lt;1</th> <td></td> <td></td>	Tin	ppm	ASTM D5185m	>10	<1		
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         22             Calcium         ppm         ASTM D5185m         0         3             Phosphorus         ppm         ASTM D5185m         0         121             Sulfur         ppm         ASTM D5185m         0         121             Sulfur         ppm         ASTM D5185m         23500         23737             Sulfur         ppm         ASTM D5185m         225         6             Sulfur         ppm         ASTM D5185m         20         4             Sulfur         ppm         ASTM D5185m	Vanadium	ppm	ASTM D5185m		0		
Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         0             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         100         22             Magnesium         ppm         ASTM D5185m         0         <1	Cadmium	ppm	ASTM D5185m		<1		
Barium         ppm         ASTM D5185m         90         0             Molybdenum         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         22             Magnesium         ppm         ASTM D5185m         100         22             Calcium         ppm         ASTM D5185m         0              Calcium         ppm         ASTM D5185m         0         3             Phosphorus         ppm         ASTM D5185m         0         121             Sulfur         ppm         ASTM D5185m         23500         23737             Sulfur         ppm         ASTM D5185m         25         6             Sodium         ppm         ASTM D5185m         >25         6             Potassium         ppm         ASTM D5185m         >20         4             Vater         %         ASTM D51630         >0.05 </th <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         100         22             Magnesium         ppm         ASTM D5185m         100         22             Calcium         ppm         ASTM D5185m         0              Phosphorus         ppm         ASTM D5185m         0         3             Zinc         ppm         ASTM D5185m         0         3             Sulfur         ppm         ASTM D5185m         23500         23737             Solicon         ppm         ASTM D5185m         23500         23737             Solicon         ppm         ASTM D5185m         >25         6             Solicon         ppm         ASTM D5185m         >20         4             Vater         %         ASTM D6185m         >20         4             Particles >4µm         ASTM D7647	Boron	ppm	ASTM D5185m	0	0		
Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         100         22             Calcium         ppm         ASTM D5185m         0         <1	Barium	ppm	ASTM D5185m	90	0		
Magnesium       ppm       ASTM D5185m       100       22           Calcium       ppm       ASTM D5185m       0       <1	Molybdenum	ppm	ASTM D5185m	0	0		
Calcium         ppm         ASTM D5185m         0         <1             Phosphorus         ppm         ASTM D5185m         0         3             Zinc         ppm         ASTM D5185m         0         121             Sulfur         ppm         ASTM D5185m         23500         23737             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         >20         4             Potassium         ppm         ASTM D5185m         >20         4             Water         %         ASTM D504         >0.05         0.013             Particles >4µm         ASTM D7647         >1300         138             Particles >6µm         ASTM D7647         >100         11098             Particles >4µm         ASTM D7647         >20         1	Manganese	ppm	ASTM D5185m		0		
Phosphorus         ppm         ASTM D5185m         0         3             Zinc         ppm         ASTM D5185m         0         121             Sulfur         ppm         ASTM D5185m         23500         23737             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         >20         4             Potassium         ppm         ASTM D5185m         >20         4             Water         %         ASTM D6304         >0.05         0.013             ppm Water         ppm         ASTM D7647         34615              Particles >4µm         ASTM D7647         >1300         11098              Particles >14µm         ASTM D7647         >80         873              Particles >21µm         ASTM D7647	Magnesium	ppm	ASTM D5185m	100	22		
Zinc         ppm         ASTM D5185m         0         121             Sulfur         ppm         ASTM D5185m         23500         23737             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         6             Sodium         ppm         ASTM D5185m         >25         6             Potassium         ppm         ASTM D5185m         >20         4             Water         %         ASTM D6304         >0.05         0.013             ppm Water         ppm         ASTM D6304         >500         138             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >1300         11098             Particles >14µm         ASTM D7647         >80         \$873             Particles >21µm         ASTM D7647         20         191	Calcium	ppm	ASTM D5185m	0	<1		
SulfurppmASTM D5185m2350023737CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>256SodiumppmASTM D5185m>204PotassiumppmASTM D6304>0.050.013Water%ASTM D6304>500138ppm WaterppmASTM D6304>500138FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4µmASTM D7647>130011098Particles >6µmASTM D7647>80873Particles >1µmASTM D7647>20191Particles >21µmASTM D7647>31Particles >38µmASTM D7647>31Oil CleanlinessISO 4406 (c)>/17/1322/21/17FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Phosphorus	ppm	ASTM D5185m	0	3		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>256SodiumppmASTM D5185m>204PotassiumppmASTM D5185m>204Water%ASTM D6304>0.050.013ppm WaterppmASTM D6304>500138FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4µmASTM D764734615Particles >6µmASTM D7647>130011098Particles >14µmASTM D7647>80873Particles >21µmASTM D7647>20191Particles >38µmASTM D7647>31Oil CleanlinessISO 4406 (c)>/17/1322/21/17FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Zinc	ppm	ASTM D5185m	0	121		
Silicon       ppm       ASTM D5185m       >25       6           Sodium       ppm       ASTM D5185m       >20       12           Potassium       ppm       ASTM D5185m       >20       4           Water       %       ASTM D6304       >0.05       0.013           Water       pm       ASTM D6304       >500       138           ppm Water       ppm       ASTM D6304       >500       138           FLUID CLEANLINESS       method       limit/base       current       history1       history2         Particles >4µm       ASTM D7647       >1300       11098           Particles >6µm       ASTM D7647       >80       873           Particles >14µm       ASTM D7647       >20       191           Particles >21µm       ASTM D7647       >3       1           Particles >38µm       ASTM D7647       >3       1           Particles >71µm       ASTM D7647       3       1 <td< td=""><td>Sulfur</td><td>ppm</td><td>ASTM D5185m</td><td>23500</td><th>23737</th><td></td><td></td></td<>	Sulfur	ppm	ASTM D5185m	23500	23737		
Sodium         ppm         ASTM D5185m         12             Potassium         ppm         ASTM D5185m         >20         4             Water         %         ASTM D6304         >0.05         0.013             ppm Water         ppm         ASTM D6304         >500         138             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         34615             Particles >6µm         ASTM D7647         >1300         11098             Particles >14µm         ASTM D7647         >80         873             Particles >14µm         ASTM D7647         >20         191             Particles >38µm         ASTM D7647         >3         1             Particles >71µm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         22/21/17             FLUID DEGRA	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         4             Water         %         ASTM D6304         >0.05         0.013             ppm Water         ppm         ASTM D6304         >500         138             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         34615             Particles >6µm         ASTM D7647         >1300         11098             Particles >14µm         ASTM D7647         >80         873             Particles >21µm         ASTM D7647         >20         191             Particles >38µm         ASTM D7647         >3         1             Particles >71µm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)        /17/13         22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2 <td>Silicon</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;25</td> <th></th> <td></td> <td></td>	Silicon	ppm	ASTM D5185m	>25			
Water         %         ASTM D6304         >0.05         0.013             ppm Water         ppm         ASTM D6304         >500         138             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         34615             Particles >6µm         ASTM D7647         >1300         11098             Particles >14µm         ASTM D7647         >80         873             Particles >21µm         ASTM D7647         >20         191             Particles >38µm         ASTM D7647         >3         1             Particles >71µm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2	Sodium	ppm	ASTM D5185m		12		
ppm Water         ppm         ASTM D6304         >500         138             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         34615             Particles >6µm         ASTM D7647         >1300         11098             Particles >14µm         ASTM D7647         >80         873             Particles >21µm         ASTM D7647         >20         191             Particles >38µm         ASTM D7647         >4         8             Particles >71µm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)        /17/13         22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2	Potassium	ppm	ASTM D5185m	>20			
FLUID CLEANLINESS       method       limit/base       current       history1       history2         Particles >4µm       ASTM D7647       34615           Particles >6µm       ASTM D7647       >1300       11098           Particles >6µm       ASTM D7647       >80       & 873           Particles >14µm       ASTM D7647       >20       ▲ 191           Particles >21µm       ASTM D7647       >20       ▲ 191           Particles >38µm       ASTM D7647       >4       ▲ 8           Particles >71µm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       22/21/17           FLUID DEGRADATION       method       limit/base       current       history1       history2	Water	%	ASTM D6304	>0.05	0.013		
Particles >4μm       ASTM D7647       34615           Particles >6μm       ASTM D7647       >1300       ▲ 11098           Particles >14μm       ASTM D7647       >80       ▲ 873           Particles >21μm       ASTM D7647       >20       ▲ 191           Particles >21μm       ASTM D7647       >20       ▲ 191           Particles >38μm       ASTM D7647       >4       ▲ 8           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       ▲ 22/21/17           FLUID DEGRADATION       method       limit/base       current       history1       history2	ppm Water	ppm	ASTM D6304	>500	138		
Particles >6μm       ASTM D7647       >1300       ▲ 11098           Particles >14μm       ASTM D7647       >80       ▲ 873           Particles >14μm       ASTM D7647       >20       ▲ 191           Particles >21μm       ASTM D7647       >20       ▲ 191           Particles >38μm       ASTM D7647       >4       ▲ 8           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       ▲ 22/21/17           FLUID DEGRADATION       method       limit/base       current       history1       history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm       ASTM D7647       >80       ▲ 873           Particles >21μm       ASTM D7647       >20       ▲ 191           Particles >38μm       ASTM D7647       >4       ▲ 8           Particles >38μm       ASTM D7647       >3       1           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       ▲ 22/21/17           FLUID DEGRADATION       method       limit/base       current       history1       history2	Particles >4µm				34615		
Particles >21μm         ASTM D7647         >20         ▲ 191             Particles >38μm         ASTM D7647         >4         ▲ 8             Particles >37μm         ASTM D7647         >3         1             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2			ASTM D7647	>1300	<u> </u>		
Particles >38μm         ASTM D7647         >4         ▲ 8             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2					<u> </u>		
Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >21µm		ASTM D7647	>20	<u> </u>		
Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 22/21/17             FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >38µm		ASTM D7647	>4	<mark>/</mark> 8		
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	1		
	Oil Cleanliness		ISO 4406 (c)	>/17/13	<u> </u>		
Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.451	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.451		



## **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)

Report Id: SINSOU [WUSCAR] 06198200 (Generated: 06/05/2024 13:21:41) Rev: 1

Certificate 12367

Contact/Location: FLORENCE ? - SINSOU

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T:

F: