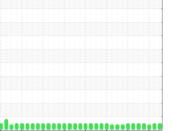


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL





Sample Date Cilent Info 28 Apr 2023 16 Jan 2023 18 Apr 2022 Machine Age hrs Cilent Info 0 0 0 Oil Age hrs Cilent Info 0 0 0 0 Oil Changed Cilent Info N/A N/A N/A N/A Sample Status method Imit/base current history1 history1 Iron ppm ASTM D5185m >20 0 <1	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2													
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info N/A N/A N/A Sample Status Imit/base current history1 history1 Iron ppm ASTM D5185m >20 0 <1	Sample Number		Client Info		WC0344313	WC0344305	WC0344317													
Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >20 0 0 0 Ohromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 7 7 9 Tin ppm ASTM D5185m >20 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Antimony ppm ASTM D5185m 0 0 <1	Sample Date		Client Info		28 Apr 2023	16 Jan 2023	18 Apr 2022													
Oil Changed Sample Status Client Info N/A N/A N/A N/A N/A WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >20 0 <1	Machine Age	hrs	Client Info		0	0	0													
Sample Status Image: Status NORMAL NORMAL ABNORMAL WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >20 0 <1	Oil Age	hrs	Client Info		0	0	0													
WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >20 0 <1	Oil Changed		Client Info		N/A	N/A	N/A													
Iron ppm ASTM D5185m >20 0 <1 1 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Astm D5185m >20 <1 0 <1 2 Copper ppm ASTM D5185m >20 7 7 9 Tin ppm ASTM D5185m >20 0 0 0 Attmony ppm ASTM D5185m 0 0 0 0 Attmony ppm ASTM D5185m 0 0 0 0 Attmony ppm ASTM D5185m 0 0 0 <1 1 Vanadium ppm ASTM D5185m 0 0 0 <1 1 Barium ppm ASTM D5185m 0 0 0	Sample Status				NORMAL	NORMAL	ABNORMAL													
Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Auminum ppm ASTM D5185m 20 <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 20 <1	Iron	ppm	ASTM D5185m	>20	0	<1	1													
Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >20 <1	Chromium	ppm	ASTM D5185m	>20	0	0	0													
Silver ppm ASTM D5185m 20 <1 0 0 0 Aluminum ppm ASTM D5185m >20 <1	Nickel	ppm	ASTM D5185m	>20	0	0	0													
Aluminum ppm ASTM D5185m >20 <1 0 <1 Lead ppm ASTM D5185m >20 0 <1	Titanium	ppm	ASTM D5185m		0	0	0													
Lead ppm ASTM D5185m >20 0 <1 2 Copper ppm ASTM D5185m >20 7 7 9 Tin ppm ASTM D5185m >20 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 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 <1	Silver	ppm	ASTM D5185m		0	0	0													
Copper ppm ASTM D5185m >20 7 7 9 Tin ppm ASTM D5185m >20 0 0 0 Antimony ppm ASTM D5185m >20 0 0 0 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 1 Magnaese ppm ASTM D5185m 1 <1	Aluminum	ppm	ASTM D5185m	>20	<1	0	<1													
Tin ppm ASTM D5185m >20 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 0 0 0 Magnaese ppm ASTM D5185m 0 0 <1	Lead	ppm	ASTM D5185m	>20	0	<1	2													
Tin ppm ASTM D5185m >20 0 0 0 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method Imit/base current history1 history1 history2 Boron ppm ASTM D5185m 0 0 0 <1 1 Barium ppm ASTM D5185m 0 0 0 <1 1 Maganese ppm ASTM D5185m 0 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Copper	ppm	ASTM D5185m	>20	7	7	9													
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Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1 6 Barium ppm ASTM D5185m 0 0 <1 6 Barium ppm ASTM D5185m 0 0 <1 6 Manganese ppm ASTM D5185m 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Antimony	ppm	ASTM D5185m																	
Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1	Vanadium				0	0	0													
Boron ppm ASTM D5185m 0 0 < <th><<th><<th> 0 0 <<th><<th> 0 0 <<th><<th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th></th></th></th></th></th></th>	< <th><<th> 0 0 <<th><<th> 0 0 <<th><<th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th></th></th></th></th></th>	< <th> 0 0 <<th><<th> 0 0 <<th><<th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th></th></th></th></th>	0 0 < <th><<th> 0 0 <<th><<th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th></th></th></th>	< <th> 0 0 <<th><<th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th></th></th>	0 0 < <th><<th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th></th>	< <th><<th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th></th>	< <th> 0 0 <<th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th></th>	0 0 < <th><<th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th></th>	< <th><<th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th></th>	< <th><<th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th></th>	< <th><<th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th></th>	< <th><<t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<></th>	< <t< td=""><td>Cadmium</td><td></td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td>0</td></t<>	Cadmium		ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2													
Molybdenum ppm ASTM D5185m 0 0 <1 Manganese ppm ASTM D5185m 1 <1	Boron	ppm	ASTM D5185m		0	0	<1													
Marganese ppm ASTM D5185m 1 <1 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 11 <1	Barium	ppm	ASTM D5185m		0	0	0													
Manganese ppm ASTM D5185m 1 <1 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 11 <1	Molybdenum	ppm	ASTM D5185m		0	0	<1													
Calcium ppm ASTM D5185m 39 58 54 54 Phosphorus ppm ASTM D5185m 260 384 325 346 Zinc ppm ASTM D5185m 279 458 383 435 Sulfur ppm ASTM D5185m 2109 1278 1352 1344 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1		ppm	ASTM D5185m		1	<1	<1													
Phosphorus ppm ASTM D5185m 260 384 325 346 Zinc ppm ASTM D5185m 279 458 383 435 Sulfur ppm ASTM D5185m 2109 1278 1352 1344 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 <1 1 Sodium ppm ASTM D5185m >15 <1 <1 1 Sodium ppm ASTM D5185m >20 2 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 6206 6058 22149 Particles >4µm ASTM D7647 >2500 310 234 968 Particles >4µm ASTM D7647 >200 10 7 16 Particles >21µm ASTM D7647 20 1 0	Magnesium	ppm	ASTM D5185m	11	<1	0	2													
Zinc ppm ASTM D5185m 279 458 383 435 Sulfur ppm ASTM D5185m 2109 1278 1352 1344 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Calcium	ppm	ASTM D5185m	39	58	54	54													
Zinc ppm ASTM D5185m 279 458 383 435 Sulfur ppm ASTM D5185m 2109 1278 1352 1344 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Phosphorus	ppm	ASTM D5185m	260	384	325	346													
Sulfur ppm ASTM D5185m 2109 1278 1352 1344 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1			ASTM D5185m	279	458	383	435													
Silicon ppm ASTM D5185m >15 <1 <1 1 Sodium ppm ASTM D5185m <1 <1 2 0 Potassium ppm ASTM D5185m >20 2 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 6206 6058 ≥2149 Particles >6µm ASTM D7647 >2500 310 234 968 Particles >6µm ASTM D7647 >320 10 7 16 Particles >14µm ASTM D7647 >320 10 7 16 Particles >21µm ASTM D7647 >20 1 0 0 Particles >38µm ASTM D7647 >20 1 0 0 0 Particles >71µm ASTM D7647 >4 0 0 0 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Sulfur		ASTM D5185m	2109	1278	1352	1344													
Sodium ppm ASTM D5185m <1 2 0 Potassium ppm ASTM D5185m >20 2 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 6206 6058 22149 Particles >6µm ASTM D7647 >2500 310 234 968 Particles >6µm ASTM D7647 >320 10 7 16 Particles >14µm ASTM D7647 >80 2 2 3 Particles >21µm ASTM D7647 >20 1 0 0 Particles >38µm ASTM D7647 >20 1 0 0 Particles >71µm ASTM D7647 >4 0 0 0 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	5	method	limit/base	current	history1	history2													
Potassium ppm ASTM D5185m >20 2 0 1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 6206 6058 ▲ 22149 Particles >6µm ASTM D7647 >2500 310 234 968 Particles >6µm ASTM D7647 >320 10 7 16 Particles >14µm ASTM D7647 >320 10 7 16 Particles >21µm ASTM D7647 >80 2 2 3 Particles >38µm ASTM D7647 >20 1 0 0 Particles >71µm ASTM D7647 >4 0 0 0 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>15	<1	<1	1													
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 6206 6058 22149 Particles >6µm ASTM D7647 >2500 310 234 968 Particles >14µm ASTM D7647 >320 10 7 16 Particles >21µm ASTM D7647 >80 2 2 3 Particles >21µm ASTM D7647 >80 2 2 3 Particles >38µm ASTM D7647 >20 1 0 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 20/15/10 22/17/11	Sodium	ppm	ASTM D5185m		<1	2	0													
Particles >4μm ASTM D7647 >10000 6206 6058 ≥2149 Particles >6μm ASTM D7647 >2500 310 234 968 Particles >14μm ASTM D7647 >320 10 7 16 Particles >21μm ASTM D7647 >80 2 2 3 Particles >21μm ASTM D7647 >80 2 2 3 Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 ≥0/15/10 22/17/11	Potassium	ppm	ASTM D5185m	>20	2	0	1													
Particles >6μm ASTM D7647 >2500 310 234 968 Particles >14μm ASTM D7647 >320 10 7 16 Particles >21μm ASTM D7647 >80 2 2 3 Particles >21μm ASTM D7647 >80 2 0 0 Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 ≥0/15/10 ≥2/17/11 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2													
Particles >14μm ASTM D7647 >320 10 7 16 Particles >21μm ASTM D7647 >80 2 2 3 Particles >21μm ASTM D7647 >80 2 2 3 Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 20/15/10 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>10000	6206	6058	🔺 22149													
Particles >21 μm ASTM D7647 >80 2 2 3 Particles >38μm ASTM D7647 >20 1 0 0 Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 20/15/10 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500	310	234	968													
Particles >38μm ASTM D7647 >20 1 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 20/15/10 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>320	10	7	16													
Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 20/15/10 ▲ 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>80	2	2	3													
Oil Cleanliness ISO 4406 (c) >20/18/15 20/15/10 20/15/10 22/17/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>20	1	0	0													
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>4	0	0	0													
	Oil Cleanliness		ISO 4406 (c)	>20/18/15	20/15/10	20/15/10	▲ 22/17/11													
Acid Number (AN) mg KOH/g ASTM D8045 0.37 0.29 0.30 0.28	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2													
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.37	0.29	0.30	0.28													

Machine Id Component **Hydraulic System** SHELL TELLUS 68 (300 GAL)

Recommendation

Resample at the next service interval to monitor. Please note that this is a corrected copy for laboratory data updates of elemental values.

Wear

All component wear rates are normal.

Contamination

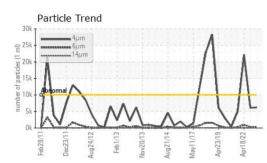
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

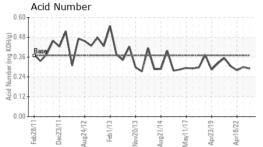
Fluid Condition

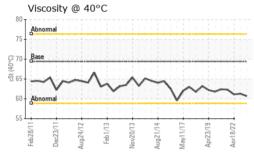
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

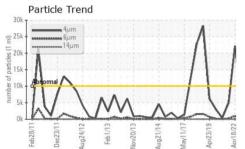


OIL ANALYSIS REPORT

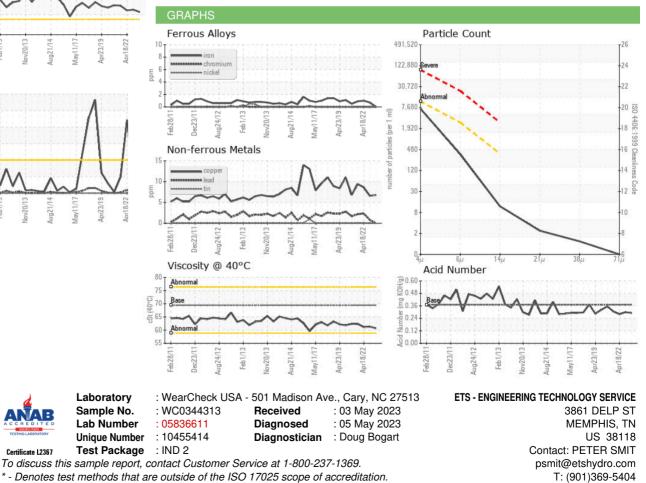








VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	69.43	60.7	61.3	61.1
SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Color						
Bottom						



* - 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)

Certificate L2367

Contact/Location: PETER SMIT - ETSMEM

F: (901)369-4491