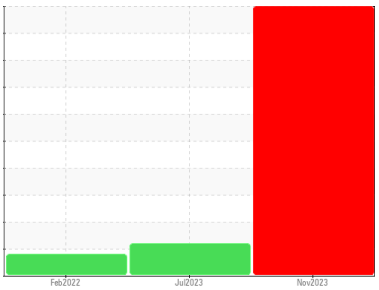
PROBLEM SUMMARY

Sample Rating Trend

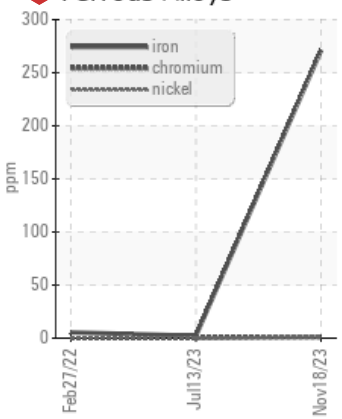


VISUAL METAL

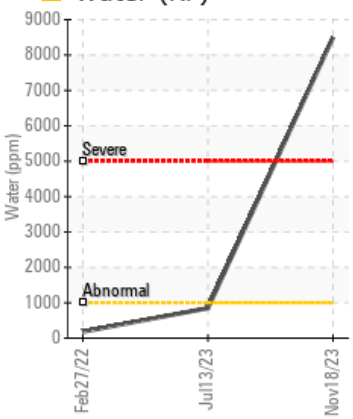
Machine Id
TENDER MV PUMP (S/N 5590472)
Component
Vacuum Pump
Fluid
USPI VAC 100 (--- GAL)

COMPONENT CONDITION SUMMARY

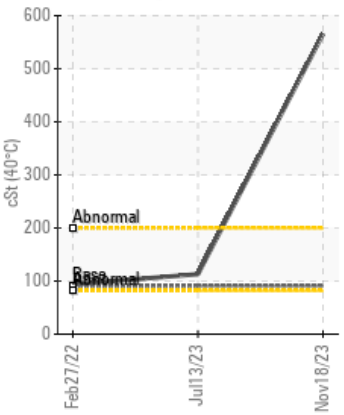
Ferrous Alloys



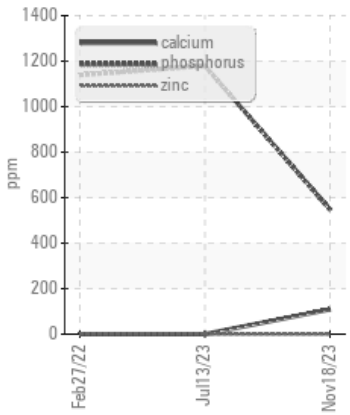
Water (KF)



Viscosity @ 40°C



Additives



RECOMMENDATION

We advise that you inspect for the source(s) of wear. We advise an early resample to confirm this situation. We were unable to perform a particle count due to a high concentration of particles present in this sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>20	**271**	2	6
Calcium	ppm	ASTM D5185m	0	**109**	<1	0
Phosphorus	ppm	ASTM D5185m	1800	**548**	1179	1139
Zinc	ppm	ASTM D5185m	0	**0**	0	0
Sulfur	ppm	ASTM D5185m	0	**11180**	4	0
Water	%	ASTM D6304	>.1	**0.850**	0.084	0.018
ppm Water	ppm	ASTM D6304	>1000	**8500**	848.2	182.1
White Metal	scalar	*Visual	NONE	**HEAVY**	NONE	NONE
Silt	scalar	*Visual	NONE	**HEAVY**	NONE	NONE
Debris	scalar	*Visual	NONE	**HEAVY**	LIGHT	NONE
Emulsified Water	scalar	*Visual	>.1	**0.2%**	NEG	NEG
Visc @ 40°C	cSt	ASTM D445	91	**565.6**	113	94.1

Customer Id: JBSBEA
Sample No.: USPM31300
Lab Number: 06010906
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Resample	---	---	?	We advise an early resample to confirm this situation.
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.

HISTORICAL DIAGNOSIS

13 Jul 2023 Diag: Doug Bogart

ISO

Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

27 Feb 2022 Diag: Doug Bogart

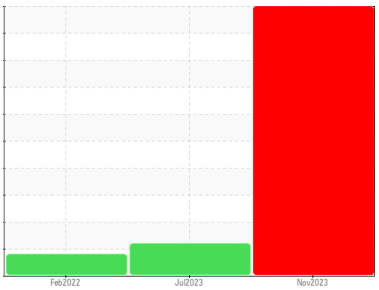
ISO

Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL

Machine Id
TENDER MV PUMP (S/N 5590472)
Component
Vacuum Pump
Fluid
USPI VAC 100 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you inspect for the source(s) of wear. We advise an early resample to confirm this situation. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear
The iron level is severe. High concentration of visible metal present.

Contamination
High concentration of visible dirt/debris present in the oil. There is a high amount of visible silt present in the sample. There is a moderate concentration of water present in the oil.

Fluid Condition
The oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirmed. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USPM31300**	USPM27399	USPM21032
Sample Date		Client Info		**18 Nov 2023**	13 Jul 2023	27 Feb 2022
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	● **271**	2	6
Chromium	ppm	ASTM D5185m	>20	**<1**	0	0
Nickel	ppm	ASTM D5185m	>20	**1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	1	<1
Lead	ppm	ASTM D5185m	>20	**<1**	0	<1
Copper	ppm	ASTM D5185m	>20	**17**	0	0
Tin	ppm	ASTM D5185m	>20	**<1**	0	<1
Antimony	ppm	ASTM D5185m		**---**	---	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**2**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**3**	0	0
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	0
Manganese	ppm	ASTM D5185m		**2**	<1	0
Magnesium	ppm	ASTM D5185m	0	**8**	3	0
Calcium	ppm	ASTM D5185m	0	▲ **109**	<1	0
Phosphorus	ppm	ASTM D5185m	1800	▲ **548**	1179	1139
Zinc	ppm	ASTM D5185m	0	▲ **0**	0	0
Sulfur	ppm	ASTM D5185m	0	▲ **11180**	4	0

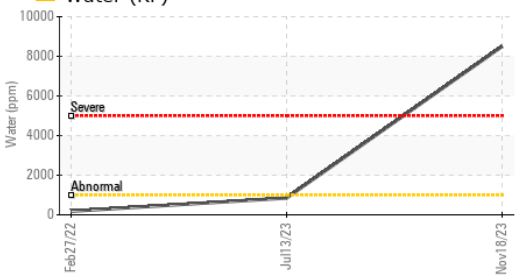
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**5**	2	14
Sodium	ppm	ASTM D5185m		**12**	<1	0
Potassium	ppm	ASTM D5185m	>20	**20**	2	<1
Water	%	ASTM D6304	>.1	▲ **0.850**	0.084	0.018
ppm Water	ppm	ASTM D6304	>1000	▲ **8500**	848.2	182.1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**---**	▲ 65462	▲ 114278
Particles >6µm		ASTM D7647	>1300	**---**	▲ 12134	▲ 15760
Particles >14µm		ASTM D7647	>160	**---**	149	142
Particles >21µm		ASTM D7647	>40	**---**	20	30
Particles >38µm		ASTM D7647	>10	**---**	0	7
Particles >71µm		ASTM D7647	>3	**---**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**---**	▲ 23/21/14	▲ 24/21/14

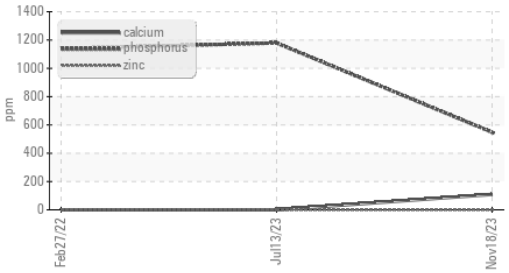
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.05	**1.04**	0.049	0.063

OIL ANALYSIS REPORT

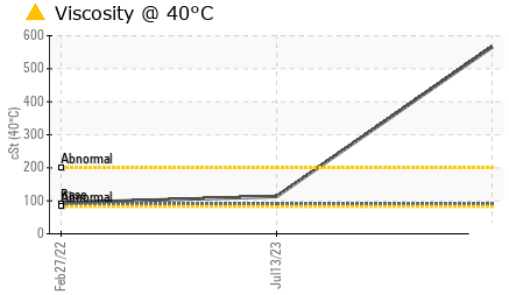
Water (KF)



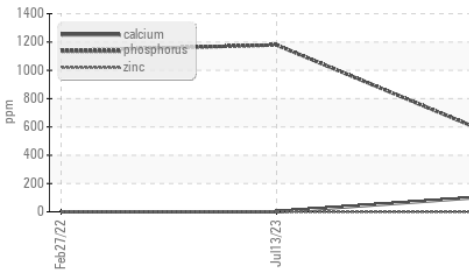
Additives



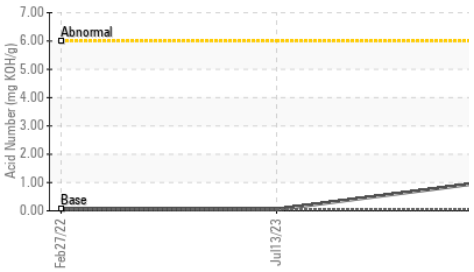
Viscosity @ 40°C



Additives

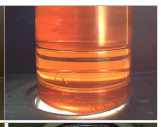
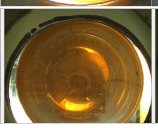
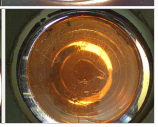


Acid Number



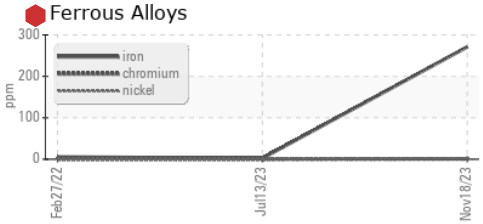
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	HEAVY	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	HEAVY	NONE	NONE
Debris	scalar	*Visual	NONE	HEAVY	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.1	0.2%	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	91	565.6	113	94.1

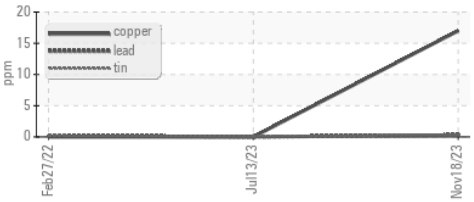
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

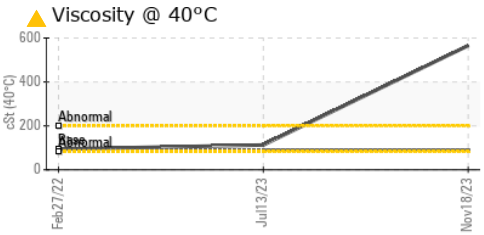
Ferrous Alloys



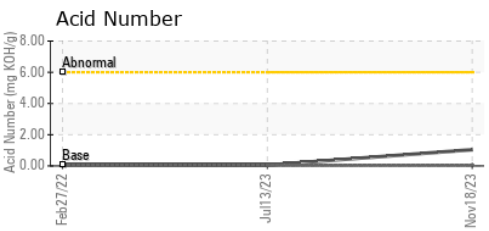
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USPM31300
Lab Number : 06010906
Unique Number : 10750050
Test Package : IND 2

Received : 17 Nov 2023
Diagnosed : 22 Nov 2023
Diagnostician : Doug Bogart

JBS - BEARDSTOWN
8295 ARENZVILLE RD
BEARDSTOWN, IL
US 62618
Contact:

T:
F:

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)