July 21, 1948

Stearns-Roger Mfg. Co.
Box 38
El Paso, Texas

ATTENTION: Mr. F. J. Christensen

Dear Sir:

We are hereby accepting as complete and satisfactory the installation of the following items.

Elevator 81, 85, 84 and 83.

This equipment has been turned over to operating department for trial run and inspection.

Yours very truly,

LEROY FRENIN
Resident Construction
Engineer

LF/plc
cc/EMcLT
TJW
LCBurt

PLAINTIFF'S EXHIBIT

ASA-1252

Misc. S-R Corresp.

July 19, 1948

Stearns-Roger Mfg. Co.
Box 38
El Paso, Texas

Attention: Mr. F. J. Christensen

Mechanical Equipment

Dear Sir:

We are hereby accepting as being installed in a satisfactory manner the following conveying equipment.

Conveyors #28, 29, 30, 31, 32, 40 and 45.
Elevator #82
Baghouse Shaker Mechanism

These pieces of equipment have been turned over to our operating department for inspection and trial run.

Very truly yours,

LEROY FRENIN

LF:ca
cc: E. McL. Tittmann
T. J. Woodside

ASARCO ELP 0009615

July 14, 1948

Stearns-Roger Mfg. Co.
P. O. Box 38
El Paso, Texas

Attention: Mr. F. J. Christensen

Dear Sir:

We hereby accept as being completed in a satisfactory manner the mechanical installation of the following conveying equipment. We are releasing these items to our operating department.

Elevator #80, conveyors 19, 20, 21, 22, 23, 24, 25, 26, and 27.

Please see that there are no further charges against these items after July 15th unless specifically instructed in writing.

Very truly yours,

LEROY FRENIN

LF:hc
cc: L. McA. Tittmann
T. J. Woodside

ASARCO ELP 0009616

July 14, 1948

Stearns-Roger Mfg. Co.
Box 38
El Paso, Texas

Attention: F. J. Christensen

Dear Sir:

We hereby accept as having been completed in a satisfactory manner all structures and equipment relating to primary crushing plant and including airveyor equipment.

Please see that no further charges are made against these items after July 15 unless specifically instructed to do work on these items in writing.

We are releasing the above items to our operating department.

Very truly yours,

LEROY FRENIN
Resident Construction Engineer

LF/mbr
cc: EMcLTittmann
TJ Woodside

July 13, 1948

Stearns-Roger Mfg. Co.
Box 38
El Paso, Tex s

Attention: Mr. F. J. Christensen

Dear Sir:

We are accepting as mechanically complete the following conveyors. Do not charge any more work against these units.

Conveyors #1 to 18 inclusive, 46, 47, 48, 49, 93, 94, 73, 101, 100, 50, 51, 52, 56, 57, 58, 59, 60, 90, 91, 61, 62 and 63.

Very truly yours,

LEROY FRANK

LF:ca
cc: L. McL. Tittmann
T. J. Woodside

ASARCO ELP 0009618

SR Corr.

June 9, 1948

Purchase of Rented Tools
and Equipment

Stearns-Roger Manufacturing Company
El Paso, Texas

Attention: Mr. Frank J. Christensen

Gentlemen:

In accordance with our understanding as outlined in your letters of May 15 and May 20, 1947 and Mr. Tittmann's reply of May 22, 1947, we wish to inform you that we will exercise our option to purchase all equipment, detailed on the attached list, on which we have been paying monthly rental charges per your progress invoices.

None of this equipment, therefore, should be removed from the job.

Yours truly,

T. J. WOODSIDE.

Enc.
cc: C. C. Burt-enc
L. Frewin-enc.

RENTAL TOOLS AND EQUIPMENT ON JOB A-67300

QUANTITY	DESCRIPTION
2	G.E. SA200 Gas Driven Welding Machines Serial 2046792, 2047484
4	Lincoln SA200 Gas Driven Welding Machines Serial Nos: A-176307, A-176305, A-192226, A-191919
2	Lincoln SA300 Elect. driven Welding Machines Serial Nos: A-176150, A-175012
1	Lincoln SA300 Elec. Serial A-21004 (No Charge)
1	Gurley Transit Ser. 451857
1	Berger Level Ser. #29636, 1-K&E Rod
1	210 Cu. Ft. Worthington Air Comp.
1	Cleveland Paving Breaker
1	Thor Model 25 Paving Breaker
1	Thor Paving Breaker
1	Sullivan Jackhammer
1	Ingersoll-Rand Impact Wrench
1	Marlow 2" Water Pump
1	Jaeger 11 EL 4 PA Cement Mixer
1	Jaeger 6 EL - 2P Cement Mixer
1	Bi Bottle Type Water Cooler
1	Berg Model A Concrete Surfacer
1	12" IBM Electric Typewriter
1	F&E Checkwriter Ser. 2780609
1	#90 Boyer Riveter
1	1946 International Winch Truck K6
1	1947 Diamond T Winch Truck
1	1945 International Winch Truck
1	1946 GMC Pickup Truck
2	3 HP Concrete Vibrators
1	Bench Table Saw
2	Ingersoll-Rand Air Hoists Ser. A-9645, A-6537
2	Gardner-Denver Air Hoists Ser. 135277, 135275
1	Allis Chalmers Tractor & Dozer #1403
1	10 Gal. Capacity Paint Sprayer Complete

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
November 6, 1947

American Smelting & Refining Co.
El Paso, Texas

Attention: Mr. Leroy Frewin

Gentlemen:

Following is a list of material yet to be purchased:

30-TON COAL BINS

~~1. Upper Feed Chutes.~~
~~2. All Gate Mechanism in Bins.~~
~~3. All Air Cylinders.~~
~~4. Panels for Air Cylinders.~~
~~5. All Air Valves.~~
~~6. All Switches & Electrical Equipment.~~
~~7. All Bin Indicators.~~
(B&W to furnish drawings and will furnish on supplemental order.)
~~8. Transition Pipe between Bins and Pulverizers.~~
9. ~~Control Panels for Push Buttons and Lights.~~
~~10. Bailey Feed Recorder.~~

COAL PIPING

Note in Field 1. ~~All 8" Coal Piping from Pulverizers to FGE Headers.~~
" " " 2. ~~All 2½" Coal Pipe from Headers to Tuyeres.~~

AIR PIPING

~~1. Pulverizer Air Heaters~~ By B & W.
Make Field 2. All Primary and Secondary Piping.
B&W Purchase 3. ~~2 - 24" Venturi Type Air Valves.~~
OK-Purch 4. ~~3 - 18" Butterfly Valves ahead of Heaters.~~

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING ORDERS. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS AND OTHER CONDITIONS BEYOND OUR CONTROL. STENOGRAPHIC ERRORS ARE SUBJECT TO COR-

 The Stearns-Roger Manufacturing Co. Date Nov. 6, 194

American Smelting & Refining Co.
Atten: Mr. Leroy Frewin

MISCELLANEOUS

1. Miscellaneous Steel out for bids.
2. ~~Launders to Slag Pots.~~
3. ~~Venting Air Piping from Slag Pots.~~
4. Tertiary Piping
5. ~~W. Jacket in Front of Boiler.~~ Rec'd
6. Air System for Soot Blowers.
7. ~~Sump Pumps.~~

Out For Bids March First April

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

Stephen Novakovich
STEPHEN NOVAKOVICH

SN:jr
cc: Mr. E. McL. Tittmann

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
November 5, 1947

American Smelting & Refining Co.
El Paso, Texas

Attention: Mr. Leroy Frewin

Gentlemen:

In accordance with your request, we are listing below the status of material which has not been purchased; and items which have been purchased, but on which the confirming purchase order has not yet been written.

POWER HOUSE PIPING

Ordered OK 1. Valves and miscellaneous fittings ordered from Crane Co., October 8, and Purchase Order written October 31, 1947.

Ordered OK 2. McAlear Strainers ordered from Mine and Smelter Supply Company October 10. Confirming purchase order will be written in the next couple of days.

Ordered 3. Solenoid Trip Valve. Received quotation from Ruggles-Klingemann. We are awaiting your approval.

~~Hold Another Valve~~ Ordered 4. Oil Operated Valve - Received quotation from Schutte and Koerting. We are awaiting your approval.

Quotation Ordered 5. 10" Steam Separator - Marked "Hold" - ??

Ordered 6. Relief Valves & Regulators. We have received quotations from Wilgus, Fisher, Mason-Neilan, Swartwout; however, on Items 1 & 3 the specifications were changed and we have not received the revised bid as yet on items 1 & 3.

Ordered OK 7. Atmospheric Relief Valves. Atwood-Morrill have not yet replied to our request for a quotation.

Ordered OK 8. 20" or 24" Swing Check Valve and Butterfly Valve. We are sending to you Crockrane, Smolensky and Darling quotations. Crane and Ingersoll-Rand have not replied as yet. On the Butterfly Valve, we are sendin g Henry Pratt's and R-S quotations.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING

American Smelting & Refining Co.
Atten: Leroy Frewin

WATER SOFTENER PIPING

Ordered OK 1. Valves & Miscellaneous Fittings ordered from Mine and Smelter Supply Co., October 8; confirming purchase order will be written in the next couple of days.

Ordered OK 2. McAlear Strainers ordered from Mine and Smelter Supply Company, October 10. Confirming purchase order will be written soon.

Ordered 3. Solenoid Valve. Received quotation from Ruggles-Klingemann. We are awaiting your approval.

Ord. OK 4. Relief Valves and Regulators. Same as mentioned under Item 6 - Power House Piping.

FUMING FURNACE PIPING

Ordered OK 1. Miscellaneous welding fittings and bolts ordered from Momsen-Dunnegan-Ryan Co., also Zork Hardware Co., on October 15. Confirming purchase order will be written as soon as prices received.

Ordered OK 2. Purchase orders have been written on Merco Valves, flexible tubing, diaphragm valves, and rubber expansion joints.

14" CONTROL BUTTERFLY VALVE

Ordered W.L.G. 1. We are sending to you Mason-Neilan, Fisher, and R-S quotations. McAlear is unable to quote.

EXPANSION JOINTS FOR ZINC BLOWER

Ordered 1. 24" Rubber suction - U.S. Rubber will advise if they can make a lighter weight than the Style 4039.

~~2. 20" Rubber Discharge - U.S. Rubber will advise if they can make a lighter weight than the Style 4140.~~

Ordered 2 Cys. 3. 20" Copper Non-equalizing Expansion Joint with one corrugation and with Series 15 flanges. Delivery approximately 6 weeks, price $216.77.

No. of Sheet 3 The Stearns-Roger Manufacturing Co. Date Nov. 5, 1947

American Smelting & Refining Co.
Atten: Mr. Leroy Frewin

3/4" AIR VALVES, 40# PRESS./SQ.IN.

Auth. Davis 12-1-47

1. We are sending to you Crane, Fisher and McAlear quotations.

CLEAN OUT CHUTE FOR FURNACE
Drawing 12147

Ordered OK

1. Prints were sent to Union Steel, Apex Steel, Mosher Steel, and Darbyshire-Harvie on October 31, 1947. Bids to be in November 11, 1947.

HORIZONTAL CONVEYOR SUPPORTS, BUCKSTAY AND CHARGING SPOUT SHIELD.
Drawings 12129, 12141, and 12092

Ordered OK

1. Prints sent to Union Steel, Apex Steel, Havens Steel, Darbyshire-Harvie October 29. Bids to be in November 10, 1947.

ROOFING AND SIDING FOR BUILDING
Dwgs. 12122, 12123, 12124, and 12125

Ordered Asbestos Re'ing

1. Prints sent to Koppers, H.H. Robertson, Scully Steel, and Ryerson Steel, for quotation on November 3.

All other items have been purchased, except as shown above. A list of all other material which has not come to the attention of the purchasing department from the Engineering Department, to be purchased, will come from Steve Novakovich.

Your authorization to purchase any of the above material will be appreciated.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

R. L. Wills

RLW:jr
cc: Mr. E. McL. Tittmann

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT

APR 10 1947

File in S.C. [illegible]
Also [illegible]
SR-[illegible]

Western Engineering Dep't
Garfield, Utah
April 7th, 1947

MR. LEROY FREWIN,

El Paso, Texas

Dear Sir: CD-5088, N.Y. 10968

In accordance with our conversation at El Paso, we have assigned SR numbers to the various authorizations which you have given to Stearns-Roger Manufacturing Company and are listing them below.

SR-8 - Dings Magnetic Pulley and Coal Conveyor Parts as listed in your authorization dated March 18th, 1947.

SR-9 - Coal Silo, Grizzly Bar and Track Hopper - Your authorization dated March 19th, 1947 and March 21st, 1947.

SR-10 - Airveyor System - Your authorization dated March 21st, 1947

SR-11 - Merrick Feedoweight - Your authorization dated March 21st, 1947.

SR-12 - Redler Conveyor & Elevator - Your authorization dated March 21st, 1947.

SR-13 - Conveyor Belt - Your authorization dated March 25th, 1947

SR-14 - Apron Feeders - Your authorization dated March 25th, 1947

SR-15 - Coal Crusher - Your authorization dated March 26th, 1947

Yours truly,

C. C. BURT

cc:Stearns-Roger - El Paso

P.S. I don't understand your April 1st letter authorizing purchasing two pan feeders from C.C. Horne. Does this cancel SR-14, dated March 25, 1947 authorizing their purchase from Jeffrey? If so you should definitely notify Stearns-Roger to cancel your previous authorization. I have no copy of Horne's proposal of March 26 and consequently was unable to determine if it covered the same feeders as Jeffrey's proposal of February 7th or whether it might be for the cold slag hopper feeders.

Extra copies of the following orders are enclosed:
CD-5106, N.Y. 4237
CD-5111, N.Y. 4563
CD-5122, N.Y. 4228

C C B

March 28, 1947

Stearns-Roger Mfg. Co.
Box 38
El Paso, Texas

Attention: Mr. F. J. Christensen

Dear Sir:

MOTOR REDUCERS & MOTORS
ZINC PLANT

In order to reduce the number of spare motors and reducers required for the Zinc Plant we standardized on certain makes and speeds of motors and reducers as much as possible. In selecting drives for equipment on which you are doing the engineering will you try to keep drives within the following list.

Motors

3 HP Westinghouse totally enclosed fan cooled, 1750 RPM, 3 phase, 60 cycles, 440 volts, frame 225.

5 HP Westinghouse totally enclosed fan cooled Class II high starting torque, 900 RPM, 3 phase, 60 cycles, 440 volts, frame # 324.

10 HP Westinghouse totally enclosed fan cooled motors, 900 RPM, 3 phase, 60 cycles, 440 volts, frame # 365.

15 HP Westinghouse totally enclosed fan cooled motor, 900 RPM, 3 phase, 60 cycles, 440 volts, frame # 404.

20 HP Westinghouse totally enclosed fan cooled motor, high starting torque Class II, 1170 RPM, 3 phase, 60 cycles, 440 volts, frame # 404.

Gearmotors following are all totally enclosed, fan cooled gearmotors with Class II high starting torque motors and Class II gear boxes. Motors are for operation on 3 phase, 440 volt, 60 cycle.

ASARCO ELP 0009628

3 HP Westinghouse TEFC gearmotors, AGMA, Class II
56 RPM, frame EHB-225.

5 HP Westinghouse TEFC gearmotors, AGMA, Class II
56 RPM, frame EJB-254.

7 1/2 HP Westinghouse TEFC gearmotors, AGMA, Class II
56 RPM, frame EKB-284.

10 HP Westinghouse TEFC gearmotors, AGMA, Class II
56 RPM, frame ELB-324.

Pan Feeder Drives

In selecting conveyor speed of pan feeders care should be exercised to see that the capacity with both pan feeders operating does not exceed the capacity of the Air Conveyor system since if it does the control will start and stop pan conveyors an excessive number of times.

Very truly yours,

LEROY FREWIN

LF/mb

ASARCO ELP 0009629

THE STEARNS-ROGER MFG. CO.

ENGINEERS CONTRACTORS — DENVER, COLO. — DESIGNERS MANUFACTURERS

1718-1720 CALIFORNIA STREET — PHONE KEYSTONE 3311

CUSTOMER'S ORDER NO. & DATE 10966

REQUISITION NO.

CONTRACT NO.

OUR ORDER NO. A-67300

INVOICE DATE Feb. 5, 1947

SOLD TO AMERICAN SMELTING & REFINING CO., El Paso, Texas.

SHIPPED TO AND DESTINATION

DATE SHIPPED — FROM

CAR INITIALS AND NO. — F. O. B.

HOW SHIPPED AND ROUTE

PREPAID OR COLLECT?

(FOLD ON THIS LINE)

TERMS: 30 DAYS NET—NO CASH DISCOUNT

SIMPLIFIED INVOICE
(ENDORSED BY U. S. DEPARTMENT OF COMMERCE)

FOR CUSTOMER'S USE ONLY

REGISTER NO.	VOUCHER NO.
F. O. B. CHECKED	
TERMS APPROVED	PRICE APPROVED
CALCULATIONS CHECKED	
TRANSPORTATION	
FREIGHT BILL NO.	AMOUNT
MATERIAL RECEIVED	
19 DATE	SIGNATURE / TITLE
SATISFACTORY AND APPROVED	
ADJUSTMENTS	
ACCOUNTING DISTRIBUTION	
AUDITED	FINAL APPROVAL

QU	TY	DESCRIPTION	UNIT PRICE	AMOUNT	TOTAL
		For labor, material and expense incurred during the month of January 1947, in connection with the Slag Treatment Plant installation at El Paso, Texas.			
		Supporting invoices:		4593 11	
		Supporting payrolls:		3106 84	
				7699 95	
		Plus 5% over-head:		385 00	
				8084 95	
		Plus 10% fixed fee:		808 50	
				8893 45	
		Less 10% retainage:		889 35	
		Amount due (90% of 8893.45)			8004.10

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT
FEB 24 1947

ORIGINAL TO: VOUCHER
COPY FOR: C. C. EURT
L. FREWIN
W. R. COOK
EL PASO

TRIPLICATE

THE STEARNS-ROGER MFG. CO.

ENGINEERS CONTRACTORS — DENVER, COLO. — DESIGNERS MANUFACTURERS

1718-1720 CALIFORNIA STREET

PHONE KEYSTONE 3311

CUSTOMER'S ORDER NO. & DATE: 10968 Supp. 1

OUR ORDER NO.: A-67300 Sup. 1

REQUISITION NO.:

CONTRACT NO.:

INVOICE DATE: Feb. 5, 1947

SOLD TO: AMERICAN SMELTING & REFINING Co.,
El Paso, Tex.

SHIPPED TO AND DESTINATION:

DATE SHIPPED:

CAR INITIALS AND NO.:

HOW SHIPPED AND ROUTE:

FROM

F. O. B.

PREPAID OR COLLECT?

(FOLD ON THIS LINE)

TERMS: 30 DAYS NET—NO CASH DISCOUNT

SIMPLIFIED INVOICE
(ENDORSED BY U. S. DEPARTMENT OF COMMERCE)

FOR CUSTOMER'S USE ONLY

REGISTER NO. | VOUCHER NO.

F. O. B. CHECKED

TERMS APPROVED | PRICE APPROVED

CALCULATIONS CHECKED

TRANSPORTATION

FREIGHT BILL NO. | AMOUNT

MATERIAL RECEIVED

DATE ____ 19 | SIGNATURE | TITLE

SATISFACTORY AND APPROVED

ADJUSTMENTS

ACCOUNTING DISTRIBUTION

AUDITED | FINAL APPROVAL

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT	TOTAL
	For labor performed during the month of January 1947, in connection with the dismantling of No. 4 Reverb. Building etc., as set forth in your order 10968 Sup.1 dated 12/4/46.			
	Supporting payrolls:		1064 51	
	Plus 5% over-head		53 23	
			1117 74	
	Plus 10% fixed fee:		111 77	
			1229 51	
	Less 10% retainage:		122 95	
	Amount due (90% of 1229.51)			1106 5

DEPARTMENT COPY

ASARCO ELP 0009631

THE STEARNS-ROGER MFG. CO.

ENGINEERS CONTRACTORS — DENVER, COLO. — DESIGNERS MANUFACTURERS

1718-1720 CALIFORNIA STREET

PHONE KEYSTONE 3311

CUSTOMER'S ORDER NO. & DATE 10968 Supp. 2

REQUISITION NO. 1-27-47

CONTRACT NO.

OUR ORDER NO. A-67300 Supp. #2

INVOICE DATE Feb. 5, 1947

SOLD TO AMERICAN SMELTING & REFINING CO., El Paso, Texas.

SHIPPED TO AND DESTINATION

DATE SHIPPED

CAR INITIALS AND NO.

HOW SHIPPED AND ROUTE

TERMS: 30 DAYS NET—NO CASH DISCOUNT

FROM

F. O. B.

PREPAID OR COLLECT?

(FOLD ON THIS LINE)

SIMPLIFIED INVOICE
(ENDORSED BY U. S. DEPARTMENT OF COMMERCE)

FOR CUSTOMER'S USE ONLY

REGISTER NO. | VOUCHER NO.

F. O. B. CHECKED

TERMS APPROVED | PRICE APPROVED

CALCULATIONS CHECKED

TRANSPORTATION

FREIGHT BILL NO. | AMOUNT

MATERIAL RECEIVED

DATE | SIGNATURE | TITLE

SATISFACTORY AND APPROVED

ADJUSTMENTS

ACCOUNTING DISTRIBUTION

AUDITED | FINAL APPROVAL

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT	TOTAL
	For labor performed during the month of January 1947, in connection with the erection of water system etc., as set forth in your supplemental order 10968 #2.			
	Supporting payrolls:		6 00	
	Plus 5% over-head:		30	
			6 30	
	Plus 10% profit		63	
	Total amount due:			6 93

DEPARTMENT COPY

ASARCO ELP 0009632

El Paso, Texas
February 21, 1947

Mr. C. C. Burt
Western Engineering Dep't.
American Smelting and Refining Co.
Garfield, Utah

ALTERATIONS STEAM LINE

Dear Sir:

Attached are three prints E-10552 showing alterations to existing steam line necessary to permit removal of pipe supporting structure South of No. 4 Reverb.

Unless advised otherwise we will proceed with this work.

Very truly yours,

LEROY FREWIN
PLANT MAINT. ENG'R.

LF:lbc

ASARCO ELP 0009633

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver

IN REPLY
PLEASE REFER TO

El Paso, Texas January 24, 1947

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT
JAN 31 1947
Rec'd

American Smelting & Refining Co.
El Paso, Texas

Attention: Mr. C. C. Burt

Gentlemen:

This will acknowledge your letter of January 24, authorizing us to place an order with the Babcock and Wilcox Company for the waste heat boiler.

We immediately placed a preliminary order with the Babcock and Wilcox Company, as directed. Our Denver office is now preparing a formal proposal confirming prices, delivery date and specifications.

We are omitting from this proposal and from our order to Babcock and Wilcox Company, for the time being, all the soot blowers, and we are going to the B & W Company and the Diamond Power Specialty Corp., for a recommendation for the additional soot blowers for cleaning the water walled combustion chamber. Upon receipt of this information, and after approval by you, the entire soot blower installation will be ordered at one time.

We wish to assure you that in view of the delivery date which B & W Company has given us to date on this boiler, we shall pursue this order and spare no effort in having this shipping date improved to such an extent that we can easily have the boiler installed in the scheduled time.

Very truly yours,

THE STEARNS-ROGER MFG. CO.

F. J. Christensen

FJC:jr
cc: Mr. A. D. Bradford
Mr. Leroy Erwin

Stearns-Roger Mfg. Co., Salt Lake City

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The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers
CABLE ADDRESS
"STEROG" DENVER
Denver 2

IN REPLY
PLEASE REFER TO

December 24, 1946

American Smelting & Refining Co.
El Paso, Texas

Attention: Mr. Leroy Frewan

Reference: El Paso Slag Treatment Plant
Your Order 10968
Our Order A-67300

Gentlemen:

We enclose a copy of our letter of December 23rd to your Mr. C. C. Burt, your Salt Lake City office. Along with this letter we are enclosing comparative tabulation of cooling tower proposals, Foster Wheeler Corp. proposal #P-40358-2 dated December 23, Fluor Corp. proposal #TU511 dated December 17th and Marley proposal #"C" dated December 13, 1946.

This information for your records.

Yours very truly,

THE STEARNS-ROGER MANUFACTURING CO.

J. W. Johnson

JWJ:map

cc: FJC
Encls.

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EL PASO - SLAG TREATMENT PLANT

COOLING TOWER TABULATION

December 23, 1946

BIDDER	TYPE TOWER	CAPACITY SEC. A.	SEC. B	MOTORS	HARDWARE	PUMPING HEAD	DIMENSIONS	DELIVERY	PRICE FOB PLANT	ERECTION	PRICE DELVD. & ERECTED	REMAR
MARLEY CO. Prop. C 12-13-46 (as of 1-1-46)	Induced Draft Double Flow	11,400	3000 Temperature as specified	4-50 HP 2 Speed	Bronze Bolts, Bronze Nails, Teco Castings	20'	L-121'-0" W- 63'-0" H- 26'-9"	(44-46 wks. Less Motors) (56-74 wks. Motors)	50,790.00 plus 1,775.00 Unload & Haul (300 ft. Max.)	12,155.00	64,720.00	Redw Stav less Steel Clad Fans 212" 3 Bl
FLUOR CORP. Prop. TU511.1 TU511.2 12-17-46	Induced Draft Counter-Flow	11,400	3000 Temperature as specified	5-40 HP 1-30 HP 2-Speed	Brass Bolts, Copper Nails, C.I. Castings	36'-4"	L-146'9-7/8" W-37'-0" H-33'-0"	33 wks. Sept.1, '47 or sooner if ordered by 1-10-47	61,090.00 plus 1,860.00 Unload & Haul	9,240.00	72,190.00	Redw Stait less Steel Fans 168" 4 Bla
FOSTER WHEELER CORP. Prop. P-40353-2 12-23-46	Forced Draft	11,400	3000 Temperature as specified	7-25 HP 1-30 HP Single Speed (2 Speed @ $ 490.00 Extra)	Brass Bolts, Copper Nails, C.I. Castings.	24'-3"	L-145'-6" W-39'-6" H-26'-3" (Excluding space for Motors)	70 wks. depending on Motor Delivery	—	—	63,325.00 $ 490.00 If -2 Spd. Motors furnished	Redwo Alumi or Mo Fans 144" 4 Bla

ASARCO ELP 0009636

FORM 748-A 10-2. 3M

Class of Material Preparing Plans and Specifications

Construction Dep't. Req. No. 5088

Filled by Sup. Agent's Order No.

American Smelting and Refining Company

Sup. Agent's Req. No.

El Paso PLANT

N. Y. Order No.

Garfield, Utah, September 20th, 1946

Supply Agent: Please furnish this plant with the following articles:

for Slag Treatment Plant *Job No.* Auth. 8070

Deliver at *not later than* , 19

QUANTITY	DESCRIPTION	REC'D	INVOICE REC'D	INVOICE AMT.
	Designing, furnishing and installing all coal handling equipment including pulverizers, the fuming furnace, the waste heat boilers and the economizer for the Slag Treatment Plant at El Paso in accordance with the terms of The Stearns-Roger Manufacturing Company's proposal dated September 16th, 1946 and subject to the following provisions: 1- All general designs and layouts must be approved by the Chief Engineer of the Western Engineering Department of the A. S. & R. Co. 2- Manufacturer's proposals for the furnishing of material and equipment must be submitted to the Chief Engineer of the Western Engineering Department and be approved by him. No order for equipment or material shall be placed until he has givin his approval in writing. This provision may be waived at his discretion in the case of small quantities of standard materials. 3- In case the Company prefers some other make of equipment to the one proposed by Stearns-Roger, then they shall substitute the equipment chosen by the Company. 4- All construction work shall be subject to the approval of the Chief Engineer and any work which he rejects must be torn out and replaced in a manner satisfactory to him. 5- If approval is given by the CPA and for some at present unforeseen reason it is decided not to go ahead at that time, then this order shall be cancelled and there shall be no obligation on the part of this Company other than to reimburse The Stearns-Roger Manufacturing Company for all work performed and expenses incurred to date of cancellation.			

Approved SUPERINTENDENT *Signed* ENGINEER

Approved

May 17, 1943

Stearns-Roger Mfg. Co.
P. O. Box 58
El Paso, Texas

Attention: Mr. F. J. Christensen

SR-45

Insulation

Dear Sir:

As discussed in conference with Mr. Tittmann several weeks ago, you advised that Stearns-Roger Mfg. Co. could take care of the requirement for insulation on the boiler and hot lines.

Since nothing more has been heard on this matter we presume all the details have been completed and insulation of boiler will start upon completion of hydrostatic test.

Please advise status of this work with copy to Mr. Tittmann.

Very truly yours,

LEROY FREWIN

LF:hc
cc: K. McL. Tittmann

ASARCO ELP 0009638

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2
El Paso, Texas
April 1, 1948

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT
MAY 15 1948
SR-45

American Smelting & Refining Co.
P. O. Box 1111
El Paso, Texas

Atten: Mr. Leroy Frewin

Gentlemen:

We are enclosing a copy of Standard Asbestos Mfg. & Insulating Co.'s letter dated March 29, 1948, regarding application of insulation for the boiler and steam line.

We are awaiting your comments.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R L Wills
R. L. Wills

RLW:jr
Encl.

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Standard Asbestos Mfg. & Insulating Co.

MANUFACTURERS---CONTRACTORS

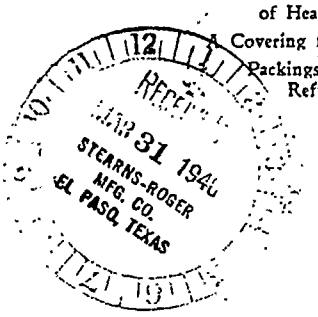
Telephones:
Kansas City, VIctor 3721
Tulsa, Okla., 2-5664
Oklahoma City, 7-7035
Borger, Texas, 520
Houston, Texas, CApital 2529

P. O. BOX 1105

BORGER, TEXAS

March 29, 1948

Materials for the Insulation of Heat and Cold
Covering for every purpose
Packings and Gaskets
Refractories



The Stearns-Rogers Mfg. Co.
P.O. Box 38
El Paso, Texas,

Attention; Mr. R.L. Wills

Gentlemen,

This will confirm our conversation as of March 26th, with reference our handling any insulation in connection with your Smelter project there at El Paso, Texas, on which materials have already been purchased.

On jobs of this nature, where materials have already been purchased and we are not familiar with the conditions of the job etc, we would be reluctant in submitting a firm bid on a labor contract only. We believe a substantial saving can be effected by handling a labor contract on a cost plus basis, on which our terms would be as follows,

Actual labor, at prevailing rate of scale, plus $.06% Ins. Plus 13% Overhead, Plus 10% Profit. Since El Paso is in the Albuquerque territory, we would no doubt use men from that Local, with the exception of a foreman which we would send from Borger. All card men would receive bus fare,&travel time to the job from their respective locals, eithwr Borger or El Paso, when they reported to the job and theyb would also receive bus fare and travel time from the job back to their respective locals after the job was completed. All card men also would receive room and board to the amount of $24.50 per week while on the job.

We would send only what men that was actually required for the job and would assure you that a very relaible competent foreman would be furnished from Borger. This would be necessary due to the fact that the work is so far from our Borger branch that we could not personally supervise the work at all times but would have a reliable foreman in charge. We are very careful on cost plus work to furnish only the most reliable men.

We thank you for the privelege of submitting our terms on this work and trust that we will be given the privelege of installing these materials for you.

Very truly yours,

STANDARD ASBESTOS MFG. & INSULATING COMPANY

By Walter M. Brown
Walter M. Brown - Dist. Manager

ASARCO ELP 0009640

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT

MAR 8 1948

SR 45

AIR MAIL

Salt Lake City, Utah
March 5, 1948

Mr. LeRoy Frewin
El Paso, Texas

BOILER WALL INSULATION
EL PASO WASTE HEAT BOILER

Dear Sir:

Since writing you March 1st regarding thickness of acid proof cement, we have received print of Stearns-Roger drawing No. 8507-8 and can see that the 1.4" mentioned in your letter was a typographical error and that the figure should actually be 1/4".

This thickness is perfectly satisfactory, and we can see no reason why you should not proceed as you originally intended.

Very truly yours,

P. K. Richardson

PKR:H

P. K. RICHARDSON

cc-E.McL.Tittmann
C.C.Burt

SR-45

March 1, 1948

Stearns-Roger Mfg. Co.
P.O. Box 38
El Paso, Texas

Attention: Mr. F. J. Christensen Boiler Insulation

Dear Sir:

We are returning herewith one print of drawing 8508/8 approved.

We are returning herewith one print 8507/8 approved as noted. These changes are in accordance with my previous letter and verbal instructions.

Very truly yours,

LEROY FRENIN

LF:cs
Encl-2
cc: E. McL. Tittmann
C. C. Burt
P. K. Richardson

ASARCO ELP 0009642

Form 117 6M 12-46 P-F Co.

#60

THE STEARNS-ROGER MFG. CO.

1720 CALIFORNIA STREET
DENVER 2, COLORADO

PRINT TRANSMITTAL TO: A S & R Co.

Date 3-3-48

Re:

Attention: Mr. L Frewin

DEAR SIR:

Attached are prints of the following drawings herewith transmitted to you.

	STATUS	NO. PRINTS	DRAWING NO.	TITLE
1		4	8507/8	Boiler Insulation
2				
3				
4				
5				
6				
7				
8				
9				SR-3
10				
11				SR-45
12				
13				
14				
15				

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT
MAR 3 1948

REMARKS: These prints are of latest revision

cc. Const. Supt. (1)
Drafting Room (1)
Field (3)
Customer (2)

Yours very truly.

THE STEARNS-ROGER MFG. COMPANY

L. N. Nordstrom

ASARCO ELP 0009643

El Paso, Texas
March 4, 1948

Mr. P. K. Richardson
Salt Lake City

SR-45

Dear Sir: Boiler Insulation

We increased this material to this thickness at recommendation of Laclede-Christy representatives. They recommended not less than 1/4" at this location to insure an unbroken layer of acid proof cement.

They claim that they can control consistency in manufacture of acid proof so it can be applied in this thickness. Order was placed on basis of consistency suitable for 1/4" thickness in one layer.

Very truly yours,

LEROY FREWIN

LF:ca
cc: E.McL. Tittman
C. C. Burt

ASARCO ELP 0009644

45

March 3, 1948

Stearns-Roger Mfg. Co.
Box 36
El Paso, Texas

ATTENTION: Mr. F. J. Christensen

BOILER CASING

Dear Sir:

We are returning herewith one approved print drawing 8507/8.

Yours very truly,

LEROY FREMIN
Resident Construction
Engineer

ENC'L.
LF/plc
cc/EMcLT
CCBurt
PKRichardson

ASARCO ELP 0009645

SR-45

AIR MAIL

Salt Lake City, Utah
March 1, 1948

Mr. LeRoy Frewin
American Smelting and Refining Co.
P. O. Box 1111
El Paso, Texas

BOILER WALL INSULATION-DRAWING NO. 8507-8

Dear Sir:

We have copy of your letter of February 26th to the Stearns-Roger Manufacturing Company regarding the wall insulation for the El Paso waste heat boiler.

"Water wall section sides of boiler

1 - Reduce plastic Insulcrete outside of tubes to about 1-5/8" and increase acid proof cement to 1.4 inches."

We don't believe it is practical to have a layer of acid-proof cement as thick as you indicate. This material can only be troweled on in thin layers so that the only way to obtain a thickness of 1.4", would be to build up to this thickness by application of successive coats. While this can be done, we think it would be pretty expensive and also unnecessary. Please see what you can do toward working out an arrangement using a substitute material.

Very truly yours,

P. K. Richardson

P. K. RICHARDSON

PKR:H

cc-E.McL.Tittmann
C.C.Burt

ASARCO ELP 0009646

5R-45

February 25, 1948

Stearns-Roger Mfg. Company
Box 38
El Paso, Texas

ATTENTION: Mr. F. J. Christensen
Boiler Wall Insulation
Drawing 8507/8

Dear Sir:

In a discussion of wall insulation with representative of Laclede-Christy Company some changes in the construction of the walls were recommended. We are in agreement with these recommendations and request you change the above drawing as follows:

"Water Wall Section" Sides of Boiler.

1. Reduce plastic insulcrete outside of tubes to about 1 5/8" and increase acid proof cement to 1.4".

2. Use a very thin joint of acid proof cement between the Vetrobestos sheets. Use thin consistency acid proof cement for this joint and make up thim as possible.

"Water Wall Section" West Side Boiler

1. Use a very thin joint of acid proof cement between vitrobestos sheets of thin consistency cement.

2. This will allow reducing thickness of insul-kote to 1/8".

"Typical Section Thru Convection Wall"

1. Use very thin joint of thin consistency acid proof cement between vitrobestos sheets.

2. Reduce insulkote to 1/8".

Yours very truly,

LEROY FRENCH
Resident Construction Eng.

LF/plc
cc/HMcLT CCB PKR

ASARCO ELP 0009647

EAGLE-PICHER

Our Reference No. C- 106

C - 106.

YOUR ORDER NUMBER LETTER Date 2/17/48

Received By CENTI INSULATION Date 2/18/48 194

TO JOPLIN

Please ship AT ONCE returning Shipping Notice

SHIPPING DATE

SOLD TO SAMPLES ACCOUNT N/C

PREPAID

SHIP TO THE AMERICAN SMELTING AND REFINERY COMPANY
EL PASO, TEXAS
ATTN: MR. LeROY FREWIN, C.E.

7 to 10 days

Route EXPRESS

NO. OF PIECES	WEIGHT SIZE or PKG.	DESCRIPTION
1	50# BAG	#1006 EXPERIMENTAL PRODUCT

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT
FEB 24 1948
SR-45

ACKNOWLEDGMENT

MOORE BUSINESS FORMS INC., NIAGARA FALLS, N.Y.

Per C. Schumann

ASARCO ELP 0009648

SR-45

The Stearns-Roger Manufacturing Co.

Established 1885

Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
February 4, 1948

American Smelting & Refining Co.
P. O. Box 1111
El Paso, Texas

Attn: Mr. Leroy Frewin

Gentlemen:

We are enclosing Case Industrial Service Co.'s quotation covering Vitrobestos, Insulkote, Laclede-Christy Acidproof Cement, Magnesia blocks, etc.

Last Saturday, January 31, we placed an order with Mine and Smelter Supply Co. for 4,000 lbs. of Quigley's Plastic Insulcrete; however, I note in Mr. Case's letter that it shows a requirement of 64,000 lbs. of Insulcrete.

We are awaiting your comments before placing additional orders for the boiler insulation.

about 45000 to 50000#

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

R. L. Wills

RLW:jr
Encl.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING ORDERS. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS AND OTHER CONDITIONS BEYOND OUR CONTROL. STENOGRAPHIC ERRORS ARE SUBJECT TO CORRECTION. ADDRESS ALL COMMUNICATIONS TO THE COMPANY.

CASE INDUSTRIAL SERVICE CO.

Engineers & Contractors - Industrial Installations

Room 212 — 514 N. Stanton St. Phone 2-6461
EL PASO, TEXAS

February 4, 1948

AIR CONDITIONING
REFRIGERATED
SPECIAL VENTILATION

RE...GERATION
COLD STORAGE
FREEZING PLANTS
ICE PLANTS

INSULATION
HIGH TEMPERATURE
LOW TEMPERATURE

STEAM
BOILERS
OIL BURNERS
GAS BURNERS
SPECIALTIES

ENGINES
OIL
GAS
GASOLINE

Stearns-Roger Manufacturing Co.
P. O. Box 38
El Paso, Texas

Attention: Mr. R. L. Wills

Gentlemen:

Supplementing our proposal of February 3rd, we are pleased to inform you that we have had a telephone conversation with Mr. Hook of Laclede-Christy Clay Products Company of St. Louis, Missouri. He tells us that approximately 400 pounds of Laclede-Christy Acidproof Cement is required for laying up 1,000 fire brick. We, therefore, have determined that approximately 6,500 pounds of this material will be required to make the application on the special Two Drum Sterling Boiler being installed at the Smelter.

We are pleased to quote you as follows:

6,500 pounds Laclede-Christy Acidproof Cement in 500 pound drums. Net Price, f.o.b. St. Louis: $113.50 per ton. Total Net Price-..... ~~$737.75~~ 368.87

Thank you for the opportunity of quoting you on this material.

Order Direct From Laclede Christy

Yours very truly,

CASE INDUSTRIAL SERVICE CO.

BY: Walter S. Case

WSC/DH

ASARCO ELP 0009650

CASE INDUSTRIAL SERVICE CO.

Engineers & Contractors - Industrial Installations

Room 212 — 514 N. Stanton St. Phone 2-6461

EL PASO, TEXAS

February 3, 1948

Stearns-Roger Manufacturing Co.
P. O. Box 38
El Paso, Texas

AIR CONDITIONING
- REFRIGERATED
- SPECIAL VENTILATION

RE..GERATION
- COLD STORAGE
- FREEZING PLANTS
- ICE PLANTS

INSULATION
- HIGH TEMPERATURE
- LOW TEMPERATURE

STEAM
- BOILERS
- OIL BURNERS
- AS BURNERS
- SPECIALTIES

ENGINES
- OIL
- GAS
- GASOLINE

Attention: Mr. R. L. Wills

Gentlemen:

In accordance with our various conversations, we have taken off the materials required for installing the special two drum Sterling Boiler being installed at the Smelter. We have taken this material off in accordance with your sketch, except that in the case of the water wall section, it is desired to obtain 1 3/4" of Quigley's Plastic Insulcrete back of the water wall tubes. Inasmuch as there is but 5" between the steel casing in back of the water wall tubes, it is impossible to get in 1 3/4" of Insulcrete and 4" of Vitrobestos. We are, therefore, figuring on two 1 1/2" layers of Vitrobestos instead of two 2" layers. This is also in accordance with Mr. Frewin's letter to you dated January 20.

The Johns-Manville material required for this installation work is as follows:

520 pieces 1 1/2" x 36" x 72" flat Vitrobestos sheets. Net Price per sheet: $11.016. Total Price f.o.b. Manville, New Jersey.....$5,728.32
Net Weight 25,300 pounds.

108 pieces 1 1/2" x 24" x 36" curved Vitrobestos sheets. Net Price Each: $3.972 per sheet. Total Price f.o.b. Manville, New Jersey..... 428.97
Net Weight 1,750 pounds.

6 tons Insulkote in 500 pound drums (Winter Grade). Net Price $123.00 per ton. Total Net Price f.o.b. Manville, New Jersey..... 738.00

660 1,000 Sq. Ft. 3" thk. 85% Magnesia Blocks. Net Price: $ .630 per sq. ft. Total Net Price f.o.b. Manville, New Jersey, with freight allowed in carloads..... 630.00

Check & Do Not Duplicate

ASARCO ELP 0009651

Check 1 Dy 2/4 60
Duplicate

1,800	~~Sq. Ft. 2 1/2" thk. 85% Magnesia Blocks Net Price $ .525 per sq. ft. Total Net Price f.o.b. Manville, New Jersey, with freight allowed in carloads~~	$ 945.00
700	~~Sq. Ft. 2" Superex Blocks. Net Price Per Sq. Ft. $ .486. Total Net Price f.o.b. Manville, New Jersey, with freight allowed in carloads~~	340.20
7,500	Pounds No. 0352 Finishing Cement. Net Price $2.15 per cwt. Total Net Price f.o.b. Manville, New Jersey	161.25
1,000	Pounds No. 450 Hi-Temp Plastic Cement. Net Price: $140.00 per ton. Total Net Price f.o.b. Manville, New Jersey	70.00
Total net price on all foregoing materials		$9041.74

As we see it, sufficient Quigley's Plastic Insulcrete is required to cover 4,000 sq. ft. 3" thick. This is 1,000 cu. ft., and inasmuch as the material weighs approximately 64 pounds per cu. ft. as applied, this will require 64,000 pounds of this material.

We have not been able to obtain information on the Laclede-Christy Acidproof Cement. However, we believe that sufficient material will be required to mortar-joint approximately 10,500 lineal feet 1 1/2" wide x 1/4" thick. The inner layer of the acidproof cement between the Vitrobestos and the other material amounts to approximately 5,000 sq. ft. 1/8" thick.

From Mr. Frewin's letter, we do not believe that it is his intention to apply a second 1/8" thick layer between the two layers of Vitrobestos. If he requires this second layer, of course it will be necessary to add sufficient material for covering another 5,000 sq. ft. 1/8" thick. In this material no allowance has been made for the additional losses through droppage, etc.

We have had information from the factory that the Vitrobestos can be shipped in approximately eight weeks from receipt of the order at the factory. The majority of the other materials will take approximately ten weeks.

With a mixed carload such as this, we believe that it would be advisable to try and make the entire shipment in one car. There is not quite enough material to make two cars, but if it is found necessary, we can make up the second car with stock shipments.

We appreciate having the opportunity to work with you on this project and hope that we might have the pleasure of serving you further.

Yours very truly,

CASE INDUSTRIAL SERVICE CO.

BY: Walter S. Case

WSC/DH

ASARCO ELP 0009653

all 4 prints
Made Each

The Stearns-Roger Manufacturing Co.

Established 1885

Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

January 27, 1948

American Smelting & Refining Co.
El Paso, Texas

SR-45 Boiler Setting Insulation

Attention: Mr. Leroy Frewin

Dear Sir:

Reference is made to your letter of January 20th wherein you request us to cancel the K-20 plastic insulation being furnished by The Babcock & Wilcox Company and substitute quigley plastic insultcrete which will be further backed up by layers of vitrobestos.

This matter was taken up with The Babcock & Wilcox technical group in New York City in regards to the suitability of the wall as far as temperature was concerned as we did not know the temperature that would be enccuntered in the wall construction at that point. We, today, have received information from the Babcock & Wilcox Co. in New York stating that their recommendations are to adhere to the construction shown on their drawing using K-20 plastic refectory material backed up by insulation. They state that they have recently checked with Bunker Hill and that there is absolutely no sign of deterioration on that insulation as there is no acid present on the zinc fuming gases.

In the event that we make the setting insulation as per your letter of January 20th, we want to point out that neither us nor Babcock & Wilcox Co. will assume any responsibility for its preformance as there has not been sufficient time to test materials to determine whether they will withstand the temperature encountered. We are referring particularly to the insulation materials.

After reviewing the above points kindly reiterate your

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American Smelting & Refining Co.

SR-45 Boiler Setting Insulation

wishes and we shall proceed accordingly. We are merely transmitting the above information to you so that you may be informed of the opinion of the Babcock & Wilcox Company engineers.

Yours very truly,

THE STEARNS-ROGER MFG. CO.

F. J. Christensen

FJC:ea
cc: E. McL. Tittmann
C. C. Burt
P. K. Richardson

January 29, 1948

Stearns-Roger Mfg. Company
Box 38
El Paso, Texas

ATTENTION: Mr. F. J. Christensen

SR-45 BOILER SETTING INSULATION

Dear Sir:

We have received your letter of January 27th. We still feel the wall construction outlined in our letter of January 20th is satisfactory.

Please proceed with this work without further delay.

Yours very truly,

LEROY FREWIN
Resident Construction
Engineer

LF/plc
cc/EMcLT
CCBurt-Enc'l
PKRichardson-Enc'l.

ASARCO ELP 0009656

HAYDEN PLANT

HAYDEN, ARIZONA

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT

A I R M A I L

January 21, 1948

MR. LEROY FREWIN, Engineer

JAN 21 19..

EL PASO OFFICE

SR-45

Dear Mr. Frewin:

I investigated somewhat further the condition of the firecote on our No. 6 Waste Heat Boiler.

Mr. Henry McGovern removed the casing and vitrobestos sheets from the boiler and gave me the following information:

The vitrobestos sheets came apart readily and the firecote used to bind the joints of the vitrobestos sheets went unnoticed.

After removing the vitrobestos it was found that on some areas the firecote still adhered rigidly to the fire brick while on other areas it was completely gone.

After our telephone conversation, I went down to the boilers and examined several slabs of firecote which I found lying on the floor. Some pieces were very hard and brittle, whereas, other pieces were comparatively soft and broke more easily.

It may be that the areas closer to the burst tube leaked water and steam through the joints of the firebrick to the firecote, and that the water caused the firecote to soften somewhat and drop off as the casing and vitrobestos were removed.

I found in our files a booklet entitled, "Modern Specifications for Insulating Industrial Equipment", Book No. 2620, by the Eagle-Picher Sales Company, Temple Bar Building, Cincinnatti, Ohio.

The specifications for Eagle Firecote are the same as those I gave you by phone: namely, 100 lbs. of Eagle "111" high temperature cement, 50 lbs. of Eagle Super "66" Plastic Insulation and 48 lbs. of Atlas Lumnite Cement. The above ingredients will cover approximately 60 square feet of area 1" thick per batch of 198 lbs. when mixed with fresh water to a mud-like consistency.

I found no mention of acid resistance qualities of firecote in the Eagle-Picher Booklet. The discussion on Firecote is mostly devoted to fireproofing structural steel supports and the internal insulation of metal ducts, breechings and steel stacks where the gas temperatures exceed 1000 Deg. F.

ASARCO ELP 0009657

As I mentioned over the phone, there was evidence on our boiler casing of corrosion due to gas condensation and acid, although on the whole the casing looked pretty good. Pitting was evident only in certain areas. The casing was thoroughly cleaned, and by drilling through the casing in several places the maximum loss in metal thickness was found to be about 1/32", the original casing being 10 gauge or approximately 1/8" thick.

I am enclosing in a separate envelope a few sample pieces of firecote from our boiler which may be of interest to you.

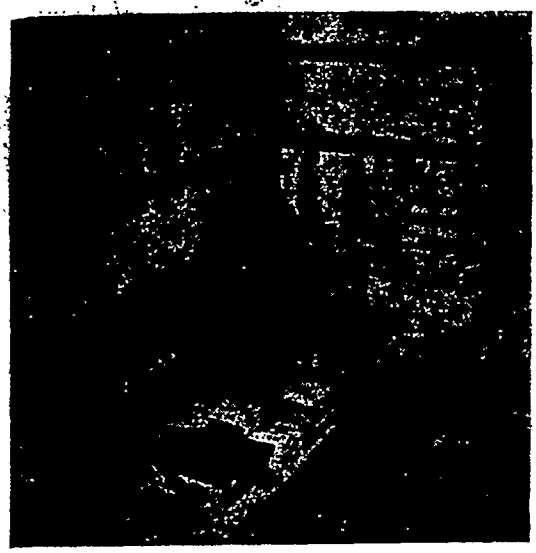
Yours very truly,

Louis Di Pastena

LOUIS DI PASTENA

LDiP:ls

cc- MLPlass



Interior of insulated Transite casing erected outside air-cooled walls. Brickwork is laid after casing is completed

Air-Cooled Wall Insulation and Casing

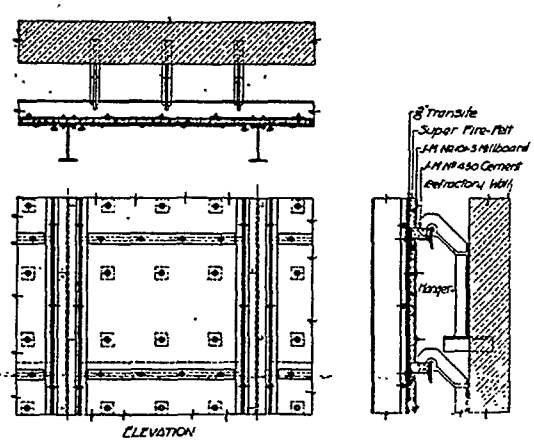
In all designs of ventilated boiler walls air is drawn over exterior brick surfaces (suspended or otherwise) either by fans, by natural draft or by burner induction. The circulation varies in the different designs; but in all designs the function of the casing over the air passages is to retain the heat recovered by the air, furnish a suitable clearance for air travel so that adequate scrubbing action is combined with the elimination of undue friction loss, and prevent leakage of air which would interrupt the flow over surfaces to be cooled. The construction should be fireproof and able successfully to withstand abrasion, ordinary mechanical impact and high temperature.

Very practical casings may be made of J-M Marinite, a structural insulating material furnished in 48″ x 96″ sheets. The 1″ thickness is usually recommended. Joints are covered with steel battens applied over gaskets of J-M No. 106 Asbestos Sheet Millboard. The outer surface of the casing is painted, if desired.

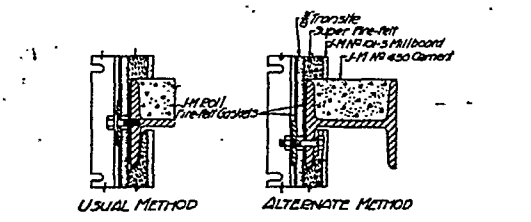
Another casing construction is ⅜″ Transite, lined with Super Fire-Felt Sheets (usually 1″ thick). A protective surface, next to the air space, is provided by ¼″-thick J-M No. 101-S Asbestos Sheet Millboard. This casing, erected between the buckstays, gives superior insulation with minimum thickness. The panel construction is tight, sectionally removable and replaceable, and economical of floor space.

The materials which go to make up the panels are fabricated as units by means of through bolts with nuts on the inside, bearing on large washers pressed against the furnace surface of the millboard. Behind each buckstay the insulation and millboard may be held in place by bolts passing through the flange of the buckstay. If horizontal H-beams are used, their upper half is filled with J-M No. 450 Insulating Cement before the casing is erected.

The usual practice is to complete the application of insulation and casing prior to the erection of the brick furnace walls. In one method of application the panels are maintained in position by steel battens fastened to the horizontal H-beams. In this construction the buckstays are backed up with channels so applied that the legs of the channels extend forward from the casing. Vertical joints along the buckstays, between the buckstays and the casing panels, are sealed by light angles, slotted for bolting to the legs of the channels backing the buckstays and pressed firmly against the panels as a final operation. All joints subject to air leakage are gasketed during erection with ⅛″ J-M Asbestos Roll Fire-Felt.



Insulated casing construction over air-cooled walls



Methods of fastening panels to horizontal beams

Printed in U. S. A.

ASARCO ELP 0009659

COPY

JOHNS-MANVILLE

SALES CORPORATION

BUILDING PRODUCTS DIVISION

Telephone: Keystone 6378-9

January 9, 1948

1755 Glenarm Place
Denver 2, Colo.

Case Industrial Service Co.
Room 212
514 North Stanton Street
El Paso, Texas

Subject: Insulation of Water-Walls

Gentlemen:

I am sending you, attached hereto, a copy of our specifications for insulation of water-walls. You will note that our first recommendation is either 85% Magnesia Blocks or Superex Block Insulation or a combination of Superex and Magnesia, depending upon the temperature.

The Magnesia Blocks should not be exposed to a temperature over 600°F. Only sufficient 450 Cement is used to provide a flat surface for the blocks. We then recommend the use of Flat Transite Casing which would be little affected by any corrosive gas which could get through the insulation.

We have used the same specification for a number of years and, to my knowledge, have had no complaints on this type of construction.

Very truly yours,

(Signed) C. E. Bronson

C. E. Bronson
District Manager

ASARCO ELP 0009661

CASE INDUSTRIAL SERVICE CO.

Engineers & Contractors - Industrial Installations

Room 212 — 514 N. Stanton St. Phone 2-6461
EL PASO, TEXAS

January 9, 1948

AIR CONDITIONING
- REFRIGERATED
- SPECIAL VENTILATION

REFRIGERATION
- COLD STORAGE
- FREEZING PLANTS
- ICE PLANTS

INSULATION
- HIGH TEMPERATURE
- LOW TEMPERATURE

STEAM
- BOILERS
- OIL BURNERS
- GAS BURNERS
- SPECIALTIES-

ENGINES
- OIL
- GAS
- GASOLINE

Stearns-Rogers Manufacturing Co.
P. O. Box 38
El Paso, Texas

Attention: Mr. R. L. Wills

Gentlemen:

Confirming our conversation of this morning, we have found through working with your Mr. Christensen that the larger pipe insulation on which we quoted you in our letter of December 17th, and which was specified in square feet is approximately correct. However, in reviewing it with Mr. Christensen, we find that the material needed is as follows:

For the 11 3/4" O.D. Superheater Header:

15 ft. 11 3/4" Superex Pipe Covering
x 1 1/2" thick.
Net Price:- Per Lin. Ft.....$1.41

15 ft. 14" 85% Magnesia Pipe Covering
x 2 1/2" thick.
Net Price:- Per Lin. Ft.....$2.66

For the Water Wall Headers requiring pipe covering insulation, it will require the following:-

156 Lin. Ft. 11 3/4" 85% Magnesia Pipe
Covering x 2 1/2" thick.
New Price:- Per Lin. Ft.....$2.24

The foregoing prices are quoted f.o.b. Waukegan with full freight allowed to El Paso in carload lots, and on the basis of furnishing Standard Weight Canvas Jackets. The delivery and terms are as quoted in our letter of December 17th. These items quoted above take the place of material on which we quoted as included under the fifth and eighth items of pipe covering.

If there are any further questions on this material, please do not hesitate to call on us.

Yours very truly,

CASE INDUSTRIAL SERVICE CO.

WSC/DH

ASARCO ELP 0009662

TACOMA PLANT

Tacoma, Washington
January 7, 1948

AIR MAIL

Mr. Leroy Frewin
American Smelting & Refining Co.
El Paso Smelting Works
P. O. Box 1111
El Paso, Texas

BOILER WALL CONSTRUCTION

Dear Leroy:

We are enclosing a copy of four prints, three letters and one report plus one telegram, covering most of the basic information concerning our preliminary testing and additional information gathered for our new boiler installation.

There is very little I can add but if you have any more questions after reading these reports do not hesitate to write or call me again. If anything more comes to my mind, since I am rushing these to you, I will write it in another letter.

Yours very truly,

B. E. Anderson

B. E. ANDERSON

BEA:lc

Enclosures

ASARCO ELP 0009663

QUIGLEY PANEL CONSTRUCTIONS, INC.

527 FIFTH AVENUE • NEW YORK 17, N. Y.

January 5th, 1948

Mr. Leroy Frewin, Plant Engr.
American Smelting & Refining Co.
El Paso Smelter
P. O. Box #1111
El Paso, Texas

Dear Mr. FrewinAt the request of Mr. S. F. Murphy, Jr., Vice-President in Charge of Sales of QUIGLEY COMPANY, Inc., we are pleased to enclose, herewith, our bulletin PPC-101 fully describing our Precast PANEL TYPE CONSTRUCTIONS and allied products which we know will be of interest.

We will be pleased to furnish you additional information after you have had an opportunity of looking through this data.

Trusting that we may have the pleasure of serving you further, we remain

Very truly yours

QUIGLEY PANEL CONSTRUCTIONS, INC.

H. C. Thayer

Vice-Pres. & Chief ~~Engr.~~

HCThayer/ohm
enc.

TACOMA PLANT

Tacoma, Washington
September 19, 1947

AIR MAIL

Mr. Louis Di Pastena
Hayden Plant
Hayden, Arizona

INSULATION OF HAYDEN WASTE HEAT BOILERS

Dear Sir:

In reply to your letter of September 12th, I am enclosing one print each of our two drawings - Number 7099 and Number 7192 which show the two types of side wall construction being used on our new waste heat boilers.

Drawing 7099 shows the details of our access doors but is the best drawing we have which also shows details of the Laclede-Christy suspended tile wall construction plus Vitrobestos and Insulcrete. The entire casing of our boilers was originally built with this type of construction which proved to be very expensive and slow to install. However, in the four months of operation, there has been no indication of deterioration or failures.

Drawing 7192 shows the general arrangement and some details of the new lancing doors which are to be installed on the convection bank. This installation may not be completed until December or January since we are so pressed to keep the reverberatory in operation that we cannot take the time until two reverberatories are operating. You will note that we plan on installing a light steel plate to act as a gas shield and inside form. Insulcrete reinforced with wide spaced reinforcements will be used for the remainder of the wall. It has not been proven but it is our opinion that the latter type of construction should prove to be much cheaper than the original walls and yet withstand the conditions that a waste heat boiler wall is subjected to. Our reasons for liking this wall are: 1- The steel in the wall is located where it should stay above the temperature at which the acids condense and also it acts as a gas barrier preventing these gases from entering the refractory. 2 - The Insulcrete as an effective insulation as well as refractory which is able to withstand the acids should a leak develop in the steel plate. However, this wall may not prove out in the long run and it will take at least another year before we will be able to confirm our opinion.

I hesitate to make any recommendations for your condition. It seems to be a matter of economics and time required for installing a wall. If you are in a hurry to replace the walls, the type of wall shown on our Drawing 7192 can be installed more readily than any design we know. If you have had good luck as you seem to indicate with the new insulation installed in January, 1945, it sounds like a good wall provided it isn't too expensive and doesn't require too long a shutdown. All the materials which you have used in the construction of this wall have stood up very well in all tests that we have made.

ASARCO ELP 0009665

We do not have any further data on materials tested since that report was made up by Mr. Michal in 1945. If there is any further information that we could give you, we would be glad to supply it.

Yours very truly,

BEA:AS

B. E. ANDERSON

Enclosures

ASARCO ELP 0009666

HAYDEN PLANT

HAYDEN, ARIZONA

A I R M A I L September 12th, 1947

MR. B. E. ANDERSON, Plant Engineer
AMERICAN SMELTING & REFINING COMPANY
TACOMA PLANT
TACOMA, WASHINGTON

INSULATION OF HAYDEN WASTE HEAT BOILERS

Dear Sir:-

In 1941 we installed two new Keeler, 800 HP Boilers. The original insulation consisted of 2" Fire Brick Tile adjacent to the outside of the tubes, followed by 2" of block insulation, 2" of blanket insulation and a #10 Gauge steel casing. No insulation was placed outside the casing.

The insulation on the boilers has proven to be unsatisfactory. The outside casing has become badly corroded at many places.

In January 1945, we experimented with a new insulation on one side of one boiler. The insulation consisted of 1/2" of fire coat against the outside of the 2" fire brick tile followed by two, 1-3/4" vitrobestos sheets and the No. 10 gauge steel plate painted on both sides with Quigley's Triple A 20 Black paint. Insulation was originally intended on the outside of the casing, but for some reason unknown to me it was not put on. There appears to be some condensation taking place on the casing but, so far, the casing appears to be in good condition.

At the present time we are putting about 2 inches of insulation made by crushing up old magnesia pipe insulation with the addition of water and 10% cement. It is held together with chicken wire. About 1/4 in. of insulseal is to be used on the outside of the magnesia. This outside insulation is being placed on the comparatively new casing only.

For the remainder of the two boilers, it has been proposed that we remove the old casing and insulation entirely. The doors are to be supported by frames, which are in turn to be supported by the main beams and columns. The new insulation is to consist of insulcrete adjacent to the fire brick.

It is my understanding that you at Tacoma have experimented with many types of insulation. I have a copy of a report dated June 26, 1945 by Mr. Edwin B. Michal on materials you have tested. We would appreciate any further data or suggestions you may have so that we may arrive at an economical and efficient insulation. Please send manufacturers addresses of your recommendations so that we may inquire about existing prices. We would especially like any drawings you may have showing the insulation used on your boilers together with your comments.

Yours very truly,

Louis Di Pastena

LOUIS DI PASTENA

LDP:ls

cc: MLPlass
LPrewin

(COPY)

W E S T E R N U N I O N

NIGHT LETTER TACOMA WASH AUG 13 1947

R A MARRIOTT
AS&RCO GARFIELD UTAH

RELET 11TH WE APPLIED ABOUT 1/4 INCH ACID RESISTANT MORTAR TO BRICK AND 1/4 INCH TO VITROBESTOS AND PRESSED INTO PLACE. PENN SALT RECOMMEND PAINTING VITROBESTOS WITH MURIATIC ACID DILUTED 1 TO 5 TO NEUTRALIZE SURFACE WHICH WE DID ON PART OF JOB. LITTLE TROUBLE WAS EXPERIENCED.

B E ANDERSON

Confm
File

Western Engineering Dep't
Garfield, Utah
August 11th, 1947

MR. H. E. ANDERSON,

Tacoma 1, Washington

Dear Sir:

On the Garfield boiler we are to put 1/2" of Laclede Christy acid resistant mortar outside the brick, then Vitrobestos and 1-7/8" of Insulcrete.

Our men are having difficulty in getting the acid resistant mortar to build up the required thickness. Also due to the smooth surface of Vitrobestos they can't get the Insulcrete to bond with it.

Can you give us an outline of how you overcame these troubles and your final procedure.

Yours truly,

R. A. Marriott

R. A. MARRIOTT

cc:PKRichardson

1 to 5 mixture to applied 1/4 on brick
1/4 on Vitrobestos

TACOMA PLANT

Tacoma, Washington
June 26,1945

Mr. B. E. Anderson
PRESENT:

Dear Sir:

Attached is a report on the testing of various materials that might be used for the construction of the boiler walls of the two new waste heat boilers.

The tests have been made periodically for the past two months, and the samples tested have been retained for your inspection, as visual examination is believed to be far better than a written description.

Yours truly,

EDWIN B. MICHAL

ASARCO ELP 0009670

June 26, 1945

CONCLUSIONS

Fire Brick
Laclede King and Spallac only were tested and both are acid resistant, but absorb moisture.

Castable Refractories
None of the samples tested were really resistant, but in their order of resistance they are as follows:

14. Detrick furnace cement
15. Quigley Insulcrete
3. A.P. Green - Kast-o-lite
35. J-M Chrome Castable Refractory

Insulations
With the exception of the Johns-Manville Vitribestos sheet when not broken, the only insulations that are really resistant to acid are those insulating bricks made of a good grade of fireclay, not of diatomaceous earths (No. 24 Johns-Manville #1620), for strength is necessary to resist the bursting action when sulfate crystals form in them. These are as follows:

8. A.P. Green G-23 insulating brick
9. " " G-26 " "
10. Harbison-Walker #20 " "
11. " " #26 " "
22. Laclede-Christy L-20 " "
25. Johns-Manville Vitribestos sheet insulation

Castable Insulations
None of the samples tested were really resistant, but the best 4 tested are listed below. A total of 9 samples were tested.

15. Quigley Insulcrete
3. A. P. Green Kast-o-lite
7. " " Sair Cast #16 (vermiculite)
23. Laclede-Christy Porelite

Mortar for Brickwork
The acid resisting mortars are listed below. Those not resistant are numbers 31,32,& 33. Besides these regular mortars, there are the acid resisting cements, numbers 18,19,20,26, and 41. The Laclede and Quigley being the only two products tested.

Mortars - standard or regular

17. Laclede-Christy Setskold (regular cement)
29. J-M #20 cement " "
34. J-M 1620 " " "

Mortars - acid-proof

Laclede-Christy acid-proof cement
Quigley acid proof gray cement

Cements for Iron to brick
Good cements, suitable for such work as sealing door frames etc., are Johns-Manville #20 and #1620; J-M Fireite; Laclede Acid Proof cement; and Quigley Acid Proof cement. See tests numbers 16,28, 29,34,39,40,41,43,44, and 45.

ASARCO ELP 0009671

June 26, 1945

CONCLUSIONS (Cont.)

Weatherproofing

Johns-Manville Insulkote was the only material tested, and seems very good. See test #27. Weatherproofing can also be built up by using J-M Bitribestos sheet with one of the acid proof cements.

TESTS June 26, 1945

In connection with the problem of insulating and weather coating the two new waste heat boilers, some testing of material was undertaken.

The tests had 3 objectives in view, namely, to determine the resistance of various insulations to acid solution, second, to determine the resistance of various cements or mortars to acid solution, and third, to determine whether various acid proof cements would give protection to the cast iron boiler tile hangers.

Results of the test follow. Products are grouped according to their manufacturers.

The following 35 samples were all set in a beaker of 20% sulphuric acid on a hot plate for 4 hours, at about 220°F., then removed and allowed to stand overnight or about 18 hours.

1. A.P. Green Sair Block block asbestos insulation shows slight chemical and structural disintegration, but maintains its shape. Absorbs a lot of solution.

2. A.P. Green Sair Cote vermiculite insulation had complete structural breakdown to mush.

3. A.P. Green Kast-O-Lite castable refractory shows some chemical disintegration, no swelling. Softer on outside, as if binder partly gone. Keeps shape. Slight structural disintegration. Absorbs some solution.

4. A.P. Green Sair Seal vermiculite insulation breaks down to mush.

5. A.P. Green cast #20 vermiculite insulation had very severe structural breakdown, with high absorption, no swelling.

6. A.P. Green Sair Lite #206 vermiculite insulation had severe structural breakdown, with high absorption, no swelling.

7. A.P. Green Sair Cast #16 vermiculite insulation had small amount structural breakdown, with high absorption, no swelling. Best of vermiculites.

8. A.P. Green G-23 insulating brick, not affected. High Absorption.

9. A.P. Green G-26 insulating brick, not affected. High Absorption.

10. Harbison-Walker #20 insulating brick, not affected. High absorption.

11. Harbison-Walker #26 insulating brick, not affected. High absorption.

12. Quigley wool insulating block had severe chemical and structural breakdown, with swelling and high absorption.

13. Quigley Insulag asbestos insulation had severe structural breakdown, with high absorption but no swelling.

ASARCO ELP 0009673

14. Detrick furnace cement shows slight chemical corrosion on surface only, with no apparent absorption of solution and no swelling. Maintains structural shape. Has good resistance.

15. Quigley Insulcrete has some chemical disintegration on surface but not severe good structural shape, some absorption of solution. Not as good as the furnace cement above.

16. Laclede-Christy Acid Proof cement on LC Spallac brick no visibly affected.

17. Laclede-Christy Setskold cement on LC King brick not visibly affected except for change in color of cement.

18. Laclede-Christy L-20 insulating brick with LC Acid Proof cement not affected

19. Laclede-Christy Spallac brick and LC #L20 Insulating brick with LC Acid Proof cement not affected.

20. Laclede-Christy Spallac brick sandwich with LC Acid Proof cement not affected.

21. Laclede-Christy Acid Proof cement on steel plate. Cement sticks good on cold plate but comes loose under test and some attack starts on steel plate. Oddly enough, plate seems still partly protected as corrosion of iron appears to be only mild. At end of test cement was completely loose from plate. Difference in heat expansion may be a major factor here.

22. Laclede-Christy L-20 insulating brick. Special test. Sample weighed in the "as is" condition, as received from LC, weighed 79.0 grams. Then it was boiled 2 hours in 50% sulphuric acid and then allowed to drain and cool and weighed 113.0 grams, or an absorption of 34 grams or 43% by weight. It was then fumed on a hot plate until all signs of acid were gone and then put in a muffle at 800° F. for one hour to be certain of dryness. It then weighed 75.0 grams. The original weight of 79 grams probably included some atmospheric moisture, and also it is known some loss was due to abrasion while handling in the testing. During the acid boiling, a small amount of iron went into solution as indicated by the discoloration. This sample maintained its strength, shape, and even most but not all of its original color and so appears to have excellent resistance to sulphuric acid.

23. Laclede-Christy Porelite castable insulation shows change of color, chemical attack, swelling, high absorption, and some structural disintegration.

24. Johns-Manville #1620 insulating brick shows no chemical disintegration but slight swelling and high absorption. It falls apart in large pieces, size of a walnut. After standing a long time in the solution, large masses of sulphate crystals grew on it, typical of all these insulating bricks, due to their high absorption. But this was the only sample that fell apart.

25. Johns-Manville Vitribestos sheet insulation shows excellent resistance, but when the coating is broken, the asbestos sheet disintegrates and breakdown follows, but shape is maintained.

26. J-M Vitribestos sheet coated with Laclede Acid Proof cement was not affected.

27. J-M Insulkote on Laclede King fire brick was not affected and the Insulkote remains pliable.

28. J-M Fireite cement on Laclede King brick was not affected.

29. J-M #20 cement on Laclede King brick was not affected.

30. J-M Fireite cement on steel plate. Cement sticks good on cold plate but comes loose under test and severe attack starts on steel plate, which causes further loosening of cement. At end of test cement was completely loose from plate. Difference in heat expansion may be a major factor here, the same as in test #21 above.

31. J-M #32 cement becomes mush in acid test, with high absorption but no swelling.

32. J-M #31 cement shows severe structural breakdown, high absorption, no swelling. Not as bad as #32 cement.

33. J-M Vitribestos cement becomes mush. This is the asbestos powder material for laying up Vitribestos sheet.

34. J-M #1620 cement. Not affected. Very little absorption, no swelling.

35. J-M Chrome Castable refractory shows surface disintegration, with slight absorption, no swelling, and no loss of strength.

36. One test was made to determine the fire resistance of Laclede Spallac brick and Laclede Archnu cement, and accordingly, a sandwich of these materials was made up. It was heated in an oil fired rivet forge as hot as possible, then removed and allowed to cool for 30 minutes. This was repeated 3 times. Due to handling of the sample, it broke in two along the line of the mortar the last time it was removed from the furnace. Neither the brick nor the mortar showed any signs of deterioration, and the break was entirely in the mortar, which had not melted nor shrunk away from the edges of the joint.

The following 6 tests were made to determine what protection various acid proof cements would offer to the cast iron tile hangers. Samples of thin (up to $\frac{1}{2}$ inch) cast iron were coated with these materials and after air drying, were put into an electric muffle furnace and held at 500° F. for 3 hours, the temperature being checked with an iron constantan thermocouple. The first two tests failed because of insufficient initial air drying of the cement.

37. Laclede-Christy Acid Proof cement on cast iron, swelled up due to air bubble under it, probably steam from incomplete drying of the cement. Test to be repeated.

38. J-M Fireite cement on cast iron, swelled up alittle; probably steam from incomplete drying. Test to be repeated.

39. Laclede Acid Proof cement on cast iron, air dried for 4 weeks. Swelled up in small spots about $\frac{1}{4}$ inch diameter, but cement does not appear to be cracked.

40. J-M Fireite on cast iron, air dried 4 weeks. No swelling or cracking visible. Color changed from black to dark gray.

41. Quigley Acid Proof Gray cement on cast iron, air dried 10 days. Not affected.

42. J-M Vitribestos solution on cast iron, air dried 10 days. Not affected.

Both the Laclede and Quigley cements, and the Vitribestos solution seem to have a strong tendency to develop pin holes when applied. This might be overcome by sufficient initial troweling or brushing, or else by applying a second coat, although for second coat work the cements should be thinned out to avoid too thick a coating, which would interfere with fitting the tile over the casting. The Vitribestos solution is normally very liquid and so is ideally suited to coating by dipping. The Fireite sample tested may have pin holes in it, too, but this is not certain, for it is a very pasty material and the sample as made up has a very rough surface. After the samples had cooled to room temperature, examination showed that some parts of the thin edges of the Laclede cement and the Fireite had come loose from the iron, and this may or may not be due to a difference in heat expansion, since only a part of the cement came loose.

The following 4 samples were given the same acid test as outlined for samples No. 1 to No. 35. The samples are No. 39 to No. 42 inclusive above, after being heated in the furnace at 500°F.

43. Laclede Acid Proof cement on cast iron. Cement had pin holes and cracks in it, allowing acid to attack the iron.

44. J-M Fireite on cast iron. Cement had cracks and possibly pin holes in it too, allowing acid attack to begin.

45. Quigley Acid Proof gray cement on cast iron. Has pin holes only in it, allowing acid attack to begin.

46. J-M Vitribestos solution on cast iron. Has a very great number of extremely small pin holes that allows acid attack to begin.

For these materials to afford complete protection to cast iron, it appears that a second coat would be almost a necessity to seal up the pin holes in the first coat. However, it might be argued that the Laclede cement alone of all had sealed itself so thoroughly and without pin holes that it never did get really dry underneath until it was heated, at which time it swelled and opened up due to rapid heating, and that the coating was too thick for complete air drying. Of the Vitribestos solution it might be argued that the acid first attacked the asbestos fibers in the coating and then the iron underneath them, for this coating is very thin, the solution appearing to be made of sodium silicate, graphite, and asbestos.

Additional testing is indicated for these materials, first with adjusted thicknesses of coating to try to overcome the pin holes and get thorough drying, and then, if necessary, with double coating.

47. Laclede-Christy Archnu cement on Laclede Spallac brick. Sample air dried only, not heated, placed in cold 20% sulphuric acid. In about an hour the cement had drawn solution up into itself due to capillary attraction and became soft and pasty, same as when it was mixed and applied to the brick. No apparent chemical action takes place.

48. Laclede-Chrity Archnu cement on Laclede Spallac brick. Sampled heated and then placed in cold 20% sulphuric acid. This is Sample No. 36 above, after being heated in the rivet forge. The cement draws solution up into itself due to capillary attraction and does not become soft or pasty, but remains hard. Heating has changed the structure of the cement so that the solution does not cause mechanical disintegration.

DISCUSSION

The tile walls, using Laclede Spallac brick laid up with Laclede Archnu, will probably in time develop gas leaks which will allow sulphating to take place. Perhaps this leakage could be stopped by sealing the back of the tile with a coat of one of the acid proof cement, but these cements are very brittle and no doubt would develop cracks under the influence of temperature changes, and in any event, even if this did not happen, expansion joints would have to be left in the cement and they would leak. So it seems that the next best thing to do is to choose an insulation that will resist the action of the sulphating conditions, and then seal the outside of the insulation with a weatherproofing compound. This is on the assumption that an insulation is deemed necessary.

Fire bricks and their mortars all have a certain amount of porosity and so will permit of the passage of gases through them, and of liquids too, though there may be some question as to whether liquids would pass through due to hydrostatic head or due to capillarity.

All the insulations are highly porous of course and will retain a lot of moisture if it gets to them, and it is this porosity that will contribute to the sulphating and growth of crystals. Sulphating is a lot like freezing water in that if it is confined it will develop enormous pressures. At the Corpus Christi plant it has repeatedly burst the half inch plate shell of the roasters. The materials used for wall construction must therefore be chosen carefully and because of the fact that all of them have porosity of one degree or another, it seems that it might not be possible to build up a wall that would be free of any tendency to sulphate, although a lot of sealing can be done with the various acid resisting cements and mortars, for they are not porous.

There may well be some question as to whether it is possible or financially worth while to protect the cast iron tile hangers by coating them with an acid resistant material. In the first place, such a coating might enlarge the size of the hanger to where the tile would not fit on it, and in the second place is the question as to whether the coating would get cracked or broken during installation of the casting on its steel supporting structure or during the laying of the tile, and thirdly, the question as to whether the coating would be solid or have pin holes when applied under field conditions and to what extent pin holes might influence the life of the hangers.

ASARCO ELP 0009678

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
December 11, 1947

EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT
DEC 13 1947
SR-3

Case Industrial Service Co.
514 No. Stanton, Room 212
El Paso, Texas

Atten: Mr. Walt Case

Gentlemen:

We are enclosing a list of insulation materials which we will need for the Smelter Job here in El Paso.

Please send your quotation and delivery in quadruplicate, to us at P. O. Box 38, El Paso, Texas. We must have your bid not later than December 18, 1947.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

RLW:jr
Encl.
cc: Mr. Leroy Frewin

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING ORDERS. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS AND OTHER CONDITIONS BEYOND OUR CONTROL. STENOGRAPHIC ERRORS ARE SUBJECT TO COR-

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
December 10, 1947

George S. Thompson Co., Inc.
317 E. Yandell Blvd.
El Paso, Texas

Gentlemen:

We are enclosing a list of insulation' materials which we will need for the Smelter Job here in El Paso.

Please send your quotation and delivery in quadruplicate, to us at P. O. Box 38, El Paso, Texas. We must have your bid not later than December 18, 1947.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

RLW:jr
Encl.
cc: Mr. Leroy Frewin (2)

The above letter also sent to the following:

Johns-Manville Co., El Paso, Texas
Hendrie & Bolthoff, 1635 - 17th St., Denver, Colo.
Mine and Smelter Supply Co., El Paso, Texas

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING ORDERS. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS AND OTHER CONDITIONS BEYOND OUR CONTROL. STENOGRAPHIC ERRORS ARE SUBJECT TO COR-

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Denver 2

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EL PASO, TEXAS

El Paso, Texas
December 10, 1947

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Please send your quotation and delivery in quadruplicate, to us at P. O. Box 38, El Paso, Texas. We must have your bid not later than December 18, 1947.

Very truly yours,

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The Stearns-Roger Mfg. Co.
El Paso, Texas

LIST OF INSULATION MATERIALS

29,800# - High Temperature Plastic Insulation
9,400# - Sealing Compound (Insulkote or equivalent)
11,400# - Asbestos Finishing Cement Without Portland Cement
670 Sq. Ft. - 2" 85% Magnesia Block
1,760 sq. Ft. - 2½" " " "
660 sq. Ft. - 3" " " "
730 sq. Ft. - 2" High Temperature Insulating Block
~~620 sq. Ft.~~ 156 Lin Ft - 2½" 85% Magnesia Sectional Pipe Covering for 11-3/4" O.D. Headers.
250 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 3" O.D. Connecting Tubes
580 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 2" O.D. Connecting Tubes.
~~150 Sq. Ft.~~ 15 Lin Ft - 1½" High Temperature Pipe Covering - to fit 11-3/4" O.D. S.H. Leader.
21,840 Sq. Ft. - 1½" to 2" x No. 19 B.W.G. Galvanized Hexagonal Wire Mesh. 14" Rib Lath
700# - Lacing (Tie) Wire, No. 14 or 16 B.W.G. Annealed Market Wire.
600 Lin. Ft. - 2" 85% Magnesia Pipe Covering for 4½" O.D. Tubes.
100 Lin. Ft. - 2½" " " " " " 4" O.D. Tubes
540 Lin. Ft. - 2½" " " " " " 3" O.D. Tubes.

The Stearns-Roger Mfg. Co.
El Paso, Texas

LIST OF INSULATION MATERIALS

29,800# - High Temperature Plastic Insulation
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580 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 2" O.D. Connecting Tubes.
150 Sq. Ft. - 1½" High Temperature Pipe Covering - to fit 11-3/4" O.D. S.H. Leader.
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100 Lin. Ft. - 2½" " " " " " 4" O.D. Tubes
540 Lin. Ft. - 2½" " " " " " 3" O.D. Tubes.

ASARCO ELP 0009683

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
December 23, 1947

American Smelting & Refining Co.
P. O. Box 1111
El Paso, Texas

Atten: Mr. Leroy Frewin

Gentlemen:

We are enclosing six (6) lists of brickwork and insulation materials required for the boiler. We are also enclosing three copies of Mine & Smelter's (Please note Mine & Smelter are quoting on both Quigley and Johns-Manville on the high temp. plastic, also sealing compound), Case Industrial Service Co.'s (J-M), Crane O'Fallon Co.'s (J-M), Geo. S. Thompson's (Eagle Pitcher), Hendrie-Bolthoff's (K-M), Denver Fire Clay Co.'s quotations. Only Denver Fire Clay and Mine and Smelter are quoting on the Clay Tile.

We are awaiting your comments.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

RLW:jr
Encls.

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LIST OF BRICKWORK AND INSULATION MATERIALS -

to be purchased for one (1) Sterling Boiler, B&W Contract #S-9476. This list covers all the brick and insulation indicated on B&W Drawings Nos. D-83603-4, D-83604-4, D-83605-4 and C.I. Sheets, release #5, dated 11/25/47.

1,050 - 12" x 12" x 3" Square edge tile (first quality clay)
1,700# - Air-setting high temperature mortar

29,800# - High Temperature Plastic Insulation
9,400# - Sealing Compound (Insulkote or equivalent)
11,400# - Asbestos Finishing Cement Without Portland Cement
670 Sq. Ft. - 2" - 85% Magnesia Block.
1,760 Sq. Ft. - 2½" " " "
660 Sq. Ft. - 3" " " "
730 Sq. Ft. - 2" High Temperature Insulating Block
620 Sq. Ft. - 2½"- 85% Magnesia Sectional Pipe Covering for 11 3/4" O.D. Headers
250 Sq. Ft. - 2" 85% Magnesia Sectional Pipe Covering 3" O.D. Connecting Tubes
580 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 2" O.D. Connecting Tubes
150 Sq. Ft. - 1½" High Temperature Pipe Covering - to fit 11-3/4" O.D. S.H. Leader
21,840 Sq. Ft. - 1½" to 2" x No. 19 B.W.G. Galvanized Hexagonal Wire Mesh.
700# - Lacing (Tie) Wire, No. 14 or 16 B.W.G. Annealed Market Wire.
600 Lin. Ft. - 2" 85% Magnesia Pipe Covering for 4½" O.D. Tubes.
100 Lin. Ft. - 2½" " " " " " 4" " "
540 Lin. Ft. - 2½" " " " " " 3 " "

LIST OF BRICKWORK AND INSULATION MATERIALS -

to be purchased for one (1) Sterling Boiler, B&W Contract #S-9476. This list covers all the brick and insulation indicated on B&W Drawings Nos. D-83603-4, D-83604-4, D-83605-4 and C.I. Sheets, release #5, dated 11/25/47.

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100 Lin. Ft. - 2½" " " " " " 4" " "
540 Lin. Ft. - 2½" " " " " " 3 " "

ASARCO ELP 0009686

LIST OF BRICKWORK AND INSULATION MATERIALS -

to be purchased for one (1) Sterling Boiler, B&W Contract #S-9476. This list covers all the brick and insulation indicated on B&W Drawings Nos. D-83603-4, D-83604-4, D-83605-4 and C.I. Sheets, release #5, dated 11/25/47.

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580 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 2" O.D. Connecting Tubes
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21,840 Sq. Ft. - 1½" to 2" x No. 19 B.W.G. Galvanized Hexagonal Wire Mesh
700# - Lacing (Tie) Wire, No. 14 or 16 B.W.G. Annealed Market Wire.
600 Lin. Ft. - 2" 85% Magnesia Pipe Covering for 4½" O.D. Tubes.
100 Lin. Ft. - 2½" " " " " " 4" " "
540 Lin. Ft. - 2½" " " " " " 3 " "

LIST OF BRICKWORK AND INSULATION MATERIALS -

to be purchased for one (1) Sterling Boiler, B&W Contract #3-9476. This list covers all the brick and insulation indicated on B&W Drawings Nos. D-83603-4, D-83604-4, D-83605-4 and C.I. Sheets, release #5, dated 11/25/47.

1,050 - 12" x 12" x 3" Square edge tile (first quality clay)
1,700# - Air-setting high temperature mortar

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9,400# - Sealing Compound (Insulkote or equivalent)
11,400# - Asbestos Finishing Cement Without Portland Cement
670 Sq. Ft. - 2" - 85% Magnesia Block.
1,760 Sq. Ft. - 2½" " " "
660 Sq. Ft. - 3" " " "
730 Sq. Ft. - 2" High Temperature Insulating Block
620 Sq. Ft. - 2½" - 85% Magnesia Sectional Pipe Covering for 11 3/4" O.D. Headers
250 Sq. Ft. - 2" 85% Magnesia Sectional Pipe Covering 3" O.D. Connecting Tubes
580 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 2" O.D. Connecting Tubes
150 Sq. Ft. - 1½" High Temperature Pipe Covering - to fit 11-3/4" O.D. S.H. Leader
21,840 Sq. Ft. - 1½" to 2" x No. 19 B.W.G. Galvanized Hexagonal Wire Mesh.
700# - Lacing (Tie) Wire, No. 14 or 16 B.W.G. Annealed Market Wire.
600 Lin. Ft. - 2" 85% Magnesia Pipe Covering for 4½" O.D. Tubes.
100 Lin. Ft. - 2½" " " " " " 4" " "
540 Lin. Ft. - 2½" " " " " " 3 " "

LIST OF BRICKWORK AND INSULATION MATERIALS -

to be purchased for one (1) Sterling Boiler, B&W Contract #3-9476. This list covers all the brick and insulation indicated on B&W Drawings Nos. D-83603-4, D-83604-4, D-83605-4 and C.I. Sheets, release #5, dated 11/25/47.

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580 Lin. Ft. - 2" 85% Magnesia Sectional Pipe Covering 2" O.D. Connecting Tubes
150 Sq. Ft. - 1½" High Temperature Pipe Covering - to fit 11-3/4" O.D. S.H. Leader
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100 Lin. Ft. - 2½" " " " " " 4" " "
540 Lin. Ft. - 2½" " " " " " 3 " "

QUOTATION

Geo. S. Thomson Co. Inc.

Industrial Supplies

317 E. Yandell Blvd.
El Paso, Texas

915 S. Central
Phoenix, Arizona

Date 12/17/47
Your No. 12/10/47
Our El Paso Office

STEARNS-ROGER MFG. CO. EL PASO, TEXAS

Stearns Roger Mfg. Co.
c/o El Paso Smelting Works
El Paso, Texas

Attention: Mr. R. L. Wills

QUANTITY		MATERIAL			PRICE
Item No.					
3	596	50# Bags Eagle Super "66" Plastic Insulating Cement @ $2.74			$ 1633.04
4	9500#	Eagle Insulseal (W) @ $133.00 ton			631.75
5	114	100# Bags Eagle "99" Finishing Cement @ $3.25			370.50
6	670	Sq. Ft. Eagle DE Block 2" Tk. @ .60/SF	.366	$402.00	
7	1760	Sq. Ft. Ditto 2½" Tk. @ .75/SF	.457	1320.00	
	660	Sq. Ft. Ditto 3" Tk. @ .90/SF	.549	594.00	
9	730	Sq. Ft. Ditto 2" Tk. @ .60/SF	.366	438.00	
10	620	Sq. Ft. Ditto 2½" Tk. @ .75/SF	.457	465.00	
13	150	Sq. Ft. Ditto 1½" Tk. @ .45/SF	.274	67.50	
				$3286.50	
		Less 39%			2004.76
11	250	Lin. Ft. Eagle "77" Pipe Covering 2" Tk. for 3" Pipe @$1.50 LF	0.54	$ 375.00	
12	580	Lin. Ft. Ditto 2" Tk. for 2" Pipe @ 1.30 LF	0.468	754.00	
16	600	Lin. Ft. Ditto 2" Tk. for 4" Pipe @ 1.70 LF	0.612	1020.00	
17	100	Lin. Ft. Ditto 2½" Tk. for 3½" Pipe @ 1.60 LF	0.576	160.00	
18	540	Lin. Ft. Ditto 2½" Tk. for 3" Pipe @ 1.85 LF	0.666	999.00	
				$3308.00	
		Less 64%			1190.88
					$5830.93

Estimated freight on all items except Block on which full freight is allowed, based on rate of $ .79/cwt plus 10% less 80¢ freight allowed on all items except Insulseal and "99". 63917# $136.21
Tax 4.09

TERMS: Net 30 With freight as indicated.

APPROXIMATE DATE OF SHIPMENT Two weeks from receipt of order

ALL QUOTATIONS, ORDERS, SALES AND DELIVERIES AS TO THIS OR ANY OTHER MERCHANDISE ARE SUBJECT TO THE CONDITIONS OF SALE PRINTED ON THE REVERSE SIDE HEREOF.

Frt L.C.L. Insulseal 1.88/100 1.88 x 3%

GEO. S. THOMSON CO., INC.

BY [signature]

ASARCO ELP 0009690

QUOTATION

Geo. S. Thomson Co. Inc.

Industrial Supplies

317 E. Yandell Blvd. El Paso, Texas

915 S. Central Phoenix, Arizona

Date 12/17/47

Your No. 12/10/47

Our El Paso Office

Stearns Roger Mfg. Co.
c/o El Paso Smelting Works
El Paso, Texas

Attention: Mr. R. L. Wills

QUANTITY	MATERIAL		PRICE
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5 114	100# Bags Eagle "99" Finishing Cement @ $3.25		370.50
6 670	Sq. Ft. Eagle DE Block 2" Tk. @ .60/SF	$402.00	
7 1760	Sq. Ft. Ditto 2½" Tk. @ .75/SF	1320.00	
660	Sq. Ft. Ditto 3" Tk. @ .90/SF	594.00	
9 730	Sq. Ft. Ditto 2" Tk. @ .60/SF	438.00	
10 620	Sq. Ft. Ditto 2½" Tk. @ .75/SF	465.00	
13 150	Sq. Ft. Ditto 1½" Tk. @ .45/SF	67.50	
		$3286.50	
	Less 39%		2004.76
11 250	Lin. Ft. Eagle "77" Pipe Covering 2" Tk. for 3" Pipe @$1.50 LF	$ 375.00	
12 580	Lin. Ft. Ditto 2" Tk. for 2" Pipe @ 1.30 LF	754.00	
16 600	Lin. Ft. Ditto 2" Tk. for 4" Pipe @ 1.70 LF	1020.00	
17 100	Lin. Ft. Ditto 2½" Tk. for 3½" Pipe @ 1.60 LF	160.00	
18 540	Lin. Ft. Ditto 2½" Tk. for 3" Pipe @ 1.85 LF	999.00	
		$3308.00	
	Less 64%		1190.88
			$5830.93
	Estimated freight on all items except Block on which full freight is allowed, based on rate of $ .79/cwt plus 10% less 80¢ freight allowed on all items except Insulseal and "99". 63917# $136.21		
	Tax 4.09		

TERMS: Net 30 With freight as indicated.

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GEO. S. THOMSON CO., INC.

BY

QUOTATION

Geo. S. Thomson Co. Inc.

Industrial Supplies

317 E. Yandell Blvd. El Paso, Texas

915 S. Central Phoenix, Arizona

Date 12/17/47

Your No. 12/10/47

Our El Paso Office

Stearns Roger Mfg. Co.
c/o El Paso Smelting Works
El Paso, Texas

Attention: Mr. R. L. Wills

QUANTITY		MATERIAL		PRICE
Item No.				
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7	1760	Sq. Ft. Ditto 2½" Tk. @ .75/SF	1320.00	
	660	Sq. Ft. Ditto 3" Tk. @ .90/SF	594.00	
9	730	Sq. Ft. Ditto 2" Tk. @ .60/SF	438.00	
10	620	Sq. Ft. Ditto 2½" Tk. @ .75/SF	465.00	
13	150	Sq. Ft. Ditto 1½" Tk. @ .45/SF	67.50	
			$3286.50	
		Less 39%		2004.76
11	250	Lin. Ft. Eagle "77" Pipe Covering 2" Tk. for 3" Pipe @$1.50 LF	$ 375.00	
12	580	Lin. Ft. Ditto 2" Tk. for 2" Pipe @ 1.30 LF	754.00	
16	600	Lin. Ft. Ditto 2" Tk. for 4" Pipe @ 1.70 LF	1020.00	
17	100	Lin. Ft. Ditto 2½" Tk. for 3½" Pipe @ 1.60 LF	160.00	
18	540	Lin. Ft. Ditto 2½" Tk. for 3" Pipe @ 1.85 LF	999.00	
			$3308.00	
		Less 64%		1190.88
				3583.93
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GEO. S. THOMSON CO., INC.

BY

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
December 26, 1947

American Smelting & Refining Co.
P. O. Box 1111
El Paso, Texas

Atten: Mr. Leroy Frewin

Gentlemen:

We are enclosing a copy of Hendrie and Bolthoff Co.'s quotation dated December 24, covering Detrick Insulating Cement and Block. This quotation is in addition to the ones which we sent to you December 23, covering material for insulating the boiler.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills
R. L. Wills

RLW:jr
Encl.

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Hendrie & Bolthoff Company
Denver, Colorado

December 24, 1947

Stearns-Roger Manufacturing Co.
Post Office Box 38
El Paso, Texas

Attention: Mr. R. L. Wills

Subject: Insulation Materials
El Paso Smelter Job

Gentlemen:

COPY

We have been delayed in getting information from the factory on insulating materials in accordance with your inquiry of December 10; however, we are now in position to quote as follows:

29,800 Lbs.	Detrick Insulating Cement	$1639.00
11400 "	" Hard Finish "	505.00
1476 B.F.	2" x 6" x 36" Detrick Hi-Temp Insulating Block	$258.30
9500 Lbs.	Insulkote	$847.00
	Freight to El Paso, Texas	$406.26

Shipment can be made in 4 to 6 weeks.

The above prices have been predicated on present-day labor, material and transportation costs and will be adjusted, up or down, to the selling price in effect at the time of shipment.

We trust this will reach you in time to consider this quotation and that we may have the pleasure of serving you.

Respectfully submitted
HENDRIE & BOLTHOFF CO.

Mgr. Engineering Dept.

CFSmith:CJ

ESTABLISHED 1861

HENDRIE & BOLTHOFF

MANUFACTURING AND SUPPLY CO.

CABLE ADDRESS "HENDRIE"
WESTERN UNION CODE
KEYSTONE 4111

1635 SEVENTEENTH STREET
DENVER COLORADO

POST OFFICE BOX 5110
TERMINAL STATION
DENVER-17

December 19, 1947
Now HENDRIE & BOLTHOFF COMPANY

The Stearns-Roger Mfg. Co.
P. O. Box 38
El Paso, Texas

Attention: Mr. R. L. Wills

Gentlemen:

Replying to your inquiry of December 10 regarding Insulation, we quote as follows:

KM Featherweight 85% Mag. Blocks 6" x 36"

Blocks	Sqft	Thickness	Net per sq.ft.
448	672	2"	$.384
1174	1761	2-1/2"	.48
440	660	3"	.576

KM Featherweight 85% Mag. Blocks (Segmental)

210 lin. ft. for 11-3/4" O.D. pipe 2½" thick -net per ft. $2.17
(approx. 630 sq.ft.)

KM Featherweight 85% Mag. Covering 2" Thick

Sec.	Ft.	Size	Net per ft.
84	252	2-1/2" (for 3" O.D. tubing)	$.672
194	582	1-1/2" (for 2" O.D. tubing)	.608
200	600	3-1/2" (for 4" O.D. tubing)	.80

KM Featherweight 85% Mag. Covering 2-1/2" thick

Sec.	Ft.	Size	Net per ft.
34	102	3-1/2" (for 4" O.D. tubing)	$1.05
180	540	2-1/2")for 3" O.D. tubing)	.864

KM Hy Temperature Covering 1-1/2" thick (Segmental)

51 Lin. ft. for 11-3/4" O.D. pipe - net per ft. $1.36
(approx. 150 sq.ft.)

f.o.b. Ambler F/A to El Paso, Texas.

Terms: 1% 10 days Net 30 days.

ALL SALES AND CONTRACTS MADE BY US ARE EXPRESSLY SUBJECT TO THE FOLLOWING TERMS:
STENOGRAPHICAL AND CLERICAL ERRORS SUBJECT TO CORRECTION. PRICES SUBJECT TO CHANGE WITHOUT NOTICE. QUOTATIONS HEREIN UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE. ALL AGREEMENTS MADE CONTINGENT UPON STRIKES, FIRES, ACCIDENTS OR CAUSES BEYOND OUR CONTROL.
OUR LIABILITY FROM ALL CAUSES IS LIMITED TO THE VALUE OF THE GOODS SOLD OR FURNISHED. IF GOODS ARE DEFECTIVE WE WILL NOT BE RESPONSIBLE BEYOND THE VALUE OF THE DEFECTIVE PIECE AT THE FACTORY, NOR WILL WE IN ANY WAY BE RESPONSIBLE FOR ANY DAMAGES OR EXPENSES OCCASIONED BY DEFECTIVE GOODS.

The Stearns-Roger Mfg. Co.
El Paso, Texas

Attention: Mr. R. L. Wills

December 19, 1947

Above quantities represent a minimum carload if placed as one lot; we have therefore listed carload prices. Shipment could be made in approximately 15 weeks.

49 - 150 Foot Rolls 2", 20 Gauge
Galvanized Hexagonal Poultry
Netting . . . . . $ 3.45 Roll

F.O.B. El Paso, Texas - Terms: 2% 10 days, Net 30

Delivery from stock, subject to prior sale.

The item involving 700# Annealed Market Wire - we are unable to quote.

To date we have been unable to obtain information relative to the balance of your inquiry, but will quote on the remaining items as soon as possible.

Yours very truly

HENDRIE & BOLTHOFF CO.

By: R P Rice

R.P.Rice:lh

ESTABLISHED 1861

HENDRIE & BOLTHOFF

MANUFACTURING AND SUPPLY CO.

1635 SEVENTEENTH STREET

DENVER COLORADO

CABLE ADDRESS "HENDRIE"
WESTERN UNION CODE
KEYSTONE 4111

POST OFFICE BOX 5110
TERMINAL STATION
DENVER-17

December 19, 1947
Now HENDRIE & BOLTHOFF COMPANY

The Stearns-Roger Mfg. Co.
P. O. Box 58
El Paso, Texas

Attention: Mr. R. L. Wills

Gentlemen:

Replying to your inquiry of December 10 regarding Insulation, we quote as follows:

KM Featherweight 85% Mag. Blocks 6" x 36"

Blocks	Sqft	Thickness	Net per sq.ft.
448	672	2"	$.384
1174	1761	2-1/2"	.48
440	660	3"	.576

KM Featherweight 85% Mag. Blocks (Segmental)

210 lin. ft. for 11-3/4" O.D. pipe 2½" thick - net per ft. $2.17
(approx. 630 sq.ft.)

KM Featherweight 85% Mag. Covering 2" Thick

Sec.	Ft.	Size	Net per ft.
84	252	2-1/2" (for 3" O.D. tubing)	$.672
194	582	1-1/2" (for 2" O.D. tubing)	.608
200	600	3-1/2" (for 4" O.D. tubing)	.80

KM Featherweight 85% Mag. Covering 2-1/2" thick

Sec.	Ft.	Size	Net per ft.
34	102	3-1/2" (for 4" O.D. tubing)	$1.05
180	540	2-1/2")for 3" O.D. tubing)	.864

KM Hy Temperature Covering 1-1/2" thick (Segmental)

51 Lin. ft. for 11-3/4" O.D. pipe - net per ft. $1.36
(approx. 150 sq.ft.)

f.o.b. Ambler F/A to El Paso, Texas.

Terms: 1% 10 days Net 30 days.

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OUR LIABILITY FROM ALL CAUSES IS LIMITED TO THE VALUE OF THE GOODS SOLD OR FURNISHED. IF GOODS ARE DEFECTIVE WE WILL NOT BE RESPONSIBLE BEYOND THE VALUE OF THE DEFECTIVE PIECE AT THE FACTORY, NOR WILL WE IN ANY WAY BE RESPONSIBLE FOR ANY DAMAGES OR EXPENSES OCCASIONED BY DEFECTIVE GOODS.

The Stearns-Roger Mfg. Co.
El Paso, Texas

Attention: Mr. R. L. Wills

December 19, 1947

Above quantities represent a minimum carload if placed as one lot; we have therefore listed carload prices. Shipment could be made in approximately 15 weeks.

49 - 150 Foot Rolls 2", 20 Gauge
Galvanized Hexagonal Poultry
Netting . . . . . $ 3.45 Roll

F.O.B. El Paso, Texas - Terms: 2% 10 days, Net 30

Delivery from stock, subject to prior sale.

The item involving 700# Annealed Market Wire - we are unable to quote.

To date we have been unable to obtain information relative to the balance of your inquiry, but will quote on the remaining items as soon as possible.

Yours very truly

HENDRIE & BOLTHOFF CO.

By: R.P.Rice

R.P.Rice:lh

ASARCO ELP 0009698

ESTABLISHED 1861

HENDRIE & BOLTHOFF

MANUFACTURING AND SUPPLY CO.

CABLE ADDRESS "HENDRIE"
WESTERN UNION CODE
KEYSTONE 4111

1635 SEVENTEENTH STREET
DENVER COLORADO

POST OFFICE BOX 5110
TERMINAL STATION
DENVER-17

December 18, 1947
Now HENDRIE & BOLTHOFF COMPANY

The Stearns-Roger Mfg. Co.
P. O. Box 38
El Paso, Texas

Attention: Mr. R. L. Wills

Gentlemen:

Replying to your inquiry of December 10 regarding Insulation, we quote as follows:

KM Featherweight 85% Mag. Blocks 6" x 36"

Blocks	Sqft	Thickness	Net per sq.ft.
448	672	2"	$.384
1174	1761	2-1/2"	.48
440	660	3"	.576

KM Featherweight 85% Mag. Blocks (Segmental)
210 lin. ft. for 11-3/4" O.D. pipe 2½" thick -net per ft. $2.17
(approx. 630 sq.ft.)

KM Featherweight 85% Mag. Covering 2" Thick

Sec.	Ft.	Size	Net per ft.
84	252	2-1/2" (for 3" O.D. tubing)	$.672
196	588	1-1/2" (for 2" O.D. tubing)	.608
200	600	3-1/2" (for 4" O.D. tubing)	.80

KM Featherweight 85% Mag. Covering 2-1/2" thick

Sec.	Ft.	Size	Net per ft.
34	102	3-1/2" (for 4" O.D. tubing)	$1.05
180	540	2-1/2")for 3" O.D. tubing)	.864

KM Hy Temperature Covering 1-1/2" thick (Segmental)
51 Lin. ft. for 11-3/4" O.D. pipe - net per ft. $1.36
(approx. 150 sq.ft.)

f.o.b. Ambler P/A to El Paso, Texas.

Terms: 1% 10 days Net 30 days.

ALL SALES AND CONTRACTS MADE BY US ARE EXPRESSLY SUBJECT TO THE FOLLOWING TERMS:
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OUR LIABILITY FROM ALL CAUSES IS LIMITED TO THE VALUE OF THE GOODS SOLD OR FURNISHED. IF GOODS ARE DEFECTIVE WE WILL NOT BE RESPONSIBLE BEYOND THE VALUE OF THE DEFECTIVE PIECE AT THE FACTORY, NOR WILL WE IN ANY WAY BE RESPONSIBLE FOR ANY DAMAGES OR EXPENSES OCCASIONED BY DEFECTIVE GOODS.

The Stearns-Roger Mfg. Co.
El Paso, Texas

Attention: Mr. R. L. Wills

December 19, 1947

Above quantities represent a minimum carload if placed as one lot; we have therefore listed carload prices. Shipment could be made in approximately 15 weeks.

40 - 150 Foot Rolls 2", 20 Gauge
Galvanized Hexagonal Poultry
Netting . . . . . @ 3.45 Roll

F.O.B. El Paso, Texas - Terms: 2% 10 days, Net 30

Delivery from stock, subject to prior sale.

The item involving 700# Annealed Market Wire - we are unable to quote.

To date we have been unable to obtain information relative to the balance of your inquiry, but will quote on the remaining items as soon as possible.

Yours very truly

HENDRIE & BOLTHOFF CO.

By: R.P.Rice

R.P.Rice:lh

ASARCO ELP 0009700

FORM 70-11A

The Mine & Smelter Supply Co.

SALT LAKE CITY, UTAH DENVER, COLORADO EL PASO, TEXAS

This quotation is from our El Paso Office Date December 17, 1947

Your Inquiry December 10, 1947

Our Quotation No. S-2342
Please Show This on Your Order

To Stearn-Rogers Manufacturing Company

Address El Paso, Texas.

Attention: Mr. Wills.

F. O. B. Point See Below

Shipping Point Factory

Probable Date of Shipment See Clause

*CASH DISCOUNT TERMS—KEY—T - 2% 10 Days; TP - 2% 10th Prox.; I - 1% 10 Days; H - ½ of 1% 10 Days; F - 5% 10 Days; FP - 5% 10th Prox.; A - 3% 10 Days; N - Net 30.

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	C D
29,800#	J.M. #450 High Temperature Cement		140 00	Ton		net	2086 00	
9,40[illegible]"	Insulkote (winter grade) in 500# drums		123 00	Ton		net	578 10	
11,400#	J.M. 0352 Asbestos Cement in 100# Bags		2 15	Cwt.		net	245 10	
670 Sq.'	2" 85% Magnesia Block		.42	Sq.'		net	281 40	
1760	Sq. ft. 2½" Ditto		.52½	Sq.'		net	924 00	
660	" " 3" Ditto		.63	Sq.'		net	415 80	
730	" " 2" Super X Insulating Block		.486	Sq.'		net	354 78	
520	Lin. ft. 2½" 85% Magnesia Sectional Pipe covering for 11 3/4" O.D. Headers		2 24	Lin.'		net	1388 80	
250	Lin. ft. 2" 85% Magnesia Sectional Pipe covering 3" O.D. Connecting Tubes.		.805	Lin.'		net	201 25	
580	Lin. ft. Ditto Except 2" O.D. Connecting Tubes		.70	Lin.'		net	406 00	
150	Sq. ft. 1½" High Temperature Pipe covering to fit 11 3/4" O.D. S.H. Leader		1 41	Lin'		net	70 50	
600	Lin. ft. 85 Magnesia Pipe covering for 4½" O.D. Tubes		.94½	Lin'		net	567 00	
100 Lin.	ft. 2½" Ditto for 4" O.D. Tubes		1 15	Lin'		net	115 00	
540	Lin. ft. 2½" Ditto for 3" O.D. Tubes		1 05	Lin'		net	567 00	

All prices are exclusive of any tax which is now or may be assessed on the part of the Federal or State Governments and any such tax shall be paid by the purchaser.

Sales, contracts and quotations are made subject to the following terms: Stenographic and clerical errors subject to correction; prices subject to change without notice; quotations, unless otherwise stated, are for immediate acceptance and subject to prior sale; all agreements made contingent upon strikes, accidents and other causes beyond our control; our liability is limited to the value of the goods sold or furnished; if goods are defective we will not be responsible beyond the value of the defective piece at the factory; we will not be responsible for any damage, loss or expense occasioned by defective goods. Goods are not subject to return without our permission; if fault is clearly ours credit will be allowed in full; otherwise a handling charge of not less than 10% will be made. Reels, carboys and other containers not subject to discount and must be returned at your expense to point designated when credit will be allowed. Quotations are based on United States currency.

"Our prices contemplate cash, subject to the usual payment dates of regular customers. When buyer is not known to us from ledger record, a cash payment ample to cover all costs of [illegible]

ASARCO ELP 0009701

FORM 70-11 C

The Mine & Smelter Supply Co.

El Paso
Branch

To Stearn-Rogers Mfg. Co

Page No. 2 Quotation No. S-1342-47 Date December 17, 1947

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	Ca Di
21,840	Sq. Ft. 1½" to 2" x No. 19 B.W.G. Galv. Hexagonal Wire Mesh					Unable to quote		
700#	Lacing Wire #14 or 16 B.W.G. Annealed Market Wire					"	"	"

"The above prices on Pipe Covering are quoted on the basis of standard weight Canvas. Terms of payment are 1-10-30. Johns-Manville Sales Corporation shall not be liable for delays or defaults in making deliveries where occassioned by causes of any kind or extent beyond our control, including but not limited to conflict or economical dislocation resulting from embargo; shortage of labor, raw materials, production facilities and transportation; labor difficulties, civil disorders of any kind; action of any civil or military authority including priorities and allocations; Fires, floods and accidents. This quotation made subject to acceptance by you in thirty days. All orders accepted by us are subject to our ability to ship it. In the event we are unable to make shipment within sixty days of price advance, you will be invoiced at price in effect at time of shipment, unless order is previously canceled by you. At the present time we would estimate delivery could be made within approximately ten weeks from date of receipt of order.

F.O.B. Point: - Items 1,2 and 3 Waukegan, Ill. Bal. El Paso.

D. D. Taylor

D. D. TAYLOR, MANAGER
Industrial Supply Department
JMW:hp

"This quotation is based upon our present prices. Prices in effect at time of shipment will apply. Excise, sales or similar taxes will be added, if applicable".

ASARCO ELP 0009702

FORM 70-11A

The Mine & Smelter Supply Co.

SALT LAKE CITY, UTAH DENVER, COLORADO EL PASO, TEXAS

This quotation is from our El Paso Office Date December 17, 1947

Your Inquiry December 10, 1947

Our Quotation No. S-1342-47
Please Show This on Your Order

To Stearns-Rogers Manufacturing Company

Address El Paso, Texas.

Attention: Mr. Wills.

F. O. B. Point See Below

Shipping Point Factory

Probable Date of Shipment See Clause

*CASH DISCOUNT TERMS—KEY—T - 2% 10 Days; TP - 2% 10th Prox.; I - 1% 10 Days; H - ½ of 1% 10 Days; F - 5% 10 Days; FP - 5% 10th Prox.; A - 3% 10 Days; N - Net 30.

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	CD
29,800#	J.M. #450 High Temperature Cement		140 00	Ton		net	2086 00	
9,40(	Insulkote (winter grade) in 500# drums		123 00	Ton		net	578 10	
11,400#	J.M. 0352 Asbestos Cement in 100# bags		2 15	Cwt.		net	245 10	
670 Sq.'	2" 85% Magnesia Block		.42	Sq.'		net	281 40	
1760	Sq. ft. 2½" Ditto		.52½	Sq.'		net	924 00	
660	" " 3" Ditto		.63	Sq.'		net	415 80	
730	" " 2" Super A Insulation Block		.486	Sq.'		net	354 78	
620	Lin. ft. 2½" 85% Magnesia Sectional Pipe covering for 11 3/4" O.D. Headers		2 24	Lin.'		net	1388 80	
850	Lin. ft. 2" 85% Magnesia Sectional Pipe covering 3" O.D. Connecting Tubes.		.805	Lin.'		net	201 25	
580	Lin. ft. Ditto Except 2" O.D. Connecting Tubes		.70	Lin.'		net	406 00	
150	Sq. ft. 1½" High Temperature Pipe covering to fit 11 3/4" O.D. Belt Loader		1 41	Lin'		net	70 50	
600	Lin. ft. 85 Magnesia Pipe covering for 4½" O.D. Tubes		.94½	Lin'		net	567 00	
100 Lin.	ft. 2½" Ditto for 4" O.D. Tubes		1 15	Lin'		net	115 00	
140	Lin. ft. 2½" Ditto for 3" O.D. Tubes		1 05	Lin'		net	567 00	

All prices are exclusive of any tax which is now or may be assessed on the part of the Federal or State Governments and any such tax shall be paid by the purchaser.

Sales, contracts and quotations are made subject to the following terms: Stenographic and clerical errors subject to correction; prices subject to change without notice; quotations, unless otherwise stated, are for immediate acceptance and subject to prior sale; all agreements made contingent upon strikes, accidents and other causes beyond our control; our liability is limited to the value of the goods sold or furnished; if goods are defective we will not be responsible beyond the value of the defective piece at the factory; we will not be responsible for any damage, loss or expense occasioned by defective goods. Goods are not subject to return without our permission; if fault is clearly ours credit will be allowed in full; otherwise a handling charge of not less than 10% will be made. Reels, carboys and other containers not subject to discount and must be returned at your expense to point designated when credit will be allowed. Quotations are based on United States currency.

"Our prices contemplate cash, subject to the usual payment dates of regular customers. When buyer is not known to us from ledger record, a cash payment ample to cover all costs of transportation, packing, etc., should accompany order. C. O. D. shipments made only where parties are known to us. Where goods are special, full amount of quotation from parties unknown should accompany order. No cash discount unless so stated."

ASARCO ELP 0009703

FORM 70-11 C

The Mine & Smelter Supply Co.

To [illegible]

Page No. 2 Quotation No. S-1942-47 Date December 17, 1947

El Paso
Branch

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	Ca Di
21,640	Sqs Pbs 1½" to 2" x No. 19 B.W.G. Galv. Hexagonal Wire Mesh					Unable to quote		
700'	Lacing Wire #14 or 16 B.W.G. Annealed Market Wire					"	"	

"The above prices on Pipe Covering are quoted on the basis of standard weight Canvas. Terms of payment are 1-1%-30. Johns-Manville Sales Corporation shall not be liable for delays or defaults in making deliveries where occasioned by causes of any kind or extent beyond our control, including but not limited to conflict or commercial dislocation resulting from embargo; shortage of labor, raw materials, production facilities and transportation; labor difficulties, civil disorders of any kind; action of any civil or military authority including priorities and allocations; fires, floods and accidents. This quotation made subject to acceptance by you in thirty days. All orders accepted by us are subject to our ability to ship it. In the event we are unable to make shipment within sixty days of price advance, you will be invoiced at price in effect at time of shipment, unless order is previously canceled by you. At the present time we would estimate delivery could be made within approximately ten weeks from date of receipt of order.

F.O.B. Points - Items 1,2 and 3 Waukegan, Ill. Bal. El Paso.

D. D. Taylor
D. D. TAYLOR, MANAGER
Industrial Supply Department
DDT:kp

"This quotation is based upon our present prices. Prices in effect at time of shipment will apply. Excise, sales or similar taxes will be added if applicable".

FORM 20-11A

The Mine & Smelter Supply Co.

SALT LAKE CITY, UTAH DENVER, COLORADO EL PASO, TEXAS

This quotation is from our El Paso Office Date December 17, 1947

Your Inquiry December 10, 1947

Our Quotation No. S-2342
Please Show This on Your Order

To Stearns-Rogers Manufacturing Company

Address El Paso, Texas.

Attention: Mr. Wills.

F. O. B. Point See Below

Shipping Point Factory

Probable Date of Shipment See Clause

*CASH DISCOUNT TERMS—KEY—T - 2% 10 Days; TP - 2% 10th Prox.; I - 1% 10 Days; H - ½ of 1% 10 Days; F - 5% 10 Days; FP - 5% 10th Prox.; A - 3% 10 Days; N - Net 30.

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	C D
29,800#	J.M. #450 High Temperature Cement		140 00	Ton		net	2086 00	
9,4[illegible]	Insulkote (winter grade) in 500# drums		123 00	Ton		net	578 10	
11,400#	J.M. 0352 Asbestos Cement in 100# Bags		2 15	Cwt.		net	245 10	
670 Sq.'	2" 85% Magnesia Block		.42	Sq.'		net	281 40	
1760	Sq. ft. 2½" Ditto		.52½	Sq.'		net	924 00	
660	" " 3" Ditto		.63	Sq.'		net	415 80	
730	" " 2" Super X Insulating Block		.486	Sq.'		net	354 78	
520	Lin. ft. 2½" 85% Magnesia Sectional Pipe covering for 11 3/4" O.D. Headers		2 24	Lin.'		net	1388 80	
250	Lin. ft. 2" 85% Magnesia Sectional Pipe covering 3" O.D. Connecting Tubes.		.805	Lin.'		net	201 25	
580	Lin. ft. Ditto Except 2" O.D. Connecting Tubes		.70	Lin.'		net	406 00	
150	Sq. ft. 1½" High Temperature Pipe covering to fit 11 3/4" O.D. S.H. Loader		1 41	Lin'		net	70 50	
600	Lin. ft. 85 Magnesia Pipe covering for 4½" O.D. Tubes		.94½	Lin'		net	567 00	
100 Lin.	ft. 2½" Ditto for 4" O.D. Tubes		1 15	Lin'		net	115 00	
540	Lin. ft. 2½" Ditto for 3" O.D. Tubes		1 05	Lin'		net	567 00	

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"Our prices contemplate cash, subject to the usual payment dates of regular customers. When buyer is not known to us from ledger record, a cash payment ample to cover all costs of transportation, packing, etc., should accompany order. C. O. D. shipments made only where parties are known to us. Where goods are special, full amount of quotation from parties unknown should accompany order. No cash discount unless so stated."

ASARCO ELP 0009705

FORM 70-11 C

Mine & Smelter Supply Co.

To Stearn-Rogers Mfg. Co.

Page No. 2 Quotation No. S-1942-47 Date December 27, 1947

El Paso
Branch

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	C D
21,640	Sq. Ft. 1½" to 2" x No. 19 B.W.G. Galv. Hexagonal Wire Mesh					Unable to quote		
700'	Lacing Wire #14 or 16 B.W.G. Annealed Market Wire					"	"	"

"The above prices on Pipe Covering are quoted on the basis of standard weight Canvas. Terms of payment are 1-10-30. Johns-Manville Sales Corporation shall not be liable for delays or defaults in making deliveries where occassioned by causes of any kind or extent beyond our control, including but not limited to conflict or economical dislocation resulting from embargo; shortage of labor, raw materials, production facilities and transportation; labor difficulties, civil disorders of any kind; action of any civil or military authority including priorities and allocations; fires, floods and accidents. This quotation made subject to acceptance by you in thirty days. All orders accepted by us are subject to our ability to ship it. In the event we are unable to make shipment within sixty days of price advance, you will be invoiced at price in effect at time of shipment, unless order is previously canceled by you. At the present time we would estimate delivery could be made within approximately ten weeks from date of receipt of order.

F.O.B. Point: - Items 1,2 and 3 Waukegan, Ill. Bal. El Paso.

D. B. Taylor

D. B. TAYLOR, MANAGER
Industrial Supply Department
JT:kp

"This quotation is based upon our present prices. Prices in effect at time of shipment will apply. Excise, sales or similar taxes will be added, if applicable".

ASARCO ELP 0009706

FORM [illegible]A

The Mine & Smelter Supply Co.

SALT LAKE CITY, UTAH DENVER, COLORADO EL PASO, TEXAS

This quotation is from our El Paso Office Date December 18 1947

Your Inquiry

Our Quotation No. A-631-47
Please Show This on Your Order

To Stearns-Rogers Mfg. Co.,

Address El Paso, Texas.

F. O. B. Point See Below

Shipping Point See Below

Probable Date of Shipment See Below

*CASH DISCOUNT TERMS—KEY—T - 2% 10 Days; TP - 2% 10th Prox.; I - 1% 10 Days; H - ½ of 1% 10 Days; F - 5% 10 Days; FP - 5% 10th Prox.; A - 3% 10 Days; N - Net 30.

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	C D
1,050	12 X 12 X 3 Square Edge Fire Clay Tile		.435	ea.		net	456 75	N
1,500	Lbs. Quigley Hytempite (Air Setting High Temper-ature) Mortar (3 X 500 Lb. Drums)		5 90	Cwt.		net	88 50	T
200	Lbs. Ditto (2 X 100 Lb. Drums)		6 50	Cwt.		net	13 00	T
	Deposit on 3 X 500 Lb. Drums		1 00	ea.		net	1 00	N
30,000	Lbs. Quigley Insulag (High Temperature Plastic Insulation)		91 00	Ton		net	1365 00	T
10,000	Lbs. Quigley AAA #10 Plastic (500# Drums) (Sealing Compound)		8 00	Cwt.		net	800 00	T

Shipment: - Item 1,13 to 14 Weeks.
Items 2,3,4,5, 7 to 10 days.
FOB & Shipping Point: - Items 2, and 3 El Paso
Item 1 Golden Colorado.
Item 4,5 Old Bridge, N. J.

Note: - Weight of Tile Approx. 31 Lbs. each or 32,550 Lbs. Total.
We have increased Amounts of Insulag and AAA #10 Plastic as Minimum Carload is 40,000 Lbs. and Freight Rate on Carload from Old Bridge N. J. to El Paso is $1.56 Cwt. Plus 10% Increase Plus 3% Federal Tax. Less than carload takes LCL Rate. AAA Plastic and Insulate can be combined for Carload

E. H. McQUADE, MANAGER
Chemical and Laboratory Department

MRE:hp

All prices are exclusive of any tax which is now or may be assessed on the part of the Federal or State Governments and any such tax shall be paid by the purchaser.

Sales, contracts and quotations are made subject to the following terms: Stenographic and clerical errors subject to correction; prices subject to change without notice; quotations, unless otherwise stated, are for immediate acceptance and subject to prior sale; all agreements made contingent upon strikes, accidents and other causes beyond our control; our liability is limited to the value of the goods sold or furnished; if goods are defective we will not be responsible beyond the value of the defective piece at the factory; we will not be responsible for any damage, loss or expense occasioned by defective goods. Goods are not subject to return without our permission; if fault is clearly ours credit will be allowed in full; otherwise a handling charge of not less than 10% will be made. Reels, carboys and other containers not subject to discount and must be returned at your expense to point designated when credit will be allowed. Quotations are based on United States currency.

"Our prices contemplate cash, subject to the usual payment dates of regular customers. When buyer is not known to us from ledger record, a cash payment ample to cover all costs of transportation, packing, etc., should accompany order. C. O. D. shipments made only where parties are known to us. Where goods are special, full amount of quotation from parties unknown should accompany order. No cash discount unless so stated."

ASARCO ELP 0009707

FORM 74 ..A

The Mine & Smelter Supply Co.

SALT LAKE CITY, UTAH DENVER, COLORADO EL PASO, TEXAS

This quotation is from our El Paso Office Date December 18 19 47

Your Inquiry

Our Quotation No. A-683-47 Please Show This on Your Order

To Stearns-Rogers Mfg. Co.,

Address El Paso, Texas,

F. O. B. Point See Below

Shipping Point See Below

Probable Date of Shipment See Below

*CASH DISCOUNT TERMS—KEY—T - 2% 10 Days; TP - 2% 10th Prox.; I - 1% 10 Days; H - ½ of 1% 10 Days; F - 5% 10 Days; FP - 5% 10th Prox.; A - 3% 10 Days; N - Net 30.

Quantity	DESCRIPTION	Weight	List	Unit	Total List	Disc.	Amount	C D
1,050	12 X 12 X 3 Square Edge Fire Clay Tile		.435	ea.		net	456 75	N
1,500	Lbs. Quigley Hytempite (Air Setting High Temperature) Mortar (3 X 500 Lb. Drums)		5 90	Cwt.		net	88 50	T
200	Lbs. Ditto (2 X 100 Lb. Drums)		6 50	Cwt.		net	13 00	T
	Deposit on 3 X 500 Lb. Drums		1 00	ea.		net	1 00	N
30,000	Lbs. Quigley Insulag (High Temperature Plastic Insulation)		91 00	Ton		net	1365 00	T
10,000	Lbs. Quigley AAA #10 Plastic (500# Drums) (Sealing Compound)		8 00	Cwt.		net	800 00	T

Shipment: - Item 1,13 to 14 Weeks.
Items 2,3,4,5, 7 to 10 days.
FOB & Shipping Point: - Items 2, and 3 El Paso
Item 1 Golde. Colorado.
Item 4,5 Old Bridge, N. J.

Note: - Weight of Tile Approx. 31 Lbs. each or 32,550 Lbs. Total.
We have increased Amounts of Insulag and AAA #10 Plastic as Minimum Carload is 40,000 Lbs. and Freight Rate on Carload from Old Bridge N. J. to El Paso is $1.56 Cwt. Plus 10% Increase Plus 3% Federal Tax. Less than carload takes LCL Rate. AAA Plastic and Insulag can be combined for Carload

E. W. McQuade
E. W. McQuade
Chemical and Laboratory Department

Mailup

All prices are exclusive of any tax which is now or may be assessed on the part of the Federal or State Governments and any such tax shall be paid by the purchaser.

Sales, contracts and quotations are made subject to the following terms: Stenographic and clerical errors subject to correction; prices subject to change without notice; quotations, unless otherwise stated, are for immediate acceptance and subject to prior sale; all agreements made contingent upon strikes, accidents and other causes beyond our control; our liability is limited to the value of the goods sold or furnished; if goods are defective we will not be responsible beyond the value of the defective piece at the factory; we will not be responsible for any damage, loss or expense occasioned by defective goods. Goods are not subject to return without our permission; if fault is clearly ours credit will be allowed in full; otherwise a handling charge of not less than 10% will be made. Reels, carboys and other containers not subject to discount and must be returned at your expense to point designated when credit will be allowed. Quotations are based on United States currency.

"Our prices contemplate cash, subject to the usual payment dates of regular customers. When buyer is not known to us from ledger record, a cash payment ample to cover all costs of transportation, packing, etc., should accompany order. C. O. D. shipments made only where parties are known to us. When goods are special, full amount of quotation from parties unknown should accompany order. No cash discount unless so stated."

ASARCO ELP 0009708

FOR 4-70-11A

The Mine & Smelter Supply Co.

SALT LAKE CITY, UTAH — DENVER, COLORADO — EL PASO, TEXAS

This quotation is from our El Paso Office Date December 18 1947

Your Inquiry

Our Quotation No. [illegible] Please Show This on Your Order

To Stearns-Rogers Mfg. Co.,

Address El Paso, Texas.

F. O. B. Point See below

Shipping Point See below

Probable Date of Shipment See below

*CASH DISCOUNT TERMS—KEY—T - 2% 10 Days; TP - 2% 10th Prox.; I - 1% 10 Days; H - ½ of 1% 10 Days; F - 5% 10 Days; FP - 5% 10th Prox.; A - 3% 10 Days; N - Net 30.

Quantity	DESCRIPTION	Weight	List		Unit	Total List	Disc.	Amount		C D
1,[illegible]0	12 X 12 X 3 Square Edge Fire Clay Tile		.435		ea.		net	456	75	N
1,500	Lbs. Quigley Hytempite (Air Setting High Temper-ature) Mortar (3 X 500 Lb. Drums)		5	90	Cwt.		net	88	50	T
200	Lbs. Ditto (2 X 100 Lb. Drums)		6	50	Cwt.		net	13	00	T
	Deposit on 3 X 500 Lb. Drums		1	00	ea.		net	1	00	N
30,000	Lbs. Quigley Insulag (High Temperature Plastic Insulation)		91	00	Ton		net	1365	00	T
10,000	Lbs. Quigley AAA #10 Plastic (500# Drums) (Sealing Compound)		8	00	Cwt.		net	800	00	T

Shipment: - Item 1,13 to 14 Weeks.
Items 2,3,4,5, 7 to 10 days.
FOB & Shipping Point: - Items 2, and 3 El Paso
Item 1 Golde Colorado.
Item 4,5 Old Bridge, N. J.

Note: - Weight of Tile Approx. 31 Lbs. each or 32,550 Lbs. Total.
We have increased Amounts of Insulag and AAA #10 Plastic as Minimum Carload is 40,000 Lbs. and Freight Rate on Carload from Old Bridge N. J. to El Paso is $1.56 Cwt. Plus 10% Increase Plus 3% Federal Tax. Less than carload takes LCL Rate. AAA Plastic and Insulate can be combined for Carload

"This quotation is based upon our [illegible] prices. Prices in effect at time of shipment will apply. Excise, sales or similar taxes will be added if applicable."

E. W. McGuade
[illegible]
Chemical and Laboratory Department
[illegible]

All prices are exclusive of any tax which is now or may be assessed on the part of the Federal or State Governments and any such tax shall be paid by the purchaser.

Sales, contracts and quotations are made subject to the following terms: Stenographic and clerical errors subject to correction; prices subject to change without notice: quotations, unless otherwise stated, are for immediate acceptance and subject to prior sale; all agreements made contingent upon strikes, accidents and other causes beyond our control: our liability is limited to the value of the goods sold or furnished: if goods are defective we will not be responsible beyond the value of the defective piece at the factory: we will not be responsible for any damage, loss or expense occasioned by defective goods. Goods are not subject to return without our permission; if fault is clearly ours credit will be allowed in full; otherwise a handling charge of not less than 10% will be made. Reels, carboys and other containers not subject to discount and must be returned at your expense to point designated when credit will be allowed. Quotations are based on United States currency.

"Our prices contemplate cash, subject to the usual payment dates of regular customers. When buyer is not known to us from ledger record, a cash payment ample to cover all costs of transportation, packing, etc., should accompany order. C. O. D. shipments made only where parties are known to us. Wher goods are special, full amount of quotation from parties unknown should accompany order. No cash discount unless so stated."

ASARCO ELP 0009709

CRANE-O'FALLON CO.

VALVES + FITTINGS + PIPE
PLUMBING + HEATING + PUMPS

1609 TEXAS STREET
EL PASO, TEXAS

C. R. CURTAN
MANAGER

TELEPHONE
MAIN 1787

Dec. 17, 1947

Stearns Roger Mfg. Co.,
P. O. Box 38,
El Paso, Texas.

Gentlemen: Attention Mr. R. L. Wills

We are pleased to quote you on Johns-Manville insulating materials as follows:

29,800#	High Temperature Plastic Insulation (J-M #450 Cement) F.O.B. Waukegan with freight allowed in carload up to .80 per cwt.	$140.00 per ton ✓
9,400#	Insulkote (winter grade) F.O.B. Waukegan (in 500# drums)	123.00 per ton ✓
11,400#	Asbestos Finishing Cement (J-M #0352) F.O.B. Waukegan	2.15 per cwt. ✓

The following materials are quoted F.O.B. Waukegan with full freight allowed to El Paso in carloads:

670 Sq. Ft.	2" thick 85% Magnesia blocks	.42 per sq. ft.
1760 Sq. Ft.	2-1/2" ditto	.525 "
660 Sq. Ft.	3" ditto	.63 "
730 Sq. Ft.	2" thick Superex Blocks	.486 "
620 Lin. Ft.	2-1/2" thick 85% Magnesia Pipe covering for 11-3/4" O.D. header	2.24 per lin. ft.
250 Lin. Ft.	2" ditto for 3" headers	.805 "
580 Lin. Ft.	2" ditto for 2" headers	.70 "
150 Lin. Ft.	1-1/2 thick Superex Pipe covering for 11-3/4" O.D. Headers	1.41 "
600 Lin. Ft.	2" thick 85% Magnesia Pipe covering for 4-1/2" O.D. Tubes (4" I.D.)	.945 "
100 Lin. Ft.	2-1/2" ditto for 4" O.D. Tubes, (3-1/2" I.D.)	1.15 "
540 Lin. Ft.	2-1/2" ditto for 3" O.D. Tubes,	1.05 "

The above prices on pipe covering are quoted on the basis of furnishing Standard Weight canvas.
Terms are 1% 10th Prox., Net 30 days.
At the present time we would estimate delivery could be made within approximately 10 weeks from date of receipt of your order.

Thanking you for your inquiry, we are

Very truly yours,

CRANE O'FALLON CO.

E. F. Johnson

E.F. Johnson

EFJ-vw

CRANE-O'FALLON CO.

VALVES + FITTINGS + PIPE
PLUMBING + HEATING + PUMPS

1609 TEXAS STREET
EL PASO, TEXAS

C. R. CURTAN
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9,400#	Insulkote (winter grade) F.O.B. Waukegan (in 500# drums)	123.00 per ton
11,400#	Asbestos Finishing Cement (J-M #0352) F.O.B. Waukegan	2.15 per cwt.

The following materials are quoted F.O.B. Waukegan with full freight allowed to El Paso in carloads:

670 Sq. Ft.	2" thick 85% Magnesia blocks	.42 per sq. ft.
1760 Sq. Ft.	2-1/2" ditto	.525 "
660 Sq. Ft.	3" ditto	.63 "
730 Sq. Ft.	2" thick Superex Blocks	.486 "
620 Lin. Ft.	2-1/2" thick 85% Magnesia Pipe covering for 11-3/4" O.D. header	2.24 per lin. ft.
250 Lin. Ft.	2" ditto for 3" headers	.805 "
580 Lin. Ft.	2" ditto for 2" headers	.70 "
150 Lin. Ft.	1-1/2 thick Superex Pipe covering for 11-3/4" O.D. Headers	1.41 "
600 Lin. Ft.	2" thick 85% Magnesia Pipe covering for 4-1/2" O.D. Tubes (4" I.D.)	.945 "
100 Lin. Ft.	2-1/2" ditto for 4" O.D. Tubes, (3-1/2" I.D.)	1.15 "
540 Lin. Ft.	2-1/2" ditto for 3" O.D. Tubes,	1.05 "

The above prices on pipe covering are quoted on the basis of furnishing Standard Weight canvas.
Terms are 1% 10th Prox., Net 30 days.
At the present time we would estimate delivery could be made within approximately 10 weeks from date of receipt of your order.

Thanking you for your inquiry, we are

Very truly yours,

CRANE O'FALLON CO.

E. J. Johnson

EJJ-vw

CRANE-O'FALLON CO.

VALVES + FITTINGS + PIPE
PLUMBING + HEATING + PUMPS

1609 TEXAS STREET
EL PASO, TEXAS

C. R. CURTAN
MANAGER

TELEPHONE
MAIN 1787

Dec. 17, 1947

Stearns Roger Mfg. Co.,
P. O. Box 38,
El Paso, Texas.

Gentlemen: Attention Mr. R. L. Wills

We are pleased to quote you on Johns-Manville insulating materials as follows:

29,800#	High Temperature Plastic Insulation (J-M #450 Cement) F.O.B. Waukegan with freight allowed in carload up to .80 per cwt.	$140.00 per ton
9,400#	Insulkote (winter grade) F.O.B. Waukegan (in 500# drums)	123.00 per ton
11,400#	Asbestos Finishing Cement (J-M #0352) F.O.B. Waukegan	2.15 per cwt.

The following materials are quoted F.O.B. Waukegan with full freight allowed to El Paso in carloads:

670	Sq. Ft. 2" thick 85% Magnesia blocks	.42 per sq. ft.
1760	Sq. Ft. 2-1/2" ditto	.525 "
660	Sq. Ft. 3" ditto	.63 "
730	Sq. Ft. 2" thick Superex Blocks	.486 "
620	Lin. Ft. 2-1/2" thick 85% Magnesia Pipe covering for 11-3/4" O.D. header	2.24 per lin. ft.
250	Lin. Ft. 2" ditto for 3" headers	.805 "
580	Lin. Ft. 2" ditto for 2" headers	.70 "
150	Lin. Ft. 1-1/2 thick Superex Pipe covering for 11-3/4" O.D. Headers	1.41 "
600	Lin. Ft. 2" thick 85% Magnesia Pipe covering for 4-1/2" O.D. Tubes (4" I.D.)	.945 "
100	Lin. Ft. 2-1/2" ditto for 4" O.D. Tubes, (3-1/2" I.D.)	1.15 "
540	Lin. Ft. 2-1/2" ditto for 3" O.D. Tubes,	1.05 "

The above prices on pipe covering are quoted on the basis of furnishing Standard Weight canvas.
Terms are 1% 10th Prox., Net 30 days.
At the present time we would estimate delivery could be made within approximately 10 weeks from date of receipt of your order.

Thanking you for your inquiry, we are

Very truly yours,

CRANE O'FALLON CO.

E.J. Johnson

EFJ-vw

ASARCO ELP 0009712

CASE INDUSTRIAL SERVICE CO.

Engineers & Contractors - Industrial Installations

Room 212 — 514 N. Stanton St. Phone 2-6461
EL PASO, TEXAS

December 17, 1947

AIR CONDITIONING
REFRIGERATED
SPECIAL VENTILATION

RE GERATION
COLD STORAGE
FREEZING PLANTS
ICE PLANTS

INSULATION
HIGH TEMPERATURE
LOW TEMPERATURE

STEAM
BOILERS
OIL BURNERS
AS BURNERS
SPECIALTIES

ENGINES
OIL
GAS
GASOLINE

Stearns-Rogers Manufacturing Co.
P. O. Box 38
El Paso, Texas

Attention: Mr. R. L. Wills

Gentlemen:

In accordance with your request of December 11th, we are pleased to quote you on the following insulating materials, which we are able to furnish:

29,800# High Temp. Plastic Insulation
(J-M No. 450 Cement)
Price:-F.O.B. Waukegan with freight allowed in carloads up to $ .80 per cwt. Per Ton.....$140.00 ✓

9,400# Insulkote (Winter Grade)
Price:-F.O.B. Waukegan (In 500# Drums).
Per Ton.....$123.00 ✓

11,400# Asbestos Finishing Cement
J-M No. 0352
Price:-F.O.B. Waukegan. Per cwt.....$ 2.15 ✓

The following materials are quoted F.O.B. Waukegan, with full freight allowed to El Paso, Texas, in carloads, on the basis of furnishing standard weight canvas jackets:

✓ 670 Sq. Ft. 85% Magnesia Blocks 2" thick.
Price:- Per Sq. Ft.....$ .42

✓ 1760 Sq. Ft. 85% Magnesia Blocks 2½" Thick.
Price:- Per Sq. Ft.....$ .52½

✓ 660 Sq. Ft. 85% Magnesia Blocks 3" Thick.
Price:- Per Sq. Ft.....$ .63

✓ 730 Sq. Ft. Superex Blocks 2" Thick.
Price:- Per Sq. Ft.....$ .486

620 Lin. Ft. 85% Magnesia Pipe Covering for 11-3/4" O.D. Header, 2-1/2" Thick.
Price:- Per Lin. Ft.....$ 2.24

ASARCO ELP 0009713

250 Lin. Ft. 85% Magnesia Pipe Covering for 3" Headers 2" Thick.
Price:- Per Lin. Ft.....$ .805

580 Lin. Ft. 85% Magnesia Pipe Covering for 2" Headers 2" Thick.
Price:- Per Lin. Ft.....$ .70

150 Lin. Ft. Superex Pipe Covering for 11-3/4" O.D. Headers, 1-1/2" Thick.
Price:- Per Lin. Ft.....$ 1.41

600 Lin. Ft. 85% Magnesia Pipe Covering for 4-1/2" O.D. Tubes (4" ID) 2" Thick.
Price:- Per Lin. Ft.....$ .945

100 Lin. Ft. 85% Magnesia Pipe Covering for 4" OD Tubes (3-1/2" ID), 2-1/2" Thick.
Price:- Per Lin. Ft.....$ 1.15

540 Lin. Ft. 85% Magnesia Pipe Covering for 3" OD Tubes 2-1/2" Thick.
Price:- Per Lin. Ft.....$ 1.05

Estimated Delivery Date: Approximately ten weeks from receipt of your order.

Terms of payment are 1% 10th prox., net 30th prox. Johns-Manville Sales Corporation shall not be liable for delays or defaults in making deliveries where occasioned by causes of any kind or extent beyond our control, including but not limited to, armed conflict or economic dislocation, resulting therefrom, embargoes; shortages of labor, raw materials, production facilities or transportation; labor difficulties, civil disorders of any kind; action of any civil or military authorities including priorities and allocations; fires; floods and accidents. This quotation is made subject to acceptance by you in 30 days. All orders accepted by us are subject to our ability to ship and in the event we are unable to make shipment within 60 days of price advance, you will be invoiced at prices in effect at time of shipment unless order is previously cancelled by you.

The foregoing prices are quoted to you in accordance with the contract between your Denver Office and Johns-Manville Sales Corp.

We appreciate the opportunity of quoting you, and hope that we might be of further service to you.

Yours very truly,

CASE INDUSTRIAL SERVICE CO.

BY: Walter S. Case

WSC/DH

C
o
p
y

THE DENVER FIRE CLAY COMPANY

Of TEXAS

El Paso, Texas
January 6, 1948.

Stearns-Roger Manufacturing Company,
P. O. Box 38,
El Paso, Texas

Subject: Your Request of 10 December
Our Letter Quotation No. 670.

Gentlemen:

It has come to my attention that the materials quoted, per our letter of 15 December 1947, will probably not be required before May 1948.

May I, therefore, amend this previous quotation as follows:

Item one - 1050 12 x 12 x 3 inch tile, as before, Price each 58¢.
Item two - If desired, 79¢ each.
Item three 89¢ each.
Item four 1700 lbs. Latite to be included in pool car, f.o.b. El Paso, packed in 500# and 200# drums, cwt.- $4.81.

Cordially yours,

THE DENVER FIRE CLAY CO.,

(signed)
George M. Adams,
Sales Department.

GMA:ll

These prices are based on current market conditions and we reserve the right to adjust our final price on the basis of those prevailing at the time of shipment.

ASARCO ELP 0009715

C
o
p
y

THE DENVER FIRE CLAY COMPANY

Of TEXAS

El Paso, Texas
January 6, 1948.

Stearns-Roger Manufacturing Company,
P. O. Box 38,
El Paso, Texas

Subject: Your Request of 10 December
Our Letter Quotation No. 670.

Gentlemen:

It has come to my attention that the materials quoted, per our letter of 15 December 1947, will probably not be required before May 1948.

May I, therefore, amend this previous quotation as follows:

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Item two - If desired, 79¢ each.
Item three 89¢ each.
Item four 1700 lbs. Latite to be included in pool car, f.o.b. El Paso, packed in 500# and 200# drums, cwt.- $4.81.

Cordially yours,

THE DENVER FIRE CLAY CO.,

(signed)
George M. Adams,
Sales Department.

GMA:ll

These prices are based on current market conditions and we reserve the right to adjust our final price on the basis of those prevailing at the time of shipment.

ASARCO ELP 0009716

C
o
p
y

THE DENVER FIRE CLAY COMPANY

Of TEXAS

El Paso, Texas
January 6, 1948.

Stearns-Roger Manufacturing Company,
P. O. Box 38,
El Paso, Texas

Subject: Your Request of 10 December
Our Letter Quotation No. 670.

Gentlemen:

It has come to my attention that the materials quoted, per our letter of 15 December 1947, will probably not be required before May 1948.

May I, therefore, amend this previous quotation as follows:

Item one - 1050 12 x 12 x 3 inch tile, as before,
Price each 58¢.
Item two - If desired, 79¢ each.
Item three 89¢ each.
Item four 1700 lbs. Latite to be included in pool car, f.o.b. El Paso, packed in 500# and 200# drums, cwt.- $4.81.

Cordially yours,

THE DENVER FIRE CLAY CO.,

(signed)
George M. Adams,
Sales Department.

GMA:ll

These prices are based on current market conditions and we reserve the right to adjust our final price on the basis of those prevailing at the time of shipment.

ASARCO ELP 0009717

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2
El Paso, Texas
December 10, 1947

IN REPLY
PLEASE REFER TO
EL PASO SMELTING WORKS
ENGINEERING DEPARTMENT

DEC 13 1947

SC-3-
Boiler Covering Complete

Denver Fire Clay Company
Mills Building
El Paso, Texas

Atten: Mr. George Adams

Gentlemen:

Please send to us your quotation and delivery in quadruplicate, for the following two items:

1050 Only 12" x 12" x 3" Sq. Edge Tile (1st Quality Clay)

1700 Lbs. Air-Setting, High temperature Mortar.

We must have your quotation not later than December 17, 1947.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

RLW:jr
cc: Mr. Leroy Frevin (2)

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING ORDERS. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS AND OTHER CONDITIONS BEYOND OUR CONTROL. STENOGRAPHIC ERRORS ARE SUBJECT TO CORRECTION. ADDRESS ALL COMMUNICATIONS TO THE COMPANY.

The Stearns-Roger Manufacturing Co.
Established 1885
Engineers, Contractors & Manufacturers

CABLE ADDRESS
"STEROG" DENVER

Denver 2

IN REPLY
PLEASE REFER TO
POST OFFICE BOX 38
EL PASO, TEXAS

El Paso, Texas
December 10, 1947

Denver Fire Clay Company
Mills Building
El Paso, Texas

Atten: Mr. George Adams

Gentlemen:

Please send to us your quotation and delivery in quadruplicate, for the following two items:

1050 Only 12" x 12" x 3" Sq. Edge Tile (1st Quality Clay)

1700 Lbs. Air-Setting, High temperature Mortar.

We must have your quotation not later than December 17, 1947.

Very truly yours,

THE STEARNS-ROGER MFG. CO.
EL PASO OFFICE

R. L. Wills

RLW:jr
cc: Mr. Leroy Frewin (2)

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL QUOTATIONS UNLESS OTHERWISE STATED ARE FOR IMMEDIATE ACCEPTANCE ONLY. QUOTATIONS AND CONTRACTS ARE SUBJECT TO APPROVAL OF AN EXECUTIVE OFFICER OF THIS COMPANY. RIGHT IS RESERVED FOR AN EXECUTIVE OFFICER TO CHANGE PRICES AND TERMS BEFORE ACCEPTING ORDERS. ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS AND OTHER CONDITIONS BEYOND OUR CONTROL. STENOGRAPHIC ERRORS SUBJECT TO CORRECTION. ADDRESS ALL COMMUNICATIONS TO THE FIRM.

ASARCO ELP 0009719

December 15, 1947

Stearns-Roger Manufacturing Company
P. O. Box 38
El Paso, Texas

Subject: Your Request of 10 December
Our Letter Quotation No. 670

Gentlemen:

May we thank you for your request and quote you as follows:

1050 only 12" x 12" x 3" Sq. Edge Tile, First Quality.
500 in stock for immediate delivery
Remainder - 90 days.
Price for inclusion in Pool Car, you to pay any incident local switching charges, f.o.b. El Paso.
Price, each—— $ .57

We offer for immediate delivery as required
12" x 15" x 3" Sq. Edge Tile, First Quality as above.
Price, each—— $ .76

Or

As required 12" x 18" x 3" Sq. Edge Tile, First Quality as above.
Price, each—— $ .91 GMA

1700 lbs. Latite, Air-setting, High Temperature Cement, for immediate delivery, as above.
cwt.—— $ 5.42 (cwt)

We sincerely hope that this is satisfactory and that we may have your order.

Cordially yours,

THE DENVER FIRE CLAY COMPANY

George M Adams

George M. Adams
Sales Department

GMA:ll These prices are based on current market conditions and we reserve the right to adjust our final price on the basis of those prevailing at the time of shipment.

ASARCO ELP 0009720

December 15, 1947

Stearns-Roger Manufacturing Company
P. O. Box 38
El Paso, Texas

Subject: Your Request of 10 December
Our Letter Quotation No. 670

Gentlemen:

May we thank you for your request and quote you as follows:

1050 only 12" x 12" x 3" Sq. Edge Tile, First Quality.
500 in stock for immediate delivery
Remainder - 90 days.
Price for inclusion in Pool Car, you to pay any incident local switching charges, f.o.b. El Paso.
Price, each--- $ .57

We offer for immediate delivery as required
12" x 15" x 3" Sq. Edge Tile, First Quality
as above. Price, each--- $ .76
Or
As required 12" x 18" x 3" Sq. Edge Tile, First Quality as above. Price, each--- $ .91 GMA

1700 lbs. Latite, Air-setting, High Temperature Cement, for immediate delivery, as above. cwt --- $ 5.42 (cwt)

We sincerely hope that this is satisfactory and that we may have your order.

Cordially yours,

THE DENVER FIRE CLAY COMPANY

GMA

George M. Adams
Sales Department

GMA:ll These prices are based on current market conditions and we reserve the right to adjust our final price on the basis of those prevailing at the time of shipment.

ASARCO ELP 0009721

E. :neering, Architectural
And/Or Consulting Services
Contract Form PD-58
Revised 5/75

Order No._____

CONTRACT FOR

WASTE DISPOSAL WELL
FEASIBILITY STUDIES
(Insert name of job)

ASARCO Incorporated's Corpus Christi, El Paso, Globe & East Helena

Plantsat Corpus Christi, Tex., El Paso, Tex., Denver, Colo. & East Helena,
(Insert town and state) Montana.

THIS AGREEMENT, made the 17th day of May, 19 76,

by and between Subsurface Disposal Corporation whose address is
5555 West Loop South, Suite 646, Bellaire, Tex. 77401 (hereinafter called the
"ENGINEER") and ASARCO Incorporated, a corporation of the State of New Jersey,
whose address is 120 Broadway, New York, N.Y. 10005 and

See above.
(Insert address of plant or unit)

(hereinafter called the "Owner").

W I T N E S S E T H:

The Engineer and the Owner agree as follows:

Article 1. Scope of Work

The Engineer shall furnish and perform the various services required for performing subsurface disposal well feasibility studies at the Corpus Christi, El Paso, Globe and East Helena Plants.

as outlined in the specifications listed below. Any attachments referred to are incorpor herein by reference and made a part hereof.

See Exhibit "A", Scope of Work

Article 2. Time of Completion

The services outlined above shall be commenced on or about June 1, 1976 and shall be completed on or about as soon as possible

~~Article 3. The Contract Price~~

~~In consideration of the performance of the Contract, the Owner agrees to reimburse the Engineer as follows:~~

~~Engineer's fee in the amount of $_____ for performance of work plus the reimbursable costs specified as follows:~~

As outlined in Appendix "A". Revised

Article 4. Progress Payments (If Specified under Article 3)

The Owner shall make payments on account of this Contract as follows:

(a) As early as possible after the first day of each calendar month commencing with July 1, 1976 the Engineer shall present to the Owner a statement, on forms provided or approved by the Owner, of all reimbursable costs incurred during the preceding month. This statement shall be accompanied by copies of supporting invoices and such copies of payrolls, or totalization and distribution of same, as may be required, lists of plant and equipment used with rates for same, together with any other information as the Owner may require to allow it to verify the accuracy of the statement. As soon as practicable after receipt of such statement and upon verification thereof the Owner shall pay 100 % of such amount to the Engineer.

Article 5. Acceptance and Final Payment

(a) Upon receipt of written notice in the form of a final certificate from the Engineer that the work is ready for final inspection and acceptance the Owner shall promptly make such inspection, and if and when it finds the work acceptable under the Contract and that the work provided for in this Contract has been completed, the entire balance due the Engineer, including the amount of his fee, shall be paid by the Owner to the Engineer within 30 days after the date of acceptance of the work by the Owner.

(b) Before issuance of the final certificate, the Engineer shall submit evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid, and that the work is free of all liens and encumbrances. In case of disputed indebtedness or liens the Engineer may submit, in lieu of evidence of payment, a surety bond in form satisfactory to the Owner, guaranteeing payment of all such disputed amounts.

Article 6. Insurance

The Engineer shall maintain such insurance as will indemnify it against claims made under Workmen's Compensation Acts and against any other claims for damages for personal injury, including death, which may arise from operations under this contract, whether such operations be by the Engineer or any of its subcontractors or anyone directly or indirectly employed by either of them.

Prior to commencement of this work the Engineer shall file with the Owner completed certificates of insurance in the form of the "Insurance Certificate" attached and shall provide insurance coverage in amounts not less than those stated herein with companies acceptable to the Owner.

It is understood Engineer will maintain insurance coverage in such amounts and for such periods as are sufficient to protect Owner from any liability as a result of the professional errors and/or omissions of the insured (Engineers/Architects) or any person employed by the insured, and will furnish evidence of the same to Owner.

Article 7 - Technical Information

The Term "technical information" as used in this agreement includes but is not limited to technical data, reports, models, drawings, specifications, operating manuals, designs, computations, formulas, apparatus, processes, pat-

entable or unpatentable inventions and other engineering data. You agree to accept Asarco's decisions as to whether any particular information is technical information or is technical information which has been made or conceived under this agreement.

It is understood that in the course of your performance hereunder you may learn or have access to technical information of Asarco. You agree that you and your personnel will keep in confidence all such technical information of Asarco and that you and your personnel will not use or disclose the same without Asarco's written consent, either during the term of this agreement or at any time thereafter.

You agree to disclose to Asarco all technical information made or conceived by you or your personnel in performance, or resulting from performance, under this agreement. You agree that all such technical information made or conceived by you or your personnel shall become and remain the free and unrestricted property of Asarco and that you shall assign or cause the same to be assigned to Asarco. You agree that you and your personnel will keep in confidence all such technical information made or conceived by you or your personnel and that you and your personnel will not use or disclose the same without Asarco's written consent, either during the term of this agreement or at any time thereafter.

You agree, upon the request and at the expense of Asarco, to make or cause your personnel to make applications for Letters Patent in such countries as Asarco may designate on those of the aforesaid assigned inventions which Asarco believes to be patentable; and to assign all such applications to Asarco or its order; and to give Asarco, its attorneys and solicitors all reasonable assistance in preparing such applications, and in prosecuting such applications in the patent office or offices involved and in defending and enforcing any patent that may be issued upon any such application; and to execute all papers that may be reasonably required in the prosecution of such applications or to vest in Asarco or its assigns said inventions, applications and Letters Patent.

Article 8. Status of Engineer and its Personnel

It is understood and agreed that the status of the Engineer hereunder is that of an independent contractor, that the personnel of the Engineer performing services or work hereunder shall under no circumstances be deemed to be employees of the Owner, and that any workmen's Compensation Insurance coverage for such personnel will be the sole responsibility of the Engineer. Notwithstanding the aforesaid understanding, the general instructions of the Owner in connection with accomplishing the work to be done hereunder shall be followed by the personnel of the Engineer.

During tenure of contract, Owner shall have prerogative to request change in personnel of Engineer's employees assigned to this work when in the opinion of the Owner their work is not conducive to required scope of work.

Article 9. Compliance with Laws and Ordinances

If for any reason the Engineer's or any of its Subcontractor's employees or agents acquire a status imposing liability on the Owner for employer's contributions or taxes under the Federal Insurance Contribution Act, the Federal Unemployment Tax Act, any State Unemployment Tax Act, or any other Act, Statue or Regulation thereunder, the Engineer shall be exclusively liable for, and shall indemnify the Owner against, the same and it agrees to comply with all such laws and regulations so as to relieve the Owner from any and all liability therefor and from the responsibility of making reports or keeping records with respect thereto.

Article 10. Owner's Right to Terminate Contract

If the Engineer should commit an act of bankruptcy, or make an assignment for the benefit of creditors, or if a receiver of the Engineer's property should be appointed, or if the Engineer should file a voluntary petition in bankruptcy, or if a trustee of the Engineer's property should be appointed under the reorganization or readjustment provisions of the Bankruptcy Act, or if the Engineer at any time should refuse or neglect to supply sufficient properly skilled personnel, or if he should fail to make prompt payments to subcontractors, or disregard applicable laws or ordinances or the instructions of the Owner, or should he otherwise violate any provision of the contract and fail to correct such violation promptly after service of written notice thereof by the Owner, then the Owner may, without prejudice to any of its other rights or remedy in the premises, terminate the employment of the Engineer, take possession of drawings, specifications, surveys, models, etc. and finish the work by whatever method the Owner may deem expedient.

Article 11. Arbitration

In case of any dispute or difference which may arise as to whether the work done hereunder shall fail to comply with the plans and specifications or with any of the provisions of this contract, such dispute or difference and the question of full performance of the Engineer of the obligations herein imposed shall be submitted to a board or arbitration to be selected in the following manner:

Unless otherwise provided by law, the parties may agree upon one arbitrator; otherwise, there shall be three, one named in writing by each party, and the third chosen by these arbitrators. Provided, however, that if either of the parties hereto shall fail to name an arbitrator within ten (10) days after being requested in writing to do so by the other, the arbitrator so named by the latter shall be and act as the sole arbitrator; and provided further, that in the event each of the parties names an arbitrator but the arbitrator so selected shall fail to select a third within ten (10) days, then he shall be designated by the presiding officer of the Bar Association nearest the location of the work. If there be more than one Bar Association in such locality, it shall be the senior association or the one longest established. The decision of the arbitrator or arbitrators shall be in writing and shall be final.

Article 12. Subcontracts

The Engineer will not employ any Subcontractor without the prior written approval of the Owner and the Engineer will require each such Subcontractor to execute a contract in writing containing provisions similar to all provisions of this contract which are in any way applicable to such Subcontractor and which will obligate such Subcontractor to comply with and perform all such provisions. Nothing herein shall be deemed to create a contractual relationship between any such Subcontractor and the Owner.

Article 13. Assignment

The Engineer shall not assign or sublet this contract in whole or in part nor shall the Engineer assign any moneys due or to become due it hereunder without the prior written consent of the Owner.

Article 14. Applicable Law

This contract shall be construed and enforced in accordance with the laws of the state where the work hereunder is to be performed.

Article 15. Entirety Clause

This contract constitutes the entire agreement between the parties, and except as may be specifically set forth herein no changes can be made except by an agreement in writing duly executed by the parties or their duly authorized agents.

Article 16. Additional Provisions

(Add such additional provisions, if any, as the particular job required.)

SUBSURFACE, INC.
Engineer

By _____
KEN E. DAVIS

Title VICE PRESIDENT - GENERAL MANAGER

ASARCO Incorporated
Owner

By _____

Title Purchasing Agent

Appendix "A" To Contract Form PD-58

"Reimbursable costs" shall be the sum of the costs to the Engineer of the following items:

A. 1. Direct cost of current actual salaries for all Engineer's employees who actually contribute time to the project in proportion to the time they devote to it. These salaries are to be in accordance with the hourly wage rates shown on Exhibit "B" attached.

2. In addition to the direct salaries, Engineer will be paid _____ percent (____%) of such salaries to cover all fringe benefits which include payroll taxes and insurance, vacation, sick leave and holiday allowances.

The total for Item A will be the direct salaries, plus _____percent (____%) for fringe benefits.

B. Overhead as _____ percent (____%) of the total of Item A above.

C. Actual cost of all out-of-pocket expenses, incurred by Engineer in the performance of this work which will include:

Actual traveling and living expenses for all personnel when required to leave the District Office on duties directly applicable to the job.

Telephone, telegraph, office equipment and supplies blueprints, postage and other minor expenses directly applicable to the Job.

Required inspection and testing.

No salaries of the Engineer's executive officers, including and above General Manager, and no part of the expenses of conducting the Contractor's Main Office or regularly established Branch Offices, and no overhead expenses of any kind, except as above provided, shall be included in the cost of the Job unless otherwise expressly provided herein.

D. It is agreed that the Engineer's "Reimbursable Cost" shall be increased or decreased, as the case may be, by an amount equal to the total effect of the following:

1. Routine changes in salary and wage rates and any statutory changes in payroll taxes.

2. Extra cost of any premium time, or overtime in excess of the regular work week, plus ____% for fringes affected by the extra cost on such premium time or overtime. All overtime must be first approved by the Owner.

See Appendix "A" Revised
This is based upon Subsurface Disposal Corporation
Proposal dated April 28, 1976 to Central Engineering

REVISED APPENDIX "A" TO CONTRACT FORM PD-58

"Reimbursable Costs" shall consist of the following items:

A. It is estimated that the study costs for the El Paso, Globe and East Helena plants will not exceed $15,000 per plant.

B. It is estimated that the study costs for the Corpus Christi plant will not exceed $7,000.

C. Charges involved in the Items "A" and "B" above involve the following itemized rates for services which will be the basis for billing for services:

1. Technical Personnel

   a. Away from home office - $300.00/man day or any part thereof.
   b. In home office - $30.00/man hour.

2. Living Expense

   a. With motel, etc. - $45.00/day.
   b. Without motel - $25.00/day.

3. Travel Expenses

   a. Company owned or leased cars - $15.00/day plus $0.15/mile.
   b. Plane, train, etc. - At cost to Subsurface.

4. Drafting and Reproduction

   a. Drafting - $7.00/man hour.
   b. Xerox - $0.10/copy.
   c. Blueprints - $0.50/sq. ft.
   d. Sepias - $0.75/sq. ft.
   e. Polyester Film - $1.00/sq. ft.

5. Other

   a. Phone, telex, etc. - There is no charge for calls originating from the home office, other calls will be charged at cost to Subsurface.
   b. Miscellaneous - All items purchased for this account by Subsurface will be charged at cost plus 15%.

EXHIBIT "A"

SCOPE OF WORK

I. GENERAL

1. The Engineer, Subsurface Disposal Corporation of Bellaire, Texas, shall perform all necessary engineering and other professional services to prepare detailed subsurface waste disposal well system surveys at the ASARCO Incorporated Corpus Christi, El Paso, East Helena and Globe Plants as outlined in the April 28, 1976 proposal.

2. Work will be carried out in close cooperation with the management of each plant for coordination of the necessary information and requirements under the direction of the ASARCO Central Engineering Department through it's Director of Engineering, Mr. E. H. Haug, to whom all technical questions concerning this work should be directed.

3. Copies of the final reports shall be submitted to the Director of Engineering who will distribute them to the proper persons within ASARCO as required.

II. SCOPE OF WORK - CORPUS CHRISTI, TEXAS PLANT

The following work will be carried out for the Corpus Christi, Texas Plant:

1. Make a subsurface geological survey and record search of the area (5 mile radius) around the Corpus Christi plant and determine:

   a. The depth to the base of the fresh water and brackish water interface.

   b. The depth and thickness of any acceptable disposal zones down to a maximum depth of 7000 ft.

   c. The depth and thickness of aquacludes (Impermeable barriers) above and below these proposed disposal zones.

   d. The number and condition of all artificial penetrations wuch as oil and gas wells (both producing and abandoned) and water wells within a 2.5 mile radius of the proposed well site.

2. Prepare the following drawings and subsurface geological maps:

   a. Index map.

   b. Stratigraphic cross sections from the surface to the deepest depth investigated showing the depth of fresh water, brackish water interface, aquacludes and proposed disposal zones.

   c. Contour maps on the top of each proposed disposal zone.

   d. Isopac maps of each proposed disposal zone.

3. Determine the following from available data or by laboratory testing if necessary:

   a. Materials of construction requirements.

   b. Composition and physical characteristics of the waste effluent.

   c. Compatibility of the formation water and effluent and the formation rock and effluent.

   d. Toxicity of the effluent.

   e. Exact location of well site measured from the survey lines.

4. Prepare the following engineering reports and drawings:

   a. Complete well design prognosis.

   b. Proposed construction drawings.

   c. Theoretical reservoir analysis showing pressure profiles and effluent frontal profile of the system in operation.

5. ASARCO will be required to furnish the following information:

   a. Justification for the well system as compared to alternate methods.

   b. Manufacturing process used to generate the waste effluent.

c. List of adjacent land owners.

d. Acreage if the plant site.

e. Drawing of the plant site.

f. Any other information required by the TWQB or other authorities.

III. SCOPE OF WORK - GLOBE PLANT, DENVER, COLO., EL PASO, TEX. PLANT AND EAST HELENA, MONT. PLANT.

The following work will be carried out for the referenced plants:

1. Make a subsurface geological survey and record search of the area (5-10 mile radius) around the El Paso, East Helena and Globe plants and determine:

   a. The depth to the base of fresh water.

   b. The depth to the base of the brackish water interface.

   c. The depth and thickness of any acceptable disposal zones down to a maximum depth of 6000 feet or basement.

   d. The depth and thickness of aquacludes (impermeable barriers) above and below these proposed disposal zones.

   e. The number and condition of all artificial penetrations such as oil and gas wells (both producing and abandoned) and water wells within a 2.5 mile radius of the proposed well site.

2. Prepare the following subsurface geological maps:

   a. Stratigraphic cross sections from the surface to the deepest depth investigated.

   b. Contour maps of the top of each proposed disposal zone.

   c. Isopac maps of each proposed disposal zone.

d. Index map.

3. Determine the following from available data or by laboratory testing if necessary:

a. Materials of construction requirements.

b. Composition and physical characteristics of the waste effluent.

c. Compatibility of the formation water and effluent and the formation rock and effluent.

d. Toxicity of the effluent.

e. Exact location of well site measured from the survey lines.

4. Prepare the following engineering reports and drawings:

a. Complete well design prognosis.

b. Proposed construction drawings.

c. Theoretical reservoir analysis showing pressure profiles and effluent frontal profile of the system in operation.

5. ASARCO will be required to furnish the following information:

a. Justification for the well system as compared to alternate methods.

b. Manufacturing process used to generate the waste effluent.

c. List of adjacent land owners.

d. Acreage of the plant site.

e. Drawing of the plant site.

f. Any other information required by the authorities.

IV. OTHER

In the event that this study indicates a disposal well is

feasible at the plants, the following minimum additional information will have to be obtained before making application for a permit for each plant:

1. Well Design including materials of construction requirements and drilling prognosis.

2. Compatibility Studies between the formation water and effluent, and the formation rock and effluent.

3. Justification for well system as compared to alternate methods.

4. Toxicity Studies of the waste effluent.

5. Exact location of proposed well site measured from the survey line.

V. WORK PRIORITY

The several studies are to be made in the following order of priority:

1. East Helena, Montana.

2. El Paso, Texas.

3. Globe (Denver, Colorado).

4. Corpus Christi, Texas.

ASARCO, Incorporated

Form # INSURANCE-1 Revised : 75

INSURANCE-CERTIFIC

ASARCO, Incorporated REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS.

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE DESCRIBED BELOW HAVE BEEN ISSUED TO Subsurface Disposal Corporation

THESE POLICIES ARE NOW IN FORCE, COVERING WORK BY THE ASSURED FOR ASARCO, Incorporated

ON CONTRACT

AT El Paso Smelting Works, El Paso, Texas

IF THESE POLICIES ARE CANCELLED OR CHANGED IN ANY WAY THAT WILL AFFECT THIS CERTIFICATE, TEN DAYS' PRIOR WRITTEN NOTICE WILL BE GIVEN BY THIS COMPANY TO ASARCO, Incorporated.

ATTN. W.R. Kelly PLANT MANAGER.

KIND OF INSURANCE	DESCRIPTION OF POLICY			REQUIRE MINIMU
	NUMBER	EXPIRES	LIMITS OF LIABILITY	
CONTRACTOR'S PUBLIC LIABILITY (COMPREHENSIVE INCLUDING CONTRACTUAL)*	5CI0045	7-11-76		
BODILY-INJURY			EACH OCCURRENCE $ 300,000	$300,000
PROPERTY-DAMAGE	"	"	EACH OCCURRENCE $ 100,000 Aggregate $ 200,000	$ 25,000
CONTRACTOR'S PROTECTIVE LIABILITY	5CI0045	7-11-76		
BODILY-INJURY			EACH OCCURRENCE $ 300,000	$300,000
PROPERTY-DAMAGE	"	"	EACH OCCURRENCE $ 100,000 Aggregate $ 200,000	$ 25,000
AUTOMOBILE **	EENSA338B 409775	7-11-76		
BODILY-INJURY			EACH PERSON $ 100,000 EACH OCCURRENCE $ 300,000	$100,000 $300,000
PROPERTY-DAMAGE	"	"	EACH OCCURRENCE $ 100,000	$ 25,000
WORKMEN'S COMPENSATION AND				COMPLY WI APPLICAB STATE LA
EMPLOYER'S LIABILITY			EACH OCCURRENCE $	$ 25,000

DATE 5-21-76

*Northwest Insurance Co.
** Travelers Indemnity Co.

INSURANCE COMPANY

Alexander & Alexander of Texas, Inc.
P.O. Box 27128
Houston, Texas 77027
CITY STATE

Larry D. Sullivan

AUTHORIZED REPRESENTATIVE

Larry D. Sullivan /sh

*The Contractor shall save harmless and indemnify the Owner from and against any expense, loss or damage on account of any claim, demand or suit made by any person whomsoever, including any employee of the Owner, which is in any way caused by or connected with, or grows out of the execution and performance of this contract by the Contractor or any Subcontractor; provided, however, that the Contractor shall not be required to indemnify the Owner against any loss caused solely by negligence or willful fault of the Owner or its employees. The Contractor accepts all risk of injury or damage and all responsibility for any claims for damages whatsoever resulting from the use, misuse, or failure of any hoist, rigging, blocking scaffolding, or other like or unlike equipment used by the Contractor or any Subcontractor, even though such equipment be furnished or loaned to the Contractor or any such Subcontractor by the Owner and shall indemnify the Owner against all such claims.

ASARCO, Incorporated

Form # INSURANCE-1 Revised . 75

INSURANCE-CERTIFIC

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AT El Paso Smelting Works, El Paso, Texas

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WORKMEN'S COMPENSATION AND				COMPLY W APPLICAB STATE LA
EMPLOYER'S LIABILITY			EACH OCCURRENCE $	$ 25,000

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** Travelers Indemnity Co.

DATE 5-21-76

INSURANCE COMPANY

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P.O. Box 27128
Houston, Texas 77027
CITY STATE

AUTHORIZED REPRESENTATIVE
Larry D. Sullivan /sh

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