

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id

INTERNATIONAL 26

Diesel Engine Fluid PHILLIPS 66 15W40 (--- Oz)

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

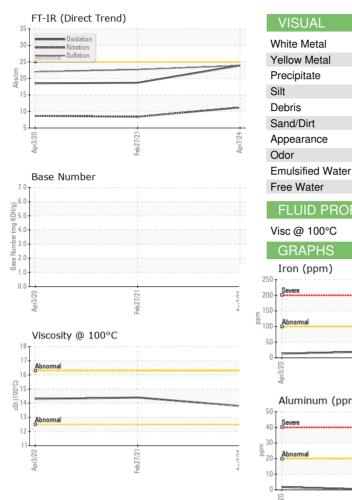
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

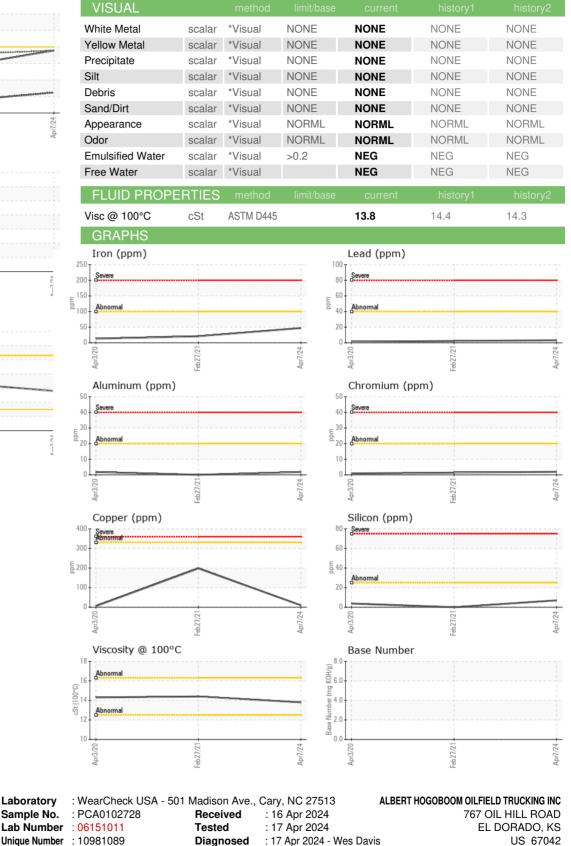
SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0102728	PCA0028052	PCA0006203
Sample Date		Client Info		07 Apr 2024	27 Feb 2021	03 Apr 2020
Machine Age	mls	Client Info		0	3795	8793
Oil Age	mls	Client Info		0	3795	8793
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	47	21	13
Chromium	ppm	ASTM D5185m	>20	2	1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	0	2
Lead	ppm	ASTM D5185m	>40	3	2	1
Copper	ppm	ASTM D5185m	>330	10	198	6
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Antimony	ppm	ASTM D5185m	210		0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	14 I4			-		
		method	limit/base	current	history1	history2
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	<1	2	6
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	<1 0	2 0	6 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 57	2 0 65	6 0 53
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 57 <1	2 0 65 <1	6 0 53 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 57 <1 929	2 0 65 <1 941	6 0 53 <1 838
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 57 <1 929 1049	2 0 65 <1 941 1034	6 0 53 <1 838 924
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 57 <1 929 1049 921	2 0 65 <1 941 1034 982	6 0 53 <1 838 924 882
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 57 <1 929 1049 921 1191	2 0 65 <1 941 1034 982 1133	6 0 53 <1 838 924 882 988
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	limit/base	<1 0 57 <1 929 1049 921	2 0 65 <1 941 1034 982	6 0 53 <1 838 924 882
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	limit/base	<1 0 57 <1 929 1049 921 1191	2 0 65 <1 941 1034 982 1133	6 0 53 <1 838 924 882 988
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	limit/base	<1 0 57 <1 929 1049 921 1191 3104	2 0 65 <1 941 1034 982 1133 2574	6 0 53 <1 838 924 882 988 2211
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	limit/base	<1 0 57 <1 929 1049 921 1191 3104 current	2 0 65 <1 941 1034 982 1133 2574 history1	6 0 53 <1 838 924 882 988 2211 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 ASTM D5185m	limit/base >25	<1 0 57 <1 929 1049 921 1191 3104 current 7	2 0 65 <1 941 1034 982 1133 2574 history1 0	6 0 53 <1 838 924 882 988 2211 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	limit/base >25	<1 0 57 <1 929 1049 921 1191 3104 <i>current</i> 7 4	2 0 65 <1 941 1034 982 1133 2574 history1 0 0 ▲ 93	6 0 53 <1 838 924 882 988 2211 history2 4 11
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base	<1 0 57 <1 929 1049 921 1191 3104 <i>current</i> 7 4 16 <i>current</i>	2 0 65 <1 941 1034 982 1133 2574 history1 0 0 ↓ 93 211 history1	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 <i>b</i> istory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	<1 0 57 <1 929 1049 921 1191 3104 <i>current</i> 7 4 16 <i>current</i> 0.5	2 0 65 <1 941 1034 982 1133 2574 history1 0 0 ↓ 93 211 history1 0.3	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 <i>history2</i> 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	<1 0 57 <1 929 1049 921 1191 3104 <i>current</i> 7 4 16 <i>current</i>	2 0 65 <1 941 1034 982 1133 2574 history1 0 0 ↓ 93 211 history1	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 <i>b</i> istory2
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	limit/base >25 >20 limit/base >3 >20 >3 >20	<1 0 57 <1 929 1049 921 1191 3104 <i>current</i> 7 4 16 <i>current</i> 0.5 11.2 23.9	2 0 65 <1 941 1034 982 1133 2574 history1 0 ▲ 93 211 history1 0.3 8.4 22.7	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 history2 0.2 8.7 22
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 >30	<1 0 57 <1 929 1049 921 1191 3104 Current 7 4 16 Current 0.5 11.2 23.9 Current	2 0 65 <1 941 1034 982 1133 2574 0 ▲ 93 2574 0 0 211 0 0 0 3 211 0.3 8.4 22.7 bistory1	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 history2 0.2 8.7 22 kistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7614	limit/base >25 >20 limit/base >3 >20 >3 >20	<1 0 57 <1 929 1049 921 1191 3104 current 7 4 16 0.5 11.2 23.9 current 23.9	2 0 65 <1 941 1034 982 1133 2574	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 history2 0.2 8.7 22 history2 18.5
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 >30	<1 0 57 <1 929 1049 921 1191 3104 current 7 4 16 current 0.5 11.2 23.9 current 23.9 6.4	2 0 65 <1 941 1034 982 1133 2574 0 ▲ 93 2574 0 0 211 0 0 0 3 211 0.3 8.4 22.7 bistory1	6 0 53 <1 838 924 882 988 2211 history2 4 11 8 history2 0.2 8.7 22 0.2 8.7 22 history2 18.5

Contact/Location: LOREN JACK - OILELD



OIL ANALYSIS REPORT





Unique Number : 10981089 Test Package : MOB 1 (Additional Tests: TBN)

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Laboratory

Sample No.

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: LOREN JACK loren@hogoboom.net T: F: (316)321-1396

* - 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)

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Certificate 12367

Contact/Location: LOREN JACK - OILELD Page 2 of 2