



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

Furnaces

Machine Id

32-164

Component

Gear Reducer

Fluid

ESSO SPARTAN EP 220 (--- GAL)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

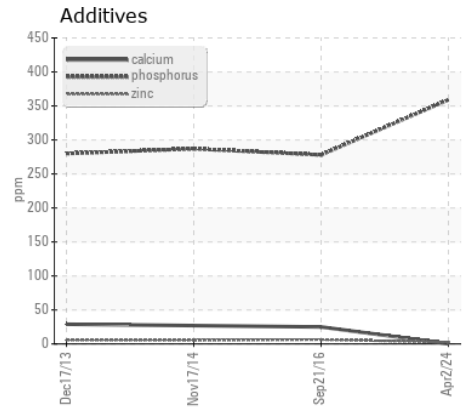
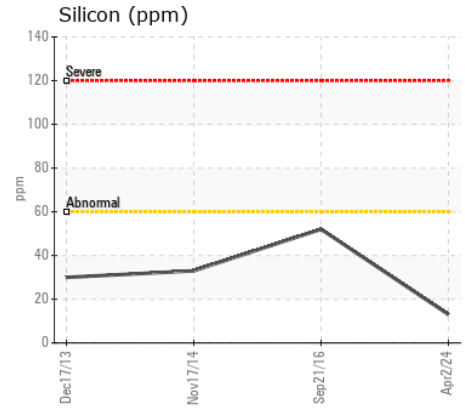
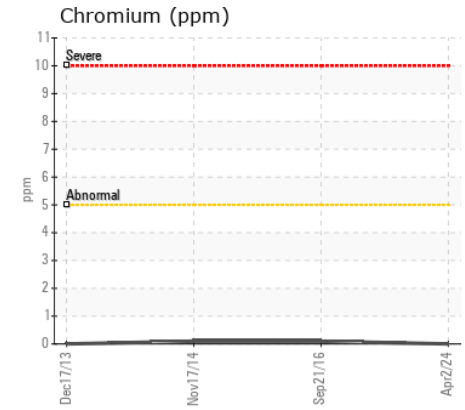
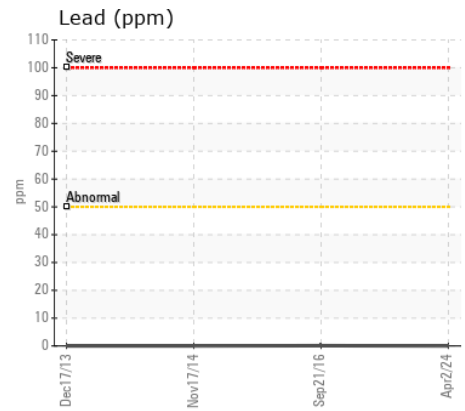
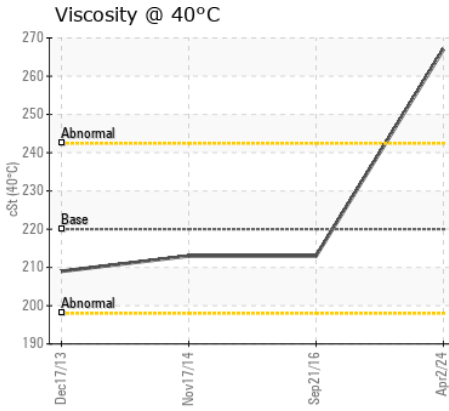
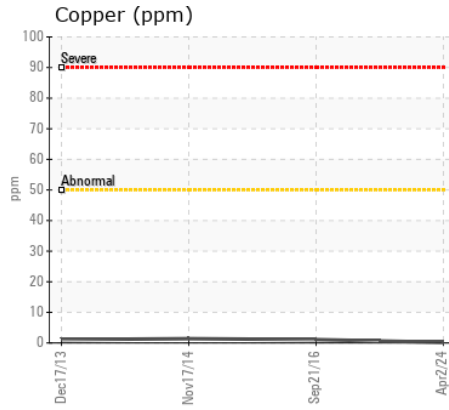
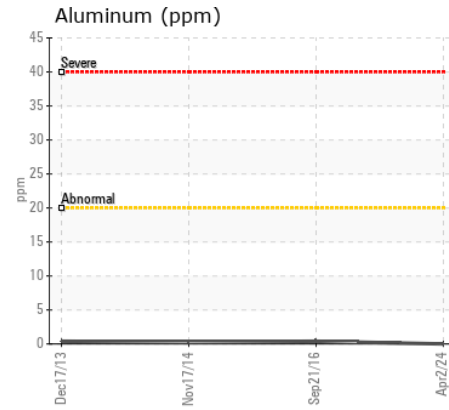
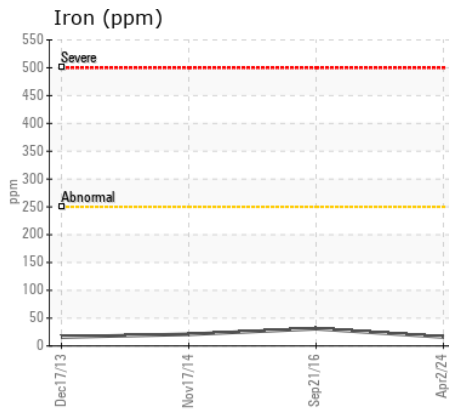
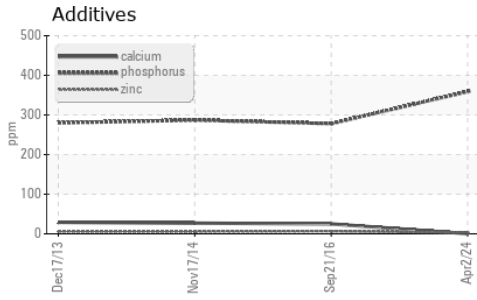
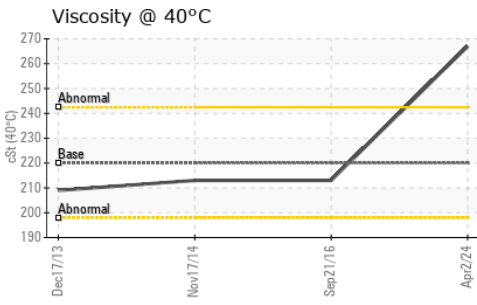
The oil viscosity is higher than typical. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0884671	WC0279177	WC0261477
Sample Date		Client Info		02 Apr 2024	21 Sep 2016	17 Nov 2014
Machine Age	days	Client Info		0	0	0
Oil Age	days	Client Info		0	0	0
Filter Age	days	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

Iron	ppm	ASTM D5185(m)	>250	16	31	21
Chromium	ppm	ASTM D5185(m)	>5	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	0	<1	<1
Lead	ppm	ASTM D5185(m)	>50	0	<1	0
Copper	ppm	ASTM D5185(m)	>50	<1	1	1
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185(m)	>60	13	52	33
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)	.5	15	18	24
Barium	ppm	ASTM D5185(m)		0	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	0	<1	1	2
Calcium	ppm	ASTM D5185(m)	1.7	<1	25	27
Phosphorus	ppm	ASTM D5185(m)	250	359	278	287
Zinc	ppm	ASTM D5185(m)	.3	2	6	6
Sulfur	ppm	ASTM D5185(m)		3767	7076	7754
Visc @ 40°C	cSt	ASTM D7279(m)	220	267	213	213



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0884671
Lab Number : 02627501
Unique Number : 5760633
Test Package : MOB 1
Received : 08 Apr 2024
Tested : 09 Apr 2024
Diagnosed : 09 Apr 2024 - Kevin Marson

Vale - Copper Cliff Smelter
 COPPER CLIFF SMELTER WAREHOUSE, 155 BALSAM ST.
 COPPER CLIFF, ON
 CA P0M 1N0
 Contact: Andy Kozachanko
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 F: (705)682-6939

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.