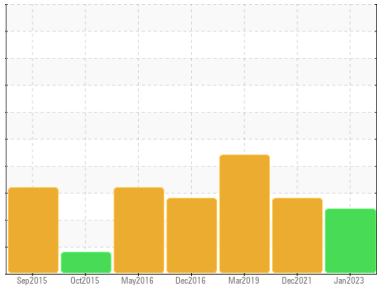
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
270 (S/N 0098)
Component
Hydraulic System
Fluid
CHEVRON 1000 THF (110 GAL)

DIAGNOSIS

▲ Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample at the next service interval to monitor. (Customer Sample Comment: 12309.3 hours)

Wear

All component wear rates are normal.

▲ Contamination

Appearance is unacceptable. There is a moderate concentration of water present 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PTK0003775**	PTK0002597	PTKM2325427
Sample Date		Client Info		**09 Jan 2023**	02 Dec 2021	18 Mar 2019
Machine Age	hrs	Client Info		**12309**	12159	10721
Oil Age	hrs	Client Info		**12309**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**12**	13	▲ 26
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>10	**2**	0	1
Lead	ppm	ASTM D5185m	>10	**4**	7	7
Copper	ppm	ASTM D5185m	>75	**49**	50	▲ 98
Tin	ppm	ASTM D5185m	>10	**<1**	<1	1
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	10	**47**	57	8
Barium	ppm	ASTM D5185m		**0**	0	<1
Molybdenum	ppm	ASTM D5185m		**18**	20	2
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	20	**87**	99	22
Calcium	ppm	ASTM D5185m	3200	**2543**	2787	1306
Phosphorus	ppm	ASTM D5185m	1100	**1028**	1156	758
Zinc	ppm	ASTM D5185m	1400	**1104**	1179	850
Sulfur	ppm	ASTM D5185m	3600	**5448**	3930	4906

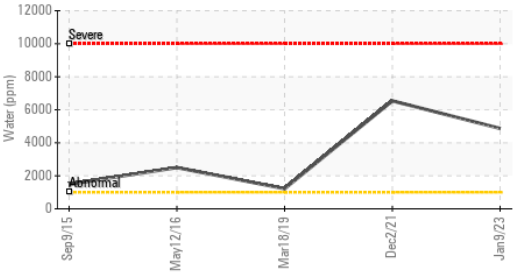
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**6**	6	4
Sodium	ppm	ASTM D5185m		**4**	<1	4
Potassium	ppm	ASTM D5185m	>20	**2**	3	2
Water	%	ASTM D6304	>0.1	▲ **0.487**	▲ 0.654	▲ 0.122
ppm Water	ppm	ASTM D6304	>1000	▲ **4870**	▲ 6540	▲ 1220

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**1418**	149259	254458
Particles >6µm		ASTM D7647	>2500	**772**	▲ 30758	▲ 73813
Particles >14µm		ASTM D7647	>320	**131**	▲ 618	269
Particles >21µm		ASTM D7647	>80	**44**	▲ 132	15
Particles >38µm		ASTM D7647	>20	**7**	5	0
Particles >71µm		ASTM D7647	>4	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/15	**17/14**	▲ 24/22/16	▲ 25/23/15

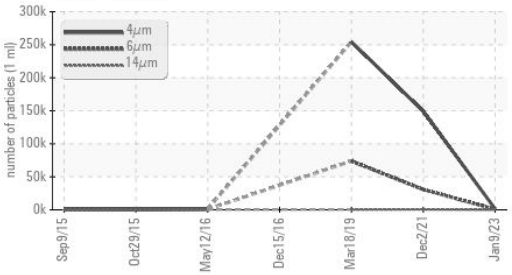
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.6	**1.65**	1.429	1.339

OIL ANALYSIS REPORT

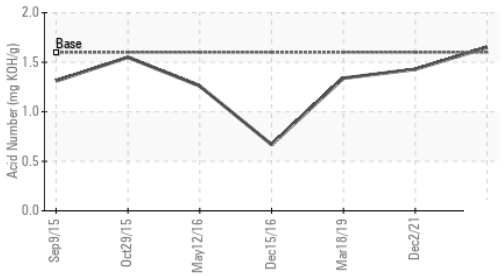
Water (KF)



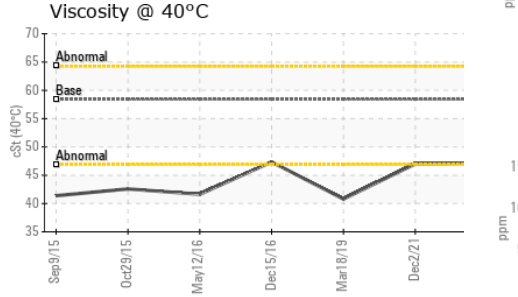
Particle Trend



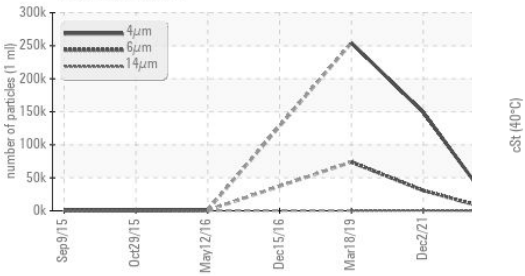
Acid Number



Viscosity @ 40°C

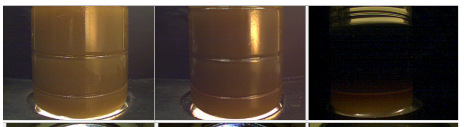
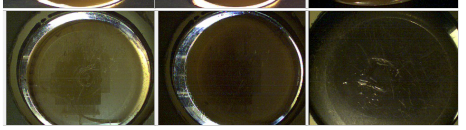


Particle Trend



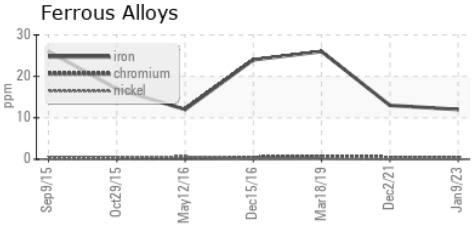
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**LIGHT**	LIGHT	VLITE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	▲ **MILKY**	NORML	▲ HAZY
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**0.2%**	0.2%	0.2%
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	58.4	**47.2**	47.0	40.8

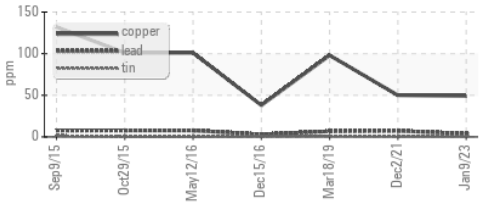
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

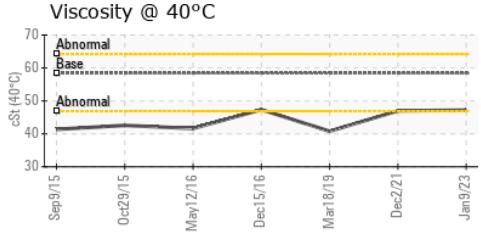
Ferrous Alloys



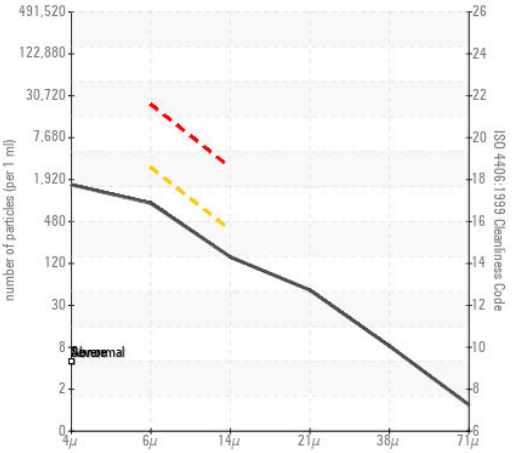
Non-ferrous Metals



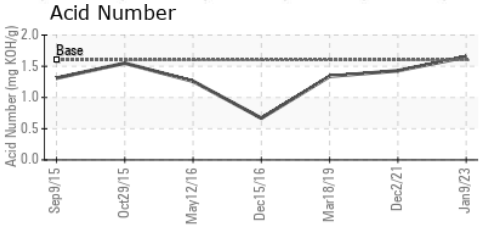
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PTK0003775 **Recieved** : 06 Feb 2023
Lab Number : 05759423 **Diagnosed** : 08 Feb 2023
Unique Number : 10324030 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: KF)

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)

DRILLING SERVICE
13230 FERGUSON LN
BRIDGETON, MO
US 63044
Contact: BRUCE MURPHY
bdmurphy@drillingserviceco.com
T: (314)291-1111
F: (314)291-1115

Report Id: DRIBRI [WUSCAR] 05759423 (Generated: 12/29/2023 08:30:42) Rev: 1

Submitted By: AUSTIN GOUGH