

# **OIL ANALYSIS REPORT**

# Area **RIPPEY** [200005325] Machine Id 82219 SITE 20

Component Hydraulic System Fluid SHELL TELLUS S4 VX 32 (60 LTR)

#### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

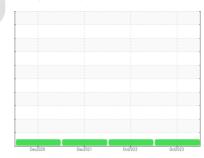
All component wear rates are normal.

#### 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 Rating Trend

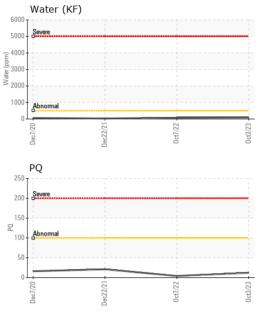


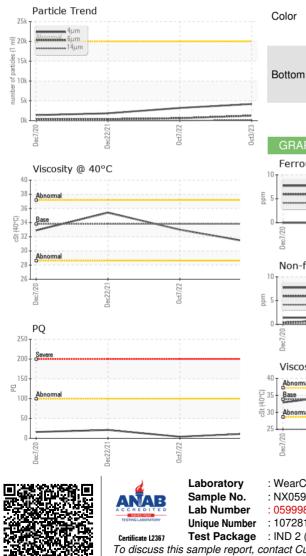
NORMAL

		Dec202	) Dec2021	0ct2022 0		
SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		NX05999811	NX05672217	NX05440129
Sample Date		Client Info		03 Oct 2023	07 Oct 2022	22 Dec 2021
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
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		12	4	21
Iron	ppm	ASTM D5185m	>20	0	1	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	<1
Aluminum	ppm	ASTM D5185m	>20	<1	<1	<1
Lead	ppm	ASTM D5185m	>20	0	<1	<1
Copper	ppm	ASTM D5185m	>20	0	<1	1
Tin	ppm	ASTM D5185m	>20	0	<1	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
					<b>,</b>	
Boron	ppm	ASTM D5185m		0	0	0
Boron Barium	ppm ppm					
		ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m ASTM D5185m		0 0	0 1	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0	0 1 <1	0 0 13
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0	0 1 <1 <1	0 0 13 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 0	0 1 <1 <1 <1	0 0 13 <1 <1
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 7	0 1 <1 <1 <1 <1 6	0 0 13 <1 <1 7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 0 0 0 0 7 587	0 1 <1 <1 <1 <1 6 551	0 0 13 <1 <1 7 564
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 0 0 7 587 38	0 1 <1 <1 <1 6 551 51	0 0 13 <1 <1 7 564 79
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >15	0 0 0 0 7 587 38 618	0 1 <1 <1 <1 6 551 51 611	0 0 13 <1 <1 7 564 79 647
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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		0 0 0 0 7 587 38 618 current	0 1 <1 <1 <1 6 551 51 611 history1	0 0 13 <1 <1 7 564 79 647 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>		0 0 0 0 7 587 38 618 <b>current</b> 3	0 1 <1 <1 <1 6 551 51 611 2 0 <1	0 0 13 <1 <1 7 564 79 647 history2 1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	>15	0 0 0 0 7 587 38 618 <b>Current</b> 3 0	0 1 <1 <1 <1 6 551 51 611 history1 2 0	0 0 13 <1 <1 7 564 79 647 <b>history2</b> 1 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>15 >20	0 0 0 0 7 587 38 618 <b>Current</b> 3 0 0	0 1 <1 <1 <1 6 551 51 611 2 0 <1	0 0 13 <1 <1 7 564 79 647 <b>history2</b> 1 0 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>15 >20 >0.05	0 0 0 0 7 587 38 618 <u>current</u> 3 0 0 0 0	0 1 <1 <1 <1 6 551 51 611	0 0 13 <1 <1 7 564 79 647 <b>history2</b> 1 0 0 0 0 0.003
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304	>15 >20 >0.05 >500	0 0 0 0 7 587 38 618 <b>Current</b> 3 0 0 0 0 0 99.2	0 1 <1 <1 6 551 51 611 history1 2 0 <1 0.007 73.8	0 0 13 <1 <1 7 564 79 647 history2 1 0 0 0 0.003 29.8
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>15 >20 >0.05 >500 limit/base	0 0 0 0 7 587 38 618 <i>current</i> 3 0 0 0 0 0 0 0 0 99.2 <i>current</i>	0 1 <1 <1 6 551 51 611 history1 2 0 <1 0.007 73.8 history1	0 0 13 <1 <1 7 564 79 647 history2 1 0 0 0 0.003 29.8 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304	>15 >20 >0.05 >500 limit/base >20000	0 0 0 0 7 587 38 618 <i>current</i> 3 0 0 0 0 0 0 0 0 0 99.2 <i>current</i>	0 1 <1 <1 6 551 51 611 history1 2 0 <1 0.007 73.8 history1 3203	0 0 13 <1 <1 7 564 79 647 history2 1 0 0 0.003 29.8 history2 1851
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647	>15 >20 >0.05 >500 limit/base >20000 >2500 >320	0 0 0 0 7 587 38 618 <b>current</b> 3 0 0 0 0 0 0 0 0 99.2 <b>current</b> 4188 1257	0 1 <1 <1 6 551 51 611 1 1 1 1 2 0 <1 0.007 73.8 history1 3203 617	0 0 13 <1 <1 7 564 79 647 history2 1 0 0 0.003 29.8 history2 1851 403
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647	>15 >20 >0.05 >500 limit/base >20000 >2500 >320	0 0 0 0 7 587 38 618 <u>Current</u> 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 <1 <1 6 551 51 611 1 1 1 1 2 0 <1 0.007 73.8 history1 3203 617 35	0 0 13 <1 <1 7 564 79 647 history2 1 0 0 0 0.003 29.8 history2 1851 403 22
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>15 >20 >0.05 >500 <b>limit/base</b> >20000 >2500 >320 >320 >80 >20	0 0 0 0 7 587 38 618 <b>current</b> 3 0 0 0 0 0.009 99.2 <b>current</b> 4188 1257 119 36	0 1 <1 <1 6 551 51 611 history1 2 0 <1 0.007 73.8 history1 3203 617 35 7	0 0 13 <1 <1 7 564 79 647 history2 1 0 0 0 0.003 29.8 history2 1851 403 22 4

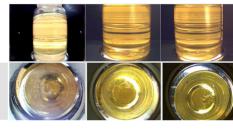


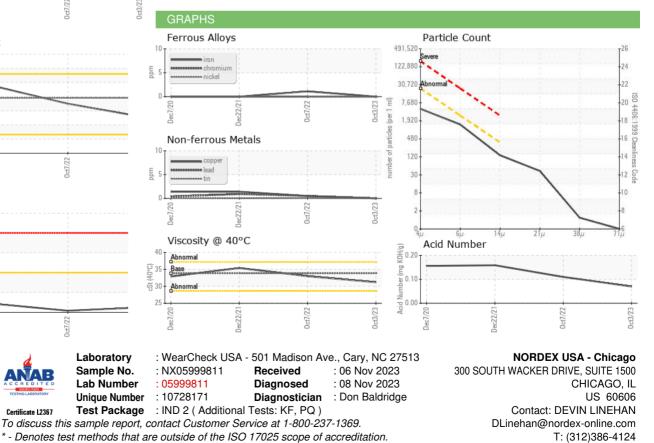
# **OIL ANALYSIS REPORT**





FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.07	0.11	0.159
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 PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	33.8	31.2	33.0	35.4
SAMPLE IMAGES		method	limit/base	current	history1	history2





\* - 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)

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