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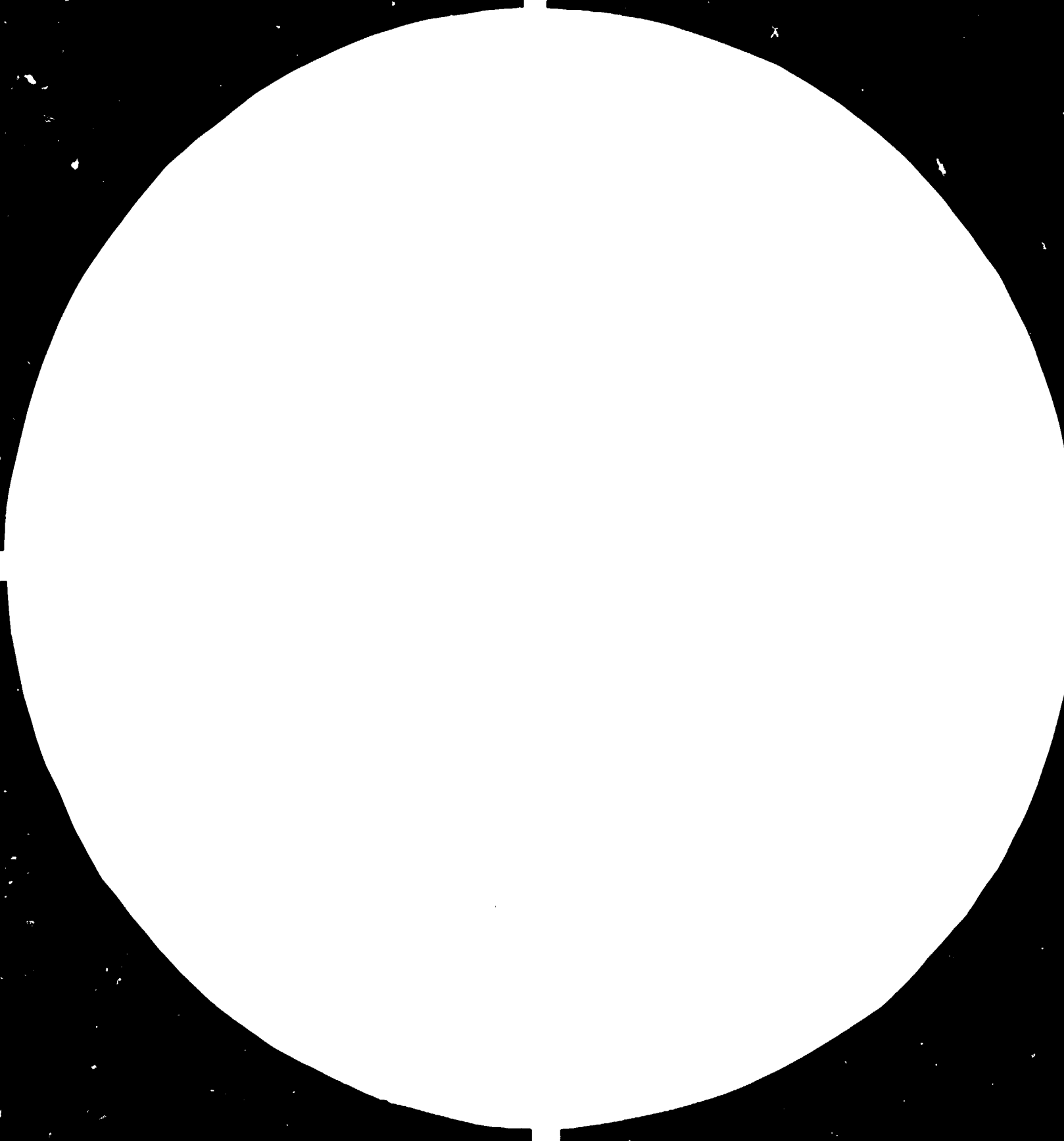
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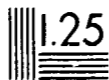
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13881

(1 of 2)

**DEVELOPMENT OF
CAPITAL GOODS INDUSTRIES**

DP/TUR/76/034

Technical Report No. X: ^{Turkey.} Demand for Capital Goods for
Sugar Industry.

Vol. I

M.M. Luther

1982

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

RESTRICTED

May 1982

English

DEVELOPMENT OF
CAPITAL GOODS INDUSTRIES

DP/TUR/76/034

Technical report No.10
Demand for Capital Goods for Sugar Industry
Vol. I

Prepared for the Government of Turkey
by the United Nations Industrial Development Organization
acting as executing agency for the United Nations Development Programme

Based on the work of
Capital Goods Development Project Team in Turkey

United Nations Industrial Development Organization
Vienna

This report has not been cleared with the United Nations Industrial Development Organization which does not, therefore, necessarily share the views presented

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DEVELOPMENT PROGRAMME IN TURKEY

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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DEVELOPMENT PROGRAMME IN TURKEY

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

I

CHAPTER I

INTRODUCTION

1.1 The State Planning Organisation (SPO)-Devlet Planlama Teşkilatı, has defined user industries, machine building industries and infrastructure to be taken into account for the Capital Goods Development Project in Turkey. Of the user industries to be considered, the SPO's priority is as follows:-

- (i) Power
- (ii) Mining-Ferrous, Non Ferrous and Coal
- (iii) Cement
- (iv) Pulp and paper
- (v) Food and beverages including sugar
- (vi) Chemical and Petro-chemicals
- (vii) Fertilizer industries

1.1.1 Out of food and beverages sector, some sub-sectors were dealt with by Turkish Industrial Development Bank (TSKB)-Türkiye Sanayi Kalkınma Bankası in a pilot study. This study did not include sugar. This report deals with demand and supply of sugar as well as capital goods needs for sugar industry in Turkey.

1.1.2 Other user industries, various machine building industries and infrastructure will be covered in separate reports.

1.2 In order to accurately assess the capital goods needs of sugar industry, a methodology developed by the capital goods project in Turkey, has been adapted to suit sugar industry. Technical Report No I of the Project by Mr. M.M. Luther, CTA, spells out the details of the methodology.

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DEVELOPMENT PROGRAMME IN TURKEY

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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1.3 The study was directed by Mr. M.M. Luther, Chief Technical Adviser in Oct. '80. The General Manager of Turkiye Seker Fabrikalari A.S. nominated M/S Celal Uncuoglu, Muhsin Malkaz and Levent Adiguzel to work on this project under the supervision of M/S Erol Oyman and Ustun Engur.

1.4 Mr. A.D. Surie, Technical Engineer, joined the project as an expert in March 1981 and was assigned to carry on the work on demand projections for Capital Goods for sugar manufacturing besides four other user industries.

1.5 All the detailed data required as per project methodology including modular production diagram, activity chart, flow diagrams, plant survey forms and yearwise details of Capital Goods demands for various new sugar units to be commissioned or expanded are in Volume II.

1.6 This report has been discussed with the management of Turkiye Seker Fabrikalari A.S., who are in agreement with the projections. Preparation of this report has been coordinated with Mr. Vahit Erdem, head of the Sectorial Planning Division of SPO and his colleagues.

1.7 Mrs. Guler Izmirlioglu and Mr. Ziya Siddiki, national project co-ordinators have been continuously associated with this work at all stages.

1.8 The project management wishes to record its appreciation and gratitude to the officials of SPO and management of Turkiye Seker Fabrikasi who provided English speaking personnel for the detailed work and also made themselves readily available for discussions. This was crucial since almost all data is in Turkish.

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 DEVELOPMENT PROGRAMME IN TURKEY
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

2.3.2.2 After the expansion of the 5 existing units their capacities will increase as follows:-

<u>Year</u>	<u>Production capacity in M.T.</u>
1981-82	0.186
1984-85	0.331
1990-91	0.331

2.3.3 The investments planned by Seker Fabrikalari are in two phases. The first phase covers those plants which have already been given priority by the SPO and approved of, by the Government. Phase II are the capacities of sugar factories, proposed by Seker Fabrikalari and under project study by the SPO

2.3.4 For meeting the increased sugar demand the new plants expected to be set up are as follows:-

Phase I

<u>Location</u>	<u>Capacity (M.T./year)</u>	<u>Anticipated year of Commissioning</u>
Mus	0.033	1982-83
Ilgin	0.105	1982-83
Agri	0.035	1984-85
Bor	0.050	1983-84
	<u>0.223</u>	

Phase II

Carsamba	0.045	1985-86
Elbistan	0.050	1985-86
Eregli	0.110	1986-87
Ercis	0.017	1988-89
	<u>0.222</u>	

Existing Capacity 0.779
 Grand Total 1.595 by 1990-91

2.4 DEMAND FOR CAPITAL GOODS

2.4.1 Classification of Capital Goods

2.4.1.1 Fifteen digit code developed by the Capital Goods Development Project in Turkey for all capital goods based on the 5 digit SITC codes have been used as described in the Technical Report No I "Methodology for Planning of Capital Goods Industries in Turkey".

2.4.1.2 Machinery of a kind used in the beet-root sugar manufacturing have been codified under SITC Code 72726 as per attached annexure I.

2.4.2 The Modular Production diagram and the activity charts for beet-root sugar are at pages 11-12. Flow diagrams, the Plant Survey forms and the demand of Capital Goods according to the 15 digit Codes evolved by the Capital Goods Development Project in Turkey are on pages 13-14.

2.4.3 The summary of demand according to the 15 digit SITC Code both weight-wise and Value-wise for each plant are in pages 18-23 of the annexure II to VII. These are for new expansions.

2.4.4 The following grand summaries of demand for Capital Goods according to the 5 digit SITC Code for Expansions and New Plants are on pages 24-30.

	- Demand of Capital Goods by	
5494.6 Tonnes	- Weight-	} Expansions
9,566,150 U.S.\$	- Value (At 1980 prices)-	
18,194.8 Tonnes	- Weight-	} New Plants
31,907,400 U.S.\$	- Value (at 1980 prices)-	

CHAPTER III

Conclusions and Recommendations

3.1 Conclusions

3.1.1 The demand for capital goods for the sugar sector in the period 1981-1990 is as under:-

		<u>Figures in Tonnes</u>	
		1981-1990	Average per year
Fabricated equipment	Expansions	4506	450.6
	New Plant	13937	1393.7
Machinery	Expansions	988	98.8
	New Plants	4256	425.6

3.1.2 Details of demand for items of different specifications and manufacturing characteristics are given in Vol II.

3.2 Recommendations

3.2.1 A survey of present and anticipated capacity of Capital Goods related to the sugar sector in public and private sector needs to be carried out immediately.

3.2.2 Based on this survey, a demand-capacity balance of different types of equipment aggregated from the point of view of manufacturing facilities will be necessary.

3.2.3 Techno-economic feasibility studies for expansion of existing facilities or setting up of new ones in public and/or private sector will be required to be undertaken.

3.2.4 These studies should take into account the potential for export of sugar plants machinery from Turkey.

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

SUSRLUK, ANKARA, KASTAMONU

SUGAR PLANTS

FINAL SUMMARY OF EXPANSION OF

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1990

Figures in tons/

SITC Code	BASIC MACHINE NAME	YEAR								
		1981	1982	1983	1984	1985	1986	1987	1988	TOTAL
69211	Reservoirs etc. of steel		170.9	90.5						261.4
72726	Sugar manufacturing machinery ^p		836.0	110.0						946.0
72831	Screens, wet classifier and separators		160.0	282.2	130.8					573.0
74132	Kilns			0.5	300.0					300.5
74151	Heat exchanger		623.0	60.0						683.0
74152	Evaporators		1032.0							1032.0
74153	Furnaces		90.0							90.0
74154	Dryers		72.0							72.0
74220	Centrifugal pumps			148.8	1.2					150.0
74230	Rotary pumps									24.0
74312	Vacuum pumps			8.0	16.0					24.0
74351	Centrifuges		112.5	207.0						319.5
74352	Filtering and purifying machinery		676.0	126.0						802.0
74426	Conveyors, mechanical		16.0	162.0						178.0
74525	Weighing machinery			63.2						63.2
	GRAND TOTAL		3788.4	1258.2	448.0					5494.6
	Out of which		3612.4	594.0	300.0					4506.4
	Plate Fabricated Equipment									
	Machines		176.0	664.2	148.0					988.2

p= Plate fabricated equipment

m= Machines

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

FINAL SUMMARY OF EXPANSION OF

SUSRLUK, ANKARA, KASTAMONU

SUGAR PLANTS

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1990

/values in 1000 U.S \$

SITC Code	BASIC MACHINE NAME	YEAR								
		1981	1982	1983	1984	1985	1986	1987	1988	TOTAL
69211	Reservoirs etc. of steel		134.8	59.8						194.6
72726	Sugar manufacturing machinery p		1629.0	157.0						1786.0
72831	Screens, wet classifier and separators		251.0	481.95	228.8					961.75
74132	Kilns			12.0	300.0					312.00
74161	Heat exchanger		887.1	65.4						952.5
74152	Evaporators		1670.0							1670.0
74153	Furnaces		150.0							150.0
74154	Dryers		122.0							122.0
74220	Centrifugal pumps			433.5	9.0					442.5
74230	Rotary pumps									
74312	Vacuum pumps			10.0	20.0					30.0
74351	Centrifuges		500.0	920.0						1420.0
74352	Filtering and purifying machinery		976.6	197.6						1165.2
74426	Conveyors, mechanical		16.0	219.6						235.6
74525	Weighing machinery			124.0						124.0
	GRAND TOTAL		6327.5	2680.85	557.8					9566.15
	Out of which		6060.5	1411.80	300.0					7772.30
	Plate Fabricated Equipment									
	Machines		267.0	1269.05	257.8					1793.85

p= Plate fabricated equipment

m= Machines

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

cap. ILGIN 6000 MUS 3000 BOR 3000 AGRI 3000 CARSAMBA 3000 ELBISTAN 3000 EREGLI 6000 ERCIS 3000 tpd.*

FINAL SUMMARY OF

SUGAR PLANTS

SUMMARY OF CAPITAL GOODS DEMAND IN

Figures in tons/*

SITC Code	BASIC MACHINE NAME	YEAR								TOTAL
		1981	1982	1983	1984	1985	1986	1987	1988	
69211	Reservoirs etc. of steel	393.40	228.4	345.4	372.8	165.0	108.0	120.4		1733.4
72726	Sugar manufacturing machinery ^m	351.00	351.00	552.0	702.0		351.0			2307.0
72831	Screens, wet classifier and separators	160.40	638.4	439.4	387.8	293.2	390.0	4.4	143.0	2456.6
74132	Kilns	45.0	15.0	15.0		60.0		15.0		150.0
74132	Kilns	177.0	175.0	525.5	176.0	1.0	175.0	0.5		1230.0
74151	Heat exchanger	464.6	464.6	711.6	948.6		464.6			3054.0
74152	Evaporators	344.0	344.0	688.0	572.0		344.0			2292.0
74153	Furnaces	36.0	36.0	72.0	60.0		36.0			240.0
74154	Dryers	18.0	18.0	36.0	25.0		18.0			115.0
74220	Centrifugal pumps	153.8	79.6	56.7	113.4	90.0	56.7			550.2
74230	Rotary pumps	3.3	1.2	1.2	2.4	2.1	1.2			11.4
74312	Vacuum pumps	12.0	12.0	24.0	20.0		12.0			80.0
74351	Centrifuges	130.5	130.5	261.0	261.0		130.5			913.5
74352	Filtering and purifying machinery	400.0	280.0	465.0	463.0	165.0	185.0	95.0		2053.0
74425	Conveyors, mechanical	79.0	79.0	79.0	158.0	149.0		79.0		623.0
74525	Weighing machinery	112.9	121.65	71.65	1.65	63.3	2.9		1.65	285.7
	GRAND TOTAL	2890.0	2974.35	4343.45	4263.65	988.6	2274.9	314.30	144.65	18,194.8
	Out of which	2314.5	2027.50	3656.50	3580.40	331.0	1812.1	215.90		13937.9
	Plate Fabricated Equipment									
	Machines	576.4	946.85	686.95	683.25	657.6	462.8	98.40	144.65	4256.9

p= Plate fabricated equipment

m= Machinery

* Tonnes per day beet processing capacity

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

FINAL SUMMARY OF
 ILCIN MUS BOR AGRI CARSAMBA ELBISTAN EREGLI ERCIS *
 cap. 6000 3000 3000 3000 3000 3000 6000 3000 cpd.

SUGAR PLANTS

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1990

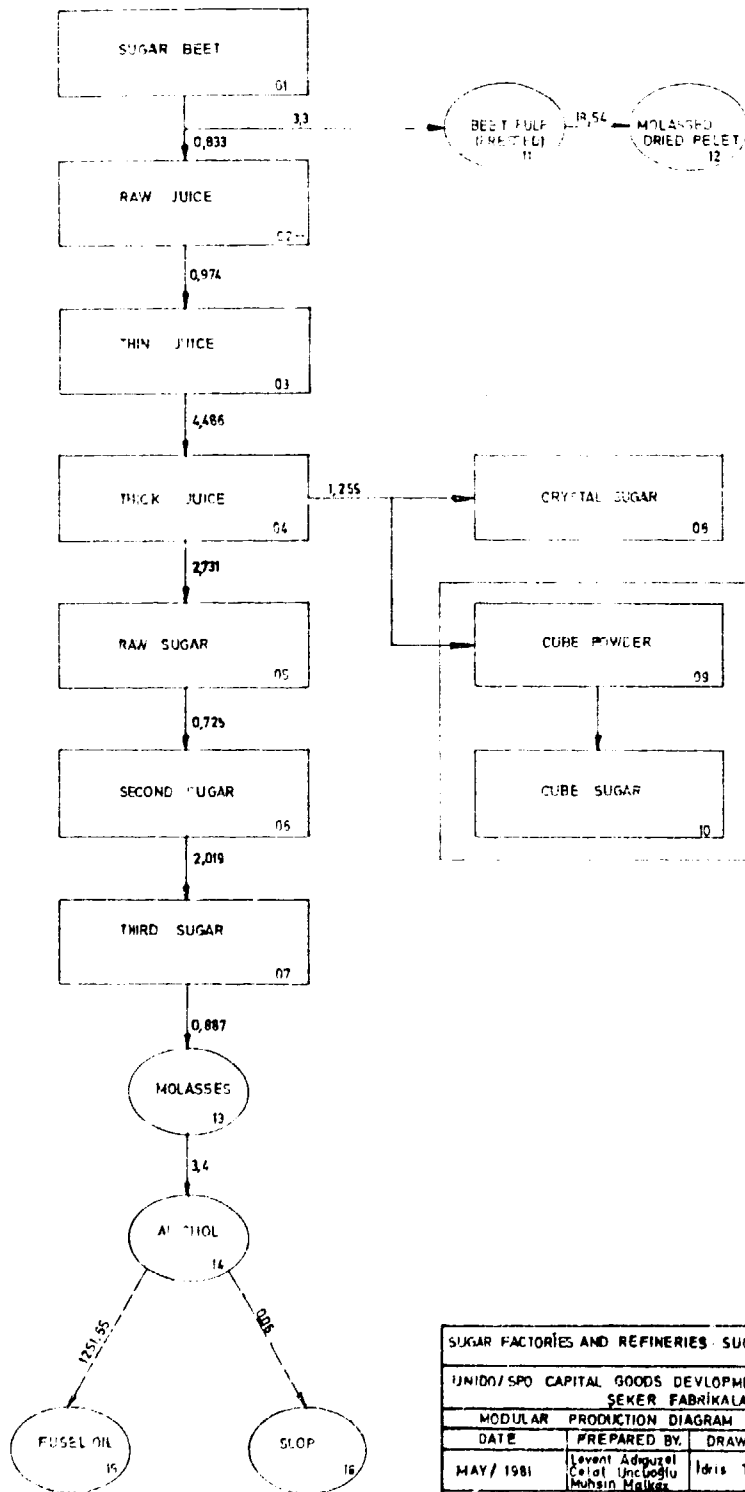
/values in 1000 U.S \$

SITC Code	BASIC MACHINE NAME	YEAR								TOTAL
		1981	1982	1983	1984	1985	1986	1987	1988	
69211	Reservoirs etc. of steel	366.7	190.8	267.6	325.0	171.5	71.6	119.2		1512.40
72726	Sugar manufacturing machinery ^p	658.8	718.80	1017.6	1284.0		658.8			4338.00
72831	Screens, wet classifier and separators	276.95 ^m	804.35	719.35	617.3	501.2	558.2	12.95	237.95	3728.25
74132	Kilns	111.6	37.2	37.2	74.4	74.4		37.20		372.0
74151	Heat exchanger	198.0	150.0	462.0	174.0	24.0	150.0	12.0		1170.0
74152	Evaporators	672.4	672.4	1344.8	1047.65		672.4			4409.65
74153	Furnaces	495.0	495.0	990.0	885.0		495.0			3330.00
74154	Dryers	60.0	60.0	100.0	80.0		50.0			350.0
74220	Centrifugal pumps	30.5	30.5	60.5	45.0		30.0			196.5
74230	Rotary pumps	400.7	322.7	205.2	410.4	325.0		205.2		1869.2
74312	Vacuum pumps	14.7	13.4	13.4	26.8	22.1		13.4		103.8
74351	Centrifuges	15.0	15.0	30.0	55.0		15.0			130.0
74352	Filtering and purifying machinery	560.0	580.0	1160.0	2320.0		580.0			5220.0
74426	Conveyors, mechanical	646.84	486.68	804.28	660.76	210.06	367.5	64.28		3240.4
74525	Weighing machinery	128.20	128.2	128.20	256.4	247.0		128.20		1016.2
	GRAND TOTAL	259.0	229.5	157.5	31.5	171.0	43.0		31.50	923.0
	Out of which	4914.39	4934.53	7497.63	8263.21	1746.26	3691.5	592.43	269.45	31909.40
	Plate fabricated Equipment Machines	3708.24	3384.18	6206.78	6791.41	405.56	3075.3	195.48		23766.95
		1206.15	1550.35	1290.85	1471.80	1340.70	616.2	396.95	269.45	8142.45

^p = Plate fabricated equipments

^m = Machines

*Tonnes per day beet processing capacity



SUGAR FACTORIES AND REFINERIES - SUGAR		INDUSTRY CO
		3118-1
UNIDO/SPO CAPITAL GOODS DEVELOPMENT PROJECT		
SEKER FABRIKALARI		
MODULAR PRODUCTION DIAGRAM		
DATE	PREPARED BY	DRAWN BY
MAY/1981	Levent Adiguzel Celal Unaloglu Muhsin Nettek	Idris Turkoğlu
		Emel Oyman Ustun Engur
UNIDO EXPERT		

UNDO: SPO (SEKER)
 CAPITAL GOODS DEVELOPMENT PROJECT
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
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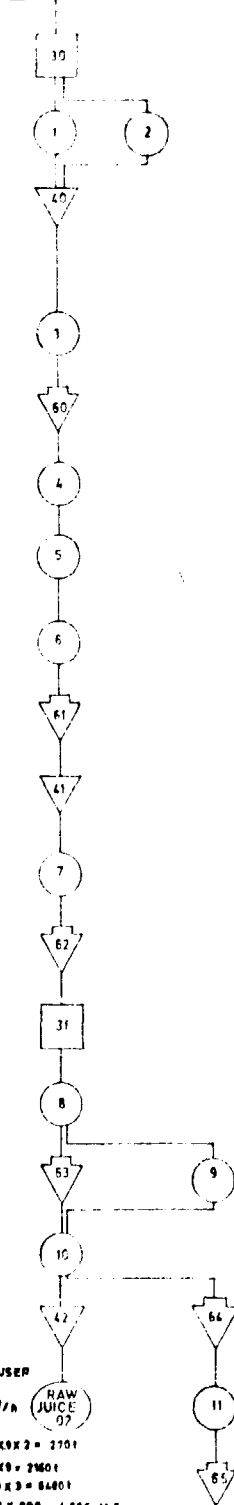
INDUSTRY CODE 311-1
 NAME SUGAR FACTORY
 AND REFINERIES

PRODUCT CODE	PRODUCT NAME	TECHNOLOGY CODE	TECHNOLOGY NAME	EQUIPMENT	CAPACITY	MIN	MAX	UNIT
01	RAW JUICE		DIFFUSION PROCESS	DIFFUSION APPARATUS	270 TONS/HOUR	1	270	TONS/HOUR
					155	2	155	"
					95	3	95	"
02	THIN JUICE		PURIFICATION PROCESS	CARBONATORS	170 TONS/HOUR	1	170	TONS/HOUR
					155	2	155	"
					135	3	135	"
03	THICK JUICE		EVAPORATION	MULTI EFFECT EVAPORATORS	60 TONS/HOUR	1	60	TONS/HOUR
					32	2	32	"
					22	3	22	"
04	RAW SUGAR		CRYSTALLIZATION METHOD	CENTRIFUGES	72 TONS/HOUR	1	72	TONS/HOUR
					28	2	28	"
					58	3	58	"
05	SECOND SUGAR		"	CENTRIFUGES	12.8 TONS/HOUR	1	12.8	TONS/HOUR
					6.5	2	6.5	"
					4.5	3	4.5	"
06	THIRD SUGAR		"	CENTRIFUGES	6.6 TONS/HOUR	1	6.6	TONS/HOUR
					3.2	2	3.2	"
					2.2	3	2.2	"
07	CRYSTAL SUGAR		"	CENTRIFUGES	25.5 TONS/HOUR	1	25.5	TONS/HOUR
					12.5	2	12.5	"
					12.5	3	12.5	"
08	CUBE POWDER		"	CENTRIFUGES	9.2 TONS/HOUR	1	9.2	TONS/HOUR
					3.7	2	3.7	"
					2.7	3	2.7	"
09	CUBE SUGAR		MOULDING METHOD	PRESSING AND DRYING MACHINES	1.8 TONS/HOUR	1	1.8	TONS/HOUR
					0.8	2	0.8	"
					0.8	3	0.8	"
10	BEEF PULP		PRESSING METHOD	PULP PRESSERS	67.5 TONS/HOUR	1	67.5	TONS/HOUR
					22.7	2	22.7	"
					22.7	3	22.7	"
11	MOLASSED DRIED PELTS		DRYING METHOD	DRYING TRAYS	15 TONS/HOUR	1	15	TONS/HOUR
					7.5	2	7.5	"
					7.5	3	7.5	"
12	MOLASSES		CENTRIFUGES METHOD	CENTRIFUGES	9.2 TONS/HOUR	1	9.2	TONS/HOUR
					3.6	2	3.6	"
					3.6	3	3.6	"
13	ALCOHOL		DISTILLING METHOD	DISTILLATION COLUMNS	1.8 TONS/HOUR	1	1.8	TONS/HOUR
					0.8	2	0.8	"
					0.8	3	0.8	"
14	PUREL-OIL		DISTILLING METHOD	DISTILLATION COLUMNS	0.32 TONS/HOUR	1	0.32	TONS/HOUR
					0.01	2	0.01	"
					0.01	3	0.01	"
15	STOP		DISTILLING METHOD	DISTILLATION COLUMNS	2.8 TONS/HOUR	1	2.8	TONS/HOUR
					1.4	2	1.4	"
					1.4	3	1.4	"

SEKER PANCARI - HAM SERBET

Sugar Beet - Raw Juice

SUGAR BEET



CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT	DIFFUSER
DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR	150 T/H
NO. OF CRITICAL EQUIPMENT	2
DESIGN LINE CAPACITY PER HOUR	150 X 2 = 270 T
PER SHIFT	270 X 2 = 540 T
PER DAY	540 X 3 = 1620 T
PER YEAR	1620 X 200 = 324000 MT

ACTV	CODE	INDUSTRY	TECHNOLOGY	QTY
NO	MACHINE CODE	MACHINE NAME		
30	74525025412211	WAGON AND TRUCK WEIGHING MACHINES		2
1	72725018521601	AUTOMATIC UNLOADING MACHINE		2
2	727251060011801	WAGONS AND TRUCKS UNLOADING SYSTEM BY WATER		2
3	727260250023911	LEAF AND STONE CATCHER MACHINE		2
50	742200142813241	BET PUMPS		3
4	728313040013231	WATER AND MUD SEPARATOR		2
5	727250364024611	BET WASHING MACHINES		2
6	727250452621601	TAIL CATCHER		2
61	744261433013911	BET TRANSPORTERS		2
41	592110210013211	BET STORAGE TANK		1
7	727250540023611	BET CUTTING MACHINE		2
62	744260133012911	PULP CONVEYORS		2
31	745250210111712	WEIGHING MACHINES		2
8	741637980594211	SCALING TROUGH		2
63	742200141921211	COSETT PUMP		4
10	7272505066028211	DIFFUSER		2
9	741610140212211	HEATERS FOR CIRCULATION JUICE		3
42	892110711321211	RAW JUICE STORAGE TANK		2
64	744264172013941	HELICAL TRANSPORTERS		2
11	743625120013211	PULP PRESSES		14
65	744261432013931	PRESSET PULP CONVEYORS		4

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT
MODULAR PROCESS FLOW DIAGRAM

INDUSTRY SUGAR FACTORIES AND RAFINERIES	PRODUCT SUGAR	TECHNOLOGY SUGAR BEET
DATE APRIL 1982	SAMPLE PLANT AFYON	CAPACITY PER SHIFT (DAY) CHECKED BY Erol OYMAN
PREPARED BY Leylan ADBUZEL Cald UNCUGLU	DRAWN BY Bahar SEYHAN	CHECKED BY Ustun ENGUR

CHECKED BY: *A.P.* APPROVED BY: UNIDO/EXPERT

Fabricated equipments

SITC Code 74161 - Machinery, plant and similar laboratory equipment, whether or not electrically heated for the treatment of materials by a process involving a change of temperature, such as

- HEATING, VAPOURIZING AND CONDENSING. and parts thereof n.e.s

6-7		8		9		10		11		12		13		14		15	
Basic Machine Nomenclature		Major Specification		Major Spec.-1 Optional		Major Spec.-2 Optional		Type		Manufacturing characteristic -1		Manufacturing characteristic -2		Manufacturing characteristic -3		Origin	
Code	Name	Code	Heating Surface (m ²)	Code	Inside shell diameter (m)	Code	Tube length (m)	Code	Description	Code	Weight (tons)	Code	Main body materials	Code	Plate thickness (mm)	Code	
00	Heat exchangers	1	Upto 10	1	Upto 1	1	Upto 3	1	Shell and tube (fixed tube sheet)	1	Upto 5	1	Mild steel upto 2.20 carbon (untested quality)	1	Upto 20	1	Turkey
01	Heat exchanger	2	10-50	2	1-2	2	3-4.5	2	Shell and tube (floating head)	2	5-10	2	Carbon steel above 2.20 C tested quality	2	20-40	2	Imported
02	Reboiler	3	50-100	3	2-3	3	4.5-6	3	Double pipes	3	10-25	3	Boiler steel	3	40-50		
03	Cooler	4	100-500	4	3-5	4	Above 5	4	Plates	4	25-50	4	Alloy steel	4	Over 50		
04	Chiller	5	500-1000	5	Above 5			5	Bayonet-type	5	50-100	5	High alloy steel				
05	Condenser	6	Above 1000					6	Spiral tube	6	100-200	6	Stainless steel				
06	Waste-heat boiler							7	Integral finned tubes	7	200-300	7	Non-ferrous materials				
07	Heater							8	Others	8	300-500	8	Others				
08	Super-heater							9		9	Over 500	9					
09	Vaporizer																
10	Preheater																
99	Others (nil)																

Specifications based on standards of Tube Exchangers Manufacturers' Association U.S.A. (TEMA Standards)

SITC Code 72726 - Machinery used in sugar manufacture of brewing

Annexure I

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6-7		8		9		10		11		12		13		14		15	
Basic Machine Nomenclature		Major Specification		Major Spec. (optional)		Type		Manufacturing characteristic		Manufacturing characteristic		Manufacturing characteristic		Origin			
Code	Name	Code	Capacity tons/day	1		2		Code	Description	Code	Weight (tons)	Code	Main body material	3		Code	
				Code	Volume Cubic meters (m ³)	Code	Area square meter (m ²)							Code	Max. Component Weight (tons)		
01	Automatic beet unloading machine	1	Upto 1	1	Upto 5	1	Upto 10	1	Batch	1	Upto 5	1	Chilled iron casting	1	Upto 1	1	Turkey
		2	125-250	2	5-10	2	10-25	2	Continuous	2	5-10	2		2	1-2	2	Imported
02	Leaf and stone catcher machine	3	250-500	3	10-25	3	25-50	3		3	10-25	2	Grey iron casting	3	2-5		
		4	500-1000	4	25-50	4	50-100	4		4	25-50	4		4	5-10		
03	Beet washing machines	5	1000-2000	5	50-100	5	Over 100	5		5	50-100	3	Alloy iron casting	5	10-15		
		6	2000-4000	6	100-500			6		6	100-200	6		6	15-25		
04	Tail catcher machine	7	4000-6000	7	500-1000			7		7	200-300	4	Malleable iron casting	7	25-50		
		8	6000-8000	8	1000-1500			8		8	300-500	8		8	50-100		
05	Beet cutting machine	9	Over 8000	9	Over 1500			9		9	Over 500	5	Spheroidal iron casting	9	Over 100		
06	Sand catcher											6	Carbon steel casting				
07	Saturators											7	Alloy steel casting				
08	Crystal sugar shaker											8	Non-ferrous casting				
09	Sugar crushers											9	Steel fabrication				
10	Wagon and truck unloading system by water							9	Others								
09	Others																

SITC Code 72726 - Machinery used in sugar manufacture of brewing

Plate fabricated equipment

Annexure I

Page: 2

6-7		8		9		10		11		12		13		14		15	
Basic Machine Nomenclature		Major Specification Capacity		Major Spec.-1 Optional		Major Spec.-2 Optional		Type		Manufacturing characteristic -1		Manufacturing characteristic -2		Manufacturing characteristic -3		Origin	
Code	Name	Code	Output (t/d)	Code	Volume cubic meter(m ³)	Code	Area sq. meter (m ²)	Code	Description	Code	Weight(tons)	Code	Main body material	Code	Plate thickness (mm)	Code	
50	Diffuser	1	Upto 125		Upto 5	1	Upto 10	1	Batch	1	Upto 5	1	Mild steel	1	Upto 20	1	Turkey
51	Lining unit	2	125-250	2	5-10	2	10-25	2	Continuous	2	5-10		unto 0,20 C	2	20-40	2	Inerted
		3	250-500	3	10-25	3	25-50	3		3	10-25		untested	3	40-50		
99	Other	4	500-1000	4	25-50	4	50-100	4		4	25-50		quality	4	Over 50		
		5	1000-2000	5	50-100	5	Over 100	5		5	50-100	2	Carbon				
		6	2000-4000	6	100-500			6		6	100-200		steel				
		7	4000-6000	7	500-1000			7		7	200-300		above 0,20 C				
		8	6000-8000	8	1000-1500			8		8	300-500		tested				
		9	Over 8000	9	Over 1500			9		9	Over 500		quality				
												3	Boiler				
												4	steel				
												4	Alloy				
												5	steel				
												5	High alloy				
												6	steel				
												6	Stainless				
												7	steel				
												7	Non-ferrous				
												9	materials				
												9	Others				

ANNEXURE II

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Expansion of Susurluk SUGAR PLANTS - 1983 SUMMARY OF CAPITAL GOODS DEMAND IN 1982-1983
Capacity 71,000 TBY

Figures in tons/

SITC Code	BASIC MACHINE NAME	YEAR				TOTAL
		1981	1982	1983	1984	
69211	Reservoirs etc.of steel		56.5	67.5		124.0
72726	Sugar manufacturing machinery ^p		166.0	110.0		276.0
72631	Screens,wet classifier and separators		-	275.2		275.2
74132	Sulfur kiln			0.5		0.5
74161	Heat exchanger		315.0	60.0		375.0
74152	Evaporators		624.0			624.0
74153	Furnaces (Scalding trough)		18.0			18.0
74154	Dryers		36.0			36.0
74220	Centrifugal pumps			61.8		61.8
74230	Rotary pumps		-	-		-
74312	Vacuum pumps			8.0		8.0
74351	Centrifuges		112.5			112.5
74352	Filtering and purifying machinery		304.	80		384.0
74426	Conveyors,mechanical			98.0		98.0
74525	Weighing machinery			63.2		63.2
GRAND TOTAL			1632	824.2		2456.2
Out of which						
Plate Fabricated Equipment			1632	318.0		1950.0
Machines			-	506.2		506.2

^p Plate fabricated equipment^m machines

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ANNEXURE III

Expansion of Ankara

SUGAR PLANTS-1984
Capacity 55000 tpy

SUMMARY OF CAPITAL GOODS DEMAND IN 1982-1984

Figures in tons/

SITC Code	BASIC MACHINE NAME	YEAR				TOTAL
		1981	1982	1983	1984	
69211	Reservoirs etc.of steel		57.2	11.5		68.7
72726	Sugar manufacturing machinery p.		335.0			335.0
72831	Screens,wet classifier and separators		80.0	3.5	65.4	148.9
74132	Kilns				150.0	150.0
74161	Heat exchanger		154.0			154.0
74162	Evaporators		204.0			204.0
74153	Furnaces (Scalding trough)		36.0			36.0
74154	Dryers		18.0			18.0
74220	Centrifugal pumps			43.5	0.6	44.1
74230	Rotary pumps					8.0
74312	Vacuum pumps				8.0	8.0
74351	Centrifuges			103.5		103.5
74352	Filtering and purifying machinery		186.0	23.0		209.0
74426	Conveyors,mechanical		8.0	32.0		40.0
74525	Weighing machinery					
	GRAND TOTAL		1078.2	217.0	224.0	1519.20
	Out of which					
	Plate fabricated Equipment		990.2	138.0	150.0	1278.20
	Machines		88.0	79.0	74.0	241.00

p= Plate fabricated equipment

m= Machines

ANNEXURE IV

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEYExpansion of Kastamonu NEW SUGAR PLANTS - 1984
Capacity 53000tpy

SUMMARY OF CAPITAL GOODS DEMAND IN 1982-1984

Figures in tons/

SITC Code	BASIC MACHINE NAME	YEAR				TOTAL
		1981	1982	1983	1984	
69211	Reservoirs etc.of steel		57.2	11.5		68.7
72726	Sugar manufacturing machinery ^p		335.0			335.0
72831	Screens,wet classifier and separators		80.0	3.5	65.4	148.9
74132	Kilns				150.0	150.0
74161	Heat exchanger		154.0			154.0
74152	Evaporators		204.0			204.0
74153	Furnaces(Scalding trough)		36.0			36.0
74154	Dryers		18.0			18.0
74220	Centrifugal pumps			43.5	0.6	44.1
74230	Rotary pumps					
74312	Vacuum pumps				8.0	8.0
74351	Centrifuges			103.5		103.5
74352	Filtering and purifying machinery		186.0	23.0		209.0
74426	Conveyors,mechanical		8.0	32.0		40.0
74525	Weighing machinery					
	GRAND TOTAL		1078.2	217.0	224.0	1519.20
	Out of which					
	Plate Fabricated Equipment		990.2	138.0	150.0	1278.20
	Machines		88.0	79.0	74.0	241.00

p= Plate fabricated equipment

m= Machines

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Expansion of Susurluk

NEW SUGAR PLANTS 1983
Capacity 71.000 tpy

SUMMARY OF CAPITAL GOODS DEMAND IN 1982-83

/values in 1000 U.S \$

SITC Code	BASIC MACHINE NAME	YEAR				TOTAL
		1981	1982	1983	1984	
69211	Reservoirs etc. of steel		62.4	39.8		102.2
72726	Sugar manufacturing machinery p		330.6	157.0		487.6
72831	Screens, wet classifier and separators			471.45		471.45
74132	Kilns			12.0		12.0
74161	Heat exchanger		458.1	65.4		523.5
74162	Evaporators		1020.0			1020.0
74153	Furnaces (Scalding trough)		30.0			30.0
74154	Dryers		61.0			61.0
74220	Centrifugal pumps			174.5		174.5
74230	Rotary pumps					
74312	Vacuum pumps			10.0		10.0
74351	Centrifuges		500.0			500.0
74352	Filtering and purifying machinery		476.0	141.0		617.0
74426	Conveyors, mechanical			151.60		151.60
74525	Weighing machinery			124.00		124.00
	GRAND TOTAL		2938.1	1346.75		4284.85
	Out of which					
	Plate fabricated Equipment		2938.1	415.20		3353.30
	Machines		-	931.55		931.55

p= Plate fabricated equipment

m= Machines

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Expansion of Ankara

NEW SUGAR PLANTS 1984
Capacity 55000tpy

SUMMARY OF CAPITAL GOODS DEMAND IN 1982-84

/values in 1000 U.S \$

SITC Code	BASIC MACHINE NAME	YEAR				TOTAL
		1981	1982	1983	1984	
69211	Reservoirs etc.of steel		36.2	10.0		46.2
72726	Sugar manufacturing machinery ^p		649.2			649.2
72831	Screens,wet classifier and separators		125.5	5.25	114.4	245.15
74132	Kilns				150.0	150.0
74161	Heat exchanger		214.50			214.5
74152	Evaporators		325.0			325.0
74153	Furnaces (Scalding trough)		60.0			60.0
74154	Dryers		30.5			30.5
74220	Centrifugal pumps			129.50	4.50	134.0
74230	Rotary pumps					
74312	Vacuum pumps				10.0	10.0
74351	Centrifuges			460.0		460.0
74362	Filtering and purifying machinery		245.8	28.3		274.1
74426	Conveyors,mechanical		8.0	34.0		42.0
74525	Weighing machinery					
	GRAND TOTAL		1694.7	667.05	278.9	2640.65
	Out of which					
	Plate fabricated Equipment		1561.2	498.30	150.0	2209.50
	Machines		133.5	168.75	128.9	431.15

p= Plate fabricated equipment

m= Machines

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ANNEXURE VII

Expansion of Mastamonu **NEW SUGAR PLANTS** 1984
Capacity 55000 tpy

SUMMARY OF CAPITAL GOODS DEMAND IN 1982-84

/values in 1000 U.S \$

SITC Code	BASIC MACHINE NAME	YEAR				TOTAL
		1981	1982	1983	1984	
69211	Reservoirs etc.of steel		36.2	10.0		46.2
72726	Sugar manufacturing machinery ^p		649.2			649.2
72831	Screens,wet classifier and ^m separators		125.5	5.25	114.4	245.15
74132	Kilns				150.0	150.0
74161	Heat exchanger		214.50			214.5
74162	Evaporators		325.0			325.0
74153	Furnaces		60.0			60.0
74154	Dryers		30.5			30.5
74220	Centrifugal pumps			129.50	4.50	134.0
74230	Rotary pumps					
74312	Vacuum pumps				10.0	10.0
74351	Centrifuges			460.0		460.0
74362	Filtering and purifying machinery		245.8	28.3		274.1
74426	Conveyors,mechanical		8.0	34.0		42.0
74525	Weighing machinery					
GRAND TOTAL			1694.7	667.05	278.9	2640.65
Out of which						
Plate Fabricated Equipment			1561.2	498.30	150.0	2209.50
Machines			133.5	168.75	128.9	431.15

^p = Plate fabricated equipment

^m = Machines

Annexure XII

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CAPACITY: 3000 T/D
 DATE OF COMMISSIONING: 1965
 PLANT SITE: KAHRAMAN MARAS

ELIZISTAN NEW SUGAR PLANT

SUMMARY OF CAPITAL GOODS DEMANDS 1961-1990 figures in tons / values in 1000 U.S.\$

SITC CODE	BASIC MACHINE NAME	1961	1962	1963	1964	1965	1966	1967	1968	1969	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	117.0	111.4	-	-	-	-	-	-	228.4
72726	Sugar manufacturing machinery	-	-	351.0P 146.0M	4.4	143.0	-	-	-	-	-	644.4
72831	Screens, wet classifier and separators	-	-	-	-	15.0	-	-	-	-	-	15.0
74132	Kilns	-	-	175.0	0.5	-	-	-	-	-	-	175.5
74161	Heat exchanger	-	-	464.6	-	-	-	-	-	-	-	464.6
74162	Evaporators	-	-	344.0	-	-	-	-	-	-	-	344.0
74163	Furnaces	-	-	36.0	-	-	-	-	-	-	-	36.0
74164	Dryers	-	-	18.0	-	-	-	-	-	-	-	18.0
74220	Centrifugal pumps	-	-	-	56.7	-	-	-	-	-	-	56.7
74230	Rotary pumps	-	-	-	1.2	-	-	-	-	-	-	1.2
74312	Vacuum pumps	-	-	12.0	-	-	-	-	-	-	-	12.0
74351	Centrifuges	-	-	130.5	-	-	-	-	-	-	-	130.5
74362	Filtering and purifying machinery	-	-	185.0	95.0	-	-	-	-	-	-	280.0
74426	Conveyors, mechanical	-	-	-	79.0	-	-	-	-	-	-	79.0
74525	Weighing machinery	-	60.0	-	-	1.65	-	-	-	-	-	61.65
	GRAND TOTAL		60.0	1979.1	348.2	159.65						2546.95
	Out of which Plate Fabricated Equipment	-	-	1921.1	206.9	-	-	-	-	-	-	2028.00
	Machines	-	60.0	158.9	141.3	159.65	-	-	-	-	-	518.95

Annexure XII

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CAPACITY: 3000 T/D
 DATE OF COMMISSIONING: 1985
 PLANT SITE: SAMSUN

ÇARŞAMBA NEW SUGAR PLANT

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 figures in tons / values in 1000 U.S.\$

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	117.0	111.4	-	-	-	-	-	-	228.4
72726	Sugar manufacturing machinery	-	-	201.0 ^(M) 146.0 ^(M)	4.4 ^(M)	143.0 ^(M)	-	-	-	-	-	494.4
72831	Screens, wet classifier and separators	-	-	-	-	15.0	-	-	-	-	-	15.0
74132	Kilns	-	-	175.0	0.5	-	-	-	-	-	-	175.5
74161	Heat exchanger	-	-	247.0	217.6	-	-	-	-	-	-	464.6
74162	Evaporators	-	-	344.0	-	-	-	-	-	-	-	344.0
74163	Furnaces	-	-	36.0	-	-	-	-	-	-	-	36.0
74164	Dryers	-	-	18.0	-	-	-	-	-	-	-	18.0
74220	Centrifugal pumps	-	-	-	56.7	-	-	-	-	-	-	56.7
74230	Rotary pumps	-	-	-	1.2	-	-	-	-	-	-	1.2
74312	Vacuum pumps	-	-	12.0	-	-	-	-	-	-	-	12.0
74351	Centrifuges	-	-	130.5	-	-	-	-	-	-	-	130.5
74362	Filtering and purifying machinery	-	-	185.0	95.0	-	-	-	-	-	-	280.0
74426	Conveyors, mechanical	-	-	-	79.0	-	-	-	-	-	-	79.0
74525	Weighing machinery	-	60.0	-	-	1.65	-	-	-	-	-	61.65
	GRAND TOTAL	-	60.0	1611.5	565.3	159.65	-	-	-	-	-	2396.95
	Out of which Plate Fabricated Equipment	-	-	1453.5	424.5	-	-	-	-	-	-	1878.00
	Machines	-	60.0	158.0	141.3	159.65	-	-	-	-	-	518.95

Annexure XV

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CAPACITY: 3000 T/D
DATE OF COMMISSIONING: 1968
PLANT SITE: VAN

ERCIS

NEW SUGAR PLANT

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 figures in tons / value in 1000 U.S. \$

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	-	-	-	108.0	120.4	-	-	-	228.4
72726	Sugar manufacturing machinery	-	-	-	-	-	351.000 146.000	4.4	143.0	-	-	644.4
72831	Screens, wet classifier and separators	-	-	-	-	-	-	15.0	-	-	-	15.0
74132	Kilns	-	-	-	-	-	175.0	0.5	-	-	-	175.5
74161	Heat exchanger	-	-	-	-	-	464.6	-	-	-	-	464.6
74162	Evaporators	-	-	-	-	-	344.0	-	-	-	-	344.0
74163	Furnaces	-	-	-	-	-	36.0	-	-	-	-	36.0
74164	Dryers	-	-	-	-	-	18.0	-	-	-	-	18.0
74220	Centrifugal pumps	-	-	-	-	-	56.7	-	-	-	-	56.7
74230	Rotary pumps	-	-	-	-	-	1.2	-	-	-	-	1.2
74312	Vacuum pumps	-	-	-	-	-	12.0	-	-	-	-	12.0
74351	Centrifuges	-	-	-	-	-	130.5	-	-	-	-	130.5
74362	Filtrating and purifying machinery	-	-	-	-	-	185.0	95.0	-	-	-	235.0
74426	Conveyors, mechanical	-	-	-	-	-	-	79.0	-	-	-	79.0
74525	Weighing machinery	-	-	-	-	60.0	-	-	1.65	-	-	61.65
	GRAND TOTAL	-	-	-	-	60.0	2028.0	314.3	144.65	-	-	2546.95
	Out of which	-	-	-	-	-	1812.1	215.9	-	-	-	2028.00
	Plate Fabricated Equipment	-	-	-	-	-	1812.1	215.9	-	-	-	2028.00
	Machines	-	-	-	-	60.0	215.9	93.4	144.65	-	-	518.95

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CAPACITY: 3000 T/D
 DATE OF COMMISSIONING: 1983
 PLANT SITE: NIĞDE

BOR NEW SUGAR PLANT

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 figures in tons / values in 1000 U.S \$

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	76.8	114.0	-	-	-	-	-	-	-	-	190.8
72726	Sugar manufacturing machinery	658.8(P) 238.7(M)	12.95 (4)	237.95 (M)	-	-	-	-	-	-	-	1148.4
72831	Screens, wet classifier and separators	-	37.2	-	-	-	-	-	-	-	-	37.2
74132	Kilns	162.0	-	-	-	-	-	-	-	-	-	162.0
74161	Heat exchanger	672.4	-	-	-	-	-	-	-	-	-	672.4
74162	Evaporators	495.0	-	-	-	-	-	-	-	-	-	495.0
74163	Furnaces	60.0	-	-	-	-	-	-	-	-	-	60.0
74164	Dryers	30.5	-	-	-	-	-	-	-	-	-	30.5
74220	Centrifugal pumps	-	205.2	-	-	-	-	-	-	-	-	205.2
74230	Rotary pumps	-	13.4	-	-	-	-	-	-	-	-	13.4
74312	Vacuum pumps	15.0	-	-	-	-	-	-	-	-	-	15.0
74351	Centrifuges	580.0	-	-	-	-	-	-	-	-	-	580.0
74362	Filtrating and purifying machinery	367.5	119.18	-	-	-	-	-	-	-	-	486.68
74426	Conveyors, mechanical	-	128.2	-	-	-	-	-	-	-	-	128.2
74525	Weighing machinery	108.0	-	31.5	-	-	-	-	-	-	-	139.5
	GRAND TOTAL	3464.7	630.13	269.45	-	-	-	-	-	-	-	4364.28
	Out of which Plate Fabricated Equipment	3103.0	233.18	-	-	-	-	-	-	-	-	3336.18
	Machines	361.7	396.95	269.45	-	-	-	-	-	-	-	1028.10

94-

Annexure X

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CAPACITY: 3000 T/D
DATE OF COMMISSIONING: 1985
PLANT SITE: SAMSUN

ÇARŞAMBA NEW SUGAR PLANT

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 figures in tons / values in 1000 U.S \$

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	76.8	114.0	-	-	-	-	-	-	190.8
72726	Sugar manufacturing machinery	-	-	358.3(P)	(M) 12.95	237.95	-	-	-	-	-	848.4
72831	Screens, wet classifier and separators	-	-	-	-	37.2	-	-	-	-	-	37.2
74132	Kilns	-	-	150.0	12.0	-	-	-	-	-	-	162.0
74161	Heat exchanger	-	-	672.4	-	-	-	-	-	-	-	672.4
74162	Evaporators	-	-	495.0	-	-	-	-	-	-	-	495.0
74163	Furnaces	-	-	50.0	-	-	-	-	-	-	-	50.0
74164	Dryers	-	-	30.5	-	-	-	-	-	-	-	30.5
74220	Centrifugal pumps	-	-	-	205.2	-	-	-	-	-	-	205.2
74230	Rotary pumps	-	-	-	13.4	-	-	-	-	-	-	13.4
74312	Vacuum pumps	-	-	15.0	-	-	-	-	-	-	-	15.0
74351	Centrifuges	-	-	580.0	-	-	-	-	-	-	-	580.0
74362	Filtering and purifying machinery	-	-	367.5	64.28	-	-	-	-	-	-	431.78
74426	Conveyors, mechanical	-	-	-	128.2	-	-	-	-	-	-	128.2
74525	Weighing machinery	-	108.0	-	-	31.5	-	-	-	-	-	139.5
	GRAND TOTAL	-	108.0	3034.7	550.03	306.65	-	-	-	-	-	3999.38
	Out of which											
	Plate Fabricated Equipment	-	-	2791.0	190.28	-	-	-	-	-	-	2981.28
	Machines	-	108.0	253.7	359.75	306.65	-	-	-	-	-	1028.10

Annexure: 200

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CAPACITY: 3000 T/D
 DATE OF COMMISSIONING: 1983
 PLANT SITE: KAHRAMAN MARAS

ELBISTAN NEW SUGAR PLANT

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 figures in tons / values in 1000 U.S. \$

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	76.3	114.0	-	-	-	-	-	-	190.8
72726	Sugar manufacturing machinery	-	-	650.33	12.95	237.95	-	-	-	-	-	1148.4
72831	Screens, wet classifier and separators	-	-	-	-	37.2	-	-	-	-	-	37.2
74132	Kilns	-	-	150.0	12.0	-	-	-	-	-	-	162.0
74162	Heat exchanger	-	-	672.4	-	-	-	-	-	-	-	672.4
74162	Evaporators	-	-	495.0	-	-	-	-	-	-	-	495.0
74163	Furnaces	-	-	50.0	-	-	-	-	-	-	-	50.0
74164	Dryers	-	-	30.0	-	-	-	-	-	-	-	30.0
74220	Centrifugal pumps	-	-	-	205.2	-	-	-	-	-	-	205.2
74230	Rotary pumps	-	-	-	13.4	-	-	-	-	-	-	13.4
74312	Vacuum pumps	-	-	15.0	-	-	-	-	-	-	-	15.0
74351	Centrifuges	-	-	580.0	-	-	-	-	-	-	-	580.0
74362	Filtering and purifying machinery	-	-	367.5	64.28	-	-	-	-	-	-	431.78
74426	Conveyors, mechanical	-	-	-	128.2	-	-	-	-	-	-	128.2
74525	Weighing machinery	-	108.0	-	-	31.5	-	-	-	-	-	139.5
	GRAND TOTAL		108.0	3334.2	550.03	306.65	-	-	-	-	-	4298.98
	Out of which Plate Fabricated Equipment		-	3080.5	190.28	-	-	-	-	-	-	3270.78
	Machines		108.0	253.7	359.75	306.65	-	-	-	-	-	1028.10

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EREGLI NEW SUGAR PLANT

CAPACITY: 6000 T/D
 DATE OF COMMISSIONING: 1986
 PLANT SITE:

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 *figures in tons/ values in 1000 U.S \$*

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	-	97.0	171.5	-	-	-	-	-	268.5
72726	Sugar manufacturing machinery	-	-	-	1234.0P	25.3M	319.5M	-	-	-	-	1973.3
72831	Screens, wet classifier and separators	-	-	-	74.4	-	-	-	-	-	-	74.4
74132	Kilns	-	-	150.0	150.0	24.0	-	-	-	-	-	324.0
74161	Heat exchanger	-	-	-	1047.65	-	-	-	-	-	-	1047.65
74162	Evaporators	-	-	-	855.0	-	-	-	-	-	-	855.0
74163	Furnaces	-	-	-	80.0	-	-	-	-	-	-	80.0
74164	Dryers	-	-	-	45.0	-	-	-	-	-	-	45.0
74220	Centrifugal pumps	-	-	-	-	325.0	-	-	-	-	-	325.0
74230	Rotary pumps	-	-	-	-	22.1	-	-	-	-	-	22.1
74312	Vacuum pumps	-	-	-	55.0	-	-	-	-	-	-	55.0
74351	Centrifuges	-	-	-	2320.0	-	-	-	-	-	-	2320.0
74362	Filtering and purifying machinery	-	-	-	532.2	210.06	-	-	-	-	-	742.26
74426	Conveyors, mechanical	-	-	-	-	247.0	-	-	-	-	-	247.0
74525	Weighing machinery	-	-	125.0	-	-	43.0	-	-	-	-	169.0
	GRAND TOTAL	-	-	276.0	6884.75	1024.96	362.5	-	-	-	-	8548.21
	Out of which Plate Fabricated Equipment	-	-	-	6410.85	405.56	-	-	-	-	-	6816.41
	Machines	-	-	276.0	473.90	619.40	362.5	-	-	-	-	1731.80

Annexure: XXII

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ERCIŞ NEW SUGAR PLANT

CAPACITY: 3000 T/D
DATE OF COMMISSIONING: 1986
PLANT SITE: ...

SUMMARY OF CAPITAL GOODS DEMANDS 1981-1990 (figures in tons / values in 1000 U.S. \$)

SITC CODE	BASIC MACHINE NAME	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
69211	Reservoirs etc. of steel	-	-	-	-	-	71.6	119.2	-	-	-	190.8
72726	Sugar manufacturing machinery	-	-	-	-	-	650.8	12.05	227.95	-	-	1148.4
72831	Screens, wet classifier and separators	-	-	-	-	-	-	37.2	-	-	-	37.2
74132	Kilns	-	-	-	-	-	150.0	12.0	-	-	-	162.0
74161	Heat exchanger	-	-	-	-	-	672.4	-	-	-	-	672.4
74162	Evaporators	-	-	-	-	-	495.0	-	-	-	-	495.0
74163	Furnaces	-	-	-	-	-	50.0	-	-	-	-	50.0
74164	Dryers	-	-	-	-	-	30.0	-	-	-	-	30.0
74220	Centrifugal pumps	-	-	-	-	-	-	205.2	-	-	-	205.2
74230	Rotary pumps	-	-	-	-	-	-	13.4	-	-	-	13.4
74312	Vacuum pumps	-	-	-	-	-	15.0	-	-	-	-	15.0
74351	Centrifuges	-	-	-	-	-	580.0	-	-	-	-	580.0
74362	Filtering and purifying machinery	-	-	-	-	-	367.5	64.28	-	-	-	431.78
74426	Conveyors, mechanical	-	-	-	-	-	-	128.2	-	-	-	128.2
74525	Weighing machinery	-	-	-	-	108.0	-	-	31.5	-	-	139.5
	GRAND TOTAL	-	-	-	-	108.0	3329.0	592.43	269.45	-	-	4298.88
	Out of station	-	-	-	-	-	3075.3	195.48	-	-	-	3270.78
	Plate Fabricated Equipment	-	-	-	-	-	253.70	396.95	269.45	-	-	1020.10
	Machines	-	-	-	-	108.0	253.70	396.95	269.45	-	-	1028.10

13881

(2 of 2)

**DEVELOPMENT OF
CAPITAL GOODS INDUSTRIES**

DP/TUR/76/084

Technical Report No. X: Demand for Capital Goods for
Sugar Industry

Vol. II

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

RESTRICTED

May 1982

English

DEVELOPMENT OF
CAPITAL GOODS INDUSTRIES
DP/TUR/76/034
TURKEY

Technical report No.10: Demand for Capital Goods for Sugar Industry
Vol.II

Prepared for the Government of Turkey
by the United Nations Industrial Development Organization
acting as executing agency for the United Nations Development Programme

Based on the work of
Capital Goods Development Project Team in Turkey

United Nations Industrial Development Organization
Vienna

This report has not been cleared with the United Nations Industrial Development Organization which does not, therefore, necessarily share the views presented.

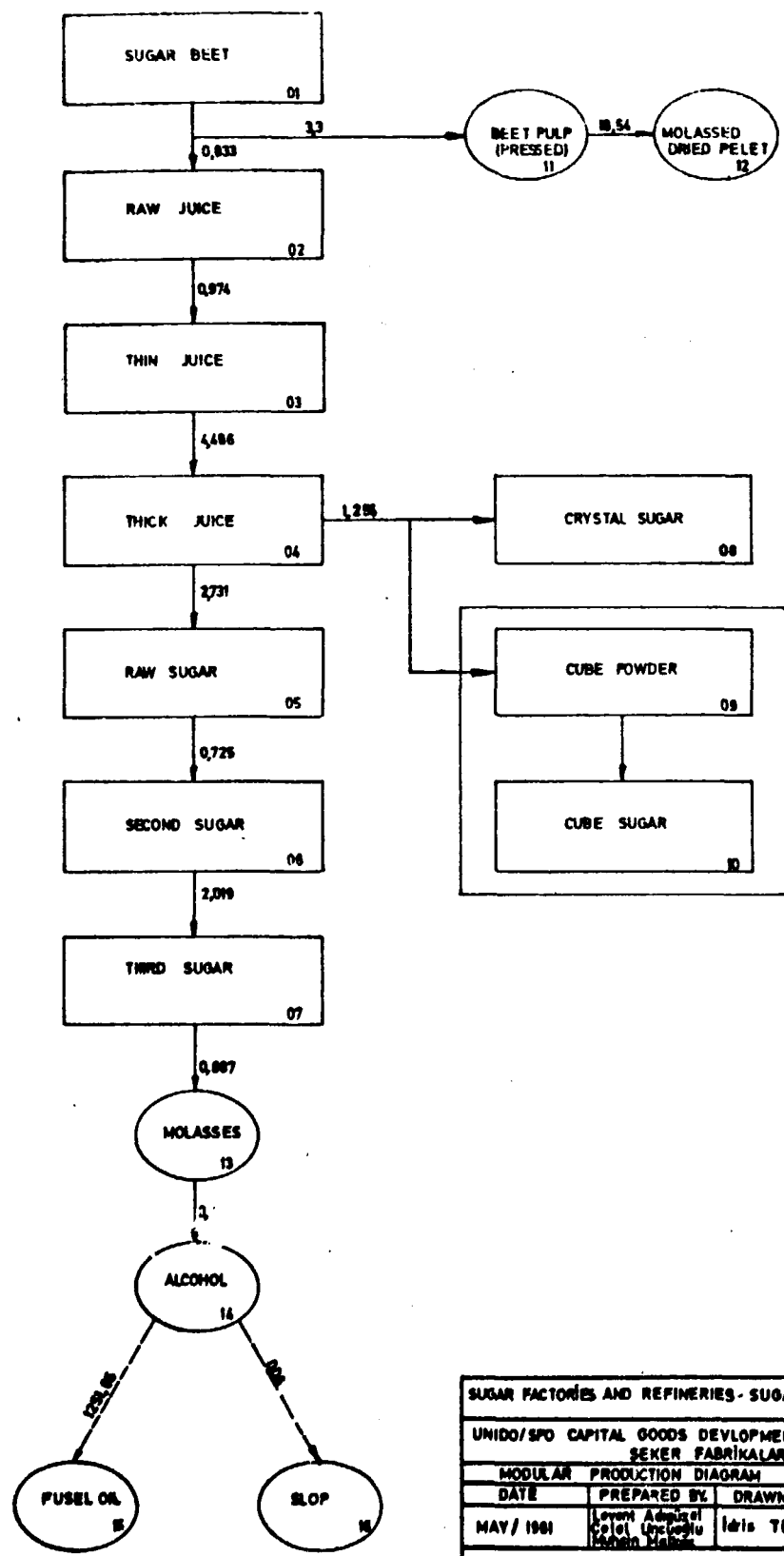
UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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SUGAR FACTORIES AND REFINERIES - SUGAR			INDUSTRY CO
			318-1
UNIDO/SPO CAPITAL GOODS DEVELOPMENT PROJECT			
SEKER FABRIKALARI			
MODULAR PRODUCTION DIAGRAM			
DATE	PREPARED BY	DRAWN BY	CONTROLLED BY
MAY/1981	Levent Adiguzel Celal Uygur Kurban Nispet	Idris Torkoglu	Emel Oyman Lutfun Engür

UNDO/SPD (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

APPROVED BY

CHECKED BY

UNDO/EXPT

UNDO/CTA

INDUSTRY ACTIVITIES CHART

INDUSTRY CODE 3110-1

NAME: SUGAR FACTORIES

AND REFINERIES

PRODUCT CODE	PRODUCT	TECHNOLOGY CODE	TECHNOLOGY NAME	EQUIPMENT	CAPACITY RANGE	CAPACITY CODE
02	RAW JUICE	1	DIFFUSION PROCESS	DIFFUSION APPARATUS	70-150 TONS/HOUR	1 2 3 120 TONS/HOUR 150 180
03	THIN JUICE	1	PURIFICATION PROCESS	CARBONATORS	0 TONS/HOUR	1 2 3 20 TONS/HOUR 120 150
04	THICK JUICE	1	EVAPORATION	WAIN STEAM EVAPORATORS	0.1-0.2 TONS/HOUR	1 2 3 60 TONS/HOUR 90 120
05	RAW SUGAR	1	CRYSTALLIZATION METHOD	CENTRIFUGES	1.0-2.0 TONS/HOUR	1 2 3 7.0 TONS/HOUR 10.0 13.0
06	SECOND SUGAR	1	" "	CENTRIFUGES	1.0-1.5 TONS/HOUR	1 2 3 12.0 TONS/HOUR 15.0 18.0
07	THIRD SUGAR	1	" "	CENTRIFUGES	0.5-1.0 TONS/HOUR	1 2 3 6.0 TONS/HOUR 8.0 10.0
08	CRYSTAL SUGAR	1	" "	CENTRIFUGES	1.0-2.0 TONS/HOUR	1 2 3 25.0 TONS/HOUR 30.0 35.0
09	CUBE POWER	1	" "	CENTRIFUGES	1.0-1.5 TONS/HOUR	1 2 3 7.0 TONS/HOUR 9.0 11.0
10	CUBE SUGAR	1	ROLLING METHOD	MESSING and DRYING MACHINES	0.5-2.0 TONS/HOUR	1 2 3 1.0 TONS/HOUR 1.5 2.0
11	BEST PULP	1	PRESSING METHOD	PULP PRESSSES	10/15-25 TONS/HOUR	1 2 3 10.0 TONS/HOUR 15.0 25.0
12	HOLLASSED SUGAR PELTS	1	DRYING METHOD	DRYING TUMBLERS	1.0-10.0 TONS/HOUR	1 2 3 1.0 TONS/HOUR 10.0 10.0
13	HOLLASSED	1	CENTRIFUGES METHOD	CENTRIFUGES	1.0-2.0 TONS/HOUR	1 2 3 7.0 TONS/HOUR 9.0 11.0
14	ALCOHOL	1	DISTILLING METHOD	DISTILLATION COLUMNS	0.0-2.0 TONS/HOUR	1 2 3 1.0 TONS/HOUR 1.0 2.0
15	FUELL-OIL	1	DISTILLING METHOD	DISTILLATION COLUMNS	0.01-0.02 TONS/HOUR	1 2 3 0.02 TONS/HOUR 0.01 0.01
16	SLOP	1	DISTILLING METHOD	DISTILLATION COLUMNS	0.0-10 TONS/HOUR	1 2 3 3.0 TONS/HOUR 1.0 1.0

SEKER PANCARI-HAM SERBET

Sugar Beet-Raw juice

SUGAR BEET
01

30

1

2

40

3

60

4

5

6

61

61

7

62

31

8

63

10

62

64

11

65

RAW
JUICE
02

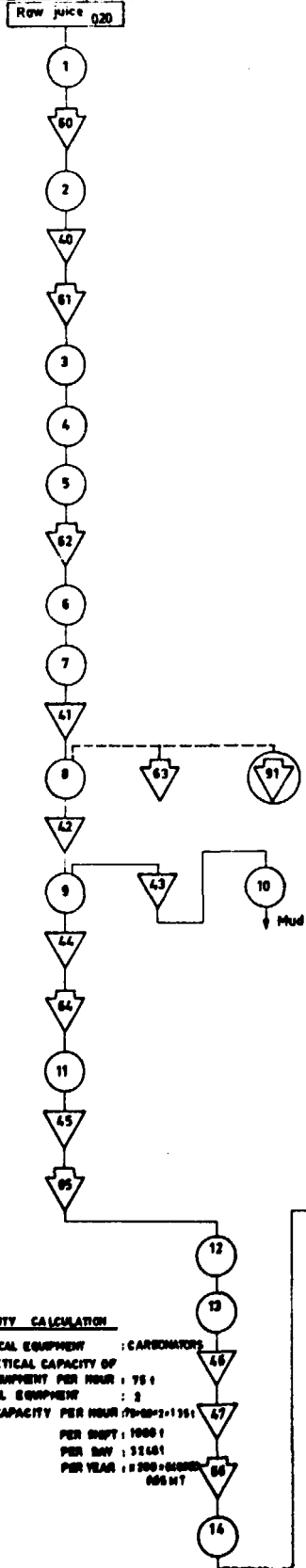
CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT : DIFFUSER.
 DESIGN THEORETICAL CAPACITY OF
 THE CRITICAL EQUIPMENT PER HOUR : 75 t/h
 NO. OF CRITICAL EQUIPMENT : 2
 DESIGN-LINE CAPACITY PER HOUR : $75 \times 2 = 150$ t/h
 PER SHIFT : $150 \times 8 = 1200$ t
 PER DAY : $1200 \times 3 = 3600$ t
 PER YEAR : $3600 \times 300 = 1080000$
 = 1.08 mt

NO	ACTIVITY CODE	MACHINE CODE	MACHINE NAME	IND	PROD	TECH	CAP
				318-102	1	3	
30	74525026611221		WAGON AND TRUCK WEIGHING MACHINES				6
1	727260155216201		AUTOMATIC UNLOADING MACHINE				2
2	727261080011701		WAGONS AND TRUCKS UNLOADING SYSTEM BY WATER				1
3	72726026002391		LEAF AND STONE CATCHER MACHINE				1
60	74220014281324		BEET PUMPS				2
4	728313840813231		WATER AND MUD SEPARATOR				1
5	72726036402421		BEET WASHING MACHINES				1
6	727260462021201		TAIL CATCHER				1
61	7422614330391		BEET TRANSPORTERS				1
41	6821102100121		BEET STORAGE TANK				1
7	72726054002361		BEET CUTTING MACHINE				5
62	74226013301291		PULP CONVEYORS				2
31	74525021011712		WEIGHING MACHINES				2
8	74163998059321		SCALDING TROUGH				2
63	74220016192121		COSSETT PUMP				2
10	72722505602721		DIFFUSER				2
9	743610312121		HEATERS FOR CIRCULATION JUICE				3
42	68211071132121		RAW JUICE STORAGE TANK				2
64	742261432013941		HEUSEL TRANSPORTERS				2
11	74362613000321		PULP PRESSES				10
64	742261432013931		PRESSED PULP CONVEYORS				2

UNIDO/SPO (SEKER)		
CAPITAL GOODS DEVELOPMENT DIAGRAM		
MODULAR PROCESS	FLOW	DIAGRAM
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar Factories and Refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
April 1982	ni88/88	
PREPARED BY	DRAWN BY	CHECKED BY
Levent Adiguzel Celil Uncueglu	Idris TURKOGLU	Erol Oyman Ustun Engir
CHECKED BY		APPROVED BY
UNIDO/Expert		UNIDO/CTA

HAM ŞERBET-SULU ŞERBET
Raw juice- Thin juice

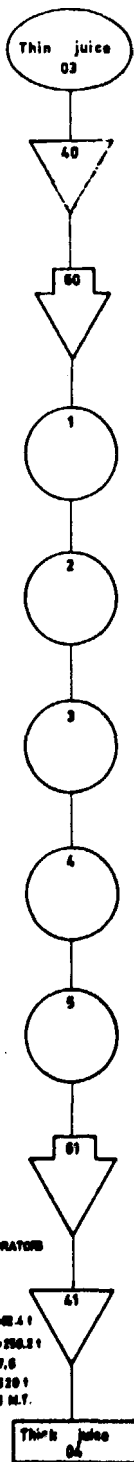


ACTIVITY CODE		IND	PROD	TEC	CAP
No	Machine code	Machine Name	Quan		
1	727260650021611	Raw juice sand	2		
60	742200142221211	Thin juice pumps	2		
2	727260650021611	Circulation juice sand	2		
40	692110711321211	Thin juice tank	1		
61	742200142221211	Thin juice pumps	2		
3	741610142112211	Heaters for thin juice	2		
4	727265154023211	Preliming unit	2		
5	727265161021211	Secondary liming first unit	1		
62	742200142221211	Liming thin juice pump	2		
6	741610142112211	Heaters for liming thin juice	2		
7	727265154123211	Secondary liming last unit	2		
41	692110711321211	Circulation juice tank	2		
8	727260765023211	First saturation	2		
42	692110711321211	Level adjusting tank	2		
9	743620451004211	Thickener	1		
43	692110710311211	Mud tank	1		
10	743624150503211	Rotary filters	3		
44	692110710311211	Clear juice tank	1		
64	742200152221211	Clear juice pumps	2		
11	743622141002211	String cage filters	2		
45	692110710311211	Purified juice tank	3		
65	742200142121211	Pumps before heaters	1		
12	741610142112211	Second saturators heaters	2		
13	727260764022211	Second saturation apparatus (carbonators)	2		
91	741320325106211	Lime kiln	2		
66	743122381211211	Air pumps	3		
46	692110711321211	Level adjusting tank	1		
47	692110710311211	Mud juice tank	1		
14	743622141002211	String cage filter	2		
15	743622141002211	Sulphurous string cage filter	2		
48	692110710311211	Thin juice tank	1		
67	742200143221211	Thin juice pumps	1		
17	741610142112211	Heaters for thin juice	3		
16	741320510011611	Sulphur kiln	1		

CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CARBONATORS
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 75 t
 NO OF CRITICAL EQUIPMENT : 3
 DESIGN LINE CAPACITY PER HOUR (9000*2*135) : 2400 t
 PER SHFT : 1000 t
 PER DAY : 3240 t
 PER YEAR : 1190000 t
 005 NT

UNIDO / SPO (ŞEKER)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar Factories and Refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER
April 1982	NIŞE/ŞEKER	SHIFT (DAY)
PREPARED BY	DRAWN BY	CHECKED BY
Levent Adıgüzel Celal Uncuoğlu	İdris TÜRKÖBLÜ	Erol Oyman Üstün Engür
CHECKED BY	APPROVED BY	
UNIDO/Expert	UNIDO / CTA	

SULU ŞERBET-KOYU ŞERBET
Thin juice - Thick juice

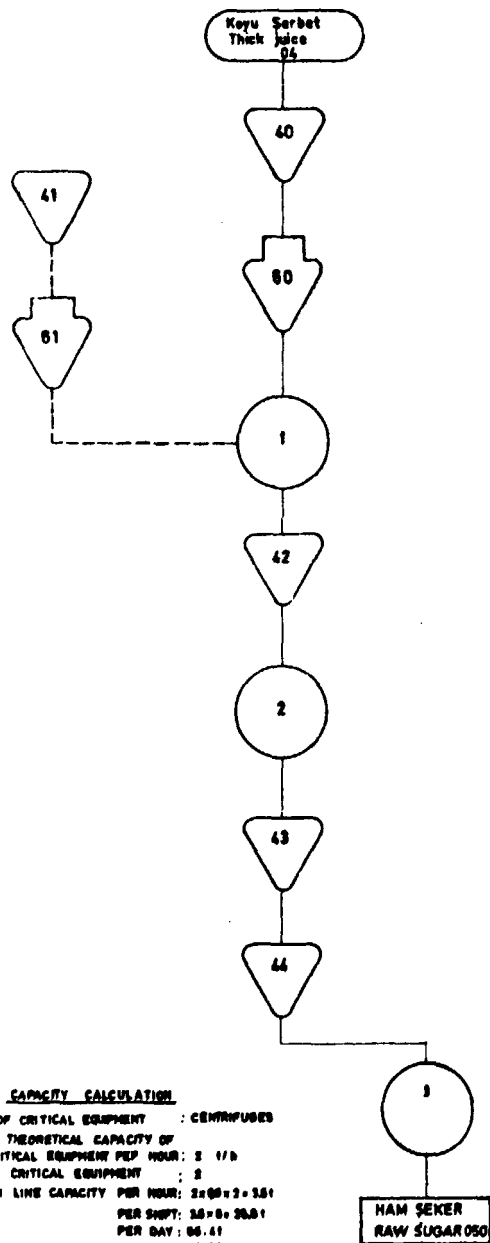


CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : EVAPORATORS
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 0.17
 NO OF CRITICAL EQUIPMENT : 4
 DESIGN LINE CAPACITY PER HOUR : 0.68 MT.
 PER SHFT : 24.00 HRS.
 PER DAY : 777.6
 PER YEAR : 100000
 0.100 MT.

No.	Machine Code	Machine Name	Quan	Activity Code			
				IND	PROD	TEC	CAP
40	69211071031211	Thin juice tank	1	378-1	04	1	3
60	742200143221211	Thin juice pumps	1				
1	741610143213211	Heaters for thin juice	3				
2	741620152733211	Multi-stage evaporators	4				
61	742200133221211	Thick juice pumps	1				
41	692110711321211	Thick juice storage tank	1				

UNIDO/SPO (ŞEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar Factories and Refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHFT (DAY)
April 1962	W&A/S&L	
PREPARED BY	DRAWN BY	CHECKED BY
Levent Adıgüzel Celâl Uncoğlu	İdris TÜRKÖBLÜ	Erol Gyman Üstün Engür
CHECKED BY	APPROVED BY	
UNIDO/Expert	UNIDO/CTA	

KOYU ŞERBET - HAM ŞERBET
Thick juice - Raw Sugar

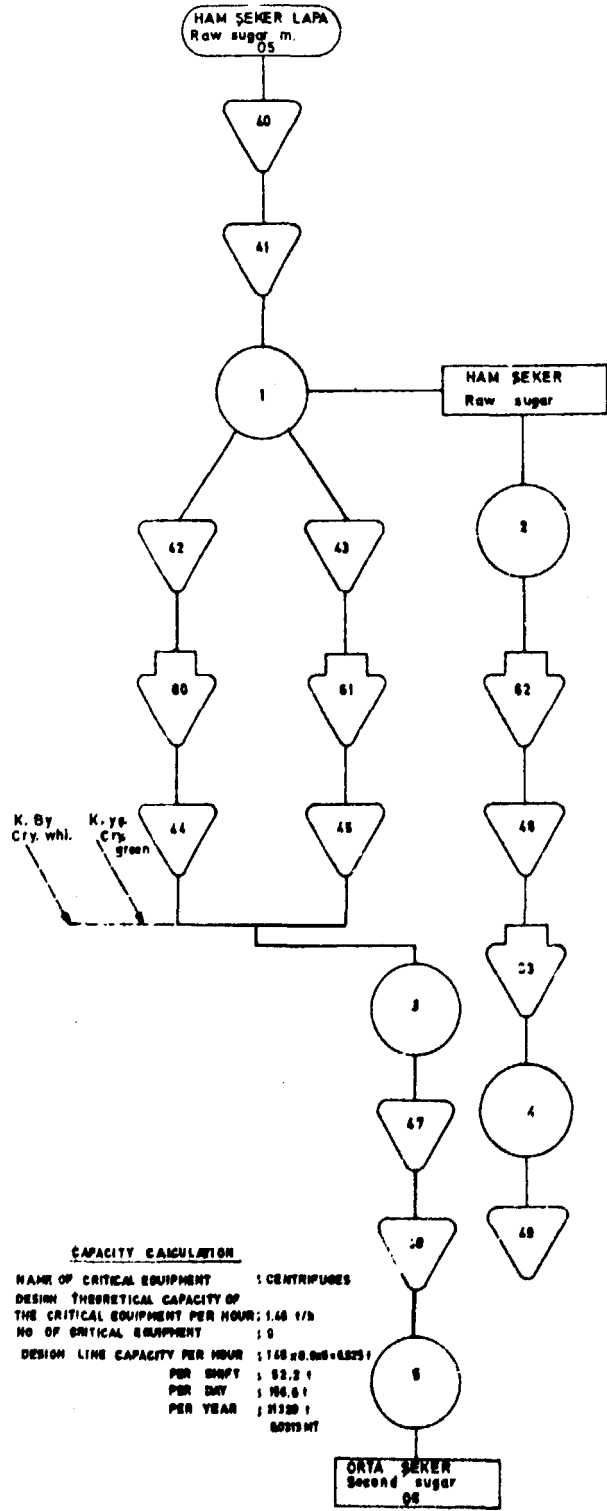


CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 2 1/2
 NO OF CRITICAL EQUIPMENT : 2
 DESIGN LINE CAPACITY PER HOUR : 2x2.5 = 5.0
 PER SHFT : 2x8 = 16.0
 PER DAY : 66.4
 PER YEAR : 17290
 68173 MT

Activity Code		IND.	PROYTEK	CAP
		3118-1	05	1 3
No.	Machine Code	Machine Name	Quan	
40	692110711221211	Thick juice storage tank	1	
60	742200133221211	Thick juice pumps	2	
1	743622341102211	Filtering apparatus	2	
41	692110711221211	Kiselgure storage tank	1	
61	742200142721211	Kiselgure pump	1	
42	692110710311211	Thick juice storage tank	3	
2	741621122313211	Raw sugar vucuum pane	1	
43	741610333063211	Raw sugar refrigerators	1	
44	692110911323211	Distribution trough	1	
3	743511010021521	Raw sugar centrifuges	2	

UNIDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar Factories and Refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER, SHFT (DAY)
April 1982	Nicos/mod.	
PREPARED BY	DRAWN BY	CHECKED BY
Levent Adiguzel Cetaj Unueglu	Idris TURKOBLU	Erol Oyman Ustun Engur
CHECKED BY	APPROVED BY	
UNIDO/Expert	UNIDO/CTA	

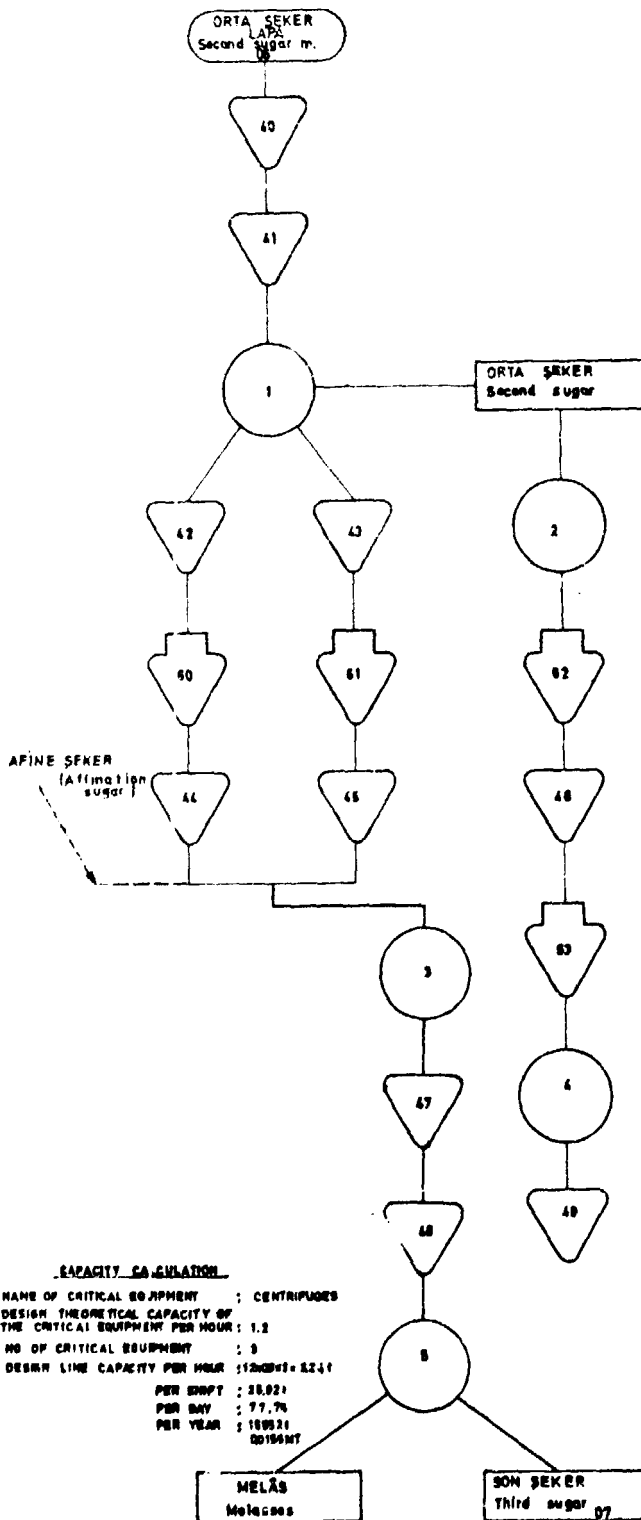
HAM ŞEKER - ORTA ŞEKER
Raw sugar — Second sugar



ACTIVITY CODE	IND	PROTEC	CAP
	311B-06	1	3
NO	MACHINE CODE	MACHINE NAME	QUAN
40	74161033063211	Raw sugar refrigerators	1
41	69211091323211	Distribution trough	1
1	74351100021521	Raw sugar centrifuges	2
42	692110710311211	Raw green syrup storage tank	1
43	692110710311211	Raw white syrup storage tank	1
40	742200132221211	Pumps for raw green syrup	1
41	742200132221211	Pumps for raw white syrup	1
44	692110710311211	Raw green syrup storage tank	1
45	692110710311211	Raw white syrup storage tank	1
3	74621122313211	Il. Sugar vacuum pans	3
47	74161033063211	Second sugar refrigerators	2
48	69211091323211	Distribution trough	1
5	74351100021511	Second sugar centrifuges	5
2	692110710311211	Raw sugar melting tank	1
42	742200132221211	Pump for melted raw sugar	1
46	692110711321211	Liquorand syrup storage tank	3
63	742200132221211	Liquorand pumps	2
4	743623321221211	Candle filter	2
49	692110710311211	Liquorand syrup storage tank	1

UNIDO/SPO (ŞEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHFT (DAY)
April 1962	NİŞAN/ŞEKER	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIĞUZEL Cetel UNCUOĞLU	Behaeddin SEYHAN	Erol ÖYMAN Osman ERGÖR
CHECKED BY		APPROVED BY
UNIDO / EXPERT		UNIDO / CTA

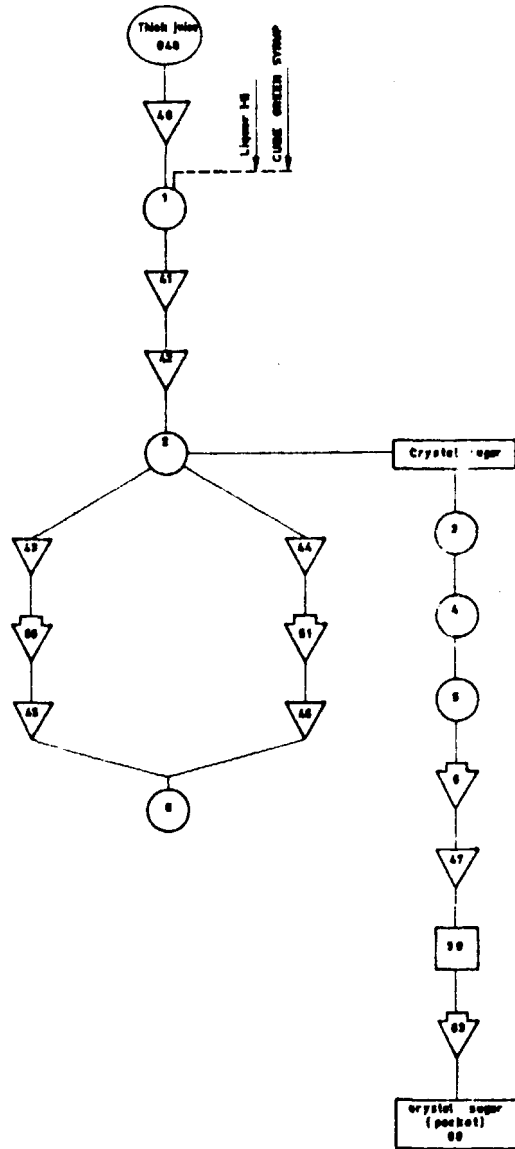
ORTA ŞEKER -- SON ŞEKER
Second sugar -- Third sugar



NO	MACHINE CODE	MACHINE NAME	ACTIVITY CODE		
			INC	PROPT	CAP
40	74161033063211	Second sugar m. refrigerator	3	1	3
41	892110911323211	Distribution trough			
1	743511010021521	Second sugar centrifuges			
42	892110710311211	Second green syrup storage tank			
43	892110710311211	Second white syrup storage tank			
80	742200132221211	Pumps for second green syrup			
81	742200132221211	Pumps for second white syrup			
44	892110710311211	Second green syrup storage tank			
45	892110710311211	Second white syrup storage			
3	741621122313211	Third sugar vacuum pans			
47	741610333473211	Third sugar m. refrigerators			
46	892110911323211	Distribution trough			
5	743511010021521	Third sugar centrifuges			
2	892110710311211	Second sugar melting tank			
82	742200132221211	Pumps for melted second sugar			
48	892110711321211	Liquorand syrup storage tank			
63	742200133221211	Liquorand syrup pumps			
4	743623321221211	Candle filter			
49	892110710311211	Liquorand syrup storage tank			

UNIDO/SPO (SEI) 071		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
April 1982	N. G. 001/50K	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGÖZÜL cated UNCUCALU	Bahadır SEYHAN	Erol SEYHAN Göknur ENGİN
CHECKED BY	APPROVED BY	
UNIDO/EXPERT	UNIDO/CTA	

KOYU ŞERBET - KRISTAL ŞEKER
Thick juice - Crystal sugar



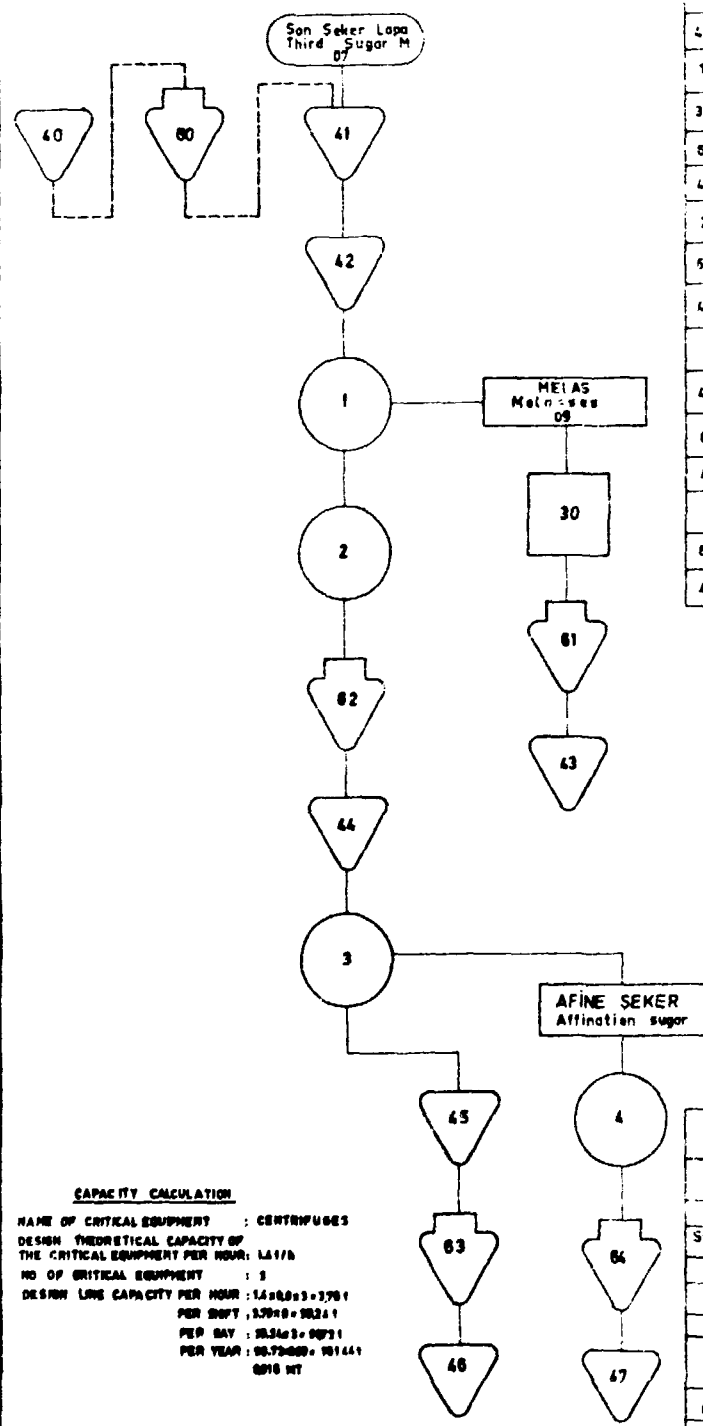
No.	Machine code	Machine name	ACTIVITY CODE			
			IND	PROF	TEC	CAP
40	69210710311211	Thick juice storage tank	3118-1	08	1	3
1	74162112231211	Crystal sugar vacuum pans				
41	741610333063211	Crystal sugar m. refrigerator				
42	69211091323211	Crystal sugar m. distribution trough				
2	743511010021521	Crystal sugar centrifuges				
43	69210710311211	Crystal sugar's green syr stor tank				
44	69210710311211	Crystal sugar's white syr stor tank				
60	742200132221211	Pump for crystal sugar's green syr				
61	742200132221211	Pump for crystal sugar's white syr				
45	69210710311211	Crystal sugar's green syr. stor tank				
46	69210710311211	Crystal sugar's white syr. stor tank				
6	74162112231211	Second sugar vacuum pans				
3	727260340021211	Crystal sugar shaker				
4	727260940021211	Crushers				
8	741643040033211	Drying trommels				
62	744265114011911	Crystal sugar elevators				
47	692110710011211	Crystal sugar storage tank				
30	745259401011111	Tumba scale				
63	744260112021911	Transportation band				

CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 1228 t
 NO OF CRITICAL EQUIPMENT : 7
 DESIGN LINE CAPACITY PER HOUR : 12 x 80% x 12.10 t
 PER SHIFT : 67.2 t
 PER DAY : 261.6 t
 PER YEAR : 68770 t
 0.866 MT

UNIDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar Factories and Refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER. (DAY)
April 1982	Niğde/Ank.	
PREPARED BY	DRAWN BY	CHECKED BY
Levent Adiguzel Celal Uncuoğlu	Idris TÜRKÖBLÜ	Erol Oymen Üstün Engür
CHECKED BY		APPROVED BY
UNIDO/Expert		UNIDO/CTA

SON ŞEKER - MELAS
Third Sugar - Molasses



No	Machine Code	Machine Name	IND PROSP REC CAP	
			1	2
41	743510333473211	Third sugar centrifuges		8
40	692110710311211	Water tank for refrigeration third sugar		1
60	742200132121211	Refrigeration water pumps		1
42	692110911323211	Distribution trough		1
1	743511010021521	Third sugar centrifuges		3
30	745250420111911	Weighing machine for molasses		1
61	742300032621211	Molasses pump		2
43	692110720311211	Molasses tank		1
2	692110710311211	Third sugar melting tank		1
52	742300031621211	Third sugar melting tank pumps		2
44	692110911323211	Affination distribution trough		1
3	743511010021521	Affination sugar centrifuges		2
45	692110710311211	Affination juice tank		1
63	742200132221211	Affination juice pump		1
46	692110710311211	Affination tank		1
4	692110710311211	Affination sugar melting tank		1
64	742200132221211	III. Liquor pump		1
47	692110711323211	III. Liquor tank		1

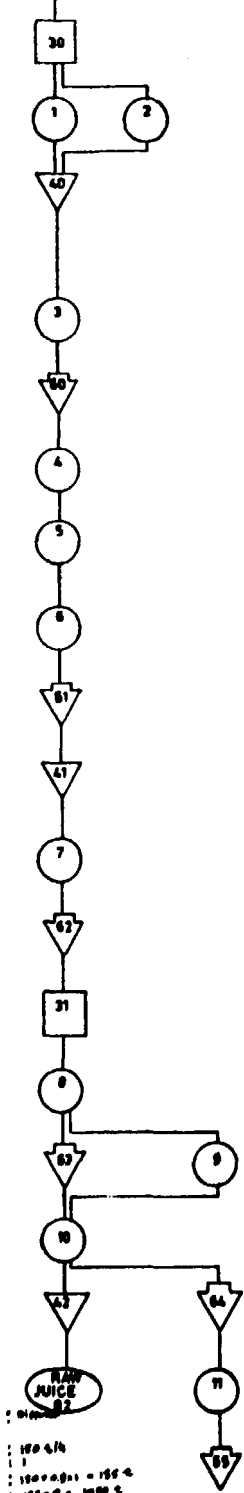
CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR: 14178
 NO OF CRITICAL EQUIPMENT : 3
 DESIGN LINE CAPACITY PER HOUR : 14178 x 3 = 3751
 PER SHIFT : 3751 x 3 = 11253
 PER DAY : 11253 x 24 = 270072
 PER YEAR : 270072 x 300 = 81021600
 81021600 KG

UNIDO/SPO (SARER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar Factories and Refineries	SUGAR	SAR BEET
DATE	SAMPLE PLANT	CAPACITY PER
April 1987	MİTOK / Sar.	(DAY)
PREPARED BY	DRAWN BY	CHECKED BY
Levent Adigüzel Celal Unçrağlı	Yüks. TÜRKÖBLÜ	Erol Öymen Uzun Engür
CHECKED BY	APPROVED BY	
UNIDO/Expert	UNIDO/CTA	

SEKER PANCARI - NAM SERBET

Sugar Beet - Raw Juice

SUGAR BEET
81



CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT
 DESIGN THEORETICAL CAPACITY OF
 THE CRITICAL EQUIPMENT PER HOUR
 NO. OF CRITICAL EQUIPMENT
 DESIGN LINE CAPACITY PER HOUR
 " SHIFT
 " DAY
 " YEAR

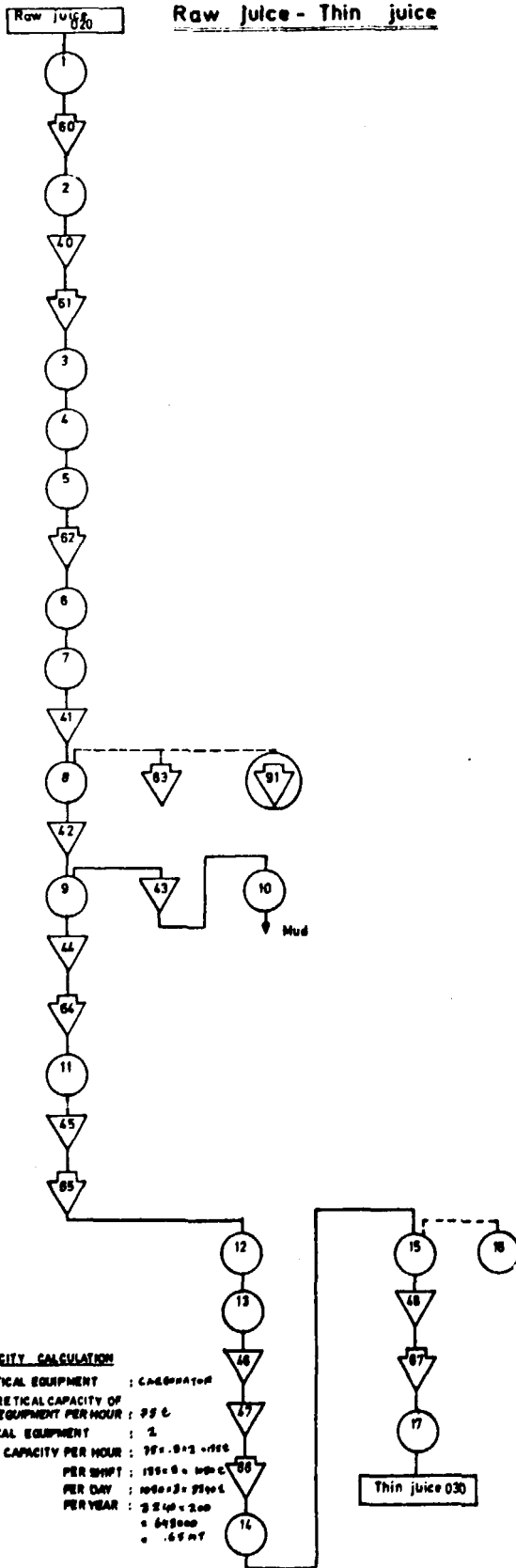
100 t/h
 100 t/h
 100 t/h
 100 t/h
 100 t/h
 100 t/h

NO	ACTIVITY CODE	MACHINE CODE	MACHINE NAME	IND PROD TECH CAP		
				318-1	02	1
30	74525026412271		WAGON AND TRUCK WEIGHING MACHINES			6
1	727260155215801		AUTOMATIC UNLOADING MACHINE			2
2	727261080011801		WAGONS AND TRUCK UNLOADING SYSTEM BY WATER			1
3	727260260023811		LEAF AND STONE CATCHER MACHINE			1
60	742200142012241		BET PUMPS			2
4	728913040013231		WATER AND MUD SEPARATOR			1
5	727260364024811		BET WASHING MACHINES			1
6	727260482021801		TAIL CATCHER			1
61	744261433013911		BET TRANSPORTERS			1
41	682110210012211		BET STORAGE TANK			1
7	727260540023811		BET CUTTING MACHINE			5
62	744260133012911		PULP CONVEYORS			2
31	745250270111712		WEIGHING MACHINES			2
8	74839980593211		SCALDING TROUGH			2
63	7220014921211		COSETT PUMP			2
10	727260566028211		DIFFUSER			1
9	741810131211211		HEATERS FOR CIRCULATION JUICE			3
42	682110711321211		RAW JUICE STORAGE TANK			2
64	744254132013941		HELICAL TRANSPORTERS			2
11	743626120003211		PULP PRESSES			10
64	744261432013931		PRESSED PULP CONVEYORS			2

UNIDO / SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR BEET PROCESSING	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY):
APRIL / 1985	GARIPAN SA	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGUZEL	Yon ARSLAN	Erol OYMAN
Colat UNCUOBLU		Ustun ENBUR
CHECKED BY	APPROVED BY	
UNIDO / Expert	UNIDO / CTA	

HAM ŞERBET - SULU ŞERBET

Raw Juice - Thin juice



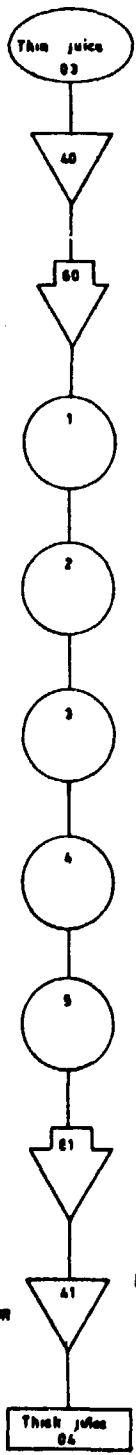
CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CALCULATOR
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 99.6
 NO OF CRITICAL EQUIPMENT : 1
 DESIGN LINE CAPACITY PER HOUR : 99.6 x 1 = 99.6
 PER SHIFT : 198 x 0.5 = 99.6
 PER DAY : 198 x 3 = 595.8
 PER YEAR : 595.8 x 200 = 119160
 = 119160 MT

NO	MACHINE CODE	MACHINE NAME	ACTIVITY CODE		CAP
			IND	PROP	
1	72726065002160	Raw juice sand catcher	3	1	2
60	74220014222120	Thin juice pumps	3	1	2
2	72726065002160	Circulation juice sand catcher	3	1	2
40	69211071132120	Thin juice tank	3	1	1
61	7422004177120	Thin juice pumps	3	1	2
3	74161014211221	Heaters for thin juice	3	1	2
4	72726516402321	Preliming unit	3	1	2
5	72726516102121	Secondary liming test unit	3	1	1
62	74220014222121	Liming thin juice pumps	3	1	2
6	74161014321321	Heaters for liming thin juice	3	1	2
7	72726515412321	Secondary liming last unit	3	1	2
41	69211071132121	Circulation juice tank	3	1	2
8	72726076502321	First saturation	3	1	2
42	69211071132121	Level adjusting tank	3	1	2
9	74362045100421	Thickener	3	1	1
43	69211071132121	Mud tank	3	1	1
10	74362415050321	Rotary filters	3	1	3
44	69211071031121	Clear juice tank	3	1	1
64	74220015222121	Clear juice pumps	3	1	2
11	74362214100221	string cage filters	3	1	2
45	69211071031121	Purified juice tank	3	1	3
65	74220014212121	Pumps before heater	3	1	1
12	74161014211221	Second saturators heaters	3	1	2
13	72726076402221	Second saturation apparatus (Calkwater)	3	1	2
91	74132032510621	lime kiln	3	1	2
66	74312238121121	Air pumps	3	1	3
46	69211071132121	Level adjusting tank	3	1	1
47	69211071031121	Mud juice tank	3	1	1
14	74362214100221	String cage filter	3	1	2
15	74362214100221	Sulphurous string cage filter	3	1	2
48	69211071031121	Thin juice tank	3	1	1
67	74220014322121	Thin juice pumps	3	1	1
17	74161014321321	Heaters for thin juice	3	1	3
18	74132051001160	Sulphur kiln	3	1	1

UNIDO / SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
APRIL / 1982	CARPAMBA	
PREPARED BY	DRAWN BY	CHECKED BY
Lorent ADIÖZEL Cetel UNCUÖBLU	Behadr SEYHAN	Erol ÖTMAN Ustun ENGÜR
CHECKED BY	APPROVED BY	
UNIDO/ EXPERT	UNIDO/ CTA	

SULU SERBET - KOYU SERBET

Thin juice — Thick juice



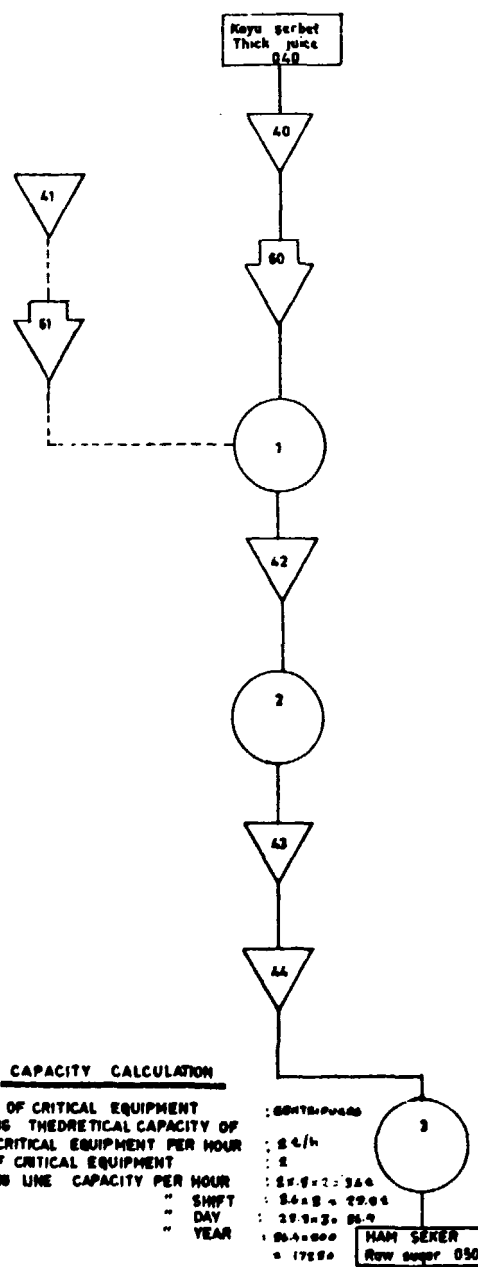
CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT
 DESIGN THEORETICAL CAPACITY OF
 THE CRITICAL EQUIPMENT PER HOUR
 NO OF CRITICAL EQUIPMENT
 DESIGN LINE CAPACITY PER HOUR
 " SHIFT
 " DAY
 " YEAR

EVAPORATORS
 9 t/h
 4
 $3 \times 9 \times 4 = 108 \text{ t/h}$
 $108 \times 4 = 432 \text{ t/h}$
 $432 \times 24 = 10368 \text{ t/day}$
 $10368 \times 300 = 3110400 \text{ t/year}$
 = 0.150 MTP

NO	Machine Code	Machine Name	Quan	ACTIVITY CODE			
				IND 3110-1	PROD 04	TEC 1	CAP 2
40	602110710311211	Thin juice tank	1				
60	742200143221211	Thin juice pumps	1				
1	742610143211211	Heaters for thin juice	3				
2	741620152732211	Multi-stage evaporators	4				
61	742200133221211	Thick juice pumps	1				
64	602110711321211	Thick juice storage tank	1				

UNIDO / SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR (SUGAR BEET)	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER
APRIL / 1982	GARSAHBA	SHIFT: (DAY)
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGUZEL	irfen ARSLAN	Erol OYMAN
Calal UNCUOGLU		Ustun ENGÜR
CHECKED BY	APPROVED BY	
UNIDO / Expert	UNIDO / CTA	

KOYU SERBET — HAM ŞEKER
 Thick juice — Raw Sugar



CAPACITY CALCULATION

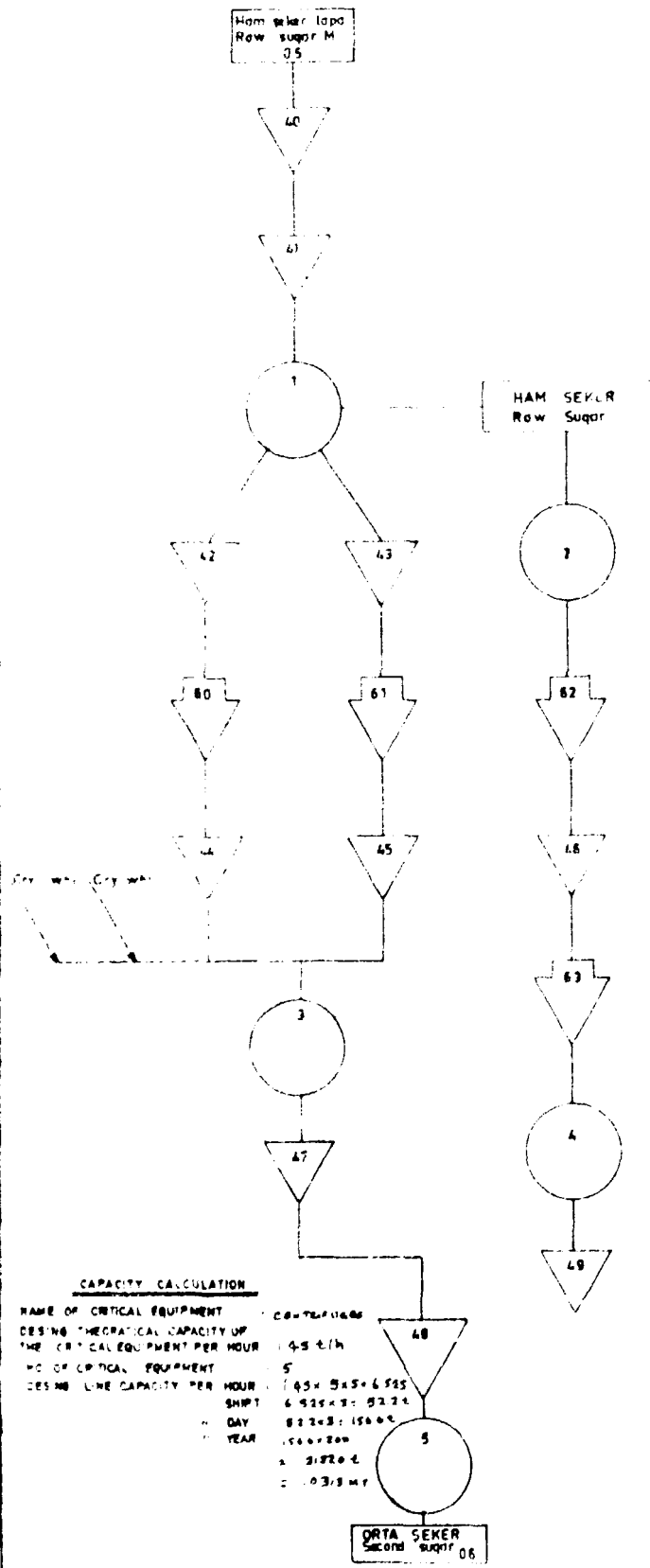
NAME OF CRITICAL EQUIPMENT : 00HT0P0000
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 24/h
 NO OF CRITICAL EQUIPMENT : 1
 DESIGN LINE CAPACITY PER HOUR : 24.0 x 2 = 48.0
 " SHIFT : 24.0 x 2 = 48.0
 " DAY : 24.0 x 2 x 08.0
 " YEAR : 24.0 x 2 x 08.0 x 365 = 17024.0
 x : 0.133 x 7.

Activity Code		IND	PROD	TECH	CAP
NO	Machine Code	210-1	05	1	2
40	00210711321211				1
60	742200133221211				2
1	743623347022211				2
41	00210711321211				1
61	74220014272211				1
42	00210710311211				3
2	741621122313211				1
43	74161033063211				1
44	00210911223211				1
3	743511010021521				2

UNIDO / SP0 (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar factories and refineries	SUGAR	SUGAR FLET
DATE	SAMPLE PLANT	CAPACITY PER
APRIL /1982	C. ARSAMER	SHIFT : (DAY) :
PREPARED	DRAW BY	CHECKED BY
Levent ADIGUZEL	irfan ASLAN	Erol OYMAN
Celal UNCUOGLU		Ustun ENGUR
CHECKED BY	APPROVED BY	
UNIDO / Expert	UNIDO / CTA	

ORTA SEKER

Raw Sugar — Second Sugar



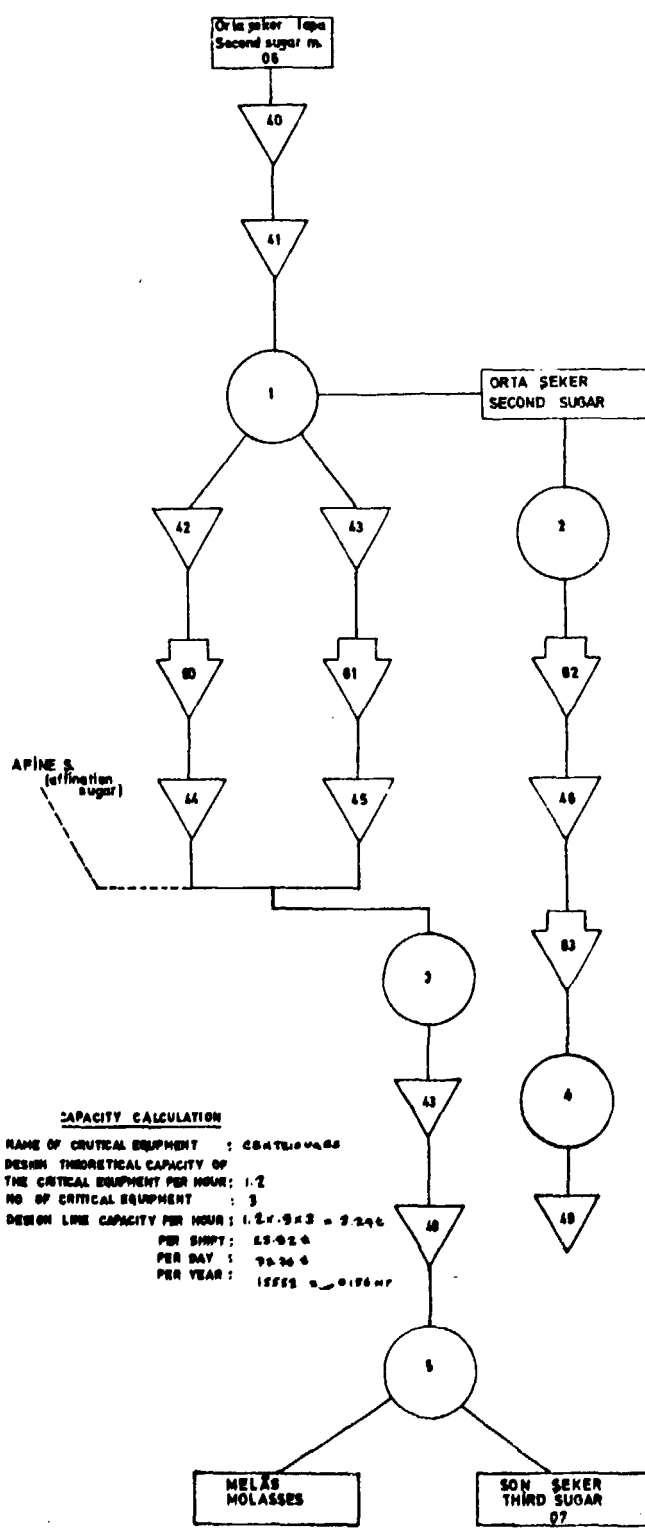
CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT: centrifuges
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR: 145 t/h
 NO. OF CRITICAL EQUIPMENT: 5
 DESIGN LINE CAPACITY PER HOUR: $145 \times 5 \times 0.6585 = 478.5375$
 PER SHIFT: $478.5375 \times 3 = 1435.6125$
 PER DAY: $1435.6125 \times 24 = 34454.7$
 PER YEAR: $34454.7 \times 332 = 11439060.4$
 = 11039 MT

ACTIVITY CODE		IND	PROP	TEC	CAP
NO	Machine Code				
40	741610333063211				
41	692110911323211				
1	743511010021521				
42	692110710311211				
43	692110710311211				
80	742200132221211				
61	742200132221211				
44	692110710311211				
45	692110710311211				
3	741621122313211				
47	741610333063211				
48	692110911323211				
5	743511010021521				
2	692110710311211				
62	742200132221211				
46	692110711321211				
63	742200132221211				
4	743623321221211				
49	692110710311211				

UNIDO / SPD (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar factories and refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
APRIL / 1982	CARFAM SA	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGÜZEL Celal UNCUOĞLU	İrfan ARSLAN	Erol OYMAN Üstün ENBUR
CHECKED BY		APPROVED BY
UNIDO / Expert		UNIDO / CTA

**ORTA SEKER - SON SEKER
SECOND SUGAR - THIRD SUGAR**

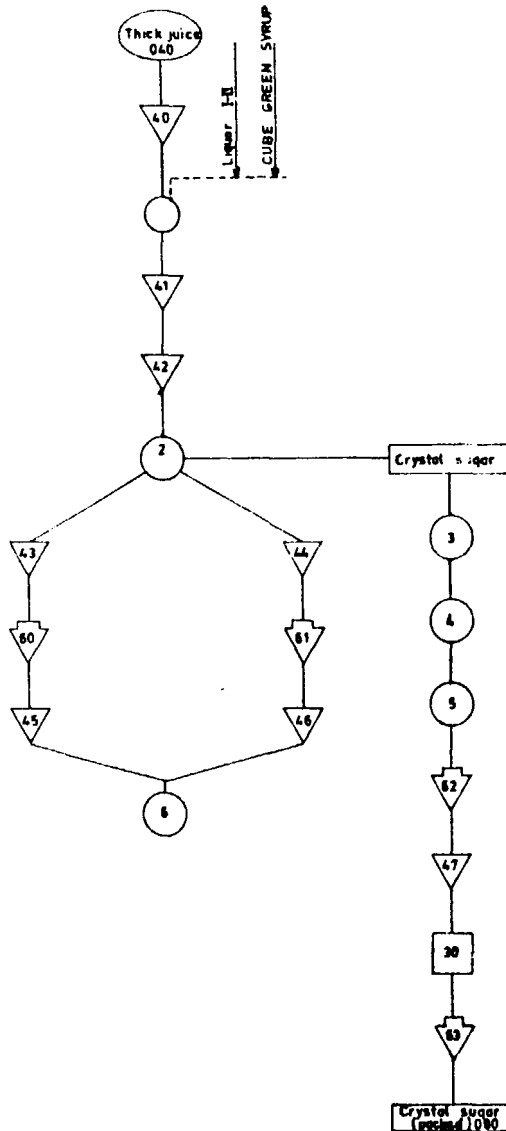


CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 1.2
 NO OF CRITICAL EQUIPMENT : 3
 DESIGN LINE CAPACITY PER HOUR : $1.2 \times 3 \times 3 = 1.08$
 PER SHIFT : 2.16
 PER DAY : 51.84
 PER YEAR : 18924.00

NO	MACHINE CODE	MACHINE NAME	IND PROPTEC		CAP
			318-1	07	
40	741610333063211	Second sugar m. refrigerator	1	2	4
41	692110911323211	Distribution trough			1
1	743511010021521	Second sugar centrifuges			5
42	692110710311211	Second green syrup storage tank			1
43	692110710311211	Second green syrup storage tank			1
80	742200132221211	Pumps for second green syrup			3
81	742200132221211	Pumps for second white syrup			1
44	692110710311211	Second green syrup storage tank			1
45	692110710311211	Second white syrup storage			1
3	741621122313211	Third sugar vacuum pans			5
47	741610333473211	Third sugar m. refrigerators			8
48	692110911323211	Distribution trough			1
5	743511010021521	Third sugar centrifuges			3
2	692110710311211	Second sugar melting tank			1
82	742200132221211	Pumps for melted second sugar			1
46	692110710311211	Liquorand syrup storage tank			1
83	742200132221211	Liquorand syrup pumps			2
4	743623321221211	Candle filter			2
49	692110710311211	Liquorand syrup storage tank			1

UNDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY SUGAR FACTORIES AND RAFFINERIES	PRODUCT SUGAR	TECHNOLOGY SUGAR BEET
DATE APRIL / 1982	SAMPLE PLANT GARGAMBA	CAPACITY PER SHIFT (DAY) 1
PREPARED BY Lewati ADIGUZEL Cetok UNCUBULU	DRAWN BY Dedder SETHAN	CHECKED BY Erol OYMAN Dutun EMUR
CHECKED BY UNDO / EXPERT	APPROVED BY UNDO / CIA	

KUYU SERRET - KRISTAL SEKER
Thick juice - Crystal sugar



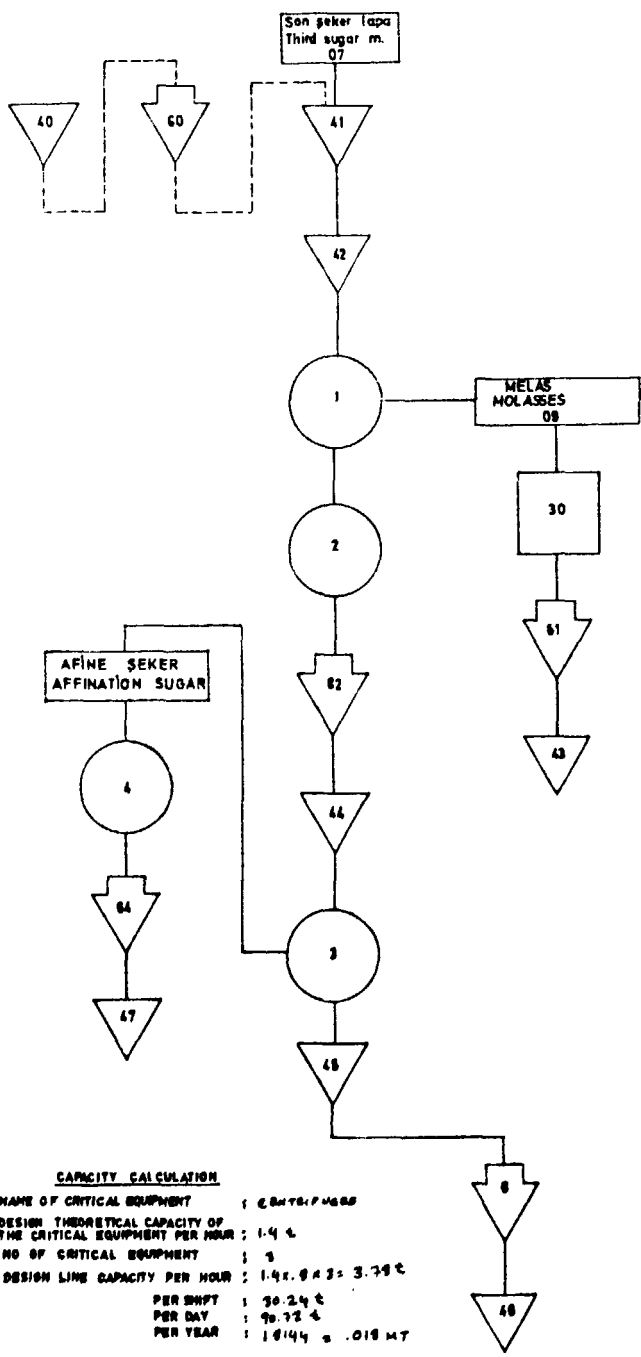
No	Machine code	Machine name	IND	PROP.TEC	CAP
40	69210710311211	Thick juice storage tank	3110-1	00	1
1	741621122313211	Crystal sugar vacuum pans			2
41	741610333063211	Crystal sugar m. refrigerator			4
42	69210911323211	Crystal sugar m. distribution trough			2
2	74351010021521	Crystal sugar centrifuges			1
43	69210710311211	Crystal sugar's green syr. stor. tank			1
44	69210710311211	Crystal sugar's white syr. stor. tank			1
60	742200132221211	Pump for crystal sugar's green syr.			1
61	742200132221211	Pump for crystal sugar's white syr.			1
45	69210710311211	Crystal sugar's green syr. stor. tank			1
46	69210710311211	Crystal sugar's white syr. stor. tank			1
6	741621122313211	Second sugar vacuum pans			3
3	727260840021211	Crystal sugar shaker			1
4	727260840021211	Crushers			1
5	741643040033211	Drying trommels			1
62	744265114011911	Crystal sugar elevators			1
47	69210710011211	Crystal sugar storage tank			1
30	745250410111111	Tumba scale			1
63	744260112021911	Transportation band			1

CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT : 2874.0488
DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 1.428 t
NO OF CRITICAL EQUIPMENT : 3
DESIGN LINE CAPACITY PER HOUR : 1.428 x 3 = 4.284
" SHIFT : 24
" DAY : 241.66
" YEAR : 1982 x 2 = 383.32 MT

UNIDIC / SPO (SEKER)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
Sugar factories and refineries	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER
APRIL / 1982	GARBAMBA	SHIFT: (DAY):
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGÜZEL Celal UNCUOĞLU	İrfan ARSLAN	Erol OYMAN Ustün ENGÜR
CHECKED BY	APPROVED BY	
UNIDO / Expert	UNIDO / C.A	

SON ŞEKER — MELÂS
THRD SUGAR — MOLASSES



CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : 20HT01P4000
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 1.4 t
 NO OF CRITICAL EQUIPMENT : 3
 DESIGN LINE CAPACITY PER HOUR : 1.4 x 0.42 x 3 = 3.78 t
 PER SHFT : 30.24 t
 PER DAY : 90.72 t
 PER YEAR : 18144 t = 0.018 MT

NO	MACHINE CODE	MACHINE NAME	IND		PROP		TECCAP	
			318-4	09	1	2	1	2
41	7461033473211	Third sugar m. refrigerators						0
40	6921071031211	Water tank for refrigeration third sugar						1
60	742200132121211	Refrigeration water pumps						1
42	692110911323211	Distribution trough						1
1	743511010021521	Third sugar centrifuges						3
30	745250420111911	Weighing machine for molasse						1
61	742300032521211	Molasses pump						2
43	69211072311211	Molasses tank						1
2	69211070311211	Third sugar melting tank						1
62	742300031621211	Third sugar melting tank pumps						2
44	692110911323211	Affination distribution trough						1
3	743511010021521	Affination sugar centrifuges						2
45	69211070311211	Affination juice tank						1
63	742200132221211	Affination juice pump						1
46	692110710311211	Affination tank						1
4	69211070311211	Affination sugar melting tank						1
64	742200133221211	III-Liquor pump						1
47	692110711321211	III-Liquor tank						1

UNIDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHFT (T/MT)
APRIL /1972	CARAPAMBA	
PREPARED BY	DRAWN BY	CHECKED BY
Levent AKBÜZEL	Bekir SEYHAN	Ali YILMAZ
CHIEF ENGINEER		DATA ENGINEER
CHECKED BY	APPROVED BY	
UNIDO/EXPERT	UNIDO/C.	

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 3118 0215

Sr. No.	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC-1	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (USA \$)		CONSTANT 1980 YEAR COST (USA \$)		YEAR OF PURCHASE AND REMARKS	SIC CODE (FOR COMPUTER)														
												UNIT	TOTAL	UNIT	TOTAL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30		Wagon and truck weighing machine	40 t	36m ²	Mech	Fixed	8.5t	GIC	1t	TR	6	18000	108000	18000	108000	1980	74525	02	6	6	1	1	2	2	1	1	1				
1		Automatic unloading machine	1500 t/d	52m ³	12m ²	Batch	60t	CS	—	TR	2	98000	188000	94000	188000	—	72726	01	6	5	2	1	5	6	0	1	1				
2		Wagon and truck unloading system by water	3000 t/d	—	—	Batch	2t	NFM	—	TR	1	3750	3750	3750	3750	—	72726	10	6	0	0	1	1	8	0	1	1				
3		Leaf and stone catcher machine	3000 t/d	—	—	CON	15t	SF	1t	TR	1	30800	30800	30800	30800	—	72726	02	6	0	0	2	3	9	1	1	1				
40		Beet pumps	125 t/h	25m	—	SC	HR	15t	GIC	10t	TR	2	24800	49600	24800	49600	—	74220	01	4	2	8	1	3	2	4	1				
4		Water and mud separator	125 t/h	—	—	JT	15t	GIC	3t	TR	1	37200	37200	37200	37200	—	72726	30	4	0	0	1	2	2	2	1	1				
5		Beet washing machines	3000 t/d	40m ³	—	CON	35t	CS	1t	TR	1	52000	52000	52000	52000	—	72726	03	6	4	0	2	4	6	1	1	1				
6		Leaf catcher	3000 t/d	9m ³	—	CON	3t	CS	—	TR	1	15200	15200	15200	15200	—	72726	04	6	2	0	2	1	6	0	1	1				
61		Beet transporters	125 t/h	1000mm	—	BM	15t	SF	0.8t	TR	1	38900	38900	38900	38900	—	74426	14	3	3	0	1	3	8	1	1	1				
41		Beet storage tank	20m ³	—	—	RC	7t	CS	10mm	TR	1	7000	7000	7000	7000	—	69211	02	1	0	0	1	2	2	1	1	1				
7		Beet cutting machine	850 t/d	—	—	CON	12.5t	CS	0.9t	TR	5	24500	122500	24500	122500	—	72726	05	4	0	0	2	3	6	1	1	1				
62		Pulp conveyers	125 t/h	1000mm	—	BM	8t	SF	0.4t	TR	1	8000	8000	8000	8000	—	74426	01	3	3	0	1	2	9	1	1	1				
31		Weighing machines	0.1t	—	MECH	Fix	0.2t	ASC	0.05t	JM	2	10000	20000	10000	20000	—	74525	02	1	0	1	1	1	1	1	2	1				
8		Steaming trough	70 t/h	—	Hot Water	CCF	18t	CS	10mm	TR	2	30000	60000	30000	60000	—	74463	89	8	0	5	8	3	2	1	1	1				
63		Cassett pump	265 m ³ /h	19m	pulp	YR	2t	GIC	1t	TR	2	17500	35000	17500	35000	—	74220	01	4	1	9	2	1	2	1	1	1				
10		Diffuser	3000 t/d	280m ³	—	CON	300t	CS	12mm	TR	1	600000	600000	600800	600900	—	72726	50	6	6	0	2	5	7	1	1	1				
9		Heaters for citrate juice	80m ²	0.84m	3m	FST	3t	CS	8mm	TR	3	6000	18000	6000	18000	—	74161	01	3	1	2	1	1	2	1	1	1				
42		Raw juice storage tank	7m ³	1.6m	60C	CIR	1t	CS	8mm	TR	2	1200	2400	1200	2400	—	69211	07	1	1	3	2	1	2	1	1	1				
64		Helical transporters	125 t/h	800mm	—	BM	10t	SF	8t	TR	2	23000	46000	23000	46000	—	74426	41	3	2	0	1	3	5	1	1	1				
71		Pulp presses	10 t/h	—	—	—	14t	CS	12mm	TR	10	28700	287000	28700	287000	—	74362	61	2	0	0	0	3	2	1	1	1				
65		Pressed pulp conveyers	100 t/h	700mm	—	BM	10t	SF	2t	TR	2	10000	20000	10000	20000	—	74426	14	3	2	0	1	3	8	3	1	1				

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 3118 0513

S. N.	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC-1	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (U.S. \$)		CONSTANT 1980 YEAR COST (U.S. \$)		YEAR OF PURCHASE AND REMARKS	STC CODE (FOR COMPUTER)														
												UNIT	TOTAL	UNIT	TOTAL		7	8	9	10	11	12	13	14	15						
40		Thick juice storage tank	15m ³	2m	50°C	CC	21	CS	8mm	TR	1	1500	1500	1500	1500	1980	69211	07	1	1	1	1	1	1	1	1	1				
60		Thick juice pumps	90m ³ /h	30m	HCLC	VR	051	GIC	0.21	TR	2	3000	6000	3000	6000	"	74220	01	3	3	2	2	1	2	1	1	1				
1	BMA	Filtering apparatus	75 l/h	3m	4.5kg/m ²	—	51	CS	—	T	2	12500	25000	12500	25000	"	74362	33	4	1	1	0	2	2	1	1	1				
41		Kisalgure storage tank	20m ³	2.5m	45°C	CC	31	CS	15mm	TR	1	2000	2000	2000	2000	"	69211	02	1	1	3	2	1	2	1	1	1				
61		Kisalgure pump	180m ³ /h	25m	Ab	VR	061	GIC	3.71	TR	1	4500	4500	4500	4500	"	74220	01	4	2	7	2	1	2	1	1	1				
12		Thick juice storage tank	15m ³	—	50°C	RC	37	CS	8mm	TR	3	2600	7800	2600	7800	"	69211	07	1	0	3	1	1	2	1	1	1				
3		Raw sugar vacuum pans	260m ²	4.4m	5.6m	VV	201	CS	12mm	TR	1	15000	15000	15000	15000	"	74162	11	2	2	1	1	2	2	1	1	1				
42		Raw sugar refrigerator	95m ³	2.5m	—	BT	131	CS	12mm	TR	1	20000	20000	20000	20000	"	74161	03	3	3	0	6	1	2	1	1	1				
44		Distribution trough	3m ²	0.8m	—	CSG	121	CS	12mm	T	1	8000	8000	8000	8000	"	69211	09	1	1	0	2	3	2	1	1	1				
3		Raw sugar centrifuges	7.8 l/h	—	—	TSB	31	HAS	20m	TR	2	20000	40000	20000	40000	"	74351	10	1	0	0	2	1	5	2	1	1				

UNDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE 3118 0613

No	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC-1	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (USA \$)		CONSTANT 1980 YEAR COST (USA \$)		YEAR OF PURCHASE AND REMARKS	SITC CODE (FOR COMPUTER)														
												UNIT	TOTAL	UNIT	TOTAL		12345	67	8	9	10	11	12	13	14	15					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
40		Raw sugar refrigerators	95 m ²	25 m ³	—	BT	131	CS	15 mm	TR	1	20000	20000	20000	20000	1980	74161	03	3	3	0	6	3	7	1	1					
41		Distribution trough	6 m ³	0.8 m	50°C	CSC	121	CS	12 mm	TR	1	8000	8000	8000	8000	—	69211	09	1	1	3	2	1	2	1	1					
1		Raw sugar centrifuges	2.6 t/h	—	—	TSB	31	HAS	20 mm	TR	2	20000	40000	20000	40000	—	74351	10	1	0	0	2	1	5	2	1					
42		Raw green syrup storage tank	17 m ³	—	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1					
43		Raw white syrup storage tank	17 m ³	—	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1					
60		Pumps for raw green syrup	18 m ³ /h	30 m	HCLC	VR	031	GIC	0.1 t	TR	1	3500	3500	3500	3500	—	74220	01	3	2	2	2	1	2	1	1					
61		Pumps for raw white syrup	18 m ³ /h	30 m	HCLC	VR	031	GIC	0.1 t	TR	1	3000	3000	3000	3000	—	74220	01	3	2	2	2	1	2	1	1					
44		Raw green syrup storage tank	17 m ³	—	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1					
45		Raw white syrup storage tank	17 m ³	—	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1					
2		B Sugar vacuum pans	280 m ²	4.4 m	6.6 m	VV	201	CS	12 mm	TR	1	15000	105000	35000	105000	—	74162	11	2	2	2	1	3	2	1	1					
47		Second sugar refrigerator	95 m ²	25 m ³	—	BT	131	CS	15 mm	TR	1	20000	40000	20000	40000	—	74161	03	3	1	0	6	3	7	1	1					
46		Distribution trough	6 m ³	0.8 m	50°C	CSC	15.5	CS	12 mm	TR	1	8000	8000	8000	8000	—	69211	09	1	1	3	2	1	2	1	1					
3		Second sugar centrifuges	2.6 t/h	—	—	TSB	31	HAS	20 mm	TR	5	20000	100000	20000	100000	—	74351	10	1	0	0	2	1	5	2	1					
2		Raw sugar melting tank	7 m ³	—	45°C	RC	251	CS	12 mm	TR	1	4000	4000	4000	4000	—	69211	07	1	0	3	1	1	2	1	1					
62		Pump for melted raw sugar	18 m ³ /h	25 m	HCLC	VR	031	GIC	0.1 t	TR	1	2500	2500	2500	2500	—	74220	01	3	2	2	2	1	2	1	1					
48		Liquefied syrup storage tank	4 m ³	1.5 m	50°C	CR	21	CS	8 mm	TR	1	2600	2600	2600	2600	—	69211	07	1	1	3	2	1	2	1	1					
63		Liquefied syrup pumps	12 m ³ /h	25 m	HCLC	VR	041	GIC	0.1 t	TR	2	3500	7000	3500	7000	—	74220	01	1	1	1	2	1	2	1	1					
4		Candle filter	12 t/h	45 m ²	30 kg/cm ²	MZ	451	CS	12 mm	TR	2	2500	5000	2500	5000	—	74220	33	2	1	1	2	1	2	1	1					
49		Liquefied syrup storage tank	17 m ³	—	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1					

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 3118 0715

Sr No	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (USA \$)		CONSTANT 1980 YEAR COST (USA \$)		YEAR OF PURCHASE AND REMARKS	BTC CODE (FOR COMPUTER)									
												UNIT	TOTAL	UNIT	TOTAL		12345	67	8	9	10	11	12	13	14	15
10		Second sugar refrigerator	95 m ²	25 m	-	BT	131	CS	15 mm	TR	4	20 000	80 000	20 000	80 000	1980	74161	03	3	3	0	6	3	2	1	1
41		Distribution trough	9 m ³	0.8 m	50°C	CSC	15 51	CS	12 mm	TR	1	8000	8000	8000	8000		69211	08	1	1	3	2	3	2	1	1
1		Second sugar centrifuge	2.6 t/h	-	-	TSB	31	HAS	20 mm	TR	5	20 000	100 000	20 000	100 000		74351	10	1	0	0	2	1	5	2	1
42		Second green syrup storage tank	17 m ³	-	50°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600		69211	07	1	0	2	1	1	2	1	1
43		Second white syrup storage tank	17 m ³	-	50°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1
50		Pumps for second green syrup	30 m ³ /h	30 m	HCLC	VR	041	GIC	0.1 t	TR	1	3500	3500	3500	3500		74220	01	3	2	2	2	1	2	1	1
51		Pumps for second white syrup	30 m ³ /h	30 m	HCLC	VH	041	GIC	0.1 t	TR	1	3500	3500	3500	3500		74220	01	3	2	2	2	1	2	1	1
44		Second green syrup storage tank	17 m ³	-	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1
45		Second white syrup storage tank	17 m ³	-	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1
3		Third sugar vacuum pane	280 m ²	4 m	8.5 m	VV	201	CS	12 mm	TR	5	20 000	100 000	20 000	100 000		74162	11	2	3	1	3	2	1	1	1
47		Third sugar refrigerator	95 m ²	25 m	25 m	ST	1331	CS	12 mm	TR	8	20 000	160 000	20 000	160 000		74161	03	3	3	4	7	3	2	1	1
48		Distribution trough	7 m ³	0.8 m	50°C	SEYL	1551	CS	12 mm	TR	1	8000	8000	8000	8000		69211	08	1	1	1	2	3	2	1	1
5		Third sugar centrifuge	2.6 t/h	-	-	TSB	31	HAS	20 mm	TR	3	20 000	60 000	20 000	60 000		74351	10	1	0	0	2	1	5	2	1
2		Second sugar melting tank	7 m ³	-	45°C	RC	251	CS	12 mm	TR	1	3500	3500	3500	3500		69211	07	1	0	3	1	1	2	1	1
62		Pumps for melted second sugar	42 m ³ /h	25 m	HCLC	VR	041	GIC	0.1 t	TR	1	3500	3500	2500	3500		74220	01	3	2	2	2	1	2	1	1
46		Liquefied syrup storage tank	4 m ³	1.5 m	50°C	CIR	21	CS	8 mm	TR	1	1500	1500	1500	1500		69211	07	1	1	3	2	1	2	1	1
63		Liquefied syrup pump	42 m ³ /h	50 m	HCLC	VR	044	GIC	0.1 t	TR	2	4500	9000	4500	9000		74220	01	3	2	2	1	2	1	1	1
6		Candle filter	12 t/h	45 m ²	20 kg/cm ²	M2	21	CS	0.5 t	TR	2	2500	8000	2800	9000		74362	33	2	1	2	1	2	1	1	1
49		Liquefied syrup storage tank	17 m ³	-	45°C	RC	31	CS	8 mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE 3118 0815

Sr. No	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC. 1 (OPTIONAL)	MAJOR SPEC. 2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC-1	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST		CONSTANT 1980 YEAR COST		YEAR OF PURCHASE AND REMARKS	SITC CODE (FOR COMPUTER)												
												UNIT	TOTAL	UNIT	TOTAL		12345	67	8	9	10	11	12	13	14	15			
40		Thick juice storage tank	17m ³	—	45°C	RC	31	CS	10mm	TR	4	3750	13000	3750	13000	1980	68211	07	1	0	3	1	1	1	1	1	1		
1		Crystal sugar vacuum pans	280m ²	4.4m	6.6m	VV	201	CS	12mm	TR	4	35000	140000	35000	140000		74162	11	2	2	3	1	3	4	1	1	1		
41		Crystal sugar refrigerator	35m ²	2.5m	—	RT	131	CS	15mm	TR	2	20000	40000	20000	40000		74161	03	3	0	6	1	1	1	1	1	1		
42		Crystal distribution trough	7m ³	0.8m	—	SCYL	15.51	CS	12mm	TR	1	8000	8000	8000	8000		68211	09	1	1	3	2	3	2	1	1	1		
2		Crystal sugar centrifuges	2.6t/h	—	—	T.S.B	31	HAS	20mm	TR	7	20000	140000	20000	140000		74351	10	1	0	2	1	1	2	1	1	1	1	
43		Crystal sugar green syrup storage tank	17m ³	—	50°C	RC	31	CS	8mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1	1		
44		Crystal sugars white syrup storage tank	17m ³	—	50°C	RC	31	CS	8mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1	1		
50		Pumps for crystal sugars green syrup	42m ³ /h	30m	HCLC	VR	0.41	61C	0.11	TR	1	3500	3500	3500	3500		74220	01	3	2	2	2	1	1	1	1	1		
51		Pumps for crystal sugars white syrup	42m ³ /h	30m	HCLC	VR	0.41	61C	0.11	TR	1	3500	3500	3500	3500		74220	01	3	2	2	2	1	1	1	1	1		
45		Crystal sugars green syrup storage tank	17m ³	—	45°C	RC	31	CS	8mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1	1		
46		Crystal sugars white syrup storage tank	17m ³	—	45°C	RC	31	CS	8mm	TR	1	2600	2600	2600	2600		69211	07	1	0	3	1	1	2	1	1	1		
4		Second sugar vacuum pans	280m ²	4.4	6.6m	VV	201	CS	12mm	TR	3	35000	105000	35000	105000		74162	11	2	2	3	1	3	4	1	1	1		
3		Crystal sugar shaker	500 1/4	—	—	CON	31	CS	8mm	TR	1	4250	4250	4250	4250		72726	08	4	0	0	2	1	2	1	1	1		
4		Crusher	500 1/4	—	—	CON	041	CS	8mm	TR	1	5200	5200	5200	5200		72726	09	4	0	0	2	1	2	1	1	1		
5		Drying trammal	20 t/h	—	—	GF	181	CS	16mm	TR	1	30500	30500	30500	30500		74164	30	4	0	0	3	1	2	1	1	1		
62		Crystal sugar elevator	20 t/h	17150mm	—	BM	121	SP	0.4 t	TR	1	14000	14000	14000	14000		74426	51	1	4	0	1	1	9	1	1	1		
47		Crystal sugar blender	15m ³	—	—	RC	2.51	CS	8mm	TR	1	4000	4000	4000	4000		68211	07	1	0	1	1	1	1	1	1	1		
30		Tyres scale	0.075 t	—	MEC	PIX	0.75 t	61C	0.3	TR	1	1500	1500	1500	1500		74528	01	1	0	1	1	1	1	1	1	1		
63		Transportation band	20 t/h	650 mm	—	Package	31	SP	0.5 t	TR	1	1400	1400	1400	1400		74426	01	1	2	0	2	1	9	1	1	1		

UNDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

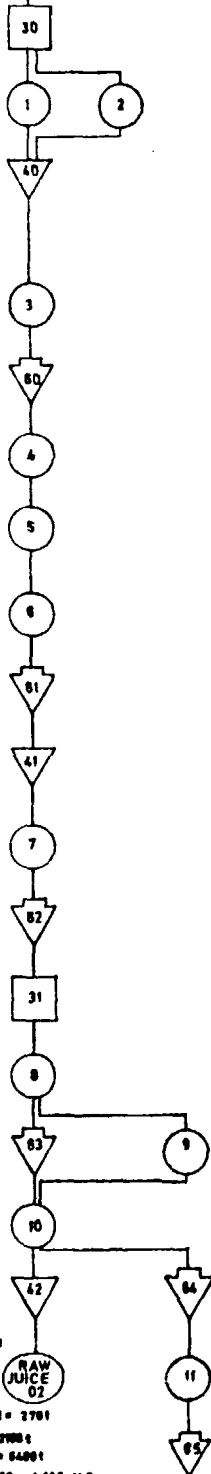
IND. ACTIVITY CODE: 3110 0815

No	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (USA \$)		CONSTANT 1980 YEAR COST(USA \$)		YEAR OF PURCHASE AND REMARKS	SITC CODE (FOR COMPUTER)									
												UNIT	TOTAL	UNIT	TOTAL		12345	67	8	9	10	11	12	13	14	15
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18									
47		Third sugar refrigerators	85 m ²	2.5m	7.5m	ST	13.5 t	CS	15mm	TR	8	20000	160000	20000	160000	1980	74161	03	3	3	4	7	3	2	1	1
48		Water tank for refrigerating	17 m ³	—	10°C	RC	3 t	CS	8mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1
49		Refrigeration water pump	18 m ³ /h	40m	CCLC	VR	0.12 t	GIC	0.05 t	TR	1	5500	5500	5500	5500	—	74270	01	2	2	1	2	1	2	1	1
47		Distribution trough	7 m ³	0.8m	50°C	SCYL	15.5 t	CS	12mm	TR	1	6000	6000	6000	6000	—	69211	09	1	1	3	2	3	2	1	1
1		Third sugar centrifuges	2.8 t/h	—	—	TSB	3 t	HAS	20mm	TR	3	20000	60000	20000	60000	—	74351	10	1	0	0	2	1	5	2	1
30		Washing machine for molasses	0.75 t	—	MECH	FIX	0.8 t	SF	0.2 t	TR	1	10000	10000	10000	10000	—	74525	04	2	0	1	1	1	1	1	1
51		Molasses pump	15 m ³ /h	30m	VIS	VR	0.1 t	GIC	0.05 t	TR	2	4700	9400	4700	9400	—	74230	00	3	2	5	2	1	2	1	1
43		Molasses tank	17 m ³	—	40°C	RC	3.2 t	CS	10mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1
7		Third sugar melting tank	10 m ³	—	50°C	RC	2.5 t	CS	8mm	TR	1	5000	5000	5000	5000	—	69211	07	1	0	3	1	1	2	1	1
62		Pumps for melted third sugar	15 m ³ /h	15m	VIS	VR	0.5 t	GIC	0.2 t	TR	2	4000	8000	4000	8000	—	74230	00	3	1	6	2	1	2	1	1
44		Affination distribution trough	6 m ³	0.8m	90°C	SCYL	15.5 t	CS	12mm	TR	1	14600	14600	14600	14600	—	69211	09	1	1	3	2	3	2	1	1
3		Affination sugar centrifuges	2.8 t/h	—	—	TSB	3 t	HAS	20mm	TR	2	20000	40000	20000	40000	—	74351	10	1	0	0	2	1	5	2	1
45		Affination juice tank	17 m ³	—	50°C	RC	3 t	CS	8mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1
49		Affination juice pumps	18 m ³ /h	30m	HCLC	VR	0.3 t	GIC	0.1 t	TR	1	3500	3500	3500	3500	—	74270	01	2	2	2	2	1	2	1	1
46		Affination tank	17 m ³	—	50°C	RC	3 t	CS	8mm	TR	1	2600	2600	2600	2600	—	69211	07	1	0	3	1	1	2	1	1
4		Affination sugar melting tank	7 m ³	—	45°C	RC	2.2 t	CS	8mm	TR	1	1500	1500	1500	1500	—	69211	07	1	0	3	1	1	2	1	1
54		Third liquor pump	42 m ³ /h	50m	HCLC	VR	0.6 t	GIC	0.2 t	TR	1	3500	3500	3500	3500	—	74270	01	2	2	2	2	1	2	1	1
47		Third liquor tank	4 m ³	1.5m	40°C	CIR	1 t	CS	8mm	TR	1	1500	1500	1500	1500	—	69211	07	1	1	3	2	1	2	1	1

SEKER PANCARI - HAM SERBET

Sugar Beet - Raw Juice

SUGAR BEET 01



CAPACITY CALCULATION

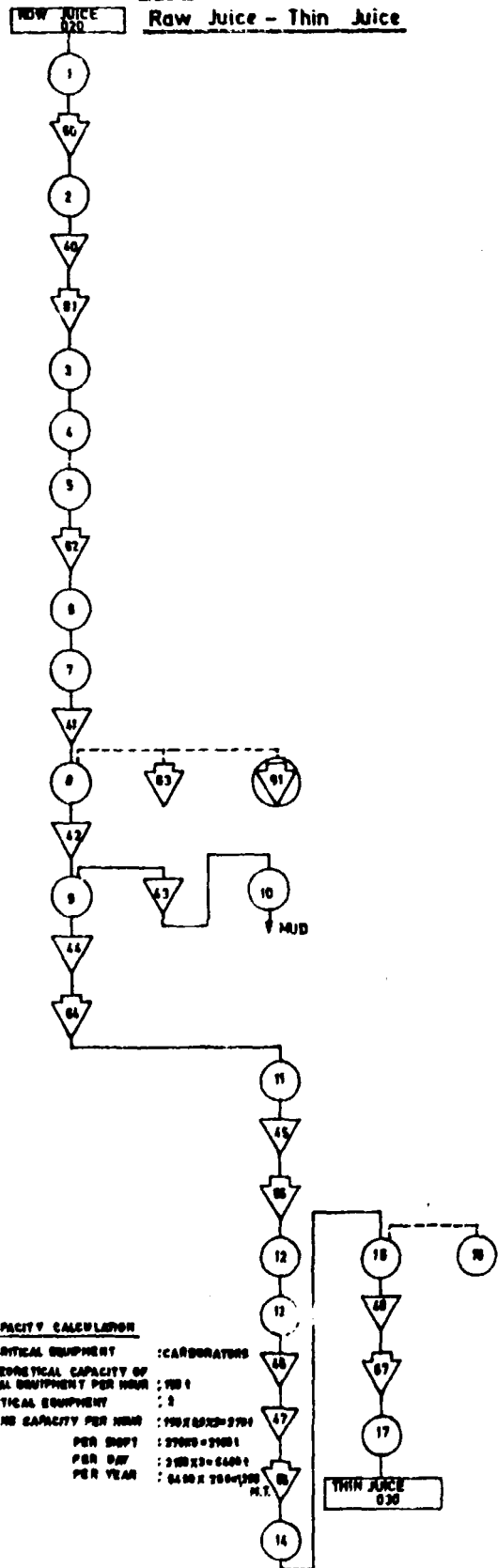
NAME OF CRITICAL EQUIPMENT : DIFFUSER
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 150 t/h
 NO OF CRITICAL EQUIPMENT : 2
 DESIGN LINE CAPACITY PER HOUR : 150 X 2 = 300
 PER SHFT : 370 X 2 = 740 t
 PER DAY : 3100 X 2 = 6200 t
 PER YEAR : 6200 X 200 = 1.240 M.T.

NO	ACTIVITY CODE	MACHINE CODE	MACHINE NAME	IND PROTECHCAP		
				318-1	02	1
30		745250266112 211	WAGON AND TRUCK WEIGHING MACHINES			7
1		7272601862186 01	AUTOMATIC UNLOADING MACHINE			2
2		72726106001180 1	WAGONS AND TRUCKS UNLOADING SYSTEM BY WATER			2
3		7272602600239 11	LEAF AND STONE CATCHER MACHINE			2
00		74220014261324 1	BEET PUMPS			3
4		72631306001323 1	WATER AND MUD SEPARATOR			2
5		7272603640248 11	BEET WASHING MACHINES			2
6		72726046 202180 1	TAIL CATCHER			2
61		7442614330139 11	BEET TRANSPORTERS			2
41		892110210013 211	BEET STORAGE TANK			1
7		7272605400236 11	BEET CUTTING MACHINE			8
62		7442601330129 11	PULP CONVEYORS			2
31		7452502101117 12	WEIGHING MACHINES			2
8		741639980584 211	SCALDING TROUGH			2
63		7422001419 212 11	COSSETT PUMP			4
10		7272650680262 11	DIFFUSER			2
9		741610140212 211	HEATERS FOR CIRCULATION JUICE			3
42		8921107113212 11	RAW JUICE STORAGE TANK			2
64		74426417201384 1	HELICAL TRANSPORTERS			2
11		7436261210032 11	PULP PRESSES			14
65		7442614320132 11	PRESSED PULP CONVEYORS			4

UNIDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFFINERIES	SUGAR	SUGAR SERBET
DATE	SAMPLE PLANT	CAPACITY PER SHFT (DAY)
APRIL 1982	AFYON	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGÜZEL Cetel UNCUOĞLU	Behar SEYMAK	Erol OYMAN Dahm ENER
CHECKED BY	APPROVED BY	
UNIDO/EXPERT	UNIDO/CTA	

HAM SERBET - SULU SERBET

Raw Juice - Thin Juice



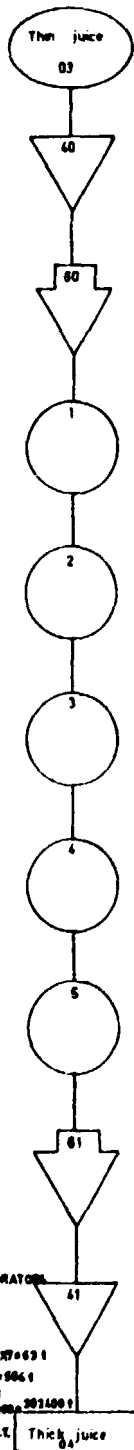
CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CARBONATORS
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 700 t
 NO OF CRITICAL EQUIPMENT : 2
 DESIGN LINE CAPACITY PER HOUR : 1400 (700x2) 370 t
 PER SHFT : 3700 (370x10) 1
 PER DAY : 3700x24 = 8880 t
 PER YEAR : 8880x300 = 2664000 t

ACTIVITY CODE		IND PROJECT CAP				
NO	MACHINE CODE	MACHINE NAME	310-1	03	1	1
1	727220680021611	RAW JUICE SAND CATCHER				2
00	7220002221211	THIN JUICE PUMPS				3
2	727200800021211	CIRCULATION JUICE SAND CATCHER				2
40	00210711321211	THIN JUICE TANK				2
01	72200141221211	THIN JUICE PUMPS				3
3	7210142112211	HEATERS FOR THIN JUICE				3
4	727205105024211	PRE LIMEING UNIT				2
5	727205101021211	SECONDARY LIMEING FIRST UNIT				2
02	72200142221211	LIMEING THIN JUICE PUMP				3
6	72101432121211	HEATERS FOR LIMEING THIN JUICE				3
7	727205105124211	SECONDARY LIMEING LAST UNIT				2
11	00210711321211	CIRCULATION JUICE TANK				3
5	727200705023211	FIRST SATURATION				3
42	00210711321211	LEVEL ADJUSTING TANK				3
9	723620451006211	THICKENER				2
43	00210711321211	MUD TANK				2
10	723624150503211	ROTARY FILTERS				5
44	00210710311211	CLEAR JUICE TANK				1
04	742200152221211	CLEAR JUICE PUMPS				2
11	723622141002211	STRING CAGE FILTERS				4
45	00210710311211	PURIFIED JUICE TANK				1
05	72200142121211	PUMPS BEFORE HEATER				2
12	72101432121211	SECOND SATURATORS HEATERS				2
13	72720764022211	SECOND SATURATION APPARATUS (carbonator)				2
91	721320325106211	LIME KILN				2
00	72312236121211	AIR PUMPS				5
46	00210711321211	LEVEL ADJUSTING TANK				1
47	00210710311211	MUD JUICE TANK				1
14	723622141002211	STRING CAGE FILTER				4
15	723622141002211	SULPHUROUS STRING CAGE FILTER				4
48	00210710311211	THIN JUICE TANK				2
07	72200143221211	THIN JUICE PUMPS				2
17	72101432121211	HEATERS FOR THIN JUICE				6
18	72370510010611	SULPHUR KILN				2

UNIDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHFT (DAY)
APRIL 1982	AFYON	
PREPARED BY	DRAWN BY	CHECKED BY
Levan ADIGUZEL Chief UNCU08LW	Behcet SEYHAN	Erol OYMAN Chief ENGR
CHECKED BY	APPROVED BY	
UNIDO / EXPERT	UNIDO / CIA	

SULU ŞERBET - KOYU ŞERBET

Thin juice - Thick juice



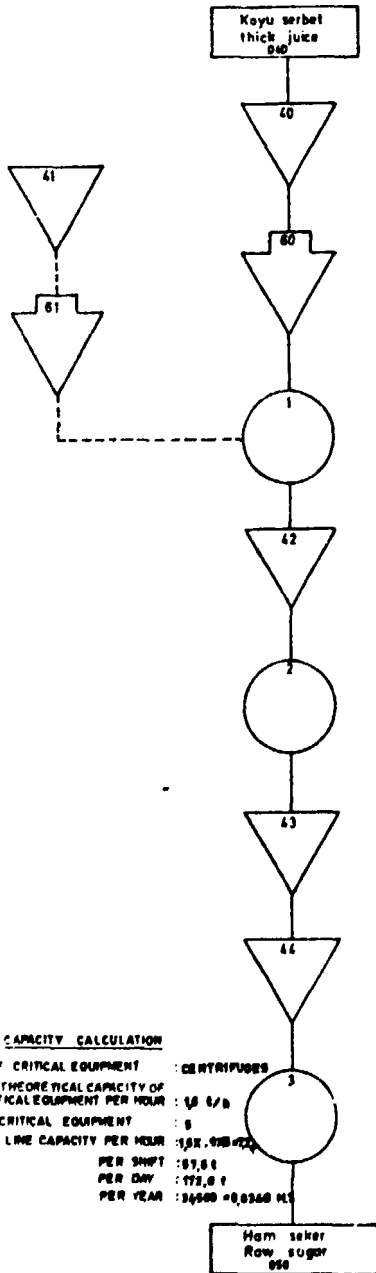
CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT : EVAPORATOR
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 100
 NO OF CRITICAL EQUIPMENT : 5
 DESIGN LINE CAPACITY PER HOUR : $10 \times 100 \times 5 = 5000$
 PER SHIFT : $5000 \times 960 = 4800000$
 PER DAY : 1920000
 PER YEAR : $1920000 \times 3031000 = 5819520000$
 = 5,819 M.T. Thick juice

NO	ACTIVITY CODE	MACHINE CODE	MACHINE NAME	INF			CAP
				3118	64	1	
40	69210710311211		Thin juice tank				2
60	74220014322121		Thin juice pumps				2
1	74161014321321		Heaters for thin juice				8
2	74162015273321		Multi stage evaporators				7
61	74220013322121		Thick juice pumps				2
41	69211071132121		Thick juice storage tank				1

UNIDO/ SPO (SEKER)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFINERIES	SUGAR	SUGAR ŞERBET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
APRIL 1982	AFYON	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGUZEL Celal UNGUOĞLU	Behadir SEYHAN	Emel GYHAN Ustun ENGUR
CHECKED BY	APPROVED BY	
UNIDO/ EXPERT	UNIDO/ CTA	

KOYU SERBET- HAM ŞEKER
Thick juice - Raw sugar



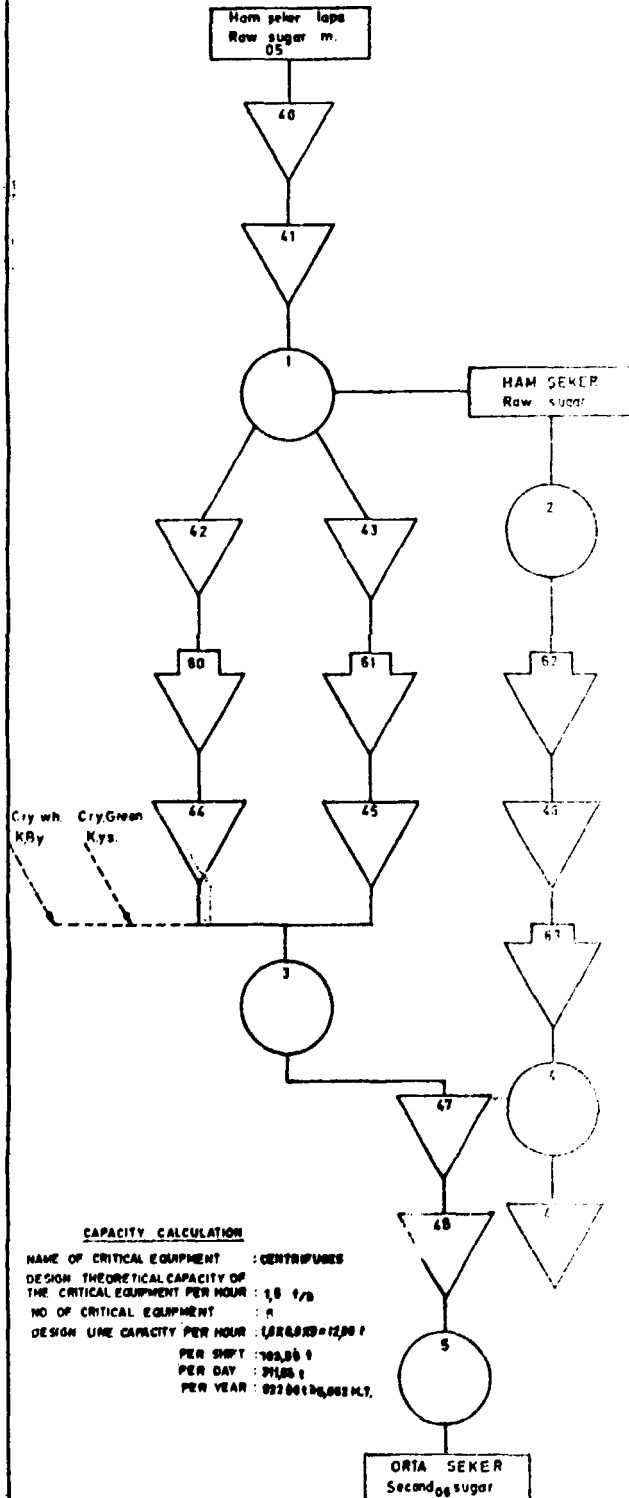
CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 60 T/H
 NO OF CRITICAL EQUIPMENT : 3
 DESIGN LINE CAPACITY PER HOUR : 180 T/H
 PER SHIFT : 87,6 t
 PER DAY : 172,8 t
 PER YEAR : 39500 = 0,0360 ML

NO	MACHINE CODE	MACHINE NAME	QUAN	ACTIVITY CODE			
				IND	PRD	TECH	CAP
40	692110711321211	Thick juice storage tank	1				
60	742200133221211	Thick juice pumps	3				
1	743823341102211	BMA Filtering Apparatus	3				
41	692110711322211	Kiselgure storage tank	2				
61	742200142721211	Kiselgure pump	1				
42	692110710312211	Thick juice storage tank	5				
2	741621122313211	Raw sugar vacuum pans	3				
43	741610333063211	Raw sugar refrigerators	2				
44	692110911323211	Distribution trough	1				
3	743511010021521	Raw sugar centrifuges	5				

UNIDO/SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
APRIL 1982	AFYON	
PREPARED BY	DRAWN BY	CHECKED BY
Leyant ADIGUZEL Cetel UNCUOĞLU	Bahadır SEYHAN	Erol OYMAN Üyün ENGÜR
CHECKED BY	APPROVED BY	
UNIDO/EXPERD	UNIDO/CTA	

HAM ŞEKER - ORTA ŞEKER

Raw sugar - second sugar



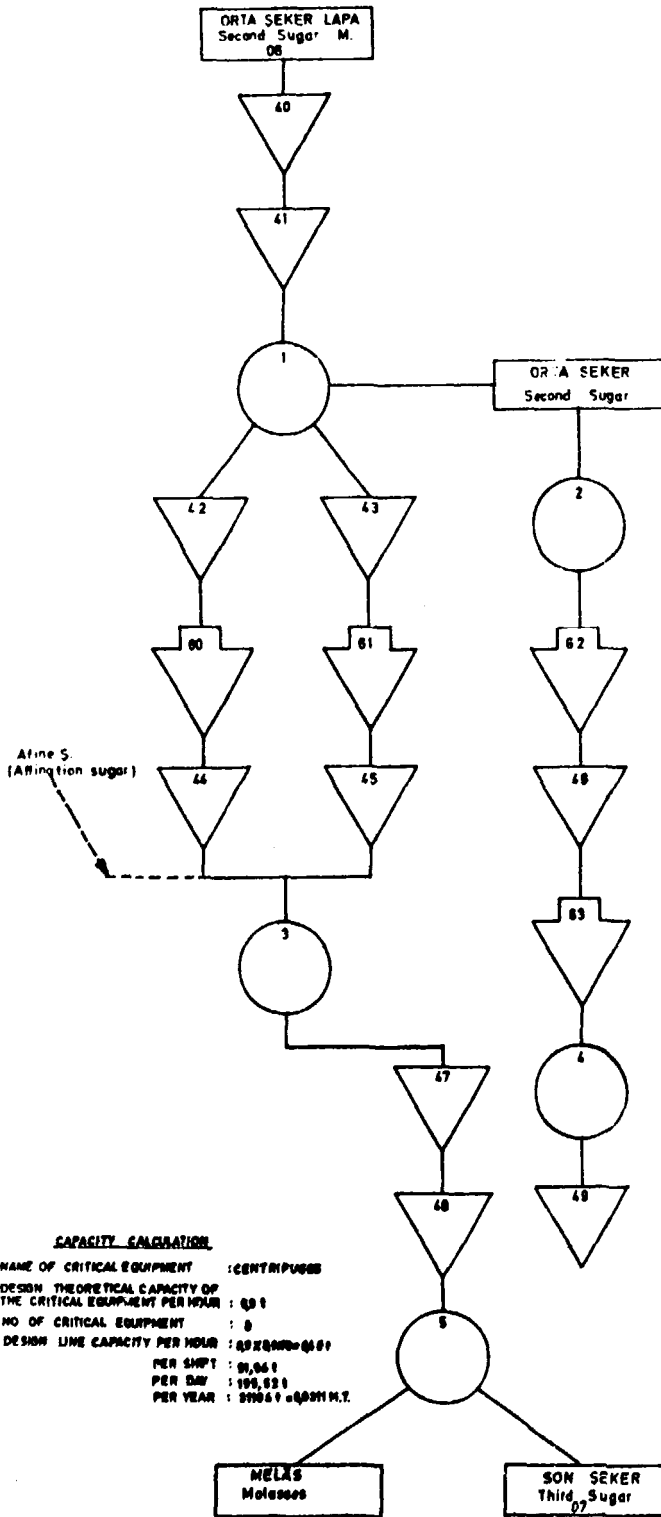
CAPACITY CALCULATION

NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 15 t/h
 NO OF CRITICAL EQUIPMENT : 4
 DESIGN LINE CAPACITY PER HOUR : (15x4)=60 t/h
 PER SHIFT : 108,00 t
 PER DAY : 216,00 t
 PER YEAR : 62,200 t (200 days)

NO	ACTIVITY CODE	MACHINE CODE	MACHINE NAME	QTY	
				UNIT	QTY
40	74161033063211		Raw sugar refrigerators	2	
41	692110911323211		Distribution trough	1	
1	743511010021521		Raw sugar centrifuges	5	
42	692110710311211		Raw green syrup storage tank	1	
43	692110710311211		Raw white syr stor tank	1	
50	742200132221211		Pumps for raw green syr	2	
61	742200132221211		Pumps for raw white syr	1	
44	692110710311211		Raw green syrup storage tank	1	
45	692110710311211		Raw white syrup storage tank	1	
3	741621122313211		2 sugar vacuum pans	4	
47	74161033063211		Second sugar Refrigerators	4	
48	692110911323211		Distribution trough	1	
5	743511010021521		Second sugar centrifuges	9	
2	692110710311211		Raw sugar melting tank	2	
62	742200132221211		Pumps for melted raw sugar	2	
46	692110711321211		Liquorand syrup storage tank	2	
53	742200132221211		Liquorand pump	3	
4	743673321221211		Candle filter	3	
49	692110710311211		Liquorand syrup storage tank	2	

UNIDO/SPO (ŞEKER) CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND SUGAR BEETRIERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER (DAY)
APRIL 1982	AFYON	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGÜZEL Celal UNCUOĞLU	Bahadır SEYHAN	Erol ÖZMAN Üstün ENÜR
CHECKED BY	APPROVED BY	
UNIDO/ EXPERT	UNIDO/ CTA	

ORTA SEKER - SON SEKER
Second sugar - Third sugar



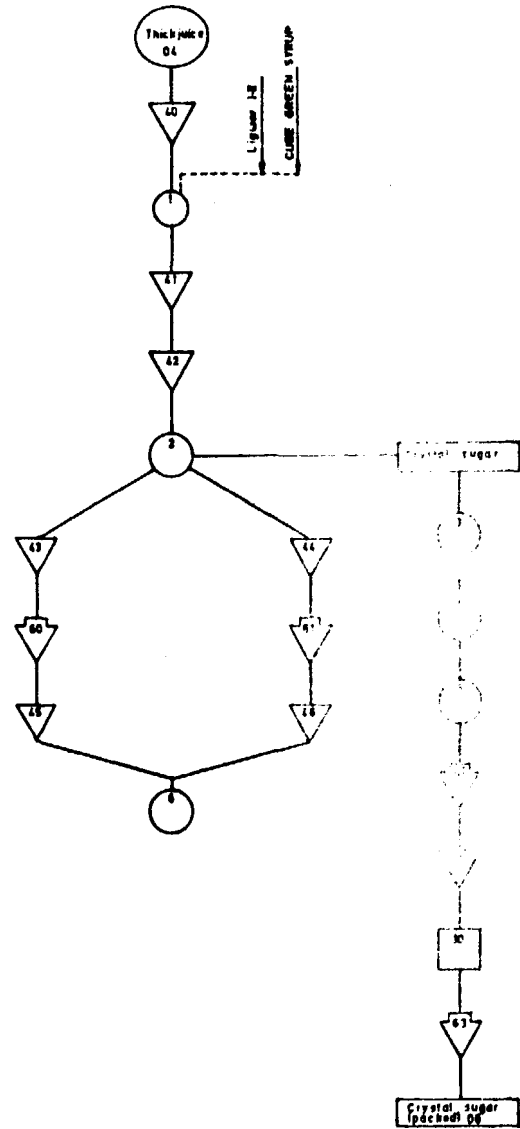
CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 60 T
 NO OF CRITICAL EQUIPMENT : 8
 DESIGN LINE CAPACITY PER HOUR : 480 T
 PER SHFT : 81,66 T
 PER DAY : 195,99 T
 PER YEAR : 71364,7 T

NO	MACHINE CODE	MACHINE NAME	LX	AN	ACTIVITY CODE				
					INC	PR	TEC	CAP	
40	741610333063211	Second sugar m. refrigerator	4		319	1	07	1	1
41	692110911323211	Distribution trough		1					
1	743511010021521	Second sugar centrifuges		9					
42	692110710311211	Second green syrup storage tank		2					
43	692110710311211	Second white syrup storage tank		2					
60	742200132221211	Pumps for second green syrup		1					
61	742200132221211	Pumps for second white syrup		2					
44	692110710311211	Second green syrup storage tank		2					
45	69211070311211	Second white syrup storage		2					
3	741621122313211	Third sugar vacuum pans		6					
47	741610333473211	Third sugar m. refrigerators		12					
48	692110911323211	Distribution trough		1					
5	743511010021521	Third sugar centrifuges		8					
2	692110710311211	Second sugar melting tank		2					
62	742200132221211	Pump for melted second sugar		7					
46	692110711321211	Liquorand syrup storage tank		2					
63	742200132221211	Liquorand syrup pumps		3					
4	743623321221211	Candle filter		3					
49	692110710311211	Liquorand syrup storage tank		2					

UNIDO SPO (SEKER)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER
APRIL 1982	AFYON	SHIFT (DAY) :
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGUZEL Celal UNCUOĞLU	Behadir SEYHAN	Erol OYMAN Ustun ENGÜR
CHECKED BY	APPROVED BY	
UNIDO/EXPERT	UNIDO/CTA	

KOYU ŞERBET- KRİSTAL ŞEKER

Thick juice - Crystal sugar

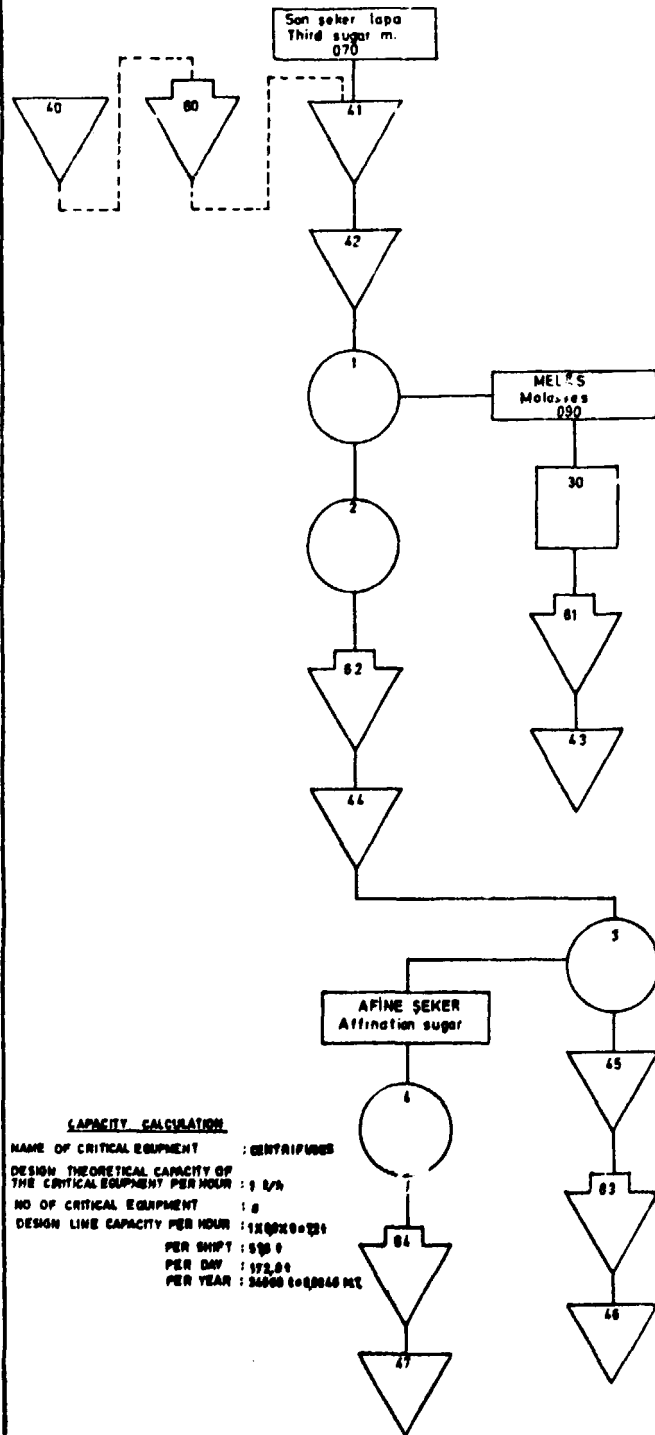


NO	MACHINE CODE	MACHINE NAME	QUAN	IND	PROP	TEC	CAP
				318-1	08	1	1
40	692110710311211	Thick juice storage tank	5				
1	741621122313211	Crystal sugar vacuum pans	6				
41	741610333063211	Crystal sugar m refrigerator	3				
42	692110911323211	Crystal sugar m distribution trough	1				
2	743511010021521	Crystal sugar centrifuges	10				
43	692110710311211	Crystal sugar's green syr stor tank	1				
44	692110710311211	Crystal sugar's white syr stor tank	1				
60	742200132221220	Pump for crystal sugar's green syr	2				
61	742200132221221	Pump for crystal sugar's white syr	2				
45	692110710311211	Crystal sugar's green syr stor tank	2				
46	692110710311211	Crystal sugar's white syr stor tank	2				
6	741621122313211	Second sugar vacuum pans	6				
3	727260480521211	Crystal sugar shaker	1				
4	727260940021211	Crushers	1				
5	741643050034211	Drying trommels	1				
62	744265114013811	Crystal sugar elevators	1				
47	692110710011211	Crystal sugar storage tank	1				
30	745250410111111	Tumba scale	2				
63	744260112021911	Transportation band	2				

CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT? : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 3,71
 NO OF CRITICAL EQUIPMENT : 10
 DESIGN LINE CAPACITY PER HOUR : 3,7100000000000000
 PER SHFT : 184,41
 PER DAY : 880,21
 PER YEAR : 6,100 M.T.

UNIDO/SPO (SEKER)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RIFFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER.
APRIL 1982	AFYON	SHIFT (DAY)
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADHOZEL Ceni UNCUOGLU	Behar SEYHAN	Erol OYMAN Dahir SIKUR
CHECKED BY	APPROVED BY	
UNIDO / EXPERT	UNIDO / CTA	

SON ŞEKER - MELÂS
Third sugar - molasses



CAPACITY CALCULATION
 NAME OF CRITICAL EQUIPMENT : CENTRIFUGES
 DESIGN THEORETICAL CAPACITY OF THE CRITICAL EQUIPMENT PER HOUR : 1 1/2
 NO OF CRITICAL EQUIPMENT : 8
 DESIGN LINE CAPACITY PER HOUR : 12000 kg
 PER SHIFT : 500 t
 PER DAY : 192.00
 PER YEAR : 36000 t (300x120)

NO	MACHINE CODE	MACHINE NAME	QUAN	ACTIVITY CODE			
				IND	PROP	TEC	CAP
41	74161033473211	Third sugar m. refrigerators	12				
40	692110710311211	Water tank for refrigeration third sugar	1				
80	742200132121211	Refrigeration water pumps	1				
42	692110911323211	Distribution trough	1				
1	743511010021521	Third sugar centrifuges	8				
30	745250420111911	Weighing machine for molasses	2				
81	742300032621211	Molasses pump	3				
43	692110710311211	Molasses tank	1				
2	692110710311211	Third sugar melting tank	1				
62	742300031621211	Third sugar melting tank pumps	2				
44	692110911323211	Affination distribution trough	1				
3	743511010021521	Affination sugar centrifuges	4				
45	692110710311211	Affination juice tank	1				
63	742200132221211	Affination juice pump	2				
46	692110710311211	Affination tank	1				
4	692110710311211	Affination sugar melting tank	1				
84	742200132221211	Liquor pump	1				
47	692110711321211	Liquor tank	1				

UNIDO / SPO (SEKER) CAPITAL GOODS DEVELOPMENT PROJECT MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
SUGAR FACTORIES AND RAFINERIES	SUGAR	SUGAR BEET
DATE	SAMPLE PLANT	CAPACITY PER SHIFT (DAY)
APRIL 1982	APYON	
PREPARED BY	DRAWN BY	CHECKED BY
Levent ADIGÜZEL Çelebi UNGÜDÜLÜ	Behçet SEYHAN	Erol ÖYMAN Dutun ENOLU
CHECKED BY	APPROVED BY	
UNIDO/EXPERT	UNIDO/CTA	

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 3.181021

S. No	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (U.S.\$)		CONSTANT 1980 YEAR COST (U.S.\$)		YEAR OF PURCHASE AND REMARKS	SITC CODE (FOR COMPUTER)														
												UNIT	TOTAL	UNIT	TOTAL		12	13	14	15	16	17	18	19	20	21	22	23	24	25	
30		Wagon and truck weighing machine	40 t	30 m ²	-	Panel	2.5t	2TC	1.0t	TR	7	15,000	105,000	18,000	126,000	78	74524	02	6	6	2	1	2	2	1	1					
1		Automatic UNLOADING Machine	3000t/day	10t m ²	18m ²	Batch	100t	CS	-	TR	2	90,000	180,000	110,000	220,000	78	72726	03	6	6	2	1	6	6	2	1					
2		Trucks and trucks unloading system	3000t/day	-	-	Batch	2t	2.5H	-	TR	2	3,000	6,000	3,750	7,500	78	72726	10	6	6	2	1	6	6	2	1					
3		Leaf and stem catcher machine	3000t/day	-	-	CON.	15t	SF	1t	TR	2	25,000	50,000	30,000	60,000	78	72726	02	6	6	2	3	9	1	1						
60		Beet pump	125t/h	25m	3C	HE.	15t	2TC	10t	TR	3	38,000	51,000	24,500	49,500	78	74220	03	4	2	8	1	3	2	4	1					
4		Water and mud separator	125t/h	-	-	OT	15t	2TC	3t	TR	2	30,000	60,000	37,200	74,400	78	72831	30	4	5	0	1	3	2	3	1					
5		Beet washing machine	3000t/4	4m ²	-	CON.	35t	CS	1.0t	TR	2	40,000	80,000	48,750	97,500	78	72726	03	6	4	0	2	4	6	1	1					
6		Leaf catcher	3000t/4	9m ²	-	CON.	3t	CS	-	TR	2	12,000	24,000	15,000	30,000	78	72726	04	6	3	0	2	1	6	0	1					
61		Beet transporters	125t/h	1000 mm	-	BM	16t	SF	0.6t	TR	2	30,000	60,000	40,000	80,000	78	74426	16	3	3	0	1	3	3	1	1					
41		Beet storage	37,5m ³	-	-	PC	12t	CS	12mm	TR	1	10,000	10,000	12,000	12,000	78	69211	02	1	0	0	1	3	2	1	1					
7		Beet cutting machine	850t/4	-	-	CON.	12.5t	CS	0.9t	TR	8	19,000	152,000	83,000	184,000	78	72726	05	4	0	0	2	3	6	1	1					
62		Pulp conveyors	125t/h	1000 mm	-	BM	8t	SF	0.6t	TR	2	6,000	12,000	8,000	16,000	78	74426	08	3	3	0	1	2	9	1	1					
32		Weighing machines	0.1t	-	M&C	2TC	0.2t	SSC	0.05t	DA	2	8,000	16,000	10,000	20,000	78	74525	02	1	0	1	1	1	7	1	2					
8		Soaking trough	125t/h	-	1000mm	CCP	30t	CS	12mm	TR	2	5,000	68,000	40,000	80,000	78	74163	95	4	0	5	9	4	2	1	1					
63		Corsett pump	265m ³ /h	19 m	1000mm	TR	2t	2TC	1t	TR	4	18,000	89,000	17,500	80,000	78	74220	01	4	1	0	2	1	2	1	1					
10		Mixer	3000t/d	28m ²	-	CON.	300t	CS	12mm	TR	2	500,000	1,000,000	600,000	1,200,000	79	72726	90	6	6	0	2	8	2	1	1					
9		Heaters for circulation juice	200m ²	-	3m	PST	7t	CS	12mm	TR	3	11,000	33,000	14,000	42,000	78	74161	01	4	0	2	1	2	9	1	1					
42		Raw juice storage tank	20m ³	2.2m	60°C	Clp.	2.5t	CS	12mm	TR	2	2,500	5,000	3,000	6,000	78	66211	07	1	1	5	3	1	3	1	1					
54		helical transporters	125t/h	900mm	-	SM	10t	SF	6t	TR	4	19,000	76,000	23,000	91,000	78	74426	41	3	2	0	1	3	9	4	1					
11		Pulp presses	10t/h	-	-	-	14ton	CS	12mm	TR	14	21,000	294,000	29,700	486,800	78	74362	61	2	0	0	0	3	2	1	1					
64		Pressed pulp conveyors	100t/h	700mm	-	SM	10t	SF	2t	TR	4	8,000	32,000	10,000	40,000	78	74426	14	3	2	0	1	3	9	3	1					

UN800/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 31201011

1	2	3	4	5	6	7	8	9	10	11	12	PURCHASE COST (U.S.\$)		CONSTANT 1980 YEAR COST (U.S.\$)		17	SIC CODE (FOR COMPUTER)									
												13	14	15	16		18	19	20	21	22	23	24	25		
48		Thin juice tank	2000		300	TR	4.50	CS	TR	2	2100	4200	2600	5200	78	69211	07	1	0	3	1	1	2	1	1	
60		Thin juice pump	3000	60	HCLC	TR	0.60	CE	TR	2	2500	5000	1500	7000	78	74220	01	4	3	2	2	1	2	1	1	
4		Brokers for thin juice	2000	20	J-30	TR	100	CS	TR	6	8000	48000	21750	64200	78	74162	02	4	3	2	1	3	2	1	1	
2		Multi stage compressor	20000	10	LTV	TR	160	CS	TR	7	16000	112000	20000	140000	78	74162	02	5	2	7	3	3	2	1	1	
62		Thick juice pump	9000	30	HCLC	TR	0.50	CE	TR	2	2500	5000	3900	7800	78	74220	01	3	3	2	2	1	2	1	1	
62		Thick juice storage tank	1500	30	TR	TR	20	CS	TR	1	1200	1200	1500	1500	78	69211	07	1	1	1	2	1	2	1	1	

UNIDO / SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND ACTIVITY CODE 712 611

S. No	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC - 1 (OPTIONAL)	MAJOR SPEC - 2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC	MANUFACTURING CHARACTERISTIC - 2	MANUFACTURING CHARACTERISTIC - 3	ORIGIN	QUANTITY	PURCHASE COST (U.S.\$)		CONSTANT 1980 YEAR COST (U.S.\$)		YEAR OF PURCHASE AND MARKS	SITE CODE (FOR COMPUTER)											
												UNIT	TOTAL	UNIT	TOTAL		1	2	3	4	5	6	7	8	9	10	11	12
40		Raw sugar refrigerator	95m ²	2.5m	-	RT	13%	CS	15mm	TR	2	16000	32000	20000	40000	78	74161	03	3	3	0	6	3	2	1	2		
41		Distribution trough	6m ³	0.8m	50°C	CSC	12%	CS	12mm	TR	1	6500	6500	8000	8000	78	69211	09	1	1	0	2	1	1	1	1		
1		Raw sugar centrifuges	2.6t/h	-	-	ESB	3%	HAS	20mm	TR	1	17000	85000	40000	200000	78	74351	10	1	0	1	1	1	1	1	1		
42		Raw green syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	1	2200	2200	2600	2600	78	69211	07	1	1	0	1	1	1	1	1		
43		Raw white syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	1	2200	2200	2600	2600	78	69211	07	1	1	0	1	1	1	1	1		
60		Pump for raw green syrup	16m ³ /h	30m	MC10	VR	0.3%	GIE	0.1%	TR	2	2600	5200	3500	7000	78	74220	01	3	2	2	2	1	2	1	2		
61		Pump for raw white syrup	16m ³ /h	30m	MC10	VR	0.3%	GIE	0.1%	TR	1	2600	2600	1900	3800	78	74220	01	3	2	2	2	1	2	1	2		
44		Raw green syrup storage tank	16m ³	-	45°C	RC	3%	CS	8mm	TR	1	2100	2100	2600	2600	78	69211	07	1	1	0	1	1	1	1	1		
45		Raw white syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	1	2100	2100	2600	2600	78	69211	07	1	1	0	1	1	1	1	1		
3		Raw sugar vacuum pans	200m ²	4.5m	6.5m	VF	20%	CS	12mm	TR	4	30000	120000	35000	140000	78	74162	11	1	2	2	1	2	2	1	2		
47		Second sugar refrigerator	95m ²	2.5m	-	RT	13%	CS	15mm	TR	4	16000	64000	20000	80000	78	74161	03	3	3	0	6	3	2	1	2		
48		Distribution trough	9m ³	0.8m	50°C	CSC	15.5%	CS	12mm	TR	1	6800	6800	8000	8000	78	69211	09	1	1	0	2	1	1	1	1		
4		Second sugar centrifuges	2.6t/h	-	-	ESB	3%	HAS	20mm	TR	9	15000	135000	40000	360000	78	74351	10	1	0	1	1	1	1	1	1		
2		Raw sugar melting tank	7m ³	-	45°C	RC	2.5%	CS	12mm	TR	2	3200	6400	4000	8000	78	69211	07	1	1	0	1	1	1	1	1		
62		Pump for melted raw sugar	16m ³ /h	30m	MC10	VR	0.3%	GIE	0.1%	TR	2	2500	5000	3500	7000	78	74220	01	3	2	2	2	1	2	1	2		
49		Liquefied syrup storage tank	4m ³	1.5m	50°C	C1r	2%	CS	8mm	TR	2	1600	3200	2000	4000	78	69211	07	1	1	0	1	1	1	1	1		
63		Liquefied syrup pump	42m ³ /h	25m	MC10	VR	0.4%	GIE	0.1%	TR	1	2800	2800	4500	13500	78	74220	01	3	2	2	2	1	2	1	2		
4		Candle filter	12t/h	45m ²	30kg/m ²	ME	4.5%	CS	12mm	TR	3	2000	6000	2500	7500	78	74360	33	2	1	2	2	1	2	1	2		
48		Liquefied syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	2	2100	4200	2600	5200	78	69211	07	1	1	0	1	1	1	1	1		

UNIDO / SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE 311072

E#	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC. 1 (OPTIONAL)	MAJOR SPEC. 2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC 1	MANUFACTURING CHARACTERISTIC 2	MANUFACTURING CHARACTERISTIC 3	ORIGIN	QUANTITY	PURCHASE COST (U.S.\$)		CONSTANT 1980 YEAR COST (U.S.\$)		YEAR OF PURCH. (BASE ANNO DOMINI)	SIC CODE (FOR COMPUTER)														
												UNIT	TOTAL	UNIT	TOTAL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
40		Second sugar refrigerators	9m ²	2.5m	-	RT	13%	CS	15mm	TR	4	16000	64000	20000	80000	78	74161	95	1	1	6	6	3	2	1	1					
41		Distribution trough	9m ²	0.8m	50°C	ESC	15.5%	CS	12mm	TR	1	6000	6000	8000	8000	78	69211	09	1	1	3	2	1	2	1	1					
1		Second sugar centrifuges	2.6t/h	-	-	ISA	3%	HAS	20mm	TR	9	16000	144000	20000	180000	78	74351	10	1	0	0	2	1	5	2	1					
42		Second green syrup storage tank	17m ³	-	50°C	RC	3%	CS	8mm	TR	2	2100	4200	2600	5200	78	69211	07	1	0	3	1	2	2	1	1					
43		Second white syrup storage tank	17m ³	-	50°C	RC	3%	CS	8mm	TR	2	2100	2100	2600	2600	78	69211	07	1	0	3	1	1	2	1	1					
44		Pump for second green syrup	30m ³ /h	30m		HCLC	0.4%	GIC	0.1%	TR	1	2500	2500	3500	3000	78	74220	01	3	2	2	2	1	2	1	1					
45		Pump for second white syrup	30m ³ /h	30m		HCLC	0.4%	GIC	0.1%	TR	2	2500	5000	3500	7000	78	74220	01	3	2	2	2	2	1	2	1					
46		Second green syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	2	2100	4200	2600	5200	78	69211	07	1	0	3	1	1	2	1	1					
47		Second white syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	2	2100	4200	2600	5200	78	69211	07	1	0	3	1	1	2	1	1					
3		Third sugar rough press	200m ²	4.4m	6.6m	VV	20%	CS	12mm	TR	6	16000	96000	20000	120000	78	74162	11	2	2	3	1	2	2	1	1					
48		Third sugar refrigerators	9m ²	2.5m	25m	ST	13.5%	CS	12mm	TR	12	16000	192000	20000	240000	78	74161	03	3	3	6	7	3	2	1	1					
49		Distribution trough	7m ²	0.8m	-	S.Cye.	15.5%	CS	12mm	TR	1	6000	6000	8000	8000	78	69211	09	1	1	3	2	3	2	1	1					
2		Third sugar centrifuges	2.6t/h	-	-	ISA	3%	HAS	20mm	TR	8	16000	128000	20000	160000	78	74351	10	1	0	0	2	1	5	2	1					
2		Second sugar melting tank	7m ³	-	45°C	RC	2.5%	CS	12mm	TR	2	2800	5600	3500	7000	78	69211	07	1	0	3	1	1	2	1	1					
62		Pump for melted second sugar	42m ³ /h	25m		HCLC	0.4%	GIB	0.1%	TR	2	2500	5000	3500	7000	78	74220	01	3	2	2	2	1	2	1	1					
46		Miscellaneous syrup storage tank	4m ³	1.5m	50°C	RC	3%	CS	8mm	TR	2	1200	2400	1500	3000	78	69211	07	1	1	3	2	1	2	1	1					
63		Miscellaneous syrup pump	42m ³ /h	50m		HCLC	0.4%	GIB	0.1%	TR	3	3000	9000	4500	13500	78	74220	01	3	3	2	2	1	2	1	1					
4		Candle filter	12t/h	45m ²	30kg/cm ²	ME	2%	CS	0.5%	TR	3	2000	6000	2500	7500	78	74362	33	2	1	2	2	1	2	1	1					
48		Miscellaneous syrup storage tank	17m ³	-	45°C	RC	3%	CS	8mm	TR	2	2200	4400	2600	5200	78	69211	07	1	0	3	1	1	2	1	1					

UNIDO/SPO (SEKER)
CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 31103011

Sr. No.	MARK MODEL	BASIC MACHINE	MAJOR SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (U.S.\$)		CONSTANT 1980 YEAR COST (U.S.\$)		YEAR OF PURCHASE AND MARK	SITC CODE (FOR COMPUTER)						
												UNIT	TOTAL	UNIT	TOTAL		12345	67	89	1011	12131415		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18						
41		Third sugar refrigerator	92m ²	2.5m	25m	ST	13.5%	CS	15mm	TR	12	16000	192000	20000	240000	78	74211	01	11	47	3	21	1
42		Water tank for refrigerating	17m ³	-	14°C	RC	3%	CS	8mm	TR	1	3200	2200	2600	2600	78	69211	07	10	31	1	21	1
43		Refrigeration water pump	10m ³ /h	40m	60°C	VB	0.12%	GR	0.25%	TR	1	2500	2500	5000	5000	78	74220	01	32	12	1	21	1
44		Distribution trough	7m ³	0.8m	50°C	S.CYL.	15.5%	CS	12mm	TR	1	5000	5000	6000	6000	78	69211	09	11	32	2	1	1
45		Third sugar centrifuge	2.6t/h	-	-	TSS	3%	HAS	20mm	TR	8	16000	128000	20000	160000	78	74351	10	10	31	1	21	1
46		Weighing machine for molasses	0.75t	-	MACH.	FIX.	0.5%	SP	0.2%	TR	2	8000	16000	10000	20000	78	74525	04	20	11	1	1	1
47		Molasses pump	15m ³ /h	3m	7m	TR	0.1%	HC	0.05%	TR	3	3000	9000	4700	14100	78	74220	00	10	31	1	21	1
48		Molasses tank	17m ³	-	20°C	RC	3.2%	CS	10mm	TR	1	2200	2200	2600	2600	78	69211	07	10	31	1	21	1
49		Third sugar centrifuge tank	10m ³	-	20°C	RC	2.0%	CS	8mm	TR	1	4000	4000	5000	5000	78	69211	07	10	31	1	21	1
50		Third sugar centrifuge tank	15m ³	-	20°C	RC	3.5%	CS	10mm	TR	2	3000	6000	4000	8000	78	74220	00	10	32	2	1	1
51		Third sugar centrifuge tank	4m ³	-	20°C	RC	1.5%	CS	8mm	TR	1	11000	11000	14000	14000	75	69211	09	10	31	1	21	1
52		Third sugar centrifuge tank	2.5m ³	-	20°C	RC	1.5%	CS	8mm	TR	1	25000	125000	41000	100000	78	74351	10	10	32	1	21	1
53		Third sugar centrifuge tank	17m ³	-	20°C	RC	3%	CS	10mm	TR	1	2200	2200	2600	2600	78	69211	07	10	31	1	21	1
54		Third sugar centrifuge tank	15m ³	-	20°C	RC	3.5%	CS	10mm	TR	2	3000	6000	4000	8000	78	74220	00	10	32	2	1	1
55		Third sugar centrifuge tank	17m ³	-	20°C	RC	3%	CS	10mm	TR	1	22000	22000	26000	26000	78	69211	07	10	31	1	21	1
56		Third sugar centrifuge tank	7m ³	-	20°C	RC	2.3%	CS	8mm	TR	1	1600	1600	2000	2000	78	69211	07	10	31	1	21	1
57		Third sugar centrifuge tank	5m ³	-	20°C	RC	0.4%	CS	0.4%	TR	1	2500	2500	2600	2600	78	74220	01	10	32	2	1	1
58		Third sugar centrifuge tank	5m ³	-	20°C	RC	1%	CS	8mm	TR	1	1200	1200	1500	1500	78	69211	07	10	31	1	21	1

UNDO/SPO (SEKER)
 CAPITAL GOODS DEVELOPMENT PROJECT

PLANT SURVEY FORM

IND. ACTIVITY CODE: 20.09.02

LINE NO.	NAME MODEL	SPECIFICATION (CAPACITY)	MAJOR SPEC-1 (OPTIONAL)	MAJOR SPEC-2 (OPTIONAL)	TYPE (DESCRIPTION)	MANUFACTURING CHARACTERISTIC-1	MANUFACTURING CHARACTERISTIC-2	MANUFACTURING CHARACTERISTIC-3	ORIGIN	QUANTITY	PURCHASE COST (U.S.-\$)		CONSTANT YEAR COST (U.S.-\$)		YEAR AND MONTH	SIC CODE (FOR COMPUTER)																
											UNIT	TOTAL	UNIT	TOTAL		134AS	07	1	0	0	0	1	1	2	1	0	1	1				
40	Thick juice storage tank	37m ³	-	-	45°C	CS	10mm	TR	TR	3	2708	17500	3000	16250	78	69213	07	1	0	3	1	1	1	2	1	1						
41	Crystal sugar vacuum pans	200m ²	4.4s	-	6.6s	CS	1.2mm	TR	TR	6	2800	16000	39000	21000	78	74164	11	2	2	2	1	1	2	1	1							
42	Crystal sugar refrigerator	950 ²	2.5s	-	-	CR	1.5m	TR	TR	2	16000	4000	2000	6000	78	74164	03	3	3	3	0	4	1	2	1	1						
43	Crystal distribution trough	7m ³	0.8s	-	5.0% 15.5%	CS	1.2mm	TR	TR	2	6000	6000	8000	8000	78	69213	09	1	1	3	3	3	2	1	1							
44	Crystal sugar centrifuge	2.6m ³ /h	-	-	-	TR	20mm	TR	TR	10	26000	26000	40000	40000	78	74351	10	1	0	0	2	1	5	1	1							
45	Crystal sugar green syrup	37m ³	-	-	50°C	CS	8mm	TR	TR	1	2300	2300	2600	2600	78	69213	07	1	1	0	3	1	1	2	1	1						
46	Storage tank	37m ³	-	-	50°C	CS	8mm	TR	TR	1	2300	2300	2600	2600	78	69213	07	1	1	0	3	1	1	2	1	1						
47	Paper for crystal sugar's white syrup	37m ² /h	30s	30m	100%	TR	0.1s	TR	TR	2	3500	5000	3000	3000	78	74220	01	3	2	2	2	2	1	2	1	1						
48	Paper for crystal sugar's white syrup	37m ² /h	30s	30m	100%	TR	0.1s	TR	TR	2	3500	5000	3000	3000	78	74220	01	3	2	2	2	2	1	2	1	1						
49	Paper for crystal sugar's green syrup	37m ² /h	-	-	45°C	CS	8mm	TR	TR	2	2200	4000	2600	2600	78	69213	07	1	0	3	1	1	2	1	1							
50	Paper for crystal sugar's white syrup	37m ² /h	-	-	45°C	CS	8mm	TR	TR	2	2200	4000	2600	2600	78	69213	07	1	0	3	1	1	2	1	1							
51	Second sugar vacuum pans	200m ²	4.4s	-	6.6s	CS	1.2mm	TR	TR	6	2800	16000	39000	21000	78	74164	11	2	2	2	1	1	2	1	1							
52	Crystal sugar vacuum pans	900m ² /h	-	-	100%	TR	0.1s	TR	TR	1	4000	4000	4750	4750	78	72736	08	4	0	5	2	1	2	1	1							
53	Crow-ur	900m ² /h	-	-	-	TR	0.1s	TR	TR	1	6000	6000	7500	7500	78	72736	08	4	0	0	2	1	2	1	1							
54	Drying tunnel	30m ² /h	-	-	-	TR	10mm	TR	TR	1	36000	36000	45000	45000	78	74164	38	5	0	0	3	4	2	1	1							
55	Crystal sugar elevator	30m ² /h	40mm	-	-	TR	0.5s	TR	TR	1	13000	13000	16200	16200	78	74226	51	1	4	0	1	3	9	1	1							
56	Crystal sugar elevator	15m ² /h	-	-	-	TR	2.5s	CS	TR	1	3000	3000	4000	4000	78	69213	07	1	0	0	1	1	2	1	1							
57	Tubia scale	0.075	-	-	MET.	TR	0.7s	CS	TR	2	1200	2400	1500	1500	78	74525	04	1	0	1	1	1	1	1	1							
58	Transportation tank	20m ³ /h	0.75mm	-	-	TR	3s	TR	TR	2	800	1600	1600	1600	78	74426	01	1	2	0	2	1	9	1	1							

EQUIPMENT REQUIREMENTS FOR EXPANSION OF THE EXISTING SUSURLUK SUGAR PLANT
 LOCATION: BALIKESİR
 ANTICIPATED DATE OF COMMISSIONING: 1983
 CAPACITY 7000T/D

Total weight in tons / value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
736233212211	Candle filter	7	2.0	2.5		14									14
692110711321211	Kieselguere storage tank	2	3.0	2		6									6
741621122313211	Vacuum pans	24	200	35		480									480
741610333063211	Refrigerator	18	13.0	20		234									234
742200132221211	Pump for melted raw sugar	2	0.5	3.5			1								1
692110911323211	Distribution trough	4	15.5	8			62								62
743511010021521	Centrifuges	25	4.5	20		112.5									112.5
692110710311211	Raw sugar melting tank	2	2.5	4		5									5
742200132221211	Affination juice pump	2	0.6	3.5			1.2								1.2
727260840021211	Crystal sugar shaker	2	3.0	4.25			6								6
727260940021211	Crusher	3	0.4	5.2			1.2								1.2
7416430400332111	Drying trommel	2	18.0	30.5		36									36
744265114011911	Cry. sugar elevator	4	12.0	14			48								48
692110711011211	Crystal sugar bunker	2	2.5	4		5									5

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EQUIPMENT REQUIREMENTS FOR EXPANSION OF THE EXISTING ANKARA SUGAR PLANT
LOCATION: ANKARA
ANTICIPATED DATE OF COMMISSIONING: 1984
CAPACITY 3000T/D

Total weight in tons / ~~value in 1000 U.S.~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
727260155215601	Automatic unload machine	1	60.0	94.0				60.0							60.0
741610333003211	Second and third sug. ref.	8	13.0	20.0		104.0									104.0
692110911323211	Distribution trough	3	15.5	8.0		46.5									46.5
742200142813241	Beet pump	2	16.0	24.5			32.0								32.0
727260364024611	Beet washing machine	1	35.0	52.0		35.0									35.0
742200132221211	Melted sugar pump	3	0.5	3.5			1.5								1.5
727260462021601	Tail catcher	1	5.0	15.2				5.0							5.0
727260540023611	Beet cutting machine	3	15.0	24.5		45.0									45.0
744260133012911	Pulp conveyor	1	8.0	8.0		8.0									8.0
727265056027211	Diffuser	2	15.0	300.0		300.0									300.0
741639980593211	Scalding trough	2	18.0	30.0		36.0									36.0
742200141921211	Cossett pump	4	2.5	17.5			10.0								10.0
74362612003211	Pulp presses	7	8.0	8.0		56.0									56.0
744261432013931	Pressed pulp conveyors	2	10.0	10.0			20.0								20.0
741610142112211	Raw juice heater	2	10.0	10.0		20.0									20.0
727265154023211	First liming tank	1	15.0	15.6		15.0									15.0
742200142721211	Kieselguere pump	1	0.6	4.5				0.6							0.6
727260650021611	Raw juice sand catcher	1	0.5	1.0			0.5								0.5
727260765023211	First saturation tank	2	10.0	16.8		20.0									20.0
692110711321211	First saturation circ. tank	2	2.6	2.6		5.2									5.2
743620451004211	Thickener	2	40.0	70.5		80.0									80.0

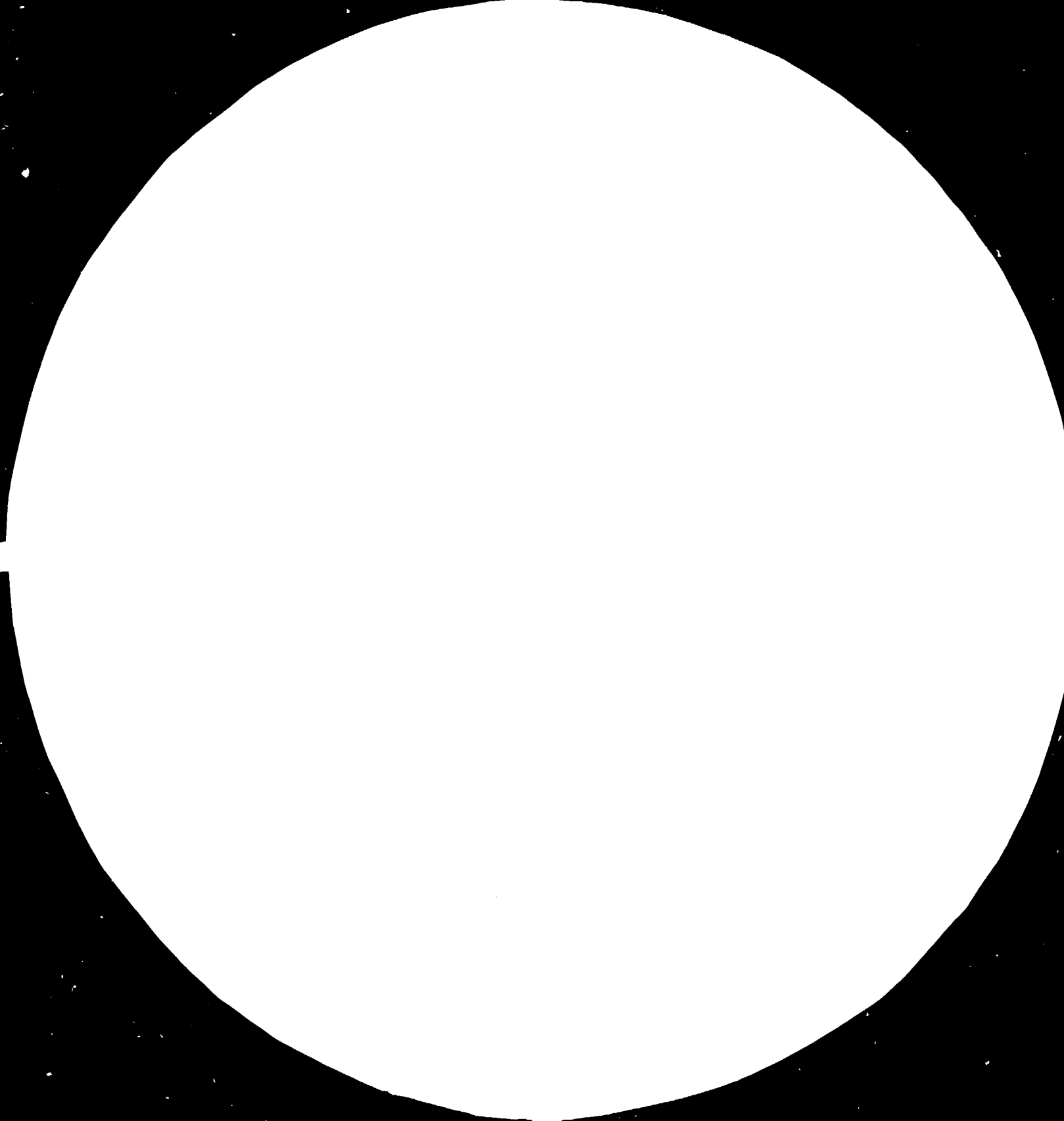
EQUIPMENT REQUIREMENTS FOR EXPANSION OF THE EXISTING ANKARA SUGAR PLANT
 LOCATION: ANKARA
 ANTICIPATED DATE OF COMMISSIONING: 1984
 CAPACITY 3000 T/D

Total weight in tons / value in ICOC (US \$)
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
743624150503211	Rotary filter	1	15.0	15.3			15.0								15.0
743511010021521	Centrifuges	23	4.5	20.0			103.5								103.5
74362141002211	String cage filters	10	5.0	4.00		50.0									50.0
692110711321211	Filter mud tank	1	3.0	3.0		3.0									3.0
741610142112211	Heaters for thin juice	3	10.0	10.9		30.0									30.0
741620152733211	Multi-stage evaporators	4	16.0	20.0		64.0									64.0
743523321221211	Candle filter	4	2.0	2.5			8.0								8.0
692110711321211	Kieselguere storage tank	3	3.0	2.0			8.0								9.0
741621122313211	Vacuum pans	7	20.0	35.0		140.0									140.0
727260640021211	Crystal sugar shaker	1	3.0	4.25			3.0								3.0
744265114011911	Crystal sugar elevator	1	12.0	14.0			12.0								12.0
743122381211211	Air pump	2	4.0	5.0				8.0							8.0
7416430408332111	Crystal sugar drying trammel	1	18.0	30.5		18.0									18.0
727260940021211	Crystal sugar crusher	1	0.4	5.2				0.4							0.4
692110710311211	Seco sugar melting tank	1	2.5	4.0		2.5									2.5
692110710311211	Affination sugar melting tank	1	2.6	4.0			2.5								2.5
741320325106211	Lime kiln	1	175.0	150.0				150.0							150.0

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MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010A
(ANSI and ISO TEST CHART No. 2)

EQUIPMENT REQUIREMENTS FOR EXPANSION OF THE EXISTING KASTAMONU SUGAR PLANT
 LOCATION: KASTAMONU
 ANTICIPATED DATE OF COMMISSIONING: 1984
 CAPACITY 3000 T/D

Total weight in tons / value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
743624150503211	Rotary filter	1	15.0	18.3			15.0								15.0
743511010021521	Centrifuges	23	4.5	20.0			103.5								103.5
74362141002211	String cage filters	10	5.0	4.88		50.0									50.0
692110711321211	Filter mud tank	1	3.0	3.0		3.0									3.0
741610142112211	Heaters for thin juice	3	10.0	10.9		30.0									30.0
741620152733211	Multi-stage evaporators	4	16.0	20.0		64.0									64.0
743623321221211	Candle filter	4	2.0	2.5			8.8								8.8
692110711321211	Kieselguhr storage tank	3	3.0	2.0			9.0								9.0
741521122313211	Vacuum pans	7	20.0	35.0		140.0									140.0
727260840021211	Crystal sugar shaker	1	3.0	4.25			3.0								3.0
744265114011911	Crystal sugar elevator	1	12.0	14.0			12.0								12.0
743122381211211	Air pump	2	4.0	5.0				8.0							8.0
7416430408332111	Crystal sugar drying trommel	1	18.0	35.5		18.0									18.0
727260940021211	Crystal sugar crusher	1	0.4	5.2				0.4							0.4
692110710311211	Seccon sugar melting tank	1	2.5	4.0		2.5									2.5
692110710311211	Affination sugar melting tank	1	2.5	4.0			2.5								2.5
741320325106211	Lime kiln	1	175.0	150.0				150.0							150.0

EQUIPMENT REQUIREMENTS FOR EXPANSION OF THE EXISTING ANKARA SUGAR PLANT
 LOCATION: ANKARA
 ANTICIPATED DATE OF COMMISSIONING: 1984
 CAPACITY 3000 T/D

Total weight in tons, value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
727260155215601	Automatic unload machine	1	60.0	96.0				96.0							96.0
761610333063211	Second and third sug. ref.	8	13.0	20.0		160.0									160.0
692110911323211	Distribution trough	3	15.5	8.0		24.0									24.0
762200142813241	Beet pump	2	16.0	24.5			49.0								49.0
72726036402611	Beet washing machine	1	35.0	52.0		52.0									52.0
742200132221211	Melted sugar pump	3	0.5	3.5			10.5								10.5
727260462021601	Tail cather	1	5.0	15.2				15.2							15.2
727260540023611	Beet cutting machine	3	15.0	24.5		73.5									73.5
744260133012911	Pulp conveyor	1	8.0	8.0		8.0									8.0
727265056027211	Diffuser	2	150.0	300.0		600.0									600.0
741639980593211	Scalding trough	2	18.0	30.0		60.0									60.0
742200141921211	Cossett pump	4	2.5	17.5			70.0								70.0
743626120003211	Pulp presses	7	8.0	8.0		56.0									56.0
74261432013831	Pressed pulp conveyors	2	10.0	10.0			20.0								20.0
741610142112211	Raw juice heater	2	10.0	10.9		21.8									21.8
72726514023211	First liming tank	1	15.0	15.6		15.6									15.6
742200142721211	Kiselgure pump	1	0.8	4.6				4.5							4.5
727260650021611	Raw juice sand catcher	1	0.5	1.0			1.0								1.0
727260765023211	First saturation tank	2	10.0	16.8		33.6									33.6
692110711321211	" " circ. tank	2	2.6	2.6		5.2									5.2
743620451004211	Thickener	2	40.0	70.5		141.0									141.0
743624150503211	Rotary filter	1	15.0	18.3			18.3								18.3
743511010021521	Centrifuges	23	4.5	20.0			460.0								460.0

EQUIPMENT REQUIREMENTS FOR EXPANSION OF THE EXISTING ANKARA SUGAR PLANT
 LOCATION: ANKARA
 ANTICIPATED DATE OF COMMISSIONING: 1984
 CAPACITY 3000 T/D

Total weight in tons, value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	198	198	1981	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74362114002211	String cage filters	10	5.0	4.88		48.8									48.8
692110711321211	Filter mud tank	1	3.0	3.0		3.0									3.0
741610142112211	Heaters for thin juice	3	10.0	10.9		32.7									32.7
741620152733211	Multi-stage evaporators	4	16.0	20.0		80.0									80.0
743623321221211	Candle filter	4	2.0	2.5			10.0								10.0
692110711321211	Kieselguere storage tank	3	3.0	2.0			6.0								6.0
741621122313211	Vacuum pans	7	20.0	35.0		245.0									245.0
727260840021211	Crystal sugar shaker	1	3.0	4.25			4.25								4.25
74265114011911	" " elevator	1	12.0	14.0			14.0								14.0
743122381211211	Air pump	2	4.0	5.0				10.0							10.0
741643040033211	Crystal sugar drying trommel	1	18.0	30.5		30.5									30.5
727260940021211	Crystal sugar crusher	1	0.4	5.2				5.2							5.2
692110710311211	Second sugar melting tank	1	2.5	4.0		4.0									4.0
692110710311211	Affination " " "	1	2.5	4.0			4.0								4.0
74132032506211	Lime kiln	1	175.0	150.0				150.0							150.0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGAR

PLANT, CAPACITY 6000 T / D

LOCATION KONYA

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 016621 8001	Auto.beet unloading mech.	2	100	114.5		208.0									208.0
72726 026002 3911	Leaf & stone catcher	2	15.0	30.5		30.0									30.0
72726 036402 4611	Beet washing machines	2	35	52.0	—										—
72726 046202 1601	Tail catcher machine	2	5.0	15.2		18.0									18.0
72726 054002 3611	Beet cutting machine	8	15.0	24.5	—										—
72726 066002 1611	Sand catcher (raw juice)	2	0.7	1.95	1.4										1.4
72726 066002 1211	Sand catcher (circulation)	2	0.6	3.3	1.2										1.2
72726 076402 2211	Saturation unit II	2	8	15.9	—										—
72726 076502 3211	Saturation unit I	3	10	16.8	—										—
72726 084052 1211	Crystal sugar shaker	1	4.0	4.75		4.0									4.0
72726 084002 1211	Sugar crusher	1	0.6	7.7	0.6										0.6
72726 106001 1801	Wagon & truck unloading sys.	2	2.0	3.75	4.0										4.0
72726 506602 8211	Diffuser	2	300	630.0	—										—
72726 516102 1211	Secondary liming I unit	2	1.6	2.6	—										—
72726 516502 4211	Preliming unit	2	25.0	17.8	—										—
72726 516512 4211	Secondary liming II unit	2	25.0	24.0	—										—

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGARPLANT, CAPACITY 6000 T/D

PAGE: 4

LOCATION: KONYA

ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	2	15.0	37.2	30.0										30.0
74132 032510 6211	Lime kiln	2	175.0	150.0	-										-
74132 051001 1611	Sulfur kiln	2	0.5	12.0	1.0										1.0
74161 014211 2211	Heater, thin juice	3	7.0	10.9	-										-
74161 014221 2211	Heater, circulation juice	3	7.0	14.0	-										-
74161 014321 3211	Heater, limed thin juice	3	10.0	11.35	-										-
74161 014321 3211	Heater, II saturation	2	10.0	11.35	-										-
74161 014321 3211	Heater, thin juice	12	10.0	11.35	-										-
74161 033306 3211	Raw sugar refrigerators	2	13.0	20.0	-										-
74161 033306 3211	Raw sugar refrigerators	2	13.0	20.0	-										-
74161 033306 3211	II sugar refrigerators	8	13.0	20.0	-										-
74161 033306 3211	Crystal sugar refrigerators	3	13.0	20.0	-										-
74161 033347 3211	III sugar refrigerators	24	13.5	20.0	-										-
74162 015273 3211	Multi-stage evaporators	7	15.0	20.0	-										-
74162 112231 3211	Vacuum pans - raw sugar	3	20.0	35.0	-										-
74162 112231 3211	Vacuum pans - II sugar	8	20.0	35.0	-										-
74162 112231 3211	Vacuum pans crystal sugar	6	20.0	35.0	-										-
74162 112231 3211	Vacuum pans III sugar	6	20.0	20.0	-										-
74163 998059 4211	Scalding trough	2	30.0	67.5	-										-
74164 305003 4211	Drying trommel	1	25.0	15.0	-										-

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE: 7

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/~~value in 1000 U.S.~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 230121 1211	Air pumps	5	4.0	11.0	-										-
74351 101002 1511	Centrifuges-raw sugar	10	4.5	40.0	-										-
74351 101002 1521	Centrifuges-II sugar	10	4.5	40.0	-										-
74351 101002 1521	Centrifuges-III sugar	16	4.5	40.0	-										-
74351 101002 1521	Centrifuges-Crystal sugar	10	4.5	40.0	-										-
74351 101002 1521	Centrifuges-Affination sugar	4	4.5	40.0	-										-
74362 045100 4211	Thickeners	2	35.0	53.7	-										-
74362 214100 2211	String cage filters	12	5.0	4.00	60.0										60.0
74362 332122 1211	Candle filters	6	2.0	2.50	12.0										12.0
74362 336110 2211	Filtering apparatus (BMA)	3	6.0	15.0	18.0										18.0
74362 415050 3211	Rotary filters	5	15.0	18.3	75.0										75.0
74362 612000 3211	Pulp presses	14	14.5	29.7	-										-

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGAR PLANT, CAPACITY 6000 T/D
 LOCATION KONYA
 ANTICIPATED DATE OF COMMISSIONING 1982

PAGE:8

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) Total weight in tons/value in 1000 U.S.\$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 011202 1911	Transportation band	2	3.0	1.4	—										—
74426 013301 2911	Pulp conveyor	2	8.0	8.0	—										—
74426 143201 3931	Pressed pulp conveyors	4	10.0	10.0	—										—
74426 143301 3911	Beet transporters	2	16.0	40.0	—										—
74426 413201 3941	Helical transporters	4	10.0	23.0	—										—
74426 511401 3911	Crystal sugar elevator	1	15.0	16.2	—										—
74525 026611 2211	Wagon and truck weighing M/C	7	10.0	10.0	—										—
74525 041011 1111	Tumba scale	2	0.75	1.5	1.5										1.5
74525 042011 1911	Weighing machine molasses	2	0.5	10.0	1.0										1.0
74525 021011 1712	Weighing machines	2	0.2	10.0	0.4										0.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUS SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION MUS

PAGE: 2

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5	2.5										2.5
69211 071031 1211	Wet. tank for ref. III. sug.	1	3.0	2.6	3.0										3.0
69211 071031 1211	Third sugar melting tank	1	2.5	5.0	2.5										2.5
69211 071031 1211	Affination juice tank	1	3.0	2.6	3.0										3.0
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5	1.0										1.0
69211 071031 1211	Raw juice storage tank	2	1.0	1.2	2.0										2.0
69211 071031 1211	Thin juice tank	1	2.5	3.0	2.5										2.5
69211 071132 1211	Circulation juice tank	2	2.6	2.6	5.2										5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2	1.5										1.5
69211 071132 1211	Mud tanks	1	3.0	3.0	3.0										3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5	4.0										4.0
69211 071031 1211	Tank. syrup storage	2	1.0	1.5	2.0										2.0
69211 071132 1211	Kieselgher storage tank	1	3.0	2.0	—										—
69211 091132 3211	Crys. dist. trough	1	12.0	8.0	—										—
69211 091102 3211	Distribution troughs	3	15.5	8.0	—										—
69211 091102 3211	Distribution trough	2	12.0	8.0	—										—
69211 091132 3211	Aff. dist. trough	1	15.5	14.5	—										—

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION MUŞ

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5601	Auto.beet unloading mech.	2	60	94.8		120.0									120.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.9		15.0									15.0
72726 036402 4611	Beet washing machines	1	35	52.0	—										—
72726 046202 1801	Tail catcher	1	5.0	15.2		50.0									50.0
72726 054002 3811	Beet cutting machine	5	15.0	24.5	—										—
72726 065002 1811	Sand catcher (raw juice)	2	0.5	1.0	1.0										1.0
72726 065002 1911	Sand catcher (circulation)	2	0.5	1.0	1.0										1.0
72726 076402 2211	Saturation unit II.	2	8	15.3	—										—
72726 076502 3211	Saturation unit I.	2	10	16.8	—										—
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25		3.0									3.0
72726 084002 1211	Sugar crusher	1	0.4	5.2	0.4										0.4
72726 106001 1801	Wagon & truck unloading sys.	1	2.0	3.75	2.0										2.0
72726 509602 7211	Diffuser	2	150.0	300.0	—										—
72726 516102 1211	Secondary liming I. unit	1	1.0	2.6	—										—
72726 515402 3211	Preliming unit	2	15	15.6	—										—
72726 515412 3211	Secondary liming II. unit	2	10	12.5	—										—

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 T/D

PAGE : 4

LOCATION: MUŞ

ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/~~value in 1000 U.S. \$.~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	1	15.0	37.2	15.0										15.0
74132 032510 6211	Lime kiln	1	175.0	150.0	—										—
74132 051001 1611	Sulfur kiln	1	0.5	12.0	0.5										0.5
74161 014321 3211	Heater, thin juice	2	7.0	10.9	—										—
74161 013121 3211	Heater, circulation juice	3	3.0	6.0	—										—
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35	—										—
74161 014211 2211	Heater, II. saturation	2	7.0	10.9	—										—
74161 014321 3211	Heater, thin juice	6	10.0	11.35	—										—
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0	—										—
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0	—										—
74161 033306 3211	II. sugar refrigerators	6	13.0	20.0	—										—
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0	—										—
74161 033367 3211	III. sugar refrigerators	16	13.6	20.0	—										—
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0	—										—
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0	—										—
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0	—										—
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0	—										—
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0	—										—
74163 990059 3211	Scalding trough	2	10.0	25.0	—										—
74164 304003 3211	Drying trommel	1	10.0	30.0	—										—

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 T/D

PAGE : 5

LOCATION: MUŞ

ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	2	1.0	5.5	2.0										2.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5	0.4										0.4
74220 013222 1211	Thin juice pump	2	0.8	5.5	1.6										1.6
74220 013222 1211	Green syrup pump	1	0.6	3.5	0.6										0.6
74220 013222 1211	White syrup pump	1	0.6	3.5	0.6										0.6
74220 013222 1211	Raw green syrup pump	1	0.5	3.5	0.5										0.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5	0.5										0.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5	0.5										0.5
74220 013222 1211	Liquorand pump	2	0.6	3.5	1.2										1.2
74220 013222 1211	Second green syrup pump	1	0.6	3.5	0.6										0.6
74220 013222 1211	Second white syrup pump	1	0.6	3.5	0.6										0.6
74220 013222 1211	Affination juice pump	1	0.6	3.5	0.6										0.6
74220 013222 1211	Melted second sugar pump	1	0.6	3.5	0.6										0.6
74220 013322 1211	Thick juice pumps	3	0.8	3.9	2.4										2.4
74220 013322 1211	Liquorand syrup pump	2	0.6	4.5	1.2										1.2
74220 013322 1211	III. liquor pump	1	0.6	3.5	0.6										0.6

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUS SUGAR PLANT, CAPACITY 3000 T/D

PAGE: 6

LOCATION: MUS

ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/~~value in 1000 U.S. \$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Coasett pump	2	2.5	17.5	35.0										5.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5	1.4										1.4
74220 015222 1211	Clear juice pump	1	1.2	5.5	1.2										1.2
74220 014272 1211	Kiselgure pump	1	0.6	4.5	0.6										0.6
74220 014281 3241	Beet pump	2	16.0	24.5	32.0										32.0
74220 014322 1211	Thin juice pump	1	0.7	3.5	0.7										0.7
74220 014322 1211	Thin juice pump	1	0.6	3.5	0.6										0.6
74220 014212 1211	Pumps before heater	1	0.7	3.0	0.7										0.7
74230 003181 1211	Third sugar melting tank pump	1	0.6	4.0	0.6										0.6
74230 003282 1211	Molasses pump	2	0.3	4.7	0.6										0.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000T/D

LOCATION MUŞ

PAGE: 7

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/~~value in 1000 U.S. \$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 238121 1211	Air pumps	3	4.0	5.0	—										—
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0	—										—
74351 101002 1521	Centrifuges-II sugar	10	4.5	20.0	—										—
74351 101002 1521	Centrifuges-III sugar	6	4.8	20.0	—										—
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0	—										—
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0	—										—
74362 045100 4211	Thickeners	1	40.0	70.5	—										—
74362 214100 2211	String cage filters	6	5.0	4.88	30.0										30.0
74362 332122 1211	Candle filters	4	2.0	2.50	8.0										8.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5	12.0										12.0
74369 415050 3211	Rotary filters	3	15.0	18.3	45.0										45.0
74362 612000 3211	Pulp presses	10	14.5	29.7	—										—

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUS SUGAR PLANT, CAPACITY 3000 T / D

LOCATION MUS

PAGE: 8

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 01202 1911	Transportation band	1	3.0	1.4	3.0										3.0
74426 013301 2911	Pulp conveyor	1	8.0	8.0	8.0										8.0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0	20.0										20.0
74426 143301 3911	Beet transporters	1	16.0	38.8	16.0										16.0
74426 413201 3941	Helical transporters	2	10.0	23.0	20.0										20.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0	12.0										12.0
74525 026611 2211	Wagon and truck weighing M/C	6	18.0	19.0	—										—
74525 041011 1111	Tumba scale	1	0.75	1.5		0.75									0.75
74525 042011 1911	Weighing machine molasses	1	0.5	10.0		0.5									0.5
74525 021011 1712	Weighing machines	2	0.2	10.0		0.4									0.4

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000 T/D
 LOCATION NIGDE
 ANTICIPATED DATE OF COMMISSIONING 1983

PAGE: 1

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/~~value in 1000 U.S. \$~~
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0	7.0										7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0		2.5									2.5
59211 071031 1211	Clear juice tank	1	2.0	2.0		2.0									2.0
59211 071031 1211	Purified juice tank	1	2.0	2.0		2.0									2.0
59211 071031 1211	Mud juice tank	1	2.0	2.0		2.0									2.0
69211 071031 1211	Thin juice tank	2	4.5	2.5	9.0										9.0
69211 071132 1211	Thick juice storage tank	10	2.0	2.0		20.0									20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.5		6.0									6.0
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.5		6.0									6.0
69211 071031 1211	Molasses tank	1	3.2	2.5		3.2									3.2
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.5		3.0									3.0
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.5		6.0									6.0
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0		2.5									2.5
59211 071132 1211	Liquefied syrup storage tank	3	3.0	2.5		9.0									9.0
69211 071031 1211	Second green syrup st. tank	3	3.0	2.5		9.0									9.0
69211 071031 1211	Second white syrup storage tank	2	3.0	2.5		6.0									6.0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR

PLANT, CAPACITY 3000T/D

LOCATION NIĞDE

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING 1983

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 560	Auto.beet unloading mech.	2	60	94.0			120.0								120.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5			15.0								5.0
72726 036402 4611	Beet washing machines	1	35	52.0	35.0										35.0
72726 046202 160	Tail catcher	1	5.0	15.2			5.0								5.0
72726 054002 3611	Beet cutting machine	5	15.0	24.5	75.0										75.0
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0			1.0								1.0
72726 065002 1611	Sand catcher (circulation)	2	0.5	1.0			1.0								1.0
72726 076402 2211	Saturation unit II.	2	8	15.3	16.0										16.0
72726 076502 3211	Saturation unit I.	2	10	16.8	20.0										20.0
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25			3.0								3.0
72726 084002 1211	Sugar crusher	1	0.4	5.2			0.4								0.4
72726 106001 1808	Wagon & truck unloading sys.	1	2.0	3.75			2.0								2.0
72726 509502 7211	Diffuser	2	150.0	300.0	300.0										300.0
72726 516102 1211	Secondary liming I.unit	1	10	2.6	1.0										1.0
72726 515002 3211	Preliming unit	2	15	15.6	30.0										30.0
72726 515412 3211	Secondary liming II. unit	2	10	12.5	20.0										20.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000T/D
 LOCATION: NIGDE
 ANTICIPATED DATE OF COMMISSIONING: 1983
 SUGAR BEET MACHINERY (GENERAL ITEMS)

PAGE: 4

Total weight in tons/value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total
72831 304001 3231	Water & mud separating unit	1	15.0	37.2		15.0									15.0
74132 032910 6211	Lime kiln	1	175.0	150.0	175.0										175.0
74132 051001 1611	Sulfur kiln	1	0.5	12.0	0.5										0.5
74161 014321 3211	Heater, thin juice	2	7.0	10.9	14.0										14.0
74161 013121 1211	Heater, circulation juice	3	3.0	6.0	9.0										9.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35	20.0										20.0
74161 014211 2211	Heater, II. saturation	2	7.0	10.9	14.0										14.0
74161 014321 3211	Heater, thin juice	6	10.0	11.35	60.0										60.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0	13.0										13.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0	13.0										13.0
74161 033306 3211	II. sugar refrigerators	8	13.0	20.0	78.0										78.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0	26.0										26.0
74161 033347 3211	III. sugar refrigerators	16	13.6	20.0	217.6										217.6
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0	64.0										64.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0	40.0										40.0
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0	60.0										60.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0	60.0										60.0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0	100.0										100.0
74163 998059 3211	Scaling trough	2	18.0	25.0	36.0										36.0
74164 304503 3211	Drying trolley	1	18.0	30.0	18.0										18.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000 T/D

PAGE : 6

LOCATION: NIĞDE

ANTICIPATED DATE OF COMMISSIONING: 1983

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5		5.0									5.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5		1.4									1.4
74220 015222 1211	Clear juice pump	1	1.2	5.5		1.2									1.2
74220 014272 1211	Siselgure pump	1	0.6	4.5		0.6									0.6
74220 014281 3241	Beet pump	2	16.0	24.5		32.0									32.0
74220 014322 1211	Thin juice pump	1	0.7	3.5		0.7									0.7
74220 014322 1211	Thin juice pump	1	0.6	3.5		3.5									3.5
74220 014212 1211	Pumps before heater	1	0.7	3.0		0.7									0.7
74230 003161 1211	Third sugar melting tank pump	1	0.6	4.0		0.6									0.6
74230 003252 1211	Molasses pump	2	0.3	4.7		0.6									0.6

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION NIĞDE

PAGE: 8

ANTICIPATED DATE OF COMMISSIONING 1983

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT)

Total weight in tons/value in 1980 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 011202 1911	Transportation band	1	3.0	1.4		3.0									3.0
74426 013301 2911	Pulp conveyor	1	8.0	8.0		8.0									8.0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0		20.0									20.0
74426 143301 3911	Beet transporters	1	16.0	38.8		16.0									16.0
74426 413201 3941	Helical transporters	2	10.0	23.0		20.0									20.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0		12.0									12.0
74525 026011 2211	Wagon and truck weighing M/C	6	10.0	18.0	60.0										60.0
74525 341011 1111	Tumba scale	1	0.75	1.5			0.75								0.75
74525 042011 1911	Weighing machine molasses	1	0.5	10.0			0.5								0.5
74525 021011 1712	Weighing machines	2	0.2	10.0			20.0								20.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRISUGAR PLANT, CAPACITY 3000 T/D

LOCATION AGRISUGAR

PAGE: 1

ANTICIPATED DATE OF COMMISSIONING 1984

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons / value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
59211 021001 2211	Beet storage bunker	1	7.0	7.0		7.0									7.0
59211 071101 1211	Crys. sugar storage tank	1	2.5	4.0			2.5								2.5
59211 071031 1211	Clear juice tank	1	2.0	2.0			2.0								2.0
59211 071031 1211	Purified juice tank	1	2.0	2.0			2.0								2.0
59211 071031 1211	Mud juice tank	1	2.0	2.0			2.0								2.0
59211 071031 1211	Thin juice tank	2	4.5	2.6		9.0									9.0
59211 071132 1211	Thick juice storage tank	10	2.0	2.0			20.0								20.0
59211 071031 1211	Crys. sug. gr. syr. ster. tank	2	3.0	2.6			6.0								6.0
59211 071031 1211	Crys. sug. wh. syr. ster. tank	2	3.0	2.6			6.0								6.0
59211 071031 1211	Melasses tank	1	3.2	2.6			3.2								3.2
59211 071031 1211	Raw green syrup storage tank	1	3.0	2.6			3.0								3.0
59211 071031 1211	Raw white syrup storage tank	2	3.0	2.6			6.0								6.0
59211 071031 1211	Raw sugar melting tank	1	2.5	4.0			2.5								2.5
59211 071132 1211	Liquefied syrup storage tank	3	3.0	2.6			9.0								9.0
59211 071031 1211	Second green syrup st. tank	3	3.0	2.6			9.0								9.0
59211 071031 1211	Second white syrup storage tank	2	3.0	2.6			6.0								6.0

TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW AGRÍ SUGAR
 LOCATION AGRÍ
 ANTICIPATED DATE OF COMMISSIONING 1984
 SUGAR BEET MACHINERY (TANKS AND TROUGHS)

PLANT, CAPACITY 3000 T/D

PAGE : 2

Total weight in tons/value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5			2.5								2.5
69211 071031 1211	Wat. tank for ref. III sug.	1	3.0	2.6			3.0								3.0
69211 071031 1211	Third sugar melting tank	1	2.5	5.0			2.5								2.5
69211 071031 1211	Affination juice tank	1	3.0	2.6			3.0								3.0
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5			1.0								1.0
69211 071031 1211	Rew juice storage tank	2	1.0	1.2			2.0								2.0
69211 071031 1211	Thin juice tank	1	2.5	3.0			2.5								2.5
69211 071132 1211	Circulation juice tank	2	2.6	2.6			5.2								5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2			1.5								1.5
69211 071132 1211	Mud tanks	1	3.0	3.0			3.0								3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5			4.0								4.0
69211 071031 1211	Tank. syrup storage	2	1.0	1.5			2.0								2.0
69211 071132 1211	Kiselghur storage tank	1	3.0	2.0		3.0									3.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0		12.0									12.0
69211 091102 3211	Distribution troughs	3	15.5	8.0		46.5									46.5
69211 091102 3211	Distribution trough	2	12.0	8.0		24.0									24.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6		15.5									15.5

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRICULTURAL SUGAR

PLANT, CAPACITY 3000T/D

LOCATION AGRICULTURAL

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING 1984

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5601	Auto.beet unloading mach.	2	60	94.0				120.0							120.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5				15.0							15.0
72726 036402 4611	Beet washing machines	1	35	52.0		35.0									35.0
72726 046202 1801	Tail catcher machine	1	5.0	15.2				5.0							5.0
72726 054002 3611	Beet cutting machine	5	15.0	24.5		75.0									75.0
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0			1.0								1.0
72726 065002 1811	Sand catcher (circulation)	2	0.5	1.0			1.0								1.0
72726 076402 2211	Saturation unit II.	2	8	15.3		16.0									16.0
72726 076502 3211	Saturation unit I.	2	10	15.8		20.0									20.0
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25				3.0							3.0
72726 084002 1211	Sugar crusher	1	0.4	5.2			0.4								0.4
72726 106001 1800	Wagon & truck unloading sys.	1	2.0	3.75			2.0								2.0
72726 505602 7211	Diffuser	2	150.0	300.0		300.0									300.0
72726 516102 1211	Secondary liming I.unit	1	1.0	2.6		1.0									1.0
72726 515402 3211	Preliming unit	2	15	15.6		30.0									30.0
72726 515412 3211	Secondary liming II.unit	2	10	12.5		20.0									20.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRICULTURAL SUGAR PLANT, CAPACITY 3000 T/D

PAGE : 5

LOCATION: AGRICULTURAL

ANTICIPATED DATE OF COMMISSIONING: 1984

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013222 1211	Thin juice pump	2	1.0	5.5			2.0								2.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5			0.4								0.4
74220 013222 1211	Thin juice pump	2	0.8	5.5			1.6								1.6
74220 013222 1211	Green syrup pump	1	0.6	3.5			0.6								0.6
74220 013222 1211	White syrup pump	1	0.6	3.5			0.6								0.6
74220 013222 1211	Raw green syrup pump	1	0.5	3.5			0.5								0.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5			0.5								0.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5			0.5								0.5
74220 013222 1211	Liquorand pump	2	0.6	3.5			1.2								1.2
74220 013222 1211	Second green syrup pump	1	0.6	3.5			0.6								0.6
74220 013222 1211	Second white syrup pump	1	0.6	3.5			0.6								0.6
74220 013222 1211	Affination juice pump	1	0.6	3.5			0.6								0.6
74220 013222 1211	Melted second sugar pump	1	0.6	3.5			0.6								0.6
74220 013322 1211	Thick juice pumps	3	0.8	3.9			2.4								2.4
74220 013322 1211	Liquorand syrup pump	2	0.6	4.5			1.2								1.2
74220 013322 1211	III. liquor pump	1	0.6	3.5			0.6								0.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRICULTURAL SUGAR PLANT, CAPACITY 3000T/ D
 LOCATION: AGRICULTURAL
 ANTICIPATED DATE OF COMMISSIONING: 1984

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SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/~~value in 1000 U.S. \$~~
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5			5.0								5.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5			1.4								1.4
74220 015222 1211	Clear juice pump	1	1.2	5.5			1.2								1.2
74220 014272 1211	Kiselgure pump	1	0.6	4.5			0.6								0.6
74220 014281 3241	Beet pur	2	15.0	24.5			32.0								32.0
74220 014322 1211	Thin juice pump	1	0.7	3.5			0.7								0.7
74220 014322 1211	Thin juice pump	1	0.6	3.5			0.6								0.6
74220 014212 1211	Pumps before heater	1	0.7	3.0			0.7								0.7
74230 003101 1211	Third sugar melting tank pump	1	0.6	4.0			0.6								0.6
74230 003202 1211	Molasses pump	2	0.3	4.7			0.6								0.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRISUGAR PLANT, CAPACITY 3000T/D
 LOCATION AGRISUGAR
 ANTICIPATED DATE OF COMMISSIONING 1984

PAGE : 7

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/value in 1000 U.S.\$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 230121 1211	Air pumps	3	4.0	5.0		12.0									12.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0		18.0									18.0
74351 101002 1521	Centrifuges-II.sugar	10	4.5	20.0		45.0									45.0
74351 101002 1521	Centrifuges-III.sugar	8	4.5	20.0		27.0									27.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0		31.5									31.5
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0		9.0									9.0
74362 045100 4211	Thickners	1	40.0	70.5		40.0									40.0
74362 214100 2211	String cage filters	5	5.0	6.0			30.0								30.0
74362 332122 1211	Candle filters	4	2.0	2.50			8.0								8.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5			12.0								12.0
74359 415050 3211	Rotary filters	3	15.0	18.3			45.0								45.0
74362 612000 3211	Pulp presses	10	14.5	29.7		145.0									145.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRICULTURAL SUGAR PLANT, CAPACITY 3000 T/D
 LOCATION AGRICULTURAL
 ANTICIPATED DATE OF COMMISSIONING 1984

PAGE: 8

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) Total weight in tons/value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 01252 1911	Transportation band	1	3.0	1.4			3.0								3.0
74426 013301 2911	Pulp conveyor	1	8.0	8.0			8.0								8.0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0			20.0								20.0
74426 143301 3911	Beet transporters	1	16.0	38.0			16.0								16.0
74426 413201 3941	Helical transporters	2	10.0	23.0			20.0								20.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0			12.0								12.0
74525 026601 2211	Wagon and truck weighing M/C	6	10.0	18.0	60.0										60.0
74525 041011 1111	Tumba scale	1	0.75	1.5				0.75							0.75
74525 042211 1911	Weighing machine molasses	1	0.5	10.0				0.5							0.5
74525 021011 1712	Weighing machines	2	0.2	10.0				0.4							0.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW CARSAMBA SUGAR PLANT, CAPACITY 3000 T/D
 LOCATION SAMSUN
 ANTICIPATED DATE OF COMMISSIONING 1985

PAGE: 1

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/~~value in 1000 U.S. \$~~
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0			7.0								7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0				2.5							2.5
69211 071031 1211	Clear juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Thin juice tank	2	4.5	2.6			9.0								9.0
69211 071132 1211	Thick juice storage tank	10	2.0	2.0				20.0							20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.5				6.0							6.0
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.5				6.0							6.0
69211 071031 1211	Melasses tank	1	3.2	2.6				3.2							3.2
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.5				3.0							3.0
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6				6.0							6.0
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0				2.5							2.5
69211 071132 1211	Liquefied syrup storage tank	3	3.0	2.6				9.0							9.0
69211 071031 1211	Second green syrup st. tank	3	3.0	2.6				9.0							9.0
69211 071031 1211	Second white syrup storage tank	2	3.0	2.6				6.0							6.0

TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW ÇARSAMBA SUGAR PLANT, CAPACITY 3000T/D

LOCATION SAMSUN

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING 1985

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S. \$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. suger melting tank	1	2.5	3.5				2.5							2.5
69211 071031 1211	Wat. tank for ref. III. sug.	1	3.0	2.6				3.0							3.0
69211 071031 1211	Third suger melting tank	1	2.5	5.0				2.5							2.5
69211 071031 1211	Affination juice tank	1	3.0	2.6				3.0							3.0
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5				1.0							1.0
69211 071031 1211	Raw juice storage tank	2	1.0	1.2				2.0							2.0
69211 071031 1211	Thin juice tank	1	2.5	3.0				2.5							2.5
69211 071132 1211	Circulation juice tank	2	2.6	2.6				5.2							5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2				1.5							1.5
69211 071132 1211	Mud tanks	1	3.0	3.0				3.0							3.0
69211 071132 1211	Thick juice ste. tank	2	2.0	1.5				4.0							4.0
69211 071031 1211	Tank syrup storage	2	1.0	1.5				2.0							2.0
69211 071132 1211	Kiselghur storage tank	1	3.0	2.0			3.0								3.0
69211 091132 3211	Crys. dist. trough	1	12.0	0.0			12.0								12.0
69211 09102 3211	Distribution troughs	3	15.5	0.0			46.5								46.5
69211 09102 3211	Distribution trough	2	12.0	0.0			24.0								24.0
69211 091132 3211	Aff. dist. trough	1	15.5	0.0			15.5								15.5

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ÇARŞAMBA SUGAR PLANT, CAPACITY 3000T/D

LOCATION SAMSUN

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING 1985

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 0755215801	Auto.beet unloading mech.	2	60	94.0					120.0						120.0
72726 026002 3977	Leaf & stone catcher	1	15.0	30.5					15.0						15.0
72726 036402 4611	Beet washing machines	1	35	52.0			35.0								35.0
72726 046202 1001	Tail catcher machine	1	5.0	15.2					5.0						5.0
72726 054002 3611	Beet cutting machine	5	15.0	24.5			75.0								75.0
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0				1.0							1.0
72726 065002 1611	Sand catcher (circulation)	2	0.5	1.0				1.0							1.0
72726 076402 2211	Saturation unit II.	2	8	15.3			16.0								16.0
72726 076502 3211	Saturation unit I.	2	10	16.8			20.0								20.0
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25					3.0						3.0
72726 084002 1211	Sugar crusher	1	0.4	5.2				0.4							0.4
72726 106001 1801	Wagon & truck unloading sys.	1	2.0	3.75				2.0							2.0
72726 505602 7271	Diffuser	1	150.0	300.0			150.0								150.0
72726 516102 1211	Secondary liming I.unit	1	1.0	2.6			1.0								1.0
72726 516402 3211	Preliming unit	2	15	15.6			30.0								30.0
72726 515412 3211	Secondary liming II.unit	2	10	12.5			20.0								20.0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ÇARŞAMBA SUGAR PLANT, CAPACITY 3000T/D - PAGE : 4

LOCATION: SAMSUN

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	1	15.0	37.2					15.0						15.0
74132 032510 6211	Lime kiln	1	175.0	150.0			175.0								175.0
74132 051001 1611	Sulfur kiln	1	0.5	12.0				0.5							0.5
74161 014321 3211	Heater, thin juice	2	7.0	10.9			14.0								14.0
74161 01312 1 1211	Heater, circulation juice	3	3.0	6.0			9.0								9.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35			20.0								20.0
74161 014211 2211	Heater, II. saturation	2	7.0	10.9			14.0								14.0
74161 014321 3211	Heater, thin juice	6	10.0	11.35			60.0								60.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0			13.0								13.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0			13.0								13.0
74161 033306 3211	II. sugar refrigerators	6	13.0	20.0			78.0								78.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0			26.0								26.0
74161 033347 3211	III. sugar refrigerators	16	13.6	20.0				217.6							217.6
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0			64.0								64.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0			40.0								40.0
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0			60.0								60.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0			80.0								80.0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0			100.0								100.0
74163 998059 3211	Scalding trough	2	18.0	25.0			36.0								36.0
74164 304003 3211	Drying trolley	1	18.0	30.0			18.0								18.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ÇARSAMBA SUGAR PLANT, CAPACITY 3000 T/ D

LOCATION SAMSUN

PAGE: 7

ANTICIPATED DATE OF COMMISSIONING 1985

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 238121 1211	Air pumps	3	4.0	5.0			12.0								12.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0			18.0								18.0
74351 101002 1521	Centrifuges-II. sugar	10	4.5	20.0			45.0								45.0
74351 101002 1521	Centrifuges-III. sugar	6	4.5	20.0			27.0								27.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0			31.5								31.5
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0			9.0								9.0
74362 045100 4211	Thickeners	1	40.0	70.5			40.0								40.0
74362 214100 2211	String edge filters	6	5.0	4.98			30.0								30.0
74362 332122 1211	Candle filters	4	2.0	2.50			8.0								8.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5			12.0								12.0
74389 415090 3211	Rotary filters	3	15.0	18.3					45.0						45.0
74362 612000 3211	Pulp presses	10	14.5	29.7			145.0								145.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT, CAPACITY 3000T/D PAGE: 4

LOCATION: KAHRAMAN MARAŞ

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	1	15.0	37.2					15.0						15.0
74132 032510 6211	Lime kiln	1	175.0	150.0			175.0								175.0
74132 051001 1611	Sulfur kiln	1	0.5	12.0				0.5							0.5
74161 014321 3211	Heater, thin juice	2	7.0	10.9			14.0								14.0
74161 013121 1211	Heater, circulation juice	3	3.0	6.0			9.0								9.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35			20.0								20.0
74161 014211 2211	Heater, II. saturation	2	7.0	10.9			14.0								14.0
74161 014321 3211	Heater, thin juice	6	10.0	11.35			60.0								60.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0			13.0								13.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0			13.0								13.0
74161 033306 3211	II. sugar refrigerators	8	13.0	20.0			70.0								70.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0			26.0								26.0
74161 033367 3211	III. sugar refrigerators	16	13.6	20.0			217.6								217.6
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0			64.0								64.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0			60.0								60.0
74162 112231 3211	Vacuum pans - II. sugar	2	20.0	35.0			60.0								60.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0			60.0								60.0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0			100.0								100.0
74163 998059 3211	Scalding trough	2	10.0	25.0			30.0								30.0
74164 304003 3211	Drying tremmel	1	10.0	30.0			10.0								10.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT, CAPACITY 3000T/D PAGE : 5

LOCATION: KAHRAMAN MARAŞ

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	2	1.0	5.5				2.0							2.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5				0.4							0.4
74220 013222 1211	Thin juice pump	2	0.8	5.5				1.6							1.6
74220 013222 1211	Green syrup pump	1	0.6	3.5				0.6							0.6
74220 013222 1211	White syrup pump	1	0.6	3.5				0.6							0.6
74220 013222 1211	Raw green syrup pump	1	0.5	3.5				0.5							0.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5				0.5							0.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5				0.5							0.5
74220 013222 1211	Liquorand pump	2	0.6	3.5				1.2							1.2
74220 013222 1211	Second green syrup pump	1	0.6	3.5				0.6							0.6
74220 013222 1211	Second white syrup pump	1	0.6	3.5				0.6							0.6
74220 013222 1211	Affination juice pump	1	0.6	3.5				0.6							0.6
74220 013222 1211	Melted second sugar pump	1	0.6	3.5				0.6							0.6
74220 013322 1211	Thick juice pumps	3	0.8	3.9				2.4							2.4
74220 013322 1211	Liquorand syrup pump	2	0.6	4.5				1.2							1.2
74220 013322 1211	III. liquor pump	1	0.6	3.5				0.6							0.6

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBİSTAN SUGAR PLANT, CAPACITY 3000 T/D PAGE : 6
 LOCATION: KAHRAMAN MARAŞ
 ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in \$1000 U.S.\$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5				5.0							5.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5				1.4							1.4
74220 015222 1211	Clear juice pump	1	1.2	5.5				1.2							1.2
74220 014272 1211	Kiseltgure pump	1	0.6	4.5				0.6							0.6
74220 014281 3241	Beet pump	2	16.0	24.5				32.0							32.0
74220 014322 1211	Thin juice pump	1	0.7	3.5				0.7							0.7
74220 014322 1211	Thin juice pump	1	0.6	35.5				0.6							0.6
74220 014212 1211	Pumps before heater	1	0.7	3.0				0.7							0.7
74230 003181 1211	Third sugar matting tank pump	1	0.6	4.0				0.6							0.6
74230 003282 1211	Molasses pump	2	0.3	4.7				0.6							0.6

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBİSTAN SUGAR PLANT, CAPACITY 3000 T/D

LOCATION KAHRAMAN MARAŞ

PAGE : 7

ANTICIPATED DATE OF COMMISSIONING 1985

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/value in 1980 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$. 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 230121 1211	Air pumps	3	4.0	5.0			12.0								12.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0			18.0								18.0
74351 101002 1521	Centrifuges-II sugar	10	4.5	20.0			45.0								45.0
74351 101002 1521	Centrifuges-III sugar	6	4.5	20.0			27.0								27.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0			31.5								31.5
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0			9.0								9.0
74362 045100 4211	Thickeners	1	40.0	70.5			40.0								40.0
74362 214100 2211	String cage filters	6	5.0	4.80				30.0							30.0
74362 332122 1211	Candle filters	4	2.0	2.50				8.0							8.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5				12.0							12.0
74369 415050 3211	Rotary filters	3	15.0	18.3				45.0							45.0
74362 612000 3211	Pulp presses	10	14.5	29.7				145.0							145.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT, CAPACITY 3000T/D
 LOCATION KAHRAMAN MARAS
 ANTICIPATED DATE OF COMMISSIONING 1985

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SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) Total weight in tons ~~Value is 1000000~~ \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74426 011202 1911	Transportation band	1	3.0	1.4				3.0							3.0
74426 013301 2911	Pulp conveyor	1	6.0	6.0				6.0							6.0
74426 143201 3931	Pressed pulp conveyors	3	10.0	10.0				20.0							20.0
74426 143301 3911	Beet transporters	1	16.0	38.8				16.0							16.0
74426 413201 3941	Helical transporters	2	10.0	23.0				20.0							20.0
74426 511401 1911	Crystal sugar elevator	1	12.0	12.0				12.0							12.0
74525 026611 2211	Wagon and truck weighing M/C	5	10.0	18.0		60.0									60.0
74525 041011 1111	Tumba scale	1	0.75	15					0.75						0.75
74525 042011 1911	Weighing machine molasses	1	0.5	10.0					0.5						0.5
74525 021011 1712	Weighing machines	2	0.2	10.0					0.4						20.0

TABLE NO.

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT, CAPACITY 6000 t/d

LOCATION KONYA

ANTICIPATED DATE OF COMMISSIONING 1986

PAGE: 1

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 3211	Beet storage bunker	1	12.0	12.0				12.0							12.0
69211 071001 1211	Crys. sugar storage tank	1	2.5	4.0					2.5						2.5
59211 071031 1211	Clear juice tank	1	3.0	2.6					3.0						3.0
69211 071031 1211	Purified juice tank	1	3.0	2.6					3.0						3.0
69211 071031 1211	Mud juice tank	1	3.0	2.6					3.0						3.0
69211 071031 1211	Thin juice tank	4	4.5	2.6				18.0							18.0
69211 071031 1211	Thick juice storage tank	10	3.0	3.25					30.0						30.0
69211 071031 1211	Crys. sug. gr. syr. ster. tank	3	3.0	2.6					9.0						9.0
69211 071031 1211	Crys. sug. wh. syr. ster. tank	3	3.0	2.6					9.0						9.0
69211 071031 1211	Melasses tank	1	3.2	2.6					3.2						3.2
69211 071031 1211	Raw green syrup storage tank	2	3.0	2.6					6.0						6.0
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6					6.0						6.0
69211 071031 1211	Raw sugar melting tank	2	2.5	4.0					5.0						5.0
69211 071031 1211	Liquefied syrup storage tank	4	3.0	2.6					12.0						12.0
69211 071031 1211	Second green syrup st. tank	4	3.0	2.6					12.0						12.0
69211 071031 1211	Second white syrup storage tank	4	3.0	2.6					12.0						12.0

TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW EREĞLI SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING 1986

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S. \$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	2	2.5	3.5					5.0						5.0
69211 071031 1211	Wat. tank for ref. III sug.	1	3.0	2.6					3.0						3.0
69211 071031 1211	Third sugar melting tank	1	2.5	5.0					2.5						2.5
69211 071031 1211	Affination juice tank	2	3.0	2.6					6.0						6.0
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5					1.0						1.0
69211 071132 1211	Raw juice storage tank	2	2.5	3.0					5.0						5.0
69211 071131 1211	Thin juice tank	2	2.5	3.0					5.0						5.0
69211 071132 1211	Circulation juice tank	3	2.6	2.6					7.8						7.8
69211 071132 1211	Level adjusting tank	4	0.5	1.2					2.0						2.0
69211 071132 1211	Mud tanks	2	3.0	3.0					6.0						6.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5					4.0						4.0
69211 071031 1211	Tank syrup storage	2	1.0	2.0					2.0						2.0
69211 071132 2211	Kieselghur storage tank	2	5.0	2.0				10.0							10.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0				12.0							12.0
69211 091132 3211	Distribution troughs	3	15.5	8.0				46.5							46.5
69211 091132 3211	Distribution trough	3	12.0	8.0				36.0							36.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.5				15.5							15.5

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING 1986

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 016621 660	Auto.beet unloading mach.	2	100	114.5						200.0					200.0
72726 026002 3911	Leaf & stone catcher	2	15.0	30.5						30.0					30.0
72726 036402 4611	Beet washing machines	2	35	52.0				70.0							70.0
72726 046202 1601	Tail catcher machine	2	5.0	15.2						10.0					10.0
72726 054002 3611	Beet cutting machine	8	15.0	24.5				120.0							120.0
72726 066002 1611	Sand catcher (raw juice)	2	0.7	1.85					1.4						1.4
72726 066002 1211	Sand catcher (circulation)	2	0.6	3.3					1.2						1.2
72726 076402 2211	Saturation unit II	2	8	15.3				16.0							16.0
72726 076502 3211	Saturation unit I	3	10	16.8				30.0							30.0
72726 084052 1211	Crystal suger shaker	1	4.0	4.75						4.0					4.0
72726 084002 1211	Suger crusher	1	0.6	7.7					0.6						0.6
72726 106001 1811	Wagon & truck unloading sys.	2	2.0	3.75					4.0						4.0
72726 506602 8211	Diffuser	2	300.0	630.0				600.0							600.0
72726 516102 1211	Secondary liming I unit	2	1.0	2.6				2.0							2.0
72726 516502 4211	PreLiming unit	2	25.0	17.8				50.0							50.0
72726 516512 4211	Secondary liming II unit	2	25.0	24.0				50.0							50.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT, CAPACITY 6000 T/D
 LOCATION: KONYA

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 4

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/~~value in 1000 U.S. \$~~
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	2	15.0	37.2					30.0						30.0
74132 032510 6211	Lime kiln	2	175.0	150.0			175.0	175.0							350.0
74132 051001 1611	Sulfur kiln	2	0.5	12.0					1.0						1.0
74161 014211 2211	Heater, thin juice	3	7.0	10.9				21.0							21.0
74161 014221 2211	Heater, circulation juice	3	7.0	14.0				21.0							21.0
74161 014321 3211	Heater, limed thin juice	3	10.0	11.35				30.0							30.0
74161 014321 3211	Heater, II saturation	2	10.0	11.35				20.0							20.0
74161 014321 3211	Heater, thin juice	12	10.0	11.35				120.0							120.0
74161 033306 3211	Raw sugar refrigerators	2	13.0	20.0				26.0							26.0
74161 033306 3211	Raw sugar refrigerators	2	13.0	20.0				26.0							26.0
74161 033306 3211	II sugar refrigerators	8	13.0	20.0				104.0							104.0
74161 033306 3211	Crystal sugar refrigerators	3	13.0	20.0				39.0							39.0
74161 033347 3211	III sugar refrigerators	24	13.5	20.0				224.0							224.0
74162 015273 3211	Multi-stage evaporators	7	16.0	20.0				112.0							112.0
74162 112231 3211	Vacuum pans - raw sugar	3	20.0	35.0				60.0							60.0
74162 112231 3211	Vacuum pans - II sugar	8	20.0	35.0				160.0							160.0
74162 112231 3211	Vacuum pans crystal sugar	6	20.0	35.0				120.0							120.0
74162 112231 3211	Vacuum pans III sugar	6	20.0	20.0				120.0							120.0
74163 988059 4211	Scalding trough	2	30.0	60.0				60.0							60.0
74164 305003 4211	Drying trommel	1	25.0	45.0				25.0							25.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREĞLI SUGAR PLANT, CAPACITY 6000 T / D

LOCATION: KONYA

PAGE: 5

ANTICIPATED DATE OF COMMISSIONING: 1986

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	3	1.0	3.5					3.0						3.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5					0.4						0.4
74220 013222 1211	Thin juice pump	3	0.8	3.5					2.4						2.4
74220 013222 1211	Green syrup pump	2	0.6	3.5					1.2						1.2
74220 013222 1211	White syrup pump	2	0.6	3.5					1.2						1.2
74220 013222 1211	Raw green syrup pump	2	0.5	3.5					1.0						1.0
74220 013222 1211	Raw white syrup pump	1	0.5	3.5					0.5						0.5
74220 013222 1211	Melted raw sugar pump	2	0.5	3.5					1.0						1.0
74220 013222 1211	Liquorand pump	3	0.6	3.5					1.8						1.8
74220 013222 1211	Second green syrup pump	1	0.6	3.5					0.6						0.6
74220 013222 1211	Second white syrup pump	2	0.6	3.5					1.2						1.2
74220 013222 1211	Affination juice pump	2	0.5	3.5					1.0						1.0
74220 013222 1211	Melted second sugar pump	2	0.6	3.5					1.2						1.2
74220 013222 1211	Thick juice pumps	5	0.8	3.9					4.0						4.0
74220 013222 1211	Liquorand syrup pump	3	0.6	4.5					1.8						1.8
74220 013222 1211	III liquor pump	1	0.6	3.5					0.6						0.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT, CAPACITY 6000 T / D

LOCATION: KONYA

ANTICIPATED DATE OF COMMISSIONING: 1985

PAGE: 5

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	4	2.5	17.5					10.0						10.0
74220 014222 1211	Liming thin juice pump	3	0.7	5.5					2.1						2.1
74220 015222 1211	Clear juice pump	2	1.2	5.5					2.4						2.4
74220 014272 1211	Kiselgure pump	4	0.6	4.5					0.6						0.6
74220 014281 3241	Beet pump	3	16.0	24.5					48.0						48.0
74220 014322 1211	Thin juice pump	2	0.7	3.5					1.4						1.4
74220 014322 1211	Thin juice pump	2	0.6	3.5					1.2						1.2
74220 014212 1211	Pumps before heater	2	0.7	3.8					1.4						1.4
74230 003181 1211	Third sugar melting tank pump	2	0.6	4.0					1.2						1.2
74230 003262 1211	Molasses pump	3	0.3	4.7					0.9						0.9

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREĞLİ SUGAR PLANT, CAPACITY 6000 T/D
LOCATION KONYA

PAGE: 8

ANTICIPATED DATE OF COMMISSIONING 1986

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) Total weight in tons/value in 1980 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 01202 1911	Transportation band	2	3.0	1.4					6.0						6.0
74426 013001 2911	Pulp conveyor	2	8.0	8.0					16.0						16.0
74426 143201 3931	Pressed pulp conveyors	4	10.0	10.0					40.0						40.0
74426 143301 3911	Beet transporters	2	16.0	40.0					32.0						32.0
74426 413201 3941	Helical transporters	4	10.0	23.0					40.0						40.0
74426 51401 3911	Crystal sugar elevator	1	15.0	16.2					15.0						15.0
74525 026611 2211	Wagon and truck weighing M/C	7	10.0	18.0			70.0								70.0
74525 041011 1111	Tumba scale	2	0.75	1.5						1.5					1.5
74525 042011 1911	Weighing machine molasses	2	0.5	10.0						1.0					1.0
74525 021011 1712	Weighing machines	2	0.2	10.0						0.4					0.4

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCS SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: VAN

PAGE: 1

ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/~~value in 1000 U.S. \$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0						7.0					7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0							2.5				2.5
69211 071031 1211	Clear juice tank	1	2.0	2.0							2.0				2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0							2.0				2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0							2.0				2.0
69211 071031 1211	Thin juice tank	2	4.5	2.8							9.0				9.0
69211 071132 1211	Thick juice storage tank	10	2.0	2.0							20.0				20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.5							6.0				6.0
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.5							6.0				6.0
69211 071031 1211	Melasses tank	1	3.2	2.5							3.2				3.2
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.5							3.0				3.0
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.5							6.0				6.0
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0							2.5				2.5
69211 071132 1211	liqueprand syrup storage tank	3	3.0	2.5							9.0				9.0
69211 071031 1211	Second green syrup st. tank	3	3.0	2.5							9.0				9.0
69211 071031 1211	Second white syrup storage tank	2	3.0	2.5							6.0				6.0

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TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR

PLANT, CAPACITY 3000T/D

LOCATION:VAN

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING:1988

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5							2.5				2.5
69211 071031 1211	Wet. tank for ref. III. sug.	1	3.0	2.6							3.0				3.0
69211 071031 1211	Third sugar melting tank	1	2.5	5.0							2.5				2.5
69211 071031 1211	Affination juice tank	1	3.0	2.6							3.0				3.0
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5							1.0				1.0
69211 071031 1211	Raw juice storage tank	2	1.0	1.2							2.0				2.0
69211 071031 1211	Thin juice tank	1	2.5	3.0							2.5				2.5
69211 071132 1211	Circulation juice tank	2	2.6	2.6							5.2				5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2							1.5				1.5
69211 071132 1211	Mud tanks	1	3.0	3.0							3.0				3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5							4.0				4.0
69211 071031 1211	Tank. syrup storage	2	1.0	1.5							2.0				2.0
69211 071132 1211	Kieselghur storage tank	1	3.0	2.0						3.0					3.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0						12.0					12.0
69211 091102 3211	Distribution troughs	3	15.5	8.0						46.5					46.5
69211 091102 3211	Distribution trough	2	12.0	8.0						24.0					24.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.8						15.5					15.5

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR
 LOCATION VAN
 ANTICIPATED DATE OF COMMISSIONING 1988
 SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

PLANT, CAPACITY 3000 T/D

PAGE 3

Total weight in tons / value in 1980 U.S.\$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5601	Auto.beet unloading mach.	2	60	94.0								120,0			120,0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5								15,0			15,0
72726 036402 4611	Beet washing machines	1	35	52.0						35,0					35,0
72726 046202 1601	Tail catcher machine	1	5.0	15.2								5,0			5,0
72726 054002 3611	Beet cutting machine	5	15.0	24.5						75,0					75,0
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0							1,0				1,0
72726 065002 1611	Sand catcher (circulation)	2	0.5	1.0							1,0				1,0
72726 076402 2211	Saturation unit II.	2	8	15.3						16,0					16,0
72726 076502 3211	Saturation unit I.	2	10	16.0						20,0					20,0
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25								3,0			3,0
72726 084002 1211	Sugar crusher	1	0.4	5.2							0,4				0,4
72726 106001 1801	Wagon & truck unloading sys.	1	2.0	3.75							2,0				2,0
72726 509602 7211	Diffuser	2	150.0	300.0						300,0					300,0
72726 516102 1211	Secondary liming I.unit	1	10	2.6						1,0					1,0
72726 519402 3211	Preliming unit	2	15	15.6						30,0					30,0
72726 519412 3211	Secondary liming II.unit	2	10	12.5						20,0					20,0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIŞ SUGARPLANT, CAPACITY 3000 T/D

PAGE : 4

LOCATION: VAN

ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/~~value in 1000 U.S. \$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	1	15.0	37.2							15,0				15,0
74132 032510 6211	Lime kiln	1	175.0	150.0						175,0					175,0
74132 051001 1611	Sulfur kiln	1	0.5	12.0							0,5				0,5
74161 014321 3211	Heater, thin juice	2	7.0	10.9						14,0					14,0
74161 013121 1211	Heater, circulation juice	3	3.0	6.0						9,0					9,0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35						20,0					20,0
74161 014211 2211	Heater, II. saturation	2	7.0	10.9						14,0					14,0
74161 014321 3211	Heater, thin juice	6	10.0	11.35						60,0					60,0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0						13,0					13,0
74161 033306 3211	Raw juice refrigerators	1	13.0	20.0						13,0					13,0
74161 033306 3211	II. sugar refrigerators	8	13.0	20.0						78,0					78,0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0						26,0					26,0
74161 033347 3211	III. sugar refrigerators	16	13.6	20.0						217,6					217,6
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0						64,0					64,0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0						40,0					40,0
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0						60,0					60,0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0						80,0					80,0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0						100,0					100,0
74163 998059 3211	Scalding trough	2	18.0	25.0						36,0					36,0
74164 304003 3211	Drying trommel	1	18.0	30.0						18,0					18,0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEWERCIS SUGAR PLANT, CAPACITY 3000 T/D.

PAGE : 5

LOCATION:VAN

ANTICIPATED DATE OF COMMISSIONING:1988

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 US \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013222 1211	Thin juice pump	2	1.0	5.5							2.0				2.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5							0.4				0.4
74220 013222 1211	Thin juice pump	2	0.8	5.5							1.6				1.6
74220 013222 1211	Green syrup pump	1	0.6	3.5							0.6				0.6
74220 013222 1211	White syrup pump	1	0.6	3.5							0.6				0.6
74220 013222 1211	Raw green syrup pump	1	0.5	3.5							0.5				0.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5							0.5				0.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5							0.5				0.5
74220 013222 1211	Liqueprand pump	2	0.6	2.5							1.2				1.2
74220 013222 1211	Second green syrup pump	1	0.6	3.5							0.6				0.6
74220 013222 1211	Second white syrup pump	1	0.6	3.5							0.6				0.6
74220 013222 1211	Affination juice pump	1	0.6	3.5							0.6				0.6
74220 013222 1211	Melted second sugar pump	1	0.6	3.5							0.6				0.6
74220 013222 1211	Thick juice pumps	3	0.8	3.5							2.4				2.4
74220 013222 1211	Liqueprand syrup pump	2	0.6	4.5							1.2				1.2
74220 013222 1211	III. liquor pump	1	0.6	3.5							0.6				0.6

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCS SUGAR PLANT, CAPACITY 3000 T/D
 LOCATION: VAN
 ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 6

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/~~value in 1000 U.S.~~
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett p mp	2	2.5	17.5							5.0				5.0
74220 014222 1211	Liming thin juice pump	2	0.7	9.5							1.4				1.4
74220 015222 1211	Clear juice pump	1	1.2	5.5							1.2				1.2
74220 014272 1211	Kisalgure pump	1	0.6	4.5							0.6				0.6
74220 014281 3241	Beet pump	2	16.0	24.8							32.0				32.0
74220 014322 1211	Thin juice pump	1	0.7	3.5							0.7				0.7
74220 014322 1211	Thin juice pump	1	0.6	3.5							0.6				0.6
74220 014212 1211	Pumps before heater	1	0.7	3.0							0.7				0.7
74230 003181 1211	Third sugar melting tank pump	1	0.6	4.0							0.6				0.6
74230 003282 1211	Molasses pump	2	0.3	4.7							0.6				0.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIŞ SUGAR PLANT, CAPACITY 3000 T/D

LOCATION VAN

PAGE : 7

ANTICIPATED DATE OF COMMISSIONING 1988

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/~~value in 1980~~ (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 230121 1211	Air pumps	3	4.0	5.0						12.0					12.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0						18.0					18.0
74351 101002 1521	Centrifuges-II sugar	10	4.5	20.0						45.0					45.0
74351 101002 1521	Centrifuges-III sugar	6	4.5	20.0						27.0					27.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0						31.5					31.5
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0						9.0					9.0
74362 045100 4211	Thickners	1	40.0	70.5						40.0					40.0
74362 214100 2211	String cage filters	6	5.0	4.88							30.0				30.0
74362 332122 1211	Candle filters	4	2.0	2.50							8.0				8.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5							10.0				10.0
74389 415050 3211	Rotary filters	3	15.0	18.3							45.0				45.0
74362 612000 3211	Pulp presses	10	14.5	29.7						145.0					145.0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000 T/D

LOCATION VAN

PAGE 8

ANTICIPATED DATE OF COMMISSIONING 1988

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) Total weight in tons/value in 1000 US \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine-Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1960 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1987 1990
74426 011202 1911	Transportation band	1	3.0	1.4							3,0				3,0
74426 013301 2911	Pulp conveyer	1	8.0	8.0							8,0				8,0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0							20,0				20,0
74426 143301 3911	Beet transporters	1	16.0	38.8							16,0				16,0
74426 413201 3941	Helical transporters	2	10.0	23.0							20,0				20,0
74426 51401 1911	Crystal sugar elevator	1	12.0	14.0							12,0				12,0
74525 020501 2211	Wagon and truck weighing M/C	6	10.0	18.0					68,0						57,0
74525 041011 1111	Turner scale	1	0.75	1.5								0,75			0,75
74525 042011 1911	Weighing machine molasses	1	0.5	10.0								0,5			0,5
74525 021011 1712	Weighing machines	2	0.2	10.0								20,0			20,0

TABLE NO. EQUIPMENT REQUIREMENTS FOR THE RAW JUICE SUGAR PLANT CAPACITY OF 1,000 TONS

LOCATION KONYA

ANTICIPATED DATE OF COMPLETION 1982

PLEASE SEE ATTACHED DRAWING FOR SIZE AND POSITION

SITE CODE	Basic Machine Name	Qty	Unit Weight (kg)	Unit Weight (tons)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
0101	Raw storage tank	1	12.0	12.0													6.2	
0102	0.7% sugar storage tank	1	2.5	2.5														2.6
0103	Clear juice tank	1	3.0	3.0														2.6
0104	Purified juice tank	1	3.0	3.0														2.6
0105	Raw juice tank	1	3.0	3.0														2.6
0106	Thin juice tank	2	4.5	9.0														10.4
0107	Thick juice storage tank	12	3.0	36.0														32.5
0108	Crys. sup. wt. raw tank	3	3.0	9.0														7.9
0109	Crys. sup. wh. sup. tank	3	3.0	9.0														7.9
0110	Molasses tank	1	3.2	3.2														2.9
0111	Raw green syrup storage tank	2	3.0	6.0														5.2
0112	Raw white syrup storage tank	2	3.0	6.0														5.2
0113	Raw sugar melting tank	2	2.5	5.0														8.0
0114	Liquid and syrup storage tank	4	3.0	12.0														10.4
0115	Second green syrup storage tank	4	3.0	12.0														16.4
0116	Second white syrup storage tank	4	3.0	12.0														10.4

TABLE NO.

EQUIPMENT REQUIREMENTS FOR
LOCATION KONYA
ANTICIPATED DATE OF COMMISS.
SUGAR BEET MACHINERY (TANKS)

SITC CODE	Basic Machine Name	Qty. Reqs. (Nos)	Unit Weight (tons)	Unit Cost (1000 US \$ 1000)
59211 071031 1211	See. sugar melting tank	2	25	3.5
49211 071031 1211	Wat. tank for ref. III. sug.	1	30	2.8
59211 071031 1211	Third sugar melting tank	1	25	5.0
59211 071031 1211	Affination juice tank	2	3.0	2.6
49211 071031 1211	Aff. sug. melt tank	1	10	2.0
59211 071132 1211	Raw juice storage tank	2	2.5	3.0
59211 071131 1211	Thin juice tank	2	7.5	3.0
59211 071132 1211	Circulation juice tank	2	2.5	2.5
59211 071132 1211	Wash. ad. ring tank	4	0.5	1.0
59211 071132 1211	Mud tanks	2	3.0	3.0
59211 071132 1211	Thick juice sta. tank	2	2.0	1.5
59211 071031 1211	Tank syrup storage	2	1.0	2.0
59211 071132 1211	Mixer storage tank	2	5.0	2.0
59211 091132 1211	Cryc. dist. trough	1	12.0	3.0
59211 091132 1211	Distribution channels	3	10.5	2.0
59211 091132 1211	Distribution trough	3	12.0	4.0
59211 091132 1211	Aff. dist. trough	1	5.0	2.5

THE NEW HOLLAND SUGAR PLANT, CAPACITY BUILDING

PAGE 12

SIGNING 1982

KS AND (TROUGHES)

Total weight ~~to~~ presented by 1000 lbs
(Take out whichever is not applicable)

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
											1000
											1000
											1000
7.0											7.0
2.5											2.5
5.0											5.0
5.2											5.2
2.0											2.0
											3.0
											6.0
											7.8
											6.8
											5.0
											3.0
											4.0
											-
											-
											-
											-
											-

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE 3

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
72726 016621 6601	Auto.beet unloading mach.	2	10.0	110.0		220.0									220.0
72726 026002 3911	Leaf & stone catcher	2	15.0	30.0		60.0									60.0
72726 036402 4611	Beet washing machines	2	35	4875	-										-
72726 046202 1601	Tail catcher machine	2	5.0	15.0		30.0									30.0
72726 054002 3611	Beet cutting machine	8	15.0	23.0	-										-
72726 066002 1611	Sand catcher (raw juice)	2	0.7	1.85	3.7										3.7
72726 066002 1211	Sand catcher (circulation)	2	0.6	3.3	6.6										6.6
72726 076402 2211	Saturation unit II.	2	8	15.0	-										-
72726 076502 3211	Saturation unit I.	3	10	16.5	-										-
72726 084052 1211	Crystal sugar shaker	1	4.0	4.75		4.75									4.75
72726 084002 1211	Sugar crusher	1	0.6	7.5	7.5										7.5
72726 106001 1801	Wagon & truck unloading sys.	2	2.0	3.75	7.5										7.5
72726 906802 0211	Diffuser	2	300	600.0	-										-
72726 516102 1211	Secondary liming I.unit	2	1.0	1.8	-										-
72726 516502 4211	Preliming unit	2	25.0	17.0	-										-
72726 516512 4211	Secondary liming II. unit	2	25.0	23.2	-										-

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TABLE NO.:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGAR PLANT, CAPACITY 6000 T/D

PAGE 2

LOCATION: KONYA

ANTICIPATED DATE OF COMMISSIONING - 1982

SUGAR BEET MACHINERY (GENERAL ITEMS)

Weight in tons / value in 1000 U.S. \$
(Strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	2	15.0	37.2	74.4										74.4
74132 032510 6211	Lime kiln	2	175.0	150.0	-										-
74132 051001 1611	Sulfur kiln	2	0.5	12.0	24.0										24.0
74161 014211 2211	Heater, thin juice	3	7.0	10.9	-										-
74161 014221 2211	Heater, circulation juice	3	7.0	14.0	-										-
74161 014321 3211	Heater, limed thin juice	3	10.0	11.35	-										-
74161 014321 3311	Heater, II. saturation	2	10.0	11.35	-										-
74161 014321 3211	Heater, thin juice	12	10.0	11.35	-										-
74161 033306 3211	Raw sugar refrigerators	2	13.0	20.0	-										-
74161 033306 3211	Raw sugar refrigerators	2	13.0	20.0	-										-
74161 033306 3211	II. sugar refrigerators	8	13.0	20.0	-										-
74161 033306 3211	Crystal sugar refrigerators	3	13.0	20.0	-										-
74161 033347 3211	III. sugar refrigerators	24	13.5	20.0	-										-
74162 015273 3211	Multi-stage evaporators	7	16.0	20.0	-										-
74162 112231 3211	Vacuum pans - raw sugar	3	20.0	35.0	-										-
74162 112231 3211	Vacuum pans - II. sugar	8	20.0	35.0	-										-
74162 112231 3211	Vacuum pans crystal sugar	6	20.0	35.0	-										-
74162 112231 3211	Vacuum pans III. sugar	6	20.0	20.0	-										-
74163 998069 4211	Scalding trough	2	30.0	40.0	-										-
74164 305003 4211	Drying trolley	1	25.0	45.0	-										-

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW LGIN SUGAR PLANT, CAPACITY 6000 T/D

PAGE : 5

LOCATION: KONYA

ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/Value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	3	1.0	3.5		10.5									10.5
74220 013212 1211	Refrigeration water pump	1	0.4	5.5		5.5									5.5
74220 013222 1211	Thin juice pump	3	0.8	3.5		10.5									10.5
74220 013222 1211	Green syrup pump	2	0.6	3.5		7.0									7.0
74220 013222 1211	White syrup pump	2	0.6	3.5		7.0									7.0
74220 013222 1211	Raw green syrup pump	2	0.5	3.5		7.0									7.0
74220 013222 1211	Raw white syrup pump	1	0.5	3.5		3.5									3.5
74220 013222 1211	Melted raw sugar pump	2	0.5	3.5		7.0									7.0
74220 013222 1211	Liquorand pump	3	0.6	3.5		10.5									10.5
74220 013222 1211	Second green syrup pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	Second white syrup pump	2	0.6	3.5		7.0									7.0
74220 013222 1211	Affination juice pump	2	0.5	3.5		7.0									7.0
74220 013222 1211	Melted second sugar pump	2	0.6	3.5		7.0									7.0
74220 013322 1211	Thick juice pumps	5	0.8	3.9		19.0									19.0
74220 013322 1211	Liquorand syrup pump	3	0.6	4.5		13.5									13.5
74220 013322 1211	III. liquor pump	1	0.6	3.5		3.5									3.5

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ILGIN SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE: 7

ANTICIPATED DATE OF COMMISSIONING 1982

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

~~Total weight in tons/value in 1000 U.S.\$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74312 228121 1211	Air pumps	5	4.0	11.0	-										-
74351 101002 1511	Centrifuges-raw sugar	10	4.5	40.0	-										-
74351 101002 1521	Centrifuges-II.sugar	18	4.5	40.0	-										-
74351 101002 1521	Centrifuges-III.sugar	16	4.5	40.0	-										-
74351 101002 1521	Centrifuges-Crystal sugar	10	4.5	40.0	-										-
74351 101002 1531	Centrifuges-Affination sugar	4	4.5	40.0	-										-
74352 045100 4211	Thickeners	2	35.0	53.7	-										-
74362 214100 2211	String cage filters	12	5.0	4.88	58.56										58.56
74362 332122 1211	Candle filters	6	2.0	2.50	15.0										15.0
74362 334110 2211	Filtering apparatus (BMA)	3	6.0	15.0	45.0										45.0
74352 415050 3211	Rotary filters	5	15.0	18.3	91.5										91.5
74362 612000 3211	Pulp presses	14	14.5	29.7	-										-

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MUŞ SUGAR PLANT, CAPACITY 3000 T/D

1982

Estimated to be available in 1982
 for the period from 1/1/82 to 12/31/82

1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
									-
									4.0
									2.0
									2.0
									2.0
									-
									20.0
									5.2
									5.2
									2.6
									2.6
									5.2
									4.0
									7.8
									7.8
									5.2

TABLE NO.

FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 T/D

PLANT, CAPACITY 3000 T/D

...

PAGE: 2

COMMISSION NO: 1982

TANKS AND TROUGHS

Total capacity in 1991 U.S. \$
(include but whichever is not applicable)

SITC CODE	Basic Machine Name	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1991-1990
...	...	1	2.5	1.5	3.5							3.5
...	...	1	2	1.5	2.6							2.6
...	...	1	2.5	2.5	5.0							5.0
...	...	1	2.0	2.5	2.6							2.6
...	...	1	1.0	1.5	1.5							1.5
...	...	2	1.0	1.0	2.4							2.4
...	...	1	1.0	1.0	1.0							3.0
...	...	2	1.5	1.5	5.2							5.2
...	...	1	1.5	1.2	3.6							3.6
...	...	1	1.0	2.0	3.0							3.0
...	...	2	1.5	1.5	3.0							3.0
...	...	2	1.0	1.5	-							-
...	...	1	1.0	2.0	-							-
...	...	1	1.0	1.0	-							-
...	...	3	1.0	1.0	-							-
...	...	2	1.0	1.0	-							-
...	...	1	1.5	1.5	-							-

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TABLE NO:

EQUIPMENT REQUIREMENT FOR THE NEW MUŞ SUGAR

PLANT, CAPACITY 3000 T/Q

LOCATION: MUŞ

PAGE: 1

INDICATED DATE OF COMMISSIONING: 1982

SUGAR CATERING EQUIPMENT (SPECIALIZED ITEMS)

Total weight in tons/ value in million TL
(Don't include whatever is not provided)

SITE CODE	Basic Machine Name	Qty	Unit	MS No. 300 300 300	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
7224 0155 27 5601	Auto. Beet weighing mach.	2	20	30.0		188.0									188.0
7224 0155 27 5601	Leaf & straw chopper	1	30	30.5		30.5									30.5
7224 0155 27 5601	Beet weighing machine	1	15	15.2	-										-
7224 0155 27 1801	Beet chopper	1	15	15.2		15.2									15.2
7224 0155 27 7631	Beet weighing machine	5	15	15.2											-
7224 0155 27 1611	Beet chopper (1000 kg)	1	15	1.0	2.0										2.0
7224 0155 27 1611	Beet chopper (1000 kg)	2	15	1.0	2.0										2.0
7224 0155 27 1611	Beet chopper (1000 kg)	2	15	1.0											-
7224 0155 27 1611	Beet chopper (1000 kg)	2	10	1.0											-
7224 0155 27 1611	Beet chopper (1000 kg)	1	30	4.25		4.25									4.25
7224 0155 27 1611	Beet crusher	1	15	5.2	5.2										5.2
7224 0155 27 1801	Beet & truck unloading sys.	1	20	3.75	3.75										3.75
7224 0155 27 7211	Grinder	2	150	330.0											-
7224 0155 27 1011	Secondary lining unit	1	10	1.8											-
7224 0155 27 3211	Secondary lining unit	2	15	15.5											-
7224 0155 27 3211	Secondary lining unit	2	10	12.5											-

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 T/D PAGE: 4

LOCAL NO: MUŞ

ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR PLANT MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITE CODE	Basic Machine Name	Qty Reqs (Nos)	Unit Weight (ton)	Unit Cost (1000 U.S. \$)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
0001	Water & mud separator unit	1	37.2	37.2	37.2										37.2
0001	Line shaft	1	10.0	10.0	-										-
0001	Water pump	1	12.0	12.0	12.0										12.0
0021	Water pump	2	10.9	10.9	-										-
0121	Water pump	3	10.9	10.9	-										-
0121	Water pump	2	10.9	10.9	-										-
0212	Water pump	2	10.9	10.9	-										-
0212	Water pump	5	10.9	10.9	-										-
0312	Raw sugar refrigerators	1	10.0	10.0	-										-
0312	Raw sugar refrigerators	1	10.0	10.0	-										-
0312	Raw sugar refrigerators	4	10.0	10.0	-										-
0312	Raw sugar refrigerators	2	10.0	10.0	-										-
0312	Raw sugar refrigerators	15	10.0	10.0	-										-
0312	Raw sugar refrigerators	6	10.0	10.0	-										-
0312	Raw sugar refrigerators	2	10.0	10.0	-										-
0312	Raw sugar refrigerators	3	10.0	10.0	-										-
0312	Raw sugar refrigerators	6	10.0	10.0	-										-
0312	Raw sugar refrigerators	5	10.0	10.0	-										-
0312	Raw sugar refrigerators	2	10.0	10.0	-										-
4001	Grinding equipment	1	10.0	10.0	-										-

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TABLE NO. 1

INVESTMENT COST ESTIMATE OF THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 TAD
 1982
 (MILLION TL)
 (MILLION US DOLLARS)

Total weight in tons/ value in 1975 US \$
 (take out whatever is not correct)

ITEM CODE	Basic Description	Unit	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
1010	11.0											11.0
1020	5.5											5.5
1030	11.0											11.0
1040	3.5											3.5
1050	3.5											3.5
1060	3.5											3.5
1070	3.5											3.5
1080	3.5											3.5
1090	3.5											3.5
1100	3.5											3.5
1110	3.5											3.5
1120	3.5											3.5
1130	3.5											3.5
1140	3.5											3.5
1150	3.5											3.5
1160	3.5											3.5
1170	3.5											3.5
1180	3.5											3.5
1190	11.7											11.7
1200	9.0											9.0
1210	3.5											3.5

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 T/D PAGE 1
 LOCATION: MUŞ
 ANTICIPATED DATE OF COMMISSIONING: 1982

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$.
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1000 U.S. \$ (100)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
74200 014192 1211	Cassett pump	2	17.5	17.5	35.0										35.0
74200 014222 1211	Liming thin juice pump	2	5.5	5.5	11.0										11.0
74200 014302 1211	Clear juice pump	1	5.5	5.5	5.5										5.5
74200 014372 1211	Kiselgure pump	1	4.5	4.5	4.5										4.5
74200 014381 1241	Beet pump	2	24.5	49.0	49.0										49.0
74200 014382 1211	Thin juice pump	1	3.5	3.5	3.5										3.5
74200 014383 1211	Thin juice pump	1	3.5	3.5	3.5										3.5
74200 014392 1211	Pumps before header	1	3.0	3.0	3.0										3.0
74200 003181 1211	Third sugar melting tank pump	1	4.0	4.0	4.0										4.0
74200 003252 1211	Molasses pump	2	4.7	9.4	9.4										9.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW MUŞ SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: MUŞ

PAGE: 7

ANTICIPATED DATE OF COMPLETION: 1982

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Unit: as in &
 (in metric tons) (in metric tons)

SITE CODE	Basic Machine Name	Quantity	Unit	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total		
														1987	1990	
0002 01001 100	Air pumps	1	100	100	-										-	-
0002 01002 100	Centrifuges 2000	2	200	200	-										-	-
0002 01003 100	Centrifuges 2000	2	200	200	-										-	-
0002 01004 100	Centrifuges 2000	2	200	200	-										-	-
0002 01005 100	Centrifuges 2000	2	200	200	-										-	-
0002 01006 100	Centrifuges 2000	2	200	200	-										-	-
0002 01007 100	Centrifuges 2000	2	200	200	-										-	-
0002 01008 100	String coils filters	6	60	60	29.28											29.28
0002 01009 100	Coarse filters	4	40	40	10.0											10.0
0002 01010 100	Filtering apparatus (BMA)	2	20	20	25.0											25.0
0002 01011 100	Rotary filters	3	30	30	54.9											54.9
0002 01012 100	Pulp presses	10	100	100	-											

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000 T/D

LOCATION : NIĞNE

PAGE: 1

ANTICIPATED DATE OF COMMISSIONING : 1983

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

~~Total weight in tons~~/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Req'd. (Nos.)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0	7.0										7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0		4.0									4.0
69211 071031 1211	Clear juice tank	1	2.0	2.0		2.0									2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0		2.0									2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0		2.0									2.0
69211 071031 1211	Thin juice tank	2	4.5	2.6	5.2										5.2
69211 071132 1211	Thick juice storage tank	10	2.0	2.0		20.0									20.0
69211 071031 1211	Crys. sup. gr. syr. stor. tank	2	3.0	2.6		5.2									5.2
69211 071031 1211	Crys. sup. wh. syr. stor. tank	2	3.0	2.6		5.2									5.2
69211 071031 1211	Molasses tank	1	3.2	2.6		2.6									2.6
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.6		2.6									2.6
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6		5.2									5.2
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0		4.0									4.0
69211 071132 1211	Liquefied syrup storage tank	3	3.0	2.6		7.8									7.8
69211 071031 1211	Second green syrup stor. tank	3	3.0	2.6		7.8									7.8
69211 071031 1211	Second white syrup stor. tank	2	3.0	2.6		5.2									5.2

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TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION : NIÛDE

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING : 1983

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

~~Total weight in tons~~/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5		3.5									3.5
69211 071031 1211	Wat. tank for ref. III. sug.	1	3.0	2.6		2.6									2.6
69211 071031 1211	Third sugar melting tank	1	2.5	5.0		5.0									5.0
69211 071031 1211	Affination juice tank	1	3.0	2.6		2.6									2.6
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5		1.5									1.5
69211 071031 1211	Raw juice storage tank	2	1.0	1.2		2.4									2.4
69211 071031 1211	Thin juice tank	1	2.5	3.0		3.0									3.0
69211 071132 1211	Circulation juice tank	2	2.6	2.6		5.2									5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2		3.6									3.6
69211 071132 1211	Mud tanks	1	3.0	3.0		3.0									3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5		3.0									3.0
69211 071031 1211	Tank. syrup storage	2	1.0	1.5		3.0									3.0
69211 071132 2211	Kiselgher storage tank	1	3.0	2.0	2.0										2.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0	8.0										8.0
69211 091102 3211	Distribution troughs	3	15.5	8.0	24.0										24.0
69211 091102 3211	Distribution trough	2	12.0	8.0	16.0										16.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6	14.6										14.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION : NIGDE

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING : 1983

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons/ value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5601	Auto.beet unloading mech.	2	50	94.0			188.0								188.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5			30.5								30.5
72726 036402 4611	Beet washing machines	1	35	52.0	52.0										52.0
72726 046202 1601	Tail catcher machine	1	5.0	15.2			15.2								15.2
72726 054002 3811	Beet cutting machine	5	15.0	24.5	122.5										122.5
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0		2.0									2.0
72726 065002 1611	Sand catcher (circulation)	2	0.5	1.0		2.0									2.0
72726 076402 2211	Saturation unit II.	2	8	15.3	30.6										30.6
72726 076502 3211	Saturation unit I.	2	10	16.8	33.6										33.6
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25			4.25								4.25
72726 084002 1211	Sugar crusher	1	0.6	5.2		5.2									5.2
72726 108001 1801	Wagon & truck unloading sys.	1	2.0	3.75		3.75									3.75
72726 508602 7211	Diffuser	2	150.0	300.0	600.0										600.0
72726 516102 1211	Secondary liming I.unit	1	10	2.6	2.6										2.6
72726 515402 3211	Preliming unit	2	15	15.6	31.2										31.2
72726 515412 3211	Secondary liming II. unit	2	10	12.5	25.0										25.0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000 T/D

PAGE : 4

LOCATION: NIGDE

ANTICIPATED DATE OF COMMISSIONING: 1983

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72834 304001 3231	Water & mud separating unit	1	15.0	37.2		37.2									37.2
74132 032510 6211	Lime kiln	1	175.0	150.0	150.0										150.0
74132 051001 1611	Sulfur kiln	1	0.5	12.0	12.0										12.0
74161 014321 3211	Heater, thin juice	2	7.0	10.9	21.8										21.8
74161 013121 1211	Heater, circulation juice	3	3.0	6.0	18.0										18.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35	22.7										22.7
74161 014211 2211	Heater, II.saturation	2	7.0	10.9	21.8										21.8
74161 014321 3211	Heater, thin juice	6	10.0	11.35	68.10										68.10
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0	20.0										20.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0	20.0										20.0
74161 033306 3211	II.sugar refrigerators	6	13.0	20.0	120.0										120.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0	40.0										40.0
74161 023347 3211	III.sugar refrigerators	16	13.6	20.0	320.0										320.0
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0	80.0										80.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0	70.0										70.0
74162 112231 3211	Vacuum pans - II.sugar	3	20.0	35.0	105.0										105.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0	140.0										140.0
74162 112231 3211	Vacuum pans III.sugar	5	20.0	20.0	100.0										100.0
74163 998059 3211	Scalding trough	2	18.0	30.0	50.0										50.0
74164 304003 3211	Drying trommel	1	18.0	30.0	30.0										30.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000 T/D PAGE: 5

LOCATION: NIGDE

ANTICIPATED DATE OF COMMISSIONING: 1983

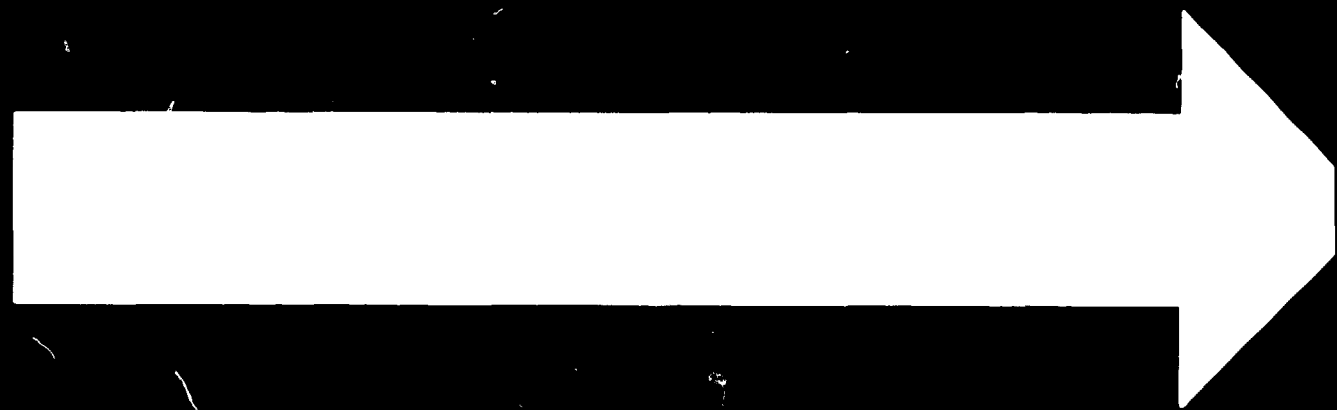
SUGAR BEET MACHINERY (PUMPS)

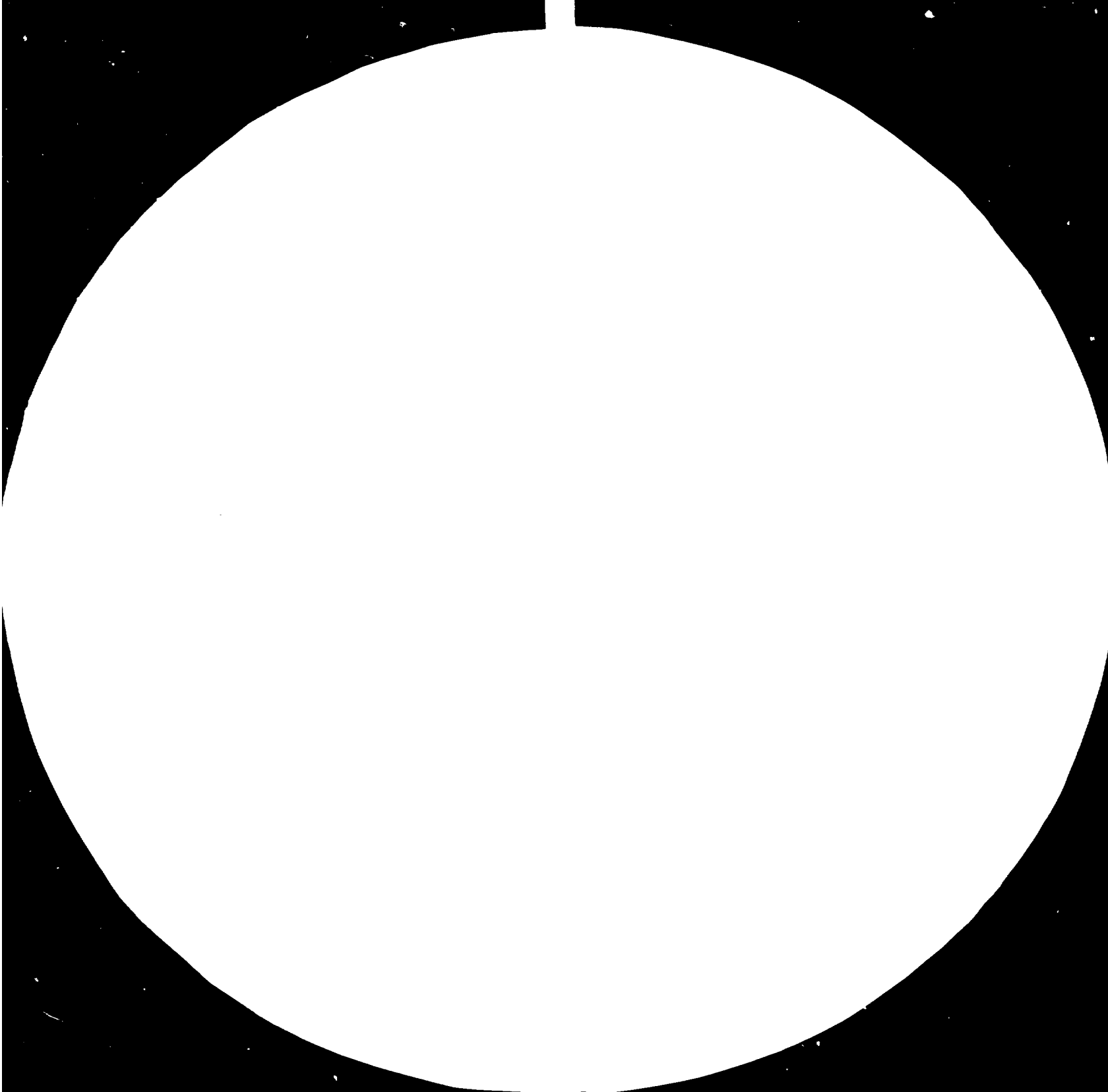
Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	2	1.0	5.5		11.0									11.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5		5.5									5.5
74220 013222 1211	Thin juice pump	2	0.8	5.5		11.0									11.0
74220 013222 1211	Green syrup pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	White syrup pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	Raw green syrup pump	1	0.5	3.5		3.5									3.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5		3.5									3.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5		3.5									3.5
74220 013222 1211	Liquorand pump	2	0.6	3.5		7.0									7.0
74220 013222 1211	Second green syrup pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	Second white syrup pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	Affination juice pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	Melted second sugar pump	1	0.6	3.5		3.5									3.5
74220 013222 1211	Thick juice pumps	3	0.8	3.9		11.7									11.7
74220 013322 1211	Liquorand syrup pump	2	0.6	4.5		9.0									9.0
74220 013322 1211	III. liquor pump	1	0.6	3.5		3.5									3.5

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-
STANDARD REFERENCE MATERIAL 1963-A
ANALOG COPY TEST CHART No. 2

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR PLANT, CAPACITY 3000 T/D PAGE: 6

LOCATION: NIGDE

ANTICIPATED DATE OF COMMISSIONING: 1983

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5		35.0									35.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5		11.0									11.0
74220 015222 1211	Clear juice pump	1	1.2	5.5		5.5									5.5
74220 014272 1211	Kiselgure pump	1	0.6	4.5		4.5									4.5
74220 014781 3241	Beet pump	2	16.0	24.5		49.0									49.0
74220 014322 1211	Thin juice pump	1	0.7	3.5		3.5									3.5
74220 014322 1211	Thin juice pump	1	0.6	3.5		3.5									3.5
74220 016212 1211	Pumps before heater	1	0.7	3.0		3.0									3.0
74230 003181 1211	Third sugar melting tank pump	1	0.6	4.0		4.0									4.0
74230 003282 1211	Molasses pump	2	0.3	4.7		9.4									9.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW BOR SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION : NIĞDE

PAGE : 7

ANTICIPATED DATE OF COMMISSIONING : 1983

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC.)

~~Total weight in tons/value in 1000 U.S.\$.~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 230121 1211	Air pumps	3	4.0	5.0	15.0										15.0
74351 10100 2 1521	Centrifuges-raw sugar	4	4.5	20.0	80.0										80.0
74351 101002 1521	Centrifuges-II.sugar	10	4.5	20.0	200.0										200.0
74351 101002 1521	Centrifuges-III.sugar	6	4.5	20.0	120.0										120.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0	140.0										140.0
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0	40.0										40.0
74362 045100 4211	Thickners	1	40.0	70.5	70.5										70.5
74362 214100 2211	String cage filters	6	5.0	4.30		29.28									29.28
74362 332122 1211	Candle filters	4	2.0	2.50		10.0									10.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5		25.0									25.0
74360 415050 3211	Rotary filters	3	15.0	18.3		54.9									54.9
74362 612000 3211	Pulp presses	10	14.5	29.7	297.0										297.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRISUGAR PLANT, CAPACITY 3000 T/D

LOCATION: AGRISUGAR

ANTICIPATED DATE OF COMMISSIONING: 1984

PAGE: 1

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0		7.0									7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0			4.0								4.0
69211 071031 1211	Clear juice tank	1	2.0	2.0			2.0								2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0			2.0								2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0			2.0								2.0
69211 071031 1211	Thin juice tank	2	4.5	2.6		5.2									5.2
69211 071132 1211	Thick juice storage tank	10	2.0	2.0			20.0								20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.6			5.2								5.2
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.5			5.2								5.2
69211 071031 1211	Melasses tank	1	3.2	2.6			2.6								2.6
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.6			2.6								2.6
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6			5.2								5.2
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0			4.0								4.0
69211 071132 1211	Liquefied syrup storage tank	3	3.0	2.6			7.8								7.8
69211 071031 1211	Second green syrup st. tank	3	3.0	2.6			7.8								7.8
69211 071031 1211	Second white syrup storage tank	2	3.0	2.6			5.2								5.2

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AĠRI SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION: AĠRI

PAGE: 2

ANTICIPATED DATE OF COMMISSIONING : 1984

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5			3.5								3.5
69211 071031 1211	Wat. tank for ref. III. sug.	1	3.0	2.6			2.6								2.6
69211 071031 1211	Thin sugar melting tank	1	2.5	5.0			5.0								5.0
69211 071031 1211	Affination juice tank	1	3.0	2.6			2.6								2.6
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5			1.5								1.5
69211 071031 1211	Raw juice storage tank	2	1.0	1.2			2.4								2.4
69211 071031 1211	Thin juice tank	1	2.5	3.0			3.0								3.0
69211 071132 1211	Circulation juice tank	2	2.6	2.6			5.2								5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2			3.6								3.6
69211 071132 1211	Mud tanks	1	3.0	3.0			3.0								3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5			3.0								3.0
69211 071031 1211	Tank syrup storage	2	1.0	1.5			3.0								3.0
69211 071132 1211	Kisalghar storage tank	1	3.0	2.0		2.0									2.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0		8.0									8.0
69211 091102 3211	Distribution troughs	3	15.5	8.0		24.0									24.0
69211 091102 3211	Distribution trough	2	12.0	8.0		16.0									16.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6		14.6									14.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AERI SUGAR

PLANT, CAPACITY 3000 T/D

LOCATION : AERI

PAGE 3

ANTICIPATED DATE OF COMMISSIONING : 1984

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tuns)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5601	Auto.beet unloading mach.	2	60	94.0				188.0							188.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5				30.5							30.5
72726 036402 4811	Beet washing machines	1	35	52.0		52.0									52.0
72726 046202 1801	Tail catcher	1	5.0	15.2				15.2							15.2
72726 054002 3611	Beet cutting machine	5	15.0	24.5		122.5									122.5
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0			2.0								2.0
72726 065002 1611	Sand catcher (circulation)	2	0.5	1.0			2.0								2.0
72726 076402 2211	Saturation unit II.	2	8	15.3		30.6									30.6
72726 076502 3211	Saturation unit I.	2	10	16.8		32.6									32.6
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25				4.25							4.25
72726 084002 1211	Sugar crusher	1	0.4	5.2				5.2							5.2
72726 108001 1801	Wagon & truck unloading sys.	1	2.0	3.75				3.75							3.75
72726 599602 7211	Diffuser	2	150	330.0		600.0									600.0
72726 516102 1211	Secondary liming I.unit	1	10	2.6		2.6									2.6
72726 515402 3211	Preliming unit	2	15.6	31.2		31.2									31.2
72726 515412 3211	Secondary liming II.unit	2	10	12.5		25.2									25.2

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRISUGAR PLANT, CAPACITY 3000 T/D PAGE: 4

LOCATION: AGRISUGAR

ANTICIPATED DATE OF COMMISSIONING: 1984

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S.\$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 306001 3231	Water & mud separating unit	1	15.0	37.2			37.2								37.2
74132 032510 6211	Lime kiln	1	175.0	150.0		150.0									150.0
74132 051000 1611	Sulfur kiln	1	0.5	12.0			12.0								12.0
74161 014321 3211	Heater, thin juice	2	7.0	10.9		21.8									21.8
74161 013121 1211	Heater, circulation juice	3	3.0	6.0		18.0									18.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35		22.7									22.7
74161 014211 2211	Heater, II. saturation	2	7.0	10.9		21.8									21.8
74161 014321 3211	Heater, thin juice	6	10.0	11.35		68.10									68.10
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0		20.0									20.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0		20.0									20.0
74161 033306 3211	II. sugar refrigerators	8	13.0	20.0		120.0									120.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0		40.0									40.0
74161 033307 3211	III. sugar refrigerators	16	13.6	20.0		320.0									320.0
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0		80.0									80.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0		70.0									70.0
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0		105.0									105.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0		140.0									140.0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0		100.0									100.0
74163 998059 3211	Scalding trough	2	18.0	30.0		50.0									50.0
74164 304003 3211	Drying trommel	1	18.0	30.0		30.0									30.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRÍ SUGAR PLANT CAPACITY 3000 T/D PAGE: 6
LOCATION: AGRÍ
ANTICIPATED DATE OF COMMISSIONING: 1984

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U S \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5			35.0								35.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5			11.0								11.0
74220 015222 1211	Clear juice pump	1	1.2	5.5			5.5								5.5
74220 014272 1211	Kiselgure pump	1	0.6	4.5			4.5								4.5
74220 014201 3241	Beet pump	2	18.0	24.5			49.0								49.0
74220 014322 1211	Thin juice pump	1	0.7	3.5			3.5								3.5
74220 014322 1211	Thin juice pump	1	0.6	3.5			3.5								3.5
74220 014212 1211	Pumps before heater	1	0.7	3.0			3.0								3.0
74230 003181 1211	Third sugar melting tank pump	1	0.6	4.0			4.0								4.0
74230 003262 1211	Molasses pump	2	0.3	4.7			9.4								9.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRIC SUGAR PLANT CAPACITY 3000 T/D

LOCATION: AGRIC

PAGE 7

ANTICIPATED DATE OF COMMISSIONING: 1984

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS, ETC)

Total weight in tons/value in 1000 US \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74312 238121 1211	Air pumps	3	4.0	5.0		15.0									15.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0		80.0									80.0
74351 101002 1521	Centrifuges-II sugar	10	4.5	20.0		200.0									200.0
74351 101002 1521	Centrifuges-III sugar	6	4.5	20.0		120.0									120.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0		140.0									140.0
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0		40.0									40.0
74362 045100 4211	Thickeners	1	40.0	70.5		70.5									70.5
74362 214100 2211	String cage filters	6	5.0	4.88			29.28								29.28
74362 332122 1211	Candle filters	4	2.0	2.50			10.0								10.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	15.0			25.0								25.0
74362 415050 3211	Rotary filters	3	15.0	18.3			54.9								54.9
74362 612000 3211	Pulp presses	10	4.5	29.7		297.0									297.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW AGRÍ SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: AGRÍ

PAGE: 8

ANTICIPATED DATE OF COMMISSIONING : 1984

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) ~~Total weight in tons/value in 1000 U.S. \$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 011202 1911	Transportation band	1	3.0	1.4			1.4								1.4
74426 013301 2911	Pulp conveyor	1	8.0	8.0			8.0								8.0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0			20.0								20.0
74426 143301 3911	Beet transporters	1	16.0	38.8			38.8								38.8
74426 413201 3941	Helical transporters	2	10.0	23.0			46.0								46.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0			14.0								14.0
74525 0286M 7211	Wagon and truck weighing M.C.	2	10.0	19.0	108.0										108.0
74525 041011 1112	Tumba scale	1	0.75	1.5			1.5								1.5
74525 042011 1911	Weighing machine molasses	1	0.5	10.0			10.0								10.0
74525 021011 1712	Weighing machines	2	0.2	10.0			20.0								20.0

152101

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ÇARŞAMBA SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: SAMSUN

PAGE: 1

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0			7.0								7.0
69211 07101 1211	Crys. sugar storage tank	1	2.5	4.0				4.0							4.0
69211 071031 1211	Clear juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Thin juice tank	2	4.5	2.6			5.2								5.2
69211 071132 1211	Thick juice storage tank	10	2.0	2.0				20.0							20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.6				5.2							5.2
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.6				5.2							5.2
69211 071031 1211	Melasses tank	1	3.2	2.6				2.6							2.6
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.6				2.6							2.6
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6				5.2							5.2
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0				4.0							4.0
69211 071132 1211	Liqueprand syrup storage tank	3	3.0	2.6				7.8							7.8
211 071031 1211	Second green syrup st. tank	3	3.0	2.6				7.8							7.8
69211 071031 1211	Second white syrup storage tank	2	3.0	2.6				5.2							5.2

TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW ÇARŞAMBA SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: SAMSON

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S. \$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5				3.5							3.5
69211 071031 1211	Wat. tank for ref. III. sug.	1	3.0	2.6				2.6							2.6
69211 071031 1211	Third sugar melting tank	1	2.5	5.0				5.0							5.0
69211 071031 1211	Affination juice tank	1	3.0	2.6				2.6							2.6
69211 071031 1211	Aff. sug. melt tank	1	1.0	1.5				1.5							1.5
69211 071031 1211	Raw juice storage tank	2	1.0	1.2				2.4							2.4
69211 071031 1211	Thin juice tank	3	2.5	3.0				3.0							3.0
69211 071132 1211	Circulation juice tank	2	2.5	2.6				5.2							5.2
69211 071132 1211	Level adjusting tank	3	1.5	1.2				3.6							3.6
69211 071132 1211	Mud tanks	1	3.0	3.0				3.0							3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5				3.0							3.0
69211 071031 1211	Tank syrup storage	2	1.0	1.5				3.0							3.0
69211 071132 3211	K. weigher storage tank	1	3.0	2.0			2.0								2.0
69211 091132 3211	Chys. dist. trough	7	12.0	8.0			8.0								8.0
69211 091102 3211	Distribution troughs		15.5	8.0			24.0								24.0
69211 091102 3211	Distribution trough	2	12.0	8.0			16.0								16.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6			14.6								14.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW CARSAMBA SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: SAMSUN

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ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 US\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 0155 21 5601	Auto. beet unloading mach.	2	60	94.0					188.0						188.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5					30.5						30.5
72726 036402 4611	Beet washing machines	1	35	52.0			52.0								52.0
72726 046202 1601	Tail catcher machine	1	5.0	15.2					15.2						15.2
72726 054002 3611	Beet cutting machine	5	15.0	24.5			122.5								122.5
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0				2.0							2.0
72726 065002 1611	Sand catcher (circulation)	2	0.5	1.0				2.0							2.0
72726 076402 2211	Saturation unit II.	2	8	15.3			30.6								30.6
72726 076502 3211	Saturation unit I.	2	10	16.8			33.6								33.6
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25					4.25						4.25
72726 084002 1211	Sugar crusher	1	0.4	5.2				5.2							5.2
72726 106001 1801	Wagon & truck unloading sys	1	2.0	3.75				3.75							3.75
72726 509502 7211	Diffuser	1	150.0	300.0			300.0								300.0
72726 516102 1211	Secondary liming I unit	1	10	2.6			2.6								2.6
72726 515402 3211	Preliming unit	2	15	15.6			31.2								31.2
72726 515412 3211	Secondary liming II unit	2	10	12.5			25.0								25.0

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TABLE NO.

EQUIPMENT REQUIREMENTS FOR THE NEW CARSAMBA SUGAR PLANT, CAPACITY 3000 T/D PAGE 5

LOCATION: SAMSUN

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1980 U.S.\$
(strike out whichever is not applicable)

SIC CODE	Basic Machine Name	Qty Reqs (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
74220	013222 1211	Thin juice pump	2	5.5				11.0							11.0
74220	013212 1211	Refrigeration water pump	1	5.5				5.5							5.5
74220	013222 1211	Thin juice pump	2	5.5				11.0							11.0
74220	013222 1211	Green syrup pump	1	3.5				3.5							3.5
74220	013222 1211	White syrup pump	1	3.5				3.5							3.5
74220	013222 1211	Raw green syrup pump	1	3.5				3.5							3.5
74220	013222 1211	Raw white syrup pump	1	3.5				3.5							3.5
74220	013222 1211	Melted raw sugar pump	1	3.5				3.5							3.5
74220	013222 1211	Liquorand pump	2	3.5				7.0							7.0
74220	013222 1211	Second green syrup pump	1	3.5				3.5							3.5
74220	013222 1211	Second white syrup pump	1	3.5				3.5							3.5
74220	013222 1211	Affination juice pump	1	3.5				3.5							3.5
74220	013222 1211	Melted second sugar pump	1	3.5				3.5							3.5
74220	013322 1211	Thick juice pumps	3	3.9				11.7							11.7
74220	013322 1211	Liquorand syrup pump	2	4.5				9.0							9.0
74220	013322 1211	W. liquor pump	1	3.5				3.5							3.5

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TABLE NO.

EQUIPMENT REQUIREMENT FOR THE NEW CARSAMBA SUGAR PLANT CAPACITY 3000T/D PAGE: 6

LOCATION: SAMSUR

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U S \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U S \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5				35.0							35.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5				11.0							11.0
74220 015222 1211	Clear juice pump	1	1.2	5.5				5.5							5.5
74220 014272 1211	Kiselgure pump	1	2.6	4.5				4.5							4.5
74220 014281 3241	Beet pump	2	16.0	24.5				49.0							49.0
74220 014322 1211	Thin juice pump	1	0.7	3.5				3.5							3.5
74220 014322 1211	Thin juice pump	1	0.6	3.5				3.5							3.5
74220 014212 1211	Pumps before heater	1	0.7	3.0				3.0							3.0
74230 003151 1211	Third sugar melting tank pump	1	0.6	4.0				4.0							4.0
74230 003252 1211	Molasses pump	2	0.3	4.7				9.4							9.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEWÇARŞAMBA SUGAR PLANT,CAPACITY 3000T/D

LOCATION: SAMSUN

PAGE: 7

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC.)

~~Total weight in tons~~/value in 1000 US \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74312 230121 1211	Air pumps	3	4.0	5.0			15.0								15.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0			80.0								80.0
74351 101002 1521	Centrifuges-II.sugar	10	4.5	20.0			200.0								200.0
74351 101002 1521	Centrifuges-III.sugar	6	4.5	20.0			120.0								120.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0			140.0								140.0
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0			40.0								40.0
74362 045100 4211	Thickeners	1	40.0	70.5			70.5								70.5
74362 214100 2211	String cage filters	6	5.0	4.98				29.28							29.28
74362 332122 1211	Candle filters	4	2.0	2.50				10.0							10.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5				25.0							25.0
74369 415050 3211	Rotary filters	3	15.0	18.3				54.9							54.9
74362 612000 3211	Pulp presses	10	4.5	29.7				297.0							297.0

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TABLE NO

EQUIPMENT REQUIREMENTS FOR THE NEW CARSAMBA SUGAR PLANT, CAPACITY 3000T/D

LOCATION: SAMSUN

PAGE: 8

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) ~~Total weight in tons/value in 1000 US \$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Max weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 011202 891	Transportation band	1	3.0	1.4				1.4							1.4
74426 013301 2911	Pulp conveyor	1	8.0	8.0				8.0							8.0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0				20.0							20.0
74426 143301 3911	Beet transporters	1	16.0	38.8				38.8							38.8
74426 413201 3941	Helical transporters	2	10.0	23.0				46.0							46.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0				14.0							14.0
74525 026611 2211	Wagon and truck weighing M/C	6	10.0	18.0		108.0									108.0
74525 041011 1911	Tumba scale	1	0.75	1.5					1.5						
74525 042011 1911	Weighing machine molasses	1	0.5	10.0					10.0						10.0
74525 021011 1712	Weighing machines	2	0.2	10.0					20.0						20.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: KAHRAMAN MARAS

PAGE 3

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1980 U.S. \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
69211 021001 2211	Beet storage bunker	1	7.0	7.0			7.0								7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0				4.0							4.0
69211 071031 1211	Clear juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0				2.0							2.0
69211 071031 1211	Thin juice tank	2	4.5	2.6			5.2								5.2
69211 071132 1211	Thick juice storage tank	10	2.0	2.0				20.0							20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.6				5.2							5.2
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.6				5.2							5.2
69211 071031 1211	Melasses tank	1	3.2	2.6				2.6							2.6
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.6				2.6							2.6
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6				5.2							5.2
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0				4.0							4.0
69211 071132 1211	Liquefied syrup storage tank	3	3.0	2.6				7.8							7.8
69211 071031 1211	Second green syrup st. tank	3	3.0	2.6				7.8							7.8
69211 071031 1211	Second white syrup storage tank	2	3.0	2.6				5.2							5.2

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TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW ELBİSTAN SUGAR PLANT, CAPACITY 3000 T/D

LOCATION:KAHRAMAN MARAŞ

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING:1985

SUGAR BEET MACHINERY (TANKS AND(TROUGHS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US\$. 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5				3.5							3.5
69211 071031 1211	Wat. tank for ref. III. sug.	1	3.0	2.6				2.6							2.6
69211 071031 1211	Third sugar melting tank	1	2.5	5.0				5.0							5.0
69211 071031 1211	Affination juice tank	1	3.0	2.6				2.6							2.6
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5				1.5							1.5
69211 071031 1211	Raw juice storage tank	2	1.0	1.2				2.4							2.4
69211 071031 1211	Thin juice tank	1	2.5	3.0				3.0							3.0
69211 071032 1211	Circulation juice tank	2	2.6	2.6				5.2							5.2
69211 071032 1211	Level adjusting tank	3	0.5	1.2				3.0							3.0
69211 071032 1211	Mud tanks	1	3.0	3.0				3.0							3.0
69211 071032 1211	Thick juice sto. tank	2	2.0	1.5				3.0							3.0
69211 071031 1211	Tank. syrup storage	2	1.0	1.5				3.0							3.0
69211 071032 1211	Kiselghur storage tank	1	3.0	2.0			2.0								2.0
69211 091032 3211	Crys. dist. trough	1	12.0	8.0			8.0								8.0
69211 091102 3211	Distribution troughs	3	15.5	8.0			24.0								24.0
69211 091102 3211	Distribution trough	2	12.0	8.0			16.0								16.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6			14.6								14.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT, CAPACITY 3000 T/D

LOCATION: KAHRAMAN MARAS

PAGE 3

ANTICIPATED DATE OF COMMISSIONING: 1985

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons / value in 1000 US\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1990 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5601	Auto. beet unloading mach.	2	60	94.0					188.0						188.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5					30.5						30.5
72726 036402 4811	Beet washing machines	1	35.0	52.0			52.0								52.0
72726 046202 1601	Tail catcher	1	5.0	15.2					15.2						15.2
72726 054002 3611	Beet cutting machine	5	15.0	24.5			122.5								122.5
72726 065002 1611	Sand catcher (raw juice)	2	0.5	1.0				2.0							2.0
72726 065002 1811	Sand catcher (circulation)	2	0.5	1.0				2.0							2.0
72726 076402 2211	Saturation unit II.	2	8	15.3			30.6								30.6
72726 076502 3211	Saturation unit I.	2	10	16.8			33.6								33.6
72726 084002 1211	Crystal sugar shaker	1	3.0	4.25					4.25						4.25
72726 084002 1211	Sugar crusher	1	0.4	5.2				5.2							5.2
72726 106001 1001	Wagon & truck unloading sys.	1	2.0	3.75				3.75							3.75
72726 505502 7211	Diffuser	2	159.0	300.0			600.0								600.0
72726 516702 1211	Secondary liming I. unit	1	10	2.6			2.6								2.6
72726 515402 3211	Preliming unit	2	15	15.6			31.2								31.2
72726 515412 3211	Secondary liming II. unit	2	10	12.5			25.0								25.0

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TABLE -NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT, CAPACITY 3000 T/D
 LOCATION: KAHRAMAN MARAS
 ANTICIPATED DATE OF COMMISSIONING: 1985

PAGE: 4

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U.S.\$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72031 304001 3231	Water & mud separating unit	1	15.0	37.2					37.2						37.2
74132 032510 6211	Lime kiln	1	175.0	150.0			150.0								150.0
74132 051801 1611	Sulfur kiln	1	0.5	12.0				12.0							12.0
74161 014321 3211	Heater, thin juice	2	7.0	11.0			21.8								21.8
74161 013121 1211	Heater, circulation juice	3	3.0	6.3			18.0								18.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.25			22.7								22.7
74161 014211 2211	Heater, II. saturation	2	7.0	10.9			21.8								21.8
74161 014321 3211	Heater, thin juice	6	10.0	11.5			68.1								68.1
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0			20.0								20.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0			20.0								20.0
74161 033306 3211	II. sugar refrigerators	8	13.0	20.0			120.0								120.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0			40.0								40.0
74161 033367 3211	III. sugar refrigerators	16	13.6	20.0			320.0								320.0
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0			80.0								80.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0			70.0								70.0
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0			105.0								105.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0			140.0								140.0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0			100.0								100.0
74163 998059 3711	Scalding trough	2	10.0	25.0			50.0								50.0
74164 304003 3211	Drying trommel	1	10.0	30.0			30.0								30.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBİSTAN SUGAR PLANT, CAPACITY 3000T/D PAGE : 5

LOCATION:KAHRAMAN MARAS

ANTICIPATED DATE OF COMMISSIONING:1985

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1990 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	2	1.0	5.5				11.0							11.0
74220 013212 1211	Refrigeration water pump	1	5.5	5.5				5.5							5.5
74220 013222 1211	Thin juice pump	2	0.5	5.5				11.0							11.0
74220 013222 1211	Green syrup pump	1	0.6	3.5				3.5							3.5
74220 013222 1211	White syrup pump	1	0.6	3.5				3.5							3.5
74220 013222 1211	Raw green syrup pump	1	0.5	3.5				3.5							3.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5				3.5							3.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5				3.5							3.5
74220 013222 1211	Liquorand pump	2	0.6	3.5				7.0							7.0
74220 013222 1211	Second green syrup pump	1	0.6	3.5				3.5							3.5
74220 013222 1211	Second white syrup pump	1	0.6	3.5				3.5							3.5
74220 013222 1211	Affination juice pump	1	0.6	3.5				3.5							3.5
74220 013222 1211	Melted second sugar pump	1	0.6	3.5				3.5							3.5
74220 013322 1211	Thick juice pumps	3	0.8	3.9				11.7							11.7
74220 013322 1211	Liquorand syrup pump	2	0.6	4.5				9.0							9.0
74220 013322 1211	III. liquor pump	1	0.6	3.5				3.5							3.5

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TABLE NO

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTA
LOCATION (KASHAPALMARA)
ANTICIPATED DATE OF COMPLETION: 1985

SUGAR BEET MACHINERY (PUMPS)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1981 (US \$ 1000)	1981	1982	1983
74220 014192 1211	Cassett pump	2	2.5	1.2			
74220 014222 1211	Liming thin juice pump	2	0.7	5.5			
74220 015222 1211	Clear juice pump	1	1.2	5.5			
74220 014272 1211	Kiselgure pump	1	0.6	4.5			
74220 014281 3241	Beet pump	2	16.0	24.5			
74220 014322 1211	Thin juice pump	1	0.7	3.5			
74220 014322 1211	Thin juice pump	1	0.6	3.5			
74220 014212 1211	Pumps before heater	1	0.7	3.1			
74230 003161 1211	Third sugar melting tank pump	1	0.6	4.0			
74230 003262 1211	Molasses pump	2	0.3	4.7			

~~Total weight in tons~~ value in 1000 U.S. \$
 (strike out whichever is not applicable)

1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
35.0							35.0
11.0							11.0
5.5							5.5
4.5							4.5
49.0							49.0
3.5							3.5
3.5							3.5
3.0							3.5
4.0							4.0
9.4							9.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBISTAN SUGAR PLANT

LOCATION:KAHRAMAN MARAS

ANTICIPATED DATE OF COMMISSIONING:1985

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/value (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total
74312 230121 1211	Air pumps	3	4.0	5.0			15.0								15.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0			80.0								80.0
74351 101002 1521	Centrifuges-II.sugar	10	4.5	20.0			200.0								200.0
74351 101002 1521	Centrifuges-III.sugar	6	4.5	20.0			120.0								120.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0			140.0								140.0
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0			40.0								40.0
74362 045100 4211	Thickners	1	40.0	70.5			70.5								70.5
74362 214100 2211	String cage filters	6	5.0	4.80				29.28							29.28
74362 332122 1211	Candle filters	4	2.0	2.50				10.0							10.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5				25.0							25.0
74362 415050 3211	Rotary filters	3	15.0	18.3				54.9							54.9
74362 612000 3211	Pulp presses	10	16.5	29.7			297.0								297.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ELBİSTAN SUGAR PLANT, CAPACITY 3000 T/D

LOCATION:KAHRAMAN MARAS

PAGE:8

ANTICIPATED DATE OF COMMISSONING:1985

SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT) ~~Total weight in tons/value in 1000 U.S.\$~~
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 011202 1981	Transportation band	1	3.0	1.4				1.4							1.4
74426 013301 2911	Pulp conveyor	1	8.0	8.0				8.0							8.0
74426 143201 3921	Pressed pulp conveyors	2	10.0	10.0				20.0							20.0
74426 743301 3911	Beet transporters	1	16.0	38.8				38.8							38.8
74426 413201 3941	Helical transporters	2	10.0	23.0				23.0							23.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0				14.0							14.0
74525 026801 2211	Wagon and truck weighing M/C	8	10.0	18.0		108.0									108.0
74525 041011 1711	Tumble scale	1	0.75	1.5					1.5						1.5
74525 042011 1911	Weighing machine molasses	1	0.5	10.0					10.0						10.0
74525 021011 1712	Weighing machines	2	0.2	18.0					28.0						28.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT, CAPACITY 6000 t/d

LOCATION KONYA

PAGE: 1

ANTICIPATED DATE OF COMMISSIONING 1986

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 10 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
63211 021001 3211	Beet storage bunker	1	12.0	12.0				12.0							12.0
69211 071001 1211	Crys. sugar storage tank	1	2.5	4.0					4.0						4.0
69211 071031 1211	Clear juice tank	1	3.0	2.6					2.6						2.6
69211 071031 1211	Purified juice tank	1	3.0	2.6					2.6						2.6
69211 071031 1211	Med. juice tank	1	3.0	2.6					2.6						2.6
69211 071031 1211	Thin juice tank	4	4.5	2.6				10.4							10.4
69211 071031 1211	Thick juice storage tank	10	3.0	3.25					32.5						32.5
69211 071031 1211	Crys. sug. gr. syr. stor. tank	3	3.0	2.6					7.8						7.8
69211 071031 1211	Crys. sug. wh. syr. stor. tank	3	3.0	2.6					7.8						7.8
69211 071031 1211	Molasses tank	1	3.2	2.6					2.6						2.6
69211 071031 1211	Raw green syrup storage tank	2	3.0	2.6					5.2						5.2
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6					5.2						5.2
69211 071031 1211	Raw sugar melting tank	2	2.5	4.0					8.0						8.0
69211 071031 1211	Liquor and syrup storage tank	4	3.0	2.6					10.4						10.4
69211 071031 1211	Second green syrup st. tank	4	3.0	2.6					10.4						10.4
69211 071031 1211	Second white syrup storage tank	4	3.0	2.6					10.4						10.4

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TABLE NO :

EQUIPMENT REQUIREMENTS FOR THE NEW EREĞLİ SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE : 2

ANTICIPATED DATE OF COMMISSIONING 1986

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons / value in 1000 U.S. \$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	2	2.5	3.5					7.0						7.0
69211 071031 1211	Wet. tank for ref. III. sug.	1	3.0	2.6					2.6						2.6
69211 071031 1211	Third sugar melting tank	1	2.5	5.0					5.0						5.0
69211 071031 1211	Affination juice tank	2	3.0	2.6					5.2						5.2
69211 071031 1211	Aff. sug. melt. tank	1	1.0	2.0					2.0						2.0
69211 071132 1211	Raw juice storage tank	2	2.5	3.0					6.0						6.0
69211 071131 1211	Thin juice tank	2	2.5	3.0					6.0						6.0
69211 071132 1211	Circulation juice tank	3	2.6	2.6					7.8						7.8
69211 071132 1211	Level adjusting tank	4	0.5	1.2					4.8						4.8
69211 071132 1211	Mud tanks	2	3.0	3.0					6.0						6.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5					3.0						3.0
69211 071031 1211	Tank. syrup storage	2	1.0	2.0					4.0						4.0
69211 071132 2211	Kieselgher storage tank	2	5.0	2.0				4.0							4.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0				8.0							8.0
69211 091132 3211	Distribution troughs	3	15.5	8.0				24.0							24.0
69211 091132 3211	Distribution trough	3	12.0	8.0				24.0							24.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6				14.6							14.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREĞLI SUGAR PLANT, CAPACITY 6000 T/D
LOCATION: KONYA

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING: 1986

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 016621 6601	Auto. beet unloading mach.	2	100	110.0						220.0					220.0
72726 026302 3911	Leaf & stone catcher	2	15.0	30.0						60.0					60.0
72726 036432 4611	Beet washing machines	2	35	48.75				97.5							97.5
72726 046202 1601	Teil catcher machine	2	5	15.0						30.0					30.0
72726 054002 3611	Beet cutting machine	8	15.0	23.0				184.0							184.0
72726 064002 1611	Stone catcher (new type)	2	0.7	1.85					3.7						3.7
72726 066002 1211	Sand catcher (circulation)	2	ue	3.3					6.6						6.6
72726 076402 2211	Saturation unit II.	2	8	15.0				30.0							30.0
72726 076502 2211	Saturation unit I.	3	10	16.5				33.0							33.0
72726 084052 1211	Crystal sugar shaker	1	4.0	4.75						9.5					9.5
72726 084002 1211	Sugar crusher	1	0.6	7.5					7.5						7.5
72726 106001 1811	Wagon & truck unloading sys.	2	2.0	3.75					7.5						7.5
72726 506802 8211	Diffuser	2	300	600.0				1200.0							1200.0
72726 516102 1211	Secondary liming I. unit	2	1.0	1.8				3.6							3.6
72726 516502 4211	Preliming unit	2	25.0	17.0				34.0							34.0
72726 516512 4211	Secondary liming II. unit	2	25.0	23.2				46.4							46.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT CAPACITY 6000 T/D

LOCATION: KONYA

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 5

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Feed (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981- 1990
74220 01322 1211	Thin juice pump	3	1.0	3.5					10.5						10.5
74220 013212 1211	Refrigeration water pump	1	0.4	5.5					5.5						5.5
74220 013222 1211	Thin juice pump	3	0.6	3.5					10.5						10.5
74220 013222 1211	Green syrup pump	2	0.6	3.5					7.0						7.0
74220 013222 1211	White syrup pump	2	0.6	3.5					7.0						7.0
74220 013222 1211	Raw green syrup pump	2	0.5	3.5					7.0						7.0
74220 013222 1211	Raw white syrup pump	1	0.5	3.5					3.5						3.5
74220 013222 1211	Melted raw sugar pump	2	0.5	3.5					7.0						7.0
74220 013222 1211	Liquorand pump	3	3.6	3.5					10.5						10.5
74220 013222 1211	Second green syrup pump	1	0.6	3.5					3.5						3.5
74220 013222 1211	Second white syrup pump	2	0.6	3.5					7.0						7.0
74220 013222 1211	Affination juice pump	2	0.5	3.5					7.0						7.0
74220 013222 1211	Melted second sugar pump	2	0.6	3.5					7.0						7.0
74220 013322 1211	Thick juice pumps	5	3.8	3.9					19.5						19.5
74220 013322 1211	Liquorand syrup pump	3	0.5	4.5					13.5						13.5
74220 013322 1211	III. liquor pump	1	0.6	3.5					3.5						3.5

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREGLI SUGAR PLANT CAPACITY 6000 T/D
 LOCATION: KONYA
 ANTICIPATED DATE OF COMMISSIONING: 1986

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SUGAR BEET MACHINERY (PUMPS)

Total weight in tons / Value in 1000 U.S. \$
 (strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	4	2.5	17.5					70.0						70.0
74220 014222 1211	Liming thin juice pump	3	0.7	5.5					16.5						16.5
74220 015222 1211	Clear juice pump	2	1.2	5.5					11.0						11.0
74220 014272 1211	Kiselgure pump	1	0.6	4.5					4.5						4.5
74220 014281 3241	Beet pump	3	16.0	24.5					73.5						73.5
74220 014322 1211	Thin juice pump	2	0.7	3.5					7.0						7.0
74220 014322 1211	Thin juice pump	2	0.6	3.5					7.0						7.0
74220 014212 1211	Pumps before heater	2	0.7	3.0					6.0						6.0
74230 003181 1211	Third sugar melting tank pump	2	0.6	4.0					8.0						8.0
74230 003282 1211	Molasses pump	3	0.3	4.7					14.1						14.1

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW EREĞLİ SUGAR PLANT, CAPACITY 6000 T/D

LOCATION KONYA

PAGE: 7

ANTICIPATED DATE OF COMMISSIONING 1986

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons / value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$-1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74312 238121 1211	Air pumps	5	4.0	11.0				55.0							55.0
74351 101002 1511	Centrifuges-raw sugar	10	4.5	40.0				400.0							400.0
74351 101002 1521	Centrifuges-II.sugar	18	4.5	40.0				720.0							720.0
74351 101002 1521	Centrifuges-III.sugar	18	4.5	40.0				640.0							640.0
74351 101002 1521	Centrifuges-Crystal sugar	10	4.5	40.0				400.0							400.0
74351 101002 1521	Centrifuges-Affination sugar	4	4.5	40.0				160.0							160.0
74362 045100 4211	Thickeners	2	35.0	53.7				107.4							107.4
74362 214100 2211	String cage filters	12	5.0	4.98					59.56						59.56
74362 332122 1211	Candle filters	6	2.0	2.50					15.0						15.0
74362 336110 2211	Filtering apparatus (BMA)	3	6.8	15.0					45.0						45.0
74362 415050 3211	Rotary filters	5	15.0	18.3					91.5						91.5
74362 012000 3211	Pulp presses	14	14.5	29.7				415.8							415.8

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000 T/D

PAGE : 4

LOCATION: VAN

ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (GENERAL ITEMS)

Total weight in tons/value in 1000 U S \$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72831 304001 3231	Water & mud separating unit	1	15.0	37.2							37.2				37.2
74132 032510 6211	Lime kiln	1	175.0	150.0						150.0					150.0
74132 051001 1611	Sulfur kiln	1	0.5	12.0							12.0				12.0
74161 014321 3211	Heater, thin juice	2	7.0	10.9						21.8					21.8
74161 013121 1211	Heater, circulation juice	3	3.0	6.0						18.0					18.0
74161 014321 3211	Heater, limed thin juice	2	10.0	11.35						22.7					22.7
74161 014321 2211	Heater, II. saturation	2	7.0	10.9						21.8					21.8
74161 014321 3211	Heater, thin juice	6	10.0	11.35						68.10					68.10
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0						20.0					20.0
74161 033306 3211	Raw sugar refrigerators	1	13.0	20.0						20.0					20.0
74161 033306 3211	II. sugar refrigerators	6	13.0	20.0						120.0					120.0
74161 033306 3211	Crystal sugar refrigerators	2	13.0	20.0						120.0					120.0
74161 033307 3211	III. sugar refrigerators	16	13.6	20.0						320.0					320.0
74162 015273 3211	Multi-stage evaporators	4	16.0	20.0						80.0					80.0
74162 112231 3211	Vacuum pans - raw sugar	2	20.0	35.0						70.0					70.0
74162 112231 3211	Vacuum pans - II. sugar	3	20.0	35.0						105.0					105.0
74162 112231 3211	Vacuum pans crystal sugar	4	20.0	35.0						140.0					140.0
74162 112231 3211	Vacuum pans III. sugar	5	20.0	20.0						100.0					100.0
74163 990059 3211	Scalding trough	2	10.0	25.0						50.0					50.0
74164 306003 3211	Drying trolley	1	10.0	30.0						30.0					30.0

TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000T/D

LOCATION:VAN

PAGE: 3

ANTICIPATED DATE OF COMMISSIONING:1988

SUGAR BEET MACHINERY (SPECIALIZED ITEMS)

Total weight in tons/ value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
72726 015521 5801	Auto.beet unloading mech.	2	60	94.0								188.0			188.0
72726 026002 3911	Leaf & stone catcher	1	15.0	30.5								30.5			30.5
72726 036402 4611	Beet washing machines	1	35	52.0						52.0					52.0
72726 046202 1601	Tail catcher	1	5.0	15.2								15.2			15.2
72726 055002 3611	Beet cutting machine	5	15.0	24.5						122.5					122.5
72726 065002 1611	Sand catcher (row juice)	2	0.5	1.0							2.0				2.0
72726 066002 1211	Sand catcher (circulation)	2	0.5	1.0							2.0				2.0
72726 076402 2211	Saturation unit II.	2	8	15.3						30.6					30.6
72726 076502 3211	Saturation unit I.	2	10	16.8						33.6					33.6
72726 084002 1211	Crystal suger shaker	1	3.0	4.25								4.25			4.25
72726 084002 1211	Suger crusher	1	0.4	5.2							5.2				5.2
72726 106001 1901	Wagon & truck unloading sys.	1	2.0	3.75							3.75				3.75
72726 505802 7211	Diffuser	2	150.0	300.0						600.0					600.0
72726 516102 1211	Secondary liming I.unit	1	10	2.6						2.6					2.6
72726 515402 3211	Preliming unit	2	15	15.6						31.2					31.2
72726 515412 3211	Secondary liming II.unit	2	10	12.5						25.0					25.0

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TABLE NO: EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000T/D

LOCATION: VAN

PAGE: 2

ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$.
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 071031 1211	Sec. sugar melting tank	1	2.5	3.5							3.5				3.5
69211 071031 1211	Wet. tank for ref. III. sug.	1	3.0	2.6							2.6				2.6
69211 071031 1211	Third sugar melting tank	1	2.5	5.0							5.0				5.0
69211 071031 1211	Affination juice tank	1	3.0	2.6							2.6				2.6
69211 071031 1211	Aff. sug. melt. tank	1	1.0	1.5							1.5				1.5
69211 071031 1211	Raw juice storage tank	2	1.0	1.2							2.4				2.4
69211 071031 1211	Thin juice tank	1	2.5	3.0							3.0				3.0
69211 071132 1211	Circulation juice tank	2	2.6	2.6							5.2				5.2
69211 071132 1211	Level adjusting tank	3	0.5	1.2							3.6				3.6
69211 071132 1211	Mud tanks	1	3.0	3.0							3.0				3.0
69211 071132 1211	Thick juice sto. tank	2	2.0	1.5							3.0				3.0
69211 071031 1211	Tank. syrup storage	2	1.0	1.5							3.0				3.0
69211 071132 1211	Kieselgher storage tank	1	3.0	2.0						2.0					2.0
69211 091132 3211	Crys. dist. trough	1	12.0	8.0						8.0					8.0
69211 091102 3211	Distribution troughs	3	15.5	8.0						24.0					24.0
69211 091102 3211	Distribution trough	2	12.0	8.0						16.0					16.0
69211 091132 3211	Aff. dist. trough	1	15.5	14.6						14.6					14.6

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000 T/D

LOCATION:VAN

ANTICIPATED DATE OF COMMISSIONING:1988

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SUGAR BEET MACHINERY (TANKS AND TROUGHS)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (U.S.\$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
69211 021001 3211	Beet storage bunker	1	7.0	7.0						7.0					7.0
69211 071101 1211	Crys. sugar storage tank	1	2.5	4.0							4.0				4.0
69211 071031 1211	Clear juice tank	1	2.0	2.0							2.0				2.0
69211 071031 1211	Purified juice tank	1	2.0	2.0							2.0				2.0
69211 071031 1211	Mud juice tank	1	2.0	2.0							2.0				2.0
69211 071031 1211	Thin juice tank	2	4.5	2.6							5.2				5.2
69211 071132 1211	Thick juice storage tank	10	2.0	2.0							20.0				20.0
69211 071031 1211	Crys. sug. gr. syr. stor. tank	2	3.0	2.6							5.2				5.2
69211 071031 1211	Crys. sug. wh. syr. stor. tank	2	3.0	2.6							5.2				5.2
69211 071031 1211	Melasses tank	1	3.2	2.6							2.6				2.6
69211 071031 1211	Raw green syrup storage tank	1	3.0	2.6							2.6				2.6
69211 071031 1211	Raw white syrup storage tank	2	3.0	2.6							5.2				5.2
69211 071031 1211	Raw sugar melting tank	1	2.5	4.0							4.0				4.0
69211 071132 1211	Liquefied syrup storage tank	3	3.0	2.6							7.8				7.8
69211 071031 1211	Second green syrup st. tank	3	3.0	2.6							7.8				7.8
69211 071031 1211	Second white syrup storage tank	2	3.0	2.6							5.2				5.2

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000 T/D

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LOCATION: VAN

ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (PUMPS)

~~Total weight in tons~~/value in 1000 US \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 013122 1211	Thin juice pump	2	1.0	5.5							11.0				11.0
74220 013212 1211	Refrigeration water pump	1	0.4	5.5							5.5				5.5
74220 013222 1211	Thin juice pump	2	0.8	5.5							11.0				11.0
74220 013222 1211	Green syrup pump	1	0.6	3.5							3.5				3.5
74220 013222 1211	White syrup pump	1	0.6	3.5							3.5				3.5
74220 013222 1211	Raw green syrup pump	1	0.5	3.5							3.5				3.5
74220 013222 1211	Raw white syrup pump	1	0.5	3.5							3.5				3.5
74220 013222 1211	Melted raw sugar pump	1	0.5	3.5							3.5				3.5
74220 013222 1211	Liquorand pump	2	0.6	3.5							7.0				7.0
74220 013222 1211	Second green syrup pump	1	0.6	3.5							3.5				3.5
74220 013222 1211	Second white syrup pump	1	0.6	3.5							3.5				3.5
74220 013222 1211	Affination juice pump	1	0.6	3.5							3.5				3.5
74220 013222 1211	Melted second sugar pump	1	0.6	3.5							3.5				3.5
74220 013322 1211	Thick juice pumps	3	0.8	3.9							11.7				11.7
74220 013322 1211	Liquorand syrup pump	2	0.6	4.5							9.0				9.0
74220 013322 1211	III. liquor pump	1	0.6	3.5							3.5				3.5

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERÇİŞ SUGAR PLANT, CAPACITY 3000 T/D

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LOCATION: VAN

ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (PUMPS)

Total weight in tons/value in 1000 U S \$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd (Nos)	Unit Weight (tons)	Unit Cost in 1980 (U.S. \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981-1990
74220 014192 1211	Cassett pump	2	2.5	17.5							35.0				35.0
74220 014222 1211	Liming thin juice pump	2	0.7	5.5							11.0				11.0
74220 015222 1211	Clear juice pump	1	1.2	5.5							5.5				5.5
74220 014272 1211	Kiselgure pump	1	0.6	4.5							4.5				4.5
74220 014281 3241	Beet pump	2	16.0	24.5							48.8				48.8
74220 014322 1211	Thin juice pump	1	0.7	3.5							3.5				3.5
74220 014322 1211	Thin juice pump	1	0.6	3.5							3.5				3.5
74220 014212 1211	Pumps before heater	1	0.7	3.0							3.0				3.0
74230 003161 1211	Third sugar melting tank pump	1	0.6	4.0							4.0				4.0
74230 003262 1211	Molasses pump	2	0.3	4.7							9.4				9.4

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT,CAPACITY 3000 T/D

LOCATION:VAN

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ANTICIPATED DATE OF COMMISSIONING: 1988

SUGAR BEET MACHINERY (CENTRIFUGES, FILTERS ETC)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$ 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
75312 230121 1211	Air pumps	3	4.0	5.0						15.0					15.0
74351 101002 1521	Centrifuges-raw sugar	4	4.5	20.0						80.0					80.0
74351 101002 1521	Centrifuges-II.sugar	10	4.5	20.0						200.0					200.0
74351 101002 1521	Centrifuges-III.sugar	6	4.5	20.0						120.0					120.0
74351 101002 1521	Centrifuges-Crystal sugar	7	4.5	20.0						140.0					140.0
74351 101002 1521	Centrifuges-Affination sugar	2	4.5	20.0						40.0					40.0
74362 045100 4211	Thickeners	1	40.0	70.5						70.5					70.5
74362 214100 2211	String cage filters	6	5.0	4.98							29.28				29.28
74362 332122 1211	Candle filters	4	2.0	2.50							10.0				10.0
74362 334110 2211	Filtering apparatus (BMA)	2	6.0	12.5							25.0				25.0
74369 415050 3211	Rotary filters	3	15.0	18.3							54.9				54.9
74362 512000 3211	Pulp presses	10	4.5	29.7						297.0					297.0

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TABLE NO:

EQUIPMENT REQUIREMENTS FOR THE NEW ERCIS SUGAR PLANT, CAPACITY 3000 T/D

LOCATION:VAN

ANTICIPATED DATE OF COMMISSIONING:1988

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SUGAR BEET MACHINERY (CONVEYORS, TRANSPORT & WEIGHING EQUIPMENT)

Total weight in tons/value in 1000 U.S.\$
(strike out whichever is not applicable)

SITC CODE	Basic Machine Name	Qty. Reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 (US \$, 1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Total 1981 1990
74426 011202 1911	Transportation band	1	3.0	1.4							1.4				1.4
74426 013301 2911	Pulp conveyor	1	8.0	8.0							8.0				8.0
74426 143201 3931	Pressed pulp conveyors	2	10.0	10.0							20.0				20.0
74426 143301 3911	Beet transporters	1	16.0	38.8							38.8				38.8
74426 413201 3941	Helical transporters	2	10.0	23.0							46.0				46.0
74426 511401 1911	Crystal sugar elevator	1	12.0	14.0							14.0				14.0
74525 026801 2211	Wagon and truck weighing M/C	1	10.0	10.0					100.0						100.0
74525 041011 1111	Tumble scale	1	0.75	1.5								1.5			1.5
74525 042011 1911	Weighing machine molasses	1	0.5	10.0								10.0			10.0
74525 021011 1712	Weighing machines	2	0.2	10.0								20.0			20.0

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