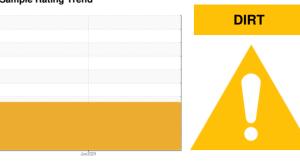


# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

2126988

Component **Transmission** 

**CASTROL SYNGEAR CD-50 (--- QTS)** 

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

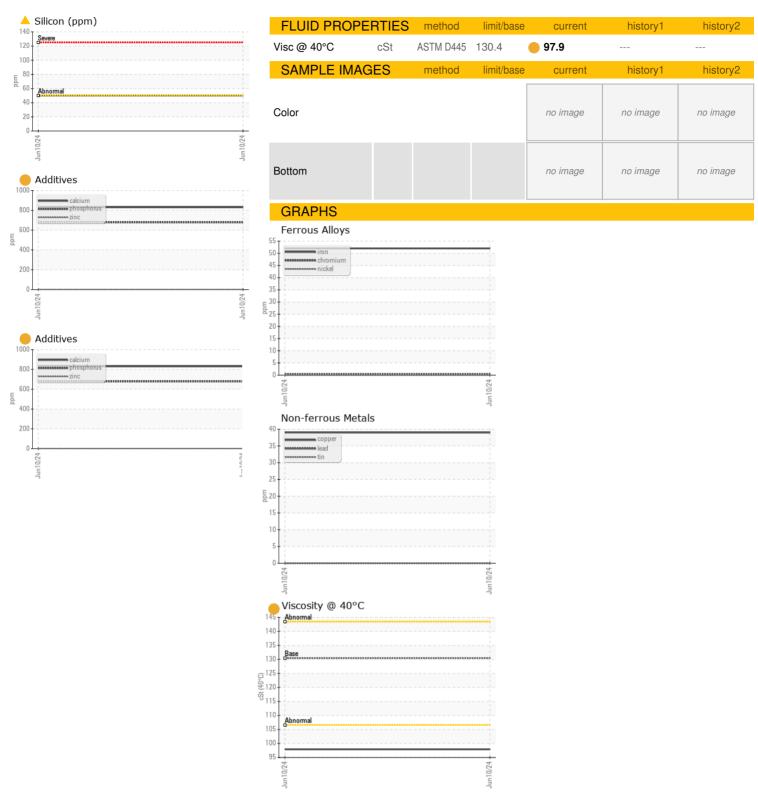
### Fluid Condition

The fluid viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type.

Machine Age         mls         Client Info         63036             Oil Age         mls         Client Info         63036             Oil Changed         Client Info         Not Changed            Sample Status         Image: Contract Info         Not Changed            CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.1         NEG             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >200         52             Iron         ppm         ASTM D5185m         >10         -1             Nickel         ppm         ASTM D5185m         >50         1             Silver         ppm         ASTM D5185m         >50         1             Aluminum         ppm         ASTM D5185m         >50         0             Copper         ppm         ASTM					Jun 2024		
Sample Date   Client Info   10 Jun 2024	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date     Client Info   63036   .	Sample Number		Client Info		PCA0128350		
Oil Age         mls         Client Info         63036	Sample Date		Client Info		10 Jun 2024		
Coli Changed   Client Info   ABNORMAL	Machine Age	mls	Client Info		63036		
CONTAMINATION   method   limit/base   current   history1   history2	Oil Age	mls	Client Info		63036		
CONTAMINATION   method   limit/base   current   history1   history2	Oil Changed		Client Info		Not Changd		
Water         WC Method         >0.1         NEG            WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         ≥200         52             Chromium         ppm         ASTM D5185m         0             Nickel         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         >50         1             Aluminum         ppm         ASTM D5185m         >50         0             Aluminum         ppm         ASTM D5185m         >50         0             Aluminum         ppm         ASTM D5185m         >20         0             Aluminum         ppm         ASTM D5185m         >20         0             Copper         ppm         ASTM D5185m         >0         0             Vanadium         ppm         ASTM D5185m         0         0	Sample Status				ABNORMAL		
WEAR METALS	CONTAMINAT	TION	method	limit/base	current	history1	history2
Description	Water		WC Method	>0.1	NEG		
Chromium         ppm         ASTM D5185m         >10         <1             Nickel         ppm         ASTM D5185m         0             Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         >50         0             Aluminum         ppm         ASTM D5185m         >50         0             Lead         ppm         ASTM D5185m         >50         0             Copper         ppm         ASTM D5185m         >200         39             Tin         ppm         ASTM D5185m         0              Vanadium         ppm         ASTM D5185m         0               Cadmium         ppm         ASTM D5185m         0              Boron         ppm         ASTM D5185m         0              Molybdenum         ppm         ASTM D5185m         0         0	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	52		
Titanium	Chromium	ppm	ASTM D5185m	>10	<1		
Silver	Nickel	ppm	ASTM D5185m		0		
Ast	Titanium	ppm	ASTM D5185m		0		
Lead         ppm         ASTM D5185m         >50         0             Copper         ppm         ASTM D5185m         >200         39             Tin         ppm         ASTM D5185m         >10         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         21             Manganesium         ppm         ASTM D5185m         2             Manganesium         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m	Silver	ppm	ASTM D5185m		0		
Copper         ppm         ASTM D5185m         >200         39             Tin         ppm         ASTM D5185m         >10         0             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         2             Magnesium         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m         3	Aluminum	ppm	ASTM D5185m	>50	1		
Tin	Lead	ppm	ASTM D5185m	>50	0		
Vanadium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         21             Magnesium         ppm         ASTM D5185m         2             Calcium         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         50         50             Solicon         ppm         ASTM D5185m         >50         50	Copper	ppm	ASTM D5185m	>200	39		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0             Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         2             Magnesium         ppm         ASTM D5185m         2             Calcium         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         3 <t< td=""><td>Tin</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;10</td><td>0</td><td></td><td></td></t<>	Tin	ppm	ASTM D5185m	>10	0		
ADDITIVES	Vanadium	ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m 0	Cadmium	ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m 0	ADDITIVES		method	limit/base	current	history1	history2
Barium         ppm         ASTM D5185m         0             Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         21             Magnesium         ppm         ASTM D5185m         2             Calcium         ppm         ASTM D5185m         678             Phosphorus         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         5682             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         3             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         3	Boron	nnm	ASTM D5185m		0		
Molybdenum         ppm         ASTM D5185m         0             Manganese         ppm         ASTM D5185m         21             Magnesium         ppm         ASTM D5185m         2             Calcium         ppm         ASTM D5185m         830             Phosphorus         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         5682             Sulfur         ppm         ASTM D5185m         50         50             Sulfur         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           White Metal         scalar <t< td=""><td></td><td></td><td></td><td></td><td>_</td><td></td><td></td></t<>					_		
Manganese         ppm         ASTM D5185m         21             Magnesium         ppm         ASTM D5185m         2             Calcium         ppm         ASTM D5185m         830             Phosphorus         ppm         ASTM D5185m         678             Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         3             VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE             Yellow Metal         scalar         *Visual					-		
Magnesium         ppm         ASTM D5185m         2             Phosphorus         ppm         ASTM D5185m         678             Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         2             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         >20         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE             Yellow Metal         scalar         *Visual         NONE         NONE            Precipitate         scalar	•				-		
Calcium         ppm         ASTM D5185m         830             Phosphorus         ppm         ASTM D5185m         2             Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         5682             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         >20         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE             Yellow Metal         scalar         *Visual         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Silt	•						
Phosphorus         ppm         ASTM D5185m         678             Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         5682             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         50             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE             Yellow Metal         scalar         *Visual         NONE         NONE             Precipitate         scalar         *Visual         NONE         NONE             Silt         scalar         *Visual         NONE         NONE	-						
Zinc         ppm         ASTM D5185m         2             Sulfur         ppm         ASTM D5185m         5682             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         ▲ 50             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           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							
Sulfur         ppm         ASTM D5185m         5682             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           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         NORML         NORML							
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >50         ▲ 50             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           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         NORML         NORML             Appearance         scalar         *Visual         <	-				_		
Silicon         ppm         ASTM D5185m         >50         ▲ 50             Sodium         ppm         ASTM D5185m         3             Potassium         ppm         ASTM D5185m         >20         3             VISUAL         method         limit/base         current         history1         history2           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         NORML         NORML             Appearance         scalar         *Visual         NORML         NORML             Godor         scalar         *Visual				l: :+ //		lai at a m . 4	h:atam O
Sodium						riistory i	HIStory2
VISUAL         method         limit/base         current         history1         history2           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         NORML         NORML             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG				>50			
VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         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         NORML         NORML            Appearance         scalar         *Visual         NORML         NORML            Odor         scalar         *Visual         NORML         NORML            Emulsified Water         scalar         *Visual         >0.1         NEG            Free Water         scalar         *Visual         NEG							
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         NORML         NORML             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG		ppm	ASTM D5185m		3		
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         NORML         NORML             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	VISUAL					history1	history2
Precipitate         scalar         *Visual         NONE         NONE             Silt         scalar         *Visual         NONE         NONE             Debris         scalar         *Visual         NONE         NONE             Sand/Dirt         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	White Metal	scalar		NONE			
Silt         scalar         *Visual         NONE         NONE             Debris         scalar         *Visual         NONE         NONE             Sand/Dirt         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	Yellow Metal	scalar	*Visual	NONE	NONE		
Debris         scalar         *Visual         NONE         NONE             Sand/Dirt         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	Precipitate	scalar	*Visual	NONE			
Sand/Dirt         scalar         *Visual         NONE         NONE             Appearance         scalar         *Visual         NORML         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	Silt	scalar	*Visual	NONE	NONE		
Appearance         scalar         *Visual         NORML             Odor         scalar         *Visual         NORML         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	Debris	scalar	*Visual	NONE	NONE		
Odor         scalar         *Visual         NORML             Emulsified Water         scalar         *Visual         >0.1         NEG             Free Water         scalar         *Visual         NEG	Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.1 NEG Free Water scalar *Visual NEG	Appearance	scalar	*Visual	NORML	NORML		
Free Water scalar *Visual NEG	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.1	NEG		
		scalar	*Visual				



## **OIL ANALYSIS REPORT**







Certificate 12367

Laboratory Sample No.

: PCA0128350 Lab Number : 06220200 Unique Number : 11098397 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 25 Jun 2024 **Tested** : 26 Jun 2024

Diagnosed

: 27 Jun 2024 - Sean Felton

US 19947 Contact: ROBERT LOCKWOOD Robert.Lockwood@Perdue.com T:

**PERDUE FARMS - GEORGETOWN** 

20621 SAVANAH RD

GEORGETOWN, DE

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)

F: