WEAR CONTAMINATION FLUID CONDITION

SEVERE SEVERE NORMAL

RASA 60 IN MTBM 60 IN RASA MTBM

Component Planetary							
Inot provided} (GAL)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.	Sample Number		Client Info		DC0021929	DC0013642	DC0000657
	Sample Date		Client Info		06 Feb 2024	11 Apr 2022	21 Aug 2019
	Machine Age	hrs	Client Info		0	0	0
	Oil Age	hrs	Client Info		0	0	0
	Filter Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		N/A	N/A	N/A
	Filter Changed		Client Info		N/A	N/A	N/A
	Sample Status				SEVERE	ABNORMAL	ATTENTION
WEAR	Iron	ppm	ASTM D5185m	>500	259	40	30
The chromium level is severe.	Chromium	ppm	ASTM D5185m	>10	32	2	1
	Nickel	ppm	ASTM D5185m	>10	<1	0	<1
	Titanium	ppm	ASTM D5185m		8	1	1
	Silver	ppm	ASTM D5185m		0	0	<1
	Aluminum	ppm	ASTM D5185m	>25	119	20	1
	Lead	ppm	ASTM D5185m	>25	2	0	<1
	Copper	ppm	ASTM D5185m	>75	2	<1	2
	Tin	ppm	ASTM D5185m	>10	3	0	0
	Vanadium	ppm	ASTM D5185m		<1	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress. Moderate concentration of visible dirt/debris present in the oil. There is a high concentration of water present in the oil. Excessive free water present.	Silicon	ppm	ASTM D5185m	>75	253	46	6
	Potassium	ppm	ASTM D5185m	>20	51	5	6
	Water	%	ASTM D6304	>0.2	9.72	△ 0.723	0.143
	ppm Water	ppm	ASTM D6304	>2000	97200	<u>▲</u> 7230	1430
	Silt	scalar	*Visual	NONE	MODER	NONE	NONE
	Debris	scalar	*Visual	NONE	▲ MODER	▲ MODER	LIGHT
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	▲ MILKY	▲ MILKY	▲ MILKY
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	<u> </u>	0.2%	0.2%
FLUID CONDITION The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.	Sodium	ppm	ASTM D5185m		8	<1	2
	Boron	ppm	ASTM D5185m		4	2	5
	Barium	ppm	ASTM D5185m		0	0	0
	Molybdenum	ppm	ASTM D5185m		0	<1	2
	Manganese	ppm	ASTM D5185m		3	<1	<1
	Magnesium	ppm	ASTM D5185m		20	4	2
	Calcium	ppm	ASTM D5185m		136	28	52
	Phosphorus	ppm	ASTM D5185m		40	99	60
	Zinc	ppm	ASTM D5185m		16	18	22

Sulfur

Visc @ 40°C cSt

ppm ASTM D5185m

ASTM D445

Acid Number (AN) mg KOH/g ASTM D8045

0.12

322

16367

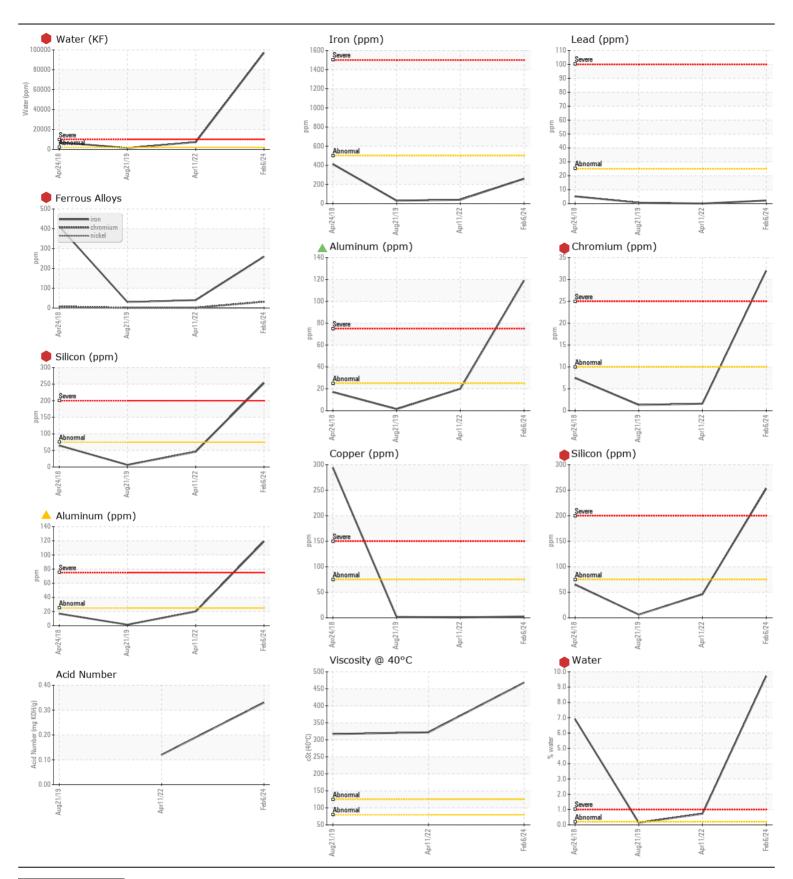
17403

0.33

468

317

12117





Laboratory Sample No. Lab Number Unique Number : 10872379

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : DC0021929 : 06084934

Test Package : MOB 2 (Additional Tests: KF)

: 09 Feb 2024 Received **Tested** Diagnosed

: 12 Feb 2024 : 12 Feb 2024 - Don Baldridge

DUNDALK, MD US 21222 Contact: SEAN-PAUL WARNICK

8228 FISCHER RD, PO BOX 656

SECA UNDERGROUND

To discuss this sample report, contact Customer Service at 1-800-237-1369. seanpaul.warnick@seca-tunnel.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (443)740-1527

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)