

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend





#### Compressor Fluid

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

### Fluid Condition

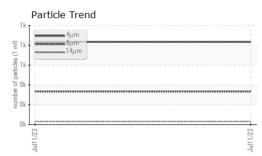
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

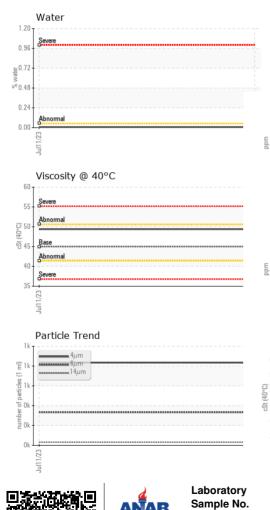
Number     Client Info     KCPA005580     Instruct     Instruct       Sample Date     Client Info     11 Jul 2023         Machine Age     hrs     Client Info     8796         Oil Age     hrs     Client Info     N/A         Sample Status     Client Info     N/A         WEAR METALS     method     Imit/base     current     history1     history1       Nickel     ppm     ASTM 05185m     >0         Nickel     ppm     ASTM 05185m     >3     0         Itanium     ppm     ASTM 05185m     >3     0         Itanium     ppm     ASTM 05185m     >10     2         Lead     ppm     ASTM 05185m     >10     0         Auminum     ppm     ASTM 05185m     0     0         Cadmium     ppm     ASTM	SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Date     Client Info     11 Jul 2023         Machine Age     hrs     Client Info     8796         Oil Age     hrs     Client Info     0         Sample Status     Client Info     N/A         WEAR METALS     method     Imit/base     current     history1     History2       Iron     ppm     ASTM 05155m     >3     0         Nickel     ppm     ASTM 05155m     >3     0         Barin     ppm     ASTM 05155m     >3     0         Aluminum     ppm     ASTM 05155m     >10     <1				mmbasc			
Machine Age     hrs     Client Info     8796         Oil Age     hrs     Client Info     0         Sample Status     Client Info     N/A         WEAR METALS     method     Imit/base     current     history1     history2       Iron     ppm     ASTM 05185m     >50     0         Nickel     ppm     ASTM 05185m     >30     0         Silver     ppm     ASTM 05185m     >3     0         Capper     ppm     ASTM 05185m     >10     2         Auminum     ppm     ASTM 05185m     >10     0         Cadmium     ppm     ASTM 05185m     >10     0         ADDITIVES     method     Imit/base     current     history1     history2       Barium     ppm     ASTM 05185m     0     0	1						
Oil Age     hrs     Client Info     0         OIL Changed     Client Info     N/A         WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0         Nickel     ppm     ASTM D5185m     >3     0         Silver     ppm     ASTM D5185m     >3     0         Auminum     ppm     ASTM D5185m     >10     2         Auminum     ppm     ASTM D5185m     >10     2         Copper     ppm     ASTM D5185m     >10     0         Adamium     ppm     ASTM D5185m     >10     0         Adamium     ppm     ASTM D5185m     0     0         Adamium     ppm     ASTM D5185m     0     0 <td></td> <td>la un</td> <td></td> <td></td> <th></th> <td></td> <td></td>		la un					
Oil Changed     Client Info     N/A         Sample Status     method     imit/base     current     history1     history2       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0         Othornium     ppm     ASTM D5185m     >33     0         Silver     ppm     ASTM D5185m     >33     0         Aluminum     ppm     ASTM D5185m     >10     2         Copper     ppm     ASTM D5185m     >10     2         ASTM D5185m     >10     0          Cadmium     ppm     ASTM D5185m     0     0         ADDITVES     method     imit/base     current     history1     history2       Baron     0     0	•						
Sample Status     method     Imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     0         Chromium     ppm     ASTM D5185m     >30     0         Nickel     ppm     ASTM D5185m     >30     0         Silver     ppm     ASTM D5185m     >30     0         Aluminum     ppm     ASTM D5185m     >10     2         Aluminum     ppm     ASTM D5185m     >10     2         Aluminum     ppm     ASTM D5185m     >10     0         Capper     ppm     ASTM D5185m     0     0         ADDITVES     method     Imit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     0 <td< td=""><td>0</td><td>hrs</td><td></td><td></td><th>-</th><td></td><td></td></td<>	0	hrs			-		
WEAR METALS     method     limit/base     current     history1     history2       Kromium     ppm     ASTM D5165m     >50     0         Nickel     ppm     ASTM D5165m     >3     0         Nickel     ppm     ASTM D5165m     >3     0         Silver     ppm     ASTM D5165m     >2     0         Aduminum     ppm     ASTM D5165m     >10     2         Lead     ppm     ASTM D5165m     >10     0         Adaminum     ppm     ASTM D5165m     >10     0         Vanadium     ppm     ASTM D5165m     0     0         ADDITIVES     method     Imit/base     current     history1     history2       Barium     ppm     ASTM D5165m     0          ADDITIVES     method     Imit/base     current	•		Client Info				
Iron     ppm     ASTM D5185m     >50     0         Chromium     ppm     ASTM D5185m     >10     0         Nickel     ppm     ASTM D5185m     >3     0         Silver     ppm     ASTM D5185m     >3     0         Aluminum     ppm     ASTM D5185m     >10     2         Lead     ppm     ASTM D5185m     >10     <1	Sample Status				NORMAL		
Chromium     ppm     ASTM D5185m     >10     0         Nickel     ppm     ASTM D5185m     >3     0         Silver     ppm     ASTM D5185m     >2     0         Aluminum     ppm     ASTM D5185m     >10     2         Lead     ppm     ASTM D5185m     >10     2         Aduminum     ppm     ASTM D5185m     >10     0         Vanadium     ppm     ASTM D5185m     >10     0         Aduminum     ppm     ASTM D5185m     0     0         Aduminum     ppm     ASTM D5185m	WEAR METALS		method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     >3     0         Titanium     ppm     ASTM D5185m     >3     0         Sliver     ppm     ASTM D5185m     >2     0         Aluminum     ppm     ASTM D5185m     >10     2         Lead     ppm     ASTM D5185m     >10     0         Copper     ppm     ASTM D5185m     >10     0         Vanadium     ppm     ASTM D5185m     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     0     1         Magnesium     ppm     ASTM D5185m     0     1	Iron	ppm	ASTM D5185m	>50	0		
Titanium     ppm     ASTM D5185m     >3     0         Silver     ppm     ASTM D5185m     >2     0         Aluminum     ppm     ASTM D5185m     >10     2         Lead     ppm     ASTM D5185m     >10     <1	Chromium	ppm	ASTM D5185m	>10	0		
Silver     ppm     ASTM D5185m     >2     0         Aluminum     ppm     ASTM D5185m     >10     2         Lead     ppm     ASTM D5185m     >10     <1	Nickel	ppm	ASTM D5185m	>3	0		
Aluminum     ppm     ASTM D5185m     >10     2         Lead     ppm     ASTM D5185m     >10     <1	Titanium	ppm	ASTM D5185m	>3	0		
Lead     ppm     ASTM D5185m     >10     <1         Copper     ppm     ASTM D5185m     >50     15         Vanadium     ppm     ASTM D5185m     >10     0         ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Molybdenum     ppm     ASTM D5185m     0     0         Magnese     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     0     0         Calcium     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     0     1	Silver	ppm	ASTM D5185m	>2	0		
Lead     ppm     ASTM D5185m     >10     <1         Copper     ppm     ASTM D5185m     >50     15         Vanadium     ppm     ASTM D5185m     >10     0         ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Malganese     ppm     ASTM D5185m     0     0         Manganese     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     0     1         Calcium     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     23500     20352	Aluminum	ppm	ASTM D5185m	>10	2		
Copper     ppm     ASTM D5185m     >50     15         Tin     ppm     ASTM D5185m     >10     0         Vanadium     ppm     ASTM D5185m     0          ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Molybdenum     ppm     ASTM D5185m     0     0         Maganese     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     100     1         Phosphorus     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     23500     20352         Sodium     ppm     ASTM D5185m     >20	Lead		ASTM D5185m	>10	<1		
Tin     ppm     ASTM D5185m     >10     0         Vanadium     ppm     ASTM D5185m     0         ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Magnesse     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     0     1         Calcium     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     0     -1         Sulfur     ppm     ASTM D5185m     23500     20352 <td></td> <td></td> <td>ASTM D5185m</td> <td>&gt;50</td> <th>15</th> <td></td> <td></td>			ASTM D5185m	>50	15		
Vanadium     ppm     ASTM D5185m     0         Cadmium     ppm     ASTM D5185m     0         ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     90     0         Barium     ppm     ASTM D5185m     90     0         Magnese     ppm     ASTM D5185m     0     0         Magnese     ppm     ASTM D5185m     0     0         Calcium     ppm     ASTM D5185m     0     1         Calcium     ppm     ASTM D5185m     0          Sulfur     ppm     ASTM D5185m     0     -1         Sulfur     ppm     ASTM D5185m     0          Sulfur     ppm     ASTM D5185m     23500     20352					-		
Cadmium     ppm     ASTM D5185m     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         Magnesium     ppm     ASTM D5185m     0     0         Calcium     ppm     ASTM D5185m     0     100     1         Calcium     ppm     ASTM D5185m     0     1         Sulfur     ppm     ASTM D5185m     0    1         Sulfur     ppm     ASTM D5185m     0          Sulfur     ppm     ASTM D5185m     0          Sulfur     ppm     ASTM D5185m     20				210	-		
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0         Barium     ppm     ASTM D5185m     90     0         Molybdenum     ppm     ASTM D5185m     0     0         Manganese     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     0     1         Calcium     ppm     ASTM D5185m     0     <1					-		
Boron     ppm     ASTM D5185m     0     0         Barium     ppm     ASTM D5185m     90     0         Molybdenum     ppm     ASTM D5185m     0     0         Manganese     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     0     0         Calcium     ppm     ASTM D5185m     0     1         Salifur     ppm     ASTM D5185m     0     -1         Sulfur     ppm     ASTM D5185m     23500     20352         Solicon     ppm     ASTM D5185m     >25     0         Solicon     ppm     ASTM D5185m     >20     <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     0     0         Manganese     ppm     ASTM D5185m     100     1         Magnesium     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     0     0         Calcium     ppm     ASTM D5185m     0     1         Calcium     ppm     ASTM D5185m     0     <1	Boron	ppm	ASTM D5185m	0	0		
Molybdenum     ppm     ASTM D5185m     0     0         Manganese     ppm     ASTM D5185m     0     0         Magnesium     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     0     0         Calcium     ppm     ASTM D5185m     0     1         Calcium     ppm     ASTM D5185m     0     -1         Zinc     ppm     ASTM D5185m     0     <1	Barium	ppm	ASTM D5185m	90	0		
Manganesse     ppm     ASTM D5185m     0         Magnesium     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     0     0         Phosphorus     ppm     ASTM D5185m     0     -1         Zinc     ppm     ASTM D5185m     0     <1	Molvbdenum		ASTM D5185m	0	0		
Magnesium     ppm     ASTM D5185m     100     1         Calcium     ppm     ASTM D5185m     0     0         Phosphorus     ppm     ASTM D5185m     0     1         Zinc     ppm     ASTM D5185m     0     <1	-		ASTM D5185m		0		
Calcium     ppm     ASTM D5185m     0     0     1         Phosphorus     ppm     ASTM D5185m     0     1         Zinc     ppm     ASTM D5185m     0     <1	-			100	-		
Phosphorus     ppm     ASTM D5185m     0     1         Zinc     ppm     ASTM D5185m     0     <1	•						
Zinc     ppm     ASTM D5185m     0     <1         Sulfur     ppm     ASTM D5185m     23500     20352         CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     0         Sodium     ppm     ASTM D5185m     >20     <1					-		
SulfurppmASTM D5185m2350020352CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>250SodiumppmASTM D5185m>20<1							
CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     0         Sodium     ppm     ASTM D5185m     >20     <1	-						
Silicon     ppm     ASTM D5185m     >25     0         Sodium     ppm     ASTM D5185m     >20     <1						history1	history?
Sodium     ppm     ASTM D5185m     0         Potassium     ppm     ASTM D5185m     >20     <1						· · · · ·	
Potassium     ppm     ASTM D5185m     >20     <1         Water     %     ASTM D6304     >0.05     0.007         ppm     Water     ppm     ASTM D6304     >500     73.7         FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     834         Particles >6µm     ASTM D7647     >1300     334         Particles >14µm     ASTM D7647     >80     32         Particles >14µm     ASTM D7647     >20     9         Particles >21µm     ASTM D7647     >20     9         Particles >38µm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2				>20			
Water     %     ASTM D6304     >0.05     0.007         ppm Water     ppm     ASTM D6304     >500     73.7         FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     834         Particles >6µm     ASTM D7647     834         Particles >6µm     ASTM D7647     >1300     334         Particles >14µm     ASTM D7647     >80     32         Particles >21µm     ASTM D7647     >20     9         Particles >38µm     ASTM D7647     >4     0         Particles >71µm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2				00	-		
ppm Water     ppm     ASTM D6304     >500     73.7         FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     834         Particles >6µm     ASTM D7647     >1300     334         Particles >6µm     ASTM D7647     >80     32         Particles >14µm     ASTM D7647     >20     9         Particles >21µm     ASTM D7647     >20     9         Particles >38µm     ASTM D7647     >3     0         Particles >71µm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)    /17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2							
FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     834         Particles >6µm     ASTM D7647     >1300     334         Particles >6µm     ASTM D7647     >80     32         Particles >14µm     ASTM D7647     >20     9         Particles >21µm     ASTM D7647     >20     9         Particles >38µm     ASTM D7647     >4     0         Particles >38µm     ASTM D7647     >3     0         Particles >71µm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2							
Particles >4μm   ASTM D7647   834       Particles >6μm   ASTM D7647   >1300   334       Particles >6μm   ASTM D7647   >1300   334       Particles >14μm   ASTM D7647   >80   32       Particles >21μm   ASTM D7647   >20   9       Particles >21μm   ASTM D7647   >20   9       Particles >38μm   ASTM D7647   >4   0       Particles >71μm   ASTM D7647   >3   0       Oil Cleanliness   ISO 4406 (c)   >/17/13   17/16/12       FLUID DEGRADATION   method   limit/base   current   history1   history2					-		
Particles >6μm     ASTM D7647     >1300     334         Particles >14μm     ASTM D7647     >80     32         Particles >21μm     ASTM D7647     >20     9         Particles >21μm     ASTM D7647     >20     9         Particles >38μm     ASTM D7647     >4     0         Particles >38μm     ASTM D7647     >3     0         Particles >71μm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2	FLUID CLEANLIN	IESS		limit/base		history1	history2
Particles >14μm   ASTM D7647   >80   32       Particles >21μm   ASTM D7647   >20   9       Particles >21μm   ASTM D7647   >20   9       Particles >38μm   ASTM D7647   >4   0       Particles >38μm   ASTM D7647   >3   0       Particles >71μm   ASTM D7647   >3   0       Oil Cleanliness   ISO 4406 (c)   >/17/13   17/16/12       FLUID DEGRADATION   method   limit/base   current   history1   history2	•						
Particles >21μm     ASTM D7647     >20     9         Particles >38μm     ASTM D7647     >4     0         Particles >38μm     ASTM D7647     >4     0         Particles >71μm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2	Particles >6µm		ASTM D7647	>1300	334		
Particles >38μm     ASTM D7647     >4     0         Particles >71μm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2	Particles >14µm		ASTM D7647	>80	32		
Particles >71μm     ASTM D7647     >3     0         Oil Cleanliness     ISO 4406 (c)     >/17/13     17/16/12         FLUID DEGRADATION     method     limit/base     current     history1     history2	Particles >21µm		ASTM D7647	>20	9		
Oil Cleanliness   ISO 4406 (c)   >/17/13   17/16/12       FLUID DEGRADATION   method   limit/base   current   history1   history2	Particles >38µm		ASTM D7647	>4	0		
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0		
	Oil Cleanliness		ISO 4406 (c)	>/17/13	17/16/12		
Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.42	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.42		

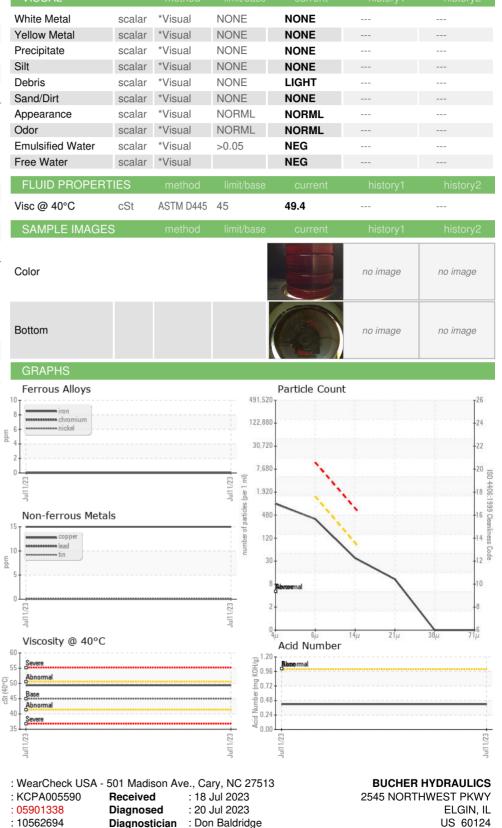


# **OIL ANALYSIS REPORT**









US 60124 Contact: Service Manager

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.

Test Package : IND 2 (Additional Tests: KF, PrtCount)

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

Lab Number

Unique Number

Contact/Location: Service Manager - BUCELG

T:

F: