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December 30, 1981

TO: W. D. Payne

FROM: H. G. Kreis *H.G. Kreis*

Copper Oxide Assays
Santa Cruz Project
Pinal County, Arizona

Potentially economic copper oxide intercepts of eight Santa Cruz drill holes were subjected to copper oxide assay determinations. The assays were run on composite pulps representative of intervals generally 30 to 60 feet in thickness. The samples were treated by boiling in a dilute $H_2SO_4 - H_2SO_3$ solution for 5 minutes (see description in Attachment 1). The samples were selected using the following considerations:

- 1) to test a substantial portion of the potentially leachable reserves,
- 2) to check a wide range of copper grades,
- 3) to check various copper minerals, and
- 4) to check various copper minerals in different rock types.

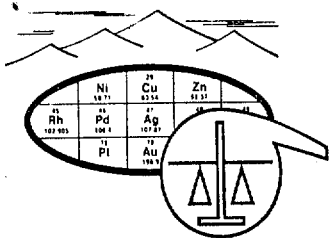
The copper oxide assay values are listed in Attachments 2, 3, and 5; and they are plotted in Attachment 4.

Samples with atacamite and/or chrysocolla and a total copper grade in excess 0.9% Cu have copper oxide assays ranging from 92 to 100% of the total copper content. Samples with similar copper mineralogy but less than 0.9% Cu and greater than 0.2% Cu have copper oxide assays ranging from 80 to 100% of the total copper content. Samples with chalcocite and no copper oxide minerals yield copper oxide assays amounting to 15 to 30% of the total copper content because of chalcocite's leachability.

Attachment 4 shows that there is little difference in the percentage of copper oxide to total copper for atacamite verses chrysocolla. Likewise the host rock lithology has no significant effect on the copper oxide assays. As expected, the presence of chalcocite and other minerals such as cuprite and native copper cause considerable variations in the copper oxide assay.

The results of these assays indicate there is no substantial copper solubility problem with the Santa Cruz copper oxide mineralization. Furthermore, the results confirm our ability to visually evaluate variations in copper mineralogy that cause variations in copper oxide assays. The results do not indicate the rate at which copper will leach from the rock, nor can the results be used to predict the ultimate copper recovery. Column leach tests of assay rejects will be the next step in evaluating the Santa Cruz leachable reserves. This will be done at an appropriate time in the future.

cc: D. Crowell w/attachments



SKYLINE LABS, INC.
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

The Santa Cruz composite pulps of
Skyline job number TAJ-128
(November 11, 1981) were run by
this method. H.G.K., 11-16-81

ATTACHMENT 1

November 16, 1981

Asarco Inc.
P. O. Box 5747
Tucson, Arizona 85703

Attn: Mr. H. G. Kreis

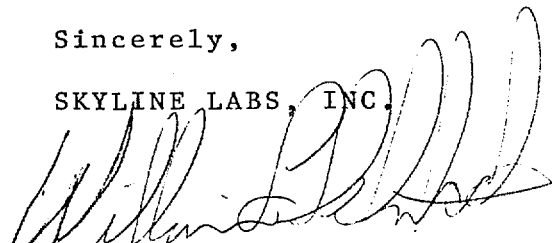
Dear Mr. Kreis:

NON SULFIDE COPPER

1. A 500 mg sample is weighed into a 250 ml beaker
2. Add 100 ml 5% H₂SO₄
3. Add 10 ml 6% H₂SO₃
4. Place in a Hot hot plate and bring to a rapid
boil and boil for a timed 5 minutes.
5. Filter hot thru a 597 or comparable filter
paper into a 200 ml flask.
6. Wash several times, cool and dilute to volume.
7. Run by Atomic Absorption analysis.

Sincerely,

SKYLINE LABS, INC.



William L. Lehmbeck
Manager

WLL/clp

ATTACHMENT 2 COPPER OXIDE ASSAYS IN >0.2% Cu INTERCEPTS

| Drill Holes | From (ft.) | To (ft.) | Int. (ft.) | Cu (%) | CuOx (%) | %age of CuOx | Copper Mineralogy (% of total copper grade) | | | | Rock Type (%) | |
|-------------|---------------|-------------|---------------|-----------|-------------|--------------------|--|-------|----------|-------|---------------|-------------|
| | | | | | | | Atacam. | Chry. | Chalcoc. | Other | p6gr | Bqfp +Db |
| SC-19 | | | | | | | | | | | | |
| | 1205 | 1260 | 55 | 0.60 | 0.55 | 92 | 0 | 100 | 0 | 0 | 100 | 0 |
| | 1260 | 1320 | 60 | 1.25 | 1.23 | 98 | 50 | 50 | 0 | 0 | 100 | 0 |
| | 1380 | 1470 | 90 | 0.66 | 0.59 | 89 | 34 | 66 | 0 | 0 | 82 | 18 |
| | 1620 | 1670 | 50 | 2.94 | 2.94 | 100 | 94 | 6 | 0 | 0 | 100 | 0 |
| | 1670 | 1720 | 50 | 3.01 | 2.85 | 95 | 97 | 3 | 0 | 0 | 100 | 0 |
| | 1720 | 1750 | 30 | 2.90 | 2.80 | 96 | 98 | 2 | 0 | 0 | 100 | 0 |
| SC-35 | | | | | | | | | | | | |
| | 1595 | 1647 | 52 | 0.48 | 0.43 | 90 | 0 | 100 | 0 | 0 | 78 | 22 |
| | 1647 | 1682 | 35 | 1.08 | 1.07 | 99 | 68 | 32 | 0 | 0 | 60 | 40 |
| | 1776 | 1898 | 122 | 0.22 | 0.19 | 86 | 0 | 100 | 0 | 0 | 2 | 98 |
| | 1898 | 1947 | 49 | 0.33 | 0.28 | 85 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 1947 | 1980 | 33 | 0.71 | 0.63 | 89 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 1980 | 2031 | 51 | 0.45 | 0.38 | 84 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 2031 | 2065 | 34 | 0.44 | 0.40 | 91 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 2065 | 2110 | 45 | 1.00 | 0.96 | 96 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 2110 | 2140 | 30 | 0.32 | 0.29 | 91 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 2140 | 2190 | 50 | 1.31 | 1.20 | 92 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 2190 | 2220 | 30 | 1.23 | 1.14 | 93 | 0 | 100 | 0 | 0 | 0 | 100 |
| SC-46 | | | | | | | | | | | | |
| | 1476 | 1570 | 94 | 0.23 | 0.17 | 74 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 1570 | 1639 | 69 | 1.12 | 1.07 | 96 | 63 | 37 | 0 | 0 | 8 | 92 |
| | 1639 | 1706 | 67 | 1.93 | 1.86 | 96 | 82 | 18 | 0 | 0 | 3 | 97 |
| | 1706 | 1785 | 79 | 0.84 | 0.76 | 90 | 12 | 88 | 0 | 0 | 0 | 100 |
| | 1785 | 1910 | 125 | 0.30 | 0.24 | 80 | 3 | 84 | 13 | 0 | 0 | 100 |
| | 1910 | 1960 | 50 | 0.86 | 0.15 | 17 | 0 | 0 | 93 | 7 | 0 | 100 |
| | 1960 | 2005 | 45 | 0.88 | 0.18 | 20 | 0 | 0 | 100 | 0 | 94 | 6 |
| | 2005 | 2040 | 35 | 0.96 | 0.15 | 16 | 0 | 0 | 100 | 0 | 100 | 0 |

| Drill Holes | From (ft.) | To (ft.) | Int. (ft.) | Cu (%) | CuOx (%) | %age of CuOx | Copper Mineralogy (% of total copper grade) | | | | Rock Type (%) | |
|-------------|---------------|-------------|---------------|-----------|-------------|--------------------|--|-------|----------|-------|---------------|-------------|
| | | | | | | | Atacam. | Chry. | Chalcoc. | Other | pEgr | Bqfp +Db |
| SC-52 | | | | | | | | | | | | |
| | 1031 | 1073 | 42 | 1.24 | 1.17 | 94 | 35 | 65 | 0 | 0 | 100 | 0 |
| | 1236 | 1297 | 61 | 1.07 | 0.99 | 92 | 7 | 93 | 0 | 0 | 97 | 3 |
| | 1380 | 1462 | 82 | 0.47 | 0.41 | 87 | 9 | 77 | 14 | 0 | 99 | 1 |
| | 1462 | 1490 | 28 | 3.60 | 1.06 | 29 | 5 | 24 | 71 | 0 | 100 | 0 |
| | 1520 | 1547 | 27 | 1.30 | 1.25 | 96 | 0 | 86 | 14 | 0 | 93 | 7 |
| | 1776 | 1815 | 39 | 0.81 | 0.71 | 88 | 0 | 85 | 15 | 0 | 2 | 98 |
| | 1870 | 1930 | 60 | 0.53 | 0.45 | 85 | 0 | 100 | 0 | 0 | 0 | 100 |
| | 1930 | 1990 | 60 | 0.65 | 0.42 | 65 | 0 | 72 | 24 | 4 | 0 | 100 |
| | 1990 | 2050 | 60 | 0.35 | 0.20 | 57 | 0 | 27 | 25 | 48 | 0 | 100 |
| | 2050 | 2110 | 60 | 0.72 | 0.52 | 72 | 0 | 73 | 0 | 27 | 0 | 100 |
| | 2110 | 2172 | 62 | 0.77 | 0.40 | 52 | 0 | 56 | 44 | 0 | 0 | 100 |
| SC-58 | | | | | | | | | | | | |
| | 2021 | 2077 | 56 | 1.41 | 1.36 | 96 | 29 | 70 | 0 | 1 | 100 | 0 |
| | 2077 | 2123 | 46 | 1.02 | 0.97 | 95 | 21 | 79 | 0 | 0 | 100 | 0 |
| | 2123 | 2170 | 47 | 0.61 | 0.58 | 95 | 24 | 76 | 0 | 0 | 85 | 15 |
| | 2170 | 2218 | 48 | 0.32 | 0.31 | 97 | 30 | 61 | 0 | 9 | 96 | 4 |
| | 2218 | 2267 | 49 | 0.44 | 0.42 | 95 | 62 | 32 | 0 | 6 | 76 | 24 |
| | 2267 | 2313 | 46 | 0.97 | 0.93 | 96 | 60 | 37 | 0 | 3 | 54 | 46 |
| | 2313 | 2364 | 51 | 0.30 | 0.30 | 100 | 63 | 37 | 0 | 0 | 100 | 0 |
| | 2364 | 2414 | 50 | 0.41 | 0.39 | 95 | 48 | 52 | 0 | 0 | 100 | 0 |
| | 2414 | 2464 | 50 | 0.42 | 0.39 | 93 | 48 | 52 | 0 | 0 | 100 | 0 |
| | 2464 | 2511 | 47 | 0.58 | 0.53 | 91 | 50 | 50 | 0 | 0 | 100 | 0 |
| | 2511 | 2560 | 49 | 0.55 | 0.53 | 96 | 30 | 70 | 0 | 0 | 100 | 0 |
| | 2560 | 2614 | 54 | 0.44 | 0.39 | 89 | 16 | 80 | 4 | 0 | 100 | 0 |
| SC-60 | | | | | | | | | | | | |
| | 2025 | 2075 | 50 | 0.61 | 0.54 | 88 | 42 | 58 | 0 | 0 | 100 | 0 |
| | 2075 | 2137 | 62 | 0.54 | 0.46 | 85 | 82 | 18 | 0 | 0 | 100 | 0 |
| | 2205 | 2258 | 53 | 0.49 | 0.41 | 84 | 74 | 18 | 0 | 8 | 100 | 0 |
| | 2258 | 2303 | 45 | 0.25 | 0.24 | 96 | 20 | 72 | 0 | 8 | 100 | 0 |
| | 2353 | 2403 | 50 | 0.22 | 0.20 | 91 | 92 | 8 | 0 | 0 | 100 | 0 |

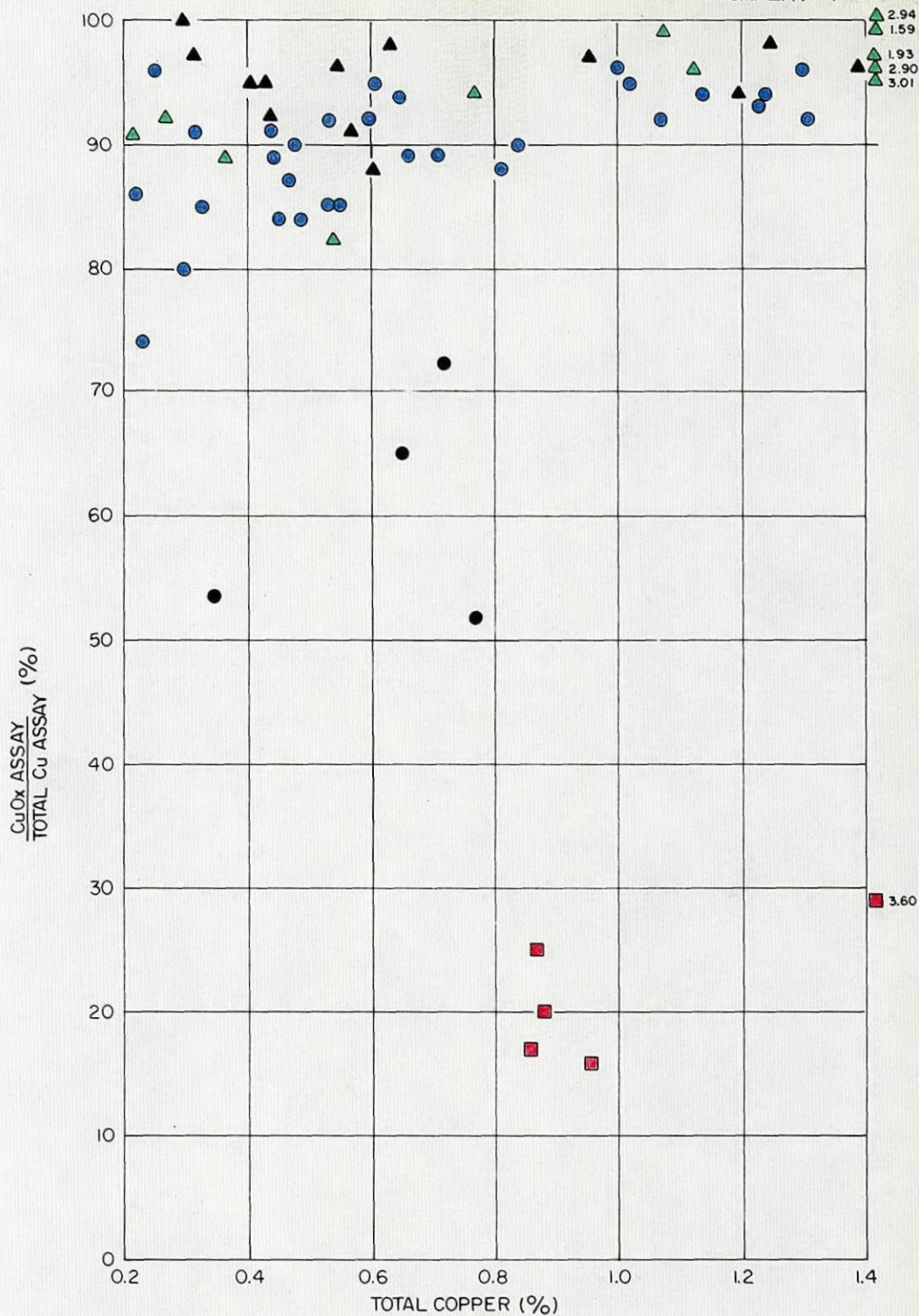
ATTACHMENT 2 COPPER OXIDE ASSAYS IN >0.2% Cu INTERCEPTS (CONTINUED)

3

| Drill Holes | From (ft.) | To (ft.) | Int. (ft.) | Cu (%) | CuOx (%) | % age of CuOx | Copper Mineralogy (% of total copper grade) | | | | Rock Type (%) | |
|---------------|---------------|-------------|---------------|-----------|-------------|---------------------|--|-------|----------|-------|---------------|-------------|
| | | | | | | | Atacam. | Chry. | Chalcoc. | Other | pGgr | Bqfp +Db |
| SC-60 (Cont.) | | | | | | | | | | | | |
| | 2403 | 2445 | 42 | 0.37 | 0.33 | 89 | 76 | 24 | 0 | 0 | 100 | 0 |
| | 2445 | 2515 | 70 | 0.27 | 0.25 | 92 | 85 | 15 | 0 | 0 | 100 | 0 |
| SC-61 | | | | | | | | | | | | |
| | 1822 | 1860 | 38 | 0.54 | 0.50 | 92 | 0 | 100 | 0 | 0 | 100 | 0 |
| | 1973 | 2010 | 37 | 1.16 | 1.09 | 94 | 25 | 75 | 0 | 0 | 100 | 0 |
| | 2010 | 2056 | 46 | 1.20 | 1.13 | 94 | 50 | 50 | 0 | 0 | 100 | 0 |
| | 2056 | 2111 | 55 | 0.61 | 0.60 | 98 | 25 | 75 | 0 | 0 | 100 | 0 |
| | 2111 | 2157 | 46 | 0.65 | 0.61 | 94 | 3 | 97 | 0 | 0 | 86 | 14 |
| | 2157 | 2199 | 42 | 0.77 | 0.72 | 94 | 92 | 8 | 0 | 0 | 100 | 0 |
| SC-64 | | | | | | | | | | | | |
| | 2190 | 2233 | 43 | 1.59 | 1.60 | 100 | 91 | 9 | 0 | 0 | 35 | 65 |
| | 2263 | 2302 | 39 | 0.87 | 0.22 | 25 | 0 | 0 | 100 | 0 | 100 | 0 |

ATTACHMENT 3 COPPER OXIDE ASSAYS IN <0.2% Cu INTERCEPTS

| <u>Drill Holes</u> | <u>From (ft.)</u> | <u>To (ft.)</u> | <u>Int. (ft.)</u> | <u>Cu (%)</u> | <u>CuOx (%)</u> | <u>% age of CuOx</u> | <u>Copper Mineralogy (% of total copper grade)</u> | | | | <u>Rock Type (%)</u> | |
|--------------------|-----------------------|---------------------|-----------------------|-------------------|---------------------|------------------------------|--|--------------|-----------------|--------------|----------------------|---------------------|
| | | | | | | | <u>Atacam.</u> | <u>Chry.</u> | <u>Chalcoc.</u> | <u>Other</u> | <u>pEgr</u> | <u>Bqfp +Db</u> |
| SC-19 | 1320 | 1380 | 60 | 0.14 | 0.12 | 86 | 14 | 86 | 0 | 0 | 100 | 0 |
| SC-35 | 1682 | 1776 | 94 | 0.16 | 0.13 | 81 | 0 | 100 | 0 | 0 | 2 | 98 |
| SC-52 | 1297 | 1380 | 83 | 0.10 | 0.09 | 90 | 0 | 100 | 0 | 0 | 100 | 0 |
| SC-52 | 1490 | 1520 | 30 | 0.02 | 0.02 | 100 | 0 | 0 | 100 | 0 | 100 | 0 |
| SC-60 | 2137 | 2205 | 68 | 0.16 | 0.15 | 94 | 80 | 20 | 0 | 0 | 100 | 0 |
| SC-60 | 2303 | 2353 | 50 | 0.11 | 0.10 | 91 | 17 | 58 | 0 | 25 | 100 | 0 |
| SC-61 | 1860 | 1910 | 50 | 0.06 | 0.05 | 83 | 0 | 100 | 0 | 0 | 100 | 0 |
| SC-61 | 1910 | 1973 | 63 | 0.09 | 0.06 | 67 | 0 | 100 | 0 | 0 | 100 | 0 |
| SC-64 | 2233 | 2263 | 30 | 0.18 | 0.16 | 89 | 67 | 0 | 0 | 33 | 60 | 40 |

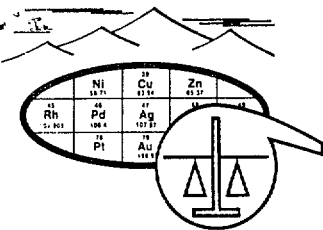


EXPLANATION

- ▲ Atacamite
- ▲ Atacamite and chrysocolla
- Chrysocolla
- Chrysocolla, chalcocite and others
- Chalcocite and others

Copper Oxide Assays:
Boil in $\text{H}_2\text{SO}_4 + \text{H}_2\text{SO}_3$ for 5 minutes.
Each data point represents a composite
assay for Cu and CuOx of intervals generally
30 to 60 in thickness.

ASARCO Incorporated
SANTA CRUZ PROJECT
PINAL COUNTY, ARIZONA
COPPER OXIDE ASSAYS
H.G.K. Dec, 1981



SKYLINE LABS, INC.
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

ATTACHMENT 5

REPORT OF ANALYSIS

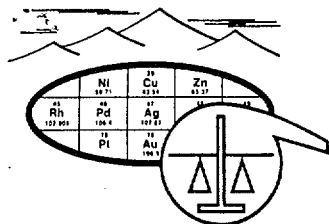
JOB NO. TAJ 128
November 11, 1981

Page 1 of 3

ASARCO INC.
Attn.: Mr. H.G. Kreis
P.O. Box 5747
Tucson, Arizona 85703

Analysis of 69 Composite Samples

| ITEM | SAMPLE NO. | Cu % | nsCu % |
|------|-----------------|---------|-----------|
| 1 | SC-19 1205-1260 | .60 | .55 |
| 2 | SC-19 1260-1320 | 1.25 | 1.23 |
| 3 | SC-19 1320-1380 | .14 | .12 |
| 4 | SC-19 1380-1470 | .66 | .59 |
| 5 | SC-19 1620-1670 | 2.94 | 2.94 |
| 6 | SC-19 1670-1720 | 3.01 | 2.85 |
| 7 | SC-19 1720-1750 | 2.90 | 2.80 |
| 8 | SC-35 1595-1647 | .48 | .43 |
| 9 | SC-35 1647-1682 | 1.08 | 1.07 |
| 10 | SC-35 1682-1776 | .16 | .13 |
| 11 | SC-35 1776-1898 | .22 | .19 |
| 12 | SC-35 1898-1947 | .33 | .28 |
| 13 | SC-35 1947-1980 | .71 | .63 |
| 14 | SC-35 1980-2031 | .45 | .38 |
| 15 | SC-35 2301-2065 | .44 | .40 |
| 16 | SC-35 2065-2110 | 1.00 | .96 |
| 17 | SC-35 2110-2140 | .32 | .29 |
| 18 | SC-35 2140-2190 | 1.31 | 1.20 |
| 19 | SC-35 2190-2220 | 1.23 | 1.14 |
| 20 | SC-46 1476-1570 | .23 | .17 |
| 21 | SC-46 1570-1639 | 1.12 | 1.07 |
| 22 | SC-46 1639-1706 | 1.93 | 1.86 |
| 23 | SC-46 1706-1785 | .84 | .76 |
| 24 | SC-46 1785-1910 | .30 | .24 |
| 25 | SC-46 1910-1960 | .86 | .15 |

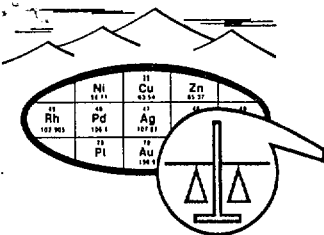


SKYLINE LABS, INC.

P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

JOB NO. TAJ 128
November 11, 1981
PAGE 2

| ITEM | SAMPLE NO. | Cu % | nsCu % |
|------|-----------------|---------|-----------|
| 26 | SC-46 1960-2005 | .88 | .18 |
| 27 | SC-46 2005-2040 | .96 | .15 |
| 28 | SC-52 1031-1073 | 1.24 | 1.17 |
| 29 | SC-52 1236-1297 | 1.07 | .99 |
| 30 | SC-52 1297-1380 | .10 | .09 |
| 31 | SC-52 1380-1462 | .47 | .41 |
| 32 | SC-52 1462-1490 | 3.60 | 1.06 |
| 33 | SC-52 1490-1520 | .02 | .02 |
| 34 | SC-52 1520-1547 | 1.30 | 1.25 |
| 35 | SC-52 1776-1815 | .81 | .71 |
| 36 | SC-52 1870-1930 | .53 | .45 |
| 37 | SC-52 1930-1990 | .65 | .42 |
| 38 | SC-52 1990-2050 | .35 | .20 |
| 39 | SC-52 2050-2110 | .72 | .52 |
| 40 | SC-52 2110-2172 | .77 | .40 |
| 41 | SC-58 2021-2077 | 1.41 | 1.36 |
| 42 | SC-58 2077-2123 | 1.02 | .97 |
| 43 | SC-58 2123-2170 | .61 | .58 |
| 44 | SC-58 2170-2218 | .32 | .31 |
| 45 | SC-58 2218-2267 | .44 | .42 |
| 46 | SC-58 2267-2313 | .97 | .93 |
| 47 | SC-58 2313-2364 | .30 | .30 |
| 48 | SC-58 2364-2414 | .41 | .39 |
| 49 | SC-58 2414-2464 | .42 | .39 |
| 50 | SC-58 2464-2511 | .58 | .53 |



SKYLINE LABS, INC.

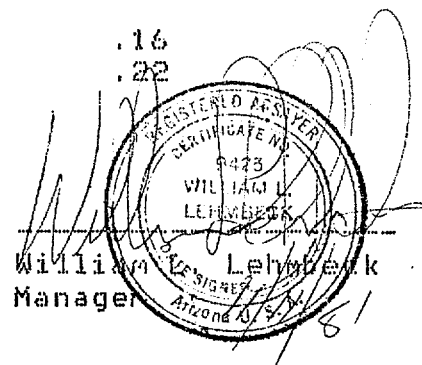
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(602) 622-4836

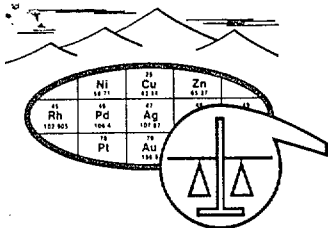
JOB NO. TAJ 128
November 11, 1981
PAGE 3

| ITEM | SAMPLE NO. | Cu % | nsCu % |
|------|-------------------|-------------------|-------------------|
| 51 | SC-58 2511-2560 | .55 | .53 |
| 52 | SC-58 2560-2614 | .44 | .39 |
| 53 | SC-60 2025-2075 | .61 | .54 |
| 54 | SC-60 2075-2137 | .54 | .46 |
| 55 | SC-60 2137-2205 | .16 | .15 |
| 56 | SC-60 2205-2258 | .49 | .41 |
| 57 | SC-60 2258-2303 * | 0.00 * | 0.00 * |
| 58 | SC-60 2303-2353 | .11 | .10 |
| 59 | SC-60 2353-2403 | .22 | .20 |
| 60 | SC-60 2403-2445 | .37 | .33 |
| 61 | SC-60 2445-2515 | .27 | .25 |
| 62 | SC-61 1822-1860 | .54 | .50 |
| 63 | SC-61 1860-1910 | .06 | .05 |
| 64 | SC-61 1910-1973 | .09 | .06 |
| 65 | SC-61 1973-2010 | 1.16 | 1.09 |
| 66 | SC-61 2010-2056 * | 0.00 * | 0.00 * |
| 67 | SC-61 2056-2111 * | 0.00 * | 0.00 * |
| 68 | SC-61 2111-2157 | .65 | .61 |
| 69 | SC-61 2157-2199 | .77 | .72 |
| 70 | SC-64 2190-2233 | 1.59 | 1.60 |
| 71 | SC-64 2233-2263 | .18 | .16 |
| 72 | SC-64 2263-2302 | .87 | .22 |

*NOTE: The following samples
were not received in the
lab for analysis:

Item 57 No. SC-60 2258-2303
Item 66 No. SC-61 2010-2056
Item 67 No. SC-61 2056-2111





SKYLINE LABS, INC.

P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

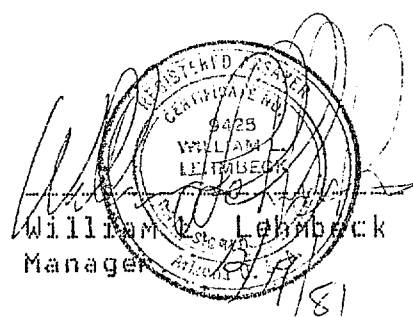
REPORT OF ANALYSIS

JOB NO. TAJ 136
December 18, 1981

ASARCO INC.
Attn.: Mr. H.G. Kreis
P.O. Box 5747
Tucson, Arizona 85703

Analysis of 3 Composite Samples

| ITEM | SAMPLE NO. | Cu % | nsCu % |
|------|-----------------|---------|-----------|
| 1 | 5C-60-2258-2303 | .25 | .24 |
| 2 | 5C-61-2010-2056 | 1.20 | 1.13 |
| 3 | 5C-61-2056-2111 | .61 | .60 |



PROJECT SANTA CRUZ

HOLE NO. 5C-59

Final depth 36097.2

Coord E. 50499.7

Page 1 of 7

ASARCO

Bottom of Casing 1169' 3 1/2" I.D.

Rotary
measurements
adj. to core
differ's
measurement
Rot
1168
Core

GEOLOGIC LOG

PROJECT SANTA CRUZ

PROJECT SANTA CRUZ

HOLE NO. SC-57

Collar elev. _____

Final depth _____

Coord N. _____

Coord E. _____

Inclination _____

Page 2 of 7

Logged by H.G. Kreis

ASARCO

Date 10-1980

ROTARY _____
CORE _____

Bottom of Casing _____

| DEPTH | | | % CORE RECOV. | ASSAY | | | | ORE | | MINERALS | | GANGUE | | MINERALS | | STRUCTURE | ROCK TYPE | ROCK TYPE and REMARKS |
|-------|------|-------|---------------|-------|-------|-------|---------|-------------|-----------|------------|-----------|---------------|-------------|-------------|--------------|-----------------------------|------------|---|
| from | to | int'l | | Cu % | Mo % | Ag % | Other % | Chrysocolla | Atacamite | Chalcocite | Chalcophy | Pyrite - Diss | Pyrite - Vn | Total Sulf. | Total Silica | | | |
| 1207 | 1217 | 10 | 96 | 0.06 | 0.082 | | | 0.06 | | | | | | (2) 100 | 4 70 | 1149-1463 Moderately | Gr>Bx | 1145-1456 GRANITE AND PORPHYRY DIKES. |
| 1217 | 1227 | 10 | 91 | 0.05 | | | | | | | | | | (2) 100 | 5 30 | strongly broken core. | GrBx | Granite is typical Rain-Oracle Precambrian granite. It's texture |
| 1227 | 1238 | 11 | 77 | 0.06 | | | | | | | | | | (2) 100 | 3 60 | 1216-1225 Bx, w/step shear. | Gr>Bx | is coarse grained, hypidiomorphic granular with K-feldspar |
| 1238 | 1246 | 8 | 100 | 0.07 | | | | | | | | | | (1) 100 | 2 60 | | Gr | phenocrysts. The mode (prior to alteration) was 5% biotite, |
| 1246 | 1252 | 6 | 95 | 0.08 | | | | | | | | | | (1) 100 | 2 50 | | Gr | 15% plagioclase, 45% K-feldspar, and 35% quartz. The |
| 1252 | 1263 | 11 | 84 | 0.36 | | | | 0.36 | | | | | | (2) 100 | 1 30 | | Bgtf | porphyries. Bgtf and Bgtf are very similar. Bgtf contains |
| 1263 | 1273 | 10 | 100 | 0.13 | | | | 0.13 | | | | | | (1) 100 | 2 30 | | Bgtf, Gr | approx. 15% phenocrysts composed of 70% plag and 30% bio-hbl(?) |
| 1273 | 1282 | 9 | 100 | 0.42 | | | | 0.42 | | | | | | (2) 100 | 1 30 | | Bgtf | Bgtf contains 15-20% phenocrysts composed of 15% gte, 15% bio-hbl(?) |
| 1282 | 1292 | 10 | 63 | 0.06 | | | | 0.06 | | | | | | (1) 100 | 2 30 | | Gr | and 70% plag. Phenocrysts in Bgtf are <2mm in length and |
| 1292 | 1302 | 10 | 100 | 0.07 | 0.07 | | | 0.07 | | | | | | (2) 100 | 3 40 | | Gr>Bx | those of Bgtf are 2-4mm. Both types have aphanitic |
| 1302 | 1312 | 10 | 100 | 0.21 | | | | 0.21 | | | | | | (2) 100 | 1 30 | 1308-1309 Bgtf w/ | Bgtf | groundmass, and thin colors range from dark gray to black. |
| 1312 | 1322 | 10 | 100 | 0.51 | | | | 0.51 | | | | | | (2) 100 | 1 50 | 5" shear struct. | Bgtf | In the granite biotite is strongly (totally) altered to sericite, |
| 1322 | 1331 | 9 | 100 | 0.11 | | | | 0.11 | | | | | | (2) 100 | 1 50 | | Bgtf | plagioclase is moderately strongly altered to sericite (and |
| 1331 | 1341 | 10 | 100 | 0.13 | | | | 0.13 | | | | | | (2) 100 | 5 10 | 1332-1372 Bx, Bgtf | GrBx, Bgtf | K-feld.?), and K-feld is fresh to weakly sericitized. |
| 1341 | 1351 | 10 | 100 | 0.11 | | | | 0.11 | 0.05 | | | | | (2) 100 | 7 5 | Most shears have | GrBx, Bgtf | In the porphyries biotite in mod. to stly alt. to 2" bio, |
| 1351 | 1361 | 10 | 100 | 0.10 | | | | 0.10 | Tr | | | | | (2) 100 | 3 20 | mod. dip but | GrBx | hbl(?) is strongly alt. to 2" bio, and plag is strongly |
| 1361 | 1371 | 10 | 80 | 0.11 | | | | 0.11 | 0.13 | | | | | (2) 100 | 3 20 | range from 20-90 | GrBx | alt. to sericite. Former sulfide content is difficult |
| 1371 | 1381 | 10 | 100 | 0.13 | | | | Tr | 0.09 | | | | | (2) 100 | 3 20 | | Gr>Bx | to estimate because of FeO staining; much of the transported |
| 1381 | 1391 | 10 | 100 | 0.09 | | | | Tr | 0.11 | | | | | (2) 100 | 3 20 | | Gr | FeO may be from magnetite-biotite. The former sulfides are |
| 1391 | 1401 | 10 | 95 | 0.11 | | | | Tr | 0.10 | | | | | (2) 100 | 3 20 | 1390-1403 Mod. dip | Gr>Bx | replaced by G&H. The former sulfide content is highly |
| 1401 | 1411 | 10 | 100 | 0.10 | 0.043 | | | 0.10 | | | | | | (2) 100 | 2 30 | of shears in Bx | Gr | variable from 1/2% to 3%, and the control is fract & diss. |
| 1411 | 1421 | 10 | 100 | 0.06 | | | | | | | | | | (2) 100 | 2 30 | | Gr>Bx | Former sulfides in the porphyries are lower in abundance |
| 1421 | 1430 | 9 | 100 | 0.08 | | | | 0.08 | | | | | | (1) 100 | 2 20 | 1425 Mod stp. shear | Gr>Bx | than in the granite, and fract > diss. control. |
| 1430 | 1440 | 10 | 100 | 0.07 | | | | 0.07 | | | | | | (1) 100 | 2 20 | in bra. | Gr | Calx occurs scattered on fractures. At 1207 there's chrysocolla |
| 1440 | 1447 | 7 | 100 | 0.09 | | | | 0.09 | | | | | | (2) 100 | 4 40 | | Gr | casts of atacamite. Some of the Calx's have a residual |
| 1447 | 1456 | 9 | 100 | 0.14 | | | | 0.14 | | | | | | (2) 100 | 7 15 | 1456 FAULT | Bgtf>Gr | or leached appearance. Moderately, strongly broken core (H.W. F.H. 0145). |
| 1456 | 1466 | 10 | 100 | 0.94 | | | | 0.94 | 0.04 | | | | | (2) 100 | 1 70 | 5" stly daval | Bgtf | 1456-1536 PORPHYRY-- Bgtf & Bgtf. The Bgtf has |
| 1466 | 1476 | 10 | 95 | 0.82 | | | | 0.12 | 0.70 | | | | | (2) 100 | 1 50 | 99% at 25" | Bgtf | 10% phenocr. (1-2mm in size) composed of 10% biot and 90% plagi. |
| 1476 | 1483 | 7 | 100 | 0.34 | | | | 0.27 | 0.07 | | | | | (2) 100 | 1 50 | proxid. in age. | Bgtf | The Bgtf has 10% phenocr. (3mm av. size) composed of 15% |
| 1483 | 1489 | 6 | 100 | 1.06 | 1.36 | 0.118 | | 0.60 | Tr | 0.46 | | | | (2) 70 | 1 100 | | Bgtf | biot, 15% quartz, and 70% plagi. The Bgtf is dark gray |
| 1489 | 1495 | 6 | 100 | 2.21 | | | | | | 2.21 | | | | (2) 100 | 1 100 | | Bgtf | in color and the Bgtf is black. In both porphyries |
| 1495 | 1504 | 9 | 100 | 0.93 | | | | 0.85 | 0.13 | | | | | (2) 100 | 1 60 | | Bgtf | biotite is strongly altered to hblite and plagi is strongly |
| 1504 | 1512 | 8 | 100 | 1.80 | | | | | | ? | | | | (1) 100 | 1 90 | | Bgtf | altered to clay, sericite, and local CuOx. Former sulfides |
| 1512 | 1523 | 11 | 100 | 0.41 | | | | 0.41 | | | | | | (1) 100 | 2 80 | | Gr>Bx | were fracture controlled and are replaced by goethite |
| 1523 | 1530 | 7 | 100 | 2.37 | | | | 1.00 | 1.37 | | | | | (2) 100 | 1 80 | | Bgtf | (transported) and local G&H (indigenous). Local sulfide |
| 1530 | 1536 | 6 | 100 | 0.93 | | | | 0.73 | 0.20 | | | | | (2) 100 | 1 80 | | Bgtf | remnants are all chalcocite except for 2-0.1" thick pyrite veins |
| 1536 | 1549 | 13 | 91 | 0.17 | | | | 0.17 | | | | | | (2) 100 | 3 40 | 1536-1549 Bgtf | Gr>Bx | (at 1494). Distribution of CuOx is 65% in veins <0.1" thick |
| 1549 | 1559 | 10 | 100 | 0.57 | 0.91 | 0.06 | | 0.57 | | | | | | (2) 100 | 2 50 | black chalcocite introduced | Gr>Bx | (includes fractures dusted w/ CuOx), 10% in veins >0.1" thick, and |
| 1559 | 1569 | 10 | 100 | 0.91 | | | | 0.91 | | | | | | (2) 100 | 2 60 | at 1540 & 1550 | Gr>Bx | 25% dissemin. (mostly plagi. sites). Vein & fracture controlled chrysocolla |
| 1569 | 1579 | 10 | 96 | 0.07 | | | | | | | | | | (2) 100 | 2 40 | 1569-1579 Bgtf | Gr>Bx | dip 30-60 (mostly near vertical at 1467 and 1523). The core |
| 1579 | 1591 | 12 | 100 | 0.06 | 0.30 | 0.039 | | | | | | | | (2) 100 | 3 60 | 1579-1591 Bgtf | Gr>Bx | is moderately strongly broken from 1459 to 1483, and weakly |
| 1591 | 1603 | 12 | 100 | 0.16 | | | | 0.16 | | | | | | (2) 100 | 3 30 | 1603-1591 Bgtf | Gr | broken from 1483 to 1536. |
| 1603 | 1613 | 10 | 100 | 1.07 | | | | 0.27 | 0.80 | | | | | (2) 100 | 5 60 | 1603-1613 Bgtf | Gr>Bx | |

CONTINUED NEXT PAGE

mn 2555 dm

ROTARY _____
CORE _____
Bottom of Casing _____

GEOLOGIC LOG

PROJECT SANTA CRUZ

PROJECT SANTA CRUZ

HOLE NO. SC-59

Collar elev. _____

Final depth _____

Coord N. _____

Coord E. _____

Inclination _____

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Logged by H. G. Kreis

ASARCO

Date 11-1950

| Bottom of Casing | | | | | | | | | | ORE | | | MINERALS | | GANGUE | | | MINERALS | | | STRUCTURE | | ROCK TYPE | ROCK TYPE and REMARKS | | |
|------------------|------|-------|---------------|-------|------|--------|--|------------|-----------------------|------------|------------|-----------|---------------|-------------|----------------|------------|--------|----------------|------------|---------|-----------|---------|-----------|-----------------------|----------|---|
| DEPTH | | | % CORE RECOV. | ASSAY | | | | Chrysotile | Attacumite (Green Cu) | Neopentite | Chalcocite | Chalcophy | Pyrite - Diss | Pyrite - Va | No. of Py Vess | Total Sulf | % Oxid | Total Limonite | Indigenous | Clay in | Sericite | Biotite | Chlorite | Calcite | Quartz | |
| from | to | int'l | | Cu % | Co % | Mo % | | | | | | | | | | | | | | | | | | | | |
| 1613 | 1623 | 10 | 100 | 0.14 | | | | 0.14 | | | | | | | | (3) 100 | | 2 30 | 15 | | | | | | Gr | 1536-1848 GRANITE. Texture and composition as above; however, here there are local graphic to aplite textures, hybrid-like textures, a few opit. dikes (few inches thick), and porphyry-granite hybrid (typical examples of all of these at 1620-1634, 1679, 1701, 1828, and at bottom of interval). Biotite is strongly altered to sericite(?); but where biotite remnants are found (1661, 1778, 1795-1795) biotite is strongly replaced by 2" my biotite. Plag. in mod-stg. alt. to sericite-clay and local K-feldspar (mineral?). K-feld is weakly replaced by sericite (generally selvage alteration). There are sericite selvages and zones of stp. sericite (up to 2" thick) that affect 5% of the interval. Former total sulfide content is highly variable, and fract. 5 diss control down to 1700' and fract. 7 diss below 1700'. Former sulf. replaced by G±H and local free goethite. Most of the transported limonite occurs on fract. or in breccia matrix rather than staining felt sites. Suspect some FeOx contributed from biotite and magnetite(?). Most all sulfide veins <0.1" thick. About 70% of CuOx occur on fract. and 30% in diss. or in plag sites. The core is moderately broken (variable) from 1536 to 1700' and mod.-wkly broken from 1700 to 1848. |
| 1623 | 1633 | 10 | 100 | 0.18 | | | | 0.18 | | | | | | | | (2) 100 | | 3 70 | 20 | | | | | | Gr | |
| 1633 | 1644 | 11 | 100 | 0.16 | 0.18 | 0.0145 | | 0.16 | Tr | | | | | | | (18) 100 | | 2 70 | 20 | | | | | | Gr>Bfp | |
| 1644 | 1654 | 10 | 100 | 0.25 | | | | 0.05 | | | | | | | | (1) 100 | | 2 50 | 15 | | | | | | Gr | |
| 1654 | 1663 | 9 | 100 | 0.24 | | | | 0.24 | | | | | | | | (12) 100 | | 2 70 | 15 | Tr | | | | | Gr | |
| 1663 | 1672 | 9 | 100 | 0.39 | | | | 0.34 | | 0.05(?) | | | | | | (1) 100 | | 2 30 | 20 | | | | | | Gr>Dx | |
| 1672 | 1682 | 10 | 100 | 0.10 | | | | 0.10 | | | | | | | | (2) 100 | | 3 20 | 20 | | | | | | Gr>Bx>Dx | |
| 1682 | 1692 | 10 | 80 | 0.03 | | | | | | | | | | | | (2) 100 | | 3 20 | 20 | | | | | | Gr>Bx | |
| 1692 | 1702 | 10 | 100 | 0.06 | | | | | | | | | | | | (2) 100 | | 3 40 | 20 | | | | | | Gr | |
| 1702 | 1712 | 10 | 100 | 0.02 | 0.12 | 0.063 | | | | ? | | | | | | (12) 100 | | 3 10 | 20 | | | | | | Gr>Bx | |
| 1712 | 1722 | 10 | 100 | 0.02 | | | | | | | | | | | | (12) 100 | | 2 70 | 20 | | | | | | Gr | |
| 1722 | 1732 | 10 | 100 | 0.01 | | | | | | | | | | | | (2) 100 | | 3 60 | 20 | | | | | | Gr | |
| 1732 | 1742 | 10 | 100 | 0.03 | | | | | | | | | | | | (12) 100 | | 3 40 | 20 | | | | | | Gr | |
| 1742 | 1754 | 12 | 100 | 0.63 | | | | 0.68 | Tr | | | | | | | (3) 100 | | 5 60 | 25 | | | | | | Bfp | |
| 1754 | 1765 | 11 | 100 | 0.04 | | | | | | | | | | | | (6) 100 | | 6 40 | 35 | | | | | | Gr>Bx | |
| 1765 | 1775 | 10 | 100 | 0.03 | | | | | | | | | | | | (14) 100 | | 6 50 | 30 | | | | | | Gr>Bx | |
| 1775 | 1785 | 10 | 100 | 0.04 | | | | | | ? | | | | | | (12) 100 | | 2 30 | 20 | Tr | | | | | Gr | |
| 1785 | 1795 | 10 | 100 | 0.05 | | | | | | | | | | | | (2) 100 | | 3 30 | 20 | 3 | | | | | Gr | |
| 1795 | 1805 | 10 | 100 | 0.06 | 0.13 | 0.0082 | | | | | | | | | | (3) 100 | | 4 30 | 20 | Tr | | | | | Gr | |
| 1805 | 1815 | 10 | 100 | 0.08 | | | | | | | | | | | | (2) 100 | | 6 20 | 20 | | | | | | Gr>Bx | |
| 1815 | 1827 | 12 | 92 | 0.10 | | | | 0.10 | | | | | | | | (2) 100 | | 4 20 | 20 | 1 | | | | | Gr>Bx | |
| 1827 | 1838 | 11 | 100 | 0.35 | | | | 0.05 | 0.30 | | | | | | | (12) 100 | | 2 20 | 20 | 8 | | | | | Bfp | |
| 1838 | 1848 | 10 | 100 | 0.38 | | | | 0.38 | | | | | | | | (12) 100 | | 2 30 | 20 | 2 | | | | | Gr>Bx | |
| 1848 | 1858 | 10 | 100 | 0.12 | | | | 0.12 | | | | | | | | (1) 100 | | 1 50 | 15 | 5? | | | | | Bfp | |
| 1858 | 1868 | 10 | 100 | 0.14 | | | | 0.14 | | | | | | | | (1) 100 | | 1 70 | 20 | 5? | | | | | Bfp | |
| 1868 | 1878 | 10 | 100 | 0.17 | | | | 0.17 | | | | | | | | (12) 100 | | 2 70 | 20 | | | | | | Bgfp | |
| 1878 | 1888 | 10 | 100 | 0.15 | | | | 0.15 | | | | | | | | (1) 100 | | 1 50 | 15 | | | | | | Bgfp | |
| 1888 | 1898 | 10 | 100 | 0.26 | 0.13 | 0.0052 | | 0.26 | | | | | | | | (1) 100 | | 1 50 | 15 | | | | | | Bgfp | |
| 1898 | 1908 | 10 | 100 | 0.22 | | | | 0.22 | | | | | | | | (2) 100 | | 1 50 | 10 | | | | | | Bgfp | |
| 1908 | 1918 | 10 | 100 | 0.10 | | | | 0.10 | | | | | | | | (1) 100 | | 1 50 | 8 | | | | | | Bgfp | |
| 1918 | 1928 | 10 | 100 | 0.05 | | | | | | | | | | | | (12) 100 | | 2 20 | 10 | | | | | | Bgfp | |
| 1928 | 1938 | 10 | 100 | 0.06 | | | | | | | Tr? | | | | | (2) 100 | | 4 20 | 15 | | | | | | Bgfp | |
| 1938 | 1944 | 6 | 100 | 0.09 | | | | | 0.09 | | | | | | | (2) 100 | | 4 20 | 25 | | | | | | Bgfp>Bx | |
| 1944 | 1954 | 10 | 100 | 0.72 | | | | 0.72 | | | | 0.3 | 4 15 | 1 10 | | (3) 100 | | 1 40 | 10 | | | | | | Bfp | |
| 1954 | 1964 | 10 | 100 | 0.24 | | | | 0.20 | 0.04 | | | 1/4 3/4 | 10 1 10 | | | (1) 100 | | 1/4 40 | 8 | | | | | | Bgfp | |
| 1964 | 1974 | 10 | 100 | 0.25 | | | | 0.25 | Tr | | | 1/4 3/4 | 10 1 10 | | | (1) 100 | | 1/4 40 | 5 | | | | | | Bgfp | |
| 1974 | 1984 | 10 | 100 | 0.05 | 0.23 | 0.0048 | | 0.05 | | | | | | | | (2) 100 | | 1 70 | 5 | | | | | | Bgfp | |
| 1984 | 1994 | 10 | 100 | 0.23 | | | | 0.23 | | | | | | | | (3) 100 | | 1 70 | 8 | | | | | | Bgfp | |
| 1994 | 2004 | 10 | 100 | 0.11 | | | | 0.11 | | | | | | | | (1) 100 | | 1/2 70 | 5 | | | | | | Bgfp | |
| 2004 | 2014 | 10 | 93 | 0.14 | | | | 0.14 | | | | | | | | (3) 100 | | 3/4 70 | 5 | | | | | | Bgfp | |
| 2014 | 2024 | 10 | 100 | 0.46 | | | | 0.46 | | | | | | | | (1) 100 | | 3/4 70 | 5 | | | | | | Bgfp | |
| 2024 | 2034 | 10 | 100 | 0.16 | | | | | | | | 0.16 | | | | (2) 100 | | 1 60 | 5 | | | | | | Bgfp | |
| 2034 | 2044 | 10 | 100 | 0.75 | | | | | | | | 0.75 | Tr | | | (3) 100 | | 1 50 | 5 | | | | | | Bgfp | |

CONTINUED ON NEXT PAGE

~ CONTINUED ~

mn 2555 dm

GEOLOGIC LOG

PROJECT SANTA CRUZ

PROJECT SANTA CRUZ

HOLE NO. SC-59

From To Start Finish Contractor

ROTARY

CORE

Bottom of Casing

Collar elev.

Final depth

Coord N.

Coord E.

Inclination

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Logged by

ASARCO

Date

| DEPTH | | | % CORE RECOV. | ASSAY COMPOSITIONS | | | | | | Chrysocolla | Attacumite | Barite | Chalcoite | Chalcopyrite | Pyrite - Dis | Pyrite - In | No. of Py Veins | Total Sulfide | % Oxidation | Total Limestone | Indigenous | Clay Var | Sericite | Biotite | Chlorite | Calcite | Quartz | STRUCTURE | ROCK TYPE | ROCK TYPE and REMARKS | |
|-------|------|-------|---------------|--------------------|------|-------|--|---------|---------|-------------|------------|--------|-----------|--------------|--------------|-------------|-----------------|---------------|-------------|-----------------|------------|----------|----------|---------|----------|---------|--------|-----------|---|--|---------------------|
| from | to | int'l | | Cu % | Cu % | Mo % | | Au oz/T | Ag oz/T | | | | | | | | | | | | | | | | | | | | | | |
| 2044 | 2053 | 9 | 100 | 0.53 | | | | | | | | 0.53 | | Tr | | | | 1/2 | 95 | 3/4 | 60 | 10 | 3+ | Tr | Tr | | | | (1848-2268, cont.) a higher pyrite to serpy ratio than | | |
| 2053 | 2058 | 5 | 100 | 0.32 | 0.42 | .0041 | | | | | | 0.10 | 0.22 | 2 | 1 | 5 | 3/4 | 50 | 1/2 | 60 | 5 | 5+ | Tr | Tr | | | | | observed in the primary sulfide zone below 2268. In | | |
| 2058 | 2068 | 10 | 100 | 0.37 | | | | | | | | 0.32 | .05 | Tr | | | 3/4 | 60 | 1/2 | 60 | 5 | 3+ | Tr | Tr | | | | | the granite biot. in mnd. alt. to 2nd biot. and ser.; | | |
| 2068 | 2078 | 10 | 100 | 0.41 | | | | | | | | 0.41 | | 2 | | | 3/4 | 40 | 1/2 | 60 | 5 | 10 | Tr | Tr | | | | | plag. is strongly alt. to clay, sericite, and K-feld; and | | |
| 2078 | 2088 | 10 | 100 | 0.30 | | | | | | | | 0.30 | | Tr | | | 3/4 | 70 | 3/4 | 70 | 5 | 3+ | Tr | Tr | | | | | K-feld in fresh. The former sulfides (in both Bgfp | | |
| 2088 | 2098 | 10 | 100 | 0.09 | | | | | | | | | | | | | 3/4 | 100 | 3/4 | 60 | 5 | 3+ | Tr | Tr | | | | | and Gr) are replaced by Gneiss Hem. and local Gr = Tan. | | |
| 2098 | 2108 | 10 | 100 | 0.09 | | | | | | | | | | | | | 3/4 | 100 | 3/4 | 30 | 5 | 3 | Tr | 1 | | | | | in areas of mixed oxid.-sulf. Chry in the top half of | | |
| 2108 | 2118 | 10 | 100 | 0.09 | | | | | | | | | | | | | 3/4 | 100 | 3/4 | 30 | 5 | 8 | Tr | 1 | | | | | | the interval is dominantly fract. controlled. Approx. K-feld | |
| 2118 | 2123 | 10 | 100 | 0.10 | | | | | | 0.03 | | 0.07 | | 1 | 2 | 3/4 | 95 | 1 | 30 | 10 | 5 | 1 | 1 | | | | | | | diss. magnetite. The core is moderately broken. | |
| 2123 | 2133 | 10 | 100 | 0.07 | | | | | | | | 0.07 | | | | | 2 | 100 | 2 | 30 | 15 | 5 | Tr | 1 | | | | | | | |
| 2133 | 2148 | 10 | 100 | 0.06 | 0.14 | .0097 | | | | 0.06 | | | | | | | 1/2 | 100 | 1/2 | 30 | 10 | 5 | 1 | 1 | | | | | | | |
| 2148 | 2158 | 10 | 100 | 0.12 | | | | | | | | 0.12 | | | | | 1/2 | 60 | 3/4 | 40 | 5 | 5 | Tr | 1 | | | | | | | |
| 2158 | 2167 | 9 | 100 | 0.16 | | | | | | | | 0.11 | .05 | | | | 3/4 | 70 | 1 | 30 | 10 | 5 | Tr | Tr | | | | | | | |
| 2167 | 2172 | 5 | 100 | 0.03 | | | | | | | | 0.03 | | | | | 3/4 | 100 | 1 | 50 | 10 | 5 | Tr | Tr | | | | | | | |
| 2172 | 2182 | 10 | 100 | 0.35 | | | | | | | | 0.35 | | 15 | 1 | 3/4 | 80 | 1/2 | 50 | 5 | 8 | Tr | Tr | | | | | | | | 1" pyrn @ 60°--2179 |
| 2182 | 2192 | 10 | 100 | 0.16 | | | | | | | | 0.16 | | 2 | 1 | 1/2 | 70 | 1 | 50 | 5 | 8 | Tr | Tr | | | | | | | | |
| 2192 | 2202 | 10 | 100 | 0.19 | | | | | | | | 0.19 | | Tr | | | 1/2 | 95 | 1/2 | 50 | 5 | 3+ | Tr | Tr | | | | | | | |
| 2202 | 2212 | 10 | 100 | 0.32 | | | | | | | | 0.16 | 0.16 | 3 | 1 | 5 | 2 | 15 | 1/2 | 50 | 10 | 2+ | Tr | Tr | | | | | | | |
| 2212 | 2222 | 10 | 100 | 0.23 | | | | | | | | 0.06 | 0.17 | 3 | 1 | 1 | 1/2 | 10 | 1/2 | 50 | 8 | 1+ | Tr | Tr | | | | | | | |
| 2222 | 2232 | 10 | 55 | 0.17 | | | | | | | | 0.05 | 0.12 | 1 | 1 | | 1/2 | 15 | 1/2 | 50 | 8 | 1+ | Tr | Tr | | | | | | | |
| 2232 | 2242 | 10 | 100 | 0.11 | | | | | | | | 0.03 | 0.07 | 1 | 1 | | 1/2 | 15 | 1/2 | 50 | 8 | 1+ | Tr | 1 | | | | | | | |
| 2242 | 2252 | 10 | 100 | (low?) 0.07 | | | | | | | | 0.02 | 0.05 | 1 | | | 1/2 | 10 | 1/2 | 50 | 8 | 1+ | Tr | 1 | | | | | | | |
| 2252 | 2262 | 8 | 100 | (low?) 0.09 | 0.19 | .0045 | | | | | | 0.03 | 0.07 | Tr | | | 1/2 | 30 | 3/4 | 50 | 8 | 1+ | Tr | 1 | | | | | | | |
| 2262 | 2268 | 8 | 100 | (low?) 0.16 | | | | | | | | 0.05 | 0.08 | Tr | Tr | 3 | 1/2 | 10 | 1/2 | 50 | 8 | 1+ | Tr | 1 | | | | | | | |
| 2268 | 2278 | 10 | 100 | (low?) 0.13 | | | | | | | | 0.02 | 0.11 | Tr | Tr | 5 | 1/2 | Tr | Tr | | 5 | 1+ | 1 | 3 | | | | | | | |
| 2278 | 2288 | 10 | 100 | 0.19 | | | | | | | | | 0.19 | Tr | 2 | 2 | 3 | | | | 30 | 1+ | 1 | 2 | | | | | | | |
| 2288 | 2298 | 10 | 100 | 0.22 | | | | | | | | 0.02 | 0.20 | Tr | 1 | 2 | 1/2 | | | | 10 | 1+ | 1 | 2 | | | | | | | |
| 2298 | 2308 | 10 | 100 | 0.18 | | | | | | | | Tr | 0.18 | Tr | Tr | 3 | 1/2 | | | | 15 | 1+ | 1 | 4 | | | | | | | |
| 2308 | 2318 | 10 | 100 | 0.15 | | | | | | | | 0.15 | Tr | 2 | 4 | 1/2 | | | | | 10 | 1+ | 1 | 4 | | | | | | | |
| 2318 | 2328 | 10 | 100 | 0.17 | | | | | | | | 0.17 | Tr | 1 | 5 | 1/2 | | | | | 10 | 1+ | 1 | 3 | | | | | | | |
| 2328 | 2338 | 10 | 100 | 0.10 | | | | | | | | 0.10 | Tr | 1 | 1 | 1/2 | | | | | 15 | 1 | 1 | 4 | | | | | | | |
| 2338 | 2348 | 10 | 100 | 0.22 | | | | | | | | 0.22 | Tr | 1 | 2 | 1/2 | | | | | 10 | 1 | 1 | 2 | | | | | | | |
| 2348 | 2358 | 10 | 100 | 0.23 | | | | | | | | 0.23 | Tr | 1 | 2 | 1/2 | | | | | 10 | 1 | 1 | 2 | | | | | | | |
| 2358 | 2368 | 10 | 100 | 0.28 | 0.25 | .0080 | | | | | | 0.28 | Tr | 1 | 2 | 1/2 | | | | | 15 | 1 | 1 | 2 | | | | | | | |
| 2368 | 2378 | 10 | 100 | 0.37 | | | | | | | | 0.37 | 1 | 1 | 3 | 1/2 | | | | | 10 | 1 | 1 | 3 | | | | | | | |
| 2378 | 2388 | 10 | 100 | 0.27 | | | | | | | | 0.29 | Tr | Tr | 1 | 3/4 | | | | | 10 | 1 | 1 | 2 | | | | | | | |
| 2388 | 2398 | 10 | 100 | 0.38 | | | | | | | | 0.38 | 1 | 3 | 3 | 1/2 | | | | | 15 | 1 | 1 | 3 | | | | | | | |
| 2398 | 2406 | 8 | 100 | 0.33 | | | | | | | | 0.33 | 1 | 1 | 2 | 1 | | | | | 20 | 1 | 1 | 3 | | | | | | | |
| 2406 | 2414 | 8 | 100 | 0.19 | | | | | | | | 0.19 | 1 | | Tr | 1 | | | | | 15 | 1 | Tr | 2 | | | | | | | |
| 2414 | 2424 | 10 | 100 | 0.45 | | | | | | | | 0.45 | 1 | 1 | 5 | 4 | 2 | | | | 15 | Tr | Tr | 4 | | | | | | | |
| 2424 | 2434 | 10 | 100 | 0.30 | | | | | | | | 0.30 | 2 | 3 | 3 | 1/2 | | | | | 15 | 4 | Tr | 4 | | | | | | | |
| 2434 | 2444 | 10 | 95 | 0.27 | 0.30 | .0067 | | | | | | 0.29 | 1 | 1 | 2 | 1 | | | | | 15 | Tr | Tr | 3 | | | | | | | |
| 2444 | 2454 | 10 | 100 | 0.23 | | | | | | | | 0.23 | 1 | | | 3/4 | | | | | 15 | 4 | Tr | 2 | | | | | | | |

CONTINUED ON NEXT PAGE

CONTINUED

mo 2555 dm

GEOLOGIC LOG

PROJECT SANTA CRUZ

PROJECT SANTA CRUZ HOLE NO. SC-57
Collar elev. _____ Final depth _____
Coord N _____ Coord E _____
Inclination _____ Page 5 of 7
Logged by H. Kreis ASARCO
Date 11-1980

ROTARY _____
CORE _____
From _____ To _____ Start _____ Finish _____ Contractor _____
Bottom of Casing _____

| DEPTH | | | % CORE RECOVER | ASSAY | | | | | | Bornite | Chalcocite | Chalcopyrite | Pyrite - Diss | Pyrite - Vein | No. of Py Veins | Total Sulfide | % Dissection | Total Lim | Indigenous | Clay Vein | Serpentine | Biotite | Chlorite | Calcite | Quartz | STRUCTURE | ROCK TYPE | ROCK TYPE and REMARKS |
|-------|------|-------|----------------|-------|--------|--------|---------|---------|-----|---------|------------|--------------|---------------|---------------|-----------------|---------------|--------------|-----------|------------|-----------|------------|---------|----------|---------|--------|-----------|---|--|
| from | to | int'l | | Cu % | Fe % | Mo % | As oz/t | Ag oz/t | | | | | | | | | | | | | | | | | | | | |
| 2454 | 2464 | 10 | 100 | 0.24 | | | | | | | 0.24 | Tr | 3 | 4 | 1 | - | - | - | | | 10 | 1 | 1 | 3 | | Bgfp | (2268-2898, cont.) vein and diss. chalcopyrite. About | |
| 2464 | 2474 | 10 | 100 | 0.37 | | | | | | | 0.37 | Tr | 4 | 6 | 1 | | | | | | 5 | 2 | 1 | 2 | | Bgfp | 1-2% of the interval is strong, gray colored quartz-sericite | |
| 2474 | 2483 | 9 | 100 | 0.20 | | | | | | | 0.20 | Tr | 4 | 8 | 3 | | | | | | 8 | 2 | 1 | 2 | | Bgfp | alteration (1/2"-1" thick) assoc. with pyrite veins and pyrite | |
| 2483 | 2485 | 12' | 100 | 0.31 | 0.0051 | | Tr | Tr | | | | Tr | - | - | 1 | | | | | | 5 | 2 | 1 | 6 | | Db (?) | | vein-disseminated structures. The sulfide mineralization |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2485 | 2495 | | 0.46 | | | | | | | | 0.46 | Tr | 4 | 3 | 1 | | | | | | 5 | 5 | 1 | 2 | | Bgfp | is strongly fract. controlled. Approx. 80% of the chalcopyrite | |
| 2495 | 2505 | 10 | 100 | 0.43 | | | | | | | 0.43 | Tr | 2 | 5 | 1 | | | | | | 5 | 1 | 1 | 2 | | Bgfp | occurs in veinlets (generally <0.05" thick but some up to 0.1" thick) | |
| 2505 | 2515 | 10 | 100 | 0.26 | | | | | | | 0.26 | Tr | 3 | 6 | 1 | | | | | | 5 | 1 | 1 | 2 | | Bgfp | and vein-like zones of 1-10%, strongly disseminated chalcopyrite (generally | |
| 2515 | 2525 | 10 | 100 | 0.48 | | | | | | | 0.48 | Tr | 1 | 2 | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | <3" thick; occasionally up to 2" thick; assoc. w/ bio-chlor-ser-gt- | |
| 2525 | 2535 | 10 | 100 | 0.57 | | | | | | | 0.57 | Tr | 1 | 1 | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | 2-4" fold as previously discussed). Approx. 20% of the chalcopyrite | |
| 2535 | 2545 | 10 | 100 | 0.53 | 0.46 | 0.0086 | | Tr | Tr | | 0.53 | Tr | Tr | - | 1 | | | | | | 5 | 1 | 1 | 2 | | Bgfp | is erratically disseminated - most commonly near fract. controlled | |
| 2545 | 2555 | 10 | 100 | 0.44 | | | | | | | 0.44 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | chalcopyrite. About 80% of the pyrite occurs in veins (<1" thick) | |
| 2555 | 2565 | 10 | 100 | 0.51 | | | | | | | 0.51 | Tr | 1 | 1 | 1 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | py. only) vein-like, strongly disseminated structures (1/2" to 1" thick). Approx. | |
| 2565 | 2575 | 10 | 100 | 1.28 | | | | | | | 1.28 | Tr | 2 | 1 | 2 | | | | | | 8 | 1 | 2 | 1 | | Bgfp | 20% of the pyrite occurs in some of the chalcopyrite | |
| 2575 | 2585 | 10 | 100 | 1.08 | 1.20 | 0.0308 | | Tr | .06 | | 1.08 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | veinlets, and in these veinlets the ratio is >4 cpy:1 py. It | |
| 2585 | 2595 | 10 | 83 | 1.47 | | | | | | | 1.47 | Tr | 1 | 2 | 1 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | appears that ~80% of the pyrite mineralization post dates | |
| 2595 | 2605 | 6 | 100 | 0.30 | | | | | | | 0.30 | Tr | - | - | 2 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | the chalcopyrite mineralization. The py:cpy is 1:4 in the | |
| 2605 | 2615 | 11 | 100 | 0.97 | | | | | | | 0.97 | Tr | 1 | 2 | 2 | | | | | | 5 | 5 | 1 | 3 | | Bgfp | top 200' of the interval, 1:10 in the middle 200', and 1:7 | |
| 2615 | 2622 | 10 | 100 | 0.78 | 0.74 | 0.0297 | | Tr | .04 | | 0.78 | Tr | Tr | - | 1 | | | | | | 5 | 5 | 1 | 2 | | Bgfp | in the lower 200'. Without the py veins and zones of | |
| 2622 | 2632 | 10 | 80 | 0.82 | | | | | | | 0.82 | Tr | Tr | - | 1 | | | | | | 5 | 5 | 1 | 1 | | Bgfp | strongly disseminated py. the ratio is 1py:10+cpy. Malachite | |
| 2632 | 2642 | 10 | 100 | 0.61 | | | | | | | 0.61 | Tr | 1 | 1 | 3/4 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | occurs in veinlets and disseminated fract., sometimes with cpy. | |
| 2642 | 2652 | 10 | 100 | 0.65 | | | | | | | 0.65 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | Magnetite is <1/2% and is disseminated. Rare specularite | |
| 2652 | 2662 | 10 | 95 | 0.48 | | | | | | | 0.48 | Tr | - | - | 3/4 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | (2514, py > spec cpy; 2835 spec. vein; 2887 trace). Additional | |
| 2662 | 2672 | 10 | 100 | 0.26 | | | | | | | 0.26 | Tr | - | - | 3/4 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | traces of bornite might be found if a microscope is used. | |
| 2672 | 2682 | 10 | 100 | 0.35 | 0.36 | 0.0226 | | Tr | Tr | | 0.35 | Tr | - | - | 3/4 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | Noted finely disseminated indig. hematite on a few fract. circa | |
| 2682 | 2692 | 10 | 100 | 0.34 | | | | | | | 0.34 | Tr | - | - | 3/4 | | | | | | 3 | 1 | 1 | 1 | | Bgfp | 2800' ± 50'. Calcite is most abundant in the upper 200' | |
| 2692 | 2702 | 10 | 100 | 0.40 | | | | | | | 0.40 | Tr | Tr | 1 | 3/4 | | | | | | 3 | 1 | 1 | 1 | | Bgfp | of the interval where it occurs as coating fractures, in veins | |
| 2702 | 2712 | 10 | 100 | 0.47 | | | | | | | 0.47 | Tr | 3 | 2 | 1 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | (monomineralic) up to 1/2" thick, and as disseminations through- | |
| 2712 | 2715 | 3 | 100 | 0.48 | | | | | | | 0.48 | Tr | 2 | 1 | 3 | | | | | | 20 | Tr | 3 | 1 | | Bgfp | out most of the rock. In the lower 400' calcite coats | |
| 2715 | 2725 | 10 | 100 | 0.69 | 0.55 | 0.0103 | | Tr | .06 | | 0.69 | Tr | 1 | 1 1/2 | | | | | | | 10 | 1 | 1 | 1 | | Bgfp | fractures. From 2268 to 2825 the core is moderately | |
| 2725 | 2735 | 10 | 100 | 0.47 | | | | | | | 0.47 | Tr | 1 | 1 | 1 | | | | | | 10 | 1 | 1 | 1 | | Bgfp | broken, and from 2825 to 2898 the core is moderately | |
| 2735 | 2745 | 10 | 100 | 0.54 | | | | | | | 0.54 | Tr | 3 | 3 | 1 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | to moderately strongly broken. | |
| 2745 | 2755 | 10 | 100 | 0.43 | | | | | | | 0.43 | Tr | 1 | 2 | 1 | | | | | | 10 | 1 | 1 | 1 | | Bgfp | | |
| 2755 | 2765 | 10 | 100 | 0.36 | | | | | | | 0.36 | Tr | 2 | 1 | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | | |
| 2765 | 2775 | 10 | 100 | 0.45 | | | | | | | 0.45 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | In the Bgfp veins and | |
| 2775 | 2785 | 10 | 100 | 0.61 | 0.51 | 0.0489 | | Tr | .06 | | 0.61 | Tr | 1 | 1 1/4 | | | | | | | 5 | 2 | 1 | 1 | | Bgfp | vein-like zones of | |
| 2785 | 2795 | 10 | 100 | 0.42 | | | | | | 0.05 | 0.42 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | cpy commonly dip | |
| 2795 | 2805 | 10 | 100 | 0.60 | | | | | | Tr | 0.60 | Tr | 2 | 3 | 1 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | 20-70°. | |
| 2805 | 2815 | 10 | 100 | 0.48 | | | | | | | 0.48 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | | |
| 2815 | 2825 | 10 | 100 | 0.38 | | | | | | | 0.38 | Tr | - | - | 1 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | | |
| 2825 | 2835 | 10 | 100 | 0.58 | 0.50 | 0.0362 | | Tr | Tr | | 0.58 | Tr | 2 | 3 | 1 1/2 | | | | | | 7 | 1 | 1 | 1 | | Bgfp | | |
| 2835 | 2845 | 10 | 100 | 0.40 | | | | | | | 0.40 | Tr | 1 | 3 | 1 | | | | | | 7 | 1 | 1 | 1 | | Bgfp | | |
| 2845 | 2855 | 10 | 100 | 0.61 | | | | | | | 0.61 | Tr | 2 | 3 | 1 1/2 | | | | | | 5 | 2 | 1 | 1 | | Bgfp | | |
| 2855 | 2865 | 10 | 100 | 0.20 | | | | | | | 0.20 | Tr | 1 | 2 | 1 1/2 | | | | | | 5 | 1 | 1 | 1 | | Bgfp | 2858 1/2" calcite vein @ 70° | |

only a few
+ 1/2" intervals
of 0.4-0.5
is fine 1/4"-1/2" veins down

CONTINUED ON NEXT PAGE

ROTARY _____
CORE _____
Bottom of Casing _____

From _____ To _____ Start _____ Finish _____ Contractor _____

GEOLOGIC LOG

PROJECT SANTA CRUZ

PROJECT SANTA CRUZ

HOLE NO. SC-59

Collar elev. _____

Final depth 3609 T.D.

Coord N. _____

Coord E. _____

Inclination _____

Page 7 of 7

Logged by H.G. Kraus

ASARCO

Date 1-1981

| DEPTH | | | % CORE RECOV. | ASSAY | | | | | | MINERALS | | | | | | | | | | STRUCTURE | ROCK TYPE | ROCK TYPE and REMARKS |
|-------|-----------|-------|---------------|------------|------|--------|------|------|--------------|--------------|-------------|---------------|---------------|-------------|-----------------|------------|----------|------------|---------|-----------|-----------|-----------------------|
| from | to | int'l | | COMPOSITES | | | Au | Ag | Chalcopyrite | Pyrro - Dist | Pyrro - Vns | No. of py vns | Total Sulfide | % Oxidation | Total Limestone | Indigenous | Clay Vns | Serpentine | Biotite | | | |
| Cu % | Cu % | Mo % | | | | Oz/T | Oz/T | | | | | | | | | | | | | | | |
| 3278 | 3288 | 10 | 100 | 0.31 | | | | 0.31 | 1 | Tr | 2 | 1 | 0 | | | | 10 | 5 | Tr | Tr | | |
| 3288 | 3298 | 10 | 100 | 0.56 | | | | 0.56 | Tr | 2 | 2 | 1 | | | | | 10 | 5 | Tr | Tr | | |
| 3298 | 3308 | 10 | 100 | 0.36 | 0.38 | 0.0335 | | 0.36 | Tr | 1 | 1 | 1 | | | | | 10 | 5 | Tr | Tr | | |
| 3308 | 3318 | 10 | 100 | 0.90 | | | | 0.90 | Tr | 1 | 2 | 2 | | | | | 10 | 10 | Tr | Tr | | |
| 3318 | 3328 | 10 | 100 | 0.43 | | | | 0.43 | Tr | 3 | 3 | 1 | | | | | 10 | 5 | Tr | Tr | | |
| 3328 | 3338 | 10 | 100 | 0.27 | | | | 0.27 | Tr | 1 | 1 | 3/4 | | | | | 10 | 5 | Tr | Tr | | |
| 3338 | 3348 | 10 | 100 | 0.24 | | | | 0.24 | Tr | 5 | 4 | 1 | | | | | 15 | 5 | Tr | Tr | | |
| 3348 | 3352 | 4 | 100 | 0.33 | 0.40 | 0.0041 | | 0.33 | 1 | 15 | 8 | 2 | | | | | 15 | 5 | Tr | Tr | | |
| 3352 | 3362 | 10 | 100 | 0.47 | | | | 0.47 | Tr | 3 | 3 | 1/4 | | | | | 5 | 15 | 3 | 1/2 | | |
| 3362 | 3372 | 10 | 100 | 0.34 | | | | 0.34 | 1 | 1 | 10 | 13/4 | | | | | 5 | 15 | Tr | 1/2 | | |
| 3372 | 3382 | 10 | 100 | 0.36 | | | | 0.36 | 1 | 2 | 3/4 | 3 | | | | | 5 | 15 | Tr | 1/2 | | |
| 3382 | 3392 | 10 | 100 | 0.37 | | | | 0.37 | Tr | 1 | - | 1 | | | | | 10 | 5 | Tr | 1/2 | | |
| 3392 | 3402 | 10 | 100 | 0.41 | | | | 0.41 | Tr | 1 | - | 1 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3402 | 3412 | 10 | 100 | 0.34 | 0.34 | 0.0051 | | 0.34 | Tr | 1 | - | 3/4 | | | | | 5 | 5 | 1 | 1/2 | | |
| 3412 | 3422 | 10 | 100 | 0.46 | | | | 0.46 | Tr | 2 | 2 | 1 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3422 | 3432 | 10 | 50 | 0.45 | | | | 0.45 | Tr | 2 | 2 | 1 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3432 | 3442 | 10 | 63 | 0.33 | | | | 0.33 | Tr | 2 | 2 | 3/4 | | | | | 15 | 5 | 1 | 1/2 | | |
| 3442 | 3452 | 10 | 100 | 0.27 | | | | 0.27 | Tr | 1 | 1 | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3452 | 3462 | 10 | 100 | 0.29 | 0.43 | 0.0515 | | 0.29 | Tr | 5 | 4 | 1 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3462 | 3472 | 10 | 100 | 0.31 | | | | 0.31 | Tr | 2 | 1 | 3/4 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3472 | 3482 | 10 | 100 | 0.30 | | | | 0.30 | Tr | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3482 | 3492 | 10 | 100 | 0.18 | | | | 0.18 | Tr | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3492 | 3502 | 10 | 100 | 0.24 | | | | 0.24 | Tr | 1 | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3502 | 3512 | 10 | 100 | 0.19 | | | | 0.19 | Tr | 1 | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3512 | 3522 | 10 | 100 | 0.25 | 24 | 0.0044 | | 0.25 | 1 | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3522 | 3532 | 10 | 100 | 0.33 | | | | 0.33 | 1 | 2 | 3 | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3532 | 3542 | 10 | 100 | 0.26 | | | | 0.26 | 1 | 2 | 3 | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3542 | 3552 | 10 | 100 | 0.22 | | | | 0.22 | 1 | 1 | 1 | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3552 | 3562 | 10 | 100 | 0.31 | | | | 0.31 | Tr | 1 | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3562 | 3572 | 10 | 100 | 0.27 | | | | 0.27 | Tr | 1 | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3572 | 3582 | 10 | 100 | 0.24 | 26 | 0.0072 | | 0.24 | 1 | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3582 | 3592 | 10 | 100 | 0.23 | | | | 0.23 | 1 | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3592 | 3600 | 8 | 100 | 0.20 | | | | 0.20 | 1 | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |
| 3600 | 3609 T.D. | 9 | 100 | 0.33 | | | | 0.33 | 1 | Tr | - | 1/2 | | | | | 10 | 5 | 1 | 1/2 | | |

3289 5" Bfp @ 50"

(2898-3609 T.D. See previous page)

1/4" py vns @ 43"

3609 T.D.

January 25, 1982

TO: W. D. Payne

FROM: H. G. Kreis

Hanna-Getty
Acid Soluble Copper Inventory
Santa Cruz Project

An inventory of the acid soluble copper mineralization in the Hanna-Getty deposit has been completed. This inventory gives a perspective of the abundance of leachable copper with a variety of cut-off criteria (presented as Case I to Case IV). Furthermore, the inventories of Case I to Case III are subdivided by copper mineralogy, copper oxide versus chalcocite, to separate highly soluble copper mineralization from copper mineralization that dissolves more slowly. The cut-off criteria for each case is shown in Table 1, the acid soluble copper inventory for each case is tabulated in Table 2, and the location of each inventory is shown on the attached plan map.

Table 1. Inventory Cut-Off Criteria.

| | Grade (% Cu) | Thickness (ft.) | Ft-% Cu |
|----------|-----------------|--------------------|------------|
| Case I | 0.4 | 600 | 800 |
| Case II | 0.4 | 200 | 200 |
| Case III | 0.2 | 200 | 100 |
| Case IV | 0.1 | 50 | None |

Table 2. Hanna-Getty Acid Soluble Copper Inventory

| Case | COPPER OXIDE | | | CHALCOCITE | | | TOTAL | | | | |
|------|--------------|-----------------|----------------|--------------|-----------------|----------------|----------------|--------------|-----------------|----------------|------------|
| | Tons (M*) | Grade (% Cu) | Lbs.Cu (M*) | Tons (M*) | Grade (% Cu) | Lbs.Cu (M*) | Thick (ft.) | Tons (M*) | Grade (% Cu) | Lbs.Cu (M*) | Ft-% Cu |
| I | 35 | 1.31 | 920 | 15 | 1.65 | 490 | 817 | 50 | 1.41 | 1400 | 1150 |
| II | 97 | 1.22 | 2400 | 68 | 1.06 | 1400 | 551 | 165 | 1.15 | 3800 | 630 |
| III | 130 | 1.08 | 2800 | 83 | 1.00 | 1700 | 508 | 213 | 1.05 | 4500 | 530 |
| IV | - | - | - | - | - | - | - | 500 | 0.55 | 5500 | - |

In Case I, II, and III the inventory is hosted in bedrock consisting of 90% Precambrian granite, 9% porphyry dikes, and 1% diabase dikes. All of these rocks are altered, and the resulting mineralogy is estimated to be: 39% quartz, 36% K-feldspar, 17% sericite and some clay, 3% biotite and chlorite, 3% copper and iron minerals, and 2% other minerals (based solely on visual inspection).

*M is one million.

Case I is an unusually thick (817') and unusually high grade (1.41% Cu) area of copper mineralization. The average feet-percent copper in Case I is 1152. The "copper oxide" copper of Case I consists of 85% atacamite, 8% chrysocolla, and 7% chalcocite. The "chalcocite" copper is 85% chalcocite-digenite-covellite and 15% chalcopyrite. Approximately 30% of the potentially in-place leachable copper (Case III) is in Case I.

Case III is an estimate of the potentially in-place leachable copper using the cut-off criteria developed for a similar, but previous, calculation of the ASARCO-Freeport inventory. The "copper oxide" copper of Case III is estimated to be 85% atacamite, 10% chrysocolla and 5% chalcocite. The "chalcocite" copper of Case III is approximately 83% chalcocite-digenite-covellite, 15% chalcopyrite, and 2% chrysocolla.

Case II represents the doubling of Case III's cut-off criteria for copper grade and feet-percent copper. This results in a decrease from 4.5 billion pounds of copper in Case III to 3.8 billion pounds in Case II, a decrease of only 16%.

The Case I, II, and III inventories are each a continuous mass of copper mineralization of reasonable shape between depths of 1400' and 3200'. In each inventory the continuity of thickness, grade, and copper mineral type is excellent for copper mineralization of supergene origin.

Internal waste is included in Cases I, II, and III. An estimated 10% of the tonnage in Case I is less than 0.4% copper. Likewise an estimated 8% of the tonnage in Case II is less than 0.4% copper. In Case III an estimated 6% of the tonnage is less than 0.2% copper.

The data base for Cases I, II, and III consists of Hanna-Getty assays, reconnaissance logs of the Hanna-Getty core, and cross sections (1"=200'). The cross sections are northeast-southwest sections spaced 355' apart. Copper mineralogy and 50' average assays (computed and plotted by Barnes) are plotted on the cross sections. Acid soluble copper mineralization was blocked out using the appropriate cut-off criteria, and the various inventories were calculated from the cross sectional areas.

Case IV is the 1980 geologic inventory of M. Barnes and Associates (adjusted for property boundary and tonnage factor). It consists of the summation of Kriged inventory blocks (200'x200'x50') using a 0.1% copper cut-off grade.

H. G. Kreis

H. G. Kreis

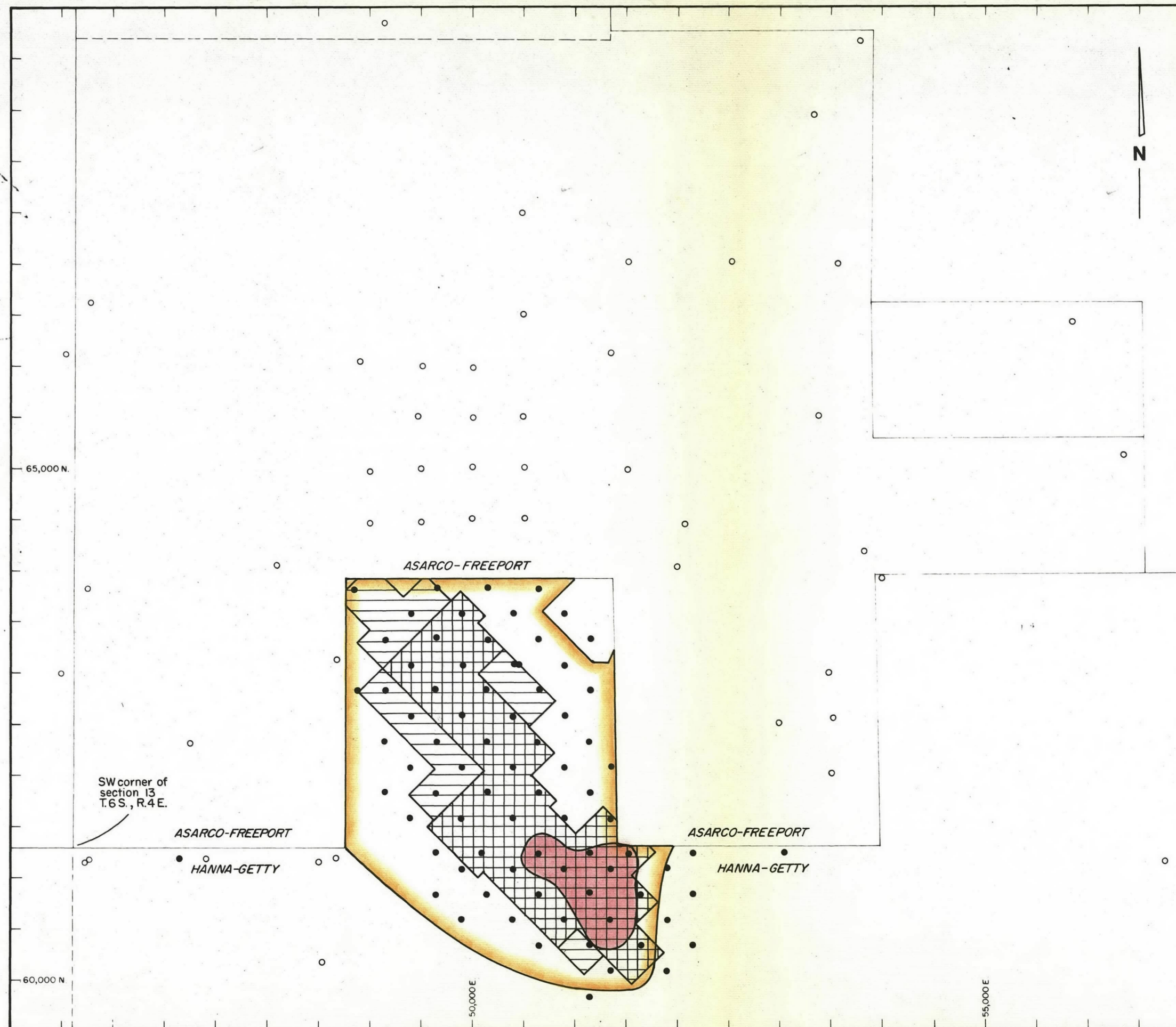
HGK:mek
Att.

EXPLANATION

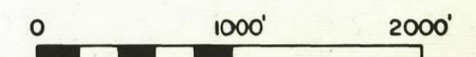
- Drill hole. See "Copper Intercepts" plan map for drill hole identification numbers.
- ASARCO-Freeport drill hole
- Hanna-Getty drill hole

HANNA-GETTY COPPER MINERAL INVENTORY

| CASE | DEPTH (ft. top) | THICKNESS (ft.) | TONS (million) | GRADE (% Cu) | FT. % (copper) | Lbs Cu (billion) |
|---------------------------------|--------------------|--------------------|-------------------|-----------------|-------------------|---------------------|
| ACID SOLUBLE COPPER | | | | | | |
| I | 2100 | 817 | 50 | 1.41 | 1150 | 1.4 |
| II | 1950 | 551 | 165 | 1.15 | 630 | 3.8 |
| III | 1900 | 508 | 213 | 1.05 | 530 | 4.5 |
| IV | — | — | 500 | 0.55 | — | 5.5 |
| PRIMARY AND ACID SOLUBLE COPPER | | | | | | |
| V | — | — | 640 | 0.72 | — | 9.2 |



SANTA CRUZ PROJECT
PINAL COUNTY, ARIZONA
HANNA-GETTY COPPER MINERAL INVENTORY
H.G.K. ASARCO Incorporated Jan. 1982



Y-RA

COMMENTS ON
GEOLOGY AND COPPER RESERVES OF THE LANDS AREA, SANTA CRUZ PROJECT

FTG - 2/23/83

In the first paragraph under the section on Geology Mr. Kreis comments that the Santa Cruz Project area is the in-place portion of the larger Santa Cruz-Sacaton sulfide system. I'm not yet convinced that Santa Cruz is not underlain by a flat fault and that the entire Santa Cruz-Sacaton sulfide system has not somehow been displaced from the edge of the Three Peaks stock. A possible model for this displacement would be the Yerrington District where an originally upright sulfide system has been rotated through 90°. Another possible model would be that designed for the Miami-Inspiration-Blue Bird-Ox Hide sulfide system proposed by Mr. Sell several years ago. It's entirely possible that the entire Three Peaks stock has been rotated through 90° and that the ultimate reassembly of the Greater Santa Cruz-Sacaton Sulfide system may never be made with any degree of certainty.

On page 16 Mr. Kreis says that the Gila project holes were unsuccessful, although I recall that they had geochemically anomalous copper in them.

The descriptions of the biotite quartz feldspar porphyry starting on page 27 are well written and Mr. Kreis develops 2 separate classifications. An additional technique to separate out dikes of a similar type and generally useful for correlation is the determination of the the anorthite composition of the plagioclase feldspar. Petrographically determined compositions are often diagnostic for different rock types, and, in addition, a petrographic study of the zoning in the plagioclase can be very diagnostic for dikes which underwent separate cooling or degassing events. Mr. Kreis believes that the Three Peaks and Sacaton Peak stocks are the source of the biotite quartz feldspar dikes. Those two stocks are somewhat different in visual aspect and I suspect are also different chemically. My guess would be that the biotite quartz feldspar dikes have their source in a separate intrusion which originally underlay the Santa Cruz-Sacaton sulfide system.

The section on Structure beginning on page 40 includes no analysis of the fracturing of the rocks. It would be interesting to see the RQD data plotted on a cross section with the objective to see if there are sharp changes in the intensity of fracturing which can be correlated and perhaps related to major fault structures. Also, it might have been interesting to look at the pattern of fault traces as they intersect the highly irregular contact between the basal conglomerate and the premineral rocks. Sharp topography can have a significant influence on the trace of flat structures and can influence interpretations significantly. I note that none of the major fault structures were plotted on the various cross sections. This makes it difficult to determine exactly how these faults might

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APR -4- 1983

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

XC: HGR

have displaced mineralization and obscures the fact that mineralization in the SC-19 area may include two originally separate zones of mineralization now stacked one on top of the other.

The chapter on Alteration is separated from the chapter on Mineralization and, although alteration minerals can be recognized and studied separately from sulfide minerals, sulfides and silicates are really part of assemblages which should be described together. In other words the biotite-orthoclase-sericite zone might have better been called the biotite-orthoclase-sericite-chalcopyrite zone. There are no maps showing distribution of the various alteration zones, but I note that Mr. Kreis indicates a strong correlation between certain alteration zones and certain sulfide zones and that alteration distribution can be visualized as following the various sulfide zones shown in the next chapter. I note also that Mr. Kreis says virtually nothing about the conversion of microcline to orthoclase of the type described by MacKenzie at Henderson which I thought was a significant phenomenon. I think it would be useful if Mr. Kreis prepared a separate memorandum of this subject and circulated it to the troops for their general interest and use.

The chapter on Mineralization contains the comment that sulfide mineralization in the post-mineral siltstone and related sediments is exhalative. I guess I am not at all convinced of that and with the abundance of carbon trash a sufficiently reducing environment was probably present to convert fresh water sulfate to sulfide, but I won't quibble over this interpretation. The SC-59 intersection was one of the more encouraging events in the recent drilling program and I note that the emission spec analysis for Mo is lower than that reported by assay. In addition, the silver assay looks lower than I would have expected, and I guess there has been no gold assaying completed to date. I recall that several clasts carrying bornite and chalcocite mineralization in the mafic breccia contained significant silver and gold concentrations. I guess there is no data on the gold and silver content of the Casa Grande deposit. On page 71 Mr. Kreis notes that the environment of the chalcopyrite zone is favorable for the formation of bornite. This is not so and in fact the presence of the low-grade and low total sulfide chalcopyrite core without bornite is curious to the point of being unusual. The chalcopyrite zone is no more favorable for the deposition of bornite than it is for the deposition of pyrite. Bornite is commonly found in the deeper portions of porphyry copper systems, although this relationship is not universal and at Butte it occurs everywhere. Nevertheless if bornite was central to the original Santa Cruz-Sacaton sulfide system then we can assume that the center of this system has not yet been found. The complete absence of bornite-chalcocite in the hypogene mineralization outside the mafic breccia would indicate that the bornite-chalcocite zone is not close to any hypogene intersections made to date and may be at some distance from them due to postmineral faulting. It is difficult to determine the structural positions of mafic breccia intersections in holes SC-37 and SC-39, but both would appear to be in the footwall of the Francisco fault. Nevertheless, Mr. Kreis discusses an additional fault of probable

significance, the Santa Cruz fault, and indicates that offset along this fault (presumably dip-slip) is 800-2000 ft. The mafic breccia intersections would be in the hanging wall of the Santa Cruz fault and therefore the actual bornite-chalcocite source of the mineralized fragments of the mafic breccia may lie nowhere near the intersections in SC-37 and 39, but may lie substantially to the east, near SC-62. However, Figure 20 shows that there is a significant fault in SC-62 at a depth of 2495 ft., permitting the speculation that additional northeast to southwest movement of mineralization may have occurred and that the source of the bornite-chalcocite mineralization in the mafic breccia clasts may lie somewhere still farther to the northeast. I don't like Mr. Kreis' suggestion that the bornite in the mafic breccia clasts formed by metamorphism. There are case studies, although rare, of this type of reaction, among them one by Sales and Meyer in 1951 in Economic Geology. This study will shed little light on the possibility suggested by Mr. Kreis for Santa Cruz because the extent to which oxygen and sulfur are contained with the metamorphosing system cannot be determined. In addition, an origin by metamorphism would not explain the presence of magnetite, silver, and gold in the clasts.

In the subsection on Supergene Mineralization I had many marginal comments. I'm still interested that there is little malachite or brochantite at Santa Cruz. As I recall there is important brochantite in capping over the underground ore zone at Sacaton and I wonder why this difference should exist. At the risk of being redundant, Mr. Kreis' comment at the bottom of page 77 that discontinuous copper mineralization in the SC-19 area can be rendered continuous by averaging is a dangerous statement, although I think I understand what Mr. Kreis is saying and that the continuity contrived by averaging numbers over a large area would not be misconstrued by someone attempting to assess mining configurations. There certainly is a large zone with erratic concentrations of copper throughout it, and intersections in separate drill holes throughout this large zone contain roughly similar copper concentrations. I'm not convinced that the total lengths of these intersections should be used to generate estimates of the amount of water which might be driven through the rock in an in-place leach operation because I'm not sure that the low grade zones between the high grade intersections would be perforated. I also have several questions on page 81 in the second paragraph. I don't agree that because the grades of chrysocolla-bearing intervals are less than the grade of atacamite-bearing intervals that chrysocolla indicates partial leaching has occurred. Actually chrysocolla is less soluble than atacamite and in a leaching environment I would anticipate that atacamite would be selectively removed and chrysocolla left behind. In addition, it would be interesting to calculate the amount of sulfide required to form an intersection of 4.29% as that in SC-38. If this intersection is in the chalcopyrite zone it is probably questionable whether or not there was enough sulfide in the zone to generate that level of copper by simple supergene sulfide enrichment. Isn't it possible that there has been exotic copper added to this intersection during oxidation

of the original sulfides? Finally, there is no reason why atacamite would form in the biotite quartz feldspar porphyry and chrysocolla in the Precambrian granite. There is approximately the same amounts of silica in both rocks and certainly no chloride in either rock which is the critical component in atacamite. In fact because of the increased abundance of plagioclase feldspar in biotite quartz feldspar porphyry I would have expected chrysocolla to form there. There is no question that unaltered igneous rock is reactive to a supergene copper-bearing solution, but given the rock types at Santa Cruz it is the relative concentration of species in solution which would determine the ultimate mineral to be formed not the composition of the host rock.

In the second paragraph on page 82 I'm curious to know how you can tell that a clay-like mineral is the residue leached chrysocolla. In addition, the mere formation of chrysocolla means that there was insufficient acid remaining in the overlying rocks to take copper in solution to greater depths. Therefore, after having formed chrysocolla where is the additional acid required to leach chrysocolla subsequently come from? In the same paragraph Mr. Kreis mentions limonite casts of former atacamite mineralization and I don't understand the chemistry behind this statement. Leaching of atacamite is a solution reaction not an oxidation reaction and therefore there should be no limonite or other iron species deposited during removal of the atacamite.

On page 83 Mr. Kreis notes that oxidation in the SC-58 area was probably less complex than that encountered in the SC-19 area. My guess is that for two zones of mineralization that close together the oxidation process was identical and that the differences are due to inherent differences in the mineralogy or fracturing of the rock rather than differences in process. Also on page 83 Mr. Kreis discusses the SC-20 Oxide Area but on Figure 35 what appears to be the same area is labelled the SC-12 Oxide Area. This correction might be made before the report is forwarded to Freeport.

On page 84 Mr. Kreis notes that the continuity of the Hanna Getty Southern Oxide Area is excellent compared to copper oxide deposits in general. I would argue that mineralization in most large oxide deposits is relatively continuous with examples being Van Dyke Exotica, Zonia, Blue Bird, and Yerrington.

In the third paragraph on page 91 Mr. Kreis notes that chalcopyrite mineralization does not form part of the acid soluble copper inventory, but in Table 15 on page 94 he lists a small inventory of copper as chalcopyrite in his discussion of the mineralogy of acid soluble inventories. I'm not quite sure what he had in mind, but presumably a careful reader will not be confused. Following this discussion I noted a drafting error on Figure 40 which precedes page 94, where the SC-52 intersection is labelled as 111 ft. when it should be 1111 ft. Also on page 94 Mr. Kreis discusses the isopachs of soluble copper and refers to Figure 42. I reviewed Figure 42 and as near as I can tell the data used to compile his contours

were derived from Figure 39, at least for the Asarco-Freeport portion of the mineralization. My contouring of this data is substantially different in detail, using the data on Figure 39, as compared to Mr. Kreis' compilation on Figure 42. I don't know how his contours were derived, and because the data in Figure 39 leave virtually no room for interpretation of contour patterns, it might be useful to indicate on Figure 42 where the data for this compilation came from.

In the second paragraph on page 94 Mr. Kreis notes that chalcocite is a slowly leachable copper mineral. It is leachable but through oxidation processes, not acid dissolution, and it may be too slow in its reaction in an acid leaching system to generate a significant contribution to copper in solution in an in-place leach copper operation. As it is unlikely that this mineralization could be naturally oxidized, any significant chalcocite production would have to be derived from an artificial oxidant in the injected fluid.

FTG - 2/23/83

ASARCO

Exploration Department
Southwestern United States Division

January 12, 1984

Mr. Alan Parks
Manager, Great Basin Division
Freeport Exploration
P.O. Box 1911
Reno, NV 89805

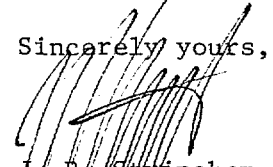
OLLERTON FARM

Dear Alan:

I am sending you a copy of the Extension of Maintenance Agreement and the original Maintenance Agreement that we have with Paul and Phyllis Ollerton. You will note the last extension terminates January 31, 1985.

I am sending a copy of the taxes on the Ollerton Farm paid in 1983 as well. The total was \$7,599.36 of which Freeport was charged 50%.

Sincerely yours,


J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek
encs.

cc: W. L. Kurtz
J. D. Sell
H. G. Kreis

First Half

Payment of ~~Full Year~~ 1982 property taxes as follows (SANTA CRUZ PROJECT):

| Parcel No. | | Area Tax Code | Amount | |
|--------------|-------------------|------------------------|--------------------|------|
| 503-01-001A8 | Mooney | 04457 04440 | 593.72 | 0134 |
| 503-01-00209 | Ollerton | 04457 | 1,404.85 | 0135 |
| 503-01-00902 | Ollerton | 04457 | 1,034.66 | 0135 |
| 503-01-01009 | Parco | 04150 | 729.63 | 0075 |
| 503-01-01108 | Smith | 04150 | 670.45 | ✓ |
| 503-01-01207 | Smith | 04150 | 701.83 | ✓ |
| 503-01-01306 | Smith | 04150 | 481.39 | ✓ |
| 503-01-01504 | Etlington | 04150 | 1,016.46 | ✓ |
| 503-01-02809 | Ridley | 04150 | 715.39 | ✓ |
| 503-01-02908 | Ridley | 04150 | 523.44 | ✓ |
| 503-01-03203 | Ridley | 04150 | 715.39 | ✓ |
| 503-02-80102 | Alonso (Ollerton) | 04450 04457 | 1,278.05 | 0135 |
| 503-02-00900 | Ollerton | 04457 | 20.53 | ✓ |
| 503-02-01007 | Ollerton | 04457 | 20.53 | ✓ |
| 503-02-01106 | Ollerton | 04457 | 20.53 | ✓ |
| 503-02-01205 | Ollerton | 04457 | 20.53 | ✓ |
| 503-26-01006 | McIntire | 04150 04093 | 235.83 | 0075 |
| 503-26-01204 | Ollerton | 04150 04093 | 231.89 | 0075 |
| 503-27-00204 | Hicks-Salper | 04010 | 473.71 | ✓ |
| 503-28-00301 | McIlwain | 04150 04093 | 576.36 | ✓ |
| 503-28-004A8 | Howard | 04150 04093 | 363.51 | ✓ |
| 503-28-005A7 | Wellman | 04150 04093 | 350.21 | ✓ |
| 503-29-00507 | Musbach | 04150 04093 | 343.05 | ✓ |
| 503-37-002A1 | Stewart | 04150 | 492.98 | 0075 |
| 503-37-00302 | Smith | 04150 | 935.05 | ✓ |
| 502-27-00105 | Busch | 04010 | 328.19 | 0134 |
| 503-27-003A1 | Klausin | 04010 | 343.21 | ✓ |
| 503-27-004A0 | Alonso | 04010 04093 | 413.73 | ✓ |
| 503-27-004C6 | Alonso | 04010 04093 | 8.91 | ✓ |
| | | | <u>\$15,084.41</u> | |

Tax Statements Not Received

503-01-02809
503-01-02908
503-01-03203
503-37-002A1

Do Not Type

Recap: 0075-10 - 620-803

0087-10 - 620-803

0134-00 - 620-803

0135-00 - 620-803 -

0196-00 - 620-803

Ollerton Farm

G-mcs

\$ 7,217.84

2,338.73

593.72

3,799.68 -

1,134.44

\$ 15,084.41

Full Year

7599.36

EXTENSION OF MAINTENANCE AGREEMENT

THIS AGREEMENT entered into between LAWYERS TITLE OF ARIZONA, an Arizona corporation, as Trustee Under its Trust 1270 (Owner) and PAUL A. OLLERTON and PHYLLIS M. OLLERTON, husband and wife (Operator).

WITNESSETH:

WHEREAS Owner and Operator entered into a MAINTENANCE AGREEMENT, dated January 20, 1978, for the maintenance and care of farm property, owned by Owner, for the period of February 1, 1978 to January 31, 1979; and

WHEREAS said MAINTENANCE AGREEMENT was extended for the terms of February 1, 1979 to January 31, 1983, and

WHEREAS Owner and Operator are willing to extend the term of the MAINTENANCE AGREEMENT for a period of two years, February 1, 1983 to January 31, 1985.

NOW THEREFORE, it is hereby agreed:

1. The term of said MAINTENANCE AGREEMENT is extended to include the term of February 1, 1983 to January 31, 1985.

2. All terms and conditions of the MAINTENANCE AGREEMENT will remain the same, except the rates will be in accordance with the attached 1983 revised Schedule B with additional increases adjusted by mutual consent.

IN WITNESS WHEREOF, the parties have executed this agreement the

9th day of February, 1983.

Paul A. Ollerton
PAUL A. OLLERTON

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

Phyllis M. Ollerton
PHYLLIS M. OLLERTON

Operator

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

| | |
|--------------------------------------|---------|
| TD-15 crawler tractor | \$28.00 |
| 3588 tractor | 38.00 |
| 1066 tractor | 30.00 |
| 886 tractor | 24.00 |
| 656 tractor | 16.00 |
| 504 tractor | 12.00 |
| Mod. H tractor | 10.00 |
| J.D. sprayer | 12.00 |
| 15' disc, offset J.D. | 14.00 |
| 14' disc, offset Amco | 14.00 |
| 13' tandem, Massey | 6.00 |
| 8' tandem (manufacturer unknown) | 4.50 |
| Border disc | 2.50 |
| Plow, 3 bottom | 9.00 |
| Plow, 5 bottom | 13.00 |
| Plow, Wheatland | 9.00 |
| Plow chisel, 5 shank Big Ox | 4.00 |
| Plow chisel, 7 shank Big Ox | 5.00 |
| Plow, parabolic 5 shank soil breaker | 12.00 |
| Spring tooth harrow | 2.50 |
| Spkie tooth harrow | 2.50 |
| Cultipacker | 4.00 |
| Landplane | 8.00 |
| Float | 5.00 |
| Lister, 5 bottom | 6.50 |
| Hippers, 4 row | 6.50 |
| Planter, 4 row drill | 9.00 |
| Planter, 4 row hill drop | 13.00 |
| Planter, 4 row 8 box sled | 14.00 |
| Bed shaper | 5.00 |
| Jojoba Planter | 3.00 |
| Grain drill | 10.00 |
| Cultivator, 4 row sled | 6.00 |
| Cultivator, 4 row shank | 6.00 |
| Cultivator, 4 row rolling | 6.00 |
| Cultivator, jojoba | 3.00 |
| Fertilizer injector, 4 row | 10.00 |
| Fertilizer injector, NH ₃ | 8.00 |
| Stalk shredder, 4 row flail | 9.00 |
| Stalk shredder, 2 row rotary | 4.50 |
| Mulcher, 4 row | 7.50 |
| Drag scraper, 8' | 4.00 |
| Drag scraper, 15' | 5.00 |
| Road grader | 5.00 |
| Dozer blade | 2.00 |
| Terracer | 2.00 |
| Gopher Getter | 3.00 |
| Tractor mounted sprayer | 6.00 |
| 14' knife | 2.00 |
| 7' knife | 1.50 |
| Herbi | 1.50 |
| Row bucks | 2.00 |
| Tree drill row weeder | 3.00 |
| Fork lift attachment | 3.00 |
| Rotary hoe | 4.00 |
| 21' pipe drag | 2.00 |
| Renovator | 5.00 |
| Labor | 5.20 |
| Jeep and pickup truck | 25.00 |

MAINTENANCE AGREEMENT

THIS AGREEMENT entered into between LAWYERS TITLE OF ARIZONA, an Arizona corporation, as TRUSTEE under its Trust No. 1286 (Owner) and PAUL A. OLLERTON and PHYLLIS M. OLLERTON, husband and wife (Operator),

WITNESSETH:

WHEREAS Owner is the owner of that certain farm located in Pinal County, Arizona, consisting of fee land and state leased land, all as described on Exhibit A annexed hereto, some of which farm land is planted in pecans and some of which is planted in pistachio trees; and

WHEREAS it is the desire of Owner to have such property properly maintained and cared for, and Operator is willing to do so under the terms and provisions of this agreement.

NOW, THEREFORE, it is hereby agreed:

1. The term of this agreement shall be from February 1, 1978, through January 31, 1979.

2. During the term of this agreement, Operator or somebody acting on behalf of Operator shall reside on the property in the farmhouse located thereon and take reasonable precautions against any damage or pilfering by trespassers.

3. Operator shall be responsible for the administration and supervision of all maintenance and operations in connection with the farm.

4. Operator shall be responsible to see that:

- (a) All of the trees on the property are properly watered, chopped, sprayed, tilled, fertilized and otherwise cared for in a farmerlike manner;
- (b) Operator shall have such other work of a

farming or a maintenance nature on the farm
performed as requested by Owner.

5. Operator shall supply all of the equipment presently owned by him which may become necessary to perform any of the work undertaken by Operator hereunder, but he shall not be required to purchase additional equipment. Operator shall supply such equipment owned by him, equipment maintenance, repair and fuel supplies necessary for such equipment to be used as provided by this agreement.

6. Owner shall:

(a) Pay to Operator the sum of \$18,000.00 in monthly installments to compensate Operator for Operator's services hereunder;

(b) Pay all costs of wells, pump and pump motor and engine maintenance and repair, and the costs of operating the same (gas, electricity, oil, filters, etc.);

(c) Pay the costs of all utilities, including gas, electricity and water used in connection with work to be performed under this agreement;

(d) Pay the costs of maintaining and repairing farm buildings and improvements;

(e) Pay the compensation to be paid to a resident caretaker at the rate of \$3,000.00 per year, payable in monthly installments;

(f) Pay other costs incurred in the growing of and caring for crops on the farm, including payment to Operator for the use and operation of any equipment owned by Operator in performing requested services hereunder at the rates specified on Exhibit B attached hereto.

IN WITNESS WHEREOF, the parties have executed this

agreement the 25th day of January, 1978.

LAWYERS TITLE OF ARIZONA, an
Arizona corporation, as TRUSTEE
under its Trust No. 1286

By John A. Smith

Owner

Paul A. Ollerton
PAUL A. OLLERTON

Phyllis M. Ollerton
PHYLLIS M. OLLERTON

Operator

EXHIBIT "A"

PARCEL NO. 1

Lots Three (3) and Four (4), the South half of the Northwest quarter (S $\frac{1}{2}$ NW $\frac{1}{4}$) and the Southwest quarter (SW $\frac{1}{4}$) of Section One (1), Township Six (6) South, Range Four (4) East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

PARCEL NO. 2

The Northwest quarter (NW $\frac{1}{4}$) of Section Twelve (12), Township Six (6) South, Range Four (4) East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPT all coal and other minerals as reserved in the Patent from the United States of America, as reserved in Book 50 of Deeds, page 67.

PARCEL NO. 3

The Northeast quarter of the Southeast quarter of the Southeast quarter (NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$); The Southeast quarter of the Southeast quarter of the Southwest quarter (SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$); The Northeast quarter of the Southwest quarter of the Southwest quarter (NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$); All in Section Two (2), Township Six (6) South, Range Four (4) East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

PARCEL NO. 4

The Northwest quarter of the Southeast quarter of the Southeast quarter (NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$) of Section Two (2), Township Six (6) South, Range Four (4) East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPT all oil, gas and mineral rights, as reserved in Deed recorded in Docket 173, page 381.

PARCEL NO. 5

State Agricultural Lease No. 439 covering the following described property:

The South half of Lots Five (5) and Six (6); All of Lots Eleven (11) and Twelve (12); The North half of the South half (N $\frac{1}{2}$ S $\frac{1}{2}$); The South half of the Southeast quarter of the Southeast quarter (S $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$);

The Southwest quarter of the Southeast quarter (SW $\frac{1}{4}$ SE $\frac{1}{4}$); The North half of the Southeast quarter of the Southwest quarter (N $\frac{1}{2}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$); The Southwest quarter of the Southeast quarter of the Southwest quarter (SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$); The South half of the Southwest quarter of the Southwest quarter (S $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$); and The Northwest quarter of the Southwest quarter of the Southwest quarter (NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$) of Section Two (2), Township Six (6) South, Range Four (4) East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

LAWYERS TITLE OF ARIZONA is acting as Trustee under Trust 1286 wherein ASARCO Incorporated, 1150 North 7th Avenue, Tucson, Arizona, is the Beneficiary.

1066 Tractor
 TD-15 Crawler Tractor
 656 Tractor's
 504 Tractor
 J.D. Sprayer
 15' offset disc
 8' Tandem disc
 Border disc
 Spring Tooth harrow
 Plow 3 bottom 16"
 Wheatland Plow
 chisel Plow 7 shank
 Ripper, 3 shank heavy duty
 Cultipacker
 Landplane 10' x 60'
 Float 12' x 40'
 Lister 4 Row
 Ripper 4 Row
 Planter 4 Row drill
 Planter 4 Row hill drop
 Grain drill
 Cultivator 4 Row shank sled
 Cultivator 4 Row rolling
 Fertilizer injector 4 Row
 Stalk cutter 4 Row flail
 Bed Shaper 4 Row
 Mulcher 4 Row
 Row buckler
 Drag Scraper 10'
 Dozer Blade (TD-15)

* 10⁵⁰ / hr
 12⁵⁰ / hr
 5⁵⁰ / hr
 5⁰⁰ / hr
 5⁰⁰ / hr
 8⁵⁰ / hr
 1⁰⁰ / hr
 1⁵⁰ / hr
 1⁵⁰ / hr
 5⁰⁰ / hr
 8⁰⁰ / hr
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 7⁵⁰ / hr
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 3⁵⁰ / hr
 3⁰⁰ / hr
 8⁰⁰ / hr
 5⁰⁰ / hr
 5⁰⁰ / hr
 5⁰⁰ / hr
 1²⁵ / hr
 2²⁵ / hr
 5⁰⁰ / hr

Tractor Mounted Sprayer
 1/2 Ton pickup Truck
 1/2 Ton Jeep
 Heavy duty Trucks (8 Ton Cap)
 Cotton picker
 Road harvester
 Weed burner
 Labor

$6^{\circ} / \text{hr.}$

$2\frac{1}{2}^{\circ} / \text{lb seed COT}$

$20^{\circ} / \text{lb lint COT}$

$1^{\circ} / \text{hr} + \text{fuel}$

$3^{\circ} / \text{hr.}$

Labor will generally work 10 hrs / day 5 days / week
 Equip/mnt will usually be charged out at 9 hrs / day

Cancellation of the policy of which this endorsement forms a part shall automatically cancel the insurance afforded by this endorsement effective as of the date and time of such policy cancellation.

13 Maintenance of Underlying Insurance: Insurance as afforded by each policy described in Item 3. of the Declarations of this endorsement shall be maintained in full effect during the currency of this endorsement, except for any reduction of the aggregate limit or limits contained therein solely by payment of claims in respect of accidents or occurrences during the period of this endorsement. Failure of the *insured* named herein to comply with the foregoing shall not invalidate this endorsement but in the event of such failure the company shall be liable only to the extent that it would have been liable had such *insured* complied therewith.

Upon notice that any aggregate limit of liability under any underlying policies of insurance has been exhausted, the *insured* named herein shall immediately make all reason-

able efforts to reinstate such limits. Such *insured* shall give the company written notice as soon as practicable of any change in the scope of coverage or in the amount of limits of insurance under any underlying policies of insurance, and of the termination of any coverage or exhaustion of aggregate limits of any underlying insurer's liability.

14 Representations: By acceptance of this endorsement the *insured* named herein agrees that the statements in the application and in the Declarations of this endorsement and in any subsequent notice relating to underlying insurance, which are offered as an inducement to the company to issue and continue this endorsement, are his agreements and representations, that this endorsement is issued and continued in reliance upon the truth of such representations and that this endorsement embodies all agreements existing between such *insured* and the company or any of its agents relating to this insurance.

| Item | DECLARATIONS | | | | | |
|---|--|----------------------------|-----------------------------|-----------------|---------|---------------------------------|
| 1. | Named Insured PAUL A & PHYLLIS M OLLERTON | | | | | |
| | Address 1125 E LAUREL | | CASA GRANDE | | ARIZONA | |
| | No. | Street | Town or City | | County | State |
| Insurance is afforded for Personal Liability subject to the applicable limit of the company's liability (Item 2.) in excess of the applicable underlying or retained limit (Item 3.). | | | | | | |
| 2. | Limit of Liability | | | | | |
| | \$ | 1,000,000. | | each occurrence | | |
| 3. | Retained Limit: Underlying Limit: The limit of liability, as stated in the Schedule of Underlying Insurance, applicable to the occurrence. | | | | | |
| | \$ | 250. | | | | |
| SCHEDULE OF UNDERLYING INSURANCE | | | | | | |
| | Type of Policy | Name of Carrier | Policy Number | Policy Period | | Limits (or Amount) of Insurance |
| | | | | From | To | |
| | PCP | GLENS FALLS | 255 38 64 | 9-3-77 | 9-3-78 | 500,000. |
| 4. | Total Premium | If payable in installments | On effective date of Policy | 1st Anniversary | | 2nd Anniversary |
| | \$ INCL. | | | \$ INCL. | \$ | |
| 5 | During the past year no insurer has canceled insurance issued to the <i>named insured</i> similar to that afforded hereunder, unless otherwise stated herein: NO | | | | | |

This endorsement shall not be binding upon the company unless countersigned by a duly authorized representative of the company.

This endorsement forms a part of the designated policy and applies, unless otherwise stated herein, as of the effective time and date of such policy. This endorsement is subject to the General Provisions of such policy except the following: Provisions F, Death of Named Insured; H, Subrogation; I, Waiver Provisions; M, Declarations; and N, Definitions.

POLICY No. PCP 255 38 64 ISSUED TO PAUL A & PHYLLIS M OLLERTON
BY GLENS FALLS INSURANCE COMPANY
(Insert Name of Company)
EFFECTIVE 2-1 1978 AT NOON M.
(Date) (Hour and Minute)
COUNTERSIGNED BY _____
AUTHORIZED REPRESENTATIVE

ASARCO

JDS

Exploration Department

Frederick T. Graybeal
Chief Geologist

March 12, 1984

Mr. J. D. Sell, Manager
Southwestern Exploration Division
Tucson, Arizona

SC-59
Santa Cruz Project, Arizona

Dear Mr. Sell:

On February 25, 1984 we examined core from SC-59 for several hours. The core was typical of other hypogene intersections of the chalcopryrite zone in the Santa Cruz Project area. Mr. Kreis' report of August 27, 1982 attaches particular significance to this hole and suggests that, this hole has characteristics similar to the Hanna-Getty chalcopryrite zone, similar grades (0.7-0.9% Cu) and continuity may be anticipated.

I can't recall the details of the high grade hypogene zones in the Hanna-Getty deposit, but certain features of the SC-59 intersection suggest more thought is needed. The most significant feature of the intersection is that the overall grade (813 ft. of 0.56% Cu) appears, without calculation, to be significantly upgraded by 3 zones (nuggets?) of significantly higher than average grade mineralization (roughly 1% Cu). These 3 zones were separated by more typical hypogene grades (0.4-0.6% Cu) over significant lengths of core indicating a certain lack of continuity.

A second significant aspect of the SC-59 intersection was that the three higher grade "nuggets" were largely carried by one or a few thick chalcopryrite veins, rather than a more pervasive disseminated style of mineralization which might extend over greater distances in a more predictable way.

A third aspect of the intersection was the absence (except for a few grains in 2-10 ft. assay intervals) of bornite, hypogene chalcopryrite, or magnetite which might signal a real increase in strength of mineralization. Thus there is no indication of proximity to the high grade hypogene zone indicated by clasts in the mafic breccia.

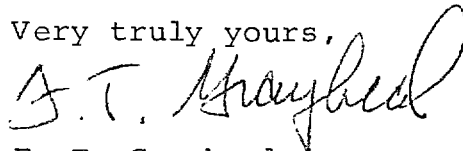
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S. W. U. S. EXPL. DIV.

The intersection is certainly impressive, but not persuasive of the presence of adjacent high grade hypogene mineralization either of the Hanna-Getty type or the type represented by clasts in the mafic breccia. I would therefore be hesitant to drill all four holes around SC-59 as proposed in Figure 2 of Mr. Kreis' report. I realize further drilling in this area might be a decade away and my comments are intended only for the record.

Very truly yours,



F. T. Graybeal

cc: W. L. Kurtz

ASARCO

Exploration Department
Southwestern United States Division

April 10, 1984

R. L. Brown
New York Office

Ollerton Farm

John Lacy's analysis of the situation concerning our water rights on the Ollerton farm is attached. He answered, by telephone, specific questions raised by Mr. Kurtz.

Lacy says that we may transfer up to 3 acre-feet/acre to industrial uses anytime during the five-year period after last farming and irrigating the allotted acreage. We irrigated most of the farm in 1983, the year in which our grandfathered rights were granted. Measurement of water use begins formally in 1984. We should have until 1988 to decide upon our course of action.

If we decide to transfer the rights to industrial use, we would have to present an industrial use plan for the future use of the water; we would have to check carefully such a move, but Lacy thinks it would be accepted. In addition Lacy says that water rights may not be returned to agricultural use once they are transferred. We may elect to transfer only a part of our water rights to industrial use, maintaining enough to irrigate a dedicated acreage such as the trees.


If one does not transfer right to industrial use, then one must farm all the land at least once every five years to retain his privilege of transferring his agricultural water rights to other uses.

Thus Mr. Kurtz and I recommend we continue to try to sell the farm between now and next crop season (\pm November). If not sold by then:

1. totally close down the farm and transfer water right to industrial use, or
2. keep or lease the tree farm; transfer remaining water rights to industrial use.

JRS:mek
att.

cc: W.L.Kurtz
J.D.Sell
D.R.Cook - Freeport Expl.



R. Stringham

XXXX

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DINO DECONCINI
OF COUNSEL

April 4, 1984

J. M. U.
APR - 5 1984

*PHOENIX OFFICE

Mr. James R. Stringham
Assistant to Manager
Exploration Division -- Mining Department
ASARCO, Inc.
P. O. Box 5747
Tucson, Arizona 85703

Re: Water Rights on Flood Damaged Lands

Dear Jim:

You recently indicated that a substantial amount of Asarco's farm land in Pinal County had been damaged by last September's flood and that consideration was being given to not making repairs to existing wells. In connection with this possibility you have asked what effect nonuse might have upon the Irrigation Grandfathered water rights that Asarco holds in the connection with these lands.

The certificate of Irrigation Grandfathered Water Rights that was issued to Asarco under the provisions of the 1980 Arizona Groundwater Management Act. Under the Act it appears that Asarco has three options: (1) do nothing, (2) rehabilitate the existing wells for future irrigation use, and (3) retire the existing irrigation use for future use elsewhere.

With regard to the first option, there are no provisions in the Act that would operate to deprive Asarco of its right to irrigate because water was not used for any particular period of time. However, if water was not used for at least one year in five certain valuable rights to transfer the irrigation right to non-irrigation use could be lost.

The Irrigation Grandfathered Rights were issued pursuant to A.R.S. § 45-465 and permissible use of the water is described in A.R.S. § 45-467. There are apparently no

ASARCO Incorporated

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ATTORNEYS AT LAW

Mr. James R. Stringham
April 4, 1984
Page Two

provisions of the Act that would cause the loss of the right to use water rights for irrigation purposes for nonuse of the right. The owner of an irrigation right is entitled to convert such right to non-irrigation uses by submitting a development plan in compliance with A.R.S. § 45-469. This aspect of the irrigation water right is quite valuable and it may be lost through nonuse of the irrigation grandfathered right.

A.R.S. § 45-474(H) provides that "[i]f an irrigation grandfathered right has not been retired in anticipation of a future non-irrigation use and has not been exercised for five consecutive years, the right may not be conveyed for a non-irrigation use." An attorney who was involved in the drafting of the Act has published and interpreted this section to the effect that if the irrigation right is not used at least one year in five then it may not be sold thereafter for conversion to non-irrigation use. See, J. Johnson, Summary of the 1980 Arizona Groundwater Management Act (1980). In addition, if nonuse is a result of a situation where continued withdrawal for irrigation use were uneconomic then the director may refuse to allow conversion of the right to non-irrigation uses. Thus, it is clear that nonuse of water rights may seriously impair the value and utility of those rights by limiting their use to irrigation.

An additional aspect of this problem is that where, as in this case, irrigation lands have been subject to flood damage, the holder of the right is entitled to substitute the same number of acres within the same subbasin. The applicant must show, among other things, that it is not economically feasible to restore the flood damaged acres to irrigation use. A.R.S. § 45-465.01. The irrigation right then becomes appurtenant to the substituted lands and may not again be used on the flooded lands.

It appears that if you wish to preserve the right to convert your irrigation rights to other uses, you will either have to irrigate the land at least once every five years or you will have to convert the use to non-irrigation before five years have elapsed from the date of the last irrigation. The possibility that you may not be able to convert the right due to economic infeasibility of irrigation may increase with time and thus if you elect to convert you may want to make

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Mr. James R. Stringham
April 4, 1984
Page Three

that application within five years from the last irrigation of the lands. The alternative of transferring the rights to substitute lands will preserve the rights only for the substitute lands and will not preserve any rights for the original lands.

If the lands are retired, the water rights convert to Type 1 Non-irrigation Rights, which although they remain appurtenant to the specific lands from which the water is withdrawn (thus requiring pumps as a means of withdrawing the water) can be transferred anywhere within the subbasin. This would make the water right potentially valuable to the nearby municipal water suppliers.

My recommendation based on the above is that the existing pumps and the land be rehabilitated within the time frame that will permit irrigation within the five-year period. This will insure that all of Asarco's options remain open. I have included copies of the pertinent code sections with this letter. Do not hesitate to contact me if you need additional information or have any questions regarding this matter.

Very truly yours,



John C. Lacy

JCL:lc
Enclosures

of the grandfathered right pursuant to this section is the annual amount determined by the director to be reasonable to meet the operational requirements for the facility for a full year.

F. The right to withdraw groundwater pursuant to this section is a non-irrigation grandfathered right not associated with retired irrigated land, or a type 2 non-irrigation grandfathered right.

G. A type 2 non-irrigation grandfathered right is owned by the owner of the land from which the groundwater is withdrawn and may be leased with such land.

H. If the user of a type 2 non-irrigation grandfathered right is different from the owner of the right, either the owner, or the user of the right on behalf of the owner, may apply for a certificate of grandfathered right pursuant to § 45-476.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980. Amended by Laws 1982, Ch. 191, § 15, eff. April 22, 1982.

¹ Issued under prior law; see § 45-317.05 as added by Laws 1977, Ch. 29, § 4 and repealed by Laws 1980, 4th S.S., Ch. 1, § 73.

² Section 40-360 et seq.

For legislative intent regarding termination of provisions added or amended by Laws 1982, Ch. 191, see note following § 9-463.01.

Transportation of groundwater, see § 45-541 et seq.

Library References

Waters and Water Courses § 213.

C.J.S. Waters § 314 et seq.

Cross References

Conveyance of Type 2 non-irrigation grandfathered right, see § 45-474.

§ 45-465. Irrigation grandfathered right; determination of acres entitled to and amount; appurtenancy

A. In an active management area, a person who owns land which was legally irrigated at any time during the five years preceding January 1, 1980 for initial active management areas or the date of the notice of the initiation of designation procedures or the call for the election for subsequent active management areas, which is capable of being irrigated and which has not been retired from irrigation for a non-irrigation use pursuant to § 45-463 or 45-469, has the right to use groundwater for the irrigation of such land as determined pursuant to subsection B of this section.

B. The director shall compute the maximum amount of groundwater which may be used pursuant to this section as follows:

1. Determine the farm units, as defined in § 45-402, within the active management area.

2. Determine the irrigation water duty, as defined in § 45-402, for each farm unit in an active management area, pursuant to §§ 45-564 through 45-568.

3. Determine the water duty acres for each farm within the farm unit. The water duty acres are the highest number of acres in the farm, taking land rotation into account, which were legally irrigated during any one year in the five years preceding January 1, 1980 for initial active management areas or the date of the notice of the initiation of designation procedures or the call for the election for subsequent active management areas.

4. Determine the irrigation acres for each farm within the farm unit. The irrigation acres are the acres in the farm which were legally irrigated at any time during the five years preceding January 1, 1980 for initial active management areas or the date of the notice of the initiation of designation procedures or the call for the election for subsequent active management areas, which are capable of being irrigated and which have not been retired from irrigation for a non-irrigation use pursuant to § 45-463 or 45-469.

5. Multiply the water duty acres for each farm within the farm unit by the irrigation water duty for the farm unit and divide that amount by the number of irrigation acres in the farm. The result shall be the maximum amount of groundwater which may be used per year for the irrigation of each irrigation acre in the farm. If the farm is irrigated

§ 45-465

solely with groundwater, the amount of groundwater used by the farm for irrigation shall be accounted for pursuant to § 45-467, subsection C. If a farm is irrigated with a combination of surface water and groundwater, the amount of groundwater used by the farm for irrigation shall be accounted for pursuant to § 45-467, subsections D and E.

C. The right to use groundwater pursuant to this section for the irrigation of an irrigation acre is an irrigation grandfathered right and is appurtenant to that acre. An irrigation grandfathered right is owned by the owner of the land to which it is appurtenant and may be leased for an irrigation use with the land to which it is appurtenant.

D. A person who owns or leases irrigation acres may use the total amount of groundwater allowed by the irrigation grandfathered right for such acres for the irrigation of all or a portion of such acres.

E. If the irrigation water duty for the farm unit in which an irrigation acre is located is reduced by the director pursuant to article 9 of this chapter, the amount of groundwater which may be used for the irrigation of such acre pursuant to the irrigation grandfathered right under this section is reduced accordingly.

F. For purposes of this chapter, the amount of groundwater which may be used or is used is the amount of groundwater withdrawn by the groundwater user, measured at the point of withdrawal, and the amount of groundwater received by the groundwater user from an irrigation district or other source.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980. Amended by Laws 1982, Ch. 191, § 16, eff. April 22, 1982.

For legislative intent regarding termination of provisions added or amended by Laws 1982, Ch. 191, see note following § 9-463.01.

1980 Reviser's Note:

In subsection D, the spelling of "grandfathered" was corrected pursuant to authority of section 41-1304.02.

Cross References

Substitution of acres within same sub-basin of same initial active management area for previously irrigated but flood damaged acres, see § 45-465.01.

Library References

Waters and Water Courses § 213.
C.J.S. Waters § 314 et seq.

§ 45-465.01. Flood damaged acres; substitution of acres; definition

A. A person who owns acres of land within an initial active management area which were legally irrigated at any time during the five years preceding January 1, 1980 and which have not been retired from irrigation for a nonirrigation use pursuant to § 45-463 or 45-469 may permanently retire such acres from irrigation and substitute for such acres the same number of acres within the same sub-basin of the same initial active management area which were not legally irrigated at any time during the five years preceding January 1, 1980, and has the right to use groundwater for the irrigation of such substitute acres as determined pursuant to § 45-465 calculated on the basis of the acres which were legally irrigated, if the owner demonstrates to the satisfaction of the director that all the following apply:

1. The acres which were irrigated during the five years preceding January 1, 1980 were damaged by floodwaters after being irrigated.
2. It is not economically feasible to restore the flood damaged acres to irrigation use.
3. The flood damaged acres have been under the same ownership since the date the acres were first damaged by floodwaters.
4. The owner has received a certificate of grandfathered right for an irrigation use for the flood damaged acres.

B. Any acres permanently retired from irrigation pursuant to this section relinquish their irrigation grandfathered rights and such rights are deemed to be appurtenant to the substitute acres.

C. For purposes of this section, "floodwaters" means a temporary and erosive overflow of waters on lands not normally covered by water which occurred after January 1, 1975.

Added by Laws 1983, Ch. 219, § 2.

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1983 Reviser's Note:

Pursuant to authority of section 41-1304.02, "definition" was added to the section heading and in subsection C "floodwaters" was substituted for "flood waters" to correct a manifest clerical error.

Cross References

New irrigated acreage in active management areas, prohibition, see § 45-452.

§ 45-466. Limitations on use of irrigation water duty; deliveries of water in excess of irrigation water duty

The irrigation water duty shall be used to determine the maximum amount of groundwater which may be used pursuant to § 45-465 and debits and credits to the operating flexibility account as set forth in § 45-467. The irrigation water duty shall not be applied to diminish surface water delivered to lands pursuant to appropriative surface water rights or decreed surface water rights.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

§ 45-467. Withdrawals in excess of irrigation grandfathered right; withdrawals less than irrigation grandfathered right; operating flexibility account; conveyances; variance

A. A person who is entitled to use groundwater pursuant to an irrigation grandfathered right may:

1. Use groundwater in excess of the amount allowed by the right in an amount determined pursuant to subsection F of this section.

2. Use less than the amount allowed by the right in one accounting period and use the remaining amount allowed by the right in a succeeding accounting period or periods.

B. The director shall establish rules and regulations for the maintenance of an operating flexibility account for each farm in an active management area.

C. If a farm is irrigated solely with groundwater, the director shall:

1. Register a debit to the account in any accounting period in which the amount of groundwater used for the irrigation of the irrigation acres in the farm is greater than the current irrigation water duty for the farm multiplied by the water duty acres in the farm.

2. Register a credit to the account in any accounting period in which the amount of groundwater used for the irrigation of the irrigation acres in the farm is less than current irrigation water duty for the farm multiplied by the water duty acres in the farm.

D. If a farm is irrigated with surface water and groundwater, and uses of water by the farm from all sources for irrigation purposes in the accounting period:

1. Exceed the amount of the current irrigation water duty for the farm multiplied by the water duty acres in the farm, the amount of groundwater used up to the amount of the excess shall be registered as a debit to the account.

2. Are less than the amount of the current irrigation water duty for the farm multiplied by the water duty acres in the farm, the amount of water not used which would have been groundwater shall be registered as a credit to the account.

E. A person who uses a combination of surface water and groundwater for irrigation purposes may credit against his use of groundwater in an accounting period surface water released from storage facilities into a surface water distribution system to avoid spilling, if such surface water is actually applied to the person's land and would cause a debit to be incurred. The credit allowed under this subsection shall be applied only against the person's operating flexibility account debits which otherwise would have been incurred that year and shall not be used to discharge debits from prior years or accumulate credits for future years.

F. the maximum excess amount of groundwater that may be used pursuant to this section is equal to fifty per cent of the current irrigation water duty for the farm multiplied by the water duty acres in the farm. The operating flexibility account may not be in arrears at any time in excess of this amount. Groundwater equal to the credit balance in the operating flexibility account may be used at any time.

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G. If an irrigation grandfathered right is conveyed for an irrigation use pursuant to § 45-472, each acre conveyed shall carry with it a proportional share of any debits or credits in the operating flexibility account for the farm. If an irrigation grandfathered right is conveyed for a non-irrigation use pursuant to § 45-472, each acre conveyed shall carry with it a proportional share of any debits in the operating flexibility account for the farm.

H. A person using groundwater pursuant to an irrigation grandfathered right who is operating under a variance to the irrigation water duty pursuant to § 45-574:

1. May accumulate a maximum debit in an amount equal to fifty per cent of the current irrigation water duty for the farm multiplied by the water duty acres in the farm.
2. Shall accumulate credits pursuant to subsection C, D or E of this section.

I. A person using groundwater pursuant to an irrigation grandfathered right shall file a report with the director each year which shall include the amount of groundwater used pursuant to the irrigation grandfathered right and such other information as the director shall require. The director may consolidate the reporting requirements of this section with the reporting requirements of § 45-632.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

Cross References

Transportation of groundwater, see § 45-541 et seq.

Law Review Commentaries

History of the Arizona Groundwater Management Act. Ariz.State L.J. 2, 1982, p. 313.

§ 45-468. Accounting of water by persons delivering a combination of surface water and groundwater for irrigation uses

A. A person delivering a combination of surface water and groundwater for irrigation uses shall prior to the beginning of each accounting period estimate the amount of groundwater that will be withdrawn and delivered during the next accounting period and shall make such estimate available to the director. The estimate may be modified from time to time as conditions warrant.

B. Within ninety days following the end of each accounting period a person who delivers a combination of surface water and groundwater for uses by cities, towns, private water companies, industries, farms or other users shall provide the director with an accounting for water during the past accounting period which shows the following:

1. All surface water provided to each class of user and each farm.
2. All groundwater provided to each class of user and each farm.

C. If a person delivers a combination of surface water and groundwater to users, the amount of groundwater charged to each user pursuant to the accounting in subsection B is the amount delivered directly to each user and a pro rata amount of any additional amount of groundwater which is commingled with surface water and delivered to all classes of users.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

Library References

- Waters and Water Courses ⇐ 105.
- C.J.S. Waters §§ 94, 96.

§ 45-469. Right to retire irrigation grandfathered right for non-irrigation use; development plan approval; amendment of plan; approval of plan prior to retirement; amount which may be withdrawn; service area determined

A. A person who owns land legally entitled to be irrigated with groundwater pursuant to an irrigation grandfathered right which is located within an active management area and outside of the exterior boundaries of the service area of a city, town or private water company has the right to retire such land from irrigation in anticipation of a future non-irrigation use and shall not forfeit or abandon the right to withdraw from or receive

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for such land the amount of groundwater calculated pursuant to subsection F of this section for a non-irrigation use if:

1. The land is held in the same ownership.

2. A development plan for the proposed non-irrigation use exists and is approved by the director within a reasonable time before or after the land is retired.

B. The director shall approve the development plan required by subsection A of this section if it appears that the land:

1. Has been or will be retired for the bona fide purpose of conserving or using water for a non-irrigation use which would otherwise continue to be used for irrigation of such land.

2. Has not been sold or taken out of production primarily because it would have been uneconomical to continue to withdraw water for irrigation.

C. The director shall not investigate the legality, other than pursuant to this chapter, feasibility or other factors involved in the proposed development plan and shall not disapprove a development plan on such grounds.

D. A development plan may be amended and the director shall approve amendments if the criteria of this section are met.

E. A person proposing to retire irrigated land which is located inside or outside of an active management area may apply to the director for approval of a proposed development plan prior to the retirement of such land.

F. The amount of groundwater which may be withdrawn or received annually per acre pursuant to this section is the lesser of:

1. The current maximum amount of groundwater which may be used pursuant to the irrigation grandfathered right for the acre at the time it is retired, as calculated pursuant to § 45-465, subsection B.

2. Three acre-feet multiplied by the water duty acres in the farm in which the acre to which the right is appurtenant is located divided by the number of irrigation acres in the farm.

G. The right to withdraw or receive groundwater pursuant to this section is a non-irrigation grandfathered right associated with retired irrigated land, or a type 1 non-irrigation grandfathered right as described in § 45-463.

H. Whether the land to which an irrigation grandfathered right is appurtenant is within the exterior boundaries of the service area of a city, town or private water company shall be determined as of the date the development plan is filed with the director according to the most current map of the service area of the city, town or private water company available for public inspection on that date as required by § 45-498:

1. In the city clerk's office for a city.

2. In the town clerk's office for a town.

3. In the appropriate county recorder's office for a private water company.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

Cross References

Substitution of acres within same sub-basin of same initial active management area for previously irrigated but flood damaged acres, see § 45-465.01.

Transportation of groundwater, see § 45-541 et seq.

Type 1 non-irrigation grandfathered right appurtenant to land, use only on land to which right is appurtenant, see § 45-494.

Law Review Commentaries

Groundwater legislation. 13 Ariz.Bar J. No. 2, p. 34 (1977).

Library References

Waters and Water Courses = 105.

C.J.S. Waters §§ 94, 96.

§ 45-470. Use of type 1 non-irrigation grandfathered right by original owner

A. The original owner of a type 1 non-irrigation grandfathered right pursuant to § 45-463 or 45-469 may:

1. Use groundwater withdrawn pursuant to the right for any non-irrigation use:

(a) On the land to which the right is appurtenant.

(b) On any other land, subject to the provisions governing transportation of groundwater in article 8 of this chapter,¹ except that, if the land to which the right is appurtenant is included within the exterior boundaries of the service area of a city, town or private water company, use groundwater on other land only if the use on other land was commenced prior to the date of the designation of the active management area or is pursuant to a development plan filed with the director prior to the inclusion of the land within the exterior boundaries of the service area of the city, town or private water company.

2. Pursuant to § 45-473, convey retired irrigated land with the appurtenant type 1 non-irrigation grandfathered right. Any land not conveyed shall retain its appurtenant type 1 non-irrigation grandfathered right.

B. For the purposes of this section, "original owner" means:

1. The person who acquired and retired land from irrigation prior to the date of the designation of the active management area pursuant to § 45-463 and any person or entity who holds such land under the same ownership as defined by § 45-461.

2. The person who retires legally irrigated land after the date of the designation of the active management area pursuant to § 45-469 and any person or entity who holds such land under the same ownership as defined by § 45-461.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

1980 Reviser's Note:

In subsection A, paragraph 2, the spelling of the second "appurtenant" was corrected pursuant to authority of section 41-1304.02.

Cross References

Transportation of groundwater, see § 45-541 et seq.

§ 45-471. Use of type 2 non-irrigation grandfathered right by owner

A. The owner of a type 2 non-irrigation grandfathered right pursuant to § 45-464 may use groundwater withdrawn pursuant to the right for any non-irrigation purpose at any location, subject to the provisions governing transportation of groundwater in article 8 of this chapter, except that, if the right is based on withdrawals of groundwater:

1. For the extraction or processing of minerals, the owner may use groundwater withdrawn pursuant to the right only for the purpose of mineral extraction or processing.

2. For the generation of electrical energy, the owner may use groundwater withdrawn pursuant to the right only for electrical energy generation.

B. If a type 2 non-irrigation grandfathered right is leased, the lessee may use groundwater withdrawn pursuant to the right subject to the provisions of subsection A of this section.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

Cross References

Transportation of groundwater, see § 45-541 et seq.

§ 45-472. Conveyance of irrigation grandfathered right; within service area; outside service area; change to non-irrigation grandfathered right; forfeiture of right to convey to non-irrigation use

A. The owner of an irrigation grandfathered right may convey the right only with the land to which the right is appurtenant.

B. If the land to which an irrigation grandfathered right is appurtenant is within the exterior boundaries of the service area of a city, town or private water company:

1. The irrigation grandfathered right may be conveyed only for an irrigation use, except for expanded animal industry use or as provided in paragraphs 2 and 3 of this subsection. If an irrigation grandfathered right is conveyed for an irrigation or expanded

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city, town or pri
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animal industry use, the full amount of the right is conveyed. The amount of groundwater conveyed pursuant to the right:

(a) For an irrigation use may be withdrawn by the new owner of the right only from the land to which the right is appurtenant and used on that land or on contiguous irrigation acres under common ownership within the service area of the city, town or private water company, except that, if the groundwater was delivered by an irrigation district to the previous owner of the right, the irrigation district may continue to deliver groundwater to the new owner pursuant to the right for use on the land to which the right is appurtenant or on contiguous irrigation acres under common ownership within the service area of the city, town or private water company. For purposes of this section, irrigation acres which are separated by a road, highway, easement or right-of-way from the land to which the irrigation grandfathered right is appurtenant are deemed to be contiguous.

(b) For an expanded animal industry use may be withdrawn by the new owner of the right only from the land to which the right is appurtenant and used on that land or on any other land, subject to the provisions of article 8 of this chapter relating to transportation of groundwater. If the groundwater was delivered by an irrigation district to the previous owner of the right, the irrigation district may continue to deliver groundwater to the new owner pursuant to the right. If any portion of the amount of groundwater conveyed is withdrawn by the new owner and used on other land, no additional groundwater may be withdrawn for use on the land to which the right is appurtenant.

2. The irrigation grandfathered right may be conveyed to an industry engaged in the generation of electrical energy for the purpose of electrical energy generation, except that, if the facility for the generation of electrical energy is not subject to title 40, chapter 2, article 6.2¹, the conveyance is subject to the approval of:

(a) The appropriate city or town, if the irrigation grandfathered right to be conveyed is appurtenant to land within the exterior boundaries of the service area of a city or town.

(b) The director, if the irrigation grandfathered right to be conveyed is appurtenant to land within the corporate limits of a city or town and within the exterior boundaries of the service area of a private water company.

3. If an irrigation grandfathered right is conveyed for a non-irrigation use pursuant to paragraph 2 of this subsection, the amount of the right that is conveyed is the lesser of:

(a) The current maximum amount of groundwater which may be used pursuant to the right, as calculated pursuant to § 45-465, subsection B.

(b) Three acre-feet per year multiplied by the number of water duty acres in the farm in which the acre to which the right is appurtenant is located divided by the number of irrigation acres in the farm.

4. The new owner of an irrigation grandfathered right conveyed pursuant to paragraph 2 of this subsection may withdraw the amount of groundwater conveyed pursuant to that right, as determined in paragraph 3 of this subsection, only from the land to which the right is appurtenant and use the groundwater on that land, but may not use the groundwater on other land, except that, if the groundwater was delivered by an irrigation district to the previous owner of the right, the irrigation district may continue to deliver groundwater to the new owner pursuant to the right for use on the land to which the right is appurtenant.

C. If the land to which an irrigation grandfathered right is appurtenant is included within the exterior boundaries of the service area of a city, town or private water company subsequent to the date of the designation of an active management area, the owner of the right may, with the approval of the director and consistent with the provisions of this chapter, convey the grandfathered right for a non-irrigation use, other than an expanded animal industry use, on the land to which the right is appurtenant, upon a showing that adequate water service is unavailable at rates comparable to rates charged similar classes of water users within such service area. The amount of the right conveyed is determined pursuant to subsection B, paragraph 3 of this section.

D. If the land to which an irrigation grandfathered right is appurtenant is outside of the exterior boundaries of the service area of a city, town or private water company:

1. The irrigation grandfathered right may be conveyed for an irrigation use or a non-irrigation use. If an irrigation grandfathered right is conveyed for an irrigation or an expanded animal industry use, the full amount of the right is conveyed. If an irrigation grandfathered right is conveyed for a non-irrigation use, other than an expanded animal industry use, the amount of the right that is conveyed is the lesser of:

(a) The current maximum amount of groundwater which may be used pursuant to the right as calculated pursuant to § 45-465, subsection B.

(b) Three acre-feet per year multiplied by the number of water duty acres in the farm in which the acre to which the right is appurtenant is located divided by the number of irrigation acres in the farm.

2. The amount of groundwater conveyed pursuant to the right, as determined in paragraph 1 of this subsection, may be withdrawn by the new owner of the right only from the land to which the right is appurtenant and used on that land or on any other land, subject to the provisions of article 8 of this chapter² relating to transportation of groundwater, except that, if the groundwater was delivered by an irrigation district to the previous owner of the right, the irrigation district may continue to deliver groundwater to the new owner pursuant to the right. If any portion of the amount of groundwater conveyed is withdrawn by the new owner and used on other land, no additional groundwater may be withdrawn for use on the land to which the right is appurtenant, except that, if the new owner is an industry, it may withdraw a portion of the amount of groundwater conveyed for use on other land and withdraw the remainder of the amount of groundwater conveyed for municipal and industrial use on the land to which the right is appurtenant for purposes directly related to the industry's industrial operation.

E. For purposes of this section, "land to which the right is appurtenant" means the acre or group of contiguous acres conveyed with an irrigation grandfathered right.

F. If an irrigation grandfathered right is conveyed for a non-irrigation use, the new owner's right to withdraw or receive groundwater is a non-irrigation grandfathered right associated with retired irrigated land, or a type 1 non-irrigation grandfathered right. All subsequent conveyances of that right are governed by § 45-473.

G. The amount of a type 1 non-irrigation grandfathered right shall be determined at the time it is established and shall remain fixed at that amount.

H. If an irrigation grandfathered right has not been retired in anticipation of a future non-irrigation use and has not been exercised for five consecutive years, the right may not be conveyed for a non-irrigation use.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980. Amended by Laws 1981, Ch. 192, § 9, eff. April 22, 1981.

¹ Section 40-360 et seq.

² Section 45-541 et seq.

For legislative intent regarding termination of provisions added or amended by Laws 1981, Ch. 192, see note following § 9-463.01.

Cross References

Animal industry use, definition, see § 45-402.

Expanded use, see § 45-402.

Irrigate and irrigation use, definitions, see § 45-402.

Transportation of groundwater, see § 45-541 et seq.

Library References

Waters and Water Courses ⇐ 213.

C.J.S. Waters § 314 et seq.

§ 45-472.01. Transferred and renumbered as § 40-360.13

§ 45-473. Conveyance of type 1 non-irrigation grandfathered¹ right; use by new owner; appurtenancy; within service area; outside service area

A. The owner of a type 1 non-irrigation grandfathered right may convey the right only for a non-irrigation use and only with the land to which it is appurtenant. For purposes of this section, a type 1 non-irrigation grandfathered right means a non-irrigation grandfathered right associated with retired irrigated land pursuant to § 45-463 or 45-469 or an irrigation grandfathered right which was conveyed for a non-irrigation use pursuant to § 45-472.

B. If a type right is conveyed

C. If the land within the estate company, the area by the new owner groundwater may be used on other land designation of the right pursuant to land within the company.

D. If the land outside of the estate company, the area by the new owner used on that land relating to transportation conveyed is with the new owner is conveyed for use conveyed for multiple purposes directly

E. For purpose or group of contiguous

F. If groundwater type 1 non-irrigation groundwater pursuant to Added by Laws 19

¹ So in original.

For provision of exemption to the assured water supplied lands, see note

§ 45-474. Conveyance

A. The owner of any non-irrigation

1. A type 2 right extraction or production

2. A type 2 right energy generation

B. A type 2 right use.

C. If a type 1 right is conveyed

Added by Laws 19

Cross References

Transportation of groundwater, see

B. If a type 1 non-irrigation grandfathered right is conveyed, the full amount of the right is conveyed.

C. If the land to which a type 1 non-irrigation grandfathered right is appurtenant is within the exterior boundaries of the service area of a city, town or private water company, the amount of groundwater conveyed pursuant to the right may be withdrawn by the new owner of the right only from the land to which the right is appurtenant. The groundwater may be used on the land to which the right is appurtenant, but may not be used on other land unless the use on other land was commenced prior to the date of the designation of the active management area or was commenced by the original owner of the right pursuant to a development plan filed with the director prior to the inclusion of the land within the exterior boundaries of the service area of the city, town or private water company.

D. If the land to which the type 1 non-irrigation grandfathered right is appurtenant is outside of the exterior boundaries of the service area of a city, town or private water company, the amount of groundwater conveyed pursuant to the right may be withdrawn by the new owner of the right only from the land to which the right is appurtenant and used on that land or on any other land, subject to the provisions of article 8 of this chapter relating to transportation of groundwater. If any portion of the amount of groundwater conveyed is withdrawn by the new owner and used on other land, no additional groundwater may be withdrawn for use on the land to which the right is appurtenant, except that, if the new owner is an industry, it may withdraw a portion of the amount of groundwater conveyed for use on other land and withdraw the remainder of the amount of groundwater conveyed for municipal and industrial use on the land to which the right is appurtenant for purposes directly related to the industry's industrial operation.

E. For purposes of this section, "land to which the right is appurtenant" means the acre or group of contiguous acres conveyed with a type 1 non-irrigation grandfathered right.

F. If groundwater was delivered by an irrigation district to the previous owner of a type 1 non-irrigation grandfathered right, the irrigation district may continue to deliver groundwater pursuant to the right to the new owner of the right.

Added by Laws 1980, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

¹ So in original. Probably should read "grandfathered".

For provision of Laws 1981, Ch. 203 relating to exemption to the requirement of a certificate of assured water supply for subdivided or unsubdivided lands, see note following § 45-108.

Cross References

Transportation of groundwater, see § 45-541 et seq.

§ 45-474. Conveyance of type 2 non-irrigation grandfathered right; amount

A. The owner of a type 2 non-irrigation grandfathered right may convey the right for any non-irrigation use except that:

1. A type 2 non-irrigation grandfathered right that is used for purposes of mineral extraction or processing may be conveyed only for a mineral extraction or processing use.
2. A type 2 non-irrigation grandfathered right that is used for purposes of electrical energy generation may be conveyed only for an electrical energy generation use.

B. A type 2 non-irrigation grandfathered right may not be conveyed for an irrigation use.

C. If a type 2 non-irrigation grandfathered right is conveyed, the full amount of the right is conveyed.

Added by Laws 1978, 4th S.S., Ch. 1, § 86, eff. June 12, 1980.

Cross References

Transportation of groundwater, see § 45-541 et seq.

ASARCO

Exploration Department
Southwestern United States Division

July 10, 1984


Mr. P. A. Barrese, Director of Taxes
ASARCO Incorporated
New York Office

Questionnaire for Partnerships
and Joint Ventures

Dear Mr. Barrese:

I am enclosing this Questionnaire for Partnerships and Joint Ventures from AMOCO. Please note that the name in line one should be Santa Cruz Joint Venture not Sacaton Project as they have filled in.

Sincerely yours,



J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek
enc.

cc: J. D. Sell



~~OK~~ JRS heendle
Amoco Minerals Company

7000 South Yosemite Street
P.O. Box 3299
Englewood, Colorado 80155
303-740-5657

Deborah J. Friedman
Attorney

July 3, 1984

James D. Sell
Manager - Exploration Department
Southwestern United States Division
Asarco Santa Cruz, Inc.
P.O. Box 5747
Tucson, Arizona 85703

Dear Mr. Sell:

Under provisions of the United States Internal Revenue Code amended in 1976, U.S. companies are required to include an International Boycott Report Schedule in their annual federal income tax returns if at any time they, or partnerships or joint ventures of which they are a member, have operations in or related to countries enforcing boycotts. Your company is the operator of a partnership or joint venture of which a Standard Oil Company (Indiana) affiliate is a member and about which we are obligated to report on Standard's federal income tax return. Accordingly, we ask that as operator of the partnership or joint venture you complete (or arrange for completion by an appropriate Asarco executive) and return the attached questionnaire concerning the operations of that entity prior to July 15, 1984. You should note that the questionnaire applies only to our joint operations and not to other activities of your corporation and its affiliates.

We thank you for your cooperation in regard to this matter.

Very truly yours,

Deborah J. Friedman
Deborah J. Friedman

DJF/kjs

Attachment

RECEIVED

JUL 9 1984

EXPLORATION DEPARTMENT

QUESTIONNAIRE FOR PARTNERSHIPS AND JOINT VENTURES

1. Did - Sacaton Project (insert the name of the partnership or joint venture which will be hereinafter referred to as the "Partnership") have any operations* either in or related to the following countries or with the government, companies, or nationals of such countries during the 1983 calendar year?

Iraq
Saudi Arabia
Libya
Kuwait
Syria
Lebanon
Qatar
Bahrain
Oman

Peoples Democratic Republic of Yemeni
Yemen Arab Republic
Abu Dhabi
Dubai
Sharjah
Ajman
Um al Qaiwan
Ras al Khaimah
Fujairah
Jordan

Check on the following:

NO ☐

YES ☐

If the "YES" box is checked, attach a brief description of each operation and the person most familiar with it.

*"Operations" encompass all forms of business or commercial activities and transactions (or parts of transactions), whether or not productive of income, including but not limited to, selling; purchasing; leasing; licensing; banking, financing, and similar activities; extracting; processing; manufacturing; producing; constructing; transporting; performing activities ancillary to the foregoing (e.g. contract negotiating, advertising, site selecting, etc.); and performing services, whether or not ancillary to the foregoing. Operations relating to the above listed countries, their governments, or the companies or nationals of such countries must be reported even if they are transacted outside of the above listed countries.

2. Did the Partnership have operations, as defined in Question 1, during the 1983 calendar year, in or related to any other country with respect to which it received an official request of the country to participate in or cooperate with any international boycott, or in a country where it knows of others who have received such official requests? An official request includes requests made either directly by a government official or representative or indirectly by a private concern having a direct relationship with the government. Requests may be oral or in writing.

Check on the following:

NO ☐

YES ☐

If the "YES" box is checked, attach a brief description of the operation, the person most familiar with it, and the country involved.

3. If the answer to either Question 1 or Question 2 is "YES", did the Partnership enter into agreements during the calendar year 1983 to:

- 1) Refrain from doing business with or in another country which is the object of the boycott or with the government, companies, or nationals of that country; or
- 2) Refrain from doing business with the United States person engaged in trade in a country which is the object of the boycott or with the government, companies, or nationals of that country; or
- 3) Refrain from doing business with any company whose ownership or management is made up, all or in part, of individuals of a particular nationality, race, or religion, or to remove (or refrain from selecting) corporate directors who are individuals of a particular nationality, race, religion; or
- 4) Refrain from employing individuals of a particular nationality, race, or religion; or
- 5) Refrain from shipping or insuring products on a carrier owned, leased, or operated by a person who does not participate in or cooperate with a boycott.

NO ☐

YES ☐

If the "YES" box is checked, please attach a copy of each such agreement.

4. Attach copies of ANY WRITTEN REQUESTS (including proposed contract provisions) and describe ANY ORAL REQUESTS (official or otherwise) to participate in an international boycott received from any concern in connection with Partnership operations in any country during the calendar year 1983. If no such requests were received during that period, please so indicate by checking the following:

☐ No requests received during 1983 calendar year.

The answers to the questions contained herein and the information attached are true and complete to the best of my knowledge.

(Name)

(Title)

(Date)

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



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.

A handwritten signature in dark ink, appearing to read 'R. S. Konderik', is written over the typed name.

Richard S. Konderik
General Manager

ASARCO Incorporated

DEC 20 1984

RSK/rp
Enclosure

SW Exploration

Survey request "G" Section Improvements

November 29, 1984

Page 2

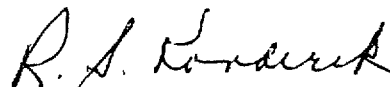
2. Agree to be transferred to another comparable "G" Section lot, thereby relieving yourself of the burden to improve your present lot at this time. DC Properties will pay for all expenses involved with the transfer.
3. Offer to sell your lot to DC Properties for \$2,000.00.

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

BALLOT FORM

☐

I or We, hereby agree to pay my/our proportionate costs to improve my/our Section "G" lot.

☐

I or We, hereby agree to be transferred to a comparable lot in "G" Section provided that DC Properties pays all recording fees and expenses involved with this transfer.

☐

I or We, hereby offer our "G" Section lot for sale to DC Properties for the asking price of \$2,000.00.

Signed: _____

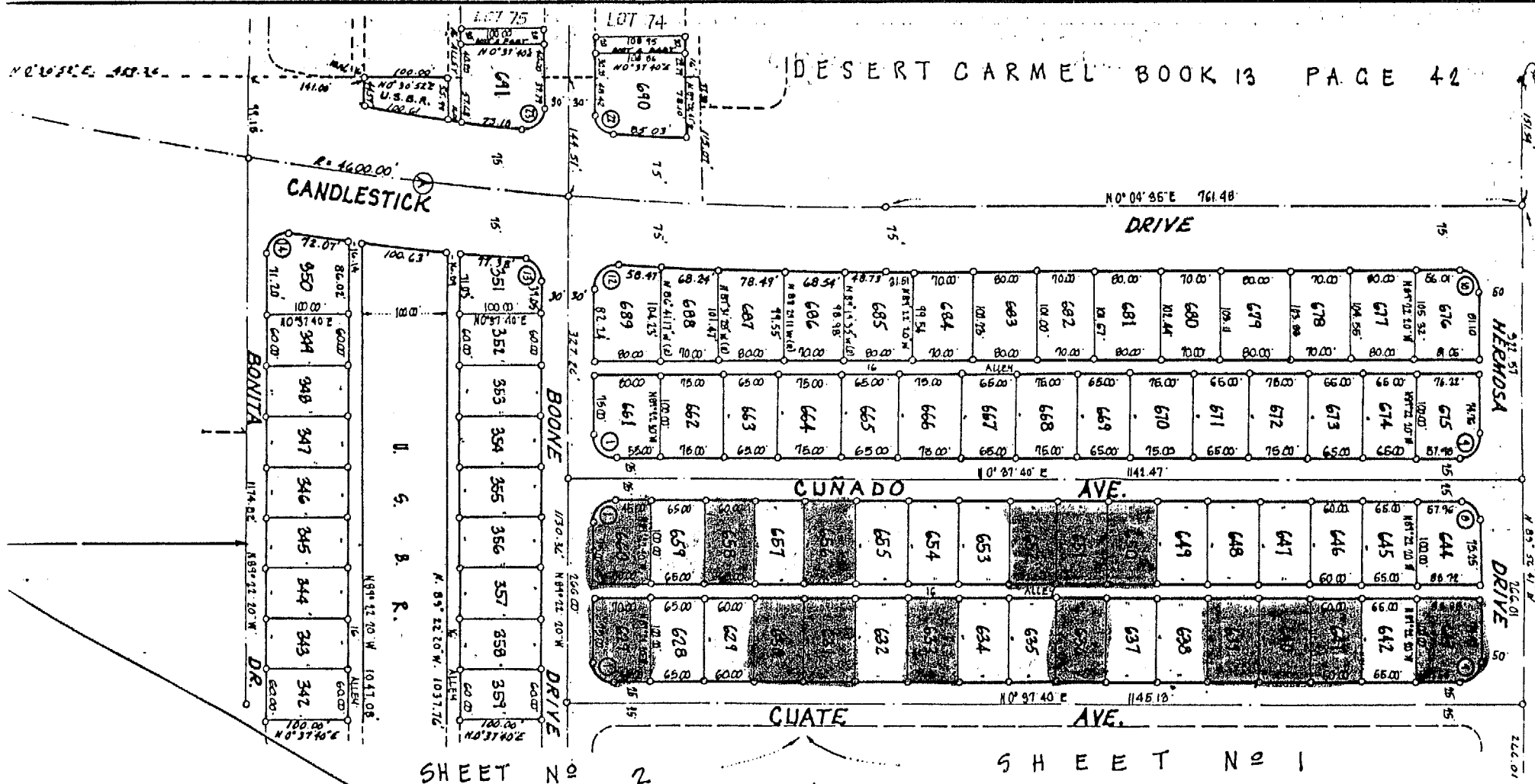
Lot Owner

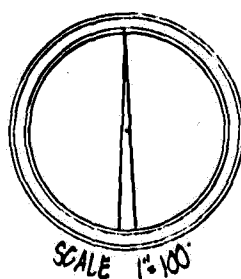
Signed: _____

Lot Owner

PLEASE RETURN AS SOON AS POSSIBLE

1940



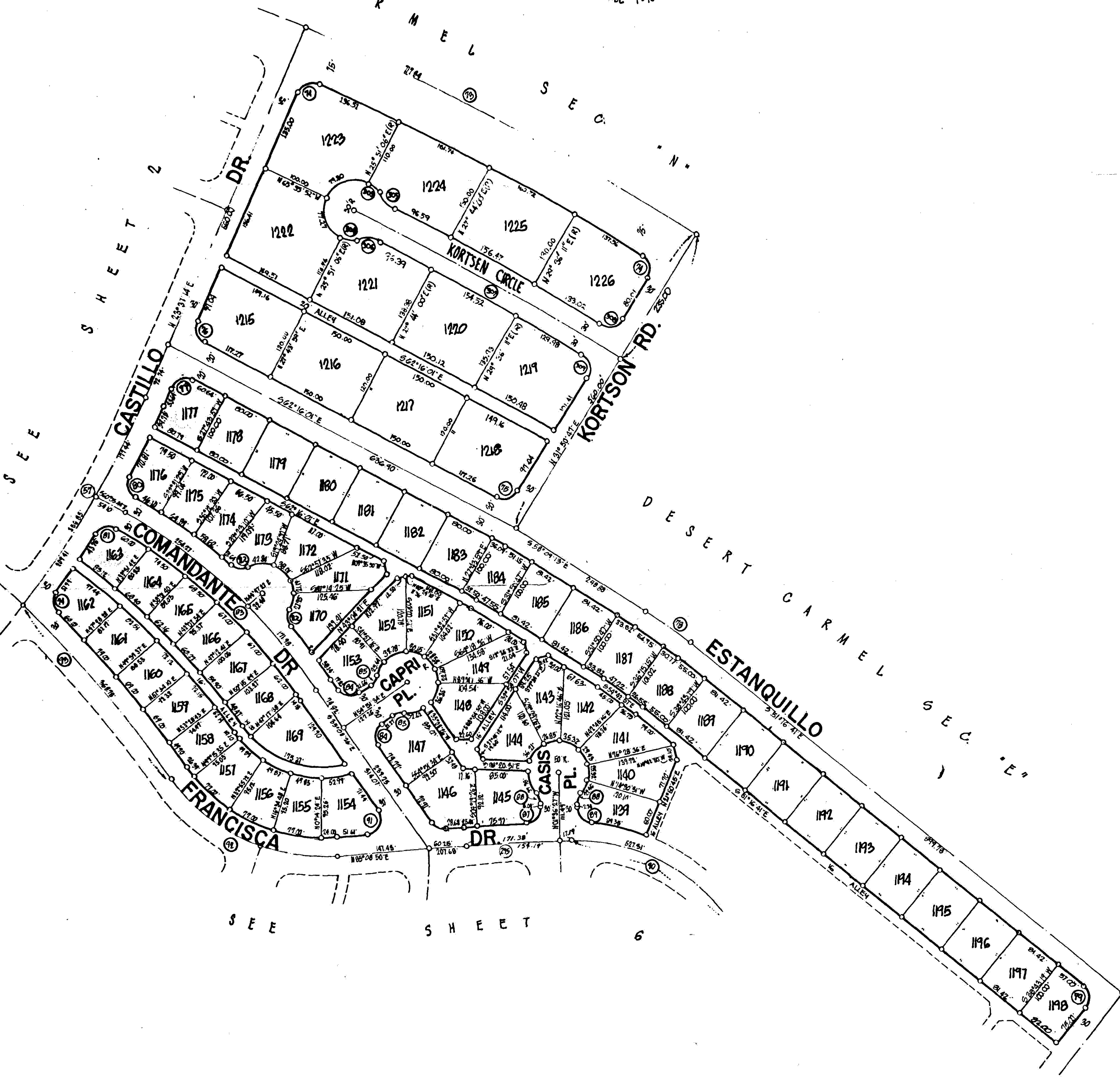


DESERT

CARMEL SEC.

SHEET 2

SEE

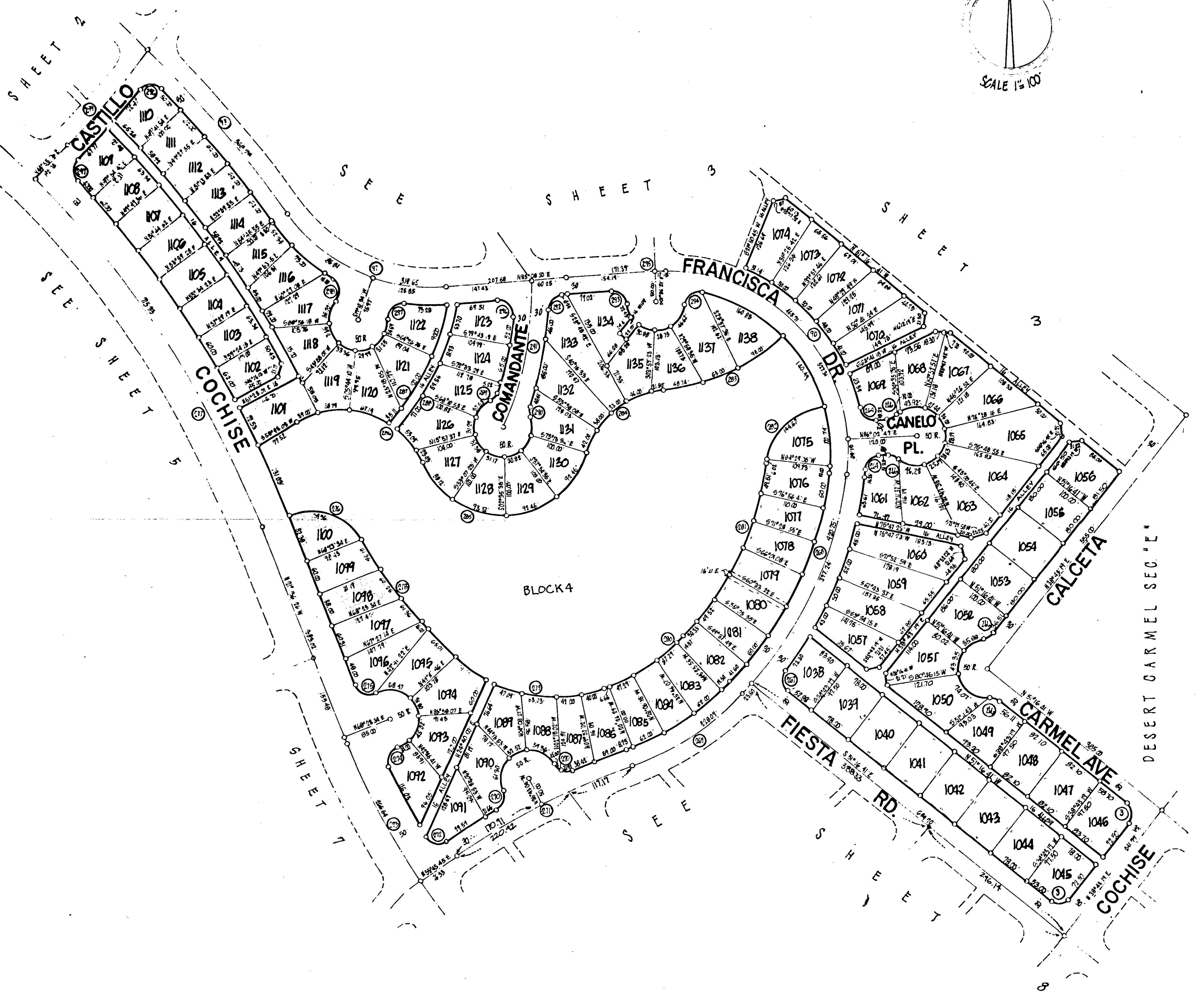
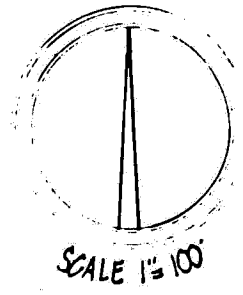


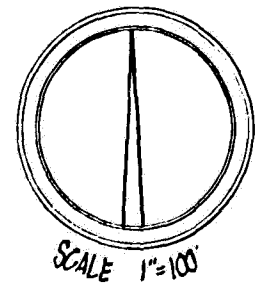
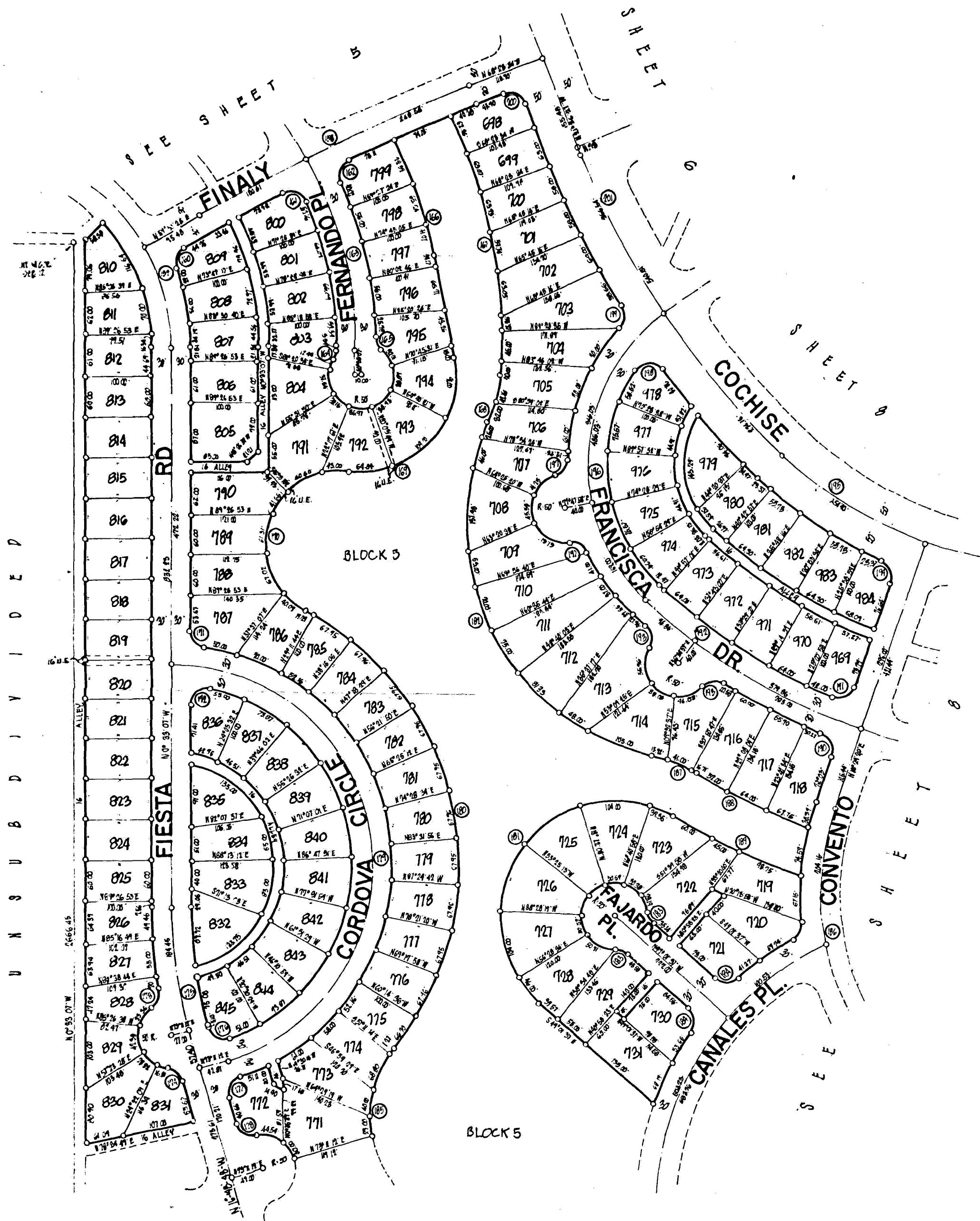
SEE

SHEET

6

| LOT | R | L | S | T |
|------|---------|---------|------------|--------|
| 1123 | 110.00 | 150.69 | 78°29'43" | 89.86 |
| 1124 | 350.00 | 229.74 | 37°36'34" | 119.18 |
| 1125 | 150.00 | 180.80 | 69°05'36" | 103.21 |
| 1126 | 150.00 | 366.54 | 140°00'51" | 478.22 |
| 1127 | 150.00 | 257.61 | 78°23'57" | 173.77 |
| 1128 | 400.00 | 225.11 | 32°14'40" | 115.62 |
| 1129 | 416.00 | 236.19 | 32°31'57" | 121.57 |
| 1130 | 25.00 | 19.94 | 45°42'29" | 10.54 |
| 1131 | 25.00 | 17.61 | 40°21'38" | 9.19 |
| 1132 | 550.00 | 256.18 | 26°40'52" | 130.43 |
| 1133 | 25.00 | 21.50 | 82°08'19" | 13.07 |
| 1134 | 25.00 | 37.95 | 86°58'51" | 23.72 |
| 1135 | 25.00 | 41.16 | 94°19'29" | 26.96 |
| 1136 | 2722.26 | 171.38 | 3°36'26" | 85.72 |
| 1137 | 25.00 | 43.47 | 97°37'25" | 27.60 |
| 1138 | 25.00 | 43.85 | 100°21'44" | 30.06 |
| 1139 | 25.00 | 43.85 | 100°21'44" | 30.06 |
| 1140 | 1617.84 | 214.53 | 7°35'51" | 107.42 |
| 1141 | 8875.00 | 1674.27 | 10°56'17" | 849.10 |
| 1142 | 9000.00 | 1674.13 | 10°28'12" | 824.34 |
| 1143 | 9125.00 | 1356.65 | 8°31'06" | 679.57 |
| 1144 | 50.00 | 32.49 | 37°13'45" | 16.84 |
| 1145 | 50.00 | 31.86 | 36°30'28" | 16.49 |
| 1146 | 50.00 | 31.86 | 36°30'49" | 16.49 |
| 1147 | 50.00 | 32.49 | 37°14'08" | 16.84 |
| 1148 | 4765.00 | 499.44 | 5°59'41" | 242.55 |
| 1149 | 25.00 | 38.88 | 89°20'46" | 24.72 |
| 1150 | 25.00 | 39.56 | 90°40'04" | 25.29 |





ASARCO

Exploration Department
Southwestern United States Division

April 2, 1985

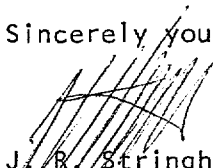
Mr. John A. Finch, Trust Officer
Lawyers Title of Arizona
P.O. Box 7338
Phoenix, AZ 85011

Santa Cruz Joint Venture
Lease Agreement

Dear Mr. Finch:

Please sign the attached "Lease Agreement" and return two copies to me. Also have your signature notarized.

Sincerely yours,



J. R. Stringham
Assistant to the
Manager, SWED

JRS:mek

cc: J. D. Sell

J.R. Strickland
Not Construction
done
9/28

LEASE AGREEMENT

THIS LEASE executed this _____ day of _____, 1985, by and between Lawyers Title of Arizona, and Arizona corporation, as Trustee under Trust Number 1270, the beneficiary being SANTA CRUZ JOINT VENTURE consisting of ASARCO Santa Cruz, Inc. and Freeport Copper Company, P.O. Box 5747, Tucson, Arizona 85703-0747, hereafter Lessor, and American West Pipeline Constructors, a joint venture having offices at 7575 San Felipe, Suite 345, Houston, Texas 77063, said joint venture consisting of Willbros Energy Services, Inc., a Delaware corporation with offices at 2530 East 71st Street, Tulsa, Oklahoma 74158, and Gregory & Cook, Inc., a Delaware corporation with offices at 7575 San Felipe, Suite 350, Houston, Texas 77063, said joint venture hereafter referred to as Lessee;

WHEREAS, Lessor is the owner of certain real estate located east of Casa Grande, Arizona, shown on the map attached hereto;

WHEREAS, Lessee desires to lease 17 acres of said real estate for the purpose of unloading and storing line pipe to be used in the construction of a crude oil pipeline for the All American Pipeline Company;

NOW, THEREFORE, the parties covenant and agree as follows:

1. For and in consideration of the rents to be paid and other considerations given by Lessee herein, Lessor hereby leases to Lessee, and Lessee hires from Lessor, that land consisting of approximately 17 acres of a site located west of a line 800 feet west of and parallel to Bianco Road in the Northeast Quarter of Section 4, Township 6 South, Range 4 East, and shown on the attached map.

2. The term of this lease shall be for twelve months beginning on the 1st day of May, 1985, and terminating on the 30th day of April, 1986. Lessee shall have the option to extend this lease beyond the said termination date, on a month-to-month basis, for next succeeding six month period.

3. Lessee shall pay as rental for the leased premises \$2000 per month payable in advance at the following address:

ASARCO Santa Cruz, Inc.
P.O. Box 5747
1150 North 7th Avenue
Tucson, Arizona 85703-0747

4. The leased premises shall be used to receive, unload, stock, sort, inspect, and load-out pipe. Lessee shall have the right to construct such buildings, cribbings, pipe racks and other improvements on the leased premises as shall be necessary to conduct such operations. The leased premises shall be used for no other purpose without the written consent of Lessor.

5. Lessee, its successors and assigns, shall indemnify and hold Lessor harmless from and against all expenses and liability for and resulting from negligence of Lessee, its agents and employees, in connection with the exercise by Lessee of any of the rights and privileges herein granted.

6. This lease shall not be assigned nor shall the leased premises be sublet in whole or in part without first obtaining the consent of the Lessor in writing.

7. If Lessee defaults in the performance of its obligations hereunder, Lessor shall give Lessee written notice specifying the default. If the default is not cured within 30 days after Lessee has received such notice or, if in the case of default not involving the payment of money, Lessee has not within that time begun action to cure the default and does not thereafter diligently prosecute such action to completion, Lessor may terminate this agreement by delivering to Lessee written notice of such termination, subject to Lessee's right to remove its property and equipment from the leased premises as hereinafter provided.

8. In the event Lessee shall be declared bankrupt according to law, or if a voluntary or involuntary petition for bankruptcy or for reorganization under the bankruptcy laws be filed as to Lessee, or if any assignment shall be attempted to be made of this lease for the benefit of creditors (other than as herein permitted in this lease), then in any of said events Lessor may, if such condition shall continue for a period of more than sixty days thereafter, lawfully declare the lease to be terminated and may enter into and upon the land covered by this lease, or any part thereof, and repossess the same and expel Lessee and those claiming under it and remove its effects, forcibly if necessary, without being deemed guilty of any manner of trespass and without prejudice to any remedies which might otherwise be used for possession or for arrears of rent, and upon entry as aforesaid, the rights of Lessee in this lease shall cease and be ended.

9. Upon the termination of this lease for any cause, Lessee shall remove all improvements placed on the leased premises by it (except as hereinafter set out) and shall leave the property in good and clean condition; and provided further, that Lessee shall not have the right to remove any fill, railroad spur tracks, roads, paved areas or caliche or other surfacing materials; and provided further, that such improvements shall be removed within a period of thirty days after the date of such expiration, and that all rentals provided for herein shall be paid during said period. If Lessor agrees in writing, Lessee may leave all or part of said improvements on the premises, and same shall become the property of Lessor. Lessee shall have the right at any time during the term of this lease to remove or sell or otherwise dispose of, free of any lien of the Lessor, buildings, equipment or other property of Lessee, deemed by Lessee not to be required for the conduct of Lessee's business.

10. All covenants, conditions and agreements of this lease shall apply to and be binding upon Lessor and Lessee and their legal representatives, successors and assigns (when assignment is made in accordance with the provisions hereof). If any term, clause, provision, part or portion of this lease shall be adjudged invalid or illegal for any reason, the validity

of any other part or portion hereof shall not be affected thereby, and the invalid or illegal portion thereof shall be deleted and ignored as if the same had not been written herein. The failure of Lessor or Lessee to insist upon the strict performance of any of the covenants and conditions of this lease, or the consent, either express or implied, of either party hereto to any act or omission by the other party in breach or default hereof, shall not be deemed or construed to be a waiver of any such covenants or conditions except for that particular instance only and shall not constitute or be construed as a waiver of such covenant or condition or of any further or future breach or default thereof.

11. Lessee agrees to comply with the laws of the State of Arizona regarding protected native plants as specified in Ariz. Rev. Stat. 3-901 to 908. Further, prior to clearing any of the leased premises containing protected native plants Lessee shall give Lessor sufficient time within which to obtain requisite permits to remove such plants, as specified by Ariz. Rev. Stat. 3-904. Lessee agrees to pay the sum of \$34,000 during the twelfth month of the lease to permit Lessor to revegetate the land at the termination of the lease.

12. Lessee agrees to be responsible to the County for the maintenance of the county road providing access to the leased premises.

IN WITNESS WHEREOF this lease is executed in duplicate on the date first above written.

LESSOR
Lawyers Title of Arizona
as Trustee under Trust No. 1270

By _____
John A. Finch, Trust Officer

LESSEE
American West Pipeline Constructors

By _____
W. L. Adams, Project Manager

Approved as to Form:

By  _____
John C. Lacy

Santa Cruz *Skeletons found in Ventura Warehouse.*

SC- 2, 3, 4, 5, 6, 7, 8, 9, 10,

11, 12, 13 , 18, 19, 20,

21, 22, 23, 24, , 26, 27, 28, 29, 30,

31, 32, 33, 34, 35, 36, , 38, 39, 40,

41, 44, 45, , 47, 48, 49, 50

51, 52 55, 56, 57, 58, 59, 60,

61, 62, 63, 64

J.D.S. -
I gave a copy of
this to J.R.S.
H.G.K.

THE LANDS DRILL HOLE SAMPLES STORED IN
HANNA-GETTY WAREHOUSE AS OF NOVEMBER 3, 1983

(Still the same
as of 11-1985)

The core, spot cores, and vials of rotary cuttings for the following drill holes are stored in the Hanna-Getty warehouse and were not in the Santa Cruz warehouse fire.

| | |
|-------|-------|
| SC- 4 | SC-38 |
| -10 | -39 |
| -11 | -40 |
| -12 | -46 |
| -13 | -47 |
| -16 | -48 |
| -18 | -49 |
| -19 | -51 |
| -20 | -52 |
| -22 | -57 |
| -24 | -58 |
| -25 | -59 |
| -35 | -60 |
| -36 | -61 |
| -37 | -64 |

SANTA CRUZ
DRILL COLLAR COORDINATES
CASA-GETTY DATA EXCHANGE

| | <u>North</u> | <u>East</u> | <u>Elevation</u> |
|---------|---|------------------------------------|--------------------------------------|
| SC-4 ✓ | NE Cor. NW/4 NW/4 Sec. 24 T6S R4E | (Rotary 0-1876' Core 1876'-2042.7) | |
| SC-10 ✓ | NW Cor. Sec. 24 T6S R4E | Rotary 0-1421' | |
| SC-11 ✓ | NE Cor. NW/4 Sec. 24 T6S R4E | Rotary 0-2136' | |
| SC-12 ✓ | Approx. center SW/4 Sec. 13 T6S R4E | Rotary 0-1577.5' Core 1569'-1910' | |
| SC-13 ✓ | Approx. 800'S and 50'W of center Sec. 13 T6S R4E | Rotary 0-2286' | |
| SC-16 ✓ | Approx. 700'E and 400'N of E quarter corner Sec. 13 T6S R4E | Rotary 0-1845' | |
| SC-18 ✓ | 66121.8 | 51335.8 | -1312.3 Rotary-1500' Core 2513' |
| SC-19 ✓ | 65520 | 49459 | -1310.9 Rotary-1212' Core 1210'-28' |
| SC-20 ✓ | 64050.6 | 48090.7 | -1313.5 Rotary-1200' Core 1200'-24' |
| SC-22 ✓ | 66035.1 | 48910.2 | -1309.9 Rotary-600' Core 600'-23.2' |
| SC-24 ✓ | 65000.1 | 50000.1 | -1312.9 Rotary-1050' Core 1050'-24' |
| SC-25 ✓ | 64176.4 | 53818.0 | -1319.2 Rotary-1684' |
| SC-35 ✓ | 64997.3 | 49503.7 | -1313.7 Rotary-923' Core 923'-233' |
| SC-36 ✓ | 65498.7 | 50009.3 | -1311.5 Rotary-806' Core 806'-23' |
| SC-37 ✓ | 65011.0 | 50502.1 | -1312.5 Rotary-670' Core 671'-280' |
| SC-38 ✓ | 64505.6 | 49998.4 | -1314.3 Rotary-1105' Core 1105'-280' |
| SC-39 ✓ | 64505.8 | 50504.2 | -1315.4 Rotary-1000' Core 1000'-24' |
| SC-40 ✓ | 65505.5 | 50488.2 | -1312.0 Rotary-640' Core 640'-24' |
| SC-46 ✓ | 64483.5 | 49496.5 | -1314.2 Rotary-1084' Core 1084'-266' |
| SC-47 ✓ | 64974.9 | 49002.7 | -1313.2 Rotary-903' Core 903'-256' |
| SC-48 ✓ | 64994.1 | 51509.8 | -1314.6 Rotary-1445' Core 1445'-197' |
| SC-49 ✓ | 66000.7 | 49509.4 | -1310.4 Rotary-724' Core 724'-270' |
| SC-51 ✓ | 64470.4 | 49000.9 | -1314.0 Rotary-966' Core 966'-247' |
| SC-52 ✓ | 65986.6 | 50007.6 | -1310.1 Rotary-750' Core 750'-249' |

January 31, 1979

SAMPLE MATERIALS MOVED TO HANNIBAL & GETTY'S CORP. LAB

HOLE NO. ROTARY CORE

| SC-4 | VIALS (BX) | SPOT CORE | NC-HQ | NX-HQ | BX-BQ |
|-------|------------------|--|---|----------------------------------|------------------|
| | No. BXS. FROM TO | 18 6 BOXES 1 st TO 1876 | No BXS. FROM - TO Numbers continue from last spot core to box # 20 | No. BXS. FROM TO | No. BXS. FROM TO |
| | 8 0' - 1866' | | | 14 1876' - 2022' | |
| SC-10 | 7 0' - 1416' | 1 Box 1407.3' - 1421' | | | |
| SC-11 | 9 0' - 2133' | 2 Boxes 1576' - 2136' | | | |
| SC-12 | 7 0' - 1570' | 2 Boxes 1139' - 1577.5' | Numbers continue from last spot core to box # 36 | 34 1577.5' - 1910' | |
| SC-13 | 11 0' - 2286' | 7 Boxes 1666' - 2255' | | | |
| SC-16 | 4 0' - 1844.5' | 2 Boxes 1419' - 1844.5' | | | |
| SC-18 | 0' - 1500' | | | 109 1500' - 2513' | |
| SC-19 | 5 0' - 1212' | | | 127 1210' - 2474' | 37 2474' - 2862' |
| SC-20 | 0' - 1200' | 1 Box (BX) 1064' - 1069' | | 134 1200' - 2423' | TD |
| SC-22 | 1 0' - 600' | | 153 600' - 1930' | 42 (2 # 172 Boxes) 1936' - 2326' | TD |
| SC-24 | 2 0' - 1050' | | 42 1053.5' - 1448' | 106 1448' - 2441' | |
| SC-25 | 2 0' - 1680' | 2 | Box #1 1631-1634 Box #2 1680-1684 | THIS HOLE WAS NOT CORED | |

SAMPLE MATERIALS MOVED TO HANNATH-GETTY'S CORE LABS

HOLE NO.

ROTARY

D.D. CORE

VIALS (BX)

SPOT CORE
(NX)

NC-HQ

NX-NQ

BX-BQ

No. Boxes From - To

No. Boxes From - To

No. Boxes From - To

No. Boxes From - To

No. Boxes From - To

| | | | | | | | | | |
|-------|---|---------|---|------------|-----|-------------|-------------|-------------|-----------|
| SC-35 | 2 | 0-923' | — | — | — | 143 | 923-2286' | 2 | 2286-2330 |
| SC-36 | — | 0-800' | — | — | — | 175 | 816-2392 | — | — |
| SC-37 | 1 | 0-670' | — | — | — | 228 | 671-2802 | — | — |
| SC-38 | 2 | 0-1103' | 1 | 1090-1093' | — | 197 | 1105'-2802' | — | — |
| SC-39 | 2 | 0-1000' | — | — | — | 165 | 1000'-2490' | — | — |
| SC-40 | 1 | 0-640' | — | — | — | 201 | 640'-2417 | — | — |
| SC-46 | 2 | 0-1080' | — | — | 151 | 1084'-2325' | 37 | 2325'-2669' | — |
| SC-47 | 1 | 0-890' | — | — | 175 | 903'-2355' | 24 | 2356'-2567 | — |
| SC-48 | 2 | 0-1440' | — | — | — | 59 | 1405-1976 | — | — |
| SC-49 | 1 | 0-720' | — | — | 146 | 724'-1940' | 80 81 | 1940-2709 | — |
| SC-51 | 2 | 0-958' | — | — | 149 | 96 | 2478 | — | — |
| SC-52 | 1 | 0-750' | — | — | 153 | 750'-2040 | 52 | 2040-2497 | — |

Boxes have been numbered wrong

vials & core
758, 59, 60, 61, 64Double checking w/ Phil Nasson
Phil Nasson said the core is all
in their warehouse 11-3-1983

11-3-1983 ✓

11-3-1983

| | Spot Cores & Boxes of rotary cutting in viles |
|-------|---|
| SC-57 | x |
| -58 | x |
| -59 | x |
| -60 | x |
| -61 | x |
| -64 | x |

| CORE |
|-------------------------------|
| 1538 [±] - 2244 T.D. |
| 1904 - 3335 T.D. |
| 1169 - 3609 T.D. |
| 2025 - 3086 T.D. |
| 1822 - 2663 T.D. |
| 2005 - 2774 T.D. |

June 19, 1986 JDS

Form 1A

(LR 189942)

QUESTIONNAIRE FOR PARTNERSHIPS AND JOINT VENTURES IN
WHICH AMOCO IS NOT THE OPERATOR

1. Did Asarco Santa Cruz Joint Venture (insert the name of the partnership or joint venture which will be hereinafter referred to as the "Partnership") have any "operations"* either in or related to the following countries or with the government, companies, or nationals of such countries during the 1985 calendar year?

Iraq
Saudi Arabia
Libya
Kuwait
Syria
Lebanon
Qatar
Bahrain
Oman
Jordan

Peoples Democratic Republic of Yemeni
Yemen Arab Republic
United Arab Emirates:
Abu Dhabi
Dubai
Sharjah
Ajman
Um al Qaiwan
Ras al Khaimah
Fujairah

Check one of the following: NO ☒ YES ☐

If the "YES" box is checked, attach a brief description of each operation for each country and the person (include name, telex, and telephone) most familiar with the operation(s). Please list each country separately in connection with which there is a reportable operation.

*"Operations" encompass all forms of business or commercial activities and transactions (or parts of transactions), whether or not productive of income, including but not limited to, selling; purchasing; leasing; licensing; banking, financing, and similar activities; seismic; drilling; extracting; processing; manufacturing; refining; producing; constructing; transporting; performing activities ancillary to the foregoing (e.g., contract negotiating, accounting, advertising, site selecting, etc.); and performing services, whether or not ancillary to the foregoing. Operations relating to the above listed countries, their governments, or the companies or nationals of such countries must be reported even if they are transacted outside of the above listed countries. If a party with whom you have a contract or from whom you purchased goods or services is located in one of the above listed countries this should be listed as an operation.

2. Did the Partnership have operations, as defined in Question 1, during the 1985 calendar year, in or related to any other country with respect to which it received an official request of the country to participate in or cooperate with any international boycott, or in a country where it knows of others who have received such official requests? An official request includes requests made either directly by a government official or

representative or indirectly by a private concern having a direct relationship with the government. Requests may be oral or in writing.

Check one of the following: NO ☒ YES ☐

If the "YES" box is checked, attach a brief description of the operation, the person (include name, telephone, and telex) most familiar with it, and the country involved.

3. If the answer to either Question 1 or Question 2 is "YES," did the Partnership enter into agreements during the calendar year 1985 to:
- a. Refrain from doing business with or in another country which is the object of a boycott or with the government, companies, or nationals of that country; or
 - b. Refrain from doing business with a United States person engaged in trade in a country which is the object of a boycott or with the government, companies, or nationals of that country; or
 - c. Refrain from doing business with any company whose ownership or management is made up, all or in part, of individuals of a particular nationality, race, or religion, or to remove (or refrain from selecting) corporate directors who are individuals of a particular nationality, race, or religion; or
 - d. Refrain from employing individuals of a particular nationality, race, or religion; or
 - e. Refrain from shipping products on or with a carrier owned, leased, or operated by a person or entity that does not participate in or cooperate with a boycott or that is "blacklisted?"
 - f. Refrain from insuring goods or products with an insurance company or agency owned, leased, or operated by a person or entity that does not participate in or cooperate with a boycott or that is blacklisted.

NO ☐ YES ☐

If the "YES" box is checked, please attach a copy of each such agreement.

4. Attach copies of ANY WRITTEN REQUESTS (including proposed contract provisions) and describe in detail ANY ORAL REQUESTS (official or otherwise) to participate in an international boycott received from any concern or entity in connection with Partnership operations in any country during the calendar year

1985. If no such requests were received during that period, please so indicate by checking the following:

[☒] No requests received during 1985 calendar year.

The answers to the questions contained herein and the information attached hereto are true and complete to the best of my knowledge.

Dated this 19 day of June 1986.

ASARCO SANTA CRUZ JOINT VENTURE

(Name of Partnership or Joint Venture)

ASARCO Incorporated

(Name of reporting company)

By: James D. Sell

(Signature)

James D. Sell

(Print Name of Signator)

Manager, SWED

(Title of Signator)

ASARCO Incorporated

P.O. Box 5747

Tucson, AZ 85703

(Mailing Address of Signator)

66 64 13

(Telex Number of Signator)

602-792-3010

(Telephone Number of Signator)

Please type or print all information except signature.

Please provide name of the Amoco company which is your partner in this partnership or joint venture: AMOCO MINERALS COMPANY

January 8, 1987

FILE NOTE

Santa Cruz Deposit
Confidentiality Agreement
Pinal County, Arizona

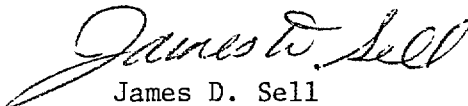
F.T. Graybeal, phone call of 1/8/87 says: R.L. Brown talked to a Vice President in Hanna and this VP stated:

1. No person in Hanna will tell another person anything about the Asarco Santa Cruz deposit.
2. No person in Asarco will tell any other person anything about the Casa Grande Copper deposit.

This is in accordance to the Confidentiality Agreement between the two companies. *NOC. 29-5 (revised 12/31/88).*

Thus no exchange with the USBM except on the Santa Cruz property by Santa Cruz personnel.

Should it be learned that any Hanna-Getty people are still talking about Santa Cruz to a third party outside the Confidentiality Agreement, then please contact F.T. Graybeal/R.L. Brown with such information.


James D. Sell

JDS:mek

cc: W.L. Kurtz
H.G. Kreis

Bill Gray, Al Ranky, HKreis JD Soll
→ document book

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

August 7, 1989

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

Bill Gray/HK
Is this different
than "other original"
we received IF
so why

Mr. W. L. Kurtz
Manager, Western District
Exploration Department
ASARCO Incorporated
P.O. Box 5747
Tucson, Arizona 85703-0747

Re: Santa Cruz Joint Venture

Dear Mr. Kurtz:

Enclosed is the original Certificate of Grandfathered
Groundwater Right No. 58-104069.0002 in the name of Santa Cruz
Joint Venture/Freeport Copper for 838 irrigation acres of land,
dated as of May 3, 1989.

Yours very truly,


Burton M. Apker

BMA:ms

Enclosure

RECEIVED

AUG 8 1989

EXPLORATION DEPARTMENT



RECEIVED

AUG 8 1989

EXPLORATION DEPARTMENT

ARIZONA
DEPARTMENT
OF WATER
RESOURCES

Rose Mofford, Governor
N. W. Plummer
Director

Pinal Active Management Area
901 E. Cottonwood Lane
Suite B
Casa Grande, Arizona 85222
(602) 836-4857

P.O. Box 1194

Dear Grandfathered Right Holder:

Enclosed is your Certificate of Irrigation Grandfathered Groundwater Right. The Certificate identifies the number of acres in your farm that may be irrigated with groundwater and the location of those acres. It is an important document and substantially affects the value of your land. For this reason, I recommend that you record it in your County Recorder's office in association with the deed to your land.

Also enclosed is your Notice of Irrigation Water Duty and Maximum Annual Groundwater Allotment. Irrigation water duties and maximum annual groundwater allotments for holders of irrigation grandfathered rights in the Pinal Active Management Area (AMA) were recently adopted by the Director of Water Resources as part of the first groundwater management plan for the Pinal AMA. That plan also specifies mandatory water conservation requirements for industrial and municipal water users.

Please take the time to review the enclosed Notice. Of special importance is the maximum annual groundwater allotment. That allotment is the maximum amount of groundwater that may be used to irrigate the acres described on your certificate of irrigation grandfathered right, except as provided by the flexibility account provision explained below.

The compliance date for your irrigation water duty and maximum annual groundwater allotment is December 31, 1987. This means that by the end of 1987 you should have achieved whatever level of conservation is necessary to stay within your maximum annual groundwater allotment. In order to be in compliance, your water measurement data for calendar year 1988 must indicate that you have not exceeded your maximum annual groundwater allotment, unless you borrow from your flexibility account. You must remain in compliance with the allotment until the effective date of any new irrigation water duty and maximum annual groundwater allotment established in the second management plan for the Pinal Active Management Area.

Because variations in market conditions, weather and other natural forces often affect agricultural water use, the Groundwater Code requires the Department to establish a

Grandfathered Right Holder
Page Two

flexibility account for each farm. The flexibility account permits farmers to "borrow or bank" groundwater from year to year. Flexibility accounts will go into effect beginning January 1, 1988. If a farmer uses less than a farm's maximum annual groundwater allotment, the Department will register a credit to the farm's flexibility account. If a farmer uses more than a farm's maximum annual groundwater allotment, the Department will register a debit to the account. The Code limits the total amount a farmer may borrow from the flexibility account. The Groundwater Code also establishes a special method for calculating credits and debits for farmers who use both surface water and groundwater.

Every reasonable effort has been made to insure that the information contained in the Certificate and Notice is accurate. However, if an administrative or typographical error has been made on the Certificate or Notice, please notify the Pinal AMA office within thirty days.

Supporting information regarding your Certificate of Grandfathered Right, including a map depicting the land to which the right is appurtenant, is on file at the Department and is available upon request. Remember, only acres of land specifically identified on this Certificate may be irrigated. Also, the groundwater allotment identified on the enclosed Notice may be used only on the lands identified on the enclosed Certificate. You are also reminded that the Department must be notified if the person named in the Certificate changes his address, conveys ownership of all or part of the land to another person or wishes to convert the irrigation right to a non-irrigation grandfathered right. Forms and information relative to these matters are also available from the Pinal AMA office upon request.

Questions or requests for information about the Certificate or Notice should be addressed to the Pinal AMA office:

PINAL ACTIVE MANAGEMENT AREA
901 E. Cottonwood Lane
P.O. Box 1194
Casa Grande, Arizona 85222

Telephone: (602) 836-4857

Sincerely,



N.W. Plummer,
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*

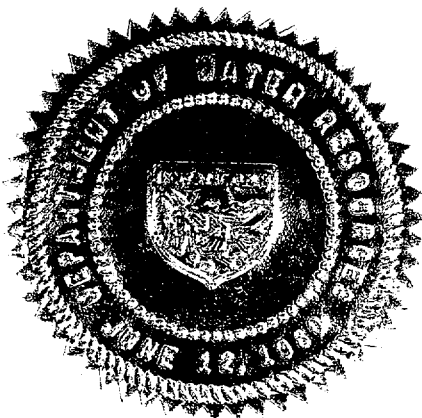
SANTA CRUZ JOINT VENTURE
FREEPORT COPPER
2111 EAST HIGHLAND, SUITE 230
PHOENIX, ARIZONA 85016

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

The 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.

STATE OF ARIZONA

DEPARTMENT OF WATER RESOURCES
PINAL ACTIVE MANAGEMENT AREA

NOTICE OF IRRIGATION WATER DUTY AND
MAXIMUM ANNUAL GROUNDWATER ALLOTMENT

Pursuant to A.R.S. 45-564.B, the Director of Water Resources hereby gives notice of the irrigation water duty and the maximum annual groundwater allotment for Irrigation Grandfathered Right No. 58-104069.0002. The maximum annual groundwater allotment is the maximum amount of groundwater that may be used per year to irrigate the lands described in the above-referenced Certificate of Irrigation Grandfathered Right, except as provided in A.R.S. 45-467, the operating flexibility account provision.

IRRIGATION WATER DUTY 5.11 ACRE-FEET PER ACRE.
MAXIMUM ANNUAL GROUNDWATER ALLOTMENT 3.125 ACRE-FEET PER YEAR.

Attachment A to this notice sets forth the official language of the above requirements for holders of grandfathered rights as adopted in the First Management Plan for the Pinal Active Management Area. Attachment A is incorporated into this notice by reference. Compliance with the irrigation water duty and maximum annual groundwater allotment must be achieved beginning January 1, 1988 and must be maintained until the effective date of any new irrigation water duty established in the Second Management Plan for the Pinal Active Management Area.

NOTICE ISSUED BY:



N.W. PLUMMER,
Director

1. Conservation Requirements for Holders of Irrigation Grandfathered Rights

a. Each person who is entitled to use groundwater pursuant to a certificate of irrigation grandfathered right shall comply with the applicable irrigation water duty no later than the compliance date and shall remain in compliance with that irrigation water duty until the effective date of any applicable irrigation water duty prescribed in the second management plan.

b. During the first accounting period after the compliance date and during each succeeding accounting period until the effective date of any applicable irrigation water duty prescribed in the second management plan, a person who is entitled to use groundwater pursuant to a certificate to irrigation grandfathered right shall not use groundwater in excess of the applicable maximum annual groundwater allotment to irrigate the certified irrigation acres in the farm, except as provided in A.R.S. § 45-467.

2. Definitions

a. In this attachment, unless the context otherwise requires:

(1) "Certified irrigation acres" means the acres of land described on each certificate of irrigation grandfathered right.

(2) "Compliance date" means the date that falls two years after the date of the notice of the applicable irrigation water duty pursuant to A.R.S. § 45-564.

(3) "Maximum annual groundwater allotment" means the quantity of water in acre-feet obtained by multiplying the water duty acres for a farm by the irrigation water duty for the farm unit.

b. The applicable definitions in A.R.S. §§ 45-101, 45-402 and 45-461 are hereby incorporated by reference into this attachment.

IMPORTANT NOTICE

ANNUAL REPORTS

Persons holding groundwater rights in Active Management Areas as of December 31 of each year are required to file an annual water withdrawal and use report (annual report) for that calendar year. This annual report must be filed no later than March 31 of the following year, and must account for water withdrawn and used for the entire calendar year. Persons with more than one right must file a separate annual report for each right. Annual report forms are mailed in early January. Failure to receive the proper forms does not relieve a person from the requirement to file.

If you own an Irrigation Grandfathered Right which obtains all water from an irrigation district, that district may file an annual report on your behalf. Check with your irrigation district to determine whether they intend to file on your behalf.

MEASURING DEVICES

All water pumped from non-exempt wells in Active Management Areas must be measured with a device approved by the Department. In general, the methods include: 1) installation of an in-line or "totalizing" meter; 2) a minimum of two well discharge rate measurements per year to be used in conjunction with energy consumption measurement (this method may not be used if the energy meter serves uses other than the well); and 3) a minimum of four discharge rate measurements per year to be used in conjunction with an approved hour meter. A list of approved measuring devices may be obtained upon request from the AMA offices listed below.

Devices must be installed and maintained to insure that measurement error does not exceed 10%. The pump and discharge system on a well must be so constructed to allow the Department, with its own devices, to check the accuracy of the installed device.

Persons withdrawing groundwater pursuant to an Irrigation Grandfathered Right and one or more Non-Irrigation Rights or Withdrawal Permits must use a sufficient number of devices to allow for the separate measurement of the amount withdrawn pursuant to the Irrigation Grandfathered Right.

If a device malfunctions for a period of more than 72 hours, the malfunction must be reported to the Department within seven days of discovery of the malfunction. Repair or replacement of the device must be made within 30 days or as soon as practicable. Measuring device malfunction reports may be obtained from your Active Management Area Office.

Exceptions to the measurement requirement are made only for persons holding Type 2 Non-Irrigation Grandfathered Rights or General Industrial Use Permits with aggregate allotments of ten acre-feet or less. Persons with such rights may estimate annual withdrawals.

RECORD KEEPING

Records of annual water withdrawal, delivery and use calculations must be maintained for at least three years. In the event that you are selected for a records audit, you will be asked to provide this information.

FEES

Withdrawal fees are assessed for each acre-foot of water annually withdrawn from wells associated with groundwater rights. This fee is annually set by the Director of the Department each October for the following calendar year. These fees must be included with annual report filings.

Annual reports not filed by the March 31 deadline are subject to late filing penalties of \$25.00 for each month or portion of a month that the annual report has not been filed up to a maximum of \$150.00. In addition, late payment fees of 10 percent per month to a maximum of 60 percent are assessed for any withdrawal fees not paid by March 31.

CHANGES IN OWNERSHIP

The Department must be notified within 15 days if a water right is conveyed. Records of the quantity of water withdrawn and/or used prior to the date of conveyance must be made available to the new owner.

ASSISTANCE

For further information, contact your local Active Management Area Office: Phoenix (602) 255-1512; Prescott (602) 778-7202; Pinal (602) 836-4857; Tucson (602) 628-5858.



Southwestern Exploration Division

JDS

January 23, 1990

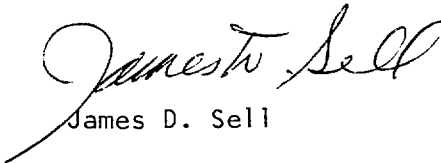
H.G. Kreis

Unpatented Claims
Santa Cruz Project
Pinal County, AZ

I attach a portion of your map 6675 showing the location and names of the unpatented claims secured from Getty. These include the three groups containing the NIK-1 thru -54 and CHAVO #42-49 and 55.

Please review and give me you opinion of the mineral potential of these lands and whether Asarco should retain the unpatented claims since each group must have its own assessment work each year.

JDS:mek
Att.


James D. Sell

cc: W.L. Kurtz
W.D. Gay

10

11

CHAYD { 42-49
8-55
NIK { 37-41
50-54

12

15

14

soluble
Cu
cathode
HOL

13

22

NIK CLAIMS

18-36
47-58

19

NIK CLAIMS

19-36

24

ROUTE 84

27

26

25

R. 4 E. MIDWAY ROAD

10

11

CHAYO { #42-49
#8-55
NICK { #37-41
#50-54

12

15

14

13

22

NICK CLAIMS

#19-36
#17-18

23

NICK CLAIMS

#19-36

24

ROUTE 64

27

26

25

TR. 4 E. HIGHWAY ROAD



Southwestern Exploration Division

September 21, 1989

A.R. Raihl

Drill Hole Surveys
Santa Cruz Project

The attached list of coordinates and elevations are the accepted values for the listed drill holes and control points. The elevations were run by spirit level, and they are more accurate than the elevations run by vertical angle. The elevations on the July 5, 1989 computer printout were run by vertical angle, and they can be tossed out because of being outdated.

HGK:mek

A handwritten signature in cursive script, appearing to read "H.G. Kreis".

H.G. Kreis

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

BOUNDARY & DRILL HOLE SURVEY
SECTION 13, T6S, R4E
G. & S. R. M., PINAL COUNTY, ARIZONA

FOR: ASARCO, INC.

BY: S & S SURVEYS, INC. 1665 E. 18th ST. #204
TUCSON, AZ 85719 (602) 624-6466

SCALE 1" = 400' JOB# 89-07-01 JULY 1989

CONTROL POINTS

| | NORTH COORD | EAST COORD | ELEVATION |
|--------|-------------|------------|-----------|
| W-43 | 61,217.61 | 51,341.63 | 1324.63 |
| X-43 | 61,201.16 | 56,506.21 | 1328.92 |
| TC-9 | 63,989.49 | 51,351.00 | 1317.93 |
| TC-12 | 61,954.55 | 48,597.24 | 1320.01 |
| SC "A" | 66,000.53 | 49,447.12 | 1309.19 |
| SC "B" | 64,888.02 | 48,166.26 | 1309.58 |
| SC "C" | 65,552.75 | 48,132.21 | 1308.84 |

DRILL HOLES

| | | | |
|--------|-----------|-----------|---------|
| C-1 | 65,656.14 | 49,509.96 | 1309.79 |
| C-2 | 65,552.19 | 49,540.22 | 1310.20 |
| S C-19 | 65,520.20 | 49,458.34 | 1310.09 |
| SM-1 | 65,520.44 | 49,427.76 | 1312.52 |
| SC-35 | 64,997.22 | 49,503.61 | 1309.79 |
| SC-36 | 65,498.72 | 50,009.13 | 1312.56 |
| SC-37 | 65,010.96 | 50,502.06 | 1311.44 |
| SC-38 | 64,505.61 | 49,998.31 | 1313.18 |
| SC-39 | 64,505.80 | 50,504.21 | 1314.29 |
| SC-40 | 65,505.54 | 50,488.17 | 1310.95 |
| SC-46 | 64,483.52 | 49,496.45 | 1313.08 |
| SC-47 | 64,974.94 | 49,002.73 | 1312.21 |
| SC-48 | 64,994.11 | 51,509.82 | 1313.49 |
| SC-49 | 66,000.76 | 49,509.40 | 1309.33 |
| SC-51 | 64,470.39 | 49,000.95 | 1312.87 |
| SC-52 | 65,986.59 | 50,007.58 | 1309.04 |

COASTAL DRILL HOLES

| | | | |
|-----|-----------|-----------|---------|
| 200 | 62,825.11 | 49,642.45 | 1318.06 |
| 201 | 62,323.14 | 51,141.53 | 1320.89 |
| 604 | 63,323.71 | 50,641.68 | |
| 605 | 63,327.16 | 49,141.39 | |

GENERAL NOTES

THIS SURVEY AND THE ACCOMPANYING TABLES OF CONTROL AND DRILL HOLES ARE BASED ON ASARCO COORDINATES WHICH WERE PROVIDED TO US IN 1977. ARMY MAP SERVICE PHOTO PANELS W43 (AT THE NE CORNER OF SECTION 24 - T6S - R4E) AND PANEL X-43 (AT THE NE CORNER OF SECTION 18 - T6S - R5E) ARE BOTH LISTED IN THE TABLES HEREIN.

ELEVATIONS ARE BASED ON AN ADJUSTED VALUE OF CONTROL POINT TC-9, AS PROVIDED BY ASARCO IN 1977, OLD CONTROL POINTS TC-4 AND TC-5 HAD AN ERROR OF 1.11 FT BETWEEN THEM. ALL OF THE WORK HEREON IS BASED ON TC-9 WITH AN ELEVATION OF 1317.93. THIS MAY NOT AGREE WITH THE PHOTO PANELS VALUES. THE OLD WORK WAS BASED ON ELEVATIONS OF TC-4 AND TC-5 PROVIDED BY ASARCO.

DRILL HOLES C-1, C-2, C-19 AND SM-1 WERE SURVEYED AS TO LOCATION AND ELEVATION IN JULY 1989. DRILL HOLES SC-35 THRU SC-52 WERE SURVEYED AS TO LOCATION AND ELEVATION IN 1977.

COASTAL MINING COMPANY DRILL HOLES DEPICTED HEREON WERE LOCATED BY US IN 1976. A DRILL PATTERN ON A 500 FT. GRID WAS ESTABLISHED BY COASTAL AND I BELIEVE WE LAID OUT THAT GRID FOR COASTAL IN THE FIELD WITH 50 FOOT OFFSETS IN TWO DIRECTIONS. I HAVE NO KNOWLEDGE OF HOW MANY OF THOSE WERE DRILLED. ALL THAT WORK WAS IN THE SOUTHEAST QUARTER OF SECTION 13.

THE BOUNDARY BEARINGS AND DISTANCES ARE ESSENTIALLY THOSE OF THE OLD 1977 SURVEY. WE OCCUPIED THE CENTER OF SECTION AS RE-ESTABLISHED BY SWING TIES AND SIGHTED ALL SECTION AND QUARTER CORNERS OF SECTION 13. THE CHECK MEASUREMENTS VERY CLOSELY MATCH THE OLD VALUES.

THE TABLE BELOW WILL PROVIDE THE BASIS FOR FUTURE CONVERSION OF COASTAL COORDINATES TO ASARCO VALUES.

| | <u>ASARCO</u> | | <u>COASTAL</u> | |
|-----------------------------|---------------|-----------|----------------|------------|
| | NORTH | EAST | NORTH | EAST |
| SOUTHEAST CORNER SECTION 13 | 61,303.63 | 51,423.83 | 100,037.06 | 115,875.30 |
| SOUTHWEST CORNER SECTION 13 | 61,283.61 | 46,112.09 | 100,003.74 | 110,563.47 |
| PHOTO PANEL W-43 | 61,217.61 | 51,341.63 | 99,950.83 | 115,793.29 |

October 31, 1990

R.L. Brown
New York Office

→ Acquisition of
Simmons DevCor Land
Santa Cruz Project

Summary and Recommendations

There are 523 acres of land along the east side of the Santa Cruz Joint Venture (SCJV) land holdings that are recommended for acquisition by the SCJV. This land is needed to provide buffer room around known copper deposits belonging to the SCJV. In addition to providing buffer room, the north half of the property has potential for ore grade copper mineralization. The 523 acres of land belongs to Simmons DevCor Inc. and is subject to a lien held by the Resolution Trust Corporation. The land is expected to cost between \$300,000 and \$500,000. There are certain items, such as environmental liability, royalties, etc., that need to be investigated before the property is acquired.

Land Description

The 523 acres of Simmons DevCor property is shown on the attached map. It is a 2.5 mile long, narrow strip of land separating SCJV land on the west from Francisco Grande and Desert Carmel land on the east. The SCJV field office and core storage facilities are located on this land just east northeast of the center of Section 19 (T6S, R5E).

It is not known if Simmons DevCor has plans to sell the 523 acres of property. Burt Apker inquired, but has yet to receive a reply.

Simmons DevCor's 523 acres is subject to a lien by the Resolution Trust Corporation as receiver for Western Savings and Loan Association. Consequently, Simmons DevCor will have to satisfy the Resolution Trust Corporation before the property can be sold.

The value of Simmons DevCor's 523 acres is difficult to assess because of the unusual, depressed land market that currently exists, not only in the Casa Grande area, but elsewhere. A July 24, 1990 appraisal, done by Patch and Associates at Asarco's request, places the minimum cash value at \$450 to 630 per acre, or \$235,000 to \$330,000 in total.

The value of this land to the Santa Cruz Project is in providing a buffer zone for possible future mining of existing Santa Cruz copper deposits. It has an added value in that the northern half of the land has potential for ore grade copper mineralization.

Buffer Zone

A one mile wide buffer zone is needed about known copper deposits and about the area in which additional copper deposits are expected to be found. The purpose of the buffer zone is to allow adequate room for possible future blockcave mining and/or in situ leach mining. The one mile buffer zone, as shown on the attached map, includes nearly all of the Simmons DevCor land.

Mineral Potential

The northern most portion of the Simmons DevCor land lies within an area having a potential for copper ore deposits as shown on the attached land use map. Within the area of potential copper ore deposits, the best potential for finding a copper ore deposit occurs on all the Texaco land south of the Peripheral Lands copper deposit (see separate acquisition proposal for Texaco land). The Simmons DevCor land adjoins the favorable Texaco land on the south.

The Texaco land and the adjoining northern most portion of the Simmons DevCor land have an excellent ore deposit potential because of very favorable geologic projections of known copper mineralization. Favorable patterns of alteration and mineralization associated with the Santa Cruz Deposit project northeast into the Texaco and Simmons DevCor land (see attached land use map and cross section). Similarly, ore grade copper mineralization of the Peripheral Lands copper deposit is known to continue south into Texaco's land for an unknown distance (see Kreis, H.G., April 1978, Geology and Copper Reserve, Peripheral Lands; Asarco report).

Some predictions can be made about the yet to be found copper ore deposits within the outlined potential area. These predictions are based on our knowledge of the known copper deposits and fault structures in the Santa Cruz area. The copper ore deposits will most likely be supergene enriched chalcocite and/or copper oxide deposits amenable to block cave mining and/or in situ leaching. The size of these deposits will vary from 50 million to 300 million tons depending on the frequency of offsetting faults.

The average grade of these deposits is expected to be 0.8 to 1.5% Cu, and substantial tonnages of 1.5% to 2.0% Cu are likely to be found. To date the highest grade known portion of the Santa Cruz deposit is 50

Acquisition of Simmons DevCor Land
Santa Cruz Project

October 31, 1990

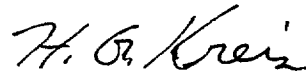
million tons at 1.41% Cu which is part of a 220 million ton, 1.07% Cu reserve (Santa Cruz South). Although the northern portion of the Simmons DevCor property is relatively small compared to the Texaco land, it could have as much as 100 million tons under the most favorable of conditions.

Conclusion

If acquired by the SCJV, the 523 acre Simmons DevCor land would be an asset to the Santa Cruz Project. The land would provide buffer room for possible future mining operations. In addition, part of the land has potential for ore grade copper mineralization.

The land was assessed as having a minimum value of \$235,000 to \$330,000 in cash. A reasonable initial offer would be \$250,000, and a likely sale price would be in the range of \$300,000 to \$500,000. Before Simmons DevCor can sell the land, the lien holder, The Resolution Trust Corporation, will have to be satisfied.

If the SCJV decides to proceed with the acquisition of the Simmons DevCor land, there are a few items that will justify a more detailed inspection of the property. These items include environmental concerns, underlying royalties, internal private lots, and possible obligations to others. None of these items is likely to block the sale of the land, but they could affect the terms and conditions under which the land is sold.



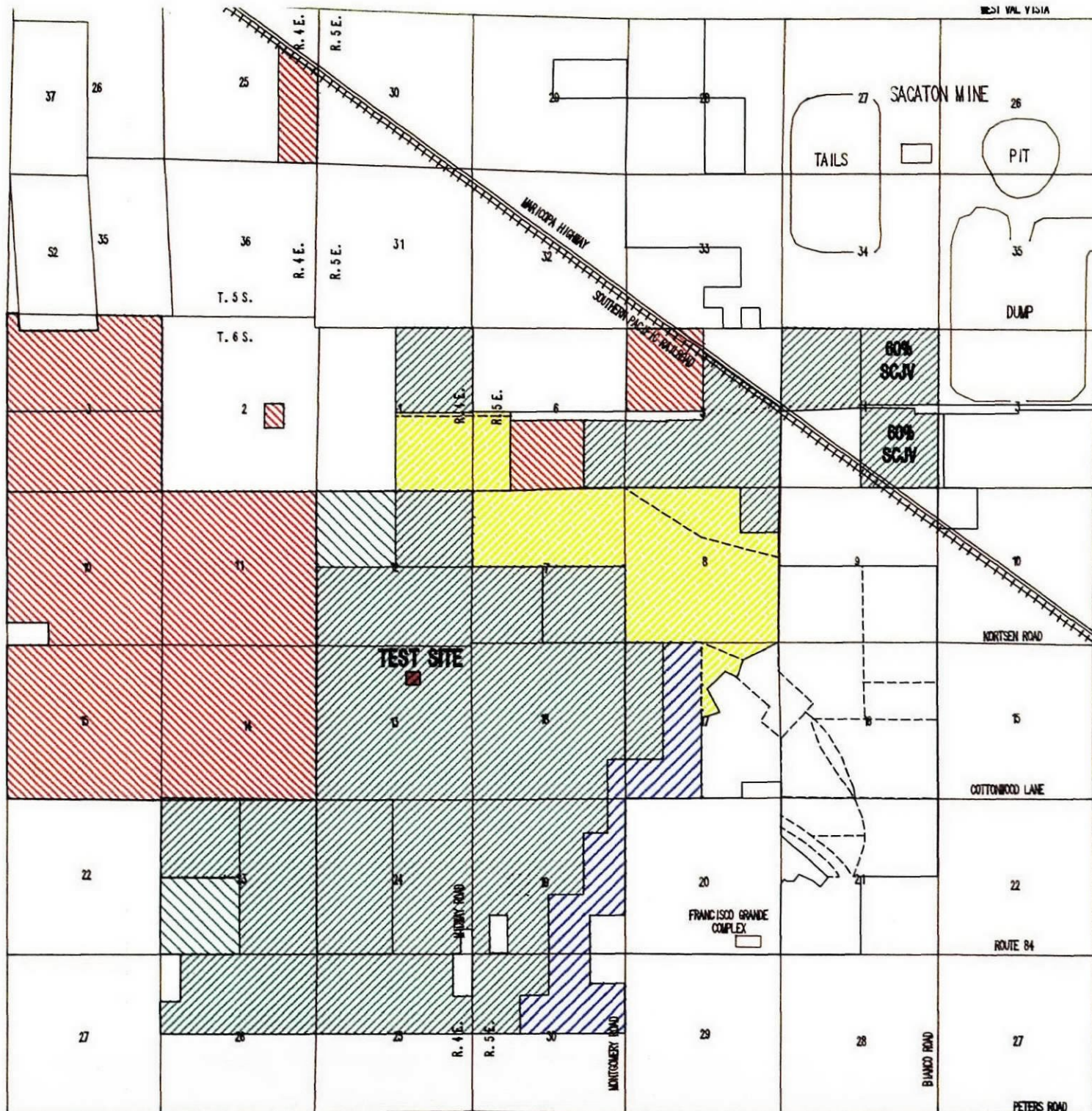
H. G. Kreis

HGK:mek

Attachments



Land Status Map
Land Use Map
Cross Section A-A'

cc: F.,T. Graybeal (w/atts.)
W.L. Kurtz (w/atts.)
J.D. Sell (w/atts.)



EXPLANATION


SANTA CRUZ JOINT VENTURE

-  SURFACE AND MINERAL
-  MINERAL ONLY


TEXACO

-  1088 acres

SIMMONS DEVCOR

-  523 acres

HANNA-TEXACO

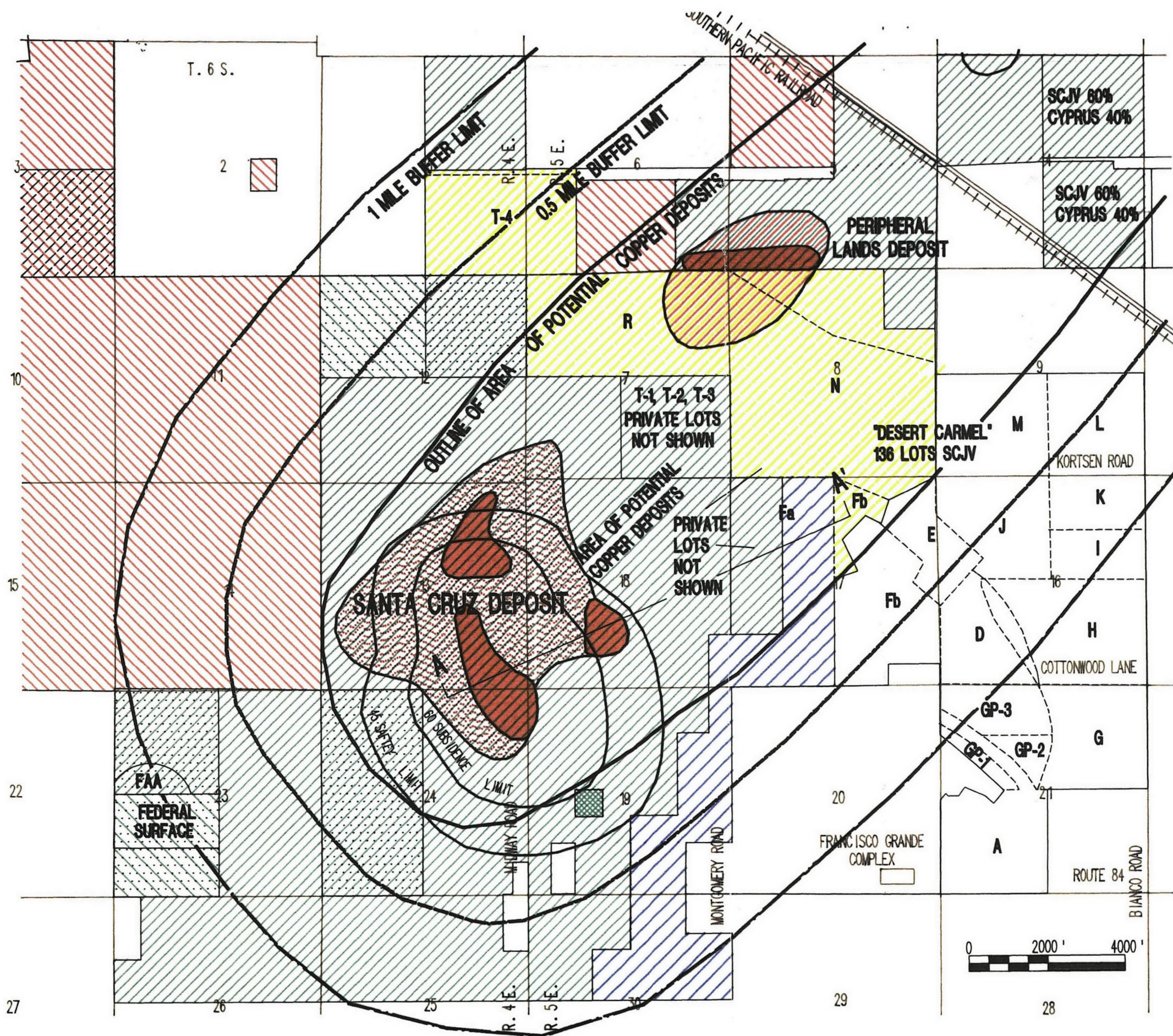
-  3630 acres



SANTA CRUZ LAND STATUS ARIZONA

1 MILE

min SC390 10/14 hgt/dam tuc: 10-30-90



OWNERSHIP EXPLANATION

SANTA CRUZ JOINT VENTURE PROPERTY:

- SURFACE AND MINERAL
- MINERAL ONLY
- SURFACE (MINERAL LEASED TO SCJV)
- UNPATENTED MINING CLAIMS

HANNA-TEXACO PROPERTY:

- SURFACE AND MINERAL
- UNPATENTED MINING CLAIMS

TEXACO PROPERTY:

- SURFACE AND MINERAL

SIMMONS-DEVCON PROPERTY:

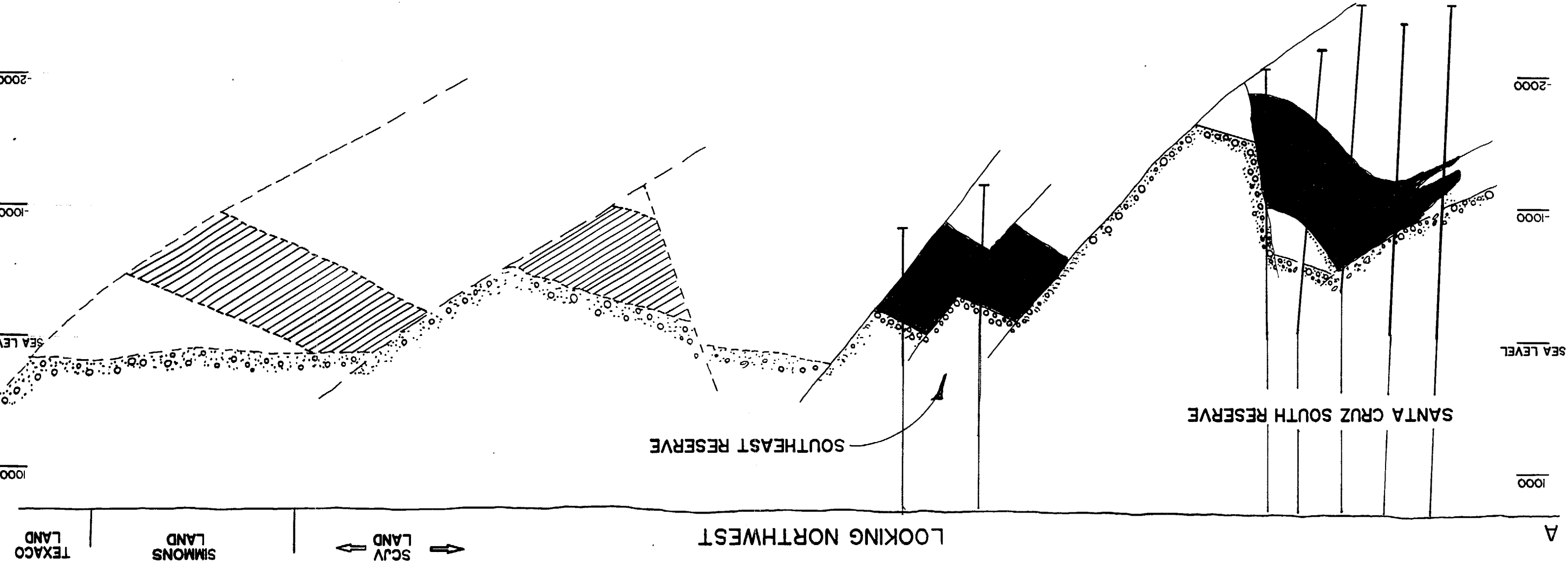
- SURFACE AND MINERAL

- AREAS OF THICKER AND HIGHER GRADE COPPER
- PROJECTED THICKER AND HIGHER GRADE COPPER
- FRINGE, SOLUBLE COPPER MINERALIZATION; PART OF SOLUBLE COPPER MINERAL INVENTORY
- BLOCK CAVE SUBSIDENCE LIMITS

SANTA CRUZ PROJECT LAND USE MAP PINAL COUNTY, ARIZONA

H&Kreiss 10-11-80
m 3200 115 hpi/dm tsc 9-30-80





EXPLANATION

- KNOWN COPPER ENRICHED DEPOSITS
- HYPOTHETICAL COPPER ENRICHED DEPOSITS
- POST MINERAL COVER
- GRANITE AND PORPHYRY BEDROCK
- FAULT
- HYPOTHETICAL FAULT

CROSS SECTION A-A'
 LOOKING NORTHWESTLY
 SANTA CRUZ PROJECT
 PINAL COUNTY ARIZONA
 ASARCO-FREEPORT JT.VEN.
 H.KREIS JUNE-6-1990 ASARCO INC.

October 31, 1990

R.L. Brown
New York Office

→ Texaco Land Sale
Santa Cruz Project
Pinal County, Arizona

Texaco has informed the Santa Cruz Joint Venture (SCJV) of its intentions to dispose of the 1088 acre parcel of land that it holds in the Santa Cruz Project area (see attached land map for location). Texaco wants to know if the SCJV, or one of the joint venture partners, would be interested in acquiring this land.

The acquisition of this land by the SCJV is recommended for reasons described in this memo. As you know, the SCJV has attempted to acquire this land several times in the past. The SCJV was unable to obtain the land in previous acquisition attempts because the land situation that existed at that time was too complex and risky, land prices were high, and the competition was willing to take costly risks. As will be described, the present day situation is completely different. Everything has changed in a way that makes the land attractive for acquisition.

Land

Texaco's 1088 acres of land is located between the SCJV's Santa Cruz Deposit and the SCJV's Peripheral Lands Deposit as shown on the attached land use map. The land is apparently owned free and clear of obligations of any type, except for underlying royalties. A 2.25% NSR royalty is held by the previous owner(s) of the land, and an approximate 0.25% NSR royalty is due geologists associated with Texaco's (Getty Oil at the time) acquisition of the property.

The Texaco land is flat desert land. All the desert vegetation was stripped off years ago, and there are dirt roads running through the property. At one time it was part of the Desert Carmel subdivision, the details of which are described later in this section. It is no longer a subdivision, but there are a few private lots remaining within the 1088 acre property boundary. Thirty three of the lots, totaling 30 acres, are owned by the SCJV. Another 50 lots, about 30 acres in all, are owned by private parties.

October 31, 1990

The Texaco land has not been appraised by the SCJV, but the SCJV has July 1990 appraisals on adjoining parcels of land. Based on these appraisals, Texaco's 1088 acres would sell for no less than \$495,000 in cash (\$455 per acre).

Any consideration given to acquiring Texaco's 1088 acres will have to examine various aspects of the property in detail. These aspects include an environmental evaluation, title searches, establishing water rights, checking for possible residual obligations associated with the former subdivision, and reviewing royalties and stipulations established at the time Texaco (Getty) purchased the land.

The SCJV's interest in acquiring the 1088 acre Texaco land and several hundred adjoining acres goes back to 1975. In 1975, immediately following the discovery of the Santa Cruz Deposit by the SCJV, the SCJV drilled an exploration hole half way between the Santa Cruz Deposit and the Sacaton Mine to check for copper ore between the two deposits. The drill hole intercepted 220' at 1.27% Cu in the form of chalcocite enrichment. This hole was drilled on SCJV land against the property boundary with the land now owned by Texaco, and it discovered the Peripheral Lands deposit which is described in a following section. The single ore grade intercept, in itself, was insufficient justification to acquire the adjoining land which now belongs to Texaco.

At the time of the discovery of the Peripheral Lands Deposit, the adjoining land was part of the Desert Carmel subdivision. The Desert Carmel subdivision was then a defunct, 10,000 lot subdivision in which 3,000 lots had been sold. The owner of the subdivision had previously filed for Chapter X bankruptcy, and the property was under the jurisdiction of the bankruptcy court. The land situation was too complex to allow acquisition without substantial justification of ore grade mineralization.

To develop sufficient justification to acquire the adjoining subdivision, the SCJV proceeded to drill a line of holes along the property boundary. Every hole along a distance of 4,000' intercepted ore grade mineralization. This resulted in more than sufficient justification to acquire the subdivision.

SCJV attempts to acquire the Desert Carmel subdivision resulted in the subdivision being split in half in 1980. The bankruptcy court took the half which adjoins the SCJV discovery and put it up for sale by competitive bidding. Several mining companies bid on the property.

A wholly-owned subsidiary of Getty Oil Company, now Texaco, won the bid. The SCJV was said to have had the third highest bid. In 1984 Getty took possession after paying \$9.7 million and a 2.25% NSR for 1363 acres

Texaco Land Sale
Santa Cruz Project

October 31, 1990

(\$7,100/acre). Most of the private lots were cleared out during the sale process, and the bankruptcy court spent \$600,000 clearing up title to the property.

Since then Texaco sold about 175^{u h u} acres of its land to Simmons DevCor (1988). Simmons DevCor kept about 75 acres of the 275 acres and sold the remaining 200 acres to the SCJV. In addition to selling the 275 acres to Simmons DevCor, Texaco granted Simmons DevCor an option to purchase the remaining 1088 acres of land. This option expired earlier this year and Simmons DevCor holds no other interest in the 1088 acres of land.

Texaco has made it known that the 1088 acres of land will be disposed of in the very near future. Texaco is willing to sell it to the SCJV, but no terms have yet been discussed.

The 1088 acres of land are in a better situation today than 10 years ago. Most of the internal private lots have been acquired and made part of the property. Over \$600,000 has been spent clearing up title to the property, and \$500,000 was recently spent to clean up a potential environmental problem. The combined underlying royalties, approximately 2.5% NSR, are close to the SCJV 2.1% NSR royalty contained in its early 1980's bid for the property.

Ore Potential

The potential for a large copper ore deposit on Texaco's 1088 acres is just as great today as it was 9 years ago when the SCJV made its bid for the property. At that time the ore potential was rated as excellent, and it still is excellent. The potential for ore has not changed since Texaco (Getty) acquired the property. In fact an exploration hole has never been drilled on the property.

The excellent potential for ore on Texaco's land is based on the SCJV exceptionally encouraging drill results along Texaco's property boundary. As previously mentioned, a series of SCJV drill holes intercepted ore grade mineralization along a 4000' length of Texaco's property. These drill hole intercepts are all in the Peripheral Lands Deposit.

The Peripheral Lands Deposit is a geologic reserve of 100 million tons at 1.12% Cu, 0.02% Mo, 0.003 oz/ton gold and 0.17 oz/ton silver. The deposit is present between depths of 2000' to 3500' which is comparable to our Santa Cruz South Deposit. The details of the deposit are described in the 1978 report "Geology and Estimated Copper Reserve on a portion of the Peripheral Lands" written by the undersigned.

October 31, 1990

The geologic reserve of the Peripheral Lands deposit straddles the SCJV-Texaco property boundary. The southwest, south, and southeast limits continue an unknown distance into Texaco land, and they cannot be determined until exploration holes are drilled on the property.

The Texaco property has a high probability of having 100 million to 400 million tons at an average grade of 1.0% to 1.5% Cu. The most likely form of copper mineralization is supergene chalcocite, but at least some copper oxide mineralization is likely to be present. The most likely type of mining method to extract the copper would be block cave mining and/or some type of yet to be developed in situ leaching.

Summary and Recommendations

It is recommended that the SCJV pursue acquisition of Texaco's 1088 acres of land. The SCJV is justified in acquiring this land because:

1. The land has an excellent potential for a large copper orebody.
2. SCJV ownership of the land will prevent third party ownership that could interfere with possible future SCJV mining of nearby copper deposits.
3. With the exception of 50 private, third party lots, past problems with the land appear to have been cleared up.
4. The cost of acquisition is expected to be at an all time low for the last 10 or 15 years.

what this to cost?

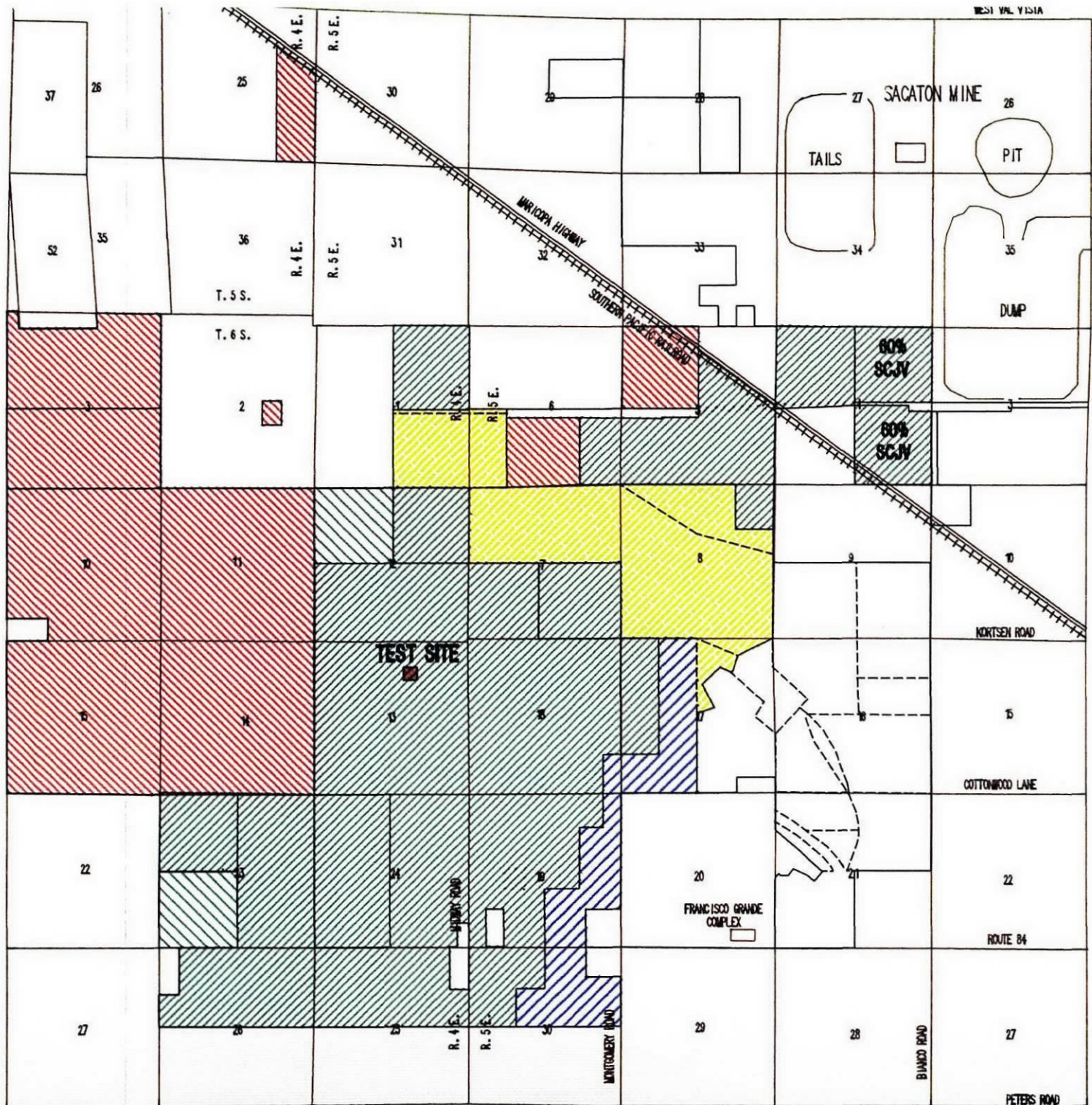
Acquisition of Texaco's 1088 acres of land will help the SCJV meet its objective of developing copper ore reserves suitable for block cave mining and/or some yet to be developed method of in situ leaching.

Henry G. Kreis

Henry G. Kreis



HGK:mek
Attachments: Land Status Map
Land Use Map

cc: F.T. Graybeal
W.L. Kurtz
J.D. Sell




EXPLANATION


SANTA CRUZ JOINT VENTURE

-  SURFACE AND MINERAL
-  MINERAL ONLY


TEXACO

-  1088 acres

SIMMONS DEVCOR

-  523 acres

HANNA-TEXACO

-  3630 acres




SANTA CRUZ LAND STATUS ARIZONA

1 MILE

on SC90 10/14 hq/dm tuc 10-30-90

November 1, 1990

R.L. Brown
New York Office



Acquisition of
Hanna-Texaco Land
Santa Cruz Project

Hanna Mining Co. has informed the Santa Cruz Joint Venture (SCJV) of Hanna's and Texaco's intention to sell the 3630 acres of land held jointly by them. The 3630 acres of land are contiguous with the SCJV's Santa Cruz property as shown on the attached land status map.

As you know, Hanna-Texaco (formerly Hanna-Getty) acquired this land to have sufficient room to mine the Santa Cruz South Deposit. The Santa Cruz South Deposit, now owned by the SCJV, is a 220 million ton deposit with an average grade of 1.07% Cu. The Santa Cruz South Deposit is part of the Santa Cruz Deposit, shown on attached land use map, which has a geologic mineral inventory of soluble copper amounting to over one billion tons at 0.55% Cu.

The large, 3232 acre Hanna-Texaco parcel on the west side of the Santa Cruz Deposit has 1920 acres of land that are important to the future of the Santa Cruz Project for the following reasons:

1. The 1920 acres of land will provide adequate room for tailings and a plant site as shown on the attached future land use map.
2. The land will help to provide a one mile buffer zone about the Santa Cruz Deposit (land use map).
3. Wells and water rights will be acquired that would be affected by dewatering of the Santa Cruz South Deposit.

There are two parcels, 144 acres and 162 acres in size, on the north side of the Peripheral Lands Deposit that should be acquired if the SCJV acquires the Texaco 1088 acre parcel (see separate proposal for Texaco land acquisition). Both of these parcels are within a half mile of the Peripheral Lands Deposit, and Hanna-Texaco drill holes on both parcels encountered strong alteration and mineralization associated with the fringes of the Peripheral Lands Deposit.

The value of Hanna-Texaco's 3630 acres is difficult to determine because of severely depressed land values in the area and throughout the State

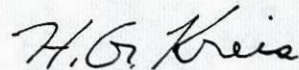
Acquisition of Hanna-Texaco Land
Santa Cruz Project

November 1, 1990

of Arizona. A July 1990 appraisal by Patch placed a minimum cash sale price of \$2,479,000 on the 3630 acres of land.

It is recommended that the SCJV acquire at least the 1920 acres of the 3232 acre parcel and both the 144 acre and 162 acre parcels. This would be a total of 2226 acres having a minimum cash sale price of \$1,500,000. If the entire 3630 acres of land has to be purchased in order to obtain the desired 2226 acres, the minimum cash sale price is \$2,479,000.

Land prices are at an all time low for the last 10 or more years, and the acquisition of this land will help meet the future needs of the Santa Cruz Project.

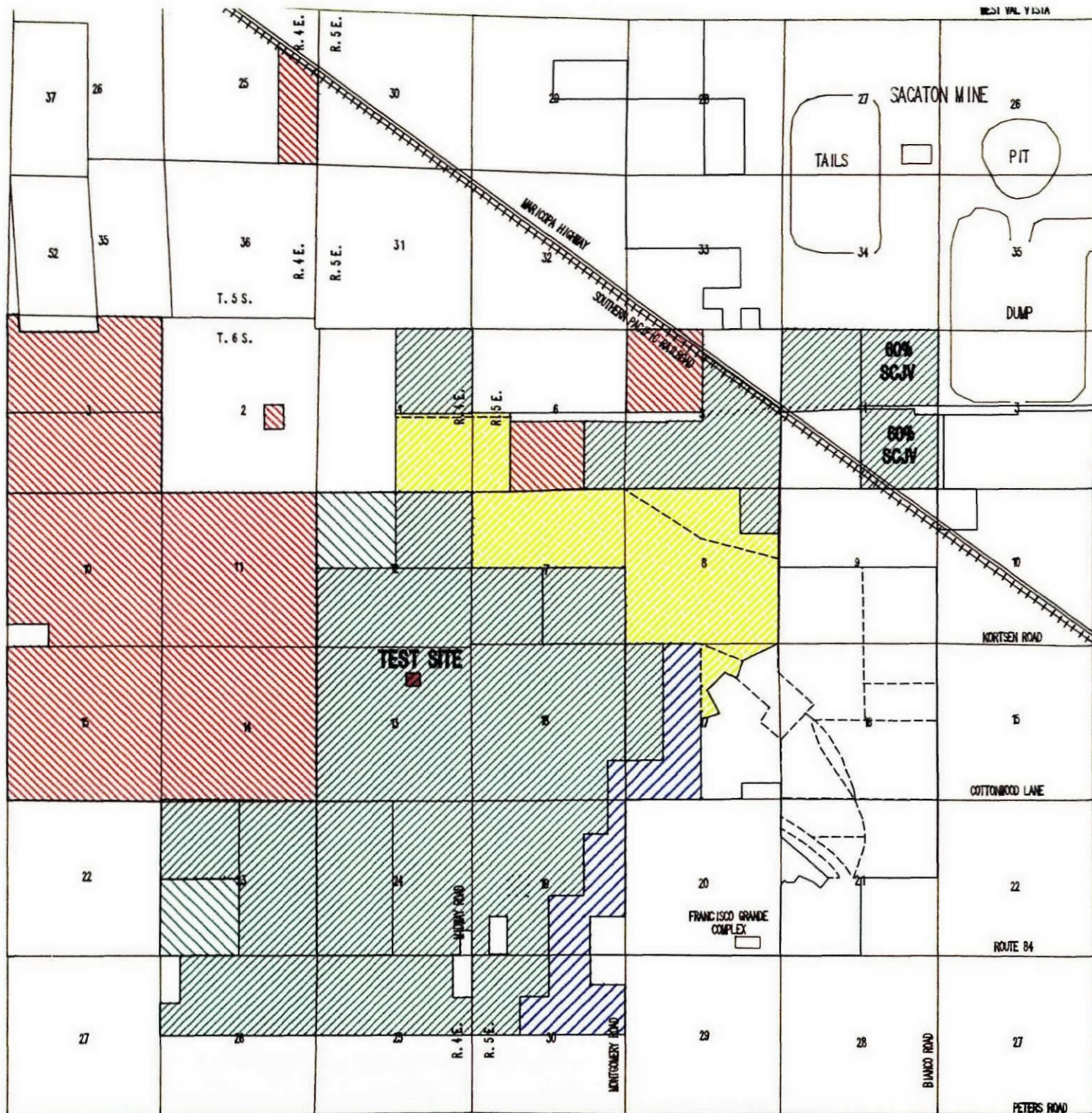


H.G. Kreis

HGK:mek



Attachments: Land Status Map
Future Land Use Map
Land Use Map

cc: F.T. Graybeal (w/atts.)
W.L. Kurtz (w/atts.)
J.D. Sell (w/atts.)



EXPLANATION


SANTA CRUZ JOINT VENTURE

-  SURFACE AND MINERAL
-  MINERAL ONLY

TEXACO

-  1088 acres

SIMMONS DEVCOR

-  523 acres

HANNA-TEXACO

-  3630 acres









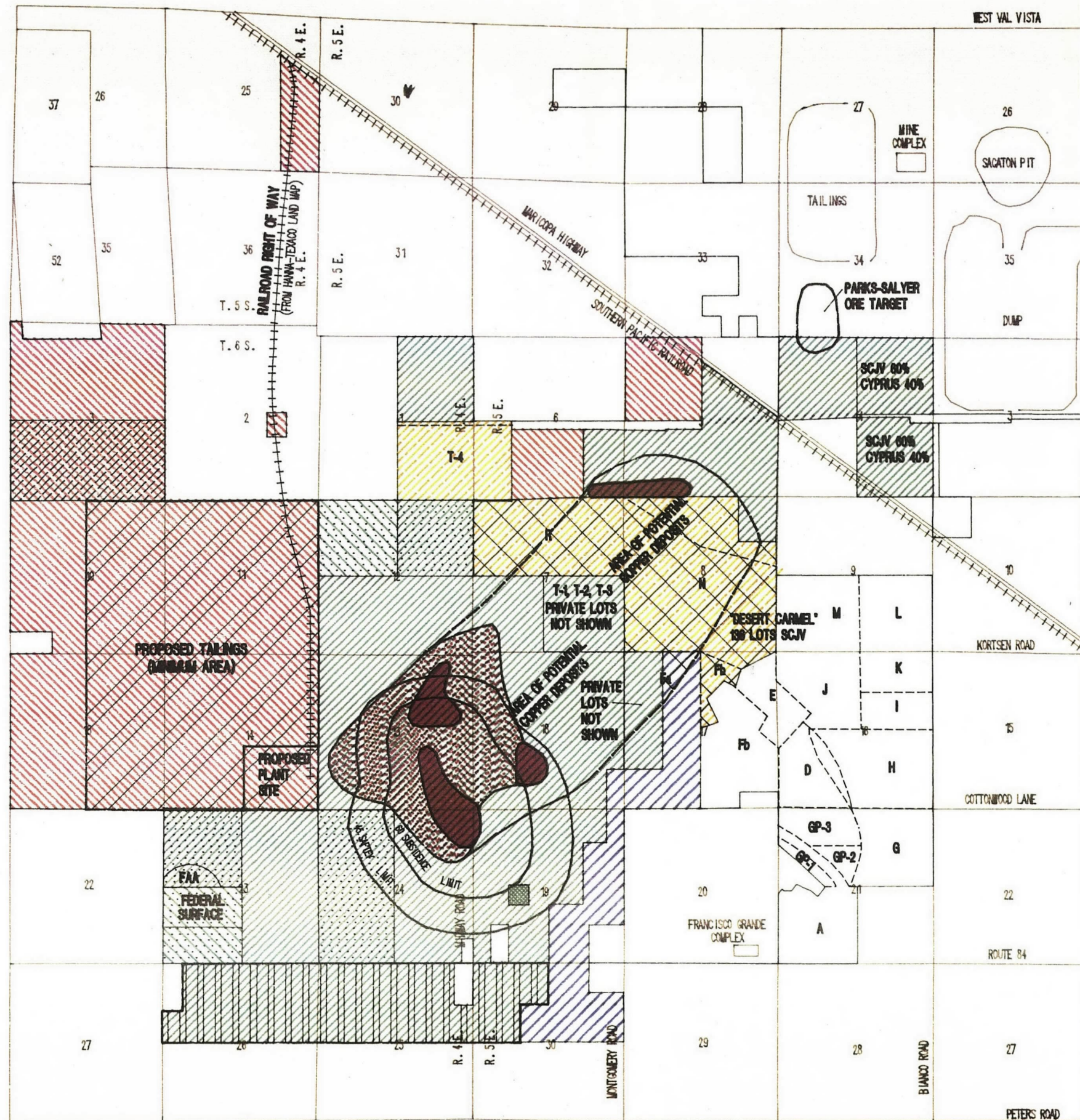
SANTA CRUZ LAND STATUS ARIZONA

1 MILE

min SC90 10/14 hq/dm tuc 10-30-90





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 FARMABLE AND IT IS AN AREA WHERE WATER FROM MINE DE-WATERING CAN BE PUT TO USE
-  AREAS OF HIGHER GRADE COPPER
-  FRINGE, SOLUBLE COPPER MINERALIZATION; PART OF SOLUBLE COPPER MINERAL INVENTORY
-  BLOCK CAVE SUBSIDENCE LIMITS



OWNERSHIP EXPLANATION

SANTA CRUZ JOINT VENTURE PROPERTY:

-  SURFACE AND MINERAL
-  MINERAL ONLY
-  SURFACE (MINERAL LEASED TO SCJV)
-  UNPATENTED MINING CLAIMS

HANNA-TEXACO PROPERTY:

-  SURFACE AND MINERAL
-  UNPATENTED MINING CLAIMS

TEXACO PROPERTY:

-  SURFACE AND MINERAL

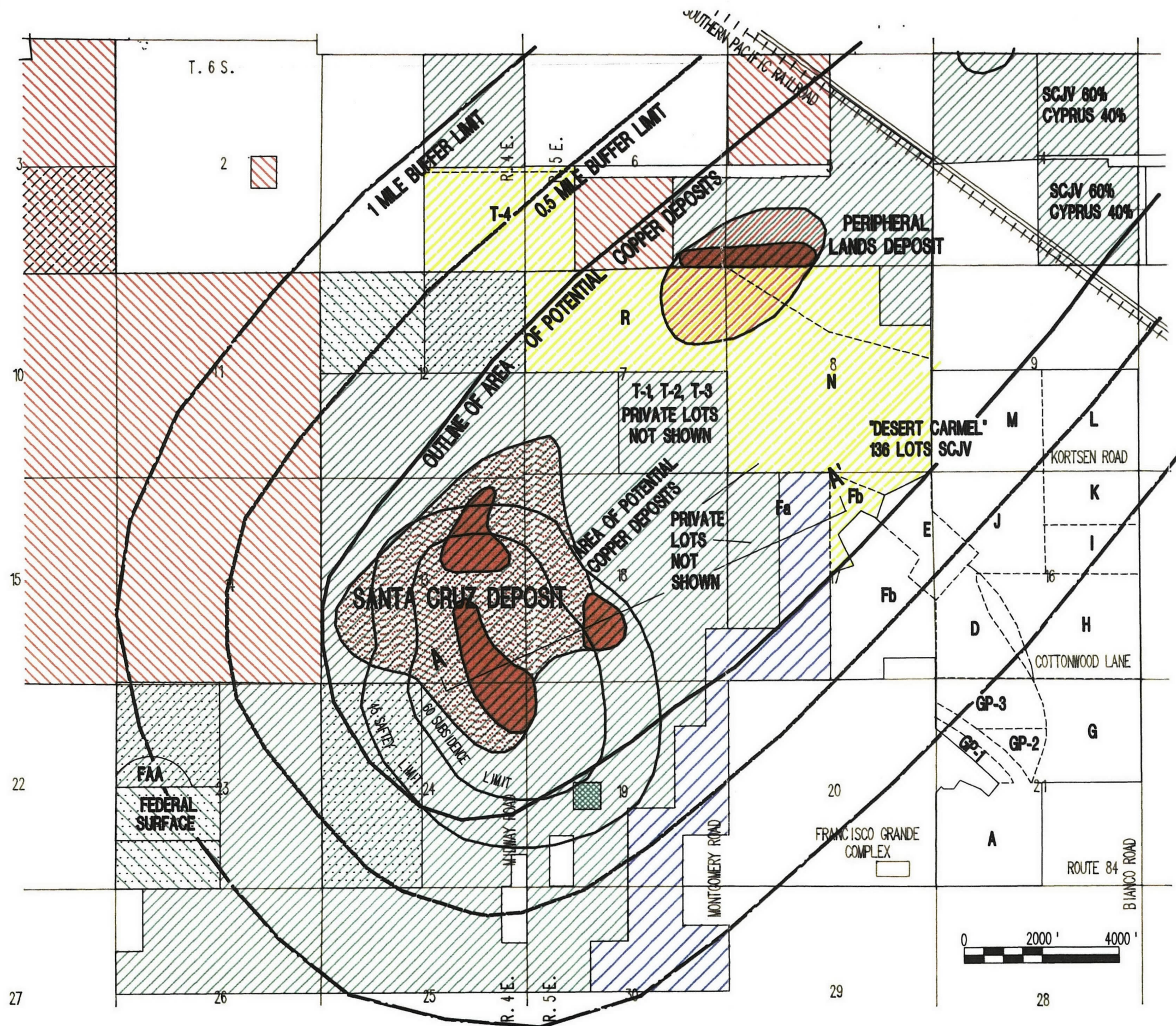
SIMMONS-DEVCON PROPERTY:

-  SURFACE AND MINERAL





SANTA CRUZ PROJECT FUTURE LAND USE MAP PINAL COUNTY, ARIZONA

0 2000' 4000'
H&Krele March 1980
m 0057 hq/dm tsc 2-29-80
f11a 50-LAND4.DOC



OWNERSHIP EXPLANATION

SANTA CRUZ JOINT VENTURE PROPERTY:

-  SURFACE AND MINERAL
-  MINERAL ONLY
-  SURFACE (MINERAL LEASED TO SCJV)
-  UNPATENTED MINING CLAIMS

HANNA-TEXACO PROPERTY:





-  SURFACE AND MINERAL
-  UNPATENTED MINING CLAIMS

TEXACO PROPERTY:

-  SURFACE AND MINERAL

SIMMONS-DEVCOR PROPERTY:

-  SURFACE AND MINERAL

-  AREAS OF THICKER AND HIGHER GRADE COPPER
-  PROJECTED THICKER AND HIGHER GRADE COPPER
-  FRINGE, SOLUBLE COPPER MINERALIZATION; PART OF SOLUBLE COPPER MINERAL INVENTORY
-  BLOCK CAVE SUBSIDENCE LIMITS

SANTA CRUZ PROJECT LAND USE MAP PINAL COUNTY, ARIZONA

H&Krele 10-16-00
on 3300' x 13' high/dm for 10-30-00



Southwestern Exploration Division

FAX

March 5, 1991

F.T. Graybeal

Private Lots
Texaco CP Area
Santa Cruz Project

The number of non-Texaco lots in Texaco's 1088 acre CP area total 79 lots. This number was determined by Mr. W.D. Gay in a search of the Pinal County Courthouse records on February 8, 1991. Of the 79 lots, 34 lots (approximately 25 acres) are owned by the Santa Cruz Joint Venture and 45 lots (approximately 27 acres) are owned by others. The ownership of the 45 lots owned by others is shown on the attached list compiled by Mr. Gay from his courthouse search of February 8, 1991.

Inspection of the lot owner list shows Cyprus owning 6 lots (approximately 6 acres), and Cimarron Ranch Inc. owning one lot. The largest private owner of lots is Yung-Fu Chen with 5 lots. Nearly all of the remaining private lot owners own only one lot.

HGK:mek
Att.

A handwritten signature in dark ink, appearing to read "H. G. Kreis".

H. G. Kreis

cc: W.L. Kurtz
J.D. Sell
W.D. Gay
A.R. Raihl

February 11, 1991

W.L. Kurtz

S.C.J.V. Land
Status Information

In response to your request of February 6, 1991 the following was determined by Pinal County Courthouse records as of February 8, 1991.

1. Owner of "Ollerton Farm" NW $\frac{1}{4}$ Sec. 12, T6S, R4E

Mabry, Norris E., et al
P.O. Box 7457
Phoenix, AZ 85011

2. Simmons-Devcor taxes - a spot check shows no taxes due on the Simmons Devcor property that joins the east side of S.C.J.V. property.
3. Cyprus Metals owns six (6) lots in the "N" section of the CP area. These are listed in #4 below.

4. Attached list of 3rd party lot owners by lot number, name } *TEXACO*
and address and current property tax status } *CP AREA*

Mr. Apker was consulted on the procedure to acquire lots with past due taxes. The procedure is to first determine if the County Treasurer has the property offered for tax sale. The time element is 5 years to wait to see if original owner will redeem his taxes, after you have bought the property for taxes. This time can be shortened to 3 years if you file suit to speed up the process. Mr. Apker did warn there are many technical problems involved. He said that tax sales are now for 1989 taxes which means about a year must pass before a property is available for tax sale.

WDG:mek

William D. Gay
William D. Gay

TEXACO CPAREA LOT OWNERSHIP*

S.C.J.V. Land Status Information

February 11, 1991

By: W.D. GAY

*(SCTV Lots not included)

"R" Lots

| <u>Lot No.</u> | <u>Lot Owner/Address</u> | <u>Tax Status</u> |
|------------------------------------|---|---|
| 369 | Miller, Rudy J. & Justina T. 310 King Belton, MO 64012 | |
| 375 | Little, Carol A. P.O. Box 1844 Gig Harbor, WA 98335 (Est. of Rybicki, Rose M.) | |
| 402 | Donnelly, David R. & Beverly D. 5 Camarzana Lane Hot Springs Village, AR 71909 | |
| 445 | Burkholder, Leonard S. & Ruth J/T 8950 NE Emerson Portland, OR 97220 | |
| 614 | Westlake, Ward Alan J/T 1519 Nuuanu King 56 Honolulu, HI 96817 | |
| 627 | Rosing, Eugene J. & Helen J. J/T 200 76th Ave. North Brooklyn Park, MN 55444 | '86, '87, '88, '89 & 90. |
| 707 | Mertz, Lawrence TR (s) et al 909 Old State Road Glencoe, MO 63038 | |
| 743 | c/o Hill, Betty J. Shuman 701 Kenny Ln. Marysville, OH 43040 | Tax lien held by Desert Carmel Properties. |
| 744 & 745 | Markowitz Sam 1/2 UI TR 17117 W. Nine Mile Rd., Ste 1745 Southfield, MI 48075 | |
| 977 | LaVerne E. Devine 6935 Fillmore Ave. Ventura, CA 93001 | |
| 1150, 1151, 1152, 1153, 1154 | Chen, Yung-Fu MD c/o John C. Chen 3301 Homesteda Rd., #314 Santa Clara, CA 95051 | |
| 1286 | Keesling, Mona May (Trustee) 1520 E. Capitol Expressway - 14 San Jose, CA 95121 | |
| 1322 | Chen, Pad-Yueh (Sng) #169-27 Changan E. Road Section 2 Taipei, Taiwan ROC | |

"N" Lots

| <u>Lot No.</u> | <u>Lot Owner/Address</u> | <u>Tax Status</u> |
|----------------|---|----------------------|
| 26 | McNiff, Yvonne M. 10724 Charrette Dr. St. Louis, MO 63123 | |
| 79 | c/o Cochran, O.D. 11503 27th Pl SW Seattle, WA 98146 | |
| 87 | Cyprus Metals Exploration Corp. 7200 S. Alton Way - P.O. Box 3299 Englewood, CO 80155 | |
| 90 | c/o Schmitz, Charles 6948 Hillisland Ave. St. Louis, MO 63109 | |
| 95 & 106 | Cyprus Metals 7200 S. Alton Way - P.O. Box 3299 Englewood, CO 80155 | |
| 126 | Kirk, Thomas W. & Vivian T. 16 Schultiz Road St. Louis, MO 63122 | Owe '90 taxes. |
| 139 | Erickson, Russell & Margaret I. P.O. Box 47773 Oak Park, MI 48237 | |
| 163 | Gehrin, D.N. & M.J. 12 St Anthony St. Peters, MO 63376 | |
| 168 | Cimarron Ranch Inc. 3200 E. Camelback Rd., Ste 250 Phoenix, AZ 85018 | Owe '90 taxes. |
| 194 | Olk, Carol L. 1/3 UI 13628 Washburn Ave S. Burnsville, MN 55337 | |
| 228 | Marsh, Eugene W. & Florence J. 646 S.W. 129th St. Seattle, WA 98146 | Owe '90 taxes. |
| 240 | Fleisher, John A. & Helen L. 16056 Fortuga St. Bokellia, FL 33922 | |
| 247 | Carmichael, Charles L. & Iola L. 3705 E. Candlewyck Club Dr. Florissant, MO 63034 | Ower '89 & '90 taxes |

"N" Lots (Continued)

| <u>Lot No.</u> | <u>Lot Owner/Address</u> | <u>Tax Status</u> |
|----------------|---|-------------------|
| 259 | Cyprus Metals Exploration Corp. 7200 S. Alton Way - P.O. Box 3299 Englewood, CO 80155 | |
| 264 | Cyprus Metals Exploration Corp. 7200 S. Alton Way - P.O. Box 3299 Englewood, CO 80155 | |
| 267 | c/o Adelson, B.J. Esq. XXX Mail Return | '89, '90 |
| 302 | Oden, Roberts L. 6951 N. Atkins Kansas City, MO 64152 | |
| 358 | Cyprus Metals Exploration Corp. 7200 S. Alton Way - P.O. Box 3299 Englewood, CO 80155 | |
| 393 | Brown, Mary Elizabeth 1800 SE St. Lucie Blvd. Apt. 9-305 Stuart, FL 34996 | |
| 395 | Drey, George E. & Eleanor M. 11028 S. Tripp Ave. Oak Lawn, IL 60453 | '89, '90 |
| 402 | Notter, John L. Mail Return 1 Arizona Land Title & Trust Co. T.R. | '89, '90 |
| 412 | Cimarron Ranch Inc. 3200 E. Camelback Rd., Ste 250 Phoenix, AZ 85018 | '90 |
| 427 | c/o Jacqueline Pons-Langlot 412 Volker Dr. San Mateo, CA 94403 | |
| 436 | Shimek, Eldon & Dolores 9241 Fairway Dr. Orland Park, IL 60462 | |

"F" Lots

| | |
|----|--|
| 66 | D.C. Properties Inc. 707 Candlestick Drive Casa Grande, AZ 85222 |
| 79 | Liu, Teh-Tsai & Kuang Tzu Chen 17 Hamilton Lande Oak Brook, IL 60521 |



Exploration Department
Frederick T. Graybeal
Chief Geologist

March 8, 1991

BY TELECOPIER

Mr. J.D. Sell
Manager, Southwestern Exploration Division
Tucson Office

Santa Cruz Project

Dear Mr. Sell,

Mr. Brown has assigned me the task of gathering relevant data and summarizing unresolved issues pursuant to making a recommendation regarding purchase of the Texaco ground (ex-Desert Carmel) containing 1088 areas between the The Lands and Peripheral Lands portions of the Santa Cruz Joint Venture.

Please make Messrs. Gray, Melhado, and others required to complete this task available as needed. Time should be charged to Peripheral Lands. I've told Mr. Kreis, who is assembling this information, that all data are to be on my desk by Monday March 18, 1991.

Very truly yours,

F.T. Graybeal
F.T. Graybeal

cc: WLKurtz by telecopier
HGKkreis " "

HGK ✓
WDG ✓
DAM ✓
MEIK ✓



Southwestern Exploration Division

March 11, 1991

F.T. Graybeal

Corrections for
Texaco Land Memo
Santa Cruz Project

Enclosed is a corrected copy of my Texaco Land Memo to you. The February dates were incorrect and should have read March. Also, on page 2, second paragraph, reference to the CP area was incorrectly identified as the SD area, and this correction has been made in the enclosed copy.

HGK:mek
Enclosure


H.G. Kreis

cc: W.L. Kurtz
J.D. Sell
W.D. Gay
A.R. Raihl
W.E. McCulloch

March 7, 1991

F. T. Graybeal
New York Office

Texaco Land
Santa Cruz Project

As requested by you on March 4th, general background information on Texaco's 1088 acre CP area was gathered for submittal to you by March 7th. As we discussed on the phone, the legal services of Mr. Apker were not readily available during this time period.

After making a cursory review of the accompanying documents and talking to Mr. Kurtz, Mr. Gay, Mr. R. Conti (Real Estate Manager for Texaco), and Mr. Lauren Caster of Fennemore Craig, Texaco's local legal counsel, I am reporting to you my understanding of the Texaco land situation. The information that follows is suitable for use in determining our level of interest in acquiring the land. If we do pursue serious negotiations with Texaco, a thorough evaluation of the enclosed documents, the gathering of additional documents, and the rendering of legal opinions will be in order.

Texaco owns the surface, mineral, and water rights of the 1088 acre parcel of land that has been offered for sale to the Santa Cruz Joint Venture. Within this parcel of land are 79 lots, each lot being an acre or less in size, that do not belong to Texaco. Of these 79 lots, 34 are owned by the Santa Cruz Joint Venture, and 45 lots are under other ownership. A list of owners for the 45 lots under other ownership is provided with the accompanying documents.

Texaco's 1088 acre parcel of land was once part of the Desert Carmel subdivision, and as such was divided into small lots with appropriate right of ways and easements for roads and utilities. The subdivision of this parcel and the remainder of the CP area was officially abandoned in a 1980 resolution passed by the Pinal County Board of Supervisors; however, more legal work and the rendering of legal opinions are needed on the legality of this Board of Supervisors Resolution.

Although the subdivision was officially abandoned, a road right of way and utility easement was provided for each of the lots not owned by Texaco. Unfortunately, the map(s) that show the right of ways and the easements have been lost, and none of the involved parties can find a copy.

Apparently, the only significant obligation that Texaco has, in regards to the former subdivision, is to supply water service to the existing lot owners in the T area which is the trailer park area within the SCJV

Texaco Land
Santa Cruz Project

March 7, 1991

land holdings. Texaco, through its wholly-owned CP Water Company, has contracted with the Arizona Water Company to provide this water service. In 1990 Texaco's total cost for water and related expenses was reported to be \$7400.

When Texaco (Getty at the time) purchased the CP area, of which the 1088 acre parcel is a part, both the seller and the purchaser were aware that the intent of the sale was to allow the CP area to become an area of mining activity if an ore deposit was found to exist under the property. Consequently, there are no covenants or deed restrictions that would prohibit or hinder mining activity.

The exact status of the current land use classification is not known at this time, and it will take several days of Mr. Apker services to assess the situation. The land use classification is clouded by the fact that the land was subdivided, and then the subdivision was officially abandoned with no provision for land use. Subsequent to these happenings, Mr. Simmon's Cimmeron Ranch filed commercial/residential land use plans with the county, and these land use plans included all of Texaco's land. Although Mr. Simmon's efforts to purchase and subdivide Texaco's land have collapsed, the Cimmeron Ranch plans are still on record at the Pinal County Court House.

As is typical with a mining property, there are several underlying royalties. A 2.25% Net Market Value Royalty (NMV) was created when Texaco (Getty) acquired the land. This royalty was retained by the trustee in the sale, presumably for transfer to an appropriate successor of the former bankrupt owner of the former subdivision. No one in Texaco knows who took possession or presently owns this royalty. The Net Market Value of this royalty pays the royalty holder an amount equal to 2.25% of the Metals Week "MW U.S.Producer/Refinery" price for copper. The royalty for metals and minerals other than copper is determined similarly to that for copper. During the first 20 years the amount paid is only 66% of the specified price for copper, gold, and silver and 100% for molybdenum. The sale agreement was not clear if the first 20 years is that of production or that since the signing of the agreement.

Additional royalties on the 1088 acre parcel are owned by Mr. and Mrs. A. Still, Mr. D. Lowell, and Mr. C. Arnold. The Still royalty is a 0.15% net smelter return royalty. The Lowell royalty is 0.075% of the Fair Market Value, and the Arnold royalty is 0.038% of the Fair Market Value. The Fair Market Value for smelted copper is defined as being 70% of the Metals Week "MW U.S. Producer/Refinery" price for refined copper. For hydrometallurgical copper, it is 100% of the Metals Week "MW U.S. Producer/Cathode" copper price. There are no requirements for advance royalty payments at this time or in the future.

Texaco Land
Santa Cruz Project

March 7, 1991

Based on what is currently known to Asarco, the cost to hold the 1088 acre parcel of land for at least the next few years is estimated at \$50,000 per year, not including any legal costs. These costs are itemized as follows:

| <u>Item</u> | <u>Annual Cost</u> |
|------------------------------|--------------------|
| Property taxes | \$25,000 |
| Water & related expenses | 8,000 |
| Administration, maint., etc. | 17,000 |
| Possible legal services | <u>not inc.</u> |
| Total | \$50,000 |

The 1088 acre parcel of land has some environmental concerns, but nothing that is known to be a significant environmental problem. There are two sewerage disposal ponds on the land, one actively being used and the other phased out of use a year or two ago. These ponds should be evaluated in an environmental assessment prior to acquiring land under them or near them. A small garbage dump on the property was professionally cleaned up, retired from use, and declared free of environmental problems. Mr. Caster, Texaco's legal counsel, was asked if there are any known environmental problems or concerns within the 1088 acre parcel of land. He said there are no problems, and he acknowledged the presence of the sewerage ponds and spoke of the garbage dump cleanup.

The market value of Texaco's 1088 acres is difficult to determine. The land market in Arizona has collapsed, and prices have dropped to levels similar to those in 1979. Comparable land sales in the area are rare, as many of the transactions involve business situations unrelated to land use or "normal" market value. There are no appraisals of Texaco's 1088 acres that are available to Asarco. An appraisal of Texaco's 1088 acres, based on Mr. J. Patch's July 24, 1990 appraisal of adjoining land and subsequent Patch opinions on the value of Texaco's land, would be in the range of \$435,000 to \$979,000, \$400 to \$900 per acre. Mr. Conti said that Texaco had the 1088 acres appraised this year; and the appraised value, quoted from his memory and rounded off by him, is \$2,000 per acre (\$2,200,000 for the 1088 acres). The Texaco appraisal is twice the value Mr. Patch would be expected to put on the property. A worthy item to consider for comparison is the offering price of an adjoining 300 acre parcel of land with a favorable commercial location near the railroad (N/2 Section 6, T6S, R5E). It was just offered to the Santa Cruz Joint Venture for \$1,000 per acre (verbal communication, J.D. Sell). In my opinion, the 1088 acres will sell for between \$400 and \$1500 per acre, and an appraisal would be more valuable for negotiating purposes than determining market value.

Texaco Land
Santa Cruz Project

March 7, 1991

This concludes my understanding of the present Texaco land situation. There are an additional number of less important questions and details that will be worthy of further consideration as our interest in the property progresses. The attached list describes the accompanying documents.


H. G. Kreis

HGK:jac

Attachment
Accompaniment

cc: W. L. Kurtz (w/o accompaniments)
J. D. Sell (w/o accompaniments)
W. D. Gay (w/ accompaniments)
A. R. Raihl (w/o accompaniments)
W. E. McCulloch, Jr. (w/ accompaniments)

ASARCO Incorporated

MARCH
~~February~~ 7, 1991

MAR 11 1991

F. T. Graybeal
New York Office

SW Exploration

Texaco Land
Santa Cruz Project

As requested by you on February 4th, general background information on Texaco's 1088 acre CP area was gathered for submittal to you by February 7th. As we discussed on the phone, the legal services of Mr. Apker were not readily available during this time period.

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February 7, 1991

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VOLUME I
LEGAL DOCUMENTS
REGARDING TEXACO'S CP AREA

1. CP Purchase Agreement (January 15, 1982) includes:
 - a) Addendum to Exhibit "B" (January 20, 1982)
 - b) Pinal County Board of Supervisors Resolution 111780-Abandonment (November 10, 1980)
 - c) Order Authorizing Trustee to Seek Abandonment (September 29, 1980)
 - d) Petition to Abandon Subdivision Plots and Certain Roadways in Desert Carmel (September 29, 1980)
 - e) Trustees Deed (Exhibit "D", not signed or dated)
 - f) Order Approving Purchase Agreement (Exhibit "E", not signed or dated)
2. Memorandum of Settlement (April 9, 1984)
Consent Order Approving Agreements and Modification of Memorandum of Settlement (June 25, 1984)
3. Agreement for Operation of Water System (October 22, 1985)
Unconditional Guarantee of Performance, Indemnity, and Payment (October 22, 1985)
Arizona Water Co. - Texaco letter of acceptance of billing arrangement (December 15, 1989)
4. Still-Getty Royalty Deed (August 18, 1987)
Lowell-Getty Royalty Deed (June 8, 1987)
Arnold-Getty Royalty Deed (June 8, 1987)
5. Commitment for Title Insurance (October 23, 1989)

VOLUME II
MISCELLANEOUS DOCUMENTS
REGARDING TEXACO'S CP AREA

1. Patch appraisal for various parcels in Santa Cruz Project area, July 24, 1991; does not include Texaco's CP area.
2. Closure of Landfill, OHM Corporation, January 5, 1990.
3. Private lot owners in Texaco's 1088 acre parcel.
4. Texaco's 1989 Property Tax Listing.

ASARCO

Exploration Department
Southwestern United States Division

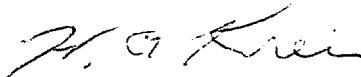
March 8, 1991

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

Dear Mr. Apker:

As per our phone conversation, please find enclosed one copy of Volume I, Legal Documents, Texaco's CP Area.

Sincerely,



H.G. Kreis

HGK:jac

CC: W.L. Kurtz
J.D. Sell
W.D. Gay

ASARCO

Exploration Department
Southwestern United States Division

January 2, 1991

Mr. David L. Clayton
D & M Farms
24978 W. Boone Drive
Casa Grande, Arizona 85222

Dear Mr. Clayton:

As requested in your letter of December 19, 1990, enclosed are an executed copy of the Agricultural Cash Lease, dated January 1, 1991, and a signed copy of the Waiver for the crop year 1991.

Sincerely yours,



William D. Gay

WDG:mek
encs.

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

ASARCO

Exploration Department
Southwestern United States Division

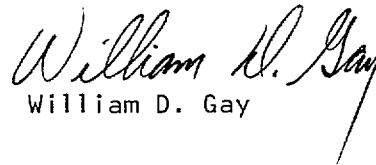
January 3, 1991

Ms. P.M. Donato
Contract Files
New York Office

Santa Cruz Document Book
Entry - Doc. No. 29-9

Enclosed is a copy of the Agricultural Cash Lease dated January 1, 1991, between Santa Cruz Joint Venture and D & M Farms. This has been entered in the Santa Cruz Document Book under Doc. No. 29-9.

WDG:mek
enc.


William D. Gay

cc: W.L. Kurtz (w/o enc.)
J.D. Sell " "
R.L. Brown " "

ASARCO

Exploration Department
Southwestern United States Division

January 14, 1991

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

Santa Cruz JV Water Wells
General Adjudication

Dear Mr. Apker:

The following are answers to questions in your letter of January 7, 1991.

I see no problems with the initial wells:

55-609655
55-609656
55-609657
55-609658
55-609659
55-609660
55-609661

Wells from Trust No. 1270 you listed as:

55-523899 (T-1)*
55-523900 (T-2)*
55-523901 (T-3)*

are correct, but 2 wells should be added

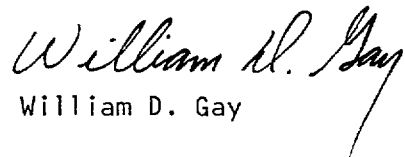
55-525309 (T-4)*
55-525310 (T-5)*

*Asarco Designation

Well No. 55-528249 is correct as you show it on Statement of Claimant form.

Enclosed are: 1. Six (6) Xerox statements of Claimant Forms, 5 of which
I have made changes in red.
2. Maps (2) updated to show proper well locations.
3. Completion Reports for T-1 thru T-5.

Sincerely yours,


William D. Gay

WDG:mek
Encs.

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

ASARCO Incorporated P. O. Box 5747 Tucson, Az 85703-0747
1150 North 7th Avenue (602) 792-3010

ASARCO Incorp

JAN 18 1991

SW Exploration

ASARCO SANTA CRUZ INC.
P. O. BOX 5747
Tucson, Arizona 85703

January 4, 1991

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 December 1990:

Our E.A. No. 0075 - The Lands

| | | |
|--------------------------------|------------|------------|
| General Administrative Charges | \$ 50.00 | |
| Lot Owners Assn. Dues | 6,630.00 | |
| Property Taxes | 101,213.88 | |
| Field Services & Supplies | 135.85 | |
| Professional Services | 143.42 | |
| Travel Expense | 324.99 | |
| Mining Lease | 100.00 | |
| Legal Fees | 471.44 | 109,069.58 |

Our E.A. No. 0087 - Peripheral Lands

| | | |
|--------------------------------|-----------|-----------|
| General Administrative Charges | 50.00 | |
| Professional Services | 263.13 | |
| Property Taxes | 10,803.28 | 11,116.41 |

Our E. A. No. 0134 - Mooney Tract

| | | |
|----------------|----------|----------|
| Property Taxes | 2,258.56 | 2,258.56 |
|----------------|----------|----------|

Our E. A. No. 0196 - Amoco Land

| | | |
|----------------|----------|----------|
| Property Taxes | 4,860.88 | 4,860.88 |
|----------------|----------|----------|

127,305.43

| | |
|--|------------------|
| 1/2 to Freeport-McMoran | 63,652.71 |
| Balance brought forward | 36,741.38 |
| Payment received from Freeport-McMoran | (36,741.38) |
| In Situ Leach Project December charges | <u>16,593.49</u> |

| | |
|-------------|------------------|
| Balance Due | <u>80,246.20</u> |
|-------------|------------------|

cc: Controller/Attn: EJFranko
JDSell
Freeport Mining Co.
File

CSH



Southwestern Exploration Division

January 31, 1991

A.R. Raihl

Break In
Core Shed
Santa Cruz Project

On the night of January 25, 1991, the Santa Cruz core shed was broken into by forcing open the front door. Small, girl like footprints were left at the scene. Similar sized footprints were left at the break in at the test site on June 1, 1990.

The following items are known to have been stolen: power saw, power drill, microscope, telephone answering machine, and miscellaneous hand tools.

The Pinal County case number is 910100428.

HGK:mek


H. G. Kreis

cc: F.T. Graybeal
W.L. Kurtz
J.D. Sell
Accounting

7/6/91

FROM: W. L. KURTZ

TO: W GAY

Santa Cruz JV
CP AREA DESERT GARDEN

PLEASE COMPILE OWNERSHIP LIST OF ALL ADVERSE
LOTS (52? in number) in the Texaco owned CP area.

ALSO CHECK TO DETERMINE IF TAXES HAVE BEEN PAID.

IN ADDITION LOCATE THE FOUR(?) CYPRUS LOTS WHICH
MAY BE OUTSIDE CP AREA. BELIEVE I GAVE YOU
BETH'S LTR WHICH LOCATED THESE.

CC. H G KURTZ

JD Selby

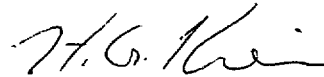
February 7, 1991

FILES

DOE-AISI

Accompanying this memo are copies of DOE's contract (Guarantee of Performance) and cooperative agreement (plus five amendments to the cooperative agreement) with the American Iron and Steel Institute. These contracts are examples of DOE-industry contracts under the terms of the Steel Initiative.

HGK:mek
Atts.



H.G. Kreis

cc: S. Young - Magma
J. Dobson - Cyprus
B. Larson - USBM
F.T. Graybeal
W.L. Kurtz (w/o atts.)
J.D. Sell (w/o atts.)
A.R. Raihl (w/o atts.)

ASARCO Incorporated

February 8, 1991

FEB 8 1991

SW Exploration

Mr. W. L. Kurtz, Manager
Western USA Division
Exploration Department
TUCSON OFFICE

Santa Cruz Joint Venture Operating Committee
Minutes of September 27, 1990, Meeting

Attached for your files is a fully-executed copy of the Santa Cruz Joint Venture Operating Committee meeting minutes for the meeting held at the Freeport-McMoRan offices in New Orleans on September 27, 1990.


A. R. Raihl

ARR:brw

Attachment

| | | |
|-----|----------------|--------|
| cc: | F. T. Graybeal | w/att. |
| | R. L. Brown | " |
| | J. D. Sell | " |
| | H. G. Kreis | " |
| | R. J. Kupsch | " |

SANTA CRUZ JOINT VENTURE
OPERATING COMMITTEE MEETING
SEPTEMBER 27, 1990

A meeting of the Santa Cruz Joint Venture Operating Committee was convened on Thursday, September 27, 1990, at 2:30 p.m. at the Freeport-McMoRan Inc. offices located in the Freeport-McMoRan Building, 1615 Poydras Street, New Orleans, Louisiana 70112. Present at the meeting were the following, constituting a quorum:

ASARCO Santa Cruz, Inc.

H. G. Kreis, Tucson, AZ
A. R. Raihl, Tucson, AZ

Freeport Copper Company

R. J. Hickson, New Orleans, LA
S. D. Van Nort, Tucson, AZ

Mr. Kreis, Alternate Member, had full voting rights in the absence of Mr. W. L. Kurtz. Also present at the meeting was Mr. W. E. McCulloch, Jr. (Freeport, New Orleans). Mr. Raihl chaired the meeting.

OLD BUSINESS

No old business was brought to the attention of the Committee.

NEW BUSINESS

The following was proposed to the Committee:

It is proposed that the SCJV fund \$21,000 for environmental due diligence sampling and testing to evaluate the solid wastes and soils near a trash pit and incinerator on land which the SCJV may eventually attempt to acquire from Simmons.

Mr. Raihl stated that permission should be obtained from Simmons prior to conducting the sampling program and, preferably, an option to purchase should be obtained prior to the sampling.

Mr. Hickson made a motion that the proposal be tabled until an option for the land purchase was obtained. Motion was seconded by Mr. Van Nort and was unanimously approved.

Mr. Hickson made a motion that the Committee pass a resolution that, prior to any land purchase by the Santa Cruz Joint Venture, an environmental due diligence study be conducted. Motion was seconded by Mr. Kreis and unanimously approved.

No other new business was proposed to the Committee.

NEXT MEETING

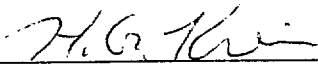
It was proposed and agreed upon that the next SCJV Operating Committee meeting be held at the ASARCO Incorporated offices in Tucson, Arizona, some time during January or February 1991.

CLOSING


Upon motion duly made and seconded the meeting was adjourned at 2:40 p.m.

Submitted by: A. R. Raihl

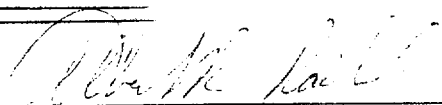
Minutes approved as complete and correct:



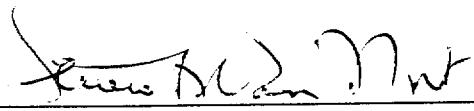
H. G. Kreis



R. J. Hickson



A. R. Raihl



S. D. Van Nort

ARR:brw

ASARCO

Exploration Department
Southwestern United States Division

April 23, 1991

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

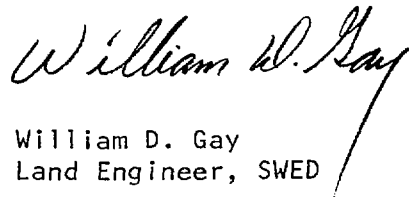
1990 Annual Water Withdrawal
Grandfathered Water Right
No. 59-523175.0000

Dear Mr. Apker:

In response to your request during our telephone conversation today, enclosed is the completed "late" 1990 report, a check for the late fee, a cover letter to Ms. Benedetto, and the form letter from Ms. Benedetto.

The three (3) wells listed on the enclosed report were reported as Type I, Right No. 58-110104.0001.

Sincerely yours,


William D. Gay
Land Engineer, SWED

WDG:mek
encs.

cc: J.D. Sell
W.L. Kurtz
A.R. Raihl

ASARCO

Exploration Department
Southwestern United States Division

April 23, 1991

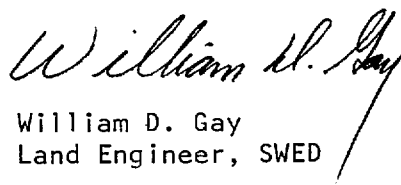
Ms. Lisa Benedetto
Arizona Dept. of Water Resources
Pinal Active Management Area
901 E. Cottonwood Lane, Suite B
Casa Grande, Arizona 85222

1990 Annual Water Withdrawal
Grandfathered Water Right
No. 59-523175.000

Dear Ms. Benedetto:

Enclosed are a completed report for 1990 Annual Water Withdrawal under Grandfathered Water Right No.: 59-523175.0000 and a \$25.00 late fee.

Very truly yours,


William D. Gay
Land Engineer, SWED

WDG:mek
encs.

cc: W.L. Kurtz
J.D. Sell
A.R. Raihl
C.L. Snow

1990 ANNUAL WATER WITHDRAWAL AND USE REPORT SUMMARY PAGE

AMA PINAL

PART I GROUNDWATER WITHDRAWN

From Line 10, Schedule A attached

Complete this section only if you operate a non-exempt well. If not, go to Part III below.

-0- ACRE-FEET X 1.25 Withdrawal Fee = \$ 0.00

PART II WATER DELIVERED TO OTHER RIGHTS

From Line 9, Schedule D attached

-0- ACRE-FEET

PART III WATER RECEIVED FROM OTHER RIGHTS

From Line 8, Schedule E, or Line 5 Schedule E-1 attached

-0- ACRE-FEET

PART IV TOTAL WATER USED BY THIS RIGHT

Calculate as follows: Part I + Part III - Part II

-0- ACRE-FEET

PART V LATE FEES

Complete if filing after March 31

1) Enter number of months late 1

Note: A portion of a month after March 31 is accounted for as a full month

2) Calculate Late Report Fee \$25 x 1 = \$ 25.00
(\$25.00 x number of months late)

3) Calculate Late Payment Fee -0- = \$ -0-
(10% per month of the withdrawal fee calculated in Part I above)

TOTAL FEES DUE (add amounts in this column) = \$ 25.00

ARIZONA DEPARTMENT OF WATER RESOURCES

15 SOUTH 15th AVENUE
PHOENIX, ARIZONA 85007
602-542-1581

DWR-AR-1-90

GROUNDWATER RIGHT DESCRIPTION AND NUMBER

TYPE OF RIGHT

RIGHT/PERMIT NO.

MINERAL EXTRACTION

59-523175.0000

GENERAL LOCATION:
SE NW NE 13 060S 040E

Mail or hand deliver this report, together with the appropriate schedules, worksheets and fee to the Arizona Department of Water Resources. If mailed, the report must be postmarked no later than March 31, 1991. If hand delivered, the report must be received by the Department's Operations Division or local AMA office no later than 5:00 PM on March 31, 1991.

This report must be filed even if no water was used on this right.

REPORTS FILED AFTER MARCH 31, 1991 ARE SUBJECT TO LATE FEES AND PAYMENT OF PREVIOUSLY WAIVED MONETARY PENALTIES ASSOCIATED WITH PRIOR GROUNDWATER CODE VIOLATIONS. (ARS §45-632K)

I hereby certify, under penalty of perjury, that the information contained in this report is, to the best of my knowledge and belief, true, correct and complete.

X

AUTHORIZED SIGNATURE

TITLE

DATE

PRINTED NAME

TELEPHONE NUMBER

OWNER OF GROUNDWATER RIGHT

**SANTA CRUZ JOINT VENTURE
PO BOX 5747**

TUCSON AZ 85703

REPORTING PARTY 59-523175.0000

**SANTA CRUZ JOINT VENTURE
PO BOX 5747**

TUCSON AZ 85703

If any of the information preprinted on this report is incorrect, please make the necessary changes

AL 1105(1)

ORIGINAL

WORKSHEET W-1**PUMPAGE MEASURED BY METER OR
OTHER TOTALIZER RECORDER DEVICES**

DWR-AR-9-89

GROUNDWATER RIGHT/PERMIT NO.

59-523175.0000

READ INSTRUCTIONS CAREFULLY**1. Enter DWR Well Registration No. & Location.**

| | | | | | | |
|---------------------------|----------|----|----|-----|------|------|
| DWR WELL REGISTRATION NO. | LOCATION | | | | | |
| 55-523899 | Q | Q | Q | Sec | Twn | Rng |
| | SE | NW | NE | 13 | 060S | 040E |

2. Enter type, make & model of measuring device used to measure flow. If measuring device is permanent, enter date installed or last overhauled.

| | |
|--------------------------|-------------------------------|
| TYPE OF MEASURING DEVICE | MAKE |
| Meter | Halliburton |
| MODEL | SIZE |
| MC-11 | 3/4 inch |
| UNITS MEASURED | INSTALLATION OR OVERHAUL DATE |
| Gallons | ---- |

3. Enter Power Co. Name, Account No., Meter No. and total energy consumption. Indicate units as KWH, therms or other measurement.

| | | |
|---|-----------------------|-----------------|
| POWER CO. NAME | ACCOUNT NO. | POWER METER NO. |
| N/A | Use on site generator | |
| ENTER TOTAL ENERGY CONSUMPTION IN COLUMN 6 OF SCHEDULE A | | UNITS |
| ENERGY CONSUMPTION Not measured | | |

**4. Does Energy Meter serve uses other than the well pump? ☐ YES ☐ NO
Enter "Y" or "N" in column 7 of Schedule A****5. Enter water reading as of January 1, in (5). If your meter reads in 10s, 100s, or 1000s of units, be sure to add the correct number of zeros.****6. Enter ending reading as of December 31, in (6). If the totalizer dial has rolled over during the year, enter the number 1 in front of the reading, if twice, a 2, etc.****7. Subtract reading in (5) from reading in (6) and enter the difference in (7).**

| WATER TOTALIZING METER READINGS | | |
|---------------------------------|------------|----------------|
| (5) INITIAL | (6) ENDING | (7) DIFFERENCE |
| ---- | ---- | ---- |

If meter was replaced during the year, indicate beginning and ending reading for each meter.

8. Convert the Total Amount Pumped to acre feet by using the appropriate conversion.

- If meter reads in gallons, divide (7) by 325,851 and enter the result below.
- If meter reads in cubic feet, divide (7) by 43,560 and enter the result below.
- If meter reads in acre-feet, no conversion is necessary.

| | |
|--------------|-----|
| ACRE FEET | -0- |
|--------------|-----|

9. If your meter malfunctioned during the year, enter the estimate of withdrawals in acre-feet made during the out-of-service period, as indicated on Meter Malfunction report.

| | |
|-----------------------|------|
| BREAKDOWN ESTIMATE | ---- |
|-----------------------|------|

10. Add (8) and (9) and enter result below and in column 4 of Schedule A for each well measured.

| | |
|-----------------------|-----|
| TOTAL IN ACRE-FEET | -0- |
|-----------------------|-----|

THIS WORKSHEET MUST BE SUBMITTED WITH SCHEDULE A

ORIGINAL

WORKSHEET W-1

DWR-AR-9-89

GROUNDWATER RIGHT/PERMIT NO.

59-523175-0000

READ INSTRUCTIONS CAREFULLY

1. Enter DWR Well Registration No. & Location.

| | | | | | | |
|---------------------------|----------|----|----|-----|------|------|
| DWR WELL REGISTRATION NO. | LOCATION | | | | | |
| 55-523900 | Q | Q | Q | Sec | Twn | Rng |
| | SE | NW | NE | 13 | 060S | 040E |

2. Enter type, make & model of measuring device used to measure flow. If measuring device is permanent, enter date installed or last overhauled.

| | |
|--------------------------|-------------------------------|
| TYPE OF MEASURING DEVICE | MAKE |
| Meter | Halliburton |
| MODEL | SIZE |
| MC-11 | 3/4 inch |
| UNITS MEASURED | INSTALLATION OR OVERHAUL DATE |
| Gallons | ---- |

3. Enter Power Co. Name, Account No., Meter No. and total energy consumption. Indicate units as KWH, therms or other measurement.

| | | |
|---|-----------------------|-----------------|
| POWER CO. NAME | ACCOUNT NO. | POWER METER NO. |
| N/A | Use on site generator | |
| ENTER TOTAL ENERGY CONSUMPTION IN COLUMN 6 OF SCHEDULE A | | UNITS |
| Not measured | | |

4. Does Energy Meter serve uses other than the well pump? ☐ YES ☐ NO
Enter "Y" or "N" in column 7 of Schedule A

5. Enter water reading as of January 1, in ⑤. If your meter reads in 10s, 100s, or 1000s of units, be sure to add the correct number of zeros.

6. Enter ending reading as of December 31, in ⑥. If the totalizer dial has rolled over during the year, enter the number 1 in front of the reading, if twice, a 2, etc.

7. Subtract reading in ⑤ from reading in ⑥ and enter the difference in ⑦.

| WATER TOTALIZING METER READINGS | | |
|---------------------------------|----------|--------------|
| ⑤ INITIAL | ⑥ ENDING | ⑦ DIFFERENCE |
| ---- | ---- | ---- |

If meter was replaced during the year, indicate beginning and ending reading for each meter.

8. Convert the Total Amount Pumped to acre feet by using the appropriate conversion.

- If meter reads in gallons, divide ⑦ by 325,851 and enter the result below.
- If meter reads in cubic feet, divide ⑦ by 43,560 and enter the result below.
- If meter reads in acre-feet, no conversion is necessary.

| | |
|-----------|-----|
| ACRE FEET | -0- |
|-----------|-----|

9. If your meter malfunctioned during the year, enter the estimate of withdrawals in acre-feet made during the out-of-service period, as indicated on Meter Malfunction report.

| | |
|--------------------|------|
| BREAKDOWN ESTIMATE | ---- |
|--------------------|------|

10. Add ⑧ and ⑨ and enter result below and in column 4 of Schedule A for each well measured.

| | |
|--------------------|-----|
| TOTAL IN ACRE-FEET | -0- |
|--------------------|-----|

THIS WORKSHEET MUST BE SUBMITTED WITH SCHEDULE A

WORKSHEET W-1

DWR-AR-9-89

READ INSTRUCTIONS CAREFULLY

1. Enter DWR Well Registration No. & Location.

| | | | | | | |
|---------------------------|----------|----|----|-----|------|------|
| DWR WELL REGISTRATION NO. | LOCATION | | | | | |
| 55-523901 | Q | Q | Q | Sec | Twn | Rng |
| | SE | NW | NE | 13 | 060S | 040E |

2. Enter type, make & model of measuring device used to measure flow. If measuring device is permanent, enter date installed or last overhauled.

| | |
|--------------------------|-------------------------------|
| TYPE OF MEASURING DEVICE | MAKE |
| Meter | Halliburton |
| MODEL | SIZE |
| MC-11 | 3/4 inch |
| UNITS MEASURED | INSTALLATION OR OVERHAUL DATE |
| Gallons | |

3. Enter Power Co. Name, Account No., Meter No. and total energy consumption. Indicate units as KWH, therms or other measurement.

| | | |
|---|-----------------------|-----------------|
| POWER CO. NAME | ACCOUNT NO. | POWER METER NO. |
| N/A | Use on site generator | |
| ENTER TOTAL ENERGY CONSUMPTION IN COLUMN 6 OF SCHEDULE A | ENERGY CONSUMPTION | UNITS |
| | Not measured | |

4. Does Energy Meter serve uses other than the well pump? ☐ YES ☐ NO
Enter "Y" or "N" in column 7 of Schedule A

5. Enter water reading as of January 1, in (5). If your meter reads in 10s, 100s, or 1000s of units, be sure to add the correct number of zeros.

6. Enter ending reading as of December 31, in (6). If the totalizer dial has rolled over during the year, enter the number 1 in front of the reading, if twice, a 2, etc.

7. Subtract reading in (5) from reading in (6) and enter the difference in (7).

| WATER TOTALIZING METER READINGS | | |
|---------------------------------|------------|----------------|
| (5) INITIAL | (6) ENDING | (7) DIFFERENCE |
| ---- | ---- | ---- |

If meter was replaced during the year, indicate beginning and ending reading for each meter.

8. Convert the Total Amount Pumped to acre feet by using the appropriate conversion.

- If meter reads in gallons, divide (7) by 325,851 and enter the result below.
- If meter reads in cubic feet, divide (7) by 43,560 and enter the result below.
- If meter reads in acre-feet, no conversion is necessary.

| | |
|--------------|-----|
| ACRE FEET | -0- |
|--------------|-----|

9. If your meter malfunctioned during the year, enter the estimate of withdrawals in acre-feet made during the out-of-service period, as indicated on Meter Malfunction report.

| | |
|-----------------------|------|
| BREAKDOWN ESTIMATE | ---- |
|-----------------------|------|

10. Add (8) and (9) and enter result below and in column 4 of Schedule A for each well measured.

| | |
|-----------------------|-----|
| TOTAL IN ACRE-FEET | -0- |
|-----------------------|-----|

THIS WORKSHEET MUST BE SUBMITTED WITH SCHEDULE A

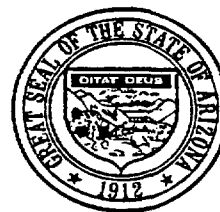
ORIGINAL

ARIZONA DEPARTMENT OF WATER RESOURCES

Pinal Active Management Area
901 E. Cottonwood Lane, Suite B
Casa Grande, Arizona 85222
Telephone (602) 836-4857
Fax (602) 836-9208

MINING DEPT.

TUCSON



FIFE SYMINGTON
Governor

ELIZABETH ANN RIEKE
Director

April 18, 1991

Santa Cruz Joint Venture
P.O. Box 5747
Tucson, Arizona

Re: Grandfathered Water Right No.: 59-523175.0000

Dear Sirs,

Our records show that you have failed to file your annual water withdrawal and use report for 1990. If you have already filed your 1990 annual water withdrawal and use report, please disregard this notice.

The Groundwater Code requires that an annual report must be filed by each person who owns a right to withdraw, receive or use groundwater in an Active Management Area. Please understand that you are required to file if you own a right, even if you withdrew or used no water. The filing deadline is March 31st of each following year.

Arizona Revised Statute 45-632 provides for certain penalties for persons who file their reports late and/or do not pay the proper withdrawal fees. The penalty for filing after March 31, 1991 is \$25.00 per month. The penalty for not paying the proper fees by March 31, 1991 is 10% of the amount owed per month.

The penalty you have accrued to date is \$25.00, plus 10% of any withdrawal fees.

Enclosed are forms which can be used to complete the filing. If there was no water withdrawn in 1990, you must file a "zero" report. Return the completed forms to:

Arizona Department of Water Resources
Pinal Active Management Area
901 E. Cottonwood Lane, Suite B
Casa Grande, Arizona 85222

Complete and return the forms together with the total amount you owe for any withdrawal fees and penalties to avoid further compliance action to be taken against you. If you have questions, call or visit our office in Casa Grande for assistance.

Sincerely,

Lisa Benedetto
Lisa Benedetto
Water Resources Specialist

LB:mlw

Enclosure



STATE OF ARIZONA
DEPARTMENT OF WATER RESOURCES

LISA BENEDETTO
PINAL ACTIVE MANAGEMENT AREA

901 E. COTTONWOOD LANE
SUITE B
CASA GRANDE, ARIZONA 85222

PHONE (602) 836-4857

June 17, 1991

RECEIVED

JUL 16 1991

Mr. R. L. Brown, V.P.
Exploration Department
NEW YORK OFFICE

EXPLORATION DEPARTMENT

Santa Cruz Joint Venture
Operating Committee Agenda

Per your request, a draft agenda for the third quarter Santa Cruz Joint Venture Operating Committee Meeting has been developed for distribution and review within Asarco. Please review the proposed agenda and provide me with your comments. Those receiving copies of this letter are also requested to review and provide comments.

After the comments have been received, the agenda will be modified as required and distributed to Freeport.

Freeport's present plans are that only W. McCulloch and S. van Nort will attend the August 6, 1991, meeting. Freeport also requested that the broad In Situ Project briefing be delayed until the fourth quarter 1991 meeting.



A. R. Raihl
Project Manager

ARR:brw

Attachment

| | | |
|-----|----------------|--------|
| cc: | F. T. Graybeal | w/att. |
| | W. L. Kurtz | " |
| | J. D. Sell | " |
| | H. G. Kreis | " |

SANTA CRUZ JOINT VENTURE
OPERATING COMMITTEE MEETING - AUGUST 6, 1991
PROPOSED AGENDA

It is proposed that the third quarter 1991 Santa Cruz Joint Venture (SCJV) Operating Committee meeting be held August 6, 1991, at ASARCO Incorporated's offices located at 1150 N. 7th Avenue, Tucson, Arizona.

The meeting will be in two parts. The first will be informal and will provide Asarco an opportunity to brief the Freeport-McMoRan Inc. members on various aspects of the Santa Cruz Project including the In Situ Leach Project. The second part will be the formal Operating Committee meeting to resolve any issues at hand.

The informal meeting is scheduled to begin at 9:00 a.m. with the following items on the agenda.

1. Santa Cruz Project, not including the In Situ Leach Project
 - A. Asarco is negotiating with Texaco to purchase their property in the vicinity of the Santa Cruz Project for \$500.00 per acre. (WLK)
 - B. Solicitor (B. Apker) is checking on all issues associated with a land swap with Simmons. When these issues are resolved, a proposal will be made to Simmons. (WLK)
 - C. Cleanup of wildcat garbage dumping on SCJV property. (HGK)
 - D. Removal and cleanup of abandoned house at the corner of Clayton and Spike Roads on the SCJV property. (HGK)
 - E. Capping of all exploration holes and abandoned water wells (which could be found in compliance with ADWR rules). (HGK)
2. In Situ Project
 - A. Discussion of recent test results. (ARR)
 - B. Discussion of status of permitting. (ARR)
 - C. Discussion of Modification No. 7 to the USBM Cooperative Agreement No. C0289001 which funds Phase III-a. (ARR)

- D. Discussion of lobbying efforts to fund through Congress the Project for fiscal year 1992. (ARR)
- E. Discussion of proposed funding for the Casa Grande Historical Society in the amount of \$10,000 over the next four years (\$2,500 per year) to publish on an annual basis items that are of historical interest in the Casa Grande area. It is proposed that the subject for the third year's article will be mining. (ARR)
- F. Discussion of possible partial construction of surface facilities prior to acquisition of the AAPP or the USBM satisfying the NEPA requirements. (ARR)

The formal portion of the SCJV Operating Committee meeting is scheduled to begin at 2:00 p.m. Items on the agenda are as follows.

- 1. Santa Cruz Project, not including the In Situ Project.
No items scheduled.
- 2. In Situ Project
 - A. Funding the Casa Grande Historical Society in the amount of \$10,000 over the next four years (\$2,500 per year) to publish articles of historical interest.
- 3. General Items
 - A. Propose that fourth quarter 1991 SCJV Operating Committee meeting be held some time during mid-October 1991.

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

July 17, 1991

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

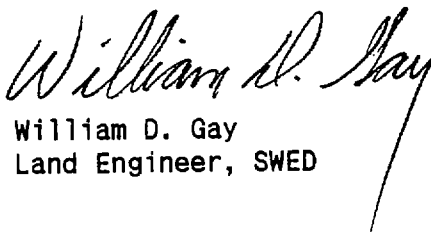
Dear Sir:

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 1758, Pages 664 & 665, for the assessment year ending September 1, 1991.

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,



William D. Gay
Land Engineer, SWED

WDG:mek
enc.

cc: R.L. Brown (w/enc.)
P. Donato, Contract Files NY (w/enc.)
J.D. Sell (w/enc.)
C.L. Snow (w/o enc.)

*****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) 640-5550

Mailing Address:
Bureau of Land Management
Arizona State Office
Branch of Mining
Law Administration
P.O. Box 16563
Phoenix, Arizona 85011

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, 1991.

ASARCO Incorporated

By William D. Gay
Agent

STATE OF ARIZONA)
) ss
County of Pima)

On the 3 day of July, 1991, 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.

Mildred C Koeppen
Notary Public

My Commission Expires:

My Commission Expires Nov. 28, 1992

9:00 AM
PHOENIX, ARIZONA

JUL 18 '91

RECEIVED
BLM AZ STATE OFFICE

ASARCO

Exploration Department
Southwestern United States Division

July 22, 1991

Department of Water Resources
15 South 15th Avenue
Phoenix, Arizona 85007

Santa Cruz J.V.
Notices of Abandonment
Project Completion Reports

Gentlemen:

Enclosed for your records are Project Completion Reports and Notices of Abandonment for assessment work drilling in Sections 12, 23, and 24, T6S, R4E.

Sincerely,

A handwritten signature in cursive script that reads "Henry G. Kreis" followed by a small mark that appears to be "mek".

Henry G. Kreis

HGK:mek
enc.

cc: J.D. Sell
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
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 | 12 | SW | SW | NE | WELL REGISTRATION NO. 55-532040
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 1991

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>55-532040</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 | 7-22-1991
Owner's Signature Date
Henry G. Kreis
For ASARCO Incorporated

DWR-55-57-12/89

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 | | City | | State | | Zip | |
|----------|----------------------|---------------|----------------|--------------|--|-----|--|
| Address: | <u>P.O. Box 5747</u> | <u>Tucson</u> | <u>Arizona</u> | <u>85703</u> | | | |
| | <u>Street</u> | <u>City</u> | <u>State</u> | <u>Zip</u> | | | |
2. Lessee or Operator: ASARCO Incorporated
- | Name | | City | | State | | Zip | |
|----------|----------------------|---------------|----------------|--------------|--|-----|--|
| Address: | <u>P.O. Box 5747</u> | <u>Tucson</u> | <u>Arizona</u> | <u>85703</u> | | | |
| | <u>Street</u> | <u>City</u> | <u>State</u> | <u>Zip</u> | | | |
3. Driller: Cissell Drilling Co.
- | Name | | City | | State | | Zip | |
|----------|----------------------|--------------------|----------------|--------------|--|-----|--|
| Address: | <u>P.O. Box 1048</u> | <u>Casa Grande</u> | <u>Arizona</u> | <u>85222</u> | | | |
| | <u>Street</u> | <u>City</u> | <u>State</u> | <u>Zip</u> | | | |
4. Location: 6S | 4E | 23 | NE | NE | NW | WELL REGISTRATION NO. 55-532039
- | Township | Range | Section | 1/4 | 1/4 | 1/4 | (A REQUIREMENT) | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|--|
| <u>6S</u> | <u>4E</u> | <u>23</u> | <u>NE</u> | <u>NE</u> | <u>NW</u> | | |

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 1991

LOG OF WELL

- ☒ Unconsolidated Formation
- ☐ Consolidated Formation
- Depth to water in feet below land surface: _____
(if encountered or detected)

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 | 7-22-1991
Owner's Signature | Date
Henry G. Kreis

For ASARCO Incorporated

DWR-55-57-12/89

| | |
|----------------------------|---------------------|
| DO NOT WRITE IN THIS SPACE | |
| OFFICE RECORD | |
| Registration No. | <u>55-532039</u> |
| Received | By _____ |
| Entered | By _____ |
| File No. | <u>D(6-4) 23baa</u> |

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. 55-532038
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 1991

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. 55-532038
Received _____ By _____
Entered _____ By _____
File No. D(6-4) 24555

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 | 7-22-1991
Owner's Signature | Date

Henry G. Kreis
For ASARCO Incorporated

DWR-55-57-12/89

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' total drilled
Diameter of hole 5"
Type of Casing None

5. 55-532040
Well Registration Number
D(6-4) 12acc

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 _____

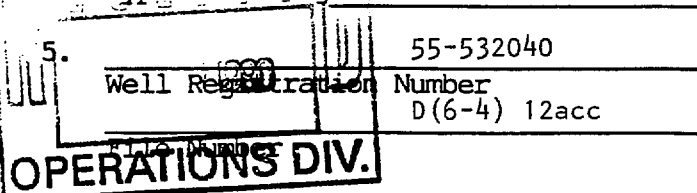
9. Was the well filled with cuttings or other non-toxic material prior to setting the cement plug?
Yes X No _____

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. 6-30-1991
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.

7/22/91
DATE

DWR-55-58-10/89

H.G. Kreis
SIGNATURE
H.G. Kreis
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 Arizona 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

5. 55-532038
Well Registration Number
D(6-4)24bbb

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. 6-30-1991
Date Abandonment Complete

OPERATIONS DIV.

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.

7/22/91
DATE

DWR-55-58-10/89

Henry G. Kreis
SIGNATURE
Henry G. Kreis
For ASARCO Incorporated

ASARCO

Exploration Department
Southwestern United States Division

July 24, 1991

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

Santa Cruz Joint Venture
Auza Grazing Lease

Dear Mr. Apker:

Enclosed are the following:

1. 1985 Grazing Lease with Mr. Joe Auza
2. 1986 Grazing Lease the Mining Dept. has with Mr. Auza
3. Map showing area of proposed new grazing lease
4. List by tax parcel number, description, and acres (Assessor) of the land to be leased to Mr. Auza.

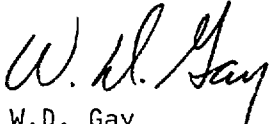
Please write a grazing lease for the Santa Cruz Joint Venture that we could present to Mr. Auza. Rental should be at least \$0.25/acre, because this is the figure the Mining Dept. charges Mr. Auza.

Mr. Auza's address is:

Joe Auza
P.O. Box 8
Casa Grande, AZ 85222

Very truly yours,

WDG:mek
Atts.


W.D. Gay
Land Engineer, SWED

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

FAX COVER SHEET

Date: 7-3-91 Log No. _____

Time: 10:18 Number of Pages: 16
(Including cover sheet)

TO: Mr/Ms William Gay FROM: Mr/Ms Joe. Ruiz

Of: Osaka Of: _____

FAX #: 602-792-3934 Address: _____

FAX #: 602-426-9316

COPY TO: _____

SPECIAL INSTRUCTIONS:

- ☐ Confidential
- ☐ Urgent
- ☐ Please reply
- ☐ For your information

MESSAGE: _____

If not received correctly, please call: _____

AGREEMENT

THIS AGREEMENT made and entered into this sixth day of December, 1985, by and between ASARCO-Santa Cruz, a Joint Venture, herein after referred to as "Lessor," and JOE AUZA, hereinafter referred to as "Lessee."

W I T N E S S E T H:

WHEREAS, Lessor is the owner in fee of the following described lands, consisting of approximately 3,082 acres and which are shown on the map marked Exhibit A attached hereto and hereby made part hereof, as on Exhibit B.

WHEREAS, Lessee wishes to use the aforementioned properties for the purpose of grazing sheep which use is agreeable to the Lessor:

NOW, THEREFORE, it is agreed that the Lessee may use the above-described properties, for the purpose of grazing sheep and only for the purpose of grazing sheep, subject to the following conditions:

1. The Lessee will use the land for the grazing of 3000 sheep for 25 days.
2. Lessee shall defend, save harmless and indemnify Lessor against any expense, loss or damage, including personal injury or death, on account of any claims, demands or suits which may be caused by or connected with Lessee's use of the lands as proposed in this agreement.

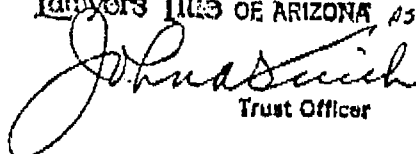
3. Lessee shall construct, rehabilitate and repair any fences damaged during the period.
4. Lessor will not furnish water for the use of the Lessee, and nothing in this lease grants any right to use of water, nor the establishment of any water right.
5. For the use of the lands covered by this agreement for grazing purposes, the Lessee agrees to pay to the Lessor the sum of \$750 payable in advance.
6. This lease shall be for a period beginning on December 6, 1985, and ending on December 31, 1985.
7. During the period covered by this agreement, Lessor may use or cross the lands covered by same for any purpose whatsoever without any responsibility of any kind except that of advising Lessee of such intention and of those in Articles 2 and 3 of this document.
8. Lessee will not sublet or assign any of its rights under this agreement without the written consent of the Lessor.
9. All notices and correspondence relating to this agreement shall be addressed as follows:

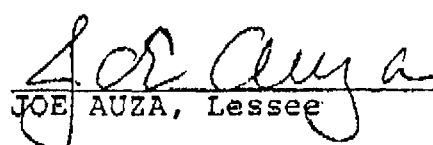
LESSOR: ASARCO-Santa Cruz
P.O. Box 5747
Tucson, Arizona 85703

LESSEE: Joe Auza
P.O. Box 373
Casa Grande, Arizona 85222

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

ASARCO-Santa Cruz

Lawyers Title OF ARIZONA AS TRUSTEE

Trust Officer

By _____

JOE AUZA, Lessee

STATE OF ARIZONA)
County of PINAL) ss

Sworn and subscribed before me this 10th day of December,
1985, by JOE AUZA.

Germaine M. Herndon
Notary Public

My Commission Expires:

Dec. 8, 1988

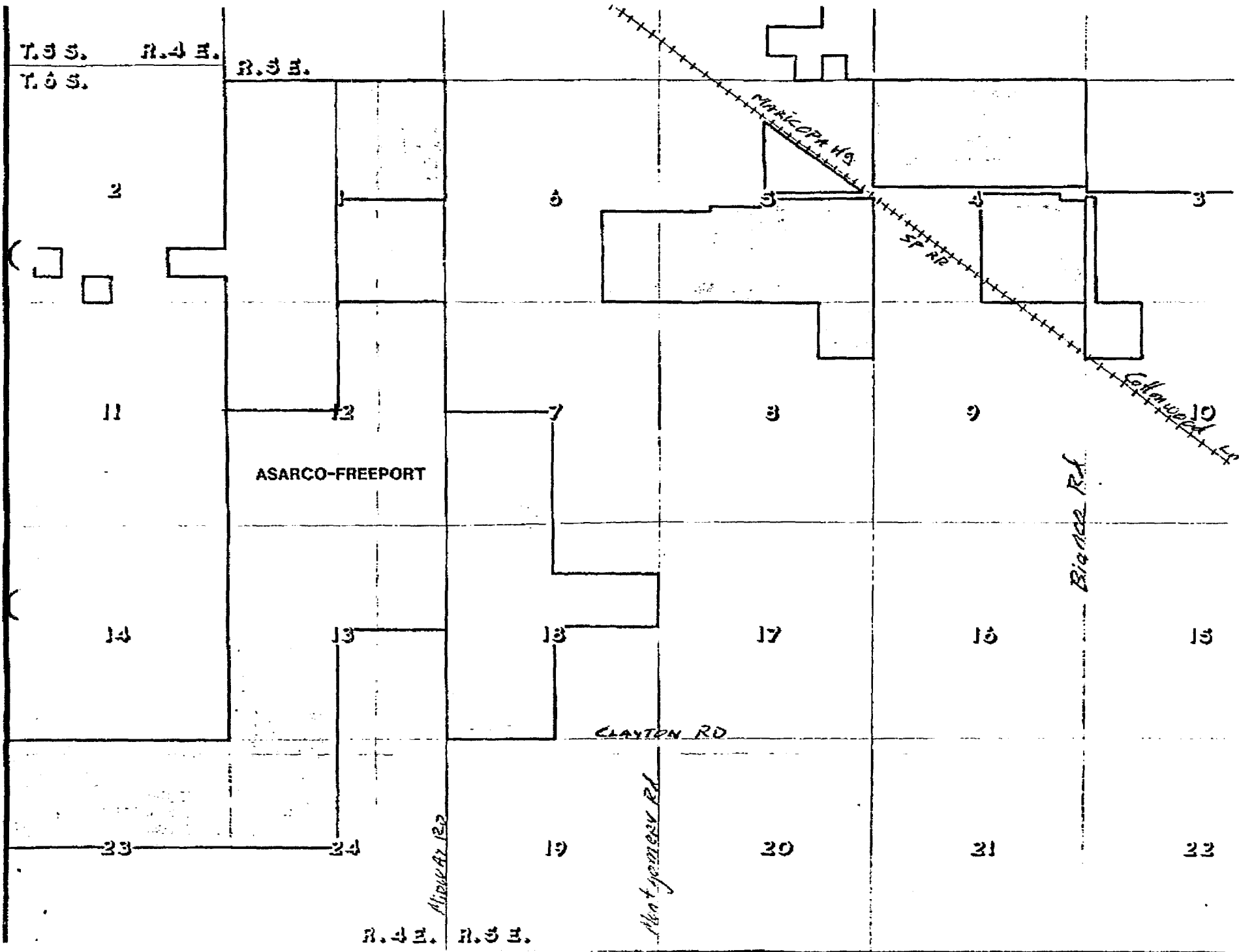
STATE OF ARIZONA)
County of MARICOPA) ss

Sworn and subscribed before me this 13 day of December,
1985, by John A. Finch, Trust Officer of Lawyers Title of Arizona an Arizona
corporation, as Trustee

Betty Jo Logan
Notary Public

My Commission Expires:

4-12-86



ASARCO-STA. CRUZ
Joint Venture
12-6-1985

[Handwritten signature]

| ASSESSOR'S NUMBER | LEGAL DESCRIPTION | ACRES |
|----------------------|---|-------------------|
| (2) 503-01-01108 | T6S, R4E NE $\frac{1}{4}$ Sec. T2 | 156.83 |
| (3) 503-01-01207 | T6S, R4E SE $\frac{1}{4}$ Sec. T2 | 156.97 |
| (9) 503-01-02809 | T6S, R4E NW $\frac{1}{4}$ Sec. T3 | 160.00 |
| (10) 503-01-02908 | T6S, R4E NE $\frac{1}{4}$ Sec. T3 | 160.00 |
| (11) 503-01-032A1 | T6S, R4E NW $\frac{1}{4}$ Sec. T4 | 159.54 |
| (5) 503-01-013A4 | T6S, R4E NE $\frac{1}{4}$ Sec. T3 | 154.20 |
| (6) 503-01-015A2 | T6S, R4E NE $\frac{1}{4}$ Sec. T3 | 319.77 |
| (25) 503-37-003A0 | T6S, R5E W $\frac{1}{2}$ Sec. 18 | 311.07 |
| | | 1,579.55 |
| (4) 503-01-01009 | T6S, R4E SW $\frac{1}{4}$ Sec. 12 | 160.00 |
| (24) 503-26-01006 | T6S, R5E Lots 3&4, E $\frac{1}{2}$ SW $\frac{1}{4}$ -pt. Sec. | 155.60 |
| (26) 503-37-002A1 | T6S, R5E S $\frac{1}{2}$ NE-Pol | 71.00 |
| | | 1,970.15 |

| ASSESSOR'S NUMBER | LEGAL DESCRIPTION | ACRES |
|----------------------|---|------------------|
| (15) 503-27-00105 | T6S, R5E Lots 1&2 | 90.56 |
| (16) 503-27-003A1 | T6S, R5E S $\frac{1}{2}$ NE $\frac{1}{4}$ S | 72.00 |
| (17) 503-27-004A0 | T6S, R5E SE $\frac{1}{4}$ Less Pt. | 72.00 |
| (18) 503-27-004C6 | T6S, R5E SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ S of SPRR | 72.00 |
| (25) 503-26-01204 | T6S, R5E NE $\frac{1}{4}$ NE $\frac{1}{4}$ | 72.00 |
| (20) 503-28-00301 | T6S, R5E E $\frac{1}{2}$ Sec. NE | 72.00 |
| (21) 503-28-004A0 | T6S, R5E E $\frac{1}{2}$ SW $\frac{1}{4}$ (-200 ft) | 72.00 |
| (22) 503-28-005A7 | T6S, R5E W $\frac{1}{2}$ SW $\frac{1}{4}$ Sec. | 72.00 |
| (19) 503-27-00204 | T6S, R5E Lots 3&4 plus S $\frac{1}{2}$ NW $\frac{1}{4}$ S | 72.00 |
| (23) 503-29-00507 | T6S, R5E E $\frac{1}{2}$ SE $\frac{1}{4}$ Sec. Less 300 ft. | 71.00 |
| (1) 503-01-001A8 | T5S, R4E Lots 1,2,5 & SW $\frac{1}{4}$ NE $\frac{1}{4}$ less pt. | 170.32 |
| | | 1,112.56 |

AGREEMENT

THIS AGREEMENT made and entered into this first day of November, 1986, by and between ASARCO Incorporated, a New Jersey Corporation, hereinafter referred to as "Lessor", and JOE AUZA, hereinafter referred to as "Lessee".

W I T N E S S E T H:

WHEREAS, Lessor is the owner in fee of the following described lands, consisting of approximately 1,636 acres and which are shown on the map marked Exhibit A attached hereto and hereby made part hereof:

All of Section 28 East of Highway 187 and 93 and South of Val Vista Boulevard.

All of Section 33 East of Highway 187 and 93 except the Southeast quarter of the Southeast quarter of the Southeast quarter.

The Northwest quarter of the Northwest quarter and the West half of the Northeast quarter of the Northwest quarter of Section 27 South of Val Vista Boulevard.

The Northwest quarter and the North half of the South half of Section 34.

All in Township 5 South, Range 8 East, G. and S. R. B. and M., Pinal County, Arizona.

WHEREAS, Lessee wishes to use the aforementioned properties for the purpose of grazing sheep or cattle, which use is agreeable to the Lessor:

NOW, THEREFORE, it is agreed that the Lessee may use the above-described properties, for the purpose of grazing sheep or

cattle, preferably sheep, and only for the purpose of grazing sheep or cattle, subject to the following conditions:

1. The Lessee will use the land for grazing no more than 14 animal units and no less than 10 animal units per year. An animal unit is defined as one mature beef animal or five sheep. When forage conditions are such that, in the opinion of the Lessee, the land will sustain more intensive grazing than permitted by this paragraph; the Lessee may request permission from the Lessor to increase the grazing limits imposed by this paragraph; and the Lessor will not unreasonably deny such permission.
2. Lessee shall defend, save harmless and indemnify Lessor against any expense, loss or damage, including personal injury or death, on account of any claims, demands or suits which may be caused by or connected with Lessee's use of the lands as proposed in this agreement.
3. Lessee shall construct, rehabilitate and repair fences enclosing said leased lands to the extent necessary to contain Lessee's livestock within the leased lands.
4. Lessor will not furnish water for the use of the Lessee, and nothing in this lease grants any right to use of water, nor the establishment of any water right.
5. For the use of the lands covered by this agreement for grazing purposes, the Lessee agrees to pay to the Lessor the sum of \$410 per year, payable in advance. The first rental payments shall be due the first day of the month following the execution of this agreement.
6. This agreement or any extensions thereof can be cancelled by either party by giving written notice to the other party at least thirty (30) days in advance of the termination date. Upon cancellation, any unearned rent shall be repaid to Lessee. Lessee shall have an additional ninety (90) days after the termination date to remove

all improvements installed by Lessee, except permanent fencing which will remain.

7. This lease shall be for a period beginning on November 1, 1986, and ending on October 31, 1987, and may be renewed for four (4) additional years on an annual renewal basis by Lessee making written request for annual renewal not later than October 1, 1986, subject to Lessor being agreeable to such extensions.
8. During the period covered by this agreement, Lessor may use or cross the lands covered by same for any purpose whatsoever without any responsibility of any kind except that of advising Lessee of such intention.
9. Lessee will not sublet or assign any of its rights under this agreement without the written consent of the Lessor.
10. All notices and correspondence relating to this agreement shall be addressed as follows:

LESSOR: ASARCO Incorporated
P.O. Box 5747
Tucson, Arizona 85703

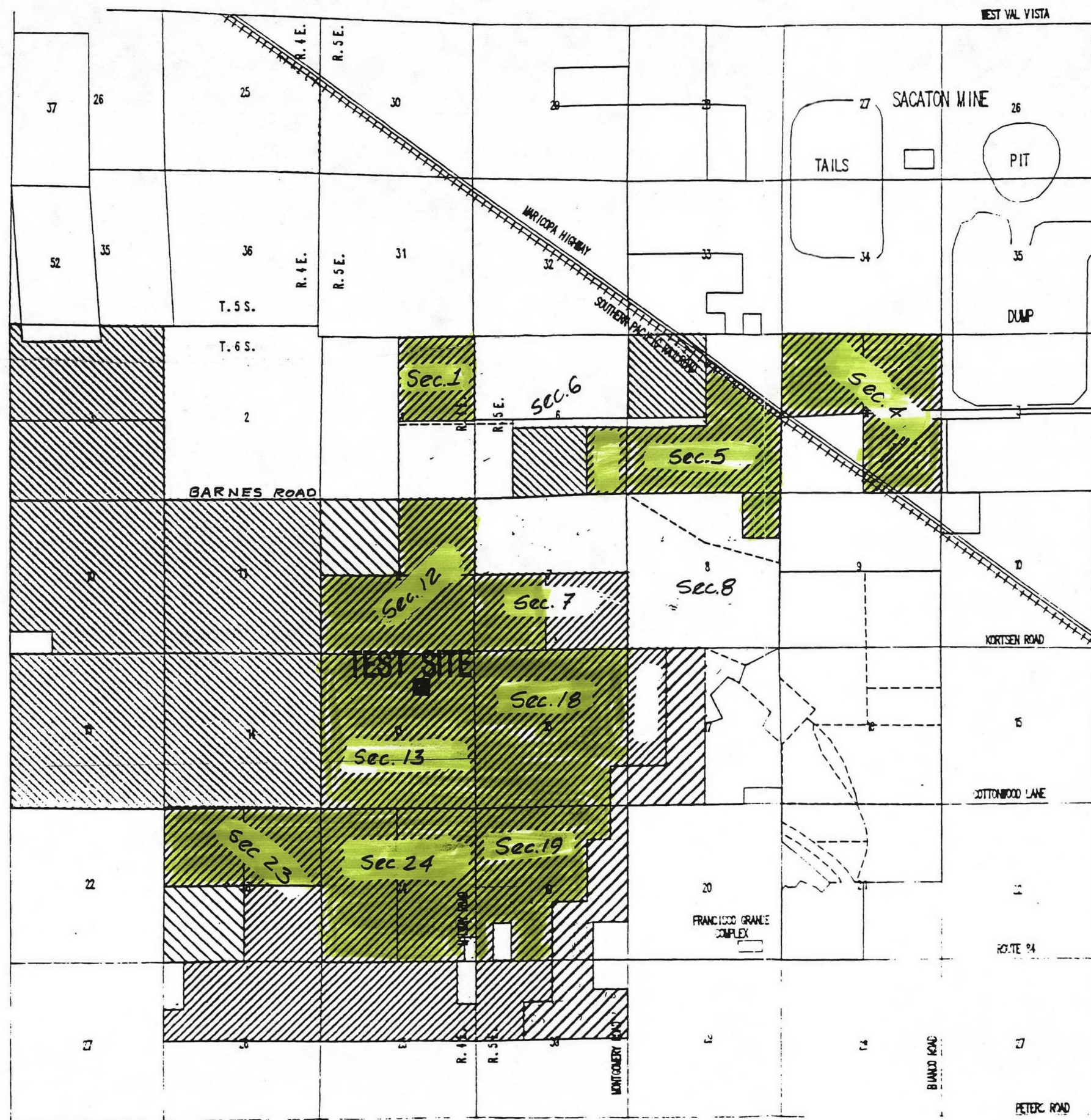
LESSEE: Joe Auza
R.R. #1, Box 220
Maricopa, Arizona 85239

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

ASARCO Incorporated

By _____


JOE AUZA, Lessee



 Grazing Lease



SANTA CRUZ LAND STATUS ARIZONA

1 MILE

on 6925 hq/dm tuc 3-20-90
file SC-LANDS.DWG

| <u>ASSESSOR'S NUMBER</u> | <u>LEGAL DESCRIPTION</u> | <u>ACRES</u> |
|------------------------------|--|--------------|
| 503-01-001A8 | T5S, R4E, Lots 1,2,5 & SW1/4, NW1/4 less pt. | 170.32 |
| 503-01-01108 | T6S, R4E, NE1/4 Sec. 12 | 156.85 |
| 503-01-01207 | T6S, R4E, SE1/4 Sec. 12 | 156.97 |
| 503-01-01009 | T6S, R4E, SW1/4 Sec. 12 | 160.00 |
| 503-01-013A4 | T6S, R4E, NE1/4 Sec. 13 | 154.20 |
| 503-01-015A2 | T6S, R4E, W1/2 Sec. 13 | 319.77 |
| 503-01-01405 | T6S, R4E, SE1/4 Sec. 13 | 159.00 |
| 503-01-013B2 | T6S, R4E, Sec. 13 Begin at the E1/4 cor. Sec. 13 then W 470.82', then N 33' to POB; then N 100', then W 100', then S 100', then E 100' to POB aka Wellsite #2 | 0.23 |
| 503-01-015B0 | T6S, R4E, Sec. 13 Begin at the S1/4 cor. then N 561.16', then W 25' to POB then W 100', then N 100', then E 100' to POB aka Wellsite #3 | 0.23 |
| 503-01-02809 | T6S, R4E, NW1/4 Sec. 23 | 160.00 |
| 503-01-02908 | T6S, R4E, NE1/4 Sec. 23 | 160.00 |
| 503-01-032A1 | T6S, R4E, NW1/4 Sec. 24 | 159.54 |
| 503-01-03302 | T6S, R4E, Sec. 24 S1/2 & NE1/4 less hwy R.O.W. & E1/2, SE1/4, SE1/4, SE1/4 | 473.00 |
| 503-01-032C7 | T6S, R4E, Sec. 24 Begin at the N1/4 cor. Sec. 24 then S 1293.25', then W 33' to POB, then W 100', then S 100', then E 100', then N 100' to POB, aka Wellsite #5 | 0.23 |
| 503-01-032B9 | T6S, R4E, Sec. 24 Begin at ctr. Sec. 24, then W 109.46', then N 33' to POB; then N 100', then W 100', then S 100', then E 100' to POB, aka Wellsite #4 | 0.23 |

| <u>ASSESSOR'S NUMBER</u> | <u>LEGAL DESCRIPTION</u> | <u>ACRES</u> |
|------------------------------|--|--------------|
| 503-27-00105 | T6S, R5E, Lots 1 & 2. Sec. 4 | 90.56 |
| 503-27-003A1 | T6S, R5E, S1/2 NE1/4 Sec. 4 | 72.00 |
| 503-27-004A0 | T6S, R5E, SE1/4 Less Pt. Sec. 4 | 142.72 |
| 503-27-00406 | T6S, R5E, SW1/4 SW1/4 SE1/4 S of SPRR Sec. 4 | 3.09 |
| 503-27-00204 | T6S, R5E, Lots 3 & 4 plus S1/2 NW1/4 Sec. 4 | 170.71 |
| 503-28-00301 | T6S, R5E, E1/2 Sec. 5 | 198.87 |
| 503-28-004A8 | T6S, R5E, E1/2 SW1/4 (-200 ft) Sec. 5 | 74.00 |
| 503-28-005A7 | T6S, R5E, W1/2 SW1/4 Sec. 5 | 71.35 |
| 503-29-00507 | T6S, R5E, E1/2 SE1/4 Sec. 6 Less 300 ft. | 71.00 |
| 503-26-01006 | T6S, R5E, Lots 3 & 4, E1/2 SW1/4-pt. Sec. 7 | 155.60 |
| 503-26-01204 | T6S, R5E, NE1/4 NE1/4 Sec. 8 | 40.00 |
| 503-37-002A1 | T6S, R5E, S1/2 NE-Pcl Sec. 18 | 75.00 |
| 503-37-003A0 | T6S, R5E, W1/2 Sec. 18 | 311.07 |
| 503-37-001A2 | T6S, R5E, Sec. 18 N1/2, NE1/4 less parcel to Midway Flood Control District | 58.00 |
| 503-37-00401 | T6S, R5E, Sec. 18 SE1/4, except E1/2, SE1/4, SE1/4 | 140.00 |
| 503-37-001B8 | T6S, R5E, Sec. 18 Begin at SW cor. of Sec. 18 then E 334.50', then N 50' to POB, N 100', then E 100', then S 100', then W 100' to POB, aka Wellsite #1 | 0.23 |
| 503-38-001B8 | T6S, R5E, Sec. 19 SW1/4, SE1/4, NW1/4 (Lot 27) | 10.00 |
| 503-38-001C6 | T6S, R5E, Sec. 19 N1/2, NW1/4, SE1/4 (Lots 35 & 36) | 20.00 |

| <u>ASSESSOR'S NUMBER</u> | <u>LEGAL DESCRIPTION</u> | <u>ACRES</u> |
|------------------------------|---|--------------|
| 503-38-00904 | T6S, R5E, Sec. 19 NE1/4, SW1/4, NE1/4 (Lot 19) | 10.00 |
| 503-38-01100 | T6S, R5E, Sec. 19 NE1/4, SE1/4, NE1/4 (Lot 21) | 10.00 |
| 503-38-01209 | T6S, R5E, Sec. 19 NW1/4, SE1/4, NW1/4 (Lot 22) | 10.00 |
| 503-38-01308 | T6S, R5E, Sec. 19 NE1/4, SW1/4, NW1/4 (Lot 23) | 10.00 |
| 503-38-01407 | T6S, R5E, Sec. 19 NW1/4, SW1/4, NW1/4 (Lot 24) | 10.00 |
| 503-38-01506 | T6S, R5E, Sec. 19 SW1/4, SW1/4, NW1/4 (Lot 25) | 10.00 |
| 503-38-01605 | T6S, R5E, Sec. 19 SE1/4, SW1/4, NW1/4 (Lot 16) | 10.00 |
| 503-38-018A1 | T6S, R5E, Sec. 19 W1/2, SE1/4, SE1/4, NW1/4 | 5.00 |
| 503-38-018B9 | T6S, R5E, Sec. 19 E1/2, SE1/4, SE1/4, NW1/4 | 5.00 |
| 503-38-02207 | T6S, R5E, Sec. 19 NE1/4, NE1/4, SW1/4 (Lot 37) | 10.00 |
| 503-38-02306 | T6S, R5E, Sec. 19 NW1/4, NE1/4, SW1/4 (Lot 38) | 10.00 |
| 503-38-02405 | T6S, R5E, Sec. 19 NE1/4, NW1/4, SW1/4 (Lot 39) | 10.00 |
| 503-38-02504 | T6S, R5E, Sec. 19 NW1/4, NW1/4, SW1/4 (Lot 40) | 10.00 |
| 503-38-02603 | T6S, R5E, Sec. 19 SW1/4, NW1/4, SW1/4 (Lot 41) | 10.00 |
| 503-38-02702 | T6S, R5E, Sec. 19 SE1/4, NW1/4, SW1/4 (Lot 42) | 10.00 |
| 503-38-02801 | T6S, R5E, Sec. 19 SW1/4, NE1/4, SW1/4 (Lot 43) | 10.00 |

| <u>ASSESSOR'S NUMBER</u> | <u>LEGAL DESCRIPTION</u> | <u>ACRES</u> |
|------------------------------|--|-----------------|
| 503-38-02900 | T6S, R5E, Sec. 19 SE1/4, NE1/4, SW1/4 (Lot 44) | 10.00 |
| 503-38-03502 | T6S, R5E, Sec. 19 E1/2, SE1/4, SW1/4 (Lots 53 & 60) | 20.00 |
| 503-38-03601 | T6S, R5E, Sec. 19 NW1/4, SE1/4, SW1/4 (Lot 54) | 10.00 |
| 503-38-03809 | T6S, R5E, Sec. 19 W1/2, SW1/4, SW1/4 (Lots 56 & 57) | 20.00 |
| 503-38-03908 | T6S, R5E, Sec. 19 SW1/4, SE1/4, SW1/4 (Lot 59) | 10.00 |
| 503-38-010B7 | T6S, R5E, Sec. 19 SW1/4, NE1/4 except NE1/4, SW1/4, NE1/4 (Lots 20, 29 & 30) | 30.00 |
| 503-38-04104 | T6S, R5E, Sec. 19 N1/2, NW1/4 (Lots 5,6,7,8,9,10, 11 & 12) | 80.00 |
| 503-38-04203 | T6S, R5E, Sec. 19 W1/2, NE1/4, NE1/4 (Lots 2 & 15) NW1/4, NE1/4 (Lots 3,4,13 & 14) | 60.00 |
| | <u>Total Acres</u> | <u>4,324.77</u> |

ASARCO

Exploration Department
Southwestern United States Division

July 25, 1991

Mr. Jeffrey C. Patch
Jeffrey C. Patch and Associates
2090 N. Kolb Road, Suite A
Tucson, AZ 85715

Dear Mr. Patch:

Pursuant to your request, I have enclosed for your use the following documents:

- Special Warranty and Quit Claim Deed, dated December, 1988, which includes the SCJV land south of Route 84.
- Agricultural Cash Lease for SCJV land south of Route 84.
- Certificates of Grandfathered Groundwater Rights and Statement of Claimant Form for Irrigation Use.
- A map showing water well locations.
- A map showing pumping rates for water wells in Sections 11 and 14, T6S, R4E.
- 1989 Groundwater withdrawals for water wells in Section 11 and 14, T6S, R4E.

It is my understanding that you will have preliminary verbal appraisals on August 5th and a written report by August 15th.

If I can be of further help, please let me know.

Sincerely,



Henry G. Kreis

HGK:mek
encs.

bl.cc: R.L. Brown/F.T. Graybeal (w/o encs.)
W.L. Kurtz/J.D. Sell (w/o encs.)
W.D. Gay (w/o encs.)
A.R. Raihl (w/o encs.)

ASARCO

Exploration Department
Southwestern United States Division

July 29, 1991

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

Santa Cruz Joint Venture
Auza Grazing Lease
Revision

Dear Mr. Apker:

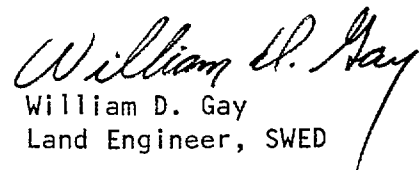
Subsequent to my letter to you of July 24, 1991, I discovered that a portion of Sec. 13, T6S, R4E, was fenced with sheep-proof fencing. This area is the In Situ Test Site and contains 52.4 acres.

This changes exhibit as follows:

| <u>Assessor's Number</u> | <u>Legal Description</u> | <u>Acres</u> |
|------------------------------|---|-----------------|
| 503-01-013A4 | T6S, R4E, NE $\frac{1}{4}$ Sec. 13 less pt. | 120.7 |
| 503-01-015A2 | T6S, R4E, W $\frac{1}{2}$ Sec. 13 less pt. | 300.87 |
| Total Acres | | <u>4,272.37</u> |

Sincerely yours,

WDG:mek


William D. Gay
Land Engineer, SWED

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

ASARCO

Mining Department

A. R. Raihl

VIA TELEFAX
504-582-1639

August 1, 1991

ASARCO Incorporated

AUG 2 1991

SW Exploration

Mr. R. J. Hickson
Freeport Mining Company
P. O. Box 61520
New Orleans, LA 70161

Dear Mr. Hickson:

Santa Cruz Joint Venture
Operating Committee Meeting

Attached is the proposed agenda for the Santa Cruz Joint Venture Operating Committee meeting scheduled for 9:00 a.m., August 6, 1991, at the ASARCO Incorporated office located at 1150 N. 7th Avenue, Tucson, Arizona.

If you or anyone receiving copies of this letter would like additional items placed on either the formal or informal agenda, please inform me.

Yours truly,



A. R. Raihl
Project Manager

ARR:brw

Attachment

| | | |
|-----|-----------------|----------------------|
| cc: | R. L. Brown | w/att. |
| | F. T. Graybeal | " (Fax 212-510-1978) |
| | W. L. Kurtz | " |
| | J. D. Sell | " |
| | H. G. Kreis | " |
| | W. E. McCulloch | " (Fax 504-582-1639) |
| | S. D. van Nort | " (Fax 602-742-7280) |



SANTA CRUZ JOINT VENTURE
OPERATING COMMITTEE MEETING - AUGUST 6, 1991
PROPOSED AGENDA

It is proposed that the third quarter 1991 Santa Cruz Joint Venture (SCJV) Operating Committee meeting be held August 6, 1991, at ASARCO Incorporated's offices located at 1150 N. 7th Avenue, Tucson, Arizona.

The meeting will be in two parts. The first will be informal and will provide Asarco an opportunity to brief the Freeport-McMoRan Inc. members on various aspects of the Santa Cruz Project including the In Situ Leach Project. The second part will be the formal Operating Committee meeting to resolve any issues at hand.

The informal meeting is scheduled to begin at 9:00 a.m. with the following items on the agenda.

1. Santa Cruz Project, not including the In Situ Leach Project
 - A. Asarco is negotiating with Texaco to purchase their property in the vicinity of the Santa Cruz Project for \$500.00 per acre. (WLK)
 - B. Solicitor (B. Apker) is checking on all issues associated with a land swap with Simmons. When these issues are resolved, a proposal will be made to Simmons. (WLK)
 - C. Cleanup of wildcat garbage dumping on SCJV property. (HGK)
 - D. Removal and cleanup of abandoned house at the corner of Clayton and Spike Roads on the SCJV property. (HGK)
 - E. Capping of all exploration holes and abandoned water wells (which could be found) in compliance with ADWR rules. (HGK)
2. In Situ Project
 - A. Discussion of recent test results. (ARR)
 - B. Discussion of status of permitting. (ARR)
 - C. Discussion of Modification No. 7 to the USBM Cooperative Agreement No. C0289001 which funds Phase III-a. (ARR)

- D. Discussion of lobbying efforts to fund through Congress the Project for fiscal year 1992. (ARR)
- E. Discussion of proposed funding for the Casa Grande Historical Society in the amount of \$7,500 over the next three years (\$2,500 per year) to publish on an annual basis items that are of historical interest in the Casa Grande area. It is proposed that the subject for the third year's article will be mining. (ARR)
- F. Discussion of possible partial construction of surface facilities prior to acquisition of the AAPP or the USBM satisfying the NEPA requirements. (ARR)

The formal portion of the SCJV Operating Committee meeting is scheduled to begin at 2:00 p.m. Items on the agenda are as follows.

- 1. Santa Cruz Project, not including the In Situ Project.
No items scheduled.
- 2. In Situ Project
 - A. Funding the Casa Grande Historical Society in the amount of \$7,500 over the next three years (\$2,500 per year) to publish articles of historical interest.
- 3. General Items
 - A. Propose that fourth quarter 1991 SCJV Operating Committee meeting be held some time during mid-October 1991.



ASARCO

Exploration Department
Southwestern United States Division

August 7, 1991


Mr. Joe Auza
P.O. Box 373
Casa Grande, Arizona 85222

Dear Mr. Auza:

Enclosed are two copies of a grazing Lease Agreement we discussed by telephone last month.

Please read it over and if the terms are satisfactory, return the two copies signed, and we will return to you a fully executed copy.

Sincerely yours,


William D. Gay
Land Engineer, SWED

WDG:mek
Encs.

cc: W.L. Kurtz
J.D. Sell
H.G. Kreis
A.R. Raihl

ASARCO Incor,

ASARCO SANTA CRUZ INC.
P. O. BOX 5747
Tucson, Arizona 85703

AUG 13 1991

SW EXPLORATION

August 7, 1991

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 July, 1991:

Our E.A. No. 0075 - The Lands

| | | |
|--------------------------------|----|---------------|
| General Administrative Charges | \$ | 50.00 |
| Travel Expense | | 381.31 |
| Field Services & Supplies | | 40.00 |
| Professional Services | | 7,230.00 |
| Recording Fees | | <u>289.00</u> |

\$ 7,990.31

Our E.A. No. 0087 - Peripheral Lands

| | | |
|--------------------------------|-------|--------------|
| General Administrative Charges | 50.00 | <u>50.00</u> |
|--------------------------------|-------|--------------|

8,040.31

| | |
|--|------------------|
| 1/2 to Freeport-McMoran | 4,020.15 |
| Balance brought forward | 29,373.36 |
| Payment received from Freeport-McMoran | (29,373.36) |
| In Situ Leach Project July charges | <u>28,780.33</u> |

Balance due \$32,800.48

cc: Controller/Attn: EJFranko
JDSell
Freeport Mining Co.
File

August 12, 1991

R. L. Brown
New York Office

Land Appraisal
Santa Cruz Project
Pinal Co. Arizona

In late June, Jeffrey C. Patch and Associates was asked to do the appraisal work requested by you. This appraisal work was requested to establish land values for SCJV land south of Route 84 and for five sections of land belonging to Cimarron Farms. The establishment of these land values was intended to set the framework for a proposal to swap SCJV land south of Route 84 for a portion of Cimarron Farms land.

Mr. Patch visited the described SCJV and Cimarron Farms land, talked with realtors in the area, and researched comparable land sales and listings in the area. As explained in the accompanying August 6th letter from Mr. Patch, Mr. Patch chose not to do a fully documented narrative appraisal report. He chose not to do this for reasons described in his letter.

Mr. Patch sees the SCJV land south of Route 84 and the Cimarron Farms land as being more or less comparable on a price per acre basis comparing farm land to farm land and desert land to desert land. According to Mr. Patch, the SCJV land is not more valuable because of its location on Route 84. He concluded it would be in the SCJV's best interest to have an agent, such as a realtor representing an "undisclosed buyer", arrange the land swap.

There are some good comparable land sale prices in Mr. Patch's letter which are summarized in attached Table 1. Considering the cash equivalent prices in Table 1 and the remarks in Table 3, the value of the SCJV land south of Route 84 and the Cimarron Farms land is between \$500 and \$600 per acre. This statement of land value needs to be qualified by (1) the small number of good comparable sales, (2) the uncertainty as to whether land values are stable or changing (they may be decreasing), and (3) land values could fluctuate in the very near future because of land auction(s) planned to occur in the next month or two.

It appears land values have depreciated during the last year. Just a year ago in his appraisal report of July 24, 1990, Mr. Patch put the value of farm land between a lower limit of \$1,000 per acre and an upper limit of \$3,000 per acre. However, these limits were poorly defined because land sales were not based on normal buyer-seller transactions.

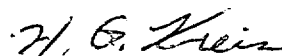
The cash equivalent prices for farm land fronting on an interstate highway in late 1988 and early 1989 are shown in Table 2. Although these prices are

Land Appraisal - Santa Cruz Project

August 12, 1991

outdated and probably lower in today's market, they do give an example of the high prices farm land can achieve when it is favorably located near an interstate highway.

If you have any questions or need additional appraisal information, please let me know.



H. G. Kreis

HGK:mek

cc: F.T. Graybeal
W.L. Kurtz
J.D. Sell
W.D. Gay
A.R. Raihl
W.E. McCulloch, Jr. (Fpt.-McM.)

Table 1. Comparable Land Sales

| <u>Date of Sale</u> | <u>Cash Equivalent Price per Acre</u> | <u>Total Acres</u> | <u>Farm Acres(1)</u> | <u>Location</u> | <u>Water Rights (ac-ft./ac.)</u> | <u>Patch's August 1991 Comparable Number</u> |
|---------------------|---------------------------------------|--------------------|----------------------|-------------------------------|----------------------------------|--|
| Feb. 1991 | \$ 905(2) | 874 | 790 | Sec.23,25,26 T5S, R2E | approx. 4.7 | Eleven |
| Nov. 1990 | 561(3) | 3565 | 3078 | Sec.3,10,11,14,15 T6S, R5E | 4.6 | Ten |
| Oct. 1990 | 535 | 640 | 416 | Sec. 16 T7S, R8E | 2.5 | One |
| Jun. 1990 | 560 | 160 | Fallow | NE/4 Sec. 17 T7S, R8E | 2.5 | Nine |
| May 1988 | 1000(4) | 320 | Yes | E/2 Sec. 7 T9S, R8E | 6 | Four |

(1) Included in total acres.

(2) Believed to be high because of proximity to new Maricopa highway.

(3) The previous owners, Hanna-Texaco, will benefit from the future sale of the property if the future sale price is greater than \$561 per acre. The value of this benefit is not included in the cash equivalent price.

(4) This outdated 1988 sale price is a maximum price in today's market.

Above information taken from Patch, August 6, 1991.

Table 2. Farm Land Fronting on Interstate Highway

| <u>Date of Sale</u> | <u>Cash Equivalent Price per Acre</u> | <u>Total Acres</u> | <u>Farm Acres</u> | <u>Location</u> | <u>Patch's August 1991 Comparable Number</u> |
|---------------------|---------------------------------------|--------------------|-------------------|---------------------------------------|--|
| Jan. 1989 | \$3,273* | 371 | Yes | Interstate 8 Sec. 7, 8 T7S, R4E | Five |
| Feb. 1989 | 2,599* | 140 | 114 | Interstate 8 Sec. 9 T7S, R4E | Three |

*Jeff Patch says this price is outdated and today's price would be substantially less (verbal communication August 12, 1991).

Above information taken from Patch, August 6, 1991.

Table 3. Remarks on Patch's Comparable Sales/Listings

| Comparable Land Sale/Listing No. | Remarks |
|-------------------------------------|--|
| One | Good comparison to SCJV farm land. Excellent example in decrease in property values. Sold in 1986 for \$3,500 per acre and again in late 1990 at a cash equivalent price of \$535 per acre. |
| Two | Not suitable for comparison to SCJV land. The \$13,400 per acre price was set in 1987 when the property went into escrow. This was at the peak of the real estate boom just before the crash. |
| Three | Not suitable for comparison to SCJV land. The \$2,500 per acre cash price is for highway frontage farm land. This price is outdated and would be lower today (J. Patch, August 12, 1991, verbal communication). |
| Four | This 1988 sale price sets a maximum value on SCJV farm land. Today's price would be less (J. Patch, August 12, 1991, verbal communication). |
| Five | Not suitable for comparison to SCJV land. The \$3,273 per acre cash equivalent price is for highway frontage farm land. This price is outdated and would be lower today (J. Patch, August 12, 1991, verbal communication). |
| Six | This listing is not suitable for comparison to SCJV land. The \$7,500 per acre price is so unreasonably high realtors ignore the property. |
| Seven | This farm land listing for \$2,000 per acre has been on the market for almost two years. Since it hasn't sold, the value of the land is something less than \$2,000 per acre. |
| Eight | Not suitable for comparison to SCJV land. The asking price of \$5,237 per acre is for prime speculative land at the intersection of Interstate 10 and State Highway 84. |
| Nine | Good for comparison to SCJV farm land. This is fallow farm land with water rights of 2.49 acre-feet per acre. |

- Continued -

Table 3. Continued

| <u>Comparable Land Sale/Listing No.</u> | <u>Remarks</u> |
|---|---|
| Ten | Good for comparison to SCJV farm land. The sale price of \$561 per acre does not include the value of the previous owner's retained right to possibly benefit in the future sale of the land. Allowing for the value of the previous owner's retained right, the comparable sale price for this land is \$561 per acre to possibly as high as \$600 per acre. |
| Eleven | This comparable is included for comparison to SCJV farm land. However, the cash equivalent sale price of \$950 per acre appears to be much higher than the market price. It is about 70% higher than the cash equivalent sale prices of Comparable No.'s 2, 9, and 10. The sale price of this land needs further investigation to see how much it was affected by its proximity to the highway being built from the Phoenix area to Maricopa to Route 84 west of Stanfield. |

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

August 27, 1991

Ms. Phyllis Donato
Contract Administrator
ASARCO Incorporated
180 Maiden Lane
New York, NY 10038

Santa Cruz Project
Document Entry

Dear Ms. Donato:

Enclosed is a copy of a Lease Agreement between Santa Cruz JV and Joe Auza which has been entered in the Santa Cruz Document Book under Document No. 30-12.

Sincerely yours,


William D. Gay

WDG:mek
enc.

cc: R.L. Brown (w/enc.)
G.H. Myers (w/enc.)
W.L. Kurtz (w/o enc.)
J.D. Sell (w/o enc.)

105

ASARCO Incorporated

ASARCO SANTA CRUZ INC.
P. O. BOX 5747
Tucson, Arizona 85703

SEP 12 1991

SW Exploration

September 9, 1991

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 August, 1991:

Our E.A. No. 0075 - The Lands

| | | |
|--------------------------------|----|-----------------|
| General Administrative Charges | \$ | 50.00 |
| Salaries | | 843.85 |
| Overhead on Salaries | | 270.00 |
| Field Services & Supplies | | 6.81 |
| Professional Services | | 1,200.00 |
| Donations & Contributions | | <u>2,500.00</u> |

\$ 4,870.66

Our E.A. No. 0087 - Peripheral Lands

| | | |
|--------------------------------|---------------|---------------|
| General Administrative Charges | 50.00 | |
| Property Taxes | <u>661.59</u> | <u>711.59</u> |

5,582.25

| | |
|--|------------------|
| 1/2 to Freeport-McMoran | 2,791.13 |
| Balance brought forward | 32,800.48 |
| Payment received from Freeport-McMoran | -0- |
| In Situ Leach Project August charges | <u>31,158.86</u> |

Balance due \$66,750.47

cc: Controller/Attn: LAMoccia
JDSell
Freeport Mining Co.
File

ASARCO

SEP 12 1991

SW Exploration

ASARCO

T 4.5.7

Southwestern Mining Department

September 11, 1991

T.E. Scartaccini
General Manager

ASARCO

Mr. B. M. Apker
APKER, APKER, HAGGARD & KURTZ
P. O. Box 10280
Phoenix, AZ 85064 0280

SEP 11 1991

Dear Mr. Apker:

Enclosed are seven (7) 1991 tax bills for parcels erroneously transferred to Asarco Santa Cruz by Simmons in 1988. There are two (2) additional parcels for which we have not, as yet, received bills.

Bill Gay discovered these errors recently while mapping the land holdings of Santa Cruz Incorporated in Pinal County. We have paid 1989 and 1990 taxes as listed.

| Tax bills enclosed (by Parcel No.) | <u>1989</u> | <u>1990</u> |
|------------------------------------|------------------|------------------|
| 503-38-01902 | 841.58 | 1069.60 |
| 503-38-03007 | 538.08 | 696.08 |
| 503-38-031A4 | 538.08 | 696.08 |
| 503-38-031B2 | 538.08 | 696.08 |
| 503-38-03205 | 538.08 | 696.08 |
| 503-38-034A1 | 815.22 | 1050.06 |
| 503-53-00309 | 531.14 | 596.74 |
| Bills not received yet | | |
| 503-53-00408 | 927.66 | 2145.88 |
| 503-01-033D4 (split parcel 1990) | <u>----</u> | <u>192.96</u> |
| Total paid | <u>\$5267.92</u> | <u>\$7839.56</u> |

Will you please forward these bills to the responsible party and request reimbursement for the 1989-90 taxes paid.

Very truly yours,

ORIGINAL SIGNED BY
G. H. MYERS

G. H. Myers
Accounting Manager

GHM/kh
Encls.
cc: WDGay w/o encls.

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

ASARCO Incorporated
1150 North 7th Avenue

P.O. Box 5747
Phone (602) 792-3010

Tucson, Az 85703
FAX (602) 624-3369

ASARCO

Exploration Department
Southwestern United States Division

September 20, 1991

Arizona Department of Water Resources
15 South 15th Avenue
Phoenix, Arizona 85007

Santa Cruz JV
Notices of Abandonment
Project Completion Reports

Gentlemen:

On July 22, 1991, we filed Notices of Abandonment for assessment work drill holes in Sections 12 and 24, T6S, R4E. On September 18, 1991, we received a request to refile these Notices of Abandonment on new forms.

Enclosed are completed "Well Owners Notification of Abandonment" for the above wells.

Sincerely,



Henry G. Kreis

HGK:mek
Encs.

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

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

WELL OWNERS NOTIFICATION OF ABANDONMENT

A.R.S. §45-594; R12-15-816.K: The owner or operator of any well shall notify the Department, in writing, no later than thirty days after the abandonment has been completed.

1. Well Registration No.: 55- 532040 D(6-4)12acc

2. Well location: 6 ~~N~~/S 4 E/~~N~~ 12 SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$
Township Range Section 10 Acre 40 Acre 160 Acre

3. Owner of the land: Name Santa Cruz Joint Venture

c/o ASARCO Incorporated, P.O. Box 5747, Tucson, Arizona 85703

Address City State Zip

4. Method of abandonment: Filled hole from depth of 20' to bottom with
rotary cuttings and cemented the top 20' of hole.

DATE: 7/22/91
& 9/20/91

SIGNATURE OF WELL OWNER

H.G. Kreis
H.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 | 12 | SW | SW | NE | WELL REGISTRATION NO. 55-532040
Township Range Section $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ Zip
(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 1991

LOG OF WELL

- ☒ Unconsolidated Formation
- ☐ Consolidated Formation
- Depth to water in feet below land surface: _____
(if encountered or detected)

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 | 7-22-1991
Owner's Signature Date
Henry G. Kreis
For ASARCO Incorporated

DWR-55-57-12/89

| | |
|------------------------------------|----------|
| DO NOT WRITE IN THIS SPACE | |
| OFFICE RECORD | |
| Registration No <u>55-532040</u> | |
| Received _____ | By _____ |
| Entered ENTERED JUL 29 1991 | |
| File No. <u>D(6-4)12acc</u> | |

JUL 24 1991

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

WELL OWNERS NOTIFICATION OF ABANDONMENT

A.R.S. §45-594; R12-15-816.K: The owner or operator of any well shall notify the Department, in writing, no later than thirty days after the abandonment has been completed.

1. Well Registration No.: 55-532038 D(6-4)24bbb

2. Well location: 6 ~~XX~~/S 4 E/~~XX~~ 24 NW 1/4 NW 1/4 NW 1/4
Township Range Section 10 Acre 40 Acre 160 Acre

3. Owner of the land: Name Santa Cruz Joint Venture

c/o ASARCO Incorporated, P.O. Box 5747, Tucson, AZ 85703

Address City State Zip

4. Method of abandonment: Filled hole from depth of 20' to bottom with
rotary cuttings and cemented the top 20' of hole.

DATE: 7/22/91

& 9/20/91

SIGNATURE OF WELL OWNER

H.G. Kreis

H.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. 55-532038
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 1991

LOG OF WELL

- ☒ Unconsolidated Formation
- ☐ Consolidated Formation
Depth to water in feet below land surface: _____
(if encountered or detected)

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.

Henry G. Kreis | 7-22-1991
Owner's Signature Date

Henry G. Kreis
For ASARCO Incorporated

DWR-55-57-12/89

| | |
|------------------------------------|----------|
| DO NOT WRITE IN THIS SPACE | |
| OFFICE RECORD | |
| Registration No. <u>55-532038</u> | |
| Received _____ | By _____ |
| Entered <u>ENTERED JUL 24 1991</u> | |
| File No. <u>D(6-4)24885</u> | |

RECEIVED
JUL 24 1991

ASARCO Incorp.

OCT 14 1991

SW Exploration

ASARCO SANTA CRUZ INC.
P. O. BOX 5747
Tucson, Arizona 85703

October 7, 1991

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 September, 1991:

Our E.A. No. 0075 - The Lands

| | | | |
|--------------------------------|----|----------------|-----------|
| General Administrative Charges | \$ | 50.00 | |
| Salaries | | 113.39 | |
| Overhead on Salaries | | 36.00 | |
| Professional Services | | 80.18 | |
| Travel Expense | | 238.63 | |
| Legal Fees | | <u>2405.75</u> | |
| | | | \$2923.95 |

Our E.A. No. 0087 - Peripheral Lands

| | | | |
|--------------------------------|-------|--------------|----------------|
| General Administrative Charges | 50.00 | <u>50.00</u> | |
| | | | <u>2973.95</u> |

| | |
|---|--------------------|
| 1/2 to Freeport-McMoran | 1,486.97 |
| Balance brought forward | 66,750.47 |
| Payment received from Freeport-McMoran | (66,750.47) |
| In Situ Leach Project September charges | <u>12,951.05</u> |
| Balance due | <u>\$14,438.02</u> |

cc: Controller/Attn: LAMoccia
JDSell
Freeport Mining Co.
File

ASARCO

Exploration Department
Southwestern United States Division

December 3, 1991

Mr. Greg Knapp
Technical Services Center
ASARCO Incorporated
3422 South 700 West
Salt Lake City, Utah 84119

Dear Greg:

As we discussed on the phone, you will find enclosed the following information on Texaco's 1088 acre parcel of land:

- (1) land status map and topographic map
- (2) test site and Holiday Inn location map
- (3) memos of H.G. Kreis to F.T. Graybeal dated March 17, 1991; March 21, 1991; April 1, 1991 (includes L.J. Caster's letter of March 21, 1991 to H.G. Kreis and accompanying Western Technology reports for Job Number 2177J019 and Job Number 2178J235, in draft form); and May 10, 1991.
- (4) Western Technology's September 12, 1988 report, "Environmental Property Evaluation, ASARCO Inc., Casa Grande Properties, Pinal County, Arizona," Job No. 2178J232.
- (5) SCS Engineers' December 9, 1988 letter to J. Grossman and Western Technologies' September 15, 1988 report, "Environmental Property Evaluation, Cimarron Pinal Holdings Inc., Casa Grande, Pinal County, Arizona," Job No. 2178J235.

I'm looking forward to meeting you on December 11th in Casa Grande. In the meantime, please feel free to call if you have any questions.

Sincerely,



Henry G. Kreis

HGK:mek
encs.

cc: R.L. Brown (w/o encs.)
W.L. Kurtz (" ")
J.D. Sell (" ")
A.R. Raihl (" ")

ASARCO

Exploration Department
Southwestern United States Division

December 3, 1991

Mr. Greg Knapp
Technical Services Center
ASARCO Incorporated
3422 South 700 West
Salt Lake City, Utah 84119

Dear Greg:

Enclosed is a packet of groundwater and water well information to help you in your assessment of Texaco's 1088 acre parcel of land.

Sincerely,



Henry G. Kreis

HGK:mek
encs.

cc: R.L. Brown (w/o encs.)
W.L. Kurtz (" ")
J.D. Sell (" ")
A.R. Raihl (" ")

ASARCO

Exploration Department
Southwestern United States Division

December 12, 1991

Mr. J. Murphy
Reno Metallurgy Research Center
U.S. Bureau of Mines
1605 Evans Ave.
Reno, Nevada 89505

Chalcopyrite Core
for Leaching Studies

Dear Mr. Murphy:

Last week Dan Dyskingas called me and requested chalcopyrite core samples for your chalcopyrite leaching experiments. We are pleased to supply you with the accompanying eleven pound sample from our Santa Cruz South deposit.

The sample consists of 17 pieces of split NX core from drill hole CG-90, 2971' to 3052'. The sample is composed of altered Precambrian Oracle granite with chalcopyrite and very minor amounts of pyrite. The copper grade is roughly estimated at 0.7%.

I had chosen another interval to obtain a second sample, a sample with a 1:1 ratio of pyrite to chalcopyrite. Unfortunately the interval contained small amounts of chalcocite, and I thought I could find a better sample at a later date. I'll do some more work on this and will send a pyrite-chalcopyrite sample in January.

If you have any questions about the geology, please let me know.

Sincerely,



HGK:mek

Henry G. Kreis

cc: F.T. Graybeal
W.L. Kurtz
J.D. Sell
A.R. Raihl
D.E. Crowell
W.E. McCulloch

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

December 20, 1991

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, 1992.

Sincerely yours,

WDG:mek
enc.

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


William D. Gay
Land Engineer, SWED

ASARCO

Exploration Department
Southwestern United States Division

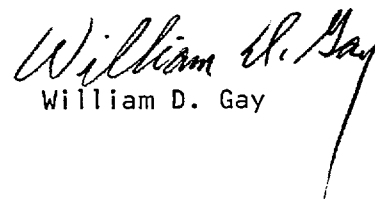
January 6, 1991

Ms. P. M. Donato
Contract Administrator
New York Office

Santa Cruz Document Book
Entry - Doc. No. 29-9

Enclosed is a copy of the Agricultural Cash Lease dated January 1, 1992, between Santa Cruz Joint Venture and D & M Farms. This has been entered in the Santa Cruz Document Book under Doc. No. 29-9.

WDG:mek
enc.


William D. Gay

cc: W.L. Kurtz (w/o enc.)
J.D. Sell (w/o enc.)
F.T. Graybeal (w/o enc.)

ASARCO

Exploration Department
Southwestern United States Division

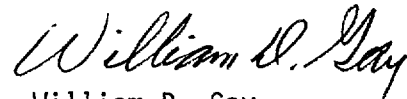
January 6, 1991

Mr. David L. Clayton
D&M Farms
24978 W. Boone Drive
Casa Grande, Arizona 85222

Dear Mr. Clayton:

Enclosed is an executed copy of the Agricultural Cash Lease effective January 1, 1992, for your records.

Sincerely yours,


William D. Gay
Land Engineer, SWED

WDG:mek
enc.

cc: B.M. Apker (w/enc.)
W.L. Kurtz (w/o enc.)
J.D. Sell (" ")

ASARCO

Exploration Department
Southwestern United States Division

January 8, 1992

Mr. David L. Clayton
D&M Farms
24978 W. Boone Drive
Casa Grande, Arizona 85222

Dear Mr. Clayton:

As you requested, enclosed is the Waiver for the crop year 1992 signed by W.L. Kurtz on January 8, 1992.

Sincerely yours,



WDG:mek
enc.

William D. Gay
Land Engineer, SWED

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

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

January 24, 1992

Ms. Phyllis Donato
Contract Administrator
ASARCO Incorporated
180 Maiden Lane
New York, NY 10038

Santa Cruz Project
Document Book Entry

Dear Ms. Donato:

Enclosed is a copy of Quit Claim Deed dated January 6, 1992 from Lawyers Title as Trustee to Santa Cruz JV. This has been entered in the Santa Cruz Document Book as Doc. 33-5.

Sincerely yours,



William D. Gay
Land Engineer, SWED

WDG:mek
enc.

cc: G.D. Van Voorhis (w/o enc.)
W.L. Kurtz (" ")
J.D. Sell (" ")

January 31, 1992

W.L. Kurtz

Unauthorized Occupation
of Lot T-40, SCJV

On January 29, 1992 George Myers received a call from Pinal County Health Dept., from Mr. Reg Glos (602) 723-9541. Mr. Glos told George that people from the Health Dept. had been notified of a sewer odor in the "T" lot area. Upon checking the complaint it was found that an individual thought to be an ex-biker, known as "Teacher Bill" was on the lot with a mobile home as well as an automotive repair shop.

I called the Health Dept., January 30, 1992, and talked to Mr. Ralph Bustamonte. He told me that they were going to make the occupant install a septic tank because he was discharging his sewage into an abandoned non-working sewer line and creating a very strong sewage odor in the area. Upon checking the ownership of the lot, they discovered the lot belonged to Santa Cruz Joint Venture. At this point they contacted Asarco to determine our connection with the occupant.


I visited the area January 31, 1992, and in particular the T-40 lot. The lot had a mobile home, a small travel trailer, shop and about 20 vehicles in various stages of deterioration. In general a very messy site.

This lot was acquired by the SCJV on December 30, 1988 from Simmons-Devcor. The Health Dept. thought it had been occupied about three (3) years.

Will discuss with Mr. Apker how we can best get the occupant off the lot, as soon as possible.

WDG:mek

cc: J.D. Sell
H.G. Kreis
G.H. Myers


William D. Gay



Southwestern Exploration Division

January 29, 1992

FILE

Santa Cruz Land Status Map
Santa Cruz Project
Pinal County, Arizona

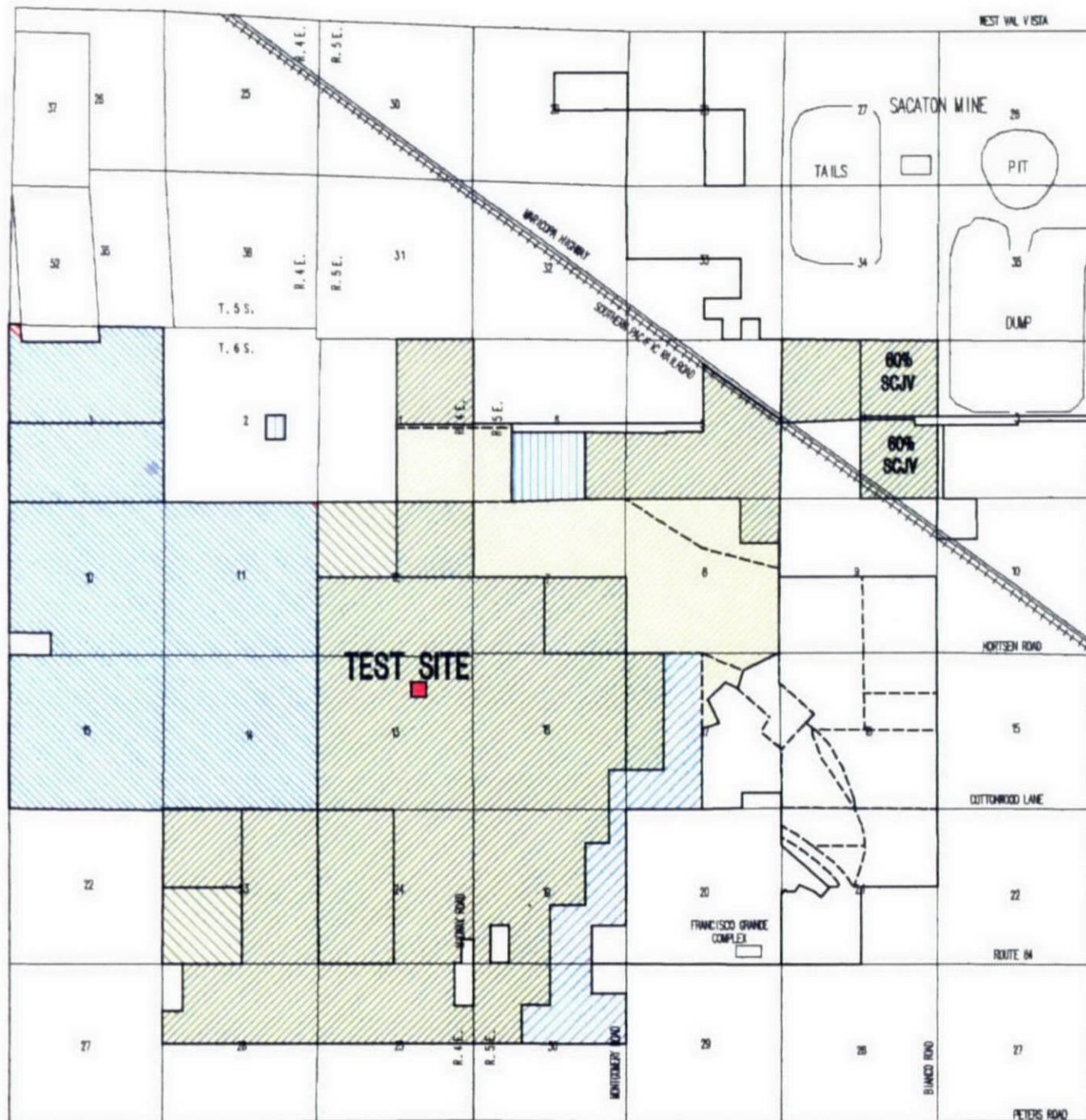
Attached are updated versions of the Santa Cruz land status map at a scale of 1" = 1 mile and 1" = 2000'.

A handwritten signature in black ink, appearing to read "H.G. Kreis".

H.G. Kreis

HGK:mek
Atts.

| | | |
|-----|------------------|-----------|
| cc: | G.D. Van Voorhis | (w/atts.) |
| | F.T. Graybeal | (" ") |
| | W.L. Kurtz | (" ") |
| | J.D. Sell | (" ") |
| | A.R. Raihl | (" ") |
| | W.D. Gay | (" ") |
| | J.L. Woods | (" ") |
| | B.M. Apker | (" ") |
| | W.E. McCulloch | (" ") |



EXPLANATION

SANTA CRUZ JOINT VENTURE

- SURFACE AND MINERAL
- MINERAL ONLY

TEXACO



SIMMONS (CIMARRON RANCH)



SIMMONS (CIMARRON FARMS)



SIMMONS-DEVCOR (HELD BY TRUSTEE)



SANTA CRUZ LAND STATUS ARIZONA

1 MILE

on SC3201111 hq/dm 01/28/82

ASARCO

Southwestern Exploration Division

January 30, 1992

File

Irrigation Pump Motor
Santa Cruz Project
Pinal County, Arizona

The large electrical motor for the pump at water well TW-1 was moved to the Sacaton Mine for safe storage. The electrical motor is the property of the Santa Cruz Joint Venture. It is a 300HP, 1800RPM, U.S. Motor with serial number ADJ124006 and "SCJV" painted on the housing.

According to a local farmer, the pump was dropped down the well years before the SCJV bought the well and the surrounding property from Hanna-Texaco.

HGK:mek


H.G. Kreis

cc: F.T. Graybeal
W.L. Kurtz
J.D. Sell
W.D. Gay
A.R. Raihl
G.H. Myers
W.E. McCulloch

cc: F.T.G., J.W., ARR, WLK, JDS, WDG,
\$ Walt McC.

CE/Kreis

LAW OFFICES

FENNEMORE CRAIG

A PROFESSIONAL CORPORATION

SUITE 290
6263 NORTH SCOTTSDALE ROAD
SCOTTSDALE, ARIZONA 85250-5402
(602) 257-5400
FACSIMILE: 602-945-4932

SUITE 2200
TWO NORTH CENTRAL AVENUE
PHOENIX, ARIZONA 85004-2380
(602) 257-8700
TWX: 910-950-4608
FACSIMILE: 602-257-8527

SUITE 1030
ONE SOUTH CHURCH AVENUE
TUCSON, ARIZONA 85701-1620
(602) 624-9312
FACSIMILE: 602-882-7383

MAY - 8 1992
[Signature]

LAUREN J. CASTER
(602) 257-5367
PHOENIX

May 7, 1992

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

Re: Notice of Valuation of Property for CP Water Company

Dear Burt:

Enclosed for your information is a copy of the Department of Revenue's Notice of Valuation of Property for CP Water Company.

Very truly yours,

FENNEMORE CRAIG

[Signature: Lauren J. Caster]
Lauren J. Caster

LJC/jld
Enclosure

cc: William T. Boutell, Jr., Esq. (with enclosure)

ASARCO Inc.

MAY 11 1992

SW EXHIBIT

NOTICE OF VALUATION OF PROPERTY VALUED BY THE ARIZONA DEPARTMENT OF REVENUE
FOR PROPERTY TAX PURPOSES

ARIZONA DEPARTMENT OF REVENUE
Division of Property Valuation & Equalization
Centrally Valued Properties Unit
1600 W. Monroe, 8th Floor
Phoenix, Arizona 85007

Date MAY 4, 1992

55-069

C P WATER COMPANY
C/O JAMES H JOHNSON
2 N CENTRAL AVENUE
SUITE #2200
PHOENIX AZ 85004

Pursuant to Section 42-145
Arizona Revised Statutes, the
FULL CASH VALUE of your
property located in Arizona is:

\$ 3,200

APPEALS: If the property owner protests the full cash value reflected herein, the Department may, upon written application of the property owner, hold an informal conference with the property owner for purposes of discussing the valuation. Applications for informal conferences must be made on or before May 20.

At the informal conference, the property owner must provide documented justification for his opinion of value in order for it to be considered.

The Department shall review such protest and notify the taxpayer of its decision by the first Monday in June.



Southwestern Exploration Division

VIA FAX

June 15, 1992

F.T. Graybeal
New York Office

RTC/Simmons Auction
Santa Cruz Project

The RTC auction of the Simmons-Devcor 528 acre parcel scheduled for June 26th has been postponed. The RTC lawyer was unable to give Mr. Apker a reason for the postponement.

The auction has been rescheduled to July 31st.

HGK:mek

A handwritten signature in dark ink, appearing to read "H.G. Kreis", is written above the printed name.

H.G. Kreis

cc: G.H. Myers
W.L. Kurtz
J.D. Sell
W.D. Gay
A.R. Raihl
W.E. McCulloch (FAX)

Freeport Mining Company
1615 Poydras Street
New Orleans, LA 70112
P.O. Box 61520
New Orleans, LA 70161

Walter E. McCulloch, Jr.
Senior Metallurgical Engineer
Telephone: 504-582-4901
FAX: 504-585-3297

June 10, 1992

Mr. H. G. Kreis
Southwestern Exploration Department
ASARCO Incorporated
P. O. Box 5747
Tucson, Arizona 85703-0747

Dear Hank:

Freeport Copper Company agrees that the Santa Cruz Joint Venture can acquire at RTC auction the 528 acre tract of land formerly owned by Jerry Simmons which is located along Montgomery Road near Casa Grande, Arizona, and which is adjoining current SCJV land holding without any further SCJV environmental work prior to the auction.

Sincerely,

Walter E. McCulloch, Jr.
Walter E. McCulloch, Jr.

WEM/kkl

CC: F.T.G.
ARR
WLK
JDS

ASARCO Inc.

JUN 15 1992

SW Exploration

ASARCO

Exploration Department
Southwestern United States Division

June 4, 1992

Arizona Department of Water Resources
15 South 15th Avenue
Phoenix, Arizona 85007

Santa Cruz JV
Notices of Intention to
Drill Exploration Wells

Gentlemen:

Enclosed are three (3) "Notice of Intention to Drill Exploration Well" forms for three wells. Asarco's check of \$30.00 for the filing fees is also enclosed.

Sincerely yours,



Henry G. Kreis
Field Manager

HGK:mek
Encs. (3 in duplicate)
(check)

cc: J.D. Sell
W.L. Kurtz
W.D. Gay
C.L. Snow

EXPLORATION WELL(s)

ARIZONA DEPARTMENT OF WATER RESOURCES

15 SOUTH 15TH AVENUE
PHOENIX, ARIZONA 85007

EXPLORATION WELL(s)

FILING FEE \$10.00

FILING FEE \$10.00

NOTICE OF INTENTION TO DRILL EXPLORATION WELL(s)

Section §45-596, Arizona Revised Statutes, and Rule 12-15-817 provide: Prior to drilling one or more exploration wells, the well owner, or exploration firm shall file a Notice of Intention to Drill on a form provided by the Department.

WELL/LAND LOCATION

| | | |
|-------------|-------|---------|
| 6 W/S | 4 E/W | 23 |
| 1. Township | Range | Section |

In the case of a single well,
list 10-acre subdivision.

| | | |
|------------------|------------------|------------------|
| NE $\frac{1}{4}$ | NE $\frac{1}{4}$ | NW $\frac{1}{4}$ |
| 10 ACRE | 40 ACRE | 160 ACRE |

2. County Pinal

ASARCO Incorporated

3. Applicant Name
P.O. Box 5747Address
Tucson AZ 85703
City State Zip4. H.G. Kreis
Name of Contact Person
Phone 792-30105. Owner of Well
Santa Cruz JVName
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

6. Purpose of well(s) drilled pursuant to this Notice:

Mineral Exploration X
Geotechnical _____
Cathodic Protection _____
Grounding _____7. Number of wells 1
(See Condition 4 on reverse side)8. Owner of Land:
Santa Cruz JV
Name
P.O. Box 5747
Address
Tucson AZ 85703
City State ZipDO NOT WRITE IN THIS SPACE
OFFICE RECORDFile No. _____
Filed _____ By _____
Input _____ By _____DUPLICATE
Mailed _____ By _____
Registration 55- _____
AMA/INA _____
W/S _____ S/B _____9. DESCRIPTION OF THE WELL
Diameter 5 inches
Depth ** 900 feet
Type of casing. If none,
state: 20' steel

**Deepen hole approx.

100'.10. Construction will start
After June 8 1992
Month Day Year
& be completed before 8/31/9211. Drilling Firm:
Cissell Drilling
NameP.O. Box 1048
Address
Casa Grande, AZ 85222
City State Zip317
DWR License Number
A04 & C-53
ROC License Category12. Period well will remain in
use: None months13. Proposed method of abandonment of well(s) after project is completed: Weld cap on steel casing
leaving hole open for reentry next year.14. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill,
hazardous waste facility or storage area of hazardous materials or a petroleum storage area and tanks?
Yes _____ No X

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH \$10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.

I state that Notice is filed in compliance with Rule R12-15-809 and is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on the reverse side of this form.

June 4, 1992

Date

DWR 55-43-7/90 (Rev.)

Signature of Applicant/Owner

CONDITIONS

1. Construction and abandonment standards for all wells shall be in accordance with A.A.C. Rules R12-15-811 and R12-15-816.
2. Drilling of the well(s) shall be completed within one (1) year after the date of Notice.
3. Mineral exploration, geotechnical, cathodic protection or grounding holes of 100 feet of depth or less do not apply to these provisions and do not require filing. However, if water is encountered during the drilling of these well(s), then the well(s) must be properly abandoned in accordance with Condition 1 above.
4. More than one well may be drilled under a single notice for mineral exploration, geotechnical, cathodic protection and grounding purposes, so long as they are located within a single section.
5. A Project Completion Report must be filed for each mineral exploration hole within thirty (30) days of completion of drilling. A Well Driller Report for each hole drilled, must be filed by the well driller within thirty (30) days of completion of drilling for geotechnical, cathodic protection and grounding wells.
6. Pump equipment may not be installed on wells drilled for mineral exploration, geotechnical, cathodic protection or grounding purposes.
7. Special construction standards required pursuant to R12-15-821: _____

EXPLORATION WELL(s)

ARIZONA DEPARTMENT OF WATER RESOURCES

15 SOUTH 15TH AVENUE

PHOENIX, ARIZONA 85007

EXPLORATION WELL(s)

FILING FEE \$10.00

FILING FEE \$10.00

NOTICE OF INTENTION TO DRILL EXPLORATION WELL(s)

Section §45-596, Arizona Revised Statutes, and Rule 12-15-817 provide: Prior to drilling one or more exploration wells, the well owner, or exploration firm shall file a Notice of Intention to Drill on a form provided by the Department.

WELL/LAND LOCATION

6 N/S | 4 E/W | 12
1. Township | Range | Section

In the case of a single well,
list 10-acre subdivision.

SW $\frac{1}{4}$ | SW $\frac{1}{4}$ | NE $\frac{1}{4}$
10 ACRE | 40 ACRE | 160 ACRE

2. County Pinal

3. ASARCO Incorporated
Applicant Name
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

4. Henry G. Kreis
Name of Contact Person
Phone 792-3010

5. Owner of Well
Santa Cruz JV
Name
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

6. Purpose of well(s) drilled pursuant to this Notice:

Mineral Exploration X
Geotechnical _____
Cathodic Protection _____
Grounding _____

7. Number of wells 1
(See Condition 4 on reverse side)

8. Owner of Land:
Santa Cruz JV
Name
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

9. DESCRIPTION OF THE WELL
Diameter 5 inches
Depth 190 feet
Type of casing. If none,
state: None

10. Construction will start
After June 8 1992
Month Day Year
& be completed before 8/31/92

11. Drilling Firm:
Cissell Drilling
Name

P.O. Box 1048
Address
Casa Grande, AZ 85222
City State Zip
317
DWR License Number
A04 & C-53
ROC License Category

12. Period well will remain in use: None months

13. Proposed method of abandonment of well(s) after project is completed: Back fill with rotary cuttings immediately after drilling, and cement top 20' of hole.

14. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials or a petroleum storage area and tanks?
Yes _____ No X

GENERAL INSTRUCTIONS

- Fill out this form in DUPLICATE and send WITH \$10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
- For specific instructions, limitations and conditions, see the reverse side of this form.

I state that Notice is filed in compliance with Rule R12-15-809 and is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on the reverse side of this form.

June 4, 1992
Date
DWR 55-43-7/90 (Rev.)

Henry G. Kreis
Signature of Applicant/Owner

CONDITIONS.

1. Construction and abandonment standards for all wells shall be in accordance with A.A.C. Rules R12-15-811 and R12-15-816.
2. Drilling of the well(s) shall be completed within one (1) year after the date of Notice.
3. Mineral exploration, geotechnical, cathodic protection or grounding holes of 100 feet of depth or less do not apply to these provisions and do not require filing. However, if water is encountered during the drilling of these well(s), then the well(s) must be properly abandoned in accordance with Condition 1 above.
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5. A Project Completion Report must be filed for each mineral exploration hole within thirty (30) days of completion of drilling. A Well Driller Report for each hole drilled, must be filed by the well driller within thirty (30) days of completion of drilling for geotechnical, cathodic protection and grounding wells.
6. Pump equipment may not be installed on wells drilled for mineral exploration, geotechnical, cathodic protection or grounding purposes.
7. Special construction standards required pursuant to R12-15-821: _____

EXPLORATION WELL(s)

ARIZONA DEPARTMENT OF WATER RESOURCES

EXPLORATION WELL(s)

15 SOUTH 15TH AVENUE

FILING FEE \$10.00

FILING FEE \$10.00

PHOENIX, ARIZONA 85007

NOTICE OF INTENTION TO DRILL EXPLORATION WELL(s)

Section §45-596, Arizona Revised Statutes, and Rule 12-15-817 provide: Prior to drilling one or more exploration wells, the well owner, or exploration firm shall file a Notice of Intention to Drill on a form provided by the Department.

WELL/LAND LOCATION

6 W/S | 4 E/W | 24
1. Township | Range | Section

In the case of a single well,
list 10-acre subdivision.

NW $\frac{1}{4}$ | NW $\frac{1}{4}$ | NW $\frac{1}{4}$
10 ACRE | 40 ACRE | 160 ACRE

2. County Pinal

3. Applicant Name ASARCO Incorporated
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

4. Henry G. Kreis
Name of Contact Person
Phone 792-3010

5. Owner of Well
Santa Cruz JV
Name
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

6. Purpose of well(s) drilled pursuant to this Notice:

Mineral Exploration X
Geotechnical _____
Cathodic Protection _____
Grounding _____

7. Number of wells 1
(See Condition 4 on reverse side)

8. Owner of Land:
Santa Cruz JV
Name
P.O. Box 5747
Address
Tucson AZ 85703
City State Zip

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

File No. _____
Filed _____ By _____
Input _____ By _____

DUPLICATE
Mailed _____ By _____
Registration 55- _____
AMA/INA _____
W/S _____ S/B _____

9. DESCRIPTION OF THE WELL
Diameter 5 inches
Depth 190 feet
Type of casing. If none,
state: None

10. Construction will start
After June 8 1992
Month Day Year
& be completed before 8/31/92

11. Drilling Firm:
Cissell Drilling
Name

P.O. Box 1048
Address
Casa Grande, AZ 85222
City State Zip
317
DWR License Number
A04 & C-53
ROC License Category

12. Period well will remain in use: None months

13. Proposed method of abandonment of well(s) after project is completed: Back fill with rotary cuttings immediately after drilling, and cement top 20' of hole.

14. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility or storage area of hazardous materials or a petroleum storage area and tanks?
Yes _____ No X

GENERAL INSTRUCTIONS

- Fill out this form in DUPLICATE and send WITH \$10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
- For specific instructions, limitations and conditions, see the reverse side of this form.

I state that Notice is filed in compliance with Rule R12-15-809 and is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on the reverse side of this form.

June 4, 1992

Date

DWR 55-43-7/90 (Rev.)

Henry G. Kreis
Signature of Applicant/Owner

CONDITIONS

1. Construction and abandonment standards for all wells shall be in accordance with A.A.C. Rules R12-15-811 and R12-15-816.
 2. Drilling of the well(s) shall be completed within one (1) year after the date of Notice.
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 6. Pump equipment may not be installed on wells drilled for mineral exploration, geotechnical, cathodic protection or grounding purposes.
 7. Special construction standards required pursuant to R12-15-821: _____
-
-



Southwestern Exploration Division

January 4, 1993

VIA FAX

F.T. Graybeal
New York Office

Simmons/RTC
Foreclosure Sale
Santa Cruz Project

The RTC foreclosure sale on the Simmons parcel scheduled for January 8th has been postponed and is now scheduled for March 5, 1993.

HGK:mek

A handwritten signature in black ink, appearing to read "H.G. Kreis", is written above the printed name.

H.G. Kreis

cc: W.L. Kurtz
J.D. Sell
A.R. Raihl
G.H. Myers
W.E. McCulloch (FAX)

ASARCO SANTA CRUZ, INCORPORATED
P.O. Box 5747
Tucson, Arizona 85703

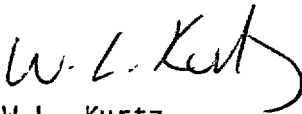
January 5, 1993

Mr. C.L. Snow
Accounting Supervisor
ASARCO Incorporated
Tucson, AZ

Santa Cruz Joint Venture

This letter is to serve as authorization for Henry G. Kreis to
endorse checks, approve cash requests and purchases in my
absence.

WLK:mek


W.L. Kurtz
President

cc: G.H. Myers
H.G. Kreis
J.D. Sell ✓

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

December 18, 1992


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, 1993.

Sincerely yours,


William D. Gay
Land Engineer, SWED

WDG:mek
enc.

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

ASARCO

Exploration Department
Southwestern United States Division

December 22, 1992

Mr. Mikel R. Whites, Manager
DC Properties, Inc.
P.O. Box 11206
Casa Grande, AZ 85230-1206

Santa Cruz JV

Dear Mike:

Here is the copy of "Special Warranty Deed and Grant of Easements and Covenant Running with the Land and Grantor's Right of Reverter" that we talked about on the phone today. It was prepared by Mr. Burton M. Apker of Apker, Apker, Haggard & Kurtz, P.C. of Phoenix.

I'll be on vacation the week of December 28th and will talk to you shortly thereafter.

Sincerely,



Henry G. Kreis

HGK:mek
enc.

bl.cc: F.T. Graybeal (w/o enc.)
W.L. Kurtz (w/o enc.)
J.D. Sell (w/o enc.)
W.D. Gay (w/o enc.)
A.R. Raihl (w/o enc.)

ASARCO

Exploration Department
Southwestern United States Division

November 9, 1992

Dr. Allan M. Johnson, Director
Mineral Biotechnology Group
Department of Mining Engineering
Michigan Technological University
Houghton, Michigan 49931

Dear Allan:

It was good to see you at the Engineering Foundation conference, and I look forward to your participation at the 1995 Engineering Foundation conference.

Here is the videotape on the Santa Cruz In Situ Copper Mining Research Project that I promised to send to you. I am interested in hearing any comments your students might have about the videotape.

I'll see you at the SME annual meeting in February.

Sincerely,



Henry G. Kreis
Site Manager

HGK:mek
Enc.

bl.cc: A.R. Raihl
F.T. Graybeal
W.L. Kurtz
J.D. Sell

ASARCO

Exploration Department
Southwestern United States Division

November 9, 1992

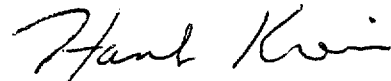
Mr. Bradley Paul, Assistant Professor
Department of Mining Engineering
Southern Illinois University at Carbondale
Carbondale, Illinois 62901-6603

Dear Mr. Paul:

I enjoyed your talk at the Engineering Foundation conference, and I look forward to seeing you at the 1995 Engineering Foundation conference.

Here is the videotape on the Santa Cruz In Situ Copper Mining Research Project that I promised to send to you. As you know, it is an integral part of our community education program.

Sincerely,



Henry G. Kreis
Site Manager

HGK:mek
Enc.

bl.cc: A.R. Raihl
F.T. Graybeal
W.L. Kurtz
J.D. Sell



Southwestern Exploration Division

November 10, 1992

VIA FAX

F.T. Graybeal
New York Office

Simmons/RTC
Foreclosure Sale
Santa Cruz Project

The RTC foreclosure sale on the Simmons parcel scheduled for November 13th has been postponed and will be scheduled at a later date.

A handwritten signature in black ink, appearing to read "H.G. Kreis", is written in a cursive style.

H.G. Kreis

HGK:mek

cc: W.L. Kurtz
J.D. Sell
A.R. Raihl
G.H. Myers
W.E. McCulloch (FAX)

ASARCO

Exploration Department
Southwestern United States Division

November 23, 1992

Mr. David L. Clayton
D&M Farms
24978 W. Boone Drive
Casa Grande, Arizona 85222

Dear Mr. Clayton:

Enclosed is an executed copy of the Agricultural Cash Lease effective January 1, 1993, for your records.

Sincerely yours,

William D. Gay /mek

WDG:mek
enc.

William D. Gay
Land Engineer, SWED

cc: B.M. Apker (w/enc.)
W.L. Kurtz (w/o enc.)
J.D. Sell (w/o enc.)
C.L. Snow (w/enc.)



Southwestern Exploration Division

November 24, 1992

VIA FAX

F.T. Graybeal
New York Office

Simmons/RTC
Foreclosure Sale
Santa Cruz Project

The RTC foreclosure sale on the Simmons parcel is set for January 8, 1993 at 1:30 PM.

HGK:mek

A handwritten signature in cursive script, appearing to read "H. G. Kreis".

H. G. Kreis

cc: W.L. Kurtz
J.D. Sell
A.R. Raihl
G.H. Myers
W.E. McCulloch (FAX)



Southwestern Exploration Division

November 24, 1992

Ms. P.M. Donato
Contract Administrator
New York Office

Santa Cruz Document Book
Entry - Doc. No. 29-9

Enclosed is a copy of the Agricultural Cash Lease dated January 1, 1993, between Santa Cruz Joint Venture and D & M Farms. This has been entered in the Santa Cruz Document Book under Doc. No. 29-9.

A handwritten signature in cursive script that reads "William D. Gay" followed by a stylized flourish or initials.

William D. Gay

WDG:mek
enc.

cc: W.L. Kurtz (w/o enc.)
J.D. Sell (w/o enc.)
F.T. Graybeal (w/o enc.)



Southwestern Exploration Division

VIA FAX

November 26, 1991

R.L. Brown
New York Office

H-T Royalty
Santa Cruz South
Santa Cruz Project
Pinal County, Arizona

As you requested, here is the royalty Hanna-Texaco reserved on the Santa Cruz South Deposit (formerly Casa Grande West Deposit). As described in detail in Exhibit "C" of the attached Casa Grande Copper Co.-Simmons Devcor, Inc. special warranty deed, the royalty is summarized as follows:

- 10% net smelter returns
- cap of \$7,000,000, adjusted over time by CPI
- termination on the date of whichever of the following occurs first:
 - a) full payment of royalty cap, or
 - b) 50 years after production stops, or
 - c) if no production, then on December 31, 2050.
- royalty applies to about 480 acres which covers the Santa Cruz South Deposit (Exhibit "A").

As you may recall, there are underlying royalties to the previous owner (Collins) and to Lowell-Still-Arnold, all of which total about 2.2% of NSR or Fair Market Value, depending on whose royalty.

H.G. Kreis

HGK:mek
atts.

cc: W.L. Kurtz (w/o atts.)
J.D. Sell (" ")
A.R. Raihl (" ")

ASARCO

Exploration Department
Southwestern United States Division

CERTIFIED MAIL
RETURN RECEIPT

August 28, 1992

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 NIK #50 thru #54 CHAVO #42 thru #49 Chavo #55 | 2 | \$14.00 |

Also enclosed is a return, stamped envelope.

Very truly yours,

WDG:mek
encs.


William D. Gay
Land Manager, SWED

cc: J.D. Sell
H.G. Kreis
C.L. Snow

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 August 17, 1992 and August 20, 1992, 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, 1992.

ASARCO Incorporated

By William D. Gay
Agent

STATE OF ARIZONA)
) ss
County of Pima)

On the 26 day of August, 1992, 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.

Mildred C. Koeppen

Notary Public
My Commission Expires:

My Commission Expires Nov. 28, 1992

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIPT AND ACCOUNTING ADVICE

NO. 1925641

CP/AZ

09/17/92

Subject: AFFIDAVITS OF ASSESSMENT WORK (SS)

2 7 12

270.00

Applicant:

ASARCO INC.
SANTA CRUZ JOINT VENTURE
BOX 5747
TUCSON, AZ 85703

SAME - CK #01410

Remitter:

Assignor:

SERIAL NO.

AMC 47329, ET AL

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: G.D. Van Voorhis
P. Donato - Contract Files NY
J.D. Sell
W.D. Gay
Doc. Book
C.L. Snow
H.C. KREIS

ASARCO INC.,

SEP 21 1992

SW Exploration

ACK. CP

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) 640-5550

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 16, 1992

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:

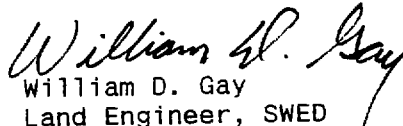
In accordance with the Federal Land Policy and Management Act (43 CFR, Part 3833.1), enclosed is an exact reproduction of the affidavit of assessment work, with mining claims serial numbers, as recorded in the Pinal County Recorder's office in Book 1850, Page 412 & 413, for the assessment year ending September 1, 1992.

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: G.D. Van Voorhis (w/enc.)
P. Donato, Contract Files NY (w/enc.)
J.D. Sell (w/enc.)
C.L. Snow (w/o enc.)
H.G. Kreis (w/enc.)

② 5/4/5

1850-412

ASARCO Inc

Box 5747

Tucson, AZ 85703



OFFICIAL RECORDS OF
PINAL COUNTY RECORDER
KATHLEEN C. FELIX

DATE: 31AUG92 TIME: 1200
FEE: \$5.00 \$4.00 \$5.00
PAGES: 002
DOCKET: 1850 PAGE: 412
INSTRUMENT # 054104

AFFIDAVIT OF LABOR PERFORMED
AND IMPROVEMENTS MADE

STATE OF ARIZONA)
) ss
County of Pima)

9:00 P.M.
PHOENIX, ARIZONA

SEP 17 '92

RECEIVED
B.L.M. AZ STATE OFFICE

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 August 17, 1992 and August 20, 1992, 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, 1992.

By William R. May
Agent

[illegible]

On the 26 day of August, 1992, personally appeared before me William B. Gay, Land Engineer, SWED, ASARCO Incorporated, the signer of the above instrument who duly acknowledged to me that he executed the

Notary Public
My Commission Expires:

My Commission Expires Nov. 28, 1992

Mildred C. Koeppe

9:00 A.M.
PHOENIX, ARIZONA

SEP 17 1962

RECEIVED
B.L.M. AZ STATE OFFICE

August 25, 1992

FILE NOTE

1991-1992 Assessment Year
Santa Cruz Project
Pinal County, Arizona

For the record, between August 17 and August 20, 1992 the following work and improvements were done and performed as follows:

1. Drilling

Cissell Drilling Co. \$5,746.50
P.O. Box 1048
Casa Grande, AZ 85222

Drilled 2 holes (370 ft. total)
and deepened 1 hole (100 ft.)

2. Supervision

H.G. Kreis (estimated) 300.00

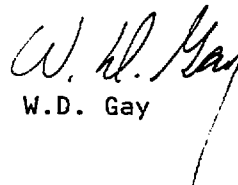
Total Drilling & Supervision \$6,046.50

Total Claims

| | |
|--------------|-----------|
| NIK Claims | 46 |
| Chavo Claims | <u>9</u> |
| <u>Total</u> | <u>55</u> |

WDG:mek

cc: W.L. Kurtz
J.D. Sell
H.G. Kreis


W.D. Gay