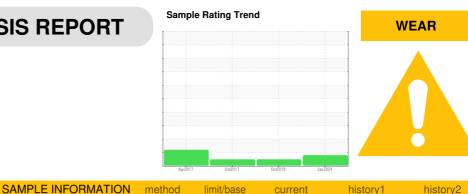


OIL ANALYSIS REPORT



NISSEI C-01 (S18P029) Component

Hydraulic System

AW HYDRAULIC OIL ISO 46 (182 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

A Wear

The copper level is abnormal. All other 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.

		methou	IIIIII/Dase	current	TIStory	Thistory 2
Sample Number		Client Info		WC0883600	WC0385795	WCI2301818
Sample Date		Client Info		16 Jan 2024	31 Oct 2019	21 Oct 2017
Machine Age	yrs	Client Info		0	0	0
Oil Age	yrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	<1	1	<1
Chromium	ppm	ASTM D5185m		0	0	0
Nickel	ppm	ASTM D5185m	>20	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	0	0
Lead	ppm	ASTM D5185m	>20	<1	0	0
Copper	ppm	ASTM D5185m	>20	A 31	22	5
Tin	ppm		>20	<1	0	0
Antimony	ppm	ASTM D5185m			0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 <1
	ppm ppm					
Boron		ASTM D5185m	5	0	0	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	5 5	0 0	0 <1	<1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 5	0 0 0	0 <1 0	<1 0 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5	0 0 0 <1	0 <1 0 0	<1 0 0 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25	0 0 <1 2	0 <1 0 0 2	<1 0 0 <1 1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200	0 0 <1 2 39	0 <1 0 2 40	<1 0 0 <1 1 38
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300	0 0 <1 2 39 496	0 <1 0 2 40 495	<1 0 0 <1 1 38 486
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370	0 0 <1 2 39 496 648	0 <1 0 2 40 495 642	<1 0 0 <1 1 38 486 623
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500	0 0 <1 2 39 496 648 1251	0 <1 0 2 40 495 642 1044	<1 0 0 <1 1 38 486 623 495
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500	0 0 <1 2 39 496 648 1251 current	0 <1 0 2 40 495 642 1044 history1	<1 0 0 <1 1 38 486 623 495 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	5 5 25 200 300 370 2500	0 0 2 39 496 648 1251 current <1	0 <1 0 2 40 495 642 1044 history1 <1	<1 0 0 <1 1 38 486 623 495 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	5 5 25 200 300 370 2500 limit/base >15	0 0 2 39 496 648 1251 current <1 0	0 <1 0 2 40 495 642 1044 history1 <1 <1	<1 0 0 <1 1 38 486 623 495 history2 0 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 200 300 370 2500 limit/base >15 >20	0 0 2 39 496 648 1251 current <1 0 0	0 <1 0 2 40 495 642 1044 history1 <1 <1 <1 5	<1 0 0 <1 1 38 486 623 495 history2 0 3 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370 2500 2500 2500 >15 >20 imit/base >20	0 0 2 39 496 648 1251 current <1 0 0	0 <1 0 2 40 495 642 1044 history1 <1 <1 5 history1	<1 0 0 <1 1 38 486 623 495 history2 0 3 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLII Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 25 200 300 370 2500 2500 2500 >15 >20 imit/base >20	0 0 2 39 496 648 1251 current <1 0 0 0 current	0 <1 0 2 40 495 642 1044 history1 <1 <1 5 <u>history1</u> 1215	<1 0 0 <1 1 38 486 623 495 history2 0 3 <1 history2 442
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLII Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 200 300 370 2500 2500 2500 >15 20 <u>limit/base</u> >20 <u>limit/base</u> >20 20 20 20 20 20 20 20 20 20 20 20 20 2	0 0 2 39 496 648 1251 current <1 0 0 0 current 543 166	0 <1 0 2 40 495 642 1044 history1 <1 <1 5 history1 1215 404	<1 0 0 <1 1 38 486 623 495 history2 0 3 <1 0 3 <1 history2 442 197
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLII Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 5 5 200 300 370 2500 2500 2500 >15 20 <u>limit/base</u> >20 <u>limit/base</u> >20 20 20 20 20 20 20 20 20 20 20 20 20 2	0 0 0 <1 2 39 496 648 1251 current <1 0 0 0 current 543 166 23	0 <1 0 2 40 495 642 1044 history1 <1 5 history1 1215 404 53	<1 0 0 <1 1 38 486 623 495 history2 0 3 <1 0 3 <1 history2 442 197 46

ASTM D7647 >3

ISO 4406 (c) >19/17/14

0

16/15/12

Particles >71µm

Oil Cleanliness

17/16/13

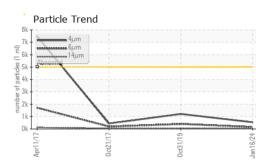
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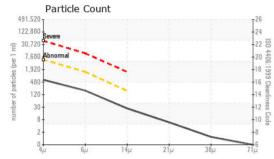
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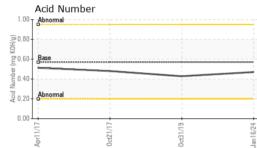
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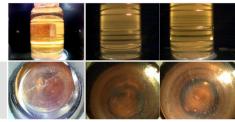


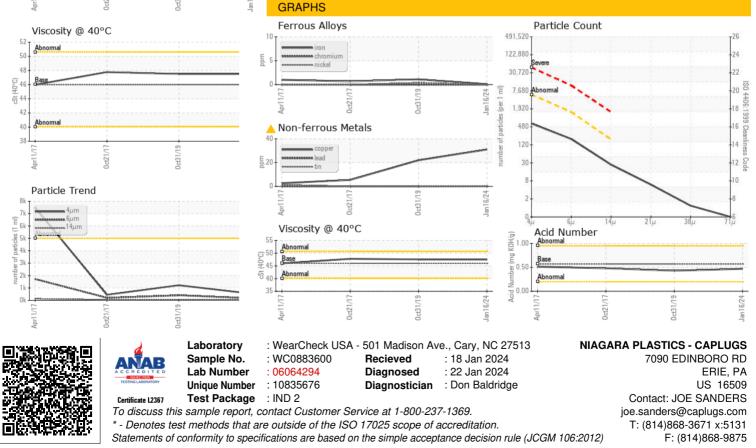


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.47	0.428	0.480
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	VLITE	NONE
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	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	47.5	47.5	47.76
SAMPLE IMAGES		method	limit/base	current	history1	history2

Color

Bottom





Contact/Location: JOE SANDERS - NIAERI