

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

## Machine Id **KIOTI CK2610 XL9500860** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.



All component wear rates are normal.

## CONTAMINATION

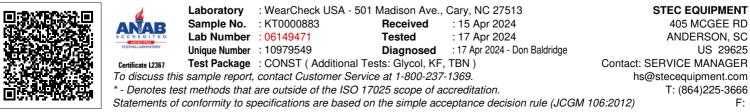
Appearance is milky. There is a high concentration of water present in the oil. Test for glycol is negative.

		RIFL	
FLU			

The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KT0000883		
Sample Date		Client Info		11 Apr 2024		
Machine Age	hrs	Client Info		253		
Oil Age	hrs	Client Info		0		
Filter Age	hrs	Client Info		0		
Oil Changed	-	Client Info		N/A		
Filter Changed		Client Info		N/A		
Sample Status				SEVERE		
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Iron	ppm	ASTM D5185m	>100	31		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	4		
Lead	ppm	ASTM D5185m	>40	7		
Copper	ppm	ASTM D5185m	>330	10		
Tin	ppm	ASTM D5185m	>15	2		
Vanadium	ppm	ASTM D5185m		0		
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Silicon	000	ASTM D5185m	>25	8		
Potassium	ppm	ASTM D5185m	>20	1		
Fuel	ppm	WC Method	>20	ı <1.0		
Water	%	ASTM D6304	>0.2	▲ 5.35		
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ppm Water	ppm	ASTM D6304	>2000	<b>4</b> 53500		
ppm Water Glycol	ppm %	ASTM D6304 *ASTM D2982	>2000	▲ 53500 0.0		
ppm Water Glycol Soot %	ppm % %	ASTM D6304 *ASTM D2982 *ASTM D7844	>2000 >3	▲ 53500 0.0 0.3		
ppm Water Glycol Soot % Nitration	ppm % % Abs/cm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624	>2000 >3 >20	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation	ppm % % Abs/cm Abs/.1mm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415	>2000 >3 >20 >30	<ul> <li>▲ 53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> </ul>	  	
ppm Water Glycol Soot % Nitration	ppm % % Abs/cm Abs/.1mm scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Visual	>2000 >3 >20 >30 NONE	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> </ul>	  	
ppm Water Glycol Soot % Nitration Sulfation Silt Debris	ppm % % Abs/cm Abs/.1mm scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Visual *Visual	>2000 >3 >20 >30 NONE NONE	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> </ul>	   	   
ppm Water Glycol Soot % Nitration Sulfation Silt	ppm % % Abs/cm Abs/.1mm scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Visual	>2000 >3 >20 >30 NONE	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> </ul>	    	
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt	ppm % % Abs/cm Abs/.1mm scalar scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Visual *Visual *Visual	>2000 >3 >20 >30 NONE NONE NONE	<ul> <li>▲ 53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance	ppm % % Abs/cm Abs/.1mm scalar scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Visual *Visual *Visual *Visual	>2000 >3 >20 >30 NONE NONE NONE NORML	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>2000 >3 >20 >30 NONE NONE NONE NORML NORML >0.2	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>2000 >3 >20 >30 NONE NONE NONE NORML NORML >0.2	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar scalar	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NONE NORML >0.2 >158 250 10	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100 100	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100 100 450 3000	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> <li>1412</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *STM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100 100 450 3000 1150	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> <li>1412</li> <li>627</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm % % Abs/cm Abs/.1mm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100 100 450 3000 1150 1350	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> <li>1412</li> <li>627</li> <li>912</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm % % Abs/cm Abs/nm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100 100 450 3000 1150 1350 4250	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> <li>1412</li> <li>627</li> <li>912</li> <li>3305</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Oxidation	ppm % % Abs/cm Abs/m scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;2000</li> <li>&gt;30</li> <li>&gt;20</li> <li>&gt;30</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>&gt;158</li> <li>250</li> <li>10</li> <li>100</li> <li>450</li> <li>3000</li> <li>1150</li> <li>1350</li> <li>4250</li> <li>&gt;25</li> </ul>	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> <li>1412</li> <li>627</li> <li>912</li> <li>3305</li> <li>17.0</li> </ul>		
ppm Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm % % Abs/cm Abs/nm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D6304 *ASTM D2982 *ASTM D7844 *ASTM D7624 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>2000 >3 >20 >30 NONE NONE NORML NORML >0.2 >158 250 10 100 100 450 3000 1150 1350 4250	<ul> <li>53500</li> <li>0.0</li> <li>0.3</li> <li>22.3</li> <li>0.0</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>MILKY</li> <li>NORML</li> <li>0.2%</li> <li>0</li> <li>39</li> <li>2</li> <li>58</li> <li>&lt;1</li> <li>59</li> <li>1412</li> <li>627</li> <li>912</li> <li>3305</li> </ul>		





Contact/Location: SERVICE MANAGER - STEAND Page 2 of 2