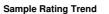


OIL ANALYSIS REPORT







Diesel Engine

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

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.

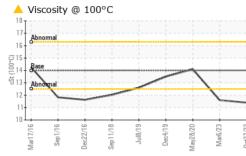
Fluid Condition

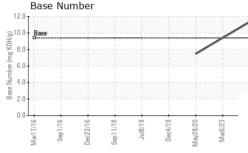
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

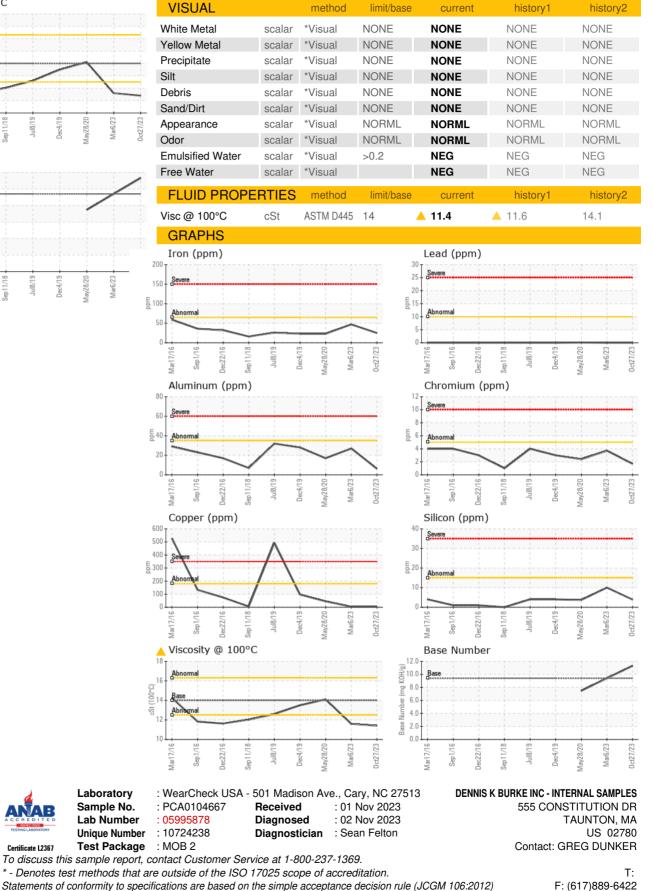
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104667	PCA0066625	PCA0018641
Sample Date		Client Info		27 Oct 2023	06 Mar 2023	28 May 2020
Machine Age	mls	Client Info		316635	316635	72000
Oil Age	mls	Client Info		316635	244635	0
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				ATTENTION	ATTENTION	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	0.3	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	>65	25	47	23
Chromium	ppm ppm	ASTM D5185m	>5	2	4	2
Nickel	ppm		>3	2 <1	4	<1
Titanium	ppm	ASTM D5185m		<1	2	0
Silver	ppm		>2	0	0	<1
Aluminum	ppm	ASTM D5185m		6	27	17
Lead	ppm		>10	0	0	<1
Copper	ppm	ASTM D5185m		5	4	45
Tin	ppm	ASTM D5185m	>8	<1	<1	<1
Antimony	ppm	ASTM D5185m	>35			0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
	maa					
Boron	ppm mag	ASTM D5185m	0	current 2 <1	history1 4 0	history2 25 0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	2	4	25
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	2 <1	4	25 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	0	2 <1 64	4 0 57	25 0 31
Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	2 <1 64 0	4 0 57 1	25 0 31 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	2 <1 64 0 987	4 0 57 1 897	25 0 31 <1 501
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	2 <1 64 0 987 1081	4 0 57 1 897 1097	25 0 31 <1 501 1529
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	2 <1 64 0 987 1081 1060	4 0 57 1 897 1097 941	25 0 31 <1 501 1529 618
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	0 0 0	2 <1 64 0 987 1081 1060 1291	4 0 57 1 897 1097 941 1225	25 0 31 <1 501 1529 618 775
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 ASTM D5185m ASTM D5185m	0 0 0 0 0	2 <1 64 0 987 1081 1060 1291 3427	4 0 57 1 897 1097 941 1225 3029	25 0 31 <1 501 1529 618 775 1882
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 Intibase	2 <1 64 0 987 1081 1060 1291 3427 current	4 0 57 1 897 1097 941 1225 3029 history1	25 0 31 <1 501 1529 618 775 1882 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 0 0 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	2 <1 64 0 987 1081 1060 1291 3427 current 4	4 0 57 1 897 1097 941 1225 3029 history1 10	25 0 31 <1 501 1529 618 775 1882 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	2 <1 64 0 987 1081 1060 1291 3427 current 4 11	4 0 57 1 897 1097 941 1225 3029 history1 10 3	25 0 31 <1 501 1529 618 775 1882 history2 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 0 1 1 1 1 1 1 5 5 2 0	2 <1 64 0 987 1081 1060 1291 3427 current 4 11 11	4 0 57 1 897 1097 941 1225 3029 history1 10 3 2	25 0 31 <1 501 1529 618 775 1882 history2 4 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS 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	2 <1 64 0 987 1081 1060 1291 3427 current 4 11 11 11 current	4 0 57 1 897 1097 941 1225 3029 history1 10 3 2 2 history1	25 0 31 <1 501 1529 618 775 1882 history2 4 4 4 4 42 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS 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	2 <1 64 0 987 1081 1060 1291 3427 current 4 11 11 11 current 0.8	4 0 57 1 897 1097 941 1225 3029 history1 10 3 2 history1 1	25 0 31 <1 501 1529 618 775 1882 history2 4 4 4 4 2 4 4 0.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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	2 <1 64 0 987 1081 1060 1291 3427 current 4 11 11 11 current 0.8 9.2	4 0 57 1 897 1097 941 1225 3029 history1 10 3 2 history1 1 1 1 1 1 3	25 0 31 <1 501 1529 618 775 1882 history2 4 4 4 4 4 2 4 4 2 0.8 10.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 <1 64 0 987 1081 1060 1291 3427 current 4 11 11 11 0.8 9.2 19.5	4 0 57 1 897 1097 941 1225 3029 history1 10 3 2 history1 1 1 10.3 2 2 12.2	25 0 31 <1 501 1529 618 775 1882 history2 4 4 4 4 42 history2 0.8 10.7 23.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	2 <1 64 0 987 1081 1060 1291 3427 current 4 11 11 current 0.8 9.2 19.5 current	4 0 57 1 897 1097 941 1225 3029 history1 10 3 2 history1 1 10.3 2 2 history1	25 0 31 <1 501 1529 618 775 1882 history2 4 4 4 4 4 4 2 history2 0.8 10.7 23.7 history2



OIL ANALYSIS REPORT







Certificate L2367

Submitted By: JOHN MEDEIROS