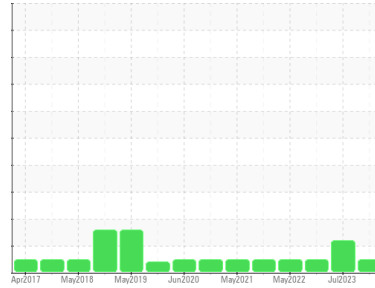




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**PARTS**  
Machine Id  
**IOWA PERCISION EXPANDREL (S/N UC0003)**  
Component  
**Hydraulic System**  
Fluid  
**ESSO UNIVIS N 46 (150 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

### Fluid Condition

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

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0884861</b>	WC0830451	WC0753857
Sample Date	Client Info		<b>10 Jan 2024</b>	17 Jul 2023	04 Dec 2022
Machine Age	mths	Client Info	<b>0</b>	0	0
Oil Age	mths	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	ATTENTION	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Chromium	ppm	ASTM D5185m >20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >20	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	0	0
Lead	ppm	ASTM D5185m >20	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	<b>0</b>	1	0
Molybdenum	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	<b>0</b>	0	0
Calcium	ppm	ASTM D5185m	<b>42</b>	50	49
Phosphorus	ppm	ASTM D5185m	<b>364</b>	378	383
Zinc	ppm	ASTM D5185m	<b>440</b>	495	491
Sulfur	ppm	ASTM D5185m	<b>1453</b>	2949	3140

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
Sodium	ppm	ASTM D5185m	<b>0</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>1</b>	<1	0
Water	%	ASTM D6304 >0.05	<b>NEG</b>	NEG	NEG

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>2009</b>	▲ 6128	3232
Particles >6µm	ASTM D7647	>1300	<b>315</b>	▲ 1716	642
Particles >14µm	ASTM D7647	>160	<b>24</b>	112	31
Particles >21µm	ASTM D7647	>40	<b>7</b>	24	17
Particles >38µm	ASTM D7647	>10	<b>1</b>	1	4
Particles >71µm	ASTM D7647	>3	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>18/15/12</b>	▲ 20/18/14	19/17/12

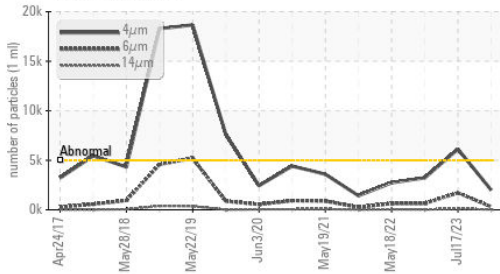
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.33</b>	0.33	0.33

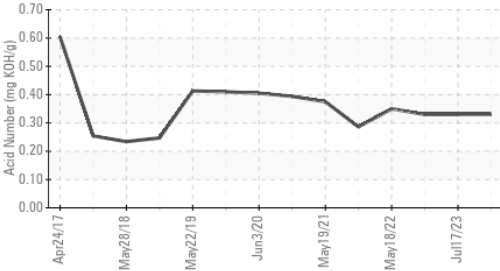


# OIL ANALYSIS REPORT

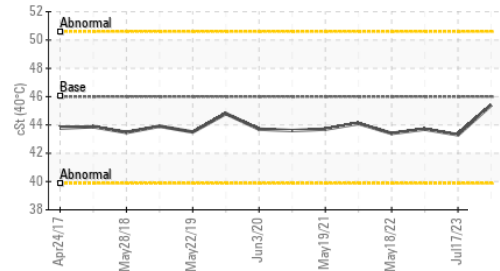
Particle Trend



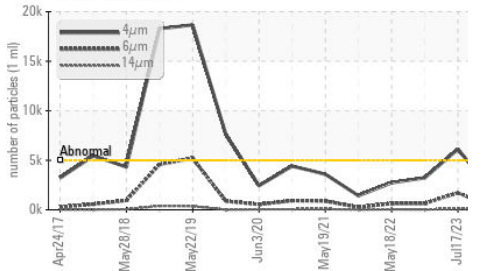
Acid Number



Viscosity @ 40°C



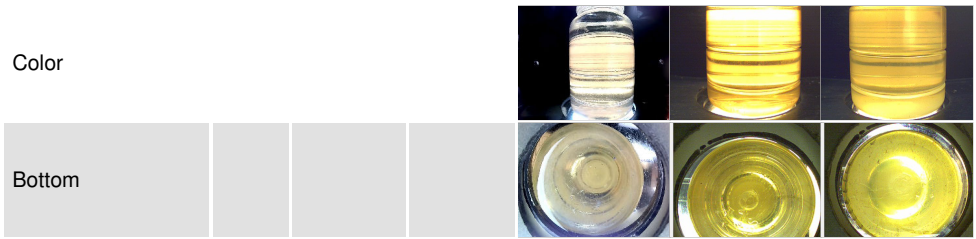
Particle Trend



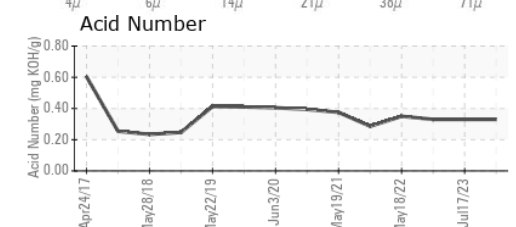
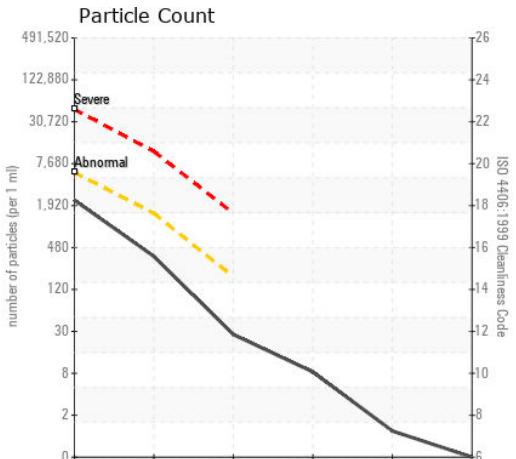
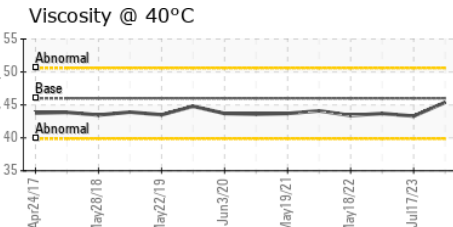
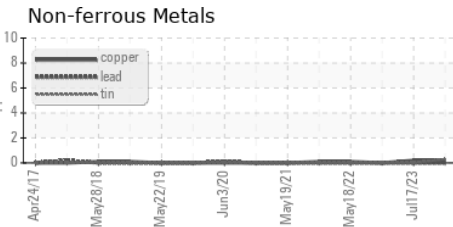
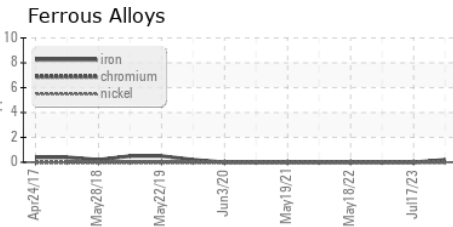
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	VLITE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	45.4	43.3	43.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0884861 **Received** : 11 Jan 2024  
**Lab Number** : 06058059 **Diagnosed** : 12 Jan 2024  
**Unique Number** : 10829441 **Diagnostician** : Doug Bogart  
**Test Package** : PLANT

**LUND BOATS**  
 318 WEST GILMAN ST  
 NEW YORK MILLS, MN  
 US 56567  
 Contact: TODD PITMAN  
 todd.pitman@lundboats.com  
 T:  
 F:

Certificate L2367  
 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)