

Form 3860-10  
(February 1987)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FIELD NOTES

Mineral Survey Number  
4817

State  
Arizona

Land District  
Arizona

Of the Survey of the Mining Claim of *(name and address of claimant)*

ASARCO Incorporated  
P. O. Box 5747  
Tucson, AZ 85703-0747

Known as the *(name of group, if any)*

Helvetia Group

NAME OF CLAIM(S)

NAME OF LOCATION	DATE			BLM MINING CLAIM SERIAL NUMBER
	LOCATED AND AMENDED	RECORDED WITH COUNTY	RECORDED WITH BLM	
FALLS NO. 3 lode	5-27-63	6-6-63	3-15-79	A MC 36065
FALLS NO. 4 lode	5-27-63	6-6-63	3-15-79	36066

LOCATION OF CLAIM(S)

Mining district Helvetia			County Pima	
Section 25	Township 18 South	Range 15 East	Meridian Gila & Salt River	Survey under order dated 12-19-80, 1-23-89
Survey commenced 12-20-80		Survey completed 9-1-81	Name of Mineral Surveyor Harvey W. Smith	

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This survey was made with a Swiss Kern Theodolite, Model DKM 1, No. 77769, having horizontal and vertical circles, 50 mm. in diam. The circles are graduated in degrees and 20-minute increments. An optical micrometer, adjustable to the vertical and horizontal circles, permits the reading of angles direct to ten-second accuracy and estimating to one-second accuracy. The instrument was in good condition at the time of the survey and all adjustments were in good order.

All azimuths in this record were determined by the method of horizontal-angles-right referred to the meridian determined by the following observation:

September 1, 1981, at Cor. No. 3 of the FALLS NO. 4 lode, in latitude  $31^{\circ}50'22.3''N.$ , and longitude  $110^{\circ}45'50.1''W.$ , elevation 5,800 ft. above sea level and temperature  $74^{\circ}F.$ , make a series of six altitude observations on the sun for azimuth at approximately equal time intervals, three each with the telescope in direct and reversed positions, observing opposite limbs of the sun, and reading the horizontal angle right from a reference point about 3,000 ft. northwesterly S.E. to the sun.

Mean time of observation,  
105th meridian standard  
time =  $8^h 20^m 59^s$  a.m.

Declination of sun at mean  
time of observation =  $8^{\circ}09'27.8''N.$

Mean observed vertical  
angle to sun's center =  $34^{\circ}04'58''$

Mean horizontal angle from  
reference point clockwise  
to sun's center =  $142^{\circ}00'22''$

True bearing to reference  
point =  $N. 39^{\circ}23'54''W.$

The lines were measured with a Lufkin steel tape, 300 ft. in length, graduated every foot for 299 ft. and the remaining foot graduated to tenths and hundredths: the tape was compared to an Invar standard tape at the beginning of the survey and found to be correct. In addition to the steel tape,

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a K & E Autoranger infrared distance measuring unit was used to measure some of the lines. Its accuracy was checked against a line measured with the foregoing steel tape and found to be correct.

All lines and connections of this survey were run by direct methods.

The magnetic declination observed at each corner of the survey gave a uniform value of  $13^{\circ}30'E$ .

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## FALLS NO. 3 LODE

Beginning at Cor. No. 1 of the FALLS NO. 3 lode, identical with Cor. No. 1, M.S. No. 4716 Falls No. 2 lode.

Found an iron post,  $3/4$  in. diam., 18 ins. above ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.2 1 U.S.M.S. 4716, to which I add marks F.3 1 U.S.M.S. 4817; from which

The cor. of secs. 19, 24, 25 and 30, T.18 S., Rs.15 & 16 E., G.& S.R.M., bears  $N.37^{\circ}01'01"E.$ , 2,750.09 ft. dist., monumented with a stone, 6 x 10 ins. in size, firmly set, mkd. with 2 notches on the south face and 4 notches on the north face and an iron post, 2 ins. diam. with a lead cap mkd. Sec 19 Sec 30 EC 24 stands adjacent to the stone.

Cor. No. 3, M.S. No.1297A Falls lode, identical with Cor. No. 3 of the Ajax Consolidated lode of the same survey, bears  $N.7^{\circ}05'50"W.$ , 7.69 ft. dist.

Cor. No. 4, M.S. No. 3954 Rainbow lode, bears  $S.84^{\circ}50'27"W.$ , 50.15 ft. dist.

A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.

No local bearing objects or bearing trees available.

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	Thence N.47°49'19"W.	
3.73	Intersect line 2-3, M.S. No. 1297A Falls lode, at a point from which Cor. No. 3, identical with Cor. No. 3 of the Ajax Consolidated lode of the same survey, bears N.19°30'38"E., 5.44 ft. dist.	
4.80	Intersect line 3-4, M.S. No. 3954 Rainbow lode, at a point from which Cor. No. 4 bears S.80°32'W., 47.03 ft. dist.	
82.65	Intersect line 4-1, M.S. No. 3954 Rainbow lode, at a point from which Cor. No. 1, identical with Cor. No. 4 of the Eldon lode of the same survey, bears N.10°40'W., 997.76 ft. dist.	
300.88	Lode line; discovery point bears N.0°32'46"E., 15.00 ft. dist.	
479.27	Intersect line 1-2 FALLS NO. 4 lode of this survey.	
600.88	Cor. No. 2, identical with Cor. No. 4, M.S. No. 4716 Falls No. 2 lode.  Found an iron post, 3/4 in. diam., 18 ins. above ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.2 4 U.S.M.S. 4716, to which I add marks F.3 2 U.S.M.S. 4817; from which  A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.  No local bearing objects or bearing trees available.  Thence N.0°32'46"E.	
284.32	Intersect line 4-1 FALLS NO. 4 lode of this survey.	
1,490.13	Cor. No. 3.  Set an iron post, 30 ins. long, 3/4 in. diam., 12 ins. in the ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.3 3 U.S.M.S. 4817; from which  A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.	

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FEET		
	<p>No local bearing objects or bearing trees available.</p> <p>Thence S.47°49'19"E.</p>	
36.85	<p>Intersect line 4-1, M.S. No. 3954 Eldon lode, at a point from which Cor. No. 4, identical with Cor. No. 1 of the Rainbow lode of the same survey, bears S.10°44'E., 847.60 ft. dist.</p>	
300.00	<p>Lode line; discovery point bears S.0°32'46"W., 1,475.13 ft. dist.</p>	
600.88	<p>Cor. No. 4.</p> <p>Set an iron post, 30 ins. long, 3/4 in. diam., 12 ins. in the ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.3 4 U.S.M.S. 4817; from which</p> <p>Cor. No. 4, M.S. No. 3954 Eldon lode, identical with Cor. No. 1, Rainbow lode of the same survey, bears S.29°48'33"W., 523.28 ft. dist.</p> <p>A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.</p>	
	<p>No local bearing objects or bearing trees available.</p> <p>Thence S.0°32'46"W.</p>	
421.41	<p>Intersect line 3-4, M.S. No. 3954 Eldon lode, common with line 1-2 Rainbow lode of the same survey, at a point from which Cor. No. 4, identical with Cor. No. 1 of the Rainbow lode, bears S.82°44'W., 258.19 ft. dist.</p>	
1,479.31	<p>Intersect line 3-4, M.S. No. 1297A Ajax Consolidated lode, at a point from which Cor. No. 3, identical with Cor. No. 3 of the Falls lode of the same survey, bears S.18°17'04"W., 3.36 ft. dist.</p>	
1,482.88	<p>Intersect line 2-3, M.S. No. 1297A Ajax Consolidated lode, common with line 3-4 Falls lode of the same survey, at a point from which Cor. No. 3, identical with Cor. No. 3 of the Falls lode, bears N.69°35'W., 1.09 ft. dist.</p>	

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FEET	
1,486.30	Intersect line 3-4, M.S. No. 3954 Rainbow lode, at a point from which Cor. No. 4 bears S.80°32'W., 50.68 ft. dist.
1,490.13	Cor. No. 1, and place of beginning.
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FALLS NO. 4 LODGE	
At Cor. No. 1 of the FALLS NO. 4 lode.	
Set an iron post, 30 ins. long, 3/4 in. diam., 12 ins. in the ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.4 1 U.S.M.S. 4817; from which	
The cor. of secs. 19, 24, 25 and 30, bears N.53°08'23"E., 2,517.82 ft. dist., hereinbefore described.	
Cor. No. 4, M.S. No. 4716 Falls No. 2 lode, identical with Cor. No. 2, FALLS NO. 3 lode of this survey, bears S.17°03'W., 295.02 ft. dist.	
A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.	
No local bearing objects or bearing trees available.	
Thence S.0°34'11"E.	
363.72	Intersect line 1-2 FALLS NO. 3 lode of this survey, common with line 4-1, M.S. No. 4716 Falls No. 2 lode, at a point from which Cor. No. 2, identical with Cor. No. 4 of the Falls No. 2 lode, bears N.47°49'19"W., 121.61 ft. dist.
1,251.10	Cor. No. 2.  Set an iron post, 30 ins. long, 3/4 in. diam., 12 ins. in the ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.4 2 U.S.M.S. 4817; from which  A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.  No local bearing objects or bearing trees available.

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	Thence N.88°27'38"W.	
218.47	Intersect line 3-4, M.S. No. 1297A Old Pap Copper lode, at a point from which Cor. No. 3 bears N.15°11'W., 934.99 ft. dist.	
279.68	Intersect line 3-4, M.S. No. 4716 Falls No. 2 lode, at a point from which Cor. No. 4, identical with Cor. No. 2 of the FALLS NO. 3 lode of this survey, bears N.10°38'26"E., 978.30 ft. dist.	
300.00	Lode line; discovery point bears N.0°34'11"W., 460.00 ft. dist.	
600.00	<p>Cor. No. 3.</p> <p>Set an iron post, 30 ins. long, 3/4 in. diam., 12 ins. in the ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.4 3 U.S.M.S. 4817; from which</p> <p style="padding-left: 40px;">Cor. No. 3, M.S. No. 1297A Old Pap Copper lode, bears N.8°42'E., 902.49 ft. dist.</p> <p style="padding-left: 40px;">A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.</p> <p>No local bearing objects or bearing trees available.</p> <p style="text-align: center;">Thence N.0°34'11"W.</p>	
734.10	Intersect line 2-3, M.S. No. 1297A Old Pap Copper lode, at a point from which Cor. No. 3 bears N.42°18'E., 213.68 ft. dist.	
1,251.10	<p>Cor. No. 4.</p> <p>Set an iron post, 30 ins. long, 3/4 in. diam., 12 ins. in the ground, in a concrete and rock base, with a brass cap firmly secured to the iron post, mkd. X F.4 4 U.S.M.S. 4817; from which</p> <p style="padding-left: 40px;">A wood post, 4 x 4 ins. in size, 4 ft. above ground, sets adjacent to the iron post.</p> <p>No local bearing objects or bearing trees available.</p> <p style="text-align: center;">Thence S.88°27'38"E.</p>	

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300.00	Lode line; discovery point bears S.0°34'11"E., 791.10 ft. dist.
516.17	Intersect line 2-3 FALLS NO. 3 lode of this survey.
600.00	Cor. No. 1, and place of beginning.

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AREAS	Acres
Total area, FALLS NO. 3 lode -----	15.364
Area in conflict with:	
M.S. No. 3954 Eldon lode -----	4.547
M.S. No. 1297A Ajax Consolidated lode -----	0.001
M.S. No. 1297A Falls lode -----	0.001
M.S. No. 3954 Rainbow lode -----	3.710
M.S. No. 3954 Rainbow lode, exclusive of its conflict with:	
(1) M.S. No. 1297A Ajax Consolidated lode -----	3.710
(2) M.S. No. 1297A Falls lode -----	3.709
(3) M.S. No. 1297A Ajax Consolidated and Falls lodes -----	3.709
Total area, FALLS NO. 4 lode -----	17.221
Area in conflict with:	
M.S. No. 1297A Old Pap Copper lode -----	5.147
M.S. No. 4716 Falls No. 2 lode -----	4.011
M.S. No. 4716 Falls No. 2 lode, exclusive of its conflict with M.S. No. 1297A Old Pap Copper lode -----	3.917
FALLS NO. 3 lode of this survey -----	0.646

## LOCATION

This survey is located in the NE and SE 1/4s sec. 25, T.18 S., R.15 E., G. & S.R.M.

The survey of the FALLS NOS. 3 and 4 lodes is identical with the respective location as marked on the ground.



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## EXPENDITURES

The improvements and the value of the labor and improvements made upon or for the benefit of each of the lode locations embraced in said mining claim by the claimant or its grantors are as follows:

- No. 1 The discovery point of the FALLS NO. 3 lode is on the lode line, 15. ft. from a point on line 1-2, 300.88 ft. from Cor. No. 1, a post and notice.  
Value, None.
- No. 1 The discovery point of the FALLS NO. 4 lode is on the lode line, 460. ft. from a point on line 2-3, 300.00 ft. from Cor. No. 2, a post and notice.  
Value, None.

## OTHER IMPROVEMENTS

Access roads traverse the common group of 50 claims M.S. No. 4815 and M.S. Nos. 4816, 4818, 4819, 4820 and 4821, (all unapproved) and provide access to the 2 lodes of this survey.

Claimant herein

OTHER CORNER DESCRIPTIONS  
AND SUPPLEMENTAL DATA

M.S. No. 1297A Ajax Consolidated lode: Cor. No. 3, identical with Cor. No. 3 of the Falls lode of the same survey and Cor. No. 4 are monumented with wood posts, 4 x 4 ins., 2 ft. above ground, slightly loose in the stones, or ground. The inscribed data is partially identifiable. Line 2-3 is shown as approved. Line 3-4 was found to be N.18°17'04"E., 991.45 ft. instead of N.18°50'E., 988.00 ft. as approved.

M.S. No. 1297A Falls lode: Cors. Nos. 3 and 4, identical with Cors. Nos. 3 and 2 respectively of the Ajax Consolidated lode of the same survey, described above. Cor. No. 2 is monumented with a wood post, 4 x 4 ins., 2 ft. above ground, slightly loose in the stones or ground. The inscribed data is partially identifiable. Line 2-3 was found to be N.19°30'38"E., 1,388.39 ft. instead of N.20°25'E., 1,379.50 ft. as approved. Line 3-4 is shown as approved.

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M.S. No. 1297A Old Pap Copper lode: Cors. Nos. 2, 3 and 4 are monumented with wood posts, 4 x 4 ins. 2 ft. above ground, slightly loose in the stones or ground. The inscribed data is partially identifiable. Line 2-3 was found to be N.42°18'E., 712.00 ft. instead of N.42°15'E., 713.00 ft. as approved. Line 3-4 was found to be S.15°11'E., 1,491.77 ft. instead of S.15°E., 1,500.00 ft. as approved.

M.S. No. 3954 Eldon lode: Cors. Nos. 3 and 4, identical with Cors. Nos. 2 and 1 respectively of the Rainbow lode of the same survey are monumented with wood posts, 4 x 4 ins., 2 ft. above ground, slightly loose in the stones or ground, properly mkd. Line 3-4, common with line 1-2, Rainbow lode of the same survey, was found to be S.82°44'W., 574.58 ft. instead of S.82°53'W., 575.00 ft. as approved. Line 4-1 is shown as approved.

M.S. No. 3954 Rainbow lode: Cors. Nos. 1 and 2, identical with Cors. Nos. 4 and 3 respectively of the Eldon lode of the same survey, described above. Cors. Nos. 3 and 4 are monumented with wood posts, 4 x 4 ins., 2 ft. above ground, slightly loose in the stones or ground. The inscribed data is partially identifiable. Line 1-2, common with line 3-4 Eldon lode of the same survey, described above. Line 3-4 was found to be S.80°32'W., 577.18 ft. instead of S.82°53'W., 575.00 ft. as approved. Line 4-1 was found to be N.10°40'W., 1,058.82 ft. instead of N.10°44'W., 1,046.40 ft. as approved.

M.S. No. 4716 Falls No. 2 lode: Cors. Nos. 1 and 4, identical with Cors. Nos. 1 and 2 respectively of the FALLS NO. 3 lode of this survey, described above. Cors. Nos. 2 and 3 are monumented with 3/4 in. pipe with a brass cap, 1 ft. above ground, firmly set, properly mkd. Line 1-2 was found to be S.10°38'26"W., 1,497.50 ft. instead of S.10°50'26"W., 1,497.49 ft. as approved. Line 3-4 was found to be N.10°38'26"E., 1,497.50 instead of N.10°48'27"E., 1,498.00 ft. as approved. Line 4-1 was found to be S.47°49'19"E., 600.88 ft. instead of S.47°37'14"E., 601.00 ft. as approved.

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MEMORANDUM

None

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FIELD ASSISTANTS

Name	Capacity
Kent Miller	Assistant Instrumentman
Eric O'Neil	Rodman-Chainman

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CERTIFICATE OF SURVEYOR

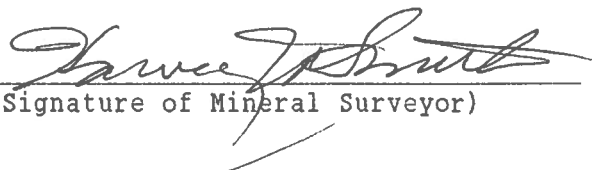
Name of Mineral Surveyor	Date
Harvey W. Smith	July 11, 1990

I HEREBY CERTIFY That in pursuance of an order received from the Arizona State Office, Bureau of Land Management, at Phoenix, Arizona, dated December 19, 1980 and amended January 23, 1989, I have carefully executed the survey of the claim of ASARCO Incorporated, known as the FALLS NO. 3 and FALLS NO. 4 lodes, situated in surveyed section 25, Township 18 South, Range 15 East, Gila and Salt River Meridian, in the State of Arizona.

This survey, designated as number 4817, has been executed by me and under my direction and has been made in strict conformity with said order, the Manual of Instructions for the Survey of Public Lands of the United States, and in specific manner described in the foregoing field notes.

I FURTHER CERTIFY That the labor expended and improvements made upon and for the benefit of the FALLS NO. 3 and FALLS NO. 4 lodes locations embraced in the said mining claim by claimant(s) or its grantors are fully stated in my report. The character, extent, location, and itemized value are specified in full detail. No portion of, or interest in, said labor and improvements so credited to this claim has been included in the estimate of expenditures upon any other claim.

Scottsdale, Arizona  
(Location)

  
(Signature of Mineral Surveyor)

Title 18, U.S.C. section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

CERTIFICATE OF APPROVAL

Arizona State Office  
Phoenix, Arizona  
September 12, 1990

The foregoing field notes of mineral survey number 4817, in surveyed section 25, Township 18 South, Range 15 East, Gila and Salt River Meridian, in the State of Arizona, executed by Harvey W. Smith, Mineral Surveyor, under order dated December 19, 1980 and amended January 23, 1989, having been critically examined and the necessary corrections made prior to their certification by the surveyor, the field notes and the survey therein described are hereby approved.

*James P. Kelley*  
(Authorized Signature)

Chief Cadastral Surveyor of Arizona  
(Title)

~~CERTIFICATE OF TRANSCRIPT~~

~~I HEREBY CERTIFY That the foregoing transcript of field notes of the above-described mineral survey number 4817 is a true copy of the original field notes.~~

~~\_\_\_\_\_  
(Authorized Signature)~~

~~Chief Cadastral Surveyor of Arizona  
(Title)~~