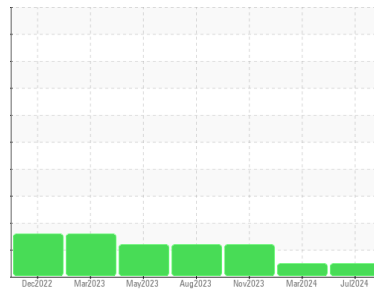




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**DHT**  
 Machine Id  
**[DHT] TOTE 21 - TURBINE 150**  
 Component  
**New (Unused) Oil**  
 Fluid  
**BELRAY Turbine Oil 150 (1000 GAL)**

**DIAGNOSIS**

**Recommendation**

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>RP0042850</b>	RP0042876	RP0038970
Sample Date	Client Info			<b>12 Jul 2024</b>	08 Mar 2024	28 Nov 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>Not Changed</b>	Not Changed	Not Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>5	<b>0</b>	0	2
Lead	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Tin	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

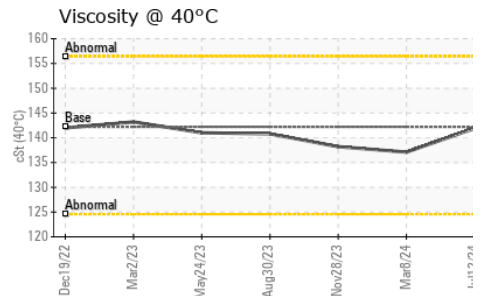
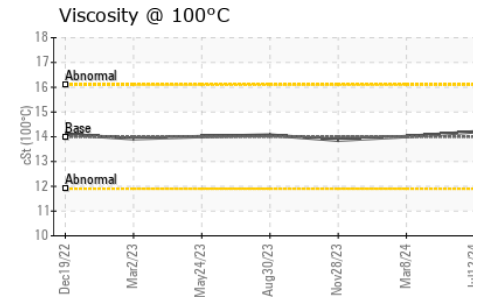
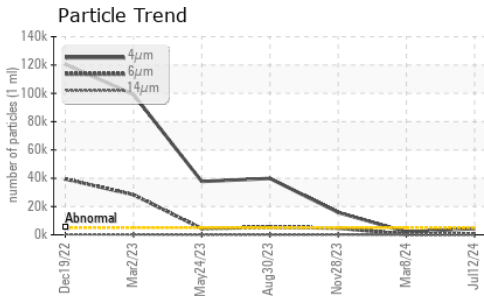
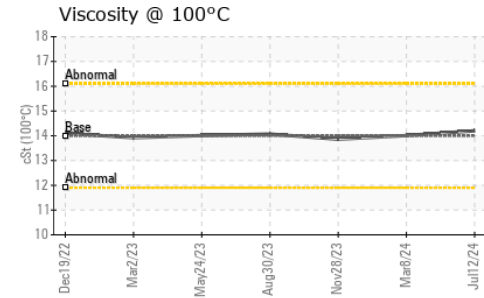
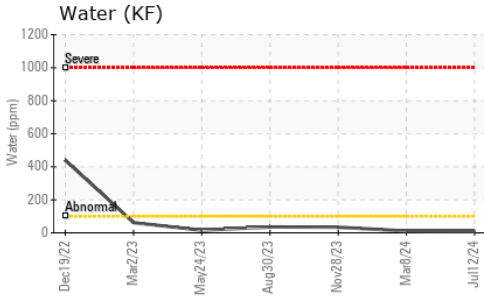
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m		<b>3</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>9</b>	0	8
Calcium	ppm	ASTM D5185m		<b>26</b>	15	19
Phosphorus	ppm	ASTM D5185m		<b>52</b>	27	42
Zinc	ppm	ASTM D5185m		<b>27</b>	0	6

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>2</b>	2	3
Sodium	ppm	ASTM D5185m		<b>2</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Water	%	ASTM D6304		<b>0.001</b>	0.001	0.003
ppm Water	ppm	ASTM D6304		<b>8</b>	11	34

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	<b>4382</b>	2030	▲ 15798
Particles >6µm		ASTM D7647	>1300	<b>777</b>	403	▲ 4727
Particles >14µm		ASTM D7647	>160	<b>36</b>	14	157
Particles >21µm		ASTM D7647	>40	<b>9</b>	4	9
Particles >38µm		ASTM D7647	>10	<b>0</b>	1	4
Particles >71µm		ASTM D7647	>3	<b>0</b>	1	4
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>19/17/12</b>	18/16/11	▲ 21/19/14

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.082</b>	0.084	0.089

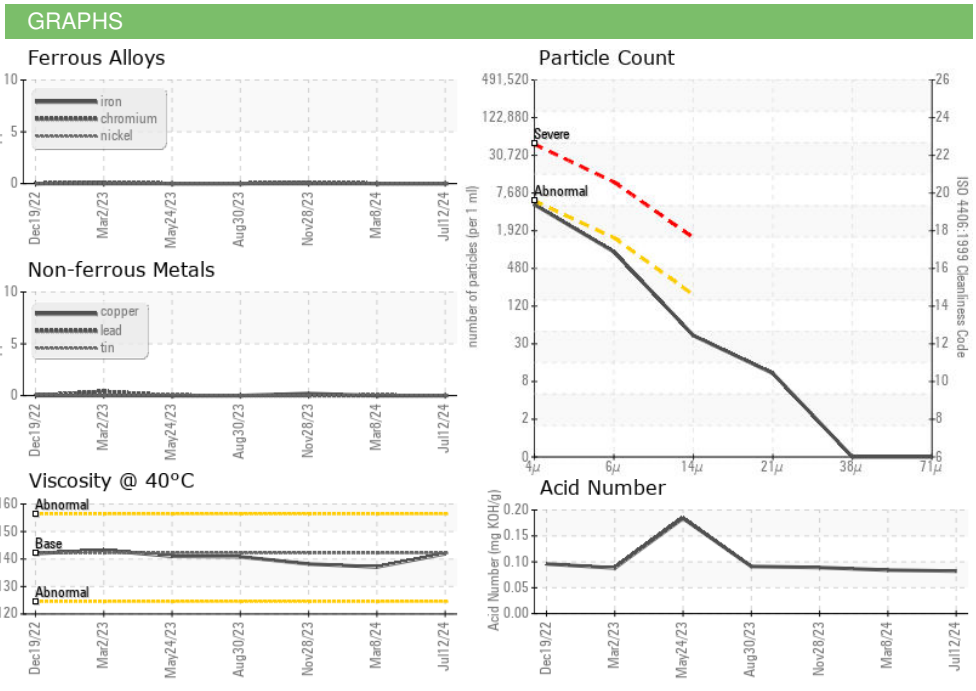
# OIL ANALYSIS REPORT



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	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	142.2	137.1	138.2
Visc @ 100°C	cSt	ASTM D445	14.0	14.01	13.86
Viscosity Index (VI)	Scale	ASTM D2270	99	98	96

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0042850  
**Lab Number** : 06238318  
**Unique Number** : 11127152  
**Test Package** : IND 2 ( Additional Tests: FT-IR, KV100, PrtCount, VI )  
**Received** : 16 Jul 2024  
**Tested** : 19 Jul 2024  
**Diagnosed** : 19 Jul 2024 - Jonathan Hester

**CALUMET**  
 3333 MIDWAY AVENUE  
 SHREVEPORT, LA  
 US 71109  
 Contact: NICHOLAS LESAGE  
 nicholas.lesage@clmt.com

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)