



CONTACT INFORMATION  
Mining Records Curator  
Arizona Geological Survey  
416 W. Congress St., Suite 100  
Tucson, Arizona 85701  
520-770-3500  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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James Doyle Sell Mining Collection

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May 29, 1981

TO: W. D. Payne

FROM: H. G. Kreis

Geology of The Lands  
Santa Cruz Project

Early last year it was mutually agreed by all concerned parties that I would write a report on the geology of The Lands area of the Santa Cruz Project. In essence the report will be an interpretation of the west half of the Santa Cruz sulfide system; i.e., the area of Asarco-Freeport and Hanna-Getty drilling west of NAAC's Desert Carmel. The geology of the area to be interpreted is very complex, and a meaningful interpretation will involve a comprehensive study of all drill log data. Portions of the west half of the Santa Cruz sulfide system are deeply oxidized and leached, and this requires an evaluation of several geologic features to interpret the original hypogene and supergene sulfide zoning patterns of the capping. The difficulties caused by oxidation and leaching are further compounded by complex faulting.

Unfortunately the Santa Cruz sulfide system does not outcrop. Outcropping sulfide systems can be surface mapped to develop good control in two dimensions. The third dimension is then developed with drill hole information. The Santa Cruz sulfide system is entirely buried by post-mineral cover and three dimensional interpretation begins with the ability to recognize and project a particular geologic feature from one drill hole to the next. Interpretation of The Lands fault structure, for example, begins with several hundred intersections of obvious fault evidence, and there is not a single fault intercept with a measured strike. Consequently, a fault must be traced from drill hole to drill hole before its attitude can be determined.

Interpretations of the buried, very complex Santa Cruz geology can be made from drill hole to drill hole projections. To do this requires logging (mapping) at an appropriate scale. The logged information is then plotted in plan and cross section. The scale of the sections must be commensurate with the amount of data that is necessary for developing a reasonable interpretation.

My six years of experience with the geology of the Santa Cruz sulfide system has been beneficial in choosing the features to log and what scale to use for logging, displaying, and interpreting the information. Furthermore, my logging is done with a method that allows the log to be reduced and drafted directly onto cross sections. The drafting of the geology is a simple tracing process. The spacing of the drill holes, their deviation in cross section, and their composite copper assay values are prepared for the draftsman by computer printout.

About eight months ago the computer center and the drafting department were given data and instructions for preparing cross sections of The Lands area. There was illness in both departments and work was done on a priority basis.

May 29, 1981

Neither department has completed its Santa Cruz work at this time. Furthermore, the computer center will not plot the drill hole deviation because there is insufficient time-personnel to develop the program. Asarco and Freeport management have been kept abreast of the situation for at least the last six months.

In view of this situation and for reasons of his own, Mr. Graybeal wishes to change the scale of the cross sections. The scale I am using worked very effectively and successfully for me in interpreting the geology of the Hanna-Getty deposit and finding the offset portion (SC-58) on Asarco-Freeport land. The scale suggested by Mr. Graybeal has merit in evaluating deep porphyry copper systems such as those occurring in the Patagonia Mountains. The scale he recommends is adequate for report presentation, but not evaluation-interpretation of the Santa Cruz porphyry copper system.

I appreciate Mr. Graybeal's concern in wanting the work done. No one wants The Lands report completed more than I do, and I have done everything within my authority to expedite this work.

*H. G. Kreis*

H. G. Kreis

HGK:1b

ANNUAL PROJECT PLANNING SHEET

EXPENDITURES (ASARCO HALF) TYPE OF PROJECT

COST ESTIMATE & APPROPRIATION REQUEST

DISTRICT: Southwest  
 PROJECT NAME: Santa Cruz - The Lands  
 PROJECT NUMBER: 0075  
 PROJECT SUPERVISOR: W.D. Payne  
 PROJECT GEOLOGIST: H.G. Kreis  
 PREPARED BY/DATE: HGK/6-2-81

1. Month of Feb. \$ 3,642.
2. Current Year Expenses to Date thru Feb. \$ 6,610
3. Budget for Current Year 19      \$
4. Thru previous year, since project began \$ 1,617,878

<input type="checkbox"/>	Recon
<input checked="" type="checkbox"/>	Drilling
<input type="checkbox"/>	Pre-Development
<input type="checkbox"/>	Other

Current Yr. Orig. Budget \$351,000  
 Current Yr. Add. Request @ 7/81 (\$150,000)\*  
 Current Yr. Add. Request @      \$       
 New Total \$201,000

Approvals	
Dist. Geol.	West. U.S.
<i>[Signature]</i>	<i>[Signature]</i>
<i>[Signature]</i>	

OBJECTIVE: Test for additional deep sulfide mineralization and overlying oxide mineralization in NE $\frac{1}{4}$  Sec. 13, and oxide mineralization in SW $\frac{1}{4}$  Sec. 18; write summary report on The Lands; and complete the above by year end and within budget of \$351,000.

Progress for the Month of February 1982

\*Removal of Tasks 1 & 2 below, but including contingency for deepening 3 holes in primary sulfides.

PLANNED TASKS	RESPONSIBILITY/TIME TO COMPLETE	TARGET DATE	% COMPLETE	PROGRESS TO DATE
1) Drill 4 holes and deepen two offsets to test for deep sulfide potential in NE $\frac{1}{4}$ Sec. 13. Test permeability of copper oxide mineralization.	H.G.K., Geologist, T.C.B., Contractors, Consultants (permeability)/6 months	12-15-81	N.A.	7-7-81 Directed by N.Y. Office not to drill in 1981.
2) Drill 1 offset hole NW of SC-58 to test extent of oxide mineralization. SW $\frac{1}{4}$ Sec. 18.	H.G.K., Geologist, T.C.B., Contractors, Consultant (permeability)/7 weeks	12-15-81	N.A.	7-7-81 Directed by N.Y. Office not to drill in 1981.
3) Log core, split for assay, complete drill program data package.	H.G.K., Geologist, core splitter/1 month	1-15-82	N.A.	Preparation of data package to be charged to 1982 budget. 7-7-81 Will not be performed since no drilling is scheduled.
4) Summary report on The Lands geology.	H.G.K./6 months	12-31-81	70	A preliminary interpretation of The Lands has been made. An outline & reference list for a report has been completed and approx. 40% of the figures and text of the report are completed.
5) Meeting with Freeport to agree on 1982 drilling program.	H.G.K., W.D.P., W.L.K./1 day	11-1-81		

ANNUAL PROJECT PLANNING SHEET

EXPENDITURES (ASARCO HALF) TYPE OF PROJECT

DISTRICT: Southwest  
 PROJECT NAME: Santa Cruz - The Lands  
 PROJECT NUMBER: 0075  
 PROJECT SUPERVISOR: W.D.Payne  
 PROJECT GEOLOGIST: H.G.Kreis  
 PREPARED BY/DATE: HGK/6-2-81

1. Month of 12/81 \$ 173.00
2. Current Year Expenses to Date thru 12/81 \$ 26,477.00
3. Budget for Current Year 1981 \$ 351,000 (incl. 1980 overrun)
4. Thru previous year, since project began \$ 1,542,245

<input type="checkbox"/>	Recon
<input checked="" type="checkbox"/>	Drilling
<input type="checkbox"/>	Pre-Development
<input type="checkbox"/>	Other

COST ESTIMATE & APPROPRIATION REQUEST

		Approvals	
		Dist. Geol.	West. U.S.
Current Yr. Orig. Budget	\$351,000	<i>[Signature]</i>	<i>[Signature]</i>
Current Yr. Add. Request @ <u>7/81</u>	(\$150,000)*	<i>[Signature]</i>	<i>[Signature]</i>
Current Yr. Add. Request @ _____	\$ _____		
New Total	\$201,000		

OBJECTIVE: Test for additional deep sulfide mineralization and overlying oxide mineralization in NE $\frac{1}{4}$  Sec. 13, and oxide mineralization in SW $\frac{1}{4}$  Sec. 18; write summary report on The Lands; and complete the above by year end and within budget of \$351,000.

Progress for the Month of December 1981  
 \*Removal of Tasks 1 & 2 below, but including contingency for deepening 3 holes in primary sulfides.

PLANNED TASKS	RESPONSIBILITY/TIME TO COMPLETE	TARGET DATE	% COMPLETE	PROGRESS TO DATE
1) Drill 4 holes and deepen two offsets to test for deep sulfide potential in NE $\frac{1}{4}$ Sec. 13. Test permeability of copper oxide mineralization.	H.G.K., Geologist, T.C.B., Contractors, Consultants (permeability)/6 months	12-15-81	N.A.	7-7-81 Directed by N.Y. Office not to drill in 1981.
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4) Summary report on The Lands geology.	H.G.K./6 months	12-31-81	60	A preliminary interpretation of The Lands has been made. An outline and reference list for a report has been completed and approximately 20% of the figures and text of the report are completed.
5) Meeting with Freeport to agree on 1982 drilling program.	H.G.K., W.D.P., W.L.K./1 day	11-1-81		

ANNUAL PROJECT PLANNING SHEET

EXPENDITURES (ASARCO HALF) TYPE OF PROJECT

COST ESTIMATE & APPROPRIATION REQUEST

DISTRICT: Southwest  
 PROJECT NAME: Santa Cruz - The Lands  
 PROJECT NUMBER: 0075  
 PROJECT SUPERVISOR: W.D.Payne  
 PROJECT GEOLOGIST: H.G.Kreis  
 PREPARED BY/DATE: HGK/6-2-81

1. Month of 11/81 \$2,103.00
2. Current Year Expenses to Date thru 11/81 \$26,304.00
3. Budget for Current Year 1981 \$351,000 (incl. 1980 overrun)
4. Thru previous year, since project began \$1,542,245

<input type="checkbox"/>	Recon
<input checked="" type="checkbox"/>	Drilling
<input type="checkbox"/>	Pre-Development
<input type="checkbox"/>	Other

Current Yr. Orig. Budget \$351,000  
 Current Yr. Add. Request @ 7/81 (\$150,000)\*  
 Current Yr. Add. Request @ \_\_\_\_\_ \$ \_\_\_\_\_  
 New Total \$201,000

Approvals	
Dist. Geol.	West. U.S.
<i>[Signature]</i>	<i>[Signature]</i>
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4) Summary report on The Lands geology.	H.G.K./6 months	12-31-81	50	A preliminary interpretation of The Lands has been made. An outline and reference list for a report has been completed and approximately 10% of the figures and text of the report are completed.
5) Meeting with Freeport to agree on 1982 drilling program.	H.G.K., W.D.P., W.L.K./1 day	11-1-81		

ANNUAL PROJECT PLANNING SHEET

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  2. Current Year Expenses to Date thru \_\_\_\_\_ \$ \_\_\_\_\_
  3. Budget for Current Year 1981 \$ 351,000 (incl. 1980 overrun)
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- |                                     |                 |
|-------------------------------------|-----------------|
| <input type="checkbox"/>            | Recon           |
| <input checked="" type="checkbox"/> | Drilling        |
| <input type="checkbox"/>            | Pre-Development |
| <input type="checkbox"/>            | Other           |

COST ESTIMATE & APPROPRIATION REQUEST

		Approvals	
		Dist. Geol.	West. U.S.
Current Yr. Orig. Budget	\$351,000	<i>W.D.P.</i>	<i>W.D.P.</i>
Current Yr. Add. Request @ 7/81	(\$150,000)*	<i>W.D.P.</i>	
Current Yr. Add. Request @ _____	\$ _____		
New Total	\$201,000		

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4) Summary report on The Lands geology.	H.G.K./6 months	12-31-81		
5) Meeting with Freeport to agree on 1982 drilling program.	H.G.K., W.D.P., W.L.K./1 day	11-1-81		

J.D.S.

GEOLOGY AND COPPER RESERVES  
OF "THE LANDS" AREA  
SANTA CRUZ PROJECT  
PINAL COUNTY, ARIZONA

by

Henry G. Kreis

ASARCO Incorporated  
....., 198~~1~~<sup>1</sup>

outline rec'd 10/13/81



# INDEX

INTRODUCTION ✓

SUMMARY & RECOMMENDATIONS ✓

ROCK TYPES ✓

STRUCTURE ✓

ALTERATION ✓

Hypogene  
Supergene

MINERALIZATION ✓

Hypogene  
Supergene

COPPER RESERVES ✓

METALLURGY

MINING

~~RECOMMENDATIONS FOR~~ FURTHER EXPLORATION

~~RECOMMENDATIONS FOR~~ FURTHER EVALUATIONS

CONCLUSIONS

Geology  
Metallurgy  
Mining  
DCA 1000

OUTLINE OF REPORT ON  
GEOLOGY AND COPPER RESERVES  
OF THE LANDS -- SANTA CRUZ

Completed 5/4

I. INTRODUCTION

- A. Location -- Purpose -- Santa Cruz Copper Co.
- B. J.V. of Fpts. (ought to have a few words on agreement w/ Fpt.)
- C. Competitors -- Anaconda Copper Co.
- D. Present status of A-F and H-G
- E. History
- F. Acknowledgements

II. SUMMARY AND <sup>of</sup> RECOMMENDATIONS  
~~CONCLUSIONS~~

Law

SA

40% complete  
2008

# I. ROCK TYPES

## A. Precambrian granite

1. Composition
2. Texture
3. Extent

## B. Diabase

## C. Biotite quartz feldspar porphyry

1. Composition ~~EP~~
2. Texture
3. Abundance - distribution (map)
4. Age relationships
  - a. pre biotitization
  - b. post biotitization
  - c. pre sulfide

d. ~~post sulfide~~ b.g. ~~in peripheral trends~~

need

## D. Mafic breccia (location map)

1. rock description
2. describe act. - min. of clasts in alt-min. section
3. extent - shape, etc
4. age - formation

## E. Volcanic agglomerate

1. rock description
2. distribution
3. age - formation

## F. Conglomerate series

1. Introduction -- extent of studies - innovations concentrated on basal unit
2. Basal unit -- buried dips (comp. of peripheral trends)
3. Upper units
4. Unconsolidated alluvium
- 5) and/or fossils

3-4 days for this  
need (5A)

## IV. STRUCTURE

### A. Introduction

1. Rock structure - strength logs
2. Fault structure.
  - a. Detailed logging
  - b. Reservoir logging
3. Evaluation of structure
  - a. Fracturing of  $CO_2$  reservoir
  - b. Fault effects in cross section
  - c. H-G evaluation (including orientated core)

### B. Fracturing of the $CO_2$ reservoir

C. RQD & fracturing & strength of rock in 0.56% zone of SC-58

### D. Fault effects

1. Granite fault
2. Francisco fault
3.  $CO_2$  area
4. east side  $CO_2$
5. bottom of SC-58 fault
6. west side H-G deposit (conglom - bdr. contact)
7. contact between  $CO_2$  &  $CO_2$  zone in a possible fault
8. faults in holes such as SC-20, 12 (118?), along west half of south sec<sup>ts</sup> line Sec 13
9. St. Smith or - suff. "A" fault of H-G deposit
10. Faults bounding  $CO_2$  in holes SC-64, SC-61
11. Potential for a Basement fault
12. SC-15 T.A. in Stigge

E. Contour maps of top of bdr., top prim. seal, etc - see other sections

F. Attitude of upper zone as it relates to faulting

G. Attitude of base of conglom as it relates to faulting

H. Fault blocks in basal conglom - V.A. units

## IV. ALTERATION

### A. Hypogene

1. Biot. - ortho zone
2. Qtz - ser. zone
3. Bio - ser zone
4. Epid. - ser zone
5. Zoning patterns
6. Relationship to sulfate mineralization (to be discussed)

### B. Supergene

1. Alteration of bio. - magnetite
2. Development of silice - clay

\* 3/4 together do work  
No exhaustive study

## III. MINERALIZATION

Done 5/4

### A. Hypogene

1. Core zone ~~core~~

2. Chalcoprite zone (this may require lots of discussion)

3. Pyrite zone

4. Zoning patterns

5. Molybdenum

6. Gold and silver

7. Quartz veining

8. Carbonate mineralization

9. Relationship to alteration

### B. Supergene

nealy done

1. Leaching - enrichment (isopatch supergene zone; top of primary sulfide)

2. Formation of  $Cu_2O$  deposits -- copper mineralogy

3. Interpretation of capping

[4. Continuity of  $Cu_2O$  discuss in "reserves" section]

5. Leaching of  $Cu_2O$  minerals

VII. COPPER RESERVES

1-1/2 weeks  
needed  
5/4

A. Geologic Inventory

1. Method of calculation
2. ASARCO - Freeport tonnage - grade
  - a. Mineralogy, host rocks, internal waste continuity etc
3. Hanna - Getty tonnage - grade } From HG dem logs
  - a. Mineralogy, etc
4. Potential reserves ASARCO - FTP
5. " " Hanna - Getty
6. Combined AF - H - G geologic inventory
  - a. <sup>proven</sup> probable - possible
  - b. potentially ~~minable~~ ~~reserves~~  
additional

B. Potentially Mineable Reserves

1. ASARCO - Freeport
  - a. Best Cu<sub>2</sub>O reserves
  - b. Potential Cu<sub>2</sub>O - Cu
2. Hanna - Getty

calculation - data collection  
etc background all  
collected & put in preliminary  
form. Will tie it all together  
5/4

VII. METALLURGICAL CONSIDERATIONS

Seemingly  
what has been  
done  
2-3 days  
to process

A. Introduction

B. Copper Leach Tests

1. Agitation bottle tests
2. Column leach tests
3. Copper oxide assaying - include few test samples.

C. Flotation Tests

1. Oxides
2. Sulfides

D. Discussion of Rock Types & Copper Mineralogy

1. Conglomer. & Vol. agglom
2. Polygen - granite
3. Leaching rates - recovery
  - a. atacamite
  - b. chrysocolla
  - c. chalcocite
  - d. cuprite - native

(E. Additional test work -- to be in a following section)



## IX. MINING CONSIDERATIONS

1 week  
574

### A. Introduction

1. Conventional alternatives
2. In situ alternatives

### B. Block cave mining

1. ASARCO - Fpt. Nevada
2. Hanna - Betty reserve

### C. Blockcave - in situ leach

1. Description of method
  - a. Miami mine (pertinent details) (substantial discussion)
  - b. Ray - Ziegler Canyon
  - c. Mountain City
2. Discussion of percent draw to break rock
3. Solution distribution
4. Maintenance of workings
5. Rock temperature
6. Pilot test
  - a. use of H-G shaft
  - b. SX-EW plant needs
7. Economics DCF-ROI (only if good figures are obtained) <sup>2/20/74</sup>
8. Possibility of combination block cave and blockcave-leach mining. <sup>2/20/74</sup>

### D. Drill hole - in situ leach

1. Description of method
  - a. Safford
  - b. Van Dyke — vs. mine of the U309 leaching
2. Discussion of technical parameters
3. Economics

[E. Future evaluations of mining methods to be discussed in separate section.]

### F. Rock Mechanics

Keep to  
1. mention  
see 'ten'

info.

1 week

## FUTURE WORK

### X. RECOMMENDATIONS FOR FURTHER ~~EXPLORATION / SURVEY~~ DRILLING

#### A. Copper Oxide Drains

1. Block A

2. Block B

a. Fill in drilling (some time in future when justified)

3. Block C

4. Block D

5. Block E

a. Define limits particularly to NW

b. Fill in drilling

6. North of SC-56 (like SC-12, 20 expected)

7. Between SC-25 and SC-55

~~8. Exotic copper outside SC-56~~

#### B. Sulfidic Copper Drains

1. Chalcopyrite

a. Area C(?)

b. N. & W. of SC-59

2. Gyp

a. SC-59

b. SC-58 area? probably little potential

c. SC-25-SC-55 area

d. Under core

e) Deepen mine if ok, hole

3. Boron

a. discuss high grade dist.

b. possible origins of boron

c. where to look

d. H-G deposit

## ~~C~~ C - Tantalum Zone.

~~Recommendations for Further Investigations~~ <sup>work</sup>

### ~~B~~ B. Geology

1. Carry on as in past.
2. Reinterpretations as drilling progresses
3. District interpretation
4. NW-SE cross sections; more plan maps - be specific
5. No geochem in H<sub>2</sub>O deposit; also alt. study & eval of oxid rock on NE edge
6. Computer appl. data

### ~~C~~ C. Rock Mechanics

1. Carry on as in past
2. Consult with mining engineers to see if we are getting all the pertinent info. that should be obtained at this stage.

### ~~D~~ D. Hydrology

1. H<sub>2</sub>O has done a lot and their data is avail to us
2. Additional work not needed at this time

### ~~E~~ E. Metallurgy

1. Column leach tests (?) for oxide
2. prelim bench test of batch rejects of one of higher grade zones.

### ~~F~~ F. Mining

1. Evaluate feasibility of block cave in situ leaching  
a complete outline for an evaluation

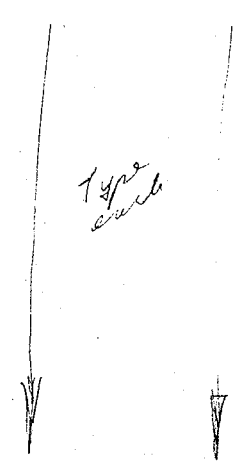
#### Evaluate

2. Drill hole - in situ leaching
  - a. Critique work done to date
  - b. Permeability field tests
  - c. Huff puff test (?)
  - d. H<sub>2</sub>O to hole leach (2 holes)
  - e. Field leach

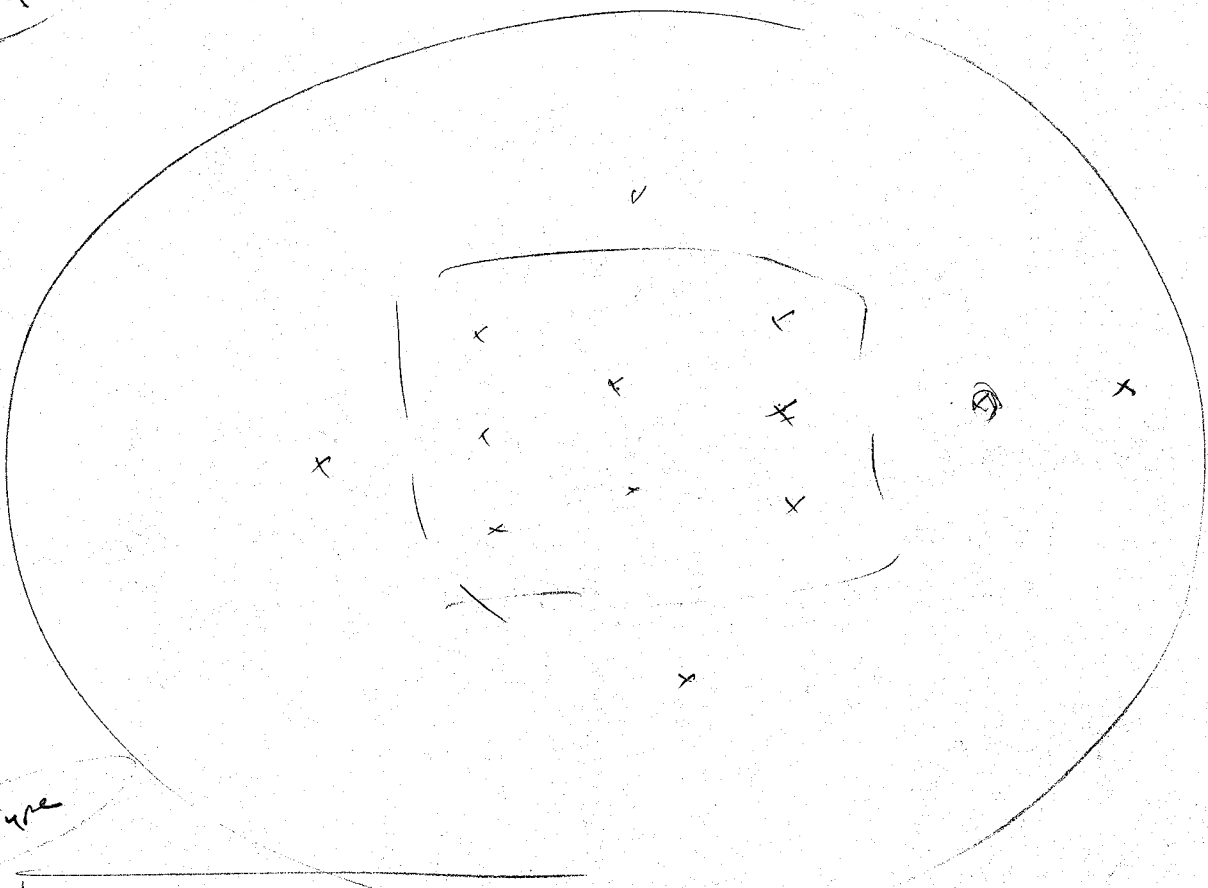
### F. Joint Venture Considerations

# ILLUSTRATIONS

- 1/2
- Figure 1 Santa Cruz Project Area
- 2 <sup>Higher grade</sup> Copper Intercepts Plan Map
- 3 Cross Section 64,500 N
- 4 65,000 N
- 5 65,500 N
- 6 66,000 N
- 7 67,000 N
- 8 49,000 E
- 9 49,500 E
- 10 50,000 E
- 11 50,500 E
- 12 52,000 E
- 13 53,500 E
- 14 Diabase Distribution
- 15 Biotite Quartz Feldspar Porphyry Distribution
- 16 Post Sulphide - Intrusive Rock Distribution
- 17 Top of Bedrock Contour Map
- 18 Stratigraphic Column
- 19 Volcanic Agglomerate Distribution
- 20 ~CONTINUED NEXT PAGE~
- 21
- 22



1<sup>ST</sup> TYPE



2<sup>ND</sup> TYPE

- ✓ 1) ADD Pencil ✓
- ✓ 2) CONVERT B L ✓
- ✓ 3) REV. m. meth ✓
- ✓ 4) REV meth. ✓

2<sup>ND</sup>



(ILLUSTRATIONS -- NOT IN ORDER)

● Diagrammatic Interpretation of the Relationship of Hypogene Mineralization to Alteration in P<sup>2</sup> Known Chalcopyrite Zones  
~~Known~~ Supergene <sup>and Exotic</sup> Mineralization

Copper Oxide Formation SL-19 Copper Oxide Area

Continuity of Copper Oxide Mineralization in SL-19 Copper Oxide Area

Geology -1200 Level

Total Sulfide Distribution -1200 Level

Relative Chalcopyrite Distribution -1200 Level

Sulfide Distribution	Cross section	13
"	"	17
"	"	20
"	"	24
"	"	26
Hanna-Getty Copper Mineralization	Cross Section	13
"	"	15
"	"	17
"	"	20

● Isopetch <sup>map</sup> of oxidation

Relationship of Cu-Mo-Total Sulfides

ASARCO - Fort. Copper Mineral Inventory

Hanna - Getty " " "

Cross Section of " " "

Ft. % Cu Contours of Acid Soluble Cu

Isopetchous Map of Acid Soluble Cu

Hanna-Getty Copper Reserve

Copper Oxide Assays (% Cu vs % acid sol. Cu)

Fracturing Versus Grade of CuOx Mineralization

Inplace Leaching Metallurgical Response

Alternate In Place Leach Mining Methods

Copper Potential of the Lands Area and Part of Peripheral Lands Area



TABLES

- Table 1 Drilling Progress
- Table 2 Modal Comparison of Precambrian Granite A
- Table 3 Rock Forming Minerals of Precambrian Granite
- Table 4 Microscopic Classification of Biotite Quartz Felspar Porph.
- Table 5 Field Classification " " " " "

~ CONTINUED NEXT PAGE ~

(TABLES--NOT IN ORDER)

Emission Spectrographic Analysis  
Molybdenum Values in Sulfide Zone  
Oxidation of the Top of a Chalcocite Blanket  
(Copper Reserve)  
Bottle Sulfuric Acid Leach Tests



January 28, 1982

TO: W. D. Payne

FROM: H. G. Kreis

Monthly Report, January 1982  
Santa Cruz Project  
EA-0075 & EA-0087  
Pinal County, Arizona

Hanna-Getty's acid soluble copper inventory was determined during the month of January, and a report is in progress. The acid soluble copper inventory of The Lands area (excludes Peripheral Lands) is shown in the following table. The cut-off criteria used in determining this inventory is: 0.2% copper, 200' minimum thickness, and 100 ft.-% copper. The copper mineralogy of the total reserve is estimated to be 40% atacamite, 35% chrysocolla, 25% chalcocite, and trace chalcopyrite.

Acid Soluble Copper Inventory of The Lands Area

	<u>Tons</u> <u>(Million)</u>	<u>Grade</u> <u>(% Copper)</u>	<u>Lbs. of Cu</u> <u>(Billion)</u>
ASARCO-Freeport	800	0.43	6.9
Hanna-Getty	<u>210</u>	<u>1.05</u>	<u>4.4</u>
Total	1010	0.56	11.3

Estimated expenditures for the month are \$6,265.00, leaving an estimated balance of \$42,033.00.

*H. G. Kreis*

H. G. Kreis

HGK:mek

February 25, 1982

TO: W. D. Payne

FROM: H. G. Kreis

Monthly Report, February 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, Arizona

Seventeen cross sections of the Hanna-Getty deposit were prepared. The sections are northeast-southwest and northwest-southeast and are at a scale of 1" = 200'. The sections show the grade of copper in each drill hole (copper graph), copper mineralogy (atacamite, chrysocolla, chalcocite, and chalcopyrite), and the anticipated continuity of copper mineralogy. These cross sections will be used for evaluating the Hanna-Getty deposit during future joint venture negotiations.

Several maps and sections of The Lands area were prepared for the report on The Lands area. Approximately ninety percent of the plan maps, cross sections, and other illustrations for The Lands report have been completed; and most of these have been drafted.

Estimated expenditures for the month of February are \$3,642 & \$9,785 respectively. This leaves an estimated unexpended balance of \$46,738 for EA-0075 and an estimated overrun of \$12,910 for EA-0087.

*H. G. Kreis*  
H. G. Kreis

HGK/cg

March 25, 1982

TO: W. D. Payne

FROM: H. G. Kreis

Monthly Report, March 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, Arizona

During March, hypogene sulfide zoning patterns of The Lands area of the Santa Cruz Project were reviewed and an assessment was made of higher grade chalcopyrite mineralization. The SC-59 intercept of 813' (2515' to 3328') at 0.56% Cu as chalcopyrite occurs beneath the bottoms of neighboring drill holes. The lateral limits of the SC-59 intercept are not known but can be estimated from projections of overlying sulfide zoning patterns. As in the chalcopyrite mineralization of the Hanna-Getty deposit, substantially higher hypogene copper grades, 0.7-0.9% Cu, can be expected laterally from the SC-59 intercept. Such copper grades may be increased to 1-2% Cu if bornite mineralization is present. Significant, in-place bornite mineralization has yet to be drilled in the Santa Cruz sulfide system. High grade, chalcopyrite-bornite mineralization occurs in fragments of a post mineral, mafic breccia intrusive rock in SC-37. Judging from the geology of the fragments in the mafic breccia and the geology of the Santa Cruz sulfide system, the fragments with chalcopyrite and bornite probably originated from a source within 1000' of SC-37 (prior to faulting). This source area is probably the southern extension of the SC-59 chalcopyrite mineralization.

The potential for substantial bornite mineralization in the southern projection of the SC-59 chalcopyrite mineralization enhances tonnage and grade predictions. The SC-59 chalcopyrite mineralization could be the "fringe" of 50 to 100 million tons having an average grade of 0.8% to 1.5% Cu. Included within this tonnage may be a high grade, chalcopyrite-bornite center consisting of 20 to 50 million tons at 1.5% to 2.0% Cu. All of this potential hypogene mineralization is on ASARCO-Freeport land, and it is beneath the bottoms of drill holes in the general area of SC-52, SC-56, SC-37 and SC-24.

Testing for high grade, chalcopyrite-bornite mineralization should be done by following the SC-59 chalcopyrite intercept. Emphasis should be put on following the SC-59 chalcopyrite intercept to the south towards SC-52 and SC-37. Because of the high potential for a substantial tonnage of high grade hypogene mineralization drilling is recommended as soon as economic conditions permit. The development of high grade hypogene ore near the Hanna-Getty deposit would have a very important effect on our negotiations with the Hanna-Getty joint venture and future mine planning.

An inventory was made of chalcopyrite mineralization in the Hanna-Getty deposit. The Hanna-Getty chalcopyrite mineralization was contoured on 1"=200', northeast-southwest cross sections spaced 350' apart to form the basis of the inventory. With a 0.6% cut-off grade (0.6% contour) the Hanna-Getty deposits contains 80 million tons at 0.81% Cu. A 0.4% cut-off grade increases the tonnage to 220 million tons at an average grade 0.64% Cu. Each of these inventories forms a singular, regularly shaped mass; and isolated areas of above cut-off grade mineralization were not included. In view of the geology of the Hanna-Getty deposit it is obvious that a considerable amount of plus 0.4% Cu and plus 0.6% Cu mineralization was consumed by oxidation, leaching, and enrichment in the overlying supergene environment.

At least two competitive companies have reviewed the core of the Hanna-Getty deposit. Exxon was in the Hanna-Getty core shed a week ago and Chevron preceded Exxon. Mr. R. Crist said that a Tucson newspaper is preparing a report on Getty's purchase of the "CP" area of NAAC's Desert Carmel subdivision.

A comprehensive geologic report on The Lands area of the Santa Cruz Project is in the writing stage. The report is expected to be completed in the second quarter of 1982.

Estimated expenditures

*H. G. Kreis*

H. G. Kreis

HGK:mek

ASARCO Santa Cruz, Inc.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

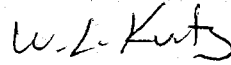
April 2, 1982

To: Operating Committee  
Santa Cruz Joint Venture

From: W. L. Kurtz

2nd Quarter 1982 Meeting  
Operating Committee  
Santa Cruz Joint Venture

It was jointly decided not to hold a 2nd quarter meeting. Freeport will assign two new members to the Operating Committee.



W. L. Kurtz

WLK/cg

cc: W. D. Payne  
H. G. Kreis  
D. R. Cook  
R. L. Brown

April 27, 1982

To: J. D. Sell

From: H. G. Kreis

Monthly Report, April 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, Arizona

Resistivity and I.P. Surveys were conducted on the Parks-Salyor area and on adjoining Asarco Sacaton Mine land. This geophysical work will help evaluate the potential for shallow, open pitable copper reserves.

Evaluation of The Land's geology and report writing continued during the month of April.

Estimated expenditures for the month are \$1,875 and \$101 respectively. This leaves estimated overruns of \$5,628 (0075) and \$58,145 (0087).

*H.G. Kreis*

H. G. Kreis

HGK/cg

# ASARCO

Southwestern Exploration Division

June 17, 1982

To: J. D. Sell

From: H. G. Kreis

Monthly Report, June 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

Work on the Santa Cruz The Lands report continued during June; however, most of the month was spent on general exploration (southern California) and vacation.

Estimated expenditures for the month of June are \$1838 and \$203 respectively. This leaves estimated overruns of \$9,421 (0075) and \$62,107 (0087).

*H. G. Kreis*  
H. G. Kreis *g*

HGK/cg

August 27, 1982

To: J. D. Sell

From: H. G. Kreis

Monthly Report, August 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, Arizona

There was no activity on the Santa Cruz Project during the month of August.

Estimated expenditures for the month of August are \$233 and \$-0- respectively, leaving estimated overruns of \$11,902 (0075) and \$62,203 (0087).

*H. G. Kreis*

H. G. Kreis

HGK/cg



October 4, 1982

To: J. D. Sell

From: H. G. Kreis

Monthly Report, September 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of September, and no work is planned in the remainder of 1982.

Estimated expenditures for the month of September are \$212 and \$177 respectively, leaving estimated overruns of \$12,125 (0075) and \$62,405 (0087).

*H. G. Kreis*

H. G. Kreis/cg

HGK/cg

*Please xerox for W. Kurtz, J. Sell*

# FREEPORT

**FREEPORT EXPLORATION COMPANY**  
*A Division of Freeport Minerals Company*

**DOUGLAS R. COOK**  
PRESIDENT

RECEIVED

OCT 25 1982

EXPLORATION DEPT.

RLE  
OCT 25 1982

Valley Bank Plaza  
South Virginia & Liberty  
P.O. Box 1911  
Reno, Nevada 89505  
Phone (702) 323-2251  
Telex 910-395-7008

October 19, 1982

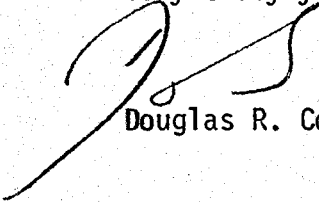
Mr. R.L. Brown, Vice President  
Exploration Department  
ASARCO Incorporated  
120 Broadway  
New York, New York 10271

Re: Santa Cruz Joint Venture  
Ollerton Farm

Dear Dick:

Thank you for your letter of October 13 with the status of the Ollerton Farm review. \* I do appreciate these efforts, Dick, since I was getting quite frustrated in attempting to find out the reason for the continual losses in 1982, which appear to be accelerating. We will look forward to your analysis of the situation when you have all the relevant data at hand.

Very truly yours,

  
Douglas R. Cook

DRC/cr

*\* See RL Brown memo from WLL, Nov. 3, 1982*

*Ollerton Farm  
Santa Cruz Proj. AZ.*

RECEIVED

OCT 28 1982

S. W. U. S. EXPL. DIV.

October 13, 1982

Mr. Douglas R. Cook, President  
Freeport Exploration Company  
P.O. Box 1911  
Reno, Nevada 89505

Arizona  
Santa Cruz Joint Venture  
Ollerton Farm

Dear Doug:

I note from a cost statement which crossed my desk yesterday that we lost \$17,000 on the Ollerton farm during September. This prompts me to confirm to you that I have asked Bill Kurtz to prepare a full report on the Ollerton farm, which report will contain an annualized tabulation of all losses incurred, depreciation taken, and capital investment made subsequent to purchase. In addition, there will be in the report a forecast of 1983 and 1984 profit or loss. There will be an analysis of current Arizona water law. We have, of course, been working on the principle that if in that part of Arizona you don't use your water, you lose it. We will determine if that principle is still correct. Additionally, we have operated also on the assumption that the Ollerton farm would be necessary for tailings and plant site. This assumption also would be reviewed and updated.

I asked for this report 2 or 3 weeks ago, and instructed at that time that it be submitted to me within a month. Therefore, we should have something for you in another 2 weeks. However, my forecast is that the lawyers will not be able to give us anything very definite, and that we will be told by them that there will be a risk of losing water rights if we do not continue to employ them. We will therefore, I predict, be required to make a business judgment as to whether or not that risk is worth taking. In any case, we will be discussing this matter at some length when we have our data complete.

Very truly yours,



R. L. Brown

cc: WLKurtz  
JDSell  
GMClark, Jr.

RECEIVED

OCT 18 1982

S. W. U. S. EXPL. CO.

November 3, 1982

To: J. D. Sell

From: H. G. Kreis

Monthly Report, October 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of October, and no work is planned in the remainder of 1982.

Estimated expenditures for the month of October are \$4,648 and \$2,059 respectively, leaving estimated overruns of \$16,783 (0075) and \$64,478 (0087).

*H. G. Kreis*  
H. G. Kreis/cg

HGK/cg

December 3, 1982

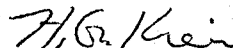
To: J. D. Sell

From: H. G. Kreis

Monthly Report, November 1982  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of November, and no work is planned in the remainder of 1982.

Estimated expenditures for the month of November are \$582 and \$-0- respectively, leaving estimated overruns of \$17,378 (0075) and \$64,490 (0087).



H. G. Kreis

HGK/cg

805  
copy

FROM: J. D. SELL

1/17/83

To: HG Kreis

FTG would like to be notified on Freeport thoughts on the 5 wells whenever it is known.

Jim

1/31

HGK to talk to FTG first; Freeport apparently resp OK to transfer option to Hanna-Gelty; then I think HGK should talk w/ P Mason and see what he & HG think of the idea, then get back to lawyers to set up transfer if agreed.  
JDS.

2/21/ SPS reports that P Mason is not too enthused but will pass the thought along. No papers sent yet.

2/24 Papers sent as Gelty-Hanna does want to look at the option.

FROM: J. D. SELL

4/23/83

To: JRS

What is the status of  
lease cancellations and  
remuneration on the  
FL Knight leased office  
& storage space - Santa Cruz  
?

Apparently no license

JRS  
unless we want to  
sue - if avsm is  
proved some  
damage might be  
collectible  
(over)

# ASARCO

Southwestern Exploration Division

February 3, 1983

To: J. D. Sell

From: H. G. Kreis

Monthly Report, January 1983  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

During January a report was written to recommend a drill hole on the Sacaton Mine property adjoining ASARCO-Freeport's Parks Salyer land. There was no other activity on the Santa Cruz Project.

Estimated expenditures for the month of January are \$911 and \$407 respectively, leaving estimated overruns of \$20,168 (0075) and \$65,296 (0087).

*H. G. Kreis*  
H. G. Kreis/cy

HGK/cg



August 25, 1983

Mr. J. R. Stringham  
Tucson Office

Arizona  
Poston Butte Project  
→ Santa Cruz Project

Dear Mr. Stringham:

This will respond formally to your memoranda dated July 29, in which you recommended the sale of the farms at these two projects, and broadly outline suggested prices and condition of sales respecting these two properties. As I told you on the telephone, we all now agree that these farms should be sold and we have given you additional conditions under which this business should be conducted, the most important of which is that mortgages accepted in either case must be truly transferable on some discounted bases to others.

In the case of Ollerton you have targeted a sale price of \$1,215,000, more or less the total of our purchase price and operating losses through the years. We are interested in selling this farm soon, and you have ample room for negotiation in sale price. However, the mortgage must be strong enough to be acceptable to brokers or others who deal in them. In the case of the Poston Butte farm, we are looking for \$1.7 million. Here, we are making an operating profit, and there is no real pressure to sell. We would be looking for a really substantial amount of money up front, and I would hope that the property is good enough so that a bank or some other financial institution would take a mortgage on it from the buyer.

I have left it up to you as to what real estate agent may be used or should be used, but please make sure that any arrangement we take out with a real estate agent is approved by an attorney.

The Ollerton sale will, as you know, be subject to approval by the Santa Cruz Joint Venture Management Committee, and I understand that Mr. Kurtz has already set up a meeting which will formally approve the action of offering this farm for sale. Later, if a suitable buyer is found, the formal terms of sale and purchase will need to be approved, not only by the Santa Cruz Joint Venture Management Committee, but also by Asarco's Advisory Committee.

RECEIVED

AUG 30 1983

S. W. U. S. EXPL. DIV.

Of course Mr. Woods will wish to review the agreement of purchase and sale and other documents which might arise from this business.

In the case of the Poston Butte farm, all the papers, including the agreement between Asarco and the realtor, will require review by Mr. Woods. Asarco Advisory Committee approval will be required and perhaps (because our presumptive sale price is more than \$1 million), now that I think of it, Asarco Board approval also might be required.

Very truly yours,

Original signed by  
R. L. Brown

R. L. Brown

cc: WLKurtz  
JDSell  
JLWoods  
SPMcCandless

cc: ~~WJK/HES~~ / ~~WJK~~ JDS

→ Copy for RL Brown, DR Cook, Freepor

DECONCINI McDONALD BRAMMER YETWIN & LACY, P.C.

Done 12/21/83

ATTORNEYS AT LAW  
240 NORTH STONE AVENUE  
TUCSON, ARIZONA 85701  
(602) 623-3411

PHOENIX OFFICE  
4041 NORTH CENTRAL AVENUE  
SUITE 640  
PHOENIX, ARIZONA 85012  
(602) 248-0036

DINO DECONCINI  
OF COUNSEL

EVO DECONCINI  
JOHN R. McDONALD  
J. WM. BRAMMER, JR.  
RICHARD M. YETWIN  
JOHN C. LACY  
ROBERT M. STRUSE  
WILLIAM B. HANSON  
DOUGLAS G. ZIMMERMAN \*  
JOHN C. RICHARDSON  
DAVID C. ANSON  
MICHAEL A. GRAHAM \*  
NORMAN H. KOTLER \*  
JAMES A. JUTRY  
SPENCER A. SMITH  
GARY L. LASSEN \*  
JEANNE FINBERG  
SANDRA LEWIS \*  
\*PHOENIX OFFICE

November 30, 1983

J. R. S.  
DEC - 1 1983

Mr. James R. Stringham  
Asarco Inc.  
P. O. Box 5747  
Tucson, Arizona 85703

Re: Santa Cruz Project Water Wells

Dear Jim:

Bob Crist has furnished me with a copy of a Sales and Option Agreement with D'Ambrosio Realty, dated July 23, 1974, and has asked my opinion concerning Asarco's obligations under the agreement related to the groundwater rights to the property and the obligations that might be assumed by Asarco if it exercised rights granted under the agreement to purchase certain well sites.

The Sales and Option Agreement granted Asarco an option to purchase a certain parcel of land, but the seller accepted from the sale a number of well sites together with a 100 x 100 foot parcel surrounding each site, easements to maintain the well sites, and an existing pipeline infrastructure. Asarco was, however, given the opportunity of moving these various easements upon providing the seller with a suitable alternative distribution system. Asarco was further granted permission to use water from the wells for farm purposes subject to certain conditions. Finally, Asarco was granted an option to purchase the various well sites for \$100.00 each at any time prior to the date ten years from the date of closing subject to Asarco's agreement to furnish Desert Carmel Subdivision "water in amount and quality at least equal to the amount and quality which would otherwise be available to seller from the subject wells." The seller did, however, agree to pay for this water delivery, but at no more than the cost incurred by the seller during the 12-month period prior to the exercise of the option.

*excepted*

ASARCO Incorporated

DEC 1 1983

SW Exploration

Mr. James R. Stringham  
November 30, 1983  
Page Two

It is my opinion that the property rights acquired by Asarco by the purchase already consummated includes the groundwater and groundwater rights within the purchased property and Asarco can take whatever action it deems necessary to develop its own source of water, subject only to the limitations imposed on the use of the water by the Arizona Groundwater Management Act. The agreement does not specify the precise intent of the parties related to the furnishing of water to the Desert Carmel Subdivision, but a fairly clear inference would be that Asarco's obligation to the sellers would be to provide an equivalent water source for domestic and municipal purposes. The amount and quality of the water is tied, however, to the productivity and physical characteristics of the various wells. It is my feeling, however, that this determination would be based on the well field as a whole, and the fact that particular wells failed or produced non-potable water would not obviate the obligation to deliver potable water if that capacity was otherwise available from other wells within the field.

The precise "quality" of the water leaves a lot of room for debate. The apparent purpose of this restriction appears to be to insure that water would be available for domestic consumption for the Desert Carmel Subdivision. Therefore, it is my feeling that if the water supplied met the drinking water standards of the Arizona Department of Health, there would be no basis for complaint. On the other hand, if potable water could not be produced from any of the wells, I feel that the agreement imposes no duty to treat the water and furnish it to the subdivision.

The basis for this opinion is as follows:

1. Groundwater Rights in Arizona.

Arizona has traditionally followed the American rule related to groundwater ownership and use. This rule generally is that the owner of the surface has the right to use groundwater existing beneath the surface of his property so long as this use was in connection with a reasonable use of his property. A number of limitations have been imposed on this doctrine in Arizona, but these limitations were generally codified in the Groundwater Management Act of 1980. Water is, in any case, a real property right that runs with the property and, therefore, any water right excepted from the transfer must be through a specific reservation of the right to use water. In this case specific parcels were

Mr. James R. Stringham  
November 30, 1983  
Page Three

reserved from the sale together with rights of access required to use water from the individual wells on the parcels.

Therefore, Asarco may, through its own wells, develop groundwater resources of the property and would not thereby become liable for any damages to the remaining wells unless the use of the newly developed wells was not in compliance with the Arizona Groundwater Management Act or otherwise created a specific right to damages.

It is a fair observation, however, that the Sales and Option Agreement was entered into when the law related to groundwater use was uncertain because of a number of decisions of the Arizona Supreme Court and the pendency of further ongoing litigation. During this period municipalities and industrial users commonly purchased water rights or left options open to "know which way to jump." The uncertainties were substantially resolved by legislation in 1980, but the law remains the subject of a certain amount of controversy and continuing challenges. In the final analysis, however, the common law related to groundwater use by industrial users (particularly the right to use water for mineral processing and the right to dewater for purposes of mining) was codified by the 1980 Groundwater Management Act. Therefore, if some portion of the Act was found to be unconstitutional and in turn invalidated the entire Act because of its "non-severability" provision, the return to the pre-1980 law would not be a detriment to Asarco's position in this particular instance.

2. Interpretation of the Agreement.

There are several rules related to the interpretation of an agreement that may affect the meaning of the Sales and Option Agreement. The primary rule is that if the agreement is clear on its face, then extrinsic evidence of the "intent of the parties" cannot be used in making a determination of the meaning. Another rule is that grants are construed against the grantor, i.e., ambiguities will be slanted in favor of the grantee, although this rule might not apply if the grantee prepared the document.

3. Recommendations.

The purchase of the well sites represents an obligation to provide water on a continuing basis to the Desert Carmel Subdivision at a price that is likely to be below the cost

DECONCINI McDONALD BRAMMER YETWIN & LACY, P. C.  
ATTORNEYS AT LAW

Mr. James R. Stringham  
November 30, 1983  
Page Four

of production and under circumstances that may constitute a basis for argument between Asarco and the residents of Desert Carmel.

On balance, I see very few rights that would be obtained by the exercise of the option compared with substantial potential liabilities. Therefore, if the option is to be exercised, substantial concessions should be obtained to limit Asarco's obligations to both deliver the water and insure its quality.

If you wish to discuss any of these matters, please feel free to call.

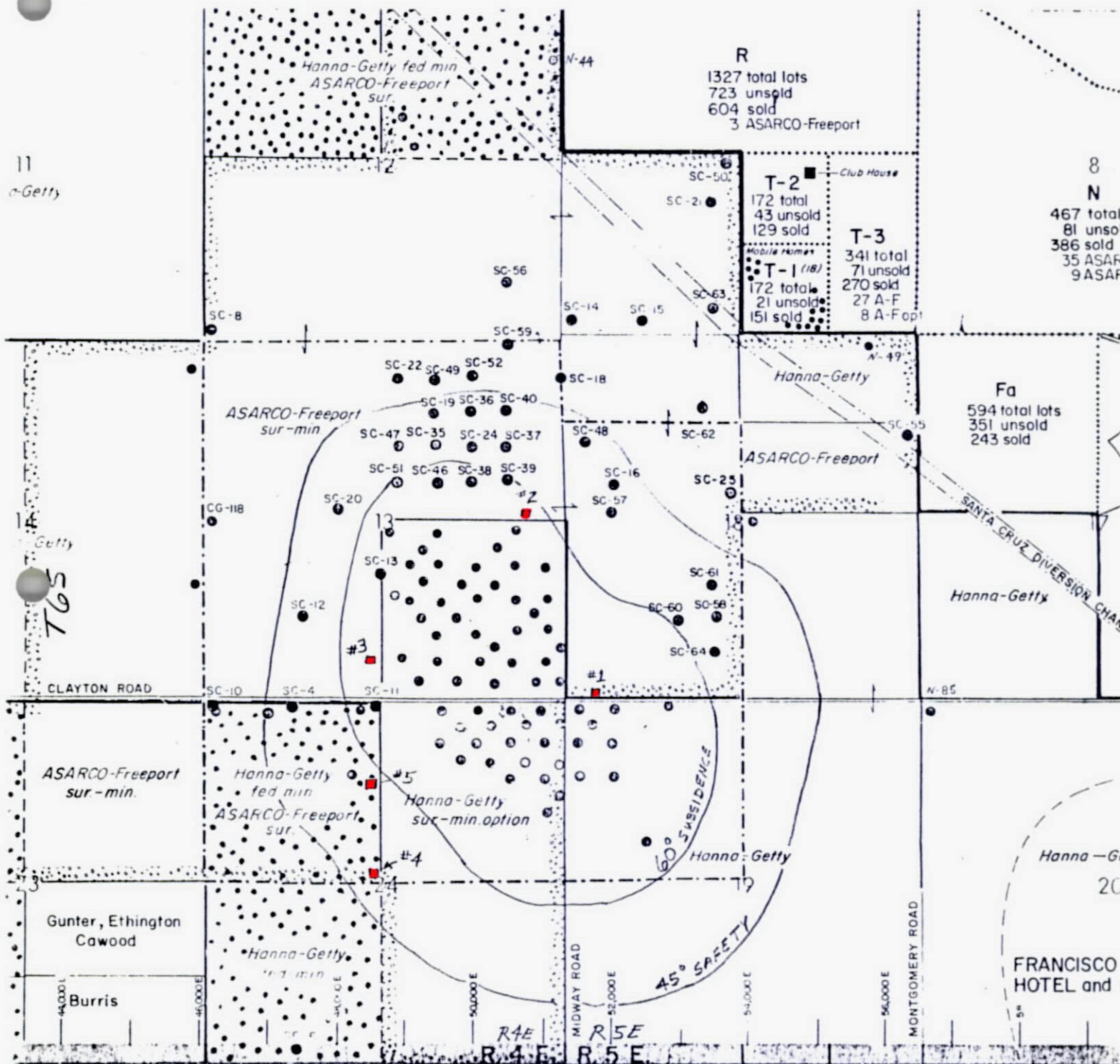
Very truly yours,



John C. Lacy

JCL:crc

J.P.S



R  
 1327 total lots  
 723 unsold  
 604 sold  
 3 ASARCO-Freepport

T-2  
 172 total  
 43 unsold  
 129 sold

T-3  
 341 total  
 71 unsold  
 270 sold  
 27 A-F  
 8 A-Fopt

T-1 (18)  
 172 total  
 21 unsold  
 151 sold

8  
 N  
 467 total  
 81 unsold  
 386 sold  
 35 ASARCO-Freepport  
 9 ASAF

Fa  
 594 total lots  
 351 unsold  
 243 sold

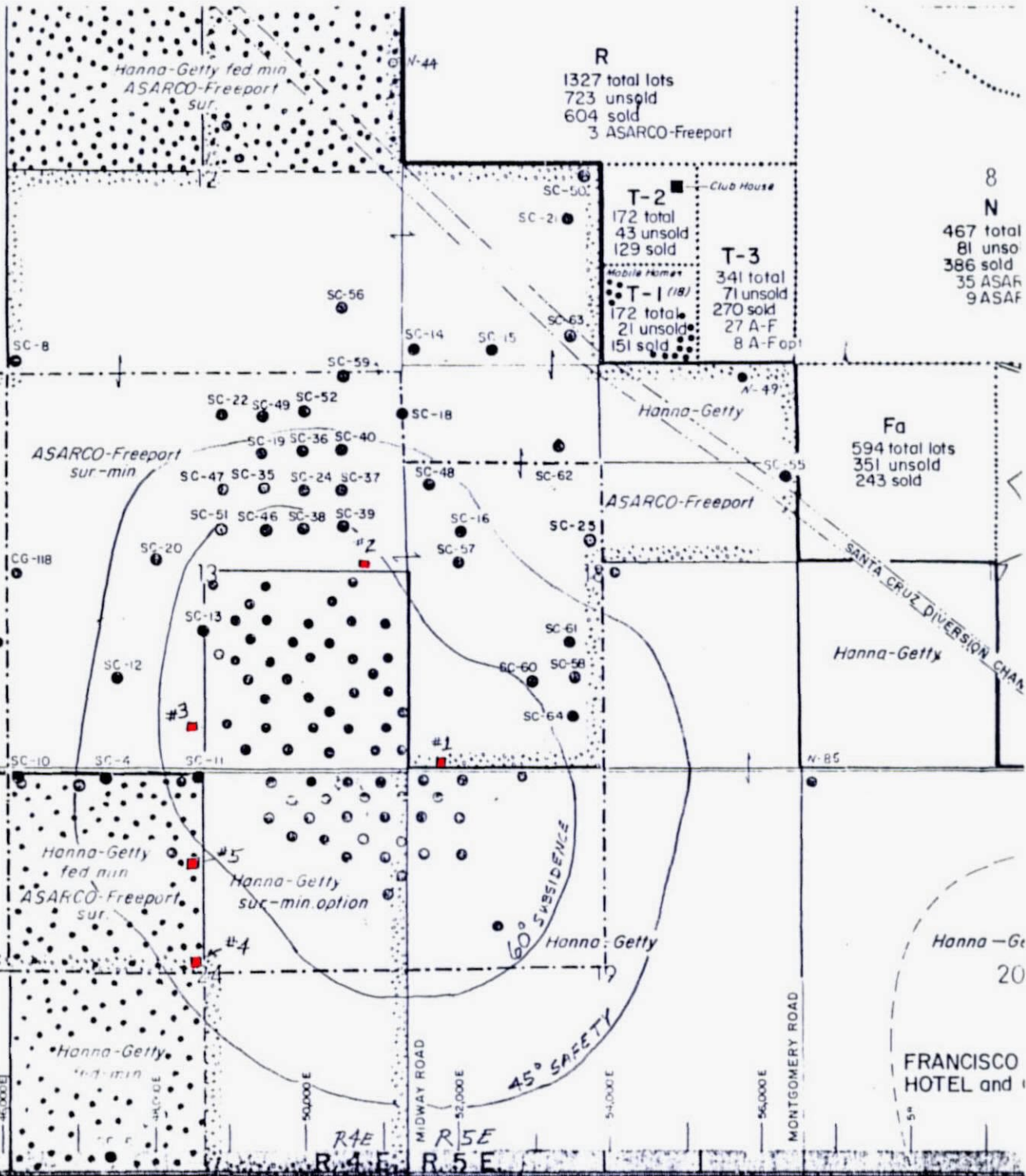
1" = 2000'

NAAC WATER WELLS

11-1983 H.G.K.

11  
a-Getty

765  
Getty



8  
N  
467 total  
81 unso  
386 sold  
35 ASAR  
9 ASAF

Fa  
594 total lots  
351 unsold  
243 sold

1" = 2000'

NAAC WATER WELLS

11-1123 H.G.K.



# ASARCO

Southwestern Exploration Division

January 5, 1984

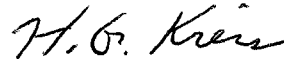
To: J. D. Sell

From: H. G. Kreis

Monthly Report, December 1983  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

A half hour presentation on the Santa Cruz Project was made at the ASARCO Exploration Department meeting in Denver (December 1983). There was no other activity on the Santa Cruz Project.

Expenses for the month of December are estimated to be \$245 and \$25 respectively, leaving estimated overruns of \$34,173 (0075) and \$81,797 (0087).



H. G. Kreis

HGK/cg

February 10, 1984

To: J. D. Sell

From: H. G. Kreis

Monthly Report, January 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

The Operating Committee met on January 12. There was no other activity on the Santa Cruz Project

Expenses for the month of January are estimated to be \$241 and \$151, respectively, leaving estimated overruns of \$34,271 (0075) and \$81,948 (0087).

*H. G. Kreis*

H. G. Kreis

HGK/cg

March 6, 1984

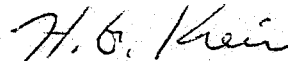
To: J. D. Sell

From: H. G. Kreis

Monthly Report, February 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of February.

Expenses for the month of February are estimated to be \$553 and \$8,282 respectively, leaving estimated overruns of \$34,814 (0075) and \$90,224 (0087).



H. G. Kreis

HGK/cg

April 5, 1984

To: J. D. Sell

From: H. G. Kreis

Monthly Report, March 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of March.

Expenses for the month of March are estimated to be \$31 and \$25 respectively, leaving estimated overruns of \$34,845 (0075) and \$90,250 (0087).



H. G. Kreis

HGK/cg

May 4, 1984

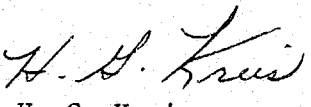

To: J. D. Sell

From: H. G. Kreis

Monthly Report, April 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of April.

Expenses for the month of April are estimated to be \$141 and \$25 respectively, leaving estimated overruns of \$35,001 (0075) and \$90,275 (0087).

  
H. G. Kreis, 

HGK/cg

May 15, 1984

W.H. - SDS - Offer for Farm File

File Memo

JIM HUBBS' PROPOSITION

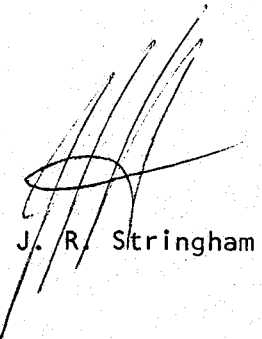
The firm is moving to the palm tree farm that they lease at Price & Broadway in Tempe. They will have that land for at least two more years. They are moving all of their plant there now, since they will only be allowed to stay on the state land for another month. They should be completely moved by Monday, May 21.

They are arranging to move the pistachio trees to the palm tree farm May 24 and 25. They have contracted for 3 tractor rigs and 2 loaders, one at each end of the journey, to be able to make the move in two days.

They expect to sell the trees for the costs of preparation and moving plus at least \$200. They propose to give us 50% of that added fee. Jim Hubbs says two separate individuals are interested in buying all of the pistachio trees if they transplant well.

Hubbs is still very interested in leasing the farm next year. He wants to keep the 80 acres of wildflower acreage and increase it 10 acres per year, adding lupin and sand verbena in 1985. He'd want to seed that acreage October 1, 1984. Hubbs will pay us for watering at a rate of \$6.00 per hour when we water. I suggested a 50-50 split of the proceeds, after costs, but since so much of that cost is hand labor and marketing, perhaps 70-30 in his favor would be fairer. We will talk further about this.

I suggested that he take over the pecans and jojoba as well, for crop in the first case and for decoration with the second. He was very interested. My proposition, basically, is to charge enough to pay our taxes and any other fixed costs with some small participation in profits. He'd have to assume all the other costs as well. We are to discuss these details before year's end.



J. R. Stringham

JRS:mek

# ASARCO

Southwestern Exploration Division

June 11, 1984

To: J. D. Sell

From: H. G. Kreis

Monthly Report, May 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of May.

Expenses for the month of May are estimated to be \$70 and \$2,985 respectively, leaving estimated overruns of \$35,055 (0075) and \$93,260 (0087).

*H. G. Kreis*  
H. G. Kreis

HGK/cg

August 3, 1984

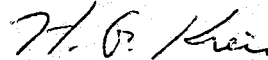
To: J. D. Sell

From: H. G. Kreis

Monthly Report, July 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of July.

Expenses for the month are estimated to be \$31 and \$25 respectively, leaving estimated overruns of \$35,130 (0075) and \$93,310 (0087).



H. G. Kreis

HGK/cg



September 3, 1984

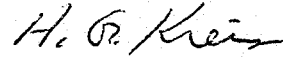
To: J. D. Sell

From: H. G. Kreis

Monthly Report, August 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

According to published reports Getty has paid the \$9.7 million for the Desert Carmel "CP" area. Otherwise, there has been no activity in the Santa Cruz Project area.

Expenses for the month are estimated to be \$31 and \$25 respectively, leaving estimated overruns of \$35,161 (0075) and \$93,335 (0087).



H. G. Kreis

HGK/cg

JRS  
JRS

2/10/84

No we need to send letter to Fresno Heart  
we do not intend to spend any  
money on the SV ?

4 00  
20 00

No  
JRS

October 3, 1984

To: J. D. Sell

From: H. G. Kreis

Monthly Report, Sept. 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of September.

Expenses for the month are estimated to be \$31 and \$25 respectively, leaving estimated overruns of \$35,192 (0075) and \$93,360 (0087).



H. G. Kreis

HGK/cg

November 2, 1984

To: J. D. Sell

From: H. G. Kreis

Monthly Report, Oct. 1984  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of October.

Expenses for the month are estimated to be \$5426 and \$2879 respectively, leaving estimated overruns of \$40,618 (0075) and \$96,239 (0087).

*H. G. Kreis*  
H. G. Kreis, *g*

HGK/cg

# ASARCO

Southwestern Exploration Division

JDS

January 31, 1985

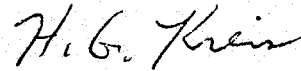
To: J. D. Sell

From: H. G. Kreis

Monthly Report January 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of January 1985.

Expenses for the month are estimated to be \$37.05 and \$25.00 respectively, leaving estimated overruns of \$40,788 (0075) and \$96,400 (0087).



H. G. Kreis

HGK:mek

JDS

# ASARCO

Exploration Department  
Southwestern United States Division

January 15, 1985

Mr. Paul A. Ollerton  
1125 East Laurel Drive  
Casa Grande, AZ 85222

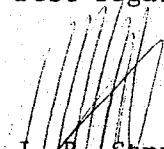
Ollerton Farm  
Agricultural Lease

Dear Paul:

We finally received a lease from our New York Office. I have changed it slightly to make it agree with my notes about our verbal agreement.

Please look it over. If you have any objections, please call me. If not, sign two copies and send them to me to get Finch's signature on them.

Best regards,

  
J. R. Stringham  
Assistant to the  
Manager, SWED

JRS:mek  
atts.

cc: J.D. Sell

AGRICULTURAL LEASE

BY THIS AGRICULTURAL LEASE,

entered into as of the \_\_\_\_\_ day of \_\_\_\_\_, 1985, by and between LAWYERS TITLE OF ARIZONA (the "Landlord"), a Arizona corporation, Trustee under Trust No. 1270, P.O. Box 7338, Phoenix, Arizona 85011,

and

PAUL OLLERTON, an individual (the "Tenant") 1125 East Laurel Drive, Casa Grande, Arizona 85222,

Landlord and Tenant have agreed as follows:

1. Grant.

a. Lease - The Landlord hereby leases to the Tenant to occupy and use for agricultural and related purposes the property located in the S $\frac{1}{2}$  NW $\frac{1}{4}$  Section 12, T6S, R4E, G&SRB&M, together with the use of Well No. 4 in SE $\frac{1}{4}$  SE $\frac{1}{4}$  SW $\frac{1}{4}$  Section 2, T6S, R4E, G&SRB&M, located in Pinal County, State of Arizona constituting approximately 80 acres including all buildings and improvements thereon and all rights thereto except as specified below:

b. Reservations - The Landlord reserves from the above grant the right of Landlord and authorized agents, employees, or assigns of Landlord to enter the Premises at any reasonable time for the purpose of (1) consultation with the Tenant; (2) inspecting repairs, improvements and the general condition of the Premises; and (3) drilling, developing, examining, and exploring the Premises for oil and mineral resources. Landlord further reserves the right to sell the Premises if Landlord deems it advisable in Landlord's sole discretion, subject, however, to the rights of Tenant under subsection a. of Section 7 of this lease.

2. Term.

This lease shall be for a period of one (1) year commencing February 1, 1985, and extending to and including January 31, 1986.

3. Rent.

Tenant shall pay as rental 10% of the Net Proceeds of any crop raised on the Premises and sold to third parties. Net Proceeds shall

mean the sales price less all direct costs incurred by Tenant in raising such crops together with any excise taxes paid on the sale of such crops. Costs shall not include any income taxes incurred by Tenant as a result of the sale of such crops.

4. Obligations of Tenant

a. Standard of Operations - Tenant shall plant, cultivate, and harvest crops on all of the Premises under irrigation and shall conduct such operations in good and farmer-like manner and in accordance with all governmental laws, rules, and regulations. He shall measure the water pumped according to DWR regulation and report the usage in a timely manner.

b. General Maintenance - Tenant will maintain the Premises during his tenancy in as good a condition as at the beginning, normal wear, depreciation and damage from causes beyond the Tenant's control excepted. It is recognized by the parties that the Tenant has operated the Premises in the past and will continue to operate them as he has in the past.

c. Waste - Tenant will not commit waste on, or damage to, the Premises and will use due care to prevent others from so doing.

d. Maintenance of Improvements - Tenant will keep the buildings, fences, and other improvements on the Premises in as good repair and condition as such are when Tenant took possession, and in as good repair and condition as such may be put during the term of this lease, ordinary wear and tear, loss by fire, or unavoidable destruction excepted. Tenant further agrees to pay the cost of maintaining and repairing electric motors, pumps, pipes and ditches necessary for his irrigation purposes. Tenant may elect to abandon his efforts as provided in Paragraph 7.b. if he faces major maintenance or repair costs.

e. Additional Improvements - Tenant will not, without written consent of the Landlord, (1) erect or permit to be erected on the Premises any non-removable structure or building; (2) incur any expense to the Landlord for such purpose; or (3) add electrical wiring, plumbing or heating to any buildings, but if consent is given, Tenant will make such additions in such a manner as to meet standards and requirements of power and insurance companies. Any removable additions added to the Premises by Tenant may, at any time this lease is in effect, or within a reasonable time thereafter, be removed by Tenant, provided Tenant leaves in good condition that part of the Premises from which such additions are removed. Any wells, pumps, and engines added under agreement by the parties shall belong to the Landlord.

5. Obligations of Landlord.

Landlord will pay all property taxes and as owner of record with Electrical District No. 1 of Pinal County, Arizona, promptly forward to Tenant for payment by Tenant all electric bills rendered by such Electrical District.



6. Liability.

a. No Partnership Created - This lease shall not be deemed to create a partnership relation, and neither party shall have any authority to obligate the other without the written consent of the other, except as specifically provided in this lease.

b. Debts and Accidents - Each party agrees that the other party shall in no way be responsible for the debts of, or liabilities for, accident or damages caused by the other party.

c. Public Liability and Property Damages - Tenant at his expense will procure and maintain in effect with Landlord as additional named insured, bodily injury and property damage liability insurance in the amount of \$300,000.00 as a combined single limit.

7. Termination.

a. Termination by Sale of the Premises - If Landlord sells the Premises during the term hereof and the terms of such sale do not permit Tenant's continued occupancy of the Premises under this lease, Tenant shall be provided sufficient time to allow planted crops to mature and be harvested in accordance with standard industry practice. If this lease is terminated prior to Tenant's harvesting in accordance with standard industry practice of any crops in any crop year, during the term of this lease, landlord shall pay Tenant's direct costs related to such crop production.

b. Notice of Termination - Except as provided in Paragraph 7.a. either Landlord or Tenant may terminate this lease at any time on 30 days prior written notice. Provide, however, that should Tenant so terminate this lease, he shall remain liable for costs incurred through the date of termination.

c. Willful Neglect - Willful neglect, failure or refusal by either party to carry out any provision of this lease shall give the other party the benefits of any proceedings provided by law; provided, further, if Tenant is considered by Landlord to be in violation of this provision, Landlord shall give Tenant written notice specifying the failure, and the failure by Tenant to cure (or undertake to cure) the violation within 30 days after such notice, the failure shall constitute a forfeiture of Tenant's rights under this lease.

8. Notices.

Any notice or communication required or permitted hereunder shall be effective when personally delivered or deposited, postage prepaid, certified or registered, in the United States mail to the addresses specified above. Either party may, by notice to the other given as aforesaid, change its mailing address for future notices.

9. Assignment.

The terms of this lease shall be binding upon the heirs, personal representatives, and successors of Landlord and Tenant in like manner as upon the original parties. Tenant shall not, however, sublease, assign by operation of law, or otherwise transfer this lease voluntarily or involuntarily to any other firm, corporation, person, or trustee, without the express written consent of Landlord.

IN WITNESS WHEREOF the parties hereto have executed this Agricultural Lease as of the date recited above.

LAWYERS TITLE OF ARIZONA  
an Arizona corporation, as Trustee  
under its Trust 1270

\_\_\_\_\_  
Paul A. Ollerton, Operator

By \_\_\_\_\_  
John A. Finch, Trust Officer

# ASARCO

Exploration Department  
Southwestern United States Division

January 16, 1985

Mr. Allen Parks  
Freeport Exploration  
P.O. Box 1911  
Reno, NV 89505

Santa Cruz Properties  
Desert Carmel

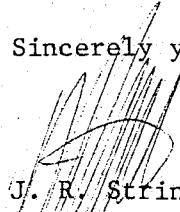
Dear Allen:

Attached is a map showing the property exchange proposed by Desert Carmel. I am also attaching copies of D.C.'s letters concerning the exchange, and my letter to Dick Brown.

You will note that the lots offered by D.C. (blue) all border the "Copper" area. The lots we're to provide (orange) are well retired from it.

Please let me have your opinion about this exchange as soon as convenient.

Sincerely yours,

  
J. R. Stringham  
Assistant to the  
Manager, SWED

JRS:mek  
atts.

cc: J. D. Sell  
R. L. Brown



December 18, 1984

ASARCO  
James R. Stringham  
P.O. Box 5747  
Tucson, AZ 85703

Re: Proposed exchange of property

Dear Mr. Stringham:

At a recent Board of Directors Meeting of DC Properties, the Board authorized me to promote an exchange of property with Asarco Company in accordance with our phone conversation.

Enclosed is a plat map whereon I have hy-lited certain lots in "F" Section adjacent to the common border between our subdivision property and that owned by the Getty Mining Company.

I would appreciate if you would present this exchange to the management of ASARCO at your earliest convenience. Should they be agreeable, I see no reason why we can not effectuate this transfer first part of 1985.

The lots in question are:

ASARCO: GP-91, GP-106, G-12, G-64, G-109, G-129, G-130, G-186, G-220, G-233, G-296, G-415, G-417, G-456, G-458, G-525, G-527, G-641, and G-678.

DC Properties: F-698, F-799, F-800, F-809, F-810, F-1098, F-1100, F-1101, F-1102, F-1104, F-1106, F-1107, F-1108, F-1109, F-1110, F-1163, F-1176, F-1177, and F-1178.

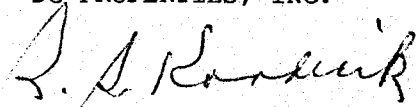
Should you have any questions, please let me know.

I wish you, your family and ASARCO a joyous holiday season.

J. R. S.

DEC 21 1984

Sincerely,  
DC PROPERTIES, INC.

  
Richard S. Konderik  
General Manager

ASARCO Incorporated

DEC 20 1984

RSK/rp  
Enclosure

SW Exploration



Unimproved, bought for \$2000<sup>00</sup>

November 29, 1984

ASARCO Incorporated

NOV 30 1984

SW Exploration

• Asarco  
James R. Stringham  
P.O. Box 5747  
Tucson, AZ 85703

Re: Survey request for "G" Section Improvements  
Lot G-641 DESERT CARMEL

Dear Mr. Stringham:

Under the Trustee's Third Amended Plan of Reorganization ("Plan") DC Properties has the obligation and expense to move certain "CP" Area Mobile Home Residents from the area sold to Getty Mining Company to the "G" Section (area that was rezoned for Mobile Homes). DC Properties not only must pay for this move, but they must also provide off-site improvements (water, sewer, power, streets, etc.) to sufficient Company owned lots to accomplish this.

Although we have Company owned inventory lots scattered throughout the "G" Section to do this, we do not have a concentration of lots in any one area. Therefore, in order to improve sufficient lots to transfer these "CP" residents, we will have to improve your lot.

Under the Plan, DC Properties has no obligation to improve your lot free of charge. This obligation was cancelled by the Bankruptcy Court. If you would please refer to page 21, paragraph 4.5, you will read wherein this statement is made.

The best area as defined by our present inventory to move these Residents is where your lot is located. Please refer to the enclosed Plat map whereon we have highlighted Company inventory lots in blue and lot owners lots in green.

We have received a recent estimate performed by an outside Engineering firm which indicates a cost of \$50 to \$60 per front foot to improve the lots. It will only be upon complete engineering that a firm figure can be obtained. The above is furnished in order that you may be informed that the estimated cost to improve your lot would be \$3,000 to \$3,600.

The Board of Directors recognizes the burden asked of you and has directed me to contact you and provide alternatives listed below:

1. Voluntarily agree to pay your portion of the improvement cost for your "G" Section Lot, or

Survey request "G" Section Improvements

November 29, 1984

Page 2

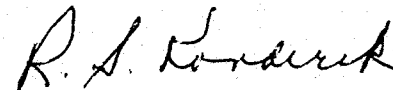
2. Agree to be transferred to another comparable "G" Section lot, thereby relieving yourself of the burden to improve your present lot at this time. DC Properties will pay for all expenses involved with the transfer.
3. Offer to sell your lot to DC Properties for \$2,000.00.

In the past year, DC Properties has purchased 23 lots at the price of \$2,00.00 from lot owners who offered them for sale. The main reason that DC Properties purchased these "G" Section lots was to acquire additional lots to handle the CP lot swap program.

DC Properties has a time frame of two (2) years that commenced June 27, 1984 to complete the improvements and move the CP Residents.

Enclosed is a ballot form for you to complete and return in the pre-addressed stamped envelope. We would appreciate an early reply. Should you have any questions or concerns please contact me.

Sincerely,  
DC PROPERTIES, INC.



Richard S. Konderik  
General Manager

RSK/rp  
Enclosures

# ASARCO

Southwestern Exploration Division

January 3, 1985

To: R. L. Brown

From: J. R. Stringham

Santa Cruz Properties  
Property Exchange with  
Desert Carmel

I am attaching a copy of a letter from Desert Carmel Properties, Inc., offering to exchange nineteen lots in the "F" section for the nineteen which we own in the "G" section. I am enclosing several large scale maps so that you may see where the "F" lots are located and a small map showing the whole area. I am enclosing DC's earlier correspondence.

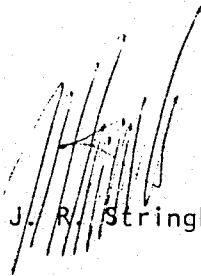
According to Bob Crist and Bill Kurtz, we bought the lots in the "G" area because they were part of an available package. We were actively attempting to buy most of the property in the Copper area. We expected to use the lots east of the line to trade for occupied areas in the Copper zone. If we could have purchased enough of these eastern lots, we thought we might be able to influence development and any protest of a mining venture. Since Getty made the large purchase in the Copper area rather than us, these reasons are no longer valid.

We do still have a number of lots within the Copper zone. The lots being offered in the "F" area might give us a little more leverage upon anyone who tries to develop the mineral occurrence. Since they border the line, they might offer nuisance value.

Richard Konderik, the DC Properties manager, says that their long range plans are to develop the "G" area strip by strip. We would certainly be called upon to contribute to such development for our other lots. A favorable exchange such as the one being offered now might not be available in the future.

For these reasons, I recommend that we accept DC's offer.

Please let me know how you feel about this so that I may respond to them.



J. R. Stringham

JRS:mek  
atts.

cc: W. L. Kurtz  
J. D. Sell

# ASARCO

Exploration Department  
Southwestern United States Division

January 24, 1985

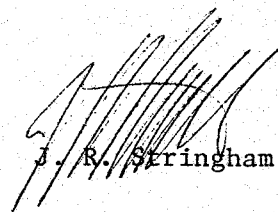
R. L. Brown  
New York Office

Ollerton Farm  
Tenant's Lease

Attached is a copy of the lease that we have given to Paul Ollerton at Santa Cruz. He asked that the acreage be increased so that he could try the unirrigated barley again. I changed the Maintenance of Improvements clause and eliminated the extraneous ones.

John Lacy is working on the transfer of water rights from irrigation to industrial. He should have a plan shortly.

JRS:mek  
Att.



J. R. Stringham

cc: A. Parks - Freeport Exploration  
W. L. Kurtz  
J. D. Sell



# Lawyers Title

OF ARIZONA

LAWYERS TITLE BUILDING

2200 NORTH CENTRAL AVENUE

POST OFFICE BOX 7338

PHOENIX, ARIZONA 85011

TELEPHONE (602) 254-4101

January 22, 1985

Mr. James Stringham  
ASARCO - SANTA CRUZ  
P. O. Box 5747  
Tucson, AZ 85703

RE: T - 1270

Dear Jim,

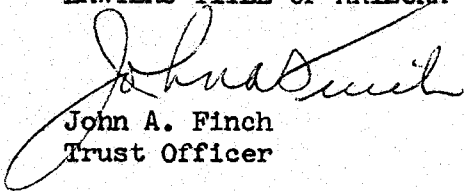
Pursuant to your written instruction of January 21, 1985,  
we return herin 2 executed Agricultural Leases to  
Paul Ollerton.

Also enclosed is a copy of our transmittal letter to Paul.

We hope this matter was handled to your satisfaction.

Very truly yours,

LAWYERS TITLE OF ARIZONA

  
John A. Finch  
Trust Officer

JAF/tad

enclosure

ASARCO Incorporated

JAN 23 1985

SW Exploration

# Lawyers Title

OF ARIZONA

2200 NORTH CENTRAL AVENUE

POST OFFICE BOX 7338

PHOENIX, ARIZONA 85011

TELEPHONE (602) 254-4101

**COPY**  
LAWYERS TITLE BUILDING

**COPY**

**COPY**

January 22, 1985

Mr. Paul Ollerton  
1125 East Laurel Drive  
Casa Grande, AZ 85222

RE: T - 1270

Dear Paul,

We enclose one fully executed Agricultural Lease for approximately 320 acres lying within Section 1 and Section 12, Township 6 South, Range 4 East, of the G & SRB & M, for a one year period beginning February 1, 1985, ending January 31, 1986.

Very truly yours,

LAWYERS TITLE OF ARIZONA

John A. Finch  
Trust Officer

cc: ASARCO  
Jim Stringham

JAF/tad

enclosure

AGRICULTURAL LEASE

BY THIS AGRICULTURAL LEASE,

entered into as of the 21st day of January, 1985, by and between  
LAWYERS TITLE OF ARIZONA (the "Landlord"), an Arizona corporation,  
Trustee under Trust No. 1270, P.O. Box 7338, Phoenix, Arizona 85011,

and

PAUL OLLERTON, an individual (the "Tenant") 1125 East Laurel Drive,  
Casa Grande, Arizona 85222,

Landlord and Tenant have agreed as follows:

1. Grant.

a. Lease - The Landlord hereby leases to the Tenant to occupy and use for agricultural and related purposes the property located in the SW $\frac{1}{4}$  Section 1, the NW $\frac{1}{4}$  Section 12, T6S, R4E, G&SRB&M, together with the use of Well No. 4 in SE $\frac{1}{4}$  SE $\frac{1}{4}$  SW $\frac{1}{4}$  Section 2, T6S, R4E, G&SRB&M, located in Pinal County, State of Arizona constituting approximately 320 acres including all buildings and improvements thereon and all rights thereto except as specified below:

b. Reservations - The Landlord reserves from the above grant the right of Landlord and authorized agents, employees, or assigns of Landlord to enter the Premises at any reasonable time for the purpose of (1) consultation with the Tenant; (2) inspecting repairs, improvements and the general condition of the Premises; and (3) drilling, developing, examining, and exploring the Premises for oil and mineral resources. Landlord further reserves the right to sell the Premises if Landlord deems it advisable in Landlord's sole discretion, subject, however, to the rights of Tenant under subsection a. of Section 7 of this lease.

2. Term.

This lease shall be for a period of one (1) year commencing February 1, 1985, and extending to and including January 31, 1986.

3. Rent.

Tenant shall pay as rental 10% of the Net Proceeds of any crop raised on the Premises and sold to third parties. Net Proceeds shall

mean the sales price less all direct costs incurred by Tenant in raising such crops together with any excise taxes paid on the sale of such crops. Costs shall not include any income taxes incurred by Tenant as a result of the sale of such crops.

4. Obligations of Tenant

a. Standard of Operations - Tenant shall plant, cultivate, and harvest crops on all of the Premises under irrigation and shall conduct such operations in good and farmer-like manner and in accordance with all governmental laws, rules, and regulations. He shall measure the water pumped according to DWR regulation and report the usage in a timely manner.

b. General Maintenance - Tenant will maintain the Premises during his tenancy in as good a condition as at the beginning, normal wear, depreciation and damage from causes beyond the Tenant's control excepted. It is recognized by the parties that the Tenant has operated the Premises in the past and will continue to operate them as he has in the past.

c. Waste - Tenant will not commit waste on, or damage to, the Premises and will use due care to prevent others from so doing.

d. Maintenance of Improvements - Tenant will keep the buildings, fences, and other improvements on the Premises in as good repair and condition as such are when Tenant took possession, and in as good repair and condition as such may be put during the term of this lease, ordinary wear and tear, loss by fire, or unavoidable destruction excepted. Tenant further agrees to pay the cost of maintaining and repairing electric motors, pumps, pipes and ditches necessary for his irrigation purposes. Tenant may elect to abandon his efforts as provided in Paragraph 7.b. if he faces major maintenance or repair costs.

e. Additional Improvements - Tenant will not, without written consent of the Landlord, (1) erect or permit to be erected on the Premises any non-removable structure or building; (2) incur any expense to the Landlord for such purpose; or (3) add electrical wiring, plumbing or heating to any buildings, but if consent is given, Tenant will make such additions in such a manner as to meet standards and requirements of power and insurance companies. Any removable additions added to the Premises by Tenant may, at any time this lease is in effect, or within a reasonable time thereafter, be removed by Tenant, provided Tenant leaves in good condition that part of the Premises from which such additions are removed. Any wells, pumps, and engines added under agreement by the parties shall belong to the Landlord.

5. Obligations of Landlord.

Landlord will pay all property taxes and as owner of record with Electrical District No. 1 of Pinal County, Arizona, promptly forward to Tenant for payment by Tenant all electric bills rendered by such Electrical District.

6. Liability.

a. No Partnership Created - This lease shall not be deemed to create a partnership relation, and neither party shall have any authority to obligate the other without the written consent of the other, except as specifically provided in this lease.

b. Debts and Accidents - Each party agrees that the other party shall in no way be responsible for the debts of, or liabilities for, accident or damages caused by the other party.

c. Public Liability and Property Damages - Tenant at his expense will procure and maintain in effect with Landlord as additional named insured, bodily injury and property damage liability insurance in the amount of \$300,000.00 as a combined single limit.

7. Termination.

a. Termination by Sale of the Premises - If Landlord sells the Premises during the term hereof and the terms of such sale do not permit Tenant's continued occupancy of the Premises under this lease, Tenant shall be provided sufficient time to allow planted crops to mature and be harvested in accordance with standard industry practice. If this lease is terminated prior to Tenant's harvesting in accordance with standard industry practice of any crops in any crop year, during the term of this lease, landlord shall pay Tenant's direct costs related to such crop production.

b. Notice of Termination - Except as provided in Paragraph 7.a. either Landlord or Tenant may terminate this lease at any time on 30 days prior written notice. Provide, however, that should Tenant so terminate this lease, he shall remain liable for costs incurred through the date of termination.

c. Willful Neglect - Willful neglect, failure or refusal by either party to carry out any provision of this lease shall give the other party the benefits of any proceedings provided by law; provided, further, if Tenant is considered by Landlord to be in violation of this provision, Landlord shall give Tenant written notice specifying the failure, and the failure by Tenant to cure (or undertake to cure) the violation within 30 days after such notice, the failure shall constitute a forfeiture of Tenant's rights under this lease.

8. Notices.

Any notice or communication required or permitted hereunder shall be effective when personally delivered or deposited, postage prepaid, certified or registered, in the United States mail to the addresses specified above. Either party may, by notice to the other given as aforesaid, change its mailing address for future notices.

9. Assignment.

The terms of this lease shall be binding upon the heirs, personal representatives, and successors of Landlord and Tenant in like manner as upon the original parties. Tenant shall not, however, sublease, assign by operation of law, or otherwise transfer this lease voluntarily or involuntarily to any other firm, corporation, person, or trustee, without the express written consent of Landlord.

IN WITNESS WHEREOF the parties hereto have executed this Agricultural Lease as of the date recited above.

LAWYERS TITLE OF ARIZONA  
an Arizona corporation, as Trustee  
under its Trust 1270

Paul A Ollerton  
Paul A. Ollerton, Operator

By John A. Finch  
John A. Finch, Trust Officer

# ASARCO

Southwestern Exploration Division

JDS

TELECOPY

March 11, 1985

Memorandum for R.L. Brown

Getty  
Casa Grande Copper  
Desert Carmel

Attached is the 1985 Casa Grande Copper budget (50% Getty; 50% Hanna). Holding costs probably can be reduced as follows -- assumes no farming after 1985:

1986	Last payment to Myers	\$ 90,000	
	Taxes estimated (all non-farm)	29,000	
	Advance royalty (Lowell-Arnold)	52,500	
	Claim assessment (10 claims)	1,000	
	Misc.	<u>5,000</u>	
		\$177,500	
	Getty's half		\$ 88,750
1987	Taxes estimated (all non-farm)	29,000	
	Advance royalty (Lowell-Arnold)	52,500	
	Claim assessment (10 claims)	1,000	
	Misc.	<u>5,000</u>	
		\$ 87,500	
	Getty's half		\$ 43,750

Desert Carmel (100% Getty)

Taxes on present holdings (1362 acres) \$ 22,000

Obligated until June 27, 1986<sup>9</sup> to purchase at \$7,124/acre all lots with clear title presented by trustee

Eyeball estimate (we'll receive map) of % of lots owned by Getty:

T-4	100%
R	85
T-1,2,3	50
F	85
N	90

R. L. Brown

March 11, 1985  
Page 2

Royalties: Casa Grande Copper

.5% NSR Lowell-Still-Arnold with  
\$52,500/yr. advance to Lowell-Arnold

2.0% NSR Collins (SE $\frac{1}{4}$  Sec 13; E $\frac{1}{2}$  Sec. 24)

Desert Carmel: 2 $\frac{1}{4}$  NSR

Getty's total expenditure Casa Grande Copper: \$14,877,850

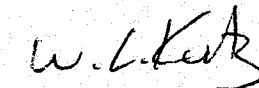
Getty's total expenditure Desert Carmel \$11,936,539

Getty-Hanna have sold the hotel.

I will forward indices of available material in Salt Lake, Utah and Casa Grande, Arizona and a few summary reports when I receive them.

Bob Blanc, Getty SLC, 801-263-3850, says we can probably have longer time than March 29th date if we need it. Should contact him concerning any requested extensions.

WLK:mek  
Att. (2 pages)



W. L. Kurtz

cc: R. L. Brown (mailed)  
J. D. Sell  
J. R. Stringham



CASA GRANDE COPPER COMPANY  
1985 BUDGET

WLK copy  
3/7/85

	Jan. 28, 1984 1984 Budget	Revised Est. 1984 Total Budget Based on YTD Figures - 6/84	1985 Budget
<b>I. Field Costs</b>			
A. Salaries & Fringes	69,000	44,900	49,000
B. Office & Field Expenses:			
Rent & Utilities	7,200	7,200	7,200
Communications	3,000	2,800	3,000
Service, Supplies, Office Equip.	1,500	1,500	1,500
Dues & Subscriptions	700	700	700
Donations	100	50	100
Travel	1,000	1,000	1,000
Local Vehicle (1,200/yr for gas)	2,500	1,700	1,200
Freight	50	50	50
Field Supplies	550	500	500
Misc., Insur., Med., Sales Tax	550	500	500
SUB TOTAL	17,150	16,000	15,750
C. Assessment	18,100	7,300	7,500
D. Hydrology	18,000	18,000	18,000
SUB TOTAL	36,100	25,300	25,500
E. Capital Expense	-0-	-0-	8,000
F. Contingency (10%)	13,000	5,000	9,000
TOTAL FIELD COSTS	135,250	91,200	107,250
<b>II. Technical Service</b>	-0-	-0-	-0-
<b>III. Cleveland Administration</b>	20,000	10,000	10,000
<b>IV. Lands</b>			
A. Purchases - Myers	94,174	94,174	90,063
SUB TOTAL	94,174	94,174	90,063
B. Expenses:			
Taxes (non-farm)	18,500	18,500	18,500
Lowell Royalty	52,500	52,500	52,500
Misc. + Travel	2,000	2,000	2,000
SUB TOTAL	73,000	73,000	73,000
C. Contingency (5%)	8,500	8,500	8,000
TOTAL LANDS	175,674	175,674	171,063

reduce  
1,000

Best payment 1986

new rights

	Jan. 28, 1984 1984 Budget	Revised Est. 1984 Total Budget Based on YTD Figures - 6/84	1985 Budget
<b>V. Agriculture</b>			
A. Pump Maintenance	80,000	40,000	20,000 ✓
B. Taxes (farm)	37,000	37,000	37,000 ✓
C. Pump Tax	7,500	7,500	5,000 ✓
D. K & C Pump Parts	18,000	20,000	-0-
E. Stephens' Lease Buyout	-0-	50,000	-0-
F. Stephens' Pest Control	-0-	32,490	-0-
<b>SUB TOTAL</b>	<b>142,500</b>	<b>186,990</b>	<b>62,000</b>
G. Capital Improvements	5,000	5,000	15,000
H. Contingency (8%)	10,000	10,000	10,000
<b>SUB TOTAL</b>	<b>15,000</b>	<b>15,000</b>	<b>25,000</b>
<b>TOTAL AGRICULTURE EXPENSES</b>	<b>157,500</b>	<b>201,990</b>	<b>87,000</b>
I. Crop (Profit)/Loss	177,095	44,000 (1)	( 52,185) - 75% cotton
J. Government Payments	( 50,000)	( 50,000)	( 50,000) - soil ban
K. Miscellaneous Income	( 12,000)	( 12,000)	( 12,000) - power or rental of land, etc
<b>NET AGRICULTURE (profit)/Loss</b>	<b>272,595</b>	<b>183,990</b>	<b>( 27,185)</b>
<b>TOTAL BUDGET (Profit)/Loss</b>	<b>603,519</b>	<b>450,464</b>	<b>261,128</b>
VI. Crop Budget Accrual (Profit)/Loss	160,000	144,240 (2)	( 46,000) (4)
VII. Carry Forward	177,095	( 46,000) (3)	( 52,185) (5)
<b>TOTAL</b>	<b>586,424</b>	<b>654,104</b>	<b>267,313</b>

- NOTES: 1. Power bills paid by Casa Grande Copper Company in excess of \$225/acre - supposedly  
 power limit from K & C (\$40,000) and Self (\$4,000). charged to the  
 2. Includes monies lost or earned from 1983 crop, but paid or received in 1984. *equally*  
 3. Government payments for 1984 of \$50,000 will be received in February 1985  
 less \$4,000 paid to Self for power overage incurred in 1984, but paid for in  
 1985. They are carried forward to 1985. (See note (4) in 1985 budget column.)  
 4. See note (3).  
 5. Farm income of (\$52,185) from 1985 to be paid in 1986.

Currently two farm deals:

1) lease land 1390 acres @ \$25/acre to Talla with Getty responsible  
 for some of pumping costs

2) Share cropping with Talla on 529 acres with Getty maintaining wells  
 NOTE: BOTH CAN BE TERMINATED AT END OF 1985.

# ASARCO

JDS

Exploration Department  
Southwestern United States Division

March 15, 1985

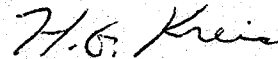
To: J. D. Sell

From: H. G. Kreis

Monthly Report February 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of February 1985.

Expenses for the month are estimated to be \$367.26 and \$7,448.99 respectively, leaving estimated overruns of \$41,148 (0075) and \$103,849 (0087).



H. G. Kreis

HGK:mek

# ASARCO

Southwestern Exploration Division

JDS

April 18, 1985

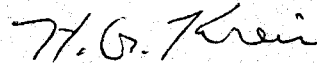
To: J. D. Sell

From: H. G. Kreis

Monthly Report March 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of March 1985.

Expenses for the month are estimated to be \$34.86 and \$25.00, respectively, leaving estimated overruns of \$41,184 (0075) and \$103,874 (0087).



H. G. Kreis

HGK:mek

# ASARCO

Southwestern Exploration Division

May 16, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report April 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of April 1985.

Expenses for the month are estimated to be \$99.41 and \$25.00, respectively, leaving estimated overruns of \$41,183 (0075) and \$103,899 (0087).

*H. G. Kreis / mek*  
H. G. Kreis

HGK:mek

# ASARCO

Southwestern Exploration Division

JDS

June 26, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report May 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of May 1985.

Expenses for the month are estimated to be \$86.51 and \$2,754.27, respectively, leaving estimated overruns of \$41,370 (0075) and \$106,653 (0087).



H. G. Kreis

HGK:mek

# ASARCO

FILE  
JDS

Exploration Department

R. L. Brown  
Vice President

July 1, 1985

Mr. D. R. Cook, President  
Freeport Exploration Company  
50 West Liberty Street  
Suite 1000  
Reno, Nevada

Hanna/Getty Proposal

Dear Doug:

Attached hereto is a copy of the Getty response to my recent proposal to them. I think our proposal will hold up provided that our preliminary estimates of land values in the area are reasonably accurate.

In the meanwhile, the proposal made will only fly if lands solely owned by Asarco are contributed to the land swap, the consequence of this is that Freeport would be diluted as we have discussed on the phone. You recently told me that you were having misgivings about taking dilution. I will need to know your decision on the matter soon.

Yours very truly,



R. L. Brown

Attach.

cc: W. L. Kurtz/J. R. Stringham w/att  
J. D. Sell w/att  
T. C. Osborne w/att

ASARCO Incorporated  
JUL 3 1985  
SW Exploration



F. T. G.

JUN 24 1985

Getty Mining Company | 3810 Wilshire Boulevard, Los Angeles, California 90010 • (213) 739-2100

Don A. Nichols, New Ventures & Acquisitions Manager

Telex 677294

RECEIVED

June 20, 1985

JUN 25 1985

EXPLORATION DEPT.

Mr. R. L. Brown,  
Vice President  
Asarco  
180 Maiden Lane  
New York, NY 10038

Dear Dick:

Reference is made to that certain letter dated June 13, 1985 from you to Sig Muessig, concerning the possible trade of certain lands in Pinal County, Arizona, for other lands and mining claims owned by the Hanna/Getty Joint Venture.

We appreciate your efforts in presenting the proposal and have forwarded a copy to Hanna for its consideration. Our recommendation to Hanna is that we are not prepared to accept your offer at this time; however, we are prepared to continue to work with you to arrive at a mutually acceptable proposal. In our judgment, your proposal needs at least the following improvements before it would be acceptable in principal.

1. The premise of a tax-free trade of lands is acceptable provided Hanna/Getty can expect to net at least \$3MM from the sale of the Asarco lands it receives. We would expect Asarco to have its property appraised by a mutually-agreed appraiser and if the total fair market value, less an appropriate selling cost, does not come up to \$3MM, then Asarco/Freeport will accordingly increase the amount of land to be contributed so as to assure that Hanna/Getty is getting land worth at least \$3MM (net).
2. On start up of commercial mining, Asarco/Freeport will make a payment of \$7MM\* to Hanna/Getty. We will entertain the possibility of spreading out these payments if the operation is commenced in the near term (i.e. within 8-10 years).

\*The amount is to be escalated under an agreed upon index.

3. In addition, Getty will consider conveying to Asarco/Freeport the grandfathered water rights it owns under the Asarco/Freeport lands which offset the Casa Grande West ore body. Such rights were acquired with the 1984 Desert Carmel acquisition. In consideration for Getty's contributing said rights, we would suggest that Asarco/Freeport convey to Getty their interest in the Desert Carmel lots located in the CP Area.



Mr. R. L. Brown  
June 24, 1985  
Page 2

Note: You may have heard that there are at least five (5) Desert Carmel lots, which your venture reports it owns that were actually acquired by Getty from the bankruptcy court. Our acquisition took place after a series of legal actions were completed by the court. We obviously would only expect to receive whatever title you have.

On another matter, as you know, it is Getty's intent to sell the Desert Carmel property. We expect to sell same reserving an appropriate overriding royalty payable when the property produces. Should you have an interest in all or part of the Desert Carmel property, we will be most pleased to consider an offer; however, time is of the essence. Inasmuch as Hanna does not own an interest in the 1,362 acre Desert Carmel block, we would prefer to negotiate separately on such acreage.

Once again, we thank you for your interest.

Regards,

*Don A. Nichols*  
*by JWB*

Don A. Nichols

DAN/sd

# ASARCO

Southwestern Exploration Division

JDS

July 16, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report June 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of June 1985.

Expenses for the month are estimated to be \$98.89 and \$(11,626.00), respectively, leaving estimated overruns of \$41,466 (0075) and \$95,022 (0087).

*H. G. Kreis/mek*

H. G. Kreis

HGK:mek

# ASARCO

Exploration Department  
Southwestern United States Division

July 19, 1985

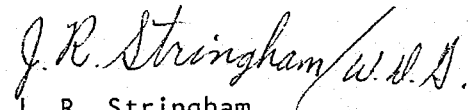
Mr. John A. Finch  
Trust Officer  
Lawyers Title of Arizona  
P.O. Box 7338  
Phoenix, AZ 85011

Grant of Easement  
Desert Carmel Lot 11

Dear Mr. Finch:

I believe the attached letter from Richard S. Konderik is self-explanatory. Would you please execute the new easement form and mail the original to Mr. Konderik. Also send us a copy.

Sincerely,



J. R. Stringham  
Assistant to the  
Manager, SWED

JRS:WDG:mek  
Atts.

cc: J. D. Sell



July 17, 1985

James R. Stringham  
ASARCO  
P.O. Box 5747  
Tucson, AZ 85703

Re: Easement for DESERT CARMEL Lot E-11

Dear Mr. Stringham:

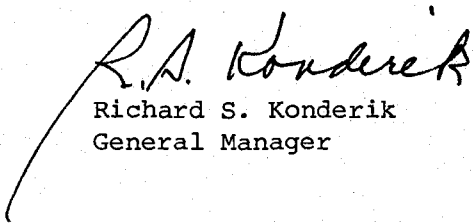
First, I want to thank you for executing the Grant of Easement whereby you granted an easement across your lot to Arizona Water Company (AWCO).

Unfortunately, the easement form was of poor quality and Pinal County Recorder's Office will not accept it for recording. Consequently, I have to ask, very reluctantly and sheepishly to have you execute the new easement form attached. I really hate to put you through this again, but AWCO needs to have the easement recorded and this is the only way to accomplish it.

On Friday, July 12, 1985, AWCO took over the DESERT CARMEL water system which is one of the best things that has happened in a long time. The Subdivision now has a 100 year assured water supply which is a very important designation for the future development of the Subdivision.

Please sign the new easement form, have it notarized and return in the envelope furnished. Again, I want to apologize for any inconvenience this has caused. I have enclosed a copy of the original easement so that you can verify they are the same.

Sincerely,  
DC PROPERTIES, INC.

  
Richard S. Konderik  
General Manager

RSK/rp  
Enclosures

ASARCO Incorporated

JUL 18 1985

SW Exploration

Recording Requested By:  
ARIZONA WATER COMPANY

When Recorded, Mail To:  
Arizona Water Company  
P.O. Box 5396  
Phoenix, AZ 85010

This Space For Use By Recorder

GRANT OF EASEMENT FOR PIPELINES

(Standard Form)

LAWYER'S TRUST #1270 Beneficiaries are SANTA-CRUZ JOINT VENTURE  
consisting of: FREEPORT COPPER CO. & ASARCO SANTA CRUZ, INC.

(hereinafter referred to as "Grantor"), for a valuable consideration, receipt of which is hereby acknowledged, grants to Arizona Water Company, an Arizona corporation, its successors and assigns (hereinafter referred to as "Grantee"), a perpetual easement and the right to excavate for, install, operate, maintain, remove or replace one or more pipelines, including valves, hydrants, meters and other equipment and appurtenances, for the purpose of conveying water for domestic use, fire protection and irrigation, or other purposes, and to use the same for such purposes, on that certain real property in the County of Pinal, State of Arizona, described as follows:

Lot 11, Section E, DESERT CARMEL, according to map recorded in Book 14,  
Page 2, of Maps, on the records of the Pinal County Recorder.

GRANTOR agrees for itself, its successors and assigns that no building or other structure will be constructed, or other obstruction placed, over this easement or over any facilities of Grantee; provided however, that with Grantee's prior consent, Grantor may build over this easement after first paying to Grantee the cost of relocating the facilities and granting an alternative easement satisfactory to Grantee and without additional cost to Grantee.

GRANTEE, its agents and employees, shall at all times have the right of unobstructed ingress and egress to said real property, and free access to said pipelines, equipment and appurtenances for the purpose of maintaining, operating, removing or replacing same including the right to trim or remove any trees or shrubs that in Grantee's judgment interfere with the rights herein granted. Grantee agrees to use reasonable care to avoid damage to the property of Grantor in the exercise of this easement.

EXECUTED This        day of                    year of        .

LAWYERS TITLE OF ARIZONA, an  
Arizona corporation, as Trustee

Recording Requested By:

ARIZONA WATER COMPANY

When Recorded, Mail To:

Arizona Water Company  
P.O. Box 5396  
Phoenix, AZ 85010

This Space For Use By Recorder

GRANT OF EASEMENT FOR PIPELINES

(Standard Form)

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(hereinafter referred to as "Grantor"), for valuable consideration, receipt of which is hereby acknowledged, grants to Arizona Water Company, an Arizona corporation, its successors and assigns (hereinafter referred to as "Grantee"), a perpetual easement and the right to excavate for, install, operate, maintain, remove or replace one or more pipelines, including valves, hydrants, meters and other equipment and appurtenances, for the purpose of conveying water for domestic use, fire protection and irrigation, or other purposes, and to use the same for such purposes, on that certain real property in the County of PINAL, State of Arizona, described as follows:

Lot 11, Section E DESERT CARMEL, according to map recorded in Book 14,  
Page 2 of Maps, on the records of the Pinal County Recorder.

GRANTOR agrees for itself, its successors and assigns that no building or other structure will be constructed, or other obstruction placed, over this easement or over any facilities of

# ASARCO

Southwestern Exploration Division

JDS

August 12, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report July 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of July 1985.

Expenses for the month are estimated to be \$112.89 and \$4,031.80 respectively, leaving estimated overruns of \$41,578 (0075) and \$99,054 (0087).

*H. G. Kreis*  
H. G. Kreis

HGK:mek

# ASARCO

JDS  
Southwestern Exploration Division

September 23, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report August 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of August 1985.

Expenses for the month are estimated to be \$25.00 and \$25.00 respectively, leaving estimated overruns of \$41,603 (0075) and \$99,079 (0087).

HGK:mek

*H. G. Kreis/mek*

H. G. Kreis



# ASARCO

Southwestern Exploration Division

JDS

Oct. 8, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report <sup>Sept.</sup> ~~October~~ 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of ~~October~~ 1985.  
<sup>Sept.</sup>

Expenses for the month are estimated to be \$813.00 and \$25.00 respectively, leaving estimated overruns of \$42,416 (0075) and \$99,104 (0087).

*H. G. Kreis*  
H. G. Kreis

HGK:mek

# ASARCO

JDS  
Southwestern Exploration Division

November 14, 1985

To: J. D. Sell

From: H. G. Kreis

Monthly Report October 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of October 1985.

Expenses for the month are estimated to be \$5,845.99 and \$2,780.21 respectively, leaving estimated overruns of \$48,262 (0075) and \$101,884 (0087).

*H. G. Kreis*

H. G. Kreis

HGK:mek

FROM: W. L. KURTZ

Santa Cruz

W. L. K.

TO:

JR Straight

We have core stored at  
"Gott's" warehouse at  
Case Garden.

We do not want to lose  
this core when "D'Anderson"  
takes over.

Should we move it to  
Sacaton? I'll check with TES.

JDS we might deal for  
the Gott's property yet -  
if we don't, a move to  
Sacaton or some other  
place would be  
a JDS self advisable

JDS

FROM: W. L. KURTZ

Santa Cruz  
Waters

TO: JR Stanglin

We have core stored at  
"Gott's" warehouse at  
Casa Grande.

We do not want to lose  
this core when "D'Antonio"  
takes over.

Should we move it to  
Suarata?

cc JD Sell

Should be moved  
to Suarata - OK with  
Scantecini  
JWS

# ASARCO

Southwestern Exploration Division

JD

December 20, 1985

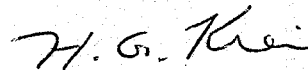
To: J. D. Sell

From: H. G. Kreis

Monthly Report November 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of November 1985.

Expenses for the month are estimated to be \$241.34 and \$25.00 respectively, leaving estimated overruns of \$48,510 (0075) and \$101,909 (0087).



H. G. Kreis

HGK:mek

# ASARCO

Southwestern Exploration Division

JDS

January 10, 1986

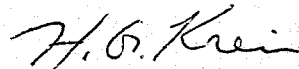
To: J. D. Sell

From: H. G. Kreis

Monthly Report December 1985  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of December 1985.

Expenses for the month are estimated to be \$752.47 and \$25.00 respectively, leaving estimated overruns of \$49,262 (0075) and \$101,934 (0087).



H. G. Kreis

HGK:mek

# ASARCO

Southwestern Exploration Division

JDS

February 14, 1986

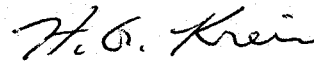
To: J. D. Sell

From: H. G. Kreis

Monthly Report January 1986  
Santa Cruz Project  
EA-0075 and EA-0087  
Pinal County, AZ

There was no activity on the Santa Cruz Project during the month of January 1986.

Expenses for the month are estimated to be \$832.01 and \$25.00 respectively, leaving estimated overruns of \$49,966 (0075) and \$101,959 (0087).



H. G. Kreis

HGK:mek

JDS

# Lawyers Title

OF ARIZONA

LAWYERS TITLE BUILDING

2200 NORTH CENTRAL AVENUE

POST OFFICE BOX 7338

PHOENIX, ARIZONA 85011

TELEPHONE (602) 254-4101

May 6, 1986

Cynthia Sharp  
P. O. Box 830  
Casa Grande, Az. 85222

Re: T-1270

Dear Ms. Sharp,

With reference to our past letter concerning your removal from our trust property, and your letter of reply, as of this date we have not received the payment for the building.

The terms and demands made in our letter of March 24, 1986, remain unchanged and our order for you to vacate the premises is re-stated herein.

We again ask you give this matter your immediate attention, failure to perform will leave us no alternative than to take such steps as deemed necessary to protect our interest.

Very truly yours,

John A. Finch  
Trust Officer

cc: ✓ ASARCO  
Paul Ollerton

JAF/bb



*file*

FILE



AMERICAN WEST PIPELINE CONSTRUCTORS

A Joint Venture



*1414 South Voss, Suite 510  
Houston, Texas 77057*

May 9, 1986

Letter No. AG-343-86  
File No. A-18

Mr. J. R. Stringham,  
Asst. to the Manager SWED  
ASARCO Incorporated  
P. O. Box 5747  
Tucson, Arizona 85703-0747

Dear Mr. Stringham:

We have finally cleaned up and vacated the stockpile site leased from you in Casa Grande, Arizona.

Enclosed is a standard American West Pipeline Constructors Land Release form. After your satisfactory inspection, please execute the release and forward to my attention in Houston.

Yours very truly,

*James R. Jennings*  
James R. Jennings  
Traffic Manager

Enclosure

*John A. Finch*

*28 May 1985 Rodway*

*5 April 1985 Leave on stockpile site*

*1-254-4101*

*Form sent to Finch  
for signature  
5/20/86*

*John*  
*has returned signed copy*  
ASARCO Incorporated

MAY 12 1986

SW Exploration

Casa Grande

APPROVAL OF CLEANUP AND RELEASE OF ALL CLAIMS

Lawyers title of Arizona as Trustee under Trust No. 1270, Lessor of the following real property:

a seventeen acre site east of Casa Grande, Arizona and leased to American West Pipeline Constructors for use as a temporary pipe stockpile site as of April 5, 1985;

having inspected the premises after clean-up, finds the same to be acceptable, and hereby releases American West Pipeline Constructors from any and all liabilities arising out of the lease and use by American West Pipeline Constructors of the real property described above.

Date:

Lawyers title of Arizona as Trustee under Trust No. 1270, Lessor

By: \_\_\_\_\_

Title: \_\_\_\_\_

*Inspected and accepted*  
*May 20, 1986*  
*James D. Bell*  
*MSA. SCWE 10*

*JD Sell*

Casa Grande

APPROVAL OF CLEANUP AND RELEASE OF ALL CLAIMS

Lawyers title of Arizona as Trustee under Trust No. 1270, Lessor of the following real property:

a seventeen acre site east of Casa Grande, Arizona and leased to American West Pipeline Constructors for use as a temporary pipe stockpile site as of April 5, 1985;

having inspected the premises after clean-up, finds the same to be acceptable, and hereby releases American West Pipeline Constructors from any and all liabilities arising out of the lease and use by American West Pipeline Constructors of the real property described above.

Date: May 21, 1986

Lawyers title of Arizona as Trustee under Trust No. 1270, Lessor

By: *John Smith*

Title: Trust Officer

*Inspected and accepted  
May 20, 1986  
James D Sell  
MS. SUREAD*

FROM: W. L. KURTZ

6/27/86

TO: Bill Gray

Just a reminder that  
July 3, 1986 a payment  
is due on the  
Ollerton Farm

should contact Finch(?)  
July 7th to determine if  
received; or should it  
be received directly here  
in TUCSON.

cc JJ Fel

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

July 2, 1986

Ms. Cynthia Sharp  
P.O. Box 830  
Casa Grande, AZ 85222

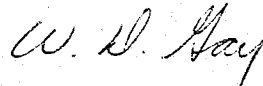
Dear Ms. Sharp:

Since you did not exercise your option to buy the house on Clayton Road, our plans are to demolish the house in the very near future. We will not be responsible hereafter for anything remaining on the property.

If you have not done so, terminate your utilities as soon as possible.

Demolition of the house will commence in mid July.

Sincerely,



W. D. Gay  
Land Engineer

WDG:mek

cc: W.L. Kurtz  
J.D. Sell

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

July 2, 1986

Southwest Gas  
201 West 4th St.  
Casa Grande, AZ 85222

Gentlemen:

We plan to demolish a house on our property located SE $\frac{1}{4}$ , SE $\frac{1}{4}$ , SW $\frac{1}{4}$ ,  
Sec. 13, T6S, R4E (north side of Clayton Road) in Pinal County.

We would appreciate it if you would remove your meter after  
Ms. Cynthia Sharp terminates your services, so the house can be  
destroyed.

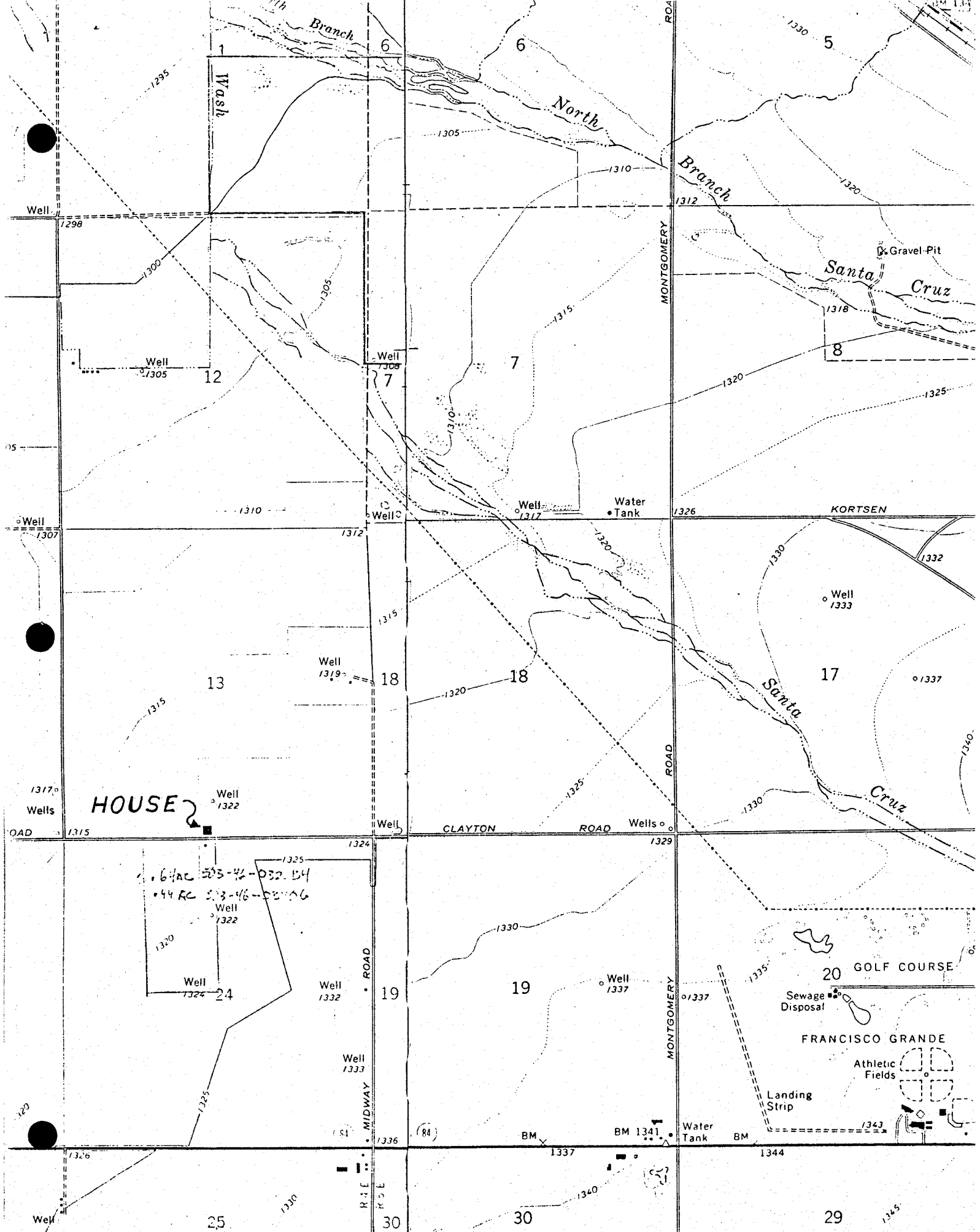
Attached is a map showing location of the house.

Sincerely,

*William D. Gay*  
William D. Gay  
Land Engineer

WDG:mek  
Att.

cc: W. L. Kurtz  
J. D. Sell



# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

July 2, 1986

Arizona Public Service  
318 N. Marshall St.  
Casa Grande, AZ 85222

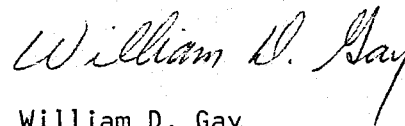
Gentlemen:

We plan to demolish a house on our property located SE $\frac{1}{4}$ , SE $\frac{1}{4}$ , SW $\frac{1}{4}$ ,  
Sec. 13, T6S, R4E, (north side of Clayton Road) in Pinal County.

We would appreciate it if you would remove your meter after  
Ms. Cynthia Sharp terminates your services, so the house can be  
destroyed.

Attached is a map showing location of the house.

Sincerely,

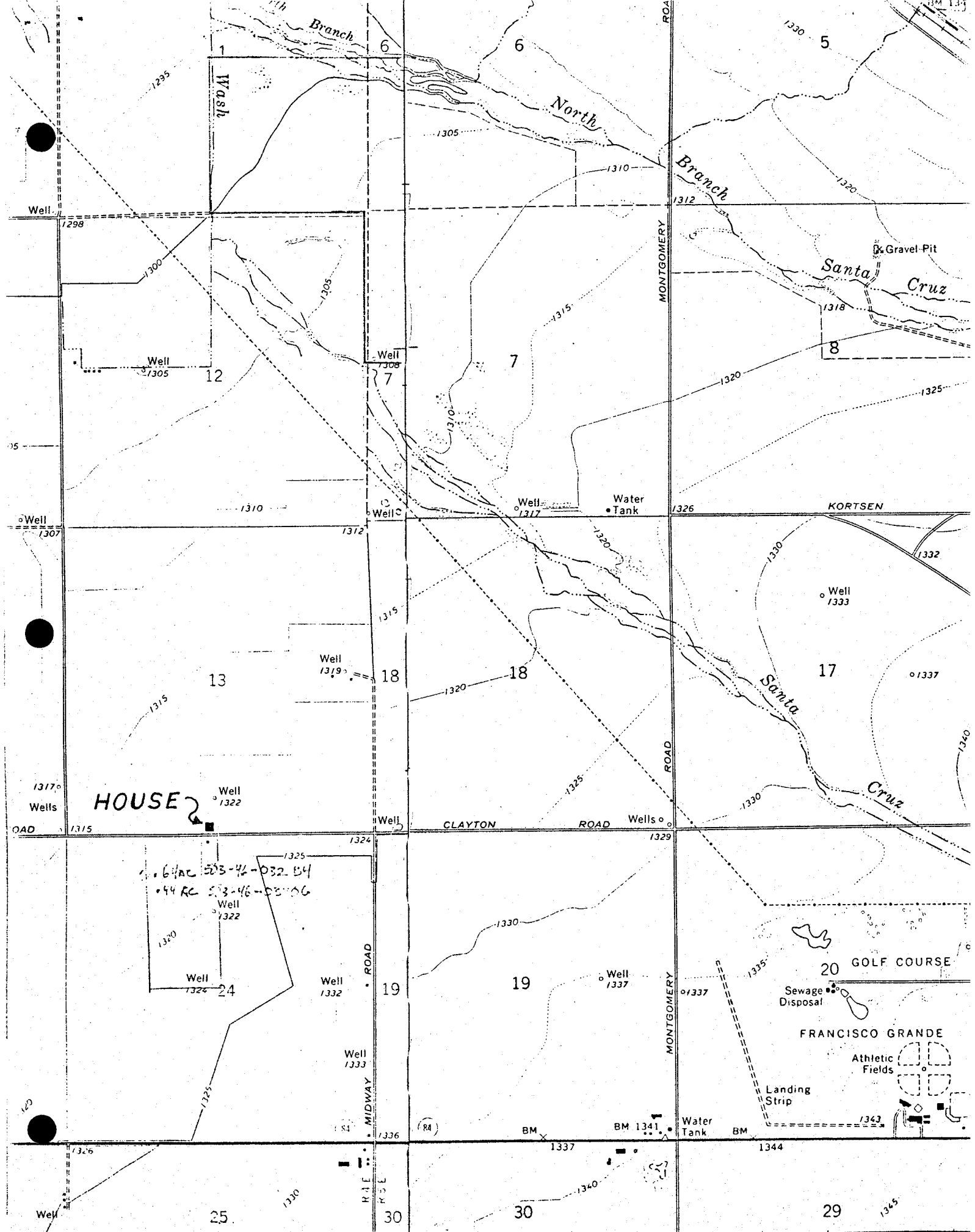


William D. Gay  
Land Engineer

WDG:mek  
Att.

cc: WL Kurtz  
JD Sell





0.64 AC 503-46-032 B4  
 0.44 AC 503-46-032 C6

HOUSE

20 GOLF COURSE

FRANCISCO GRANDE

# ASARCO

Southwestern Exploration Division

JDS

October 16, 1986

To: J.D. Sell

From: H.G. Kreis

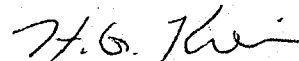
Hanna-Getty Discovery  
Santa Cruz Project  
Pinal County, Arizona

Dave Lowell and I had an enjoyable time reminiscing about the exploration of the Santa Cruz area during 1974-1976. At that time Lowell was managing a large exploration program for a joint venture of, I believe, Hanna-Getty-Newmont. The Santa Cruz area was the twenty-first pediment target tested in a large scale pediment drill program.

Lowell heard that Asarco drilled copper oxide mineralization in the Casa Grande area. They researched the court house records and found the area where Asarco staked claims and optioned land. Furthermore, they talked with local people about shows of copper oxide mineralization in water wells. With this information they outlined a triangularly shaped area whose apex pointed to Asarco's former land holdings.

I told Dave that we often wondered whether or not they had Asarco's old drill hole information. He said they did not have any of the old Asarco data. However, several years ago some UofA students were told by Guilbert or Lowell that Lowell found core and core blocks at old Asarco drill sites. Dave said they didn't know Asarco was trying to get back in the Santa Cruz area at the time they initiated the Casa Grande West exploration program.

HGK:mek



H. G. Kreis

cc: W.L. Kurtz

# ASARCO

Southwestern Exploration Division

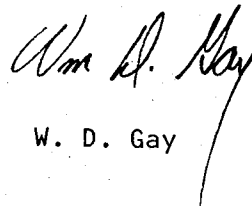
November 4, 1986

R. L. Brown  
New York Office

Desert Carmel Lots

Enclosed is a copy of the reply from Mr. Gilson of Texaco which is self-explanatory, and a copy of my response to him.

A Mr. Jerry Simmons is supposed to be the purchaser of the Getty properties in the Casa Grande area, and money is in escrow. Mr. Simmons is rumored to be a Texas oil man.

  
W. D. Gay

WDG:mek  
encs.

cc: W.L. Kurtz  
J.D. Sell

# ASARCO

Exploration Department  
Southwestern United States Division

November 4, 1986

Mr. D.S. Gilson  
Supervisor, Special Projects  
Texaco USA  
580 White Plains Road  
Tarrytown, NY 10591

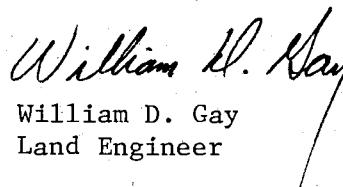
Dear Mr. Gilson:

Reference is made to your letter of October 28, 1986 in which you clearly explained both Getty Mining Co.'s and your buyer's position as to the exchange of Asarco's Desert Carmel lots and Getty Mining Co.'s well sites.

At your request enclosed are two maps which show the five lots proposed for exchange. Lots are colored green.

Thank you for your prompt response to my letter. If you need further information please call.

Very truly yours,

  
William D. Gay  
Land Engineer

WDG:mek  
encs.

cc: R.L. Brown  
W.L. Kurtz  
J.D. Sell



D S Gilson  
Supervisor  
Special Projects

Texaco USA

580 White Plains Road  
Tarrytown NY 10591  
914 332 1000

October 28, 1986

Mr. W. D. Gay  
ASARCO Inc.  
P. O. Box 5747  
Tucson, Arizona 85703-0747

DESERT CARMEL, AZ.  
LAND EXCHANGE WITH ASARCO

Dear Mr. Gay:

Thank you for your letter outlining your proposal to exchange Asarco's lots 65, 75, 78, 85 and 158 for Getty Mining Co's. five 100' x 100' wellsites.

We would not be interested in any exchange which restricted our possible future use of the wellsites if that becomes necessary.

Additionally, as I explained on the phone, we are in final stages of negotiations on sale of the Getty property, and we must also consider our buyer's preference in this matter. He has indicated he is not interested in the proposed exchange. However, I will furnish him with a copy of your letter as he requested.

I understand you had hoped to resolve this matter quickly and I regret we cannot respond accordingly. In the event this matter can remain open, I would appreciate your providing me with more description of the Asarco lots, including the subdivision section designation (T, R, N, F?) in which each lot is located. I will advise you of any change in our position.

Yours truly,

DSG:ka  
HRH  
JRM  
JFJ

ASARCO Incorporated

NOV 3 1986

SW Exploration

# FREEPORT McMoRan

Freeport-McMoRan Inc.  
1615 Poydras Street  
New Orleans, Louisiana

A.J.R.

NOV 17 1986

P. O. Box 61119  
New Orleans, LA 70161

November 12, 1986.

*Noted mek  
11/17/86*

Asarco Incorporated  
Southwestern Mining Department  
P. O. Box 5747  
Tucson, Arizona 85703-0747

Re: Santa Cruz Project

Dear Sirs:

Please send your future monthly reports on the Santa Cruz project to Mr. Lee Monismith, P. O. Box 1132, Elko, Nevada, 89801, and delete my name from the report distribution list.

Sincerely,

*B. P. Minihan*

B. P. Minihan  
Manager - Corporate Accounting

BPM/kwg

ASARCO Incorporated

NOV 17 1986

SW Exploration

# ASARCO

Exploration Department  
Southwestern United States Division

November 17, 1986

Mr. Allen Parks, V.P.  
Freeport Exploration  
P.O. Box 1911  
Reno, NV 89505

Santa Cruz Joint Venture

Dear Mr. Parks:

In reference to our telephone conversation concerning a right-of-way for a canal which is part of the Central Arizona Project, enclosed are copies of the information we have received. We will forward your portion of the compensation for the right-of-way as soon as it is received.

I appreciate your agreeing to this matter. If you have any questions, please call.

Sincerely yours,

*Wm. D. Gay*  
William D. Gay  
Land Engineer

WDG:mek  
encs.

cc: W.L. Kurtz  
J.D. Sell

November 17, 1986

R. L. Brown  
New York Office

Desert Carmel Lots

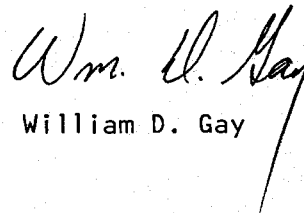
Enclosed is the last correspondence received from Mr. Gilson in response to my letter of November 4, 1986.

Upon receiving Mr. Gilson's letter, I contacted him by telephone and questioned him as to what lots he would be interested in, and if he had any idea of the closing date of the sale.

His answers were as follows:

1. Getty wanted lots in the Copper Potential area.
2. Closing is to be in April 1987.

At this point it seems all avenues to obtain the five (5) well sites are closed. Unless something can be done in the next few days, I will proceed with the water adjudication for the Santa Cruz property.

  
William D. Gay

WDG:mek  
Enc.

cc: W.L. Kurtz  
J.D. Sell





D S Gilson  
Supervisor  
Special Projects

Texaco USA

580 White Plains Road  
Tarrytown NY 10591  
914 332 1000

November 12, 1986

Mr. William D. Gay  
Exploration Dept.  
ASARCO  
P. O. Box 5747  
Tucson, Arizona 85703

DESERT CARMEL, AZ.  
EXCHANGE OF PROPERTIES  
REF. WDG 11/4/86 LTR. TO DSG

Dear Bill:

This will confirm the position communicated to you previously concerning exchange of Getty Mining Co. well sites for ASARCO Desert Carmel lots. Upon reviewing the two maps provided with your referenced letter, I find that none of the lots are located within the area encompassed by Getty Mining Co's. Desert Carmel holdings. I believe they are within the DC Properties, Inc. area.

We have no interest in acquiring additional separate parcels in that area.

Yours truly,

*D. S. Gilson KA*

DSG:ka  
HRH  
JFJ

ASARCO Incorporated

NOV 17 1986

SW Exploration

# ASARCO

Exploration Department  
Southwestern United States Division

December 1, 1986

Mr. Bert Apker  
Kaufman, Apker & Nearhood  
2111 E. Highland Ave., Suite 305  
Phoenix, AZ 85016

Santa Cruz Project  
Lower Gila Water  
Adjudication

Dear Mr. Apker:

Efforts to obtain the five (5) well sites now owned by Texaco were fruitless. Texaco indicated that closing on their Pinal County property, including the well sites, will take place about April 1987.

Enclosed are drilling records on wells included within the boundaries of the grandfathered water rights and a map showing locations.

If you need any additional information before filing, please call me.

Sincerely yours,

*William D. Gay*  
William D. Gay  
Land Engineer

WDG:mek  
encs.

cc: W.L. Kurtz  
J.D. Sell

December 3, 1986

H. G. Kreis

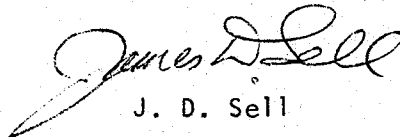
Drill Hole Data  
Santa Cruz Project  
Pinal County, AZ

Further data is needed by SAIC for a meeting on December 9, so please prepare the following holes as you did for SC-46 (Nov. 17, 1986):

SC-19  
SC-35  
SC-52

Especially needed are any notes on cementing (also SC-46), and, of course, the casing left in the hole.

Have dozen copies available for the meeting and remainder to be sent out after the meeting.

  
J. D. Sell

JDS:mek

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

December 11, 1986

FREEMPORT EXPLORATION COMPANY  
P. O. Box 1911  
Reno, Nevada 89505

Attention: Mr. Allen Parks

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we credit you as follows for November 1986:

Our E. A. No. 0075 - The Lands

General Administration Charges	\$50.00	
Field Services & Supplies	<u>3.21</u>	53.21

Our E. A. No. 0087 - Peripheral Lands

General Administration Charges	50.00	50.00
--------------------------------	-------	-------

Our E. A. No. 0136 - NAAC Acquisition

Rent Income	(34,000.00)	<u>(34,000.00)</u>
		<u>(33,896.79)</u>

1/2 to Freeport Copper Company  
Balance brought forward  
Balance

(16,948.39)
<u>(14,272.75)</u>
<u>(31,221.14)</u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSE11  
DRCook - Reno  
LMonismith - Elko  
JDRidgeway - Reno  
AJRobles

ASARCO Incorporated

DEC 15 1986

SW Exploration

DETAIL OF ASSESSED VALUATION AND TAXES, YEAR 1986  
SANTA CRUZ PROJECT PINAL COUNTY, ARIZONA

Parcel No.	Sec T R	Property Description	Acres	FULL CASH ASSESSED VALUATION			Year 1986 Tax Amount
				Real Estate	Total (Secondary)	Limited Assessed Valuation (Primary)	
503-01-001A8	01-6S-4E	Lots 1,2,5 & SW NE less Pt.	170.32	\$ 11,625	\$ 11,625	\$ 10,625	\$ 1,592.84 (1)
503-01-01009	12-6S-4E	SW	160.00	10,921	10,921	9,981	1,397.22
503-01-01108	12-6S-4E	NE	156.85	12,309	12,309	9,784	1,406.18
503-01-01207	12-6S-4E	SE	156.97	14,880	14,880	10,519	1,549.10
503-01-01306	13-6S-4E	NE	154.43	12,981	12,981	10,289	1,479.46
503-01-01504	13-6S-4E	W2	320.00	12,927	12,927	10,593	1,513.24
503-01-02809	23-6S-4E	NW	160.00	10,921	10,921	9,744	1,369.94
503-01-02908	23-6S-4E	NE	160.00	10,921	10,921	7,035	1,058.00
503-01-03203	24-6S-4E	NW	160.00	10,921	10,921	9,744	1,369.94
503-26-01006	07-6S-5E	Lots 3 & 4, E2SW, less pt.	155.60	12,854	12,854	7,607	1,167.76
503-26-01204	08-6S-5E	NE NE	40.00	5,460	5,460	4,991	698.62
503-27-00105	04-6S-5E	Lots 1 & 2	90.56	8,928	8,928	8,155	1,125.60 (2)
503-27-00204	04-6S-5E	Lots 3 & 4, S2 NW	170.71	11,652	11,652	10,492	1,451.64 (2)
503-27-003A1	05-6S-5E	S2 NE	80.00	8,327	8,327	7,611	1,050.36 (2)
503-27-004A0	04-6S-5E	SE less pt.	142.72	13,530	13,530	9,662	1,419.72
503-27-004C6	04-6S-5E	SW SW SE, S of SPRR	3.09	1,055	1,055	520	83.76
503-28-00301	05-6S-5E	E2 less R/W	198.87	13,574	13,574	12,402	1,736.22
503-28-004A8	05-6S-5E	E2 SW EXC N 200'	74.00	8,559	8,559	7,822	1,094.98
503-28-005A7	05-6S-5E	W2 SW EXC N 290'	71.35	8,252	8,252	7,536	1,055.08
503-29-00507	06-6S-5E	E2 SE EXC N 300'	71.00	8,212	8,212	7,382	1,036.44
503-37-002A1	18-6S-5E	S2NE less pcl.	75.00	8,674	8,674	7,928	1,109.78
503-37-00302	18-6S-5E	Lots 3 & 4, E2 SW, NW	311.30	7,960	7,960	7,188	1,008.38
			<u>3,082.77</u>	<u>\$ 225,443</u>	<u>\$ 225,443</u>	<u>\$187,610</u>	<u>\$ 26,774.26</u>

Primary Rate \$11.5145/\$100  
 Secondary Rate \$ 2.2710/\$100  
 (1)Secondary Rate \$ 3.1783/\$100  
 (2)Secondary Rate \$ 2.0906/\$100

January 6, 1987

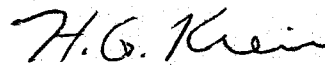
FILE

Groundwater  
Santa Cruz Project  
Pinal County, AZ

Sterling Cook of the USBM said he visited Hanna's Carson City office. During his visit he was given access to all the data on the Casa Grande West deposit, and he was allowed to Xerox or borrow all the information he wanted. Mr. Cook obtained all the pertinent data, including all the groundwater evaluation reports by consultants.

All of the groundwater data obtained by Mr. Cook is being given to the Tucson Office of the USGS. The USGS is being paid by the USBM to evaluate the hydrology of the Santa Cruz Project area, and the USGS will use the Hanna-Getty data in its evaluation.

Apparently all the Casa Grande West hydrologic information will be available to the public through the USGS, Tucson Office. Asarco-Freepport should obtain the hydrologic information when it becomes available to the public.



H. G. Kreis

HGK:mek

cc: W.L. Kurtz  
J.D. Sell  
S.A. Anzalone  
V.C. Martz

JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

January 12, 1987

FREEPORT EXPLORATION COMPANY  
P. O. Box 1911  
Reno, Nevada 89505

Attention: Mr. Allen Parks

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for December 1986:

Our E. A. No. 0075 - The Lands

General Administration Charges	\$	50.00	
Salaries		164.00	
Payroll Taxes & Benefits		<u>(19.15)</u>	\$ 194.85

Our E. A. No. 0087 - Peripheral Lands

General Administration Charges	50.00	<u>50.00</u>
		<u>244.85</u>

1/2 to Freeport Copper Company	122.42
Balance brought Forward	\$ <u>(31,221.14)</u>
Balance	<u>(31,098.72)</u>

Encls.

- cc: RJO'Keefe
- Attn: EJFranko
- JDSell ✓
- DRCook - Reno
- LMonismith - Elko
- JDRidgeway - Reno
- AJRobles

JDS

IN SITU TEST PROC.

State of Arizona  
DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004  
1/21/87

BRUCE BABBITT, Governor  
WESLEY E. STEINER, Director

ASARGO, INC.  
P O BOX 5747  
TUCSON AZ 85703

S.W. MINING DEPT.  
JAN 23 1987  
TUCSON

RECEIVED

JAN 23 1987

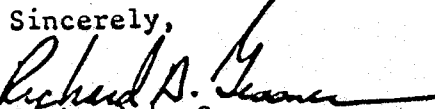
EXPLORATION DEPARTMENT

Dear Applicant:

We are recently in receipt of your filing to drill a well. However, our review indicates that the filing(s) cannot be accepted under the new Groundwater Management Act for the reason as marked below. Upon clarification or correction, we shall move promptly to process your well filing.

- Failure to enclose the proper filing fee(s).
- Driller and/or license number not designated.
- Design pump capacity not specified.
- Legal description and/or well location diagram incomplete or inconsistent.
- Description of well incomplete.
- Principal use of water and/or other uses intended incomplete or not clear.
- Location of place of use and/or other uses intended incomplete or not clear.
- Other DRILLER MUST BE INDICATED.

If we can be of further assistance, please let us know.

Sincerely,  
  
Richard A. Gessner  
Chief, Operations Division

RAG:  
cc:  
DWR-55-9-6/83

Think Conservation!

Office of Director 255-1554

Administration 255-1550, Water Resources and Flood Control Planning 255-1566, Dam Safety 255-1541,  
Flood Warning Office 255-1548, Water Rights Administration 255-1581, Hydrology 255-1586.



January 27, 1987

R.L. Brown  
New York Office

Santa Cruz JV  
Casa Grande Copper

During the period May-November 1985 numerous alternatives were considered to acquire the 480 acres containing the Casa Grande Copper Deposit. One of the alternatives was exchanging some Sacaton land, some of "The Lands" and all of the "Peripheral Lands" to accumulate the three million dollar purchase price. The assigned dollars per acre (not an official appraisal) were:

Westernmost Sacaton Land	900A	@	\$ 700	\$ 630,000
Peripheral Lands (40% Cyprus)	316.31A	@	3,000	948,930
Peripheral Lands	625.93A	@	3,000	1,877,790
The Lands	577.77A	@	1,000	<u>577,770</u>
				\$4,034,490
Minus Cyprus . 40% of \$948,930				(379,572)
Minus Park-Sayler debt (5/31/85)				<u>(216,672)</u>
				\$3,438,246

At this time the remaining Hanna-Getty land was reported being purchased at \$2300-2500 per acre.

The present purchase price, due to close May 5, 1987, by Simmons Investments is \$2700 per acre for all the Casa Grande Copper land including the mineral deposit. If production ever occurs, a 7 million dollar payment is due Hanna-Texaco.

According to Simmons, the Lowell and Arnold royalty is being bought out, and nothing is due Still (this needs careful checking).

Simmons said he is only interested in real estate and does not want an open pit on his land. He is interested in purchasing Asarco/Freeport land.

I believe an excellent opportunity exists to exchange Asarco lands (exploration and/or mining department) on an acre for acre basis with Simmons to acquire the Casa Grande Copper Deposit. We should acquire enough land to provide ample operating room plus a buffer zone.

Jerry Simmons may be reached at 602-224-7555 (Phoenix).

WLK:mek

cc: J.D. Sell

  
W.L. Kurtz

DETAIL ASSESSED VALUATION AND TAXES, YEAR 1986  
 SANTA CRUZ PROJECT PINAL COUNTY, ARIZONA

CORRECTED

JDS

Parcel No.	Sec T R	Property Description	Acres	FULL CASH ASSESSED VALUATION			Year 1986 Tax Amount	CORRECTED
				Real Estate	Total (Secondary)	Limited Assessed Valuation (Primary)		
503-01-001A8	01-6S-4E	Lots 1,2,5 & SW NE less Pt.	170.32	\$ 11,625	\$ 11,625	\$ 10,625	\$ 1,592.84 (1)	
503-01-01009	12-6S-4E	SW	160.00	10,921	10,921	9,981	1,397.22	
503-01-01108	12-6S-4E	NE	156.85	12,309	12,309	9,784	1,406.18	
503-01-01207	12-6S-4E	SE	156.97	14,880	14,880	10,519	1,549.10	
503-01-01306	13-6S-4E	NE	154.43	12,981	12,981	10,289	1,479.46	
503-01-01504	13-6S-4E	W2	320.00	12,927	12,927	10,593	1,513.24	
503-01-02809	23-6S-4E	NW	160.00	10,921	10,921	9,744	1,369.94	
503-01-02908	23-6S-4E	NE	160.00	10,921	10,921	7,035	1,058.00	
503-01-03203	24-6S-4E	NW	160.00	10,921	10,921	9,744	1,369.94	
503-26-01006	07-6S-5E	Lots 3 & 4, E2SW, less pt.	155.60	12,854	12,854	7,607	1,167.76	
503-26-01204	08-6S-5E	NE NE	40.00	5,460	5,460	4,991	698.62	
503-27-00105	04-6S-5E	Lots 1 & 2	90.56	8,928	8,928	8,155	1,125.60 (2)	
503-27-00204	04-6S-5E	Lots 3 & 4, S2 NW	170.71	11,652	11,652	10,492	1,451.64 (2)	
503-27-003A1	04-6S-5E	S2 NE, less So. 140 ft.	72.00	8,327	8,327	7,611	1,050.36 (2)	
503-27-004A0	04-6S-5E	SE less pt.	142.72	13,530	13,530	9,662	1,419.72	
503-27-004C6	04-6S-5E	SW SW SE, S of SPRR	3.09	1,055	1,055	520	83.76	
503-28-00301	05-6S-5E	E2 less R/W	198.87	13,574	13,574	12,402	1,736.22	
503-28-004A8	05-6S-5E	E2 SW EXC N 200'	74.00	8,559	8,559	7,822	1,094.98	
503-28-005A7	05-6S-5E	W2 SW EXC N 290'	71.35	8,252	8,252	7,536	1,055.08	
503-29-00507	06-6S-5E	E2 SE EXC N 300'	71.00	8,212	8,212	7,382	1,036.44	
503-37-002A1	18-6S-5E	S2NE less p1.	75.00	8,674	8,674	7,928	1,109.78	
503-37-00302	18-6S-5E	Lots 3 & 4, E2 SW, NW	311.30	7,960	7,960	7,188	1,008.38	
			<u>3,074.77</u>	<u>\$ 225,443</u>	<u>\$ 225,443</u>	<u>\$187,610</u>	<u>\$ 26,774.26</u>	

Primary Rate \$11.5145/\$100  
 Secondary Rate \$ 2.2710/\$100  
 (1)Secondary Rate \$ 3.1783/\$100  
 (2)Secondary Rate \$ 2.0906/\$100

ASARCO Incorporated

FEB 1 0 1987

SW Exploration

cc: WD GAY  
 2/10/87

JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

February 11, 1987

FREEPORT EXPLORATION COMPANY  
P. O. Box 1911  
Reno, Nevada 89505

Attention: Mr. Allen Parks

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for January, 1987:

Our E. A. No. 0075 - The Lands

General Administration Charges	\$ 50.00	
Salaries	342.00	
Payroll Taxes & Benefits	25.68	
CT Corporation Service Fee	<u>150.00</u>	\$ 567.68

Our E. A. No. 0087 - Peripheral Lands

General Administration Charges	50.00	<u>50.00</u>
		<u>\$ 617.68</u>

1/2 to Freeport Copper Company	308.84
Balance brought forward	<u>(31,098.72)</u>
Balance	<u><u>(30,789.88)</u></u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell ✓  
DRCook - Reno  
LMonismith - Elko  
JDRidgeway - Reno  
AJRobles

ASARCO Incorporated

FEB 11 1987

SW Exploration

# ASARCO

JDS

Exploration Department  
Western USA  
W. L. Kurtz  
Manager

March 3, 1987

Mr. Jerry D. Simmons  
Simmons Companies  
3200 East Camelback Road  
Phoenix, AZ 85018

Santa Cruz JV

Dear Mr. Simmons:

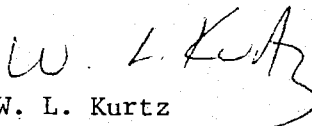
The attached map outlines the land in green ( $\approx$ 1382 acres) Asarco/Freeport offers to trade for the Simmons' land in red ( $\approx$ 940 acres). Please note that these outlines differ from the map I left with you last month. A third party has an interest (amounting to 126.5 acres) in the E $\frac{1}{2}$  Sec. 4, T6S, R5E and would require a cash payment by Simmons.

Asarco/Freeport would assume the \$7 million payment due Hanna/Texaco on production. Asarco/Freeport would pay Simmons 5% of net profits after payback until a total of \$7 million is paid.

The above terms are subject to final approval by Asarco and Freeport's officers. Of course, we will need to review the documents defining the underlying royalties and the definition of production that triggers the \$7 million payment to Hanna/Texaco.

As I mentioned on the phone last Friday, I have not been able to convince Asarco to sell or trade the Sacaton Mine water farm.

Sincerely yours,

  
W. L. Kurtz

WLK:mek  
att.

cc: R.L. Brown, Asarco, NY w/o att.  
A. Parks, Freeport, NV w/o att.



ASARCO Incorporated

MAR 16 1987

SW Exploration

March 10, 1987

NAAC of America  
Lawyer's Title of Arizona  
2200 N. Central Ave.  
Phoenix, AZ 85004

Secs 1,12,13,23,24 T6S  
R4E

Acreage 1,531.570  
TAX PARCEL NUMBER  
503-01-001A,3A,  
10-15,28,29,32

To Whom It May Concern:

The Willis Group Inc. is a land investment company located in Phoenix, Arizona. We are looking to acquire property in the Stanfield area where your land is located. At this time we have an interest in buying your land and would like to have additional information on your land.

Please return this letter with any information you have concerning your land and telephone numbers where we could reach you to discuss your land. If you wish, please feel free to call me at (602) 234-0771 or 234-0772, collect calls will be accepted.

I look forward to hearing from you soon.

Sincerely,

Curtis S. Wilson

Asking price per acre: \$ \_\_\_\_\_

Terms wanted: \_\_\_\_\_ years \_\_\_\_\_ % interest

Additional Information: At this time we have no plans to sell any of the land you refer to above. We will keep a copy of your letter on file

and contact you if there is a change in our position.

Telephone #'s: \_\_\_\_\_

\_\_\_\_\_

William D. Gay  
Land Engineer, SWED

cc: J.D. Sell  
W.L. Kurtz

ASARCO SANTA CRUZ, INC.  
 P. O. Box 5747  
 Tucson, Arizona 85703  
 (602) 792-3010

March 11, 1987

ASARCO Incorporated

FREEMPORT EXPLORATION COMPANY  
 P. O. Box 1911  
 Reno, Nevada 89505

MAR 13 1987

Attention: Mr. Allen Parks

SW Exploration

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for February 1987:

<u>Our E. A. No. 0075 - The Lands</u>		\$
Field Services & Supplies	25.41	
General Administration Charges	50.00	
Salaries	211.00	
Additional Labor Expense	15.56	
Travel Expense	<u>82.92</u>	384.89
 <u>Our E. A. No. 0087 - Peripheral Lands</u>		
General Administration Charges	50.00	
Interest - Parks/Salyer Mortgage	11,188.17	
Lawyers' Title - Service Charge	<u>21.00</u>	11,259.17
 <u>Our E. A. No. 0136 - NAAC Acquisition</u>		
Franchise Tax	40.00	40.00
 <u>Santa Cruz Farm</u>		
Lawyers Charges	35.00	<u>35.00</u>
		<u>11,719.06</u>
1/2 to Freeport Copper Company		5,859.53
Credit from January, 1987		(30,789.88)
Freeport's share of Annual Payment:		
Trust No. 1270, Escrow No. 152, 140 Parks/Salyer		16,539.52
Balance		\$ <u><u>(8,390.83)</u></u>

Encls.

cc: RJO'Keefe  
 Attn: EJFranko  
 \*JDSell ✓  
 DRCook - Reno  
 LMonismith - Elko

JDRidgeway - Reno  
 AJRobles

# ASARCO

Exploration Department  
Southwestern United States Division

March 27, 1987

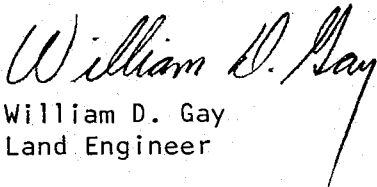
Ms. Loretta Corry  
ERA Rainbow Realty  
1930 W.Thunderbird Rd., Suite 106  
Phoenix, AZ 85023

Dear Ms. Corry:

Reference is made to your letter of March 9, 1987, in which you inquired about our land available for sale in the Casa Grande and Stanfield area.

At this time we have no plans to sell any of our land, but will hold your letter on file and contact you if there is a change in our position.

Very truly yours,

  
William D. Gay  
Land Engineer

WDG:mek

cc: W.L. Kurtz  
J.D. Sell

# ASARCO

Southwestern Exploration Division

May 4, 1987

To: W.L. Kurtz

From: H.G. Kreis

Reverse Circulation Drilling  
Santa Cruz Project  
Pinal County, Arizona

During the last 10 years reverse circulation drilling has developed to a state where it may be very beneficial to use for in situ leach test work. Reverse circulation drill rigs are now capable of drilling a 6-6½" diameter hole to a depth of 3000'. Depending on the formation and the abundance of water, the drilling can be done with either a hammer drill or with a tricone bit. The average drilling cost for a 2000-3000' deep 6" diameter drill hole is about \$15-\$20 per foot (casual cost estimate by Lang Drilling of Salt Lake City, April 30, 1987).

Reverse circulation drilling is done with an air hammer or tricone bit. The choice between using an air hammer or a tricone bit is usually based on the nature of the formation and the abundance of water. Drilling with the tricone bit offers the advantage of having the cuttings being flushed into the pipe from immediately behind the bit face (see attached information); whereas, with a hammer drill the cuttings are pushed outside the air hammer and up along the walls for a distance of 4 feet before they enter into the drill pipe and are carried to the surface. Drilling with a tricone bit may produce a hole with cleaner walls than drilling with the hammer bit, but this has yet to be proven in actuality.

Too much ground water in a deep hole can be a problem for an air hammer. A water flow of 200 gallons per minute is considered a problem; whereas, a water flow of 20 to 30 gallons per minute is considered optimum for drilling. When there is little or no water in the drill hole, 10 or 15 gallons of water per minute are injected, and this is the maximum capacity of the water pump.

Packers for permeability testing are readily available for holes of this size and for use with the drill rig that drilled the hole. The packers cost \$1500 each. Two packers for a straddle packer test would cost \$3000, plus whatever connecting rods would be needed.

Lang Exploratory Drilling Company claims it is the only drilling company in the West that offers deep reverse circulation drilling. Apparently there is another drilling company in Florida that also offers deep reverse circulation drilling.

HGK:mek  
Attachment

*H. G. Kreis*  
H. G. Kreis

cc: J.D. Sell



# DUAL-WALL REVERSE CIRCULATION OFFERS.

## HOW IT WORKS

The reverse circulation rotary drilling method utilizes dual-wall pipe, top drive rotation and a side inlet for injecting the drilling fluid, air or both.

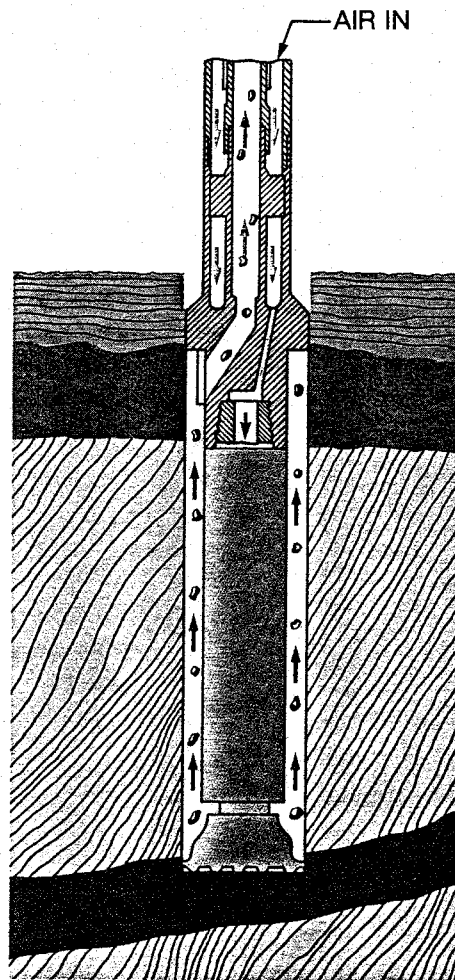
When drilling with this system, the drilling fluid is forced down the outer annulus of the dual-wall pipe to the drill bit where it is then directed to the center of the pipe. The air or drilling fluid returns the cuttings via the inner pipe at velocities in excess of 4,000 feet per minute.

The reverse circulation rotary system uses flush-jointed drill pipe and a drill bit sub designed to fit snugly over the body of the drill bit. This unique design permits the bore hole to be cut with a minimum of clearance and so lessens the possibility of sample contamination. The configuration also minimizes the loss of air or misting in vuggy or fractured formations and will maximize the geological sample recovery in adverse conditions; conditions that are nearly impossible for rotary or diamond drills.

## FOR HARD ROCK FORMATIONS

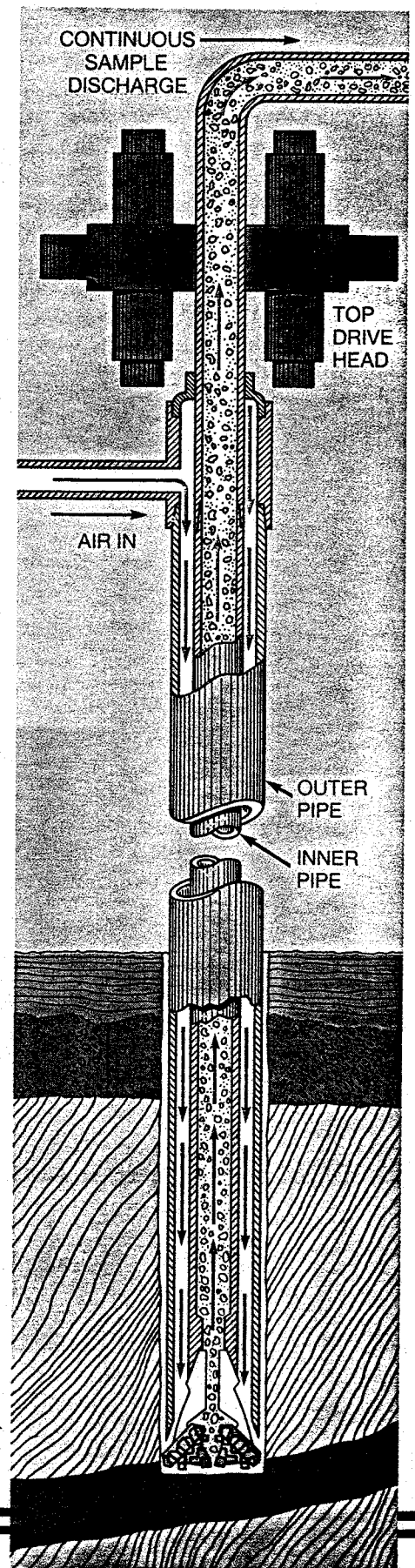
When it becomes uneconomical to drill in hard formations with either a tricone or roller button bit, the dual-wall method can still be used to advantage with a down-the-hole hammer drill.

An interchange sub is screwed onto the top of the hammer drill and then the complete unit is screwed onto the dual-wall pipe. In this configuration, the rotating/percussion action of the drill cuts the sample which travels between the wall of the hole and the outer barrel of the hammer drill. As the sample moves up the length of the hammer drill it is directed into the interchange sub openings where it is air lifted to the surface through the inner pipe.



*Air Hammer* →

*Tri cone Bit* →



# EFFICIENCY, VERSATILITY AND ECONOMY

## HOW DRILLING SERVICES MAKES IT WORK FOR YOU

Whether you call it the double-wall pipe system, rotary continuous sample system or the dual-wall system, the results are the same . . . Drilling Services can provide you with a faster, less costly way to obtain the purest exploration samples possible.

### Uncontaminated Sampling

Since rock and water samples do not come in contact with the bore hole, there is no contamination from the formation or erosion. In extreme high water bearing formations, down hole erosion may occur due to fractures or gravel formations.

### Faster Penetration

With top head drive rotary drills, exploration proceeds up to 15 times faster than with conventional core drills.

### Lower Operating Costs

In some cases, costs have been reduced by 75%. Bit costs are generally lower and the job is completed in less drilling time. In addition, ex-

pensive drilling muds or additives are rarely used.

### Straighter Holes

Flush-wall pipe with minimum clearance results in less deviation, with either vertical or angle drilling, than with conventional drilling methods.

### No Surface Casing

The outer pipe supports the bore hole while circulation is maintained internally.

### No Lost Circulation

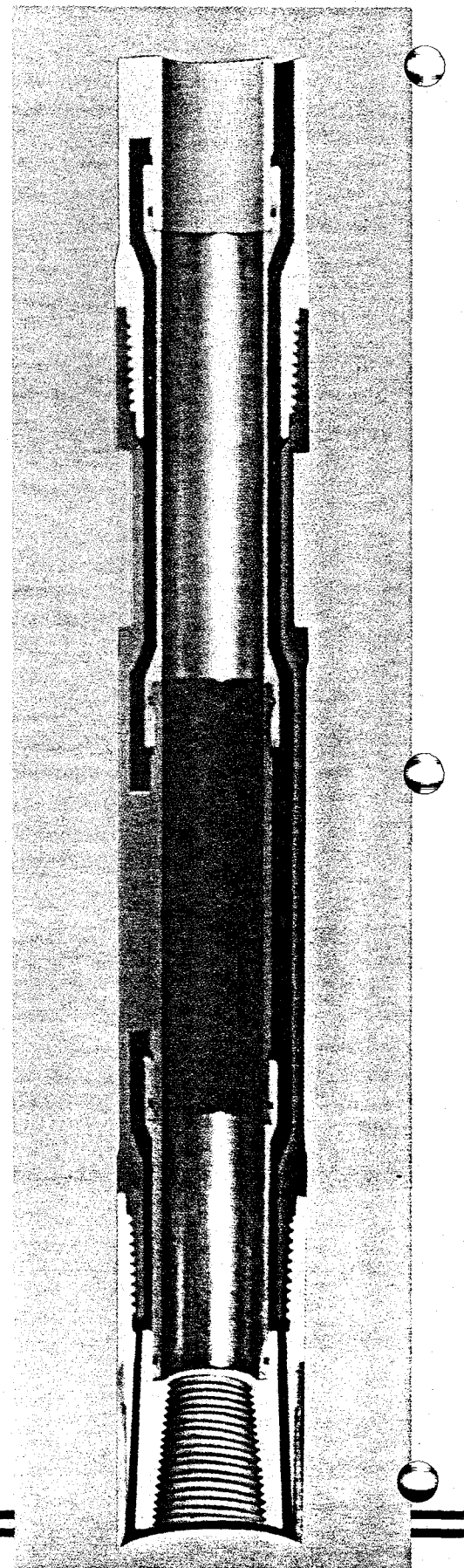
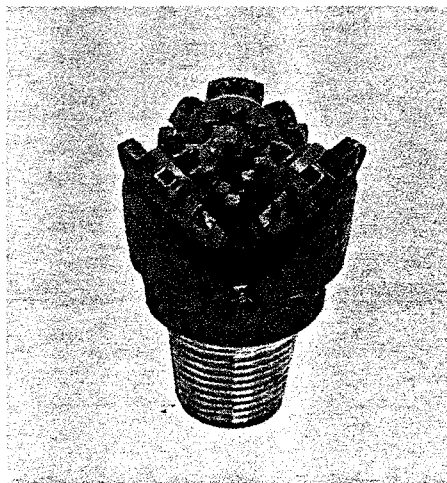
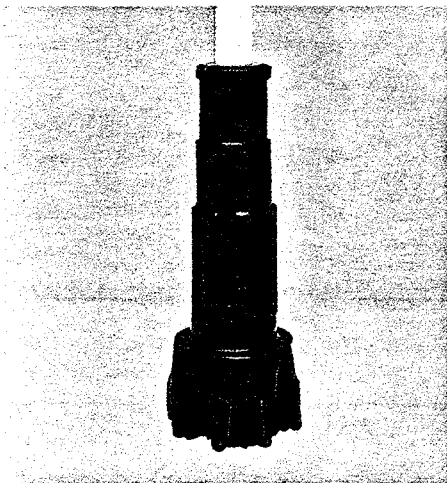
Circulation is maintained even when drilling in vugs, fractures, voids and joints thus avoiding expensive delays.

### Improved Well Design

Better samples provide greater reliability in well design, enhancing results.

### In-Place Water Sampling

Many geologic environments are suitable for obtaining reliable water samples from aquifer zones during drilling operations, eliminating the need for expensive packers or other methods of obtaining such samples.





# drill systems

## REVERSE CIRCULATION BY DRILL SYSTEMS

Reverse circulation drilling which has also been called centre sampling recovery (CSR) is essentially a dual tube pipe system. The system provides continuous, representative and virtually uncontaminated geological samples at approximately one third the cost of conventional coring.

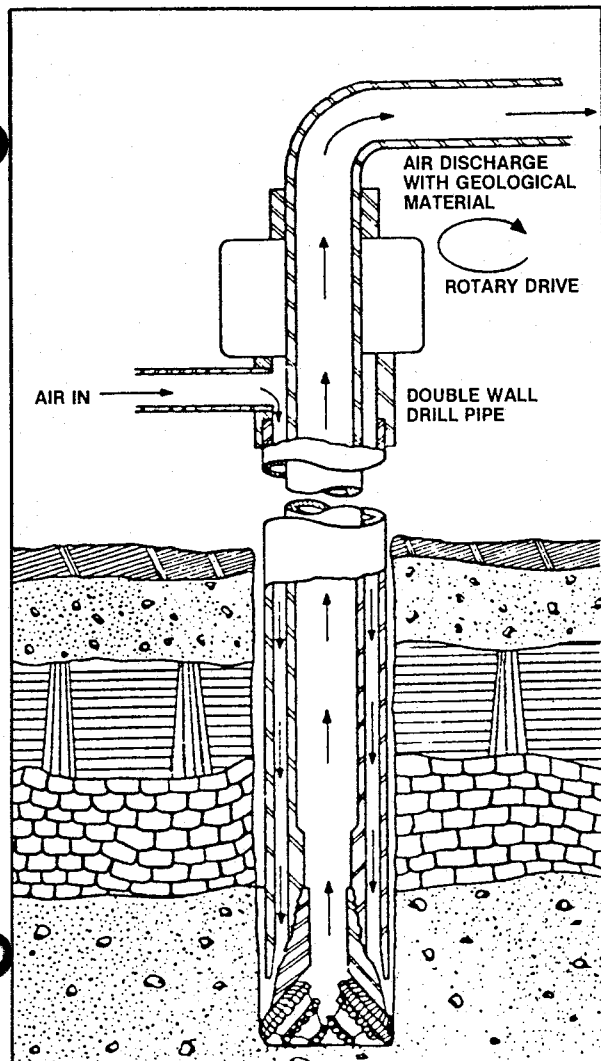
In addition to the dual wall drill pipe, reverse circulation utilizes top drive rotation and a side inlet swivel to inject the circulation medium to be employed. The method normally uses air as the drilling medium although water, mud, foam, detergent, water mist or a number of combinations are also practical.

The drilling fluid (air) is injected through the side inlet swivel and down between the outer pipe and inner pipe of the dual tube drill system. The air and cuttings are directed to the centre of the drill bit and then forced to the surface through the inner pipe at a very high velocity. The cuttings are discharged into a sampling cyclone where air is removed and velocity dampened. The sample is then collected in suitable containers under the cyclone or the sample may be split and collected as required.

Reverse circulation is in use worldwide and has proven successful in the exploration for numerous mineral and metals including:

Gold	Nickel	Coal	Silver
Copper	Phosphate	Iron	Zinc
Bauxite	Uranium	Lead	Lithium

There are a number of important factors which enable reverse circulation to provide the very considerable cost savings required to secure accurate geological samples at one third the cost of conventional coring.



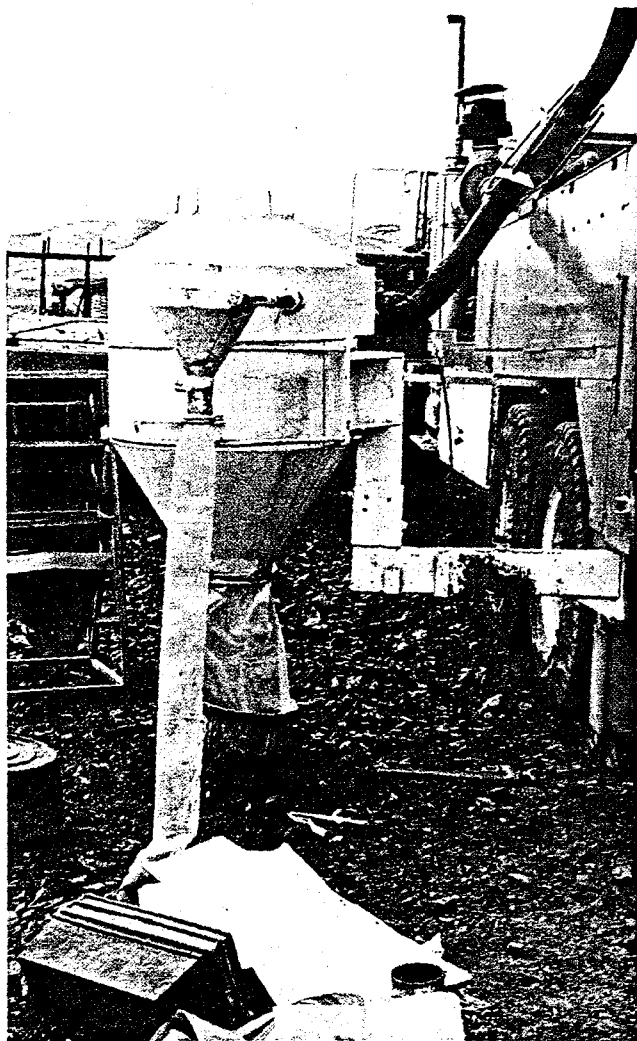
### drill systems inc.

10760 Irma Drive, Suite 18, Denver, CO 80233-2173  
Phone (303) 457-3769 (Colorado) - (800) 521-5202  
Telex 98-8038



Differentiation of Sample by Reverse Circulation

## Cyclone and Sample Collection Arrangement



1. Water - Only very limited amounts are required as air is the drilling medium. This is obviously of great importance where water is not available at the drill site.

2. Unconsolidated Formations - Reverse circulation will penetrate through faults, voids, fractures, abandoned mines as well as caving, broken and low pressure zones or fractures. Once the drill bit bores through the void, circulation is immediately regained. There is little risk of having to abandon a drill hole and no need for casing, cement or mud in order to complete the drill hole.

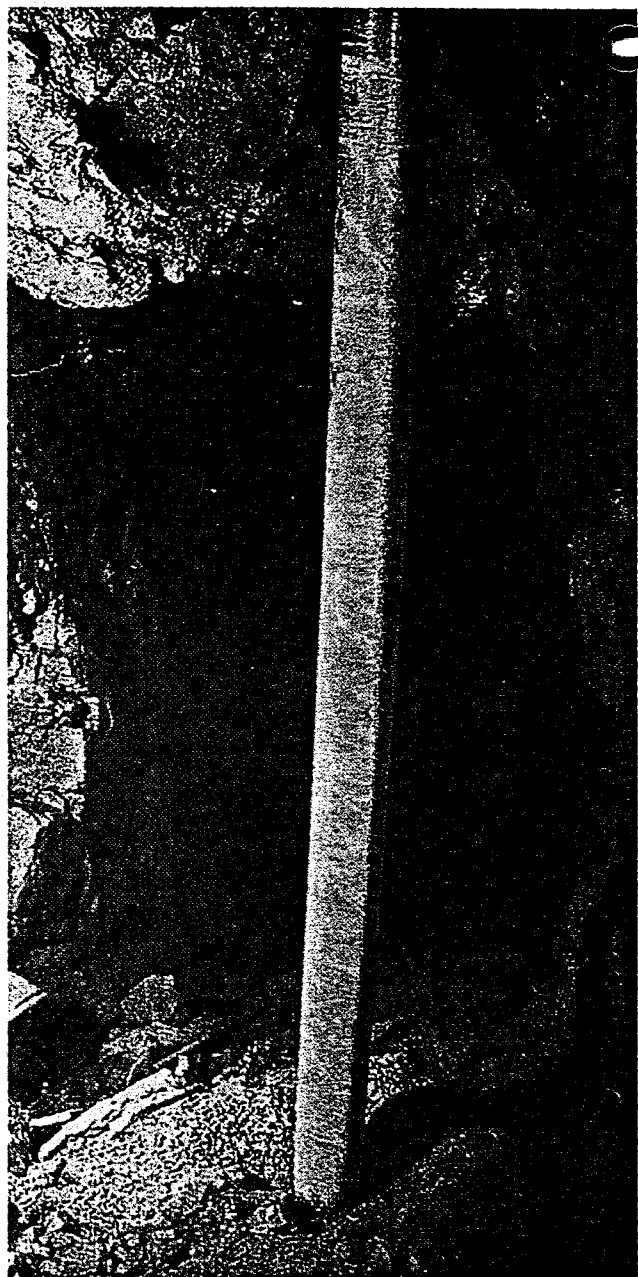
3. Drilling rates are high as samples are provided on a continuous basis.

4. Down-hole-hammer - Can be utilized with Drill Systems reverse circulation drill pipe. Drilling rates in suitable formations increase dramatically.

5. Bits - Diamond bit expense is avoided.

6. Drill Pipe Life - Bit sizes are generally slightly larger than the drill pipe which results in very little friction with the drill hole wall. As the cuttings are

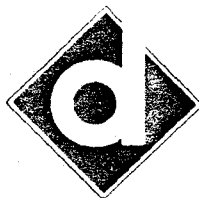
## Reverse Circulation successfully penetrating a void and regaining circulation



returned up the inner pipe the life of the drill pipe is far greater than for rotary or core drill pipe.

7. Casing - The drill pipe supports the hole therefore there is generally no need for surface casing.

8. Stabilizer/Drill Collars - Since the outer drill pipe supports the hole, deviation is unlikely and stabilizers are seldom required.



# drill systems

111 - 58 AVENUE S.W.,  
CALGARY, ALBERTA, CANADA T2H 0A3  
TELEPHONE (403) 253-7451  
TELEX 03-825750

WTR / JES / Santa Cruz File

DEEP DRILLING COSTS WITH  
REVERSE (DUAL PIPE) CIRC.

# LANG EXPLORATORY DRILLING

A DIVISION OF **Longyear**

2286 WEST 1500 SOUTH • SALT LAKE CITY, UTAH 84104

May 5, 1987

*This is the "back  
of the envelope" cost  
estimate that I requested.  
H.G.K.*

Mr. Hank Kreis  
Asarco, Incorporated  
P.O. Box 5747  
Tucson, Arizona 85703

RE: Deep Reverse Air Drilling

Dear Hank:

The enclosed proposal is all inclusive and would involve setting and grouting permanent casing from 0 - 1,000 feet, then completing the hole to total depth with reverse air rotary.

As I mentioned in our phone conversation this is an estimate only, but I feel the numbers are probably somewhat high. If you have any further questions, please feel free to call.

Regards,

LANG EXPLORATORY DRILLING,  
a Division of Longyear Company

*Randy Mayer*  
RANDY MAYER  
Contract Representative

RM/bn

Enc:

# LANG EXPLORATORY DRILLING

A DIVISION OF Longyear

2286 WEST 1500 SOUTH • SALT LAKE CITY, UTAH 84104

DUAL TUBE DRILLING AGREEMENT ESTIMATE ONLY

Between

Lang Exploratory Drilling Company

a Division of Longyear Company

and

ASARCO, INCORPORATED

This AGREEMENT made and entered into this 5th day of May, 1987, by and between Lang Exploratory Drilling Company and Asarco, Incorporated Attention: Hank Kreis, (602-792-3010), having its address at P.O. Box 5747, Tucson, Arizona 85703, hereinafter called Lang and Client.

WITNESSETH: That

I. In consideration of certain payments hereby agreed to be made by Client to Lang: Lang agrees to drill with drilling equipment for the Arizona Project, in the State of Arizona, approximately 1 hole, 2,400 feet each, 2400 feet total. Hole depth will not exceed 3,000 feet.

II. Client agrees to the following and to pay the following prices for the herein described work:

1. MOBILIZATION AND DEMOBILIZATION

Mobilization - \$4,0000.00      Demobilization - \$2,500.00

Mobilization means to the end of improved and/or public roadways. Demobilization means from the beginning of improved public roadways.



- C Properly constructed roads
- C Backhoe work
- L Fuel - gas, butane, diesel
- C Water - Furnish
- Water Hauling by Lang @ N/C first hour each day \$50
- C/L each additional hour.
- L Casing - @ N/C ✓ (≈ 6/ft.)
- L Cement - @ N/C
- L Cementing service for casing jobs - @ N/C ✓
- C Sample bags or pails
- L Sample discharge fittings and hose
- L Mud and additives - N/C
- L Hammer bits - N/C
- L Tricone bits and wear sleeves (skirts) - N/C
- L Auxiliary air - N/C
- L Booster air - N/C
- L Cyclone
- L Splitters
- ✓ C Subsistence pay \$20.00 per man per day
- L Circulating tanks - N/C
- L Shale shaker - N/C
- L Desander - N/C

*Note:*  
 Casing  
 & cement  
 time @  
 Lang expense

6. LIABILITY:

Lang shall drill at the locations and to the depths specified by the representative of Client and shall be held harmless for all liability which may arise from normal activity related to this contract, including pollution of ground water or surrounding land from discharge of drill water and wastes. Lang agrees to accept responsibility for the irresponsible acts of its employees and for the liability which may result from these acts.



*Driller must  
notify client  
before tools  
are lost.  
is  
to get  
to  
etc  
do you  
want  
to  
contain  
at you  
client  
risk*

7. LOSS OF TOOLS:

Loss of tools due to driller's error shall be paid for by Lang. However, loss of tools due to bad formations shall be paid for by Client. Repair of equipment damaged directly by insufficient road work will be paid for by Client.

8. INVOICES:

Lang will invoice at the end of each calendar week for the work done during such period and the terms will be NET due upon receipt.

9. LICENSES & PERMITS:

Lang certifies it has a license to do contract work in the state of Arizona. All other licenses, land and water use permits, environmental reports, state reports relating to hole plugging, etc. shall be the responsibility of Client. Lang shall cooperate with and give technical assistance for Client's compliance with these regulations.

III. Client will furnish a competent representative to advise Lang as to the desired locations and depths of the different holes.

IV. Lang shall maintain such insurance as will protect it from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this contract, whether such operations are by Lang or any subcontractor or anyone directly or indirectly employed by either of them.

Prior to commencement of this work, Lang shall file with Client complete certificates of insurance in the form of an insurance certificate for Lang and each subcontractor. Lang and each subcontractor shall provide insurance coverage in satisfactory amounts.

V. Lang shall fully save harmless and indemnify Client against any expense, loss or damage on account of any claim, demand, or suit made by any person whomsoever, including any employee of Client, which is in any way connected with, grows out of or has anything to do with the execution and performance of this contract on the part of Lang or any subcontractor and agrees that Client shall not be liable for any injury, or other loss or damage of any nature, that might be sustained by Lang itself or its employees in the execution and performance of this contract, unless such injury, loss or damage is caused solely by willful fault or negligence on the part of Client or its employees. Lang accepts all responsibility for any claims for damages whatsoever resulting from the use, misuse, or failure of any hoist, rigging, locking, scaffolding, or other equipment used by Lang or any of its subcontractors.

VI. The drilling operations shall be carried out in a good and workmanlike manner, and Lang will make every reasonable effort to execute the drilling in the best interest of Client.

Lang will take necessary precautions to prevent gas and oil spillage which might create a pollution problem.

VII. This proposal is contingent on availability of rigs at the time of contract award.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals.

ASARCO, INCORPORATED

LANG EXPLORATORY DRILLING COMPANY  
a Division of Longyear Company

BY \_\_\_\_\_

BY \_\_\_\_\_

RANDY MAYER  
Contract Representative

No track rig avail.  
until late Sept. or early Oct.

J.D.S. / 1/10  
Browns Ranch

# LANG EXPLORATORY DRILLING

A DIVISION OF Longyear

2286 WEST 1500 SOUTH • SALT LAKE CITY, UTAH 84104

DUAL TUBE DRILLING AGREEMENT

Between

Lang Exploratory Drilling Company

a Division of Longyear Company

and

ASARCO, INCORPORATED

~~5-11-87~~  
Told Randy  
we have to have a  
track rig. Lang  
will have one  
avail in late  
Sept. - early Oct.

This AGREEMENT made and entered into this 5th day of May, 1987, by and between Lang Exploratory Drilling Company and Asarco, Incorporated Attention: Hank Kreis, (602-792-3010), having its address at P.O. Box 5747, Tucson, Arizona 85703, hereinafter called Lang and Client.

WITNESSETH: That

I. In consideration of certain payments hereby agreed to be made by Client to Lang: Lang agrees to drill with drilling equipment for the Browns Ranch Project, in the State of California, approximately 5 holes, 250 feet each, 2,500 feet total. Hole depth will not exceed 500 feet. Estimated project startup date will be on or about June - July, 1987.

II. Client agrees to the following and to pay the following prices for the herein described work:

1. MOBILIZATION AND DEMOBILIZATION

Mobilization - \$1,500.00

Demobilization - \$1,500.00

Mobilization means to the end of improved and/or public roadways. Demobilization means from the beginning of improved public roadways.

2. FOOTAGE BID DRILLING RATES:

Vertical rig: \$8.25 per ft. Size: 5 - 5 1/2"

Hourly work on footage rate - \$195.00 per hour. Will include setting and pulling of casing, washing out holes, conditioning holes, moving between sites, rigging up and rigging down, fishing, and plugging.

The previously listed prices are based on Lang having the option to work 12 rig hours per day. Any schedule changes must be approved by the Lang office and Client or will be charged at the "standby with crew" rate.

3. STANDBY:

Standby with crew - \$165.00 per hour.

4. TRAVEL:

Travel time to and from job site: No Charge first one (1) hour. Any additional travel time after the first one hour will be charged at: \$75.00 per hour.

5. ADDITIONAL EQUIPMENT, MATERIAL, AND/OR SERVICES TO BE PROVIDED AT THE LOCATION BY THE PARTY DESIGNATED:

C = Client      L = Lang

C    Abandonment materials at cost plus 15%

C    Site selection and preparation

C    Rights of way

C	Dozer work
C	Properly constructed roads
L	Fuel - gas, butane, diesel
C	Water - Furnish
	Water Hauling by Lang @ N/C first hour each day \$50
C/L	each additional hour.
C/L	Casing - L @ cost + 15% if lost in hole
C	Sample bags or pails
C/L	Mud and additives - L @ cost + 15%
L	Hammer bits - N/C
C/L	Tricone bits and wear sleeves (skirts) - L @ cost + 15% if required.
L	Cyclone
L	Splitters
C	Subsistence pay \$20.00 per man per day

6. LIABILITY:

Lang shall drill at the locations and to the depths specified by the representative of Client and shall be held harmless for all liability which may arise from normal activity related to this contract, including pollution of ground water or surrounding land from discharge of drill water and wastes. Lang agrees to accept responsibility for the irresponsible acts of its employees and for the liability which may result from these acts.

7. LOSS OF TOOLS:

Loss of tools due to driller's error shall be paid for by Lang. However, loss of tools due to bad formation shall be paid for by Client. Repair of equipment damaged directly by insufficient road work will be paid for by Client.

8. INVOICES:

Lang will invoice at the end of each calendar week for the work done during such period and the terms will be NET due upon receipt.

9. LICENSES & PERMITS:

Lang certifies it has a license to do contract work in the state of California. All other licenses, land and water use permits, environmental reports, state reports relating to hole plugging, etc. shall be the responsibility of Client. Lang shall cooperate with and give technical assistance for Client's compliance with these regulations.

III. Client will furnish a competent representative to advise Lang as to the desired locations and depths of the different holes.

IV. Lang shall maintain such insurance as will protect it from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this contract, whether such operations are by Lang or any subcontractor or anyone directly or indirectly employed by either of them.

Prior to commencement of this work, Lang shall file with Client complete certificates of insurance in the form of an insurance certificate for Lang and each subcontractor. Lang and each subcontractor shall provide insurance coverage in satisfactory amounts.

of any claim, demand, or suit made by any person whomsoever, including any employee of Client, which is in any way connected with, grows out of or has anything to do with the execution and performance of this contract on the part of Lang or any subcontractor and agrees that Client shall not be liable for any injury, or other loss or damage of any nature, that might be sustained by Lang itself or its employees in the execution and performance of this contract, unless such injury, loss or damage is caused solely by willful fault or negligence on the part of Client or its employees. Lang accepts all responsibility for any claims for damages whatsoever resulting from the use, misuse, or failure of any hoist, rigging, locking, scaffolding, or other equipment used by Lang or any of its subcontractors.

VI. The drilling operations shall be carried out in a good and workmanlike manner, and Lang will make every reasonable effort to execute the drilling in the best interest of Client.

Lang will take necessary precautions to prevent gas and oil spillage which might create a pollution problem.

VII. This proposal is contingent on availability of rigs at the time of contract award.

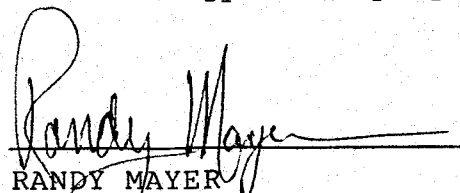
IN WITNESS WHEREOF, the parties hereto have set their hands and seals.

ASARCO, INCORPORATED

LANG EXPLORATORY DRILLING COMPANY  
a Division of Longyear Company

BY \_\_\_\_\_

BY

  
RANDY MAYER

Contract Representative



# ASARCO

Southwestern Exploration Division

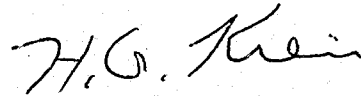
May 11, 1987

To: Files

From: H. G. Kreis

Break In  
Hanna-Getty  
Storage Building  
Pinal County, AZ

On May 11, 1987, Sterling Cook of the USBM reported all three of Hanna-Getty's storage building were broken into. Apparently, some of Hanna-Getty's equipment was stolen. A few of our core boxes were tipped over and the contents mixed. Mr. Cook will call John Stone of Hanna and let him know what happened.



H. G. Kreis

HGK:mek

cc: W.L. Kurtz  
J.D. Sell

# ASARCO

Southwestern Exploration Division

JDS

June 12, 1987

To: J.D. Sell

From: H.G. Kreis

Correspondence  
Santa Cruz Project  
Pinal County, Arizona

I owe you an apology, a very big one at that. I see that I left your name off the copy list for nearly all the USBM-Santa Cruz type information that I sent out during the week, a week which as you know has been an exceptionally busy one since I'm leaving to go to Nevada for the summer. There are many people involved with the Santa Cruz correspondence and I hope I didn't forget anyone else.

To make matters even worse, I see where I left your name off my May monthly report, a gross oversight, since it was written in the type of detail to meet your needs more than anyone else's needs.

Please accept my apology.

HGK:mek

*H. G. Kreis*  
H. G. Kreis

cc: W.L. Kurtz

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

CORRECTED COPY

July 27, 1987

FREEPORT EXPLORATION COMPANY  
P. O. BOX 41330  
Reno, Nevada 89504

Attention Mr. Allen Park

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for June 1987:

Our E. A. No. 0075 - The Lands

General Administration Charges	\$ 50.00	\$
Field Services & Supplies	64.74	
Salaries	241.00	
Payroll Taxes & Employee Benefits	<u>(17.24)</u>	338.50

Our E. A. No. 0087 - Peripheral Lands

General Administration Charges	50.00	<u>50.00</u>
		388.50

1/2 to Freeport Copper Company	194.25
Balance brought forward	<u>(16,661.13)</u>
Balance	<u><u>(16,466.88)</u></u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
JDRidgeway - Elko, NV  
AJRobles

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

July 9, 1987

FREEPORT EXPLORATION COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention Mr. Allen Park

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for June 1987:

Our E. A. No. 0075 - The Lands

General Administration Charges	\$ 50.00	\$
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Salaries	241.00	
Payroll Taxes & Employee Benefits	<u>(17.24)</u>	338.50

Our E. A. No. 0087 - Peripheral Lands

General Administration Charges	50.00	<u>50.00</u>
		388.50

1/2 to Freeport Copper Company  
Balance brought forward  
Balance

194.25  
(16466.88)  
(16272.63)

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
JDRidgeway - Elko, NV  
AJRobles

ASARCO Incorporated

JUL 13 1987

SW Exploration

August 5, 1987

R.L. Brown  
New York Office

Santa Cruz Project

Today I asked Mr. Simmons to consider quit claiming the unpatented mining claims he will receive from Casa Grande Copper to us -- at least those where we own the surface.

WLK:mek

  
W. L. Kurtz

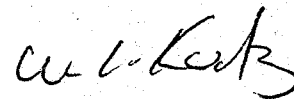
cc: J.D. Sell

August 5, 1987

Mr. R. L. Brown  
New York Office

Casa Grande Copper

John Stone, Coastal Mining Company (Hanna), says that the 1987 assessment work is being done on the unpatented mining claims held by Casa Grande Copper. He guesses, but does not specifically know, that they will be transferred to the purchaser of the ore deposit.

  
W. L. Kurtz

WLK:mek

cc: J.D. Sell

August 6, 1987

W. L. Kurtz

Hanna Assessment Drilling  
Ending Sept. 1, 1987  
Santa Cruz Project  
Pinal County, Arizona

Mr. Clark Arnold (623-9780) called on August 6, 1987, to tell Asarco of their plans for assessment year ending Sept. 1, 1987, on their unpatented claims in the Santa Cruz Project area.

Hanna has 75 unpatented claims in T6S, R4E:

S $\frac{1}{2}$ , Sec. 3  
N $\frac{1}{2}$ , Sec. 12  
W $\frac{1}{2}$ , Sec. 23  
W $\frac{1}{2}$ , Sec. 24

In Section 12 they have 3 holes (also shown on our map #2830):

Holes 5 and 8 are in the center of the section. These holes hit bedrock around 2000 feet and they took some spot cores, showing weak alteration/mineralization.

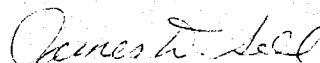
Hole 44 (slight question on the number) was drilled on the east center boundary next to the Desert Carmel holdings. This hole hit bedrock around 2300 feet and was cored to around 3100 feet. A "trace" of mineralization was found.

The hole in the extreme SE corner of Section 2 hit bedrock around 1000 feet but was "very barren." Several holes in Section 3 were also "uninteresting."

Thus Clark Arnold and Steve Van Norte plan on spending \$7500 for assessment work by drilling somewhere in Section 12 with some hope of hitting bedrock and taking a spot core. Charlie Dowd (Sp?) of Hanna would not give them the authorization to drill back-to-back and thus spend \$15,000 to be more able to secure a bedrock penetration.

Clark told us all this for:

1. Any input Asarco might have on a drill site of better use of the monies, but bedrock is the desired end point.
2. (Though not stated specifically) Any contribution by Asarco for assuming a bedrock penetration.
3. Any exchange of Asarco drilling information for Hanna drilling information (which we might not have).



James D. Sell

JDS:mek

cc: F.T. Graybeal, H. G. Kreis, W.D. Gay

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

ASARCO Incorporated

JDS

SEP 16 1987

SW Exploration

September 15, 1987

FREEMPORT EXPLORATION COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. Allen Park

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for August 1987:

<u>Our E. A. No. 0075 - The Lands</u>		
General Administrative Charges	\$ 50.00	
Field Services & Supplies	26.43	
Annual Trust Fee	<u>162.00</u>	\$ 238.43
<u>Our E. A. No. 0087 - Peripheral Lands</u>		
General Administrative Charges	50.00	
Travel Expense	14.60	
Attorney's Fees	<u>330.00</u>	394.60
<u>Our E. A. No. 0196 - Amoco Land</u>		
Annual Trust Fee	<u>162.00</u>	162.00
<u>Santa Cruz Farm</u>		
Interest Expense	2851.20	
Service Fee	30.00	
Attorney's Fees	91.51	
Interest Income	<u>(47520.00)</u>	(44547.29)
		(43,752.26)
Receivables Paid (Griffith Properties)		(45,120.00)
		<u>(88,872.26)</u>
1/2 to Freeport Copper Company		(44,436.13)
Balance brought forward		<u>(16,297.14)</u>
Balance		<u>\$( 60733.27)</u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
JDRidgeway - Elko, NV  
CLSnow



JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

October 12, 1987

FREEPORT COPPER COMPANY  
P O Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for September 1987:

<u>Our E. A. No. 0075 - The Lands</u>		
General Administrative Charges	\$ 50.00	
Field Services & Supplies	47.17	
Attorney's fees	<u>245.00</u>	\$ 342.17
<u>Our E. A. No. 0087 - Peripheral Lands</u>		
General Administrative Charges	50.00	50.00
<u>Santa Cruz Farm</u>		
Attorney's Fees	<u>17.00</u>	<u>17.00</u>
		\$ 409.17
1/2 to Freeport Copper Company		204.59
Balance brought forward		<u>(60,733.27)</u>
Balance		<u><u>\$(60,528.68)</u></u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSe11  
JDRidgeway - Elko, NV  
CLSnow

ASARCO Incorporated  
OCT 13 1987  
SW Exploration

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

ASARCO Incorporated

NOV 13 1987

SW Exploration

November 10, 1987

FREEPORT COPPER COMPANY  
P O Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for October 1987:

<u>Our E. A. No. 0075 - The Lands</u>		
General Administrative Charges	\$ 50.00	
Property Taxes	16,663.30	
Salaries	243.00	
Employee Benefits & Taxes	(34.19)	
Lawyer Fees	<u>3,392.56</u>	\$ 20,314.67
<u>Our E. A. No. 0087 - Peripheral Lands</u>		
General Administrative Charges	50.00	
Lease Payment	(1,000.00)	
Property Taxes	<u>7,617.26</u>	6,667.26
<u>Our E. A. No. 0134 - Mooney Tract</u>		
Property Taxes	1,696.08	1,696.08
<u>Our E. A. No. 0136-00 NAAC Acquisition</u>		
Property Taxes	1,355.64	1,355.64
<u>Our E. A. No. 0196-00 Amoco Land</u>		
Property Taxes	3,973.68	3,973.68
		<u>34,007.33</u>
1/2 to Freeport Copper Company		17,003.66
Balance brought forward		<u>(60,528.68)</u>
Balance		\$ <u>(43,525.02)</u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
JRRidgeway-Elko, NV  
CLSnow

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

December 9, 1987

FREEMPORT COPPER COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for November 1987:

<u>Our E. A. No. 0075 - The Lands</u>		
General Administration Charges	\$ 50.00	
Travel Expense	<u>15.10</u>	\$ 65.10
<u>Our E. A. No. 0087 - Peripheral Lands</u>		
General Administrative Charges	50.00	
Salaries	577.00	
Employee Benefits & Taxes	<u>(39.60)</u>	<u>587.40</u>
		\$ <u>652.50</u>
1/2 to Freeport Copper Company		326.25
Balance brought forward		<u>(43,525.02)</u>
Balance		<u>\$(43,198.77)</u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
JBRidgeway - Elko, NV  
CLSnow

ASARCO Incorporated

DEC 11 1987

SW Exploration

JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

January 7, 1988

FREEPORT COPPER COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for December, 1987:

Our E. A. No. 0075 - The Lands

General Administration Charges	\$ 50.00	
Field Services & Supplies	<u>214.45</u>	\$ 264.45

Our E. A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	
Outside Professional Services	6715.82	
Travel Expense	<u>56.36</u>	<u>6822.18</u>

\$ 7086.63

1/2 to Freeport Copper Company  
Balance brought forward

3543.32  
(43198.77)

Balance

\$(39655.45)

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
PJorgensen - Elko, NV  
CLSnow



JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

ASARCO Incorporated

FEB 10 1988

SW Exploration

February 8, 1988

FREEPORT COPPER COMPANY  
P O Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for January, 1988:

Our E A No. 0075 - The Lands

Professional services	\$ 1,627.13	
Field Services & Supplies	6.88	
General Administration Charges	50.00	
Salaries & Employee Overhead Charges	224.00	
C T Corporation Service Fee	<u>150.00</u>	\$ 2,058.01

Our E A No. 0087 - Peripheral Lands

Professional services	18,601.33	
Field Services & Supplies	16.00	
General Administration Charges	50.00	
Salaries & Employee Overhead Charges	<u>361.00</u>	\$ 19,028.33

Our E A No. 0196 - Amoco Land

Lawyers Title - Trust Fee	53.00	53.00
		<u>\$ 21,139.34</u>

1/2 to Freeport Copper Company	10,569.67
Balance Brought Forward	(39,655.45)
Balance	<u><u>\$(29,085.78)</u></u>

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
PJorgensen - Elko, NV  
CLSnow

February 12, 1988

To: J. D. Sell

From: H. G. Kreis

Hanna-Getty  
Storage Building

For many years the Hanna-Getty core storage building had remained relatively secure with only a couple of minor break-ins. During the last year the number of break-ins have increased dramatically. During the last couple of months I made it a point to stop by when passing through the area. On each of several of these stops the large building which stores our core was found open. It is obvious that people are treating the building as though it were abandoned. The building is being stripped of its electrical equipment, and some of the stored contents (other than core) are disappearing. Unless something is done, it won't be long until someone decides to steal the materials that the core racks are made from, or do something else that will damage our core and core from the Hanna-Getty deposit.

Because we have an interest in acquiring the Hanna-Getty deposit and the building is a convenient place to store our core, I suggest that Asarco take steps to secure the building. This means making it obvious the building has not been abandoned (signs, night lights, etc.) and providing regular visits by a watchman (from Sacaton?). Before implementing a security program, it would be advisable to contact someone in Hanna or Texaco.

Although this matter is not my responsibility, I trust someone will look into it.

HGK:mek

*H.G. Kreis*  
H.G. Kreis

cc: W.L. Kurtz  
A.R. Raihl

*I suggested to HGK that he move the  
core to Sacaton before anything else  
happens.*

*JDS*

JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

ASARCO Incorporated

MAR 9 1988

SW Exploration

March 7, 1988

FREEPORT COPPER COMPANY  
P O Box 41330  
Reno, Nevada 89504

Attention: Mr.D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for February, 1988:

Our E A No. 0075 - The Lands

Field Services & Supplies	\$ 70.95	
General Administration Charges	<u>50.00</u>	\$ 120.95

Our E A No. 0087 - Peripheral Lands

Professional services	945.50	
Travel Expense	24.62	
General Administration Charges	50.00	
Interest - Parks/Salyer Mortgage	9,203.43	
Lawyers Title - service charge	<u>21.00</u>	10,244.55

Our E A No. 0136 - NAAC Acquisition

Franchise Tax	30.00	
Filing Fee	<u>10.00</u>	40.00
		<u>\$10,405.50</u>

1/2 to Freeport Copper Company	5,202.75
Balance brought forward	<u>(29,085.78)</u>
Freeport's share of annual payment:	
Trust No. 1270, Escrow No. 152, 140 Parks/Salyer	\$17,531.89
Balance	<u>\$(6,351.14)</u>
Encls.	

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
PJorgensen - Elko, NV  
CLSnow



ASARCO SANTA CRUZ, INC.  
P. O. BOX 5747  
Tucson, Arizona 85703  
(602) 792-3010

April 8, 1988

FREEMPORT COPPER COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for March 1988:

Our E A No. 0075 - The Lands

Field Services and Supplies	\$ 48.15	
General Administration Charges	<u>50.00</u>	\$ 98.15

Our E A No. 0087 - Peripheral Lands

Professional services	16044.78	
Travel Expense	70.91	
General Administration Charges	50.00	
Salary	942.00	
Employee Overhead	<u>273.00</u>	<u>17380.69</u>

17478.84

1/2 to Freeport Copper Company  
Balance brought forward

8739.42  
(6351.14)

Amount due

\$ 2388.28

Encls.

cc: RJO'Keefe  
Attn: E JFranko  
PJorgensen - Elko, NV  
File

ASARCO Incorporated

APR 12 1988

SW Exploration

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

May 5, 1988

FREEPORT COPPER COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for April, 1988:

Our E A No. 0075 - The Lands

Filing Fee	\$ 30.00	
General Administration charges	<u>50.00</u>	\$ 80.00

Our E A No. 0087 - Peripheral Lands

Field Services & Supplies	497.33	
Professional Services	11,486.68	
Travel Expense	119.16	
General Administration Charges	50.00	
Salary	457.00	
Employee Overhead	<u>133.00</u>	<u>12,743.17</u>
		<u>12,823.17</u>

1/2 to Freeport Copper Company	6,411.59
Balance brought forward	<u>2,388.28</u>

Amount due	\$ <u>8,799.87</u>
------------	--------------------

Encls.

cc: RJO'Keefe  
Attn: EJFranko  
JDSell  
PJorgensen - Elko, NV  
File

ASARCO Incorporated

MAY 10 1988

SW Exploration

JDS

ASARCO SANTA CRUZ, INC.,  
P. O. BOX 5747  
Tucson, Arizona 85703  
(602) 792-3010

June 8, 1988

FREEPORT COPPER COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for May, 1988:

Our E A No. 0075 - The Lands

General Administration charges \$ 50.00 \$ 50.00

Our E A No. 0087 - Peripheral Lands

Field Services & Supplies	421.87	
Professional Services	1,088.38	
Travel Expense	191.24	
General Administration Charges	50.00	
Salary	944.81	
Employee Overhead	<u>274.00</u>	<u>2,970.30</u>

3,020.30

1/2 to Freeport Copper Company		1,510.15
Balance brought forward		<u>8,799.87</u>

Amount due \$ 10,310.02

Encls.

cc: Controller/Attn: EJFranko  
JDSell  
PJorgensen - Elko, NV  
File

# ASARCO

Exploration Department  
Southwestern United States Division

July 5, 1988

Mr. Jerry White  
3737 East Broadway  
P.O. Box 21387  
Phoenix, Arizona 85036

Dear Mr. White:

Enclosed you will find:

1. Area Map
2. Alta Survey Maps (S/S Surveys, Inc)
3. Desert Carmel Map for Lots A,D,E,F,GP,H,J,K,L,M and R
4. "T" Lot Maps
5. "N" Lot Maps.

These maps should be sufficient, but if you need any further assistance contact me or Don Melhado.

Please note that Lot 3 in Parcel 27 will not be included in your reports as we discussed by telephone June 30, 1988.

Sincerely yours,



William D. Gay  
Land Engineer, SWED

WDG:mek  
Encs.

cc: W.L. Kurtz  
J.D. Sell

# ASARCO

WLR - JDS

Exploration Department  
Southwestern United States Division

August 1, 1988

Mr. Burton M. Apker  
Apker, Apker & Kurtz, P.C.  
2111 East Highland Ave., Suite 230  
Phoenix, Arizona 85016

Santa Cruz JV  
Desert Carmel

Dear Mr. Apker:

Enclosed is a copy of the Quitclaim Deed we discussed today on the telephone.

Sincerely yours,



William D. Gay  
Land Engineer, SWED

WDG:mek  
enc.

cc: W.L. Kurtz/J.D. Sell

05.0014

1530-636

910784

STATE OF ARIZONA )  
COUNTY OF Pinal ) ss.  
Witness my hand and Official Seal.  
Indexed Paged Blotted

I hereby certify that the within instrument was  
filed for record in \_\_\_\_\_ County,  
State of \_\_\_\_\_  
\_\_\_\_\_  
County Recorder

No. \_\_\_\_\_  
Book \_\_\_\_\_ Page \_\_\_\_\_  
Date: \_\_\_\_\_  
Request of: \_\_\_\_\_

By \_\_\_\_\_ Deputy \_\_\_\_\_ Fee \_\_\_\_\_

When recorded, mail to: DC PROPERTIES, INC. 707 Candlestick Drive Casa Grande, AZ 85222

### QUITCLAIM DEED

KNOW ALL MEN BY THESE PRESENTS:

That I (we), DC PROPERTIES, INC. an Arizona Corporation  
the undersigned, for the consideration of Ten Dollars, and other valuable considerations, do hereby release, remise,  
and forever quitclaim unto ASARCO-FREEPORT

all right, title and interest in that certain property situated in Pinal County,  
State of Arizona, and described as follows:

DESERT CARMEL G: A 20' STRIP ADJ TO THE W OF LOT 690 SEC 21-6S-5E as  
recorded in the office of the County Recorder of Pinal County, Arizona  
at Book 14 of Maps and Plats, page 18.

*21/6S/5E N*

AFFIDAVIT EXEMPT UNDER ARS 42-1614-A1.

Dated: May 9, 1988

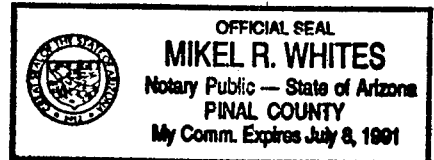
John Humphrey  
John Humphrey RELEASOR President  
DC PROPERTIES, INC.  
RELEASOR

### ACKNOWLEDGEMENT

STATE OF ARIZONA )  
COUNTY OF Pinal ) ss.

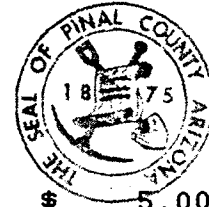
On this 9TH day of MAY, 19 88, before me, the undersigned Notary  
Public, personally appeared JOHN HUMPHREY/PRESIDENT FOR DC PROPERTIES, INC.  
to me known to be the individuals(s) described in and who executed the foregoing instrument, and acknowledged  
that he (she) (they) executed the same as his (her) (their) free act and deed.

My Commission expires: \_\_\_\_\_  
Mikel R. Whites  
Notary Public



\*\*\* CERTIFICATE OF RECORDING \*\*\*

STATE OF ARIZONA, COUNTY OF PINAL (SS)  
I HEREBY CERTIFY THAT THE WITHIN INSTRUMENT WAS FILED FOR RECORD IN  
PINAL COUNTY, STATE OF ARIZONA. WITNESS MY HAND AND OFFICIAL SEAL.



NO: 910784

TIME: 1000 26MAY88

PAGES: 001

FEE: \$ 5.00

\$ 4.00

\$ 0.00

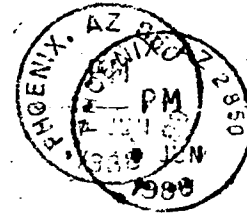
KATHLEEN C. FELIX

PINAL COUNTY RECORDER, BY ..... DEPUTY

DEED QC

FROM: DC PROPERTIES

TO: ASARCO-FREEPORT



Asarco-Freeport  
P.O. Box 5747  
Tucson, AZ 85703

RECEIVED

JUN 8 1988

EXPLORATION DEPARTMENT







# ASARCO

WEL - JDS

Exploration Department  
Southwestern United States Division

August 2, 1988

Mr. Burton M. Apker  
Apker, Apker & Kurtz, P.C.  
P.O. Box 10280  
Phoenix, AZ 85064-0280

Santa Cruz JV  
State Land  
Sec. 2, T6S, R4E

Dear Mr. Apker:

Today I visited the area of Section 2 in which the 400 acres of State land lies. Enclosed is a map of what I observed.

If you have any questions, please call.

Sincerely,

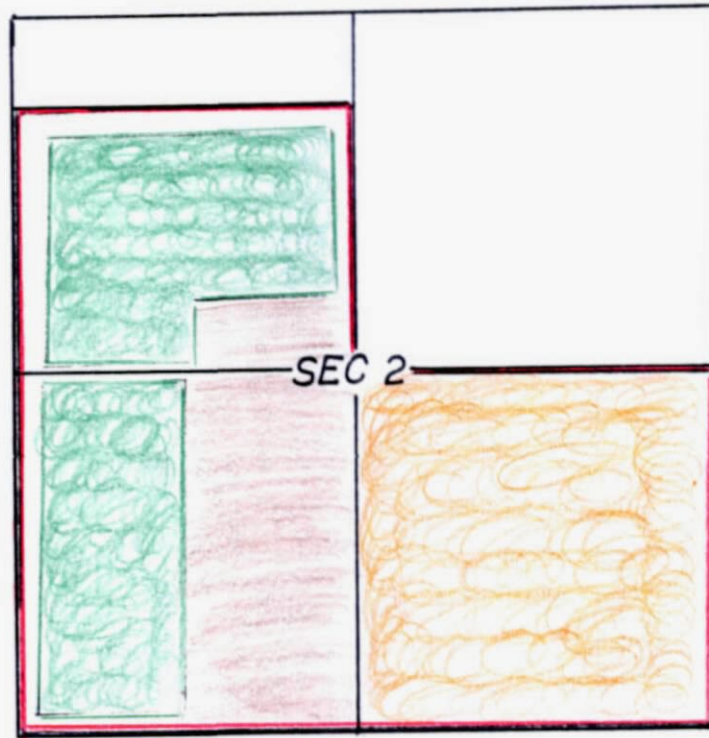
*William D. Gay*

William D. Gay  
Land Engineer, SWED

WDG:mek  
enc.

cc: W.L. Kurtz/J.D. Sell

T.6S., R.4E.



STATE LAND

 OUTLINE STATE LAND

 COTTON

 TILLED SOIL-NO CROPS

 UNTILLED WEEDS-BRUSH

JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

August 8, 1988

FREEPORT COPPER COMPANY  
P. O. Box 41330  
Reno, Nevada 89504

Attention: Mr. D. T. Wilton

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for July 1988:

Our E A No. 0075 - the Lands

General Administration charges	50.00	
Salary	358.68	
Employee Overhead	<u>104.00</u>	\$ 512.68


Our E A No. 0087 - Peripheral Lands

Field Services and Supplies	91.29	
Professional Services	491.51	
General Administration Charges	50.00	
Salary	880.93	
Employee Overhead	256.00	
Travel Expense	<u>42.00</u>	<u>1811.73</u>

		<u>2324.41</u>
1/2 to Freeport Copper Company		<u>1162.20</u>
Balance brought forward		<u>9395.64</u>

Amount due \$ 10557.84

Encls.

cc: Controller/Attn: EJFranko  
JDSell   
PJorgensen - Freeport - McMoran  
File

*C.F.*

Sept. 15, 1988

FILE NOTE

Santa Cruz

A Maurice Mordka, Tucson 298-0531, represents the owners of N $\frac{1}{2}$  Section 6, T6S, R5E. Mordka and the owners would like to have the property explored for copper. They would sell or participate in a JV. According to Mordka, Bill Burton of Amoco believes there is a porphyry based on Amoco's aeromag and seismic work.

I told Mordka we would get back in touch after the first of the year.

WLK:mek

W. L. Kurtz

cc: J.D. Sell  
H.G. Kreis  
F.T. Graybeal

# ASARCO

*W. L. Kurtz - JDS*

Exploration Department  
Southwestern United States Division

September 26, 1988

Mr. Burton M. Apker  
Apker, Apker & Kurtz, P.C.  
P.O. Box 10280  
Phoenix, Arizona 85064-0280

Dear Mr. Apker:

Enclosed is a final copy of the environmental study done by Western Technologies Inc.

All the corrections to the original draft have been completed in this copy.

I am satisfied with this copy. Please review and let us know your thoughts.

Sincerely yours,

*W. D. Gay*  
W. D. Gay  
Land Engineer

WDG:mek  
enc.

cc: W.L. Kurtz/J.D. Sell

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

October 6, 1988

FREEPORT-McMORAN GOLD CO.  
P. O. Box 41330  
Reno, Nevada 89504

Attn: G. R. Reinbold

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for September, 1988:

Our E A No. 0075 - The Lands

General Administration Charges	50.00	\$	50.00
--------------------------------	-------	----	-------

Our E A No. 0087 - Peripheral Lands

Field Services and Supplies	252.18		
Professional Services	8432.83		
General Administration Charges	50.00		
Salary	299.41		
Employee Overhead	<u>87.00</u>		<u>9121.42</u>

9171.42

1/2 to Freeport-McMoran			4585.71
Balance brought forward			<u>13390.20</u>

Amount Due		\$	<u><u>17,975.91</u></u>
------------	--	----	-------------------------

Encls.

cc: Controller/Att: EJFranko  
JDSell  
PJorgensen-Freeport-McMoran  
File

*C.H.*  
ASARCO Incorporated

OCT 18 1988

SW Exploration

JDS

ASARCO SANTA CRUZ, INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

November 9, 1988

FREEPORT-McMORAN GOLD CO.  
P. O. Box 41330  
Reno, Nevada 89504

Attention: G. R. Reinbold

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for October, 1988:

<u>Our E. A. No. 0075 - The Lands</u>		
General Administrative Charges	50.00	
Property Taxes	22,209.96	
Salaries	179.34	
Employee Overhead	52.00	
Professional Services	<u>(70.97)</u>	\$ 22,420.33
 <u>Our E. A. No. 0087 - Peripheral Lands</u>		
General Administrative Charges	50.00	
Lease Payment	(1,000.00)	
Property Taxes	8,917.78	
Professional Services	<u>6,794.11</u>	14,761.89
 <u>Our E. A. No. 0134-01 Mooney Tract</u>		
Property Taxes	<u>1,979.92</u>	1,979.92
 <u>Our E. A. No. 0136-00 NAAC Acquisition</u>		
Property Taxes	<u>1,610.00</u>	1,610.00
 <u>Our E.A. No. 0196-00 Amoco Land</u>		
Property Taxes	<u>4,748.68</u>	4,748.68
 <u>Santa Cruz Farm</u>		
Professional Services	<u>241.30</u>	241.30
		<u>45,762.12</u>
1/2 to Freeport-McMoran		22,881.06
Balance brought forward		17,975.91
In Situ Leach Project Balance		<u>40,311.54</u>
Total Balance Due		\$ <u>81,168.51</u>

cc: Controller/Att: EJFranko  
JDSell  
PJorgensen -Freeport-McMoran  
File

ASARCO Incorporated

NOV 11 1988

SW Exploration

Copies to: TEG, WLK, J.D.S., SAM, ABR, WDG, HOK, V.M. F.T.G.



# CITY OF CASA GRANDE

JIMMIE B. KERR, Mayor  
RODGER L. BENNETT, City Manager

## NOTICE OF PUBLIC HEARING

WARCO Incorporated

NOV 16 1988

### PROPOSED AREA OF ANNEXATION INTO THE CITY OF CASA GRANDE

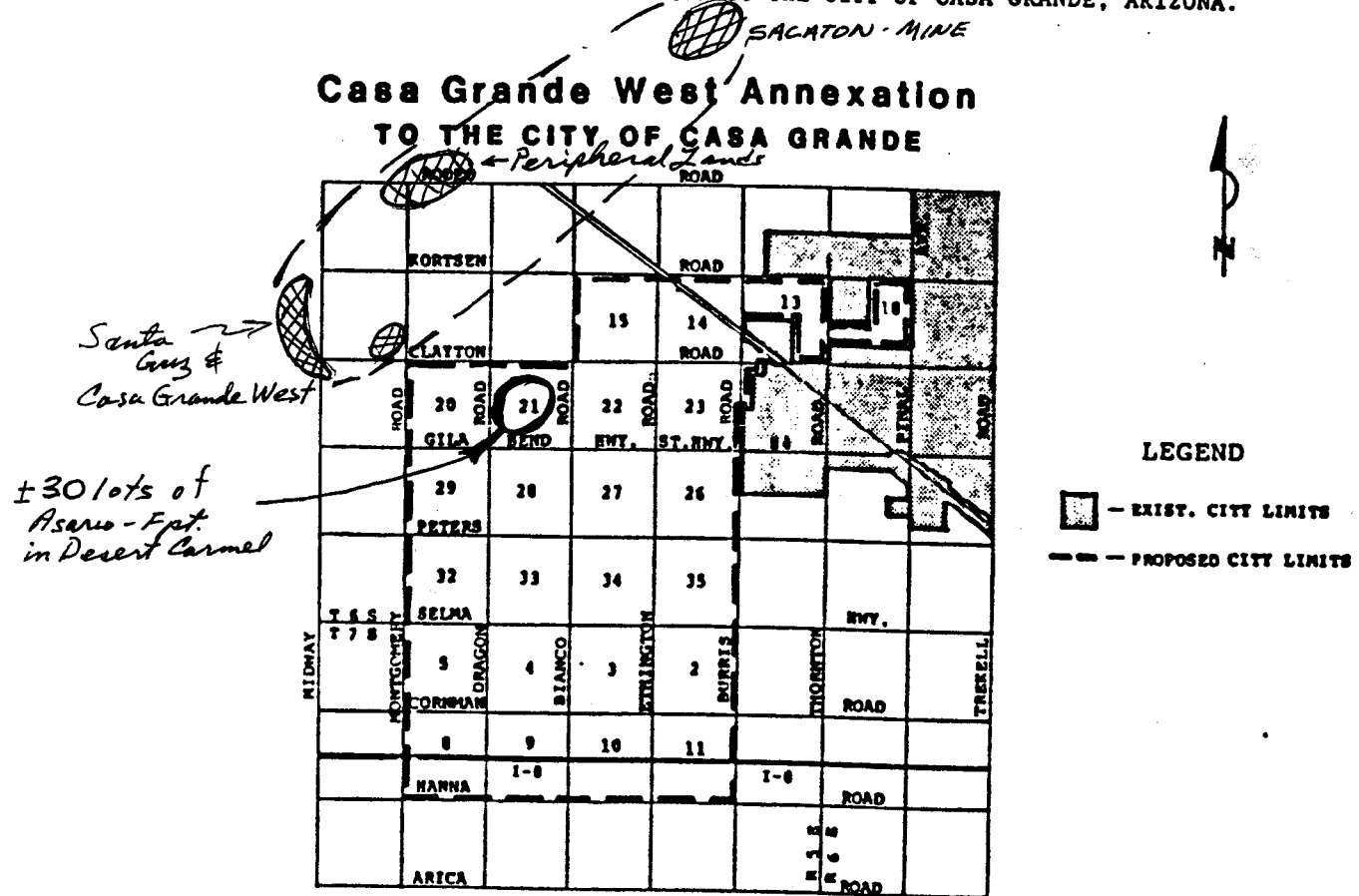
SW Exploration

NOTICE IS HEREBY GIVEN that pursuant to Section 9-471, Arizona Revised Statutes, the City Council of the City of Casa Grande, Arizona, will hold a public hearing on Monday, November 21, 1988, at 7:00 P.M., in the Council Chambers at City Hall, 300 East Fourth Street, Casa Grande, Arizona, to consider the proposed annexation of the area described on the back of this page into the City of Casa Grande.

The notice is provided to you because you are the owner of property within the proposed annexation area.

The City welcomes comments concerning this proposed annexation and invites you to comment at the hearing or in writing to the City Clerk, City Hall, 300 East Fourth Street, Casa Grande, Arizona, 85222 or phone the City Clerk at (602) 421-8600.

MAP SHOWING THE PROPOSED AREA OF ANNEXATION TO THE CITY OF CASA GRANDE, ARIZONA.



This map was prepared with the intent to meet the State requirement pertaining to annexation.





# CITY OF CASA GRANDE

JIMMIE B. KERR, Mayor  
RODGER L. BENNETT, City Manager

## DESCRIPTION OF ANNEXATION:

That portion of Township 6 South, Range 5 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona, described as follows:

All of Sections 13, 14, 15, 20, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34 and 35; The West Half (W1/2) of the West Half (W1/2) of the Northwest Quarter (NW1/4) of Section 24; The East Half (E1/2) of the North Half (N1/2) of the Northwest Quarter (NW1/4) of the Northwest Quarter (NW1/4) of Section 24, including any and all right-of-ways owned by the State of Arizona; Except the following described parcels:

PARCEL NO. 1; All of the Southwest Quarter (SW1/4) of said Section 13, lying North of Southern Pacific Railroad right-of-way.

PARCEL NO. 2; Beginning at the South Quarter corner of said Section 13, measure Northerly along the Mid-section line bearing  $N 00^{\circ} 29' E$ , a distance of 2638.90 feet to a point; Thence Easterly along the Mid-section line bearing  $N 89^{\circ} 59' E$ , a distance of 841.60 feet to a point; Thence Southerly bearing  $S 00^{\circ} 02' E$ , a distance of 2637.87 feet to a point on the South line of Section 13; Thence Westerly along said Section line bearing  $S 89^{\circ} 57' W$ , a distance of 865.71 feet to the POINT OF BEGINNING.

PARCEL NO. 4; The North Thirty-three (33) feet of Said Sections 14, 15, 20, and 21.

PARCEL NO. 5; The West Thirty-three (33) feet of said Sections 15, 20, 29 and 32.

PARCEL NO. 6; The East Thirty-three (33) feet of the South Half (S1/2) of said Section 26, and the East Thirty-three (33) feet of said Section 35.

That portion of Township 7 South, Range 5 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona, described as follows:

All of Sections 2, 3, 4, 5, 8, 9, 10 and 11, including any and all right-of-way owned by the State of Arizona; Except the following described parcels:

PARCEL NO. 1; The East Thirty-three (33) feet of said Sections 2 and 11.

PARCEL NO. 2; The West Thirty-three (33) feet of said Sections 5 and 8.

PARCEL NO. 3; The South Thirty-three (33) feet of said Sections 8, 9, 10 and 11.

That portion of Township 6 South, Range 6 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona, described as follows:

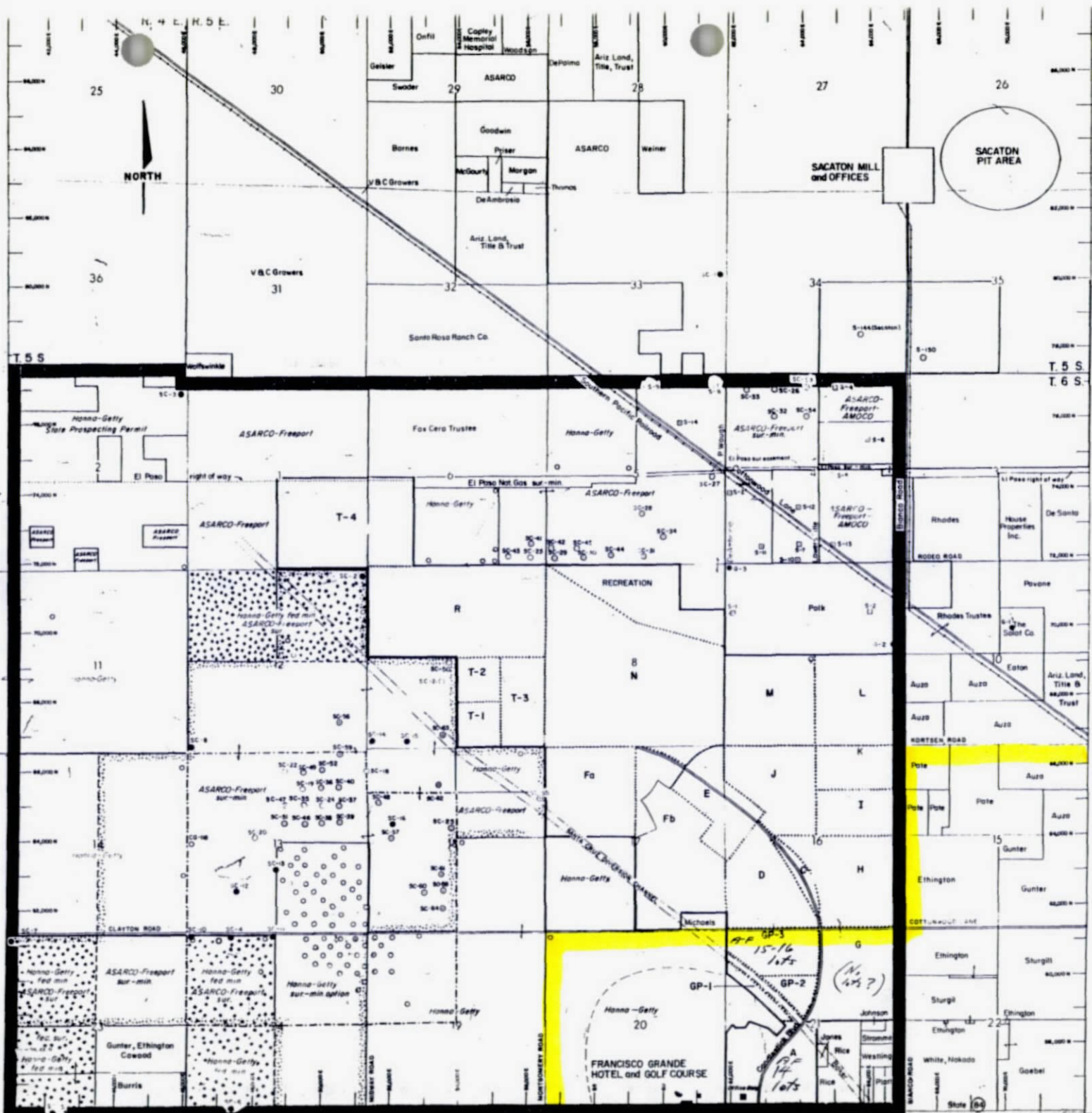
The North Half (N1/2) of the South Half (S1/2) of Section 18.

Also: The Northeast Quarter (NE1/4) of Section 18.

Also: The West Thirty-three (33) feet of the Southwest Quarter (SW1/4) of the Southwest Quarter (SW1/4) of Section 18, including any and all right-of-way owned by the State of Arizona.

\*(See map on front of page)

The City Council may determine the exact boundary of said territory to be annexed; provided, however, that said annexed area lies wholly within the above described area and, provided further, that the provisions of Section 9-471, Arizona Revised Statutes, are fully observed and complied with.



# EXPLANATION

## PROPERTY:

- HANNA-GETTY
- ASARCO -FREEPORT
- HANNA-GETTY, federal lode claims
- ASARCO ( Sacaton )
- NAAC "CP area"
- NAAC "SD area"
- Other owners, sur - min, unless otherwise indicated
- Joint venture 'area of interest'
- Joint venture 'The Lands' (Remainder is Peripheral Lands)
- HANNA-GETTY/ASARCO-FREEPORT EXCHANGE AREA

## DRILLING :

- SC-● Previous drill holes (ASARCO)
- SC-○ 1974-1981 drill holes (ASARCO-Freepart joint venture)
- 1974-1981 drill holes (Hanna-Getty)
- 10 AMOCO drill holes

# SANTA CRUZ PROJECT PINAL CO., ARIZONA ASARCO -FREEPORT JOINT VENTURE

1" = 2000'

W L Kuntz

12-18/85

J D Sell

ASARCO - Freeport JV  
Santa Cruz "The Lands"  
Pinal County, AZ

Mr. Coy Snow ~~has~~ reported the following  
figure for EA-0075-00 thru EA-0075-11,  
complete ~~to~~ <sup>thru</sup> the November accounting expenditures.

ASARCO share	\$ 1,696,995
Freeport share	\$ 1,696,995
TOTAL	\$ 3,393,990

EA 0075-00  
thru 0075-11  
\$ 1,696,994.18

ASARCO'S SHARE

NOTE: Santa Cruz In Situ

is in Person 900

and EA-0438-00.

None has been in any of

the other SC's # such as 0075

# ASARCO

~~W/K-JDS~~

Exploration Department  
Southwestern United States Division

January 11, 1989

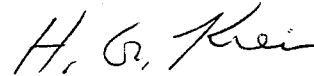
Mr. Allan Moran  
Freeport-McMoRan Gold Co.  
7400 N. Oracle #272  
Tucson, AZ 85704

The Lands Report  
Santa Cruz Project

Dear Allan:

Enclosed are two colored Xerox copies of "Geology and Copper Reserves of The Lands Area." If there is anything else you need, please let me know.

Sincerely,



Henry G. Kreis  
Geologist

HGK:mek  
Encs.

cc: W.L. Kurtz/J.D. Sell  
A.R. Raihl

bl.note on cc: Freeport could not find their copies  
of the above report.

JDS

ASARCO Incorporated

ASARCO SANTA CRUZ INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

JAN 13 1989

SW Exploration

January 6, 1989

FREEMPORT-McMORAN GOLD CO.  
P. O. Box 41330  
Reno, Nevada 89504

Attention: G. R. Reinbold

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for December 1988:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$	50.00	
Salaries		89.67	
Employee Overhead		26.00	
CT Corporation Service Fee		156.00	
Professional Services		<u>150.00</u>	471.67

Our E. A. No. 0087 -Peripheral Lands

General Administrative Charges		50.00	
Salaries		118.17	
Employee Overhead		34.00	
CT Corporation Service Fee		78.00	
Field Services & Supplies		<u>105.07</u>	385.24

Santa Cruz Farm

Attorneys Fees		388.50	<u>388.50</u>
----------------	--	--------	---------------

1,245.41

1/2 to Freeport-McMoran			622.71
Balance brought Forward			(119,702.70)
In Situ Leach Project December Charges			<u>8,078.71</u>
Total Balance Due			<u>\$(111,001.28)</u>

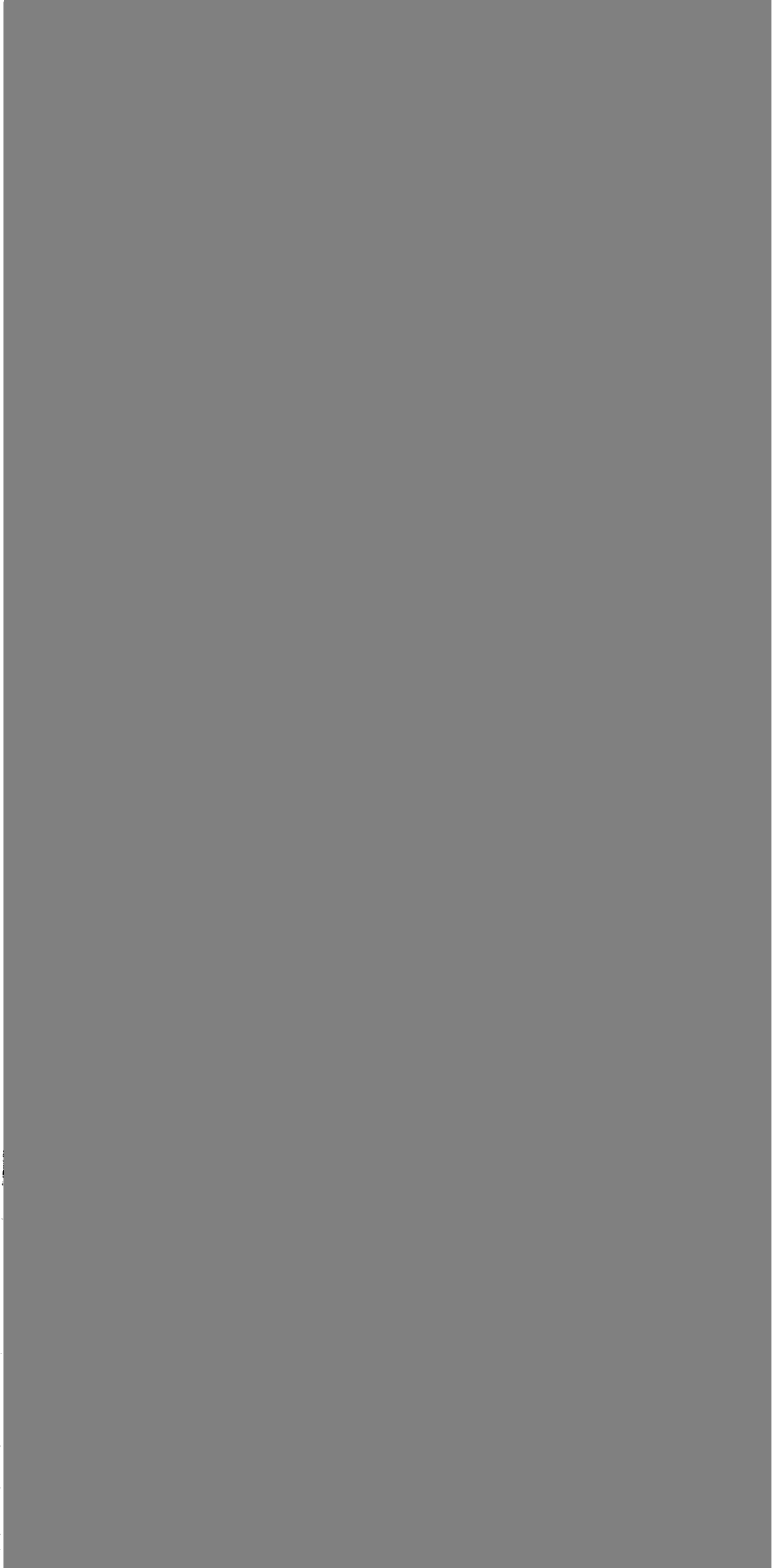
cc: Controller/Att: EJFranko  
JDSell  
PJorgensen - Freeport-McMoran  
File

# CASA GRANDE DISPATCH

THURSDAY, JANUARY 5, 1989

NO. 3

VOL. 78



## USGS Research on Mineral Resources—1989 Program and Abstracts

Edited by Katharine S. Schindler

### Evaluation of Advanced Visible and Infrared Imaging Spectrometer and Other Remotely Sensed Data for Mineral Exploration in Semiarid Terrains

G.B. Bailey and J.L. Dwyer

The principal role of remotely sensed data in mineral exploration is as a source of lithologic and structural information from which geologic interpretations important to the discovery of new mineral deposits can be made. The utility of remote sensing as an exploration tool has advanced dramatically since the launch of Landsat 1 in 1972, due in large measure to improvements in sensor technology, data processing capabilities, and data analysis and interpretation methodologies. Most significant have been advancements in the capability to discriminate lithologies and to determine and map rock compositions, especially in areas of good exposure. These advancements have resulted both from improvements in spectral characteristics and in spatial resolution of recent sensor systems.

The Airborne Visible and Infrared Imaging Spectrometer (AVIRIS) is the most spectrally advanced land remote sensing system yet developed and is the prototype for a spaceborne sensor that will be launched in the mid-1990's. AVIRIS records reflected solar radiation between 0.4 and 2.5  $\mu\text{m}$  in 220 spectral bands that are approximately 9.5 nm wide. The sensor is currently flown on board an ER-2 aircraft at an altitude of 20 km and acquires data over an 11-km swath at 20-m spatial resolution. The technical characteristics of AVIRIS are particularly significant to geologists working in semiarid terrains where rocks are typically well exposed. AVIRIS data from these terrains may provide geologists with improved capabilities to discriminate between different lithologies, detect rock alteration, and identify constituent mineralogies of rocks and alteration from remotely sensed data.

AVIRIS data were acquired over a test site in the Drum Mountains in west-central Utah where good exposures of many diverse rock and alteration types provide an environment well suited for geological evaluation of AVIRIS and other remotely sensed data. Rocks exposed in

the field area include a thick sequence of west-dipping Cambrian and Precambrian carbonate and clastic rocks, a variety of mafic to silicic Tertiary volcanic rocks, two distinct intrusive stocks, and associated contact metamorphic rocks. The volcanic rocks have been hydrothermally altered in places, and some carbonate rocks adjacent to the volcanics have been bleached and recrystallized. One of the stocks is mineralized and exhibits intense hydrothermal alteration.

Digital AVIRIS data were analyzed and interpreted in conjunction with field spectral data, and various data products were created that display the types and amount of compositional information present in AVIRIS data. These results were compared with results of related studies that evaluated other remotely sensed data collected over the Drum Mountains test site. These data sets included Landsat multispectral scanner (MSS) and thematic mapper (TM) data, Systeme Probatoire d'Observation de la Terre (SPOT) 10-m panchromatic stereo data, and Thermal Infrared Multispectral Scanner (TIMS) data.

This paper presents the significant results and current status of these ongoing geologic remote sensing studies by describing and illustrating both the breadth of geologic information and the unique compositional information routinely available from each sensor system tested. Incremental improvements in geologic information content correspond to advancements in sensor systems and are illustrated by using data products that include mergers of enhanced TM data and 10-m SPOT data in stereo format.

### Aeromagnetic and Gravity Studies of a Buried Porphyry Copper Deposit near Casa Grande, Arizona

Viki Bankey and Douglas P. Klein

The Casa Grande deposit (also known as the Santa Cruz deposit) is a buried porphyry copper deposit 7 mi west of the city of Casa Grande, Ariz. The prospect has been drilled in detail and ore was discovered between 1,000

and 2,000 ft below the surface in host rock consisting of Laramide porphyry intruded into Precambrian Oracle Granite. Diabase and other mafic dikes intrude the host rock. The deposit is similar to the Sacaton porphyry copper deposit located 6 mi northeast; both deposits are buried beneath alluvial cover and contain a host rock that consists equally of Precambrian granite and Laramide intrusive rock, unlike most porphyry copper deposits (Cummings, 1982). Sacaton and Casa Grande may have been parts of a single hydrothermal system that was later separated by faulting. The Casa Grande deposit lies along the extension of a structural lineament called the Jemez zone that trends northeast from Sacaton to Globe, Ariz.

Companies developing the deposit have proposed leaching the buried ore in place. The U.S. Geological Survey (USGS) and the U.S. Bureau of Mines are studying the geology and hydrology of the area to evaluate the environmental impact of the leaching technique and to prepare an ore deposit model. In support of the study, the USGS has recently flown two aeromagnetic surveys over the Casa Grande deposit: one flown 600 ft above terrain at 1/2-mi spacing and the other flown 300 ft above terrain at 1/4-mi spacing. These data were modeled to determine the configuration of the basement and overlying basin. The Bouguer gravity anomaly data of the area were used to constrain the magnetic modeling.

The aeromagnetic map flown 300 ft above terrain shows a magnetic low about 2 mi in diameter surrounding the deposit and a 20-nanoTesla (nT) high centered over the deposit. A 15-nT high, also inside the relative magnetic low, occurs 1 mi northeast of the deposit. These anomalies are partially obscured by a steep, 120-nT/mi, east-northeast-trending gradient on the flanks of a 300-nT high, 2 1/2-mi north of the deposit. The source of this northeast-trending, high-amplitude positive anomaly is hidden below alluvium. Our first task was to adequately remove this regional magnetic gradient to enhance the local anomalies. Several methods were compared, including (1) removing a two-dimensional surface calculated from the gridded aeromagnetic data by using orthogonal polynomials (USGS program SURFIT); (2) removing higher level aeromagnetic fields (such as the 600-ft field or upward continued fields) from the 300-ft magnetic field; and (3) removing a 120-nT/mi southeast-dipping gradient. Mathematical enhancement of the residual and the total fields was performed; enhancement consisted of calculating the horizontal gradient to create a boundary map that has density contrasts outlined. These functions bring out features existing in the aeromagnetic data that are not readily apparent.

The Bouguer gravity anomaly map was similarly analyzed to remove a regional gradient. The residual gravity anomaly map shows a 2-milligal high centered over the deposit.

Interpretation of aeromagnetic data began by incorporating other information, such as geologic mapping from

drill holes and gravity mapping. Magnetic profiles were selected from flight lines crossing the deposit and were modeled by using the USGS program SAKI (Webring, 1985).

#### REFERENCES

- Cummings, R.B., 1982, Geology of the Sacaton porphyry copper deposit, in Tittley, S.R., ed., *Advances in geology of the porphyry copper deposits: Tucson, University of Arizona Press*, p. 507-521.
- Webring, Michael, 1985, SAKI: A Fortran program for generalized linear inversion of gravity and magnetic profiles: U.S. Geological Survey Open-File Report 85-122, 108 p.

### Regional Geochemical Studies of the AJO and Lukeville 1° × 2° Quadrangles, Arizona

Harlan Barton and Paul K. Theobald

Regional geochemical studies were conducted during 1979 and 1980 in mountain areas of the U.S. portions of the Ajo and Lukeville 1° × 2° quadrangles, Arizona, except in the Papago Indian Reservation. Stream sediments were sampled at 971 localities within the 6,500-mi<sup>2</sup> study area. Sufficient heavy-mineral-concentrate sample for analysis was obtained from 952 of these localities. Sample sites were located on first- or second-order stream channels from drainage basins of less than 0.5 mi<sup>2</sup>; and generally these sites were located where dry stream channels emerged from the narrow linear mountain ranges. The sampling density in the mountain ranges was one sample locality per 1.2 mi<sup>2</sup>. Stream sediments were analyzed for 31 elements by optical emission spectroscopy in field laboratories.

Maps are presented showing locations of anomalous concentrations of (1) ore and ore-related elements—Sb, Bi, Cu, Pb, Mo, Ag, W, and Zn; (2) elements common to gangue minerals—Ba, Mn, and Sr; and (3) Sr depletion associated with hydrothermal alteration. Sixteen areas having anomalous element concentrations are identified, and their geological and geochemical characteristics are described.

The Mohawk Mountains anomaly is a cluster of sample localities having anomalous concentrations of lead, molybdenum, bismuth, and tungsten in heavy-mineral concentrates. One locality has anomalous molybdenum in a stream sediment.

An elongate cluster of sample localities in the Agua Dulce Mountains has anomalous concentrations of bismuth and tungsten. Some also have low-level lead and molybdenum in heavy-mineral concentrates. The western part of the anomaly, underlain by Precambrian rocks, is bismuth rich, whereas the eastern part is molybdenum rich. In addition to



MINE EXAMINATION AND DEVELOPMENT EXPENSE

DATE: MARCH 08, 1989

MONTH: FEBRUARY, 1989

950.00 SANTA CRUZ-CASA GRANDE WEST

MONTH YEAR ID-DATE

571	ENGINEERING - SURVEYING			
754	OUTSIDE PROFESSIONAL SERVICES	0.0	24534.00	24534.00
620	ADMIN., GENERAL			
100	SALARIES	0.0	984.42	984.42
210	OVERHEAD FROM GENERAL	0.0	305.00	305.00
400	MATERIALS AND SUPPLIES	6.36	6.36	6.36
753	LEGAL EXPENSE	24393.88	46158.75	46158.75
754	OUTSIDE PROFESSIONAL SERVICES	11000.00	16800.00	16800.00
801	TAXES - STATE & CITY SALES	0.45	0.45	0.45

TOTALS: 35400.69 88788.98 88788.98

AUTHOR. NUMBER	AMOUNT AUTHORIZED	MONTH	YEAR TO-DATE	TOTAL TO-DATE	BALANCE UNEXPENDED
950.00	0.0	35400.69	88798.98	88788.98	-88798.98

ORIG: RLBROWN  
CC: RJO, RJK, ADC, TES, JDS, FILE - 2  
WLK

APPROVED BY:

*CSH*

RECEIVED  
MAR 15 1989  
EXPLORATION DEPARTMENT

3/29/79

To JDS  
Date 3/28 Time 9:55

**WHILE YOU WERE OUT**

M F Graybeal  
of ~~SE~~

Phone \_\_\_\_\_  
Area Code \_\_\_\_\_ Number \_\_\_\_\_ Extension \_\_\_\_\_

TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL	<input checked="" type="checkbox"/>
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	

RETURNED YOUR CALL

Message Re Santa Cruz  
Authorizations

Mary  
Operator

Sent in on 9<sup>th</sup>.  
for ASARCO'S  
account.



23-000 50 SHT. PAD  
23-001 250 SHT. DISPENSER BOX

**ASARCO**

*→ Mary note  
file*

Exploration Department  
R. L. Brown  
Vice President

April 10, 1989

RECEIVED

APR 17 1989

EXPLORATION DEPARTMENT

Mr. D. L. Stevens  
Freeport-McMoRan  
Gold Company  
P.O. Box 41330  
Reno, Nevada 89504

Santa Cruz Joint Venture

Dear Mr. Stevens:

This will acknowledge receipt here of your formal notice in which you told us that Mr. Steven Van Nort and Mr. Robin J. Hickson are the two Freeport-McMoRan representatives on the Santa Cruz Joint Venture Operating Committee.

I note that your letter was addressed to ASARCO Santa Cruz at 120 Broadway, New York, New York, I expect due to our neglect in giving Freeport notice of a change of address.

I, therefore, take this occasion to notify you, formally, that the New York address of ASARCO Santa Cruz, Inc. is as follows: 180 Maiden Lane, New York, New York 10038.

With best regards.

Yours very truly,



R. L. Brown

RLB:mc

cc: W. L. Kurtz (w/att.)  
A. R. Raihl "

# FREEMPORT-McMoRan GOLD COMPANY

A Subsidiary of Freeport-McMoRan Inc.

6110 Plumas Street  
P. O. Box 41330  
Reno, Nevada 89504  
Phone (702) 826-3000  
TWX 910-395-7008

DAVID L. STEVENS  
Senior Vice President - Exploration

March 16, 1989

ASARCO Santa Cruz, Inc.  
120 Broadway  
New York, New York 10005  
Attention: Exploration Department

Mr. Al Raihl  
ASARCO  
P.O. Box 5747  
Tucson, Arizona 85703

Re: Santa Cruz Joint Venture Operating Committee Representatives

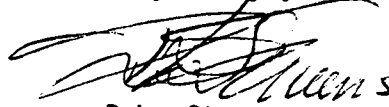
Gentlemen:

Freeport-McMoRan Gold Company wishes to inform ASARCO Santa Cruz, Inc. that effective March 15, 1989, Steven Van Nort, Senior Geologist, will replace Grover Reinbold as Freeport Copper Company's representative on the Operating Committee established by the Santa Cruz Joint Venture Agreement of July 1, 1977. Robin J. Hickson, Vice President and Manager of Mine Development of Freeport Mining Company will continue in the role of representative on the Operating Committee.

Please address correspondence to Mr. Van Nort to:

Freeport-McMoRan Gold Company  
Suite 272  
7400 North Oracle Road  
Tucson, Arizona 85704  
Attention: Mr. Steven Van Nort

Very truly yours,



D.L. Stevens

DLS/cr

# ASARCO

JDS

Exploration Department  
Frederick T. Graybeal  
Chief Geologist

April 19, 1989

Science Applications International  
Corporation  
c/o First National Bank of Maryland  
P.O. Box 64115  
Baltimore, Maryland 21264

ASARCO Incorporated

APR 24 1989

SW Exploration

## Non-Santa Cruz Technical Support

Gentlemen:

Enclosed is our check in the amount of \$3,214.18 to cover charges detailed on the attached invoice.

Very truly yours,

F.T.G.

F. T. Graybeal

FTG:mc  
Att.

cc: W. L. Kurtz (w/att.)  
J. D. Sell "

bcc for the files: The above amount detailed on the attached invoice related to consulting work by Don Davidson during evaluation of the Casa Grande West purchase and subsequent reviews for Freeport in New Orleans. This amount should be billed to the Santa Cruz project, 50% Asarco and 50% Freeport, and should not be charged against the U.S. Bureau of Mines-Santa Cruz In Situ Joint Venture test project.



Science Applications International Corporation

APRIL 3, 1989

SARCO, INC.  
180 MAIDEN LANE  
NEW YORK, NY 10038

CONTRACT VALUE: \$20,000  
EXPIRATION DATE: 11-15-89

ATTN: FRED GRAYBEAL  
CHIEF GEOLOGIST

SAIC PROJECT NO.: 1-827-05-543  
SAIC CAN NO.: Y89-ZS-436

SUBJECT: TECH. SUPPORT - NON-SANTA CRUZ

INVOICE NO.1

THIS INVOICE REPRESENTS COSTS INCURRED FOR THE ABOVE STATED CONTRACT FROM 11-16-88 THROUGH 3-31-89

	CURRENT HOURS	CUMULATIVE HOURS	RATE	CURRENT COSTS	CUMULATIVE COSTS
D. DAVIDSON	17.00	17.00	\$100.00	\$1,700.00	\$1,700.00
C. MANIKAS	0.00	0.00	\$60.00	\$0.00	\$0.00
CLERICAL	3.50	3.50	\$30.00	\$105.00	\$105.00
<b>TOTAL LABOR:</b>	<b>20.50</b>	<b>20.50</b>		<b>\$1,805.00</b>	<b>\$1,805.00</b>

OTHER DIRECT COSTS:

TELEPHONE	\$10.29	\$10.29
POSTAGE	\$33.30	\$33.30
REPRO	\$258.45	\$258.45
TRAVEL	\$823.80	\$823.80
COMPUTER	\$1.50	\$1.50

SUBTOTAL ODC'S	\$1,127.34	\$1,127.34
PLUS 25% OF TOTAL ODC'S	\$281.84	\$281.84

<b>TOTAL ODC'S</b>	<b>\$1,409.18</b>	<b>\$1,409.18</b>
--------------------	-------------------	-------------------

<b>TOTAL COSTS CLAIMED</b>	<b>\$3,214.18</b>	<b>\$3,214.18</b>
----------------------------	-------------------	-------------------

<b>TOTAL AMOUNT DUE:</b>	<b>\$3,214.18</b>
*****	

NET AMOUNT DUE 30 DAYS

PLEASE REMIT TO:

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION  
C/O FIRST NATIONAL BANK OF MARYLAND  
ACCOUNT NO. 401-9197-2  
PO BOX 64115  
BALTIMORE, MD 21264

PLEASE INCLUDE ONE COPY OF THE INVOICE WITH REMITTANCE.

FOR QUESTIONS AND/OR PROBLEMS RELATING TO THIS INVOICE  
PLEASE CONTACT CASEY KOONTZ AT (703) 821-4880.

8400 Westpark Drive, McLean, Virginia 22102 (703) 821-4600

Other SAIC Offices: Albuquerque, Chicago, Dayton, Denver, Huntsville, La Jolla, Los Angeles, Orlando, San Diego, San Francisco, Tucson, and Washington, D.C.

# ASARCO

00313

180 MAIDEN LANE • NEW YORK, N.Y. 10038

The Chase Manhattan Bank, N.A.  
Syracuse, New York

DATE  
04/20/89

AMOUNT  
\$3,214.18

50-937  
213

\*\*\*\*\* \$3,214\*\*\*\*\* Dollars and 18 Cents

PAY

IN FULL SETTLEMENT OF ACCOUNT AS STATED HEREIN

ASARCO Incorporated

PAY TO  
THE  
ORDER  
OF

SCIENCE APPLICATIONS  
INTERNATIONAL CORPORATION

⑈003136⑈ ⑆021309379⑆ 601⑈ 2⑈ 68337⑈

## ASARCO Incorporated

180 MAIDEN LANE • NEW YORK, N.Y. 10038

PLEASE DETACH BEFORE DEPOSITING

DATE 04/20/89

VOUCHER NUMBER 040621

VENDOR NUMBER 61331

REMITTANCE  
ADVICE

00313

INVOICE	AMOUNT	EXPLANATION
041989	3,214.18	04/19/89 SITU CONSULTING REGARDING CASA WEST PURCHASE

# PURCHASE ORDER

DATE April 24, 1989

ORDER NO. T-118-9

PLANT JOB NO.  
APPROPRIATION NO.

ASARCO Santa Cruz, Inc.  
TUCSON OFFICE 1150 NORTH 7TH AVENUE  
P. O. BOX 5747 TUCSON, ARIZONA 85703

REQUISITION NO.

To: BCP Construction Inc.  
2432 W. Peoria Ave., Suite 1205  
Phoenix, AZ 85029

FINAL DESTINATION — PLEASE NOTE CONSIGNMENT BELOW

Santa Cruz Project  
934 Montgomery Road  
Approximately 7 miles west of  
Casa Grande, Arizona

DATE REQUIRED AT DESTINATION:

CONSIGNMENT — SELLER WILL SHIP TO

SHIPPING INTERVAL PROMISED SELLER WILL SHIP BEFORE:

POINT OF SHIPMENT TERMS:

F.O.B. POINT

— RENDER BILLS AS PER ATTACHED SHIPPING INSTRUCTIONS —

SHIP VIA

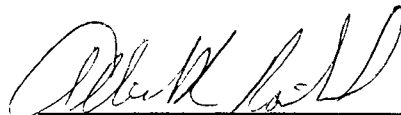
QUANTITY	UNIT	SPECIFICATIONS	ITEM NO.	UNIT PRICE
		Furnish labor, material, and equipment to clean up and dispose of approximately 5,000 pounds of bagged asbestos and additional contaminated material which is located in a metal building located at 934 Montgomery Road, approximately seven (7) miles west of Casa Grande, Arizona, in accordance with the attached agreement.		\$3,330.00

RECEIVED

APR 25 1989

EXPLORATION DEPARTMENT

PLEASE ENTER OUR ORDER FOR THE ITEMS SPECIFIED ABOVE, SUBJECT TO ALL INSTRUCTIONS AND PROVISIONS ON REVERSE SIDE.



A. R. Raihl, Project Manager

Accounting(2)  
W. L. Kurtz



## INSTRUCTIONS

**INVOICE:** Priced invoices in the requisite number giving the correct purchase order and requisition numbers, together with required Bills of Lading, must be forwarded on day of each shipment AS PER SPECIAL SHIPPING INSTRUCTIONS ACCOMPANYING THIS ORDER, otherwise delay in payment of account may result.

**TERMS:** As previously arranged or specified on this order. Care must be exercised to show cash discount, if allowed, on face of invoice.

## PROVISIONS

1. **ACCEPTANCE:** Acceptance of this order constitutes acceptance of all terms herein stated. All representations and warranties by the seller relating to the subject-matter of this order or its performance shall be binding on the seller as if fully set forth herein, and shall survive inspection and acceptance of the goods ordered. No acknowledgment or acceptance of this order or any other communication by the seller shall vary or add any terms or conditions to those contained herein and any such attempted modification or addition which is not accepted in writing by the buyer, shall be void and may be disregarded without further notice or disclaimer.

2. **PRICES:** This order must not be filled at higher prices than last quoted without authority of the buyer.

3. **SHIPMENTS:** All materials must be forwarded by the route designated and seller will be held strictly accountable for any deviation therefrom.

When the material covered by this order shall aggregate a carload shipment or more, the seller must forward in carload lots, unless duly authorized in writing by the buyer to ship in less than carloads. If this order aggregates less than a minimum carload, seller must forward the entire quantity at one time unless otherwise authorized in writing by the buyer.

When blocking or dunnage, etc., not constituting a part of the car are used to protect and make shipments secure in transit, seller must show on Bills of Lading, separately, the weights of such materials, provided the lading shall aggregate a minimum carload or more, and will be held responsible for failure to comply with this rule.

Shipments will not be considered as completed until Bill of Lading, or express or mail receipt is received.

4. **PACKING AND CARTAGE CHARGES:** No charge will be allowed for packing, boxing or cartage, unless agreed upon at the time of purchase; damage to any material not properly packed to insure adequate protection in transit will be charged to the seller. All packing must conform with tariff or classification requirements so as to secure lowest possible freight rates. It is understood the buyer will receive the benefit of any decrease in freight charges between time of quotation and date of shipment, where freight enters into the price originally quoted.

5. **QUALITY AND INSPECTION:** All material furnished must be as specified and will be subject to inspection and approval of buyer after delivery. The right is reserved to reject and return at the risk and expense of the seller such portion of any shipment which may be defective or fail to comply with the specifications without invalidating the remainder of the order. If rejected, may be held for disposition at the expense and risk of the seller.

6. **QUANTITY:** The specific quantity ordered must not be changed without buyer's permission in writing.

7. **NON-PERFORMANCE:** Buyer reserves the right to cancel this order or any portion of same if delivery is not made when and as specified, time being of the essence of this order, and charge seller for any loss entailed.

8. **PATENTS:** The seller hereby guarantees the buyer against all losses of profits, damages, or both, resulting from any patent infringement by reason of purchasing or using goods covered by this order, or by reason of any loss suffered in not being able, without liability, to use such goods. This guarantee also includes the reimbursement to the buyer of all litigation costs which it may suffer as the result of any suit respecting the purchase or use of such goods, in addition to the recoveries which may be secured against it of profits and/or damages.

### GENERAL:

9. The material on this order must be furnished only by the person or firm to whom the order is addressed unless otherwise authorized by the buyer.

10. No drafts for purchases made will be honored unless by agreement.

11. If it becomes necessary for the seller or any agent, contractor, or employee thereof to enter upon the property of the buyer in order to construct, inspect or deliver hereunder, the seller hereby agrees to protect the buyer's property and all persons thereon from injury, damage or loss, and the seller shall save harmless and indemnify the buyer 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 buyer, which is in any way caused by or connected with or grows out of the performance hereunder by the seller or any agent, contractor or employee thereof; provided however that the seller shall not be required to indemnify the buyer against any loss caused solely by the negligence or willful fault of the buyer or its employees. If the seller performs any work hereunder knowing it to be contrary to any local law, ordinance, rule and regulation, the seller shall bear all costs arising therefrom. Seller to carry Liability Insurance and to carry Workmen's Compensation Insurance as provided by the laws of the State in which the work is performed and further, is to obtain a certificate for same, which is to be furnished for the file of the buyer. If for any reason the seller's or any subcontractor's employees or agents may acquire a status imposing liability on the buyer for employer's contributions or taxes under the Federal Social Security Act or under any State Unemployment Insurance, Old Age Benefit, or similar Acts, the seller shall be exclusively liable for, and shall indemnify the buyer against, the same and does agree to comply with all laws and regulations so as to relieve the buyer from any and all liability therefor or the responsibility of making any reports or keeping any records with respect thereto.

12. In accepting this order the seller certified that these goods were produced in compliance with all applicable requirements of Sections 6, 7 and 12 of the Fair Labor Standards Act of 1938, as amended, and of the regulations and orders of the United States Department of Labor issued under Section 14 thereof. It will be necessary in order for us to honor your future invoices to us that the above clause or a substantial equivalent thereof appear on your invoices.

13. By acceptance of this order, seller warrants that the prices specified do not exceed the maximum prices established under any applicable United States law or regulation thereunder.

## A G R E E M E N T

BCP Construction Inc., 2432 W. Peoria Avenue, Suite 1205, Phoenix, Arizona 85029, shall furnish labor, material, and equipment to clean up and dispose of approximately 5,000 pounds of bagged asbestos and additional asbestos contaminated material which is located in a metal building approximately seven (7) miles west of Casa Grande, Arizona, for the sum of Three Thousand Three Hundred and Thirty Dollars (\$3,330.00).

All work will be done in compliance with Federal, State, and local laws and regulations, including but not limited to the following:

EPA/NESHAP regulations 40CFR61 Subpart M (Revised January 10, 1989) and 40CFR763.

OSHA 29 CFR 1926.58

All workers and personnel assigned to the job will satisfy all required Federal, State, and local requirements for working with asbestos including current EPA accreditation certificates.

The asbestos and asbestos contaminated material will be properly bagged, labelled, and disposed of in a landfill which has been approved by the required Federal, State, and local agencies including the EPA. Also, Federal, State, and local laws and regulations will be followed in the disposal of said material.

BCP Construction, Inc., will be responsible for obtaining all of the required permits and the preparation and submittal of all forms required by Federal, State, and local agencies.

BCP Construction, Inc., shall procure, pay for and maintain in full force and effect, at all times during the performance of the work and until final acceptance of the work, policies of insurance issued by a

responsible carrier or carriers acceptable to Owner which afford the following coverages:

- Workers' Compensation - Statutory
- Employers' Liability - Not less than \$100,000
- Comprehensive General Liability including Independent Contractors' Broad Form Contractual, Broad Form Property Damage, Personal Injury, Completed Operations and Products Coverages (new occurrence policy form effective January 1, 1985). - Not less than \$1,000,000 combined single limit for both bodily injury and property damage. \$2,000,000 policy limit aggregate.
- Comprehensive Automobile Liability including Owned, Non-Owned, and Hired Car Coverages. - Not less than \$500,000 combined single limit for both bodily injury and property damage.

Engineer hereby agrees to deliver to Owner at least ten (10) business days of the date hereof and prior to any equipment or personnel being brought onto Owner's premises in accordance with the terms of this agreement.

BCP Construction, Inc.

ASARCO Santa Cruz, Inc.

By \_\_\_\_\_

By *Robert M. Nail*

Date \_\_\_\_\_

Date April 24, 1989



# PURCHASE ORDER

JDS → A

DATE	April 25, 1989
ORDER NO.	T-121-9
REQUISITION NO.	

PLANT JOB NO.
APPROPRIATION NO.

ASARCO Santa Cruz, Inc.  
TUCSON OFFICE 1150 NORTH 7TH AVENUE  
P. O. BOX 5747 TUCSON, ARIZONA 85703

To: Eiden's Grading and Paving  
2356 South Keeling Road  
Casa Grande, AZ 85222  
Attn: Mr. Ray Eiden

DATE REQUIRED AT DESTINATION:	
SHIPPING INTERVAL PROMISED	SELLER WILL SHIP BEFORE:
POINT OF SHIPMENT	TERMS:
F.O.B. POINT	

FINAL DESTINATION — PLEASE NOTE CONSIGNMENT BELOW  
Santa Cruz Project Site  
Approx. 2 miles west and 2 miles north of  
the Francisco Grande Hotel  
Casa Grande, AZ

CONSIGNMENT — SELLER WILL SHIP TO

— RENDER BILLS AS PER ATTACHED SHIPPING INSTRUCTIONS —

SHIP VIA

QUANTITY	UNIT	SPECIFICATIONS	ITEM NO.	UNIT PRICE
		Furnish equipment and operators to perform various earthmoving tasks required at the Santa Cruz In Situ Copper Mining Research Project Site per the attached Agreement.		
		Total cost of the equipment, including operators, is as follows:		
		Caterpillar 140G Grader		\$ 55/hour
		Caterpillar 613 Scraper		\$ 55/hour
		Case 580C Back Hoe		\$ 35/hour
		Water Truck		\$ 45/hour
		15-ton Wheeled Roller		\$100/day

RECEIVED  
APR 20 1989  
EXPLORATION DEPARTMENT

PLEASE ENTER OUR ORDER FOR THE ITEMS SPECIFIED ABOVE, SUBJECT TO ALL INSTRUCTIONS AND PROVISIONS ON REVERSE SIDE.

*A. R. Raihl*  
A. R. Raihl, Project Manager

Accounting (2)  
W. L. Kurtz

## INSTRUCTIONS

**INVOICE:** Priced invoices in the requisite number giving the correct purchase order and requisition numbers, together with required Bills of Lading, must be forwarded on day of each shipment AS PER SPECIAL SHIPPING INSTRUCTIONS ACCOMPANYING THIS ORDER, otherwise delay in payment of account may result.

**TERMS:** As previously arranged or specified on this order. Care must be exercised to show cash discount, if allowed, on face of invoice.

## PROVISIONS

**1. ACCEPTANCE:** Acceptance of this order constitutes acceptance of all terms herein stated. All representations and warranties by the seller relating to the subject-matter of this order or its performance shall be binding on the seller as if fully set forth herein, and shall survive inspection and acceptance of the goods ordered. No acknowledgment or acceptance of this order or any other communication by the seller shall vary or add any terms or conditions to those contained herein and any such attempted modification or addition which is not accepted in writing by the buyer, shall be void and may be disregarded without further notice or disclaimer.

**2. PRICES:** This order must not be filled at higher prices than last quoted without authority of the buyer.

**3. SHIPMENTS:** All materials must be forwarded by the route designated and seller will be held strictly accountable for any deviation therefrom.

When the material covered by this order shall aggregate a carload shipment or more, the seller must forward in carload lots, unless duly authorized in writing by the buyer to ship in less than carloads. If this order aggregates less than a minimum carload, seller must forward the entire quantity at one time unless otherwise authorized in writing by the buyer.

When blocking or dunnage, etc., not constituting a part of the car are used to protect and make shipments secure in transit, seller must show on Bills of Lading, separately, the weights of such materials, provided the lading shall aggregate a minimum carload or more, and will be held responsible for failure to comply with this rule.

Shipments will not be considered as completed until Bill of Lading, or express or mail receipt is received.

**4. PACKING AND CARTAGE CHARGES:** No charge will be allowed for packing, boxing or cartage, unless agreed upon at the time of purchase; damage to any material not properly packed to insure adequate protection in transit will be charged to the seller. All packing must conform with tariff or classification requirements so as to secure lowest possible freight rates. It is understood the buyer will receive the benefit of any decrease in freight charges between time of quotation and date of shipment, where freight enters into the price originally quoted.

**5. QUALITY AND INSPECTION:** All material furnished must be as specified and will be subject to inspection and approval of buyer after delivery. The right is reserved to reject and return at the risk and expense of the seller such portion of any shipment which may be defective or fail to comply with the specifications without invalidating the remainder of the order. If rejected may be held for disposition at the expense and risk of the seller.

**6. QUANTITY:** The specific quantity ordered must not be changed without buyer's permission in writing.

**7. NON-PERFORMANCE:** Buyer reserves the right to cancel this order or any portion of same if delivery is not made when and as specified, time being of the essence of this order, and charge seller for any loss entailed.

**8. PATENTS:** The seller hereby guarantees the buyer against all losses of profits, damages, or both, resulting from any patent infringement by reason of purchasing or using goods covered by this order, or by reason of any loss suffered in not being able, without liability, to use such goods. This guarantee also includes the reimbursement to the buyer of all litigation costs which it may suffer as the result of any suit respecting the purchase or use of such goods, in addition to the recoveries which may be secured against it of profits and/or damages.

### GENERAL:

**9.** The material on this order must be furnished only by the person or firm to whom the order is addressed unless otherwise authorized by the buyer.

**10.** No drafts for purchases made will be honored unless by agreement.

**11.** If it becomes necessary for the seller or any agent, contractor, or employee thereof to enter upon the property of the buyer in order to construct, inspect or deliver hereunder, the seller hereby agrees to protect the buyer's property and all persons thereon from injury, damage or loss, and the seller shall save harmless and indemnify the buyer 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 buyer, which is in any way caused by or connected with or grows out of the performance hereunder by the seller or any agent, contractor or employee thereof; provided however that the seller shall not be required to indemnify the buyer against any loss caused solely by the negligence or willful fault of the buyer or its employees. If the seller performs any work hereunder knowing it to be contrary to any local law, ordinance, rule and regulation, the seller shall bear all costs arising therefrom. Seller to carry Liability Insurance and to carry Workmen's Compensation Insurance as provided by the laws of the State in which the work is performed and further, is to obtain a certificate for same, which is to be furnished for the file of the buyer. If for any reason the seller's or any subcontractor's employees or agents may acquire a status imposing liability on the buyer for employer's contributions or taxes under the Federal Social Security Act or under any State Unemployment Insurance, Old Age Benefit, or similar Acts, the seller shall be exclusively liable for, and shall indemnify the buyer against, the same and does agree to comply with all laws and regulations so as to relieve the buyer from any and all liability therefor or the responsibility of making any reports or keeping any records with respect thereto.

**12.** In accepting this order the seller certified that these goods were produced in compliance with all applicable requirements of Sections 6, 7 and 12 of the Fair Labor Standards Act of 1938, as amended, and of the regulations and orders of the United States Department of Labor issued under Section 14 thereof. It will be necessary in order for us to honor your future invoices to us that the above clause or a substantial equivalent thereof appear on your invoices.

**13.** By acceptance of this order, seller warrants that the prices specified do not exceed the maximum prices established under any applicable United States law or regulation thereunder.

A G R E E M E N T

Eiden's Grading and Paving, 2356 South Keeling Road, Casa Grande, Arizona 85222, (Contractor) shall furnish equipment and operators to perform various earthmoving tasks that will be required at the Santa Cruz In Situ Copper Mining Research Project Site located approximately two (2) miles west and two (2) miles north of the Francisco Grande Hotel, Casa Grande, Arizona. Total cost of the equipment including operators is as follows:

Caterpillar 140G Grader	\$ 55.00/hr
Caterpillar 613 Scraper	\$ 55.00/hr
Case 580C Back Hoe	\$ 35.00/hr
Water Truck	\$ 45.00/hr
15-ton Wheeled Roller	\$100.00/day

The costs of the above equipment will be firm for a period of six (6) months with the exception that the portion of the costs pertaining to fuel may be renegotiated if required. The total cost of additional equipment, materials, and supplies will be negotiated as the need arises.

Initial planned work consists of cleaning, grading, and compacting approximately 3/4 mile of roadway and constructing two (2) elevated pads: one approximately 100 ft by 100 ft by 1 ft high and the other approximately 40 ft by 65 ft by an average of 4 ft high. Haul distance for the dirt is approximately 1/4 mile.

Additional miscellaneous earthwork will be required from time to time at the site.

Contractor shall, for the mutual protection and benefit of both Contractor and Asarco, procure, pay for, and maintain in full force and effect, at all times during the performance of the work and until final acceptance of the work, policies of insurance issued by a responsible carrier or carriers acceptable to Asarco which afford the following coverages:

- |   |   |
|---|---|
| Workers' Compensation   | - Statutory   |
| Employers' Liability  | - Not less than \$100,000   |
| Comprehensive General Liability including Independent Contractors' Broad Form Contractual, Broad Form Property Damage, Personal Injury, Completed Operations and Products Coverages (new occurrence policy form effective January 1, 1985). | - Not less than \$1,000,000 combined single limit for both bodily injury and property damage. \$2,000,000 policy limit aggregate. |
| Comprehensive Automobile Liability including Owned, Non-Owned, and Hired Car Coverages.   | - Not less than \$500,000 combined single limit for both bodily injury and property damage.                                       |

Contractor hereby agrees to deliver to Asarco at least ten (10) business days of the date hereof and prior to any equipment or personnel being brought onto Asarco's premises in accordance with the terms of this agreement.

Eiden's Grading and Paving

ASARCO Santa Cruz, Inc.

By \_\_\_\_\_

By *[Signature]*

Date \_\_\_\_\_

Date *April 25, 1989*

# ASARCO

Exploration Department  
Southwestern United States Division

June 23, 1989

Mr. John Stone  
Coastal Mining Co.  
333 S. Carson Meadows Drive  
Carson City, NV 89701

Dear John:

As per our phone conversation, you are sending Asarco certain water well records pertaining to water wells that are not located on land belonging to Asarco-Freeport-McMoRan. When requested to do so, we will make these water well records available to the owners of the property upon which the wells are located.

Sincerely,



Henry G. Kreis  
Geologist

HGK:mek

cc: W.L. Kurtz/J.D. Sell  
A.R. Raihl



JDS

ASARCO SANTA CRUZ INC.  
P. O. Box 5747  
Tucson, Arizona 85703  
(602) 792-3010

July 7, 1989

FREEMPORT-McMORAN GOLD CO.  
P. O. Box 41330  
Reno, Nevada 89504

Attention: G. R. Reinbold

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for June 1989:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Annual Trust Fee	162.00	
Field Services & Supplies	636.94	
Travel Expense	1,464.63	
Professional Services	3,330.00	
Freight refund	<u>(476.11)</u>	5,167.46

Our E. A. No. 0087 -Peripheral Lands

General Administrative Charges	50.00	
Salaries	201.50	
Employee Overhead	63.00	
Travel Expense	<u>72.41</u>	<u>386.91</u>
		<u>5,554.37</u>

1/2 to Freeport -McMoran	2,777.19
Balance brought forward	(55,811.28)
In Situ Leach Project June charges	<u>15,776.43</u>

Balance \$(37,257.66)

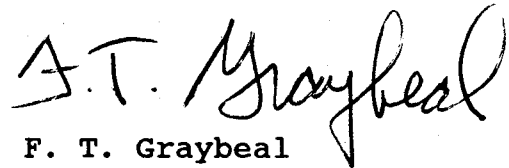
cc: Controller/Att: EJFranko  
JDSell  
PJorgensen - Freeport-McMoran  
File

New York, N.Y., July 18, 1989

To: R. L. Brown

Santa Cruz In Situ Talk

The Technical Program Committee of the AMC has requested a Santa Cruz Joint Venture-USBM paper on the in situ field test for the AMC annual meeting September 17-20, 1989 in San Francisco (see attached letter). The abstract of the paper is attached. Content would be essentially a progress report.

  
F. T. Graybeal

FTG:mc  
Att.

cc: R. J. Muth (w/att.)  
E. A. Romagnoli "  
W. K. Murray "  
W. L. Kurtz/J. D. Sell "  
A. R. Raihl "  
W. E. McCulloch-Freeport "

ASARCO Incorporated

JUL 24 1989

SW Exploration



United States Department of the Interior

BUREAU OF MINES  
2401 E STREET, NW.  
WASHINGTON, D.C. 20241

July 6, 1989

Mr. Frederick T. Graybeal  
Chief Geologist--Exploration  
ASARCO, Inc.  
180 Maiden Lane  
New York, New York 10038


Dear Mr. Graybeal:

During the formulation of the program for the upcoming Mining Convention in San Francisco, September 17-20, 1989, the American Mining Congress' Technical Program Committee determined that a presentation on the Bureau of Mines-ASARCO cooperative project on in situ leaching of copper in Arizona would be appropriate. This letter is to determine ASARCO's interest in this opportunity and your willingness to perhaps co-author a paper with a Bureau representative. Bill Larson, of the Twin Cities Research Center, would be the likely Bureau participant.

A slot on the Monday afternoon, September 18, 1989, session on "Operating Innovations" has been tentatively scheduled for the presentation. I have agreed to Chair that session.

Please let me know at your earliest convenience of your interest in presenting this paper. You can reach me in Washington at (202) 634-1251, should you wish to discuss the matter.

Sincerely,

  
Philip G. Meikle  
Chief, Division of Health,  
Safety and Mining Technology

IN SITU COPPER MINING AT THE SANTA CRUZ DEPOSIT, CASA GRANDE, AZ:  
A COOPERATIVE RESEARCH PROJECT BETWEEN THE SANTA CRUZ JOINT  
VENTURE AND THE UNITED STATES BUREAU OF MINES

By Frederick T. Graybeal<sup>1</sup> and William C. Larson<sup>2</sup>

ABSTRACT

The U.S. Bureau of Mines has started a production-scale, in situ mining field research project in cooperation with the Santa Cruz Joint Venture, which is 50 percent-owned by ASARCO Santa Cruz Inc., a subsidiary of ASARCO Incorporated and 50 percent by Freeport Copper Co., a subsidiary of Freeport-McMoran Gold Co. This research is being conducted at the Santa Cruz Project, located 7 miles west of Casa Grande, Arizona. Santa Cruz is a large oxidized porphyry copper deposit, concealed beneath post-mineral alluvium at depths of 1,500-3,000 ft. The research objective is to evaluate in situ mining as a method for extracting copper from a previously unmined copper oxide deposit. Funding is provided through a cost-sharing program with the Bureau of Mines contributing 75 percent and the Santa Cruz Joint Venture 25 percent over the life of the project.

Important project milestones reached to date include site selection, well field orientation, and demonstration that adequate amounts of water can be injected into the mineralized zone at pressures below the threshold for hydraulic fracturing. Current work will characterize the hydrologic regime and gather flow data from communication tests to support an application for an environmental permit to inject a dilute acid solution. Future steps will involve completion of a 5-spot well pattern, construction of a small solvent extraction-electrowinning plant, 12-18 month operation of the well field, and final technical and economic evaluation. The field activities are scheduled for a 4-year life subject to permitting and funding. Total project costs, including data evaluation, are presently estimated at \$20.8 million. All data gathered from the project will be published by the Bureau of Mines.

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<sup>1</sup>Chief Geologist, ASARCO

<sup>2</sup>Research Supervisor, Twin Cities Research Center, Bureau of Mines, Minneapolis, MN.

As a property owner within the

# Cimarron Ranch Area

you are invited to attend a meeting

at: Francisco Grande Resort  
26000 Gila Bend Highway  
Casa Grande, Arizona

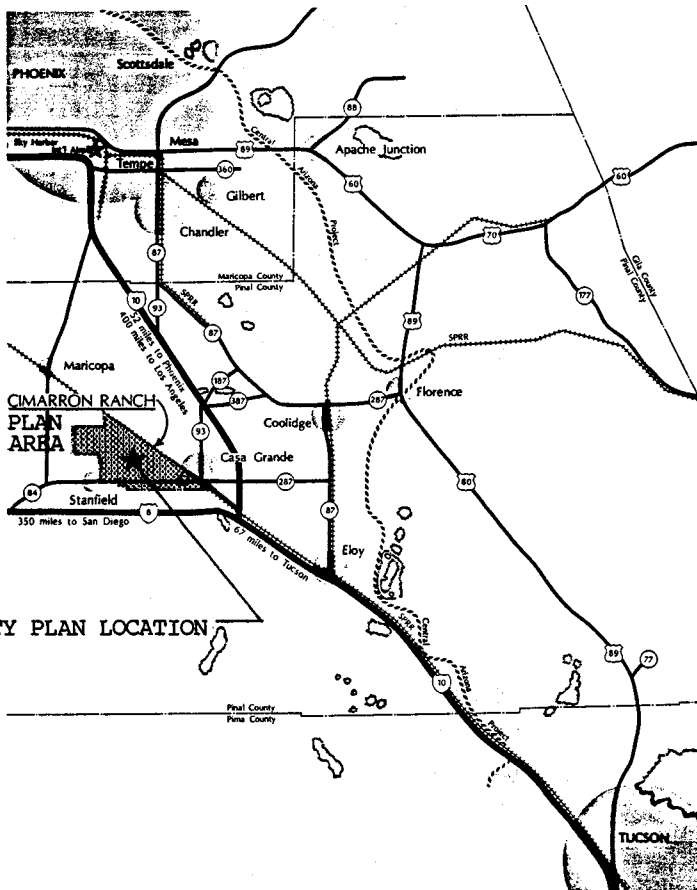
in the: Ballroom  
at: 7:00 p.m.  
on: August 30, 1989

The purpose of the meeting is to present and review  
the Capability Analysis Report for the  
Cimarron Ranch Area Plan and Community Plan

If you have any questions, please contact:  
The Planning Center  
(602)957-2218  
Laura Paty

*recommended  
H&K  
& WDG  
SD*

Cimarron Ranch Area  
Location Map



ASARCO Incorporated

**AUG 9 1989**

SW Exploration

CIMARRON RANCH AREA AND COMMUNITY PLANS  
PUBLIC MEETING - AUGUST 30, 1989

WDC  
HCK  
SEP 8 1989  
JOS  
Showing handout  
this

Panel: Mr. Phil Hogue - Pinal County  
Mr. Jack Grossman - The Simmons Company  
Mr. Pat Nash and Ms. Laura Paty - The Planning Center

The following is a summary of the public meeting that occurred on August 30, 1989 in Casa Grande, Arizona.

Mr. Phil Hogue - Director of Planning and Development Services

The County has developed a set of policies and procedures for the preparation of land plans. When a developer approaches the County, with the desire to develop property, there are certain requirements they must fulfill. If their property is large, such as the Simmons Company's 7600-acres, they are required to develop a general land use plan for a larger area. In this case, 37,000-acres. This larger plan is called an Area Plan, and the developer's property is referred to as a Community Plan.

The County assigns the boundaries of the Area Plan. When all the Area Plans that are developed are pieced together, they create the County's General Plan for Development.

A new element that has been added to the policies and procedures is that the developer must place the planning consultants fees in escrow with, and to be administered by, the County. This insures that the Area Plan will be in the best interests of the County.

Mr. Jack Grossman - Vice-President and General Counsel for The Simmons Company

The Simmons Company owns, or has ownership interest in, approximately 7600-acres located within the area designated as the Cimarron Ranch Area Plan. It's our intent to develop a master plan to develop the property.

Due to the overlap of the Area and Community plans, the development processes are parallel. Tonight is the first of a series of public meetings.

What we are presenting is a series of slides of the actual exhibits contained in the Capabilities Analysis, not a land use plan. The exhibits are essentially a technical overview of those factors that will impact upon, and help us to determine, the appropriate land uses for the area. These factors will be considered along with responses to a questionnaire that will be handed out tonight and mailed to those not in attendance.

The Capabilities Analysis has been reviewed and approved by the County for presentation to you this evening.

Mr. Pat Nash - Senior Project Manager with The Planning Center

In conjunction with other consultants, we have prepared the first phase of development, the Capability Analysis, according to the County guidelines.

Mr. Nash presented the following exhibits for review: location; topography; slope; hydrology; water availability; vegetation and wildlife; geology and soils; special resources; visual analysis; existing man-made features; existing land use and zoning; opportunities and constraints analysis.

At the next public hearing on October 19, 1989, we will be presenting the preliminary land use plans for the Area and Community Plans. This meeting will be held at Francisco Grande Resort, 26000 Gila Bend Highway, Casa Grande, AZ, at 7:00 p.m.

copy to  
WDC  
HCK  
9/8/8  
mel



CIMARRON RANCH AREA  
AND COMMUNITY PLAN  
QUESTIONNAIRE

Responses to the following questions will be used to help the planning team determine the best land uses for the area known as Cimarron Ranch Area Plan and Community Plan. Eliciting input from local property owners is part of the Pinal County development process and the results will become part of the public record.

Please complete the following questionnaire and return to the address below by September 20, 1989.

The Planning Center  
2200 East Camelback Road, Suite 110  
Phoenix, Arizona 85016  
Attn: Laura Paty

1. Do you reside on your property?                
operate a business? yes no  
other?                

---
  
2. Do you plan on staying in the area?                
moving to the area? yes no  
other?                

---
  
3. Should high density uses (apartments, offices, shopping centers, etc.) occur in a concentrated area?  
Circle one: Agree Disagree No opinion  
  
Should high density uses occur along corridors?  
Circle one: Agree Disagree No opinion
  
4. Do you believe that industrial development is important to the area and should be encouraged?  
Circle one: Agree Disagree No opinion

Cimarron Area and Community Plan Questionnaire  
 Page Two

5. What types of residential uses do you feel are acceptable in this area:

	<u>Acceptable</u>	<u>Not Acceptable</u>	<u>No Opinion</u>
Single Family	_____	_____	_____
Patio Homes/Townhouses	_____	_____	_____
Apartments	_____	_____	_____
Trailer and Mobile Home Parks	_____	_____	_____
Retirement Communities	_____	_____	_____

6. Of the following non-residential uses, which do you believe are acceptable in the area?

	<u>Acceptable</u>	<u>Not Acceptable</u>	<u>No Opinion</u>
Agricultural	_____	_____	_____
Manufacturing	_____	_____	_____
Mineral Mining	_____	_____	_____
Research & Development	_____	_____	_____
Industrial	_____	_____	_____

7. Rank each of the following commercial uses according to the level of importance.

	<u>Very Important</u>	<u>Important</u>	<u>Not Important</u>
Shopping Centers	_____	_____	_____
Movie Theaters	_____	_____	_____
Restaurants	_____	_____	_____
Office Buildings	_____	_____	_____
Other: _____	_____	_____	_____



**Cimarron Area and Community Plan Questionnaire**  
**Page Three**

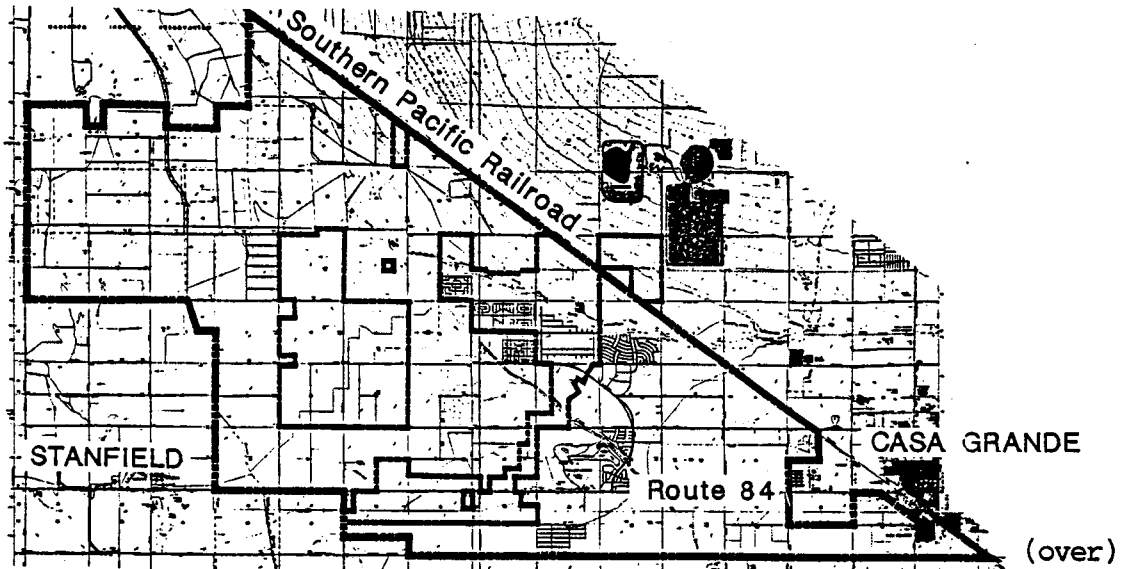
8. Of the following community services, rank each according to level of importance.

	<u>Very</u> <u>Important</u>	<u>Important</u>	<u>Not</u> <u>Important</u>
Schools	_____	_____	_____
Libraries	_____	_____	_____
Churches	_____	_____	_____
Hospitals	_____	_____	_____
Other: _____			

9. Rank each of the following recreational uses according to level of importance.

	<u>Very</u> <u>Important</u>	<u>Important</u>	<u>Not</u> <u>Important</u>
Golf Courses	_____	_____	_____
Horse Trails	_____	_____	_____
Sports Fields	_____	_____	_____
Walking & Jogging Trails	_____	_____	_____
Bike Trails	_____	_____	_____
Other: _____			

Please mark, generally, where your property is located on the map below.



(over)

Cimarron Area and Community Plan Questionnaire  
Page Four

Please use the space below to add any additional comments.

September 14, 1989

W.L. Kurtz

Land Management  
Santa Cruz Project  
Pinal County, Arizona

There are a number of items regarding our Santa Cruz land that need attention at this time or at some time in the near future. These items are as follows:

1. Our agricultural lease to P. Talla expires at the end of the year. Can we lease land under option to Simmons? If so, Dave Clayton, who is presently subleasing our land from Talla, wants the agricultural lease. Talla says he does not want it.
2. There is work to be done with Simmons and Pinal County Planning and Zoning regarding Simmons' proposed development.
3. There are some minor problems with water well registration with the DWR and with well ownership that needed to be rectified.
4. There are some matters in the trailer park area that could use some work. For example, who owns and who is responsible for the large water tank at the trailer park? Also, someone has corrals and horses on our property.
5. There is a regular flow of traffic over our land on the north edge of Desert Carmel. People are using our land to get to a wildcat garbage dump, and a number of them are dumping trash on our land.
6. Some assessment work will need to be done next year.
7. I don't know the status of the Simmons land lease for the core sheds. Some work may be needed on this matter.

I'll be in touch with you to see how we can get this work done.

HGK:mek

*H.G. Kreis*

H. G. Kreis

cc: J.D. Sell

*WHLK says - why cant Hall do these things!!*

November 8, 1989

W.L. Kurtz

Cimarron Ranch  
Land Use Plan  
Santa Cruz Project

The attached map shows the land use plan for Simmon's Cimarron Ranch. Also attached is the result of a questionnaire.

*H.G. Kreis /mek*

H.G. Kreis

HGK:mek  
atts.

cc: R.L. Brown  
F.T. Graybeal  
J.D. Sell  
A.R. Raihl  
W.D. Gay



**CIMARRON RANCH  
COMMUNITY LAND USE PLAN  
Pinal County, Arizona**

prepared for:  
**SIMMONS INVESTMENTS, INC.**

prepared by:



2200 EAST CAMELBACK ROAD SUITE 110  
PHOENIX, ARIZONA 85016 602 957-2218

*(Prior to 10-26-89)*

### Low density residential

Low density residential is predominantly large estate lots of one to two dwelling units per acre.

### Medium density residential

Medium density residential, 3.5 to 7.2 dwelling units per acre, makes up the majority of residential land area. The most popular housing in the region tends to be moderate priced, single family homes which are best suited to this category.

### High density residential

High density residential, 6.2 to 22 dwelling units per acre, is located in the core areas of most intense use.

Within the non-residential land use category two uses were established - commercial and industrial.

### Commercial

Commercial uses occur primarily at nodal cores, key intersections, and, in one case, along a portion of a major road. At intersections, not all the corners are expected to develop as commercial, however, the option is left available for these corners to develop as commercial uses, depending on the market.

### Industrial

Industrial uses will include garden, light, and heavy industrial. The uses will gradate as is necessary based upon the requirements of the goals and policies. The market will drive what types of industrial uses are best suited to this region.

What these categories are intended to portray is the overall density within each designated area. For example, high or low density subdivisions might occur in an area designated as medium; but at build-out the overall density will be 3.5 to 7.2 dwelling units per acre for that specific area.

## CIMARRON AREA QUESTIONNAIRE RESULTS

QUESTIONNAIRES MAILED - 2432  
 QUESTIONNAIRES RECEIVED - 396  
 PERCENTAGE RECEIVED 16%

*42% from Desert Carmel*

*See last page of questionnaire*

QUESTION	ANSWER	# OF ANSWERS	PERCENT	
1. Do you reside on your property?	Yes	19	5%	
	No	374	94%	
	No response	3	1%	
Do you operate a business?	Yes	10	3%	
	No	345	87%	
	No response	41	10%	
2. Do you plan on staying in the area?	Yes	56	14%	
	No	244	62%	
	Maybe	23	6%	
	No response	73	18%	
Do you plan on moving to the area?	Yes	42	11%	
	No	241	61%	
	Maybe	23	9%	
	No response	73	19%	
3. Should uses such as apartments, offices, etc occur in a concentrated area?	Agree	239	60%	
	Disagree	59	15%	
	No opinion	72	18%	
	No response	26	7%	
Should high density occur along corridors?	Agree	168	42%	
	Disagree	74	19%	
	No opinion	115	29%	
	No response	39	10%	
4. Do you believe that industrial development is important to the area and should be encouraged?	Agree	288	73%	
	Disagree	40	10%	
	No opinion	51	13%	
	No response	17	4%	
5. What types of residential uses do you feel are acceptable in this area?	Single Family	Acceptable	321	81%
		Not accept.	5	1%
		No opinion	24	6%
		No response	46	12%
	Patio Homes/Townhouses	Acceptable	275	69%
		Not accept.	23	6%
		No opinion	38	10%
		No response	60	15%



QUESTION	ANSWER	# OF ANSWERS	PERCENT
Apartments	Acceptable	185	47%
	Not accept.	84	21%
	No opinion	55	14%
	No response	72	18%
Trailer and Mobile Home Parks	Acceptable	149	38%
	Not accept.	126	32%
	No opinion	53	13%
	No response	68	17%
Retirement Communities	Acceptable	303	77%
	Not accept.	9	2%
	No opinion	36	9%
	No response	48	12%
6. Of the following non-residential uses, which do you believe are acceptable in the area?			
Agricultural	Acceptable	204	52%
	Not accept.	48	12%
	No opinion	71	18%
	No response	73	18%
Manufacturing	Acceptable	191	48%
	Not accept.	69	18%
	No opinion	64	16%
	No response	72	18%
Mineral Mining	Acceptable	87	22%
	Not accept.	128	32%
	No opinion	98	25%
	No response	83	21%
Research & Development	Acceptable	256	65%
	Not accept.	29	7%
	No opinion	56	14%
	No response	55	14%
Industrial	Acceptable	179	45%
	Not accept.	78	20%
	No opinion	74	19%
	No response	65	16%
7. Rank each of the following commercial uses according to the level of importance.			
Shopping Centers	Very import.	254	64%
	Important	92	23%
	Not import.	15	4%
	No response	35	9%
Movie Theaters	Very import.	79	20%
	Important	142	35%
	Not import.	125	32%
	No response	50	13%

QUESTION	ANSWER	# OF ANSWERS	PERCENT
Restaurants	Very import.	177	45%
	Important	158	40%
	Not import.	19	5%
	No response	42	10%
Office Buildings	Very import.	131	33%
	Important	139	35%
	Not import.	73	19%
	No response	53	13%
8. Of the following community services, rank each according to level of importance.			
Schools	Very import.	261	66%
	Important	78	20%
	Not import.	24	6%
	No response	33	8%
Libraries	Very import.	168	43%
	Important	160	40%
	Not import.	25	6%
	No response	43	11%
Churches	Very import.	206	52%
	Important	124	31%
	Not import.	28	7%
	No response	38	10%
Hospitals	Very import.	262	66%
	Important	81	20%
	Not import.	23	6%
	No response	30	8%
9. Rank each of the following recreational uses according to level of importance.			
Golf Course	Very import.	133	33%
	Important	162	41%
	Not import.	58	15%
	No response	43	11%
Horse Trails	Very import.	37	9%
	Important	127	32%
	Not import.	172	44%
	No response	60	15%
Sports Fields	Very import.	88	22%
	Important	185	47%
	Not import.	64	16%
	No response	59	15%

QUESTION	ANSWER	# OF ANSWERS	PERCENT
----------	--------	--------------	---------

Walking & Jogging Trails

Very import.	144	36%
Important	178	45%
Not import.	39	10%
No response	35	9%

Bike Trails

Very import.	97	24%
Important	183	47%
Not import.	65	16%
No response	51	13%

Property Location

Desert Carmel  
 Casa Grande West  
 Other  
 No response

166	42%
57	14%
69	18%
104	26%

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

November 8, 1989

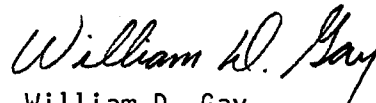
Pinal County Recorder  
P.O. Box 848  
Florence, AZ 85232

Santa Cruz JV  
Pinal County, AZ

Dear Sir:

Attached for recording in the official records of Pinal County are two 'Certificate of Grandfathered Groundwater Right,' No. 58-110104.0001, granted October 10, 1989, and No. 58-104069.0002, granted May 3, 1989. Asarco's check of \$18.00 as the recording fee is enclosed, along with a return stamped envelope.

Very truly yours,

  
William D. Gay  
Land Engineer, SWED

WDG:mek  
encs.

cc: W.L. Kurtz  
J.D. Sell  
C.L. Snow

# Certificate Of Grandfathered Groundwater Right

COUNTY OF PINAL

STATE OF ARIZONA DEPARTMENT OF WATER RESOURCES



*This is to certify that pursuant to the provisions of  
Title 45, Chapter 2, Arizona Revised Statutes*  
FREEPORT COPPER COMPANY, A DELAWARE CORPORATION, AND  
ASARCO SANTA CRUZ, INC., A DELAWARE CORPORATION,  
JOINT VENTURERS DOING BUSINESS AS SANTA CRUZ JOINT VENTURE  
P.O. BOX 5747  
TUCSON, ARIZONA 85703-0747

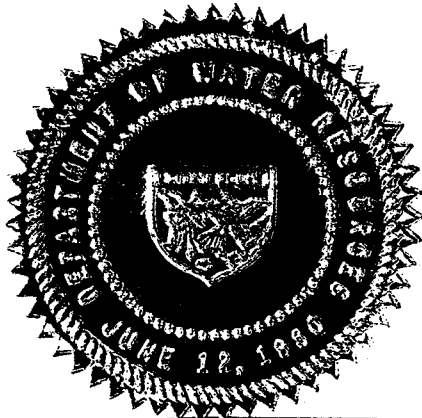
*is granted*  
TYPE 1 NON-IRRIGATION GRANDFATHERED RIGHTS  
*in the*

PINAL ACTIVE MANAGEMENT AREA

or 3,609 acre-feet of groundwater annually from January 1 through December 31. The rights are appurtenant to  
1,203 acres of land described as follows:

SE $\frac{1}{4}$  Sec 12 T6S R4E, and  
W $\frac{1}{2}$ ; NE $\frac{1}{4}$  Sec 13 T6S R4E, and  
NE $\frac{1}{4}$  Sec 23 T6S R4E, and  
NW $\frac{1}{4}$  Sec 24 T6S R4E, and  
W $\frac{1}{2}$  Sec 18 T6S R5E GSRB&M,  
excluding permanent roads, permanent drainage channels, and  
non-eligible areas as more fully described in the map attached  
hereto as Exhibit A and made a part hereof by reference.

*The use of groundwater under this right shall be for non-irrigation purposes in accordance with the laws of the State of Arizona and restrictions placed on use by the Director of the Department of Water Resources pursuant to Title 45, Chapter 2, Arizona Revised Statutes.*



CERTIFICATE NO. 58-110104.0001

is granted this 10th day of October, 1989

ARIZONA DEPARTMENT OF WATER RESOURCES

Director

# Certificate Of Grandfathered Groundwater Right

COUNTY OF PINAL

STATE OF ARIZONA DEPARTMENT OF WATER RESOURCES



*This is to certify that pursuant to the provisions of  
Title 45, Chapter 2, Arizona Revised Statutes*

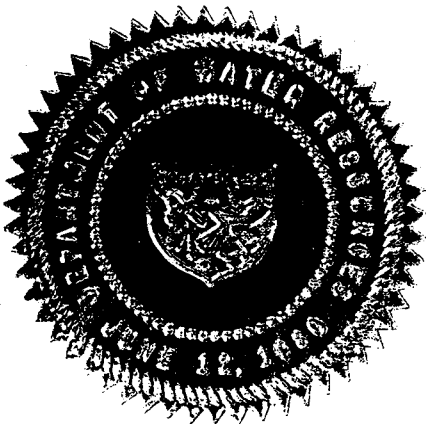
SANTA CRUZ JOINT VENTURE  
FREEPORT COPPER  
2111 EAST HIGHLAND, SUITE 230  
PHOENIX, ARIZONA 85016

*is granted*  
IRRIGATION GRANDFATHERED RIGHTS  
*in the*  
PINAL ACTIVE MANAGEMENT AREA

for 838 irrigation acres of land. The rights are appurtenant to and groundwater may be used only on the irrigation acres of land described as follows:

SE $\frac{1}{4}$  Sec 23 T6S R4E; and N $\frac{1}{2}$  Sec 26 T6S R4E excepting  
W $\frac{1}{2}$  NW $\frac{1}{4}$  NW $\frac{1}{4}$  and N $\frac{1}{2}$  NW $\frac{1}{4}$  SW $\frac{1}{4}$  NW $\frac{1}{4}$ ; and N $\frac{1}{2}$  Sec 25 T6S R4E  
excepting the E $\frac{1}{2}$  NE $\frac{1}{4}$  NE $\frac{1}{4}$  and a 210 foot strip along  
the North section line; and Lots 1 and 2; NE $\frac{1}{4}$  NW $\frac{1}{4}$ ;  
W $\frac{1}{2}$  W $\frac{1}{2}$  SE $\frac{1}{4}$  NW $\frac{1}{4}$  Sec 30 T6S R5E GSRB&M, excluding  
permanent roads.

*The use of groundwater on the above described land shall be for irrigation purposes in accordance with the laws of the State of Arizona and restrictions placed on use by the Director of the Department of Water Resources pursuant to Title 45, Chapter 2, Arizona Revised Statutes.*



CERTIFICATE NO. 58-104069.0002

is granted this 3rd day of May, 1989

ARIZONA DEPARTMENT OF WATER RESOURCES

Director

Department of Water Resources must be notified if the above named person(s) changes his address or conveys ownership of the right to another person(s) or wishes to convert the right to a non-irrigation grandfathered right associated with retired irrigated land.

# ASARCO

JDS

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

November 9, 1989

Mr. W.A. Bennis, VP  
ASARCO Incorporated  
180 Maiden Lane  
New York, NY 10038

Santa Cruz Document Book  
Entries

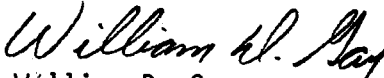
Dear Mr. Bennis:

Enclosed are copies of documents that have been entered in the Santa Cruz Document book, as follows:

- Doc. 29-11 Special Warranty Deed conveying land to Freeport Copper Co. & Asarco Santa Cruz, dated July 11, 1989 (See Doc. 30-8).
- Doc. 29-12 Santa Cruz JV & Simmons DevCor, Inc. Purchase & Sale Agreement, dated 12/23/88, and Options to Purchase & Right of First Refusal, dated 12/23/88.
- Doc. 29-13 Amended Quitclaim Deed from Simmons DevCor, Inc. to Santa Cruz Joint Venture (unsigned copy).  
Attached related information:
- Mining Lease, 8/4/78 between Ida Maye Coggins and Casa Grande Copper Co.
  - Assignment of Mining Lease 12/30/88 between Simmons DevCor and Santa Cruz JV
  - Change of Well Info (Also see Doc. 30-8-2)
  - Letters to interested parties on sale of property
  - Conveyance of Certif. of Irrigation Grandfathered Right, Certifs. No. 58-104069 and 58-150106
  - Affidavit of Lost Certificate - Cert. of Grandfathered Right No. 58-104069
  - Memorandum of Option & Refusal Rights.
- Doc. 30-1 Termination of Trust 1270. Quittance and Release Form signed 7/12/79.

- Doc. 30-8 Certificate of Conveyance form from Lawyers Title Trust 1270 to Freeport Copper Co. and Asarco Santa Cruz of ownership change of Grandfathered Right No. 58-110104, dated 6/21/89 (See Doc. 29-11).
- Doc. 30-8-2 Notification of Change of Ownership and Conveyance of a Certificate of Irrigation Grandfathered Right and Change of Well ownership from Simmons DevCor, Inc. to Santa Cruz JV.
- Doc. 30-8-3 Change of Well Ownership from Lawyers Title Trust 1270 to Santa Cruz Joint Venture.

Sincerely yours,

  
William D. Gay  
Land Engineer, SWED

WDG:mek  
Encs.

cc: W.L. Kurtz (w/o encs.)  
R.L. Brown " "  
J.D. Sell " "



November 10, 1989

FILE NOTE

Santa Cruz JV  
Recreation Hall Salvage  
SE $\frac{1}{4}$ , Sec. 7, T6S, R5E

Discussed the legal aspects of salvaging the T section recreation hall with Mr. B. Apker on 11/9/89. He stated that there would be no problems if we want to proceed with the salvaging.

Will follow up on the request from Mr. Daniels which is attached.

WDG:mek

*William D. Gay*  
William D. Gay

cc: W.L. Kurtz  
J.D. Sell

~~First American Title Co.~~  
~~836-1500~~

10/16/89

FROM: W. L. KURTZ

TO:

~~W. Gay~~  
H Kous

Santa Cruz  
"T" Area

A Mr. Daniels — 1-836-2531 — of Casa Escondida wants to take down for salvage the "Red Hall" in the T subdivision; also he would like to take the chain link fence ± 500'.

What do you think? If yes, how much do we charge him?

Any possibility we can not legally take down "Red Hall" due to some underlying subdivision rules.

FROM: W. L. KURTZ

To: W. Gay

11/29/89

Santa Cruz

Do we owe anybody  
lease, rental, or option payments  
besides Parks Salzer?

I recall some small parcel  
we got from Swimmers Bros -  
purchase that required  
"something" - Think it was  
a lady in Bisbee.

Necks and Yours will roll  
if we screw up any land  
at Santa Cruz

cc: J. Bell, etc etc

SIMMONS

RECEIVED

DEC 20 1989

EXPLORATION DEPARTMENT

THE SIMMONS COMPANY

PO BOX 1000  
TUCSON, ARIZONA 85710  
520/298-1000

December 19, 1989

Via Facsimile

Mr. R. L. Brown  
Vice President  
ASARCO Incorporated  
180 Maiden Lane  
New York, NY 10038

Re: Santa Cruz

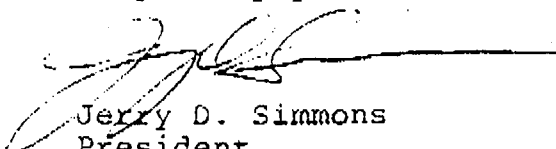
Dear Dick:

Please excuse the delay in responding to your letter of December 14, 1989, respecting your request for a sale of the property immediately east of the buffer property.

We have considered your request and are having our land planning consultant further evaluate the impact of the request upon the integrity of the land plan. As you may recall from our discussion last year at this time, we retained that land in order to provide continuity with and access to the northern parcels.

Nevertheless, we will endeavor to accommodate your request, if doing so does not do violence to the land plan. We shall be in contact with you soon.

Very truly yours,



Jerry D. Simmons  
President

cc: W.D. Gay  
J.D. Sell  
12/20/89

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

December 20, 1989

Mrs. Ida May Coggin  
c/o Mrs. Daphne Morrison  
1905 Camino Rio  
Farmington, NM 87401

Santa Cruz Joint Venture  
Mining Lease Payment

Dear Mrs. Coggin:

As stipulated under "Considerations," Item 1, of the "Mining Lease," dated August 4, 1978, between you and Casa Grande Copper, which was assigned to Santa Cruz Joint Venture on December 30, 1988, enclosed is Asarco's check for \$100 for payment due January 1, 1990.

Sincerely yours,

*William D. Gay*  
William D. Gay  
Land Engineer, SWED

WDG:mek  
enc.

cc: Mrs. Ida May Coggin  
404 Powell Street  
Warren, Arizona 85042

cc: W.L. Kurtz  
J.D. Sell  
C.L. Snow

# ASARCO

1/3

Exploration Department  
R. L. Brown  
Vice President

January 4, 1990

VIA TELECOPIER

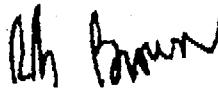
Messrs. Kurtz/Sell  
Tucson Office

Santa Cruz Project  
Arizona

Dear Sirs:

Please note the attached correspondence faxed to you herewith. We will need to discuss this probably soon after W.L. Kurtz's return to the office, as the purchase of this royalty interest could be good business.

Yours very truly,



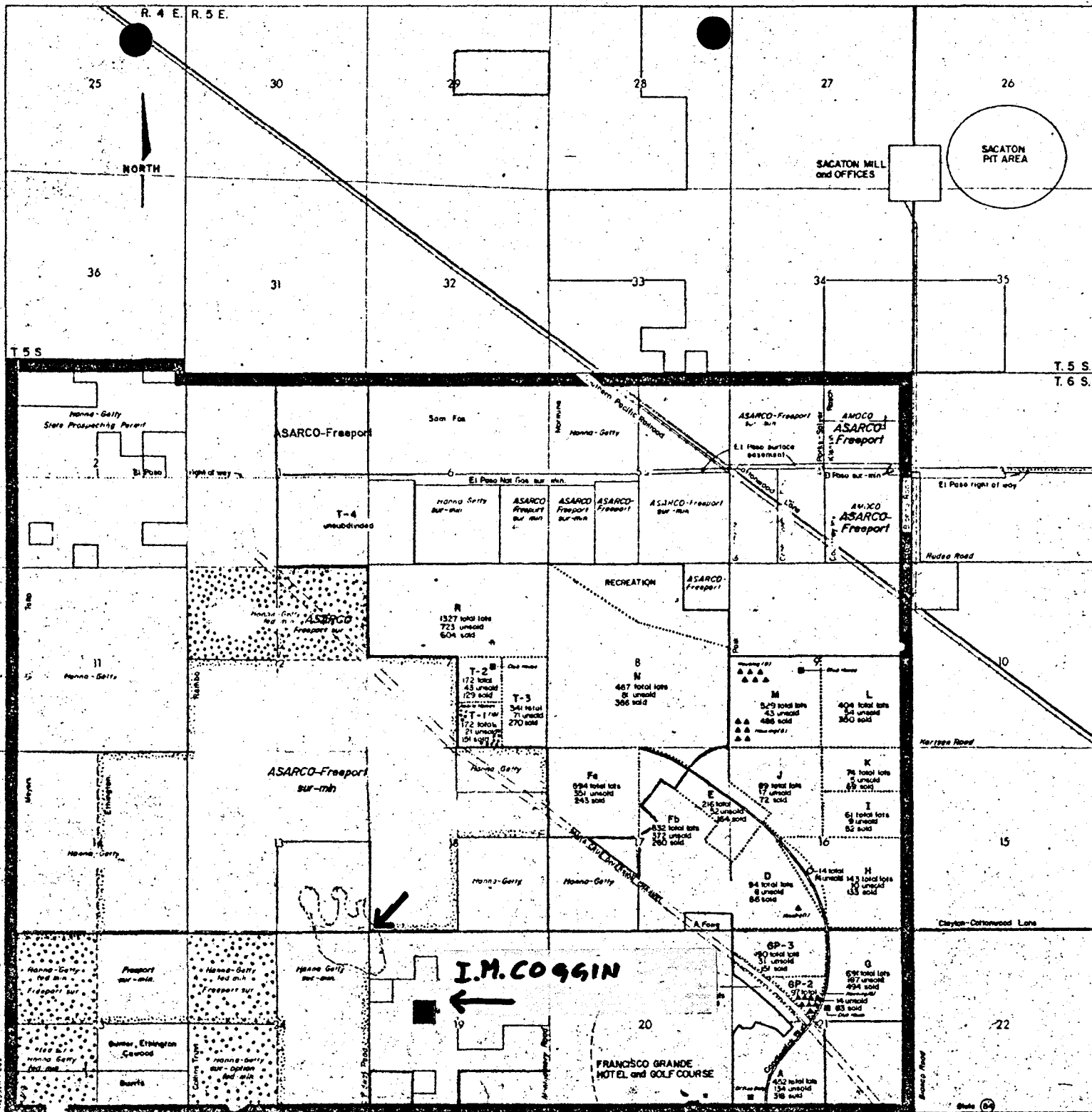
R. L. Brown

RLB:mc  
Att.

*WDG is making map showing parcel to south of  
HG <sup>mineral</sup> body.  
Also at \$100/year x 50 years (minus what Hanna  
has paid) = \$5,000.*










*Mining Lease Sec'd Aug 4, 1978 Wc. 29-13  
50 years  
\$100/year  
2 1/2% net smelter return royalty.*



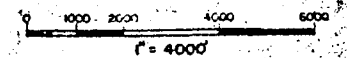


# EXPLANATION

## PROPERTY:

-  HANNA-GETTY (TEXACO)
-  FREEPORT, ASARCO
-  HANNA-GETTY, federal land claims
-  ASARCO (Sacaton)
-  NAAC
-  Other owners, sur-mn. unless indicated otherwise
-  Joint venture 'area of interest'
-  Joint venture 'The Lands'
-  GETTY (TEXACO)

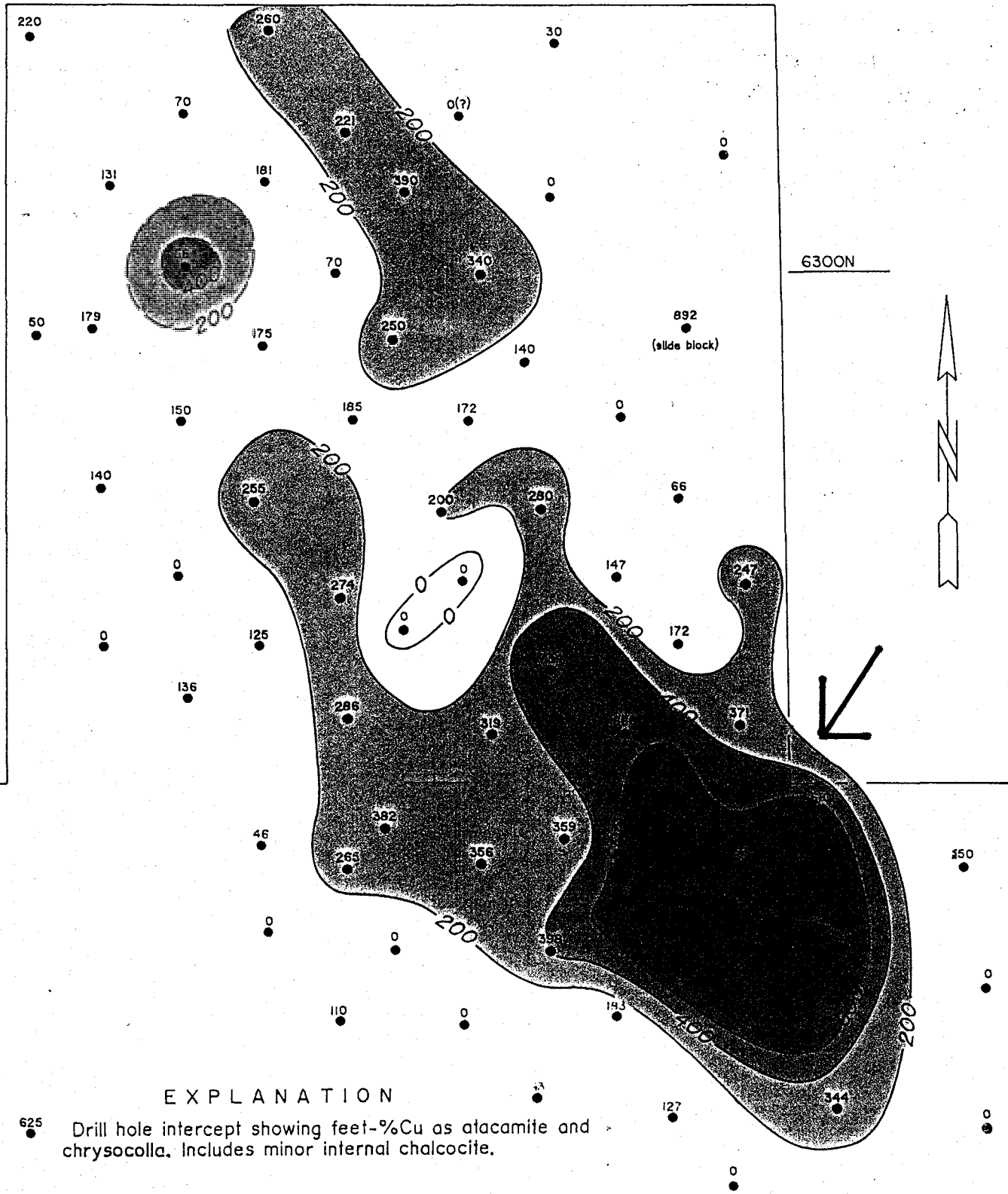
# SANTA CRUZ PROJECT PINAL CO., ARIZONA ASARCO-FREEPORT JOINT VENTURE



5000E

6300N

ASARCO-FREEPORT



EXPLANATION

625 ● Drill hole intercept showing feet-%Cu as atacamite and chrysocolla. Includes minor internal chalcocite.

**ASARCO Incorporated**  
**SANTA CRUZ PROJECT**  
**FEET-PERCENT COPPER AS**  
**ATACAMITE & CHRYSOCOLLA**  
**PINAL CO., ARIZONA**

H.G.K. 6-88





**SIMMONS**

THE SIMMONS COMPANY

3200 EAST CAMELBACK  
PHOENIX, ARIZONA 85018  
(602) 224-7555

RECEIVED

DEC 27 1989

December 22, 1989

EXPLORATION DEPARTMENT

Mr. Richard Brown  
Vice President  
ASARCO, Incorporated  
180 Maiden Lane  
New York, New York, 10038

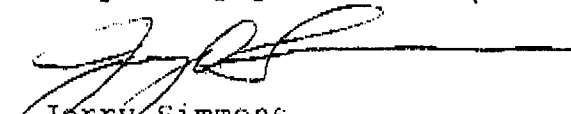
Dear Dick,

We have just been advised by our lender that we will not obtain the necessary approvals for us to effect a year end closing on our options. We remain hopeful however that we will be able to close in early 1990. In addition, we are able to convey to you nearly all the property identified in your letter of December 14, 1989, subject to the ongoing evaluation by our planners of the impact of the conveyance on our land plan.

We are pleased to note that on Wednesday, December 20, the Pinal County Planning and Zoning Commission approved the Cimarron Ranch Area and Community Plans.

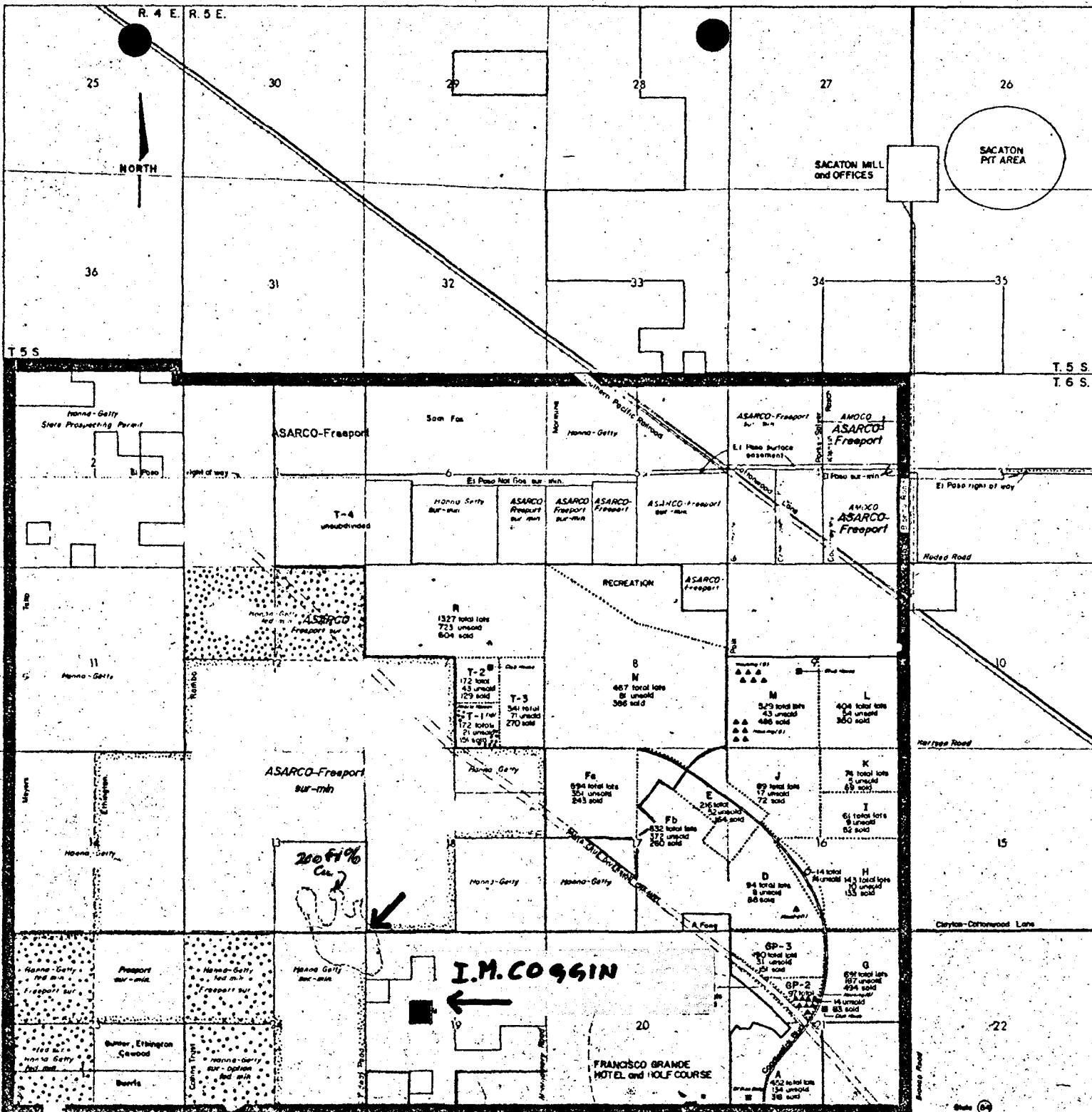
Thank you for your understanding in this matter and best wishes for the holiday season.

Very truly yours,

  
Jerry Simmons,  
President

sd  
cc: Bill Kurtz

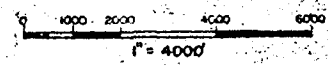
cc: W.D. Gay  
J.D. Sell  
12/27/89



### EXPLANATION

- PROPERTY:**
- HANNA-GETTY (TEXACO)
  - FREEPOINT, ASARCO
  - HANNA-GETTY, federal lode claims
  - ASARCO (Sacaton)
  - NAAC
  - Other owners, sur-min. unless indicated otherwise
  - Joint venture 'area of interest'
  - Joint venture 'The Lodes'
  - GETTY (TEXACO)

## SANTA CRUZ PROJECT PINAL CO., ARIZONA ASARCO-FREEPOINT JOINT VENTURE



ASARCO SANTA CRUZ INC.  
P. O. BOX 5747  
Tucson, Arizona 85703  
(602) 792-3010

January 9, 1990

FREEPORT-McMORAN GOLD CO.  
P. O. Box 41330  
Reno, Nevada 89504

Attention: G. R. Reinbold

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for December 1989:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Field Services & Supplies	134.99	
Travel Expense	750.00	
Equipment Rental	509.00	
Rental Payment	100.00	
Professional Services	7,993.22	
Legal Expense	<u>658.93</u>	10,196.14

Our E.A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	
Salaries	1,209.00	
Employee Overhead	<u>375.00</u>	<u>1,634.00</u>
		<u>11,830.14</u>

1/2 to Freeport-McMoran	5,915.07
Balance brought forward	20,781.13
Payment received from Freeport-McMoran	(20,781.13)
In Situ Leach Project December charges	<u>7,940.26</u>

Balance Due \$ 13,855.33

cc: Controller/Attn: EJFranko  
JDSell  
PJorgensen - Freeport-McMoran  
File

# ASARCO

copy to R. L. Brown ✓

Southwestern Exploration Division

sent 1/11/90  
mek

January 12, 1990

W.L. Kurtz

I agree ~~not~~ need to purchase the  
NSR at \$60,000 (see note bottom)

I.M. Coggin  
Fee Land - Mineral Rights  
Santa Cruz Project  
Pinal County, Arizona

In regard to Mr. Brown's letter of January 4, 1990, I will pass along some information generated by H.G. Kreis.

Figure 1 is the general land status of the Santa Cruz Project. The 10 acre parcel owned by I.M. Coggin (deceased) is shown in solid black in the SE $\frac{1}{4}$  NW $\frac{1}{4}$ , Sec. 19. Also shown on Figure 1 is the 200 ft. % of copper outline as generated by H.G. Kreis. Also shown is an arrow pointing to the NW corner of Section 19.

Figure 2 is Kreis' feet-percent copper as atacamite and chrysocolla contours for more detail. The arrow points to the NW corner of Section 19 for reference.

Figure 3 (HGK) further places the mineral potential at Santa Cruz in relation to the I.M. Coggin ground. I.M. Coggin's ground would be just left (west) of the 1 in 1.20% in Kreis' notation. Kreis states that there is little potential for either soluble copper or sulfide copper on the I.M. Coggin parcel.

In a former note to you I stated that Asarco pays \$100 per year for the mineral rights of the 10 acre parcel, with Coggin retaining a 2 $\frac{1}{2}$ % NSR. The lease is 50 years starting August 4, 1978 -- thus running to August 4, 2028.

W.D. Gay map #6675, a portion shown as Figure 4, shows the I.M. Coggin's 10 acres as surface owned by the SCJV, but subject to Simmons-DevCor right of first refusal if sold.

Although H.M. Coggin, et al, (Attachment A) offer of the \$60,000 sale for the 2 $\frac{1}{2}$ % NSR is open, I suspect, for discussion, the small rental price and the probability of little mineral being on the parcel does not impart any urgency in acquiring the NSR at this time.

$$50 \text{ yrs} \times \$100 = 5,000$$

JDS:mek

James D. Sell  
James D. Sell

Note

flight offer to pay Coggin the \$5,000 (50 year mineral right) now to eliminate yearly payment and then pay 2 $\frac{1}{2}$ % NSR if there is ever any production

Kurtz

To JDS

Date 1/12 Time 11:35  AM  PM

**WHILE YOU WERE OUT**

M. Mason Coggin

of \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

	Area Code	Number	Extension
TELEPHONED	<input checked="" type="checkbox"/>		
PLEASE CALL			<input checked="" type="checkbox"/>
CALLED TO SEE YOU			
WILL CALL AGAIN			
WANTS TO SEE YOU			
URGENT			

RETURNED YOUR CALL

Message Re surface rights  
- Getty bought the  
surface rights from  
them - years ago.  
They retain mineral  
rights.

Mary  
 Operator



REORDER #23-000

January 12, 1990

W.L. Kurtz

I.M. Coggin  
Fee Land - Mineral Rights  
Santa Cruz Project  
Pinal County, Arizona

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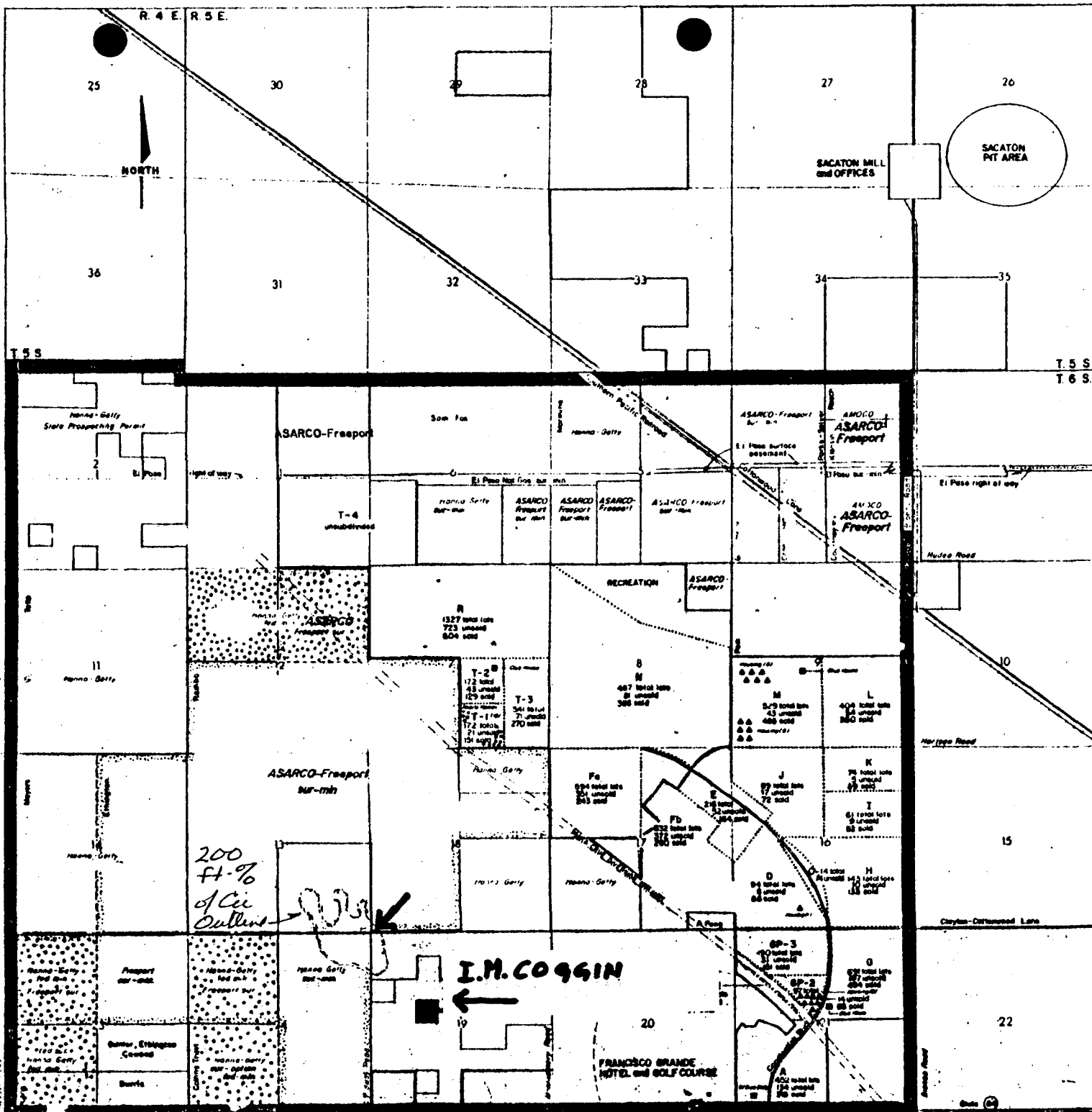
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JDS:mek

*James D. Sell*  
James D. Sell

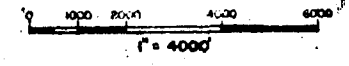


# EXPLANATION

## PROPERTY:

-  HANNA-GETTY (TEXACO)
-  FREEPORT, ASARCO
-  HANNA-GETTY, federal lease claims
-  ASARCO (Section)
-  NAAC
-  Other owners, sur-min. unless indicated otherwise
-  Joint venture area of interest
-  Joint venture The Lands
-  GETTY (TEXACO)

**SANTA CRUZ PROJECT**  
**PINAL CO., ARIZONA**  
**ASARCO-FREEPORT JOINT VENTURE**





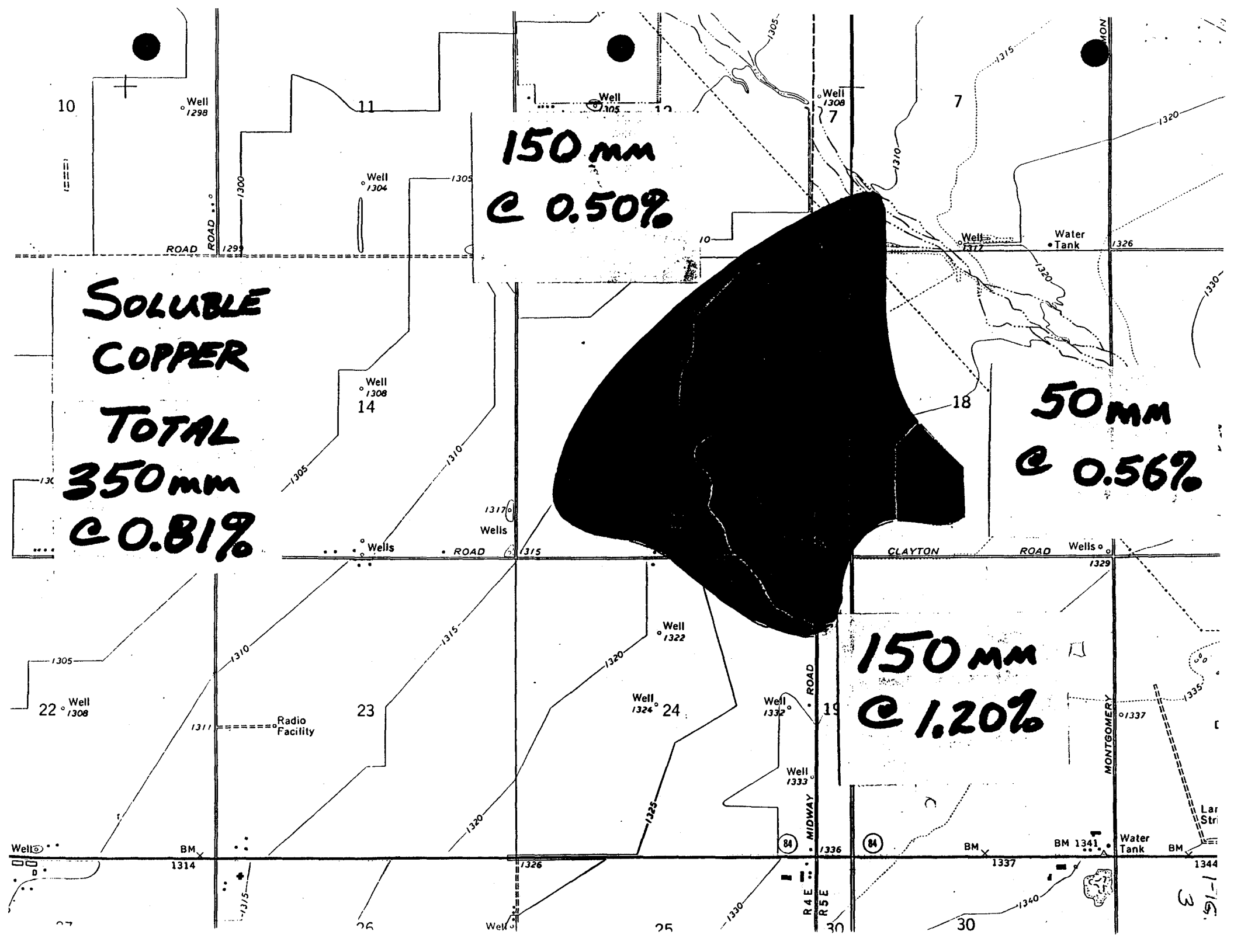


**150 mm  
@ 0.50%**

**SOLUBLE  
COPPER  
TOTAL  
350 mm  
@ 0.81%**

**50 mm  
@ 0.56%**

**150 mm  
@ 1.20%**



1-15  
3

R

8 N

"DESERT C  
136 LOTS

T-2

T-3

T-1

Fb

Fb

E

Fb

12

7

13

18

17

24

19

20

FRANCISCO GRANDE  
COMPLEX

25

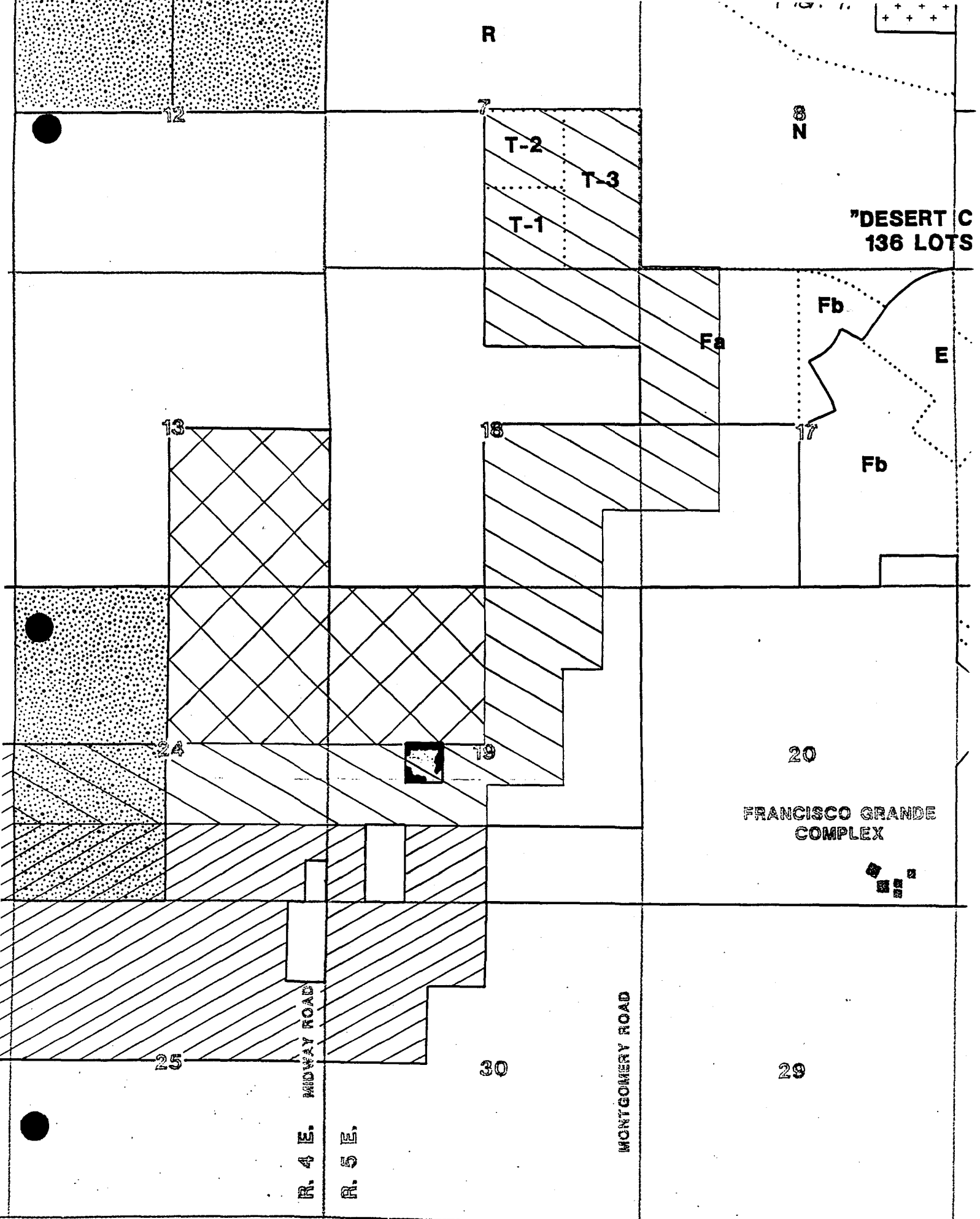
20

20

R. 4 E. MIDWAY ROAD

R. 5 E.

MONTGOMERY ROAD



**ASARCO**CONFIRMATION LETTER

Exploration Department

R. L. Brown  
Vice President

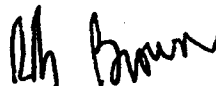
January 4, 1990

VIA TELECOPIERMessrs. Kurtz/Sell  
Tucson OfficeSanta Cruz Project  
Arizona

Dear Sirs:

Please note the attached correspondence faxed to you herewith. We will need to discuss this probably soon after W.L. Kurtz's return to the office, as the purchase of this royalty interest could be good business.

Yours very truly,



R. L. Brown

RLB:mc  
Att.

LAW OFFICES OF  
**APKER, APKER, HAGGARD & KURTZ, P.C.**

A PROFESSIONAL CORPORATION

PARK ONE

2111 EAST HIGHLAND AVENUE, SUITE 230

PHOENIX, ARIZONA 85016

AREA CODE 602 TELEPHONE 381-0085

BURTON M. APKER\*  
JERRY L. HAGGARD\*\*  
DAVID B. APKER\*\*\*  
GERRIE APKER KURTZ  
JOHN R. FITZPATRICK

\*ALSO ADMITTED IN WISCONSIN  
\*\*ALSO ADMITTED IN DISTRICT OF COLUMBIA AND KANSAS  
\*\*\*ALSO ADMITTED IN COLORADO

MAILING ADDRESS  
P. O. BOX 10280  
PHOENIX, ARIZONA 85064-0280

TELECOPIER  
(602) 956-3457

December 30, 1989

direct line:  
(602) 381-0084

H. Mason Coggin, PE & LS  
Mining Engineering and Land Surveying  
317 East Griswold  
Phoenix, Arizona 85020

Dear Mr. Coggin:

I have forwarded your letter of December 27, 1989  
regarding the Ida Mae Coggin interest to Asarco in Tucson.

I assume that if the Company is interested it will  
contact you directly.

Sincerely,

  
Burton M. Apker

BMA:ms

bcc: Mr. W.L. Kurtz ✓

cc: J.D. Sell  
W.D. Gay  
(1/5/90)

**RECEIVED**

JAN 5 1990

EXPLORATION DEPARTMENT

2/3

LAW OFFICES OF  
**APKER, APKER, HAGGARD & KURTZ, P.C.**

A PROFESSIONAL CORPORATION

PARK ONE

2111 EAST HIGHLAND AVENUE, SUITE 230

PHOENIX, ARIZONA 85016

AREA CODE 602 TELEPHONE 381-0085

BURTON M. APKER\*  
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\*ALSO ADMITTED IN WISCONSIN  
\*\*ALSO ADMITTED IN DISTRICT OF COLUMBIA AND KANSAS  
\*\*\*ALSO ADMITTED IN COLORADO

MAILING ADDRESS  
P. O. BOX 10280  
PHOENIX, ARIZONA 85064-0280

TELECOPIER  
(602) 956-3487

December 29, 1989

direct line:  
(602) 381-0084

Mr. R. L. Brown, Jr.  
Vice President  
Exploration Department  
ASARCO Incorporated  
180 Maiden Lane  
New York, New York 10038

Dear Mr. Brown:

Here is a copy of a letter we received today from H. Mason Coggin, PE & LS.

Yours very truly,

  
Burton M. Apker

BMA:ms

Enclosure

cc w/enc: Mr. W. L. Kurtz

RECEIVED

EXPLORATION DEPT.

12/29/89 15449

3/3



**H. Mason Coggin PE & LS**  
**Mining Engineering and Land Surveying**  
 317 East Griswold Phoenix, AZ 85020  
 Pho. 602 944-3763 Fax 602 678-1822



December 27, 1989

Burton Apker, Atty.  
Apker, Apker, Haggard & Kurtz, P. C.  
Park One 2111 E. Highland, # 201  
Phoenix, AZ 85016

602 956 3457

Dear Mr. Apker:

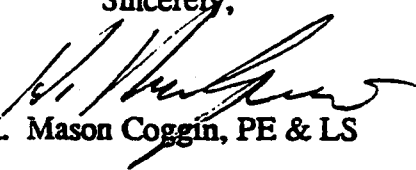
My sister, Daphne (Coggin) Morrison, has been handling the estate of Ida Mae Coggin my mother. This estate includes the mineral rights to a parcel of land near Casa Grande, AZ. The surface was sold to Hanna Mining some years ago and the mineral rights were leased to Hanna for \$100 per year with a 2.5% NSR on any production.

Hanna's successor, Santa Cruz Joint Venture, who I understand is your client, may wish to complete the purchase of these mineral rights for cash. I have talked with my brother and sister; they have agreed with me to offer these mineral rights to your client at this time.

The price we have discussed is \$60,000.

If your client has any interest in acquiring these mineral rights please call.

Sincerely,



H. Mason Coggin, PE & LS







# ASARCO

Exploration Department  
Southwestern United States Division

FEDERAL EXPRESS -PRIORITY

January 17, 1990

Mr. Dave Clayton  
24978 W. Boone Dr.  
Casa Grande, AZ 85222

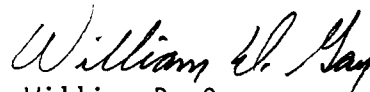
Agricultural Cash Lease

Dear Dave:

Enclosed is the Agricultural Cash Lease we discussed today. After you have had a chance to read it, please contact me, so we can finalize the lease.

Very truly yours,

WDG:mek  
Enc.

  
William D. Gay  
Land Engineer, SWED

cc: W.L. Kurtz  
J.D. Sell

AGRICULTURAL CASH LEASE

THIS LEASE is effective as of January 1, 1990, between Santa Cruz Joint Venture and Simmons DevCor, Inc., an Arizona corporation, collectively (hereinafter "Lessor") and (hereinafter "Lessee").

Lessor leases to Lessee and Lessee leases from Lessor on the terms and conditions set forth in this Lease, for agricultural purposes only, the premises, with the appurtenances, particularly described in Exhibit "1" attached hereto and incorporated herein (hereinafter referred to as the "premises" or "leased premises").

This Lease is subject to all existing easements, servitudes, licenses, and rights-of-way, canals, ditches, levees, roads, highways, and telegraph, telephone, and electric power lines, railroads, pipelines, and other appurtenances, whether recorded or not.

1. TERM

The term of this Lease shall commence on January 1, 1990, and shall continue until December 31, 1990. If lessee, at the termination of this Lease has a crop on the leased premises which has not been fully harvested, Lessee shall have sixty (60) days after any such termination in which to complete the harvesting of such crop.

2. RENTAL

(a) Lessee shall pay to Lessor as rental for said leased premises the sum of \$32,500.00 payable within five (5) days of execution of this lease.

(b) Lessee shall furnish its skill and services in supervising the planting and growing of crops, and all farm machinery, tools, and equipment necessary to prepare for, plant, cultivate, irrigate, fertilize, mature, and harvest such crops. Lessee further agrees, at its own cost and expense, to maintain such farm machinery, tools and equipment in good serviceable condition.

Expenses for pump repairs, well repairs, and other items normally considered as capital expenditures shall be solely the responsibility of the Lessor, provided however, that repairs to pumping equipment located above ground shall be solely the responsibility of the Lessee.

### 3. USE OF LEASED PREMISES

(a) Lessee shall use the leased premises for agricultural purposes only. Lessee agrees during the term of this Lease that it will in a good and farmerlike manner prepare, plant, irrigate, cultivate and harvest cotton and such other crops as may be agreed upon by Lessee and Lessor.

(b) Lessor and Lessee agree that in their mutual interest the total acres planted to cotton and/or other crops shall approximate the maximum number of acres for which there is sufficient water to afford reasonable yields. The acreage planted to each crop shall be determined by mutual agreement, provided however, that in the event Lessee plants an excess of 250 acres, the rental as provided in paragraph 2(a) above shall increase by \$130.00 per acre for each acre planted in excess of 330 acres; said increased rental shall be due and payable within five (5) days of the verification by the Department of Agriculture of the actual acres planted.

(c) If Lessee desires to increase the total acreage planted beyond 330 acres, prior consent and approval of the Lessor must first be obtained before planting.

(d) Weed control. Lessee covenants with Lessor that Lessee will give special attention and put forth special and extra effort at all times to control, prevent the spread of, and eradicate all noxious weeds and grasses on the portion of the premises under cultivation, and adjacent thereto.

### 4. ENTRY BY OWNER

Lessee shall permit Lessor and Lessor's agents and assigns at all reasonable times to enter the leased premises and to use the roads established on the premises now or in the future for the purposes of conducting surveys and land use studies, inspecting compliance with the terms of this Lease, exercise

of all rights under this Lease, posting notices, and all other lawful purposes of Lessor as owner.

5. CONDITION OF PREMISES

By entry and performance under this Lease, Lessee accepts the premises in their present condition; and Lessee agrees on the last day of the term, or on sooner termination of this Lease, to surrender the premises in the condition as when received, reasonable use, wear, and damage by fire, acts of God, or the elements excepted, and to remove all of Lessee's property from the premises.

6. WASTE

Lessee shall not commit or permit any others to commit, on the premises, waste, or any nuisance, or any other act that disturbs the quiet enjoyment of Lessor or any other tenant or agent of Lessor on reserved or adjacent property.

7. OIL, GAS AND MINERAL RIGHTS

All rights in all minerals, oil, gas and other hydrocarbons located on or under the leased premises are particularly reserved to Lessor and are particularly excepted from the property covered by the terms of this Lease. Lessee expressly grants to Lessor and to any Lessee of these oil, gas and mineral rights, and to Lessor's agents and licensees, a right of entry and a right-of-way for ingress and egress, in and to, over and on, the leased premises, during the term of this Lease, for the exploration, drilling and mining of minerals, oil, gas and other hydrocarbons on the leased premises; provided that Lessor shall reimburse Lessee for any reasonable damage that Lessee sustains as a result of any interference with the agricultural operations conducted on the leased premises under the terms of this Lease arising from such exploration, drilling or mining operations.

8. TAXES

Lessee shall comply with all lawful demands of the County Assessor in reporting property owned by Lessee and located on the leased premises and shall pay before the same become delinquent all taxes, assessments, and other governmental charges upon or attributable to said crops, structures, improvements, machinery, equipment or other property placed by or for Lessee

on the premises (excluding irrigation facilities, buildings, houses and equipment placed thereon by Lessor and Lessee). Should any such taxes, assessments or charges be assessed to Lessor or remain unpaid ten (10) days before delinquency thereof, Lessor may, at its option pay the same and Lessee shall upon demand promptly reimburse Lessor therefor. Lessor shall pay all other property taxes or assessments levied upon the said premises including pump tax.

#### 9. MAINTENANCE

Lessee shall care for both the leased premises and the approaches to the appurtenances of the leased premises, including, but not limited to, all fences, corrals, wells, ditches, roadways, and usable housing, and the areas surrounding and adjacent to them, and maintain them in a state of good condition and repair at all times during the term of this Lease and so long as Lessee occupies the demised premises hereunder.

#### 10. WATER SUPPLY

Lessee agrees that the Lessor has made no covenants or warranties, express or implied, concerning the amount or quality of water available for said premises and that Lessor shall not be responsible for any shortage or quality of water for the leased premises. Lessee further agrees and acknowledges that any repairs or improvements made by Lessee to wells shall not give rise to any rights on behalf of Lessee in said wells, including wells in section 13 T6SRSE to be used by Lessee, nor shall said repairs or improvements give rise to any claim for extension or renewal of this Lease.

#### 11. ASSIGNMENT OR SUBLETTING

Lessee shall not assign this Lease, or any rights under it and shall not sublet the entire or any part of the premises, or any right or privilege appurtenant to the premises, or permit any other person (the agents and servants of Lessee excepted) to occupy or use the entire or any portion of the premises, without first obtaining Lessor's written consent. A consent to one assignment, subletting, occupation or use by another person is not a consent to a further assignment, subletting, occupation or use by another person or firm. An assignment

or a subletting without Lessor's consent, shall be void, and shall, at Lessor's option, terminate this Lease. No interest of Lessee in this Lease shall be assignable by operation of law without Lessor's written consent. Any permitted assignment or sublease shall be made subject to the terms and conditions of this Lease and shall not have the effect of reducing any rental provided hereunder. Notwithstanding Lessor's consent to any assignment or sublease, Lessee shall not be released of any obligations imposed hereunder.

12. COMPLIANCE WITH LAW

Lessee shall comply with all requirements of all governmental authorities, in force either now or in the future, affecting the premises, and shall faithfully observe in Lessee's use of the premises all laws, rules and regulations of these authorities, in force either now or in the future. The judgment of a court of competent jurisdiction, or Lessee's admission in an action or a proceeding against Lessee, whether Lessor by a party to it or not, that Lessee has violated any law, rule or regulation in Lessee's user of the premises, shall be considered conclusive evidence of the fact as between Lessor and Lessee.

13. CONSERVATION AND OTHER FARM PROGRAMS

(a) It is understood and agreed that the leased premises herein described may be, by reason of participating in any applicable agricultural conservation, soil conservation, or other Federal or other governmental farm conservation progress, entitled to receive cash or other kinds of benefit payments or compensation, and it is agreed that all such benefit payments or compensation when received shall belong to and be delivered to Lessor, except that in the event the Governmental Agency which distributes said payments directs under its rules that a portion of said payments belong to Lessee, then such portion of said payments shall be paid to Lessee; or, in the event that, prior to entering into soil conservation practices or other Governmental programs, Lessor and Lessee have mutually agreed in writing to a division of benefit payments between them, then the provisions of such agreement shall apply.

(b) Notwithstanding the provisions of Section 13(a) above, Lessor agrees that it shall not participate in the U.S. Department of Agriculture's 1990 Commodity Programs. It is expressly agreed that Lessee may participate in said program for 1990, provided Lessee agrees not to commit, or allow others to commit, any act with regard to the leased premises which would cause the Lessor to be out of compliance of any other lands owned by Lessor and jeopardize payments to which Lessor would otherwise be entitled.

(c) Leased premises cannot be put into combination with other lands without prior written consent of Lessor.

#### 14. IDEMNIFICATION

Lessee agrees to protect, defend, and hold Lessor, its directors, officers, employees, agents, successors, and assigns free and harmless from any and all claims, damages, judgments, fines, costs, liabilities, or loss arising from any injury to any person, including Lessee and its employees or agents, or to the Leased Premises or to property of any kind belonging to anyone, including Lessee and its employees or agents, while in, upon, or in any way connected with the Leased Premises, including without limiting the generality of the foregoing, environmental contamination caused by or under Lessee, their employees, agents or permitted assigns or sublessees.

The foregoing indemnity shall survive the expiration of termination of this Lease and/or any transfer of all or any portion of the Leased Premises, or of any interest in this Lease.

#### 15. INSURANCE

Lessee agrees to take out, procure, and keep in force during the term of this Lease, at Lessee's own expense, public liability insurance in reputable companies for protection against liability to the public arising as an incident to the use of or resulting from any accident occurring in or about the premises.

The minimum limits of liability under said insurance are to be for amounts not less than \$200,000.00 for any one person injured, \$500,000.00 for any one accident, and \$200,000.00 for property damage.

These policies shall insure the contingent liability of Lessor and said policies or certificates or photo copies thereof evidencing said insurance are to be placed with and delivered immediately to Lessor. Lessee has the duty and agrees to obtain a written obligation imposed on the insurance carriers and agents to notify Lessor in writing at lease thirty (30) days before any cancellation of the insurance. Lessee agrees that if Lessee does not keep the insurance in force, Lessor may take out and procure the necessary insurance and pay the premium. The repayment of the premium shall be part of the rental and payment shall be made immediately by Lessee upon demand made by Lessor. Lessee further agrees to take out, procure and keep in force during the term of this Lease, at Lessee's own expense, proper and adequate Workmen's Compensation Insurance.

It is specifically understood and agreed that the relationship of the parties is that of landlord and tenant, and not as partners or joint venturers, and that Lessor shall receive and accept as rental for the use of the premises herein leased the benefits and sums as hereinabove provided, and that Lessor shall have no control over the operations of the Lessee, except its right to insist that Lessee carry out the terms and conditions of this Lease.

#### 16. ATTORNEY'S FEES

In any action or proceeding by Lessor or Lessee to enforce this Lease or any provision thereof, the prevailing party shall be entitled to all costs incurred and to reasonable attorneys' fees.

#### 17. CROP MORTGAGES

All crop mortgages, security agreements, encumbrances, or liens given or suffered by Lessee shall be for terms or periods not extending beyond the term of this Lease. All liens created by Lessee must be satisfied of record by Lessee before the end of the term of this Lease and any extension thereof. If a Mortgage, Deed of Trust, Security Agreement or lien creates a cloud on Lessor's title, Lessee must pay all reasonable costs and expenses, including attorneys' fees, required for the removal of the cloud, either before or after termination of this Lease. Lessee shall not impose or incur any voluntary



liens or encumbrances upon the real or personal property on the leased premises, without first securing the express written consent of Lessor.

#### 18. ALTERATIONS AND LIENS

The Lessee shall not make or permit any other person to make alterations to the Leased Premises or to any improvement thereon or facility appurtenant thereto without the written consent of the Lessor first had and obtained. The Lessee shall keep the Leased Premises free and clear from any and all liens, claims, and demand, for work performed, materials furnished, or operations conducted thereon at the instance or request of Lessee.

#### 19. DEFAULT BY LESSEE

All covenants and agreements contained in this Lease are declared to be conditions to this Lease and to the term hereby demised to the Lessee. Should the Lessee default in the performance of any covenant, condition, or agreement contained in this Lease, the Lessor may terminate this Lease and re-enter and regain possession of the Leased Premises in the manner then provided by the law of the State of Arizona then in effect.

#### 20. WAIVER

The failure of Lessor to avail itself of any remedy available to it for a breach of any term, covenant, or condition contained in this Lease shall not be treated as a Waiver of such term, covenant, or condition, or as a Waiver of a future breach of the same or any other term, covenant, or condition contained in this Lease. The acceptance of rent by Lessor shall not be treated as a Waiver of a previous breach by Lessee of any term, covenant, or condition of this Lease, other than the failure of Lessee to pay the particular rental so accepted, regardless of Lessor's knowledge of a previous breach at the time of acceptance of rent.

#### 21. NOTICES

Any notices to be given to either party or by the other shall be in writing and shall be served either personally or by Registered or Certified mail, addressed as follows:

Lessor: Simmons DevCor, Inc.  
3200 E. Camelback  
Phoenix, Arizona 85018

with copy to:  
Burton Apker, Esq.  
2111 E. Highland  
Phoenix, Arizona 85016

Lessee:

22. MISCELLANEOUS

Legal Effect. All covenants of Lessee contained in this Lease are expressly made conditions precedent.

The provisions of this Lease shall, subject to the provisions on assignment, apply to and bind the heirs, successors, executors, administrators and permitted assigns of all parties to this Lease.

The titles or headings to the paragraphs of this Lease are not a part of this Lease and shall have no effect on the construction or interpretation of any part of this Lease.

23. INTEGRATION AND DISCLAIMER OF REPRESENTATIONS

This Lease contains the complete understanding and agreement of the parties hereto with respect to the subject matter hereof, and any and all prior representations, negotiations and understandings, written or oral, are superseded hereby and merged into this Lease. Not in limitation of the generality of the foregoing, Lessee acknowledges that Lessor has made no representation or promise, express or implied, that Lessor will extend the Lease term beyond December 31, 1990.

24. TIME

Time is of the essence of this Lease and each and every provision hereof.

IN WITNESS WHEREOF, Lessor and Lessee have executed this instrument as on this \_\_\_\_\_ day of January, 1990.

Santa Cruz Joint Venture

By: \_\_\_\_\_

Its: \_\_\_\_\_

"LESSEE"

By: \_\_\_\_\_

Its: \_\_\_\_\_

Simmons DevCor, Inc.

By: \_\_\_\_\_

Its: \_\_\_\_\_

"LESSORS"

EXHIBIT "1"

Leased Premises situated in Pinal County, Arizona, more fully described as follows:

- Section 25: N/2 - except E/2 NE/4 NE/4 and 210' strip along north section line, Township 6 South, Range 4 East
- Section 26: N/2 - except W/2 NW/4 NW/4 and N/2 NW/4 SW/4 NW/4, Township 6 South, Range 4 East
- Section 23: SE/4, Township 6 South, Range 4 East
- Section 30: NE/4 - except N/2 NE/4 NE/4 and N/2 S/2 NE/4 NE/4 and NE/4 NW/4 NE/4 and N/2 SE/4 NW/4 NE/4, Township 6 South, Range 5 East

# ASARCO

Exploration Department  
Southwestern United States Division

January 19, 1990

Mr. Dave Clayton  
24978 W. Boone Dr.  
Casa Grande, AZ 85222

## Agricultural Cash Lease

Dear Dave:

Enclosed are three (3) copies of the Agricultural Cash Lease, dated January 1, 1990, for your signature and notarization. All three copies have been executed by ASARCO SANTA CRUZ.

After you have executed the lease, please forward the three copies to:

Simmons DevCor Inc.  
3200 E. Camelback  
Phoenix, Arizona 85018

for their execution.

By copy of this letter we request that Simmons DevCor Inc. return one (1) copy of the lease to you, send one (1) copy to my attention, and retain one copy for their records.

Sincerely yours,



William D. Gay

WDG:mek  
Encs.

cc: Simmons DevCor Inc.  
W.L. Kurtz  
J.D. Sell

FROM: J. D. SELL

1-24-90

To: H G Kreis:

What is the estimated  
depth to bedrock under  
the IM Coggin parcel  
in Sec. 19, T4S, R5E,  
Santa Cruz Project  
area, Pinal Co., AZ. ?

Jim

Estimated at more  
than 3000' deep.

FROM: J. D. SELL

1-24-90

To: H G Kreis:

What is the estimated  
depth to bedrock under  
the IM Coggin parcel  
in Sec-19, T4S, R5E,

Santa Cruz Project  
area, Pinal Co., AZ. ?

Jim

**ASARCO**

Exploration Department  
Southwestern United States Division

January 24, 1990

Mr. Grover Reinbold  
Freeport-McMoRan Gold Co.  
P.O. Box 41330  
Reno, Nevada 89504

Re: Santa Cruz Data

Dear Grover:

As per our phone conversation, you will find enclosed:

- 1) a drill hole plan map
- 2) a NW-SE Santa Cruz South cross section
- 3) an SC-52 to CG-7 cross section, and
- 4) two colored Xerox sections of Santa Cruz South.

If you have any questions, give me a call.

Sincerely yours,



Henry G. Kreis

HGK:mek  
Enc.

cc: W.L. Kurtz/J.D. Sell (w/o enc.)



# ASARCO

WLR-JDS

Exploration Department  
Southwestern United States Division

January 29, 1990

Mr. Bob Conti  
Texaco Inc.  
2000 Westchester Ave.  
White Plains, NY 10650

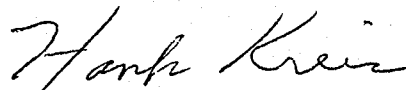
Dear Mr. Conti:

I am glad you, Mr. Welsh, and Mr. Ress happened to stop by our core shed in Casa Grande. I enjoyed meeting all of you. Later that day I drove out to your reclaimed dump site and was favorably impressed by the restoration work.

Enclosed is a copy of our land status map for 1989; and, by copy of this letter, a copy is being sent to Mr. Welsh and Mr. Ress of Hanna.

I like to stay abreast of land and environmental changes in the general area of our land holdings; so, please feel free to stop by our core shed at any time or call me in Tucson.

Sincerely yours,



Henry G. Kreis  
Senior Geologist

HGK:mek  
Enc.

cc: W.E. Welsh/R.J. Ress (w/enc.)  
W.L. Kurtz/J.D. Sell

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

January 31, 1990

Mr. W.A. Bennis, VP  
ASARCO Incorporated  
180 Maiden Lane  
New York, NY 10038

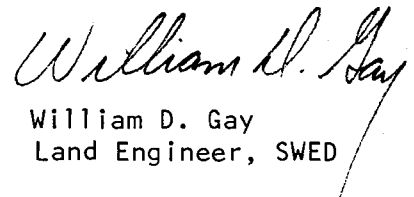
Santa Cruz Document Book  
Entries

Dear Mr. Bennis

Enclosed are copies of documents that have been entered in the Santa Cruz Document Book as follows:

- Doc. 29-9 "Agricultural Cash Lease" between Santa Cruz Joint Venture and Simmons DevCor, Inc. and D & M Farms, date Jan. 1, 1990
- Doc. 29-9 "A Waiver" signed by Santa Cruz JV re D & M Farms, 1/25/90
- Doc. 30-8 "Certificate of Grandfathered Groundwater Right" Certificate No. 58-110104.0001, granted 10 Oct. 1989, to Santa Cruz JV.
- Doc. 30-8-2 "Certificate of Grandfathered Groundwater Right" Certificate No. 58104069.0002, granted 3 May 1989, to Santa Cruz JV.
- Doc. 30-8-2 Change of Ownership of Land on which Well Registration No. 603936 is located.

Sincerely yours,

  
William D. Gay  
Land Engineer, SWED

WDG:mek  
Encs.

cc: R.L. Brown (w/o encs.)  
W.L. Kurtz (w/o encs.)  
J.D. Sell (w/o encs.)

ASARCO Incorporated P.O. Box 5747 Tucson, Az 85703-0747  
1150 North 7th Avenue (602) 792-3010

February 1, 1990

FILES

Cavability  
Santa Cruz South

On January 31, 1990 I met with Dan White of Physical Resource Engineering, Inc. of Tucson, Arizona. In 1978 and 1979 Mr. White was employed by Hanna, and he spent two years doing nothing but evaluating the rock mechanics of the Santa Cruz South deposit (formerly Hanna-Getty's Casa Grande West deposit).

Mr. White says there will be absolutely no problem getting the Santa Cruz South deposit to block cave. The physical characteristics of the core are about the best he has seen for an easy to block cave deposit. He went on to say there could be support problems in keeping the workings open.

Mr. White spent two hours with Linda Dahl of the USBM and me. During that time he explained how he performed his orientated fracture evaluations and gathered other rock mechanics data.

HGK:mek

*H. G. Kreis*  
H. G. Kreis

cc: R.L. Brown/F.T. Graybeal  
W.L. Kurtz/J.D. Sell  
A.R. Raihl  
S.A. Anzalone

JDS

ASARCO Incorporated

MAR 14 1990

SW exploration

ASARCO SANTA CRUZ INC.  
P. O. BOX 5747  
Tucson, Arizona 85703  
(602) 792-3010

March 8, 1990

FREEPORT-MCMORAN GOLD CO.  
P. O. Box 41330  
Reno, Nevada 89504

Attention: G. R. Reinbold

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for February 1990:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Salaries	1,861.28	
Employee Overhead	503.00	
Field Services & Supplies	655.27	
Travel Expense	6,945.86	
Legal Fees	<u>74.07</u>	10,089.48

Our E.A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	
Interest - Parks/Salyer Mortgage	4,869.55	
Lawyers Title - Service Fee	21.00	
Salaries	797.52	
Employee Overhead	<u>215.00</u>	5,953.07

Our E. A. No.0136 - NAAC Acquisition

Franchise Tax	<u>40.00</u>	40.00
---------------	--------------	-------

<u>Rent Income - D &amp; M Farms Lease</u>	(27,950.00)	<u>(27,950.00)</u>
		<u>(11,867.45)</u>

1/2 to Freeport-McMoran (5,933.73)

Balance brought forward 14,569.56

Payment received from Freeport-McMoran (14,569.56)

In Situ Leach Project February charges 22,222.06

Freeport's share of annual payment:

Trust No. 1270, Escrow No. 152, 140 Parks/Salyer 19,698.83

Balance Due 35,987.16

cc: Controller/Attn: EJFranko  
JDSell  
PJorgensen - Freeport-McMoran  
File

March 8, 1990

H.G. Kreis

Unpatented Claims  
Santa Cruz Project  
Pinal County, AZ

Your memo of March 8, 1990, discussed holding all the unpatented Mining claims in the S.C.J.V. area.

I agree and you should proceed to do the necessary assessment work on the three groups of unpatented claims to keep them valid, especially W $\frac{1}{2}$ , Section 24.

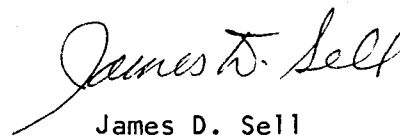
The consensus of W.L. Kurtz and W.D. Gay is that it is cleaner to do the work on the claim blocks, but it is also possible to apply the work at the Santa Cruz Project for the benefit thereof.

Benefit thereof is difficult when contested by others.

Based on the increasing involvement by government agencies in transferring sub-surface land to the surface owner, and the question whether the W $\frac{1}{2}$  of Section 24 is truly non-mineral in character, prompts me, and voiced by Kurtz, not to proceed at this time to try to secure such a transfer and risk losing the W $\frac{1}{2}$  of Section 24.

You should, however, keep the options open in the event circumstances change and the lands can be readily obtained.

JDS:mek

  
James D. Sell

cc: W.L. Kurtz  
W.D. Gay

March 8, 1990

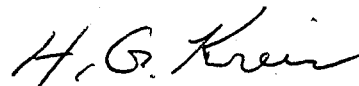
J.D. Sell

Unpatented Claims  
Santa Cruz Project  
Pinal County, AZ

In regard to your memo of January 23, I recommend that all three groups of unpatented mining claims be retained (see attached land use map). The claims in the west half of Section 24 have to be retained, because they will be impacted by any mining activity on the Santa Cruz South deposit. The claims in the north half of Section 12 could be impacted by any future mining associated with the copper mineralization in the Peripheral Lands area or could be needed for tailings or dump room for Santa Cruz South. The claims in the west half of Section 23 should be held until it is known for certain that they will not be needed for tailing or dump room.

To reduce the cost of holding the mineral rights presently held by unpatented mining claims, I recommend obtaining title to the mineral rights under the land where the surface is owned by the S.C.J.V. This is done by applying to the BLM for a conveyance of mineral title on the basis of nonmineral character. In my opinion we have enough drill hole information and geologic knowledge to demonstrate the nonmineral character.

There is a total of one square mile of S.C.J.V. unpatented mining claims where the surface is owned by the S.C.J.V. (NE/4 Section 12, W/2 Section 24 and NW/4 Section 23). The cost to apply and obtain the mineral rights is estimated at \$5,000 (\$2,000 to cover the BLM fees, \$1,000 legal fees, and \$2,000 S.C.J.V. costs).









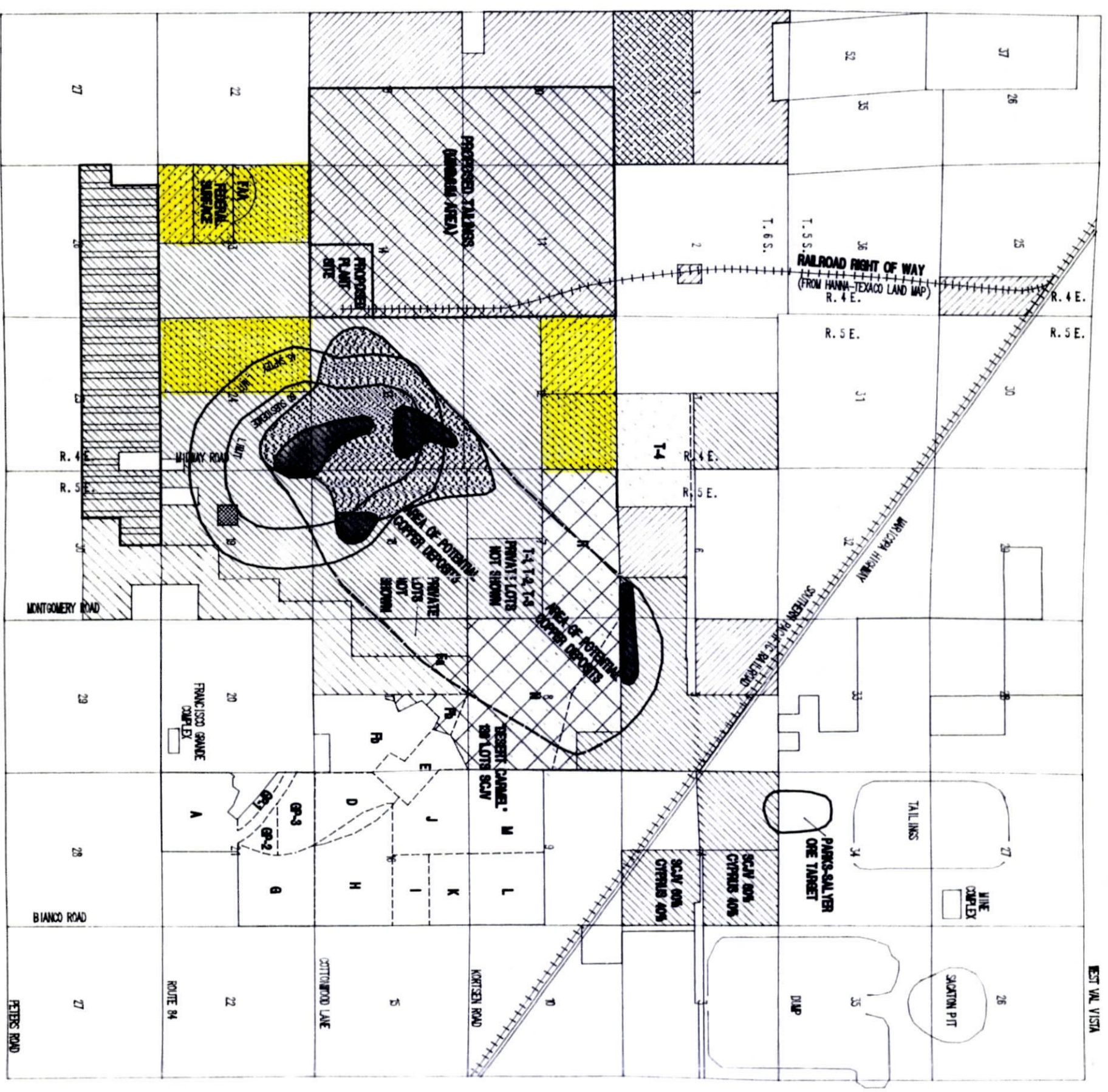
H.G. Kreis

HGK:mek  
Att.









cc: W.L. Kurtz

LAND USE  
EXPLANATION

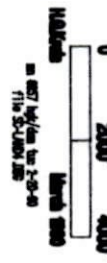
-  MINIMUM AMOUNT OF LAND FOR TAILINGS AND PLANT
-  LAND OWNED BY OTHERS AND HAVING HIGH POTENTIAL FOR COPPER DEPOSITS
-  LAND WITH LOW MINERAL POTENTIAL AND LITTLE NEED FOR MINING OPERATIONS; HOWEVER, IT IS FAVORABLE AND IT IS AN AREA WHERE WATER FROM WINE DEWATERING CAN BE PUT TO USE
-  AREAS OF HIGHER GRADE COPPER
-  FRINGS, SOLUBLE COPPER MINERALIZATION; PART OF SOLUBLE COPPER MINERAL INVENTORY
-  BLOCK ONE SUBSIDENCE LIMITS



OWNERSHIP  
EXPLANATION

- SANTA CRUZ JOINT VENTURE PROPERTY:
-  SURFACE AND MINERAL
  -  MINERAL ONLY
  -  SURFACE (MINERAL LEASED TO SCV)
  -  UNPATENTED MINING CLAIMS
- HANNA-TEJACO PROPERTY:
-  SURFACE AND MINERAL (UNDER OPTION TO SIMONS-DEVICOR)
  -  UNPATENTED MINING CLAIMS
- TEJACO PROPERTY:
-  SURFACE AND MINERAL (UNDER OPTION TO SIMONS-DEVICOR)
- SIMONS-DEVICOR PROPERTY:
-  SURFACE AND MINERAL

SANTA CRUZ PROJECT  
FUTURE LAND USE MAP  
PINAL COUNTY, ARIZONA



# ASARCO

Southwestern Exploration Division

March 15, 1990

W.L. Kurtz

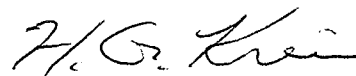
Warehouse  
Santa Cruz Project  
Pinal County, AZ

If it becomes necessary to move the contents of the Santa Cruz warehouse(s), the following costs can be expected.

Moving the contents of the Santa Cruz warehouse to another Casa Grande location will cost an estimated \$25,000 for local labor, materials and transportation.

The present Santa Cruz warehouse is a 5,000 square foot Kerby building that could be sold standing for \$10,000 to \$15,000 or dismantled and moved to storage for \$2,500. The cost to dismantle it and erect it on a new cement pad elsewhere on the S.C.J.V. property or, say, at Sacaton would be \$25,000 (bare bones -- no interior office, no electricity, etc.). Cost estimates for a similar building of the same size (bare bones) range from \$36,000 to \$59,000.

If a move becomes necessary, the availability of storage facilities at Sacaton should be reviewed. If suitable storage facilities are available at Sacaton, the contents of the Santa Cruz warehouse can be moved there for an estimated \$25,000. If suitable storage space is not available, the Santa Cruz Kerby building can be moved to Sacaton for a total relocating cost of \$50,000 (\$25,000 for moving the building and \$25,000 for moving the contents).



HGK:mek

H.G. Kreis

cc: J.D. Sell



ASARCO SANTA CRUZ INC.  
P. O. BOX 5747  
Tucson, Arizona 85703  
(602) 792-3010

April 9, 1990

FREEPORT-McMORAN INC.  
P. O. Box 61520  
New Orleans, LA 70161

Attention: R. J. Hickson

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for March 1990:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Salaries	3,087.31	
Employee Overhead	833.00	
Field Services & Supplies	198.83	
Travel Expense	3,774.08	
Outside Professional Services	770.35	
Lot Owners Assn. Dues	6630.00	
State of Arizona Water Withdrawal Fee	<u>1,625.00</u>	16,968.57

Our E.A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	50.00
--------------------------------	-------	-------

Our E. A. No.0196 - AMOCO LAND

Property Tax	(3,867.55)	<u>(3,867.55)</u>
--------------	------------	-------------------

13,151.02

1/2 to Freeport-McMoran	6,575.51
Balance brought forward	(35,987.16)
Payment received from Freeport-McMoran	35,987.16
In Situ Leach Project March charges	<u>19,543.93</u>

Balance Due 26,119.44

cc: Controller/Attn: EJFranko  
JDSell  
Freeport-McMoran  
File

# ASARCO

ASARCO Incorporated

*JOS*  
Mining Department  
Tucson, Arizona  
*FHC*

VIA TELEFAX  
212-510-1978

APR 18 1990

SW Exploration

April 18, 1990

Mr. R. L. Brown, V.P.  
Exploration Department  
NEW YORK OFFICE

Santa Cruz Project  
Operating Committee Meeting

Freeport Copper Company has requested a Santa Cruz Joint Venture (SCJV) Operating Committee meeting for either May 30 or 31, 1990. Freeport's President, Mr. George Mealy, will be in attendance and these are the only two days that he has available. In addition to Mr. Mealy, I assume that R. Hickson, S. Van Nort, W. McCulloch, and perhaps an environmentalist will be present.

It is proposed that most of the day be spent bringing Freeport up to date on the Project. Perhaps an hour or so will be set aside for the actual Operating Committee meeting. A tour of the in situ leach site the following day may be on the agenda.

At the last SCJV meeting held in November 1989, the status of the in situ leach project was discussed in detail with Freeport. During the May meeting, H. Kreis, C. Barter, E. Montgomery, and associates will update Freeport on the status of the in situ leach project.

I will prepare an agenda for the in situ leach project. The major item will be the Phase 3 budget which will amount to approximately \$2,443,000. The agenda, etc., for the other aspects of the Santa Cruz Project needs to be prepared by others, along with updating Freeport.

One aspect which needs to be considered is that all holes will probably either need to be abandoned or capped in the prescribed manner. Jim Johnson, Fennemore Craig, will write a letter outlining the requirements. The abandonment or capping of the holes is not part of the in situ leach project; however, it could be affected if the Arizona regulations are not followed.



A. R. Raihl

ARR:brw

cc: F. T. Graybeal  
W. L. Kurtz  
~~J. D. Sell~~  
H. G. Kreis



# ASARCO

**Exploration Department**

Southwestern United States Division

James D. Sell  
Manager

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

May 11, 1990

Mr. W.A. Bennis, VP  
ASARCO Incorporated  
180 Maiden Lane  
New York, NY 10038

Santa Cruz Document Book  
Doc. No. 29-4

Dear Mr. Bennis:

Enclosed is a copy of the "Modification Agreement", dated April 11, 1990, between Freeport Copper Company, Freeport-McMoRan Inc., ASARCO Santa Cruz, Inc. and ASARCO Incorporated, which is an amendment of the Santa Cruz Joint Venture Agreement. This Agreement has been filed in the Santa Cruz Document Book under Document Number 29-4.

Sincerely,

  
James D. Sell

JDS:mek  
Enc.

cc: R.L. Brown (w/o enc.)  
W.L. Kurtz " "  
A.R. Raihl " "

# ASARCO

Southwestern Exploration Division

JDS

May 17, 1990

H.G. Kreis

Santa Cruz Joint Venture  
Pinal County, Arizona

The EA-0075-12 has expended some \$18,000 more than was appropriated.

Please send me a new SEA for the funds you think you need to cover this year, plus the over-expenditure, so that we can keep everything on the positive side.

JDS:mek

  
James D. Sell

cc: W.L. Kurtz

# ASARCO

Mining Department  
A. R. Raihl

RECEIVED  
MAY 17 1990  
EXPLORATION DEPARTMENT

May 17, 1990

To: Mr. R. J. Hickson, Freeport, New Orleans, LA (via Telefax)  
Mr. S. D. Van Nort, Freeport, Tucson, AZ  
~~Mr. W. L. Kuntz~~, Asarco, Tucson, AZ

Gentlemen:

Santa Cruz Joint Venture  
Operating Committee Meeting

A Santa Cruz Joint Venture (SCJV) Operating Committee meeting is scheduled to be held on Thursday, May 31, 1990, beginning at 9:00 a.m., in the Third Floor Conference Room of Asarco's office located at 1150 N. 7th Avenue, Tucson, Arizona. The proposed agenda for this meeting is as follows:

9:00 a.m. to 1:00 p.m.

1. General discussion of the Santa Cruz In Situ Copper Mining Research Project (Project): its present status, detailed plans for the immediate future, and general plans for the overall Project. Mr. C. Barter, Errol L. Montgomery & Associates, Inc., will be available to answer questions concerning the hydrological studies and permitting activities.
2. Discussion of the proposed in situ leach test budget.
3. General discussion of other issues concerning the Santa Cruz Project.

1:00 p.m. to 2:00 p.m.

Lunch.

2:00 p.m. to 4:00 p.m.

Formal Operating Committee meeting will be held with the following items on the agenda:

1. Santa Cruz In Situ Copper Mining Research Project (Project)

It will be proposed that the Operating Committee approve funding for Phase 3 of the Project in the amount of \$2,442,667 to be spent in accordance with the attached letter to W. E. McCulloch from A. R. Raihl dated April 6, 1990.

On July 13, 1988, the Operating Committee approved the expenditure of \$375,000 for Phase 1 of the Project. On July 25, 1989, the Operating Committee approved the expenditure of \$430,000 for Phase 2 of the Project. These amounts plus the proposed amount for Phase 3 total \$3,247,667 which will satisfy the requirement of 25 percent cost share by the end of Phase 3. The USBM has sufficient for Congressional funding to spend a total of \$9,743,000 in the field through Phase 3.

2. On November 30, 1989, the Operating Committee approved an expenditure of \$4,000 for a briefing for members of Congress, Congressional staff, and others on January 4 and 5, 1990. The total cost for the briefing was \$13,354.03. Approval of the overrun is proposed.

3. On November 20, 1989, the Operating Committee approved an expenditure of \$30,000 to produce a video on the Project. Approximately \$9,000 has been spent thus far. The present estimate for the video with the same format and producer is a total of \$50,000. Discussion of continued production of video is proposed.

If anyone receiving a copy of this letter would like to make any changes or additions to the above agenda, please let me know as soon as possible.

Yours truly,



A. R. Raihl

ARR:brw  
Attachment

cc:	R. L. Brown	w/att.	(via Telefax)
	F. T. Graybeal	"	(via Telefax)
	J. D. Sell	"	
	W. E. McCulloch, Jr.	"	(via Telefax)
	H. G. Kreis	"	

# ASARCO

Mining Department

A. R. Rainl

VIA TELEFAX  
504-582-1639

April 6, 1990

Mr. W. E. McCulloch, Jr.  
Freeport Mining Company  
P. O. Box 61520  
New Orleans, LA 70161

Dear Mr. McCulloch:

Santa Cruz Project  
Project Budget

In accordance with your request of April 3, 1990, the attached Santa Cruz Joint Venture (SCJV) budget has been prepared. This budget is only for the Santa Cruz In Situ Copper Mining Research Project (Project). Mr. W. L. Kurtz will have to be contacted for the budget for the remaining portions of the Santa Cruz Project.

To date, Congress has appropriated a total of \$10.5 million for the Project. Of this amount, \$9,743,000 has been allocated for field work through Phase 3. By the end of Phase 3, the SCJV must be current with its 25 percent cost share obligation. Therefore, the SCJV must have spent \$3,248,000 by the end of Phase 3.

In the spring of 1988 the overall Project was estimated to cost \$19.5 million with the U.S. Bureau of Mines (USBM) funding \$14,625,000 and the SCJV funding \$4,875,000. This estimate has not been revised or updated, but my opinion is that this estimate is still reasonably accurate.

The budget is based on the following schedule assumptions. Any change in these assumptions will change the budget:

1. September 1, 1990 - Apply for Aquifer Protection Permit
2. September 1, 1990 - Complete Phase 2 of Project
3. June 1, 1991 - Obtain Aquifer Protection Permit
4. July 1, 1991 - Start construction of SX/EW pilot plant
5. December 31, 1991 - Complete construction of SX/EW pilot plant
6. January 31, 1992 - Complete commissioning of SX/EW pilot plant
7. January 31, 1992 - Complete Phase 3 of Project
8. February 1, 1992 - Begin Phases 4 and 5 of Project and in situ leach for a period of 18 months.
9. August 1, 1993 - Complete in situ leach testing
10. August 1, 1993 - Begin decommissioning of plant and restoration activities.
11. February 1, 1994 - Complete decommissioning and restoration.
12. February 1, 1994 - Total Project is complete.

In addition to the above schedule, the budget is based on the present level of Congressional funding, the assumption that Congress will continue to fund the Project, USBM/SCJV agreement constraints, etc.

The budgeted SCJV expenditures are equally divided between ASARCO Santa Cruz, Inc., and Freeport Copper Company. The special considerations given Freeport Copper Company are insignificant given the accuracy of the proposed budget. Also, the budget does not reflect the possible proceeds from the sale of copper produced during the test program.

Yours truly,



A. R. Raihl

ARR:brw

Attachment

cc: F. T. Graybeal w/att.  
R. L. Brown "  
R. J. Kupsch "  
W. L. Kurtz "  
H. G. Kreis "



Santa Cruz In Situ Copper Mining Research Project  
Project Budget

---

<u>Time Period</u>	<u>SCJV Expenditure</u>	<u>Charged to Each Partner</u>
Total expended through February 28, 1990	\$ 662,000	\$ 331,000 <sup>1</sup>
<u>1990</u>		
March	50,000	25,000
April	100,000	50,000
May	100,000	50,000
June	100,000	50,000
July	100,000	50,000
August	100,000	50,000
September	50,000	25,000
October	50,000	25,000
November	50,000	25,000
December	50,000	25,000
<u>1991</u>		
1st Quarter	150,000	75,000
2nd Quarter	300,000	150,000
3rd Quarter	600,000	300,000
4th Quarter	600,000	300,000
<u>1992</u>		
1st Quarter	335,000	168,000
Total expended through Phase 3 (January 31, 1992)	\$3,248,000	\$1,624,000
2nd Quarter	203,000	101,000
3rd Quarter	203,000	102,000
4th Quarter	203,000	101,000
<u>1993</u>		
1st Quarter	203,000	102,000
2nd Quarter	203,000	101,000
3rd Quarter	203,000	102,000
4th Quarter	203,000	101,000
<u>1994</u>		
1st Quarter	58,000	29,000
 TOTAL FOR PROJECT	 <u>\$4,875,000</u>	 <u>\$2,438,000</u>

<sup>1</sup>Due to special considerations, the amount actually charged ASARCO Santa Cruz, Inc., was greater than this and the amount charged Freeport Copper Company was less.

May 23, 1990

WLK 5-25-90

J.D. Sell

Proposed 1990  
Santa Cruz Budget

Joint Venture

10	1)	Test work in the S.C. South (Hanno-Gelty) <del>(Hanno-Gelty)</del>	100,000	
	2)	State property taxes	\$102,000	100,000
x	6a	Relocate core building <del>one storage</del>	50,000	50,000
	6b	Costs associated with in situ test (AR sol. exp etc)	50,000*	50,000
	4.	Land payments, <del>Paulo Salzer</del> & assessments	44,000	44,000 53,000
	5a	Water well repairs (\$15,000 to date)	25,000	15,000
	6c	Legal work (water rights and land)	20,000	40,000
	6e	Misc. work for J.V. and Santa Cruz Project <sup>Hall</sup> <del>Estatal</del>	15,000	20,000
	6d	Abandonment of exploration drill holes (new state law)	10,000	10,000
		Simmon's option, legal and land engineer <del>sol</del>	10,000	
x	3b	Senator's visit (January) <sup>Congressional</sup> <del>Peripous</del>	9,000	10,000
	5d	Lot Owner's Association (Desert Carmel)	7,000	7,000
	3)	Assessment work, unpat. mining claims	6,000	6,000
		<del>In situ work on Santa Cruz South</del> <sup>South 1</sup>	5,000**	
		<del>Consider acquisition of Texaco's CP area</del>	5,000***	
		<del>Log old H-G drill holes outside data exchange</del>	3,000	
		<del>Building maintenance</del>	2,000	
5c		Dept. of Water Resources (irrigation water) <sup>state</sup> <del>use fee</del>	2,000	2,000
		Environment	2,000	
		Consider Cyprus buyout	1,000**	
	5e	Salary & expenses (Jan-April)		12,000 <del>12,000</del>
		Subtotal	\$368,000	
		Farm income	(30,000)	
		<u>Total</u>	<u>\$338,000</u>	

5 Expenditures to date  
a.

Costing 474  
26  
500

\* To be approved prior to expenditure. Includes in situ expenses that can not be charged to the USBM cooperative agreement.

\*\* Additional expenses will be handled by a new authorization.

\*\*\* Does not include legal work, surveying, drilling (if necessary, say \$1 mm for a dozen holes), etc. Additional expenses will be handled by a new authorization.

explore possibility of exchange of lots <sup>area</sup> for others in area.

x 5 f. misc. a video 20000 15/

HGK:mek

H. G. Kreis

6. Operating Expense

PROPOSED  
1990 SANTA CRUZ BUDGET

Revised  
5-21-90 AM

Overrun (As per J.D.S. memo, 5-17-1990)	*18,000
Relocate core building	50,000
Abandonment of exploration drill holes	10,000
Building maintenance	2,000
Log old H-6 drill holes outside data exchange	3,000
Misc. work for J.V. and Santa Cruz So.	5,000
In situ work on Santa Cruz South	5,000*
Consider acquisition of Texaco's C.P. area	5,000**
Simmons option, legal and land engineer	10,000
Assessment work on unpat. mining claims	6,000
Water well repairs (\$15,000 to date)	25,000
Legal work on water rights and land	29,000
Land engineer	2,000
Land payments	32,000
Taxes	
Cyprus buyout consideration	1,000*

sub-total

\$194,000  
+ taxes

Income; farm lease, 86% of \$35,000

<30,000>

\* Additional expenses will be handled by a new authorization  
 \*\* Does not include legal work, surveying, drilling  
 (say, a dozen holes for \$1mm), etc. Additional expenses will  
 be handled by a new authorization.

1990 SANTA CRUZ BUDGET

	Overrun on EA-0075-12	# 18,000
	Move core storage bldg. to Sanaton	50,000
	Core exploration drill holes	10,000
\$10	Log old H-G drill holes not in data exchange	3,000
	Maintenance on core shed & land	2,000
	Misc. work assoc. with Santa Cruz Co. & J.V.	5,000

In situ work on Santa Cruz south 5,000

Evaluation of Texas's CP Area: <sup>Legal</sup> <sup>Geology</sup> <sup>Negotiations</sup> 5,000\*

Legal work assoc. with Simmons option 5,000

Assessm. 4,000

Paula-Saxler 20,000

W.D. Gay:

Water well repairs

Agricultural leases

Other leases

Legal work: water rights

leases

land problems

Taxes

\* Should dollars be approx. after you turn a report into SBA for

12 x 100,000

If there is a surplus of exploration funds that needs to be spent and if we acquire Texas land, buy &/or trade lots.

Budget for Santa Cruz EA-0075 - The Lapid  
EA-0087 - Penguin Isd.

1. In-Situ fringe costs, capping wells etc.
  2. Taxes
  3. Claim assessment (55 x 100) = + filing 5,600
  4. Over-seen pickup. 18,000
  5. Park-Sasler payment 19,700 (in Feb)
  6. Other (AMOCO) ~~etc~~ (1989) 3,950  
 INCOS ~~etc~~ (yearly lease) 100  
 NAAC acquisition (4 ~~etc~~) (1989) 5,700  
 Mooney Trust (1989) 50,000?
  7. Moving/re-set up Storage Bldg.
- Rent Income - D on Farms Leases (- 27,950 in Feb)

1/2 sec. (55)  
 40 + 9 =

Total 1990 <del>Jan</del> Costs	Jan.	Feb
EA-0075	10,190	10,090
EA-0087	1,434	5,953 (4,870 out on P-Sale)

1/2 to Fresno =

1989 EA-0075 <sup>Exp.</sup> total = 250,310  
 1989 EA-0087 total = 199,728  
 450,000

← Manpower expend.  
 = 42,000  
 24,000 total

5-22-90

To: J. D. Sell  
From: H. O. Krein

FAX: 1 of 2 pages

1990 SANTA CRUZ BUDGET

Jim - Here are the <sup>1990</sup> expenses that I've come up with so far. I will research the accounting records for 1989 tomorrow (Wed. AM) to see what other expenses should be added to the list.

Hank

ASARCO Inc.

MAY 22 1990

SW EXPENSES

PROPOSED  
1990 SANTA CRUZ BUDGET

FAX Page 2/2

NOT A COMPLETE LIST  
~ WORK IN PROGRESS ~

1990 Year to date (less '89 surplus & lot owners dues)	\$ 20,000
Relocate core building	50,000
Abandonment of exploration drill holes	10,000
Building maintenance	2,000
Log old H-6 drill holes outside data exchange	3,000
Misc. work for J.V. and Santa Cruz So.	5,000
In situ work on Santa Cruz South	5,000*
Consider acquisition of Texaco's C.P. area	5,000**
Simmons option, legal and land engineer	10,000
Assessment work, unpat. mining claims	6,000
Water well repairs (15,000 to date)	25,000
Legal work on water rights and land	20,000
Land engineer	2,000
Land payments	32,000
Taxes (97,000 in 1989 w/ acquisition)	102,000
Cypress buyout consideration	1,000*
Lot owners association (Desert Carmel)	7,000
Misc. charges associated with in situ test	50,000***
Environmental	2,000
	Subtotal \$ 357,000
Income; Farm lease, 86% of \$35,000	< 30,000 >
	Total \$ 327,000

- \* Additional expenses will be handled by a new authorization
- \*\* Does not include legal work, surveying, drilling  
(say, a log hole for 1mm), etc. Additional expenses will be handled by a new authorization.
- \*\*\* To be approved prior to expenditure. Includes in situ expenses that can not be charged to the USRM cooperative agreement.

# ASARCO

Exploration Department  
Southwestern United States Division

May 30, 1990

Mr. Thomas R. Cissell  
Cissell Drilling Co.  
P.O. Box 1048  
Casa Grande, AZ 85222

Dear Tom:

I talked with the DWR, and they want the two shallow holes to be backfilled with cuttings and capped with 20' of cement at the surface. This will have to be done, and the cost is to be included in your invoice to Asarco.

You and I visited the drill sites in the field, so you know the locations. A sketch map of the drill hole locations is enclosed, and it shows the dollar amount to be spent on each drill hole.

Sincerely,



Henry G. Kreis

HGK:mek  
enc.

cc: J.D. Sell



10

11

CHAYO { 22-49  
 18-55  
 NIK { 37-41  
 54

\*1900-  
 \*2000

12

15

14

13

Deep hole  
 \*1800-1900

\*1800-  
 \*1900

NIK CLAIMS  
 #1-18

NIK CLAIMS  
 #19-36

22

23

24

ROUTE 84

27

26

25

R. 4 E. MIDWAY ROAD

Make map showing

land status of Terrace ground

geologic - mineral potential

lot positions of JV in terms of DC area & "T area"

<sup>Send</sup>

Rollin map of H&K land mineral

The dump at crushed - blue line needs testing prior  
to securing. No - Identified by Frey and Swers.  
so needs to be done.

# 1990 SCSY BUDGET

5/31/90

<del>Santa Cruz South - Tentative In Situ</del>	<del>100,000</del>
Property Taxes <i>recl assessment type</i>	100,000
Assessment Work	6,000
Land payments + Assessments	53,000

1990 SCSY Expenses - Salary, etc \$ <sup>25,000</sup> 50,000

~~Core Storage - Tentative~~ ~~50,000~~  
*to be special item when dealing w/ items*

Legal 40,000

---

399,000

Say

400,000

175

\$ 225

Freeport Robin

1. How is project best w/wills.

*monthly report*

*items not included, included things that happened that have slipped + not wanted at that might occur.*

*Things that should happen are not mentioned! Why not!!*

1. or Reports

*What happened - what is going to happen*

RMB 5/31/90

Non-In-Situ , JV-Expenditures

x

Legal

x

Do something about Bldg Move Con, move Bldg, by lease of Bldg.

Garbage clean-up.

FTG wants land (Sension) on north side. Trade for JV on south?

x

Huff's bluff on SC South.

x

Texas

x

Mealy mouse work throughout area; <sup>holcim</sup> WDG - <sup>show, etc.</sup> HGK remainder 45,000

In Situ JV Expenditures (A Rahil)

Vedio

Congressional Meeting

If Park-Egler is on state lease <sup>(Sec 34?)</sup> - then TC probably won't go

# ASARCO

Mining Department

A. R. Raini

May 17, 1990

To: Mr. R. J. Hickson, Freeport, New Orleans, LA (via Telefax)  
Mr. S. D. Van Nort, Freeport, Tucson, AZ  
Mr. W. L. Kurtz, Asarco, Tucson, AZ

Gentlemen:

Santa Cruz Joint Venture  
Operating Committee Meeting

A Santa Cruz Joint Venture (SCJV) Operating Committee meeting is scheduled to be held on Thursday, May 31, 1990, beginning at 9:00 a.m., in the Third Floor Conference Room of Asarco's office located at 1150 N. 7th Avenue, Tucson, Arizona. The proposed agenda for this meeting is as follows:

9:00 a.m. to 1:00 p.m.

1. General discussion of the Santa Cruz In Situ Copper Mining Research Project (Project): its present status, detailed plans for the immediate future, and general plans for the overall Project. Mr. C. Barter, Errol L. Montgomery & Associates, Inc., will be available to answer questions concerning the hydrological studies and permitting activities.
2. Discussion of the proposed in situ leach test budget.
3. General discussion of other issues concerning the Santa Cruz Project.

1:00 p.m. to 2:00 p.m.

Lunch.

ASARCO Incorporated P.O. Box 5747 Tucson, AZ 85703-0747  
1150 North 7th Avenue (602) 792-3010  
TELEX: WU 666413 FACSIMILE: (602) 792-3934

2:00 p.m. to 4:00 p.m.

Formal Operating Committee meeting will be held with the following items on the agenda:

1. Santa Cruz In Situ Copper Mining Research Project (Project)

It will be proposed that the Operating Committee approve funding for Phase 3 of the Project in the amount of \$2,442,667 to be spent in accordance with the attached letter to W. E. McCulloch from A. R. Raihl dated April 6, 1990.

On July 13, 1988, the Operating Committee approved the expenditure of \$375,000 for Phase 1 of the Project. On July 25, 1989, the Operating Committee approved the expenditure of \$430,000 for Phase 2 of the Project. These amounts plus the proposed amount for Phase 3 total \$3,247,667 which will satisfy the requirement of 25 percent cost share by the end of Phase 3. The USBM has sufficient for Congressional funding to spend a total of \$9,743,000 in the field through Phase 3.

2. On November 30, 1989, the Operating Committee approved an expenditure of \$4,000 for a briefing for members of Congress, Congressional staff, and others on January 4 and 5, 1990. The total cost for the briefing was \$13,354.03. Approval of the overrun is proposed. *Per plan, + attached*

3. On November 20, 1989, the Operating Committee approved an expenditure of \$30,000 to produce a video on the Project. Approximately \$9,000 has been spent thus far. The present estimate for the video with the same format and producer is a total of \$50,000. Discussion of continued production of video is proposed.

*Clarify when it is set.*

If anyone receiving a copy of this letter would like to make any changes or additions to the above agenda, please let me know as soon as possible.

Yours truly,



A. R. Raihl

ARR:brw  
Attachment

cc: R. L. Brown w/att. (via Telefax)  
F. T. Graybeal " (via Telefax)  
J. D. Sell " "  
*Walter* W. E. McCulloch, Jr. " (via Telefax)  
H. G. Kreis " "



# ASARCO

Mining Department

A. R. Rainl

VIA TELEFAX  
504-582-1639

April 6, 1990

Mr. W. E. McCulloch, Jr.  
Freeport Mining Company  
P. O. Box 61520  
New Orleans, LA 70161

Dear Mr. McCulloch:

Santa Cruz Project  
Project Budget

In accordance with your request of April 3, 1990, the attached Santa Cruz Joint Venture (SCJV) budget has been prepared. This budget is only for the Santa Cruz In Situ Copper Mining Research Project (Project). Mr. W. L. Kurtz will have to be contacted for the budget for the remaining portions of the Santa Cruz Project.

To date, Congress has appropriated a total of \$10.5 million for the Project. Of this amount, \$9,743,000 has been allocated for field work through Phase 3. By the end of Phase 3, the SCJV must be current with its 25 percent cost share obligation. Therefore, the SCJV must have spent \$3,248,000 by the end of Phase 3.

In the spring of 1988 the overall Project was estimated to cost \$19.5 million with the U.S. Bureau of Mines (USBM) funding \$14,625,000 and the SCJV funding \$4,875,000. This estimate has not been revised or updated, but my opinion is that this estimate is still reasonably accurate.

ASARCO Incorporated P.O. Box 5747 Tucson, AZ 85703-0747  
1150 North 7th Avenue (602) 792-3010  
TELEX: WU 666413 FACSIMILE: (602) 792-3934

The budget is based on the following schedule assumptions. Any change in these assumptions will change the budget:

1. September 1, 1990 - Apply for Aquifer Protection Permit
2. September 1, 1990 - Complete Phase 2 of Project
3. June 1, 1991 - Obtain Aquifer Protection Permit
4. July 1, 1991 - Start construction of SX/EW pilot plant
5. December 31, 1991 - Complete construction of SX/EW pilot plant
6. January 31, 1992 - Complete commissioning of SX/EW pilot plant
7. January 31, 1992 - Complete Phase 3 of Project
8. February 1, 1992 - Begin Phases 4 and 5 of Project and in situ leach for a period of 18 months.
9. August 1, 1993 - Complete in situ leach testing
10. August 1, 1993 - Begin decommissioning of plant and restoration activities.
11. February 1, 1994 - Complete decommissioning and restoration.
12. February 1, 1994 - Total Project is complete.

In addition to the above schedule, the budget is based on the present level of Congressional funding, the assumption that Congress will continue to fund the Project, USBM/SCJV agreement constraints, etc.

The budgeted SCJV expenditures are equally divided between ASARCO Santa Cruz, Inc., and Freeport Copper Company. The special considerations given Freeport Copper Company are insignificant given the accuracy of the proposed budget. Also, the budget does not reflect the possible proceeds from the sale of copper produced during the test program.

Yours truly,



A. R. Raihl

ARR:brw

Attachment

cc: F. T. Graybeal w/att.  
R. L. Brown "  
R. J. Kupsch "  
W. L. Kurtz "  
H. G. Kreis "





Santa Cruz In Situ Copper Mining Research Project  
Project Budget

---

<u>Time Period</u>	<u>SCJV Expenditure</u>	<u>Charged to Each Partner</u>
Total expended through February 28, 1990	\$ 662,000	\$ 331,000 <sup>1</sup>
<u>1990</u>		
March	50,000	25,000
April	100,000	50,000
May	100,000	50,000
June	100,000	50,000
July	100,000	50,000
August	100,000	50,000
September	50,000	25,000
October	50,000	25,000
November	50,000	25,000
December	50,000	25,000
<u>1991</u>		
1st Quarter	150,000	75,000
2nd Quarter	300,000	150,000
3rd Quarter	600,000	300,000
4th Quarter	600,000	300,000
<u>1992</u>		
1st Quarter	335,000	168,000
Total expended through Phase 3 (January 31, 1992)	\$3,248,000	\$1,624,000
2nd Quarter	203,000	101,000
3rd Quarter	203,000	102,000
4th Quarter	203,000	101,000
<u>1993</u>		
1st Quarter	203,000	102,000
2nd Quarter	203,000	101,000
3rd Quarter	203,000	102,000
4th Quarter	203,000	101,000
<u>1994</u>		
1st Quarter	58,000	29,000
<b>TOTAL FOR PROJECT</b>	<b><u>\$4,875,000</u></b>	<b><u>\$2,438,000</u></b>

<sup>1</sup>Due to special considerations, the amount actually charged ASARCO Santa Cruz, Inc., was greater than this and the amount charged Freeport Copper Company was less.



June 1, 1990

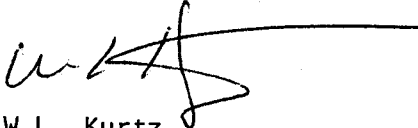
A.R. Raihl

Proposed 1990 SCJV  
Operating Budget  
Exclusive of USBM  
Research Program

The following items were proposed for approval by The Operating Committee at the meeting on May 31, 1990.

Property Taxes	\$100,000
Assessment Work	6,000
Land Payments & Assessment	53,000
Misc.-well capping, environ- mental studies & clean-up, core logging	25,000
Legal	<u>40,000</u>
	\$224,000
Say	\$225,000

WLK:mek

  
W.L. Kurtz

JDS

# ASARCO

Exploration Department  
Southwestern United States Division  
James D. Sell  
Manager

June 6, 1990

Mr. H. Mason Coggin, PE & LS  
317 East Griswold  
Phoenix, AZ 85020

I.M. Coggin's Land  
Santa Cruz Joint Venture  
Pinal County, Arizona

Dear Mr. Coggin:

Your letter of May 31 arrived and I apologize for not writing to you sooner.

When it was all discussed with the various groups, the consensus was to leave the lease in as it is now.

As you are aware, the bedrock is at considerable depth under the parcel and the mineral potential unknown.

On-going work in the area may change the emphasis and we'll keep in touch.

Sincerely,

  
James D. Sell

JDS:mek

cc: W.L. Kurtz (w/ltr.)  
R.L. Brown     "  
C.L. Snow     "



May 31, 1990

J. D. Sell, Mgr, SW Expl.  
ASARCO, Inc.  
1150 N. 7th Ave. PO Box 5747  
Tucson, AZ 85703

ASARCO Incorporated

JUN 4 1990

SW Exploration

Dear Mr. Sell:

I have not heard from my last letter to ASARCO and thought I should try again.

My sister, Daphne (Coggin) Morrison, has been handling the estate of Ida Mae Coggin my mother. This estate includes the mineral rights to a parcel of land near Casa Grande, AZ. The surface was sold to Hanna Mining some years ago and the mineral rights were leased to Hanna for 50 years at \$100 per year with a 2.5% NSR on any production.

Hanna's successor, Santa Cruz Joint Venture, who I understand is now ASARCO, may wish to complete the purchase of these mineral rights for cash. I have talked with my brother and sister; they have agreed to offer these mineral rights at this time.

The price we have discussed is \$60,000.

Both my brother and sister are retired. If there is another death in the family these mineral rights will become increasingly more complicated. I urge you to consider cleaning up these rights at this time.

If acquisition of this property is not currently in your charge would you please pass this letter on to the proper party.

Sincerely,

H. Mason Coggin, PE & LS

CC: Mr. and Mrs. George W. Coggin  
12825 S 40th Place  
Phoenix, AZ 85044

Daphne and Cay Morrison  
1905 Camino Rio  
Farmington, NM 87301

*NW 1/4 NE 1/4 of SW 1/4  
Sec. 19, T6S, R5E*

ASARCO SANTA CRUZ INC.  
P. O. BOX 5747  
Tucson, Arizona 85703

June 7, 1990

FREEPORT Mining Company  
P. O. Box 61520  
New Orleans, LA 70161

Attention: R. J. Hickson

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for May 1990:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Salaries	623.38	
Employee Overhead	168.00	
Pump Repair	15,684.47	
Travel Expense	64.89	
Legal Fees	<u>7,446.68</u>	
		24,037.42

Our E.A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	<u>50.00</u>
		<u>24,087.42</u>

1/2 to Freeport-McMoran	12,043.71
Balance brought forward	23,633.00
Payment received from Freeport-McMoran	(26,119.44)
In Situ Leach Project May charges	<u>10,949.72</u>

Balance Due 20,506.99

cc: Controller/Attn: EJFranko  
JDSell  
Freeport Mining Co.  
File

ASARCO Inc.

JUN 12 1990

SW Exploration

FROM: W. L. KURTZ

6/11/60

To: ~~J. Selt~~ Santulog

Can Bill Gay <sup>sure</sup> prepare a  
readable map of the  
"CP Area" showing the  
lots that Texas does  
not own.

You recall at Operating Committee  
meeting we said we would.

This from Texas should have  
all lots they do not own.

RECEIVED

JUN 11 1990

EXPLORATION DEPARTMENT



# FAX TRANSMITTAL COVER SHEET

NOTE: DO NOT USE BLUE OR RED INK OR PENCIL ON THIS FORM. THEY WILL NOT REPRODUCE

DATE: 6/11/90       URGENT     ROUTINE    NO. OF PAGES Covered

MESSAGE TO: Mr. Bill Kurtz

TELEPHONE NO. \_\_\_\_\_ FAX MACHINE NO. 602-792-3934

DEPT./DIV./SUBS. ASARCO

LOCATION \_\_\_\_\_ ROOM NO. \_\_\_\_\_

MESSAGE FROM: Mr. Robert Conti

TELEPHONE NO. (914)253-7160      FAX MACHINE NO. (914)253-7316

DEPT./DIV./SUBS. Corp. Svcs.

LOCATION Harrison      ROOM NO. \_\_\_\_\_

SENDING DEPT. APPROVAL \_\_\_\_\_ TIME TRANSMITTED \_\_\_\_\_

RETURN ORIGINAL VIA INTER-OFFICE MAIL       RETURN ORIGINAL CALL SENDER TO PICK UP

ADDITIONAL COMMENTS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DESERT CARMEL LEGALS PHASE TWO

PARCEL NO. 1:  
-----

THE WEST HALF OF THE SOUTHEAST QUARTER, AND LOTS 6 AND 7, SECTION 1, TOWNSHIP 6 SOUTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA;

EXCEPT THE NORTH 140 FEET OF LOT 6; AND  
EXCEPT THE NORTH 140 FEET OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 1.

PARCEL NO. 2:  
-----

LOTS 6 AND 7, SECTION 6, TOWNSHIP 6 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA;

EXCEPT THE NORTH 140 FEET OF LOT 6 OF SAID SECTION 6.

PARCEL NO. 3:  
-----

THE NORTHEAST QUARTER, LOTS 1 AND 2 AND THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 7, TOWNSHIP 6 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA;

EXCEPT LOTS 45, 57, 369, 375, 398, 402, 445, 614, 627, 707, 743, 744, 745, 977, 1150, 1151, 1152, 1153, 1154, 1165, 1286 AND 1322, DESERT CARMEL SECTION "R" PER PLAT RECORDED IN BOOK 14 OF MAPS AND PLATS AT PAGE 33, RECORDS OF PINAL COUNTY, ARIZONA; EXCEPTING STREETS, ALLEYS, DRAINAGE WAYS ABUTTING SAID EXCEPTED LOTS.

"T" sec. omitted - conveyed in Phase I

PARCEL NO. 4:  
-----

THE WEST HALF, THE SOUTHEAST QUARTER, THE WEST HALF OF THE NORTHEAST QUARTER, AND THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 6 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA; AND

1/4 W 27. conveyed parcel  
THAT PART OF THE NORTHEAST QUARTER OF SECTION 17, TOWNSHIP 6 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, LYING WEST AND NORTH OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT THE CORNER OF SECTIONS 8, 9, 16 AND 17, TOWNSHIP 6 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, THE CENTER OF A STEEL MANHOLE COVER;

THENCE SOUTH 89\* 55' 45" WEST, 238.59 FEET TO A POINT ON THE CENTERLINE OF KORTSEN ROAD;

THENCE SOUTH 65\* 48' 47" WEST, 525.30 FEET TO A POINT ON THE CENTERLINE OF KORTSEN ROAD;

THENCE SOUTH 46\* 41' 10" WEST, 170.77 FEET TO A POINT ON THE CENTERLINE OF KORTSEN ROAD;

THENCE SOUTH 37\* 11' 12" WEST, 174.15 FEET TO A POINT ON THE CENTERLINE OF KORTSEN ROAD;

THENCE SOUTH 31\* 21' 01" WEST, 887.35 FEET, TO A POINT AT THE CENTER OF THE INTERSECTION OF KORTSEN ROAD AND ESTANQUILLO AVENUE. SET AN IRON POST 3/4 INCH DIAMETER, 18 INCHES IN THE GROUND, SET FLUSH WITH THE GROUND;

THENCE NORTH 62\* 06' 29" WEST, 637.15 FEET ALONG THE CENTER OF ESTANQUILLO AVENUE TO A POINT AT THE CENTER OF THE INTERSECTION OF ESTANQUILLO AVENUE AND CASTILLO DRIVE. SET AN IRON POST, 3/4 INCH DIAMETER, 18 INCHES IN THE GROUND, SET FLUSH WITH THE GROUND;

THENCE SOUTH 23\* 42' 40" WEST, 145.87 FEET TO A POINT ON THE CENTERLINE OF CASTILLO DRIVE;



\* THENCE SOUTH 27\* 45' WEST, 152.99 FEET TO A POINT ON THE CENTERLINE OF CASTILLO DRIVE;

THENCE SOUTH 33\* 04' 44" WEST, 120.15 FEET TO A POINT ON THE CENTERLINE OF CASTILLO DRIVE;

THENCE SOUTH 38\* 10' 58" WEST, 208.87 FEET TO A POINT ON THE CENTERLINE OF CASTILLO DRIVE;

THENCE SOUTH 44\* 50' 04" WEST, 146.78 FEET TO A POINT AT THE CENTER OF THE INTERSECTION OF CASTILLO DRIVE AND COCHISE DRIVE. SET AN IRON POST, 3/4 INCH DIAMETER, 18 INCHES IN THE GROUND, SET FLUSH WITH THE GROUND;

THENCE SOUTH 42\* 59' 38" EAST, 92.11 FEET TO A POINT ON THE CENTERLINE OF COCHISE DRIVE;

THENCE SOUTH 39\* 27' 53" EAST, 174.64 FEET TO A POINT ON THE CENTERLINE OF COCHISE DRIVE;

THENCE SOUTH 34\* 49' 58" EAST, 116.33 FEET TO A POINT ON THE CENTERLINE OF COCHISE DRIVE;

THENCE SOUTH 30\* 45' 52" EAST, 119.33 FEET TO A POINT ON THE CENTERLINE OF COCHISE DRIVE;

THENCE SOUTH 24\* 30' 29" EAST, 295.98 FEET TO A POINT ON THE CENTERLINE OF COCHISE DRIVE;

THENCE SOUTH 21\* 46' 30" EAST, 156.81 FEET TO A POINT AT THE CENTER OF THE INTERSECTION OF COCHISE DRIVE AND FINALY ROAD. SET AN IRON POST, 3/4 INCH DIAMETER, 18 INCHES IN THE GROUND, SET FLUSH WITH THE GROUND;

THENCE SOUTH 68\* 09' 23" WEST, 118.50 FEET TO A POINT ON THE CENTERLINE OF FINALY ROAD;

THENCE SOUTH 65\* 57' 22" WEST, 216.74 FEET TO A POINT ON THE CENTERLINE OF FINALY ROAD;

THENCE SOUTH 61\* 49' 45" WEST, 233.69 FEET TO A POINT ON THE CENTERLINE OF FINALY ROAD;

THENCE SOUTH 59\* 35' 05" WEST, 99.97 FEET TO A POINT AT THE CENTER OF THE INTERSECTION OF FINALY ROAD AND FIESTA DRIVE. SET AN IRON POST, 3/4 INCH DIAMETER, 18 INCHES IN THE GROUND, SET FLUSH WITH THE GROUND;

THENCE NORTH 34\* 47' 25" WEST, 78.57 FEET TO A POINT ON THE CENTERLINE OF FIESTA DRIVE;

THENCE SOUTH 45\* 09' 29" WEST, 81.02 FEET TO THE CENTER OF SECTION 17, AN IRON POST, 3/4 INCHES DIAMETER, 18 INCHES IN THE GROUND, SET FLUSH WITH THE GROUND; AND

EXCEPT CANDLESTICK DRIVE AS DEDICATED ON PLAT OF DESERT CARMEL SECTION "N" PER PLAT RECORDED IN BOOK 14 OF MAPS AND PLATS AT PAGE 11, RECORDS OF PINAL COUNTY, ARIZONA; AND

EXCEPT CANDLESTICK DRIVE AS DEDICATED ON PLAT OF DESERT CARMEL SECTION "F" PER PLAT RECORDED IN BOOK 15 OF MAPS AND PLATS AT PAGE 4, RECORDS OF PINAL COUNTY, ARIZONA; AND

EXCEPT LOTS 4, 9, 21, 26, 28, 50, 66, 79, 83, 87, 90, 96, 97, 99, 106, 107, 126, 135, 139, 163, 166, 167, 168, 176, 191, 194, 201, 205, 206, 228, 238, 240, 241, 242, 247, 248, 249, 250, 256, 257, 259, 262, 264, 267, 293, 302, 329, 331, 358, 387, 393, 395, 399, 402, 407, 412, 424, 427, 436, 449 AND 459, DESERT CARMEL SECTION "N", PER PLAT RECORDED IN BOOK 14 OF MAPS AND PLATS AT PAGE 11, RECORDS OF PINAL COUNTY, ARIZONA EXCEPTING STREETS, ALLEYS, DRAINAGE WAYS ABUTTING SAID EXCEPTED LOTS; AND

EXCEPT LOTS 66 AND 427, DESERT CARMEL SECTION "F" PER PLAT RECORDED IN BOOK 15 OF MAPS AND PLATS AT PAGE 4, RECORDS OF PINAL COUNTY, ARIZONA, EXCEPTING STREETS, ALLEYS, DRAINAGE WAYS ABUTTING SAID EXCEPTED LOTS.

→ Balance of Lots in "F" were conveyed in Phase I.

# ASARCO

Exploration Department  
Southwestern United States Division

June 18, 1990

Mr. James Sieverson  
ASARCO Incorporated  
3422 South 700 West  
Salt Lake City, Utah 84119

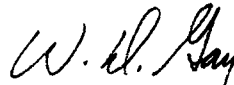
Santa Cruz Project

Dear Jim:

Enclosed are the maps and environmental studies you said you wanted during our telephone conversation on June 14, 1990.

If you need anything else, please let me know.

Sincerely yours,

  
W. D. Gay

WDG:mek  
Encs.

cc: W.L. Kurtz  
J.D. Sell

# ASARCO

Exploration Department  
Southwestern United States Division

June 22, 1990

Mr. B. M. Apker  
Apker, Apker, Haggard, & Kurtz, P.C.  
P.O. Box 10280  
Phoenix, AZ 85064-0280

Santa Cruz Joint Venture  
"F" Section Lots

Dear Mr. Apker:

Enclosed is a listing of "F" lots the Joint Venture pays taxes on, and a map of the Desert Carmel Area and in particular the "F" Section.

The two problems are: (Section "F" only)

- 1) Why do the Texaco lots lie on both sides of the boundary line?
- 2) Why do the Santa Cruz Joint Venture lots lie on both sides of the boundary line?

My thoughts were that everything west of the boundary line was conveyed to the Santa Cruz Joint Venture and lots east of the boundary line would not be conveyed to us. This, of course, excludes the "F" lots held by the Joint Venture prior to the sale.

If you have any questions, please call.

Sincerely yours,



William D. Gay  
Land Engineer, SWED

WDG:mek  
Encs.

cc: J.D. Sell  
W.L. Kurtz

No Type

Ray

Santa Cruz

+ SCIV meeting I agree we would determine if  
the Simms Cimarron Area Plan was approved by  
Pinal County and if so if it will remain in effect  
now that Simms and Cimarron are no longer a player  
in the area.

Use your resources to come up with an answer

Kreit

cc. J. Wells

H. Kreit

APKER, APKER, HAGGARD & KURTZ, P.C.  
P. O. Box 10280  
Phoenix, Arizona 85064-0280  
(602) 381-0085

ASARCO Santa Cruz  
c/o Mr. George H. Myers  
P. O. Box 5747  
Tucson, AZ 85703-0747

July 1, 1990  
Page 1  
Client: 111-6  
Matter: 1

Matter: *Santa Cruz*  
~~In Situ Leach~~ Project

Date	Professional Services Rendered		
06/04/90	Telephone conference with Mr. Woods; telephone conference with Mr. Woods; telephone conference with Mr. Kurtz.		
06/09/90	Review Asarco memorandum re final response to ADEQ.		
06/13/90	Review recorded quit claim deed.		
06/14/90	Review draft correspondence to ASLD.		
06/22/90	Telephone conference with Mr. Gay re section F Desert Carmel lots.		
06/27/90	Telephone conference with Mr. Gay; review Santa Cruz document file.		
06/29/90	Conference with Mr. Gay; review closing documents re real estate assessments.		
		Total Services	609.00
Disbursements			
06/07/90	Miscellaneous costs advanced	9.95	
	Hand delivery to Mr. Grossman on 5/29/90.		
	Recording fees	16.00	
	Long distance telephone	6.28	
		-----	
	Total Disbursements		32.23
		Current Charges	641.23

**COPY**

*PenGM 75-12*

# ASARCO

Southwestern Exploration Division

JDS

July 2, 1990

J.D. Sell

Assessment Work  
Unpatented Mining Claims  
Santa Cruz Project

All the 1990 assessment work has been completed for all the Santa Cruz unpatented mining claims, and all the necessary forms have been filed with the DWR.

Mr. Gay will file notices at the Pinal County courthouse and with the BLM.

HGK:mek



H.G. Kreis

cc: W.L. Kurtz  
W.D. Gay

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007

PROJECT COMPLETION REPORT FOR EXPLORATION DRILLING

This report must be prepared by the owner in all detail and filed with the Department within 30 days following completion of the well drilling project.

1. Owner: Santa Cruz Joint Venture  
 Address: P.O. Box 5747 | Tucson | Arizona | 85703  
Name City State Zip
2. Lessee or Operator: ASARCO Incorporated  
 Address: P.O. Box 5747 | Tucson | Arizona | 85703  
Name City State Zip
3. Driller: Cissell Drilling Co.  
 Address: P.O. Box 1048 | Casa Grande | Arizona | 85222  
Name City State Zip
4. Location: 6S | 4E | 12 | SW | SW | NE | WELL REGISTRATION NO. 55-528346  
Township Range Section 1/4 1/4 1/4 (A REQUIREMENT)

DESCRIPTION OF WELL

5. Type of Casing (if installed): None
6. Abandonment method and material used if abandoned: Back filled with rotary cuttings up to a 20' depth and cemented from a depth of 20' to the surface.
7. Construction details if completed for monitoring purposes, re-entry or conversion to water wells: \_\_\_\_\_
8. Date or period drilled: June 1990

LOG OF WELL

- Unconsolidated Formation
- Consolidated Formation
- Depth to water in feet below land surface: \_\_\_\_\_  
 (if encountered or detected)

DO NOT WRITE IN THIS SPACE	
OFFICE RECORD	
Registration No. <u>55-528346</u>	
Received _____	By _____
Entered _____	By _____
File No <u>D(6-4)12acc</u>	

I state that this report is filed in compliance with A.R.S. § 45-600 and is complete and correct to the best of my knowledge and belief.

H. G. Kreis | 6-30-1990  
Owner's Signature Henry G. Kreis Date  
For ASARCO Incorporated

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue  
Phoenix, Arizona 85007

NOTICE OF ABANDONMENT

A.R.S. §45-594; R12-15-816(E): The owner or operator of the well shall notify the Department, in writing, no later than thirty days after the abandonment has been completed.

1. Well location:

Township 6S  
Range 4E  
Section 12  
SW 1/4 SW 1/4 NE 1/4  
(10 acre subdivision)  
County Pinal

2. Owner of the well:

Santa Cruz J.V.  
Name  
P.O. Box 5747  
Address  
Tucson AZ 85703  
City State Zip

3. Owner of the land:

Santa Cruz J.V.  
Name  
P.O. Box 5747  
Address  
Tucson AZ 85703  
City State Zip

4. Well Description:

Depth of hole 175'  
Diameter of hole 5"

Type of Casing None

Well Registration Number 55-528346

6. Prior to abandonment, did the well penetrate any waterbearing layers?  
Yes \_\_\_\_\_ No X

7. Prior to abandonment, did the well have 20' of steel surface casing and 20' of grout in the annular space surrounding the surface casing.  
Yes \_\_\_\_\_ No X

8. If the answer to No. 7 is no, was the top 20' of casing removed prior to setting the cement plug?  
Yes X No \_\_\_\_\_

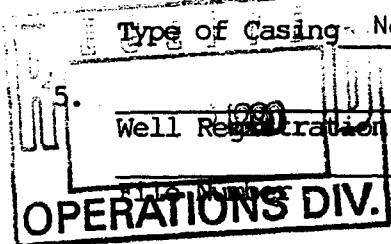
9. Was the well filled with cuttings or other non-toxic material prior to setting the cement plug?  
Yes X No \_\_\_\_\_

10. If the answer to No. 9 is yes, what material was used to fill the well?  
drill hole cuttings.

11. How deep does the cement plug extend below land surface?  
20' or more.

12. Was the well backfilled above the cement plug?  
Yes X No \_\_\_\_\_

13. 6-30-1990  
Date Abandonment Complete



I state that this Notice is filed in compliance with A.R.S. §45-594; R12-15-816(E), and is complete and correct to the best of my knowledge and belief.

6-30-1990

DATE

[Signature]  
SIGNATURE



STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007

PROJECT COMPLETION REPORT FOR EXPLORATION DRILLING

This report must be prepared by the owner in all detail and filed with the Department within 30 days following completion of the well drilling project.

1. Owner: Santa Cruz Joint Venture  
 Name \_\_\_\_\_  
 Address: P.O. Box 5747 | Tucson | Arizona | 85703  
 Street | City | State | Zip

2. Lessee or Operator: ASARCO Incorporated  
 Name \_\_\_\_\_  
 Address: P.O. Box 5747 | Tucson | Arizona | 85703  
 Street | City | State | Zip

3. Driller: Cissell Drilling Co.  
 Name \_\_\_\_\_  
 Address: P.O. Box 1048 | Casa Grande | Arizona | 85222  
 Street | City | State | Zip

4. Location: 6S | 4E | 23 | NE | NE | NW | WELL REGISTRATION NO. 55-528347  
 Township | Range | Section | 1/4 | 1/4 | 1/4 | (A REQUIREMENT)

DESCRIPTION OF WELL

5. Type of Casing (if installed): 20' steel casing.

6. Abandonment method and material used if abandoned: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

7. Construction details if completed for monitoring purposes, re-entry or conversion to water wells: The annulus between the casing and the well bore is cemented from  
20' to the surface. A steel cap was welded on top of the 20'  
steel casing.

8. Date or period drilled: June 1990

LOG OF WELL

Unconsolidated Formation  
 Consolidated Formation  
 Depth to water in feet below land surface: \_\_\_\_\_  
 (if encountered or detected)

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
Registration No <u>55-528347</u>	
Received _____	By _____
Entered _____	By _____
File No. <u>D(6-4)23baa</u>	

I state that this report is filed in compliance with A.R.S. § 45-600 and is complete and correct to the best of my knowledge and belief.

H. G. Kreis | 6-30-1990  
 Owner's Signature | Date  
 Henry G. Kreis  
 For ASARCO Incorporated

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007

PROJECT COMPLETION REPORT FOR EXPLORATION DRILLING

This report must be prepared by the owner in all detail and filed with the Department within 30 days following completion of the well drilling project.

1. Owner: Santa Cruz Joint Venture  
Name \_\_\_\_\_  
Address: P.O. Box 5747 | Tucson | Arizona | 85703  
Street | City | State | Zip
2. Lessee or Operator: ASARCO Incorporated  
Name \_\_\_\_\_  
Address: P.O. Box 5747 | Tucson | Arizona | 85703  
Street | City | State | Zip
3. Driller: Cissell Drilling Co.  
Name \_\_\_\_\_  
Address: P.O. Box 1048 | Casa Grande | Arizona | 85222  
Street | City | State | Zip
4. Location: 6S | 4E | 24 | NW | NW | NW | WELL REGISTRATION NO. 55-528348  
Township | Range | Section |  $\frac{1}{4}$  |  $\frac{1}{4}$  |  $\frac{1}{4}$  | (A REQUIREMENT)

DESCRIPTION OF WELL

5. Type of Casing (if installed): None
6. Abandonment method and material used if abandoned: Back filled with rotary cuttings up to a 20' depth and cemented from a depth of 20' to the surface.
7. Construction details if completed for monitoring purposes, re-entry or conversion to water wells: \_\_\_\_\_
8. Date or period drilled: June 1990

LOG OF WELL

- Unconsolidated Formation
- Consolidated Formation
- Depth to water in feet below land surface: \_\_\_\_\_  
(if encountered or detected)

DO NOT WRITE IN THIS SPACE	
OFFICE RECORD	
Registration No. <u>55-528348</u>	
Received _____	By _____
Entered _____	By _____
File No. <u>D(6-4)24bbb</u>	

I state that this report is filed in compliance with A.R.S. § 45-600 and is complete and correct to the best of my knowledge and belief.

Owner's Signature Henry G. Kreis | 6-30-1990 Date  
For ASARCO Incorporated

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue  
Phoenix, Arizona 85007

NOTICE OF ABANDONMENT

A.R.S. §45-594; R12-15-816(E): The owner or operator of the well shall notify the Department, in writing, no later than thirty days after the abandonment has been completed.

1. Well location:

Township 6S

Range 4E

Section 24

NW 1/4 NW 1/4 NW 1/4  
(10 acre subdivision)

County Pinal

2. Owner of the well:

Santa Cruz J.V.

Name  
P.O. Box 5747

Address  
Tucson AZ 85703

City State Zip

3. Owner of the land:

Santa Cruz J.V.

Name  
P.O. Box 5747

Address  
Tucson AZ 85703

City State Zip

4. Well Description:

Depth of hole 170'

Diameter of hole 5"

Type of Casing None

Well Registration Number  
55-528348

6. Prior to abandonment, did the well penetrate any waterbearing layers?  
Yes \_\_\_\_\_ No X

7. Prior to abandonment, did the well have 20' of steel surface casing and 20' of grout in the annular space surrounding the surface casing.  
Yes \_\_\_\_\_ No X

8. If the answer to No. 7 is no, was the top 20' of casing removed prior to setting the cement plug?  
Yes X No \_\_\_\_\_

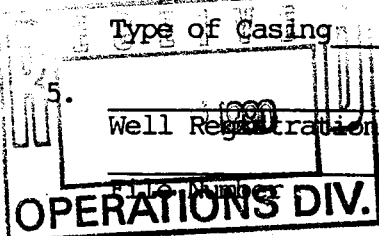
9. Was the well filled with cuttings or other non-toxic material prior to setting the cement plug?  
Yes X No \_\_\_\_\_

10. If the answer to No. 9 is yes, what material was used to fill the well?  
drill hole cuttings.

11. How deep does the cement plug extend below land surface?  
20' or more

12. Was the well backfilled above the cement plug?  
Yes X No \_\_\_\_\_

13. 6-30-1990  
Date Abandonment Complete



I state that this Notice is filed in compliance with A.R.S. §45-594: R12-15-816(E), and is complete and correct to the best of my knowledge and belief.

6/30/1990  
DATE

H.O. [Signature]  
SIGNATURE

JDS

ASARCO SANTA CRUZ INC.  
P. O. Box 5747  
Tucson, Arizona 85703

July 13, 1990

FREEPORT Mining Company  
P. O. Box 61520  
New Orleans, LA 70161

Attention: R. J. Hickson

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977, we charge you as follows for June 1990:

Our E. A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Salaries	623.38	
Employee Overhead	168.00	
Field Services & Supplies	871.78	
Travel Expense	502.13	
Legal Fees	400.11	
Pinal County Sheriff's Report	<u>7.50</u>	2,622.90

Our E. A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	<u>50.00</u>
		<u>2,672.90</u>

1/2 to Freeport-McMoran	1,336.45
Balance brought forward	20,506.99
Payment received from Freeport-McMoran (7/13/90)	(20,506.99)
In Situ Leach Project June charges	<u>18,369.05</u>

Balance due \$ 19,705.50

cc: Controller/Att: EJFranko  
JDSell  
Freeport Mining Co.  
File

ASARCO Incorporated

JUL 13 1990

SW EXP/10000

FROM: W. L. KURTZ

7/19/90

TO: H. E. Kreis

J. D. Sell

Kreis needs to be in  
New Orleans to attend the  
SCSIL meeting which I think  
(PLB knows date or Al Rashid?)  
is day after Mining Congress. (Sept 23-26)

Kreis should make his own  
reservations and attend Mining  
Congress if he wants.

Kurtz does not plan to attend. Brown  
will have my proxy.

FROM: W. L. KURTZ

7/20/90

TO: WNG

Santa Cruz

Like to have an  
address lot map (those  
lots not covered by Texaco or  
SCSY) for "CP" area to  
send to Freeport at end  
of month.

cc JDS  
DTGK

ASARCO Incorporated

July 23, 1990

JUL 23 1990

SW Exploration

Mr. W. L. Kurtz, Manager  
Western USA Division  
Exploration Department  
TUCSON OFFICE

Santa Cruz Joint Venture  
Operating Committee

Attached for your files is one fully executed copy of the minutes of the Santa Cruz Joint Venture Operating Committee meeting held on May 31, 1990.

A. R. Raihl

ARR:brw

Attachment

cc:	R. L. Brown	w/att.
	F. T. Graybeal	"
	J. D. Sell	"
	H. G. Kreis	"
	G. H. Myers	"

**SANTA CRUZ JOINT VENTURE  
OPERATING COMMITTEE MEETING  
MAY 31, 1990**

---

A meeting of the Santa Cruz Joint Venture Operating Committee was convened on Thursday, May 31, 1990, at 3:40 p.m. at the ASARCO Incorporated offices located at 1150 N. 7th Avenue, Tucson, Arizona 85705. Present at the meeting were the following, constituting a quorum:

ASARCO Santa Cruz, Inc.

W. L. Kurtz, Tucson, AZ  
A. R. Raihl, Tucson, AZ

Freeport Copper Company

R. J. Hickson, New Orleans, LA  
W. E. McCulloch, Jr., New Orleans, LA

Mr. McCulloch, Alternate Member, had full voting rights in the absence of Mr. S. D. Van Nort. Also present at the meeting were Messrs. R. L. Brown and H. G. Kreis, both of Asarco. Mr. Raihl chaired the meeting.

NEW BUSINESS

In respect to the Santa Cruz In Situ Copper Mining Research Project (Project), Mr. McCulloch proposed the following resolution:

"Any decision by the Joint Venture to proceed with any phase of the construction of the SX/EW pilot plant and/or to inject and recover acidic solutions shall be approved in advance by the management of ASARCO Santa Cruz, Inc. and Freeport Copper Company."

Mr. Raihl requested a definition of "...approved...by the management..." It was resolved that the above would be defined as approval in writing by an officer of each of the respective companies.

Mr. McCulloch's proposal and the definition proposal were seconded by Mr. Raihl and unanimously approved by the Committee.

Mr. Raihl proposed that Phase 3 of the Project be funded in the amount of \$2,442,667. This amount is in addition to the previously approved funding of \$805,000 for Phases 1 and 2 of the Project. This proposal was seconded by Mr. McCulloch and unanimously approved by the Committee.

Mr. Raihl proposed that the cost overrun amounting to \$9,354.03 for the briefing held on January 4 and 5, 1990, for members of Congress, Congressional staff and others be approved for payment by the Joint Venture. This proposal was seconded by Mr. McCulloch and unanimously approved by the Committee.



It was proposed that the cost of the video being produced to explain the Project be limited to \$30,000, but only if a satisfactory video could be produced for that amount. If a satisfactory video could not be produced for \$30,000, production would be stopped. This proposal was seconded by Mr. Kurtz and unanimously approved by the Committee.

Mr. Kurtz proposed a budget for the Santa Cruz Project for items unrelated to the Santa Cruz In Situ Copper Mining Research Project for calendar year 1990 in the amount of \$225,000. A copy of the proposed budget is attached and is incorporated in the Meeting minutes. Mr. Kurtz' proposal was seconded by Mr. Raihl and unanimously approved by the Committee.

No other new business was proposed to the Committee.

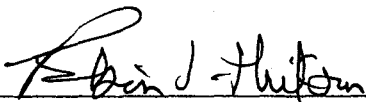
CLOSING


Upon motion duly made and seconded the meeting was adjourned at 4:00 p.m.

Submitted by: A. R. Raihl

Minutes approved as complete and correct:

  
\_\_\_\_\_  
W. L. Kurtz

  
\_\_\_\_\_  
R. J. Hickson

  
\_\_\_\_\_  
A. R. Raihl

  
\_\_\_\_\_  
W. E. McCulloch, Jr.

June 1, 1990

A.R. Raihl

Proposed 1990 SCJV  
Operating Budget  
Exclusive of USBM  
Research Program

The following items were proposed for approval by The Operating Committee at the meeting on May 31, 1990.

Property Taxes	\$100,000
Assessment Work	6,000
Land Payments & Assessment	53,000
Misc.-well capping, environ- mental studies & clean-up, core logging	25,000
Legal	<u>40,000</u>
	\$224,000
Say	\$225,000

WLK:mek

  
W.L. Kurtz

Mary: Not necessary to type

7/24/90

W.D. Gay  
Tucson Office

Santa Cruz

1] I am correct that our purchase of "Simmons-Texas"  
did not burden us with any lot obligation to owners in  
T (1,2,3) re. water, sewer etc.

2] If we were to purchase the Texas "CP" area  
will we then be burdened with any water, sewer  
obligations to anyone in the Santa Cruz area

3] Did we ever send Freeport a copy of the  
Cinnaron Land Use Plan? If not please obtain copy  
of Santa Cruz area (all SCSY land; Hanna-Texas; Texas)

cc. J.D. Sell  
H.G. Kreis

JDS

APKER, APKER, HAGGARD & KURTZ, P.C.  
P. O. Box 10280  
Phoenix, Arizona 85064-0280  
(602) 381-0085

ASARCO Incorporated

OCT 3 1990

SW Expiration

ASARCO Santa Cruz  
c/o Mr. George H. Myers  
P. O. Box 5747  
Tucson, AZ 85703-0747

August 1, 1990  
Page 1  
Client: 111-6  
Matter: 1

*SANTA CRUZ*

Matter: ~~In-Situ Leach~~ Project

Date	Professional Services Rendered		
07/02/90	Travel to Florence; conference with County Assessor re real estate assessments; conference with Pinal County Planning and Zoning; telephone conferences with Mr. Gay's office; travel to Phoenix; telephone conference with Mr. Gay.		
07/03/90	Prepare correspondence to Mr. Gay; conference at Lawyers Title re title records.		
07/13/90	Telephone conference with Mr. Montgomery and Mr. Sanders; review telecopy from Mr. Sanders.		
07/20/90	Conference with Pinal County Assessor; telephone conference with Mr. Gay's office; conference at Lawyers Title.		
07/23/90	Telephone conference with Mr. Gay.		
07/24/90	Review correspondence from Producers Cotton Oil.		
07/26/90	Conference at Lawyers Title; telephone conference with Mr. Gay; telecopy to Mr. Gay.		
		Total Services	1,344.00
Disbursements			
07/31/90	Travel expenses	15.08	
	Travel to Florence on 7/2/90.		
	Long distance telephone	1.18	
		-----	
	Total Disbursements		16.26
		Current Charges	1,360.26

**COPY**

*Per GHA 75-12*

# ASARCO

Exploration Department  
Southwestern United States Division

August 27, 1990

Mr. Walter E. McCulloch, Jr.  
Freeport Mining Company  
P.O. Box 61520  
New Orleans, Louisiana 70161

Dear Walt:

Enclosed is a copy of a Transamerica title report for Desert Carmel.  
This title report is dated October 23, 1989 and numbered 64038587.

Sincerely,



Henry G. Kreis

HGK:mek  
Enc.

cc: W.L. Kurtz  
J.D. Sell

August 31, 1990

FILE NOTE

1989-1990 Assessment Year  
Santa Cruz Project  
Pinal County, Arizona

For the record, on June 6, 7 & 8, the following work and improvements were done and performed as follows:

1. Drilling

Cissell Drilling Co.  
P.O. Box 1048  
Casa Grande, AZ 85222                      \$5,630.00

2. Supervision

H. G. Kreis

Total Claims:

NIK Claims	46
CHAVO Claims	<u>9</u>
<u>Total</u>	<u>55</u>

WDG:mek

*William D. Gay*  
William D. Gay

cc: W.L. Kurtz  
J.D. Sell  
H.G. Kreis

APKER, APKER, HAGGARD & KURTZ, P.C.  
P. O. Box 10280  
Phoenix, Arizona 85064-0280  
(602) 381-0085

ASARCO Santa Cruz  
c/o Mr. George H. Myers  
P. O. Box 5747  
Tucson, AZ 85703-0747

September 1, 1990  
Page 1  
Client: 111-6  
Matter: 1

Matter: In Situ Leach Project

Date	Professional Services Rendered		
08/02/90	Telephone conference with Mr. Standridge, Producers Cotton Oil; telephone conference with Mr. Gay's office.		
08/06/90	Telephone conference with Mr. Gay; telephone conference with Mr. Gay.		
08/10/90	Conference with Mr. Gay re various lot titles; and Cimarron Ranch plan; conference at First American Title in Casa Grande re Lot T249; travel to Phoenix.		
08/11/90	Prepare correspondence to Mr. Grossman.		
08/13/90	Telephone conference with Mr. Gay.		
08/15/90	Telephone conference with Attorney Fitzgibbons; telephone conference with Mahoney Group re rental values.		
08/16/90	Telephone conference with Mr. Kehias; telephone conference with Mr. Gay.		
08/17/90	Telephone conference with Mr. Gay.		
		Total Services	1,050.00
		Disbursements	
08/14/90	Travel expenses	25.87	
	Travel to Casa Grande on 8/10/90.		
	Long distance telephone	5.07	
		-----	
		Total Disbursements	30.94
		Current Charges	1,080.94

~~Nov.~~ NOV. 1990  
chg.

87-  
25-12  
620-753

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

September 4, 1990

Ms. Kathleen C. Felix  
Pinal County Recorder  
P.O. Box 848  
Florence, AZ 85232

Affidavit of Labor  
Santa Cruz Project  
Pinal County, Arizona

Dear Ms. Felix:

Enclosed is Asarco's check of \$14.00 as the recording fee for the attached Affidavit of Labor for the following unpatented lode claims:

<u>Claim Names</u>	<u>No. of Pages</u>	<u>Fee</u>
NIK-1 thru 41 and NIK-50 thru 54	2	\$14.00
CHAVO-42 thru 49 and CHAVO 50		

Also enclosed is a return, stamped envelope.

Very truly yours,

*William D. Gay*  
William D. Gay  
Land Engineer, SWED

WDG:mek  
encs.

cc: J.D. Sell  
C.L. Snow  
H.G. Kreis



AFFIDAVIT OF LABOR PERFORMED  
AND IMPROVEMENTS MADE

STATE OF ARIZONA    )  
                          ) ss  
County of Pima        )

William D. Gay, being first duly sworn, deposes and says that he is a citizen of the United States and more than twenty-one (21) years of age, and resides in Tucson, County of Pima, State of Arizona, and is personally acquainted with the mining claims situated in Pinal County, Arizona, the names and books and pages of record in the office of the County Recorder of Pinal County, Arizona, and the Bureau of Land Management serial number of the Notices of Location whereof are as follows:

<u>Name of claim</u>	<u>Recording Data</u>		<u>Serial No.</u>
	<u>Book</u>	<u>Page</u>	
NIK #1 thru #41	761	127 thru 167	AMC 47329 thru 47369
NIK #50 thru #54	761	176 thru 180	AMC 47370 thru 47374
CHAVO #42 thru #49	785	415 thru 422	AMC 47320 thru 47327
CHAVO #55	785	414	AMC 47328

All claims are located in sections 12, 23 and 24 of Township 6 South, Range 4 East, GSRM.

That all of said mining claims are owned by Santa Cruz Joint Venture, the mailing address for which is P.O. Box 5747, Tucson, Arizona 85703; that between June 1, 1990 and June 15, 1990, in excess of \$5,500 worth of work and improvements were done and performed for the benefit of the aforementioned claims. Work and improvements consisted of drilling performed by Cissell Drilling Co., P.O. Box 1048, Casa Grande, Arizona 85222.

Said labor was performed and improvements made at the expense of Santa Cruz Joint Venture for the benefit of each and all of said mining claims

comprising said contiguous groups as part of a general plan of exploration, improvements and development, and they tend to explore, improve and develop each and all of said mining claims. The amount expended for and the value of said labor and improvements is more than One Hundred Dollars (\$100.00) for each of the mining claims and at least said amount was allocated to each of the mining claims. Said expenditure was made in good faith for the purpose of exploring, improving and developing said contiguous groups of mining claims, and was intended as annual labor and improvements for each and all of the above-described unpatented lode(placer) mining claims for the assessment year ending at 12:00 o'clock Meridian, September 1, 1990.

ASARCO Incorporated

By William D. Gay  
Agent

STATE OF ARIZONA )  
                          ) ss  
County of Pima     )

On the 31st day of August, 1990, personally appeared before me William D. Gay, Land Engineer, SWED, ASARCO Incorporated, the signer of the above instrument who duly acknowledged to me that he executed the same.

Kathleen L. Krugan  
Notary Public

My Commission Expires:

~~My Commission Expires July 4, 1992~~

# ASARCO

Exploration Department  
Southwestern United States Division

September 6, 1990

Mr. Burton M. Apker  
Apker, Apker, Haggard, & Kurtz, P.C.  
P.O. Box 10280  
Phoenix, AZ 85064-0280

Santa Cruz Joint Venture  
Division of F-Lots  
With The Simmons Co.

Dear Mr. Apker:

Reference is made to your letter to me of September 4, 1990 in which you wanted my reaction to Grossman's comments about Desert Carmel F-lots 451 and 540.

Visually, it appears both lots do have a greater area east of the N-S centerline of the Northwest quarter. This does not seem important, because the lots are less than 0.2 acres each and also the centerline is approximate.

Very truly yours,

WDG:mek

*William D. Gay*  
William D. Gay

cc: W.L. Kurtz  
J.D. Sell

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

*Santa Cruz*

RECEIPT AND ACCOUNTING ADVICE

NO. 1642011 04

Subject: AFFIDAVIT OF LABOR (55) 2 7 12 07/92 05/21/90 075.00

Applicant:  
SANTA CRUZ JOINT VENTURE  
P.O. BOX 5717  
TUCSON, AZ 85703

Remitter: ASARCO CK #03816  
602/792-3010

Assignor:

SERIAL NO.
AMC 47320-47374

REFER TO THE ABOVE CASE SERIAL NUMBER IN ALL CORRESPONDENCE. PLEASE INFORM THIS OFFICE OF ANY CHANGE IN ADDRESS.

NOTE: This notice is a receipt for monies paid the United States. If these monies are for required fees in connection with your application to lease, purchase, enter, or otherwise acquire an interest in public lands or resources, this receipt is not an authorization to utilize the land applied for and it does not convey any right, title, or interest in the land for which application is made.

cc: R.L. Brown  
P. Donato, Contract Files NY  
C.L. Snow  
W.D. Gay  
J.D. Sell

ASARCO Incorporated

SEP 25 1990

SW Exploration

*Ack*

*Bof*

\*\*\*ATTENTION\*\*\*

PLEASE RETAIN, THIS IS YOUR OFFICIAL ACKNOWLEDGEMENT OF RECEIPT FROM BLM

In an effort to expedite the acknowledgement procedure, we have time-stamped and photocopied what was submitted to this office. This DOES NOT mean it has been reviewed or processed, only that it was received.

As a reminder, if you have elected to file a notice of intention to hold, do not forget to record such notices of intention to hold for lode and placer claims (not mill or tunnel site) and all affidavits of labor, amendments and transfers of ownership with the proper county recorder.

Always include the A MC serial numbers assigned to each of your claims when filing affidavits and other documents. For large groups of mining claims, it would help us a great deal to process them if you would list them in serial number order consecutively. Also, please keep us advised as to your current mailing address.

Bureau of Land Management  
Arizona State Office  
Branch of Mining  
Law Administration  
3707 North 7th Street  
Phoenix, Arizona 85014  
Phone: (602) 241-5550

Mailing Address:  
Bureau of Land Management  
Arizona State Office  
Branch of Mining  
Law Administration  
P.O. Box 16563  
Phoenix, Arizona 85011

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

September 19, 1990

State Director  
Bureau of Land Management  
U.S. Department of the Interior  
P.O. Box 16563  
Phoenix, AZ 85011

Mining Claim Annual Recordation  
Santa Cruz Project  
Pinal County, Arizona  
NIK & CHAVO Claims (55)  
AMC 47320 thru 47374

Dear Sir:

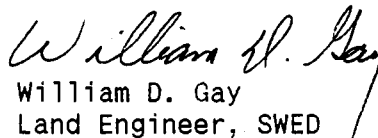
In accordance with the Federal Land Policy and Management Act (43 CFR, Part 3833.1), enclosed is an exact reproduction of the affidavit of assessment work, with mining claims serial numbers, as recorded in the Pinal County Recorder's office in Book 1697, Pages 065 & 066, for the assessment year ending September 1, 1990.

Also enclosed is Asarco's check for \$275.00 in payment of service charge of \$5 for each claim (55 claims).

Please return acknowledgment in the enclosed, stamped envelope.

Very truly yours,

WDG:mek  
enc.

  
William D. Gay  
Land Engineer, SWED

cc: R.L. Brown (w/enc.)  
P. Donato, Contract Files NY (w/enc.)  
J.D. Sell (w/enc.)  
C.L. Snow (w/o enc.)

1697-065



OFFICIAL RECORDS OF  
PINAL COUNTY RECORDER  
KATHLEEN C. FELIX

DATE: 06SEP90 TIME: 1000  
FEE: \$5.00 \$4.00 \$5.00  
PAGES: 002  
DOCKET: 1697 PAGE: 065  
INSTRUMENT # 987628

AFFIDAVIT OF LABOR PERFORMED  
AND IMPROVEMENTS MADE

RECEIVED  
B.L.M. AZ STATE OFFICE  
SEP 21 1990  
9:45 A.M.  
TUCSON, ARIZONA

STATE OF ARIZONA )  
County of Pima ) ss

William D. Gay, being first duly sworn, deposes and says that he is a citizen of the United States and more than twenty-one (21) years of age, and resides in Tucson, County of Pima, State of Arizona, and is personally acquainted with the mining claims situated in Pinal County, Arizona, the names and books and pages of record in the office of the County Recorder of Pinal County, Arizona, and the Bureau of Land Management serial number of the Notices of Location whereof are as follows:

<u>Name of claim</u>	<u>Recording Data</u>		<u>Serial No.</u>
	<u>Book</u>	<u>Page</u>	
NIK #1 thru #41	761	127 thru 167	AMC 47329 thru 47369
NIK #50 thru #54	761	176 thru 180	AMC 47370 thru 47374
CHAVO #42 thru #49	785	415 thru 422	AMC 47320 thru 47327
CHAVO #55	785	414	AMC 47328

All claims are located in sections 12, 23 and 24 of Township 6 South, Range 4 East, GSRM.

That all of said mining claims are owned by Santa Cruz Joint Venture, the mailing address for which is P.O. Box 5747, Tucson, Arizona 85703; that between June 1, 1990 and June 15, 1990, in excess of \$5,500 worth of work and improvements were done and performed for the benefit of the aforementioned claims. Work and improvements consisted of drilling performed by Cissell Drilling Co., P.O. Box 1048, Casa Grande, Arizona 85222.

Said labor was performed and improvements made at the expense of Santa Cruz Joint Venture for the benefit of each and all of said mining claims





October 10, 1990

FILES

Presentation Outline  
SCJV Meeting, New Orleans  
Sept. 27, 1990

Attached for the record is a rough draft outline used in my presentation to Freeport-McMoRan at the S.C.J.V. meeting in New Orleans on September 27, 1990. The presentation covered the Santa Cruz Project and the Santa Cruz In Situ Leach Project.

Those in attendance at the meeting were: Milt Ward, George Mealey, Walt McCulloch, Steve Van Nort, Wade Sanders, Al Raihl, Charlie Barter, and Hank Kreis.

HGK:mek  
Att.

  
H.G. Kreis

cc: F.T. Graybeal  
W.L. Kurtz  
J.D. Sell ✓  
A.R. Raihl

SANTA CRUZ PROJECT

- I. Introduction
  - A. Review & Update
  - B. Location
  - C. Aerial view
  
- II. Copper Reserves
  - A. Santa Cruz Deposit
    - 1. Soluble copper reserve
      - a. CuOx-cc
      - b. Geologic mineral inventory
        - (1) 1 billion tons at 0.55% TCU
        - (2) Thicker and higher grade, 350 mm at 0.81% TCU
    - 2. Conventional minable reserve
      - a. Block cave (possibly block cave-in place leach)
      - b. 220 mm at 1.07% Cu, 850' avg thickness, 0.6% Cu cutoff
        - (1) atacamite, chalcocite, chalcopyrite, minor chrysocolla
        - (2) 1,500' to 3,200' deep
      - c. 50 mm at 1.41% Cu
        - (1) atacamite
        - (2) 820' thick
  - B. Peripheral Lands
    - 1. 50-100 mm tons at 1.12% Cu and 0.01% Mo
    - 2. chalcocite, 2,300'-3,300' deep
  - C. Potential Reserves
    - 1. N/2 Desert Carmel
      - a. 100-500 mm tons 1%+, chalcocite, cpy
    - 2. bornite fragment in bxa. 1-3% Cu, large tonnage
    - 3. deep primary *under NW Reserve*
      - a. 800' at 0.56%
      - b. 100-500 mm tons at 0.6-0.8% Cu

III. Land Status

- A. Present SCJV holdings
  - 1. 5,500 acres
  - 2. Simons option expired
  - 3. Cyprus. 40% int. in 300 acres
  - 4. Lots in Desert Carmel: 33 in N/2, 103 S/2
  - 5. Agricultural lease
- B. Land values
  - 1. July 1990 Patch appraised
    - a. Land at 1979-1980 values
      - (1) tax law changes, savings and loan crisis
    - b. Industrial by R.R., \$800-1,200/acre
    - c. Farm land, \$800-1,300/acre
    - d. Desert land, \$200-500/acre
    - e. 1988, SCJV, 2,400 acres, \$14mm, \$5,800/acre
- C. Available land
  - 1. Texaco, N/2 Desert Carmel
    - a. 1,100 acres (paid \$9.7mm, 1,400 acres, \$7,100/acre, 1984)
    - b. 33 AF lots ( $\pm 30$  acres) and  $\pm 50$  other private lots ( $\pm 30$  acres)
    - c. ~~33 AF lots ( $\pm 30$  acres) (too high, worth \$34,000/acre)~~
    - d. obligations, none
    - e. October meeting
  - 2. Hanna-Texaco land
    - a. 3,600 acres
    - b. some farm land
- D. Simmons land
  - 1.  $\pm 500$  acres
  - 2. No negotiating
  - 3. Wanted for core shed, buffer, mineral
- E. Cyprus (40%, 300 acres)
  - 1. asking \$100,000
  - 2. not interested

IV. Expenditures to date

- A. By end 1988, \$19.8mm including H-G acquisition (\$14mm)
- B. Since 1988 dominantly in situ costs

V. Objective of Research Project

- A. Determine operating costs (& capital costs)
  - 1. Details later in talk
- B. Obtain environment permits
  - 1. SCJV permittee
    - a. Apply for permits
  - 2. Data gathering & permitting costs
    - a. Part of Cooperative Agreement
- C. To achieve objectives
  - 1. Program divided into five phases
  - 2. Scheduled and budgeted
  - 3. Subject to changes in budgeting and permitting

VI. Five Phases of Program

- A. Phases 1 and 2
  - 1. Complete all drill holes, presently here
  - 2. Generic manual, in situ leaching (pre Phase 1)
  - 3. Tracer test, to be explained
- B. Phase 3
  - 1. Obtain permits
  - 2. Construct SX-EW plant
- C. Phase 4
  - 1. Operate in situ leach test
- D. Phase 5
  - 1. Decommission site
  - 2. Evaluate results
- E. Total Cost
  - 1. \$21 million through completion Phase 5

VII. Field Test

- A. Method, design
  - 1. Plan view
    - a. 5 wells; 4 in square, 1 in center
    - b. 90' inject. to recov.
  - 2. Cross section
    - a. Wells
    - b. Geology
      - (1) rock types
      - (2) aquifer
      - (3) upper chrysocolla, 0.6% Cu (avg.)
      - (4) lower in high grade atacamite, locally up to 2% Cu
    - c. Vertical perspective
- B. Well construction
  - 1. Oil field technology and services
  - 2. Details of completed hole
- C. Let's see what we have accomplished and where we go from here.

VIII. Test Site Results to Date

- A. Holes drilled
  - 1. Five test wells, perforated, acidized
  - 2. Four monitor wells
  - 3. Process water well
- B. Physical plant
  - 1. Brine mixing plant
  - 2. Evaporation pond
- C. Test work; ARR will explain details
  - 1. Injection tests with clear water
  - 2. Interpretation of injection test data
  - 3. Pumping test
  - 4. Collected baseline groundwater data
  - 5. Interpreting porosity, permeability from geophysical logs
  - 6. All results to date are encouraging

IX. Future Work, 1990, Complete Phase 2

A. Tracer injection-recovery test

- 1. Important test
  - a. Provide operating info before using acid
  - b. Environmental info
- 2. Mix salt in water
- 3. Inject and recover salt solution
- 4. Evaluate fluid flow and solution recovery
- 5. Sample monitor wells, check for excursions into aquifer
  - a. Excursion not expected, hopefully it won't
  - b. Lack of excursion, ADEQ justification Aquifer Protection Permit

B. Apply for Aquifer Protection Permit

- 1. October 1990
- 2. Will be first in state of Arizona to do so
- 3. Unpredictable period of time for ADEQ to approve

*Covered by C. Barten*

C. USBM, NEPA, Nat. Environ. Policy Act

- 1. Environmental assessment (EA)
  - a. FONSI, find of no significant impact
  - b. Environ. impact statement (EIS)
  - c. Expect a FONSI, after Aquifer Protection Permit

D. Continue public information program

- 1. In effect since start of cooperative agreement
- 2. Briefings, Arizona senators & their aides
- 3. Meetings, state and local politicians
- 4. Meetings, local citizen and industry groups
- 5. Public information brochure and VCR tape
- 6. Everything done, open to public (US Govt.)

E. If 1990 work results favorable

- 1. Will have obtained Aquifer Protection Permit and satisfy NEPA requirements (hopefully with FONSI)
- 2. Start construction SX/EW pilot plant

*Not presented by H.K.*

X. Construct SX-EW Pilot Plant, 50 gpm, 3 TPD Cu

- A. Phase 3
- B. One year time

XI. Operate In Situ Leach Test (Phase 4)

- A. 1½ year period
- B. Full-scale leach test with acid
- C. Measure operating parameters (operating cost)
  - 1. Permeability
  - 2. Well communication
  - 3. Sweep efficiency
  - 4. Solution loading (copper grade)
- D. Produce cathode copper from SX-EW plant

XII. Decommission site (Phase 5)

- A. Evaluate results
- B. Publish information

XIII. Conclusion: Still a Research Project

- A. Results to date
  - 1. Encouraging
- B. By end of 1994
  - 1. Completed in situ leach test with acid
  - 2. Know if this in situ technique has commercial potential

## IN SITU

- 2 Blackness
- 3 Title
- 4 Index Map

SANTA CRUZ SLIDES 9-27-90  
\$ MAPS

SCJV  
New Orleans

5 Aerial photo

6 Soluble copper reserves

7 Cross section S.C. Jo - S.E. RESERVE

8 Objectives

9 Phases

10 Test site plan

11 Section of test site

12 Well construction

13 Aerial, test site

14 Test site section

15 Phase of field test (SX-EW plant drawing avail)

16 Operating parameters

17 Blackness

## SCJV

Land MAP

Land use map

Texaco private lots map



# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

October 22, 1990

Mr. O.L. "Van" Tenney  
General Manager  
Maricopa-Stanfield  
Irrigation and Drainage District  
P.O. Box 870  
Stanfield, AZ 85272-0870

Dear Mr. Tenney:

Your letter of October 17, 1990 concerning control of noxious plants and weeds was received by Asarco Santa Cruz, Inc. Your letter does not specifically identify what land you consider to be a problem because of tumbleweeds. Asarco Santa Cruz, Inc. is involved in the ownership of over 5000 acres in your general area. Consequently, Asarco needs a map or land description of the land you consider to be a problem.

Sincerely,



Henry G. Kreis

HGK:mek

cc: W.L. Kurtz  
J.D. Sell  
W.D. Gay

# ASARCO

JDS

Exploration Department

*Santa Cruz*

TELECOPIER

DATE: 10/26/90

TO:

NAME: R. L. BROWN

LOCATION: New York EXPL.

FROM: W L KURTZ TUCSON

SANTA CRUZ

MESSAGE: Bob Conti, Texaco, White Plains NY 914-253-7160 says that need separate offer for the Texaco ground — the "CP" area. He will try to dispose of the ground in November. They, Texaco, spent 1/2 million dollars using a Pittsburgh contractor (OH Materials Corp) to clean up the garbage dump that was on CP property.

I guess I would offer \$500,000 plus a 2% NSR until \$x millions paid. CP area has a 2 1/2% NSR to Desert Carmel and ± 1/2% NSR to Lowell et al.

You will receive 1 page(s) of copy including this sheet.

If you do not receive all pages, please call: 602-792-3010

Ext. 324

FOR Hanna/Texaco the contact is BOB RESS 216-589-4269.  
I will call him and tell him we are formulating an offer.

CC. HGK-JDS

ASARCO Incorporated P.O. Box 5747 Tucson, Az 85703  
1150 North 7th Avenue FAX (602) 792-3934 Phone (602) 792-3010

FROM: W. L. KURTZ

10/31/90

TO: Bill Gray

Taxes  
Santa Cruz

Note Those tax bills for  
Texas "CP" lots only  
#974 how compare with  
our taxes? Let's get ours  
reduced — can acc't  
help. Need reduce our holding  
costs. as I said 6-12 months  
ago!

CC: HOK  
JDS

10/5/90

FROM: W. L. KURTZ

TO: R. L. Brown

Santa Cruz  
MAP

Here is the composite map of level/land cost appraisal  
land use/copper zones.

If the Santa Cruz South orebody is mined by block-  
cave about 2 square miles will be needed for  
plant site and tailings. The present Hanaf-Texas land  
probably provides the best location however tailings + plant  
could fit on existing SCVY land but the tailings  
would have to be placed in several discrete ponds.

Att 2 copies map  
cc. Note only  
HGK  
JDS

# ASARCO

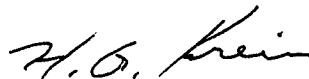
Southwestern Exploration Division

November 7, 1990

Files

Barry Sullivan  
Mt. Isa Mines  
Santa Cruz Project  
Pinal County, AZ

On the morning of November 6th Barry Sullivan, Executive General Manager of Mount Isa Mines Ltd., was given an underground tour of the in situ leach operation at Cyprus Casa Grande. On that tour Mr. Sullivan was accompanied by Mr. A. Raihl, Mr. D. Davidson (SAIC), Mr. S. Swan (USBM), and a Cyprus representative. In the afternoon he was given a presentation and field tour of the Santa Cruz in situ copper mining research project by Mr. Raihl and the undersigned.



H. G. Kreis

HGK:mek

cc: R.L. Brown  
F.T. Graybeal  
W.L. Kurtz  
A.R. Raihl  
J.D. Sell

# ASARCO

Exploration Department  
Southwestern United States Division

November 8, 1990

Mr. Burton M. Apker  
Apker, Apker, Haggard, & Kurtz, P.C.  
P.O. Box 10280  
Phoenix, AZ 85064-0280

Santa Cruz JV

Dear Mr. Apker:


Enclosed is a map showing the land leased by D&M Farms.

As we discussed by telephone today, Dave Clayton wishes to continue to lease only the land owned by Santa Cruz Joint Venture.

Please let me know what your thoughts are to lease only Joint Venture land, after you have reviewed the map.

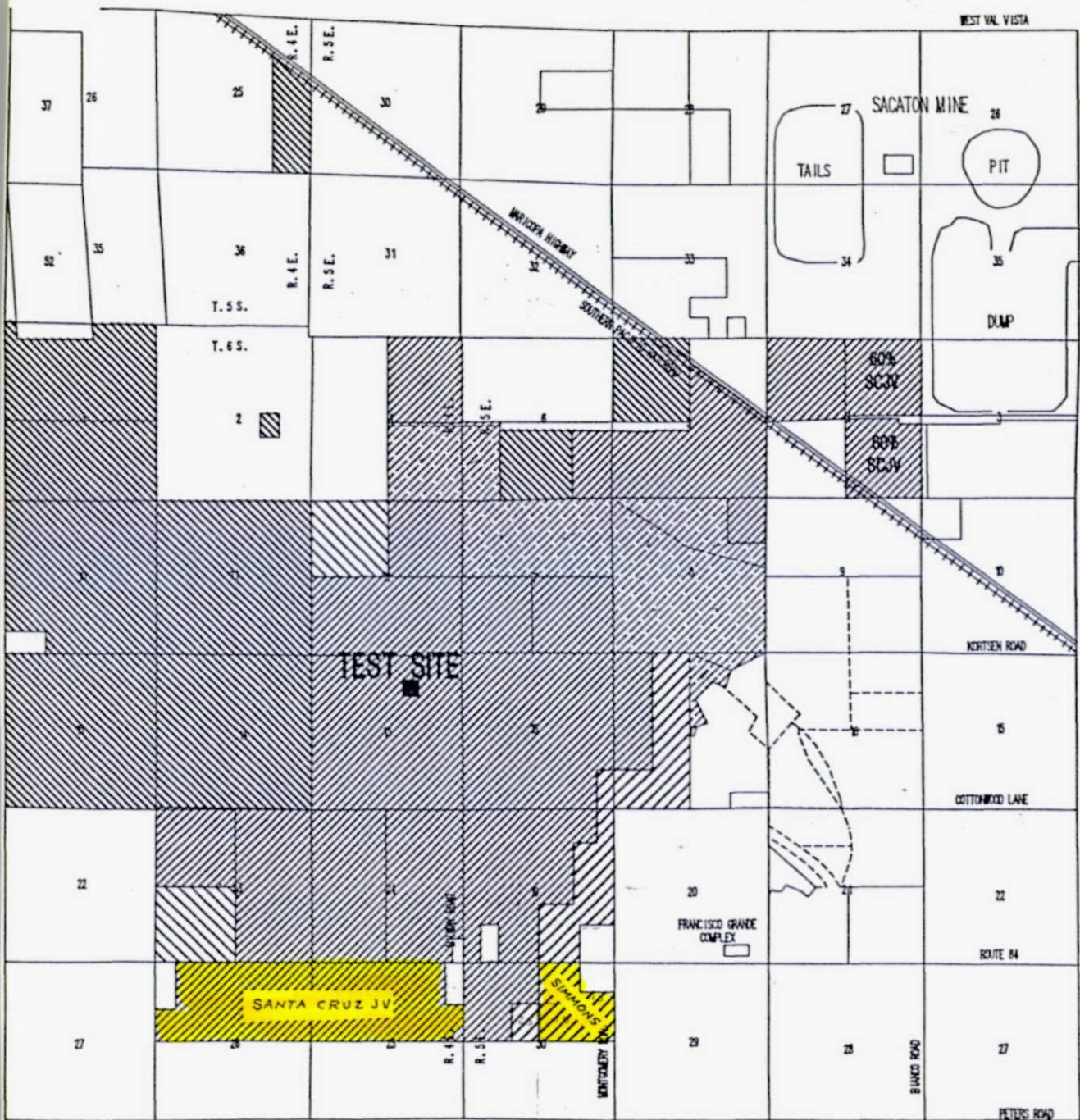
All irrigation water comes from Sections 13, 24 and 26, T6S, R4E.

Sincerely yours,

  
William D. Gay  
Land Engineer, SWED



WDG:mek  
enc.

cc: W.L. Kurtz  
J.D. Sell



EXPLANATION

SANTA CRUZ JOINT VENTURE

-  SURFACE AND MINERAL
-  MINERAL ONLY

HANNA-TEXACO




TEXACO



SIMMONS-DEVCOR



 LAND LEASED BY  
D & M FARMS (D. CLAYTON)  
IN 1990.



SANTA CRUZ  
LAND STATUS  
ARIZONA

1 MILE

en 6525 hgh/dsm for: 3-20-90  
file SC-LANDS.DWG

# ASARCO

JDS  
Southwestern Exploration Division

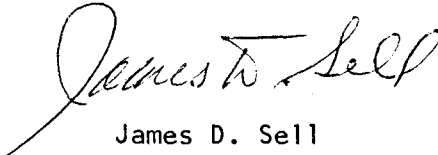
November 15, 1990

H.G. Kreis

Overrun EA-0075  
Santa Cruz  
Pinal County, AZ

As I have stated to you, I need a Supplemental Exploration Authorization request from you to clean up your overrun (October accounting \$51,000), plus what you expect to expend in 1991.

JDS:mek

  
James D. Sell

cc: W.L. Kurtz



November 16, 1990

R.L. Brown  
New York Office

Meeting W. Conti and  
DeVito, Texaco 11/15/90

1. Conti says sale of Hanna/Texaco land to the "Simmons" Farm Partnership was completed. Terms require it to be farmed for three years and thereafter if sold at profit H/T reaps a large part of the profit. This refers only to the 5 sections west of the deposit.

On the land next to our peripheral lands, Simmons has no restrictions.

Price was more than \$500/acre. We will check county records.

2. "CP" Desert Carmel. Texaco not ready for final negotiations. They will get a land appraisal first, but plan to actively and aggressively market the property in January '91. It will have to be a cash sale. Conti mentioned Simmons interested, but Conti does not think Simmons will come up with cash.

I told Conti that our appraiser did not specifically appraise Texaco land, but adjoining Desert Carmel land had a discounted price of \$500/acre. I will get Patch\* to appraise the Texaco ground (hopefully, without going in the field).

Conti said they would listen to any offer, and I think he would like to deal with us and not the Simmons types. My guess is that something greater than \$500,000 but not more than \$1,000,000 plus a capped royalty on production should suffice.

3. I can continue negotiations or else you can deal directly with Conti.

WLK:mek

  
W. L. Kurtz

cc: F.T. Graybeal  
J.D. Sell  
H.G. Kreis  
A.R. Raihl

\*Just talked to Patch and he says as strictly acreage a price between \$550 and \$850 per acre is reasonable.

# ASARCO

JDS  
Southwestern Exploration Division

November 20, 1990

J.D. Sell

Overrun EA-0075  
Santa Cruz Project  
Pinal County, AZ

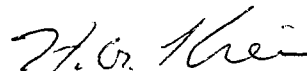
I am working on the Supplemental Exploration Authorization described in your November 15th memo to me. In order for the SEA to be reasonably comprehensive, our planned expenditures for 1991 need to be identified. There are several large 1991 expenditures that are being considered at this time. These include the following:

1. Whether or not the SCJV will participate in the USBM-Industry sulfide in situ leach proposal to the DOE.
2. The possibility of doing water injection tests in a Santa Cruz South drill hole(s) is being considered by Mr. Graybeal.
3. What exactly needs to be done to the old exploration drill holes in the way of providing an acceptable surface seal at the collar. I plan to get some DWR input on this next week when I am in Casa Grande.

Hopefully, by mid December we will know what the plans are for 1991 so we can budget accordingly.

HGK:mek

CC: W.L. Kurtz



H. G. Kreis

December 4, 1990

FILE

Casa Grande Dispatch  
Mayor of Casa Grande  
Santa Cruz Project

On November 30th a presentation and tour of the Santa Cruz In Situ Copper Mining Research Project was given to the following Casa Grande people:

- Donovan Kramer, publisher of the Casa Grande Dispatch
- Karen Walenga, reporter for the Casa Grande Dispatch's Pinal Ways publication
- Jimmie Kerr, Mayor of Casa Grande.

HGK:mek

  
H.G. Kreis

cc: F.T. Graybeal  
A.R. Raihl  
W.L. Kurtz  
J.D. Sell  
W.E. McCulloch - Freeport  
S. Swan - USBM

December 4, 1990

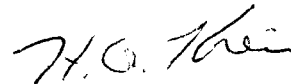
FILE

Sierra Club  
Santa Cruz Project

On November 27th a presentation and tour of the Santa Cruz In Situ Copper Mining Research Project was given to the following members of the Sierra Club:

- Rob Smith, Assistant Southwest Representative, a paid Sierra Club position.
- Terry Nelson, member of the Phoenix Sierra Club.

HGK:mek



H. G. Kreis

cc: F.T. Graybeal  
A.R. Raihl  
W.L. Kurtz  
J.D. Sell  
W.E. McCulloch - Freeport  
S. Swan - USBM

# ASARCO

Southwestern Exploration Division

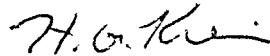
December 4, 1990

A.R. Raihl

Cyprus Casa Grande  
Pinal County, Arizona

At the Arizona Section AIME meeting yesterday, I talked with Cyprus employees George Stephan, Underground Mining Project Manager, and John Wilson, District Geologist. Both of these individuals (and others?) have begun looking at the Cyprus Casa Grande deposit. They are looking for a method to economically extract copper from the copper oxide mineralization. Their focus, at this time, is on in situ leaching.

Both Mr. Stephan and Mr. Wilson expressed an interest in visiting the Santa Cruz in situ leach project. I told them the people at the Cyprus Casa Grande Mine have given us excellent tours, and we would be most happy to give them a tour.



H.G. Kreis

HGK:mek

cc: R.L. Brown  
F.T. Graybeal  
W.L. Kurtz  
J.D. Sell

December 4, 1990

FILES

Polish Mining Group  
Santa Cruz Project

On November 28th a presentation and tour of the Santa Cruz In Situ Copper Mining Research Project was given to the following senior managers of Kombinat Gorniczo-Hutniczy Miedzi (KGHM) and their translators:

- Jan Sadecki - General Director
- Jerzy Markowski - Director of Lubin Mine
- Janusz Lyszczarz - Director of Legnica Smelter
- Marian Krzeminski - Workers Council
- Tom Sikora - Hogan & Hartson
- Beata Jostmeier - LeBoeuf, Lamb, Leiby & MacRae

HGK:mek



H.G. Kreis

cc: F.T. Graybeal  
A.R. Raihl  
W.L. Kurtz  
J.D. Sell

ASARCO SANTA CRUZ INC.  
P. O. BOX 5747  
Tucson, Arizona 85703

December 7, 1990

FREEPORT Mining Company  
P. O. Box 61520  
New Orleans, LA 70161

Attention: R. J. Hickson

SANTA CRUZ PROJECT

In accordance with the Santa Cruz Joint Venture dated July 1, 1977,  
we charge you as follows for November 1990:

Our E.A. No. 0075 - The Lands

General Administrative Charges	\$ 50.00	
Salaries	1,084.13	
Employee Overhead	293.00	
Field Services & Supplies	1,572.48	
Professional Services	(124.59)	
Travel Expense	<u>7.00</u>	
		2,882.02

Our E.A. No. 0087 - Peripheral Lands

General Administrative Charges	50.00	
Legal Fees	<u>1,080.94</u>	<u>1,130.94</u>
		<u>4,012.96</u>

1/2 to Freeport-McMoran	2,006.48
Balance brought forward	52,898.16
Payment received from Freeport-McMoran	(48,386.37)
In Situ Leach Project November charges	<u>30,223.11</u>

Balance Due 36,741.38

cc: Controller/Attn: EJFranko  
JDSell  
Freeport Mining Co.  
File

# ASARCO

Exploration Department  
Southwestern United States Division

December 12, 1990


Mr. David L. Clayton  
D&M Farms  
24978 W. Boone Drive  
Casa Grande, Arizona 85222

Dear Mr. Clayton:

Enclosed are two (2) copies of the agricultural lease for 1991. Please read it over and if you find it satisfactory, please sign and return both copies. We will return a fully signed copy to you.

Very truly yours,

WDG:mek  
enc.

  
William D. Gay  
Land Engineer, SWED

cc: W.L. Kurtz  
J.D. Sell



# ASARCO

Exploration Department  
Southwestern United States Division

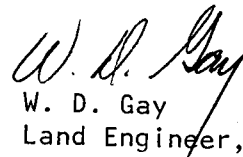
December 12, 1990

Mr. B. M. Apker  
Apker, Apker, Haggard & Kurtz, P.C.  
P.O. Box 10280  
Phoenix, AZ 85064-0280

Dear Mr. Apker:

Enclosed for your information is a copy of the most recent D.C.L.O.A. Newsletter and a map showing the pipeline system from wells in Section 13 to land south of Highway 84, sent to me by Dave Clayton.

Very truly yours,

  
W. D. Gay  
Land Engineer, SWED

WDG:mek

cc: J.D. Sell  
W.L. Kurtz

# D & M FARM

DAVID CLAYTON  
midway

LAUGHLIN & SON

90-91 year  
Crop Rump

valve Clayton Rd #220

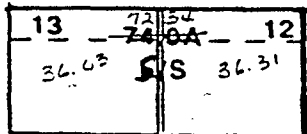
For reference only  
112

ASARCO-FREEPORT

N ↑

T6S R4E SEC. 23

VOR STATION



HIGHWAY 84

SANTA ROSA GIN

9  
36.0A  
S/S  
34.12

SLIMP

7  
32.0A  
S/S  
15.71

4  
68.0A  
S/S  
57.68

75.0A  
S/S  
77.70

MIDWAY GIN

MIDWAY VILLAGE

2  
10.0A  
S/S

1  
Discharge

RUSSELL ROAD

EAST MAIN CANAL

T6S R4E SEC. 26

Discharge  
T6S R4E SEC. 25

MIDWAY ROAD

T6S R5E SEC. 30

MONTGOMERY ROAD

PETERS ROAD

ASCS # 70

GROWER: DAVID CLAYTON  
FIELDMAN: MAX YOUNCE 426-4045  
HELENA 836-7369

720.00 Total  
275.51 Planted s/s

ASARCO-FREEPORT -   
SIMMONS-DEVCOR -

MAP RECEIVED FROM DAVE CLAYTON (11-9-90) SHOWING CONFIGURATION OF PIPE-LINE FROM WELLS IN SEC 13  
W.D.S.

3 inches = 1 mile

Phone: 426-4045

S.W. MINING DEPT.  
DEC 7 1990  
TUCSON

T.E.S.  
DEC 10 1990

D.C.L.O.A. NEWSLETTER

NOVEMBER 1990

1990 ANNUAL MEETING

The 1990 Annual Meeting was held on November 2, 1990. The results of the election can be found attached to this newsletter.

YOUR BOARD OF DIRECTOR OFFICERS ARE:

Frank Trekell, President                      Randy Schafer, Vice President  
Phyllis Wagoner, Assistant Vice President  
Kathy Cook, Secretary                      Arthur Wade, Treasurer

There is one vacancy on the Board of Directors due to a member resigning earlier in the year. The Nominating Committee's recommendations will be considered before the Board votes on a candidate to fill the position.

The complete list of your 1991 DCLOA Board Members will be included in the January newsletter.

FACTS TO REMEMBER!

Many are under the misconception that we are not in control of our own Association. Therefore, many felt it was not necessary to pay their assessments or be able to vote in our past election.

First, the DCLOA is now over 2400 strong with each lot owner having one vote per lot owned. Your Association is the "controlling" power.

Article 6.2, page 16, of our Covenants, Conditions, and Restrictions state: "The Class B membership shall cease and be converted to Class A membership when the total votes outstanding in Class A membership equal the total votes outstanding in the Class B membership."

All of which means in simple terms is D.C. Properties, Inc now has one (1) vote per inventory lot.

With the support of the Lot Owners by paying their assessments, the DCLOA is in control. PARTICIPATION is and remains the key to the success of the DCLOA and Desert Carmel.

There is no magical solution to the problems that face the Association and Desert Carmel. Only by working "together" and putting a concentrated effort into your association will all lot owners be able to benefit and see Desert Carmel grow.

#### UP-DATE ON THE LAW SUIT

A law suit has been filed by certain Lotowners against DCP and DCLOA. As to the DCLOA, the law suit states the DCLOA has breached it's agreement to maintain. It also alleges that because DCLOA has not properly maintained the subdivision it has breached its duty to you, the Lotowner. Finally as to DCLOA the suit requests an accounting. DCLOA vigorously denies all of these allocations!

With regards to the claim of Breach of Contract, DCLOA has used all assessment monies received to maintain and better the subdivision. In light of this there can be no breach of contract, nor any breach of duty.

It is true that DCLOA has not put in new roads and a new sewer system which plaintiffs request in their lawsuit. In order for DCLOA to do this the Lotowners would have to pass a "Special Capitol Improvement" assessment. The cost to each Lotowner would be horrendous. DCLOA is trying to keep assessments fair and not outrageous, and efficiently use the assessment monies it receives to properly maintain the subdivision.

With regards to the request to accounting by the plaintiff, this request does not make sense. As you Lotowners know, DCLOA books are audited by an independent, authorized accountant each year.

Unfortunately this lawsuit is going to cost DCLOA a great sum of money with little positive effect.

#### SOMETHING TO THINK ABOUT!

Some time ago the lot owners were sent a 2 page "newsletter" by the former President of the DCLOA, Mrs. Lola Peterson. There is one statement made in this letter I would like everyone to consider. Mrs. Peterson spoke about a group going by the name of the "Coalition of Lot Owners Seeking the Development of Desert Carmel" and asked why should one group have the power to recall anyone?

FACT - This "group" did not recall Mr. Hostin but instead asked the lot owners to support them and vote to recall Mr. Hostin. The lot owners did just that!

Mrs. Peterson stated correctly that the Association did not sanction this action, nor did the Board of Directors. But again I want to make sure it is understood that you, the "Lotowners", voted for this action to be done. If there had not been a sufficient number of votes asking for Mr. Hostin's recall, Mr. Hostin would not have been removed from the board.

Mrs. Peterson is asking you as a "Lotowner" to become part of another group, the "Concerned Citizens of Desert Carmel". Is this any different than being a member, or agreeing and acting with, the Coalition of Lot Owners Seeking the Development of Desert Carmel?

Is it really prudent to become a part of any group without knowing "ALL" the facts with which to make a sound decision? No moral judgement is intended nor is any "side" being taken. This is just something to think about.

UPDATE: SANTA CRUZ WASH

The Santa Cruz Wash has always been a "thorn" in Desert Carmel's side. This year your Board of Directors has directed considerable time and energy to see that this problem will finally be resolved in a proper manner. One must remember that the Association has been advised by our legal counsel and by our insurance underwriter, because we do not own the property where the wash is located, that if we do any construction of any type or grade the thoroughfare the Association will put itself at a great liability risk.

The Board met with Mr. Chuck Heaton, Hydrologist for the Pinal County Flood Control District, and Mr. Joe Bianco, representative for the Midway Flood Control District. Everyone was very encouraged by the meeting. During the discussion Mr. Heaton offered his assistance and a possible solution to the problem. The Association is currently pursuing a proposal with Pinal County for a "joint effort" to ensure that the problem will have a permanent resolution.

During our November 9, 1990 Monthly Board Meeting, of the Lotowners presented the Board with a copy of a document written several years ago by the County regarding the acceptance of Candlestick (which includes the wash) for maintenance. The Board has given a copy of this document to our attorney and has instructed him to pursuing the possibility of forcing the County to abide by this document.

As one can see there are several avenues for a resolution that the Board is actively pursuing for a responsible permanent solution to the "thorn" in the side of Desert Carmel.

UPDATE: NEW AGREEMENT BETWEEN DCLOA & DCP.

Due to the problems with the first agreement between DCLOA and DCP during the DCLOA infancy, both parties have been diligently working to correct past errors and develop an agreement that is fair for both parties this past year. This is not an easy task and negotiations have been halted many times due to the law suit that effects both DCLOA and DCP.

UPDATE: SEWER PONDS

Steps are being taken to obtain title for the property on which the sewer ponds are located. Due to the ongoing negotiations this is the only information we can provide. Our attorney advises us that he has been in contact with those involved with the actual negotiations and we are very close to obtaining the titles.

FHA UP-DATE:

The DCLOA has faced many frustrating moments trying to obtain FHA backing for the subdivision but never the less continues to work at finding a solution to the one remaining requirement that needs to be met.

The FHA has voiced their concern about the possibility of a developer obtaining a large number of lots, thereby gaining control of the Association by having the controlling number of votes. Remember - everyone now has one vote per lot and because our CC&Rs mandate that each lot must be treated equally, the Board of Directors recognized FHA's concern over this possibility. The Board has asked our attorney to investigate the feasibility of obtaining financing for one or two sections at a time and still maintain the equality of all lot owners.

Our attorney has advised us that this is a difficult situation but is still seeking a solution.

This would benefit everyone. The more homes that are built, the greater the growth, the easier it will become to develop more of the subdivision which in turn will enhance the value of all the lots.

ARE YOU WILLING TO HELP?

That is a big question! You may be asking yourself, "How can I help?" By supporting your Association! Not only by paying the yearly assessment fee, but if you live in or near Desert Carmel, become a participating member. Join a committee. Attend the monthly meetings and give your representatives, the Board of Directors, your ideas, suggestions, thoughts and opinions. If you live too far away to join a committee or attend meetings, keep informed! Write for a copy of the Monthly Meeting Minutes. The average cost for a copy of the minutes is only \$3.25. Add another 50 cents if you would like a copy of the monthly Profit and Loss Statement. If you are unable to send for a copy every month send for a copy of the list of new motions that were made for the last several months. The first 5 pages, costing \$3.25, will take you through the first four months of meetings! Write your ideas down then send them to the DCLOA office and they will be presented to the Board.

#### FUTURE NEWSLETTERS

Now that the initial reorganization of the office has taken place, and is completed, you will be receiving a quarterly newsletter. The first one for 1991 being issued at the end of January.

#### SUMMARY

It has been a long, difficult year for all but many strides have been made during this year. Many of the problems that faced the DCLOA have been resolved but there are others that still need resolving. But with a united goal to see Desert Carmel grow, with cooperation and hard work, Desert Carmel can and will, finally realize its potential, becoming the vibrant community it was meant to be!

Please remember I am here to aid you also. Please feel free to contact me if you have any problems, questions or suggestions. I will do my best to assist you however possible.

Regards,

*Terri Campbell*  
Mrs. Terri Campbell  
Administrative Assistant

DCLOA ANNUAL MEETING

NOVEMBER 2, 1990

ELECTION RESULTS

PHYLLIS WAGONER	1415 VOTES
ARTHUR WADE	1404 VOTES
RANDY SCHAFER	1399 VOTES
PAUL A. MEURER	77 VOTES
MIKEL WHITES	22 VOTES
JACK GRENNAN	12 VOTES
WILFORD HOSTIN	3 VOTES
LOLA PETERSON	2 VOTES
AL PRICE	2 VOTE
ANGIE BERNARD	1 VOTE
MICKEY MOUSE	1 VOTE

Validation of election votes done by:

Mr. Pat Kelly, C.P.A.  
Walmsley, Fitzpatrick & Kelly  
Certified Public Accounts  
Phoenix, AZ 85002

The results of proposition 101 were not tabulated because there was not 75% of the Lot Owners voting on this proposition.



# ASARCO

Exploration Department  
Southwestern United States Division

December 19, 1990

Mr. Mike King  
Technical Services Center  
ASARCO Incorporated  
3422 South 700 West  
Salt Lake City, Utah 84119

Dear Mr. King:

As per our phone conversation yesterday, you will find enclosed the following two USBM volumes: "In Situ Leach Mining of Copper Sulfides," dated June 1990; and "Detailed Task Breakdown and Cost Estimate, Phase I," dated September 1990. Johnathan Jackson will find these helpful in understanding what the USBM would like to propose to the DOE.

This USBM proposal is a preliminary first draft prepared by the USBM without industry input. Industry has reviewed the draft and is preparing to recommend substantial modifications. The final draft will be prepared by the USBM, but it will be a joint USBM-industry proposal.

If you or Mr. Jackson have any questions, please feel free to call me at 602-792-3010.

Sincerely yours,



Henry G. Kreis

HGK:mek  
encs.

- cc: F.T. Graybeal (w/o encs.)
- A.R. Raihl (w/o encs.)
- W.L. Kurtz (w/o encs.)
- J.D. Sell (w/o encs.)

# ASARCO

Exploration Department  
Southwestern United States Division

CERTIFIED MAIL  
RETURN RECEIPT

December 20, 1990

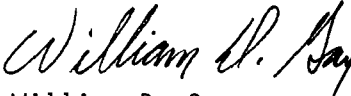
Estate of Ida Maye Coggin  
c/o Mrs. Daphne Morrison  
1905 Camino Rio  
Farmington, NM 87401

Santa Cruz Joint Venture  
Mining Lease Payment

Dear Mrs. Morrison:

As stipulated under "Considerations," Item 1, of the "Mining Lease," dated August 4, 1978, between Ida Maye Coggin and Casa Grande Copper, which was assigned to Santa Cruz Joint Venture on December 30, 1988, enclosed is Asarco's check for \$100 for payment due January 1, 1991.

Sincerely yours,

  
William D. Gay  
Land Engineer, SWED

WDG:mek  
enc.

cc: W.L. Kurtz  
J.D. Sell  
C.L. Snow

