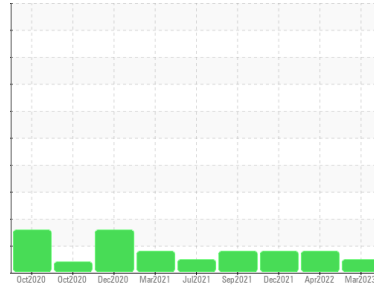


# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**Red Bluff Plant/Cryogenic/Compressor**  
 Machine Id  
**FRICK C-161**  
 Component  
**Rotary Compressor**  
 Fluid  
**TULCO LUBSOIL SYN RL WI 100 (250 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>TO90002291</b>	TO9012037	TO90001647
Sample Date	Client Info			<b>14 Mar 2023</b>	28 Apr 2022	20 Dec 2021
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>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	ATTENTION	ATTENTION

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>70	<b>3</b>	2	<1
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>3	<b>1</b>	0	0
Lead	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Tin	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185m		<b>---</b>	---	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

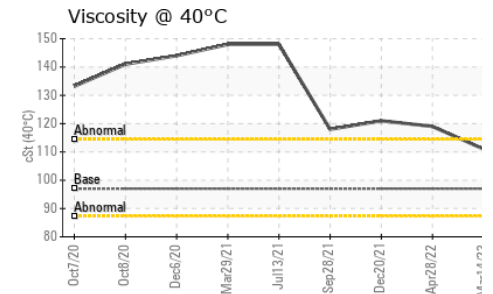
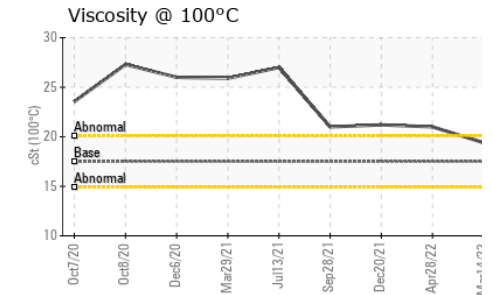
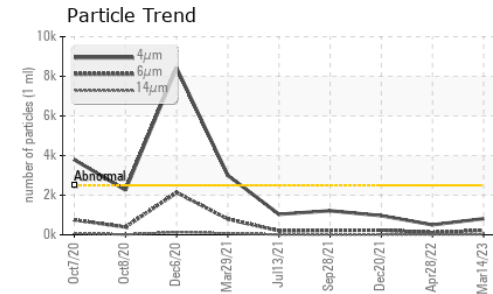
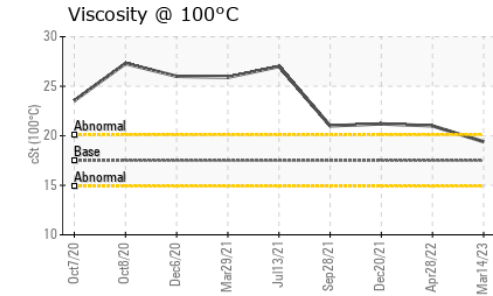
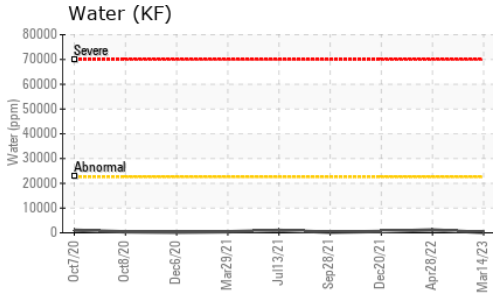
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	2	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>9</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Calcium	ppm	ASTM D5185m		<b>8</b>	<1	1
Phosphorus	ppm	ASTM D5185m	1500	<b>1106</b>	833	677
Zinc	ppm	ASTM D5185m		<b>15</b>	4	3
Sulfur	ppm	ASTM D5185m		<b>39</b>	25	42

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>45	<b>1</b>	1	<1
Sodium	ppm	ASTM D5185m		<b>2</b>	2	0
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	1	0
Water	%	ASTM D6304	>2.26	<b>0.011</b>	0.117	0.056
ppm Water	ppm	ASTM D6304	>22600	<b>118.5</b>	1179.5	563.4

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	<b>813</b>	504	966
Particles >6µm		ASTM D7647	>320	<b>218</b>	115	233
Particles >14µm		ASTM D7647	>80	<b>20</b>	14	15
Particles >21µm		ASTM D7647	>20	<b>4</b>	5	3
Particles >38µm		ASTM D7647	>4	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>18/15/13	<b>17/15/11</b>	16/14/11	17/15/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.04	<b>0.029</b>	0.046	0.014

# OIL ANALYSIS REPORT

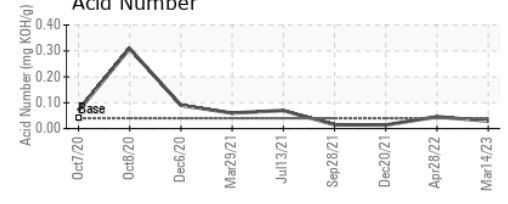
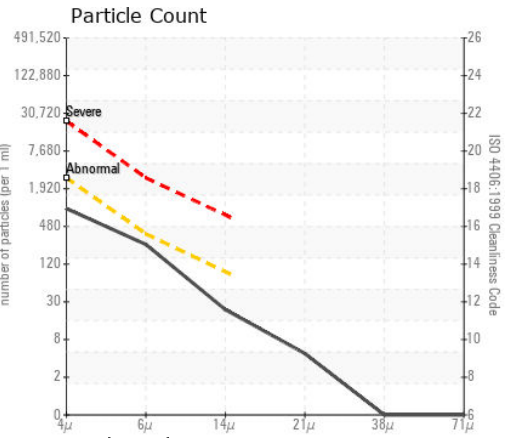
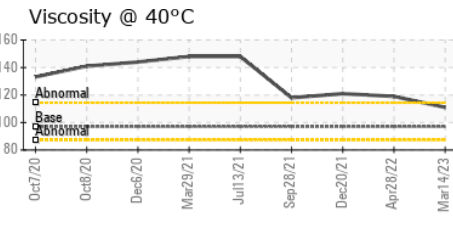
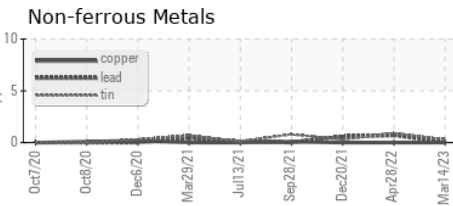
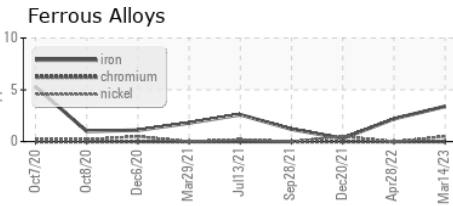


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>2.26	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	97	111	119	121
Visc @ 100°C	cSt	ASTM D445	17.5	19.4	21.0	21.2
Viscosity Index (VI)	Scale	ASTM D2270	198	197	203	202

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO90002291  
**Lab Number** : 05797366  
**Unique Number** : 10387050  
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

**ENERGY TRANSFER - RED BLUFF/ORLA PLANT**  
 770 CR 437  
 ORLA, TX  
 US 79770

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: STUART TAYLOR  
 stuart.taylor@energytransfer.com

\* - 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)

T:  
F: