

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

KUBOTA 2.2 TR-803

Diesel Engine

CHEVRON DELO 400 LE 15W40 (4 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.

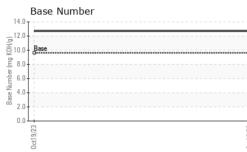
Fluid Condition

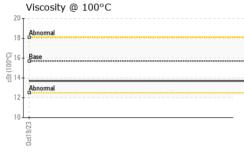
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

			11 1.0		1.1	
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		RP0038299		
Sample Date		Client Info		19 Oct 2023		
Machine Age	hrs	Client Info		2014		
Oil Age	hrs	Client Info		505		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	1	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	10		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	6		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
	1-1-					
ADDITIVES	I- I-	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base		history1	history2
			limit/base	current		
Boron	ppm	ASTM D5185m	limit/base	current 318		
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	limit/base	current 318 <1		
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 318 <1 113		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 318 <1 113 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 318 <1 113 0 595		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		current 318 <1 113 0 595 1453	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200	current 318 <1 113 0 595 1453 734		
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	1200 1300 limit/base	Current 318 <1 113 0 595 1453 734 913		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300 limit/base >25	current 318 <1 113 0 595 1453 734 913 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300 limit/base >25	current 318 <1 113 0 595 1453 734 913 current 5	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium	ppm 1 ppm 2 ppm 2 ppm 2 ppm 4 ppm 4 ppm 4 ppm 4 ppm 4 ppm 4	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300 limit/base >25	current 318 <1 113 0 595 1453 734 913 current 5 4	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium	ppm 1 ppm 2 ppm 2 ppm 2 ppm 4 ppm 4 ppm 4 ppm 4 ppm 4 ppm 4	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1200 1300 limit/base >25 >20	current 318 <1 113 0 595 1453 734 913 current 5 4 2	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 limit/base >25 >20 limit/base	current 318 <1 113 0 595 1453 734 913 current 5 4 2 current	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm 1 ppm 2 ppm 2 ppm 4 ppm 4	ASTM D5185m ASTM D5185m	1200 1300 limit/base >25 >20 limit/base >3	current 318 <1 113 0 595 1453 734 913 current 5 4 2 current 0 0	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 1300 225 >20 1imit/base >20 1imit/base >3 >20	current 318 <1 113 0 595 1453 734 913 current 5 4 2 current 0.9 7.5	 history1 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1200 1300 1300 225 >20 1imit/base >20 1imit/base >3 >20 >3 >20	Current 318 <1 113 0 595 1453 734 913 current 5 4 2 current 0.9 7.5 25.0	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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 D7415	1200 1300 225 >20 1imit/base >20 20 30 >30 20 >30 20 >30	current 318 <1 113 0 595 1453 734 913 current 5 4 2 current 0.9 7.5 25.0 current	 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT





	VISUAL		method	limit/bas	e current	history1	history2
1	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
9/23 -	Appearance	scalar	*Visual	NORML	NORML		
0ct19/23	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	IES	method	limit/bas	e current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.7	13.7		
	GRAPHS						
1	Ferrous Alloys						
	10 iron						
	8 - non nickel						
	6						
1	4						
	2-						
	0						
	0ct19/23			0ct19/23			
				0			
	Non-ferrous Metal	S					
	copper						
	8 - management tin						
	6-						
	4						
	2-						
	0			9/23			
	0ct19/23			0ct19/23			
	Viscosity @ 100°C				Base Number		
	20				^{14.0}		
	Abnormal				12.0		
	17-			(DH/d)	10.0 - Base 8.0 - 6.0 - 4.0 -		
1000017	16 Base			E K	8.0-		
1.1 204 [1]	3 15			mber	6.0-		
	14			ase Nu	4.0		
	13 Abnormal				2.0		
	11				0.0		
	0ct19/23			0ct19/23	0ct19/23		0ct19/23
	Oct			Oct	Oct		Octi
Laboratory	: WearCheck USA - 5	501 Madie	son Ave Ca	rv. NC 27	513	PFRG	AN MARSHALL
Sample No.		Received		Nov 2023			10 BUSSEY RD
Lab Number		Diagnos		Nov 2023			MARSHALL, TX
Unique Number		Diagnost		an Felton		Contest	US 75670
Test Package	: IND 2 (Additional T		IR, KV100, 1				: James Holliday

 Unique Number
 : 10724242
 Diagnostician
 : Sean Felton

 Certificate L2367
 Test Package
 : IND 2 (Additional Tests: FT-IR, KV100, 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)

T:

F:

j.holliday@pergan-na.com