

NORMAL



Machine Id
DENISON SMALL TEST STAND
 Component
Hydraulic System
 Fluid
APOLLO MULTIGUARD 46 (200 GAL)

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			ST46240	ST42000	ST44719
Sample Date	Client Info			03 Jun 2024	10 Nov 2023	03 Apr 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	2	1	0
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>20	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>20	<1	<1	0
Copper	ppm	ASTM D5185m	>20	25	▲ 24	15
Tin	ppm	ASTM D5185m	>20	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0

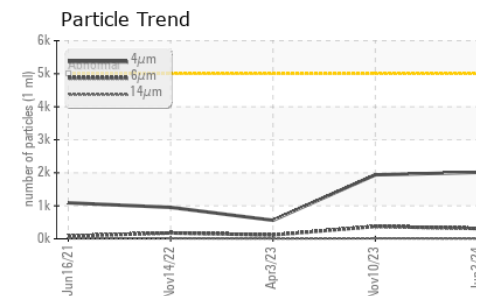
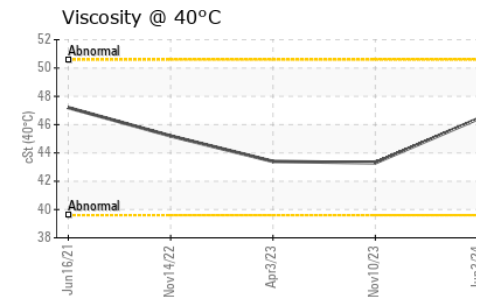
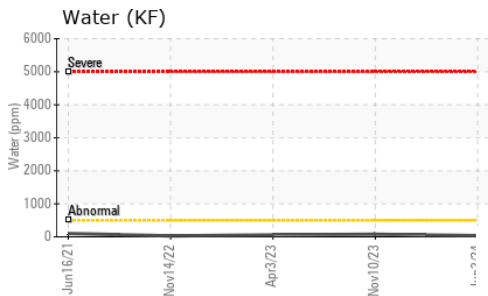
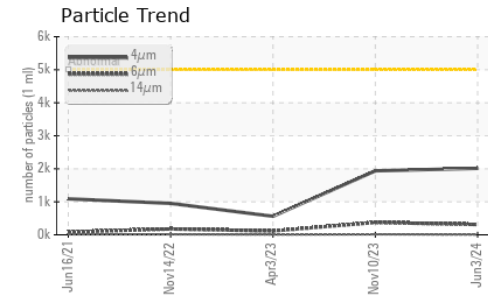
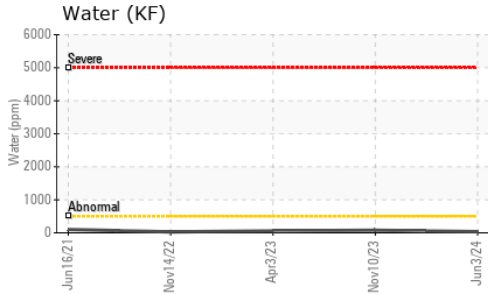
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		15	<1	4
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		4	5	8
Calcium	ppm	ASTM D5185m		60	62	72
Phosphorus	ppm	ASTM D5185m		335	303	346
Zinc	ppm	ASTM D5185m		414	424	401
Sulfur	ppm	ASTM D5185m		952	1085	737

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	2	2	<1
Sodium	ppm	ASTM D5185m		0	0	0
Potassium	ppm	ASTM D5185m	>20	<1	1	0
Water	%	ASTM D6304	>0.05	0.003	0.007	0.005
ppm Water	ppm	ASTM D6304	>500	35	78	58.5

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	2013	1938	562
Particles >6µm		ASTM D7647	>640	313	374	115
Particles >14µm		ASTM D7647	>80	6	15	9
Particles >21µm		ASTM D7647	>20	2	3	2
Particles >38µm		ASTM D7647	>4	0	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/16/13	18/15/10	18/16/11	16/14/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.36	0.35	0.41

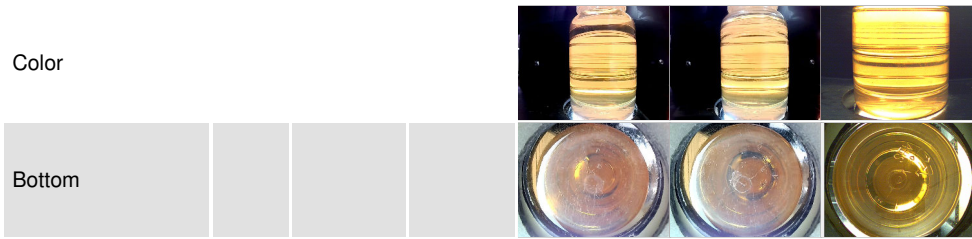
OIL ANALYSIS REPORT



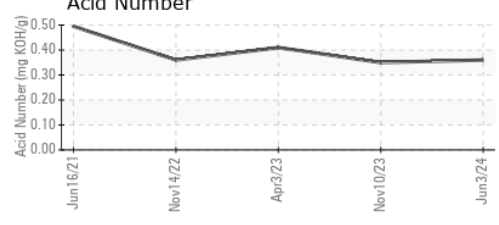
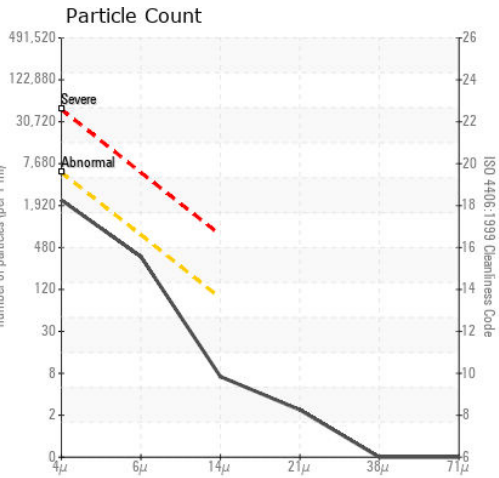
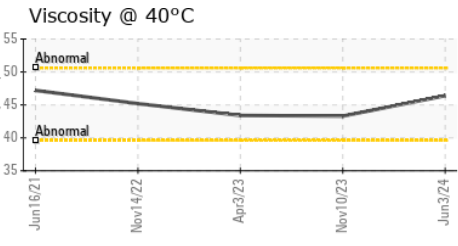
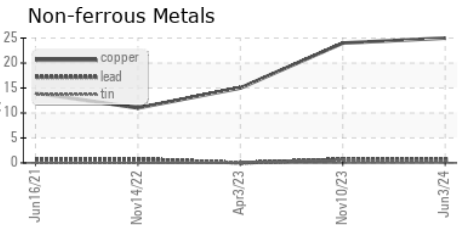
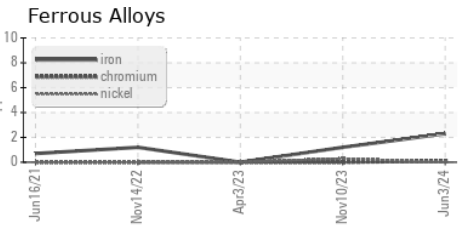
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46.4	43.3	43.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ST46240
Lab Number : 06209228
Unique Number : 11076689
Test Package : IND 2 (Additional Tests: KF)
Received : 13 Jun 2024
Tested : 16 Jun 2024
Diagnosed : 16 Jun 2024 - Doug Bogart

FLUID POWER SOLUTIONS
 4400 Edgewyn Ave.
 Hilliard, OH
 US 43026
 Contact: NICK MCKINNON
 nmckinnon@fluid-power-solutions.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)