

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id Component Hydraulic System MOBIL DTE 25 (30 GAL)

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

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

	Mar2007	Apr2009	Sep2011	Mar2014	Sep2016	Oct2019	Apr2022
	l i t l	lttill			111	l t i t	
5 a 1 i						1.5.5.5.0	
					1.1.1.1		
						▲ 1 4 1 1 1	
					1.1.4.1		
					no seine e		in a concerne
					1 I I I I I		
							1
					11111		
							10030000000
1.1.1.1.							1-01-0100



Sample NumberClient InfoVC0865331WC0865330WC0787950Sample DateClient Info26 Mar 202424 Oct 202328 Apr 2023Machine AgehrsClient Info000Oil AgeClient Info0000Oil AgeLient InfoN/AN/AN/AN/ASample StatusClient InfoN/AN/AN/AN/ACONTAMINATIONMethod>0.05NEGNEGNEGWaterVC Method>0.05NEGNEGNEGWaterVC Method>0.05NEGNEGNEGTronppmASTMD5185m<>202<1<1NickelppmASTMD5185m20300SilverppmASTMD5185m0000SilverppmASTMD5185m202<10CopperppmASTMD5185m202<10CadmiumppmASTMD5185m202<10VanadiumppmASTMD5185m202<10SilverppmASTMD5185m202<10May andumppmASTMD5185m0000CopperppmASTMD5185m0000May andumppmASTMD5185m20533659SilverppmASTMD5185m21000May andumpp	SAMPLE INFORM	/IATION	method	limit/base	current	history1	history2
Sample Date Client Info 26 Mar 2024 24 Oct 2023 28 Apr 2023 Machine Age hrs Client Info 0 0 0 Oil Changed Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status method limit/base current history1 history2 War WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 War WC Method >0.0 <1	Sample Number		Client Info		WC0865391	WC0865390	WC0787950
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 Sample Status Imit/base current History1 History2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method Imit/base current History1 history2 Iron ppm ASTM 05165m >20 2 <1 <1 Nickel ppm ASTM 05165m >20 3 0 0 Silver ppm ASTM 05165m >20 2 <1 0 0 Cadmium ppm ASTM 05165m >20 2 <1 0 0 Vanadium ppm ASTM 05165m >20 2 <1 0 0 Vandum ppm ASTM 05165m >20 2 <1 0 0			Client Info		26 Mar 2024	24 Oct 2023	28 Apr 2023
Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Imit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 0 0 Nickel ppm ASTM D5185m >20 <1 0 0 Silver ppm ASTM D5185m >20 <1 0 0 Copper ppm ASTM D5185m >20 <1 0 0 Copper ppm ASTM D5185m >20 <1 0 0 Copper ppm ASTM D5185m >20 <1 0 0 Cadmium ppm ASTM D5185m <2 <1 0 0 Copper <td< th=""><th></th><th>hrs</th><th></th><th></th><th></th><th></th><th></th></td<>		hrs					
Oil Changed Sample Status Client Info N/A N/A N/A N/A CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D585m >20 2 <1	-	hrs	Client Info		-		
Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D585m >20 2 <1	-						N/A
CONTAMINATION method imit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185m >20 2 <1 <1 Chromium ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >20 3 0 0 Silver ppm ASTM D5185m >20 2 <1 0 0 Aduminum ppm ASTM D5185m >20 2 <1 0 0 Capper ppm ASTM D5185m >20 2 <1 0 0 Vanadium ppm ASTM D5185m >20 21 0 0 Vanadium ppm ASTM D5185m >20 21 0 0 ASTM D5185m 20 21 0 <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	-						
Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 0 0 Nickel ppm ASTM D5185m >20 o1 <1 0 Nickel ppm ASTM D5185m >20 o <1 0 0 Silver ppm ASTM D5185m >20 o 0 0 0 Aluminum ppm ASTM D5185m >20 o 1 0 0 Copper ppm ASTM D5185m >20 c<1 0 0 Cadmium ppm ASTM D5185m c<1 0 0 0 Boron ppm ASTM D5185m o 0 0 0 Magnesium ppm ASTM D5185m o 0 0 0 Iranium ppm ASTM D5185m o	-	M	mathad	limit/bass	ourropt	history 1	biotory?
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 2 <1 <1 Chromium ppm ASTM D5185m >20 0 <1 0 Nickel ppm ASTM D5185m >20 0 <1 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >20 3 0 0 Lead ppm ASTM D5185m >20 2 <1 0 0 Vanadium ppm ASTM D5185m >20 2 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0 0 AstM D5185m 0 0 0 0 0 0 AstM D5185m 0 <1 0 0 0 0 AstM D5185m 51 <1 0 0 0		N					
Iron ppm ASTM D5185m >20 2 <1							
Dromium ppm ASTM D5185m >20 <1							,
Nickel ppm ASTM D5185m >20 0 <1	-	ppm					
Titanium ppm ASTM D5185m <1		ppm					
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >20 3 0 0 Lead ppm ASTM D5185m >20 2 <1 0 0 Copper ppm ASTM D5185m >20 2 <1 0 0 Tin ppm ASTM D5185m >20 2 <1 0 0 Cadmium ppm ASTM D5185m >20 <1 0 0 0 Cadmium ppm ASTM D5185m <1 0 0 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185m <1 0 0 0 Molybdenum ppm ASTM D5185m <1 4 <1 2 Calcium ppm ASTM D5185m 63 65 49 Phosphorus ppm ASTM D5185m 803 <t< th=""><th></th><th></th><th></th><th>>20</th><th>-</th><th></th><th></th></t<>				>20	-		
Aluminum ppm ASTM D5185m >20 3 0 0 Lead ppm ASTM D5185m >20 <1 0 0 Copper ppm ASTM D5185m >20 2 <1 0 0 Tin ppm ASTM D5185m >20 2 <1 0 0 Vanadium ppm ASTM D5185m >20 <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 0 ADDITVES 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 63 65 49 Phosphorus ppm ASTM D5185m 520 583 569 Sulfur ppm ASTM D5185m 520 583 569		ppm					÷
Lead ppm ASTM D5185m >20 <1					-		
Copper ppm ASTM D5185m >20 2 <1		ppm			-		
Tin ppm ASTM D5185m >20 <1							
Vanadium ppm ASTM D5185m <1		ppm	ASTM D5185m	>20			÷
Cadmium ppm ASTM D5185m <1		ppm		>20	<1		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnese ppm ASTM D5185m 0 -<1 0 Magnesium ppm ASTM D5185m 0 -<1 0 Magnesium ppm ASTM D5185m 63 65 49 Phosphorus ppm ASTM D5185m 328 343 331 Zinc ppm ASTM D5185m 328 369 569 Sulfur ppm ASTM D5185m 803 898 777 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m<>15 <1 0 0 0 Sodium ppm ASTM D5185m<>20 1 0	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m <1 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 4 <1 Calcium ppm ASTM D5185m <1 4 <1 Calcium ppm ASTM D5185m <28 343 331 Zinc ppm ASTM D5185m <520 583 569 Sulfur ppm ASTM D5185m <520 583 569 Sulfur ppm ASTM D5185m <1 0 0 Sodium ppm ASTM D5185m <1 0 0 Sodium ppm ASTM D5185m >20 1 0 <1 Particles >4µm ASTM D7647 2025 2058 2707 Particles >4µm <th>Cadmium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th><1</th> <th>0</th> <th>0</th>	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1 4 <1 Magnesium ppm ASTM D5185m <1 4 <1 Calcium ppm ASTM D5185m 63 65 49 Phosphorus ppm ASTM D5185m 328 343 331 Zinc ppm ASTM D5185m 520 583 569 Sulfur ppm ASTM D5185m 803 898 777 CONTAMINANTS method limi/base current history1 history2 Silicon ppm ASTM D5185m<>15 <1 0 0 0 Sodium ppm ASTM D5185m<>20 1 0 <1 0 Particles >4µm ASTM D5185m<>20 1 0 <1 0 <1 Particles >4µm ASTM D7647 2025 2058 2707 Particles >4µm ASTM D7647 160 2	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m		<1	0	0
Magnesium ppm ASTM D5185m <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 63 65 49 Phosphorus ppm ASTM D5185m 328 343 331 Zinc ppm ASTM D5185m 520 583 569 Sulfur ppm ASTM D5185m 803 898 777 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >15 <1 0 0 Potassium ppm ASTM D5185m >20 1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2025 2058 2707 Particles >6µm ASTM D7647 >160 27 24 46 Particles >1µm ASTM D7647 >10 1 0 1 Particles >38µm ASTM D7647	Manganese	ppm	ASTM D5185m		0	<1	0
Phosphorus ppm ASTM D5185m 328 343 331 Zinc ppm ASTM D5185m 520 583 569 Sulfur ppm ASTM D5185m 803 898 777 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >15 <1 0 0 Potassium ppm ASTM D5185m >20 1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2025 2058 2707 Particles >6µm ASTM D7647 >1300 315 412 622 Particles >1µm ASTM D7647 >160 27 24 46 Particles >38µm ASTM D7647 >3 0 0 1 Particles >71µm ASTM D764	Magnesium	ppm	ASTM D5185m		<1	4	<1
Zinc ppm ASTM D5185m 520 583 569 Sulfur ppm ASTM D5185m 803 898 777 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >20 1 0 <1 Potassium ppm ASTM D5185m >20 1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2025 2058 2707 Particles >6µm ASTM D7647 >160 27 24 46 Particles >14µm ASTM D7647 >10 1 0 1 Particles >38µm ASTM D7647 >3 0 0 0 Oli Cleanliness ISO 44	Calcium	ppm	ASTM D5185m		63	65	49
Sulfur ppm ASTM D5185m 803 898 777 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >20 1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2025 2058 2707 Particles >6µm ASTM D7647 >1300 315 412 622 Particles >14µm ASTM D7647 >160 27 24 46 Particles >21µm ASTM D7647 >10 1 0 1 Particles >38µm ASTM D7647 >3 0 0 0 Oli Cleanliness ISO 4406 (c) >-/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATI	Phosphorus	ppm	ASTM D5185m		328	343	331
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 0 0 Sodium ppm ASTM D5185m >15 <1 0 0 Potassium ppm ASTM D5185m >20 1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2025 2058 2707 Particles >6µm ASTM D7647 >1300 315 412 622 Particles >14µm ASTM D7647 >160 27 24 46 Particles >21µm ASTM D7647 >10 1 0 1 Particles >38µm ASTM D7647 >3 0 0 0 0 Oll Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2 </th <th>Zinc</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>520</th> <th>583</th> <th>569</th>	Zinc	ppm	ASTM D5185m		520	583	569
Silicon ppm ASTM D5185m >15 <1	Sulfur	ppm	ASTM D5185m		803	898	777
Sodium ppm ASTM D5185m 0 0 0 0 Potassium ppm ASTM D5185m >20 1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2025 2058 2707 Particles >6µm ASTM D7647 >1300 315 412 622 Particles >6µm ASTM D7647 >160 27 24 46 Particles >21µm ASTM D7647 >40 9 8 13 Particles >38µm ASTM D7647 >10 1 0 1 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 0 <1	Silicon	ppm	ASTM D5185m	>15	<1	0	0
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 2025 2058 2707 Particles >6µm ASTM D7647 >1300 315 412 622 Particles >14µm ASTM D7647 >160 27 24 46 Particles >21µm ASTM D7647 >40 9 8 13 Particles >21µm ASTM D7647 >10 1 0 1 Particles >38µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		0	0	0
Particles >4μm ASTM D7647 2025 2058 2707 Particles >6μm ASTM D7647 >1300 315 412 622 Particles >14μm ASTM D7647 >160 27 24 46 Particles >21μm ASTM D7647 >40 9 8 13 Particles >21μm ASTM D7647 >10 1 0 1 Particles >38μm ASTM D7647 >3 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	1	0	<1
Particles >6µm ASTM D7647 >1300 315 412 622 Particles >14µm ASTM D7647 >160 27 24 46 Particles >21µm ASTM D7647 >40 9 8 13 Particles >21µm ASTM D7647 >40 9 8 13 Particles >38µm ASTM D7647 >10 1 0 1 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14µm ASTM D7647 >160 27 24 46 Particles >21µm ASTM D7647 >40 9 8 13 Particles >38µm ASTM D7647 >10 1 0 1 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647		2025	2058	2707
Particles >21μm ASTM D7647 >40 9 8 13 Particles >38μm ASTM D7647 >10 1 0 1 Particles >38μm ASTM D7647 >3 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	315	412	622
Particles >38μm ASTM D7647 >10 1 0 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>160	27	24	46
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647		9	8	13
Oil Cleanliness ISO 4406 (c) >/17/14 18/15/12 18/16/12 19/16/13 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>10	1	0	1
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0		0
	Oil Cleanliness		ISO 4406 (c)	>/17/14	18/15/12	18/16/12	19/16/13
Acid Number (AN) mg KOH/g ASTM D8045 0.55 0.34 0.39	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.55	0.34	0.39

Report Id: THESYL [WUSCAR] 06133206 (Generated: 04/01/2024 11:51:27) Rev: 1

Contact/Location: RUSSELL ZIPPERER - THESYL



25k -----Ê 20

KOH/g) nber (mg K

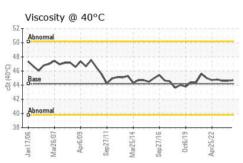
Pio 0.5 0.0

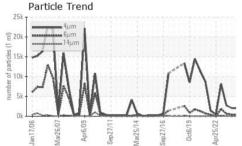
100 0k

Janl Ac 2.

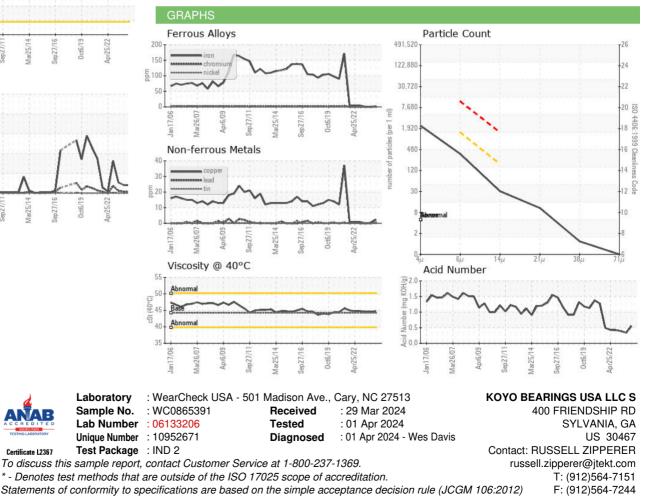
OIL ANALYSIS REPORT

Particle Trend	VISUAL	
4μm 6μm	White Metal	scalar
14μm	Yellow Metal	scalar
	Precipitate	scalar
	Silt	scalar
	Debris	scalar
~ VA Finh	Sand/Dirt	scalar
Jan 17,06 Mar26,07 Apr6,09 Sep 27/11 Mar25,14 Mar25,14 Apr25,72 Apr25,722	Appearance	scalar
Jan Arg Sep Sep Apr Apr	Odor	scalar
Acid Number	Emulsified Water	scalar
	Free Water	scalar
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	FLUID PROPERT	IES
m	Visc @ 40°C	cSt
	SAMPLE IMAGES	\$
Jan17/06 Mar26/07 Apr6/09 Sep27/11 Mar25/14 Det6/19 Det6/19 Apr25/22	Color	





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
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
FLUID PROPERT Visc @ 40°C	TES cSt	method ASTM D445	limit/base 44.2	current 44.7	history1 44.6	history2 44.6
	cSt					
Visc @ 40°C	cSt	ASTM D445	44.2	44.7	44.6	44.6



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: RUSSELL ZIPPERER - THESYL