

## **OIL ANALYSIS REPORT**

Sample Rating Trend



**K** 

OR938 Component Hydraulic System Fluid

Machine Id

### CAT TDTO 10W (180 LTR)

### DIAGNOSIS

#### Recommendation

We advise that you check for visible metal particles in the oil. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

#### 📥 Wear

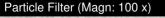
Light concentration of visible metal present.

#### Contamination

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

#### Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil.



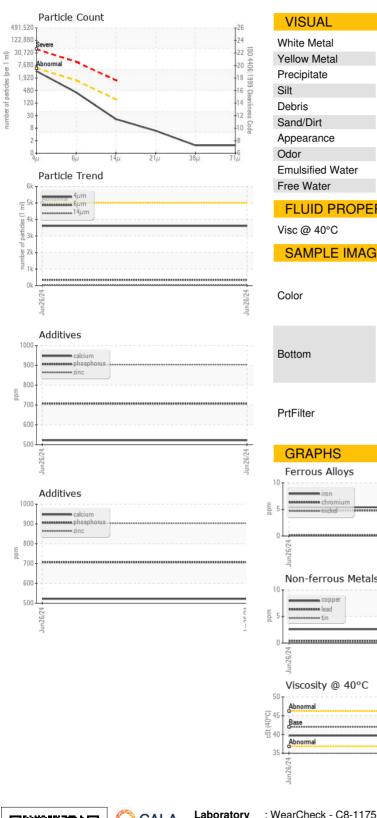


Report Id: GFL720 [WCAMIS] 02644856 (Generated: 07/04/2024 06:37:37) Rev: 1

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0124533		
Sample Date		Client Info		26 Jun 2024		
Machine Age	hrs	Client Info		11423		
Oil Age	hrs	Client Info		1000		
Oil Changed		Client Info		Not Changd		
Sample Status				MARGINAL		
-		and the set	1		In the second	history O
	ION	method	limit/base	current	history1	history2
Water	-	WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	5		
Chromium	ppm	ASTM D5185(m)	>10	5		
Nickel	ppm	ASTM D5185(m)	>10	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)	>10	<1		
Lead	ppm	ASTM D5185(m)	>10	<1		
Copper	ppm	ASTM D5185(m)	>75	3		
Tin	ppm	ASTM D5185(m)	>10	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
	ppm	method ASTM D5185(m)	limit/base	current 4	history1	history2
Boron	ppm ppm		limit/base		history1 	history2 
Boron Barium		ASTM D5185(m)	limit/base	4	history1  	
Boron Barium Molybdenum	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	4 <1	history1	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	4 <1 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	4 <1 0 0		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		4 <1 0 0 3		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2980	4 <1 0 0 3 522	  	  
Boron	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2980 1100	4 <1 0 3 522 707	 	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2980 1100	4 <1 0 3 522 707 904		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2980 1100 1270	4 <1 0 3 522 707 904 1687 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 limit/base	4 <1 0 0 3 522 707 904 1687 <1 current	     	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m)	2980 1100 1270	4 <1 0 0 3 522 707 904 1687 <1 current 2	       history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 limit/base >20	4 <1 0 0 3 522 707 904 1687 <1 current 2 1		history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 limit/base >20 >20	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1		history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 limit/base >20 >20 limit/base	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 imit/base >20 >20 imit/base >5000	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 <1 current 3609		history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 limit/base >20 >20 limit/base	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 <1 current 3609 344		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 imit/base >20 >20 imit/base >5000	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 <1 current 3609 344 18		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D5185(m)	2980 1100 1270 limit/base >20 limit/base >20 limit/base >5000 >1300 >160	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 <1 current 3609 344		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	2980 1100 1270 limit/base >20 limit/base >20 limit/base >5000 >1300 >160	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 <1 current 3609 344 18		history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	2980 1100 1270 iimit/base >20 isono >20 imit/base >20 isono >1300 >160 >40 >10	4 <1 0 0 3 522 707 904 1687 <1 current 2 1 <1 <1 current 3609 344 18 5		



# **OIL ANALYSIS REPORT**



SUAL		method	limit/base	current	history1	history2
e Metal	scalar	Visual*	NONE			
w Metal	scalar	Visual*	NONE	NONE		
ipitate	scalar	Visual*	NONE	NONE		
	scalar	Visual*	NONE	NONE		
ris	scalar	Visual*	NONE	NONE		
d/Dirt	scalar	Visual*	NONE	NONE		
earance	scalar	Visual*	NORML	NORML		
r	scalar	Visual*	NORML	NORML		
Isified Water	scalar	Visual*	>0.1	NEG		
Water	scalar	Visual*		NEG		
UID PROPER	RTIES	method	limit/base	current	history1	history2
@ 40°C	cSt	ASTM D7279(m)	42.0	39.7		
MPLE IMAGE	ES	method	limit/base	current	history1	history2
r					no image	no image
r					nonnage	no image
				the second		
				(in the second s		
om				( SP )	no image	no image
				de la		
lter				and the second second	no image	no image
				A de la companya de la compa		
RAPHS						
rous Alloys						
iron			Pa	rticle Filter (Ma	agn: 100 x)	
nicke					. Ou	100 200 300
			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		aunu	4 ann ann an l
			24			
			Jun26/24		1	
n-forrous Motol-			Γ,			Corp. San
n-ferrous Metals					Contraction and	
copper			State State	and the second second	and the second	a spanne
tin				Sale Cast	The states of the second	R-Degenia
				and the lot		
			6/24	CALL AND		
			Jun26/24	The second second	Part Contractor	
cosity @ 40°C			1433	and the state of the state of the	0	C. C. M. C. C. C.
ormal						
e						
ormal						
			Jun26/24			
			Junt			

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill CALA : GFL0124533 : 02 Jul 2024 17125 Lafleche Road, Sample No. Received Lab Number : 02644856 Tested : 03 Jul 2024 Moose Creek, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5802395 Diagnosed : 04 Jul 2024 - Kevin Marson CA K0C 1W0 Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PrtCount, cbergeron@gflenv.com To discuss this sample report, contact Customer Service at 1-800-268-2131. T: (613)538-4853 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied. F:

Report Id: GFL720 [WCAMIS] 02644856 (Generated: 07/04/2024 06:37:37) Rev: 1

Submitted By: Charles Bergeron Page 2 of 2