

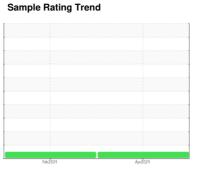
# **OIL ANALYSIS REPORT**

MINING

# **ME-56 SHUTTLEWAGON SW-25 52513026A**

**Transmission (Manual)** 

CAT TDTO 30W (--- GAL)





### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the fluid.

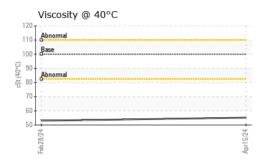
### **Fluid Condition**

The condition of the fluid is acceptable for the time in service.

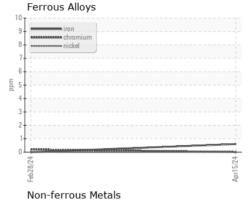
SAMPLE INFORMATION				Feb 2024	Apr2024		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		WC0910928	WC0909655	
Machine Age         hrs         Client Info         10300         10894            Oil Age         hrs         Client Info         1500         1000            Oil Changed Sample Status         Client Info         Not Changed NORMAL            CONTAMINATION         method         limit base         current         history1         history2           WEAR METALS         method         limit base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         <1			Client Info				
Oil Age         hrs         Client Info         1500         1000            Sample Status         Client Info         Not Changed            Sample Status         NormAL         NORMAL         NORMAL           Water         WC Method         >0.1         NEG         NEG           WEAR METALS         method         limit base         current         history1         history2           Iron         ppm         ASTM D5185m         >5         0         -1            Chromium         ppm         ASTM D5185m         >5         0         -1            Nickel         ppm         ASTM D5185m         >5         0         0            Sliver         ppm         ASTM D5185m         >5         0         0            Aluminum         ppm         ASTM D5185m         >5         0         0            Aluminum         ppm         ASTM D5185m         >5         0         0            Aluminum         ppm         ASTM D5185m         >25         0         1            Aluminum         ppm         ASTM D5185m         >10	•	hrs					
Oil Changed Sample Status         Colient Info         Not Changed NORMAL         Changed NORMAL							
Sample Status	-						
Water         WC Method         >0.1         NEG         NEG            WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         <1	•					Ü	
WEAR METALS	CONTAMINATIO	N	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >5         0         0	Iron	ppm	ASTM D5185m	>200	<1	0	
Nickel	Chromium		ASTM D5185m	>5	0	<1	
Titanium         ppm         ASTM D5185m         0         0	Nickel		ASTM D5185m	>5	0	0	
Silver	Titanium		ASTM D5185m		0	0	
Aluminum			ASTM D5185m	>7	0	0	
Lead	Aluminum						
Copper         ppm         ASTM D5185m         >225         0         1            Tin         ppm         ASTM D5185m         >10         <1							
Tin         ppm         ASTM D5185m         >10         <1         0							
Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0            Barium         ppm         ASTM D5185m         0         0            Molybdenum         ppm         ASTM D5185m         0         0            Manganese         ppm         ASTM D5185m         0         0            Magnesium         ppm         ASTM D5185m         14         12            Calcium         ppm         ASTM D5185m         2980         3610         3493            Phosphorus         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         >125         8         8            CONTAMINANTS         method         <	• •				_		
Cadmium         ppm         ASTM D5185m         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0            Barium         ppm         ASTM D5185m         0         0            Molybdenum         ppm         ASTM D5185m         0         0            Magnesium         ppm         ASTM D5185m         0         0            Magnesium         ppm         ASTM D5185m         14         12            Calcium         ppm         ASTM D5185m         2980         3610         3493            Phosphorus         ppm         ASTM D5185m         1100         1161         1182            Phosphorus         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         1270         1433         1477            Silicon         ppm         ASTM D5185m         125         8         8            Sodium         <				710			
ADDITIVES							
Boron		рртт					
Barium				limit/base		•	history2
Molybdenum         ppm         ASTM D5185m         0         0            Manganese         ppm         ASTM D5185m         0         0            Magnesium         ppm         ASTM D5185m         14         12            Calcium         ppm         ASTM D5185m         2980         3610         3493            Phosphorus         ppm         ASTM D5185m         1100         1161         1182            Zinc         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         1270         1433         1477            CONTAMINANTS         method         limit/base         current         history1         history2           CONTAMINANTS         method         limit/base         current         history1         history2           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >20	Boron						
Manganese         ppm         ASTM D5185m         0         0            Magnesium         ppm         ASTM D5185m         14         12            Calcium         ppm         ASTM D5185m         2980         3610         3493            Phosphorus         ppm         ASTM D5185m         1100         1161         1182            Zinc         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         9654         9201            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         his		ppm			-		
Magnesium         ppm         ASTM D5185m         14         12            Calcium         ppm         ASTM D5185m         2980         3610         3493            Phosphorus         ppm         ASTM D5185m         1100         1161         1182            Zinc         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         9654         9201            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE      <	•	ppm					
Calcium         ppm         ASTM D5185m         2980         3610         3493            Phosphorus         ppm         ASTM D5185m         1100         1161         1182            Zinc         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         9654         9201            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE	-	ppm	ASTM D5185m		-		
Phosphorus         ppm         ASTM D5185m         1100         1161         1182            Zinc         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         9654         9201            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE		ppm					
Zinc         ppm         ASTM D5185m         1270         1433         1477            Sulfur         ppm         ASTM D5185m         9654         9201            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >20         0         2            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Silt         scalar         *Visual         NONE         NONE         NONE           Deb	Calcium	ppm	ASTM D5185m	2980	3610	3493	
Sulfur         ppm         ASTM D5185m         9654         9201            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Silt         scalar         *Visual         NONE         NONE         NONE         NONE           Debris         scalar         *Visual         NONE         NONE         NONE         NONE           S	Phosphorus	ppm	ASTM D5185m	1100	1161	1182	
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         >1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE         NONE           Sand/Dirt         scalar         *Visual         NORML         NORML         NORML         NORML           Appearance         scalar         *Visual         NORML         NORML         NORML	Zinc	ppm	ASTM D5185m	1270	1433	1477	
Silicon         ppm         ASTM D5185m         >125         8         8            Sodium         ppm         ASTM D5185m         1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NONE         NONE         NONE            Appearance         scalar         *Visual         NORML         NORML         NORML         NORML           Odor         scalar         *Visual <t< td=""><td>Sulfur</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>9654</th><td>9201</td><td></td></t<>	Sulfur	ppm	ASTM D5185m		9654	9201	
Sodium         ppm         ASTM D5185m         1         3            Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NORML         NORML         NORML            Appearance         scalar         *Visual         NORML         NORML         NORML            Odor         scalar         *Visual         NORML         NORML         NORML            Free Water         scalar         *Visual <th>CONTAMINANTS</th> <th>;</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         0         2            VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NONE         NONE         NONE            Appearance         scalar         *Visual         NORML         NORML         NORML         NORML           Odor         scalar         *Visual         NORML         NORML         NORML            Emulsified Water         scalar         *Visual         >0.1         NEG         NEG            Free Water         s	Silicon	ppm	ASTM D5185m	>125	8	8	
White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Emulsified Water scalar *Visual NORML NORML NORML Free Water scalar *Visual NORML NEG NEG	Sodium	ppm	ASTM D5185m		1	3	
White Metal         scalar         *Visual         NONE         NONE         NONE            Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NORML         NORML         NORML            Appearance         scalar         *Visual         NORML         NORML         NORML            Odor         scalar         *Visual         NORML         NORML         NORML            Emulsified Water         scalar         *Visual         >0.1         NEG         NEG            Free Water         scalar         *Visual         NEG	Potassium	ppm	ASTM D5185m	>20	0	2	
Yellow Metal         scalar         *Visual         NONE         NONE         NONE            Precipitate         scalar         *Visual         NONE         NONE         NONE            Silt         scalar         *Visual         NONE         NONE         NONE            Debris         scalar         *Visual         NONE         NONE         NONE            Sand/Dirt         scalar         *Visual         NONE         NONE         NONE            Appearance         scalar         *Visual         NORML         NORML         NORML         NORML            Odor         scalar         *Visual         NORML         NORML         NORML            Emulsified Water         scalar         *Visual         >0.1         NEG         NEG            Free Water         scalar         *Visual         NEG         NEG	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual NEG NEG	White Metal	scalar	*Visual	NONE	NONE	NONE	
Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual NEG NEG	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual NEG NEG	Precipitate	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual NEG NEG	Silt	scalar	*Visual	NONE	NONE	NONE	
Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual NEG NEG	Debris	scalar	*Visual	NONE	NONE	NONE	
Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Water     scalar     *Visual     >0.1     NEG     NEG        Free Water     scalar     *Visual     NEG     NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	
Free Water scalar *Visual NEG NEG	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
	5:38:38) Rev: 1				Contact/Locat	ion: TRACY KE	E - COVCAMTN



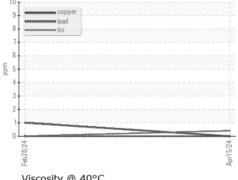
# **OIL ANALYSIS REPORT**



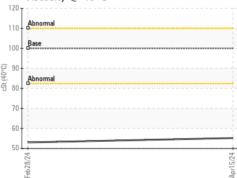
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	100	55.2	53.0	
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image







Viscosity @ 40°C







Certificate 12367

Laboratory

**Sample No.** : WC0910928 Lab Number : 06159517 Unique Number : 10994940

Test Package : CONST

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 24 Apr 2024 Tested : 25 Apr 2024

: 25 Apr 2024 - Wes Davis Diagnosed

**COVIA - CAMDEN - 094** 

1700 SAND MILL RD CAMDEN, TN US 38320

Contact: TRACY KEE tracy.kee@coviacorp.com

To discuss this sample report, contact Customer Service at 1-800-237-1369. \* - 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)

Report Id: COVCAMTN [WUSCAR] 06159517 (Generated: 04/25/2024 15:38:38) Rev: 1

Contact/Location: TRACY KEE - COVCAMTN

T:

F: