

## **OIL ANALYSIS REPORT**

## Area Baytech - W00300 Machine Id A2308089

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

## DIAGNOSIS

Recommendation

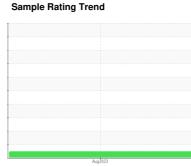
This is a baseline read-out on the submitted sample.

Wear

Copper ppm levels are noted.

**Contamination** Silicon ppm levels are notably high.

Fluid Condition {not applicable}





NORMAL

				Aug2023	1.1	
SAMPLE INFORM	ΛΑΠΟΝ	method	limit/base		history1	history2
Sample Number		Client Info		E30000117		
Sample Date		Client Info		04 Aug 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	13		
Chromium	ppm	ASTM D5185(m)	>20	<1		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)	>20	1		
Lead	ppm	ASTM D5185(m)	>20	7		
Copper	ppm	ASTM D5185(m)	>20	37		
Tin	ppm	ASTM D5185(m)	>20	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
Boron	ppm	ASTM D5185(m)	5	<1		
Barium	ppm	ASTM D5185(m)	5	1		
Molybdenum	ppm	ASTM D5185(m)	5	<1		
Manganese	ppm	ASTM D5185(m)		2		
Magnesium	ppm	ASTM D5185(m)	25	68		
Calcium	ppm	ASTM D5185(m)	200	91		
Phosphorus	ppm	ASTM D5185(m)	300	574		
Zinc	ppm	ASTM D5185(m)	370	556		
Sulfur	ppm	ASTM D5185(m)	2500	2325		
Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINANTS	;	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	25		
Sodium	ppm	ASTM D5185(m)		2		
Potassium	ppm	ASTM D5185(m)	>20	<1		
Water	%	ASTM D6304*	>0.05	0.004		
ppm Water	ppm	ASTM D6304*	>500	42.9		
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	465		
Particles >6µm		ASTM D7647		72		
Particles >14µm		ASTM D7647	>160	5		
Particles >21µm		ASTM D7647		1		
Particles >38µm		ASTM D7647	>10	0		

0

16/13/10

ASTM D7647 >3

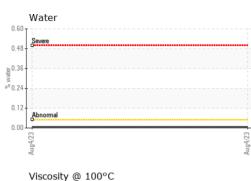
ISO 4406 (c) >19/17/14

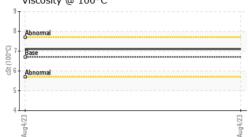
Particles >71µm

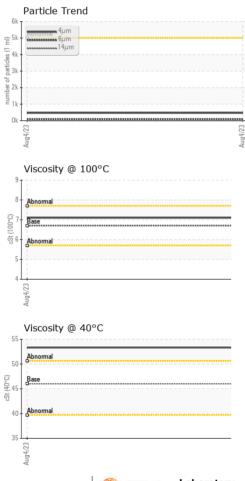
**Oil Cleanliness** 



## **OIL ANALYSIS REPORT**

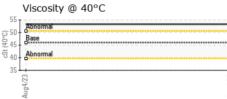


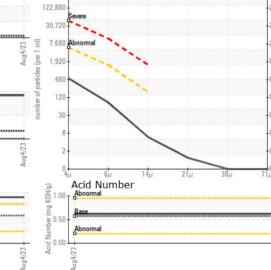




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Acid Number (AN) mg KOHg ASTM D974° 0.57 0.62	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
White Metal       scalar       Visual*       NONE       NONE           Yellow Metal       scalar       Visual*       NONE       NONE           Precipitate       scalar       Visual*       NONE       NONE           Sitt       scalar       Visual*       NONE       NONE           Sand/Dirt       scalar       Visual*       NONE       NONE           Appearance       scalar       Visual*       NORML       NORML           Appearance       scalar       Visual*       NORML       NORML           Cor       scalar       Visual*       NORML       NORML           Emulsified Water       scalar       Visual*       NORML       NORML           Free Water       scalar       Visual*       NORML       NORML            Visc @ 40°C       cSt       ASTI D2270*       97       87            SAMPLE IMAGES       method       Imit/base       current       history1       hi	Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.62		
Yellow Metal       scalar       Visual*       NONE           Precipitate       scalar       Visual*       NONE       NONE           Silt       scalar       Visual*       NONE       NONE           Debris       scalar       Visual*       NONE       NONE           Appearance       scalar       Visual*       NORML       NORE           Appearance       scalar       Visual*       NORML       NORML           God       scalar       Visual*       NORML       NORML           God       scalar       Visual*       NORML       NORML           Free Water       scalar       Visual*       NORML       NORML           Fuelsified Water       scalar       Visual*       NORML       NORML           Visc @ 40°C       cSt       ASTM D272/m       6.7       7.1           SAMPLE IMAGES       method       Imit/base       current       history1       history2         Color       Imit	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar Visual* NONE NONE	White Metal	scalar	Visual*	NONE	NONE		
Silt scalar Visual* NONE NONE SandDint scalar Visual* NONE NONE	Yellow Metal	scalar	Visual*	NONE	NONE		
Debris scalar Visual* NONE NONE Sand/Dirt scalar Visual* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* >0.05 NEG Free Water scalar Visual* >0.05 NEG Free Water scalar Visual* NORML NORML Free Water scalar Visual* 0.05 NEG FLUID PROPERTIES method limit/base current history1 history2 Visc @ 40°C cSt ASTMD7279(m) 6.7 7.1 Visc @ 100°C cSt ASTMD7279(m) 6.7 7.1 SAMPLE IMAGES method limit/base current history1 history2 Color bistory1 history2 Color for o image no image no image no image Non-ferrous Metals Non-ferrous Metals 	Precipitate	scalar	Visual*	NONE	NONE		
Sand/Dirt       scalar       Visual*       NONE           Appearance       scalar       Visual*       NORML       NORML           Odor       scalar       Visual*       NORML       NORML           Emulsified Water       scalar       Visual*       NORML       NORML           Free Water       scalar       Visual*       >0.05       NEG           FLUID PROPERTIES       method       limit/base       current       history1       history2         Visc @ 40°C       cSt       ASTM D7279(m)       6.7       7.1           Visc @ 100°C       cSt       ASTM D7279(m)       6.7       7.1           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       Imethod       limit/base       current       history1       history2         Generation       Imethod       Imit/base       current       history1       history2         Color       Imethod       Imit/base       current       history1       history2         Imethod       Imit/b	Silt	scalar	Visual*	NONE	NONE		
Appearance       scalar       Visual*       NORML       NORML           Odor       scalar       Visual*       NORML       NORML           Emulsified Water       scalar       Visual*       >0.05       NEG           Free Water       scalar       Visual*       NORML       NORML           FLUID PROPERTIES       method       limit/base       current       history1       history2         Visc @ 40°C       cSt       ASTM D279(m)       6.7       7.1           Visc @ 100°C       cSt       ASTM D270'       97       87           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       Image       no image       no image       no image         Bottom       Image       Image       Image       Image       Image         Non-ferrous Metals       Image       Image       Image       Image       Image       Image         Image       Image       Image       Image       Image       Image       Image       Image       Image <td< td=""><td>Debris</td><td>scalar</td><td>Visual*</td><td>NONE</td><td>NONE</td><td></td><td></td></td<>	Debris	scalar	Visual*	NONE	NONE		
Odor       scalar       Visual*       NORML           Emulsified Water       scalar       Visual*       >0.05       NEG           Free Water       scalar       Visual*       NEG           FLUID PROPERTIES       method       imit/base       current       history1       history2         Visc @ 40°C       cSt       ASTM D7279(m)       6.7       7.1           Visc @ 100°C       cSt       ASTM D7279(m)       6.7       7.1           SAMPLE IMAGES       method       imit/base       current       history1       history2         Color       method       imit/base       current       history1       history2         Bottom       moimage       no image       no image       no image         Mon-ferrous Metals       mothod       grad       grad       grad       grad       grad       grad       grad         Mon-ferrous Metals       method       grad       grad       grad       grad       grad       grad       grad       grad         Mon-ferrous Metals       grad       grad       grad       grad       grad       <	Sand/Dirt	scalar	Visual*	NONE	NONE		
Emulsified Water       scalar       Visual*       >0.05       NEG           Free Water       scalar       Visual*       NEG           FLUID PROPERTIES       method       limit/base       current       history1       history2         Visc @ 40°C       cSt       ASTM D7279(m)       6.7       7.1           Visc @ 100°C       cSt       ASTM D7279(m)       6.7       7.1           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       Imit/base       current       history1       history2         Bottom       Imit/base       current       history1       history2         Mon-ferrous Metals       Imit/base       Particle Count       Imit/base       Imit/base       Imit/base       Imit/base         Mon-ferrous Metals       Imit/base       Imit/base       Imit/base       Imit/base       Imit/base       Imit/base       Imit/base         Mon-ferrous Metals       Imit/base       Imit/base       Imit/base       Imit/base       Imit/base       Imit/base       Imit/base         Imit/base       Imit/base       Imit/base       Imit	Appearance	scalar	Visual*	NORML	NORML		
Free Water       scalar       Visual*       NEG           FLUID PROPERTIES       method       limit/base       current       history1       history2         Visc @ 40°C       cSt       ASTM D7279(m)       46       53.3           Visc @ 100°C       cSt       ASTM D7279(m)       6.7       7.1           Viscosity Index (VI)       Scale       ASTM D7279(m)       6.7       7.1           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       imit/base       current       history1       history2         Color       imit/base       no image       no image       no image         Bottom       imit/base       particle Count           GRAPHS              Solution              Mon-ferrous Metals              Graphing               Iminumetal       <	Odor	scalar	Visual*	NORML	NORML		
FLUID PROPERTIES       method       limit/base       current       history1       history2         Visc @ 40°C       cSt       ASTMD7279(m)       46       53.3           Visc @ 100°C       cSt       ASTMD7279(m)       6.7       7.1           Visc @ 100°C       cSt       ASTMD7279(m)       6.7       7.1           Visc @ 100°C       cSt       ASTMD7279(m)       6.7       7.1           Viscosity Index (VI)       Scale       ASTM D2270°       97       87           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       imit/base       current       history1       history2         Bottom       imit/base       particle Count           Mon-ferrous Metals              Imit base               Color                Imit base	Emulsified Water	scalar	Visual*	>0.05	NEG		
Visc @ 40°C cSt ASTM D7279(m) 46 53.3 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.1 Viscosity Index (VI) Scale ASTM D2270° 97 87 SAMPLE IMAGES method imit/base current history1 history2 Color no image no image Bottom no image no image Ferrous Alloys Particle Count Mon-ferrous Metals Non-ferrous Metals Non-ferrous Metals	Free Water	scalar	Visual*		NEG		
Visc @ 100°C       cSt       ASTM D2270°       97       87           Viscosity Index (VI)       Scale       ASTM D2270°       97       87           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       Image       no image       no image       no image       no image         Bottom       Particle Count       Particle Count       Image       Image       Image       Image         Mon-ferrous Metals       Image       Image       Image       Image       Image       Image       Image         Mon-ferrous Metals       Image       Image       Image       Image       Image       Image       Image         Mon-ferrous Metals       Image       Image       Image       Image       Image       Image       Image         Mon-ferrous Metals       Image       Image       Image       Image       Image       Image       Image       Image         Minage       Image       Image       Image       Image       Image       Image       Image         Image       Image       Image       Image       Image       Image       Image       Image<	FLUID PROPERT	IES	method	limit/base	current	history1	history2
Viscosity Index (VI) Scale ASTM D2270' 97 87 SAMPLE IMAGES method imit/base current history1 history2 Color no image no image Bottom no image no image GRAPHS Ferrous Alloys Viscosity index (VI) Scale ASTM D2270' 97 87	Visc @ 40°C	cSt	ASTM D7279(m)	46	53.3		
SAMPLE IMAGES       method       limit/base       current       history1       history2         Color       Image       no image       no image       no image         Bottom       Image       no image       no image       no image         GRAPHS       Ferrous Alloys       Particle Count       Image       Image       Image         Mon-ferrous Metals       Image       Image       Image       Image       Image       Image         Image       Image       Image       Image       Image       Image       Image       Image       Image       Image         Image       Image       Image       Image       Image       Image       Image       Image       Image       Image       Image       Image       Image <td>Visc @ 100°C</td> <td>cSt</td> <td>ASTM D7279(m)</td> <td>6.7</td> <td>7.1</td> <td></td> <td></td>	Visc @ 100°C	cSt	ASTM D7279(m)	6.7	7.1		
Color Bottom Remaining no image no image no image no image no image no image no image	Viscosity Index (VI)	Scale	ASTM D2270*	97	87		
Bottom no image no image	SAMPLE IMAGES	6	method	limit/base	current	history1	history2
CRAPHS Ferrous Alloys	Color					no image	no image
Ferrous Alloys Particle Count <sup>491,520</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,880</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>122,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup> <sup>124,90</sup>	Bottom				(In the second s	no image	no image
$\frac{10}{5}$	GRAPHS						
122.880 $122.880$ $122.$				491,520			т26
Non-ferrous Metals $10 - \frac{1}{10} + \frac{1}{1$	0 - iron			122 880			-74
Non-ferrous Metals $10 - \frac{1}{10} + \frac{1}{1$	5 - nickel				Severe		
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	i i i						
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	14/23			r1 ml 1,680			-20
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	Au			W 30 1.920		•	-18
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $		s		ottied 480			
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $				120			14
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $				que 30			12
EZ/h Bhy $2 + \frac{14\mu}{4\mu} = \frac{14\mu}{6\mu} = \frac{14\mu}{38\mu} = \frac{16}{71\mu}$			****			\	
$v_{4\mu}^{\mu} = 6\mu - 14\mu - 21\mu - 36\mu - 71\mu$	0-1		*******				
$v_{4\mu}^{\mu} = 6\mu + 14\mu + 21\mu + 38\mu + 71\mu$	Aug 4,			Aug4/			0
				- 0	μ 6μ	14μ 21μ	38μ 71μ





: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Environmental 360 Solutions Ltd. Laboratory CALA Sample No. : E30000117 Received : 22 Aug 2023 640 Victoria Street Lab Number : 02577473 Diagnosed : 25 Aug 2023 Cobourg, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5630533 Diagnostician : Tatiana Sorkina CA K9A 5H5 Test Package : IND 2 (Additional Tests: KF, KV100, VI) Contact: Fred Kosseim To discuss this sample report, contact Customer Service at 1-800-268-2131. fkosseim@e360s.ca T: (905)372-2251 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: (905)372-1658

Aug4/23 -