

# **OIL ANALYSIS REPORT**



Machine Id

### **22317** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 10W30 (--- QTS)**

#### 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.

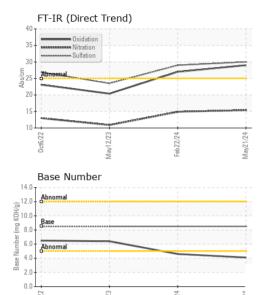
## Fluid Condition

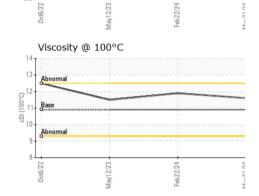
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0901360	WC0832067	WC0784082
Sample Date		Client Info		21 May 2024	22 Feb 2024	12 May 2023
Machine Age	mls	Client Info		267800	223571	125336
Oil Age	mls	Client Info		50000	223571	50000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	۷	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	54	42	31
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	10	10	10
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	2	3
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
oddinidini	ppm	AGTIVI DOTODITI		U	0	0
ADDITIVES	ppm	method	limit/base	current	0 history1	history2
	ppm		limit/base 250		-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current 5	history1 5	history2 4
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	250 10	current 5 0	history1 5 0	history2 4 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 5 0 75 1 1060	history1 5 0 76	history2 4 0 75
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 5 0 75 1	history1 5 0 76 <1	history2 4 0 75 <1 913 1282
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	Current 5 0 75 1 1060 1407 1222	history1 5 0 76 <1 958 1402 1107	history2 4 0 75 <1 913 1282 1043
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	Current 5 0 75 1 1060 1407 1222 1463	history1 5 0 76 <1 958 1402 1107 1352	history2 4 0 75 <1 913 1282 1043 1285
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	Current 5 0 75 1 1060 1407 1222	history1 5 0 76 <1 958 1402 1107	history2 4 0 75 <1 913 1282 1043
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	Current 5 0 75 1 1060 1407 1222 1463 3737 Current	history1 5 0 76 <1 958 1402 1107 1352 3597 history1	history2         4         0         75         <1         913         1282         1043         1285         3573         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	current           5           0           75           1           1060           1407           1222           1463           3737           current           15	history1           5           0           76           <1           958           1402           1107           1352           3597           history1           13	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	Current           5           0           75           1           1060           1407           1222           1463           3737           Current           15           3	history1           5           0           76           <1           958           1402           1107           1352           3597           history1           13           2	history2           4           0           75           <1           913           1282           1043           1285           3573           history2           11           0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	current           5           0           75           1           1060           1407           1222           1463           3737           current           15	history1           5           0           76           <1           958           1402           1107           1352           3597           history1           13	history2           4           0           75           <1           913           1282           1043           1285           3573           history2           11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >20 <b>Iimit/base</b>	Current 5 0 75 1 1060 1407 1222 1463 3737 Current 15 3 15 Current	history1         5         0         76         <1         958         1402         1107         1352         3597         history1         13         2         16         history1	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11         0         22         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >3	Current         5         0         75         1         1060         1407         1222         1463         3737         current         15         3         15         3         15         0.8	history1           5           0           76           <1           958           1402           1107           1352           3597           history1           13           2           16           history1           0.7	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11         0         22         history2         0.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >20 <b>Iimit/base</b>	current         5         0         75         1         1060         1407         1222         1463         3737         current         15         3         15         0.8         15.4	history1         5         0         76         <1         958         1402         1107         1352         3597         history1         13         2         16         history1	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11         0         22         history2         0.5         10.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >3	Current         5         0         75         1         1060         1407         1222         1463         3737         current         15         3         15         3         15         0.8	history1           5           0           76           <1           958           1402           1107           1352           3597           history1           13           2           16           history1           0.7	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11         0         22         history2         0.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >20 imit/base >3 >20	current         5         0         75         1         1060         1407         1222         1463         3737         current         15         3         15         0.8         15.4	history1           5           0           76           <1           958           1402           1107           1352           3597           history1           13           2           16           history1           0.7           14.9	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11         0         22         history2         0.5         10.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 20 <b>imit/base</b> >3 >20 >30	Current         5         0         75         1         1060         1407         1222         1463         3737         current         15         3         15         0.8         15.4         30.0	history1         5         0         76         <1         958         1402         1107         1352         3597         history1         13         2         16         history1         0.7         14.9         29.0	history2         4         0         75         <1         913         1282         1043         1285         3573         history2         11         0         22         history2         0.5         10.9         23.5

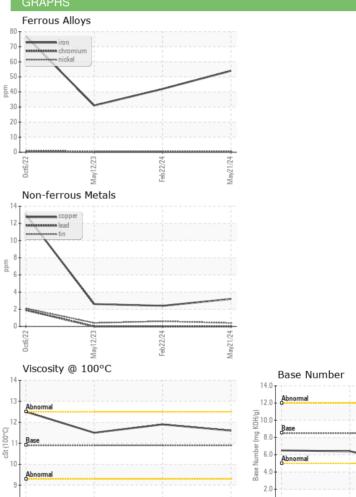


# **OIL ANALYSIS REPORT**





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	NONE	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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	11.6	11.9	11.5
GRAPHS						



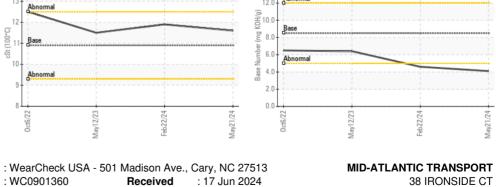
May21/24

: 19 Jun 2024

Feb22/24

Received

Tested



38 IRONSIDE CT WILLINGBORO, NJ US 08046 Contact: GARY LAWYER gary@midatlantictrans.com T: (609)864-6948 F:



Unique Number : 11084238 Diagnosed : 19 Jun 2024 - Don Baldridge Test Package : FLEET Certificate 12367 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)

May12/23

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Laboratory

Sample No.

Lab Number : 06211374

0ct6/22

: WC0901360

Report Id: MIDWIL [WUSCAR] 06211374 (Generated: 06/22/2024 21:47:07) Rev: 1

Contact/Location: GARY LAWYER - MIDWIL

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