

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

ISO

Machine Id 6748398 (S/N 1046) Component

Compressor

KAESER SIGMA (OEM) FG-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.

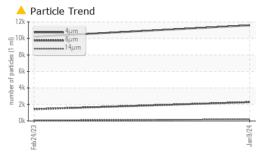
SAMPLE INFORMATION     method     limit/base     current     history1     history2       Sample Dumber     Client Info     09 Jan 2024     24 Feb 2032         Machine Age     hrs     Client Info     17279     14060        Oil Age     hrs     Client Info     N/A     Changed        Oil Age     hrs     Client Info     N/A     Changed        Sample Status     Client Info     N/A     Changed        WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM 05185m     >50     2     2        Nickel     ppm     ASTM 05185m     >10     0         Silver     ppm     ASTM 05185m     >10     0         Auminum     ppm     ASTM 05185m     >10     0         Quantum     ppm     ASTM 05185m     >10     0 </th <th></th> <th></th> <th></th> <th>Feb 2023</th> <th>Jan2024</th> <th></th> <th></th>				Feb 2023	Jan2024		
Sample Date     Client Info     09 Jan 2024     24 Feb 2023        Machine Age     hrs     Client Info     17279     14060        Oil Age     hrs     Client Info     0     4000        Sample Status     Client Info     N/A     Changed        WEAR METALS     method     Imitbase     current     history1     history2       Iron     ppm     ASTM 05185m     >50     2     2        Nickel     ppm     ASTM 05185m     >30     0         Silver     ppm     ASTM 05185m     >3     0     0        Capper     ppm     ASTM 05185m     >10     0     0        Vanadium     ppm     ASTM 05185m     >10     0     0        Adamium     ppm     ASTM 05185m     0     0         Vanadium     ppm     ASTM 05185m     0     0         Adamau	SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Machine Age     hrs     Client Info     17279     14060        Dil Age     hrs     Client Info     0     4000        Dil Ghanged     Client Info     N/A     Changed        Sample Status     Terrent     NIA     Changed        WEAR METALS     method     Imit/base     current     history1     history2       fron     ppm     ASTM 05185m     >50     2     2        Nickel     ppm     ASTM 05185m     >10     <1	Sample Number		Client Info		KCPA006579	KCP54327	
Oil Age     hrs     Client Info     0     4000        Oil Changed     Client Info     NA     Changed        Sample Status     method     limit/base     current     history1     history2       Kron     ppm     ASTM D5185m     >50     2     2        Nickel     ppm     ASTM D5185m     >3     0     0        Silver     ppm     ASTM D5185m     >3     0     0        Aurminum     ppm     ASTM D5185m     >10     0     0        Aurminum     ppm     ASTM D5185m     >10     0     0        Naadum     ppm     ASTM D5185m     >10     0     0        Capper     ppm     ASTM D5185m     >10     0     0        ADDITIVES     method     limit/base     current     history1     history2       Barium     ppm     ASTM D5185m     0     0	Sample Date		Client Info		09 Jan 2024	24 Feb 2023	
Oil Age     hrs     Client Info     NA     Changed        Sample Status     Client Info     NA     Changed        WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     2     2        Nickel     ppm     ASTM D5185m     >3     0     0        Silver     ppm     ASTM D5185m     >2     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Astm D5185m     >10     0     0      1     0        Astm D5185m     0     0     0      1        Astm D5185m     0     0     0      1	Machine Age	hrs	Client Info		17279	14060	
Sample Status     method     Imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     2     2        Nickel     ppm     ASTM D5185m     >10     <1	-	hrs	Client Info		0	4000	
Sample Status     method     Imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     2     2        Nickel     ppm     ASTM D5185m     >10     <1	Oil Changed		Client Info		N/A	Changed	
Iron     ppm     ASTM D5185m     >50     2     2        Nickel     ppm     ASTM D5185m     >3     0     0        Nickel     ppm     ASTM D5185m     >3     0     0        Silver     ppm     ASTM D5185m     >2     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Adaminum     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0        Magnaese     ppm     ASTM D5185m     0     0        Galaium     ppm     ASTM D5185m     11     4	-				ABNORMAL	ATTENTION	
Ppm     ASTM D5185m     >10     <1     0        Nickel     ppm     ASTM D5185m     >3     0     0        Silver     ppm     ASTM D5185m     >2     0     0        Aluminum     ppm     ASTM D5185m     >10     5     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Aduminum     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Magnaese     ppm     ASTM D5185m     0     0         Magnesium     pm     ASTM D5185m     0     0	WEAR METALS		method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     >3     0     0        Titanium     ppm     ASTM D5185m     >3     0     0        Silver     ppm     ASTM D5185m     >10     5     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     0     0	Iron	ppm	ASTM D5185m	>50	2	2	
Titanium   ppm   ASTM D5185m   >3   0   0      Silver   ppm   ASTM D5185m   >2   0   0      Aluminum   ppm   ASTM D5185m   >10   5   0      Aluminum   ppm   ASTM D5185m   >10   0   0      Copper   ppm   ASTM D5185m   >10   0   0      Vanadium   ppm   ASTM D5185m   0   <1   0      ADDITIVES   method   limit/base   current   history1   history2     Barium   ppm   ASTM D5185m   0   0   0      Maganese   ppm   ASTM D5185m   0   0      Magnesium   ppm   ASTM D5185m   0   0      Magnesium   ppm   ASTM D5185m   0   0	Chromium	ppm	ASTM D5185m	>10	<1	0	
Silver     ppm     ASTM D5185m     >2     0     0        Aluminum     ppm     ASTM D5185m     >10     5     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     0     0     0        Vanadium     ppm     ASTM D5185m     0     0     0        Vanadium     ppm     ASTM D5185m     0     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     500     201     7        Sulfur     ppm     ASTM D5185m     500 <td< td=""><td>Nickel</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;3</td><td>0</td><td>0</td><td></td></td<>	Nickel	ppm	ASTM D5185m	>3	0	0	
Aluminum     ppm     ASTM D5185m     >10     5     0        Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >50     <1	Titanium	ppm	ASTM D5185m	>3	0	0	
Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >50     <1	Silver	ppm	ASTM D5185m	>2	0	0	
Copper     ppm     ASTM D5185m     >50     <1     0        Tin     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     0     0     0        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        Maganese     ppm     ASTM D5185m     0     -1        Maganese     ppm     ASTM D5185m     0     0        Magnesium     ppm     ASTM D5185m     500     201     7        Sulfur     ppm     ASTM D5185m     500     201     7        Sulfur     ppm     ASTM D5185m     500     21     1        Sulfur	Aluminum	ppm	ASTM D5185m	>10	5	0	
Copper     ppm     ASTM D5185m     >50     <1     0        Tin     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     0     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0        Molybdenum     ppm     ASTM D5185m     0     0        Magaese     ppm     ASTM D5185m     0     0        Magaese     ppm     ASTM D5185m     0     -1        Magaese     ppm     ASTM D5185m     0     0	Lead		ASTM D5185m	>10	0	0	
Tin   ppm   ASTM D5185m   >10   0   0      Vanadium   ppm   ASTM D5185m   0   0   0      ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   0   0   0      Barium   ppm   ASTM D5185m   0   0   0      Molybdenum   ppm   ASTM D5185m   0   0   0      Magnesse   ppm   ASTM D5185m   0   0    0     Magnesium   ppm   ASTM D5185m   0   0      Calcium   ppm   ASTM D5185m   500   201   7	Copper			>50	<1	0	
Vanadium     ppm     ASTM D5185m     0     0        Cadmium     ppm     ASTM D5185m     0     0        ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0        Barium     ppm     ASTM D5185m     0     0        Maganese     ppm     ASTM D5185m     0     0        Magnesium     ppm     ASTM D5185m     <1	••				0	0	
Cadmium     ppm     ASTM D5185m     0     0        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        Magnese     ppm     ASTM D5185m     0     0        Magnese     ppm     ASTM D5185m     0     0        Calcium     ppm     ASTM D5185m     0     0        Calcium     ppm     ASTM D5185m     0     0     0        Sulfur     ppm     ASTM D5185m     500     201     7        Sulfur     ppm     ASTM D5185m     1805     1537        Sulfur     ppm     ASTM D5185m     22     <1     1        Sodium     ppm     ASTM D5185m     20	Vanadium		ASTM D5185m		0	0	
Boron     ppm     ASTM D5185m     0     0        Barium     ppm     ASTM D5185m     0     0        Molybdenum     ppm     ASTM D5185m     0     0        Manganese     ppm     ASTM D5185m     0      0       Manganese     ppm     ASTM D5185m     0     0        Magnesium     ppm     ASTM D5185m     0     0        Calcium     ppm     ASTM D5185m     0     0        Zinc     ppm     ASTM D5185m     500     201     7        Sulfur     ppm     ASTM D5185m     500     201     7        Sulfur     ppm     ASTM D5185m     25     <1			ASTM D5185m		0	0	
Barium     ppm     ASTM D5185m     0     0	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     0     0        Manganese     ppm     ASTM D5185m     0     <1	Boron	ppm	ASTM D5185m		0	0	
Manganese     ppm     ASTM D5185m     0     <1        Magnesium     ppm     ASTM D5185m     <1	Barium	ppm	ASTM D5185m		0	0	
Manganese     ppm     ASTM D5185m     0     <1        Magnesium     ppm     ASTM D5185m     <1	Molybdenum	ppm	ASTM D5185m		0	0	
Magnesium   ppm   ASTM D5185m   <1   4      Calcium   ppm   ASTM D5185m   0   0      Phosphorus   ppm   ASTM D5185m   500   201   7      Zinc   ppm   ASTM D5185m   500   201   7      Sulfur   ppm   ASTM D5185m   1805   1537      CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   <1		ppm	ASTM D5185m		0	<1	
Calcium     ppm     ASTM D5185m     0     0        Phosphorus     ppm     ASTM D5185m     500     201     7        Zinc     ppm     ASTM D5185m     127     0        Sulfur     ppm     ASTM D5185m     1805     1537        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     <1	-		ASTM D5185m		<1	4	
Phosphorus     ppm     ASTM D5185m     500     201     7        Zinc     ppm     ASTM D5185m     127     0        Sulfur     ppm     ASTM D5185m     1805     1537        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     <1     1        Sodium     ppm     ASTM D5185m     >25     <1     1        Sodium     ppm     ASTM D5185m     >20     <1     1        Sodium     ppm     ASTM D5185m     >20     <1     1        Sodium     ppm     ASTM D5185m     >20     <1     1        Water     %     ASTM D5185m     >20     <156     0.001        FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     1300     2277     1433     <	-		ASTM D5185m		0	0	
Zinc     ppm     ASTM D5185m     127     0        Sulfur     ppm     ASTM D5185m     1805     1537        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     <1			ASTM D5185m	500	201	7	
Sulfur     ppm     ASTM D5185m     1805     1537        CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     <1			ASTM D5185m		127	0	
Silicon     ppm     ASTM D5185m     >25     <1     1        Sodium     ppm     ASTM D5185m     2     0        Potassium     ppm     ASTM D5185m     >20     <1	-				1805		
Sodium     ppm     ASTM D5185m     2     0        Potassium     ppm     ASTM D5185m<>20     <1	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium     ppm     ASTM D5185m     2     0        Potassium     ppm     ASTM D5185m     >20     <1	Silicon	ppm	ASTM D5185m	>25	<1	1	
Potassium     ppm     ASTM D5185m     >20     <1     1        Water     %     ASTM D6304     >0.05     0.015     0.001        oppm Water     ppm     ASTM D6304     >500     156     10.4        FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >1300     2277     1433        Particles >6µm     ASTM D7647     >1300     204     79        Particles >1µm     ASTM D7647     >20     59     19        Particles >21µm     ASTM D7647     >20     59     19        Particles >38µm     ASTM D7647     >3     0     0        Particles >71µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)    /17/13     21/18/15     21/18/13	Sodium		ASTM D5185m		2	0	
Water     %     ASTM D6304     >0.05     0.015     0.001        ppm Water     ppm     ASTM D6304     >500     156     10.4        FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     11580     10213        Particles >6µm     ASTM D7647     >1300     2277     1433        Particles >14µm     ASTM D7647     >20     204     79        Particles >21µm     ASTM D7647     >20     59     19        Particles >38µm     ASTM D7647     >4     0        Particles >71µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >/17/13     21/18/15     21/18/13	Potassium		ASTM D5185m	>20	<1	1	
FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   11580   10213      Particles >6µm   ASTM D7647   >1300   2277   1433      Particles >6µm   ASTM D7647   >1300   2277   1433      Particles >14µm   ASTM D7647   >80   204   79      Particles >21µm   ASTM D7647   >20   59   19      Particles >21µm   ASTM D7647   >4   0      Particles >38µm   ASTM D7647   >4   4   0      Particles >71µm   ASTM D7647   >3   0   0      Oil Cleanliness   ISO 4406 (c)   >/17/13   21/18/15   21/18/13      FLUID DEGRADATION   method   limit/base   current   history1   history2	Water		ASTM D6304	>0.05		0.001	
Particles >4µm   ASTM D7647   11580   10213      Particles >6µm   ASTM D7647   >1300   2277   ▲ 1433      Particles >14µm   ASTM D7647   >80   ▲ 204   79      Particles >14µm   ASTM D7647   >20   ▲ 59   19      Particles >21µm   ASTM D7647   >20   ▲ 59   19      Particles >38µm   ASTM D7647   >4   4   0      Particles >71µm   ASTM D7647   >3   0   0      Oil Cleanliness   ISO 4406 (c)   >/17/13   21/18/15   21/18/13      FLUID DEGRADATION   method   limit/base   current   history1   history2	ppm Water	ppm	ASTM D6304	>500	156	10.4	
Particles >6µm   ASTM D7647   >1300   ▲ 2277   ▲ 1433      Particles >14µm   ASTM D7647   >80   ▲ 204   79      Particles >21µm   ASTM D7647   >20   ▲ 59   19      Particles >21µm   ASTM D7647   >20   ▲ 59   19      Particles >38µm   ASTM D7647   >4   4   0      Particles >71µm   ASTM D7647   >3   0   0      Oil Cleanliness   ISO 4406 (c)   >/17/13   ▲ 21/18/15   ▲ 21/18/13      FLUID DEGRADATION   method   limit/base   current   history1   history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm   ASTM D7647   >80   ▲ 204   79      Particles >21μm   ASTM D7647   >20   ▲ 59   19      Particles >38μm   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   ▲ 21/18/15   ▲ 21/18/13      FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >4µm		ASTM D7647		11580	10213	
Particles >21μm     ASTM D7647     >20     59     19        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     21/18/15     21/18/13        FLUID DEGRADATION     method     limit/base     current     history1     history2	Particles >6µm		ASTM D7647	>1300	<u> </u>	<b>1</b> 433	
Particles >38μm     ASTM D7647     >4     4     0        Particles >71μm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >/17/13     ▲ 21/18/15     ▲ 21/18/13        FLUID DEGRADATION     method     limit/base     current     history1     history2	Particles >14µm		ASTM D7647	>80	<u> </u>	79	
Particles >71μm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >/17/13     ▲ 21/18/15     ▲ 21/18/13        FLUID DEGRADATION     method     limit/base     current     history1     history2	Particles >21µm		ASTM D7647	>20	<u> </u>	19	
Oil Cleanliness   ISO 4406 (c) >/17/13   21/18/15   21/18/13       FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >38µm		ASTM D7647	>4	4	0	
Oil Cleanliness   ISO 4406 (c) >/17/13   21/18/15   21/18/13       FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >71µm		ASTM D7647	>3	0	0	
			ISO 4406 (c)	>/17/13	<b>1</b> /18/15	21/18/13	
Acid Number (AN) mg KOH/g ASTM D8045 1.5 0.60 0.22	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	1.5	0.60	0.22	

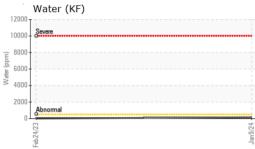
Contact/Location: JOSEPH ? - MINLEG

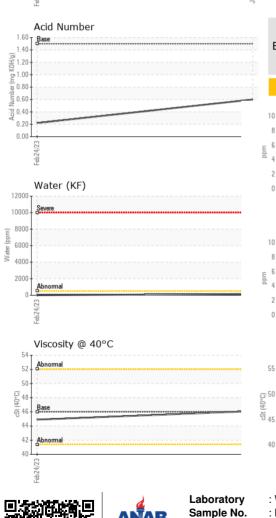


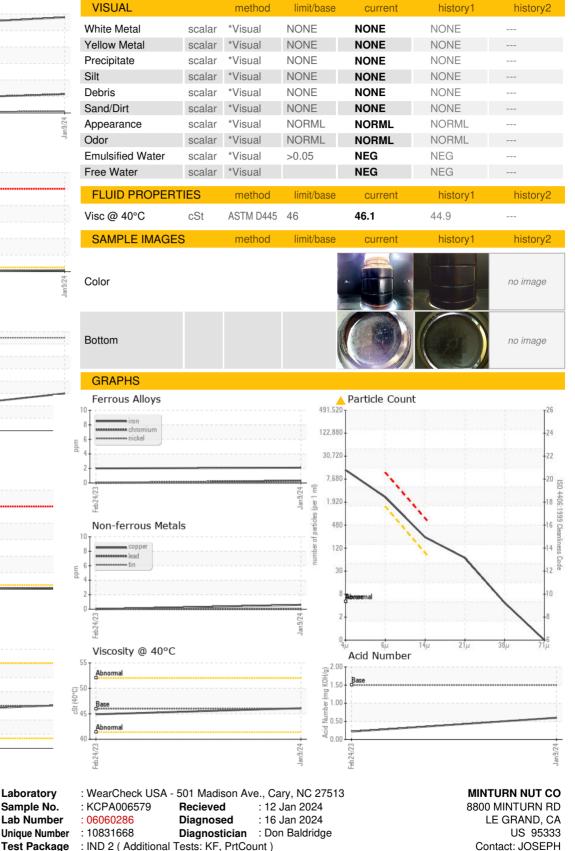
Built for a lifetime

# **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)

Certificate L2367

Lab Number

Unique Number

joseph@minturnnut.com

T:

F: