

OIL ANALYSIS REPORT

Sample Rating Trend

WATER

Machine Id

4645780 (S/N 1052)

Component Compressor Fluid KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. We were unable to perform a particle count due to a high concentration of particles present in this sample. We recommend an early resample in 500 hours to monitor this condition.

📥 Wear

The nickel level is abnormal. All other component wear rates are normal.

Contamination

Moderate concentration of visible dirt/debris present in the oil. There is a light concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2	
Sample Number		Client Info		KCPA016022	KCPA001631		
Sample Date		Client Info		03 Jul 2024	17 May 2023		
Machine Age	hrs	Client Info		687	352		
Oil Age	hrs	Client Info		427	0		
Oil Changed		Client Info		Changed	N/A		
Sample Status				ABNORMAL	SEVERE		
WEAR METALS		method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>50	19	1 92		
Chromium	ppm	ASTM D5185m	>10	0	<1		
Nickel	ppm	ASTM D5185m	>3	4	9		
Titanium	ppm	ASTM D5185m	>3	0	<1		
Silver	ppm	ASTM D5185m	>2	0	<1		
Aluminum	ppm	ASTM D5185m	>10	0	3		
Lead	ppm	ASTM D5185m	>10	0	2		
Copper	ppm	ASTM D5185m	>50	27	20		
Tin	ppm	ASTM D5185m	>10	0	<1		
Vanadium	ppm	ASTM D5185m		0	<1		
Cadmium	ppm	ASTM D5185m		0	<1		
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2	
	ppm ppm						
Boron		ASTM D5185m	0	0	0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 90	0 0	0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 90	0 0 0	0 0 <1		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0	0 0 0 <1	0 0 <1 2		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100	0 0 0 <1 0	0 0 <1 2 9		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0	0 0 <1 0 0	0 0 <1 2 9 0	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0	0 0 <1 0 0 0	0 0 <1 2 9 0 2		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0 0	0 0 <1 0 0 0 0 16	0 0 <1 2 9 0 2 112		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0 0 23500	0 0 <1 0 0 0 0 16 18576	0 0 <1 2 9 0 2 112 20304		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0 23500	0 0 2 1 0 0 0 16 18576 current	0 0 <1 2 9 0 2 112 20304 history1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 90 0 100 0 0 23500	0 0 2 3 3 4 1 0 0 0 0 0 16 18576 2 0 0 16 18576 1	0 0 <1 2 9 0 2 112 20304 history1 12 3 1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 90 0 100 0 0 23500 limit/base >25	0 0 0 <1 0 0 0 0 16 18576 current 1 3	0 0 <1 2 9 0 2 112 20304 history1 12 3	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 90 0 100 0 0 23500 limit/base >25	0 0 2 4 0 0 0 0 16 18576 current 1 3 2	0 0 <1 2 9 0 2 112 20304 history1 12 3 1	 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 90 0 100 0 0 0 23500 limit/base >25 >20 >20 >0.05	0 0 0 <1 0 0 0 16 18576 current 1 3 2 ▲ 0.298	0 0 <1 2 9 0 2 112 20304 history1 12 3 1 ▲ 0.101	 history2	



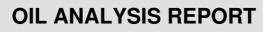
12000

10000

8000 Water (ppm)

표 100

Built for a lifetime."



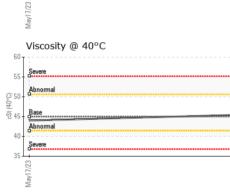
2000	Water (KF)	VISUAL		method	limit/base	e current	history1
10000	Severe	White Metal	scalar	*Visual	NONE	NONE	NONE
8000		Yellow Metal	scalar	*Visual	NONE	NONE	NONE
6000		Precipitate	scalar	*Visual	NONE	NONE	NONE
4000		Silt	scalar	*Visual	NONE	NONE	A HEAVY
2000		Debris	scalar	*Visual	NONE		NONE
0	Abnormal	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
	May17/23 Jul3/24	Appearance	scalar	*Visual	NORML	NORML	NORML
	Ar M	Odor	scalar	*Visual	NORML	NORML	NORML
	Ferrous Alloys	Emulsified Water	scalar	*Visual	>0.05	6.2%	0.2%
200	iron	Free Water	scalar	*Visual		NEG	▲ >10%
150	homium	FLUID PROPER	TIES	method	limit/base	e current	history1
특 <u>100</u>		Visc @ 40°C	cSt	ASTM D445	45	45.4	44.0
50		SAMPLE IMAGE	S	method	limit/base	e current	history1
0	May 17/28	_ Color					
	Acid Number						
1.20	Basemal	Bottom					
0.96						(S. 08 -3072)	
P0.72	-	GRAPHS					
0.48		Ferrous Alloys					
0.24		²⁰⁰					
0.00		150 - iron					
	мау17/23 *с.с	E 100					
		50-					
	Viscosity @ 40°C						
60					Jul3/24		
55	Severe	May T/23			μĻ		
ç , 50	Abnormal	Non-ferrous Meta	ls				
(0-0 1) 150 45	Base	30 copper					
	Abnormal	20 - tin					
40	Severe	bbb					
35	23	10-					
	мау17/23 к.с.с	0			4		
	2	May17/23			Jul3/24		
		≊ Viscosity @ 40°C					
		60 _T			-1	Acid Number	r
		55 - Severe			L KOH/g)	Basermal	
		् 50 - Abnomal हि 45 - Base Abnomal			Ē	.72	
		Abholmai			0 ja	.48	
		40 - Severe			Acid Number (mg K	.24	
		35 +			3/24	1/23 - 00.	
		May17/23			Jul3/24	May17/23	
1.22	Laboratory	: WearCheck USA - 50	01 Madiso	on Ave., Cary	, NC 27513	3	
uni Çe	ANAR Sample No	. : KCPA016022	Rece	ived : 15	5 Jul 2024		266
		er : <mark>06235982</mark> er : 11124816	Teste		7 Jul 2024 Jul 2024 - Do	n Roldridge	
£j		er : III24010 ne : IND 2 (Additional Te			JUI 2024 - D(n Daiunuye	Contact

FLOWERS USA 2663 MARQUIS RD US 75042 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. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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



Report Id: FLOGAR [WUSCAR] 06235982 (Generated: 07/17/2024 11:21:41) Rev: 1

Certificate L2367

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

GARLAND, TX

history2

history2

history2

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T:

F:

lul3/24