

### **OIL ANALYSIS REPORT**

# Sample Rating Trend **WEAR**

AERZEN BLOWER 2 (S/N 15279) Component

Blower Fluic USPI AIR 46 (--- GAL)

#### DIAGNOSIS

#### Recommendation

We recommend an early resample to monitor this condition.

#### A Wear

The iron level is abnormal.

#### Contamination

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

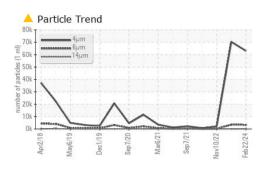
#### Fluid Condition

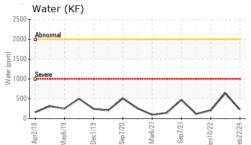
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

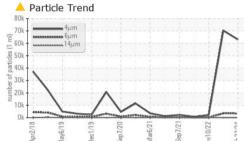
Sample Date   Client Info   22 Feb 2024   27 Jul 2023   10 Nov 20     Machine Age   hrs   Client Info   0   0   0   0     Oil Age   hrs   Client Info   0   0   0   0     Oil Changed   Client Info   N/A   N/A   N/A   N/A     Sample Status   Image   Client Info   N/A   A/A   N/A   N/A     WEAR METALS   method   Imit/base   current   history1   history1     Iron   ppm   ASTM D585m   >20   4   46   4   6     Chromium   ppm   ASTM D585m   >20   <1	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   0   0   0     Oil Age   hrs   Client Info   N/A   N/A   N/A     Sample Status   Client Info   N/A   N/A   N/A   N/A     WEAR METALS   method   limit/base   current   history1   history1     Iron   ppm   ASTM D5185m   >20   1   0   0     Nickel   ppm   ASTM D5185m   >20   <1	Sample Number		Client Info		USPM30100	USPM27227	USPM25705
Oil Age   hrs   Client Info   0   0   0   0     Oil Changed   Client Info   N/A   N/A   N/A   N/A     Sample Status   method   limit/base   current   history1   history1     Iron   ppm   ASTM D5185m   >20   ▲   46   4   6     Chromium   ppm   ASTM D5185m   >20   <1	Sample Date		Client Info		22 Feb 2024	27 Jul 2023	10 Nov 2022
Oil Changed   Client Info   N/A   N/A   N/A   N/A     Sample Status   method   limit/base   current   history1   history1     WEAR METALS   method   limit/base   current   history1   history1     Iron   ppm   ASTM D5185m   >20   1   0   0     Nickel   ppm   ASTM D5185m   >20   <1   0   0     Silver   ppm   ASTM D5185m   >20   <1   0   1   0     Copper   ppm   ASTM D5185m   >20   <1   0   1     Quadition   ppm   ASTM D5185m   >20   <1   0   <1     Aluminum   ppm   ASTM D5185m   >20   1   <1   0   <1     Qanadium   ppm   ASTM D5185m   >20   1   <1   0   <1     Barium   ppm   ASTM D5185m   0   <1   0   <1   0     Barium   ppm   AS	Machine Age	hrs	Client Info		0	0	0
Sample Status   method   limit/base   current   history1   history1     Iron   ppm   ASTM D5185m   >20   ▲ 46   4   6     Chromium   ppm   ASTM D5185m   >20   <1	Oil Age	hrs	Client Info		0	0	0
WEAR METALS   method   limit/base   current   history1   history1   history1     Iron   ppm   ASTM D5185m   >20   ▲   46   4   6     Chromium   ppm   ASTM D5185m   >20   1   0   0     Nickel   ppm   ASTM D5185m   >20   <1	Oil Changed		Client Info		N/A	N/A	N/A
Iron   ppm   ASTM D5185m   >20   46   4   6     Chromium   ppm   ASTM D5185m   >20   1   0   0     Nickel   ppm   ASTM D5185m   >20   <1	Sample Status				ABNORMAL	ATTENTION	NORMAL
Dromium   ppm   ASTM D5185m   >20   1   0   0     Nickel   ppm   ASTM D5185m   >20   <1   0   <1     Titanium   ppm   ASTM D5185m   <20   <1   0   1     Silver   ppm   ASTM D5185m   >20   <1   0   0     Lead   ppm   ASTM D5185m   >20   <1   0   0     Copper   ppm   ASTM D5185m   >20   1   <1   <1   <1     Vanadium   ppm   ASTM D5185m   >20   1   <1   0   <1   0     ACdmium   ppm   ASTM D5185m   >20   1   <1   0	WEAR METALS		method	limit/base	current	history1	history2
Nickel   ppm   ASTM D5185m   >20   <1   0   <1     Titanium   ppm   ASTM D5185m   <1	Iron	ppm	ASTM D5185m	>20	<b>4</b> 6	4	6
Titanium   ppm   ASTM D5185m   <1   <1   0     Silver   ppm   ASTM D5185m   >20   <1	Chromium	ppm	ASTM D5185m	>20	1	0	0
Silver   ppm   ASTM D5185m   <1   0   1     Aluminum   ppm   ASTM D5185m   >20   <1	Nickel	ppm	ASTM D5185m	>20	<1	0	<1
Aluminum   ppm   ASTM D5185m   >20   <1   2   0     Lead   ppm   ASTM D5185m   >20   1   0   0     Copper   ppm   ASTM D5185m   >20   1   0   <1	Titanium	ppm	ASTM D5185m		<1	<1	0
Aluminum   ppm   ASTM D5185m   >20   <1   2   0     Lead   ppm   ASTM D5185m   >20   1   0   -1     Copper   ppm   ASTM D5185m   >20   1   0   -1     Tin   ppm   ASTM D5185m   >20   1   -1   -1     Vanadium   ppm   ASTM D5185m   >20   1   -1   0     Cadmium   ppm   ASTM D5185m   0   0   -1   0     ADDITIVES   method   limit/base   current   history1   history1     Boron   ppm   ASTM D5185m   0   -1   0   0     Molybdenum   ppm   ASTM D5185m   0   -1   0   0     Maganese   ppm   ASTM D5185m   0   -1   0   0     Calcium   ppm   ASTM D5185m   0   1   0   0     Sulfur   ppm   ASTM D5185m   0   2   0	Silver		ASTM D5185m		<1	0	1
Lead   ppm   ASTM D5185m   >20   <1   0   0     Copper   ppm   ASTM D5185m   >20   1   <1	Aluminum		ASTM D5185m	>20	<1	2	0
Copper   ppm   ASTM D5185m   >20   1   0   <1     Tin   ppm   ASTM D5185m   >20   1   <1	Lead		ASTM D5185m	>20	<1	0	0
Tin   ppm   ASTM D5185m   >20   1   <1   <1   <1     Vanadium   ppm   ASTM D5185m   0   <1	Copper		ASTM D5185m	>20			<1
Vanadium   ppm   ASTM D5185m   0   <1   0     Cadmium   ppm   ASTM D5185m   <1			ASTM D5185m	>20	1	<1	<1
Cadmium   ppm   ASTM D5185m   <1   0   0     ADDITIVES   method   limit/base   current   history1   history1     Boron   ppm   ASTM D5185m   0   0   0   0   0     Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   <1	Vanadium						
Boron   ppm   ASTM D5185m   0   0   0   0       Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   <1							
Barium   ppm   ASTM D5185m   0   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   <1   0   0     Manganese   ppm   ASTM D5185m   0   <1   0   0     Magnesium   ppm   ASTM D5185m   0   <1   0   0     Calcium   ppm   ASTM D5185m   0   1   0   0   0     Calcium   ppm   ASTM D5185m   0   1   0   0   0     Zinc   ppm   ASTM D5185m   0   8   0   11     CONTAMINANTS   method   limit/base   current   history1   histor     Silicon   ppm   ASTM D5185m   0   8   0   11     Potassium   ppm   ASTM D5185m   >20   1   1   <1     Vater   %   ASTM D6304   >0.2   0.022   0.064   0.020     ppm Water   ppm <td< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum   ppm   ASTM D5185m   0   <1   0   0     Manganese   ppm   ASTM D5185m    <1	Boron	ppm	ASTM D5185m	0	0	0	<1
Manganese ppm ASTM D5185m <1 0 0   Magnesium ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium   ppm   ASTM D5185m   0   <1   <1   0     Calcium   ppm   ASTM D5185m   0   1   0   0     Phosphorus   ppm   ASTM D5185m   1   0   8   9     Zinc   ppm   ASTM D5185m   0   2   0   0     Sulfur   ppm   ASTM D5185m   0   8   0   11     CONTAMINANTS   method   limit/base   current   history1   histor     Sodium   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >20   1   1   <1	Molybdenum	ppm	ASTM D5185m	0	<1	0	0
Calcium   ppm   ASTM D5185m   0   1   0   0     Phosphorus   ppm   ASTM D5185m   1   0   8   9     Zinc   ppm   ASTM D5185m   0   2   0   0     Sulfur   ppm   ASTM D5185m   0   8   0   11     CONTAMINANTS   method   limit/base   current   history1   history1     Silicon   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >20   1   1   <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus   ppm   ASTM D5185m   1   0   8   9     Zinc   ppm   ASTM D5185m   0   2   0   0     Sulfur   ppm   ASTM D5185m   0   8   0   11     CONTAMINANTS   method   limit/base   current   history1   history1     Silicon   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >20   1   1   <1	Magnesium	ppm	ASTM D5185m	0	<1	<1	0
Zinc   ppm   ASTM D5185m   0   2   0   0     Sulfur   ppm   ASTM D5185m   0   8   0   11     CONTAMINANTS   method   limit/base   current   history1   history1     Silicon   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >20   1   1   <1	Calcium	ppm	ASTM D5185m	0	1	0	0
Sulfur   ppm   ASTM D5185m   0   8   0   11     CONTAMINANTS   method   limit/base   current   history1   histor     Silicon   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >20   1   1   <1     Potassium   ppm   ASTM D5185m   >20   1   1   <1     Water   %   ASTM D6304   >0.2   0.022   0.064   0.020     ppm Water   ppm   ASTM D6304   >2000   224   641.5   208.5     FLUID CLEANLINESS   method   limit/base   current   history1   histor     Particles >4µm   ASTM D7647   >2000   3267   3487   182     Particles >5µm   ASTM D7647   >320   23   42   10     Particles >21µm   ASTM D7647   20   0   1	Phosphorus	ppm	ASTM D5185m	1	0	8	9
CONTAMINANTS   method   limit/base   current   history1   histor     Silicon   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   >15   9   9   2     Sodium   ppm   ASTM D5185m   0   <1	Zinc	ppm	ASTM D5185m	0	2	0	0
Silicon ppm ASTM D5185m >15 9 9 2   Sodium ppm ASTM D5185m >15 9 9 2   Sodium ppm ASTM D5185m >20 1 1 <1   Potassium ppm ASTM D5185m >20 1 1 <1	Sulfur	ppm	ASTM D5185m	0	8	0	11
Sodium   ppm   ASTM D5185m   0   <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium   ppm   ASTM D5185m   >20   1   1   <1     Water   %   ASTM D6304   >0.2   0.022   0.064   0.020     ppm   ASTM D6304   >2000   224   641.5   208.5     FLUID CLEANLINESS   method   limit/base   current   history1   histor     Particles >4µm   ASTM D7647   >2500   ▲ 3267   ▲ 3487   182     Particles >6µm   ASTM D7647   >220   ④   1   ○     Particles >14µm   ASTM D7647   >320   23   42   10     Particles >21µm   ASTM D7647   >20   0   1   0     Particles >38µm   ASTM D7647   >20   0   1   0     Particles >71µm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   23/19/12   23/19/13   18/15/1	Silicon	ppm	ASTM D5185m	>15	9	9	2
Water   %   ASTM D6304   >0.2   0.022   0.064   0.020     ppm Water   ppm   ASTM D6304   >2000   224   641.5   208.5     FLUID CLEANLINESS   method   limit/base   current   history1   history1     Particles >4µm   ASTM D7647   62994   70338   2117     Particles >6µm   ASTM D7647   >2500   ▲ 3267   ▲ 3487   182     Particles >14µm   ASTM D7647   >320   23   42   10     Particles >21µm   ASTM D7647   >20   0   1   0     Particles >38µm   ASTM D7647   >20   0   1   0     Particles >71µm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   23/19/12   23/19/13   18/15/1	Sodium	ppm	ASTM D5185m		0	<1	<1
ppm Water   ppm   ASTM D6304   >2000   224   641.5   208.5     FLUID CLEANLINESS   method   limit/base   current   history1   history1     Particles >4µm   ASTM D7647   62994   70338   2117     Particles >6µm   ASTM D7647   >2500   3267   ▲ 3487   182     Particles >6µm   ASTM D7647   >320   23   42   10     Particles >14µm   ASTM D7647   >80   3   13   2     Particles >21µm   ASTM D7647   >20   0   1   0     Particles >38µm   ASTM D7647   >20   0   1   0     Particles >71µm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   23/19/12   23/19/13   18/15/1	Potassium	ppm	ASTM D5185m	>20	1	1	<1
FLUID CLEANLINESS method limit/base current history1 histor   Particles >4 $\mu$ m ASTM D7647 62994 70338 2117   Particles >6 $\mu$ m ASTM D7647 >2500 3267 3487 182   Particles >14 $\mu$ m ASTM D7647 >320 23 42 10   Particles >21 $\mu$ m ASTM D7647 >80 3 13 2   Particles >38 $\mu$ m ASTM D7647 >20 0 1 0   Particles >71 $\mu$ m ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >/18/15 23/19/12 23/19/13 18/15/1	Water	%	ASTM D6304	>0.2	0.022	0.064	0.020
Particles >4μm ASTM D7647 62994 70338 2117   Particles >6μm ASTM D7647 >2500 3267 3487 182   Particles >14μm ASTM D7647 >320 23 42 10   Particles >14μm ASTM D7647 >80 3 13 2   Particles >21μm ASTM D7647 >20 0 1 0   Particles >38μm ASTM D7647 >20 0 1 0   Particles >71μm ASTM D7647 >4 0 0 0   Oil Cleanliness ISO 4406 (c) >/18/15 23/19/12 23/19/13 18/15/1	ppm Water	ppm	ASTM D6304	>2000	224	641.5	208.5
Particles >6μm   ASTM D7647   >2500   ▲ 3267   ▲ 3487   182     Particles >14μm   ASTM D7647   >320   23   42   10     Particles >21μm   ASTM D7647   >80   3   13   2     Particles >21μm   ASTM D7647   >80   3   13   2     Particles >38μm   ASTM D7647   >20   0   1   0     Particles >71μm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   23/19/12   23/19/13   18/15/1	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14µm   ASTM D7647   >320   23   42   10     Particles >21µm   ASTM D7647   >80   3   13   2     Particles >38µm   ASTM D7647   >20   0   1   0     Particles >38µm   ASTM D7647   >20   0   1   0     Particles >71µm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   ▲ 23/19/12   ▲ 23/19/13   18/15/1	Particles >4µm		ASTM D7647		62994	70338	2117
Particles >21μm   ASTM D7647   >80   3   13   2     Particles >38μm   ASTM D7647   >20   0   1   0     Particles >71μm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   ▲ 23/19/12   ▲ 23/19/13   18/15/1			ASTM D7647	>2500	<b>3267</b>	▲ 3487	182
Particles >38μm   ASTM D7647   >20   0   1   0     Particles >71μm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15 <b>23/19/12</b> 23/19/13   18/15/1	Particles >14µm		ASTM D7647	>320	23	42	10
Particles >71μm   ASTM D7647   >4   0   0   0     Oil Cleanliness   ISO 4406 (c)   >/18/15   ▲ 23/19/12   ▲ 23/19/13   18/15/1	Particles >21µm		ASTM D7647	>80	3	13	2
Oil Cleanliness ISO 4406 (c) >/18/15 ▲ 23/19/12 ▲ 23/19/13 18/15/1	Particles >38µm		ASTM D7647	>20	0	1	0
	Particles >71µm		ASTM D7647	>4	0	0	0
FLUID DEGRADATION method limit/base current history1 histor	Oil Cleanliness		ISO 4406 (c)	>/18/15	<b>23/19/12</b>	▲ 23/19/13	18/15/10
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 0.05 0.089 0.10 0.10	Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	0.089	0.10	0.10



## **OIL ANALYSIS REPORT**







VISUAL		method	limit/base	current	history1	history2
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	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	49.7	47.8	50.6	50.3
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					Blower Blower #2 WC ID: 3170914 LANMEL	Wer Hr # 2 W170914

Bottom

