



OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

ATTENTION
ABNORMAL
NORMAL

Area
IRIG [6606319]
Machine Id
IRIG-PRM-PMUD-0302 - 2MP IRIG-PRM-PMUD-0302 #2 MUD PUMP
Component
Pump
Fluid
MOBIL SHC 632 (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HLC0003077	HLC0003018	HLC0003019
Sample Date		Client Info		20 Feb 2024	05 Feb 2024	01 Jan 2024
Machine Age	hrs	Client Info		19109	19006	18882
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Filtered	N/A	Filtered
Filter Changed		Client Info		Cleaned	N/A	Cleaned
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	30	58	2
Chromium	ppm	ASTM D5185m	>5	1	3	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>3	1	3	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>7	23	48	<1
Lead	ppm	ASTM D5185m	>12	0	0	0
Copper	ppm	ASTM D5185m	>30	4	7	0
Tin	ppm	ASTM D5185m	>9	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

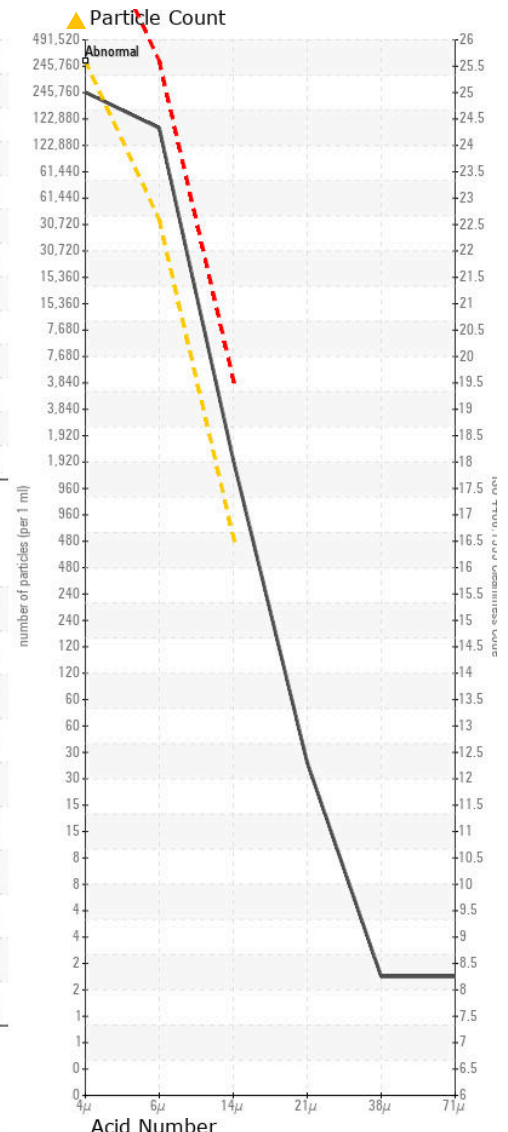
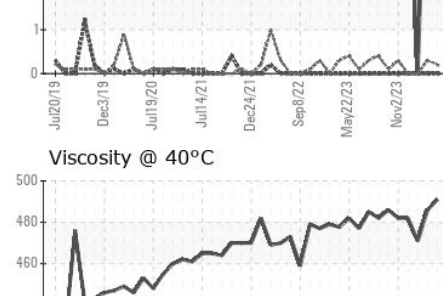
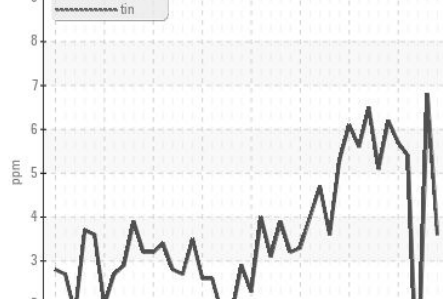
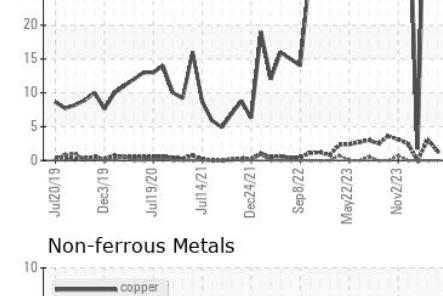
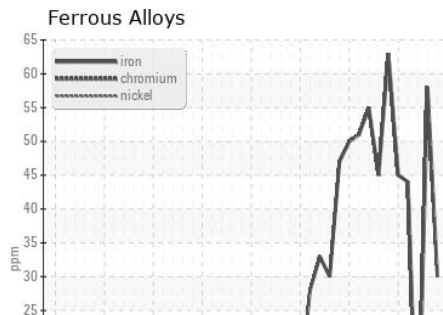
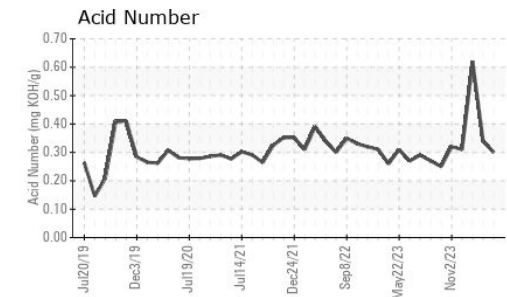
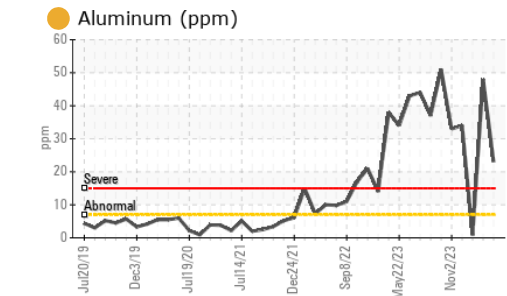
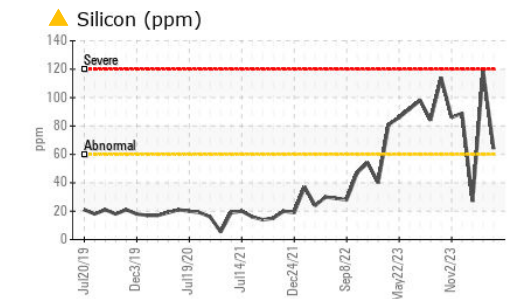
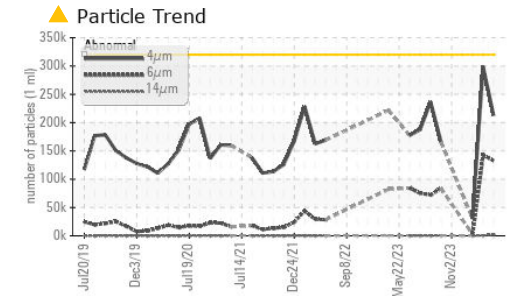
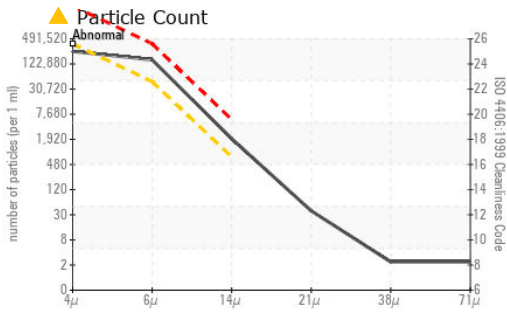
There is a high amount of particulates present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>60	64	119	27
Potassium	ppm	ASTM D5185m	>20	23	44	<1
Water		WC Method	>.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>320000	212407	298950	30105
Particles >6µm		ASTM D7647	>40000	132883	142248	2386
Particles >14µm		ASTM D7647	>640	1737	598	25
Particles >21µm		ASTM D7647	>160	33	58	6
Particles >38µm		ASTM D7647	>40	2	0	1
Particles >71µm		ASTM D7647	>10	2	0	1
Oil Cleanliness		ISO 4406 (c)	>25/22/16	25/24/18	25/24/16	22/18/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	HAZY	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.1	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		24	49	2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		11	25	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		6	5	0
Calcium	ppm	ASTM D5185m		17	24	0
Phosphorus	ppm	ASTM D5185m		438	414	495
Zinc	ppm	ASTM D5185m		2	0	0
Sulfur	ppm	ASTM D5185m		120	108	0
Acid Number (AN)	mg KOH/g	ASTM D8045		0.30	0.34	0.62
Visc @ 40°C	cSt	ASTM D445	325.8	491	486	471



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HLC0003077 **Received** : 18 Mar 2024
Lab Number : 06121645 **Tested** : 25 Mar 2024
Unique Number : 10930478 **Diagnosed** : 25 Mar 2024 - Jonathan Hester
Test Package : IND 2 (Additional Tests: PrtCount)

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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)