

# **OIL ANALYSIS REPORT**



#### Machine Id **408553** Component **Diesel Engine** Fluid **TULCO LUBSOIL CK-4 15W40 (--- 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 suitable for further service.

SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		TO10003488		
Sample Date		Client Info		05 Jun 2024		
Machine Age	hrs	Client Info		3072		
Oil Age	hrs	Client Info		361		
Oil Changed		Client Info		Not Changd		
Sample Status				NORMAL		
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	15		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m	>2	0		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>20	9		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	2		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 7	history1	history2
	ppm ppm		limit/base			· · · · ·
Boron		ASTM D5185m	limit/base 65	7		
Boron Barium	ppm	ASTM D5185m ASTM D5185m		7 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		7 0 64		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	65	7 0 64 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	65 1060	7 0 64 <1 908		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	65 1060 1140	7 0 64 <1 908 1417	  	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	65 1060 1140 1170	7 0 64 <1 908 1417 1142	   	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230	7 0 64 <1 908 1417 1142 1384	    	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230 3130	7 0 64 <1 908 1417 1142 1384 4467		
Boron 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 ASTM D5185m	65 1060 1140 1170 1230 3130 <b>limit/base</b>	7 0 64 <1 908 1417 1142 1384 4467 current	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	65 1060 1140 1170 1230 3130 <b>limit/base</b>	7 0 64 <1 908 1417 1142 1384 4467 <u>current</u> 4	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	65 1060 1140 1170 1230 3130 limit/base >25	7 0 64 <1 908 1417 1142 1384 4467 <u>current</u> 4 2	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230 3130 limit/base >25 >20	7 0 64 <1 908 1417 1142 1384 4467 current 4 2 27	     history1  	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230 3130 <b>Iimit/base</b> >25 >20	7 0 64 <1 908 1417 1142 1384 4467 <u>current</u> 4 2 27 <u>current</u>	     history1   history1	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm	ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230 3130 limit/base >25 >20 limit/base >20	7 0 64 <1 908 1417 1142 1384 4467 <i>current</i> 4 2 27 <i>current</i> 0.2	     history1   history1 	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230 3130 imit/base >25 >20 imit/base >6 >20	7 0 64 <1 908 1417 1142 1384 4467 <i>current</i> 4 2 27 <i>current</i> 0.2 8.5	     history1  history1  history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	65 1060 1140 1170 1230 3130 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >20 <b>S</b>	7 0 64 <1 908 1417 1142 1384 4467 <u>current</u> 4 2 27 <u>current</u> 0.2 8.5 19.2	      history1  history1  history1	    history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur 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	65 1060 1140 1170 1230 3130 <b>imit/base</b> >25 >20 <b>imit/base</b> >6 >20 >30	7 0 64 <1 908 1417 1142 1384 4467 <i>current</i> 4 2 27 <i>current</i> 0.2 8.5 19.2 <i>current</i>	      history1   history1  history1	     history2  history2  history2  history2



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# **OIL ANALYSIS REPORT**



Unique Number : 11075460 Test Package : MOB 2 ( Additional Tests: KV40, VI ) Certificate 12367 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)

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