B.E.T.: Boiler Efficiency Test

(IV-1)

Item	Unit	Measuring Point			Rec	Recording	B.E.T.	ANN	ANN
Test Number			1 E	臣-2	E-2 E-3(a) E-4(a)	E-4 (a)			
Date			9/8	9/8	9/8	9/8			
Time			08:30	11:30	14:30	16:30			
3F Left near S/B C-3	Ų.	local		1,260	1,260	1,270			
3F Right near S/B C-1	ပ	local		1,245	1,255	1,230			
3F Mezz. Rear Right near S/B F-2	၁့	loca1		1,420	1,365	1,340			
3F Mezz. Rear Left near S/B F-5	၁့	local		1,405	1,365	1,390			
4F Mezz. Right Rear near S/B D-2	၁့	local		1,435	1,460	1,460			
4F Mezz. Left Rear near S/B D-7	၁့	local		1,430	1,445	1,420			
SF Left Rear near S/B C-3	၁့	local		1,440	1,440	1,410			
5F Right Rear near S/B C-2	၁့	local	-	1,440	1,460	1,460			
> 7F Mezz. Front Right 2nd Port	၁,	local		1,290	1,290	1,290			
7 7F Mezz. Front Center Port	၁့	local		1,290	1,260	1,280			
7F Mezz. Front Left 2nd Port	ပ္စ	local		1,260	1,255	1,250			
8F Left near S/B 6-L	၁့	local		1,145	1,140	1,140			
8F Right near S/B 6-R	၁့	local		1,130	1,125	1,110			
8F Rear Left 2nd Port	၁့	local		1,020	1,015	1,000			
9F Left near S/B 4-L	၁့	local		1,035	1,040	1,025			
9F Right near S/B 4-R	၁့	local		1,020	1,010	1,010			
9F Front Left 2nd Port	၁့	local		1,020	1,040	1,020			
9F Front Center Port	၁့	local		1,015	1,010	1,010			
9F Front Right 2nd Port	၁.	local		1,015	1,045	1,010			

Recording B.E.T. High Low	E-4(a)	8/6	16:30	5.0	4.8	4.0	3.8	5.0	4.5	4.7	4.5	5.0	4.9	0.0	4.0	1.4	2.5	2.2	2.9		
Reco	E-3(a) E	1	14:30	5.0	4.8	4.0	3.8	5.0	4.5	4.7	4.5	5.0	4.9	5.0	4.0	1.4	2.5	2.2	2.9	ι -	۰
	E-2	9/8	11:30	5.0	₩. 80.	4.0	3.8	5.0	4.5	4.7	4.5	5.0	4.9	2.0	4.0	1.4	2.5	2.2	2.9	٥	,
	다 의	9/8	08:30	5.0	4.8	4.0	3.8	5.0	4.5	4.7	4.5	5.0	4.9	5.0	4.0	1.4	2,5	2.2	2.9	α -	
Measuring Point				local	local	local	local	local	local	1008	15)										
Item	Test Number	Date	Tine	A-1 Air resistor open	A-2 Air resistor open	A-3 Air resistor open	A-4 Air resistor open	B-1 Air resistor open	B-2 Air resistor open	B-3 Air resistor open	B-4 Air resistor open	C-1 Air resistor open	C-2 Air resistor open	က် C-3 Air resistor open		D-1 Air resistor open	D-2 Air resistor open	D-3 Air resistor open	D-4 Air resistor open	Airbort demoer open (Right)	1111

Item	Unit	Measuring Point			Rec	Recording	В.Е.Т.	ANN High	ANN
Test Number			[편 [[편	日:2	E-3(a)	E-4(a)			
Date			9/8	9/8	9/8	9/8			
Time			08:30	11:30	14:30	16:30			
Burner Barrel A-1	ပ္	DI B60710	275.1	294.5	295.5	298.		400	
Burner Barrel A-1	၁့	DL B60T11	178.4	201.7	203.1	205.		400	
Burner Barrel A-1	၁့	DL B60T12	268.1	288.7	289.3	1		400	
١.	ပ	DL B60T13	258.2	276.7	278.6	280.		400	
Burner Barrel A-2	၁့	DL B60T20	280.7	301.5	302.0	303		400	
Burner Barrel A-2	ပ	DL B60T21	211.9	232.2	231.7	233		400	
Barrel	ပ		236.9	255.6	256.5	257		400	
Barrel	၁့		255.7	278.1	279.6	280		400	
Burner Barrel A-3	ပ	DL B60T30	238.0	261.9	264.1			400	
Burner Barrel A-3	၁့		200.1	227.8	229.5	230		400	
Barrel	၁	DL B60T32	263.4	286.8	288.1			400	
Barrel	ပ္	DL B60T33	270.8	293.9	294.9			400	
Barrel	၁့	DL B60T40	278.8	301.4	302.1	302.3		400	
Burner Barrel A-4	၁့	B60T4	157.9	174.3	174.0			400	
1	ပ		270.1	290.2	291.5			400	
	၁့	B60T4	281.9	301.6	303.1			400	
1	၁့	B61T1	226.7	245.9	248.7			400	
Burner Barrel B-1	ပ	DL B61T11	238.5	264.7	264.8			400	
Burner Barrel B-1	၁့	BELTI	276.5	296.5	298.4			400	
Burner Barrel B-1	၁့	BELTI	255.7	272.3	274.1			400	
	ပ	B61T2	249.3	270.5	273.2			400	
Barrel	၁့	DL B61T21	206.6	229.2	229.7			400	
Barrel	၁့	B61T2	277.7	294.7	296.6			400	
Burner Barrel B-2	၁့	B61T2	254.6	273.3	274.8			400	
1 :	ပ	B61T3	253.2	267.6	269.8			400	
Barrel	ນຸ	B61T3	192.0	214.1	214.9			400	
1: ''	ပ	B61T3	278.3	290.3	291.7			400	
Barrel	၁့	DL B61T33	251.9	269.6	273.0			400	
Barrel	၁့	B61T4	242.8	261.9	263.1			400	
1	၁	DL B61T41	231.6	257.4	257.8	258.9		400	
Burner Barrel B-4	၁့	B61T4	263.1	278.9	280.0			400	
Burner Barrel B-4	၁့	B61T4	262.3	282.0	283.0			400	

A-6-60

Item	Unit	Measuring Point			Rec	Recording		В.Е.Т.	ANN High	ANN
				•						
Test Number			E-1		E-3(a)	E-4(a)	A TOTAL CONTRACTOR			
Date			9/8	9/8	9/8	9/8				
Time			08:30	11:30	14:30	16:30				
	-									
Burner Barrel C-1	သွ	DL B62T10	252.7	271.9		276.1			400	
Burner Barrel C-1	ာ့	DL B62T11	242.9			270.8			400	
Burner Barrel C-1	၁့	DL B62T12	252.7	275.8	276.5	279.1			400	
Burner Barrel C-1	၁့	DL B62T13	247.2			270.5			400	
1.	ບູ	DL B62T20	272.7			300.8			400	
Burner Barrel C-2	၁့	B62T2	219.5			244.8			400	
Burner Barrel C-2	သွ	DL B62T22	257.6			285.6			400	
Burner Barrel C-2	ວຸ	B62T2	301.7			323.7			400	
Barrel	ပ	DL B62T30	44.2		ı • :	50.2			400	
Barrel	O.	B62T3	51.8		63.8	6.09			400	
Burner	၁ွ	B62T3	284.0			311.7			400	
Barrel	J.	B62T3	234.9		259.3	261.1			400	
Burner Barrel	၁့	B62T4	250.3			277.6			400	
Burner Barrel C-4	ນຸ	B62T4	246.2			274.3			400	
Burner Barrel C-4	ນຸ	DL B62T42	257.7			284.0			400	
Burner Barrel C-4	၁့	B62T4	271.8		297.1	298.0			400	
Burner Barrel D-1	၁့	DL B63T10	331.3			351.2			400	
Burner Barrel D-1	ວູ	B63T1	294.8			318,9			400	
Burner Barrel D-1	၁့	DL B63T12	346.3			358.8			400	
Burner Barrel D-1	၁့	B63TI	347.5			362.2			400	
Burner Barrel D-2	၁့	B63T2	347.0	359.5		361.9			400	
Barrel	ာ့	DL B63T21	277.2			303.4			400	
Barrel	ວຸ	B63T2	369.4		373.9	373.2			400	
Burner Barrel D-2	ပ	B63T2			7.	358.2			400	
Barrel	ာ လ	B63T3	1	1	1	L			400	
ı .	ပ	DL B63T31		303.5		303.6			400	
Barrel	ပ ်	B63T		337.2	339.1	١.			400	
Barrel	ပ	DL B63T33	. ·			362.8			400	
Barrel	ပ	B63T4	332.2	346.7		348.4			400	
1.	၁့	DL B63r41			308.1				400	
Burner Barrel D-4	၁့	B63T4		361.9	364.4	361.5			400	
١.	၁့	DL B63T43	328.8	344.2	346.4				400	
								Ĭ	İ	

B.E.T.: Boiler Efficiency Test

Boiler	
 - 	ļ
Unit I	
Calaca	
of (
Test	
Combustion	

(I-I)

Item	Unit	Measuring Point			Rec	Recording	B.E.T.	ANN High	ANN
Test Number			四 1-5	E-6(a)	E-8(a)	E-9(a)		·	
Date			8/7	8/7	8/7	8/7			
Time			00:60	10:30	13:00	14:30			
Coal blend ratio (S/A)			60/40	60/40	60/40	60/40		i	
Generator load	MW	DL Q20W10	293.3	292.8	295.5	304.7	300		
Main steam flow	$_{ m T/H}$	DL G21H10	929	904	939	096	913.3		
Feed water flow	н/т	DL E15F10	838	822	864	886	. •		
SH spray flow	т/н	DL ESSF10	90.2	89.2	74.8	90.4	56.4		
Drum level	um	DL E20110	10.1	8.1	-7.4	38.6	-11.7	127	-203
> Drum pressure	kg/cm ²	DL E20P10	178.7	176.8	180.4	184.6	187.2	200	
Turbi	kg/cm²	DL G21P10	164.8	163.3	166.7	170.6		171	
S Final SH outlet temperature		DL E60T10	539.5	548.9	535.8	536.7	542.5		
RH outlet temper	ပ	DL E74T10	542.2	550.0	529.1	537.2	541.6		
Eco. inlet feedwater temp.	ွ	DI ElOTIOA	275.1	274.4	275.0	276.4			
ary air flo	T/H	DL A42F10	110	120	124	111			
primary	T/H	DL A46F10	114	112	136	132			
ering air fl	T/H	DL A42F20	56	52	30	39		a series de la company	
B Tempering air flow	T/H	DL A46F20	53	52	30	36			
Secondary	H/L	DL A52F10	419	397	395	415			
1	T/H	DL A52F10	437	449	446	454		- 7	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Total air flow	H/L	DL A60G10	1,194	1,181	1,146	1,182			
Boiler exit gas O ₂ (A)	æ	DL A80C10	3.14	3,21	3,40	3.20	- 1		2.94
Boiler exit gas 0, (B)	д₽	DL A80C20	ı			1	3.22	5.88	2.94
Total fuel flow	T/H	DL B10G10A	139.85	139,85	139.78	139.75	110.4		
A FDF discharge draft	mmAg	DL A12F10	179.8		162.1	185.7	233.7		
B FDF discharge draft	mmAq	DL A16F10	179.1	173.7	159.8	184.9	231.1		and otherwise section
1	mmAq	DL A70F10	64.3	69.2	59.1	67.5	114.3		
Furnace draft	mmAq	DL ASOF10	-10.7	0.6-	-14.0	-12.1	-20.3		
								47.	
1、 本本的表示。 1、1000年的11年 11年 11年 11年 11年 11年 11年 11年 11年 11									
	+ 								
			:						
							む む ら 。 切く。10% 点	かん かんりょう かんかん	TOOK I

Item	Unit	Measuring Point			Re	Recording	B.E.T.	ANN	ANN
Test Number			ថា - ស	E-6(a)	E-8(a)	E-9(a)			
Date			8/7	8/7	1/8	8/7			
Time			00:60	10:30	13:00	14:30			
A Lower Eco outlet draft	mmAg	DL ELOFIO	1 9 9	-99°	9.66-	-97.0	<u>ት</u>		
B Lower Eco outlet draft	mmAq	DL E10F20	-97.3	96.7	-98°8	96.4	5.96-		
le diff.	mmAq	DL A53D10	141.3	148,0	147.4	144.8	119.4		
B AH gas side diff. press.	mmAg	A57D	137.9	137.2	139.0	134,1	114.3		
Primary air press.	mmAq	A40P	1,609	1,601	1,527	-7	1,496.2		
A IDF inlet draft	mmAq	DL A22F10	-332.6	-333,4	-335,9	-332.4	-297.2		
B IDF inlet draft	mmAq	A26F	-331.5	-331.6	-333.8	-330.1	-294.6		
A AH inlet air temp.	၁	A52T	34.8	35.4	36.7	36.6	35.1		
B AH inlet air temp.	၁့	DL A56T10	35.0	35,7	37.2	36.9	33.9		
A AH outlet air temp.	၁့	A52T	333.5	338.5	333,9	334.1	338.3		
	၁့	DL A56T20	325.8	331.4	330.7	329.9	337.4		
A AH inlet gas t	၁	AS3T	369.3	374.6	371.5	371.3	365.4		
B AH inlet gas	၁	DL A57T10	361.7	367.7	367.9	366.0	367.9		
A AH outlet gas temp.	၁့	A53T	144.2	145.4	140.9	141.8	147.4		
B AH outlet gas temp.	ပ	A57T	148.7	150.4	147.6	148.6	150.3		
A Precip outlet gas temp.	၁့	DL C10T10	139.6	141.1	136.6	138.8	143.6		
cip outlet	၁့	Clor	140.0	141.7	138.8	140.7	144.4		
A IDF motor amp.	Ą	CR indicator		247	245	250	236		
B IDF motor amp.	Ą	CR indicator	1 1	244	245	247	230		
A FDF motor amp.	Ą	CR indicator		84	83	85	85		
B FDF motor amp.	Ą	CR indicator		83	83	84	86		
A Pri. air fan motor amp.	Ą	CR indicator		229	230	230	183		
. air	Ą	CR indicator		228	230	232	196		
í	æ	CR controller		72	71	72.5	70		
B IDF inlet vane open	ďο	CR controller		77.5	77.5	77.5	73		
A FDF inlet vane open	80	CR controller		70	69	71	74		
B FDF inlet vane open	æ	CR controller		65	64	65	70		
SH pass damper open	%	CR controller		79	72.5	68	74		
RH pass damper open	œ	CR controller	- 1	40	46.5	51.5	75		
capacity damper (æ	CR controller	97.5	97.5	97.5	97.5			
sat	∞			4.6					
O, analysis by Orsat (B)	œ		3.8	4.2					
L									

B.E.T.: Boiler Efficiency Test

								į
Item	Unit	Measuring Point			Re	Recording	B.E.T. ANN ANN Figh LOW	Z Z
			刊 1	E-6(a)	E-8(a)	ੲ9(a)		
			8/7	8/7	1/8	8/7		
			00:60	10:30	13:00	14:30		
fineness	ο¥P		٠					
feeder flow	H/E	DL BILFIO	41.41	41.19	41.27	41.36	36.7	
inlet air temp.	ပ	DL B13T10	221	230	289	276	196.2	1
coal outlet temp.	ပ	DL B13T20	89	69	08	80	77.9	
aft	mmAg	CR indicator	530	550	500	500	527.8	1
primary air flow	T/H	DL BISF10	99.2	97.9	95,1	95.4	86.0 31.	m
air damper open	, .	local	20	24	34	30		
cold air damper open	*	local	25	25	27	6,1		
capacity damper open	æ	local	57	57	42	40]
	Ą	CR indicator	80	80	80	80	98	
classifier open	æ					,	09	
								-
coal fineness	оp							
coal feeder flow	T/H	DL B21F10	49.16	48.97	49.53	49.64	36.0	
air temp.	ပ္	DL B23T10	253	261	283	282	174.6	
air coal outlet temp.	၁	DL B23T20	69	69	80	18	78.9	
differential draft	mmAg	CR indicator	009	620	630	620	2000	
primary air flow	H/H	DL B23F10	108	109	110.5	106.6	36.7 3I	<u>س</u>
Mill hot air damper open	æ	local	27	32	38	35		
Will cold air damper open	*	local	12	12	10	10	40	
	æ	local	86	86	86	98		
motor amp.	A	CR indicator	92	06	06	90	06	
classifier open	æ				-		09.0	
					• :	. * * -		

Item	Unit	Measuring Point			Rec	Recording	B.E.T.	ANN High	ANN
Test Number			មា ! ល	E-6(a)	E-8(a)	E-9(a)			
Date			8/7	8/7	8/7	8/7			
Time	İ		00:60	10:30	13:00	14:30			
A Mill hot air damper open	φo	local	20	24	8. 4.	30			
A Mill cold air damper open	οiP	local	25	25	27	19			
A Mill capacity damper open	ью	local	57	57	42	40			
A Mill classifier vane open	æ	local							
B Mill hot air damper open	do	local	27	32	38	35			
B Mill cold air damper open	αp	local	12	12	10	10			
B Mill capacity damper open	తభ	local	98	98	98	98			
B Mill classifier vane open	જ	local							
A	-	-							
C Mill hot air damper open	o,c	local	32	32	72	54			
C Mill cold air damper open	ક	local	20	20	8	12			
C Mill capacity damper open	oβ	local	52	58	55	26			
C Mill classifier vane open	æ	local							
		-							
D Mill hot air damper open	φo	local							
D Mill cold air damper open	æ	local							
D Mill capacity damper open	ďρ	local							
D Mill classifier vane open	æ	local							

(1-111)	ANN ANN High Low				0 0 1	538	538	538	538	538	538	538	538	538	602	602	602	602	602	602	602	602	602	602	602	602	602	602	602	502
	B.E.T.																													
	Recording	E-9(a)	8/7	14:30	7 7 7 7	485	526.	463.4	455				462.	ŀ				541.			515	504		502		511.1		539	ហ	VC u
e ·	Re	E-8(a)	1/8 1	0 13:00	1 1 2 7 0	401.		3 459.8	456	459.	9 460.9		464.		541.	520.	555.	3 535.5	531.	45	517.	508.	506.		534.	511.		539.		000
	:	5 E-6(a)	7 8/7	0 10:30	7.00	•1 .	535.		2 478.	481.	•		6 476.	502.	553	1 529.0	572	546.	551.	489.	529	5 516.	4 518.4	7 516.		19.	574.	544.	60.	1
-		B-5	/8	00:00	470	500	531.	479.	470.	476.	462.	479.	469	496.	545	523.	567.			481.			511.			512.		5	ស	
:	Measuring Point				OF FERD TO	- 1	DL ESIT12	DL E51T13			DL ES1T16		DL E51718			DL E61T11				DL E61T15			DL EGIT18			DL E61T21	1	DL E61T23		ľ
	Unit				٥	ر ه د	J.	၁့	၁	ွ	သို	၁.	ပ	ပ္စ	ပ	ပ္စ	၁,	၁ွ	၁,	ပ္	၁့	၁့	၁.	၁့	၁.	၁့	၁့	၁ွ	၁့	
					- F		١.	temp. 4	temp. 5	temp. 6	temp. 7	li	temp. 9	temp. 10	7	2	3	4	S	9	7	8	თ	10	11	12	13	I4	15	
						tube metal temp	Ι.	١	metal te	metal te	metal te	metal te	metal te	metal te	L temp.	temp.	L temp.		temp.	temp.	temp.			1	. 1	i				
:	Item					out tube	tube	out tube		out tube	out tube	out tube	out tube	out tube	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	tube metal	
		Test Number	te	Time	r C est	TTEM LLEM	wall	wall	wall	. wall	. wall	wall	wall.	Div. wall c	Final SH to	SH	Final SH to	SH	SH	Final SH tu	Final SH tu	ES	SH	SH	E.	SH	Final SH th	SH	SH	
		Te	Da	T_1	Ċ	Div		Div	Div	Div	Div	Div	. '	[급] A-6	' '	1 1	Щ	ţ	Ē	Ë	124	[E.	ÍΨ	Š.	EL.	164	Гъ.	<u> </u>	[[۱

ltem	ще	Unit	Measuring Point			Reco	Recording	В.Е.Т.	ANN High	ANN
Test Number				E-5	E-6(a) E	E-8(a) E	E-9(a)			
Date				8/7	8/7	8/7	8/7			
Time				00:60	10:30	13:00	14:30			
-	4	Ċ			0		7 ()			
RH out tube metal	cemp.	ပ	ı	504.U	508.9	494.0	500.1		586	
RH out tube metal	l temp. 2	ပ	1	484.3	489.0	478.4	482.2		599	
RH out tube metal	l temp. 3	၁့	DL E71T12	602.4	601.4	575.7	588.8		599	
RH out tube metal	1 temp. 4	ပ	DL E71T13	580.3	584.5	559.8	570.0		599	
RH out tube metal		ပ	DL E71T14	563.6	565.4	533.7	548.4		599	
RH out tube metal		၁့	DL E71T15	560.8	563.3	532.3	545.4		599	
RH out tube metal	i i	ິວູ	DL E71T16	527.4	530.9	497.8	506.6		599	
RH out tube metal		၁့		508.2	508.4	480.3	490.4		599	
RH out tube metal	•	၁,	DL E71T18	478,4	480.1	476.5	476.6		599	
RH out tube metal	1 temp. 10	່ວູ	DL E71T19	462.9	465.1	458.2	459.9		599	
RH out tube metal	1.	ပ	DL E71T20	478.9	481.0	480.5	479.2		599	
o RH out tube metal	l temp. 12	၁့	DL E71T21	461.3	463.6	466.6	466.7		599	
RH out tube metal		ာ	DL E71T22	498.4	501.6	510.5	510.4		599	
RH out tube metal	1 temp. 14	၁့	DL E71T23	478.7	482.6	493.4	493.7		599	
RH out tube metal		၁့	DL E71T24	509.4	511.7	514.0	513.2		599	
RH out tube metal	2	၁,	DL E71T25	543.2	545.5	550.4	552.6		599	
RH out tube metal	1	၁,	DL E71T26	593.2	594.3	602.1	601.5		599	
RH out tube metal	I temp. 18	ိုင		583.5	586.6	595.0	594.6		599	
RH out tube metal		၁့	DL E71728	563.6	564.3	568.5	570.9		. 665	
RH out tube metal temp	1 temp. 20	၁	DL E71T29	516.7	518.5	522.7	523.3		599	

					1.					
Item	Unit	Measuring Point			Reco	Recording	g	B.E.T.	ANN High	ANN
						:				
Test Number			E-5	E-5 E-6(a) E-8(a) E-9(a)	8(a) E	3-9(a)				
Date			8/7	8/7	8/7	2/8				
Time			00:60	09:00 10:30	13:00	14:30				
7F Mezz. Front Right 2nd Port	ပ္	local	1,300	1,300 1,280 1,290 1,255	1,290	1,255		:		
7F Mezz. Front Center Port	ပ	local	1,265	1,265 1,260 1,290 1,250	1,290	1,250				
7F Mezz. Front Left 2nd Port	၁့	local	1,230	1,290	1,285	1,270				
8F Left near S/B 6-L	၁့	local	1,145	1,160	1,120	1,150				
8F Right near S/B 6-R	D°	loca1	1,120	1,140	1,140	1,150				
8F Rear Left 2nd Port	၁့	local	1,005	1,000	1,010	1,020				
9F Left near S/B 4-L	၁့	local	1,015	1,035	1,000	1,010			. :	
9F Right near S/B 4-R	O,	local	1,040	1,050	1,020	1,035				
9F Front Left 2nd Port	ပ	local	1,005	1,040	1,000	1,015				
9F Front Center Port	ပ္	local	1,020	1,015	985	1,000				
9F Front Right 2nd Port	ွ	local	1,015	1,020	1,010	1,030				

Item	Unit Measuring Point		Re	Recording	B.E.T.	ANN High	ANN Low
Test Number		E-5 E-6(a)) E-8(a)	E-9(a)			
Date	\$1,50 mm	8/7 8/7		8/7			
Time		09:00 10:30	133	14:30			
A-1 Air resistor open	local	5.0 5.0	0.5.0	5.0			
A-2 Air resistor open	local	4.8 4.8	8 4.8	4.8			
A-3 Air resistor open	local	4.0 4.0	0 4.0	4.0			
A-4 Air resistor open	local	3.8 3.8	3.8	3.8			
B-1 Air resistor open	local	5.0 5.0	0 5.0	5.0			
B-2 Air resistor open	local	4.5 4.		4.5	-		
B-3 Air resistor open	local	4.5 4.5	5 4.5	4.5			
B-4 Air resistor open	local	4.6 4.6	6 4.6	4.6			
C-1 Air resistor open	local	5.0 5.0		5.0			
C-2 Air resistor open	local	0	0.5 0	5.0			
\$\to C-3 Air resistor open	local	5.0 5.0		5.0			
C-4 Air resistor open	local	4.0 4.0	0 4.0	4.0			
0-1	local	1.4 1.4	4 1.4	1.4			
D-2 Air resistor open	local	2.4 2.	.4 2.4	2.4			
D-3 Air resistor open	local	2.2 2.2	2.2	2.2			
D-4 Air resistor open	local	2.9 2.9	6.2 6.	2.9			
Airport damper open (Right)	local	0.8 0.3	3 1.0	1.0			
Airport damper open (Left)	local	0.8 0.4	1.0	1.0			1

(V-1)	B.E.T. AMN ANN High Low			400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	Recording	9) 5-0(9)	14	302	211.	296.	7.			.2 264.1									1			1				300.	278.	275.	223	293	279.	.6 270.1	.3 263.	.7 286.	.0 289.1
		F-5 F-6(2)	10:30 13	302.5	.3 206.9	296.0	285.6	3 307.7	235.2	258.1 261.7 262.2	.6 285.8	270.5	.6 233.0	.6 294.3	300.4	.6 305.4	176.4	296.0	307.4	251.8	267.6	302.3	277.1	275.4	234.0	300.8	276.4		217.7	3 292.8	0 275.7	.7	3 260.0	4 283.9	284
	Unit Measuring Point			DI	DI		°C DL B60T13	DI	DI		DL	IG	DI	DL	DI	°C DL B60T40	DĽ		IG	DIC	°C DL B61T11	JU	DI	Ω	JG	DI	DIC	°C DL B61T30	IO	DĽ	DI	DI	DIC	DI	°C DL B61T43
	Item	Test Nimber	Tine		Burner Barrel A-1	١.				Burner Barrel A-2	Barrel	Barrel	Barre1	Burner Barrel	Barrel	Burner Barrel	Burner Barrel A-4	Barrel		1 1	Burner Barrel B-1	1				Barrel		Burner Barrel B-3	Barrel	Burner Barrel B-3	Burner Barrel B-3	Burner Barrel B-4		Burner Barrel B-4	Burner Barrel B-4

B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point			Re	Recording	B.E.T.	ANN High	ANN
Test Number			E+5	E-6 (a)	E-8(a)	E-9(a)			
Date			8/7	8/7	8/7	8/7			
Time			00:60	10:30	13:00	14:30			
Burner Barrel C-1	ູນ	DL B62T10	273.7	276.6	277.8	278.8		400	
Burner Barrel C-1	ပ	DL B62T11	268.1	271.3	270.6			400	
Burner Barrel C-1	၁့	DL B62T12	276.5	279.9	281.3	282.0		400	
Burner Barrel C-1	၁့		268,2	271.3		274.1		400	
Burner Barrel C-2	၁့		298.4	302.1				400	
Burner Barrel C-2	၁့		242.5	244.8	. •			400	
Burner Barrel C-2	၁့	DL B62T22	282.8	286.7		288.2		400	
Barrel	၁		321.6	323.8				400	
Barrel	ပ	DL B62T30	57,5	57.5	56.4	58.2		400	
Burner Barrel C-3	၁့	DL B62T31	63.5	64.0	91	69.3		400	
Burner Barrel C-3	ပ	DL B62T32		312.7	314.5	313,8		400	
Burner Barrel C-3	ပ	DL B62T33	257.7	261.4	266.8	267.1		400	
Burner Barrel C-4	၁့	DL B62T40	1	277.9		282.2		400	
Burner Barrel C-4	၁	DL B62T41	270.5	274.6	276.4	276,8		400	
Barrel	ပ	DL B62T42	280.0	284.1		287.4		400	
Burner Barrel C-4	၁့	DL B62T43	294.2	298.6		301.2		400	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Burner Barrel D-1	၁္	DL B63T10	352.9	358.7		354.5		400	
Burner Barrel D-1	၁ _၈	DL B63T11	317.6	321.8	317.1	318.5		400	
Burner Barrel D-1	၁	DL B63T12	361.1	366.5		361.2		400	
Burner Barrel D-1	၁့	DL B63T13	365.2	370.5		366.4		400	
Burner Barrel D-2	၁့	DL B63T20		370.5		366.4		400	
Burner Barrel D-2	၁့	DL B63T21	302,3	305.6	304.3	306.4		400	
Burner Barrel D-2	သ	DL B63T22	376.9	378.0	377.5	379.6		400	in the second of
Burner Barrel D-2	၁့	DL B63T23		365.0	360.3	363.0	e e e e e e e e e e e e e e e e e e e	400	the contraction of the contracti
Burner Barrel D-3	၁့	DL B63T30						400	
Burner Barrel D-3	ပ္စ	DL B63T31	301.8	304.3	304.2	306.3		400	
Burner Barrel D-3	၁့	DL B63T32		341.4	340.9	341.0		400	
	၁	DL B63T33	364.4		369.8			400	
Burner Barrel D-4	ပ္စ	DL B63T40	348.7		353.7	354.3		400	The second second
Barrel	၁့	DL B63T41	306.8	310.3	310.9	307.7		400	
Burner Barrel D-4	ပ	DL B63T42	361.4	i.	365,4	365.3		400	
Burner Barrel D-4	ပ	DL B63T43	346.4	- {	353.1	354.1		400	
	:							1. 1	

	-20,3	-12.9	- 1	-10.9	DL ASOF10	mmAq	Furnace draft
	114.3	56.1	6.9	1.7	1 1	mmAg	
	231.1	157.0	1	31.1		mmAg	n FDF discherae draft
	233.7	158.5	i	35.7	A12F10	mm.Ag	local Idel Llow A FDF dischards draft
88	3.22	110001	- 1	-1.74	DL A80C20	æ ₽	exit gas
5.88 2.94		2.84		2.78		0%0	0,
		1,145	i i	791	DL A60G10	T/H	
		432	299	254	DL A52F10	$_{ m H/I}$	
		379	265	234	DL A52F10	T/H	A Secondary air flow
		28	31	34	DL A46F20	T/H	B Tempering air flow
		21	37	39		T/H	A Tempering air flow
		141	127	116		T/H	B Hot primary air flow
		144	117	111		T/H	A Hot primary air flow
		275.2	257.9	253.5		၁့	Eco. inlet feedwater temp.
	541.6	537.8	534.4	534.4	DL E74T10	၁့	RH outlet temperature
	542.5	543.9	537.0	546.7	DI E60T10	ပ	Final SH outlet temperature
171		167.6	165.6	168.1	DL G21P10	kg/cm ²	
200	187.2	181.9	173.1	174.3	DL E20P10	kg/cm ²	
127 -203	-11.7	6.1	1.8	4.6	DL E20L10	mm	Drum level
	56.4	91.3	61.1	58.2	DL ESSF10	T/H	SH spray flow
	881.5	848	643	590	DL E15F10	T/H	Feed water flow
	913.3	936	707	651	DL G21H10	T/H	Main steam flow
	300	299.1	223.6	209.3	DL Q20W10	MM	Generator load
		70/30	70/30	70/30			Coal blend ratio (S/A)
		18:30	11:00	00:00			Tine
		8/8	8/8	8/8			Date
		C-4	C-1	C-0			Test Number
ANN ANN High Low	T.B.B.	Recording	: -		Measuring Point	Unit	Item
(1-1)		Calaca Unit I Boiler	300000000000000000000000000000000000000				
			ת תנת ת	Test of	Combustion		F 1.

Item	Unit	Measuring Point			Recording	B.E.T. ANN	in ann in Low
.Test Number			0	0	0-4		
Date			8/8	8/8	8/8		
Time			00:60	11:00	18:30		
A Lower Eco outlet draft	mmAq	DL BIOFIO	-60.2	-67.4	-99.4	76	
Lower Eco outlet	mmAq		-58.0	0.99-	-98.5	-96.5	
AH gas side	mmAg	DL A53D10	77.5	91.4	142.0	î e	
B AH gas side diff. press.	mmAq	DL A57D10	74.8	84.4	135.5	114.3	
Primary air press.	mmAq	DL A40P10		1,527	1,528	1,496.2	
A IDF inlet draft	mmAg	DL A22F10		-209.0	-332.1	-297.2	
inlet	mmAq	DL A26F10	ល	-206.5	-330.2	-294.6	
A AH inlet air temp.	ပ	DL A52T10		37.0	34.7	35.1	
B AH inlet air temp.	၁့	DL ASGT10		36.8	34.4	33.9	
A AH outlet air	ပ္	DL AS2T20	300,5	308.8	336.4	338,3	
B AH outlet air temp.	ပ	DL A56T20		300.2	326,3	337.4	
A AH inlet gas t	ပ	DL A53T10	•	338.1	375.0	365.4	
B AH inlet gas	ပ္စ	DL A57T10	1 1	327.6	364.5	367.9	
A AH outlet gas temp.	ပ	DL A53T20	•	131.6	140.4	147.4	
	Ç)	DL A57T20	l i	136.5	144.9	150.3	
	ပ	DL C10110		127.0	136.6	143.6	
outlet gas	ပ	DI C10T20		130.0	136.6	144.4	· .
or amp.	A	CR indicator	i i	219	246	236	
B IDF motor amp.	A	CR indicator		215	245	230	
A FDF motor amp.	æ			73	82	85	
B FDF motor amp.	Ą	CR indicator		72	83	86	
A Pri. air fan motor amp.	Æ	CR indicator		222	231	183	
Pri.	A	indica	210	221	232	 196	
A IDF inlet vane open	æ	CR controller		9	72	70	
B IDF inlet vane open	œ	CR controller		65	7.7	73	
A FDF inlet vane open	æ	CR controller	47	52	66.5	 74	
B FDF inlet vane Open	æ	CR controller	42.5	49	54	70	
SH pass damper open	æ	CR controller	57.5	57	82	74	
RH pass damper open	æ	CR controller	62	63	38	75	
Pri. air capacity damper open	эю	CR controller	90	80	97.5		
O analysis by Orsat (A)	œ						
O analysis by Orsat (B)	œ						

### String conditions of the c	Item	Unit	Measuring			Recording	B.B.T.	1
Test Number C-0	والمنافقة والمواود والموادية والمتعادية والمتعادية والمتعادية والمتعادية والمتعادية والمتعادية والمتعادية والمتعادية		FOING				u5iu	307
Test Number C-0 C-1 Columber					,			
Date	Test Number			0 - 0	C-1	C4		
### A Mill coal fineness	Date			8/8	8/8	8/8		
A Mill coal fineness	Time			00:60	11:00	18:30		
A Mill coal feeder flow T/H DL B11F10 32.46 34.37 49 A Mill inlet air temp. °C DL B13T10 27 248 A Mill air coal outlet temp. °C DL B13T20 75 75 A Mill brimary air flow T/H DL B13F10 86.8 83.4 10 A Mill brimary air flow T/H DL B13F10 86.8 83.4 10 A Mill cold air damper open \$ local 25 28 A Mill cold air damper open \$ local 36 36 A Mill coal fineness \$ CR indicator 50 50 A Mill coal fleeder flow T/H DL B21F10 35.96 38.32 49 B Mill coal fleeder flow T/H DL B23F10 246 264 B Mill air coal outlet temp. °C DL B23F10 75 75 B Mill air coal outlet temp. °C DL B23F10 98.7 101 1 B Mill air coal outlet temp. °C DL B23F10 98.7 101 B Mill air coal outlet temp. °C DL B23F10 98.7 101 B Mill air coal outlet copen \$ local 33 37 B Mill coal damper open \$ local 33 B Mill cold air damper open \$ local 55 B Mill cold air damper open \$ local	Mill coal	æ						
A Mill inlet air temp. °C DL B13T10 227 248 3 A Mill air coal outlet temp. °C DL B13T20 75 75 75 A Mill diff. draft mmAq CR indicator 400 420 6 A Mill bot air damper open \$ 10cal 25 28	Mil1	H/T		32.46	34,37	49.84	36.7	
A Mill air coal outlet temp. °C DL B13T20 75 75 A Mill diff. draft mmAq CR indicator 400 420 6 A Mill bot air damper open \$ 10cal 25 28 A Mill capacity damper open \$ 10cal 25 28 A Mill capacity damper open \$ 50 50 B Mill coal fineness \$ 50 50 B Mill inlet air temp. °C DL B23T10 246 264 2 B Mill air coal outlet temp. °C DL B23T20 75 75 B Mill inlet air temp. °C DL B23T20 75 75 B Mill air coal outlet temp. °C DL B23T20 75 75 B Mill inclamary air flow T/H DL B23T20 75 75 B Mill coal air damper open \$ 10cal 12 10 B Mill capacity damper open \$ 10cal 15 10 B Mill capacity damper open \$ 10cal 55 48 B	Mill inlet air	ပ		227	248	307	196.2	
A Mill diff. draft mmAq CR indicator 400 420 6 A Mill primary air flow T/H DL B13F10 86.8 83.4 105 A Mill hot air damper open \$ 10cal 25 28 A Mill capacity damper open \$ 10cal 21 18 A Mill capacity damper open \$ 10cal 36 36 A Mill capsifier open \$ 10cal 36 36 A Mill capsifier open \$ 78 10cal 50 50 A Mill capsifier open \$ 78 10cal 50 50 B Mill inlet air temp. °C DL B23F10 35.96 38.32 49. B Mill air coal outlet temp. °C DL B23F10 98.7 101 B Mill primary air flow T/H DL B23F10 98.7 101 B Mill hot air damper open \$ 10cal 33 37 B Mill cold air damper open \$ 10cal 55 48 B Mill capacity damper open \$ 10cal 55 48 B Mill motor amp.	Mill air coal outlet	ပ	DL B13T20	75	75	77	77.9	
A Mill primary air flow	Mi11	mmAq	CR indicator	400	420	909	527.8	
A Mill hot air damper open	M111	H/I	DL B13F10	86.8	83.4	103.2	0.	31.3
A Mill cold air damper open % local 21 18 A Mill capacity damper open % local 36 36 A Mill classifier open % local 50 50 A Mill classifier open % CR indicator 50 50 A Mill coal fineness % 8 B Mill coal feeder flow T/H DL B21F10 35.96 38.32 49. B Mill inlet air temp. °C DL B23T20 75 75 B Mill air coal outlet temp. °C DL B23T10 246 264 2 B Mill air coal outlet temp. °C DL B23T10 98.7 101 1 B Mill differential draft mmAq CR indicator 520 560 6 B Mill cold air damper open % local 33 37 B Mill cold air damper open % local 12 10 B Mill motor amp. A CR indicator 60 60 B Mill air capacity damper open % local 55 48 B Mill motor amp. % CR indicator 60 60	Mill hot air damper	∞	local	25	28	44		
A Mill capacity damper open % local 36 36 A Mill motor amp. A Mill motor amp. A Mill classifier open % CR indicator 50 50 B Mill coal fineness % T/H DL B21F10 35.96 38.32 49. B Mill inlet air temp. °C DL B23F10 75 75 B Mill air coal outlet temp. °C DL B23F10 75 75 B Mill air coal outlet temp. °C DL B23F10 98.7 101 B Mill primary air flow T/H DL B23F10 98.7 101 B Mill hot air damper open % local 33 37 B Mill capacity damper open % local 55 48 B Mill motor amp. A CR indicator 60 60	Mill cold air	æ	local	21	18			
A Mill motor amp. A Mill classifier open B Mill coal fineness B Mill inlet air temp. B Mill air coal outlet temp. C DL B23T10 246 264 2 B Mill air coal outlet temp. C DL B23T20 75 75 B Mill differential draft mmAq CR indicator 520 560 B Mill primary air flow T/H DL B23T10 98.7 101 B Mill camper open % local 33 37 B Mill capacity damper open % local 55 48 B Mill motor amp. A CR indicator 60 60	M111	οķο	local	36	36	69		
# Mill classifier open	Mill motor	Ą		20	50	62	98	
### B Mill coal fineness	Mill classifier	æ					09	
## Mill coal fineness								
Mill inlet air temp. °C DL B23T10 246 264 2 Mill inlet air temp. °C DL B23T20 75 75 75 Mill air coal outlet temp. °C DL B23T20 75 75 75 Mill differential draft mmAq CR indicator 520 60 6 Mill hot air damper open % local 12 10 Mill capacity damper open % local 55 48 Mill motor amp. A CR indicator 60 60 Mill classifier one % CR indicator 60 60	Mill	æ						:
Mill inlet air temp. °C DL B23T10 246 264 2 Mill air coal outlet temp. °C DL B23T20 75 75 Mill differential draft mmAq CR indicator 520 560 6 Mill primary air flow T/H DL B23F10 98.7 101 1 Mill hot air damper open % local 12 10 Mill capacity damper open % local 55 48 Mill motor amp. A CR indicator 60 60 Will classifier one % CR indicator 60 60	Mill coal	T/H			38.32		36.0	
Mill air coal outlet temp.°CDL B23T207575Mill differential draftmmAqCR indicator52060Mill primary air flowT/HDL B23F1098.71011Mill hot air damper open%local3337Mill capacity damper open%local1210Mill motor amp.ACR indicator6060Mill capacifier open%CR indicator6060	Mill inlet	ပ	DL B23T10	246	264	283	174.6	
Mill differential draftmmAq CR indicator5205606Mill primary air flowT/HDL B23F1098.7101101Mill hot air damper open%local3337Mill capacity damper open%local1210Mill motor amp.ACR indicator6060Mill classifier open%CR indicator6060	Mill air coal outlet	၁့	DL B23T20	75	75	76	78.9	
Mill primary air flow T/H DL B23F10 98.7 101 1 Mill hot air damper open % local 33 37 Mill capacity damper open % local 12 10 Mill motor amp. A CR indicator 60 60 Mill classifier open % CR indicator 60 60	Mi11	mmAq	CR indicator	520	260	009	500.0	
Mill hot air damper open%local3337Mill cold air damper open%local1210Mill capacity damper open%local5548Mill motor amp.ACR indicator6060Mill classifier open%	Mill primary	T/H	DL B23F10	98.7	101	106	86.7	31.3
Mill cold air damper open%local1210Mill capacity damper open%local5548Mill motor amp.ACR indicator6060Mill classifier open%%	Mill hot air	æ	local	33	37	39		
Mill capacity damper open % local 55 48 Mill motor amp. A CR indicator 60 60 Mill classifier open % CR indicator 60 60	Mill cold air	œ	local	12	10	σ	40	
Mill motor amp. A CR indicator 60 60 will alaceifier open &	Mill capacity	æ	local	55	48	77		
Mill Albert Fich Chen	Mill motor amp	Ą	CR indicator	09	09	82	06	
MALL CLASSILLE OF SI	B Mill classifier open	æ					09	

B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point			Recording	B.E.T.	ANN ANN High Low
Test Number			Ö	O I	C-4		
Date			8/8	8/8	8/8		
Time			00:00	11:00	18:30		
C Mill coal fineness	œ						
C Mill coal feeder flow	T/H	DL B31F10	32.22	39.59	49.82	37.1	
inlet	ွင့	DL B33T10	257	266	290	174.2	
C Mill air coal outlet temp.	၁,	DL B33T20	74	71	75	0.08	
C Mill differential draft	mm.Aq (CR indicator	440	420	620	507.4	
C Mill primary air flow	T/H	DL B33F10	93.2	97.6	114.3	82.5	31.3
C Mill hot air damper open	œ	local	100	100	100		
C Mill cold air damper open	œ	local	2	2	. 2	62	
C Mill capacity damper open	de	local	55	33	62		
	Ą	CR indicator	9	09	09	26	
C Mill classifier open	æ					9	
							-
D Mill coal fineness	ф						
	T/H	DL B41F10					
D Mill inlet air temp.	ပ	DL B43T10					
D Mill air coal outlet temp.	ပ္	DL B43T20					
D Mill differential draft	mmAq	CR indicator					
D Mill primary air flow	H/T	DL 843F10					31.3
D Mill hot air damper open	æ	local					
	æ	local					
D Mill capacity damper open	æ	local					
D Mill motor amp.	A	CR indicator		14.7 17		1	
D Mill classifier open	æ						
							-

(II-3)	ANN ANN High Low												.*							
	B.E.T.																			
	Recording	A-0	8/8	18:30	44	17	69		39	6	7.7		100	2	62					
		C-0 C-1		00:00 11:00		21 18	36 36		33 37	12 10	55 48		100		25 33					
	Measuring Point				local	local	local	local	local	local	local	local		local	local	local	local	local	local	
	Unit				No.	æ	90	æ	æ	8	œ	æ	φ¢	οχο	æ	œ	φo	æ	96	
	Item	Test Number	Date	Time	A Mill hot air damper open	A Will cold air damper open	A Mill capacity damper open	A Mill classifier vane open	B Mill hot air damper open	B Mill cold air damper open	B Mill capacity damper open	B Mill classifier vane open	C Will bot air damner onen	C Mill cold air damper open	C Mill capacity damper open	C Mill classifier vane open	D Mill hot air damper open	D Mill cold air damper open	D Mill capacity damper open	

B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point			Recording	B.E.T.	ANN High	PNN Low
Test Number			010	O LI	7-7			
Date			8/8	8/8	8/8			
Time			00:60	11:00	18;30			
Div. wall out tube metal temp. 1	r C	DL ESITIO	468.7	447.7	476.8		538	
Div. wall out tube metal temp.	2°C	DL ESITI	505.6	481.6	502.4		538	
١.	၁° ေ		530.4	519.1	533.3		538	
	4 در	DL ES1T13	477.6	458.8	488.1		538	
Div. wall out tube metal temp.	၁° င		454.6		471.4		538	
	၁့ 9		479.7	467.6	484.0		538	
wall out tube metal temp.	2° ′	DL ES1T16	449.6	451.0	464.3		538	
	၁ ,	DL ES1T17	473.8	470.0	479.1		538	
١.	၁. 6	DL ESITI8	449.8	459.7	469.8		538	
out tube metal temp. 1	၁ ၀	DL ES1T19	492.8	490.9	499.0		538	
	၁。 ၤ	DL E61T10	548,4	541.5	543.1		602	
SH tube metal temp.	2 °C	DL E61T11	525,4	519.7	521.3		602	
	3 °C	DL E61T12	562.2	553.7	565.9		602	
SH tube metal temp.	J° ₽		541.1	533.1	539.1		602	
SH tube metal temp.	၁့ န		539.2	527.2	546.8		602	
	ာ 9	DL E61T15	464.9	447.2	479.5		602	
SH tube metal temp.	2° ′	DL E61T16	539.9	527.2	534.9		602	
SH tube metal temp.	၁。 8		523.8	512.9	520.1		602	
SH tube metal temp.	ာ ့ 6	DI EG1T18	531.5	522.1	522.7		602	
metal temp.	10 °C		528.4	515.7	519.6		602	
SH tube metal	၁	DL EGIT20	532.2	527.9	534.7		602	
SH tube metal temp.	75 °C	DL E61T21	516.2	509.9	513.4		602	
	13 °C	DL E61T22	560.9	557.8	570.7		602	
SH tube metal temp.	ာ ့ 🗗	DL E61T23	537.0	532,9	540.4		602	
SH tube metal temp.	15 °C	DL E61T24	558.0	548.9	557.3		602	
SH tube metal temp.	16 °C		538.1	* * 1	531.7		602	
							٠.	

: -												
		Item	Ħ		Unit	Measuring Point			Recording	B.E.T.	ANN High	LOW
						-						
H	Test Number	umber					0-0	C-1	C4			
^	Date						8/8	8/8	8/8			
반	Time						00:60	11:00	18:30			
} [RH out	tube metal	. temp.	r-l	၁့	DL E71T10	509.8	509.5	502.2		599	
μų	RH out	tube metal	t temp.	2	၁့	DL E71T11	489.1	489,8	479.9	-	599	
^{**}	RH out	tube metal	temp.	8	၁့	DL E71T12	581.6	582.7	602.2		599	
P ²⁴	RH out	tube metal	L temp.	4	ပ	DL E71T13	559.5	563.7	581.0		599	
**	RH out	tube metal		Ŋ	ာ့	DL E71T14	531.6	532.9	562.2		599	
**	RH out	tube metal		9	၁ွ		524.1	528.7	560.1		599	
r-4	RH out	tube metal	1 temp.	7	၁့	DL E71T16	514.2	494.0	524.7		599	
"	RH out	tube metal	l temp.	8	၁့	DL E71T17	491.5	473.1	503.3		599	
. [RH out	tube metal	. 1	თ	၁့	DL E71T18	528.8	511.8	493.0		599	
-	RH out	tube metal	l temp.	10	၁့	DL E71T19	506.5	492.6	476.1		599	
-79		tube metal	t I	11	၁့		504.4	508.8	472,8		599	
	RH out	tube metal	l temp.	12	၁့	DL E71T21	489.6	498.0	461.3		599	
	RH out	: tube metal	1 temp.	13	၁့	DL E71T22	491.5	489,3	480.1		599	
	RH out	tube metal		14	၁့		472.7	471.9	460.1		599	
	RH out	tube metal	l temp.	15	၁့	DL E71T24	507.4	510.9	513.2		599	
	RH out	tube metal		16	၁့		509.8	529.6	517.9		599	
	RH out	tube metal	l temp.	17	၁.	DL E71T26	573.3	589.7	588.0		599	
	RH out	tube metal		18	၁့		557.1	578.9	575.8		599	
1	RH out	tube metal	•	19	၁့	DL E71T28	533.2	550.8	540.6		599	
i	RH out	tube metal	l temp.	20	၁့	DL E71T29	512.6	520.3	519.0		599	
l												

ГĮ
24
2
두
2
TEMPERATURE
ρί
Σį
쁘
-4
a
\vec{o}
Ĭ,
TURNACE
Ľ
ب

Item	Unit	Measuring Point			Recording	70	B.E.T.	ANN	ANN
Test Nimber		والمعالية والمعالية والمعالية والمعالية والمعالية والمعالية والمعالية والمعالية والمعالية والمعالية والمعالية	2	[-]	7-7				
Date			8/8	8/8	8/8				
Time			08:30	10:30	18:00				
3F Left near S/B C-3	ပ္	local	1,220	1,220	1,250				
3F Right near S/B C-1	υ O	local	1,220	1,200	1,240				
3F Mezz. Rear Right near S/B F-2	ပ္	local	1,330	1,320	1,350				
3F Mezz. Rear Left near S/B F-5	ပ္စ	local	1,310	1,320	1,350				
4F Mezz. Right Rear near S/B D-2	ပ	local	1,400	1,430	1,435				
4F Mezz. Left Rear near S/B D-7	၁့	local	1,400	1,385	1,420				
5F Left Rear near S/B C-3	ပ္	local	1,400	1,380	1,410	:			
5F Right Rear near S/B C-2	ບຸ	local	1,390	1,400	1,465			:	
7F Mezz. Front Right 2nd Port	၁့	local	1,180	1,150	1,240				
7F Mezz. Front Center Port	ပ	local	1,210	1,190	1,245				
7.F	O,	local	1,230	1,200	1,260				
8F Left near S/B 6-L	ပ	local	1,000	1,080	1,135				
8F Right near S/B 6-R	သ	local	1,040	1,070	1,135				
8F Rear Left 2nd Port	၁့	local	935	950	1,040				
9F Left near S/B 4-L	၁့	local	066	940	1,020				
9F Right near S/B 4-R	၁	local	995	950	1,005				
9F Front Left 2nd Port	ပ	local	960	950	1,040	The second secon			
9F Front Center Port	၁့	local	950	940	066				
9F Front Right 2nd Port	၁့	local	960	950	066				

٠ [B.E.T. ANN ANN High Low																		-			
	Recording	C-4	8/8	18:30	0.4	4.8	4.0	3.8	2.0	4.5	4.6	4.6	5.0	4.9	5.1	4.0	1.2	2.5	2.2	2.9	1.0	
		C-0 C-1	8/8 8/8	09:00 11:00	4.9	4.8 4.8	4.0 4.0	3.8 3.8	5.0 5.0		4.6 4.6	4.6 4.6		4.9 4.9	5.1 5.1		1.2 1.2	2.5 2.5	2.2 2.2	2.9 2.9	0.4 1.0	
	Measuring Point				local	local	local	local	local	local												
	Item Unit	Test Number	Date	Time	A-1 Air resistor open	A-2 Air resistor open	A-3 Air resistor open	A-4 Air resistor open	B-1 Air resistor open	B-2 Air resistor open	B-3 Air resistor open	B-4 Air resistor open	C-1 Air resistor open	C-2 Air resistor open	C-3 Air resistor open	∞ C-4 Air resistor open	D-1 Air resistor open	D-2 Air resistor open	D-3 Air resistor open	D-4 Air resistor open	Airport damper open (Right)	

Item	Unit	Measuring Point			Recording	B.E.T.	ANN	ANN
Test Number			0 - 0	CI LI	Z-7			
Date			8/8	8/8	8/8			
Time			00:60	11:00	18:30			
Burner Barrel A-1	ပ္စ	DL B60T10	265.6	271.8	299.1		400	
Burner Barrel A-1	ပ		175.2	180.9	207.3		400	
Burner Barrel A-1	ပ	DL B60T12	258.1	264.1	291.6		400	
Burner Barrel A-1	၁့		249.8	255.5	281.9		400	
Burner Barrel A-2	၁,		269.0	274.4	903.9		400	
Burner Barrel A-2	၁့		198.1	205.1	233.8		400	
Burner Barrel A-2	၁,		229.6	234.4	257.9		400	
Barrel	ပ		245.6	252.0	281.5		400	
Burner Barrel A-3	ပ		227.6	234.6	262.7		400	
Burner Barrel A-3	၁့	DL B60T31	192.0	2002	230.0		400	
Burner	၁့		253.0	259,5	288.6		400	
	ပ		260.4	266.0	294.4		400	
Burner	ပ		269.6	275.6	305.6		400	
Burner Barrel	ပ		151,5	155.8	173,3		400	
Burner Barrel A-4	ပ	DL B60T42	260.7	267.3	295.9		400	
Burner Barrel A-4	ပ		273.8	279.9	306.4		400	
Burner Barrel B-1	၁့	DL B61T10	213.1	221.2	249,2		400	
	ပ		224.8	233.9	266,5		400	
Burner Barrel B-1	ပ	DL B61T12	263.4	271.9			400	
Burner Barrel B-1	ပ		244.3	250.9	275.6		400	
Burner Barrel B-2	၁့	DL B61T20	237.2	244.7			400	
Burner Barrel B-2	ပ		196.2	203.8			400	
Burner Barrel B-2	၁့	DL B61T22	264.9	272.3			400	
Burner Barrel B-2	ပ	DL B61T23	239.6	247.0	275.2		400	
	၁ွ	DL B61T30	242.4	249.1			400	
Barrel	ပ	DL B61T31	182.2	189.4	216.1		400	
Burner Barrel B-3	ပ္စ	DL B61T32	265.7	272.5			400	
Burner Barrel B-3	ပ	DL B61T33	241.1	247.7			400	
1	ပ	DL B61T40	229.5	237.3			400	
Burner Barrel B-4	ပ		216.7	226.1	256,8		400	
Burner Barrel B-4	၁့	DL B61T42	•	258.0	280.0		400	
Burner Barrel B-4	၁့	DL B61T43	247.1	254.0	- a f		400 004	
				i				

A-6-82

	Unit	Measuring			Recording	m.	E. E.		ANN
		Foint						нідп	NO.
	: · ·								. Š.
Test Number			C-0	C-1	C=4				
Date			8/8	8/8	8/8				
Time			00:60	11:00	18:30				
Burner Barrel C-1	ပ	DL B62T10	241.8	246.8	276.2			400	
	ပ	DL B62T11	229.0	236.3	269.9			400	
Burner Barrel C-1	υ O	DL B62T12	240.6	247.1	281.0			400	
Burner Barrel C-1	ပ	DL B62T13	235.2	240.1				400	
Burner Barrel C-2	ပ္		261.1	265.6	300.5			400	
Burner Barrel C-2	ပ	DL B62T21	205.9	212.6				400	
Burner Barrel C-2	ပ		245.3	249.3	285.6			400	
Burner Barrel C-2	၁့		284.6	291.7	322.7			400	
Barrel	၁့		46.1	51.3	44.9			400	
	၁့	DL B62T31	54.6	57.4	•			400	
Burner Barrel C-3	ນ		271.4	279.0				400	
Burner Barrel C-3	ပ		224.0	227.4	259.9			400	
Burner Barrel C-4	၁့		237.2	242.7	276.0			400	
Burner Barrel C-4	၁ွ		231.2	238.9	271.3			400	
Burner Barrel C-4	၁	DL B62T42	246.1	250.3	280.8			400	
Burner Barrel C-4	၁့		258.4	264.7	295.7			400	
Burner Barrel D-1	ပ		323.8	330.2	352.1			400	
Burner Barrel D-1	၁့		281.3	289.1				400	
Burner Barrel D-1	၁့	DL B63T12	336.1	343.3	358.2			400	
Burner Barrel D-1	၁့		339.7	346.8				400	
Barrel	၁	DL B63T20	337.1	344.5	361.6			400	
Burner Barrel D-2	ပ		263.7	273.0	303.8			400	
١.	၁့		360.5	359.9	• 1			400	
Barrel	၁့		329.4		361.4			400	
Barrel L	၁့	DL B63T30	1	ţ	1			400	
Barrel	ပ		262.2	272.6	302.8			400	
Barrel I	၁့	DL B63T32	305.0	313.8				400	
Barrel I	၁့	DL B63T33	340.0	345.4	364.5			400	
Barrel	၁့		321.9	327.7				400	
1	ပ္စ	DL B63T41	271.9	280.2	306.9			400	
Burner Barrel D-4	ပ		340.0	• •				400	
1	ပ	DL B63T43	322.3		346.8			400	

B.E.T.: Boiler Efficiency Test

B.E.T.: Boiler Efficiency Test

Recording B.E.T. ANN ANN ROW					300	913.3	881.5	56.4	-11.7 127 -203	187.2 200		171	542.5		541.6									- 5.88 2.			233.74. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	m see a comment of the second	114.3	6 06
Reco	E-11 E-13		09:30 11:30		29	942 942		0		182.8 177.6			537.7 540.2	•	533.8 538.8			134 134	30 40		381 413		1,156 1,208	2.76 3.65		142,17 142,76		1-1	69.6 77.3	
Measuring Point					DL Q20W10	DL G21H10		E55F10		DI		DL G21P10	DL E60T10	CRT		et.	DL A42F10	DL A46F10	DL A42F20	DL A46F20	DL A52F10	DL A52F10		DL A80C10	DL A80C20	DL BIOGIOA 1	DL A12F10	DL A16F10	DL A70F10	C 15 C 6 15
Unit				A)	MM	工工	H/T	H/T	unut	kg/cm ²	kg/cm ²	kg/cm^2	၁ ့	ပ	၁့	ပ	H/T	工/田	T/H	T/H	H/T	T/H	H/I	(A) &	(B) &	H/T	mmAq	mmAq	mmAg	
Item	Test Number	Date	Time	Coal blend ratio (S/A)	Generator load	Main steam flow	Feed water flow			Drum pressure	1	S Turbine inlet steam press.	Final SH outlet temperature	Main steam temperature	RH outlet temperature	Eco. inlet feedwater temp.	Ţ	air	A Tempering air flow		A Secondary air flow	B Secondary air flow	Total air flow	Boiler exit gas O, (Total fuel flow	A FDF discharge draft	B FDF discharge draft	Wind box draft	

(I-1)

Combustion Test of Calaca Unit I Boiler

		Measuring					ANN
Item	Unit	Point			Recording	B.E.T. High	.
Number			E-11				
			8/11	8/11			
			09:30				
Lower Eco outlet draft	mmAq	DL E10F10	-93.2	-107.3		J. 94	
outlet	mmAq	DL E10F20		-105.2		.96.5	
gas side diff. press.	mmAq		138.8	159.2		119.4	
gas side diff. press.	mmAg		133.4	141.5		114.3	
١.	mmAq	DL A40P10	1,585	1,561	Management of the second secon	1,496.2	
nlet	mmAq			-353.3		~297.2	
IDF inlet draft	mmAc		-319.5	-352,6		-294.6	
inlet air temp.	၁	DL AS2T10	34.7	37.2		35.1	
	၁.	DL A56T10	34.8	37.5		33,9	
outlet air temp.	၁့		330.6	339		338.3	
outlet air temp.	၁့	DL A56T20	322.5	332.6		337.4	
inlet gas temp.	၁့	DL AS3T10	366.8	337.4		365,4	
inlet gas temp.	ပ	DL A57T10	357.6	370.4		367.9	
outlet gas temp.	၁.	DL A53T20	139.8	144.3		147.4	
	ပ္စ	DL A57T20	144.4	150		150.3	
	၁့	DI CIOLIO	136.3	140.2		143.6	
	၁့	DI C10120	136.6	140.8		144.4	
or amp.	Ą	CR indicator	1 1	257.5		236	
IDF motor amp.	A	CR indicator		250		230	
FDF motor amp.	Ą	CR indicator		85		85	
FDF motor amp.	Ą	CR indicator		85		98	
air í	A	CR indicator		230		183	
١.	A	CR indicator		230		196	
inlet vane oper	æ	CR controller		75		70	
inlet vane	æ	CR controller		77.5		73	
inlet vane	оp	CR controller		70		74	
inlet vane	æ	CR controller		67.5		70	
ss damper of	æ	CR controller		75		74	
damper	æ	CR controller		40		75	
capac	s us	CR controller	95	95			
nalveis by Ors	æ						
	•		3				

ltem	Unit	Measuring Point			Recording	B.E.T.	ANN High	ANN Low
Test Number			E-11	E-13				
Date			8/11	8/11				
Time			06:30	11:30				
A Mill coal fineness	æ	-						
A Mill coal feeder flow	H/T	DL B11F10	46.80	47,98		36.7		
A Mill inlet air temp.	၁့	DL B13T10	260	278		196.2		
A Mill air coal outlet temp.	၁ွ	DL B13T20	75	75		77.9		
A Mill diff. draft	mmAq	CR indicator	560	570		527.8		
A Mill primary air flow	T/H	DL BI3F10	100	102.2		86.0		31.3
Mi 11	æ	local	28	26				
A Mill cold air damper open	ó₽	local	18	17				
A Mill capacity damper open	æ	local	9	67				
A Mill motor amp.	Æ	CR indicator	80	85		86		
A Mill classifier open	œ					09		
B Mill coal fineness	oko :				- :		;	:
B Mill coal feeder flow	т/н	DL B21F10	48.59	49.27		36.0		
B Mill inlet air temp.	၁,	DL B23T10	275	286		174.6		
B Mill air coal outlet temp.	ပ	DL B23T20	75	75		78.9		
B Mill differential draft	mmAc	CR indicator	009	620		200.0		
B Mill primary air flow	17/H	DL B23F10	103.1	104.9		86.7		31,3
B Mill hot air damper open	ф	local	36	38				
B Mill cold air damper open	960	local	10	10		40		
B Mill capacity damper open	aР	local	76	76				
B Mill motor amp.	Æ	CR indicator	85	85		06		
Mi11	æ					09		

, , !		Item	Unit	Measuring Point			Recording	B.E.T.	ANN ANN High Low
	Test Number	umber			E-11	E-13			
•	Date				8/11	8/11			
• '	Time				09:30	11:30			
•									
1	C Mill	coal fineness	ఈం						
•	C M111	coal feeder flow	T/H	DL B31F10	46.93	45.71		37.1	
•	C Mill	1	ပ္	DL B33T10	267	268		174.2	
,	C Mill	air coal outlet temp.	ပ	DL B33T20	74	75		80.0	
	C Mill	difi	mmAq	CR indicator	580	580		507.4	
. '	C Mill	primary air flow	T/H	DL B33F10	66	98.6		82.5	31.3
	C Mill	. hot air damper open	æ	local	46	40			
	C Mill	cold air	сю	local	12	15		62	
	C Mill	. capacity damper open	ою	local	50	48			
Ä	C Mill	motor amp.	Æ	CR indicator	85	85		92	
\ -6	C Mill	. classifier open	œ					09	
-87				,					
7	D Mill	. coal fineness	æ						
	D Mill	coal feeder flow	T/H	DL B41F10				ı	
	D Mill	inlet air temp.	၁့	DL B43T10				ı	
	D Mill	air coal c	၁့	DL B43T20				1	
	D Mill	differential draft	mmAq	CR indicator				ı	
	D Mill	l primary air flow	T/H	DL B43F10				1	31,3
	D Mili	,	8	local				•	
	D Mill	l cold air damper open	%	local.					
	D Mill	l capacity damper open	œ	local				1	
	D Mili	motor amp.	ď	CR indicator				1	
	D Mill	l classifier open	œ						

ltem	Unit	Measuring Point			Recording	B.E.T.	ANN High	ANN
Test Number			H-13	E-13				
Date			8/11	8/11				
Time			09:30	11:30				
A Mill hot air damper open	œ	local	28	56			;	!
A Mill cold air damper open	æ	local	18	17				
A Mill capacity damper open	o)¢	local	9	67				
A Mill classifier vane open	æ	local						
B Mill hot air damper open	60	local	36	38		-		
B Mill cold air damper open	æ	local	10	10				
B Mill capacity damper open	фo	local	76	76				
B Mill classifier vane open	æ	local						
A-	t			(·	
MILL	æ	Local	46	40				
S C Mill cold air damper open	ЭÞ	local	12	15				
C Mill capacity damper open	₩	local	50	48				
C Mill classifier vane open	ტ	local						-
						<i>i</i> -		
D Mill hot air damper open	96	local			Management of the second of th			
D Mill cold air damper open	અ	local						
D Mill capacity damper open	90	local						
D Mill classifier vane open	æ	local						

Teen Unit Point	ANN																		***************************************										
Number Number Number Number Point	ANN High					538	228	0 20 C	220	000	538	538	538	538	602	602	602	602	602	602	602	602	602	602	602	602	602	602	602
Number Duit Measuring Point	E.T																				÷								
Number N	Recording																												
Number Number Number Number Number Number		E-13	8/11	11:30		469.5	497.1	53.2.0 402.2	773 5	7007	471.1	490.6	473.0	500.7	546.2	523.6	563.5	541.5	541.0	483.1	529.0	516.4	518.3	515.9	535.8	512.0	564.8	535.5	550.2
Number Number Number Number Number Number		E-11	8/11	1		451.5	4//41	350.2	400°0	7.047	444.4	460.4	450.3	478.7	542.0	521.9	558.9	541.1	540.6	456.5	521.1	510.0	513.1	509.1	535.4	513.9	561.7	536.4	548.6
Number Number wall out tube metal temp. 2 wall out tube metal temp. 3 wall out tube metal temp. 4 wall out tube metal temp. 5 wall out tube metal temp. 6 wall out tube metal temp. 7 wall out tube metal temp. 7 wall out tube metal temp. 9 wall out tube metal temp. 9 wall out tube metal temp. 2 I SH tube metal temp. 5 I SH tube metal temp. 6 I SH tube metal temp. 6 I SH tube metal temp. 6 I SH tube metal temp. 7 I SH tube metal temp. 9 I SH tube metal temp. 10 I SH tube metal temp. 11 I SH tube metal temp. 13 I SH tube metal temp. 13 I SH tube metal temp. 14 I SH tube metal temp. 11 I SH tube metal temp. 13 I SH tube metal temp. 14 I SH tube metal temp. 15 I SH tube metal temp. 15	Measuring Point					E51		រ ប្រជាជ	100 T		E51	E51	E21	E51	E61	E61	E61	E61	E61	E61	E61	E61	E61	E61	E61	E61	E61	E61	E61
Number Wall out tube metal temp. I SH tube metal temp.	 Unit					ပ္စ	وار	ې ر	ي ر	۲	ງູບ	၁	ပ	၁့	၁့	၁့	၁့	၁့	ပ	၁့	၁့	၁့	ပ	၁့	၁့	၁့	၁့	၁့	ပ
Number Number wall out tube metal wall out tube metal wall out tube metal wall out tube metal wall out tube metal wall out tube metal wall out tube metal wall out tube metal wall out tube metal sall out tube metal Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp Sh tube metal temp						н	7	J 2	* u	۷	7	œ	თ	10	1	7	ო	4	ഗ	9	7	လ	ത	10	11	12	13	14	15
Number Wall out tube mall out tube metal SH tube metal					i i	- 1	cemp.	temp.	Cellio Tomb	ליוונט משט	- 1			1		•	•	,	,	٠,	•	•			٠	·	٥.	٥.	
Number Wall out I SH tube						metal	merar	meral					metal	metal	1	١.,		[l i	i .	ا ا	١	Ι.	١	l			. 1	ı
Numbe Numb	Item				l l	ı	- 1	^ l	- 1		1	1 .						1					1			1			i
		nber			ł	- 1	- 1	4,	4	1.	1	1					l i						1	1	ı	1	1		1
and a managery in the control of the first o			ite	me	1	1			ı i	•	l l	١.		iv. wa				•	1				1	1		Ι.	l .	1	!

B.E.T.: Boiler Efficiency Test

		Item	u.		Unit	Measuring Point			Recording	B.E.T.	ANN High	ANN
ĕ	Test Number					-	日 日 日 日	E-13				
Ä	Date						8/11	8/11				
Ė	Time						00:30	11:30				
				•			1					
2	RH out tube metal	meta]	temp.		ပ	- 1	501.0	501.5			599	
RH	H out tube	metal	temp.	2	၁့	DL E7111	483.2	484.1			599	
RH	H out tube	metal	temp.	m	၁့	DL E71T12	598.6	597.9			599	
臣	H out tube	metal temp.	temp.	4	၁	DL E71T13	579.1	580.1			599	
RH	Hout tube	metal:	temp.	ம	ပ	DL E71T14	554.9	550.5			599	
EE	a out tube	metal	temp.	မ	၁	DL E71T15	554.5	549.1			599	
RH	H out tube	metal	. :	2	ວ	DL E71T16	513.9	513.4			599	
盟	Hout tube	metal	temp.	ထ	ပ	DE E71T17	492.4	497.0			599	
RH	H out tube	metal	1	ი	၁့	DL E71118	468.5	487.6			599	
HH A	out	tube metal	temp.	10	၁့	DL E71T19	454.1	468.6			599	
HH -6-	H out tube	metal	temp.	11	၁့	DL E71T20	475.3	490.4			599	
ام 90	RH out tube	metal		12	၁့	DL E71T21	457.2	473.3			599	
ŧ :	RH out tube	metal	metal temp.	13	၁့	DL E71T22	489.8	499.1			599	
泛	H out tube	metal	temp.	14	၁့	DL E71T23	472.0	481.5			599	
K	RH out tube	metal	1	15	၁့	1	510.7	518.4			299	
R	RH out tube metal	metal		16	၁့	DL E71T25	534.4	541.3			599	
HH	H out tube metal	metal		17	၁့	DL E71T26	592.6	598.2			599	
æ	RH out tube metal	metal	temp.	18	၁့	DL E71T27	583.4	588.5			599	
l _K	RH out tube	tube metal	temp.	19	၁့	DL E71T28	554.1	560.8			599	
E CH	RH out tube metal	metal	temp.	20	ာ့	DL E71T29	519.4	526.8		:	599	
ļ	The state of the s		THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	The state of the last of the l								

FURNACE TEMPERATURE						(IV-1)
Item	Unit	Measuring Point		Recording	B.E.T.	ANN ANN High Low
Test Number			E-11 E-13			
Date			8/11 8/11			
Time			Γ'			
	į	r	() () ()			
7F Mezz. Front Right 2nd Port	ပ	Iocal	1,200 1,210			
7F Mezz. Front Center Port	ပ	local	1,250 1,240			
7F Mezz. Front Left 2nd Port	၁ွ	local	1,300 1,275			
8F Left near S/B 6-L	ွ	local	1,120 1,140			
8F Right near S/B 6-R	O.	local	1,125 1,120			
8F Rear Left 2nd Port	ပွ	local	990 1,015			
9F Left near S/B 4-L	ပ	local	1,000 1,000			
9F Right near S/B 4-R	၁့	local	1,010 990			
9F Front Left 2nd Port	ပွ	local	1,010 1,020			
9F Front Center Port	ပ	local	1,005 1,015			
OF Pront Right Ond Dort	J'o	local	1.010 1.010			

(V-1)	N ANN h Low				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	C	0	0	C	0	0	C		0	0		0	0	0	
	B.E.T. High			and the second s	400	400	400	400	400	400	400	400	400	400	400	40	400	400	400	400	400	400	40	400	400	400	400	400	400	400	400	400	400	400	400	400
	Recording			The second secon																																
٠.		E-13	8/11	11:30	305.0	211.4	296.8	285.2	308.3	240.1	263.4	285.4	271.8	236.6	293.4	300.2	303.7	179.8	295.8	309.0	258.5	272.0	305.8	282.4	280.4	240.0	305.5	282.1	279.0	223.7	297.4	282.7	271.3	264.3	288.3	287.8
			8/11	05:30	296.0	205.0	288.2	277.3	299.5	232.0	255.7	277.1	262.2	227.5	284.3	290.5	294.6	174.1	286.2	299.3	248,1	262.6	296.0	273.0	269.8	232.0	294.7	271.5	267.3	214.6	286.2	271.0	260.1	254.0	276.6	277.0
	Measuring Point						DL B60T12	DL B60T13			1 .					Į	DL B60T40			DL B60T43		DL B61T11		DL B61T13			DL B61T22	DL B61T23		DL B61T31	DL B61T32	DL B61T33		DL B61T41	- 1	DL B61T43
	Unit				၁့	ပ	ប	၁့	ပ	ပ	ပ	ວຸ	D _o	ပ	ပ	ပ	ວຸ	၁့	၁့	၁့	၁့	၁့	ပ္	၁့	၁့	ವಿ	ప	၁့	၁့	၁့	၁့	ပ	၁့	ပ	ပ	ບູ
	Item	Test Number	Date was provided to the provi	Time	Burner Barrel A-1	Burner Barrel A-1	Burner Barrel A-1	Barrel	Burner Barrel A-2	1	Burner Barrel A-2	Burner Barrel A-2	Burner Barrel A-3	Burner Barrel A-3	Burner Barrel	Burner Barrel	→ Burner Barrel A-4	Burner Barrel		Burner Barrel A-4	Burner Barrel B-1	Burner Barrel B-1	Barrel	Burner Barrel B-1		Burner Barrel B-2	Burner Barrel B-2	Burner Barrel B-2	Burner Barrel B-3	Burner Barrel B-3	Barrel	Burner Barrel B-3	Burner Barrel B-4	Burner Barrel B-4	Burner Barrel B-4	Barrel

B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point			Recording	B.E.T.	ANN High	ANN
Test Number			E-11	E-73				
			8/11	8/11				
Time			09:30	11:30				
Burner Barrel C-1	ပ္	DL B62T10	272.9	282.1			400	
Barrel	ರ್	DL B62T11	265.9	275.3			400	
Barrel	ပွဲ		276.5	285.9			400	
١.	ွ	DL B62113	267.5	276.9	A COLUMN TO THE RESIDENCE OF THE PARTY OF TH		400	
Burner Barrel C-2	J.		296.0	305.7			400	
Burner Barrel C-2	၁့		239.6	248.8			400	
Barrel	ပ္		282.8	293.2			400	
Burner Barrel C-2	ပ		314.3	323.2			400	
Burner Barrel C-3	ပ		56.9	57.2			400	
Barrel	O,	DL B62T31	67.1	67.6	oración magnificament de la companya de la companya de la companya de la companya de la companya de la company		400	
Burner Barrel	J.		305.6	316.0			400	
Barrel	ပ		256.3	266.1			400	
Burner Barrel) o	DL B62T40	273.2	282.9	A CONTRACTOR OF THE PROPERTY O		400	
Burner	ပ ေ		268.2	279.1			400	
Burner Barrel C-4	၁့	DL B62T42	278.2	288.3			400	
Burner Barrel C-4	၁့		291.7	302.0			400	
1.	၁့	DL B63T10	348.1	355.6			400	
Burner Barrel D-1	ပ		313.4	322.4			400	
Burner Barrel D-1	O.	DL B63T12	353.8	361.7			400	
Burner Barrel D-1	၁့	DL B63T13	359.3	366.3			400	
Barrel	ပ္စ	DL B63T20	360.0	366.5			400	
Barrel	၁့	DL B63T21	305.3	314.1			400	
Burner Barrel D-2	၁့	DL B63T22	379.4	385.0		17.4	400	
Barrel	O ₀	DL B63T23	358.9	364.4		The state of the s	400	
Barrel	၁့	DL B63T30	1				400	
Barrel	၁့	DL B63T31	299.9	308.8			400	
Barrel	O ₀	DL B63T32	331.0	340.3			400	
Burner Barrel D-3	ာ့	DL B63T33	364.1	369.8			400	a managara and a
Barrel	U _o	DL B63T40	347.2	355.1			400	17.0
Burner Barrel D-4	O _o	DL B63T41	302.9	311,6			400	
1 .	၁့	DL B63T42	358.0	366.1			400	
Burner Barrel D-4	၁့	DL B63T43	349.9	357.5			400	
						21 2		

		-																													
	:	(1-1)	ANN									-203												í	2,94	2.94					
		: ::	ANN High	+ 1. :								127	200	171											5.88	5.88					
			ъ. д. а.				.*	300	913,3	881.5	56.4	-11.7	187.2		542.5	541.6										3.22	110.4	233.7	231.1	114.3	-20.3
				: :																											
	t I Boiler		Recording																												
:	Test of Calaca Unit I Boiler			6 1 C	8/15	11:30		218.0	682	617	64.1	-1.1	173.6	166.8	541.1	541.9	256.1	159	157	0	25	266	287	895	3.59	ı	123.05	51.2	49.0	7.6	9.6-
	Test of			0 9-0	8/15	08:60		218.9	684	629	58.4	-1.9	174.7	167.6	538.0	535.3	255.5	172	150	19	22	244	268	876	3.09	ŧ	122.96	34.6	34.4	-4.7	-13.1
	Combustion		Measuring Point					DL Q20W10	DL G21H10	DL E15F10	DL E55F10		DL E20P10	DL G21P10	DL E60T10	DL E74T10	DL EloTioa	j i			DL A46F20	DL A52F10	DL A52F10	DL A60G10	DL A80C10		DL B10G10A	DL A12F10			DL A80F10
			Unit					MW	T/H	T/H	T/H	mra	kg/cm ²	kg/cm²	၁့	ပ	၁့	T/H	T/H	T/H	T/H	T/H	T/H	T/H	660 6	30	H/T	rmAq	romAq	mmAg	mmAq
		: : :					(S/A)							press.	ature		temp.	,	2						(A)	(B)					
			Item	Test Number	Date	Time	Coal blend ratio	Generator load	Main steam flow	Feed water flow	SH spray flow	Drum level	Drum pressure	steam	ı	RH outlet temperature	Eco. inlet feedwater t	A Hot primary air flow	B Hot primary air flow	A Tempering air flow	B Tempering air flow	A Secondary air flow		Total air flow	Boiler exit gas O,	gas	uel flow	disch	FDF	ind b	1 10 1

		Monorate and a second					A ATAG	TATA C
Item	Unit	Medsut ing Point			Recording	ម. ច. ជ	High	LOW
Test Number			D-6	D-8				
Date			8/15	8/15				
Time			09:30	11:30				
A Lower Eco outlet draft	mmAq	DL EIOFIO	* -	-67.9		-94	·	
Lower Eco outlet	mmAq	EIOF	1	-68.3		2.96.5		
A AH gas side diff. press.	mmAq	DL A53D10	i !	95.6		119.4		
B AH gas side diff. press.	mmAq	A57D	82.0	93.2		114,3		
Primary air press.	mmAq	A40P10	1 1	1,486) ·		
A IDF inlet draft	mmAq	A22F10		-229.9		-297.2		
B IDF inlet draft	mmAq	A26F10	li	-227.4		-294.6		
A AH inlet air temp.	၁့	0	1 1	36.9		35.1		
B AH inlet air temp.	၁့	A56T10	1 3	37.3		33.9		
A AH outlet air	၁	A52T20	305.3	311.6		338.3		
A B AH outlet air temp.	သွ	Ŏ.		308.3		337.4		
A AH inlet gas t	၁	0	1 3	342.4		365.4		
B AH inlet gas	၁့	o,		337.7		367.9		
A AH outlet gas temp.	ပ			132.1		147.4		
B AH outlet gas temp.	ນຸ	0		138.9		150.3		
A Precip outlet gas temp.	၁	Clorio		128.3		143,6		
	၁့	i		132.5		144,4		
	Ą	CR indicator		220		236		
B IDE motor amp.	A	CR indicator	218	218		230		
A FDF motor amp.	A	CR indicator	72	72		85		
B FDF motor amp.	A	CR indicator		72		98		
A Pri. air fan motor amp.	ď	CR indicator		238		183		
air fan motor	A	CR indicator		238		196		
C.	æ	CR controller		61		70		
B IDF inlet vane open	₩	contro	99	68		73		
FDF inlet vane	æ	contro		47		74		
B FDF inlet vane open	ф	CR controller		49		70		1 0000
SH pass damper open	8₽	CR controller	57	68		7.4		
RH pass damper open	œ	CR controller				75		
capaci	æ	contro	96.93	96.94				
O analysis by Orsat (A)	φ.							
O analysis by Orsat (B)	æ							

						-
Item	Unit Measuring Point			Recording	B.E.T. ANN	N ANN h Low
Test Number		9-0	D-8			
Date		8/15	8/15			
Time			11:30			
A Mill coal fineness	ж					
A Mill coal feeder flow	T/H DL Blifl	33.65	33.82		36.7	
A Mill inlet air temp.	°C DL B13T10	284	293		196.2	
al (°C DL B13T2		79		77.9	
A Mill diff. draft	mmAq CR indicate	r 480	480		527.8	
A Mill primary air flow	T/H DL B13F10	92.3	93.9		86.0	31.3
A Mill hot air damper open	% local	62	53			
A Mill cold air damper open	* local	ហ	ω			
	% local	43	43			
A Mill motor amp.	A CR indicator)r 20	70		86	
A Mill classifier open	æ				09	
07 LLIM M	œ			·		
	H DE	43.44	43.63		36.0	
B Mill inlet air temp.			284	The state of the s	174.6	
B Mill air coal outlet temp.	°C DL B23T2(89 (69		78.9	
B Mill differential draft	mmAq CR indicate)r 580	009		500.0	
B Mill primary air flow	T/H DL B23F10	92.8	98.8		86.7	31.3
B Mill hot air damper open	% local	96	96			
	% local	2	2		40	
B Mill capacity damper open	% local	58	58			
B Mill motor amp.	A CR indicator	or 65	75		06	
B Mill classifier open	8				9	
and the state of t						

Item	Unit	Measuring Point			Recording	B.E.T. High	ANN ANN igh Low
Test Number			D-6	D-8			
Date			8/15	8/15			
Time			09:30	11:30			
C Mill coal fineness	ο'n						
C Mill coal feeder flow	T/H	DL B31F10	45.56	45,58		37.1	
C Mill inlet air temp.	၁	DL B33T10	264	270		174.2	
C Mill air coal outlet temp.	ပ	DL B33T20	99	67.		30.0	
C Mill differential draft	mmAq	CR indicator	909	009		507.4	
C Mill primary air flow	EL	DL B33F10	111.8	111.7		82.5	31.3
C Mill hot air damper open	æ	local	100	98			
C Mill cold air damper open	∞,	local	2	ភេ		62	
C Mill capacity damper open	æ	local	63	45			
C Mill motor amp.	RÎ.	CR indicator	9	75		92	
S C Mill classifier open	æ					60	
D Mill coal fineness	ф						
D Mill coal feeder flow	H/T	DL B41F10					
D Mill inlet air temp.	၁့	DL B43T10					
D Mill air coal outlet temp.	၁	DL B43T20					
tial dra	mmAq	CR indicator					
D Mill primary air flow	E/L	DL B43F10					31.3
D Mill hot air damper open	æ	local					
D Mill cold air damper open	90	local					
D Mill capacity damper open	ф	local				1	
notor amp.	Æ	CR indicator				**	
D Mill classifier open	æ	•					

ANN ANN High Low																		
B.B.T.																		
Recording								:									والمستود وال	
	D-8	8/15	11:30	ស	α	43		96	2	58		ස ර	5	45				
	D-6	8/15	08:60	62	5	43		96	2	58		100	2	63				
Measuring Point	-			local	local	local	local	loca1	local	local	local	[K 00]	local	local	local	local	local	local
Unit				οRP	₩	æ	*	ο¢	æ	ф	ck ^o	c*	&	o*	æ	oφo	æ	œ
				hot air damper open	cold air damper open	capacity damper open	classifier vane open	Mill hot air damper open	air damper open	capacity damper open	classifier vane open	hot air damper open		capacity damper open	classifier vane open	Mill hot air damper open	cold air damper open	capacity damper open

PENDEDAPTION	1
Ω	4
-)
Ę-	ŧ
4	1
α	í
ū	Į
Ω	ł
⋝	:
Ŀ	ì
Ε	1
<u>.</u>	1
<u> </u>	ļ
L	1
FTAT	1
Z L L	
METAT.	
BOTTED METAT.	

Item	Unit	Measuring Point			Recording	B.E.T.	ANN	ANN
Test Number			0-6	8-Q				
Date			8/15	8/15				
Time			08:30	1 1				
Div. wall out tube metal temp. 1	ပ္စ	DL ESITIO	438.9	457.8			538	
Div. wall out tube metal temp. 2	ပ္	DL ESITII	ω	481.3			538	
Div. wall out tube metal temp. 3	່ວູ	DL ESITI2	516.9	532.5			538	
out tube metal temp.	၁့		ω	467.2			538	
Div. wall out tube metal temp. 5	ວຸ	DL ES1T14	449.5	467.9			538	
	၁့	DL ESITIS	466.0	482.3			538	19
		DL ES1T16	459.4				538	
	၁့	DL E51T17	473.0	487.9			538	
	၁ ့		463.4				538	
Div. wall out tube metal temp. 10	၁့		9	499.4			538	
	၁ွ	DL E61T10	m	549.8			602	
Final SH tube metal temp. 2	၁ ့		4	527.8			602	
SH tube metal	၁ ့	DL E61T12		567.9			602	
tube metal temp.		DL E61T13	٤,	543.7			602	
Final SH tube metal temp. 5	၁့		S.	543.0			602	
Final SH tube metal temp. 6	၁့		7	458.3			602	
SH tube metal temp.		DL E61T16		536.4			602	
Final SH tube metal temp. 8	၁့		7	523,1			602	
SH tube metal temp.	သိ		m	523.1			602	
Final SH tube metal temp: 10	၁.	DL E61T19	. 7	513.7			602	
Final SH tube metal temp. 11		DL E61T20	535.4	530.6			602	
Final SH tube metal temp. 12	၁ ့	DL E61T21	514.6	509.7			602	
Final SH tube metal temp. 13	ပ		556.1	•			602	
SH tube metal temp.	၁့	DL E61T23	530.3	528.7			602	
Final SH tube metal temp. 15		DL E61T24	547.4	546.5			602	
Final SH tube metal temp. 16	၁့	DL E61T25	524.4	521.9			602	

B.E.T.: Boiler Efficiency Test

Item	Unit	Measuring Point			Recording	в.в.т.	ANN High	ANN Low
Test Number			D-6	D-8				
Date			8/15	8/15				
Time			09:30 11:30	1:30				
,	0	•	1					
7F Mezz. Front Right 2nd Port	ပ္	Local	1,180	7,210				
7F Mezz. Front Center Port	ပ	local	1,190	1,200				
7F Mezz. Front Left 2nd Port	၁့	local	1,170 1,170	1,170				
8F Left near S/B 6-L	၁့	local	1,040 1,060	090,1				
8F Right near S/B 6-R	ပ	local	1,060	1,060				
8F Rear Left 2nd Port	ပ	local	915	935				
9F Left near S/B 4-L	ပ	local	965	086				
9F Right near S/B 4-R	ပ္	local	970	985				
9F Front Left 2nd Port	ນູ	local	965	985				
9F Front Center Port	ပ	local	970	086				
9F Front Right 2nd Port	ပ	local	970	995				

ANN

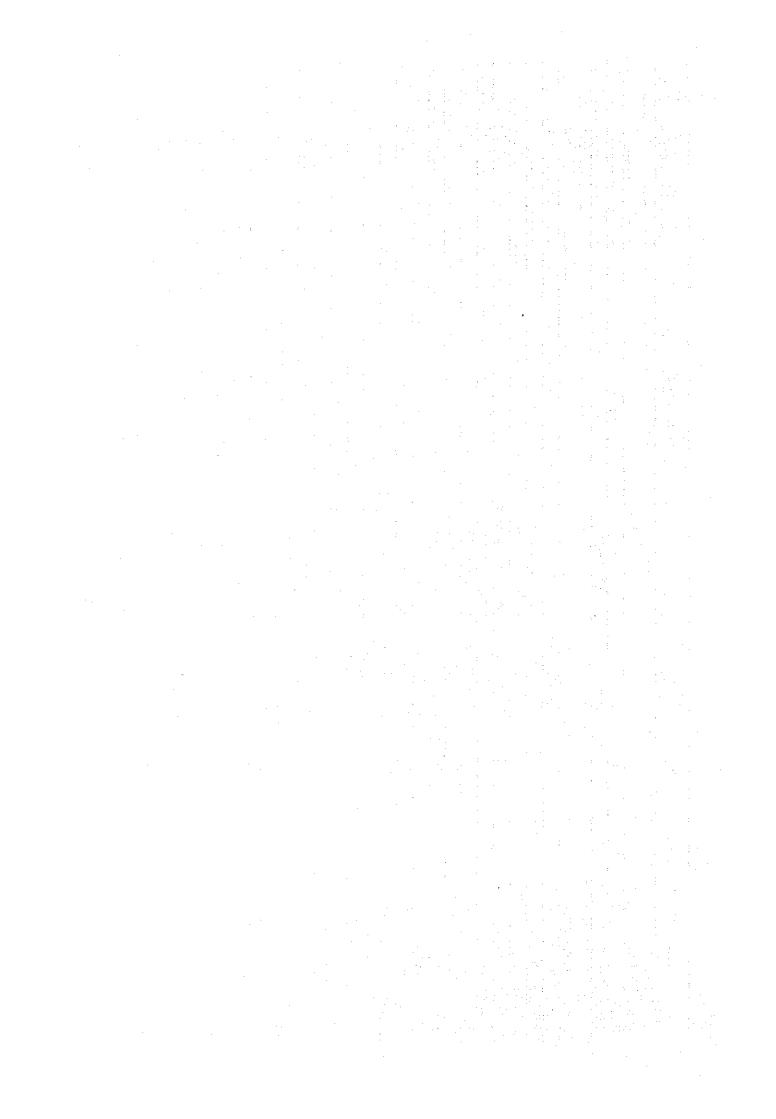
ANN

Measuring

Purpose Purp	Item	Unit	Measuring Point			Recording	B.E.T.	ANN A High L	ANN Low
Pate Pate			•	. <u>.</u>	ر ا				
Burner Barrel A-1 ° C				8/15	8/15				
Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-2 Burner Barrel A-2 Burner Barrel A-2 Burner Barrel A-3 Burner Barrel A-3 Burner Barrel A-3 Burner Barrel A-3 Burner Barrel A-4 C DL B60733 272.6 239.7 Burner Barrel A-4 C DL B60740 275.4 Burner Barrel A-4 C DL B60740 275.4 Burner Barrel A-4 C DL B60740 275.4 Burner Barrel B-1 C DL B61710 215.3 223.9 Burner Barrel B-1 C DL B61710 215.3 223.9 Burner Barrel B-1 C DL B61710 215.3 223.9 Burner Barrel B-2 C DL B61710 215.3 223.9 Burner Barrel B-3 C DL B61710 225.6 Burner Barrel B-3 C DL B61710 225.9 Burner Barrel B-3 C DL B61720 225.9 Burner Barrel B-4 C DL B61730 225.9 Burner Barrel B-	Time			1001	1-1				
Burner Barrel A-1 °C DL B60711 179.3 183.5 Burner Barrel A-1 °C DL B60712 262.4 269.5 Burner Barrel A-1 °C DL B60712 262.4 269.5 Burner Barrel A-2 °C DL B60712 266.7 223.4 Burner Barrel A-2 °C DL B60720 276.7 223.4 Burner Barrel A-2 °C DL B60720 276.7 223.4 Burner Barrel A-2 °C DL B60721 206.2 Burner Barrel A-2 °C DL B60722 266.4 243.1 Burner Barrel A-3 °C DL B60723 267.0 206.5 Burner Barrel A-3 °C DL B6073 267.0 226.1 Burner Barrel A-4 °C DL B6073 267.0 286.1 Burner Barrel A-4 °C DL B6074 156.6 180.6 Burner Barrel A-4 °C DL B6074 156.6 180.6 Burner Barrel B-1 °C DL B6074 229.7 Burner Barrel B-1 °C DL B6074 229.7 Burner Barrel B-1 °C DL B6171 256.3 220.9 Burner Barrel B-1 °C DL B6171 266.6 240.7 Burner Barrel B-2 °C DL B6171 266.6 240.7 Burner Barrel B-3 °C DL B6171 266.8 Burner Barrel B-3 °C DL B6172 266.4 276.1 Burner Barrel B-3 °C DL B6173 266.4 276.1 Burner Barrel B-3 °C DL B6173 266.4 276.1 Burner Barrel B-3 °C DL B6173 260.4 276.1 Burner Barrel B-3 °C DL B6173 260.7 229.1 Burner Barrel B-4 °C DL B6173 260.7 229.1 Burner Barrel B-4 °C DL B6173 260.7 229.1 Burner Barrel B-4 °C DL B6174 267.7 229.1 Burner Barrel B-4 °C DL B6174 267.7 229.1 Burner Barrel B-4 °C DL B6174 250.7 229.1 Burner Barrel B-4 °C DL B6174 267.7 229.1	Barrel	ပ္		268.7	276.8			400	
Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-1 Burner Barrel A-2 C DL B60T13 253.3 261.1 Burner Barrel A-2 C DL B60T21 276.0 212.2 Burner Barrel A-2 C DL B60T22 256.4 243.1 Burner Barrel A-3 C DL B60T32 251.4 243.1 Burner Barrel A-3 C DL B60T32 241.5 289.6 Burner Barrel A-3 C DL B60T31 271.6 279.7 Burner Barrel A-4 C DL B60T31 272.6 279.7 Burner Barrel A-4 C DL B60T42 270.2 276.5 Burner Barrel B-1 C DL B60T42 270.2 276.5 Burner Barrel B-1 C DL B60T42 270.2 276.5 Burner Barrel B-1 C DL B61T11 225.4 23.0 Burner Barrel B-1 C DL B61T21 262.6 270.0 Burner Barrel B-2 C DL B61T22 245.6 247.1 Burner Barrel B-2 C DL B61T21 195.4 247.1 Burner Barrel B-3 C DL B61T22 245.6 249.7 Burner Barrel B-3 C DL B61T21 265.6 249.7 Burner Barrel B-3 C DL B61T22 245.6 249.7 Burner Barrel B-3 C DL B61T21 265.6 249.7 Burner Barrel B-3 C DL B61T22 245.6 249.7 Burner Barrel B-3 C DL B61T32 220.7 239.1 Burner Barrel B-4 C DL B61T41 220.7 229.1 Burner Barrel B-4 C DL B61T41 220.7 229.1 Burner Barrel B-4 C DL B61T41 220.7 229.1	Barrel	ပိ		179.3	183.5			400	
Burner Barrel A-1 °C DL B60713 253.3 261.1 Burner Barrel A-2 °C DL B60720 276.7 283.4 Burner Barrel A-2 °C DL B60720 276.7 283.4 Burner Barrel A-2 °C DL B60730 245.2 286.0 Burner Barrel A-3 °C DL B60730 241.5 290.6 Burner Barrel A-3 °C DL B60731 201.2 286.1 Burner Barrel A-4 °C DL B60733 272.6 235.4 Burner Barrel A-4 °C DL B60740 278.0 286.1 Burner Barrel A-4 °C DL B60741 279.4 280.1 Burner Barrel A-4 °C DL B60742 270.2 270.2 Burner Barrel A-4 °C DL B60743 270.4 280.1 Burner Barrel A-4 °C DL B60743 270.2 270.2 Burner Barrel B-1 °C DL B60743 270.2 270.5 Burner Barrel B-1 °C DL B61720 244.4 247.1 </td <td>Barrel</td> <td>၁့</td> <td></td> <td>262.4</td> <td>269.5</td> <td></td> <td></td> <td>400</td> <td></td>	Barrel	၁့		262.4	269.5			400	
Burner Barrel A-2 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	Barrel	ပ		253.3	261.1			400	
Burner Barrel A-2 Burner Barrel A-2 Burner Barrel A-3 Burner Barrel A-4 Burner Barrel A-4 Burner Barrel A-4 Burner Barrel A-4 C DL B60733 273.6 239.6 Burner Barrel A-4 Burner Barrel B-4 Burner Barrel B-4 Burner Barrel B-1 C DL B60733 275.6 239.7 Burner Barrel B-4 C DL B60733 275.6 239.7 Burner Barrel B-4 C DL B60733 275.6 239.7 Burner Barrel B-4 C DL B6073 270.2 286.1 Burner Barrel B-4 C DL B60741 279.4 286.1 Burner Barrel B-1 C DL B60742 270.2 278.5 Burner Barrel B-1 C DL B60743 279.4 286.1 Burner Barrel B-1 C DL B61712 26.6 270.0 Burner Barrel B-1 C DL B61712 26.6 270.0 Burner Barrel B-2 C DL B61712 26.6 270.0 Burner Barrel B-2 C DL B61712 26.6 270.0 Burner Barrel B-3 C DL B61712 26.6 270.0 Burner Barrel B-3 C DL B61712 26.6 270.0 Burner Barrel B-3 C DL B61713 26.6 270.0 Burner Barrel B-3 C DL B61713 26.6 270.0 Burner Barrel B-3 C DL B6172 270.9 274.1 Burner Barrel B-3 C DL B61713 26.6 270.0 Burner Barrel B-3 C DL B61713 26.6 270.0 Burner Barrel B-3 C DL B61712 270.9 274.1 Burner Barrel B-3 C DL B61712 270.9 274.1 Burner Barrel B-3 C DL B61713 26.6 270.0 Burner Barrel B-3 C DL B61713 26.6 270.0 Burner Barrel B-3 C DL B6172 270.9 274.1 Burner Barrel B-3 C DL B6172 270.9 274.0 Burner Barrel B-3 C DL B6174 270.7 239.9	Barrel	ပ		276.7	283.4			400	
Burner Barrel A-2 Burner Barrel A-2 Burner Barrel A-3 Burner Barrel A-3 Burner Barrel A-3 Burner Barrel A-4 Burner Barrel A-4 Burner Barrel B-4 Burner Barrel B-1 Burner Barrel B-2 Burner Barrel B-1 Burner Barrel B-1 Burner Barrel B-2 Burner Barrel B-1 Burner Barrel B-1 Burner Barrel B-2 Burner Barrel B-2 Burner Barrel B-3 C DL B60740 276.0 286.1 Burner Barrel B-1 C DL B60740 276.0 286.1 Burner Barrel B-1 C DL B60740 279.2 279.5 Burner Barrel B-1 C DL B61710 215.3 223.9 Burner Barrel B-2 C DL B61711 225.4 233.0 Burner Barrel B-2 C DL B61712 262.6 270.0 Burner Barrel B-2 C DL B61712 262.6 270.0 Burner Barrel B-2 C DL B61720 244.4 247.1 Burner Barrel B-2 C DL B61720 246.6 249.7 Burner Barrel B-3 C DL B61731 182.4 189.2 Burner Barrel B-3 C DL B61731 182.4 189.2 Burner Barrel B-3 C DL B61731 265.4 201.8 Burner Barrel B-4 C DL B61731 265.7 259.1 Burner Barrel B-4 C DL B61741 220.7 239.9 Burner Barrel B-4 C DL B61741 220.7 259.1	Barrel	ပ္စ		206.0	212.2			400	
Burner Barrel A-2 °C DI B60T33 253.1 260.0 Burner Barrel A-3 °C DI B60T30 241.5 299.6 Burner Barrel A-3 °C DI B60T31 201.2 208.3 Burner Barrel A-3 °C DI B60T42 267.0 275.4 Burner Barrel A-4 °C DI B60T42 278.0 286.1 Burner Barrel A-4 °C DI B60T42 270.2 278.5 Burner Barrel B-1 °C DI B60T12 252.6 270.0 Burner Barrel B-2 °C DI B61T22 249.7 249.7 Burner Barrel B-2 °C DI B61T22 245.6 254.3 Burner Barrel B-2 °C DI B61T23 245.6 254.3 </td <td>Barrel</td> <td>ပ</td> <td></td> <td>236.4</td> <td>243.1</td> <td></td> <td></td> <td>400</td> <td></td>	Barrel	ပ		236.4	243.1			400	
Burner Barrel A-3 °C Di B60T30 241.5 299.6 Burner Barrel A-3 °C Di B60T31 201.2 208.3 Burner Barrel A-3 °C Di B60T33 272.6 239.7 Burner Barrel A-4 °C Di B60T41 156.6 160.6 Burner Barrel A-4 °C Di B60T41 156.6 160.6 Burner Barrel A-4 °C Di B60T41 156.6 160.6 Burner Barrel A-4 °C Di B60T42 279.4 288.1 Burner Barrel A-4 °C Di B60T42 279.4 288.1 Burner Barrel B-1 °C Di B61T10 215.3 29.0 Burner Barrel B-1 °C Di B61T12 223.9 Burner Barrel B-2 °C Di B61T20 244.4 247.1 Burner Barrel B-2 °C Di B61T21 249.7 Burner Barrel B-2 °C Di B61T22 245.6 Burner Barrel B-2 °C Di B61T22 245.6 Burner Barrel B-3 °C Di	Barrel) o		253.1	260.0			400	
Burner Barrel A-3 °C DL B60731 201.2 208.3 Burner Barrel A-3 °C DL B60732 267.0 275.4 Burner Barrel A-3 °C DL B60732 267.0 275.4 Burner Barrel A-4 °C DL B60740 278.0 286.1 Burner Barrel A-4 °C DL B60741 156.6 160.6 Burner Barrel A-4 °C DL B61710 215.3 223.9 Burner Barrel B-1 °C DL B61710 215.3 223.9 Burner Barrel B-1 °C DL B61712 226.6 270.0 Burner Barrel B-1 °C DL B61712 244.4 247.1 Burner Barrel B-2 °C DL B61720 244.4 247.1 Burner Barrel B-2 °C DL B61722 270.9 279.7 Burner Barrel B-3 °C DL B61722 270.9 279.1 Burner Barrel B-3 °C DL B61730 246.6 254.3 Burner Barrel B-3 °C DL B61731 225.1	Barrel	၁ွ		241.5	299.6			400	
Burner Barrel A-3 °C DL B60732 267.0 275.4 Burner Barrel A-3 °C DL B60733 272.6 239.7 Burner Barrel A-4 °C DL B60740 156.6 160.6 Burner Barrel A-4 °C DL B60742 270.2 278.5 Burner Barrel A-4 °C DL B60742 270.2 278.5 Burner Barrel B-1 °C DL B61710 223.9 Burner Barrel B-1 °C DL B61711 225.6 270.0 Burner Barrel B-1 °C DL B61712 262.6 270.0 Burner Barrel B-2 °C DL B61721 270.9 274.0 Burner Barrel B-2 °C DL B61721 270.9 274.0 Burner Barrel B-2 °C DL B61722 276.9 274.0 Burner Barrel B-3 °C DL B61722 276.1 276.1 Burner Barrel B-3 °C DL B61723 245.6 276.1 Burner Barrel B-3 °C DL B61732 245.9 276.1	Barrel	ပ		201.2	208.3			400	
Burner Barrel A-3 °C DI B60733 272.6 239.7 Burner Barrel A-4 °C DL B60740 276.6 266.1 Burner Barrel A-4 °C DL B60742 270.2 276.5 Burner Barrel A-4 °C DL B60743 270.2 276.5 Burner Barrel A-4 °C DL B60743 279.4 288.1 Burner Barrel B-1 °C DL B61711 225.9 Burner Barrel B-1 °C DL B61712 225.4 Burner Barrel B-1 °C DL B61712 249.7 Burner Barrel B-2 °C DL B61720 244.4 247.1 Burner Barrel B-2 °C DL B61721 125.4 249.7 Burner Barrel B-2 °C DL B61722 249.7 249.7 Burner Barrel B-3 °C DL B61723 245.6 249.7 Burner Barrel B-3 °C DL B61733 245.6 249.7 Burner Barrel B-3 °C DL B61732 251.3 Burner Barrel B-4 °C DL	Burner Barrel) (C	DL B60T32	267.0	275.4			400	
Burner Barrel A-4 °C DL B60T40 278.0 286.1 Burner Barrel A-4 °C DL B60T41 156.6 160.6 Burner Barrel A-4 °C DL B60T43 270.2 278.5 Burner Barrel B-1 °C DL B60T43 270.2 283.0 Burner Barrel B-1 °C DL B61T11 225.4 233.0 Burner Barrel B-1 °C DL B61T12 262.6 270.0 Burner Barrel B-2 °C DL B61T22 262.6 270.0 Burner Barrel B-2 °C DL B61T22 274.0 274.0 Burner Barrel B-2 °C DL B61T22 274.0 274.0 Burner Barrel B-2 °C DL B61T22 276.9 274.0 Burner Barrel B-3 °C DL B61T22 276.9 274.0 Burner Barrel B-3 °C DL B61T33 245.1 286.4 276.1 Burner Barrel B-3 °C DL B61T33 243.9 251.2 260.4 Burner Barrel B-4 °C DL B61T43 </td <td>Burner Barrel</td> <td>၁</td> <td>DL B60T33</td> <td>272.6</td> <td>239.7</td> <td></td> <td></td> <td>400</td> <td></td>	Burner Barrel	၁	DL B60T33	272.6	239.7			400	
Burner Barrel A-4 °C DL B60741 156.6 160.6 Burner Barrel A-4 °C DL B60742 270.2 278.5 Burner Barrel B-1 °C DL B60743 279.4 288.1 Burner Barrel B-1 °C DL B61710 215.3 223.9 Burner Barrel B-1 °C DL B61712 265.6 270.0 Burner Barrel B-2 °C DL B61721 249.7 Burner Barrel B-2 °C DL B61721 249.7 Burner Barrel B-2 °C DL B61721 195.4 201.8 Burner Barrel B-2 °C DL B61721 195.4 201.8 Burner Barrel B-3 °C DL B61722 245.6 249.7 Burner Barrel B-3 °C DL B61731 245.6 249.7 Burner Barrel B-3 °C DL B61732 269.4 276.1 Burner Barrel B-3 °C DL B61732 269.4 276.1 Burner Barrel B-4 °C DL B61732 269.4 276.1 Burner Barr	Burner Barrel	၂၀		278.0	286,1			400	
Barrel A-4 °C DL B60T42 270.2 278.5 Barrel A-4 °C DL B60T43 279.4 288.1 Barrel B-1 °C DL B61T10 215.3 223.9 Barrel B-1 °C DL B61T12 262.6 270.0 Barrel B-1 °C DL B61T20 244.4 249.7 Barrel B-2 °C DL B61T21 247.1 Barrel B-2 °C DL B61T22 270.9 Barrel B-2 °C DL B61T22 274.0 Barrel B-3 °C DL B61T22 274.9 Barrel B-3 °C DL B61T22 274.0 Barrel B-3 °C DL B61T31 182.4 Barrel B-3 °C DL B61T31 245.6 Barrel B-3 °C DL B61T31 269.4 Barrel B-3 °C DL B61T31 269.4 Barrel B-4 °C DL B61T41 229.1 Barrel B-4 °C DL B61T42 229.1 Barrel B-4 °C	Burner Barrel	ပ		156.6	160.6			400	
Barrel A-4 °C DL B60T43 279.4 288.1 Barrel B-1 °C DL B61T10 215.3 223.9 Barrel B-1 °C DL B61T11 225.4 233.0 Barrel B-1 °C DL B61T12 262.6 270.0 Barrel B-1 °C DL B61T20 244.4 201.8 Barrel B-2 °C DL B61T21 274.0 274.0 Barrel B-2 °C DL B61T22 270.9 274.0 Barrel B-2 °C DL B61T22 270.9 274.0 Barrel B-3 °C DL B61T33 245.6 249.7 Barrel B-3 °C DL B61T30 246.8 254.3 Barrel B-3 °C DL B61T31 286.8 254.3 Barrel B-3 °C DL B61T31 245.6 254.3 Barrel B-3 °C DL B61T31 245.6 254.3 Barrel B-3 °C DL B61T31 243.9 251.3 Barrel B-4 °C DL B61T41	Barrel	ပ	DL B60T42	270.2	278.5			400	
Barrel B-1 °C DL B61710 215.3 223.9 Barrel B-1 °C DL B61711 225.4 233.0 Barrel B-1 °C DL B61712 262.6 270.0 Barrel B-1 °C DL B61721 242.3 249.7 Barrel B-2 °C DL B61720 244.4 247.1 Barrel B-2 °C DL B61721 195.4 201.8 Barrel B-2 °C DL B61722 270.9 274.0 Barrel B-2 °C DL B61722 270.9 274.0 Barrel B-3 °C DL B61731 245.6 249.7 Barrel B-3 °C DL B61731 182.4 189.2 Barrel B-3 °C DL B61731 269.4 276.1 Barrel B-4 °C DL B61742 220.7 239.9 Barrel B-4 °C DL B61741 220.7 229.1 Barrel B-4 °C DL B61742 251.2 260.4	Barrel	ပ္	DL B60T43	279.4	288.1			400	
Barrel B-1 °C DL B6IT11 225.4 233.0 Barrel B-1 °C DL B6IT12 262.6 270.0 Barrel B-1 °C DL B6IT21 243.3 249.7 Barrel B-2 °C DL B6IT21 195.4 27.1 Barrel B-2 °C DL B6IT21 195.4 27.1 Barrel B-2 °C DL B6IT22 270.9 274.0 Barrel B-2 °C DL B6IT22 270.9 274.0 Barrel B-3 °C DL B6IT31 182.4 189.2 Barrel B-3 °C DL B6IT31 243.9 251.3 Barrel B-3 °C DL B6IT31 243.9 251.3 Barrel B-4 °C DL B6IT32 251.2 250.1 Barrel B-4 °C DL B6IT41 220.7 229.1 Barrel B-4 °C DL B6IT42 251.2 260.4	Barrel	ပ္	DL B61T10	215.3	223.9			400	e de servição
Barrel B-1 °C DL B6IT12 262.6 270.0 Barrel B-1 °C DL B6IT20 244.4 247.1 Barrel B-2 °C DL B6IT21 195.4 247.1 Barrel B-2 °C DL B6IT22 270.9 274.0 Barrel B-2 °C DL B6IT22 270.9 274.0 Barrel B-3 °C DL B6IT31 182.4 189.2 Barrel B-3 °C DL B6IT31 269.4 276.1 Barrel B-3 °C DL B6IT32 269.4 276.1 Barrel B-3 °C DL B6IT43 220.7 239.9 Barrel B-4 °C DL B6IT41 220.7 229.1 Barrel B-4 °C DL B6IT42 251.8 250.6	Barrel	ာ ရ	DL B61T11	225.4	233.0			400	
Barrel B-1 °C DL B61F13 242.3 249.7 Barrel B-2 °C DL B61F20 244.4 247.1 Barrel B-2 °C DL B61F21 195.4 201.8 Barrel B-2 °C DL B61F22 270.9 274.0 Barrel B-2 °C DL B61F23 245.6 249.7 Barrel B-3 °C DL B61F31 182.4 189.2 Barrel B-3 °C DL B61F32 269.4 276.1 Barrel B-3 °C DL B61F32 269.4 276.1 Barrel B-3 °C DL B61F33 243.9 251.3 Barrel B-4 °C DL B61F40 231.7 239.9 Barrel B-4 °C DL B61F41 220.7 229.1 Barrel B-4 °C DL B61F42 251.2 260.4	Barrel	ာ ်	DL B61T12	262.6	270.0			400	
Barrel B-2 °C DL B61T20 244.4 247.1 Barrel B-2 °C DL B61T21 195.4 201.8 Barrel B-2 °C DL B61T22 270.9 274.0 Barrel B-2 °C DL B61T23 246.8 254.3 Barrel B-3 °C DL B61T31 182.4 189.2 Barrel B-3 °C DL B61T32 269.4 276.1 Barrel B-4 °C DL B61T40 231.7 239.9 Barrel B-4 °C DL B61T41 220.7 229.1 Barrel B-4 °C DL B61T42 251.8 259.6 Barrel B-4 °C DL B61T43 252.2 260.4	Barrel	ည့	DL B61T13	242.3	249.7	The second secon		400	
Barrel B-2 °C DL B61T21 195.4 201.8 Barrel B-2 °C DL B61T22 270.9 274.0 Barrel B-3 °C DL B61T31 245.6 249.7 Barrel B-3 °C DL B61T31 182.4 189.2 Barrel B-3 °C DL B61T31 243.9 251.3 Barrel B-4 °C DL B61T40 231.7 239.9 Barrel B-4 °C DL B61T41 220.7 229.1 Barrel B-4 °C DL B61T42 251.8 259.6 Barrel B-4 °C DL B61T43 252.2 260.4	Barrel	၁ ့	DL B61T20	244.4	247.1			400	
Barrel B-2 °C DL B6IT22 270.9 274.0 Barrel B-2 °C DL B6IT30 246.8 254.3 Barrel B-3 °C DL B6IT31 182.4 189.2 Barrel B-3 °C DL B6IT32 269.4 276.1 Barrel B-4 °C DL B6IT33 243.9 251.3 Barrel B-4 °C DL B6IT40 231.7 239.9 Barrel B-4 °C DL B6IT42 251.8 259.6 Barrel B-4 °C DL B6IT42 251.8 259.6	1	ာ ေ	DL B61T21	195.4	201.8	A STATE OF THE STA	or all the same of the same	400	
Barrel B-2 °C DL B61T23 245.6 249.7 Barrel B-3 °C DL B61T31 182.4 189.2 Barrel B-3 °C DL B61T32 269.4 276.1 Barrel B-4 °C DL B61T40 231.7 239.9 Barrel B-4 °C DL B61T41 220.7 229.1 Barrel B-4 °C DL B61T42 251.8 259.6 Barrel B-4 °C DL B61T43 252.2 260.4	7.	ပ္စ	DL B61T22	270.9	274.0			400	
Barrel B-3°CDL B61T31246.8254.3Barrel B-3°CDL B61T31182.4189.2Barrel B-3°CDL B61T32269.4276.1Barrel B-4°CDL B61T40231.7239.9Barrel B-4°CDL B61T41220.7229.1Barrel B-4°CDL B61T41251.8259.6Barrel B-4°CDL B61T43252.2260.4	Barrel	၁	DL B61T23	245.6	249.7			400	1.7
Barrel B-3°CDL B61T31182.4189.2Barrel B-3°CDL B61T32269.4276.1Barrel B-4°CDL B61T40231.7239.9Barrel B-4°CDL B61T41220.7229.1Barrel B-4°CDL B61T41251.8259.6Barrel B-4°CDL B61T43252.2260.4	Barrel	ပ	DL B61T30	246.8	254.3			400	
Barrel B-3 °C DL B61T32 269.4 276.1 Barrel B-4 °C DL B61T40 231.7 239.9 Barrel B-4 °C DL B61T41 220.7 229.1 Barrel B-4 °C DL B61T42 251.8 259.6 Barrel B-4 °C DL B61T43 252.2 260.4	Barrel	၁့	DL B61T31	182.4	189.2			400	1
B-3 °C DL B61T43 243.9 251.3 B-4 °C DL B61T40 231.7 239.9 B-4 °C DL B61T41 220.7 229.1 B-4 °C DL B61T42 251.8 259.6 B-4 °C DL B61T43 252.2 260.4	Barrel	၁့	DL B61T32	269.4	276.1			400	
B-4 °C DL B61T40 231.7 239.9 B-4 °C DL B61T41 220.7 229.1 B-4 °C DL B61T42 251.8 259.6 B-4 °C DL B61T43 252.2 260.4	7	ر ا	DL B61T33	243.9	251.3		the state of the second control of the second control of the	400	
Barrel B-4 °C DL B61T41 220.7 229.1 Barrel B-4 °C DL B61T43 251.8 259.6 Barrel B-4 °C DL B61T43 252.2 260.4	1	ွ	DL B61T40	231.7	239.9			400	
Barrel B-4 °C DL B61T42 251.8 259.6 Barrel B-4 °C DL B61T43 252.2 260.4	Barrel	O ₀	DL B61T41	220.7	229.1	the second secon	man and the second seco	400	
Barrel B-4	Barrel	ာ့	DL B61T42	251.8	259.6			400	
	Barrel	0	DL B61T43	252.2	260.4		The second secon	400	

Item	Unit	Measuring			Recording	e. M. M.	ANN	ANN
Test Number			D-6	D-8				
Date			8/15	8/15				
Time	-		08:60	11:30				
								·
Burner Barrel C-1	ပ္	DL B62T10	235.6	243.6			400	
Barrel	၁ွ		228.2	235.5			400	
1 .	ွ		237.2	245.7			400	
Burner Barrel C-1	၁		228.6	236.8			400	
Burner Barrel C-2	ນຸ		263.1	270.0			400	
	၁	1	205.1	211.9			400	
Barrel	၁		245.0	253.3			400	
Burner Barrel C-2	ပ္စ	į.	290.5	269.6			400	
Barrel	၁့	•	274.6	282.3			400	
Barrel	၁ွ		209.7	218.6			400	
Burner Barrel C-3	ů		278.9	285.7			400	
Burner Barrel C-3	၁့	DL B62T33	227.3	232,4			400	
Burner Barrel C-4	၁့		237.7	246.2			400	
	ပ		234.7	243.5			400	
	၁ွ		245.7	255.0			400	
Burner Barrel C-4	၁့		260.3	269.3			400	
	၁。		320.9	323.7			400	
Barrel	၁		284.0	289.1			400	
Barrel	ပ		339.0	334.3			400	
Barrel	ပ		336.8	339.8			400	
	၁့	DL B63T20	334.3	336.8			400	
	၁့		270.3	277.1			400	
Burner Barrel D-2	ပ		360.2	357.9			400	
	၁ွ	DL B63T23	332.1	334.5			400	
Burner Barrel D-3	၁		336.0	339.2			400	
Burner Barrel D-3	ည့		266.5	275.1			400	
Barrel	၁ ့		354.7	356.8			400	
Barrel	ပ	DL B63T33	345.7	340.5			400	
Barrel	ပ		328.8	333,9			400	
Burner Barrel D-4	ပ	DL B63T41	276.3	287.9			400	
. !	ပ္စ	•	340.4	345.0			400	
Burner Barrel D-4	ပ		327.0				400	

A-6-105



添付資料 - 7

Analytical Instruments for Fuel, Environment and Water

Analytical Instruments for the Fuel Laboratory

1. Existing Instrument

	Redwood No. 1 Type Viscometer Flash Point Tester, Pensky	RW-11E	Yoshida Kagaku
\ ~ /	Martens	PMF-EM	Vachida Vacalu
1.	Cleveland Open Cup	COC-E	Yoshida Kagaku
(3)			Yoshida Kagaku
(3)	ocutifingat peharator	H-210A	Kokusan Enshinki
(4)	Michila Elemana	TAGY 1	Co., Ltd.
	Muttle Furnace	IMK-A	Ishizuka Denki
	Saybolt Colorimeter	SC-SP	Yoshida Kagaku
(6)	Drying Oven	DS-62	Yamato Scientific
			Co., Ltd.
(7)	Scale	W-500B	Nutix
(8)	Electric Digital Hydrothermometer	AY-21	Yamato Scientific
* .5 °			Co., Ltd.
(9)	Moisture Determination Balance	F-2A	Kett Electric
	and the stage of t		Laboratory
(10)	Electric Furnace	IMKM	Ishizuka Denki
(11)	Electric Furnace	ICKV	Ishizuka Denki
(12)	Water Bath	BS-48	Yamato Scientific
	1841 A. M. C.		Co., Ltd
(13)	Calorimeter, Adiabstic Bomb Type	1013	Yoshida Seisakusho
(Co., Ltd.
(14)	Roll Jaw Crusher	1023-В	Yoshida Seisakusho
(2.1)			Co., Ltd.
(15)	Coffee Mill Type Crusher	1023-A	Yoshida Seisakusho
(13)	type ordiner	1013 11	Co., Ltd.
(16)	Sieve Shaker		Tyler Combustion
(16)	prese guarer		Eng'g. Inc.
(17)	D t C C 1		Fisher Scientific Co.
(17)	Riffler		Murayama Seisakusho
(18)	Top Loading Scale		Hulayama Selsakusho
(19)	Top Loading Scale		Yamato Scientific
(20)	Analytical Balance 200 g		·
			Co., Ltd.
	200 g		Sauter (Germany)

2. JICA Supply Instruments

(1)	Atomic Absorption	Spectrophotometer	AA-670	Shimadzu
	ASTM Colormeter	- ·		Yoshida Kagaku
(3)	Crucible Swelling	Furnace		Yoshida Seisakusho
(4)	Computer/Printer			IBM

Analytical Instruments for the Environmental Laboratory

1. Existing Instrument

(1)	Atomic Absorption Spectrophotometer Not Operational		Instrumentation Labo, Brand
(2)	Water Quality Analyzer	TOS Brand	TOA Electronics, Ltd.
(3)	PH Meter		Scott Gerate Brand
(4)	Air Particulate Sampler High Volume		Staplex Brand
(5)	Sulfur Dioxide Monitoring System	-	Sierra Misca Brand
(6)	Noise Meter	452	Scott Instrumentation Labo. Brand
(7)	Drying Oven		Herew Brand
(8)	Conductivity Meter/Temperature Meter		Extech Brand
(9)	Laboratory Incubator	47.3	
(10)	PDL-24 Meteorological Monitoring		
- •	System		

2. JICA Supply Instruments

(1)	Dissolved Oxygen Meter	DC-25	TOA Electronics, Ltd.
(2)	Spectrophotometer	UV-120-01	
(3)	Water Bath	LH-800	Toyo Scientific
(4)	Middlevolume Air Sampler	the state of the s	Shibata Scientific
(5)	Stack SO ₂ Analyzer	ESDA-813	Horiba Seisakusho
(6)	Fume Hoods	LFA-120	Toyo Scientific
(7)	Gaseous Pollutant Sampler	HS-6N	Showa Sokki
(8)	Water Quality Checker	WQC-2A	TOA Electronics, Ltd.
(9)	Water Sampler VANDORN TYPE	5062A	Rigou

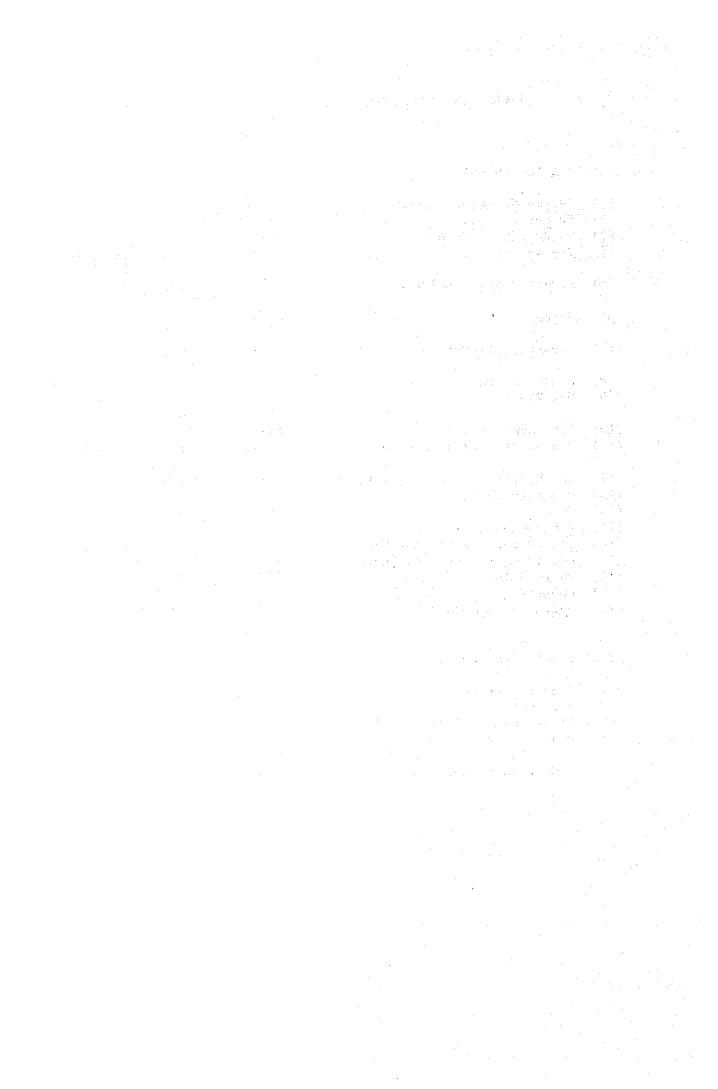
Analytical Instruments for the Water Laboratory

1. Existing Instrument

(1)	UV-VIS Spectrophotometer		Hitachi Ltd.
*. *	PH Meter	HM-5ES	TOA Electronics Ltd.
(3)	Conductivity Meter	32	TOA Electronics Ltd.
(4)	Drying Oven	DS-62	Yamato Scientific
			Co., Ltd.
(5)	Direct Reading Balance	7AG	Kensei Industrial
			Co., Ltd.
(6)	Shaker	SA-31	Yamato Scientific
			Co., Ltd.
(7)	Magnetic Stirrer	M-41	Yamato Scientific
		• -	Co., Ltd.
(8)	Dissolved Oxygen Meter	DO-18	TOA Electronics Ltd.
(9)	• •	HK-21	Yamato Scientific
()		2.1	Co., Ltd.
(10)	Lab. Demineralizer	MA-1	Japan Organo Co.
(11)	Microscope, Metallurgical	BHM-112	Olympus Optical
(11)	Microscope, Metaliargical	DIM'-112	
(10)	Die Wassels Confort Mantelanation	2012	Co., Ltd.
(12)	Du. Nony's Surface Tentiometer	3012	Yoshida Seisakusho Co.
(13)	Orsat Analyzer	1775 1 F O	W 0. S 51. 0.
(14)		VKD-150	Yamato Scientific Co.
	Programmable Timer	151	Fisher
-	Electrothermal Heating Mantle		Electrothermal
(17)	Magnetic Stirrer with Heater	610T	Fisher
(18)	Water Bath	BS-48	Yamato Scientific
(19)	Centrifuge		Precision Universal
(20)	Multi-Pen Recorder	R-53	Rikadenki Kogyo
	•		

2. JICA Supply Instruments

(1)	Spectrophotometer	UV-120-02	
	Jar Tester	J-6	Toyo Keiryoki
(3)	Electronic Analytical Balance	AEL-200	Shimadzu
(4)	Flash Point Tester		Yoshida Seisakusho
• • •	Pensky Martens Closed	821	
	Cleveland Open Cup	823	



添付資料-8

Items of Education and Training at Calaca Power Plant

ANNEX-8 Items of Education and Training at Calaca Power Plant

For the Freshman Training

- 4.10 SAFETY of personnel application of Artificial Respiration and Mouth to Mouth/Heart Massage Resuscitation
- 4.11 SOP on equipment tagging
- 4.12 Fire Brigade and SOP on Fire Fighting System

For the Regular Training

4.2 Shift Refresher Course (ON THE JOB TRAINING)

Cource content as follows:

- A. PHYSICS FUNDAMENTALS relevant to Plant Operation
 - a.l Heat
 - a.2 Mechanics
 - a.3 Sound
 - a.4 Optics
 - a.5 Electricity/Magnetism
 - a.6 Modern Physics
- B. TURBINE GENERATOR (TOSHIBA) AUXILIARY EQUIPMENT OPERATION
 - 1. System lay out (Flow diagram where possible) for each of the following:

B.1.1	Bearing Cooling Water System
B.1.2	Instrument Air Compressor System
B.1.3	House Service Air Compressor System
B.1.4	Boiler Auxiliary Air Compressor System
B.1.5	Condensing System
B.1.6	Chlorination System
B.1.7	Screen House Equipment
B.1.8	Condensate System
В.1.9	Feedwater System
	A-8-1

B.1.10	Cathodic Protection System
B.1.11	Ferrous Sulfate
B.1.12	Machine Gas System (Hydrogen and CO ₂)
B.1.13	Seal Oil System
B.1.14	Stator Cooling Water System
B.1.15	Oil Conditioning System
	(Turbine - Gen and Turb BFPs)
B.1.15.1	Turbine - Gen Oil Conditioning
B.1.15.2	Boiler Feed Pumps (Turbine - driven)

C. TURBINE:

1.	Design/Construction	Features
	c.1.1	Nozzle
	C.1.2	Moving blades - Impulse/Reaction blades -
		differentiate
	C.1.3	Cylinder/casing arrangement
	C.1.4	Shaft and wheels
	C.1.5	Thrust bearings
	C.1.6	Journal bearings
	C.1.7	Steam chest
	C.1.8.1	Main Stop Valve or Hydraulic Stop Valve
	C.1.8.2	Control Valves
	C.1.8.3	Combined Reheat - Intercept Valves
	C.1.8.4	High Press/Lo Press Bypass Valves
	C.1.9.1	Turning Gear
	C.1.9.2	Jacking Oil Pump
	C.1.10	Lubrication/Hydraulic 0il System/0il
		Coolers
	C.1.11	Glands and Shaft Sealing System
	C.1.12	Turbine Protection Devices
	C.1.12.a	Speed Gov'r/Pre-emergency gov'r/Emergency gov'r
	С.1.12.Ь	Relay Dump Valve/Extraction Non-Return
		Valves
	C.1.12.c	Vac Trip Device
	C.1.12.d	Blowdown Valve
	C.1.12.e	Other Valves - (CV, MSV, CRV)

C.1.12.f	Diaphragm Valves
C.1.12.g	Aux Oil Pump/Emergency DC Oil Pump
C.1.12.h	TOOP/Jacking Oil Pump
C.1.12.i	Oil Trip Valve
C.1.12.j	Emergency Trip Valve
C.1.12.k	IPR (Initial Press Regulator)
C.1.12.1	Reverse Power Relay
C.1.12.m	Thrust bearing failure relay
C.1.13	Auxiliary Steam System (TURBINE)
C.1.14	E.H.C. (Electro Hydraulic Control)
C.1.15	Automatic Turbine Start-Up (ATS)
C.1.15.1	Extraction Drain Valve Master by ATS
C.1.15.2	Extraction Stop Valve Master by ATS
C.1.15.3	Condenser Vacuum Raise/Break Master by ATS
C.1.15.4	Turbine Drain Valve Master
C.1.15.5	ATS - Cold, Warm, Hot and Very Hot
	Conditions
C.1.15.5.1	ATS as laid out in ATS Control Panel
÷	a. CV chest warming
	b. Load set (INC/DEC)
	c. Load Limit Set Knob
	d. Auto Turbine Start
	e. Coordinated Control
	f. IPR (initial pressure regulator)
	g. Speed Set RPM
	h. Starting Rate
	i. Line Speed Matching
	j. FA/PA transfer
C.1.15.5.2	ATS as laid out in ATS Tests Panel
	a. MSV
	b. CRV
	c. $LP - BP ^{"}A"$
	d, $LP - BP "B"$
	e. Emergency Oil Trip Test
	f. Over Speed Trip
	g. Back-up D/S Test
	h. Power/Load (P/L) Unbalanced Test

i. Lamp Test

- D. Generator/System (22 kV to 230 kV) and Station Service Lay-out
 - D.1 Excitation
 - D.2 EHC
 - D.3 CVCF
 - D.4 Emergency Diesel Generator
- E. BOILER (Foster Wheeler) Auxiliary Equipment Operation
 - E.1 System Lay out (show FLOW DIAGRAM where possible for each of the following:
 - E.1.1 Burner Management System (BMS)
 - E.1.1.a Light Oil System
 - E.1.1.b Heavy Oil System
 - E.1.1.c Coal System
 - c.1 Gravimetric Feeder
 - c.2 Pulverizer/Lube Oil System
 - c.3 Pyrite System
 - E.1.2 Interposing Logic System (ILS)
 - E.1.2.a Air Flow Secondary/Primary
 - b Gas Flow
 - c Ductworks/Dampers/Positioners
 - d Furnace Draft/Furnace Aspirating Pipes
 - e Tri-sector Air Heater
 - f Electrostatic Precipitator
 - g Fans (IDF/FDF/PAF)
 - h Tertiary Air Fan/System
 - i Seal Air Fan/System
 - E.1.3 Sootblowers
 - E.1.3.a Retractables
 - E.1.3.b Wall Blowers
 - E.1.3.c Air Heaters
 - E.1.3.d Water Blowers
 - E.1.4 Combustion Control/Temperature Control IMCC

F. BOILER:

- a. Design/Construction Features
- b. Principles of Operation
- c. Description/Purpose or Function of various parts/components
- d. Whys and Hows of Putting IN/OUT of service the various auxiliary equipment
- e. Sequence of Operation
- f. Blr Hydrostatic Testing/Safety Valves/Electromatic Valve
- g. Equipment troubles and remedial measures to apply
- G. ASH HANDLING
- H. COAL HANDLING

