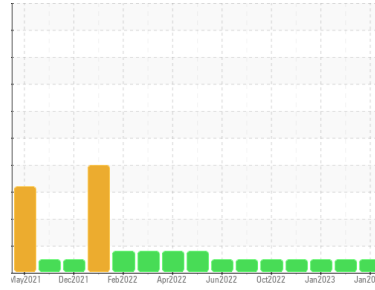


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
C-2001
Machine Id
C-2001 (S/N C-2920627-01)
Component
Centrifugal Compressor
Fluid
TULCO LUBSOIL 2000 SERIES SYN FLUID 2046 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

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			TO60000699	TO10000424	TO60000005
Sample Date	Client Info			08 Jan 2024	14 Feb 2023	23 Jan 2023
Machine Age	hrs	Client Info		12517	12205	12133
Oil Age	hrs	Client Info		312	7457	12133
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	0	0	<1
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	<1	0
Lead	ppm	ASTM D5185m	>25	<1	1	1
Copper	ppm	ASTM D5185m	>50	0	2	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

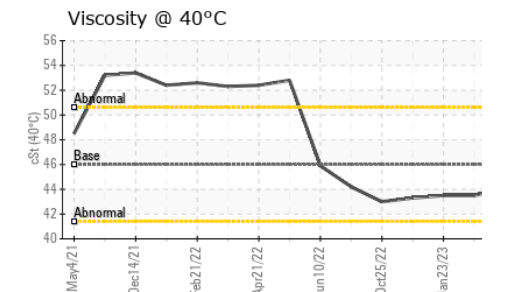
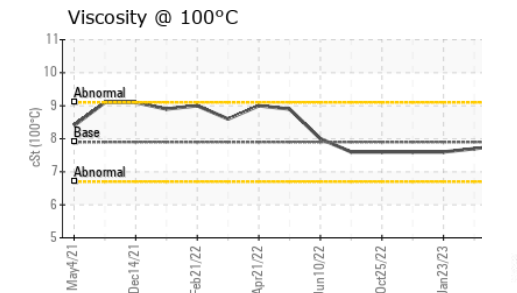
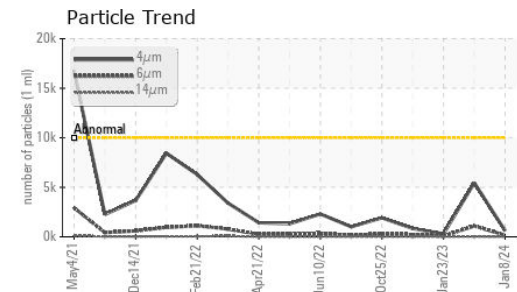
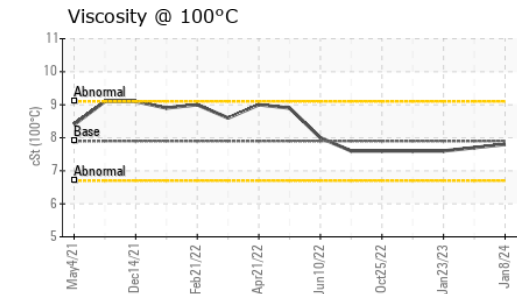
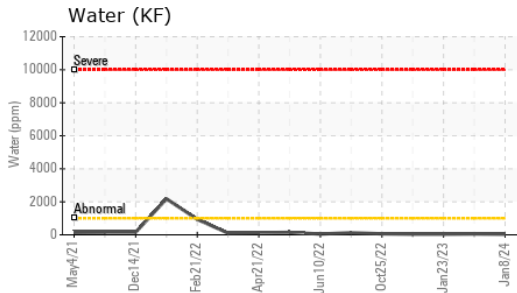
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		0	0	0
Calcium	ppm	ASTM D5185m		0	4	4
Phosphorus	ppm	ASTM D5185m		129	161	144
Zinc	ppm	ASTM D5185m		2	9	8
Sulfur	ppm	ASTM D5185m		1082	1397	1274

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	0	<1	<1
Sodium	ppm	ASTM D5185m		0	<1	1
Potassium	ppm	ASTM D5185m	>20	0	0	0
Water	%	ASTM D6304	>0.1	0.003	0.005	0.004
ppm Water	ppm	ASTM D6304	>1000	35	52.1	40.0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	620	5453	300
Particles >6µm		ASTM D7647	>2500	158	1104	74
Particles >14µm		ASTM D7647	>320	9	23	8
Particles >21µm		ASTM D7647	>80	2	3	2
Particles >38µm		ASTM D7647	>20	0	0	0
Particles >71µm		ASTM D7647	>4	0	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	16/14/10	20/17/12	15/13/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.382	0.381	0.306

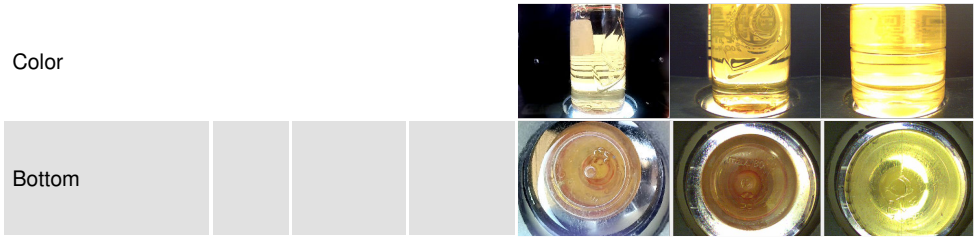
OIL ANALYSIS REPORT



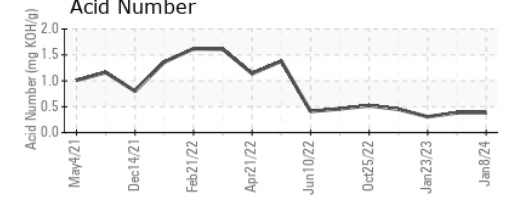
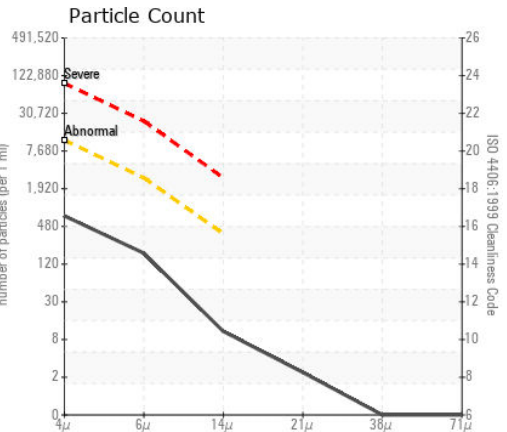
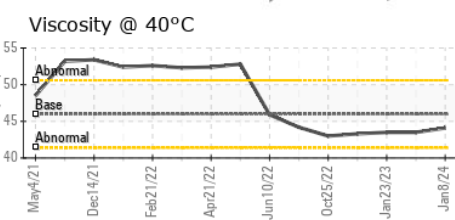
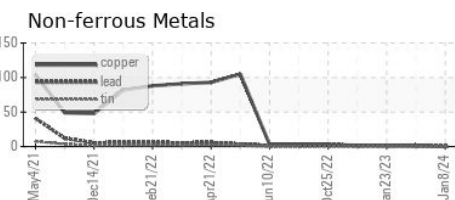
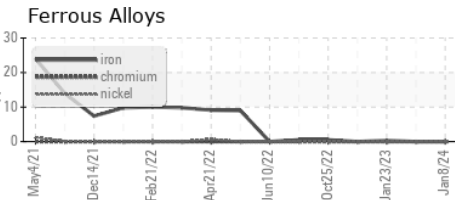
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	44.1	43.5
Visc @ 100°C	cSt	ASTM D445	7.9	7.8	7.6
Viscosity Index (VI)	Scale	ASTM D2270	138	147	146

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60000699 **Received** : 11 Jan 2024
Lab Number : 06058172 **Diagnosed** : 12 Jan 2024
Unique Number : 10829554 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

TRANSCONTINENTAL GAS PIPELINE - CARLSTADT
 718 PATTERSON PLANK RD
 CARLSTADT, NJ
 US 07072
 Contact: RICHIE GUIMOND
 richie.guimond@williams.com
 T: (830)267-1263
 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)