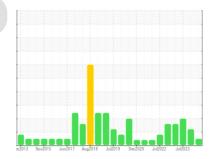


OIL ANALYSIS REPORT

412 Machine Id **621 PELLETIZER MOTOR**

Inboard Journal Bearing ESSO NUTO H ISO 68 (1 QTS)



Sample Rating Trend



Recommendation

Resample at the next service interval to monitor.

All 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.

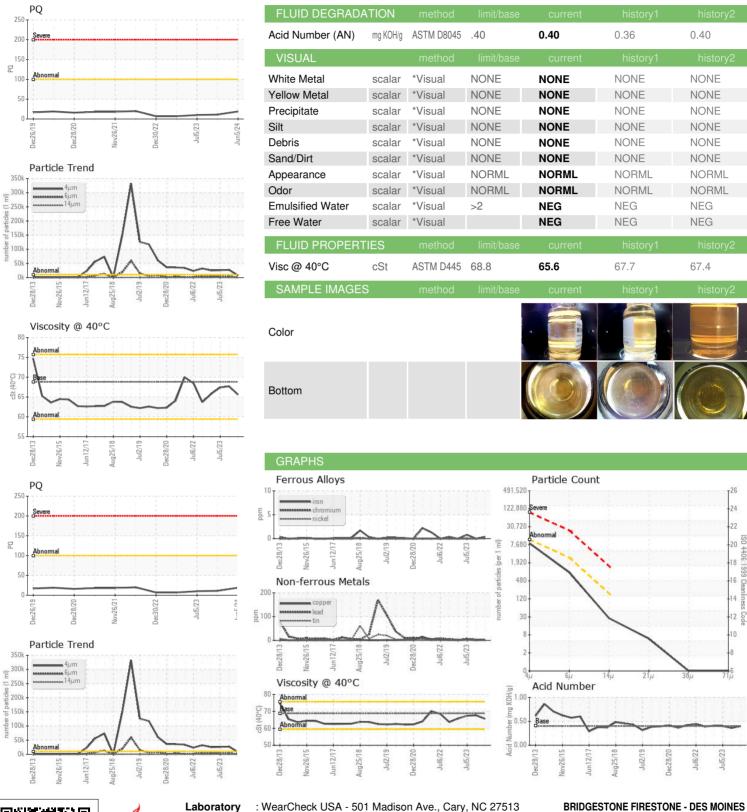
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0912083	WC0838889	WC0640600
Sample Date		Client Info		05 Jun 2024	10 Nov 2023	05 Jul 2023
Machine Age	mths	Client Info		0	6	0
Oil Age	mths	Client Info		0	0	6
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Water		WC Method	>2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		19	11	10
Iron	ppm	ASTM D5185m	>60	<1	0	<1
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>4	2	<1	<1
Lead	ppm	ASTM D5185m		3	3	6
Copper	ppm	ASTM D5185m	>125	2	<1	5
Tin	ppm	ASTM D5185m	>80	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	0	0	history2 0
	ppm ppm			0 <1		
Boron		ASTM D5185m	0	0	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	0 <1 <1 0	0 7 <1	0 0 <1 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	0 <1 <1 0 2	0 7 <1 0	0 0 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 5 50	0 <1 <1 0 2 47	0 7 <1 0 2	0 0 <1 0 0 39
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 5 50 330	0 <1 <1 0 2 47 321	0 7 <1 0 2 68 344	0 0 <1 0 0 39 329
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 5 50 330 420	0 <1 <1 0 2 47 321 425	0 7 <1 0 2 68 344 416	0 0 <1 0 0 39 329 412
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 5 50 330	0 <1 <1 0 2 47 321	0 7 <1 0 2 68 344	0 0 <1 0 0 0 39 329
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 5 50 330 420	0 <1 <1 0 2 47 321 425	0 7 <1 0 2 68 344 416	0 0 <1 0 0 39 329 412
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 5 50 330 420 3100	0 <1 <1 <1 0 2 47 321 425 3022	0 7 <1 0 2 68 344 416 2941	0 0 <1 0 0 39 329 412 3081 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 5 50 330 420 3100 limit/base >50	0 <1 <1 <1 0 2 47 321 425 3022 current	0 7 <1 0 2 68 344 416 2941 history1 2 0	0 0 <1 0 0 39 329 412 3081 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 5 50 330 420 3100 limit/base	0 <1 <1 <1 0 2 47 321 425 3022 current 3	0 7 <1 0 2 68 344 416 2941 history1	0 0 <1 0 0 39 329 412 3081 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 5 50 330 420 3100 limit/base >50 >20	0 <1 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1	0 0 <1 0 0 39 329 412 3081 history2 2 0 <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	0 0 0 5 50 330 420 3100 limit/base >50 >20	0 <1 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current 7455	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1	0 0 <1 0 0 39 329 412 3081 history2 2 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 5 50 330 420 3100 limit/base >50 >20 limit/base >10000 >2500	0 <1 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1 history1 27099 3297	0 0 -<1 0 0 39 329 412 3081 history2 2 0 -<1 history2 △ 26011 ○ 3236
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647	0 0 0 5 50 330 420 3100 limit/base >50 >20 limit/base >10000 >2500 >160	0 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current 7455 807 24	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1 history1 △ 27099 ③ 3297 121	0 0 <1 0 0 39 329 412 3081 history2 2 0 <1 history2 △ 26011 ○ 3236 ○ 225
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 5 50 330 420 3100 limit/base >50 >20 limit/base >10000 >2500 >160 >40	0 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current 7455 807	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1 history1 ▲ 27099 3297 121 33	0 0 <1 0 0 39 329 412 3081 history2 2 0 <1 history2 △ 26011 ○ 3236 ○ 225 ○ 59
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 5 5 50 330 420 3100 limit/base >50 >20 limit/base >10000 >2500 >160 >40 >10	0 <1 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current 7455 807 24 5 0	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1 history1 ▲ 27099 3297 121 33 1	0 0 <1 0 0 39 329 412 3081 history2 2 0 <1 history2 ▲ 26011 3236 225 59 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 5 5 50 330 420 3100 limit/base >50 >20 limit/base >10000 >2500 >160 >40 >10	0 <1 <1 <1 0 2 47 321 425 3022 current 3 0 <1 current 7455 807 24 5	0 7 <1 0 2 68 344 416 2941 history1 2 0 <1 history1 ▲ 27099 3297 121 33	0 0 <1 0 0 39 329 412 3081 history2 2 0 <1 history2 △ 26011 ○ 3236 ○ 225 ○ 59



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number Unique Number : 11063512

: WC0912083 : 06201389

Received : 06 Jun 2024 **Tested** Diagnosed

: 07 Jun 2024 Test Package : IND 2 (Additional Tests: PQ, PrtCount)

: 09 Jun 2024 - Don Baldridge

DES MOINES, IA US 50313 Contact: SCOTT CARTER CarterScottA@FirestoneAg.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)

Contact/Location: SCOTT CARTER - BRIDES

T: x:

F: x:

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