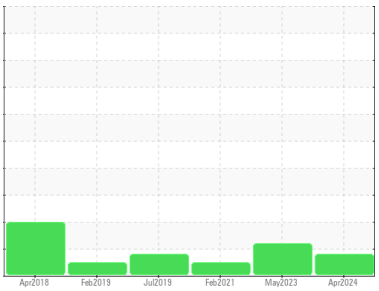
OIL ANALYSIS REPORT

Sample Rating Trend



ADDITIVES

Area
FM PLANT
Machine Id
Recirculation Blower F2108 Stage 1 (S/N F519834)
Component
Outboard Blower
Fluid
SHELL TELLUS S3 M 46 (60 LTR)

DIAGNOSIS

Recommendation
Replace the oil at your earliest convenience. Substantial Magnesium is present. This is typically used in engine oil applications. Substantial zinc if present that is ALSO not typically an element of this oil. This mixture may not be harmful, but indicates material present that should not be. Investigate the source of magnesium.

Wear
The wear rate is low and steady

Contamination
Particulate is typical for new oil conditions. Moisture is nil.

Fluid Condition
Oil chemistry has changed, to include magnesium and zinc at levels that are not 'normal' for this fluid. Viscosity is good. Acid number iselevated. The oil does not currently represent a risk to the machines.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PLS0000530**	PLS0000504	PLS05189322
Sample Date		Client Info		**07 Apr 2024**	09 May 2023	02 Feb 2021
Machine Age	yrs	Client Info		**0**	0	0
Oil Age	yrs	Client Info		**0**	1	0
Oil Changed		Client Info		**N/A**	Filtered	N/A
Sample Status				**ATTENTION**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**13**	16	16
Iron	ppm	ASTM D5185m	>20	**<1**	0	0
Chromium	ppm	ASTM D5185m	>20	**<1**	0	0
Nickel	ppm	ASTM D5185m	>20	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	<1	0
Lead	ppm	ASTM D5185m	>20	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>20	**5**	3	<1
Tin	ppm	ASTM D5185m	>20	**<1**	<1	0
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	3	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	0	● **53**	▲ 54	0
Calcium	ppm	ASTM D5185m	0	**12**	16	39
Phosphorus	ppm	ASTM D5185m	106	**219**	▲ 262	55
Zinc	ppm	ASTM D5185m	0	● **292**	▲ 300	0
Sulfur	ppm	ASTM D5185m		**549**	773	162

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	<1	0
Sodium	ppm	ASTM D5185m		**0**	2	0
Potassium	ppm	ASTM D5185m	>20	**1**	<1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624		**1.8**	1.7	1.8
Sulfation	Abs/.1mm	*ASTM D7415		**10.4**	10.8	11.5

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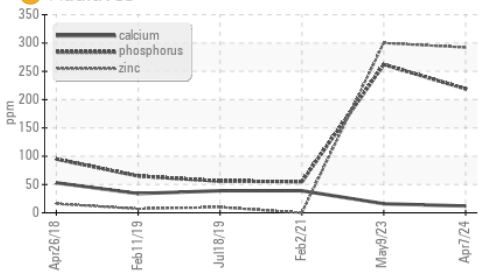
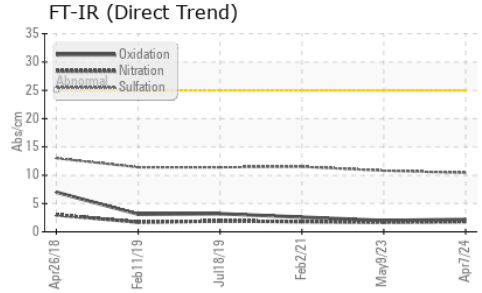
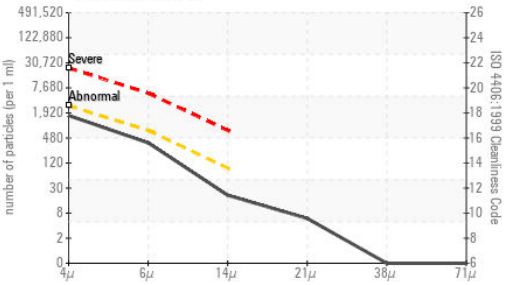
Additives



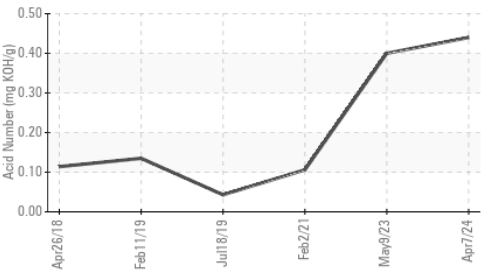
FT-IR (Direct Trend)



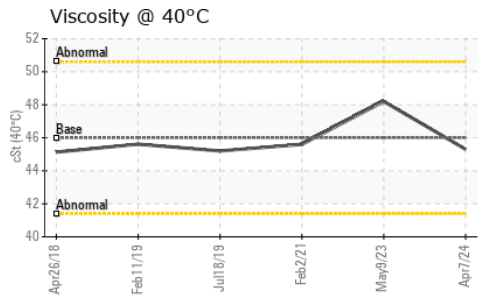
Particle Count



Acid Number



Viscosity @ 40°C



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**1459**	379	2370
Particles >6µm		ASTM D7647	>640	**323**	108	250
Particles >14µm		ASTM D7647	>80	**18**	15	7
Particles >21µm		ASTM D7647	>20	**5**	2	2
Particles >38µm		ASTM D7647	>4	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**18/16/11**	16/14/11	18/15/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414		**2.2**	2.0	2.6
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.44**	0.40	0.106

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		**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46.0	**45.3**	48.2	45.6

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PLS0000530
Lab Number : 06141144
Unique Number : 10965952
Test Package : IND 2 (Additional Tests: FT-IR, PQ, PrtCount)

Received : 08 Apr 2024
Tested : 09 Apr 2024
Diagnosed : 30 May 2024 - Mike Johnson

HEXION INC - LULING PLANT
12513 QUEENIE RD
LULING, LA
US 70070
Contact: JEFF RENTFROW
jeff.rentfrow@hexion.com;mike.johnson@amrri.com
T:
F:

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: HEXLUL [WUSCAR] 06141144 (Generated: 05/30/2024 21:42:37) Rev: 1
Contact/Location: JEFF RENTFROW - HEXLUL