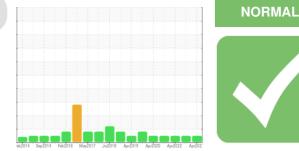


## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id **T-10** Component Hydraulic System Fluid SHELL TELLUS 32 (100 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 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.

SAMPLE INFORMA	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0344310	WC0344307	WC0344319
Sample Date		Client Info		28 Apr 2023	16 Jan 2023	18 Apr 2022
Machine Age	mths	Client Info		0	0	0
Oil Age	mths	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
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
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	0	0
Lead	ppm	ASTM D5185m	>20	0	0	<1
Copper	ppm	ASTM D5185m	>20	34	34	32
Tin	ppm	ASTM D5185m	>20	0	0	0
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ABBIIIVEO		method	in the babb	ounon	matory	motory
_	ppm	ASTM D5185m	innibbabb	0	0	0
Boron	ppm ppm					
Boron   Barium		ASTM D5185m		0	0	0
Boron   Barium   Molybdenum	ppm	ASTM D5185m ASTM D5185m		0 0	0	0
Boron   Barium   Molybdenum   Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	11	0 0 0	0 0 0	0 0 0
Boron Barium I Molybdenum I Manganese I Magnesium I	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 <1	0 0 0 <1	0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium I	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11	0 0 0 <1 6	0 0 <1 5	0 0 0 <1 9
Boron Barium Molybdenum Manganese Galcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35	0 0 <1 6 33	0 0 <1 5 30	0 0 <1 9 32
Boron Barium I Barium I Molybdenum I Manganese I Magnesium I Calcium I Phosphorus I Zinc I	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35 259	0 0 <1 6 33 276	0 0 <1 5 30 230	0 0 <1 9 32 260
Boron Barium I Barium I Molybdenum I Manganese I Magnesium I Calcium I Phosphorus I Zinc I	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35 259 277	0 0 <1 6 33 276 279	0 0 <1 5 30 230 232	0 0 0 <1 9 32 260 278
Boron Barium I Barium I Molybdenum I Magnesium I Calcium I Phosphorus I Zinc I Sulfur I	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35 259 277 1865 <b>limit/base</b>	0 0 <1 6 33 276 279 4623	0 0 <1 5 30 230 232 4194	0 0 2 32 260 278 3837
Boron Barium I Barium I Barium I Molybdenum I Manganese I Magnesium I Calcium I Phosphorus Zinc Sulfur I Sulfur I Sulfur I Silicon I I Silicon I I I I I I I I I I I I I I I I I I I	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35 259 277 1865 <b>limit/base</b>	0 0 2 3 3 2 7 6 2 7 9 4 6 2 3 2 7 9 4 6 2 3 2 7 9 4 6 2 3 2 7 9 4 6 2 3 2 7 9 4 6 2 3 2 7 9 4 2 7 9 4 7 7 7 9 7 7 7 7 7 7 7 7 7 7 7 7 7	0 0 2 30 230 232 4194 history1	0 0 2 31 9 32 260 278 3837 history2
Boron Barium Allow	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35 259 277 1865 Iimit/base >15	0 0 2 33 276 279 4623 current <1	0 0 2 30 230 232 4194 history1 <1	0 0 2 31 9 32 260 278 3837 history2 <1
Boron Barium Allow	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11 35 259 277 1865 Iimit/base >15	0 0 0 <1 6 33 276 279 4623 <i>current</i> <1 0	0 0 0 <1 5 30 230 232 4194 history1 <1 1	0 0 0 <1 9 32 260 278 3837 history2 <1 0
Boron Barium Anganese Anganesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Anganesi	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	11 35 259 277 1865 <b>limit/base</b> >15 >20	0 0 2 33 276 279 4623 current <1 0 1	0 0 0 <1 5 30 230 232 4194 history1 <1 1 0	0 0 0 <1 9 32 260 278 3837 history2 <1 0 <1
Boron   Barium   Molybdenum   Manganese   Magnesium   Calcium   Phosphorus   Zinc   Sulfur   Sulfur   Silicon   Sodium   Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	11 35 259 277 1865 <b>Imit/base</b> >15 >20 <b>Imit/base</b>	0 0 0 <1 6 33 276 279 4623 <i>current</i> <1 0 1	0 0 0 <1 5 30 230 232 4194 history1 <1 1 0 0 history1	0 0 0 <1 9 32 260 278 3837 history2 <1 0 <1 history2
Boron   Barium   Molybdenum   Manganese   Magnesium   Calcium   Phosphorus   Zinc   Sulfur   CONTAMINANTS   Sodium   Potassium   FLUID CLEANLINE   Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	11 35 259 277 1865 <b>Imit/base</b> >15 >20 <b>Imit/base</b> >20	0 0 0 <1 6 33 276 279 4623 <i>current</i> <1 0 1 <i>current</i> 1091	0 0 0 <1 5 30 230 232 4194 history1 <1 1 0 history1 398	0 0 0 31 9 32 260 278 3837 <u>history2</u> <1 0 <1 0 <1 history2 679
Boron Barium Anganese Anganese Anganese Anganese Anganese Anganese Anganesium Calcium Phosphorus Calcium Anganesium CONTAMINANTS CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm I	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	11 35 259 277 1865 imit/base >15 >20 imit/base >20 imit/base >20 imit/base >320	0 0 (1 6 33 276 279 4623 current <1 0 1 current 1091 265	0 0 0 <1 5 30 230 232 4194 history1 <1 1 0 history1 398 70	0 0 0 31 32 260 278 3837 history2 <1 0 <1 0 <1 history2 679 179
Boron Barium Anganese Anganese Anganese Anganese Anganese Anganese Anganese Anganesium Calcium Phosphorus Incomposed Anganesium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm Particles >14µm Particles >21µm Incomposed Anganesia Incomposed Angane	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	11 35 259 277 1865 imit/base >15 >20 imit/base >20 imit/base >20 imit/base >320	0 0 0 <1 6 33 276 279 4623 <i>current</i> <1 0 1 <i>current</i> 1091 265 12	0 0 0 <1 5 30 230 232 4194 history1 <1 1 0 history1 398 70 5	0 0 0 31 260 278 3837 history2 <1 0 <1 0 <1 history2 679 179 8
Boron Barium Aller Stress Stre	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	11 35 259 277 1865 imit/base >15 >20 imit/base >20 imit/base >10000 >2500 >320 >80	0 0 0 <1 6 33 276 279 4623 <i>current</i> <1 0 1 1 <i>current</i> 1091 265 12 2	0 0 0 <1 5 30 230 232 4194 history1 <1 1 0 * history1 398 70 5 2 2	0 0 0 31 260 278 3837 history2 <1 0 <1 0 <1 bistory2 679 179 8 2

ISO 4406 (c) >20/18/15

**Oil Cleanliness** 

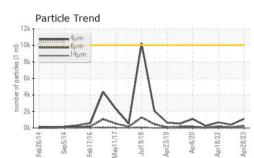
16/13/10

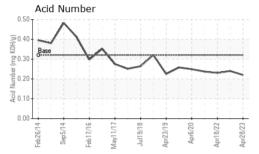
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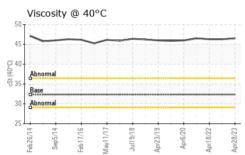
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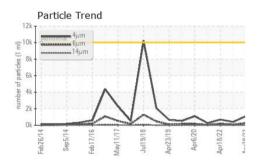


# **OIL ANALYSIS REPORT**





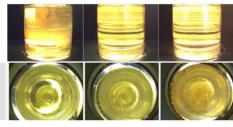


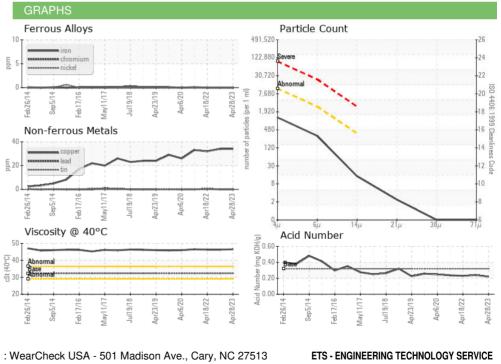


FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.32	0.22	0.24	0.23
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32.32	46.5	46.3	46.3
SAMPLE IMAGES	5	method	limit/base	current	history1	history2

Color

Bottom





Laboratory Sample No. : WC0344310 Received :03 May 2023 3861 DELP ST Lab Number : 05836610 Tested : 05 May 2023 MEMPHIS, TN Unique Number : 10455413 Diagnosed : 05 May 2023 - Doug Bogart US 38118 Test Package : IND 2 Contact: PETER SMIT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. psmit@etshydro.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (901)369-5404 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (901)369-4491

Report Id: ETSMEM [WUSCAR] 05836610 (Generated: 07/10/2024 12:19:27) Rev: 1

Contact/Location: PETER SMIT - ETSMEM

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