#### Version

### Title / Validity Declaration Page Form 1

#### **Conducted For**

V =

I =

the test procedure.

with the test procedure.

Valid; The Reference Oil / Non-Reference Oil was evaluated in accordance with

Invalid; The Reference / Non-Reference Oil was not evaluated in accordance

Results cannot be interpreted as representative of oil performance (Non-

Title

			ence Oil) and shall ole Test Criteria.	not be used in deter	rmining average test results using			
		NR = Non-I	Reference Oil Test					
	RO = Reference Oil Test							
			Test N	umber				
Stand:				Stand Run No.:				
End of	Γest Date:			End of Test Tim	e:			
Oil Cod	e / CMIR: A							
Formula	ation / Stand Co	ode: B						
Altcode	1:		Altcode 2:		Altcode 3:			
D XXXX				information letter	in accordance with Test Method system. The remarks included in			
A CMIR or	Non-Reference Oil	Code B ACC	-Registered Tests Only	1				
			Submitted	Ву:	Testing Laboratory			
					Signature			
					Typed Name			

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### Form 3 Summary of Test Method

The CAT C-13 Engine Oil Test is an engine-dynamometer test which evaluates the ability of an engine oil to protect against ring sticking and oil consumption.

The test engine is a CAT C-13 diesel engine with ACERT technology. It is an in-line six cylinder, four stroke, turbocharged engine with electronically controlled fuel injection.

C-13 Test Conditions				
Parameter	Value			
Time, h	500			
Speed, r/min	1800			
Fuel Flow, g/min	1200			
Inlet Manifold Temperature, °C	40			
Coolant Out Temperature, °C	88			
Fuel In Temperature, °C	40			
Oil Gallery Temperature, °C	98			
Intake Air Temperature, ° C	25			
Tailpipe Exhaust Temperature, °C	Record			
Intake Air Restriction, kPa Absolute	95			
Intake Manifold Pressure, kPa	280			
Exhaust Back Pressure, kPa	6			
Dew Point, °C	Record			
Coolant System Pressure, kPa	99 - 107			
Power, Kw	Record			
Torque, Nm	Record			
Oil Gallery Pressure, kPa	Record			

### Test Results Summary Form 4

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		
Start Date:	Start Time:	Test Length:
Laboratory Oil Code:	TMC Oil Code <sup>A</sup> :	SAE Viscosity:

**Engine Serial No.:** 

**Engine Hours:** 

Piston	TGC	TLC	2 <sup>nd</sup> Ring - % Area		Area	
No.	Demerits	Demerits	HC	LC	Carbon	Oil Consumption (g/h)
1						100 h – 150 h
2						
3						450 h – 500 h
4						
5						
6						Delta OC
Average						

	TGC	TLC	2 <sup>nd</sup> Ring Carbon	Delta OC	Total Merits
Merits					

Piston No.		Top	Int.	Oil	Crown	Skirt	Liner
1	Stuck Ring						
	Scuffed						
2	Stuck Ring						
2	Scuffed						
2	Stuck Ring						
3	Scuffed						
4	Stuck Ring						
4	Scuffed						
_	Stuck Ring						
5	Scuffed						
	Stuck Ring						
6	Scuffed						

A Reference Oil Tests Only

**Engine Number:** 

## Caterpiller C-13 Engine Oil Test Operational Summary Form 5

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

Controlled Parameters								
Parameter	Units	Target	Tolerance	Average	Samples			
Engine Speed	r/min	1800	± 5					
Fuel Flow	g/min	1200	± 6					
Temperature								
Inlet Air	°C	25	± 2					
Intake Manifold Air	°C	40	± 2					
Fuel Inlet	°C	40	± 1					
Coolant Outlet	°C	88	± 2					
Oil Gallery	°C	98	± 2					
Pressure								
Inlet Air	kPa	95	± 3					
Exhaust Stack	kPa	6	± 1					
Intake Manifold	kPa	280	± 5					

### **Non-Controlled Parameters**

Parameter	Units	Target	Tolerance	Average	Samples
Engine Torque	Nm	1800	N/A		
Oil Sump	°C	Record	N/A		
Oil Gallery	kPa	Record	N/A		
Dew Point	°C	Record	N/A		

### Caterpiller C-13 Engine Oil Test Oil Analysis Summary - Form 6

Laboratory:	<b>EOT Date:</b>	<b>EOT Time:</b>
<b>Test Number:</b>		
Oil Code:		
Formulation / Stand Code:		

Hours	Soot Wt.% TGA	Viscosity @ 100°C cSt,D445	TBN D 4739	TAN D 664	Integrated IR Oxidation	Fuel Dilution Wt. %, D 3524
	1					
		1				
	1					

Hours	Metal Elements (ppm)												
Hours	Fe	Pb	Cu	Cr	Al	Si	Sn	Na					

## Caterpiller C-13 Engine Oil Test Unscheduled Downtime & Maintenance Summary Form 7

Laboratory	y:		<b>EOT Date:</b>	<b>EOT Time:</b>
Test Numb	er:			
Oil Code:				
Formulatio	on / Stand	Code:		
Number o	of Downtin	me Occurrenc	es	
700 4				
Test Hours	Date	Downtime		Reasons
Hours	Date	Downtime		Reasons
				T ( I D )
				Total Downtime
0	ther Com	ments		
		nent Lines		

## Caterpiller C-13 Engine Oil Test Unscheduled Downtime & Maintenance Summary Form 7A

boratory:	1		<b>EOT Date:</b>	<b>EOT Time:</b>					
st Numbe	r:			•					
Code:									
rmulatior	/ Stand (	Code:							
					_				
Number o	f Downtir	ne Occurren	ces						
Test	Date	Downtime		Daggang					
Hours	Date	Downtime		Reasons					
				Total Downtime					
			1						
Ot	her Comn	nents							
Number	of Commo	ent Lines							

## Caterpiller C-13 Engine Oil Test Unscheduled Downtime & Maintenance Summary Form 7B

Test Number: Oil Code: Formulation /  Number of Do  Test Hours												
Formulation / Number of Do												
Number of Do												
Test	owntime (	<b>)</b> ccurrence										
Test	owntime C	)ccurrence										
Test	owntime C	)ccurrence			_							
Test												
		<del>Jecuitence,</del>	9									
Hours 1												
	Date Do	owntime	Reasons									
				T ( I D ) (								
				Total Downtime								
Othe	r Commen	ts										
Number of												
		l										

## Caterpiller C-13 Engine Oil Test Test Fuel Analysis (Last Batch) Form 8

Laboratory:	<b>EOT Date:</b>	<b>EOT Time:</b>
<b>Test Number:</b>		
Oil Code:		
Formulation / Stand Code:		
Fuel Supplier:		Fuel Batch ID:

Measurement	Specs.	Ana	lysis	Test Method
		New	EOT	
Total Sulfur, ppm	7 – 15			D 5453
Gravity, API	34 - 37			D 4052
Hydrocarbon Composition				
Aromatics, % Weight	26 – 31.5			D 5186
Olefins, % Volume	Report			D 1319
Cetane Index	Report			D 976
Cetane No.	43 – 47			D 613
Copper Strip Corrosion	1 Maximum			D 130
Flash Point, °C	54 Minimum			D 93
Pour Point, °C	-18 Maximum			D 97
Carbon Residue on 10% Residuum, %	0.35 Maximum			D 524 (10% Bottoms)
Water & Sediment, % Volume	0.05 Maximum			D 2709
Viscosity, cSt @ 40°C	2.0 - 2.6			D 445
Total Acid Number	0.05 Maximum			D 664
Strong Acid Number	0.00 Maximum			D 664
Accelerated Stability	1.5 max			D 2274
Ash, % Weight	0.005 Maximum			D 482
SLBOCLE, g	3100 min <sup>A</sup>			D 6078 <sup>A</sup>
90% Distillation, °C	282 - 338			D 86

A May be altered to be consistent with CARB or ASTM diesel fuel specifications.

## Caterpiller C-13 Engine Oil Test Build-Up and Hardware Information Form 9

Laboratory:	<b>EOT Date:</b>	EOT Time:
<b>Test Number:</b>		
Oil Code:		
Formulation / Stand Code:		

Hardware							
Part	Part Number						
Intake Valve							
Exhaust Valve							
Cylinder Head							
Head Gasket							
Pistons							
Injectors							
Rod Bearings							
Liners							
Top Ring							
2 <sup>nd</sup> Ring							
Oil Ring	•						

# Caterpiller C-13 Engine Oil Test Piston Deposit Rating Summary Form 10

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

Piston Number											
Parameter	1	2	3	4	5	6	Average				
TLHC, %											
TLC, dem.											
TGC, dem.											
AGF, %											
WD, dem.											
IGC, dem.											
2LC, dem.											

### Rating Summary: Piston No. 1 Form 11

						I OI III	11							
La	boratory:			]	EOT Date:			EC	OT Time:					
Te	st Numbe	er:					Oil Code:							
Fo	rmulation	1 / Stand Code	e:											
Da	te Rated:				Rater Initial	s:		Verified By:						
To	tal Piston R	atings Summary	7											
Grooves La		Lands		Groove	La	ands	Oil	Un	ıder					
	Deposit	No. 1	No. 2	No. 1	No. 2	Deposit	No. 3	No. 3	No. 4	Cooling Gallery	Cro	own		
	Factor	A % DEM	A % DFM	A % DEM	A % DEM	Factor	A % DEM	A % DEM	A % DEM		A.%	DEM		

			Gro	oves			La	nds		] [	Gro	ove		Lan	ds		C	Oil	Under		
	Deposit	N	o. 1	N	o. 2	No	o. 1	No	o. 2	Deposit	No	. 3	No	. 3	No	. 4	Cooling	Gallery	Cro	own	
	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.	A,%	DEM.	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.			A,%	DEM.	
C																					
A	HC - 1.0																	ll			
R	MC - 0.5				1		1	L	L				L								
В	LC25																				
O				L	L	1	L	L	1		<u> </u>	1	1					I	1		
N	Total																	1			
				1	1	1		Г	1												
	8 - 9																				
	7 - 7.9									7.5											
	6 - 6.9																				
V	5 - 5.9																				
A	4 - 4.9									4.5								İ			
R	3 - 3.9																				
N	2 - 2.9																				
I	1 - 1.9									1.5											
S	>0 - 0.9																				
Н	Clean		0		0		0		0			0		0		0				0	
	TD 4 1			I		I							I								
-	Total																				
	ting																				
Lo	cation									1											
Fa	ctor		2		3		1		3		2	0	2	0	6	0				1	
Inc	d.Rating																				
		WDP				TCC			TL	~	1	Unweig	htod D	onocita		To	n I and	Flaked	Carbon	0/2	

$\mathcal{E}$				
WDP	TGC	TLC	<b>Unweighted Deposits</b>	Top Land Flaked Carbon %
TGF	IGF %	TLHC %	Acc. Groove Fill %	

## Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 2 Form 12

Laboratory:	<b>EOT Date:</b>			EOT Time:
Test Number:		Oil Code:		
Formulation / Stand Code:				
Date Rated:	Rater Initials:		Verified By:	:
Total Piston Ratings Summary				

otal Piston R	<b>8</b>		oves			La	nds			Gro	ove		Lar	nds		Oil		Un	der
Deposit	N	o. 1		o. 2	No	o. 1		o. 2	Deposit	No		No	o. 3		o. 4	Cooling Gal	lery	Cro	own
Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.	A,%	DEM.	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.			A,%	DEM.
HC - 1.0			1						-										
MC - 0.5 LC25									-									l	
							1			1		1					1		
Total				1	1							1						· ·	
Total										1								1	
8 - 9		'					'	<u>'</u>			'	'						·	
7 - 7.9									7.5										
6 - 6.9									7.5								=		
5 - 5.9																	1		
4 - 4.9									4.5								- 1		
3 - 3.9																			
2 - 2.9																			
1 - 1.9									1.5										
>0 - 0.9		0		0		0		0			0		0						0
Clean		0		0		0		0			0		0		0				0
Total		'		1			1	'											
Rating									_								'		
									-										
Location		2		2		1		2		2	0		20		50				1
actor		2		3		1		3	-		U		U	C	50				1
nd.Rating					<b>T</b>											·		~ .	•
	WDP				TGC			TL	<u> </u>		Unweig	hted D	eposits	}	To	op Land Fla	iked	Carbon	1 %
	TGF			]	IGF %			TLHO	C %		Acc. G	roove	Fill %						

WDP	TGC	TLC	<b>Unweighted Deposits</b>	Top Land Flaked Carbon %
TGF	IGF %	TLHC %	Acc. Groove Fill %	

Rating Summary: Piston No. 3

Laboratory:	<b>EOT Date:</b>		EOT Time:
Test Number:		Oil Code:	
Formulation / Stand Code:			
Date Rated:	Rater Initials:	V	Verified By:

			ummary Gro	oves			Laı				Gro	ove		Lar	nds		Oil	Uı	nder
Depo			o. 1		o. 2	No			o. 2	Deposit	No			o. 3		э. 4	Cooling Gallery	Cr	own
Fact	tor	A,%	DEM.	A,%	DEM.	A,%	DEM.	A,%	DEM.	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.		A,%	DEM
	7 1 0																		
_	C - 1.0 C - 0.5							1		-			1						
	2 - 0.5						I	1		-			1						
LC	23						1				1								
	`otal		'			1	1			-								'	
	Ottal						1				1		1						
8 - 9	g		'	'			1	'										<u> </u>	
7 - 7										7.5									
6 - 6										7.10									
5 - 5																			
4 - 4	4.9									4.5									
3 - 3																			
2 - 2																			
1 - 1										1.5									
S >0 -																			
Clea	an		0		0		0		0			0		0		0			0
Те	`otal		'	1			1	1			<u> </u>						<u> </u>	<u>'</u>	
Rating	Otai									-							'		
										-									
Location	)II		2		2				2	1	2	0	2	.0		-0			1
actor			2		3	_	<u>l</u>	,	3		2	0	- 2	0	- 6	50			1
nd.Rati																			
	V	VDP				TGC			TL	C	l	Unweig	hted D	eposits		To	p Land Flaked	Carbor	1 %
	7	Г <b>G</b> F				IGF %			TLHO	C %		Acc. G	roove	Fill %					

Rating Summary: Piston No. 4

Laboratory:	<b>EOT Date:</b>		EOT Time:
Test Number:		Oil Code:	
Formulation / Stand Code:			
Date Rated:	Rater Initials:	Ve	rified By:

			ummary Gro	oves			Laı				Gro	ove		Lar	nds		Oil	Uı	nder
Depo			o. 1		o. 2	No			o. 2	Deposit	No			o. 3		э. 4	Cooling Gallery	Cr	own
Fact	tor	A,%	DEM.	A,%	DEM.	A,%	DEM.	A,%	DEM.	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.		A,%	DEM
	7 1 0																		
_	C - 1.0 C - 0.5							1		-			1						
	2 - 0.5					l .	I	1		-			1						
LC	23		1				1				1								
	`otal		'			1	1			-								'	
	Ottal						1				1		1						
8 - 9	g		'	'			1	'										<u> </u>	
7 - 7										7.5									
6 - 6										7.10									
5 - 5																			
4 - 4	4.9									4.5									
3 - 3																			
2 - 2																			
1 - 1										1.5									
S >0 -																			
Clea	an		0		0		0		0			0		0		0			0
Те	`otal		'	1			1	1			<u> </u>						<u> </u>	<u>'</u>	
Rating	Otai									-							'		
										-									
Location	)II		2		2				2	1	2	0	2	.0		-0			1
actor			2		3	_	<u>l</u>	,	3		2	0	- 2	0	- 6	50			1
nd.Rati																			
	V	VDP				TGC			TL	C	l	Unweig	hted D	eposits		To	p Land Flaked	Carbor	1 %
	7	Г <b>G</b> F				IGF %			TLHO	C %		Acc. G	roove	Fill %					

## Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 5

Laboratory:	<b>EOT Date:</b>		<b>EOT Time:</b>
Test Number:		Oil Code:	
Formulation / Stand Code:			
Date Rated:	Rater Initials:		Verified By:

			Gro	oves			Laı				Gro	ove		Lar	ıds		O		Un	der
	Deposit		o. 1		o. 2		o. 1		o. 2	Deposit	No			. 3		o. 4	Cooling	Gallery		own
	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.	A,%	DEM.	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.			A,%	DEM.
С	TIG. 1.0									4									!	
A	HC - 1.0									-										
R	MC - 0.5			I			I			-			l					11		
В	LC25									1								<u> </u>		
<b>1</b> )	Total						I		l I	-	l							- 1		
È	Total										1		1					<u>'</u>		
	8 - 9		<u> </u>			'														
	7 - 7.9									7.5								<u>'</u> .		
	6 - 6.9									7.5								<u> </u>		
	5 - 5.9																			
√ <b>\</b>	4 - 4.9									4.5								i		
2	3 - 3.9																			
1	2 - 2.9																	1		
	1 - 1.9									1.5								1		
•	>0 - 0.9																			
I	Clean		0		0		0		0			0		0		0				0
	Total																	1		
	ting																			
O	cation									1										
a	ctor		2		3		1	,	3		20	0	2	0	6	0				1
าด	l.Rating																			
		WDP				TGC			TL	C	I	Jnweigl	nted D	enosits		To	n Land	Flaked	Carbon	%
_	<u> </u>													-1-00200			F 20114		2012	•
	,	ГGF			1	IGF %			TLHO	7 0/2		Acc. G	roovo l	Fill %						

## Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 6

Laboratory:	<b>EOT Date:</b>		<b>EOT Time:</b>
Test Number:		Oil Code:	
Formulation / Stand Code:			
Date Rated:	Rater Initials:	,	Verified By:

			Gro	oves			Laı	nds			Gro	ove		Lan	ds		Oil	Ur	nder
	Deposit	N	o. 1	N	o. 2	No	o. 1	No	o. 2	Deposit	No	. 3	No	. 3	No	o. 4	Cooling Gallery	Cre	own
	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.	A,%	DEM.	Factor	A,%	DEM.	A,%	DEM.	A,%	DEM.		A,%	DEM.
C	***									_									
4	HC - 1.0																		
}	MC - 0.5			I		I		1	I									l l	
3	LC25			1		1		1										1	
C	Total			I	'	I			I			1	1					· · · · · · · ·	
_	Total			1		1				1	1						'		
	8 - 9					'			1								4	1	
	7 - 7.9									7.5									
	6 - 6.9									1.5									
I	5 - 5.9																		
4	4 - 4.9									4.5							i		
2	3 - 3.9									-									
N	2 - 2.9																		
ĺ	1 - 1.9									1.5									
5	>0 - 0.9																		
Н	Clean		0		0		0		0			0		0		0			0
				I		1			I										
_	Total									-									
	ting																		
	cation									1									
Fa	ctor		2		3		1	,	3		2	0	2	0	6	0			1
[no	d.Rating																		
	Ţ	WDP				TGC			TLO	C	J	Unweig	hted D	eposits		To	p Land Flaked	Carbon	ı %
														-					
	r	ГGF			]	IGF %			TLHC	7 %		Acc. G	roove l	Fill %					
					-	. 31 /0			1111	, , <del>u</del>		<u> </u>	100101	/ U					

### Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 1 Form 17

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

						1									
		Car		,	1		1	1	1		nish	1	1	1	ı
Deposit			HC	MC	LC	9.0-8	7.9-7	6.9-6	5.9-5	4.9-4	3.9-3	2.9-2	1.9-1	0.9-0	Clean
	1	T													
Groove	1	В													
Top	2	T													
And	2	В													
Bottom	2	T													
	3	В													
		T													
	1	В													
Top Bottom		BK													
		T				1									
And	2	В													
Back		BK													
Of															
Rings	3	T													
	3	В													
		BK													
Top Rin							%								
Top Rin							%								
Second 1							%								
Second 1			<u>l</u>				%								
Oil Ring							%								
Oil Ring							%								
Crown S	Crown Scuffed						%								
Skirt Scu	Skirt Scuffed						%								
Liner Sc	Liner Scuffed						%								

### Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 2 Form 18

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

		<u> </u>	1			Varnish										
D '4		Car		110	1.0	0.0.0	707	606	505			202	1.0.1	000	C1	
Deposit			HC	MC	LC	9.0-8	7.9-7	6.9-6	5.9-5	4.9-4	3.9-3	2.9-2	1.9-1	0.9-0	Clean	
	1	T														
Groove	1	В														
Top	2	T														
And	2	В														
Bottom	3	T														
	3	В														
		Т														
	1	В														
Top Bottom		BK														
		T														
And	2	В														
Back Of		BK														
Rings		T														
Kings	3	В														
		BK														
Ton Din	~ Ctu						%									
Top Rin							% %	-								
Top Rin																
Second			1				%									
Second			1				%									
	Oil Ring Stuck					1	%	-								
	Oil Ring Scuffed						%									
	Crown Scuffed					1	%									
	Skirt Scuffed						%									
Liner Sc	iner Scuffed						%									

### Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 3 Form 19

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

		Car									nish			•	
Deposit			HC	MC	LC	9.0-8	7.9-7	6.9-6	5.9-5	4.9-4	3.9-3	2.9-2	1.9-1	0.9-0	Clean
	1	T													
Groove	1	В													
Top	2	T													
And	2	В													
Bottom	2	T													
	3	В													
		T													
	1	В													
Top Bottom		BK													
Bottom		T													
And	2	В													
Back Of		BK													
Rings		T													
Tungs	3	В													
		BK													
Top Rin	o Stu						%								
Top Rin							%								
Second I							%								
Second I			1				%								
	Oil Ring Stuck						%								
Oil Ring Scuffed						%									
	Crown Scuffed						%								
Skirt Scuffed							%								
Liner Sc	Liner Scuffed						%								

### Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 4 Form 20

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

		<u> </u>	1			Varnish										
D '4		Car		110	1.0	0.0.0	707	606	505			202	1.0.1	000	C1	
Deposit			HC	MC	LC	9.0-8	7.9-7	6.9-6	5.9-5	4.9-4	3.9-3	2.9-2	1.9-1	0.9-0	Clean	
	1	T														
Groove	1	В														
Top	2	T														
And	2	В														
Bottom	3	T														
	3	В														
		Т														
	1	В														
Top Bottom		BK														
		T														
And	2	В														
Back Of		BK														
Rings		T														
Kings	3	В														
		BK														
Ton Din	~ Ctu						%									
Top Rin							% %	-								
Top Rin																
Second			1				%									
Second			1				%									
	Oil Ring Stuck					1	%	-								
	Oil Ring Scuffed						%									
	Crown Scuffed					1	%									
	Skirt Scuffed						%									
Liner Sc	iner Scuffed						%									

# Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 5 Form 21

Laboratory:	EOT Date:	EOT Time:
Test Number:		
Oil Code:		
Formulation / Stand Code:		

		<u> </u>	1			Varnish										
D '4		Car		110	1.0	0.0.0	707	606	505			202	1.0.1	000	C1	
Deposit			HC	MC	LC	9.0-8	7.9-7	6.9-6	5.9-5	4.9-4	3.9-3	2.9-2	1.9-1	0.9-0	Clean	
	1	T														
Groove	1	В														
Top	2	T														
And	2	В														
Bottom	3	T														
	3	В														
		Т														
	1	В														
Top Bottom		BK														
		T														
And	2	В														
Back Of		BK														
Rings		T														
Kings	3	В														
		BK														
Ton Din	~ Ctu						%									
Top Rin							% %	-								
Top Rin																
Second			1				%									
Second			1				%									
	Oil Ring Stuck						%	-								
	Oil Ring Scuffed						%									
	Crown Scuffed					1	%									
	Skirt Scuffed						%									
Liner Sc	iner Scuffed						%									

### Caterpiller C-13 Engine Oil Test Rating Summary: Piston No. 6 Form 22

<b>EOT Date:</b>	<b>EOT Time:</b>

Oil Code:
Formulation / Stand Code:

Laboratory:
Test Number:

		Car	bon			Varnish										
Deposit			HC	MC	LC	9.0-8	7.9-7	6.9-6	5.9-5	4.9-4	3.9-3	2.9-2	1.9-1	0.9-0	Clean	
	1	T														
Groove	1	В														
Top	2	T														
And		В														
Bottom	3	T														
		В														
		T														
Top Bottom And	1	В														
		BK														
		T														
Back	2	В														
Of		BK														
Rings		T														
	3	В														
		BK														
Top Rin							%									
Top Rin							%									
Second I							%	-								
Second I			1	1			% %	-								
	Oil Ring Stuck					%	-									
	Oil Ring Scuffed Crown Scuffed					%										
	Skirt Scuffed						%									
	Liner Scuffed						%									

## Caterpiller C-13 Engine Oil Test Oil Consumption Plot Form 23

Laboratory:	EOT Date:	EOT Time:			
Test Number:					
Oil Code:					
Formulation / Stand Code:					

Test Hours	50	100	150	200	250	300	350	400	450	500
Oil Consumption, g/h										
$\mathbb{R}^2$										

100 – 150 h	
Oil	
<b>Consumption:</b>	
-	
150 500 h	
450 – 500 h	
Oil	
<b>Consumption:</b>	
Consumption.	
0/ Inamagga	
% Increase:	

Test Hours

### American Chemistry Council Code of Practice Test Laboratory Conformance Statement

Test Laboratory							
Test Sponsor							
Formulation/Stand Code							
Test Nu		<u> </u>					
Start Da	te	Start Time		Time Zone			
		Declar	rations				
No. 1	-	the ACC Code of Practice for which the test laboratory is responsible uct of this test. Yes *					
No. 2	The laboratory ran this test for the full duration following all procedural requirements; and all operational validity requirements of the latest version of the applicable test procedure (ASTM or other), including all updates issued by the organization responsible for the test, were met. Yes No*						
	from operational va	nis Declaration is "No", does the test engineer consider the deviations alidity requirements that occurred to be beyond the control of the* No					
No. 3	A deviation occurred for one of the test parameters identified by the organization responsible for the test as being a special case. Yes* No(This currently applies only to specific deviations identified in the ASTM Information Letter System)						
		Check The Appro	priate Conclusion				
	_	review of this test t Acceptance Crite	indicates that the resulting calculations.	ts should be in	cluded in the		
	*Operational review of this test indicates that the results should not be included in the Multiple Test Acceptance Criteria calculations.						
Note: Sup	oporting comments are	e required for all r	esponses identified with c	ın asterisk.			
		Со	mments				
Signature			Date				
Typed Na	ame		Title	•			