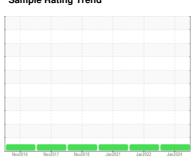


OIL ANALYSIS REPORT

Sample Rating Trend







GREENERD 1550

Component

Hydraulic System

MOBIL DTE 26 (150 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the sample. The amount and size of particulates present in the system are acceptable.

Fluid Condition

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

SAMPLE INFORMATION method limit/base current history1 history2			Nov2016	Nov2017 Nov2018	Jan2021 Jan2022	Jan 2024	
Sample Date Client Info 19 Jan 2024 20 Jan 2022 12 Jan 2021	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status NoRMAL NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 3 4 3 Chromium ppm ASTM D5185m >20 0 <1	Sample Number		Client Info		ST44430	ST42708	ST40903
Oil Age hrs Client Info N/A N/A N/A N/A Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m ≥20 3 4 3 Chromium ppm ASTM D5185m ≥20 0 -1 0 Nickel ppm ASTM D5185m ≥20 0 0 0 Silver ppm ASTM D5185m ≥20 -1 -1 -1 Lead ppm ASTM D5185m >20 19 22 2 2 Copper ppm ASTM D5185m >20 19 22 2 1 Tin ppm ASTM D5185m >20 1 -1 -1 -1 Antimony ppm ASTM D5185m 20 <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>19 Jan 2024</th> <th>20 Jan 2022</th> <th>12 Jan 2021</th>	Sample Date		Client Info		19 Jan 2024	20 Jan 2022	12 Jan 2021
Cilicot Info	Machine Age	hrs	Client Info		0	0	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 3 4 3 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 <1 <1 <1 Aluminum ppm ASTM D5185m >20 <1 <1 <1 Lead ppm ASTM D5185m >20 2 2 2 2 Lead ppm ASTM D5185m >20 19 22 2 2 Copper ppm ASTM D5185m >20 19 22 2 2 Copper ppm ASTM D5185m .0 0 0 0 0 Tin ppm ASTM D5185m .0 0 0 0 0 0 0 0 <t< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>N/A</th><th>N/A</th><th>N/A</th></t<>	Oil Changed		Client Info		N/A	N/A	N/A
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >20 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >20 <1 <1 <1 Lead ppm ASTM D5185m >20 2 2 2 2 Copper ppm ASTM D5185m >20 19 22 21 1 Antimony ppm ASTM D5185m >20 <1 <1 <1 <1 Antimony ppm ASTM D5185m 0	Iron	ppm	ASTM D5185m	>20	3	4	3
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m ≥20 <1	Chromium	ppm	ASTM D5185m	>20	0	<1	0
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >20 <1	Nickel	ppm	ASTM D5185m	>20	0	0	0
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Lead ppm ASTM D5185m >20 2 2 2 2 Copper ppm ASTM D5185m >20 19 22 21 Tin ppm ASTM D5185m >20 <1 <1 <1 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 53 55 55 Calcium ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 728 694 <t< th=""><th>Silver</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>0</th><th>0</th><th>0</th></t<>	Silver	ppm	ASTM D5185m		0	0	0
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Copper ppm ASTM D5185m >20 19 22 21 Tin ppm ASTM D5185m >20 <1 <1 <1 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 2 4 Barium ppm ASTM D5185m 0 <1 <1 Molybdenum ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 53 55 55 Calcium ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 5491 4453 4588 <tr< th=""><th>Lead</th><th>ppm</th><th>ASTM D5185m</th><th>>20</th><th>2</th><th>2</th><th>2</th></tr<>	Lead	ppm	ASTM D5185m	>20	2	2	2
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Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 1 1 1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Antimony	ppm	ASTM D5185m			0	0
Cadmium ppm ASTM D5185m 1 1 1 1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 53 55 55 Calcium ppm ASTM D5185m 166 179 178 Phosphorus ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 728 694 677 Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m >20	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1 <1 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 53 55 55 55	Cadmium		ASTM D5185m		1	1	1
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 53 55 55 Calcium ppm ASTM D5185m 166 179 178 Phosphorus ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 728 694 677 Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m >15 6 6 5 Solifur ppm ASTM D5185m >15	ADDITIVES		method	limit/base	current	history1	history2
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Molybdenum ppm ASTM D5185m 0 <1	Barium		ASTM D5185m				0
Manganese ppm ASTM D5185m 0 <1	Molvbdenum				0	<1	<1
Magnesium ppm ASTM D5185m 53 55 55 Calcium ppm ASTM D5185m 166 179 178 Phosphorus ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 728 694 677 Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m >20 2 0 <1			ASTM D5185m		0	<1	
Calcium ppm ASTM D5185m 166 179 178 Phosphorus ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 728 694 677 Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 5 6 6 4 Sodium ppm ASTM D5185m 6 5 5 Potassium ppm ASTM D5185m 20 2 0 <1 Water % ASTM D5185m >20 2 0 <1 Water % ASTM D5185m >20 2 0 <1 Water % ASTM D5185m >20 2 0 <1 Water % ASTM D5185m >1 0 0 <0 Particles > 4µm ASTM D6304 </th <th>-</th> <th></th> <th>ASTM D5185m</th> <th></th> <th>53</th> <th>55</th> <th>55</th>	-		ASTM D5185m		53	55	55
Phosphorus ppm ASTM D5185m 574 540 530 Zinc ppm ASTM D5185m 728 694 677 Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m >20 2 0 <1 Potassium ppm ASTM D5185m >20 2 0 <1 Water % ASTM D6304 >>0.0 65 83.2 120.6			ASTM D5185m		166	179	178
Zinc ppm ASTM D5185m 728 694 677 Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m 6 5 5 Potassium ppm ASTM D5185m >20 2 0 <1 Water % ASTM D5185m >20 5 83.2 120.6 FLUID CLEANLINESS method limit/base current history1 history2	Phosphorus		ASTM D5185m				530
Sulfur ppm ASTM D5185m 5491 4453 4588 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m >20 2 0 <1 Potassium ppm ASTM D5185m >20 2 0 <1 Water % ASTM D6304 >0.05 0.006 0.008 0.012 ppm Water ppm ASTM D6304 >500 65 83.2 120.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 1821 1389 645 Particles >6µm ASTM D7647 >640 332 175 153 Particles >21µm ASTM D7647 >80 22 14 23 Particles >38µm ASTM D7647 >4 0 0 0			ASTM D5185m		728	694	677
Silicon ppm ASTM D5185m >15 6 6 4 Sodium ppm ASTM D5185m 6 5 5 Potassium ppm ASTM D5185m >20 2 0 <1	Sulfur		ASTM D5185m		5491	4453	4588
Sodium ppm ASTM D5185m 6 5 5 Potassium ppm ASTM D5185m >20 2 0 <1 Water % ASTM D6304 >0.05 0.006 0.008 0.012 ppm Water ppm ASTM D6304 >500 65 83.2 120.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 1821 1389 645 Particles >6μm ASTM D7647 >640 332 175 153 Particles >14μm ASTM D7647 >80 22 14 23 Particles >21μm ASTM D7647 >20 5 5 4 Particles >38μm ASTM D7647 >4 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >18/16/12 18/15/11 17/14/12	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 6 5 5 Potassium ppm ASTM D5185m >20 2 0 <1 Water % ASTM D6304 >0.05 0.006 0.008 0.012 ppm Water ppm ASTM D6304 >500 65 83.2 120.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 1821 1389 645 Particles >6μm ASTM D7647 >640 332 175 153 Particles >14μm ASTM D7647 >80 22 14 23 Particles >21μm ASTM D7647 >20 5 5 4 Particles >38μm ASTM D7647 >4 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 18/16/12 18/15/11 17/14/12	Silicon	ppm	ASTM D5185m	>15	6	6	4
Potassium ppm ASTM D5185m >20 2 0 <1							5
Water % ASTM D6304 >0.05 0.006 0.008 0.012 ppm Water ppm ASTM D6304 >500 65 83.2 120.6 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 1821 1389 645 Particles >6μm ASTM D7647 >640 332 175 153 Particles >14μm ASTM D7647 >80 22 14 23 Particles >21μm ASTM D7647 >20 5 5 4 Particles >38μm ASTM D7647 >4 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 18/16/12 18/15/11 17/14/12				>20	-		<1
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Particles >38μm ASTM D7647 >4 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 18/16/12 18/15/11 17/14/12							
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 18/16/12 18/15/11 17/14/12							
Oil Cleanliness ISO 4406 (c) >18/16/13 18/16/12 18/15/11 17/14/12							
FLUID DEGRADATION method limit/base current history1 history2	·						
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2

Acid Number (AN)

mg KOH/g ASTM D8045

0.634 0.58 0.571 Contact/Location: GARY BRUNE - LARATT

Report Id: LARATT [WUSCAR] 06074784 (Generated: 02/03/2024 07:07:10) Rev: 1



OIL ANALYSIS REPORT

