

OIL ANALYSIS REPORT

Sample Rating Trend

SAMPLE INFORMATION method limit/base

NORMAL



Area OKLAHOMA/102 39.60 [OKLAHOMA^102] Component Disposed Functions

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

			inizia inizia della d
014 Aug2015	lov2018 Jun2020	Feb2021 Jun2022	Apr2023



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.

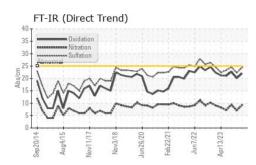
Fluid Condition

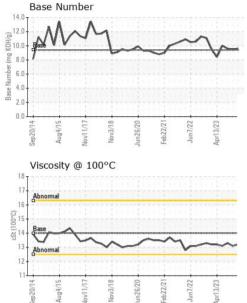
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Comunity Niversity or		Olianet Infa		W0000010	W00004000	W00004100
Sample Number		Client Info		WC0908912	WC0834023	WC0834122
Sample Date	h an	Client Info		05 Jun 2024	02 Aug 2023	19 Jul 2023
Machine Age	hrs	Client Info		14741	14212	14100
Oil Age	hrs	Client Info		529 Observed	112	300
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	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	24	9	22
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	1	1
Lead	ppm	ASTM D5185m	>40	4	1	3
Copper	ppm	ASTM D5185m	>330	5	2	3
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
			12 12 11			
ADDITIVES		method				history2
Boron	ppm	Method ASTM D5185m	limit/base	current 42	history1 61	history2 48
	ppm ppm		0			
Boron		ASTM D5185m	0	42	61	48
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	42 0	61 0	48 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	42 0 39	61 0 39	48 0 43
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	42 0 39 <1	61 0 39 <1	48 0 43 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	42 0 39 <1 512	61 0 39 <1 461	48 0 43 <1 546
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	42 0 39 <1 512 2134	61 0 39 <1 461 1645	48 0 43 <1 546 1949
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	0 0 0	42 0 39 <1 512 2134 889	61 0 39 <1 461 1645 730	48 0 43 <1 546 1949 826
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	0 0 0	42 0 39 <1 512 2134 889 1088	61 0 39 <1 461 1645 730 900	48 0 43 <1 546 1949 826 1044
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	0 0 0 0 0	42 0 39 <1 512 2134 889 1088 3385	61 0 39 <1 461 1645 730 900 2650	48 0 43 <1 546 1949 826 1044 3325
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	0 0 0 0 init/base	42 0 39 <1 512 2134 889 1088 3385 current	61 0 39 <1 461 1645 730 900 2650 history1	48 0 43 <1 546 1949 826 1044 3325 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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	0 0 0 0 limit/base >25	42 0 39 <1 512 2134 889 1088 3385 current 7	61 0 39 <1 461 1645 730 900 2650 history1 3	48 0 43 <1 546 1949 826 1044 3325 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	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	0 0 0 0 limit/base >25	42 0 39 <1 512 2134 889 1088 3385 current 7 4	61 0 39 <1 461 1645 730 900 2650 history1 3 0	48 0 43 <1 546 1949 826 1044 3325 history2 3 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20	42 0 39 <1 512 2134 889 1088 3385 current 7 4 2 2	61 0 39 <1 461 1645 730 900 2650 history1 3 0 <1	48 0 43 <1 546 1949 826 1044 3325 history2 3 1 0
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	ASTM D5185m ASTM D5185m	0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	42 0 39 <1 512 2134 889 1088 3385 current 7 4 2 current 0.5	61 0 39 <1 461 1645 730 900 2650 history1 3 0 <1 history1 0.4	48 0 43 <1 546 1949 826 1044 3325 history2 3 1 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3	42 0 39 <1 512 2134 889 1088 3385 current 7 4 2 2	61 0 39 <1 461 1645 730 900 2650 history1 3 0 <1 history1	48 0 43 <1 546 1949 826 1044 3325 history2 3 1 0 history2 0.7
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	ASTM D5185m ASTM D5185m	0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	42 0 39 <1 512 2134 889 1088 3385 current 7 4 2 current 0.5 9.2	61 0 39 <1 461 1645 730 900 2650 history1 3 0 <1 .1 history1 0.4 7.1	48 0 43 <1 546 1949 826 1044 3325 history2 3 1 0 history2 0.7 9.4
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	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7615	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	42 0 39 <1 512 2134 889 1088 3385 Current 7 4 2 Current 0.5 9.2 24.3 Current	61 0 39 <1 461 1645 730 900 2650 history1 3 0 <1 history1 0.4 7.1 22.3 history1	48 0 43 <1 546 1949 826 1044 3325 history2 3 1 0 0 history2 0.7 9.4 24.6 history2
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	ASTM D5185m ASTM D5185m	0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	42 0 39 <1 512 2134 889 1088 3385 current 7 4 2 current 0.5 9.2 24.3	61 0 39 <1 461 1645 730 900 2650 history1 3 0 <1 4 history1 0.4 7.1 22.3	48 0 43 <1 546 1949 826 1044 3325 history2 3 1 0 0 history2 0.7 9.4 24.6



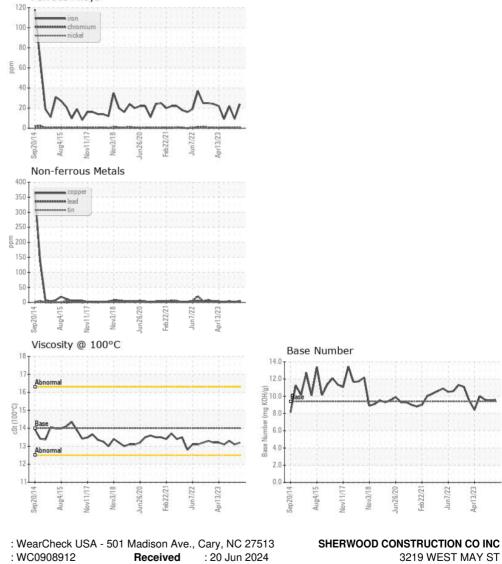
OIL ANALYSIS REPORT

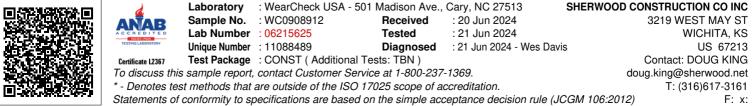




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14	13.2	13.1	13.3
GRAPHS						

Ferrous Alloys





Report Id: SHEWIC [WUSCAR] 06215625 (Generated: 06/23/2024 04:51:50) Rev: 1

Submitted By: WAYNE HUBBARD

Page 2 of 2