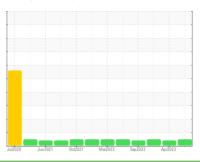


OIL ANALYSIS REPORT

COLORADO/443 20.410L [COLORADO^443]

Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)



Sample Rating Trend



Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

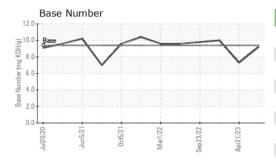
Fluid Condition

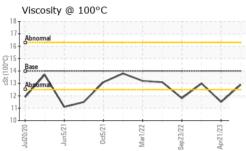
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0823136	WC0799128	WC0750015
Sample Date		Client Info		23 Aug 2023	21 Apr 2023	23 Jan 2023
Machine Age	hrs	Client Info		8060	7789	7577
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	NORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.7	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	9	8	11
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	3	5
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	<1	0	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 56	history1 96	history2 52
	ppm					
Boron	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m	0	56	96	52
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	56 0	96 0	52 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	56 0 38	96 0 7	52 0 39
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	56 0 38 <1 571 1758	96 0 7 <1 729 1370	52 0 39 <1
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	56 0 38 <1 571 1758 796	96 0 7 <1 729 1370 697	52 0 39 <1 515 1814 712
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	56 0 38 <1 571 1758	96 0 7 <1 729 1370 697 835	52 0 39 <1 515 1814 712 911
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	56 0 38 <1 571 1758 796	96 0 7 <1 729 1370 697	52 0 39 <1 515 1814 712
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	56 0 38 <1 571 1758 796	96 0 7 <1 729 1370 697 835 3229	52 0 39 <1 515 1814 712 911
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	56 0 38 <1 571 1758 796 960 3195 current	96 0 7 <1 729 1370 697 835 3229	52 0 39 <1 515 1814 712 911 2794 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 0	56 0 38 <1 571 1758 796 960 3195 current	96 0 7 <1 729 1370 697 835 3229	52 0 39 <1 515 1814 712 911 2794 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0	56 0 38 <1 571 1758 796 960 3195 current	96 0 7 <1 729 1370 697 835 3229 history1	52 0 39 <1 515 1814 712 911 2794 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 	56 0 38 <1 571 1758 796 960 3195 current 5	96 0 7 <1 729 1370 697 835 3229 history1 5 4	52 0 39 <1 515 1814 712 911 2794 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 limit/base >25 >20	56 0 38 <1 571 1758 796 960 3195 current 5 3	96 0 7 <1 729 1370 697 835 3229 history1 5 4 3 history1 0.1	52 0 39 <1 515 1814 712 911 2794 history2 5 5 <1
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	0 0 0 0 0 limit/base >25 >20 limit/base >3	56 0 38 <1 571 1758 796 960 3195 current 5 3 0	96 0 7 <1 729 1370 697 835 3229 history1 5 4 3	52 0 39 <1 515 1814 712 911 2794 history2 5 5 <1
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	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 limit/base >25 >20 limit/base >3	56 0 38 <1 571 1758 796 960 3195 current 5 3 0 current 0.2	96 0 7 <1 729 1370 697 835 3229 history1 5 4 3 history1 0.1	52 0 39 <1 515 1814 712 911 2794 history2 5 <1 history2 0.2
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 method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 limit/base >25 >20 limit/base >3 >20	56 0 38 <1 571 1758 796 960 3195 current 5 3 0 current 0.2 6.9	96 0 7 <1 729 1370 697 835 3229 history1 5 4 3 history1 0.1 7.5	52 0 39 <1 515 1814 712 911 2794 history2 5 5 <1 history2 0.2 7.4
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 Method *ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 0 0 limit/base >25 >20 limit/base >3 >20 >30	56 0 38 <1 571 1758 796 960 3195 current 5 3 0 current 0.2 6.9 20.4	96 0 7 <1 729 1370 697 835 3229 history1 5 4 3 history1 0.1 7.5 16.5	52 0 39 <1 515 1814 712 911 2794 history2 5 <1 history2 0.2 7.4 21.9



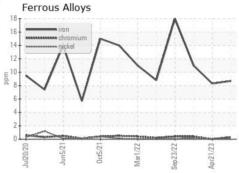
OIL ANALYSIS REPORT

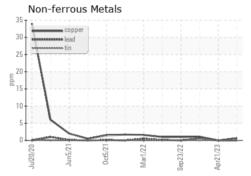


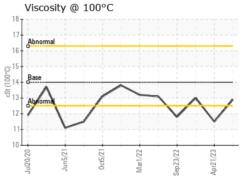


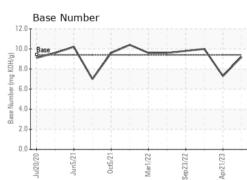
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPERTIES		metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	14	12.9	<u></u> 11.5	13.0













Laboratory Sample No.

Lab Number Unique Number : 10620438

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0823136 : 05935167

Received

: 25 Aug 2023 Diagnosed

: 28 Aug 2023

Diagnostician : Wes Davis

Test Package : CONST (Additional Tests: TBN)

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)

SHERWOOD CONSTRUCTION CO INC

3219 WEST MAY ST WICHITA, KS

US 67213 Contact: DOUG KING doug.king@sherwood.net

T: (316)617-3161

F: x: