

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

CR1207 (S/N 98202)

Component Hydraulic System AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0809542	WC0567942	
Sample Date		Client Info		11 May 2024	21 Apr 2021	
Machine Age	hrs	Client Info		3776	3452	
Oil Age	hrs	Client Info		324	1000	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				ABNORMAL	ATTENTION	
CONTAMINATION	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	<1	<1	
Chromium	ppm	ASTM D5185m	>10	0	0	
Nickel	ppm	ASTM D5185m	>10	<1	0	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m		0	<1	
Aluminum	ppm	ASTM D5185m	>10	<1	0	
Lead	ppm	ASTM D5185m	>10	<1	1	
Copper	ppm	ASTM D5185m	>75	5	7	
Tin	ppm	ASTM D5185m	>10	<1	<1	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	0	2	
-	ppm					
	ppm	ASTM D5185m	5	0	<1	
Barium			5 5	0 <1	<1 1	
Barium Molybdenum	ppm	ASTM D5185m		-		
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		<1	1	
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5	<1 <1	1 <1	
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25	<1 <1 4	1 <1 9	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200	<1 <1 4 40	1 <1 9 96	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300	<1 <1 4 40 213	1 <1 9 96 262	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370	<1 <1 4 40 213 209	1 <1 9 96 262 314	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500	<1 <1 4 40 213 209 1138	1 <1 9 96 262 314 951	
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	5 25 200 300 370 2500 limit/base	<1 <1 4 40 213 209 1138 current	1 <1 9 96 262 314 951 history1	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	5 25 200 300 370 2500 limit/base	<1 <1 4 40 213 209 1138 current 2	1 <1 9 96 262 314 951 history1 <1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	5 25 200 300 370 2500 limit/base >20	<1 <1 4 40 213 209 1138 current 2 2 2	1 <1 9 96 262 314 951 history1 <1 0	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 limit/base >20	<1 <1 <1 4 40 213 209 1138 current 2 2 1	1 <1 9 96 262 314 951 history1 <1 0 <1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 Iimit/base >20 Jimit/base	<1 <1 <1 4 40 213 209 1138 current 2 2 1	1 <1 9 96 262 314 951 history1 <1 0 <1 history1	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 Iimit/base >20 Iimit/base >5000	<1 <1 <1 4 40 213 209 1138 current 2 2 1 1 current 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 <1 9 96 262 314 951 history1 <1 0 <1 history1 1213	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 2500 limit/base >20 limit/base >20 limit/base >5000 >1300	<1 <1 <1 4 40 213 209 1138 current 2 2 1 current Instant Instant In	1 <1 9 96 262 314 951 history1 <1 0 <1 0 <1 history1 1213 86	 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	5 25 200 300 2500 limit/base >20 limit/base >20 limit/base >5000 >1300 >160	<1 <1 4 40 213 209 1138 current 2 2 1 current ▲ 19977 ▲ 4303 ▲ 218	1 <1 9 96 262 314 951 history1 <1 0 <1 0 <1 1213 86 11	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	5 25 200 300 2500 2500 2500 >20 20 20 1imit/base >20 1imit/base >5000 >1300 >160 >40 >10	<1 <1 <1 4 40 213 209 1138 current 2 2 1 current 19977 4303 218 35 	1 <1 9 96 262 314 951 history1 <1 0 <1 history1 1213 86 11 4	 history2 history2 history2



OIL ANALYSIS REPORT

	ATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.28	0.308	
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
1				-		
* · · · · · · · · · · · · · · · · · · ·						
-				-		
Debris						
Sand/Dirt		*Visual			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	
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	30.3		
-	<u>د</u>	method	limit/base	<u> </u>		history?
	5	methou	minubase	current	history	history2
Color						no image
Bottom					A State State	no image
DOLLOIN						no image
GRAPHS						
Ferrous Alloys						
10 iron						T ²⁶
E. 5- minim nickel			122,88	0 - Severe		+24
			30,72	•		-22
0				Abnormat		-20
			av11/2 1.92			+18
	la.		Ma icles (p			-20 -18 -16 -14
Non-ferrous Meta	IS					16
copper			12 12	0		
5 5 - min tin			- ² 3	0-		-12
******				8 -		+10
0 L ;			/24	2		8
			=			
Apr21			May	0		
Viscosity @ 40°C			May11/24		14µ 21µ	38μ 71μ ⁶
Viscosity @ 40°C				Acid Number	14µ 21µ	36µ 71µ
60				Acid Number	14μ 21μ	38µ 71µ
50 Abnormal 50 Base Abnormal 60 Abnormal 8 Abnormal				Acid Number	14µ 21µ	38µ 71µ
50 Base 20 40 30				Acid Number	14μ 21μ	38µ 71µ
50 Abnormal 50 Base Abnormal 60 Abnormal 8 Abnormal				Acid Number Abnormal Base	14μ 21μ	38μ 71μ
	Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPER Visc @ 40°C SAMPLE IMAGES Color Bottom GRAPHS Ferrous Alloys 10 10 10 10 10 10 10 10 10 10	Yellow Metal scalar Precipitate scalar Silt scalar Debris scalar Sand/Dirt scalar Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar FLUID PROPERTIES Visc @ 40°C cSt SAMPLE IMAGES Color Bottom GRAPHS Ferrous Alloys 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Yellow Metal scalar *Visual Precipitate scalar *Visual Silt scalar *Visual Debris scalar *Visual Sand/Dirt scalar *Visual Appearance scalar *Visual Odor scalar *Visual Emulsified Water scalar *Visual Free Water scalar *Visual Kococ CSt ASTM D445 SAMPLE IMAGES method Color GRAPHS Ferrous Alloys	Yellow Metal scalar *Visual NONE Precipitate scalar *Visual NONE Silt scalar *Visual NONE Debris scalar *Visual NONE Sand/Dirt scalar *Visual NONE Appearance scalar *Visual NORML Odor scalar *Visual NORML Odor scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.1 Free Water scalar *Visual >0.1 Free Water scalar *Visual >0.1 Ferew Qater cStalar *Visual >0.1 Ferew Qater cStalar *Visual >0.1 Bottom gamethod limit/base GRAPHS Ferrous Alloys 491.52 Image: Cooper method limit/page Image: Cooper modefine 1.22 Non-ferrous Metals 12 491.52 Image: Cooper	Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual >0.1 NEG Free Water scalar *Visual NEG 30.3 SAMPLE IMAGES method limit/base current Color GRAPHS	Yellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG Free Water scalar *Visual >0.1 NEG NEG Fulid PROPERTIES method limit/base current history1 Visc @ 40°C cSt ASTM D445 46 30.3 32.5 SAMPLE IMAGES method limit/base current history1 Use

Contact/Location: MICHAEL LAWSON - BUCGRA