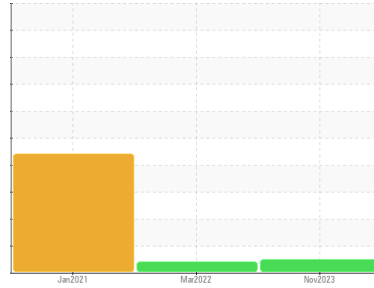




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
7044171 (S/N 2169)
 Component
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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KCPA009770	KCP38433	KCP39927
Sample Date	Client Info		03 Nov 2023	19 Mar 2022	09 Jan 2021
Machine Age	hrs	Client Info	11785	6642	4037
Oil Age	hrs	Client Info	0	2500	4037
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			NORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	0	0	<1
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m >3	0	0	0
Titanium	ppm	ASTM D5185m >3	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >10	0	1	<1
Lead	ppm	ASTM D5185m >10	0	0	3
Copper	ppm	ASTM D5185m >50	6	8	9
Tin	ppm	ASTM D5185m >10	0	0	0
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	0	<1
Barium	ppm	ASTM D5185m 90	0	0	0
Molybdenum	ppm	ASTM D5185m 0	0	0	0
Manganese	ppm	ASTM D5185m	0	0	0
Magnesium	ppm	ASTM D5185m 100	0	<1	2
Calcium	ppm	ASTM D5185m 0	0	0	<1
Phosphorus	ppm	ASTM D5185m 0	0	0	3
Zinc	ppm	ASTM D5185m 0	0	3	28
Sulfur	ppm	ASTM D5185m 23500	15717	15763	14752

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<1	0	<1
Sodium	ppm	ASTM D5185m	<1	0	0
Potassium	ppm	ASTM D5185m >20	0	0	13
Water	%	ASTM D6304 >0.05	0.009	0.009	▲ 0.310
ppm Water	ppm	ASTM D6304 >500	99.2	97.4	▲ 3100

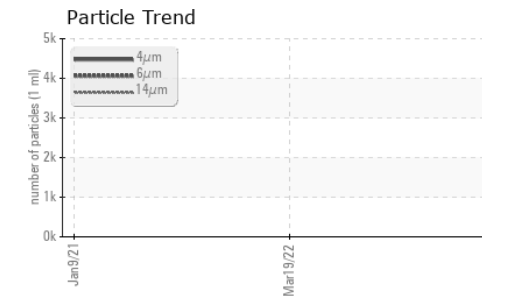
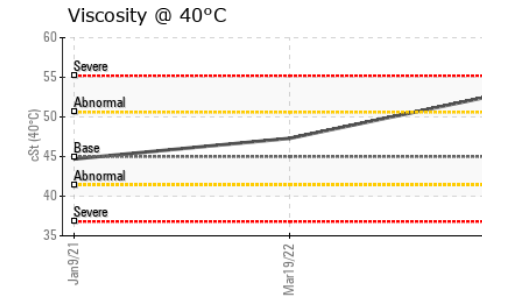
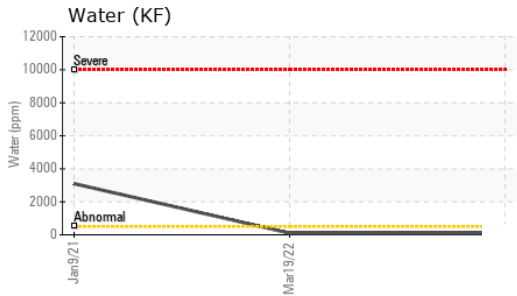
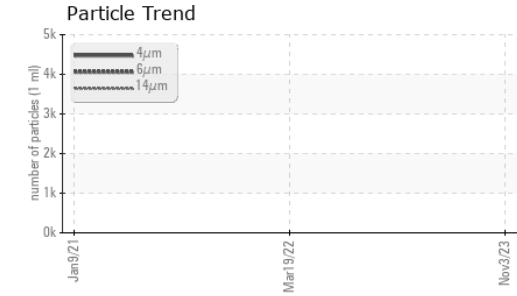
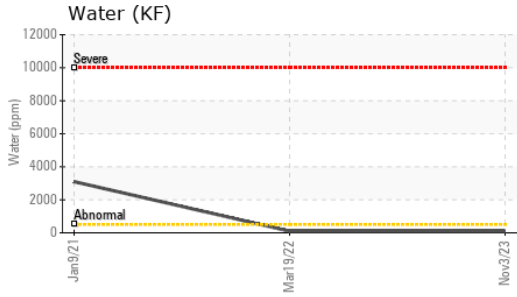
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		4052	---	---
Particles >6µm	ASTM D7647 >1300		1004	---	---
Particles >14µm	ASTM D7647 >80		46	---	---
Particles >21µm	ASTM D7647 >20		10	---	---
Particles >38µm	ASTM D7647 >4		0	---	---
Particles >71µm	ASTM D7647 >3		0	---	---
Oil Cleanliness	ISO 4406 (c) >--/17/13		19/17/13	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	0.39	0.40	0.317

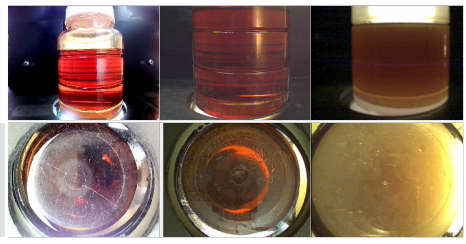
OIL ANALYSIS REPORT



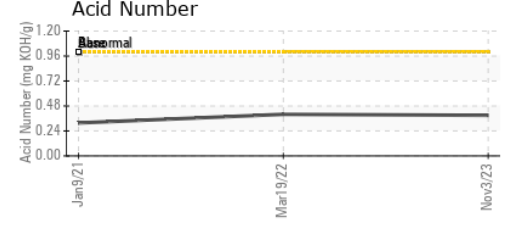
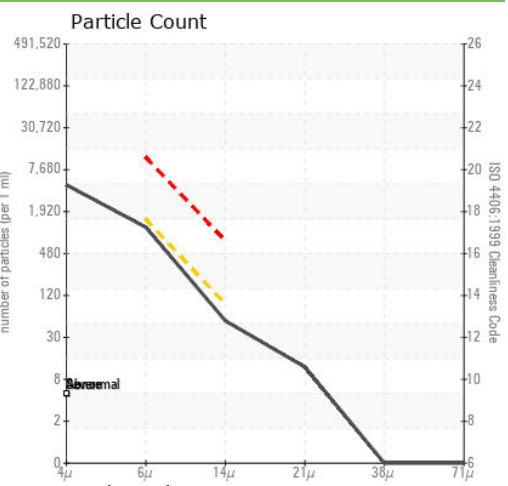
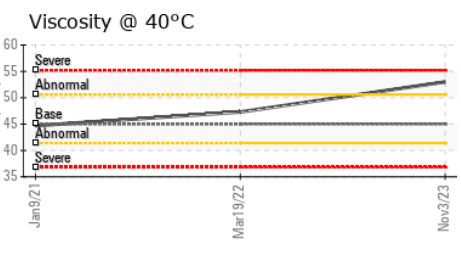
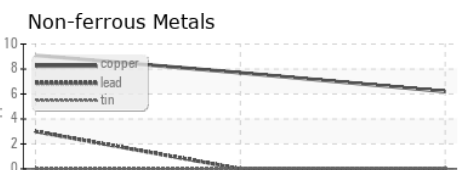
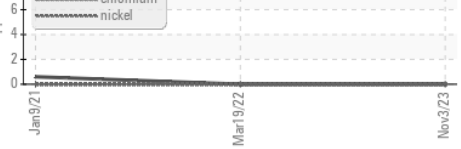
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	▲ HAZY
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	0.2%
Free Water	scalar	*Visual		NEG	▲ 1.0

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	53.0	47.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA009770 **Received** : 14 Nov 2023
Lab Number : 06007724 **Diagnosed** : 16 Nov 2023
Unique Number : 10741486 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

LATHAM POOLS INC
 162 ENTERPRISE DR
 ROCKINGHAM, NC
 US 28379
 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)

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