

OIL ANALYSIS REPORT

Sample Rating Trend







Hydraulic System NOT GIVEN (--- GAL)

[450213008] CG-06210L

DIAGNOSIS

Component

Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

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

Viscosity of sample indicates oil is within ISO 150 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0076373		
Sample Date		Client Info		12 Oct 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG		
WEAR METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1		
Chromium	ppm	ASTM D5185(m)	>10	0		
Nickel	ppm	ASTM D5185(m)	>10	0		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)	>10	0		
Lead	ppm	ASTM D5185(m)	>20	0		
Copper	ppm	ASTM D5185(m)	>20	<1		
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				history2
ADDITIVES Boron	ppm		limit/base		history1	history2
Boron	ppm mag	ASTM D5185(m)	limit/base	current 3 <1		
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	3 <1		
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	3 <1 0		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	3 <1 0 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	3 <1 0 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) ASTM D5185(m)	limit/base	3 <1 0 0 0 2		
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) ASTM D5185(m)	limit/base	3 <1 0 0 0 2 314	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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)	limit/base	3 <1 0 0 2 314 5		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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)	limit/base	3 <1 0 0 0 2 314		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	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)		3 <1 0 0 2 314 5 7418 <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)	limit/base	3 <1 0 0 2 314 5 7418 <1	 history1	 history2
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)		3 <1 0 0 2 314 5 7418 <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)	limit/base	3 <1 0 0 2 314 5 7418 <1	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm trs	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20	3 <1 0 0 2 314 5 7418 <1 current 2	 history1 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm trs	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 limit/base	3 <1 0 0 2 314 5 7418 <1	 history1	 history2
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 trs	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 limit/base >5000	3 <1 0 0 2 314 5 7418 <1 current 2 <1 0 current 2 2 4 1 0	 history1 history2	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm trs	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 limit/base >5000 >1300	3 <1 0 0 2 314 5 7418 <1 2 2 <1 0 2 2 41 0 2 2 41 0 2 2 41 0 2 2 41 0 2 2 41 3 41 2 41 3 41 4 5 5 7 418 4 4 4 7 41 3 4 4 5 7 4 1 8 7 7 4 1 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	 history1 history1	 history2 history2
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 trs	ASTM D5185(m) ASTM D76477 ASTM D7647	limit/base >15 >20 limit/base >5000 >1300 >160	3 <1 0 0 2 314 5 7418 <1 <i>current</i> 2 <1 0 <i>current</i> 2644 743 60	 history1 history1 	 history2 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 trs	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 limit/base >5000 >1300 >160	3 <1 0 0 2 314 5 7418 <1 2 2 <1 0 2 2 41 0 2 2 41 0 2 2 41 0 2 2 41 0 2 2 41 3 41 2 41 3 41 4 5 5 7 418 4 4 4 7 41 3 4 4 5 7 4 1 8 7 7 4 1 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	 history1 history1 	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm trs	ASTM D5185(m) ASTM D76477 ASTM D7647	limit/base >15 >20 limit/base >5000 >1300 >160	3 <1 0 0 2 314 5 7418 <1 <i>current</i> 2 <1 0 <i>current</i> 2644 743 60	 history1 history1	 history2 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 trs	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 limit/base >5000 >1300 >160 >40	3 <1 0 0 2 314 5 7418 <1 Current 2 <1 0 Current 2 41 0 Current 2 41 0 Current 1 0 0 18	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm trs	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 limit/base >20 limit/base >5000 >1300 >160 >40 >10	3 <1 0 0 2 314 5 7418 <1 current 2 <1 0 current 2 60 18 1	 history1 history1 	 history2 history2 history2



16 T 14

cSt (100°C) 8 Ab Ab

6k

r of particles (1 ml) 8 k 7 k 8 k

ja 2k 2 11 0k 0ct12/23

> 16 14

cSt (100°C)

160. 140 120 · 001 CC)

60 40 20. Oct12/23

6

(m 1) 4k iti al ja 2k 1 Ok

OIL ANALYSIS REPORT

Viscosity @ 100°C	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*		0.49		
2	VISUAL		method	limit/base	current	history1	history2
Abramal	White Metal	scalar	Visual*	NONE	NONE		
Abnomal Abnomal	Yellow Metal	scalar	Visual*	NONE	NONE		
	Precipitate	scalar	Visual*	NONE	NONE		
0ct12/23	Silt Debris		Visual*	NONE	NONE		
0	-	scalar	Visual*	NONE	VLITE		
Particle Trend	Sand/Dirt		Visual* Visual*	NONE NORML	NONE		
4μm]	Appearance Odor	scalar scalar	Visual*	NORML	NORML		
- ματοποιται 	Emulsified Water	scalar	Visual*	>0.05	NEG		
	Free Water		Visual*	20.00	NEG		
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D7279(m)		140		
		cSt	ASTM D7279(m)		13.9		
0ct1 2/23	Viscosity Index (VI)	Scale	ASTM D2270*		95		
	SAMPLE IMAG	FS	method	limit/base	current	history1	history2
Viscosity @ 100°C			method	111100030		Thotory I	motory
-							
2	Color					no image	no image
]							
- Abnormal - Abnormal							
	Bottom					no image	no image
0ct12/23	GRAPHS						
0							
Viscosity @ 40°C	Ferrous Alloys			491,520	Particle Count		T 26
	iron			122,880			+24
)-	E 5			30,720	Severe		22
J -				S: € 7,680	Abnormal		20 8
)	lct12/23			088,7 ml 0ct12/23 026,1 ml			18 18
Abnormal Abnormal	Non-ferrous Metal	s		0ct12/23 0ct12/23 126'1 m] 989			-20 4406:1999 Cle
	¹⁰ T						
0ct12/23	E 5-			120 agune 30			+14 ness Code
					-		-10
Particle Trend	0ct12/23			0ct12/23	-		-8
- ματοποιτά βματοποίο βματο	0ct1			0ct1	4µ 6µ	14µ 21µ	38µ 71µ
	Viscosity @ 40°C			(B/)-	-11		- da tila
				(D)H0.60			
	() 100 () 100 () 50 () 50			는 0.40 늄 은 0.20			
+	0			0.00 With Provide Angle	L		
	0ct12/23			0ct12/23 Ac	0ct12/23		0ct12/23
0ct12/23	õ			00	0		0
Laboratory Sample No. Lab Number Laboratory Test Packa To discuss this sample repo Test denoted (*) outside sco Validity of recults and intern	. : PC0076373 ar : 02598414 ber : 5683494 ge : MAR 2 (Additional <i>rt, contact Customer Serv</i>	Received Diagnose Diagnost Tests: KV ice at 1-8 ethod mo	l : 23 ed : 24 ician : Kev (100, VI) 00-268-213 odified, (e) te	Nov 2023 Nov 2023 rin Marson 1. sted at extern	s nal lab.	dbadcoc T:	-

Contact/Location: Deanne Badcock - TERHAM