
ARIZONA COPPER RESERVES

OPEN-FILE REPORT 01-17

Last updated June, 2001

by Nyal J. Niemuth

**Arizona Department of Mines
& Mineral Resources**

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This is a preliminary report,
subject to technical and
editorial revision.

Arizona Department of Mines and Mineral Resources

Arizona Copper Reserve Base 2001*

Reserve base is that part of an identified resource that meets specified minimum physical and chemical criteria related to current mining and production practices including those for grade, quality, thickness, and depth. The reserve base is the in-place demonstrated (measured plus indicated) resource from which reserves are estimated. It may encompass those parts of the resources that have a reasonable potential for becoming economically available within planning horizons beyond those that assume proven technology and current economics. The reserve base includes those resources that are currently economic (reserves), marginally economic (marginal reserves), and some of those that are currently sub economic (sub economic resources).

From: "Mineral Facts and Problems" 1985, U.S. Bureau of Mines, Bulletin 675, page 3.

[* Some of the records, as noted in the source or comments section, have been updated since this open file report was originally released.]

PROPERTY LISTING

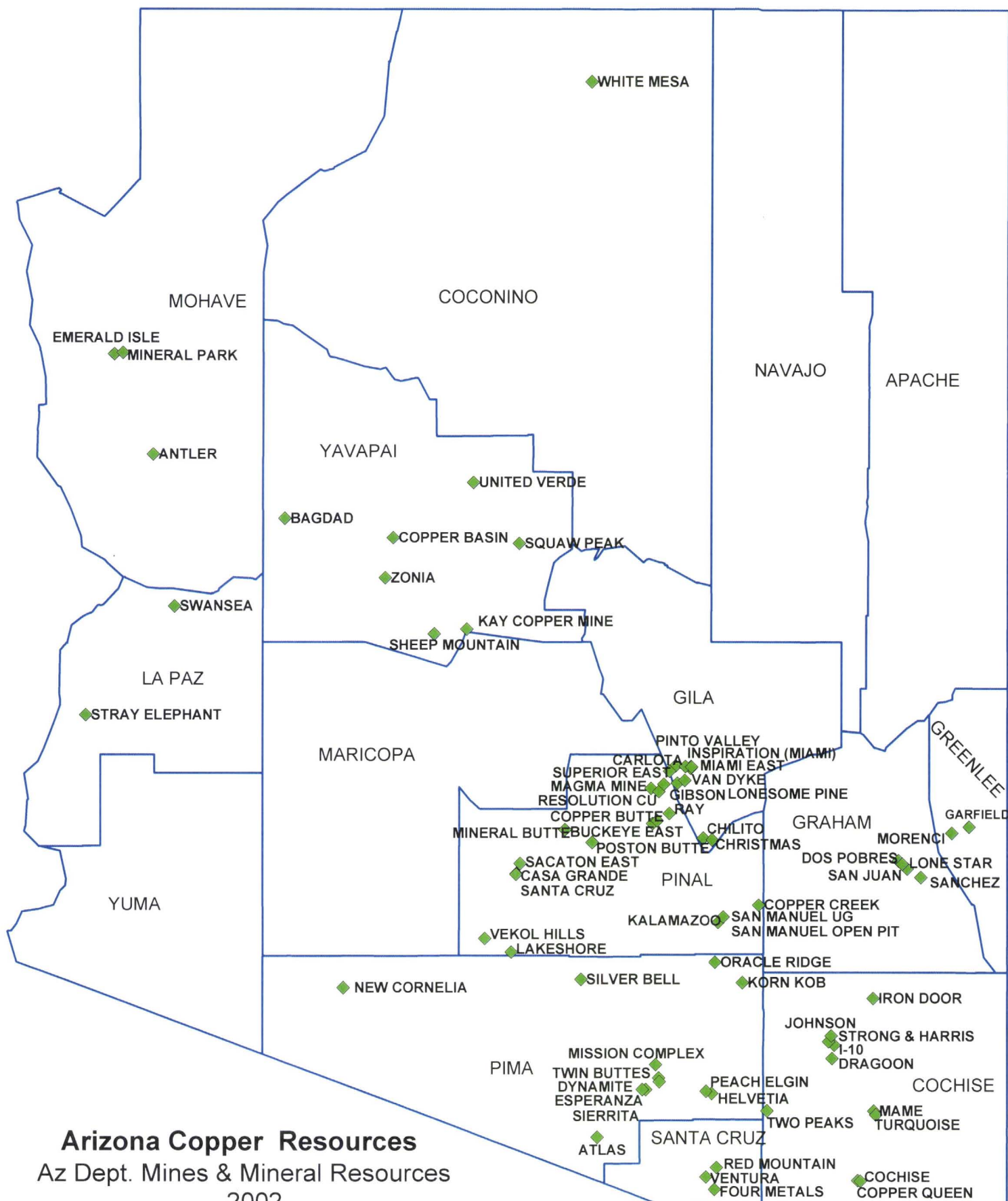
ANTLER Standard Metals Corp.
 ATLAS Asarco Inc.
 BAGDAD Phelps Dodge
 BUCKEYE EAST Asarco Inc.
 CARLOTA Cambior
 CASA GRANDE..... Asarco-Freeport McMoran JV
 CHILITO Asarco Inc.
 CHRISTMAS Phelps Dodge
 COCHISE Phelps Dodge
 COPPER BASIN Phelps Dodge
 COPPER BUTTE Asarco Inc.
 COPPER CREEK AMT International
 COPPER QUEEN Phelps Dodge
 DOS POBRES Phelps Dodge
 DRAGOON Sullivan, James
 DYNAMITE Addison Smith
 EMERALD ISLE SGV Resources
 ESPERANZA Phelps Dodge
 FOUR METALS Herb Duerr & John Prochnav
 GIBSON Lodestar Minerals Inc.
 HELVETIA Asarco Inc.
 I-10 James Sullivan
 INSPIRATION AREA MINES..... Phelps Dodge
 IRON DOOR Unknown
 JOHNSON Nord Resources
 KALAMAZOO BHP Copper
 KAY COPPER MINE Rayrock Mines Inc.
 KORN KOB Keystone Minerals, Inc.
 LAKESHORE (Tohono) Phelps Dodge
 LONE STAR Phelps Dodge
 LONESOME PINE Corn, Russ
 MAGMA MINE Resolution Copper
 MAME Hope Mining & Milling Co.
 MIAMI EAST BHP Copper
 MIAMI TAILINGS BHP Copper

MINERAL BUTTE US Government
 MINERAL PARK Mercator Minerals
 MISSION COMPLEX Asarco Inc.
 MORENCI Phelps Dodge & Sumitomo
 NEW CORNELIA Phelps Dodge
 ORACLE RIDGE Southern Copper Corp.
 PEACH ELGIN Asarco Inc.
 PINTO VALLEY BHP Copper
 POSTON BUTTE BHP Copper
 RAY Asarco Inc.
 RED MOUNTAIN Kerr-McGee Corp.
 RESOLUTION COPPER Resolution Copper
 SACATON EAST Asarco Inc.
 SAN JUAN Phelps Dodge
 SAN MANUEL PIT BHP Copper
 SAN MANUEL UG BHP Copper
 SANCHEZ Phelps Dodge
 SANTA CRUZ Asarco-Freeport McMoran JV
 SHEEP MOUNTAIN Orcana Resources
 SIERRITA Phelps Dodge
 SILVER BELL Asarco Inc.
 SQUAW PEAK Squaw Peak Copper Mining Co.
 SUPEROIR EAST Asarco Inc.
 STRAY ELEPHANT Heinrichs GEO Expl. Co.
 STRONG & HARRIS Durham, Robert
 SWANSEA Challinor, John
 TURQUOISE Santa Fe Pacific Mining
 TWIN BUTTES Phelps Dodge
 TWO PEAKS Dugan Production
 UNITED VERDE Phelps Dodge
 VAN DYKE Arimetco International
 VEKOL HILLS Tohono O'odham Nation
 VENTURA Phelps Dodge
 WHITE MESA Mesa Mining
 ZONIA Equatorial Mining

OWNER INDEX

AMT International COPPER CREEK
 Arimetco International VAN DYKE
 Asarco Inc. ATLAS
 Asarco Inc. BUCKEYE EAST
 Asarco Inc. CHILITO
 Asarco Inc. COPPER BUTTE
 Asarco Inc. HELVETIA
 Asarco Inc. MISSION COMPLEX
 Asarco Inc. PEACH ELGIN
 Asarco Inc. RAY
 Asarco Inc. SACATON EAST
 Asarco Inc. SILVER BELL
 Asarco Inc. SUPERIOR EAST
 Asarco-Freeport McMoran JV CASA GRANDE
 Asarco-Freeport McMoran JV SANTA CRUZ
 BHP Copper POSTON BUTTE
 BHP Copper KALAMAZOO
 BHP Copper MIAMI EAST
 BHP Copper MIAMI TAILINGS
 BHP Copper PINTO VALLEY
 BHP Copper SAN MANUEL OP
 BHP Copper SAN MANUEL UG
 Cambior Inc. CARLOTA
 Challinor, John SWANSEA
 Corn, Russ LONESOME PINE
 Duerr, Herb & Prochnav, John FOUR METALS
 Dugan Production TWO PEAKS
 Durham, Robert STRONG & HARRIS
 Heinrichs GEO Expl. Co. STRAY ELEPHANT
 Hope Mining & Milling Co. MAME
 Kerr-McGee Corp. RED MOUNTAIN
 Keystone Minerals, Inc. KORN KOB
 Lodestar Minerals Inc. GIBSON
 Mercator Minerals Ltd. MINERAL PARK
 Mesa Mining WHITE MESA

Nord Resources JOHNSON
 Orcana Resources SHEEP MOUNTAIN
 Phelps Dodge BAGDAD
 Phelps Dodge CHRISTMAS
 Phelps Dodge COCHISE
 Phelps Dodge COPPER BASIN
 Phelps Dodge COPPER QUEEN
 Phelps Dodge DOS POBRES
 Phelps Dodge ESPERANZA
 Phelps Dodge INSPIRATION AREA MINES
 Phelps Dodge LAKESHORE
 Phelps Dodge LONE STAR
 Phelps Dodge NEW CORNELIA
 Phelps Dodge SANCHEZ
 Phelps Dodge SAN JUAN
 Phelps Dodge SIERRITA
 Phelps Dodge TWIN BUTTES
 Phelps Dodge UNITED VERDE
 Phelps Dodge VENTURA
 Phelps Dodge & Sumitomo MORENCI
 Rayrock Mines Inc. KAY COPPER MINE
 Resolution Copper MAGMA MINE
 Resolution Copper RESOLUTION COPPER
 Santa Fe Pacific Mining TURQUOISE
 SGV Resources EMERALD ISLE
 SGV Resources ZONIA
 Smith, Addison DYNAMITE
 Southern Copper Corp. ORACLE RIDGE
 Squaw Peak Copper Mining Co. SQUAW PEAK
 Standard Metals Corp. ANTLER
 Sullivan, James I-10
 Sullivan, James DRAGOON
 Tohono O'odham Nation VEKOL HILLS
 US Government MINERAL BUTTE
 Unknown IRON DOOR



Additions for Arizona Copper Resource database

Name, County	Tons (millions)	Grade (% Cu)	Comments/Reference	Owner/Operator
Mission UG, Pima Co.	5.1	2.07	Reported in Pay Dirt Nov, 1994. Active, Operated as part of Mission Complex.	Asarco
Pine Flat, Yavapai Co.	25	0.36	Resource from: Spatz, D., AGS Digest 20.	Numerous owners of patented claims. 110 acres by Woodburn Pine Flat L.C. Des Moines, IA.
Planet – Mineral Hill	5.76	5.5	Harrer, C.M. 1964 USBM IC 8236, P.	Fred Kalloff
Red Hills, Pinal Co.	500	0.1	Oxide; William S.A. and Forrester, J.D., AGS Digest 20.	Red Hills Mining, Mesa, Az
Sol			Porphyry Copper system with two untested geochemical targets remain. AMAX/PD drilled 16 holes in 1970's. 150mm tons at 0.1% Cu geological resource reported by ACTLABS in a 1998 enzyme leach test study.	Miller Resources
Squaw Peak, Yavapai Co.	30	0.35	Also includes 0.03% MoS ₂ .	Desert Pacific, Reno Nevada
Sunnyside, Santa Cruz Co.	plus 200	0.6	Graybeal, F.T., Sunnyside Por. Cu System, 1994. 4000' deep , contains 0.2% Mo, 0.15 opt Ag, and adjacent Pb-Zn-Ag skarns.	Asarco
Ventura Porphyry, Santa Cruz Co.	plus 200	0.3	USBM Mineral Land Assessment 22-94.	Noranda ?

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

ANTLER

Alternate name(s):

Spuyten Duyvil

Company:

Standard Metals Corp.
666, 45 Rockefeller Plaza
New York, NY 10020
212-956-5450

Location:

Township 17 N Range 16 W Sec. 4
Latitude/Longitude: 34.89 113.97
30 miles south of Kingman - 10 miles east of Yucca.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	5	1.95	Cu

Reserve information and sources:

Sulfide - with 4.13% Zn, 0.94% Pb and 1.05 oz/ton Ag
Standard Metals Annual Report 1978, p. 3

Comments:

An additional 2.5 million tons reported in 1979 Annual Report. Property now adjacent to Wabayuma Peak Wilderness.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

ATLAS

Alternate name(s):

BS&K Project

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 11 S Range 8 E Sec. 32
Latitude/Longitude: 31.65 111.41
45 miles NW of Tucson - Pima Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	5.38	0.64	Cu	(a)
Sulfide	18.93	0.66	Cu	(b)
Acid Soluble	4.87	0.37	Cu	(a)
Acid Soluble	12.06	0.38	Cu	(b)

Reserve information and sources:

"Report on the BS&K Project, Pima Co., AZ" by Frank H. Buchella, Jr.PE, June 1983 (in ADMMR Atlas file)

Comments:

Purchased by American Pacific in 1988 for \$2.8 million -- Reserves based on 0.40% Cu cutoff on sulfide and 0.20% Cu cutoff on acid soluble. (a) Atlas Property (b) Asarco property adjacent to Atlas
Currently being mined as part of Silver Bell copper leach operations.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

BAGDAD

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 14 N Range 9 W Sec. 4
Latitude/Longitude: 34.58 113.21
Bagdad, AZ - Yavapai Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	775.4	0.37	Cu	(a)
Acid Soluble	16.5	0.29	ASCu	(b)

Reserve information and sources:

(a) Sulfide reserve includes acid soluble and 0.02% Mo.

(b) Leach reserve.

Phelps Dodge 1999 Annual Report, pg 68.

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1994

BUCKEYE EAST

Alternate name(s):

Kennecott Copper Claims 26-27

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 3 S Range 12 E Sec. 26
Latitude/Longitude: 33.14 111.09
20 miles NE of Florence.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	20	0.65	Cu

Reserve information and sources:

40 million tons potential
AMA - "AZ Wilderness 1988" Report A-23 to Congress "Proposed Phoenix RMP and
Final EIS" BLM Letter # 30 Administrator, Ray Unit Asarco

Comments:

Reserves are Buckeye East -- Buckeye West being assessed.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 5/9/2001

CARLOTA

Alternate name(s):

Company:

Cambior Inc.
P.O. Box 1009
Miami, AZ 85539
520-473-3518
www.cambior.com

Location:

Township 1 N Range 13 E Sec. 36
Latitude/Longitude: 33.39 110.99
7 miles west of Miami (Next to Pinto Valley).

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	106	0.45	Cu	(a)
Acid Soluble	95.85	0.44	Cu	(b)

Reserve information and sources:

- (a) 0.15% cutoff grade. 2.1:1 stripping ratio.
- (b) Cambior Annual Rpt., calc. using \$1/lb long term price in 2000.
- (a) Cambior's Carlota Copper Project Fact Sheet, August, 1993.

Comments:

Includes Cactus and Eder North and South deposits. Permitted mid-1999 but undeveloped.
Project is for sale by Cambior.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 6/ 1/2004

CASA GRANDE

Alternate name(s):

Fannie Grande, Francisco Grande

Company:

Asarco-Freeport McMoran JV
8222 S. 48 St. Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 6 S Range 5 E Sec. 18
Latitude/Longitude: 32.90 111.87
6 miles west of Casa Grande.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	352	1.00	TCu

Reserve information and sources:

Mixed - (0.5% Cu cutoff) .01% Mo
Getty Oil Co. Annual Report 1980 - Lowell, J.D. "The Casa Grande West Orebody" AZ
State AIME 12/6/82 ADMMR Fannie Grande file

Comments:

Adjacent to Santa Cruz in-situ leach research project and has similar leach potential.
Sold By Asarco/Freeport to D.R.Horton in 2004 but retained royalty.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

CHILITO

Alternate name(s):

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 4 S Range 15 E Sec. 22
Latitude/Longitude: 33.07 110.80
5 miles north of Hayden.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	74.7	0.51	TCu

Reserve information and sources:

Mixed - 0.01% Mo, 0.04 oz Ag
Chilito Mines Report ADMMR files

Comments:

Land exchange to facilitate development by Asarco, 3-95.

Arizona Copper Reserves and Resources

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Printed: 9/26/2005

Last Updated: 1/1/1994

CHRISTMAS

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 4 S Range 16 E Sec. 30
Latitude/Longitude: 33.06 110.74
30 miles south of Globe.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	7	0.63	Cu
Sulfide	20	1.82	Cu

Reserve information and sources:

Sulfide - First Open Pit -- Second Underground

Inspiration Resources Form 10K 1983 pg 8

Comments:

Cyprus acquired property July 1, 1988 from Inspiration, PD acquired 1999.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/ 4/2000

COCHISE

Alternate name(s):

Bisbee North, Dubacher Canyon

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 23 S Range 24 E Sec. 9&10
Latitude/Longitude: 31.44 109.91
East edge of Bisbee, Cochise Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	210	0.40	Cu	(a)

Reserve information and sources:

Resource, Open pit table.

Phelps Dodge Annual Report 1992, p. 18. Ditto PD 1999 Annual Report, p. 69.

Comments:

Mineralization is mainly chalcocite. Leaching studies have been completed by Phelps Dodge.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

COPPER BASIN

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 13 N Range 3 W Sec. 20
Latitude/Longitude: 34.49 112.58
8 miles SW of Prescott.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	70	0.53	Cu

Reserve information and sources:

Sulfide - 0.021% Mo
Phelps Dodge Annual Report 1992 p.18. Molybdenum data was reported in Phelps Dodge
Form 10K 1990, p. 10

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1994

COPPER BUTTE

Alternate name(s):

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 3 S Range 13 E Sec. 30
Latitude/Longitude: 33.15 111.06
20 miles NE of Florence.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	22	1.09	Cu

Reserve information and sources:

AMA - "AZ Wilderness 1988" Report A-23 to Congress. "Proposed Phoenix RMP and Final EIS" BLM Letter # 30 From Administrator, Ray Unit, Asarco 4/27/88

Comments:

Land exchange to facilitate development 3/95 by Asarco.
Possibly contains up to 350 million tons oxide mineralization.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 9/ 1/2005

COPPER CREEK

Alternate name(s):

Company:

AMTInt. Mining Corp.
181 Bay St., #1800, Box 754
Toronto, ON M5J 2T9
418-863-1515
www.amtmining.com

Location:

Township 8 S Range 18 E Sec. 11
Latitude/Longitude: 32.75 110.48
10 miles east of Mammoth.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	9.9	1.42	TCu	(a)
Sulfide	300	0.75%	TCu	(b)

Reserve information and sources:

(a) AMT Web site reported as reserves in shallow, breccia pipes.
(b) AMT Int. Press release Oct. 1997 as porphyry cu mineralization.
AMT Int. Partial JV with PD. Active exploration/reserve drilling 1995-99. Permitting for development underway late 1999.

Comments:

Includes Childs Aldwinkle, Copper Prince, and Old Reliable. Announces Oct. 97 11.4 million tons reserves -2.9 oxide 0.93% open pitable Childs Aldwinkle, 8.5 sulfide 1.42% underground Childs-Aldwinkle and Copper Creek breccias.
Care and maintenance mid 2001 - Dale Smith, Norshield at 800-267-6021. Acquired by Redhawk Resources 2005.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

COPPER QUEEN

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 23 S Range 24 E Sec. 9
Latitude/Longitude: 31.44 109.89
Bisbee, AZ - Cochise Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	1	5.5	Cu

Reserve information and sources:

Mixed - Underground
Acid Soluble - Quantity and grade of dumps being leached undetermined
Phelps Dodge Prospectus, May 8, 1975, p. 12

Comments:

Dump leaching AZMILS Cochise 559, T23S R24E Sec. 15 Campbell shaft has significant gold resource in high pyrite zone.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 6/1/2004

DOS POBRES

Alternate name(s):

Safford Project

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 5 S Range 26 E Sec. 27
Latitude/Longitude: 32.96 109.67
10 miles north of Safford.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	330	0.65	Cu	(a)
ASCu	630	0.32	CU	(a)

Reserve information and sources:

(a) Dos Pobres also includes San Juan reserves as of PD 1999 Annual Report.

Phelps Dodge 1999 Annual Report. EIS and exchange approved 2004.

Comments:

Also see San Juan. Production scheduled for 2008.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 4/23/2002

DRAGOON

Alternate name(s):

Company:

Sullivan, James
7459 E. Alameria Rd.
Scottsdale, AZ 85257
480-945-4800

Location:

Township 16 S Range 22 E Sec. 25
Latitude/Longitude: 32.02 110.05
20 miles NE of Benson, Cochise Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	27	0.47	ASCu

Reserve information and sources:

CFand I Dragoon Project, 1975, by James Brooks. [Heinrichs, G. Collection #1-35]

Comments:

A limited insitu leach test has been conducted.

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DYNAMITE

Alternate name(s):

Copper Prince (MILS 578)

Company:

Addison Smith
9025 E. Calle Bolivar
Tucson, AZ 85715
602-296-7891

Location:

Township 17 S Range 13 E Sec. 30
Latitude/Longitude: 31.93 111.05
20 miles south of Tucson (north of Twin Buttes).

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	100	0.53	TCu

Reserve information and sources:

Mixed - TCu

Reported in ADMMR Dynamite Copper Prospect File by Addison Smith, 1985.

Comments:

Resource estimated from a small number of drill holes by Anaconda and Anamax.

Arizona Copper Reserves and Resources

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Printed: 9/26/2005

Last Updated: 9/23/2005

EMERALD ISLE

Alternate name(s):

Company:

SGV Resources Inc.
141 Adelaide St West, #901
Toronto, Ontario, M5H 3S6
416-364-7024
www.sgv.ca

Location:

Township 23 N Range 18 W Sec. 22
Latitude/Longitude: 35.36 114.19
15 miles north of Kingman (just west of Mineral Park)

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	1.8	0.72	Cu

Reserve information and sources:

6.4 Mt at 0.42% Cu including probable resources.
Arimetco International Annual Report 1991.

Comments:

Arimetco constructed an 8,000 lb/day SX-EW plant in the first half of 1992. Mine listed for sale in Northern Miner 9/15/97.
979,000 tons grading 0.57% Cu (St. Genevieve press release, August 9, 2004). Bought from Bankruptcy Court.

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ESPERANZA

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 18 S Range 12 E Sec. 16
Latitude/Longitude: 31.87 111.13
25 miles south of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	48	0.27	Cu

Reserve information and sources:

Sulfide - 0.034% Mo.
Pennzoil Form 10K, 1981.

Comments:

See Sierita. Operated as part of Sierrita along with Monarch pit.

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Last Updated: 1/1/1994

FOUR METALS

Alternate name(s):

Company:

Duerr, Herb & Prochnav, John
127 Cheney
Reno, Nv 89501
702-348-1800

Location:

Township 23 S Range 16 E Sec. 29
Latitude/Longitude: 31.40 110.73
15 miles NE of Nogales

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	14	0.7	Cu

Reserve information and sources:

Iso Mines Ltd. Annual Report 1965 (subsidiary of Noranda), ADMMR Four Metals file,
personal communication.

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

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Last Updated: 1/2/2004

GARFIELD

Alternate name(s):

Company:

Phelps Dodge & Sumitomo
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 4 S Range 29 E Sec.
Latitude/Longitude: 33.12 109.27
Morenci, AZ - Greenlee Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	1000	0.27	Cu	(a)

Reserve information and sources:

(a) - leaching resource.

Phelps Dodge 1999 Annual Report, p. 69.

Comments:

Ownership is Phelps Dodge 85% and Sumitomo 15%.

Actively being mined in 2004 with reserves reported as part of Morenci mine.

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GIBSON

Alternate name(s):

Company:

Robert and Ida Franks
944 E. Friar Ave.
Apache Junction, AZ 85219
480-983-3577

Location:

Township 1 S Range 14 E Sec. 21
Latitude/Longitude: 33.33 110.95
7 miles SW of Miami

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	10.8	0.70	TCu	(a)
Mixed	0.672	5.0	TCu	(b)

Reserve information and sources:

(a) Geological potential of disseminated mineralization.

(b) Geological potential of veins.

Fletcher, J.B. et al - "Gibson Mine Project Scope and Preliminary Property Evaluation Report" Section VIII, p. 4, August, 1984.

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 9/23/2005

HELVETIA

Alternate name(s):

Helvetia East (866), Rosemont

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 18 S Range 15 E Sec. 36
Latitude/Longitude: 31.85 110.75
Twenty miles south of Tucson, west slope Santa Ritas.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	362	0.61	CU
Acid Soluble	66	0.53	Cu

Reserve information and sources:

Sulfide reserve includes 0.25 oz/ton Ag.

Also includes 0.016% Mo & 0.0005 oz/ton Au. (Dresher, T.A., 1979)

Anzalone, S.A. and Brown, R.L., 1992, Geology of the Helvetia Copper Deposit - Arizona, SME Preprint 92-61.

Comments:

Additional mineralization occurs in Broadtop Butte and Copperworld areas. Total mineralization likely exceeds 500 MM tons. Land exchange process underway 1997. Sold to Rosemont ranch LLC in 2004. Sale reported to Augusta Resources mid 2005. Group holds unpat. claims and patented land.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

I-10

Alternate name(s):

Company:

James Sullivan
7459 E. Alameria Rd.
Scottsdale, AZ 85257
480-945-4800

Location:

Township 15 S Range 23 E Sec. 31
Latitude/Longitude: 32.08 110.04
15 miles SW of Willcox

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	100	0.52	TCu	(a)
Mixed	300	0.3	TCu	(b)

Reserve information and sources:

(a) Mixed includes 0.02% Mo

(a) Unpublished estimate from previous Cu reports. (b) Reported but unconfirmed with 0.3% cutoff.

Comments:

Sullivan controls mixture of claims and private land. Leased by Magma Copper Co. April, 1993.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 4/4/2000

INSPIRATION AREA MINES

Alternate name(s):

Phelps Dodge Miami

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 1 N Range 14 E Sec. 25
Latitude/Longitude: 33.41 110.90
Miami, AZ - Gila Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	188.7	0.38	ASCu (a)

Reserve information and sources:

(a) Phelps Dodge 1999 Annual Report, p. 68

Comments:

Acquired by Cyprus from Inspiration July 1, 1988. Acquired by PD November, 1999.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

IRON DOOR

Alternate name(s):

Company:

Unknown

Location:

Township 13 S Range 25 E Sec. 17

Latitude/Longitude: 32.31 109.82

5 miles NE of Willcox

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	63	0.38	TCu

Reserve information and sources:

Sulfide - 0.20% Cu cutoff grade

Spike-E Hills Report, ADMMR Iron Door file

Comments:

Possibly returned to surface owner

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

JOHNSON

Alternate name(s):

JOHNSON CAMP

Company:

Nord Resources
Box 348, 3048 Seven Dash Road
Dragoon, AZ 85609
520-586-2241
www.nordresources.com

Location:

Township 15 S Range 22 E Sec. 26
Latitude/Longitude: 32.10 110.07
18 miles east of Benson, NW of I-10 and The Thing

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	32	0.42	Cu	(a)
Acid Soluble	26.5	0.29	TCu	(b)
Acid Soluble	12	0.23	TCu	(c)

Reserve information and sources:

(a) Nord Press Release March 6, 2000.

(b) Arimetco International Inc. Prospectus May 16, 1990. (c) Copper Chief Orebody - Arimetco Annual Report 1992, p. 6. (c) Buro Chief Orebody - Arimetco A.R. 1992, p. i.

Comments:

Nord acquired mine from Summo Minerals in 1999. Copper Chief reserves will be developed by a separate pit.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/2000

KALAMAZOO

Alternate name(s):

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 9 S Range 16 E Sec. 9
Latitude/Longitude: 32.67 110.71
7 miles NW of San Manuel, 45 miles NE of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	17.24	0.719	Cu	(a)
Sulfide	143	0.707	Cu	(b)

Reserve information and sources:

(a) Reserve down to 2950 level of Kalamazoo orebody.
(b) Resource below 2950 level of Kalamazoo deposit.
Magma Form 10K 1992, p. 21, 32.

Comments:

Deposit was being mined prior to closure of San Manuel mine in 1999.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

KAY COPPER MINE

Alternate name(s):

Company:

Rayrock Mines Inc. (Rayrock Yellowknife)
65 Granby St.
Toronto, Ontario M5B 1H8
416-489-0022

Location:

Township 8 N Range 2 E Sec. 4
Latitude/Longitude: 34.06 112.16
45 miles north of Phoenix

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)
------	--------------------	-----------

Reserve information and sources:

Estimated 6 Mt sulfide at 2.2% Cu, 3% Zn, 1.6 opt Ag .08 opt Au.
Northern Mines Handbook 1990-91.

Comments:

Deposit is Precambrian massive sulfide underground resource. Rayrock acquired by Glamis in 1999.
Exxon drill data on file at ADMMR.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1994

KORN KOB

Alternate name(s):

Company:

Keystone Minerals, Inc.
6318 E. Haynes St.
Tucson, AZ 85710
520-747-9551

Location:

Township 12 S Range 17 E Sec. 14
Latitude/Longitude: 32.38 110.57
35 miles NE of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	18	0.4	Cu

Reserve information and sources:

Total of North and South Ore Bodies at 1.5 to 1 strip ratio.

Holmes & Narrou report on Korn Kob, March 1974 section 5 - ADMMR Korn Kob file.

Comments:

A. F. Budge Mining drilled deposit 1990. Corner Bay and Gold Giant optioned for initial work comm. for 15 months 6/95. 10k of 20k drill program complete N.Miner-11/27/95.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

LAKESHORE

Alternate name(s):

Tohono

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 10 S Range 4 E Sec. 25
Latitude/Longitude: 32.52 111.90
32 miles SW of Casa Grande

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	276	0.70	Cu	(a)
Acid Soluble	404	0.32	Cu	(a)

Reserve information and sources:

(a) Resource from Phelps Dodge 1999 Annual Report, p. 69

Comments:

Open pit and heap leach developed as test by Cyprus circa 1996. On standby in 1998.

Arizona Copper Reserves and Resources
Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/ 4/2000

LONE STAR

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 6 S Range 27 E Sec. 5
Latitude/Longitude: 32.92 109.62
10 miles NE of Safford

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	1600	0.38	ASCu (a)

Reserve information and sources:

(a) Resource of leach material, by open pit methods.
PD 1999 Annual Report, p. 69. Phelps Dodge Annual Report 1992, p. 18.

Comments:

Arizona Copper Reserves and Resources
Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

LONESOME PINE GROUP

Alternate name(s):

Copper Springs, Esther Group

Company:

Corn, Russ
8425 E.Desert Steppes Dr.
Tucson, AZ 85710
520-298-1770

Location:

Township 1 S Range 14 E Sec. 14
Latitude/Longitude: 33.34 110.90
5 miles south of Inspiration.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	20	0.4	Cu

Reserve information and sources:

Possible tonnage of partially tested chalcocite/oxide zone.

Comments:

A portion of resource is on 2 other claim blocks.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 7/2/2001

MAGMA MINE

Alternate name(s):

Superior

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 1 S Range 12 E Sec. 35
Latitude/Longitude: 33.30 111.10
Superior, 40 miles east of Mesa

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	1.347	4.970	Cu	(a)
Sulfide	2.6	5.7	Cu	(b)

Reserve information and sources:

(a) Current reserve (b) Additional tonnage not presently economic.

(a) Magma Form 10k, 1992 p. 21. (b) Magma Form 10K, 1991 p. 18 & 20.

Comments:

Large zinc resource possible see Az Geo Society Fieldtrip Fall 1995.
See Resolution Copper - discovery of porphyry cu mineralization.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

MAME

Alternate name(s):

Company:

Hope Mining & Milling Co.
3653 N. 6th Avenue C-22
Phoenix, AZ 85013

Location:

Township 19 S Range 25 E Sec. 20
Latitude/Longitude: 31.77 109.82
Courtland. 50 miles south of Wilcox, Cochise Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	1.4	1.1	Cu

Reserve information and sources:

Mr. Irwin Icove quoted by Frank Knight in memo to files 5/14/59 in Mame file

Comments:

Contact at Hope Mining & Milling Co. is Mrs. Margaret Fournier

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/10/2000

MIAMI IN-SITU & EAST

Alternate name(s):

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 1 N Range 15 E Sec. 19
Latitude/Longitude: 33.41 110.87
Miami, AZ - Gila Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	141	0.39	TCu	(a)

Reserve information and sources:

(a) Proven and probable.

BHP Description of business and financial statements 1999.

Comments:

(a) In-situ reserves. Additional small high grade tonnage exist in Miami East underground.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 7/ 1/2002

MIAMI TAILINGS

Alternate name(s):

Miami No. 2 Tailings

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 1 N Range 15 E Sec. 30
Latitude/Longitude: 33.41 110.86
Miami. AZ - Gila Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	6.35	0.390	ASCu (a)

Reserve information and sources:

(a) Proved and probable.

BHP Description of business and financial statements 1999.

Comments:

Recovered via monitoring and leaching.

Reprocessing of tailings completed early 2001!

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

MINERAL BUTTE

Alternate name(s):

Mineral Butte & Gold Mine Mtn Area

Company:

US Government - BLM
222 N. Central
Phoenix, AZ 85003
602-417-9528
www.az.blm.gov

Location:

Township 4 S Range 7 E Sec. 1
Latitude/Longitude: 33.11 111.59
20 miles SE of Chandler

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	14.6	0.42	TCu

Reserve information and sources:

Mixed - Cutoff grade 0.32%.
ADMMR files - Bear Creek Report.

Comments:

Property is believed to be withdrawn for possible inclusion in future Sacaton Mtn. regional county park.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 7/7/2004

MINERAL PARK

Alternate name(s):

Company:

Mercator Minerals Ltd.
HC 37, Box 500
Kingman, AZ 86413
928-565-2226
www.mercatorminerals.com

Location:

Township 23 N Range 17 W Sec. 19
Latitude/Longitude: 35.37 114.14
15 miles north of Kingman

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	40	0.26	TCu	(a)
Mixed	106	0.08	TCu	(b)
Mixed	203.9	0.21	TCu	(c)

Reserve information and sources:

(a) Proven ore reserves.
(b) Dump resource. (c) Measured & indicated resources, pit and dumps.
from: <http://www.mercatorminerals.com/mineralpark.php> 7-7-2004

Comments:

Acquired from Equatorial Mining Ltd mid 2003. As milling property Pennzoil Form 10K, 1981 rep. 35 mt @ 0.17% Cu and 0.054 %Mo.
Mining resumed in 2004. Milling may resume for Mo and Cu production in 2006.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/10/2004

MISSION COMPLEX

Alternate name(s):

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 16 S Range 12 E Sec. 31
Latitude/Longitude: 31.99 111.07
15 miles south of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide OP	494.6	0.70	Cu	(a)
Sulfide UG	5.1	2.07	Cu	(b)

Reserve information and sources:

Open Pit Sulfide includes 0.17 oz/ton Ag. and 0.02% molybdenum.

(a) Asarco 10-K 1998. (b) Pay Dirt November 1994.,

Comments:

Reserves include Mission, Eisenhower, Pima and San Xavier (including San Xavier North), Anamax's Eisenhower reserves acquired in April 1987 and the Mineral Hill Deposit adjacent to the Pima Mine acquired in late 1987.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

MORENCI

Alternate name(s):

Metcalf, Western Copper, Coronado

Company:

Phelps Dodge & Sumitomo
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 4 S Range 29 E Sec. 16

Latitude/Longitude: 33.09 109.37

Morenci, AZ - Greenlee Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	416	0.64	Cu	(a)
Acid Soluble	1863	0.22	Cu	(b)
Sulfide	530	0.55	Cu	(c)
Acid Soluble	500	0.31	ASCu	(d)

Reserve information and sources:

(a) - Milling Reserves. (b) - Leaching reserves.

(c) - Western Copper milling resource. (d) Western Copper leach resource.

Phelps Dodge 1999 Annual Report, p.68-9.

Comments:

American Mtn. also contains 140 MM tons of leach material grading 0.25%. Ownership is Phelps Dodge 85% and Sumitomo 15%

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

NEW CORNELIA

Alternate name(s):

Ajo

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 12 S Range 6 W Sec. 27

Latitude/Longitude: 32.35 112.87

Ajo, AZ - Pima Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	150	0.56	Cu
Sulfide/Mixed	85	0.35	Cu (a)

Reserve information and sources:

Phelps Dodge 1999 Annual Report, p. 68. Dec. 96 AIME Az Conf. 180 MT. with .4% cutoff in place reserve.

Comments:

(a) Low grade stock pile reported at AGS 1997 Spring field trip. Condemnation drilling in area of old concentrator may host additional mineralization. Mine Scheduled to restart in late 1999. Will produce 135 mm lb Cu and 25 k oz. Au annually.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 6/15/1998

ORACLE RIDGE

Alternate name(s):

Company:

Santa Catalina Mining Corp.
885 West Georgia, Suite 1320
Vancouver, BC V6C-3E8
604-689-7842

Location:

Township 11 S Range 16 E Sec. 16
Latitude/Longitude: 32.48 110.73
10 miles south of Oracle

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	5.097	2.24	TCu	(a)
Mixed	4.355	2.32	TCu	(b)

Reserve information and sources:

(a) Proven and probable. (b) Possible.

All reserve figures contains .67 oz/ton Ag.

Oracle Ridge Mining Partners 1994 property summary.

Comments:

30% interest in project belongs to Continental Material Corp. Property shut down and for sale March, 1996.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 9/23/2005

PEACH ELGIN

Alternate name(s):

Helvetia West

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 18 S Range 15 E Sec. 15

Latitude/Longitude: 31.86 110.78

Twenty miles SE of Tucson in Santa Rita Mtns.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	23	0.76	TCu	(a)
Mixed	46	0.58	TCu	(b)
Mixed				

Reserve information and sources:

(a) 0.4% cutoff. (b) 0.3% cutoff. Mineralization is 60% sulfides.

Waste to ore ratio generally less than 3:1.

Geology of the Helvetia Copper Deposit - AZ, SME Preprint 92-61, 1992, Anzalone, S.A.
and Brown, R.L.

Comments:

Included in sale to Asarco of Helvetia in 1988.

Acquired by Austa Capital in 2005 from Rosemont Ranch LLC.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/10/2000

PINTO VALLEY

Alternate name(s):

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 1 N Range 14 E Sec. 2
Latitude/Longitude: 33.41 110.96
6 miles west of Miami

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	617	0.21	Cu	(a)
Sulfide	36	0.34	Cu	(b)

Reserve information and sources:

(a) Proven reserve. (b) Probable reserve.

BHP Description of business and financial statements 1999.

Comments:

See Magma Form 10-K, 1991 for dump leach resources.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 6/19/2002

POSTON BUTTE

Alternate name(s):

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 4 S Range 9 E Sec. 33
Latitude/Longitude: 33.05 111.44
4 miles NW of Florence, Pinal Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	300	0.37	Cu
Sulfide	500	0.39	Cu

Reserve information and sources:

BHP predicted \$.43/lb direct cost by in situ. 64% recovery over 60 month leach period.

Magma Copper Co., "Copper Sense" August, 1992., Dan Ramey, BHP, 2000.

Comments:

500 million tons at 0.5% TCu from Conoco Annual Report 1972. Purchased from Conoco July 1992 for about \$20MM.

June 2001 Vanguard Properties Inc. bought 5,500 acres for \$14M from BHP. Portion of property sold to United Metro early 2002.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 9/ 4/2002

RAY

Alternate name(s):

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 3 S Range 13 E Sec. 10
Latitude/Longitude: 33.18 110.99
26 miles north of Hayden

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	558.7	0.60	Cu	(a)
Acid Soluble	278.7	0.37	ASCu	(a)

Reserve information and sources:

Sulfide reserve includes (1.5 gr/tonne) 0.0437 tr. oz/ton silver.

(a) Grupo Mexico 2001 Annual Report.

Comments:

Reserve includes native copper and silicate mineralization. Cutoff grade lowered to .3% when new Ray mill completed in 1992 which greatly expanded reserves.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 6/15/1998

RED MOUNTAIN

Alternate name(s):

Company:

Kerr-McGee Corp.
P. O. Box 25861
Oklahoma City, OK 73125
405-270-1313
www.kerr-mcgee.com

Location:

Township 22 S Range 16 E Sec. 20
Latitude/Longitude: 31.50 110.72
3 miles south of Patagonia

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	569	0.57	Cu	(a)

Reserve information and sources:

(a) Red Mountain Prospectus by Roe, R.R., Kerr McGee Corp., December 1995.

Comments:

Resource includes 3 parts: 140 mt at 0.34% chalcocite blanket, 380 mt at 0.58% sulfide deposit, and 49 mt at 1.14% breccia pipe. Additional gold, silver and molybdenum values reported.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 12/10/2001

RESOLUTION COPPER

Alternate name(s):

Magma Porphyry

Company:

Resolution Copper Corp.
2525 E. Arizona Biltmore Circle #C-135
Phoenix, AZ 85016
602-575-5600
www.resolutioncopper.com

Location:

Township 2 S Range 13 E Sec. 6
Latitude/Longitude: 33.29 111.05
5 miles east of Superior

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	1000	1.0+	Cu	(a)

Reserve information and sources:

(a) ADMMR estimate based on geological potential and BHP reported drill intercept. Likely much larger. Mo grades up to 0.029% reported.
BHP reported information.

Comments:

Resolution Copper Corp. is a RioTinto/BHP Billiton (55/45) joint venture.
Very deep (1 mile), hot (140 F), but very rich.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/ 3/2004

SACATON EAST

Alternate name(s):

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 5 S Range 5 E Sec. 26
Latitude/Longitude: 32.95 111.85
5 miles NW of Casa Grande, Pinal Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	15	1.25	Cu

Reserve information and sources:

Asarco Inc. 10K 1979.

Comments:

Reserves are underground, partially developed but presently flooded. Open pit reserves depleted in middle 1980's.

Some surrounding land reportedly sold to real estate developers in 2004.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/ 7/2000

SAN JUAN

Alternate name(s):

Peacock

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 5 S Range 26 E Sec. 35
Latitude/Longitude: 32.95 109.65
7 miles north of Safford

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	xxx	0.32	Cu	(a)
Acid Soluble	270	0.28	ASCu	(b)

Reserve information and sources:

(a) Reserves reported as part of Dos Pobres (Safford Project)

(b) as reported for San Juan alone in 1994.

Phelps Dodge 1994 Annual Report, p 23. and 1999 Annual Report, p.68.

Comments:

Reported 4/2000 as part of Phelps Dodge's Safford project, that also includes Dos Pobres deposit. See Dos Pobres.

Production planned for 2008.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/3/2005

SAN MANUEL OPEN PIT

Alternate name(s):

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 8 S Range 16 E Sec. 35
Latitude/Longitude: 32.69 110.68
7 miles NW of San Manuel, 45 miles NE of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	219	0.40	ASCu (a)

Reserve information and sources:

(a) Reported as estimated reserves, proven and probable.
BHP Description of business and financial statements 1999.

Comments:

(a) Believed to be available by open pit, some could be by in-situ leach.
Property permanently closed and being reclaimed in 2003.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/3/2005

SAN MANUEL UG

Alternate name(s):

Company:

BHP Copper
P.O. Box M
San Manuel, AZ 85631
520-385-3100
www.bhp.com.au

Location:

Township 8 S Range 16 E Sec. 34
Latitude/Longitude: 32.69 110.68
7 miles NW of San Manuel, 45 miles NE of Tucson.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	157	0.61	Cu	(a)

Reserve information and sources:

(a) Reported as estimated reserves, proven and probable.
BHP Description of business and financial statements 1999.

Comments:

Produced 23,000 ounces by-product gold in 1998-99 fiscal year.
Property permanently closed and being reclaimed in 2003.

Arizona Copper Reserves and Resources
Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

SANCHEZ

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 6 S Range 27 E Sec. 25
Latitude/Longitude: 32.88 109.54
10 miles NE of Safford

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	230	0.29	ASCu (a)

Reserve information and sources:

(a) Resource from Phelps Dodge 1999 Annual Report, p. 69.

Comments:

AZCO reported 1.08:1 strip ratio. Sanchez and 70% of Piedras Verde acquired by Phelps Dodge December 1995 for \$40MM.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/ 3/2005

SANTA CRUZ

Alternate name(s):

Company:

Asarco-Freeport McMoran JV
2575 E. Camelback Road, Suite 500
Phoenix, AZ 85016-4240
602-977-6500
www.asarco.com

Location:

Township 6 S Range 4 E Sec. 13
Latitude/Longitude: 32.90 111.88
7 miles west of Casa Grande

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	800	0.43	TCu

Reserve information and sources:

Geological resource of 1 B tons at 0.55% at 1200 to 3200 deep. Paydirt 4/97
USBM Data - 1985 - ADMMR Santa Cruz file

Comments:

Joint venture partners are conducting in situ leaching research project with USBM. Partners also own contiguous Casa Grande deposit. Project and pilot SX-EW closed in 1997. Recovery data still to be published. New 5 spot being permitted 1998.
Sold By Asarco/Freeport to D.R.Horton in 2004 but retained royalty.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1994

SHEEP MOUNTAIN

Alternate name(s):

Company:

Orcana Resources
121 Richmond St West Suite 405
Toronto, Ontario Canada M5H 2K1
416-364-2015

Location:

Township 8 N Range 1 W Sec. 15
Latitude/Longitude: 34.04 112.35
50 miles NW of Phoenix

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	350	1.0	Cu	(a)
Sulide	39	1.27	Cu	(b)

Reserve information and sources:

(b) With 0.044% Mo₂S. Supergene mineralization only.

(a) ADMMR Sheep Mountain Property file. (b) "Preliminary economic evaluation ..." by Watts, Griffis and McOuat, 1992.

Comments:

Contact Raymond Mongeau, President.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 4/4/2000

SIERRITA

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 18 S Range 12 E Sec. 7
Latitude/Longitude: 31.87 111.15
25 miles south of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	1963	0.27	Cu	(a)
Acid Soluble	64.1	0.18	ASCu	(b)

Reserve information and sources:

(a) Sulfide reserve includes 0.03% Mo.
(b) Leach reserve.
Phelps Dodge 1999 Annual Report, p. 68.

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 6/17/2002

SILVER BELL

Alternate name(s):

Company:

Silver Bell LLC.
2575 E. Camelback Road, Suite 500
Phoenix, AZ 85016-4240
602-977-6500
www.asarco.com

Location:

Township 12 S Range 8 E Sec. 11
Latitude/Longitude: 32.39 111.50
40 miles NW of Tucson, Pima Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	146	0.39	ASCu	(a)
Acid Soluble	66	0.41	ASCu	(b)

Reserve information and sources:

- (a) Includes El Tiro, Oxide, West Oxide and North Silver Bell deposits.
 - (b) Reserves of North Silver Bell deposit only. 1.18:1 life of mine strip.
- SME Preprint 02-069, Brown, Q. and Miller M.

Comments:

July 97 new SX-EW plant begins operation. Silver Bell LLC is owned 75% by Asarco and 25% by Mitsui and Co. Ltd.
(a) Reserves using a 0.15% cutoff.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

SQUAW PEAK

Alternate name(s):

Company:

Squaw Peak Copper Mining Co.
P. O. Box 69
Camp Verde, AZ 86322

Location:

Township 13 N Range 5 E Sec. 29&30
Latitude/Longitude: 34.47 111.86
8 miles south of Camp Verde

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	20	0.36	TCu

Reserve information and sources:

Roe, Robert R., "Geology of the Squaw Peak Porphyry Copper - Molybdenum Deposit,
Yavapai County, Arizona", 1976, p. ix, ADMMR Geology files.

Comments:

With significant molybdenum.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 9/23/2005

STRAY ELEPHANT

Alternate name(s):

S E Claims, Gonzales Wash

Company:

William C. Hirt (& Rich Lundin)
1027 South 900 East
Salt Lake City, UT 84105
610-495-9896
billhirt@juno.com

Location:

Township 4 N Range 20 W Sec. 31,32
Latitude/Longitude: 33.65 114.35
8 miles west of Quartzite

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	2.0	0.6	TCu

Reserve information and sources:

ASCu grade is about 0.36%. Oxide ore contains fine grained sulfides.

Additional 5 million tons of +0.50% ASCu probable.

James Loughry personal communication, update from drilling program. 1989 report by James Loughry in ADMMR Stray Elephant file, Also see Scott Weaver file.

Comments:

Leased to Western International Exp.LTD., reports Northern Miner 2/15/93.

Portion of property may as of mid 2005 within expanded Colorado Indian Rervation.

Arizona Copper Reserves and Resources
Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

STRONG & HARRIS

Alternate name(s):

Surprise & Norte Claims

Company:

Durham, Robert
840 S. Santa Rita
Tucson, AZ 85719
520-293-8864

Location:

Township 15 S Range 22 E Sec. 13
Latitude/Longitude: 32.13 110.06
18 miles SW of Willcox, 18 miles NE of Benson

Mineralization type and reserve/resource:

Type	Tons		Grade (%)		
	(millions)				
Mixed	60	0.60	TCu	(a)	
Oxide	2.2	2.78	Cu	(b)	
Sulfide	1.6	2.32	Cu	(c)	

Reserve information and sources:

(a) Mixed - includes 0.70% Zn. (b) Includes 3.69% Zn.

(c) Includes 3.51% Zn plus Ag.

(a) Unpublished estimate by Strong & Harris. (b & c) American Mines Handbook, 1994, p. 32. AZCO Summary.

Comments:

Optioned by AZCO January 1989. B.J. Smith owns portion of deposit and adjacent ranch lands.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/ 3/2005

SUPERIOR EAST

Alternate name(s):

Company:

Asarco Inc.
8222 S. 48 St., Suite 220
Phoenix, AZ 85044
602-977-6500
www.asarco.com

Location:

Township 1 S Range 13 E Sec. 22
Latitude/Longitude: 33.32 111.02
8 miles east of Superior.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	500+	1.0+	Cu

Reserve information and sources:

ADMMR estimate, drilling incomplete.

Sell, J., Az Geological Society Digest 20, 1995 pp 373-395

Comments:

Deep 3500'. 100 million tons 1.1% high grade core.

Property reported to be sold to Resolution Copper in 2004.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1994

SWANSEA

Alternate name(s):

Company:

Challinor, John
6360 East Rose Circle Drive
Scottsdale, AZ 85251
480-994-9964

Location:

Township 10 N Range 15 W Sec. 32
Latitude/Longitude: 34.17 113.84
30 miles north of Bouse.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Mixed	5.5	0.81	Cu

Reserve information and sources:

Reserves largely chalcopyrite in detachment fault system.
Unpublished report by Joe Wilkins, 1990, ADMMR file.

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 4/24/2000

TURQUOISE PROJECT

Alternate name(s):

Star Hill

Company:

Western Gold Resources
2700 E. Executive Dr
Tucson, AZ 95749
520-889-2040
hrshipes@businesspan.com

Location:

Township 19 S Range 25 E Sec. 28
Latitude/Longitude: 31.75 109.80
Courtland, 35 miles NW of Douglas

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	15	.5	ASCu
Mixed	.65	3.1	TCu

Reserve information and sources:

Mixed resource contains .12 oz/ton gold. Additional resource probable.

Santa Fe joint venture property synopsis 2-1992.

Comments:

Western Gold (H.R. Shipes) is seeking a joint venture partner to continue exploration and begin development.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

TWIN BUTTES

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 18 S Range 13 E Sec. 5
Latitude/Longitude: 31.91 111.05
20 miles south of Tucson

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	37	0.92	Cu
Acid Soluble	10.6	0.73	Cu

Reserve information and sources:

Cyprus Minerals Co. Form 10K 1987 p. 4

Comments:

Cyprus has 15 year lease from Park Corporation, 1988. Reserves being depleted in conjunction with the Sierrita and remaining reserves are included with Sierrita's per Cyprus Minerals Co. form 10k, 1991.

Arizona Copper Reserves and Resources
Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

TWO PEAKS

Alternate name(s):

Company:

Dugan Production
P. O. Box 420
Farmington, NM 87499

Location:

Township 19 S Range 19 E Sec. 20
Latitude/Longitude: 31.77 110.43
20 miles southeast of Benson, Cochise Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Sulfide	32	0.28	Cu	(a)

Reserve information and sources:

(a) With 0.01% Mo.

U.S. Geological Survey Professional Paper 1300, p. 128. ADMMR Two Peaks file.

Comments:

Agent for company is David Wolf.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1997

UNITED VERDE

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 16 N Range 2 E Sec. 22
Latitude/Longitude: 34.75 112.12
Jerome, 30 miles northeast of Prescott

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	21	0.52	Cu

Reserve information and sources:

Reserve also contains 6.6% Zn, .61 oz/ton Ag and .02 oz/ton Au.
USGS Bulletin 1857-D.

Comments:

Precambrian massive sulfide deposit. Property joint ventured with Cominco as zinc project 1997.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 1/1/1994

VAN DYKE

Alternate name(s):

Company:

Arimetco International Inc.
335 N. Wilmot Road, #400
Tucson, AZ 85711
520-748-2600

Location:

Township 1 N Range 15 E Sec. 30
Latitude/Longitude: 33.40 110.87
Miami, AZ - Gila Co.

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Acid Soluble	100	0.53	TCu

Reserve information and sources:

Arimetco Int. 1992 Annual Report, p. 9.

Comments:

Arimeteco is in bankruptcy and their lease is for sale as of 1998.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

VEKOL HILLS

Alternate name(s):

Company:

Tohono O'odham Nation
201 N. Stone Ave
Tucson, AZ 85701
520-623-1312

Location:

Township 10 S Range 3 E Sec. 4
Latitude/Longitude: 32.59 112.06
35 miles south of Casa Grande

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	105	0.56	Cu

Reserve information and sources:

Sulfide - 0.014 Mo. Proposed strip ratio was 2:1.

Acid Soluble - 16 million tons at .54% within pit limits.

Final Environmental Impact Statement, Vekol Hills Project, US Dept. of Interior, Bureau of Indian Affairs, May 1978.

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

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Last Updated: 1/1/1994

VENTURA

Alternate name(s):

Company:

Phelps Dodge
1 North Central Avenue
Phoenix, AZ 85004-2306
602-366-8100
www.phelpsdodge.com

Location:

Township 23 S Range 15 E Sec. 1
Latitude/Longitude: 31.46 110.78
20 miles NE of Nogales

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)	
Sulfide	6.3	0.26	TCu

Reserve information and sources:

Sulfide - 0.28% MoS₂, additional 6 MM tons possible.
Iso Mines Ltd. Annual Report 1965 (subsidiary of Noranda).

Comments:

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005
Last Updated: 1/1/1994

WHITE MESA

Alternate name(s):

Mardun Copper

Company:

Mesa Mining
1202 Evergreen Parkway, #306
Evergreen, CO 80439
303-670-9945

Location:

Township 38 N Range 9 E Sec. 29
Latitude/Longitude: 36.66 111.45
100 miles north of Flagstaff

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Acid Soluble	2	0.75	Cu	(a)
Acid Soluble	25	.25	Cu	(b)

Reserve information and sources:

(b) Unpublished geologic estimate. Deposit likely larger.
(a) Mayo, E.B., 1955, Metalliferous Minerals and Mineral Fuels, V. 1 Mineral Resources, Navajo-Hopi Indian Reservation, AZ-UT; Univ. AZ p. 19-32. USGS Bul. 540, p. 159-163

Comments:

Deposit lies on both patented and Navajo tribal lands. Drilled 1992 with favorable results. Pay Dirt 3/95 reports Antilles Res. and Amer. Coppermine Res. Ltd. (owns Mesa Mining) merged. (c) Proven reserves 21 MM at .36, 35+MM all categories.

Arizona Copper Reserves and Resources

Compiled by the Arizona Dept. Mines and Mineral Resources

Printed: 9/26/2005

Last Updated: 9/23/2005

ZONIA

Alternate name(s):

Company:

SGV Resources Inc.
141 Adelaide St. West, #901
Toronto, Ontario M5H 3S6
416-364-7024
www.sgv.ca

Location:

Township 11 N Range 4 W Sec. 12
Latitude/Longitude: 34.30 112.63
30 miles north of Wickenburg

Mineralization type and reserve/resource:

Type	Tons (millions)	Grade (%)		
Mixed	142	0.31	TCu	(a)
Acid Soluble	50	0.34	TCu	(b)

Reserve information and sources:

(a) Reserves and Resources (b) Probable Reserve
Also includes Zn mineralization.
Equatorial Mining Ltd. 1999 Annual Report

Comments:

Equatorial optioned property for 3 years in October 2000 from Arimetco/bankruptcy court.
SGV purchased in 2004 and plans to reopen as open pit SX-EW operation.