

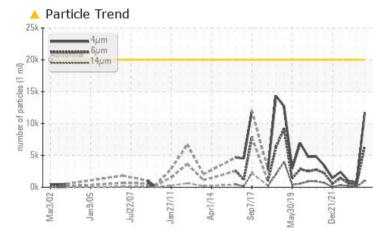
# **PROBLEM SUMMARY**

# Area FILMS DEPARTMENT SAMPLES Machine Id EGAN 2B (S/N 503243A)

Component Gearbox Fluid

# TEXACO REGAL OIL R&O 220 (40 GAL)

# COMPONENT CONDITION SUMMARY



## RECOMMENDATION

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

PROBLEMATIC TEST RESULTS								
Sample Status			ATTENTION	NORMAL	NORMAL			
Particles >6µm	ASTM D7647	>5000	<u> </u>	427	609			
Particles >14µm	ASTM D7647	>640	<b>4</b> 981	111	185			
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<u> </u>	17/16/14	17/16/15			

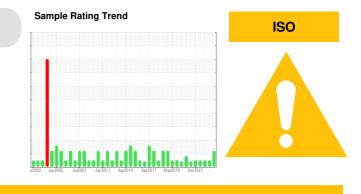
Customer Id: CRYIOW Sample No.: WC0869565 Lab Number: 06014004 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>



### **RECOMMENDED ACTIONS**

There are no recommended actions for this sample.

## HISTORICAL DIAGNOSIS

# 04 Apr 2023 Diag: Don Baldridge



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



#### 08 Feb 2023 Diag: Jonathan Hester

17 Apr 2022 Diag: Angela Borella



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

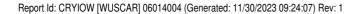


#### NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. Confirm oil type. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.







# **OIL ANALYSIS REPORT**

# Area FILMS DEPARTMENT SAMPLES Machine Id EGAN 2B (S/N 503243A)

Component Gearbox

TEXACO REGAL OIL R&O 220 (40 GAL)

## DIAGNOSIS

## A Recommendation

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

## Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of particulates present in the oil.

## **Fluid Condition**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

# 

Sample Rating Trend

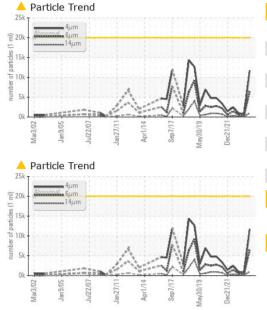
		ir2002 Jan201	05 Jul2007 Jan2011	Apr2014 Sep2017 May2019	Dec2021	
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0869565	WC0757267	WC0757212
Sample Date		Client Info		20 Nov 2023	04 Apr 2023	08 Feb 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	18	16	16
Chromium	ppm	ASTM D5185m	>15	<1	0	0
Nickel	ppm	ASTM D5185m	>15	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	0	<1
Lead	ppm	ASTM D5185m	>100	1	<1	<1
Copper	ppm	ASTM D5185m	>200	17	9	9
Tin	ppm	ASTM D5185m	>25	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	1	<1	0
Boron Barium	ppm ppm			1 5	<1 0	0 <1
Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m				
Barium Molybdenum	ppm ppm	ASTM D5185m	0	5	0	<1
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	0	5 <1	0 <1	<1 1
Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	5 <1 <1 <1	0 <1 <1	<1 1 <1 <1
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	5 <1 <1 <1 <1 3	0 <1 <1 0	<1 1 <1
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 0 0	5 <1 <1 <1 3 173	0 <1 <1 0 2 178	<1 1 <1 <1 5 168
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0	5 <1 <1 <1 <1 3	0 <1 <1 0 2	<1 1 <1 <1 5
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	0 0 0 0 0 0	5 <1 <1 <1 3 173 12	0 <1 <1 0 2 178 21	<1 1 <1 <1 5 168 26
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 4046 limit/base	5 <1 <1 <1 3 173 12 8043 current	0 <1 <1 0 2 178 21 7520 history1	<1 1 <1 <1 <1 <1 <1 5 168 26 7756 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 4046 limit/base	5 <1 <1 <1 3 173 12 8043 current 13	0 <1 <1 0 2 178 21 7520 history1 12	<1 1 1 </1 </1 </1 </1 5 168 26 7756 history2 10</th
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 4046 limit/base	5 <1 <1 <1 3 173 12 8043 current	0 <1 <1 0 2 178 21 7520 history1	<1 1 <1 <1 <1 <1 <1 5 168 26 7756 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 4046 limit/base >50 >20	5 <1 <1 <1 3 173 12 8043 <u>current</u> 13 3 <1	0 <1 <1 0 2 178 21 7520 history1 12 2 1	<1 1 1 </1 </1 </1 </1 </1 </1 </1 </1</th
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 4046 limit/base >50 	5 <1 <1 <1 3 173 12 8043 current 13 3 <1 current	0 <1 <1 0 2 178 21 7520 history1 12 2 1 history1	<1 1 1 </1 </1 </1 </1 5 </168 </p 26 7756  history2  10  4 0  history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 0 0 4046 limit/base >50 limit/base >20	5 <1 <1 <1 3 173 12 8043 current 13 3 <1 current 11705	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 2 1 1 8 4	<1 1 4 4 6 7756 6 10 10 4 0 6 6 6 6 6 775 6 6 6 775 6 6 775 6 775 6 775 6 775 6 775 6 775 775
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 0 0 0 4046 limit/base >50 limit/base >20 limit/base >20000 >5000	5 <1 <1 <1 3 173 12 8043 <u>current</u> 13 3 <1 <u>current</u> 11705 ▲ 6472	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 2 1 1 5 84 427	<1 1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;1</li> <li>&lt;1</li> <li>5</li> <li>168</li> <li>26</li> <li>7756</li> </ul> history2 <ul> <li>10</li> <li>4</li> <li>0</li> <li>history2</li> <li>965</li> <li>609</li> </ul>
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 4046 bimit/base >50 bimit/base >20 bimit/base >20000 >5000 >5000 >5000	5 <1 <1 <1 3 173 12 8043 <u>current</u> 13 3 <1 <u>current</u> 11705 ▲ 6472 ▲ 981	0 <1 <1 0 2 178 21 7520 history1 12 2 1 12 2 1 history1 784 427 111	<1 1 4 4 6 7756 168 26 7756 10 10 4 0 10 4 0 10 14 0 10 14 0 10 14 0 10 15 10 16 16 16 16 16 16 16 16 16 16 16 16 16
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 4046 bimit/base >50 bimit/base >20 bimit/base >20000 >5000 >5000 >640 >160	5 <1 <1 <1 3 173 12 8043 <u>current</u> 13 3 <1 <u>current</u> 11705 ▲ 6472 ▲ 981 99	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 2 1 1 84 427 111 10	<1 1 1 1 </1 </1 </1 5 168 26 7756 168 26 7756 10 4 0 4 0 10 4 0 10 4 0 10 14 0 10 14 0 10 14 14 10 14 14 15 14 14 15 14 18 14 14 14 14 14 14 14 14 14 14 14 14 14</th
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 0 4046 bimit/base >50 bimit/base >20 bimit/base >20000 >5000 >640 >160 >40	5 <1 <1 <1 3 173 12 8043 Current 13 3 <1 Current 13 3 <1 6472 981 99 3	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 2 1 1 784 427 111 10 0	<1 1 4 5 168 26 7756 history2 10 4 0 history2 965 609 185 28 1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 0 4046 limit/base >50 limit/base >20 20000 >5000 >640 >160 >40 >10	5 <1 <1 <1 3 173 12 8043 Current 13 3 <1 Current 13 6472 981 99 3 0	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 784 427 111 10 0 0	<1 1 1 1 </1 </1 5 168 26 7756 history2 10 4 0 history2 965 609 185 28 1 0 0</th
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >4µm Particles >4µm Particles >14µm Particles >38µm Particles >38µm Particles >71µm Oil Cleanliness	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	0 0 0 0 0 4046 bimit/base >50 bimit/base >50 bimit/base >20000 >5000 >5000 >640 >160 >40 >10 >10 >10	5 <1 <1 <1 3 173 12 8043 Current 13 3 <1 Current 11705 ▲ 6472 ▲ 981 99 3 0 ▲ 21/20/17	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 84 427 111 10 0 0 0 17/16/14	<1 1 1 1 </1 </1 </1 5 168 26 7756 </p history2 10 4 0  65 609 185 28 1 0 17/16/15
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >4µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 0 4046 limit/base >50 limit/base >20 20000 >5000 >640 >160 >40 >10	5 <1 <1 <1 3 173 12 8043 Current 13 3 <1 Current 11705 ▲ 6472 ▲ 981 99 3 0 ▲ 21/20/17	0 <1 <1 0 2 178 21 7520 history1 12 2 1 1 784 427 111 10 0 0	<1 1 4 6 609 185 28 1 0 0

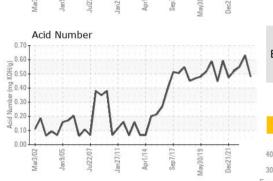
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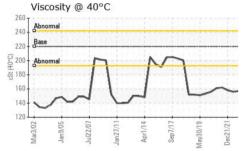
Contact/Location: KEVIN KETCHERSID - CRYIOW



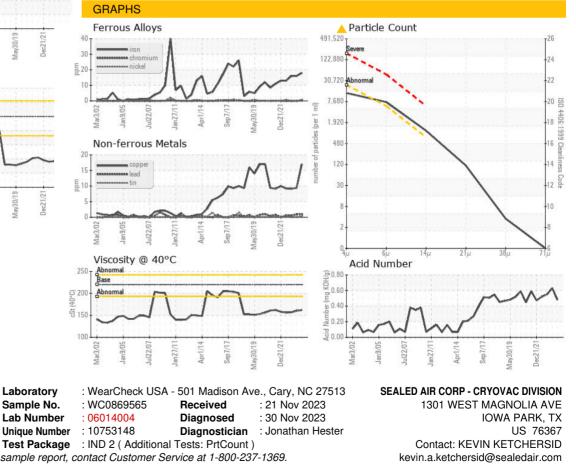
# **OIL ANALYSIS REPORT**

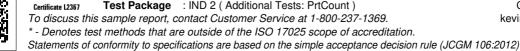






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	MODER	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	220	162	160	157
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom					6	





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