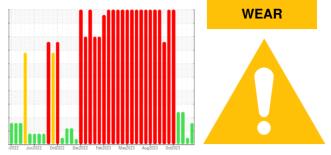


OIL ANALYSIS REPORT

Sample Rating Trend



Component Bulk Tank Lube System Fluid MOBIL MOBILGEAR 600 XP 320 (--- GAL)

Area Building 12

Sample Date Client Info 05 Feb 2024 24 Jan 2024 14 Doc 202 Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 404 0 Oil Changed Client Info Filtered Filtered Filtered Changed Sample Status Client Info Imit/base current history1 Matory1 Water WC Method >0.05 NEG NEG NEG Water WC Method >0.05 NEG NEG NEG Water WC Method >0.05 NEG NEG NEG Iron ppm ASTM D5185m >20 4 39 20 4 56 Chromium ppm ASTM D5185m >20 0 0 0 11 Itanium ppm ASTM D5185m 20 12 9 4 29 Goper ppm ASTM D5185m 20 <td< th=""><th>SAMPLE INFORM</th><th>MATION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 404 Oil Age hrs Client Info 0 0 404 Oil Changed Client Info Filtered Filtered Changed Sample Status Method Jone ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history1 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 3 2 3 Iranium ppm ASTM D5185m >20 4 26 4 Vanadium ppm ASTM D5185m >20 4 26 4 Sorto <td< td=""><td>Sample Number</td><td></td><td>Client Info</td><td></td><th>WC0901961</th><td>WC0901966</td><td>WC0882555</td></td<>	Sample Number		Client Info		WC0901961	WC0901966	WC0882555
Oil Age hrs Client Info 0 0 404 Oil Changed Client Info Filtered Filtered Changed Sample Status Image Image Current history1 ABNORMAL CONTAMINATION method Imit/base current history1 history1 Water WC Method >0.05 NEG NEG NEG Wear METALS method Imit/base current history1 history1 Iron ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 12 9 4 26 Vanadium ppm ASTM D5185m >20 4 26 4 49 Tin ppm ASTM D5185m >20 4 26 4	Sample Date		Client Info		05 Feb 2024	24 Jan 2024	14 Dec 2023
Oil Changed Sample Status Client Info Filtered ABNORMAL Filtered ABNORMAL Filtered Changed ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 0 Silver ppm ASTM D5185m >20 3 2 3 <td>Machine Age</td> <td>hrs</td> <td>Client Info</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Machine Age	hrs	Client Info		0	0	0
Sample Status Image: Status ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 1 Nickel ppm ASTM D5185m >20 0 0 -1 Nickel ppm ASTM D5185m >20 0 0 -1 Silver ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 ASTM D5185m 20 4 1 1 1 <td>Oil Age</td> <td>hrs</td> <td>Client Info</td> <td></td> <th>0</th> <td>0</td> <td>404</td>	Oil Age	hrs	Client Info		0	0	404
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 39 20 56 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 <11	Oil Changed		Client Info		Filtered	Filtered	Changed
Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 39 20 56 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 11 Titanium ppm ASTM D5185m 0 0 0 11 Silver ppm ASTM D5185m >20 3 2 3 12 9 4 29 29 Copper ppm ASTM D5185m >20 4 4 26 4 49 11 1 15 15 26 4 49 10 0 0 0 0 0 0 0 16 16 16 16 16 16 16 16 16 16 16 16 16 16	Sample Status				ABNORMAL		ABNORMAL
WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >20 39 20 56 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m 20 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 4 26 4 49 Tin ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 </td <td>CONTAMINATIO</td> <td>N</td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	CONTAMINATIO	N	method	limit/base	current	history1	history2
Iron ppm ASTM D5185m >20 ▲ 39 ▲ 20 ▲ 56 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 <1	Water		WC Method	>0.05	NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 <1 Titanium ppm ASTM D5185m 0 0 0 <1 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 4 26 4 Copper ppm ASTM D5185m >20 4 26 4 Tin ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 15 15 15 2	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >20 0 0 <1 Titanium ppm ASTM D5185m 0 0 0 <1	Iron	ppm	ASTM D5185m	>20	A 39	a 20	5 6
Titanium ppm ASTM D5185m 0 Silver ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 12 9 29 Copper ppm ASTM D5185m >20 477 26 49 Tin ppm ASTM D5185m >20 4 26 49 Vanadium ppm ASTM D5185m >20 4 26 49 Vanadium ppm ASTM D5185m >20 4 26 49 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>20	0	0	0
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 12 9 ▲ 29 Copper ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Tin ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Vanadium ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Vanadium ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m <1	Nickel	ppm	ASTM D5185m	>20	0	0	<1
Aluminum ppm ASTM D5185m >20 3 2 3 Lead ppm ASTM D5185m >20 12 9 ▲ 29 Copper ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Tin ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Tin ppm ASTM D5185m >20 ▲ 2 6 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m <1	Titanium	ppm	ASTM D5185m		0	0	<1
Lead ppm ASTM D5185m >20 12 9 29 Copper ppm ASTM D5185m >20 47 26 49 Tin ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m <11	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Tin ppm ASTM D5185m >20 ▲ 47 ▲ 26 ▲ 49 Vanadium ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 15 15 26 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m <1	Aluminum	ppm	ASTM D5185m	>20	3	2	3
Tin ppm ASTM D5185m >20 4 2 6 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 15 15 26 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m <11 1 2 Calcium ppm ASTM D5185m <11 1 3 Phosphorus ppm ASTM D5185m 290 275 276 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 200	Lead	ppm	ASTM D5185m	>20	12	9	A 29
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 15 15 26 Barium ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 4 1 1 2 Calcium ppm ASTM D5185m <11 1 2 2 Calcium ppm ASTM D5185m 290 275 276 Zinc ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 11 5 10 Sodium	Copper	ppm	ASTM D5185m	>20	<u> </u>	A 26	4 9
CadmiumppmASTM D5185m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m151526BariumppmASTM D5185m000MolybdenumppmASTM D5185m000ManganeseppmASTM D5185m<1	Tin	ppm	ASTM D5185m	>20	4	2	6
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m151526BariumppmASTM D5185m000MolybdenumppmASTM D5185m000ManganeseppmASTM D5185m000MagnesiumppmASTM D5185m<1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 15 15 26 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 1 <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m <1 1 2 1 Calcium ppm ASTM D5185m <1 1 3 2 Calcium ppm ASTM D5185m 290 275 276 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 11 5 10 Sodium ppm ASTM D5185m >20 0 <1 2 FLUID DEGRADATION method limit/base current history1 history2	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		15	15	26
Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m <1 1 2 Calcium ppm ASTM D5185m 1 1 3 Phosphorus ppm ASTM D5185m 290 275 276 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 11 5 10 Sodium ppm ASTM D5185m >20 0 <1 1 1 Potassium ppm ASTM D5185m >20 0 <1 2 FLUID DEGRADATION method limit/base current history1 history2	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 1 1 3 Phosphorus ppm ASTM D5185m 290 275 276 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m<>15 11 5 10 Sodium ppm ASTM D5185m<>20 0 <1	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 290 275 276 Zinc ppm ASTM D5185m 0 0 0 0 0 Sulfur ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 11 5 10 Sodium ppm ASTM D5185m >20 0 <1 1 Potassium ppm ASTM D5185m >20 0 <1 2 FLUID DEGRADATION method limit/base current history1 history2	Magnesium	ppm	ASTM D5185m		<1	1	2
Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m<>15 11 5 10 Sodium ppm ASTM D5185m<>20 0 <1	Calcium	ppm	ASTM D5185m		1	1	3
Sulfur ppm ASTM D5185m 16360 16025 10836 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m<>15 11 5 10 Sodium ppm ASTM D5185m<>20 0 <1	Phosphorus	ppm	ASTM D5185m		290	275	276
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>1511510SodiumppmASTM D5185m111PotassiumppmASTM D5185m<>200<1	Zinc	ppm	ASTM D5185m		0	0	0
Silicon ppm ASTM D5185m >15 11 5 10 Sodium ppm ASTM D5185m 1 1 1 1 Potassium ppm ASTM D5185m >20 0 <1 2 FLUID DEGRADATION method limit/base current history1 history2	Sulfur	ppm	ASTM D5185m		16360	16025	10836
SodiumppmASTM D5185m111PotassiumppmASTM D5185m>200<12FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	CONTAMINANTS	6	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 <1 2 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>15	11	5	10
FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		1	1	1
	Potassium	ppm	ASTM D5185m	>20	0	<1	2
Acid Number (AN) mg KOH/g ASTM D8045 0.84 0.83 0.88	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.84	0.83	0.88

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

📥 Wear

Bearing and/or gear wear is indicated.

Contamination

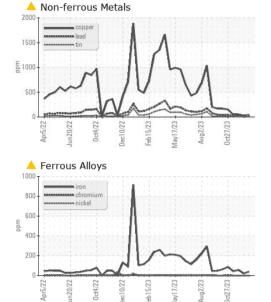
There is no indication of any contamination in the oil.

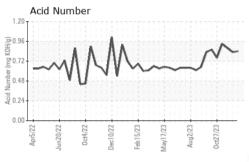
Fluid Condition

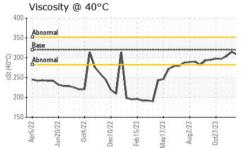
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



OIL ANALYSIS REPORT



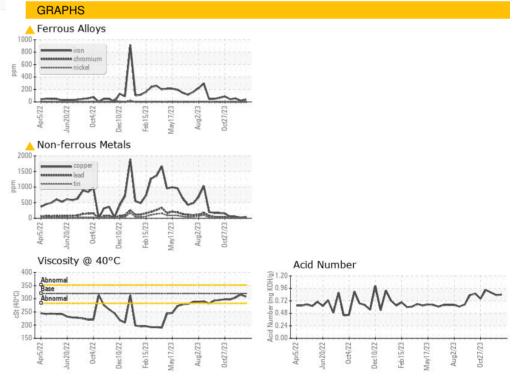




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	🔺 LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	MODER	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	308	315	304
SAMPLE IMAGES	S	method	limit/base	current	history1	history2
Color					. 6	a.

Bottom





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **3M - PITTSBORO** : WC0901961 Sample No. Received : 05 Apr 2024 4191 NC 87 S ŝ, Lab Number : 06140064 Tested : 08 Apr 2024 MONCURE, NC Unique Number : 10964872 Diagnosed : 08 Apr 2024 - Don Baldridge US 27559 Test Package : IND 2 Contact: CHARLES JARRELL Certificate 12367 ř. To discuss this sample report, contact Customer Service at 1-800-237-1369. cjarrell@mmm.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: THRPIT [WUSCAR] 06140064 (Generated: 04/08/2024 15:16:15) Rev: 1

Submitted By: JORDAN TUTEN Page 2 of 2