SUMMARY JOB COSTS

PROJECT Blast Furnace Baghouse Flue
El Paso Plant ENR INDEX 2593

ASARCO

C.E. PROJECT NO. EA-33-EP
N.Y. APPRO. NO.
PLANT NO.

PLAINTIFF'S EXHIBIT ASA-118

EST. BY DESIGN SECTION
FLB
C'KD. BY A.O. Marsh, Jr.
DATE Aug. 1, 1977

ACCT. NO.	DIRECT COSTS DESCRIPTION	ESTIMATED COSTS		% OF TOTAL CAPITAL COSTS
1000	DEMOLITION & EARTHWORK	$ 31,000		
2000	CONCRETE	11,000		
3000	PROCESS STRUCTURES	539,200		
4000	GENERAL EQUIPMENT	---		
5000	PROCESS EQUIPMENT	3,000		
6000	PIPING	2,000		
7000	ELECTRICAL	5,000		
8000	INSTRUMENTATION	13,000		
9000	PAINTING	20,000		
	TOTAL ESTIMATED DIRECT COSTS	$624,200		
	INDIRECT COSTS			
	ENGINEERING			
	DESIGN & SPECIFICATIONS	62,000		
	PROCUREMENT	8,000		
	FIELD SUPERVISION	8,000		
	CONTRACTORS FIELD DISTRIBUTABLES	90,000		
	ESCALATION			
	ENGINEERING SERVICES	3,000		
	PROJECT EQUIPMENT	8,000		
	BULK MATERIALS - CONSTRUCTION	40,000		
	PROJECT LABOR	18,000		
	CONTRACTORS FIELD DISTRIBUTABLES	5,800		
	TOTAL FIELD & ENGINEERING EXPENSE	$867,000		
	CONTINGENCIES	87,000		
	FEES:			
	CONTRACTORS FEE OR PROFIT	43,000		
	LICENSES AND/OR ROYALTIES			
	TOTAL ESTIMATED CAPITAL COSTS	$997,000		
	APPLICABLE TAXES - MATERIALS, EQUIPMENT 400,000 a 5 %	20,000		
	TOTAL ESTIMATED PROJECT COSTS	$1017 000		

ESTIMATED LIFE OF PROJECT 18 mo.

HER 0001017

C.E. PROJECT NO. EA-33-I

N.Y. APPRO. NO.

PLANT NO.

COST ESTIMATE - SUMMARY - DIRECT LABOR & MATERIALS

PROJECT Blast Furnace Baghouse Flue — DATE Aug. 1, 1977

El Paso Plant — ENR INDEX 2593

ASARCO

DIV. NO.	ITEM DESCRIPTION	DEMO. & EARTHWORK 1000	CONCRETE 2000	PROCESS STRUCT. 3000	GENERAL EQUIP. 4000	PROCESS EQUIP. 5000	PIPING 6000	ELECT. 7000	INSTR. 8000	PAINT 9000	TOTAL EST. DIRECT COSTS
01	Flue to 610' Stack	31,000	11,000	389,200	--	3,000	2,000	5,000	13,000	20,000	$474,200
02	Stack Modifications			150,000							150,000
	TOTAL DISCIPLINE COSTS	31,000	11,000	539,200	--	3,000	2,000	5,000	13,000	20,000	
										TOTAL ESTIMATED DIRECT LABOR & MATERIALS	$624,200

HER 0001018

COST ESTIMATE DET .S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant
C.E. PROJECT NO. EA-33-EP
N.Y. APPRO. NO. _____ PLANT NO. _____
ACCT. NO. 1000 | TITLE Demolition & Earthwork

EST. BY DESIGN SECTION
FLB
C'KD. BY A.O. Marsh, Jr.
DATE Aug. 1, 1977
ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Remove existing stacks (6)							
	Steel	100T	200/T			$20,000	20	0783
	Transite	7000SF	1/SF			7,000	20	0783
	Concrete	20cy	30/cy			600	20	0783
	Excavation	100cy	10/cy			1,000	20	0783
	Backfill	30cy	10/cy			300	20	0783
	Temporary bulkhead	1				2,100	20	0783
				TOTAL		$81,000.		

HER 0001019

COST ESTIMATE DE' 'LS / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant

C.E. PROJECT NO. EA-33-EP

N.Y. APPRO. NO. _____ PLANT NO. _____

ACCT. NO. 2000 TITLE Concrete

EST. BY DESIGN SECTION
FLB

C'KD. BY A.O. Marsh, Jr.

DATE Aug. 1, 1977

ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Flue support fnds	50cy	200/cy			$10,000	20	0783
	EPA sampling							
	platform	5cy	200/cy			1,000	20	0783

40,000. +
16,000. +
44,000. +
72,000. +
44,000. +
64,000. +
20,000. +
14,200. +
336,200. T

.S / CONSTRUCTION ESTIMATE
ABOR AND MATERIAL

ASARCO

Baghouse Flue

PLANT NO.

EST. BY DESIGN SECTION
FLB
C'KD. BY A.O. Marsh, Jr.
DATE Aug. 1, 1977
ENR INDEX 2593

ACCT. NO. 3000 | TITLE Process Structures

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	110" I.D. flue	70T	2000/T			$140,000	10	0329
	Breeching	8T	2000/T			16,000	10	0329
	Baghouse connections	12T	2000/T			24,000	10	0329
	Support steel	40T	1800/T			72,000	10	0329
	Platforms & ladders	2T	2200/T			44,000	10	0329
	Insulation	12000SF	5/SF			60,000	15	0367
	Expansion joint 110" I.D.	4		16,000	4,000	20,000	15	0375
	Additional platform for EPA SAMPLING	6T	2200/T			13,200	10	0329
				TOTAL		$349,600.		

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COST ESTIMATE DET .S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant

C.E. PROJECT NO. EA-33-EP

N.Y. APPRO. NO. _____ PLANT NO. _____

ACCT. NO. 5000 TITLE Process Equipment

EST. BY DESIGN SECTION
FLB

C'KD. BY A.O. Marsh, Jr.

DATE Aug. 1, 1977

ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Hoist, sheeves,							
	rack, etc. for							
	EPA sampler	Lot		2100	900	$3,000	10	0604
	TOTAL					$3,000.		

HER 0001022

COST ESTIMATE DE[illegible]S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant

C.E. PROJECT NO. EA-33-EP

N.Y. APPRO. NO. _____ PLANT NO. _____

ACCT. NO. 6000 TITLE Piping

EST. BY DESIGN SECTION
FLB

C'KD. BY A.O. Marsh, Jr.

DATE Aug. 1, 1977

ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Purge air for							
	opacity meter	Lot				$2,000	10	0407

COST ESTIMATE DET .S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant
C.E. PROJECT NO. EA-33-EP
N.Y. APPRO. NO. _____ PLANT NO. _____
ACCT. NO. 7000 TITLE Electrical

EST. BY DESIGN SECTION
FLB
C'KD. BY A.O. Marsh, Jr.
DATE Aug. 1, 1977
ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Power wiring for							
	Lear Siegler							
	opacity meter	Lot				$3,000	30	0536
	Power wiring for							
	EPA sample hoist	Lot				2,000	30	0536
					TOTAL	$5,000.		

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COST ESTIMATE DE[illegible]S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant

C.E. PROJECT NO. EA-33-EP

N.Y. APPRO. NO. _____ PLANT NO. _____

ACCT. NO. 8000 | TITLE Instrumentation

EST. BY DESIGN SECTION
FLB

C'KD. BY A.O. Marsh, Jr.

DATE Aug. 1, 1977

ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Lear Siegler							
	opacity meter	1		11,000	2,000	$13,000	10	0370

COST ESTIMATE DE[illegible]S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant

C.E. PROJECT NO. EA-33-EP

N.Y. APPRO. NO. _____ PLANT NO. _____

ACCT. NO. 9000 | TITLE Painting

EST. BY DESIGN SECTION
FLB

C'KD. BY A.O. Marsh, Jr.

DATE Aug. 1, 1977

ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
01	Flue to 610' Stack							
	Flue supports &							
	platforms	40000SF	.50/SF			$20,000	10	0329
	TOTAL					$20,000.		

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COST ESTIMATE DET .S / CONSTRUCTION ESTIMATE
DIRECT LABOR AND MATERIAL

ASARCO

PROJECT Blast Furnace Baghouse Flue
El Paso Plant
C.E. PROJECT NO. EA-33-EP
N.Y. APPRO. NO. _____ PLANT NO. _____
ACCT. NO. 3000 TITLE Process Structures

EST. BY DESIGN SECTION
FLB _____ _____ _____
C'KD. BY A.O. Marsh, Jr.
DATE Aug. 1, 1977
ENR INDEX 2593

DIV. NO.	DESCRIPTION	QUANTITY	UNIT COSTS	MATL. EQUIP.	LABOR OTHER	TOTAL COST	PROPERTY YRS	PROPERTY CODE
02	Stack Modifications							
	Stack opening &							
	framing	1				$150,000	50	0678
	TOTAL					$150,000.		

HER 0001027