DETAIL DESIGN FOR LABORATORY BUILDING OF DESALINATION RESEARCH PROJECT IN THE KINGDOM OF SAUDI ARABIA

VOLUME 6 of 6 VOLUMES

AUGUST, 1987

JAPAN INTERNATIONAL COOPERATION AGENCY



DETAIL DESIGN FOR LABORATORY BUILDING OF DESALINATION RESEARCH PROJECT IN THE KINGDOM OF SAUDI ARABIA

VOLUME 6 OF 6 VOLUMES

BILL OF QUANTITIES

BUILDING WORKS

AIR-CONDITIONING WORKS

MECHANICAL WORKS

ELECTRICAL WORKS

LABORATORY FURNITURE



AUGUST 1987

JAPAN INTERNATIONAL COOPERATION AGENCY

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BUILDING WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

LABORATORY BUILDING

LABORATORY BUILDING

17F8.4	BILL OF QUANTITIES & UN				TOTAL COST
ITEM	DESCRIPTION	UNIT	QUANTITY	UNII RAIL	TOTAL COST
1	EARTH WORK				
	a) EXCAVATION)	j	
	Only				
				ļ	
	Saudi Rials per cubic meter.	W3	2.76		i
	b) EXCESS SOIL DISPOSAL				
	Only				
•					1
٠	Saudi Rials per cubic meter.	IVI3	2.71	. 1	1
	c) BACKFILLING W/COMPACTION TO			}]
	GL W/EXCAVATED SOIL	İ			i
	Only				
					1
	Saudi Rials per cubic meter.	M3	0.05		5
	d) COBBLESTONE t = 100 mm			i	
	Only				
	Only				
٠	Saudi Rials per cubic meter.	M3	1.55		
				!	
				!	! !
2	CONCRETE WORK				
	a) LEVELING CONCRETE t = 50 mm				
	Only				
	County Diale and wikin makes	0.42	0.30		
	Saudi Rials per cubic meter.	M3	0.28		
	B) CONCRETE FOR SLAB - ON - GRADE				
	& STOOP (GRADE 20)	1			
	Only				
	Saudi Rials per cubic meter.	- M3	2.05		
			<u> </u>	 	
			[1 :	1

3 F	c) CONCRETE FOR SUPER STRUCTURE (GRADE 25) Only Saudi Rials per cubic meter. ORM WORK a) FORM WORK FOR STOOP Only Saudi Rials per square meter. b) FAIR FACED FORM WORK	I/J3	1.4		
	ORM WORK a) FORM WORK FOR STOOP Only Saudi Rials per square meter. b) FAIR FACED FORM WORK				
	a) FORM WORK FOR STOOP Only	M ²	2.39		
	Saudi Rials per square meter. b) FAIR FACED FORM WORK	IV)2	2.39	i .	
	-	•	1		
	Only Saudi Rials per square meter.	M ²	13.25		
	REINFORCEMENT WORK a) REINFORCING BAR (CHARACTERISTIC STRENGTH: 410 N / mm²) Only				
	Saudi Rials per metric kilogram.	kg	84.4		
	b) WELDED WIRE FABRIC φ 6 × 150 × 150 Only				
	Saudi Rials per square meter.	Ws	9.16		
				1 1	
		-			
		<u></u>			

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL
5	MASONRY WORK				
	a) CONCRETE BLOCK 200 mm THK				
	Only				
	Saudi Rials per square meter.	M ²	9.36		
6	WATERPROOF WORK				
	(190 × 190 × 390mm)		ļ	\$	
	a) WATERPROOFING CEMENT MORTAR				
	Only				
				i i	
	Saudi Rials per square meter.	M ₂	8.34		
7	DOOR (INCLUDING FRAME, HARDWARES, GLAZING)				
	7A. ADDITIONAL DOOR				ŀ
•	a) DOUBLE FLUSH HOLLOW WOOD				
	1,800W x 2,100H				
	Only				į
					į
	Saudi Rials per unit.	NOS	3		
	b) SINGLE SWING FLUSH HOLLOW				
	WOOD W/WICKET				
	1,200W × 2,100 H				
	Only				
	Saudi Rials per unit.	NOS	3		
	c) FLUSH HOLLOW WOOD				
	1,000W × 2,100H				
	Only				
	Saudi Rials per unit.	NOS	1		
		L	<u> </u>		

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	S			لدردت مسوري
ITEM	DESCRIPTION	UNIT	QUANTITY	UNITR	ATE	TOTALC	OST
8	FINISH WORK						1
	8A. FLOOR (ADDITIONAL)				 - 		!
	a) VINYL TILE					ł	1
	(300 mm × 300 mm × 3 mm THK)				i I		į
	W/MORTAR BEDDING t≈20 mm					1	
	Only				i. I		į
					! !		1
	Saudi Rials per square meter.	W ₂	334.06		i !		į
	b) FLOATING FLOOR W/VINYL TILE]] .		}
	Only	ĺ					!
							!
	Saudi Rials per square meter.	Ws	232.74				1
		1			! !	ł	1
	c) VINYL COVE BASE h= 100 mm				!	ŀ	1
	Only	1					į
					! 		}
	Saudi Rials per meter run.	M	315.2		l 	}	! !
	d) CONCRETE STEEL TROWEL FINISH			1	[] !		} !
	Only						-
	Siny	İ			į		į
	Saudi Rials per square meter.	M2	9.16				{
					 	<u> </u>	1
	8B. FLOOR (REMOVAL)					}	į
	a) CARPET			}			Ì
	Only			}	 		
	,,				} .		1
	Saudi Rials per square meter.	M2	566.8				į
							ì
	b) VINYL COVE BASE				[!		!
	Only						į
	,		200.0				1
	Saudi Rials per meter run.	M	289.9				
							1
			<u> </u>		<u> </u> -		
		<u> </u>	<u> </u>		l L		<u> </u>

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL
	8C. WALL (ADDITIONAL)			1	
	a) PLASTER BOARD				
	Only				
		:	İ		
	Saudi Rials per square meter.	M ²	123.66	}	
	b) CEMENT PLASTER				
	Only				
		1			
	Saudi Rials per square meter.	M ²	4.86		
	c) LITHING SPRAY		}		
	Only				
		}		}	
	Saudi Rials per square meter.	M2	12.8	1.	
	8D. WALL (REMOVAL)				
. •	a) CONCRETE BLOCK W/PLASTER				
	Only	ļ] ;	ļ
	Saudi Rials per square meter.	M ₂	71.28	[
	8E. PAINTING (ADDITIONAL)				
	a) FOR PLASTER BOARD				
	Only				İ
			1		
	Saudi Rials per square meter.	IM2	123.66		
	b) FOR WOOD DOOR				
	Only				
	,				
	Saudi Rials per square meter.	M2	56.7		
-					
		ì	1	1 !	1 .

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE)	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) FOR CEMENT PLASTER Only	M ²	4.86		
9	MISCELLANEOUS WORK a) GALVANIZED WIRE MESH DOOR W/STEEL FRAME Only				
	Saudi Rials per square meter.	M ²	2.16		
	b) MOVABLE PARTITION (REMOVAL) Only Saudi Rials per square meter.	M ²	29.7		
				1 1 3 4 5 1	
				; ; ; ; ;	

SUMMARY

LABORATORY BUILDING	<u>S. R.</u>
TOTAL CARRIED TO SUMMARY OF BUILDING WORKS	

TEST PLANT BUILDING

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE:	5 	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	EARTH WORK				
	a) EXCAVATION				
	Only			1	
					-
	Saudi Rials per cubic meter.	M ₃	296.88		
	b) EXCESS SOIL DISPOSAL				
	Only				
				[
	Saudi Rials per cubic meter.	M ₃	68.49		
	c) BACK FILLING W/COMPACTION TO				1 1
	GL W/EXCAVATED SOIL				
	Only				
	Saudi Rials per cubic meter.	M ₃	228.39	3	
	d) CUTTING t = 100 mm ~ 300 mm			i i	
	Only				
	J.,				
	Saudi Rials per square meter.	M2	386.04		
	e) COBBLESTONE t = 100mm				
	Only				1
	.,			}	
	Saudi Rials per cubic meter.	₩3	53.08		
	f) DAMPPROOF COURSE]			
	(POLYETHYLENE FILM 0.15 mm			į	
	thick)				
	Only				
	Saudi Rials per square meter.	M ²	367.89	1	
					-
]			
					1
			·[1

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	TINU	QUANTITY	UNIT RATE	TOTAL COST
2	CONCRETE WORK a) LEVELING CONCRETE t = 50 mm Only				}
	Saudi Rials per cubic meter.	M3	7.32	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	b) CONCRETE FOR FOUNDATION SLAB - ON - GRADE & STOOP (GRADE 20) Only				
	Saudi Rials per cubic meter.	M3	108.62		1 1 1 1
	c) CONCRETE FOR SUPER STRUCTURE (GRADE 25)				
	Only	M3	96.97	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 3 1 1 1
	Saudi Kiais per cobic meter.	101-	30.37	1	
3	FORM WORK a) FORM WORK FOR UNDERGROUND Only				
	Saudi Rials per square meter.	I/I2	222.81	; ; ;	
	b) FORM WORK FOR STOOP Only				
	Saudi Rials per square meter.	M2	4.17	1 1	1
					1
]			1

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) FORM WORK FOR ABOVE GROUND Only				
	Saudi Rials per square meter. d) FAIR FACED FORM WORK	M2	515.88		
	Only	M ₂	444.0		
4	REINFORCEMENT WORK a) REINFORCING BAR (CHARACTERISTIC STRENGTH: 410 N/mm²) Only				
	Saudi Rials per metric ton.	TON	17.65	 	
	b) WELDED WIRE FABRIC φ6 × 150 × 150 Only				
	Saudi Rials per square meter.	W ₅	397.34	1 3 4 1	1
5	MASONRY WORK a) CONCRETE BLOCK 200 mm THK (190 × 190 × 290 mm) Only				
	Saudi Rials per square meter. b) CONCRETE BOOCK 100 mm THK (190 × 190 × 290 mm) Only	W ₂	344.28		
	Saudi Rials per square meter.	M2	94.51		
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	BILL OF QUANTITIES & UN	BILL OF QUANTITIES & UNIT COSTS SCHEDULES							
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS				
6	WATERPROOF WORK								
	6A. WATERPROOFING								
	a) LIGHT WEIGHT CONCRETE t≈60mm		Ì						
	Only	1							
		ļ	ļ	ļ	į				
	Saudi Rials per square meter.	M ²	379.19						
	b) WATER TIGHTNESS PVC SHEET				1				
	t = 1 mm	1	ĺ	1					
	Only								
		}	}						
	Saudi Rials per square meter.	M ²	424.45	1					
	c) THERMAL INSULATION t = 40 mm	}	ļ	}					
	Only								
	Saudi Rials per square meter.	M ²	379.19						
	d) PVC VAPOR TIGHTNESS MEMBRANE								
	PVC - 200 MICRON]				
	Only								
		ļ							
	Saudi Rials per square meter.	M ²	379.19						
	6B. SEALING								
	a) COMPRESSIVE FILLER		Į.						
	Only								
			440.00						
:	Saudi Rials per meter run.	M	118.03						
	b) SEALING FOR ROOF								
	Only								
	Saudi Rials per meter run.	М	149.0						
		 							

c) SEALING FOR EXTERIOR DOOR, WINDOW & VENTILATOR Only Saudi Rials per meter run. DOOR & WINDOW WORK INCLUDING FRAME, HARDWARES, GLAZING) 7A. DOOR a) DOUBLE FLUSH HOLLOW STEEL 3,000W × 4,000H Only	M	155.5			
Saudi Rials per meter run. DOOR & WINDOW WORK INCLUDING FRAME, HARDWARES, GLAZING) 7A. DOOR a) DOUBLE FLUSH HOLLOW STEEL 3,000W × 4,000H Only	M	155.5			
INCLUDING FRAME, HARDWARES, GLAZING) 7A. DOOR a) DOUBLE FLUSH HOLLOW STEEL 3,000W × 4,000H Only			\$ 3 4 1 1		
a) DOUBLE FLUSH HOLLOW STEEL 3,000W × 4,000H Only			i		
	1				
Saudi Rials per unit.	NOS	1			
b) DOUBLE FLUSH HOLLOW STEEL 1,800W × 2,100H Only			1		
Saudi Rials per unit.	NOS	4			
c) FLUSH HOLLOW STEEL 900W × 2,100H Only			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	
Saudi Rials per unit.	NOS	2			
d) DOUBLE FLUSH HOLLOW WOOD 1,600W × 2,100H Only					
Saudi Rials per unit.	NO5	1			
	1,800W × 2,100H Only Saudi Rials per unit. c) FLUSH HOLLOW STEEL 900W × 2,100H Only Saudi Rials per unit. d) DOUBLE FLUSH HOLLOW WOOD 1,600W × 2,100H Only	1,800W × 2,100H Only Saudi Rials per unit. NOS c) FLUSH HOLLOW STEEL 900W × 2,100H Only Saudi Rials per unit. NOS NOS d) DOUBLE FLUSH HOLLOW WOOD 1,600W × 2,100H Only	1,800W × 2,100H Only Saudi Rials per unit. c) FLUSH HOLLOW STEEL 900W × 2,100H Only Saudi Rials per unit. NOS 2 d) DOUBLE FLUSH HOLLOW WOOD 1,600W × 2,100H Only Only	1,800W × 2,100H Only Saudi Rials per unit. c) FLUSH HOLLOW STEEL 900W × 2,100H Only Saudi Rials per unit. NOS 2 d) DOUBLE FLUSH HOLLOW WOOD 1,600W × 2,100H Only Only	1,800W × 2,100H Only Saudi Rials per unit. c) FLUSH HOLLOW STEEL 900W × 2,100H Only Saudi Rials per unit. NOS 2 d) DOUBLE FLUSH HOLLOW WOOD 1,600W × 2,100H Only Only

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
	e) SINGLE SWING FLUSH HOLLOW WOOD W/WICKET 1,200W × 2,100H Only				
	Saudi Rials per unit.	NOS	1	i i	
	f) FLUSH HOLLOW WOOD 800 ^W × 2,100 ^H Only				
	Saudi Rials per unit.	NOS	5		
	g) FLUSH HOLLOW WOOD 650W × 2,100H Only				
	Saudi Rials per unit.	NOS	1		
	h) DOUBLE FLUSH HOLLOW WOOD 1,800W x 2,100H Only				
	Saudi Rials per unit.	NOS	1		
					1 1 2 2
	:				
				} { } ! !	
+ + +		1	l		

EM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	3. WINDOW	1		!	
l	a) ALUMINUM FRAME FIXED WINDOW				
	3,000W × 1,800H				
	Only				
		1			
ĺ	Saudi Rials per unit.	NOS	3	i	į
			ļ		1 3 1
) t) ALUMINUM FRAME FIXED WINDOW	ì)		1
ļ	2,000W × 1,800H			}	
	Only			İ	
	Saudi Rials per unit.	NOS	3		
	por por	}			}
) ALUMINUM FRAME FIXED WINDOW	l			-
	2,000 ^H × 900 ^H				
ł	Only	}	 		i !
					i
	Saudi Rials per unit.	NOS	3		
	i) ALUMINUM FRAME FIXED WINDOW				
	7,000 ^W × 900 ^H				!
	Only]		
		Nor	1		1
	Saudi Rials per unit.	NOS	2		
	e) ALUMINUM FRAME FIXED WINDOW				1
	2,000 ^W × 500 ^H				
	Only				
	Saudi Rials per unit.	NOS	1	1	
					1
		}	İ		
				Ţ <u> </u>	

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL CO
8	FINISH WORK				
	8A. PLASTERING (INTERIOR)				
	a) CEMENT MORTAR STEEL TROWEL	į .			
	FINISH FLOOR t = 20 mm				
	Only				
	Saudi Rials per square meter.	M ²	257.36		
	b) CEMENT MORTAR STEEL TROWEL				
	BASE h = 100MM t = 30 mm				
	Only			1	
	Saudi Rials per meter run.	M	99.6		
	c) CEMENT MORTAR STEEL TROWEL			1	
	WALL t= 20 mm	1			
	Only	ļ			1
		1			1
	Saudi Rials per square meter.	M ²	599.24		
	8B. PLASTERING (EXTERIOR)			!	
	a) CEMENT MORTAR BROOM FINISH			1 1	1
	WALL t= 20 mm	1 .			
	Only				
4	Saudi Rials per square meter.	W ₅	442.61		
	b) CEMENT MORTAR STEEL TROWEL	 			
•	BASE t = 20 mm				
	Only	-			
	Only				
.*	Saudi Rials per square meter.	M ²	17.48		
	Jacob Mara per square meter.	'"			
	e e				
]			
		1		1	

	BILL OF QUANTITIES & UN	NT COST	S SCHEDULES	5	
rem	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) CEMENT MORTAR STEEL TROWEL COPING Only				
	Saudi Rials per square meter.	M ²	21.05		
	d) CEMENT MORTAR STEEL TROWEL WINDOW SILL			1	
į	Only			1	
	Saudi Rials per meter run.	M	37.0	1	
	e) CONCRETE STEEL TROWEL FINISH FLOOR Only		E		i i i i i i i i i i i i i i i i i i i
	Saudi Rials per square meter.	W ₅	23.71		1
	f) LITHING SPRAY Only				
	Saudi Rials per square meter.	M ₂	442.61		
					1
			†		1
					1
				!	

12.6.8 v	~~~~~~		ALL RITITY	LINUTBATE	TOTAL COST
ITEM	DESCRIPTION	UNIT	QUANTITY	UNII KAIE	TOTAL COST
	8C. TILING (FLOOR, WAINSCOT & WALL)				
	a) VINYL TILE		1	1	} ;
	(300mm × 300mm × 3mm THK)				
	W/MORTAR BEDDING t=20 mm				;
	Only			į	
	Saudi Rials per square meter.	M2	85.73		
	b) CERAMIC TILE				
	(50mm × 50mm)]	
	W/MORTAR BEDDING t=35mm	-		.	i :
	Only	1		1	1
	Saudi Rials per square meter.	M2	13.18		
	c) VINYL COVE BASE h = 100 mm				
	Only	}			1
٠					i i
	Saudi Rials per meter run.	M	83.0		
	d) CERAMIC WALL TILE				
	(108mm × 108mm)	1			
	W/MORTAR BEDDING t=30 mm				
	Only		ļ		

	Saudi Rials per square meter	M2	31.76		1
					1
	8D. WALL BOARD				
	a) PLASTER BOARD t=12 mm				!
	Only				1
	Saudi Rials per square meter.	M2	104.9		
					!

 $(1,2,\ldots,m-1) = (1,2,\ldots,m-1) = (1,2,\ldots,m-1) = (1,2,\ldots,m-1)$

	BILL OF QUANTITIES & UN	IIT COST	'S SCHEDULES	5	
TEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
	8E. SUSPENDED CEILING				
	a) ACOUSTIC FIBER BOARD CEILING				
	(600mm × 300mm)			i	
	Only				
	Saudi Rials per square meter.	M2	61.05		
	b) GLASS FIBER CEMENT BOARD				
	CEILING			!	
	(600mm × 600mm × 6mm THK)				j
	Only				
	Could Biologous pater	M ²	40.93		1
	Saudi Rials per square meter.	101-	40.33		
	c) EXISTING CEILING (REARRANGE)				
	Only				
				1 1	
	Saudi Rials per square meter.	M ₂	73.86		
	8F. PAINTING				
	a) FOR CEMENT MORTAR				
	Only				
	Saudi Rials per square meter.	M ²	205.55		
	b) FOR GLASSFIBER CEMENT BOARD				
	Only				
	Saudi Rials per square meter.	M ²	40.93		
	C) FOR STEEL DOOR				
	Only			1	
			_		
	Saudi Rials per square meter.	M ²	78.32		
		1	1	<u> </u>	1

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	d) FOR WOOD DOOR Only				
•	Saudi Rials per square meter.	M2	52.45		
	e) FOR MISC. STEEL			 	
	Only				
	Saudi Rials per square meter.	M ₂	3.2		
	f) FOR PLASTER				
	Only				
	Saudi Rials per square meter.	M ²	104.9		
	g) PROTECTIVE COATING OF UNDERGROUND CONCRETE SURFACE COAL TAR PAINT ± = 200 MICRONS Only				
	Saudi Rials per square meter	M ²	367.14		
9	MISCELLANEOUS WORK a) TOILET & SHOWER PARTITION (INCLUDE DOOR & ACCESSORIES) Only				
	Saudi Rials per square meter	Ws	32.45	1	
	b) VINYL CURTAIN W/PIPE Only			3 3 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	
	Saudi Rials per square meter.	M2	3.24		
		 			

	BILL OF QUANTITIES & UN		·		
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) GALVANIZED STEEL FRAME FOR INTERIOR WALL (PLASTER BOARD) Only				
:	Saudi Rials per square meter.	M2	52.45	1	
i	d) MISCELLANEOUS STEEL (LADDER) Only				
	Saudi Rials per metric kilogram.	kg	83.78		
İ	e) ROOF DRAIN (CASE-IRON HORIZONTAL TYPE) φ 100 mm Only				
:	Saudi Rials per unit.	NOS	3		
					1
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					1 1 1 1

SUMMARY

TEST PLANT BUILDING	S. R.
TOTAL CARRIED TO SUMMARY OF BUILDING WORKS	
TOTAL CARRIED TO SUIVINIART OF BUILDING WORKS	

BUILDING WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

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CAR SHELTER

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES	5	
TEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
1	EARTH WORK				1
	a) EXCAVATION	}			}
	Only				
					į
·	Saudi Rials per cubic meter.	M ₃	28		
	b) excess soil disposal	ļ			
	Only	}			
		}			
	Saudi Rials per cubic meter.	W3	4	1	
		}			1
	c) BACK FILLING W/COMPACTION TO				
	GL W/EXCAVATED SOIL	{			
	Only	•		}	
	Saudi Rials per cubic meter.	M ₃	24		}
	Saudi Mais per cubic meter.	1			
	d) CUTTING t = 100 mm ~ 300 mm	ł			!
	Only	}			į
		}	}) !	}
	Saudi Ríals per square meter.	M ₂	0	1]
		{			
	e) COBBLESTONE t = 100mm	1			1
	Only	1			
	g. d. D. t	743	10		!
	Saudi Rials per cubic meter.	M ₃	1.0		
		}	}		
		Ì			
		}		}	
		{		}	
		}			i
	·	}			
		}		1	
		1			}

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
2	CONCRETE WORK a) LEVELING CONCRETE t = 50 mm				
	Saudi Rials per cubic meter.	W₃	0.5		1 1
	b) CONCRETE FOR FOUNDATION SLAB - ON - GRADE & STOOP (GRADE 20)				
	Saudi Rials per cubic meter.	W3	2.1		
3	FORM WORK a) FORM WORK FOR UNDERGROUND				
	Only	M ₂	13		
	b) FORM WORK FOR STOOP Only				
	Saudi Rials per square meter.	M ₂			
					1
					!

TEM	DESCRIPTION	UNIT	OHANTITY	LINIT DATE	TOTAL COS
		UNII	QUANTIT	UNITRATE	TOTAL COS
4	REINFORCEMENT WORK				
	a) REINFORCING BAR (CHARACTERISTIC	}			j
	STRENGTH: 410 N / mm²)			1	
	Only	1		! !	
	Coudi Biolo non manie ton	TON	0.24		
	Saudi Rials per metric ton.	TON	0.24		1
5	STEEL WORK				,
3	a) STEEL FRAME			i	
·	Only				
	Saudi Rials per ton.	TON	9.4		j
	'			! !	
	b) ROOF PANEL			1	
	Only				i
	Saudi Rials per square meter.	M ²	180	i i	1
			}		
6	PAINTING	1		į	į
	a) FOR STEEL				
	Only				
	Saudi Rials per square meter.	M2	376		į
	Soudi Mais per square meter.	101-	3,0		
]	
				i i	
				- !	
					1

<u>ROADS WORKS</u>

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

ROADS

· · · · · · · · · · · · · · · · · · ·	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	<u> </u>	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	EARTH WORK			1	
	a) EXCAVATION	1			1
	Only				1
	Caudi Biola nou suble mater	W3	202		
	Saudi Rials per cubic meter.	101.	202		
	b) EXCESS SOIL DISPOSAL			i i	
	Only				
	Saudi Rials per cubic meter.	IVI3	202		
2	PAVING WORK			1	
-	a) PAVING			1	
	Only	ļ			
		ļ ·			
	Saudi Rials per square meter.	M ₂	323] ;	
	b) PRECAST CONCRETE CURB			1	
	Only	}			

	Saudi Rials per meter.	M	97		
				1	
				i	
		1			
	·				
		ļ			
•					
		 			

AIR - CONDITIONING WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

TEST PLANT BUILDING

Prices for each item to include:

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Bases with vibration isolator as recommended by the Manufacturer, for each equipment installed,
- Wiring, control panel, cables for each motor,
- Start Up, Test,
- One year free maintenance.

	BILL OF QUANTITIES & UN	NT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	SEAMLESS GALVANIZED PIPES Supplying and installation of all UPVC pipe for drinking cold water system.				
	The price shall include elbows, tees, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.				
	Excavation and backfilling of underground pipes shall be included in price.	-			
	Supply connection to sanitary fixtures are not included in this price.				
	a- 1/2" pipe size Only				
	Saudi Rials per linear meter.	NM			
	b- 3/4" pipe size Only				
	Saudi Rials per linear meter.	ΓW	11		
	c-1" pipe size Only				
	Saudi Rials per linear meter.	ΓW	14		
	d- 1 1/4" pipe size Only				
	Saudi Rials per linear meter.	L/M	16		
					

EM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
2	SEAMLESS GALVANIZED PIPES FOR CONNECTIONS TO THE FIXTURES				1
	Ditto as Item (1) for the following UPVC pipes inside toilet, tearoom and				
	shower room.] 	
	a- 1/2" pipe size				
	Only				
	Saudi Rials per linear meter.	L/M	34		
	b- 3/4" pipe size				
	Only				
	Saudi Rials per linear meter.	L/M	38	1 1 1	
	c-1" pipe size	ł	‡ 	1	
	Only			2 3 3	
	Saudi Rials per linear meter.	L/M	10		
3	TYPE "M" COPPER PIPES				
	Supplying and installation of all type "M" copper pipes for hot water				
	systems.				
	The price shall include elbows, tees,		; 		
	supports, hangers, guides, sleevs, and necessary and required accessories as	Ę	<u> </u>		
	specified and shown on the drawings.				
	×				
	-to be continued-				

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	2 (Cont'd) WF - 1 - Exhaust fan for shower room capacity 390 CMH at the required static pressure (3mm Aq) of the system.				
	Only	N°	1		
	WF - 2- Exhaust fan for toilet capacity 390 CMH at the required static pressure (3 ^{mm} Aq) of the system.				
	Only Saudi Rials per unit.	N°	1	; ; ; ;	
	WF - 3- Exhaust fan for chemical analysis capacity 840 CMH at the required static pressure (3mm Aq) of the system.				
	Only Saudì Rìals per lìnear meter.	N _o	1		
	WF - 4- Exhaust fan for machine			, , , , , , , , , , , , , , , , , , ,	
	-to be continued-				

2 (Cont'd) Shop capacity 1,500 CMH at the required static pressure (Amm Aq) of the system. Only	ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
the required static pressure (Amm Aq) of the system. Only		2 (Cont'd)			İ	
the required static pressure (Amm Aq) of the system. Only						
(Amm Aq) of the system. Only						
Only		1				1
Saudi Rials per unit. WF - 5- Air supply fan with weather cover and air filter for R.O. module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system. Only		(4 ^{mm} Aq) of the system.		1		
Saudi Rials per unit. WF - 5- Air supply fan with weather cover and air filter for R.O. module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system. Only		Only	<u> </u>	}		
WF - 5- Air supply fan with weather cover and air filter for R.O. module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system. Only			<u> </u>		}	
cover and air filter for R.O. module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system. Only		Saudi Rials per unit.	N°	1		
cover and air filter for R.O. module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system. Only				1		
module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system. Only		1				
CMH at the require static pressure (8mm Aq) of the system. Only]
pressure (8mm Aq) of the system. Only		· · · · · ·	1	}		
Saudi Rials per unit. Saudi Rials per unit. N° 6 ROOF MOUNTED EXHAUST FAN As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: Roof cover, Electrical wiring, with all required starters, wiring from fan to switch panel,		1				
Only Saudi Rials per unit. N° 6 ROOF MOUNTED EXHAUST FAN As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: Roof cover, Electrical wiring, with all required starters, wiring from fan to switch panel,	٠	•				
Saudi Rials per unit. ROOF MOUNTED EXHAUST FAN As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: Roof cover, Electrical wiring, with all required starters, wiring from fan to switch panel,		, system.				
Saudi Rials per unit. ROOF MOUNTED EXHAUST FAN As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: Roof cover, Electrical wiring, with all required starters, wiring from fan to switch panel,						1
As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: - Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,			N°	6		1 1
As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: - Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,	3	ROOF MOUNTED EXHAUST FAN				}
require accessories as recommended by manufacturer and the requirements of the installation. Price to include also: - Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,		(j
manufacturer and the requirements of the installation. Price to include also: - Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,		drawing installed complete with all	{			}
the installation. Price to include also: - Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,		require accessories as recommended by	(1
Price to include also: - Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,		manufacturer and the requirements of				
- Roof cover, - Electrical wiring, with all required starters, wiring from fan to switch panel,		the installation.	}			
- Electrical wiring, with all required starters, wiring from fan to switch panel,		Price to include also :	<u> </u>			
- Electrical wiring, with all required starters, wiring from fan to switch panel,					ļ	
starters, wiring from fan to switch panel,		1				
panel,		l · · · · · · · · · · · · · · · · · · ·]
		i				
- Painting,			-			
		- Painung,				

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	3 (Cont'd) - Start Up, - Test, - One year guaranty.				
	Only Saudi Rials per unit.	N°	3		
4	GALVANIZED STEEL DUCT SYSTEM As specified, installed complete with all required accessories, ventillation duct and air-conditioning duct. Given price for each square meter of duct surface and price to include also:				
	- The angle iron, - The vanes, duct partitions, etc No extra shall be allowed for the price of the duct.				
	a- Galvanized steel sheet gage No. 26, 0.5 ^{mm} thick Only				
	Saudi Rials per square meter.	MS	45		
	-to be codntinued-				

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL C
	b- Galvanized steel sheet.				
	gage No. 24. 0.6mm thick				
	Only			 	
	Saudi Rials per unit.	MS	2	1 1	
	c-Galvanized steel sheet.		ļ		
	gage No. 22. 0.8mm thick				
	Only		<u> </u>		
	e di side) ac	34		
	Saudi Rials per unit.	MS	21		
	d- 200mm W × 200mm H.				
	Air volume control damper.				
٠.	Only		 	# # #	
	Saudi Rials per unit.	N°	1	1 1 8	
	e- 300mm W × 250mm H.				
	Air volume control damper.				
	Only				
	Saudi Rials per unit.	N°	1		
	f - 200mm W × 200mm H. Flexible duct.			; ; ;	
	Treatible adde.				
a.	Only				
	Saudi Rials per unit.	N°	1		
	- to be continued -	-	<u> </u>		<u> </u>
	- to be continued:				J

g- 300mm W × 250mm H. Flexible duct. Only	и. и.	1		
Only	N°			
Saudi Rials per unit. h- 300mm W × 250mm H. Air intake louver. Only	N°			
Saudi Rials per unit. h- 300mm W × 250mm H. Air intake louver. Only	N°			
Air intake louver. Only				
Saudi Rials per unit. i - 450mm W × 400mm H. Air intake louver with vashable air fileter Only				
Saudi Rials per unit. i - 450mm W × 400mm H. Air intake louver with vashable air fileter Only				
Air intake louver with vashable air fileter Only	N°			
Saudi Rials per unit. j- 950mm W x 350mm H. Washable air filter with aluminum flame Only	И°	1		
j- 950mm W x 350mm H. Washable air filter with aluminum flame Only	N°	1		
Washable air filter with aluminum flame Only				
Saudi Rials per unit. k- 1,200mm W × 600mm H.	[
k- 1,200mm W × 600mm H.			1	
	N°	1	1 1	1
	}			1
Only			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	:
Saudi Rials per unit.	N°	11	 	
- to be continued -			<u> </u>	<u> </u>

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	I - 1,000mmW × 600mmH,				
	Slit type blade return grill.				
-	Only			 	1
	Saudi Rials per unit.	N°	1	1	
	m-800mm W × 350mm H,				
	Double deflection type Air-supply	ļ ļ			
	register with opposed action blade	ĺ			
	shutter steel construction, backed enamel finish.		ļ	1 1	# # # # # # # # # # # # # # # # # # #
	Only			1 1 1	1
	Saudi Rials per unit.	N°	1		
	n- Ceiling Diffuser				
	Square face 250mm p neck dia with				
	damper, steel construction, backed enamel finish.				
	Only			ī. 1 1 1	1
	Saudi Rials per unit.	N°	9	i 	
	o- Ceiling Diffuser				
	Square face 200mm p neck dia with				
;	damper, steel construction, backed				
	enamel finish.				
		ĺ		1	
	Only				
	Soudi Piale por unit	N°	10		
	Saudi Rials per unit.	I IV	10		

TEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
5	REFRIGERANT PIPES Supplying and installation of all type "L" hard draw copper pipe for refrigerant piping system.				
	The price shall include elbows, supports, hangers, guides, sleeves and necessary and riquired accessories as specified and shown on the drawings.				
	a-ф15.9 Type "L" Copper Pipe Only Saudi Rials per linear meter.	L/M	20		
	b- ф 25.4 Type "L" Copper Pipe Only				
	Saudi Rials per linear meter. c-φ31.5 Type "L" Copper Pipe Only	L/M	10		
	Saudi Rials per linear meter.	UΜ	10	1	
6	GALVANIZED STEEEL PIPES Supplying and installation of all galvanized steel pipe for condenced drain piping system.				
	The price shall include elbows, supports, hangers, quides, sleeves and necessary and riquired accessories as specified and shown on the drawings.				

·	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	6 (Cont'd) For - 3/4" galvanized steel pipe Only				
7	Saudi Rials per linear meter. INSULATION As specified installed with all required accessories for a perfect and neat work.	ĽМ	13		
	Price to include: - Labor insulation, - Vapor barrier, - Tape, - All fixing product, a-Air Supply Duct. Only				
	Saudi Rials per unit. b- Various Size Refrigerant Pipes.	MS	62		
	Saudi Rials per linear meter. c- 3/4" Size Condensed Drain Pipe.	ĽΜ	40		
	Only	L/M_	8		

 $(1, \dots, 1, 2, \dots, 2, 2, \dots, 2,$

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULES	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
8	LABELS Labels in Arabic and English for each piece of equipment, installed.			1	
	Only	Lot	1		
9	PAINTING Of the complete installation.				
	Only				
	Saudi Rials per lot.	Lot	1		
10	TOOLS Supplying of special tools for air- conditioner as recommended by the Manufacture.				
	Only	Lot	1		
11	SPARE PARTS Supplying of spare parts of air- conditioner as recommended by the Manufacture.				
	OnlySaudi Rials per lot.	Lot	1		

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES		11
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
12	<u>UNFORSEEN</u> Only			1 1 1	
	Saudi Rials per unit.	Lot	1		

SUMMARY

TEST P	LANT BUI	LDIN	IG				<u>S. R.</u>
TOTAL	CARRIED	то	SUMMARY	OF	AIR - CONDITIONING	WORKS	

VENTILATION WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

LABORATORY BUILDING

Prices for each item to include:

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Bases with vibration isolator as recommended by the Manufacturer, for each equipment installed,
- Wiring, control panel, cables for each motor,
- Start Up, Test,
- One year free maintenance.

		1	1		Т
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
1	WALL MOUNTED AXIAL FANS				
	As specified and shown on the]			ì
	drawings installed complete with all	1)	}	
	required accessories as recommended			;	i
	by manufacturer and the requirements				
	of the installation.				
	Price to include also :				
	- Automatic shutter,	ļ	ļ	1	1
	- Power cable 2 meter,			i	j
	- Tatch - up painting,				
	- Start up,				
	- Test,				
	- One year guaranty.				1
	WF - 1. Exhaust fan for Polishing room				
	capacity 840 CMH at the)	ì	
	required d static pressure			}	1
	(2 ^{mm} Aq) of the system.				
	Only	1		; ;	
	Saudi Rials per unit.	N°	1		
	WF - 2 Exhaust fan for Dark room				
	capacity 390 CMH at the				
	required d static pressure				
	(2mm Aq) of the system.				
	Only				
	,			,	
	Saudi Rials per unit.	N°	1		
				İ	

3 Exhaust fan for Instrumental analysis room capacity 840 CMH at the required static pressure (2mm Aq) of the system. aly udi Rials per unit. 4 Exhaust fan for Corrosion test	N°			
analysis room capacity 840 CMH at the required static pressure (2mm Aq) of the system. Aly	N°			
at the required static pressure (2mm Aq) of the system. ally	N°			
(2mm Aq) of the system.	N°			
udi Rials per unit.	N°			
udi Rials per unit.	N°			
udi Rials per unit.	N°			Į.
	N°		!	
4 Exhaust fan for Corrosion test	ι	1		
room capacity 1,500 CMH at	}			1
the required static pressure	<u> </u>		1	
	1	}		
(4 ^{mm} Aq) of the system.	(}	
ıly				
***************************************	}			}
udi Riais per unit.	N°	1		
5 Ditto as above for Chemical				
analysis room.			1	
	1	1		
ut still and make	A 10			
udi kiais per unit.	IN"	1		
RIFUGAL TYPE AIR SUPPLY FAN				
pecified and shown on the				·
ings installed complete with all	1		i	
red accessories as recommended				
anufacturer and the requirements] ;	
e installation.				
			1	
to include also:				
intake louver				
-to be continued-				
T T T T	udi Rials per unit. 5 Ditto as above for Chemical analysis room. Inly	udi Rials per unit. 5 Ditto as above for Chemical analysis room. nly udi Rials per unit. N° RIFUGAL TYPE AIR SUPPLY FAN pecified and shown on the ings installed complete with all ired accessories as recommended nanufacturer and the requirements ne installation. to include also: r intake louver 0mm W × 450mm H,	udi Rials per unit. 5 Ditto as above for Chemical analysis room. Inly udi Rials per unit. N° 1 RIFUGAL TYPE AIR SUPPLY FAN pecified and shown on the ings installed complete with all ired accessories as recommended nanufacturer and the requirements ne installation. to include also: r intake louver 0mm W × 450mm H,	udi Rials per unit. 5 Ditto as above for Chemical analysis room. hly

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	5	- O
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	 2 (Cont'd) Washable air filter, Galvanized steel sheet casing, Flexible joint, Fan and motor base, Start up, running test, One year free maintenance. a-Air supply fan for draft chamber in Corrosion test room capacity 2,000 CMH at required static pressure (12mm Aq) of the system. Only				
3	Saudi Rials per unit. b- Ditto as above for Chemical analysis room. Only	N° N°	1		
	-to be continued-				i !

TEM	DESCRIPTION	דואט	QUANTITY	UNIT RATE	TOTAL COST
	3 (Cont'd)				
	The second of second second				
	- The vanes, duct partitions, - Painting,				
	- Test and adjustment.				i
					ì
	No extra shall be allowed for the	}			
	price of the duct.				
	a-Galvanized steel sheet gage				
	No. 26. 0.5mm thick				
	Only				
	Soudi Piale por unit	MS	8		
	Saudi Rials per unit.	1013	•		
	b- 350mm W × 350mm H				
	Air volume control damper.			,	
	Only				
	Saudi Rials per unit.	N _o	2		
	c-350mmW × 200mmH				
	Air volume control damper.				
	Only				
	C. Il Di la constitu	A10		}	
	Saudi Rials per unit.	N°	2		
	d- 350mm W × 350mm H				
	Flexible duct.			1	
* ;	Only				
	Saudi Rials per unit.	N°	2	i :	
:	Jaudi Mais per dint.				
			 	ļ	

		T	S SCHEDULES	r	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	e-600mmW x 150mmH Double deflection type air supply register with opposed action blade shutter, steel construction, backed enamel finish.				
	Only	N°	4		
4	POLYCHRORIDE VINYL DUCT Supplying and installation of all polychroride vinyl duct for exhaust air from the draft chambers.				
	The price shall include for elbows, supports, hangers, sleeves and all necessary accessories, as specified and shown on the drawings.				
	For- φ 200 Porichroride vinyl duct Only			8 1 1 1	
	Saudi Rials per linear meter.	L/M	36		
5	TYPE "M" COPPER PIPES FOR LPG GAS PIPING SYSTEMS Supplying and installation of all type "M" copper pipe for LPG gas piping systems.				
	The price shall include elbows, tees, supports, hangers, guides, sleeves, and necessary required accessoried as specified and shown on the drawings.				
	-to be continued-			1	

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES)	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	a- ф 6.5 Type "M" copper pipe.				
ř.	Saudi Rials per linear meter.	ŊΜ	12		
	b- φ 9.5 Type "M" copper pipe. Only	UM	20		
	Saudi Rials per linear meter. c-φ12.7 Type "M" copper pipe. Only		20		
	Saudi Rials per linear meter. d-4 LPG BOMBS MANIHOLD The price include for pressure regulator, stop valves and flexible	L/M	55		
	hose. Only Saudi Rials per unit. e- BOMB RACK FOR 4 BOMBS The price inlude for bandage chain.	N°	1		
	Only Saudi Rials per unit.	N° .	1		

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
6	TESTING Supplying all testing equipments and marking all testing as specified and required by the local Authorities.				
	Only	Lot	1		
7	OTHERS All required accessories not shown on the drawings or specified, but necessary for the good running of the installation.				
	Only	Lot	1		
8	UNFORSEEN Only				
	Saudi Rials Lump Sum.	Lot	1		
		 		ļ	<u> </u>

SUMMARY

LABORA	ATORY BI	JILDI	ING	÷			<u>S.</u>	<u>R.</u>
								• • • • •
TOTAL	CARRIED	ТО	SUMMARY	OF	MECHANICAL	WORKS		

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MECHANICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

LABORATORY BUILDING

Prices for each item to include:

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt.

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES	\$	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	SEAMLESS GALVANIZED STEEL PIPES Supplying and installation of all UPVC pipe for domestic coled water system.				
	The price shall include elbows, tees, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.			 	
	Excavation and backfilling of underground pipes, chipping and sleeve shall be included in price.				
	Supply connection to laboratory work table are include in this price.				
	a- 1/2" pipe size Only				
	Saudi Rials per linear meter.	L/M	69]]]	
	b- 3/4" pipe size Only				
	Saudi Rials per linear meter.	υM	62	1	
	c-1" pipe size Only				
	Saudi Rials per linear meter.	L/M	18		
	- to he continued -			 	

	BILL OF QUANTITIES & UN	IT COSTS	S SCHEDULES)	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	d- 1 1/4" pipe size Only	L/M	44		
2	POLYCHRORIDE VINYL PIPES Supplying and installation of all polychroride vinyl pipes for chemical drain systems. The price shall include for elbows, tees, supports, hangers, sleeves and all necessary accessories, as specified and shown on the drawings.				
	Excavation and backfilling of underground pipes shall be included in price. Connection to chemical work table				
	are include in the price. a-φ30 PVC pipe size Only				
	Saudi Rials per linear meter.	L/M	44		
	b- φ 40 PVC pipe size Only				
	Saudi Rials per linear meter. c-φ50 PVC pipe size Only	L/M	12	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Saudi Rials per linear meter.	Γ/M	96	; ; ;	
	-to be continued-				

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULES	5	
TEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	d- φ 65 PVC pipe size Only	L/M	8		
	e-ф75 PVC pipe size Only				
	Saudi Rials per linear meter.	L/M	24		
	f- φ 100 PVC pipe size Only				1 1
	Saudi Rials per linear meter.	L/M	76		
3	BRONZE GATE VALVE Supplying and installations of the following bronze gate valves with all necessary accessories all as specified and shown on the drawings.				
	a- 1/2" bronze gate valve Only				
	b- 3/4" bronze gate valve Only	N°	5		
	Saudi Rials per unit.	N°	1		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c-1" bronze gate valve Only				
	Saudi Rials per unit.	- N°			1 1
	d- 1 1/4" bronze gate valve Only				
	Saudi Rials per unit.	N°	2		
4	BRONZE Y-STRAINER Supplying and installations of the following bronze Y-strainer with all necessary accessories, all as specified and shown on the drawings. For 1 1/4" bronze Y-strainer Only				
	Saudí Rials per unit.	N°	1		
:					
		1	i .	1 :	1.

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
5	NEUTRALIZATION PIT Supplying and construction of the following neutralization pit for chemical drain as specified and shown on the drawing.				
	The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover, fill up Limeston and all necessary accessories as shown on the detail drawing.				
	a- 2,000mm L × 1,200mm W × 1,300mm D neutralization pit. Only	N°	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	b- 2,000mm L × 1,000mm W × 1,200mm D neutralization pit. Only	N°	1		
6	MANHOLES FOR CHEMICAL DRAIN Supplying and installation of the following manholes for chemical drain as specified and shown on the drawings.				
	The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover all necessary accessories as shown on the details drawing.				
	- to be continued -				

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES)	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	6 (Cont'd) a- 450mm × 450mm Chemical drain manhole. Only				
	Saudi Rials per unit. b- 550mm × 550mm Chemical drain manhole. Only	N°			
7	Saudi Rials per unit. TESTING Supplying all testing equipments and marking all testing as specified and required by the local Authorities.	N°	10		
	Only	Lot	1		
8	OTHERS All required accessories not shown on the drawings or specified but necessary for the good running of the installation.				
	OnlySaudi Riałs Lump Sum.	Lot	1		

and the second s	BILL OF QUANTITIES & U	- T	· · · · · · · · · · · · · · · · · · ·		
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
9	UNFORSEEN				
	Only	Lot	1		
40			,		: :
10	OUT OF SCOPE Following item are not included in this work.				
	- Supplying and installation of all Laboratory Equipment and Laboratory work table.				
				; ; ; ;	
				I	

SUMMARY

TEST I	PLANT	BUILD	ing					<u>S.</u>	R.
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TOTAL	CARR	IED TO	O SUN	ЛМARY	OF	MECHANICAL	WORKS		

MECHANICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

TEST PLANT BUILDING

Prices for each item to include:

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Start Up, Test,
- One year free maintenance.

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULES	\$	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	SEAMLESS GALVANIZED PIPES Supplying and installation of all seamed galvanized steel pipe for drinking cold water system.			1	
	The price shall include elbows, tees, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.				
	Excavation and backfilling of underground pipes shall be included in price.				
; ; ; ;	Supply connection to sanitary fixtures are not included in this price.				
	a- 1/2" pipe size Only	L/M			
	b- 3/4" pipe size Only			2 	
	Saudi Rials per linear meter.	L/M	11		
	c-1" pipe size Only			 	
	Saudi Rials per linear meter.	NM	14		
	d- 1 1/4" pipe size Only				
	Saudi Rials per linear meter.	L/M_	16		

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
2	SEAMLESS GALVANIZED PIPES FOR CONNECTIONS TO THE FIXTURES Ditto as Item (1) for the foll-owing galvanized pipes inside toilet, tearoom and shower room.				
	a- 1/2" pipe size Only	L/M	34		
	b- 3/4" pipe size Only	L/M	38		
	c-1" pipe size Only	L/M	10		
3	TYPE "M" COPPER PIPES Supplying and installation of all type "M" copper pipes for hot water systems. The price shall include elbows, tees, supports, hangers, guides, sleevs, and necessary and required accessories as specified and shown on the drawings.				
	- to be continued -				

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3

ITEM	BILL OF QUANTITIES & UI DESCRIPTION	UNIT	·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	TOTAL COS
	3 (Cont'd)				
	Supply connection to sanitary fixtures are not included in the price.			1 1	
	a- 1/2" pipe size Only			 	
	Saudi Rials per linear meter.	L/M	2	 	
	b- 3/4" pipe size Only				
	Saudi Rials per linear meter.	L/M	6	1 1 1 1	
	C-1" pipe size Only			 ; ; ; ;	
	Saudi Rials per linear meter.	L/M	3	 	1 1
4	TYPE "M" COPPER PIPES Ditto as item (3) for the following copper pipes inside locker room.				
	a- 1/2" pipe síze Only				
	Saudi Rials per linear meter.	L/M	10		

	BILL OF QUANTITIES & UI	~~~~	Tau		
TEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
5	POLYCHRORIDE VINYL PIPES				
	Supplying and installation of all	ļ	1		
	polychroride vinyl pipes for soil and				
	waste drainage systems.				
	The price shall include for elbows,			İ	
	tees, supports, hangers, sleeves and				
	all necessary accessories, as specified			ļ į	
	and shown on the drawings.				
	Excavation and backfilling of				
	underground pipes shall be included				
	in price.	Ì			
	Between the stand where the tide willed				
	Polychroride vinyl pipes inside toilet and locker room are not included.			1	
	and locker room are not included.				
Ì	a-φ50 pipe size				
	Only] !	
]			
	Saudi Rials per linear meter.	L/M	4		
	b-φ65 pipe size				
	Only				
	***************************************	-		ļ	i
	Saudi Rials per linear meter.	NW	8		
	c-φ75 pipe size	.		1	
	Only			1	
				i	į
	Saudi Rials per linear meter.	L/M			
	d-ф100 pipe size				
	Only			} !	
	Saudi Rials per linear meter.	L/M	44	<u> </u>	
			Į	[1

VI DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
POLYCHRORIDE VINYL PIPES FOR CONNECTION TO THE FIXTURES Ditto as Item (5) for the following polychroride vinyl pipes inside toilet and locker room.				
а- ф 40 pipe size Only				
Saudi Rials per linear meter. b-φ50 pipe size	Ŀ/M	4		: 1
Only	L/M	40		
c-φ65 pipe size Only				
Saudi Rials per linear meter.	Γ/M	16		
d- φ 75 pipe size Only				1
Saudi Rials per linear meter.	L/M	2		
e- φ 100 pipe size Only				
Saudi Rials per linear meter.	L/M	12		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
7	BRONZE GATE VALVE Supplying and installations of the following bronze gate valves with all necessary accessories. All as specified and shown on the drawings.			 	
	a-3/4" bronze gate valve Only				
	Saudi Rials per unit.	N°	1		1
	b- 1" bronze gate valve Only				
	Saudi Rials per unit.	N°	1		
	c- 1 1/4" bronze gate valve Only				
	Saudi Rials per unit.	N°	1	1 1 1	
8	BRONZE Y-STRAINER Supplying and installations of the following bronze Y-strainers with all necessary accessories. All as specified and shown on the drawings.				
	a- 1" bronze Y-strainer Only	,			
	Saudi Rials per unit.	N°	1		1 1
					1
	-to be continued-			<u> </u>	<u> </u>

- page 36	BILL OF QUANTITIES & UN				TOTAL COS
ΈM	DESCRIPTION	UNIT	QUANTITY	UNITRATE	TOTALCOS
	8 (Cont'd)				
	b- 1 1/4" bronze Y - strainer				
	Only		İ		
	Caveli Diele men unit	N°	1		
	Saudi Rials per unit.	18			
9	INSULATION FOR HOT WATER PIPES				
	Supplying and installations of all the				
	hot water pipes insulation as				
	specified. The price shall include all materials to make a complete				
	insulation system.	1			
1	a- 1/2" pipe size				
	Only				
	Saudi Rials per linear meter.	L/M	11		
	b-3/4" pipe size			(
	Only		l		
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		_		
	Saudi Rials per linear meter.	L/M	6		
	c-1" pipe size				
	Only				
	Saudi Rials per linear meter.	L/M	4	1	
				1	
			ŀ		
			ļ		
		1	<u> </u>	<u> </u>	· · · · · · ·

···	BILL OF QUANTITIES & UN	T			
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
10	FLOOR DRAINS Supplying and installations of the following drains with necessary accessories. All as specified and shown on the drawings.				
	а-ф50 toilet floor drain Only				
· · -	Saudi Rials per unit.	N°	4		1 1
	b-ф65 toilet floor drain Only				
	Saudi Rials per unit.	N°	1		
11	CLEAN OUTS Supplying and installations of the following clean outs with necessary accessories. All as specified and shown on the drawings.				
	a-φ65 toilet floor drain Only			1 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	Saudi Rials per unit. b- φ 100 toilet floor drain Only	N°	3		
	Saudi Rials per unit.	N°	1		
					1
		<u> </u>	<u> </u>	<u> </u>	<u> </u>

	BILL OF QUANTITIES & UNIT COSTS SCHEDULES				
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
12	VENT CAPS Supplying and installation of the following vent caps with all necessary accessories as specified and shown on the drawings.				
	For φ50 vent cap Only	N°	2	1 1 1 2 1 1 1	
13	MANHOLES FOR SOIL DRAIN Supplying and installations of the following manholes for soil drain as specified and shown on the drawings.				
	The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover and all necessary accessories as shown on the details drawings.				
	For manhole 600mm × 600mm Only	N°	4		
14	MANHOLES FOR WASTE DRAIN Supplying and installation of the following manholes for waste drain as specified and shown on the drawings.				
	·				
	-to be continued-				

	BILL OF QUANTITIES & UN	T COST	S SCHEDULES		
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
15	The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover and all necessary accesories as shown on the details drawing. For manhole 550mm x 550mm Only Saudi Rials per unit. NEUTRALIZATION PIT Supplying and construction of the following neutralization pit for chemical drain as specified and shown on the drawing. The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover, fill up of Limeston and all necessary accessories as shown on the detail drawing.	N°	3		
	For Neutralization pit 1,500mm L × 850mm W × 850mm D Only	N°	1		
16	ELECTRIC WATER HEATER Supplying and installation of electric water heater.				
	-to be continued-				

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
n ngapagan ngapagan di dalah	16 (Cont'd) Price shall include an interchangeable resistance element including thermostat, safety valve, automatic air vent, on-off switch, and all neccessary				
	valves and accessories as specified. For 360 liters, 5kw 3 φ × 220 V Only				
17	Saudi Rials per unit. DRINKING FOUNTAIN Supplying and installation of electric drinking fountain were shown on the drawings. Unit shall be as specified with all necessary valve and accessories.	N°			
	Only Saudi Rials per unit.	N°	1		
18	ELECTRIC HAND DRYER Supplying and installation of electric hand dryer. Price shall include an on-off switch and all necessary accessories as specified.				
	For 1.5kw, 1 φ × 110 V Only	N°	1		

100 - 1	DECEDIATION:	UNIT	S SCHEDULES	UNIT RATE	TOTAL COST	
ITEM	DESCRIPTION	UNII	QUANTITY	UNII KAIE	I O I AL COST	
19	PORTABLE CO2 EXTINGUISHERS		ĺ			
	Supplying and installation of portable					
÷	CO ₂ extinguisher 8 liters capacity as					
	specified.					
	Only				1	
)	1			
÷	Saudi Rials per unit.	N°	3	}	. }	
				}		
20	SANITARY FIXTURES		ļ			
	Supplying and installation of the				1	
	following sanitary fixtures as specified				į	
	and shown on the drawings.					
		1				
-	a- Floor Mounted Water Closet		}			
	White vitreous china floor mounted	ł				
	water closet with flush tanks, seat			(į	
	with cover, regulating angle valve,					
	waste fitting, faucet with spray]	}	}		
	flexible hose, nozzle, wall hook		}	}		
	and neccessary accessories, as					
	specified.					
	Only	ĺ				
	es all plate con surfa	N°				
	Saudi Rials per unit.	14.	1	<u> </u>] [
	h Asintie Water Clarets					
	b- Asiatic Water Closets White vitreous china asiatic water				1	
	closet, with integral foot threads,					
	"P" or "S" trap, flush tank with				!	
	chromium plated steel pipe from					
•	tank to bowl, faucet with spray				1	
	flexible hose, nozzle, wall hook					
-	and necessary accessories. All as				1	
	specified.					
	specificu.			 	+	

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	20 (Cont'd)				
	Only	ļ			
	Saudi Rials per unit.	N°	2		
	c-Wall Hung Wash Basins				
	White vitareous ohina wall hung				
	wash basin with faucet, pop-up	1		1	
	wast trap, angle valve, supports,				
	with necessary accessories, as				
	specified and shown on the			į	
	drawings.				
	Only				
	Saudi Rials per unit.	N°	2		
	d- Wall Hung Wash Basins with				
	Mixing Valve		}		
	Ditto as above, but with mixing				
	valve instead of faucet as specified.		<u> </u>		
	Only				
			1 _		
	Saudi Rials per unit.	N°	2		1
	e- <u>Shower Plate</u>		ļ		
	White vitreous china shower plate		,		
	with mixer, concealed stop valves,			į į	
	flexible hand shower head, "P"				
	trap, with necessary accessories.		1		
	All as specified.				
	Only				
	Saudi Rials per unit.	N°	3	 	ļ <u>-</u> -
	-to be continued-				}

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	20 (Cont'd)					
	f - <u>Kitchen Sink</u> Stainless steel top kitchen sink with waste trap, swivel type faucet, with necessary accessories. All as specified.					
	Only	N°	1	1 1 1 1 1 1 1		
	g- Mirror with Shelf Mirror shelf combination above each hanged wash basin, with all necessary accessories. All as specified.			1 1 3 3 1 1 1 1 1		
	Only Saudi Rials per unit.	N°	4			
21	TESTING Supplying all testing equipments and making all testing as specified and required by the local Authorities.					
	Only Saudi Rials Lump Sum.	Lot	1	; ; ;		
			1			

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES	S	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
22	OTHERS All required accessories not shown on the drawings or specified, but necessary for the good running of the installation.				
	Only Saudi Rials Lump Sum	Lot	1		
23	UNFORSEEN Only				
	Saudi Rials Lump Sum.	Lot	1		

SUMMARY

LABORATORY BUILDING	<u>5. R.</u>
TOTAL CARRIED TO SUMMARY OF VENTILATION WORKS	

REPAIR AND MAINTENANCE WORKS FOR AIR-CONDITIONING AND SANITARY EQUIPMENT IN EXISTING ADMINISTRATION BUILDING

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

Prices for each item to include:

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Bases with vibration isolator as recommended by the Manufacturer, for each equipment installed.
- Wiring, control panel, cables for each motor,
- Start Up, Test,
- One year free maintenance.

REFERENCE DRAWING OF 'SOCETEC' FOR EXISTING ADMINISTRATION BUILDING

<u>DWG. No.</u> - 04	<u>CORD No.</u> 65[57]01	TITLE ADMINISTRATION GROUND FLOOR
		AIR - CONDITIONING LAYOUT
- 05	65[57]02	ADMINISTRATION FIRST FLOOR
		AIR-CONDITIONING LAYOUT
- 06	65[57]03	ADMINISTRATION ROOF FLOOR
		AIR-CONDITIONING LAYOUT.

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES	, ,	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	REPAIR AND MAINTENANCE WORKS FOR AIR-CONDITIONING AND SANITARY EQUIPMENTS IN EXISTING ADMINISTRATION BUILDING				
	The equipments which require to be repaired and/or maintenanced shall be the following items.				
	The price shall include all repair and change parts, testing and checking tools, consumable materials, start up, running, test, one year maintenance and necessary works.				
1	AIR COOLED PACKAGED LIQUID CHILLER UNIT Model :- CARRIER, 30 GB 070				
	Especially: - Repair of air cooled Condenser Fin, : - Maintenance of Compressors, : - Maintenance of various Gages, : - Maintenance of Condenser Fan - Motors, : - Checking of electrical Insulation, : - Checking of electric Wirings, : - Checking of refrigerant gas and oil, etc				
 	Only Saudi Rials per linear meter.	N _o	2		

	BILL OF QUANTITIES & UN	IIT COST	S SCHEDULE	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
2	AIR HANDLING UNIT (AHU-1) Model :- CARRIER, 39 ED 18	477-6		 	
	Especially: - Maintenance of Fan, Motor, V-velts and Bearing. :- Checking of Valves, Gages, and Meters, :- Checking and cleaning of cooling Coil and Filters.				
	OnlySaudi Rials per linear meter.	N°	1		
3	AIR HANDLING UNIT (AHU-2) Model :- CARRIER, 39 ED 15				
	Especially:-Ditto for above Only				
	Saudi Rials per linear meter.	N°	1	1	[]
4	AIR HANDLING UNIT (AHU-3, 4) Model :- CARRIER, 39 ED 12				
	Especially:-Ditto for above				
•	Only				1
	Saudi Rials per linear meter.	N°	2	1	1

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL C
5	DIRECT EXPANSION AIR HANDLING UNIT WITH AIR COOLED CONDENSER FOR COMPUTER Model :- CARRIER (5900 CFM)]]]]	
	All parts to be maintenance and electric Line check.				
	OnlySaudi Rials per linear meter.	N°	1		
6	CHILLED WATER PUMP Capacity: - 130 GPM.				
	Especially: - Repair of Ground Packing, : - Maintenance of Motor Bearings, : - Checking of electrical Insulation.				
	Only Saudi Rials per linear meter.	N°	3		
7	CENTRIFUGAL MULTIBLADE TYPE EXHAUST FAN Model :- RF 1/2 CBI VC 037				
	Especially : - Maintenance of Motor Bearing, : - Checking of electric Insulation,				

	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES)	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
8	:- Checking of Flexible Joints. Only Saudi Rials per linear meter. EXHAUST FAN Model :- RF-3 WOODS LMF 10/18	N°	2		
9	All parts to be checking. Only Saudi Rials per linear meter. KITCHEN AND TOILET EXHAUST FAN All parts to be checking.	N°	2		
10	Saudi Rials per linear meter.	N°	1		
10	Model :- AAF ROLL - 0 - MATIC 4/40 All parts to be checking and cleaning filter. Only	N°	7		
					

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	BILL OF QUANTITIES & UN	IT COST	S SCHEDULES	5	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
11	ELECTRIC MAIN PANEL BOARD Especially:-Checking of electrical Insulation, etc				
	Only				
	Saudi Rials per linear meter.	N°	1		}
12	CONTROL PANEL BOARD Especially:-Checking of electrical Insulation, :-Confirmation for movement of switches, :-Confirmation of Lamps.				
·	Only	N°] 1		
13	SEWAGE TREATMENT UNIT AND PERCOLATING PIT Especially: - Maintenance of Motor for percolater, :- Cdhecking of movement of percolater, :- Maintenance of sewage treatment unit.				
	OnlySaudi Rials per linear meter.	N°	1		
, , , , , , , , , , , , , , , , , , ,] 	

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COS
14	OPERATION All repaired and maintenanced equipment to be test running and adjustment for best condition.				
	Only	Lot	1		
15	ONE YEAR FREE MAINTENANCE				
	Only	Lot	1		
				3	
en en en en en en en en en en en en en e					
	7				

SUMMARY

LABORATORY BUILDING	<u>S. R.</u>
	• • • • • • • • • • • • • • • • • • • •
TOTAL CARRIED TO SUMMARY OF REPAIR & MAINTENANCE WORK	cs

ELECTRICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

LABORATORY BUILDING

	SILL OF QUANTITIES & UNI	COSTS	SCHEDULES		······································
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	LABORATORY BUILDING			i !	İ
	POWER WORK			1 1	1 1
	Equipment				!
	Power distribution switchboard BP-1				
	Only	,			!
	Saudi Rials per panel.	Panel	1		
	Power distribution switchboard PP-1 W/transformer 3 pH 4 w 20 KVA 230 V/220 - 127 V			 	
	Only				
	Saudi Rials per panel.	Panel	1		
	Power distribution switchboard PP-2 W/transformer 3 pH 4 W 10 KVA 230 V/190-110 V				
•	Only				
	Saudi Rials per panel.	Panel	1	1	
	Power distribution switchboard PP-3 W/transformer 3 pH 4 W 16 KVA 230 V/190-110 V				
	Only]
	Saudi Rials per panel.	Panel	1	l I	
	Materials			1	1
	Cable VV			. 1	1
	3C - 120 sqmm			1	
	Only				
	Saudi Rials per meter	М	7		
	3C - 25 sqmm	}			
	Only				1
	Saudi Rials per meter. 3C - 16 sqmm	М	5		
	Only				
	Saudi Rials per meter.	М	30		1
		1			

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	3C - 10 sqmm			i.	l 1
	Saudi Rials per meter.	И	35] }
	3C + E - 10 sqmm Only				
	Saudi Rials per meter.	М	65	1	
	3C + E - 45 sqmm Only				
	Saudi Rials per meter. 2C + E - 10 sqmm	M	65	. 	
	Only				
	Saudi Rials per meter. 2C + E - 6 sqmm	М	60		
	Only	М	220		
	Saudi Rials per meter. 2C + E - 4 sqmm	.,	1		
	Only	М	1,250		1
	Saudi Rials per meter.		1,230		
	Termination materials Only				
	Saudi Rials per lot.	Lot	1	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
	Conduit pipe				
	0nly				
	Saudi Rials per meter.	М	250		
	1-1/4" Only				
	Saudi Rials per meter. 2"	М	27		1
	Only		30	I.	1
ļ	Saudi Rials per meter.	М	20		
	Fittings for conduit pipe Only				
	Saudi Rials per lot.	Lot	1	1	

ITEM	OESCRIPTION	TINU	QUANTITY	UNIT RATE	TOTAL COS
	Normal bend 2"			 	<u> </u>
	Saudi Rials per piece.	pcs	5		
	Support for conduit pipe Only				
	Saudi Rials per lot.	Lot	l	<u> </u>	
	Cable tray W = 400 mm Only		The state of the s		
	Saudi Rials per meter. Support for cable tray Only	М	62		
	Saudi Rials per lot.	Lot	1	[
	Power outlet W/plate and box duplex Only Saudi Rials per set Tumbler switch W/plate and box	Set	17		
	Only Saudi Rials per set. Support for distribution	Set	1		
	switchboard Only Saudi Rials per lot.	Lot	1		
	Steel materials Only Saudi Rials per lot.	Lot	1		
	Bolt & Nut Only				
	Saudí Ríals per lot.	Lot	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
				1	

	SILL OF QUANTITIES & UNI	i			
78M 1	OESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Cailing cutting and curing			1	
	Only····				
	Saudi Rials per lot.	Lot	1	, , ,	
	Miscellaneous and consumable	}			
	Only			1	
ļ	************]	
	Saudi Rials per lot.	Lot	1		
1					
		ļ			
ļ				1	
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	4			······································	

	SILL OF QUANTITIES & UNI			<u> </u>	<u> </u>
TEM	OESCRIPTION	UNIT	YTITHAUD	UNIT RATE	TOTAL COST
	GROUNDING WORK			į į	
	Materials				
	Wire IV 70 samm			1	
	Only] [
	Saudi Rials per meter.	М	60		
	Wire connector 70 + 70 squun				
	Only····				
	Saudi Ríals per piece.	pcs	4	i I	[
	Terminal		1,1880		
	Only				
	Saudi Rials per lot.	Lot	1	1	
1	Miscellaneous and consumable				[
	Only····		į į		ļ 1
	Saudi Rials per lot.	Lot	1	1	
1			[1	
į					
				1	
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]			i

SUMMARY

LABORATORY BUILDING	<u>s. R.</u>
TOTAL CARRIED TO SUMMARY OF ELECTRICAL WORKS	

ELECTRICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities and Unit Costs Schedules)

TEST PLANT BUILDING

TEM	MOITFINDERO	TINU	QUANTITY	UNIT RATE	TOTAL COST
• 1	TEST PLANT BUILDING				:
	POWER WORK				1
,	Equipment			i I	
	Power distribution switchboard PP-5 W/transformer	Panel	1		
	3 pH 4 W 40 KVA 480 V/220 - 127 V Only				
	Transformer 3 pH 4 W 80 KVA 480 V/220 - 127 V Only	Panel	1		
	Saudi Rials per each. Transformer 3 pH 4 W 45 KVA 480 V/220 - 127 V Only	EA	1		i i
	Saudi Rials per each. Transformer 1 pH 2 W 5 KVA 480 V/110 V	EA	1		
	Only Saudi Rials per each.	EA	1		-
	Materials Cable VVTAZV 3C - 4 sqmm Only				
	Saudi Rials per meter. 3C - 2.5 sqmm Only	м	40		
	Saudi Rials per meter.	М	40		
					!

М	DESCRIPTION	บทเา	QUANTITY	UNIT RATE	TOTAL COST	•
ļ	Only·····		·			
	Saudi Rials per meter. 2C + E - 4 sqmm Only	М	25	1		- A. (4)
	Saudi Rials per meter.	м	35	1		
	vv		1	i	1	
	Only	•		1		
	Saudi Rials per meter. 3C - 95 somm Only	М	15			
	Saudi Rials per meter. 3C - 70 sqmm	М	20]]	
	OnlySaudi Rials per meter. 3C - 35 sqmm	м	6			V. I
	Only Saudi Rials per meter.	м	5			
	Only					
	Saudi Rials per meter. 2C - 25 squum Only	М	10			
	Saudi Rials per meter. 2C - 4 sqmm	M	25			
	Only Saudi Rials per meter.	М	5			
	Wire IV 10 sqmm			1		
	Only	м	270	1 1 1 1		
	4 sqmm Only			[] [
	Saudi Rials per meter.	М	600			
		1				
]

METI	DESCRIPTION	UNIT	YTITMAUQ	UNIT RAT	ξ	TOTAL CO
	Cable gland for VVTAZV			i I	<u> </u>	1
	Only····			i I		1 I
	Saudi Rials per lot.	Lot	1	1 1 1		! !
	Termination materials Only] 		! !
	Saudi Rials per lot.	Lot	1	1 1 1		[1 [
	Conduit pipe		* *************************************	!		
	1"			1		į. [
	Only····			1 []
	Saudi Rials per meter.	М	160	 		1
	Only			. i		[
	Saudi Rials per meter. l-1/2"	M	85	1 1 1		
	Only			į.		
	Saudi Rials per meter.	М	4	1		1
	3" Only					[
	Saudi Rials per meter	M	20			
	Fitting for conduit pipe				٠	
	Only			1		1
!	Saudi Rials per lot.	Lot	1			
	Normal bend		<u> </u>	1		ļ
	1-1/2") i		ì
	Only····					i
	Saudi Rials per piece. 3"	pcs	1			
: *	Only					
	Saudi Rials per piece.	pcs	2			1
	Support for conduit pipe			;		
	Only					
	Saudi Rials per lot.	Lot	1			
		i	1			<u> </u>
		<u> </u>				

	SILL OF QUANTITIES & UNI	T COSTS	SCHEDULES	<u> </u>	
(TEM	DESCRIPTION	TINU	YTITMAUQ	STAR TINU	TOTAL
	Power outlet w/plate and box duplex			ì	
	Only····			 	
ļ	Saudi Rials per set	Set	5	! !	
Ì	Junction box for aircon. W/MCB				
į	Only·····		<u> </u>		
ļ	Saudi Rials per set.	Set	2		
	Support for distribution switchboard Only	· ·			
	Saudi Rials per lot.	Lot	l		
	Steel materials Only Saudi Rials per lot.	Lot	1		
	Bolt and nut Only Saudi Rials per lot. Ceiling cutting and curing	Lot	1		
	Only Saudi Rials per lot.	Lot	1		
	Concrete tile Only			1	
	Saudi Rials per lot.	Lot	1		
	Sand Only·····			! !	
	Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only				
	Saudi Rials per lot.	Lot	1	5	
				1	
		1	<u> </u>	1	<u> </u>

	SILL OF QUANTITIES & UNI	T COSTS	SCHEOULES		
ITEM	OESCRIPTION	דואט	YTITMAUD	UNIT RATE	TOTAL COST
	LIGHTING WORK			! ! . !	
	Equipment				1
	Lighting distribution switchboard LP-1 W/transformer 3 pH 4 W 5 KVA 480 V/208 - 120 V			ing 1	
	Only····				: !
	Saudi Rials per panel.	Panel	l		1
	Lighting fixture	!		1	
	Fluorescent fixture 2 x 40 watts flush-mounted type				
	OnlySaudi Rials per each.	EA	4	[] [
	Fluorescent fixture 1 x 40 watts flush-mounted type			1 [
	Only····			i 1 1	[
	Saudi Rials per each.	EA	8		
	Fluorescent fixture 1 x 40 watts ceiling-mounted type Only	(
	Saudí Rials per each.	EA	4	-	
	Fluorescent fixture with vapor-tight 2 x 40 watts ceiling-mounted type				
	Saudi Rials per each.	EA	1		
	Fluorescent fixture with vapor tight 1 x 40 watts ceiling-mounted type				
	Only·····				
	Saudi Rials per each.	EA	2 .	! ! !	
	Fluorescent fixture with vapor tight 1 x 40 watts wall-mounted type			1 1 1 1 1	
	Only				
	Saudi Rials per each.	EA	2		
					i i

M3T	DESCRIPTION	TINU	QUANTITY	UNIT RATE	TOTAL COS
	Outdoor fixture with a 20 watts fluorescent light				
1	Saudi Rials per each.	EA	5		
	Ceiling mounted fixture with one 250 watts mercury vapor light				
	Only	EA	10		
***************************************	Photoelectric switch	GA.	10	i t	
	Only·····				i
	Saudi Rials per set.	Set	1		
	Materials				
	Cable 3C + E				
	Only·····				
	Saudi Rials per meter.	М.	60		
	2C + E				<u> </u>
	Saudi Rials per meter.	M	230		
	Wire IV				
	2.5 sqmm				
	Saudi Rials per meter.	М	1,380		
	Termination materials Only				
	Saudi Rials per lot.	Lot	1		
	Conduit pipe 3/4"				
	OnlySaudi Rials per meter.	М	163	1	
	Only				
}	Saudi Rials per meter.	м	60	1	

	BILL OF QUANTITIES & UNI	T C0\$7\$	SCHEOULES		
MBTI	DESCRIPTION	TINU	QUANTITY	STAS TINU	TOTAL COST
	1-1/4" OnlySaudi Rials per meter.	M	50	i) - -
,	1-1/2" Only	M	50	1) } !
	Saudi Rials per meter. Fittings for conduit pipe Only	И	5		1
	Saudi Rials per lot. Normal bend 1-1/2"	Lot	ı. L	1	
	Only Saudi Rials per piece.	gcs	1		
	Support for conduit Only				
	Saudi Rials per lot. Outlet box W/cover Only	Lot	1	 	
	Saudi Rials per set. Pull box 250 x 250 x 250 mm	Set	7		
	Only Saudi Rials per each.	EA	1		
	Joint box wall mounted 3/4" three way Only				
	Saudi Rials per each. l" three way Only	EA	1		
	Saudi Rials per each.	EA	13		
	Only Saudi Rials per each.	EA	11		
	Joint box Only			1 1 1 1 1	
	Saudi Rials per each.	EA	21	E I	

(TEM	DESCRIPTION	าาทบ	QUANTETY	UNIT RATE	TOTAL COST
	Tumblerswitch flush-mounted W/plate and box single			! ! 	;
	Only				
	Saudi Rials per set.	Set	6		ì
	3 way Only		_		
	Saudi Rials per set. Tumbler switch surface-mounted W/plate and box	Set	2		
	duplex Only				
	Saudi Rials per set. 3 way	Set	2		
	Only····				
	Saudi Rials per set	Set	4		
j	Receptacle W/plate and box Flush-mounted Only				
	Saudi Rials per set	Set	7		
	Surface-mounted Only				
	Saudi Rials per set. Vapor-Tight	Set	16		
	Only				
	Saudí Rials per set. Lighting fixture support	Set	2	1	1
	Only	Lot	1		
	Ceiling cutting and curing Only				
i	Saudi Rials per lot.	Lot	1	1	
	Grounding materials				
	Only				
	Saudi Rials per lot.	Lot	1		

ITEM			08303191	L OF QUANTITI	=> & UNI				1
			·	·	- <u></u>	דואט	QUANTITY	UNIT RATE	TOTAL COS
	Only.	• • • • • •			4			 	
	Saudi	Rials	per lo	ot.	• • • • •	Lot	l	1	
		t and				i			i i
				••••••					
				ot.	.	Lot	1		
	Mis Only	cellan	leous ai	nd consumab	le			l	
						Lot	1		
					·		_		
					1			1	
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TEM	DESCRIPTION	TINU	QUANTITY	STAR TINU	TOTAL COST
			Qualit 411		10184 (031
	GROUNDING WORK			1	1
	Wire IV 70 samm			1	
1	Ould to rough	}			l

	Saudi Rials per meter.	M	100		
	Wire connector 70 + 70 sqmm				1 1
	Only·····				1
	Saudi Rials per piece.	pcs	7		
	Wire connector GK6426			!	
	Only				

	Saudi Rials per piece.	pcs	3		
	Chance underground pedestal #CF600 W/cover				
	Oula				

	Saudi Rials per piece.	pcs	3		
	Grounding rod 19% - 3,050 1				
	Only			1	
	Saudi Rials per piece.	pcs	3		
	Terminal Only				
					1
	Saudi Rials per lot.	Lot	1		1
	Miscellaneous and consumable				
	Only				
	Saudi Rials per lot.	Lot	1		
					1
					i
					1 1

TTEM	DESCRIPTION	UNET	YTITMAUQ	UNIT RATE	TOTAL COS
	TELEPHONE WORK		l	 	1
	Cable CPEVTAZV 0.65 mm x 3p				1
	Saudi Rials per meter.	М	35	į į	
	Termination materials		33	! !	
	Saudi Rials per lot.	Lot	1		
	Cable gland Only			 	
	Saudi Rials per lot.	Lot	1		
٠	Conduit pipe l" Only				
	Saudi Rials per meter.	М	2		
	Fittings for conduit pipe Only				
	Saudi Rials per lot.	Lot	1	1	
	Telephone outlet W/plate Only				
	Saudi Rials per set Steel materials	Set	1		1
	Only			1	
	Saudi Rials per lot. Bolts & nuts	Lot	1		
	Only	Lot	1	1	
	Miscellaneous and consumable Only				
	Saudi Rials per lot.	Lot	1		
					į
					I I

PUBLIC ADDRESS & Equipment Desk top type honly	nandset station set. ype handset station set. loudspeaker set.	Set Set Set	QUANTITY 1	UNIT RATE	T.	OTAL COS	37
Equipment Desk top type honly Saudi Rials per Wall mounted ty Only Saudi Rials per Trampet typed honly Saudi Rials per Cone speaker Only Saudi Rials per Materials Cable VVTAZV Only Saudi Rials per CPEVTAZV Only Saudi Rials per CPEVTAZV Only Saudi Rials per	nandset station set. ype handset station set. loudspeaker set.	Set	2				
Desk top type h Only Saudi Rials per Wall mounted ty Only Saudi Rials per Trampet typed h Only Saudi Rials per Cone speaker Only Saudi Rials per Materials Cable VVTAZV Only Only Saudi Rials per CPEVTAZV Only Saudi Rials per	set. /pe handset station set. loudspeaker set.	Set	2				
Wall mounted ty Only Saudi Rials per Trampet typed I Only Saudi Rials per Cone speaker Only Saudi Rials per Materials Cable VVTAZV Only Saudi Rials per CPEVTAZV Only Saudi Rials per	ype handset station set. loudspeaker set.	Set	2				
Saudi Rials per Trampet typed I Only Saudi Rials per Cone speaker Only Saudi Rials per Materials Cable VVTAZV Only Saudi Rials per CPEVTAZV Only Saudi Rials pe	set. loudspeaker	Set					
Saudi Rials per Cone speaker Only Saudi Rials per Materials Cable VVTAZV Only Saudi Rials pe CPEVTAZV Only Only Saudi Rials pe	set		2) 	
Saudi Rials per Materials Cable VVTAZV Only Saudi Rials pe CPEVTAZV Only Saudi Rials pe		Set				1	
Cable VVTAZV Only Saudi Rials pe CPEVTAZV Only Saudi Rials pe			3			 	
Saudi Rials pe CPEVTAZV Only Saudi Rials pe	3C - 2.5 samm					1	
Saudi Rials pe		М	45				
		М	40			 - - - - - -	
Saudi Rials pe CPEV		М	50				
Saudi Rials pe Wire IV		M·	10			, 1 1 1	
1 -		1	120			! ! !	
	er meter.	1	-	1		<u> </u>	· ·

ITEM	DESCRIPTION	1 11NU	QUANTITY	11NIT 21"	TOTAL COST
1		<u> </u>	QUARTETT	UNIT RATE	TOTAL COST
	Termination materials Only			1	j
				Ì	Į
	Saudi Rials per lot.	Lot	1	1	
	Cable gland]]	1
}	Only			1	1
	Saudi Rials per lot.	Lot	1	i I	
	Conduit pipe			1	
	Only			; ! !	
	Saudi Rials per meter.	М	70	1	Į.
Ì	1"	• • •			
1	Only····				
	Saudi Rials per meter.	М	54	1	
}	Fittings for conduit pipe		1		
<u> </u>	Only		<u> </u>		} }
	Saudi Rials per lot.	Lot	1		1
	Support for conduit pipe				
ļ	Only····			i i	
1	Saudi Rials per lot.	Lot	1		
İ		HOU			
]	Joint box surface-mounted 3/4" three way				
	Only				
ļ	en de perto o o on la	77.7			
	Saudi Rials per each. 1" three way	EA	3		
	Only·····				
	Saudi Rials per each.	EA	1		
	Bolt and nut	Tarz			
	Only			1	
-	Coudi Diala nov lot	Lot	1		
}	Saudi Rials per lot. Ceiling cutting and curing		1		
	Only				
	Saudi Rials per lot	Lot	1	j t 1	
	Miscellaneous and consumable Only			1	
	Only			1	
	Saudi Rials per lot.	Lot	1	1	i
		}	1		1

	BILL OF QUANTITIES & UNI	T COSTS	SCHEOULES		
M371	DESCRIPTION	דומט	QUANTITY	STAR TINU	TOTAL COST
	MODIFICATION WARK			l 	
	Materials	i		-	!
	Wire IV 4 sqmm Only		. i		! !
	Saudi Rials per meter.	М	250	1	[-
	Termination materials Only	:	:		1
	Saudi Rials per lot.	Lot	1		
	Conduit pipe 1"				
	OnlySaudi Ríals per meter. 1-1/4" Only	M	50		
	Only Saudi Rials per meter.	М	5		l
	Fittings for conduit pipe Only······				
	Saudi Rials per lot. Support for conduit pipe Only	Lot	1		
	Saudi Rials per lot.	Lot	1		
	Joint box 1" three way Only			1	
	Saudi Rials per each.	EA	13		1
	1-1/4" four way Only				
	Saudi Rials per each. Tumbler switch flush-mounted	EA	2		
	W/plate and box duplex Only				
	Saudi Rials per set.	Set	3		
	÷				

······································	SILL OF QUANTITIES & UNI	T COSTS 5	SCHEOULES		
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Ceiling cutting and curing Only Saudi Rials per lot.	Lot	1	 	
	Steel materials Only		i e		
	Saudi Rials per lot. Bolt and nut Only	Lot	1		1
	Saudi Rials per lot. Miscellaneous and consumable	Lot	1		1
C , C	Only	Lot	1	1 1 1 1	
	·			1 1 1 1	-
				1	
			·		1
				i 	
					1

SUMMARY

TEST PLANT BUIL	DING			<u>S.</u>	R.
			•		
					
TOTAL CARRIED	TO SUMMARY OF	ELECTRICAL	WORKS	٠	
				===	==

LABORATORY FURNITURE

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities
and Unit Costs Schedules)

BILL OF QUANTITIES FOR PURCHASING LABORATORY FURNITURE *Unit price shall be inclusive of installation rate.

Furniture to be purchased	Q'ty	Unit price	Amount
5- 1 Center table	2		
5- 2 Center table	8		
5- 5 Work table	2		
5- 6 Side table	7		
5- 7 Side table	7		
5- 8 Side table	3		
5-10 Sink for developping	1		
5-11 Sink unit	1		
5-12 Balance table	2		
5-13 Microscope table	2		
5-14 Fume hood	6		
5-15 Fume hood	1		
5-16 Shelf,open type;1800x500	5		1
5-17 Shelf,open type;1500x500	5		
5-18 Shelf, locked type; 1500x450	18		
5-19 Black curtain	2		
5-20 Laboratory chair	50		
5-21 Tool cabinet	2		

SUMMARY

LABORATORY FURNITURE	<u>s. R.</u>

TOTAL CARRIED TO SUMMARY OF	
LADORATORY EURNITURE INSTALLATION WORK	====

