

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# KAESER DS 241 1566849 (S/N 1001)

Component Compressor Fluid

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

#### 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

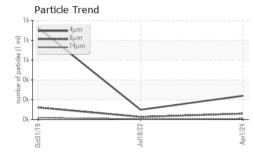
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

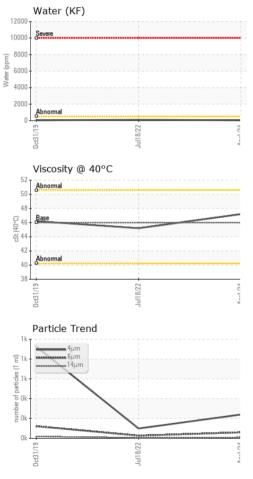
Sample Number         Client Info         KC101534         KC85799         KC83642           Sample Date         Client Info         01 Apr 2023         18 Jul 2022         31 Oct 2019           Machine Age         hrs         Client Info         10000         10000         9000           Oil Agre         Client Info         10000         10000         9000           Oil Agre         Client Info         Changed	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         182083         167392         144521           Oil Age         Irrs         Client Info         10000         10000         9000           Oil Changed         Client Info         Changed         Changed         Changed           Sample Status         method         Imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0         0         <1           Nickel         ppm         ASTM D5185m         >3         0         0         0           Nickel         ppm         ASTM D5185m         >3         <1         0         0           Silver         ppm         ASTM D5185m         >3         <1         0         0           Copper         ppm         ASTM D5185m         >10         <1         0         1           Antimony         ppm         ASTM D5185m         >10         <1         0         0           Cadamium         ppm         ASTM D5185m         0         0         0         0           Cadamium         ppm         ASTM D5185m         0         0         0         0	Sample Number		Client Info		KC101534	KC85799	KC83642
Oil Age         hrs         Client Info         10000         10000         9000           Oil Changed         Client Info         Changed         Changed         Changed           Sample Status         method         imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0         0         <1           Chromium         ppm         ASTM D5185m         >3         0         0         0           Nickel         ppm         ASTM D5185m         >3         <1         0         0           Silver         ppm         ASTM D5185m         >10         <1         0         0           Copper         ppm         ASTM D5185m         >10         0         0         <1           Aduminum         ppm         ASTM D5185m         >10         0         0         0           Capper         ppm         ASTM D5185m         >10         0         0         0           Cadadium         ppm         ASTM D5185m         0         0         0         0           Cadadium         ppm         ASTM D5185m         0         0         0         0	Sample Date		Client Info		01 Apr 2024	18 Jul 2022	31 Oct 2019
Oil Changed Sample Status         Client Info         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         NORMAL         NORMAL         NORMAL           WEAR METALS         method         imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0         0         <1           Chromium         ppm         ASTM D5185m         >30         0         0         0           Silver         ppm         ASTM D5185m         >10         <1         0         0           Lead         ppm         ASTM D5185m         >10         <1         0         1           Antimony         ppm         ASTM D5185m         >10         <1         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium <t< th=""><th>Machine Age</th><th>hrs</th><th>Client Info</th><th></th><th>182083</th><th>167392</th><th>144521</th></t<>	Machine Age	hrs	Client Info		182083	167392	144521
Oil Changed Sample Status         Client Info         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL         Changed NORMAL           WEAR METALS         method         imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0         0         <1           Chromium         ppm         ASTM D5185m         >30         0         0         0           Nickel         ppm         ASTM D5185m         >30         0         0         0           Aluminum         ppm         ASTM D5185m         >50         2         <1         0           Lead         ppm         ASTM D5185m         >10         <1         0         0           Vanadium         ppm         ASTM D5185m         >10         <1         0         0           Vanadium         ppm         ASTM D5185m         0         <1         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Caromium	Oil Age	hrs	Client Info		10000	10000	9000
Sample Status         method         Imil/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0         0         <1           Chromium         ppm         ASTM D5185m         >50         0         0         0           Nickel         ppm         ASTM D5185m         >3         0         0         0           Nickel         ppm         ASTM D5185m         >3         0         0         0           Silver         ppm         ASTM D5185m         >3         <1         0         0           Aluminum         ppm         ASTM D5185m         >10         <1         0         0           Lead         ppm         ASTM D5185m         >10         <1         0         1           Antimony         ppm         ASTM D5185m         0         0         0         0           Cadadium         ppm         ASTM D5185m         0         0         0         0           Cadadium         ppm         ASTM D5185m         0         0         0         0           AstM D5185m         90         0         0         0         0         0	-		Client Info		Changed	Changed	Changed
Iron         ppm         ASTM D5185m         >50         0         0         <11	Sample Status				-		NORMAL
Iron         ppm         ASTM D5185m         >50         0         0         <11	WEAR METALS		method	limit/base	current	history1	history2
Chromium         ppm         ASTM D5185m         >10         0         0         0           Nickel         ppm         ASTM D5185m         >3         <1         0         0           Silver         ppm         ASTM D5185m         >2         0         <1         0           Silver         ppm         ASTM D5185m         >10         <1         0         0           Lead         ppm         ASTM D5185m         >10         <1         0         0           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           Astmony         ppm         ASTM D5185m         0         0         0         0         0           Antimony         ppm         ASTM D5185m         0         <1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0<	Iron	ppm	ASTM D5185m	>50	0	0	<1
Nickel         ppm         ASTM D5185m         >3         0         0         0           Titanium         ppm         ASTM D5185m         >3         <1         0         0           Silver         ppm         ASTM D5185m         >2         0         <1         0           Aluminum         ppm         ASTM D5185m         >10         <1         0         0           Lead         ppm         ASTM D5185m         >50         2         <1         3           Tin         ppm         ASTM D5185m         >50         2         <1         3           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         0         0         0         1           Calcium         ppm         ASTM D5185m         0         0         0         1	-						
Titanium         ppm         ASTM D5185m         >3         <1							
Silver         ppm         ASTM D5185m         >2         0         <1					-		
Aluminum         ppm         ASTM D5185m         >10         <1							
Lead         ppm         ASTM D5185m         >10         0         0         <1							
Copper         ppm         ASTM D5185m         >50         2         <1							
Tin         ppm         ASTM D5185m         >10         <1							
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         history2           Boron         ppm         ASTM D5185m         0         <1         0           Barium         ppm         ASTM D5185m         0         <1         0           Magnanese         ppm         ASTM D5185m         0         0         <1         0           Magnaesium         ppm         ASTM D5185m         90         <1         <1         0         <1           Calcium         ppm         ASTM D5185m         0         0         0         1            Zinc         ppm         ASTM D5185m         0         0         0         <1            Silicon         ppm         ASTM D5185m         0         <1         0         <1            Sodium         ppm         ASTM D5185m         0         <1         0         <1 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
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         <1							
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         <1         0           Barium         ppm         ASTM D5185m         90         0         0         0           Magnese         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         90         <1         <1         0           Calcium         ppm         ASTM D5185m         90         <1         <1         0         0           Calcium         ppm         ASTM D5185m         90         <1         <1         0         0           Contadium         ppm         ASTM D5185m         90         <1         0         0         1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         20         <1         0         0           Sodium         ppm         ASTM D6185m         20         <1					0	0	
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         <1         0           Barium         ppm         ASTM D5185m         90         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         0         0         0         <1         0           Calcium         ppm         ASTM D5185m         90         <1         <1         0         0         0           Phosphorus         ppm         ASTM D5185m         90         <1         0         0         1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         0         0           Silicon         ppm         ASTM D5185m         >20         <1         0         0           Sodium         ppm         ASTM D5185m							
Boron         ppm         ASTM D5185m         O         <1		leletti		11 11 11			
Barium         ppm         ASTM D5185m         90         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         <1           Magnesium         ppm         ASTM D5185m         90         <1         <1         0           Calcium         ppm         ASTM D5185m         90         <1         <1         0           Calcium         ppm         ASTM D5185m         2         0         0         0         0           Phosphorus         ppm         ASTM D5185m         2         0         0         0         1           Zinc         ppm         ASTM D5185m         2         0         0         1         0           Solicon         ppm         ASTM D5185m         2         0         <1         0         0           Sodium         ppm         ASTM D5185m         >20         <1         0         0         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         0         0         <1         0         0         0         0         0         0         0         0         0 <td< th=""><th></th><th></th><th></th><th>limit/base</th><th></th><th></th><th></th></td<>				limit/base			
Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         90         <1							
Manganese         ppm         ASTM D5185m         0         <1				90			
Magnesium         ppm         ASTM D5185m         90         <1	,						
Calcum         ppm         ASTM D5185m         2         0         0         0           Phosphorus         ppm         ASTM D5185m         0         10         2           Zinc         ppm         ASTM D5185m         0         0         0         1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0         <1         0           Sodium         ppm         ASTM D5185m         >25         0         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         0         0           Vater         %         ASTM D6304         >0.05         0.005         0.009         0.005           ppm Water         ppm         ASTM D6304         >500         52         99.5         50.7           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >1300         60         27         122           Particles >14µm         ASTM D7647         >80         9         5         18	-						
Phosphorus         ppm         ASTM D5185m         0         10         2           Zinc         ppm         ASTM D5185m         0         0         1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0         <1							
Zinc         ppm         ASTM D5185m         0         0         1           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0         <1         0           Sodium         ppm         ASTM D5185m         >25         0         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         0         0           Potassium         ppm         ASTM D5185m         >20         <1         0         0           Water         %         ASTM D6304         >0.05         0.005         0.009         0.005           ppm Water         ppm         ASTM D6304         >500         52         99.5         50.7           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >1300         60         27         122           Particles >14µm         ASTM D7647         >20         4         2         10           Particles >21µm         ASTM D7647         >20         4         2         10				2			
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         0         <1           Potassium         ppm         ASTM D5185m         >20         <1         0         0           Water         %         ASTM D6304         >0.05         0.005         0.009         0.005           ppm Water         ppm         ASTM D6304         >500         52         99.5         50.7           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         240         99         926           Particles >6µm         ASTM D7647         >1300         60         27         122           Particles >14µm         ASTM D7647         >20         4         2         10           Particles >38µm         ASTM D7647         >20         4         2         10           Particles >71µm         ASTM D7647         >3         0         0         0 <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>							
Silicon         ppm         ASTM D5185m         >25         0         <1	Zinc	ppm	ASTM D5185m		0	0	1
Sodium         ppm         ASTM D5185m         0         0         <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         <1	Silicon	ppm		>25			
Water         %         ASTM D6304         >0.05         0.005         0.009         0.005           ppm Water         ppm         ASTM D6304         >500         52         99.5         50.7           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         240         99         926           Particles >6µm         ASTM D7647         >1300         60         27         122           Particles >6µm         ASTM D7647         >80         9         5         18           Particles >14µm         ASTM D7647         >20         4         2         10           Particles >38µm         ASTM D7647         >4         0         0         1           Particles >71µm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Sodium	ppm	ASTM D5185m				<1
ppm Water         ppm         ASTM D6304         >500         52         99.5         50.7           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         240         99.9         926           Particles >6µm         ASTM D7647         >1300         60         27         122           Particles >6µm         ASTM D7647         >80         9         5         18           Particles >14µm         ASTM D7647         >20         4         2         10           Particles >21µm         ASTM D7647         >4         0         0         1           Particles >38µm         ASTM D7647         >4         0         0         1           Particles >71µm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c) e >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2							
FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4µmASTM D764724099926Particles >6µmASTM D7647>13006027122Particles >14µmASTM D7647>809518Particles >21µmASTM D7647>204210Particles >38µmASTM D7647>4001Particles >71µmASTM D7647>3000Oil CleanlinessISO 4406 (c)>/17/1315/13/1014/12/1014/11FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Water	%		>0.05			0.005
Particles >4μm         ASTM D7647         240         99         926           Particles >6μm         ASTM D7647         >1300         60         27         122           Particles >14μm         ASTM D7647         >80         9         5         18           Particles >21μm         ASTM D7647         >20         4         2         10           Particles >21μm         ASTM D7647         >4         0         0         1           Particles >38μm         ASTM D7647         >4         0         0         0           Particles >71μm         ASTM D7647         3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	ppm Water	ppm	ASTM D6304	>500	52	99.5	50.7
Particles >6μm         ASTM D7647         >1300         60         27         122           Particles >14μm         ASTM D7647         >80         9         5         18           Particles >21μm         ASTM D7647         >20         4         2         10           Particles >21μm         ASTM D7647         >20         4         0         1           Particles >38μm         ASTM D7647         >4         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm         ASTM D7647         >80         9         5         18           Particles >21μm         ASTM D7647         >20         4         2         10           Particles >238μm         ASTM D7647         >4         0         0         1           Particles >38μm         ASTM D7647         >4         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >4µm		ASTM D7647				926
Particles >21μm         ASTM D7647         >20         4         2         10           Particles >38μm         ASTM D7647         >4         0         0         1           Particles >37μm         ASTM D7647         >3         0         0         0           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >6µm		ASTM D7647	>1300	60	27	122
Particles >38μm         ASTM D7647         >4         0         0         1           Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2	•						
Particles >71μm         ASTM D7647         >3         0         0         0           Oil Cleanliness         ISO 4406 (c)         >/17/13         15/13/10         14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2						2	
Oil Cleanliness         ISO 4406 (c)         >/17/13 <b>15/13/10</b> 14/12/10         14/11           FLUID DEGRADATION         method         limit/base         current         history1         history2							
FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>3	0		
	Oil Cleanliness		ISO 4406 (c)	>/17/13	15/13/10	14/12/10	14/11
Acid Number (AN)         mg KOH/g         ASTM D8045         0.4         0.56         0.54         0.512	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.56	0.54	0.512



# **OIL ANALYSIS REPORT**

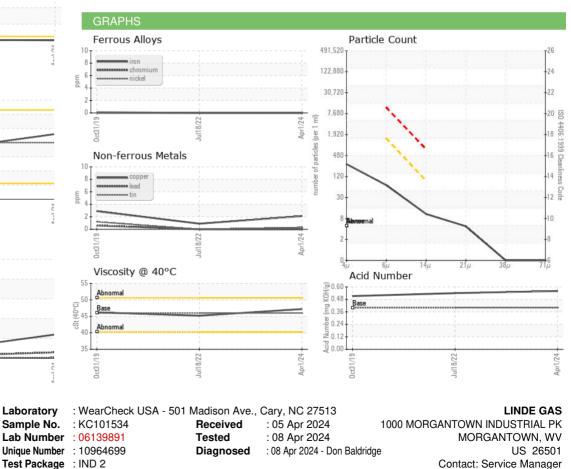
	12000 <del>-</del>	Water (KF	)						
	10000	Severe			 				
(m	8000-								
Water (ppm)	6000								
Wa	4000-								
	2000-	Abnormal							
	01	61/		122			_	104	1 17
		0ct31/19		Jul18/22				Anr1/24	





Certificate 12367

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	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	46	47.2	45.2	46.2
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						
Bottom						



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: LINMOR [WUSCAR] 06139891 (Generated: 04/08/2024 14:34:41) Rev: 1

Contact/Location: Service Manager - LINMOR Page 2 of 2

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