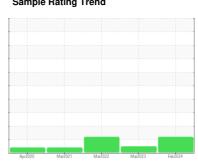


# **OIL ANALYSIS REPORT**

Sample Rating Trend





# BL166HP00077

Component

**Hydraulic System** 

AW HYDRAULIC OIL ISO 32 (--- GAL)

#### Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil.

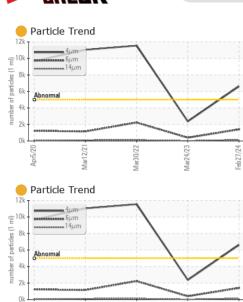
### **Fluid Condition**

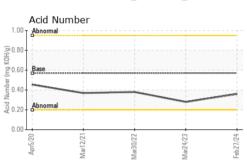
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

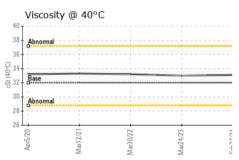
		Apr2020	Mar2021	Mar2022 Mar2023	Feb 2024	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0881302	WC0780129	WC0667604
Sample Date		Client Info		27 Feb 2024	24 Mar 2023	30 Mar 2022
Machine Age	mths	Client Info		0	0	0
Oil Age	mths	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ATTENTION	NORMAL	ABNORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	3	3	3
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m	>10	1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	1	0	<1
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>75	<1	0	<1
Tin	ppm		>10	<1	0	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1	history2 <1
	ppm				· ·	•
Boron		ASTM D5185m	5	0	0	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	5 5 5	0 0 0 <1	0	<1 0 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25	0 0 0 <1 2	0 0 <1 0	<1 0 0 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200	0 0 0 <1 2 53	0 0 <1 0 0 52	<1 0 0 0 0 0 42
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300	0 0 0 <1 2 53 281	0 0 <1 0 0 52 366	<1 0 0 0 0 0 0 42 330
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370	0 0 0 <1 2 53 281 426	0 0 <1 0 0 0 52 366 464	<1 0 0 0 0 0 0 42 330 398
Boron 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	5 5 5 25 200 300 370 2500	0 0 0 <1 2 53 281	0 0 <1 0 0 52 366	<1 0 0 0 0 0 42 330 398 711
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base	0 0 0 <1 2 53 281 426 1045	0 0 <1 0 0 0 52 366 464 1179 history1	<1 0 0 0 0 0 42 330 398 711 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500	0 0 0 <1 2 53 281 426 1045 current	0 0 <1 0 0 52 366 464 1179 history1	<1 0 0 0 0 0 42 330 398 711 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20	0 0 0 <1 2 53 281 426 1045 current <1	0 0 <1 0 0 52 366 464 1179 history1 <1	<1 0 0 0 0 0 42 330 398 711 history2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20	0 0 0 <1 2 53 281 426 1045 current <1 2	0 0 <1 0 0 52 366 464 1179 history1 <1 <1	<1 0 0 0 0 0 42 330 398 711 history2 <1 <1
Boron 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	5 5 5 25 200 300 370 2500 limit/base >20	0 0 0 <1 2 53 281 426 1045 current <1 2 2	0 0 <1 0 0 52 366 464 1179 history1 <1 0	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0
Boron 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  method ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20 limit/base >5000	0 0 0 <1 2 53 281 426 1045 current <1 2 2	0 0 <1 0 0 52 366 464 1179 history1 <1 0 history1	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0 history2 ▲ 11543
Boron 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  method ASTM D5185m	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >5000 >1300	0 0 0 <1 2 53 281 426 1045  current <1 2 2 current  6617 1404	0 0 <1 0 <1 0 0 52 366 464 1179 history1 <1 <1 0 history1 2370 402	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0 history2  ▲ 11543 2237
Boron 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  method ASTM D5185m ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >5000 >1300 >160	0 0 0 <1 2 53 281 426 1045  current <1 2 2 current  6617 1404 138	0 0 <1 0 <1 0 0 52 366 464 1179 history1 <1 <1 0 history1 2370 402 19	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0 history2  ▲ 11543 ○ 2237 128
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >5000 >1300 >160 >40	0 0 0 <1 2 53 281 426 1045  current <1 2 2  current  6617  1404 138 38	0 0 <1 0 <1 0 0 52 366 464 1179 history1 <1 <1 0 history1 2370 402 19 4	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0 history2  ▲ 11543 2237 128 20
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >160 >40 >10	0 0 0 0 <1 2 53 281 426 1045  current <1 2 2 current  6617 1404 138 38 2	0 0 <1 0 <1 0 0 52 366 464 1179 history1 <1 <1 0 history1 2370 402 19 4 0	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0 history2  ▲ 11543 2237 128 20 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base >160 >40 >10	0 0 0 <1 2 53 281 426 1045  current <1 2 2  current  6617  1404 138 38	0 0 <1 0 <1 0 0 52 366 464 1179 history1 <1 <1 0 history1 2370 402 19 4	<1 0 0 0 0 42 330 398 711 history2 <1 <1 0 history2  ▲ 11543 2237 128 20



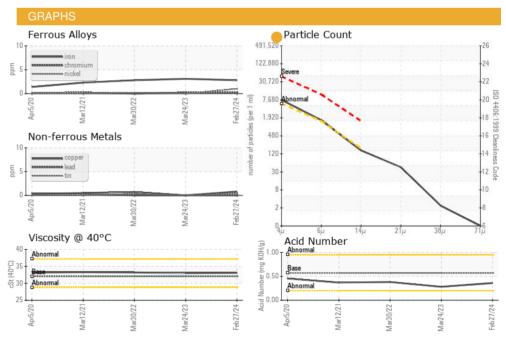
## **OIL ANALYSIS REPORT**







FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.36	0.28	0.38
VISUAL						
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
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	VLITE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	33.1	33.0	33.2
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color				ABC MUMPIN	ABCCON.	701 350-22







Laboratory Sample No.

Lab Number : 06131964 Unique Number: 10951429

: WC0881302

**Bottom** 

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** 

: 28 Mar 2024 Diagnosed

: 29 Mar 2024 : 29 Mar 2024 - Wes Davis

TIFFIN, OH US 44883 Contact: ERIC HILL e.hill@palfinger.com T: (419)448-8156

Test Package : CONST

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)

**PALFINGER - BRANCH 400** 

4151 W ST RT 18