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ASARCO

Southwestern Exploration Division

November 8, 1990

Staff

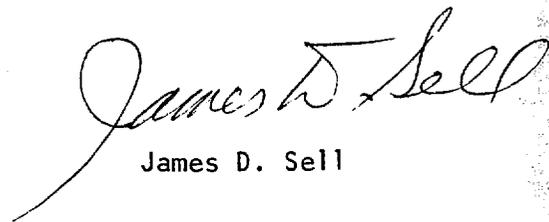
AZ Wilderness Bill

As you have been notified, the Arizona Wilderness Bill has been passed. Some 2 million acres have been placed into custody, whereas less than a million acres has been released.

Mr. W.D. Gay is updating his 1/1 million AZ map to show the areas which have been deleted and you should be aware of the status as it now stands.

Gay will be able to show you detailed outlines of the areas retained.

JDS:mek



James D. Sell

Distribution:

H.G. Kreis
M.A. Miller
J.J. Malusa
W.D. Gay

cc: W.L. Kurtz



ARIZONA

BLM
BUREAU OF LAND MANAGEMENT

UNITED STATES

FOR RELEASE
CONTACT

IMMEDIATE
Deborah Stevens
(602) 640-5504

News Release

DEPARTMENT OF THE INTERIOR

November 1, 1990

CONGRESS PASSES ARIZONA DESERT WILDERNESS BILL

Arizona's long-awaited wilderness bill is on its way to protecting some of the state's top scenic areas, wildlife habitat and recreational lands.

In the final hours of the legislative session, Congress passed and shortly will forward to President Bush for signature a bill incorporating about 1.1 million acres of Bureau of Land Management (BLM) land and 1.3 million acres of Fish and Wildlife Service (FWS) land in Arizona into the National Wilderness Preservation System.

According to BLM Arizona State Director Lester K. Rosenkrance, the Arizona Desert Wilderness Act of 1990 was approved by Congress only minutes before the 101st Congress recessed. The wilderness bill will be forwarded to the White House. "The bill represents a compromise among environmentalists, mining interests, business people and other Arizonans to preserve Arizona's natural resources," Rosenkrance said. "Many people, especially the Arizona Congressional Delegation and their staff, have worked diligently to come up with a bill that ensures a lasting legacy of wilderness for Arizonans and all Americans."

After more than a year of negotiations between the delegation and interest groups, the consensus legislation designates 1,089,970 acres of BLM land and 1.3 million acres of FWS land as wilderness, and retains about 57,800 acres in Cactus Plain and 4,800 acres in Baker Canyon as BLM wilderness study areas. In addition, BLM's Gila Box was included in the legislation to receive special designation as a riparian national conservation area.

The Wilderness Act of 1964 created the National Wilderness Preservation System. It provides for special protection to federal lands of significant natural value and possessing wilderness characteristics. To qualify for wilderness designation an area generally is at least 5,000 acres "where the earth and community of life are untrammelled by man, ... retaining its primeval character, ... (and) affected primarily by the forces of nature." Construction, mining, timber cutting and the use of motorized vehicles are prohibited in wilderness areas.

Of the 39 new BLM wilderness areas, the Arrastra Mountain Wilderness northwest of Phoenix is the largest (126,760 acres) and boasts a rich diversity of geology, plants and wildlife. The smallest, Baboquivari Peak southwest of Tucson (2,065 acres), is renowned among mountaineers as the toughest mountain ascent in Arizona.

cc: RLB, FTG, WLK, JDS
SWED Staff

-MORE-

The legislation protects some of Arizona's best remaining riparian habitat along Burro Creek, the Santa Maria River, Big Sandy River, Peoples Canyon, the Bill Williams River and others. These gleaming green oases of vegetation support many common and rare raptors, mammals, reptiles, amphibians and birds. The southern bald eagle is making a comeback in several of these protected riparian areas.

The rocky escarpments of Trigo Mountains Wilderness near Yuma and Mt. Wilson Wilderness near Lake Mead provide important habitat for desert bighorn sheep. Mountain lions can be found in the Sierra Estrella Mountains Wilderness, while visitors to the Harquahala Wilderness will find ephemeral waterfalls and ample opportunity for solitude.

In addition, White Canyon Wilderness, 45 minutes north of Tucson, features prehistoric caves and rock shelters and hosts a variety of wildlife including the Peregrine Falcon, deer, javelina, quail and hawks.

Aravaipa Canyon Wilderness, designated in 1984 and one of the crown jewels of Arizona BLM's wilderness, was afforded further protection by the bill with the addition of 12,711 acres. The addition includes side canyons and desert uplands critical to the riparian, wildlife and scenic value of the Aravaipa Canyon.

Rosenkrance said, "The newly designated BLM wilderness areas will be added to the 272,600 acres of public land granted wilderness protection in 1984."

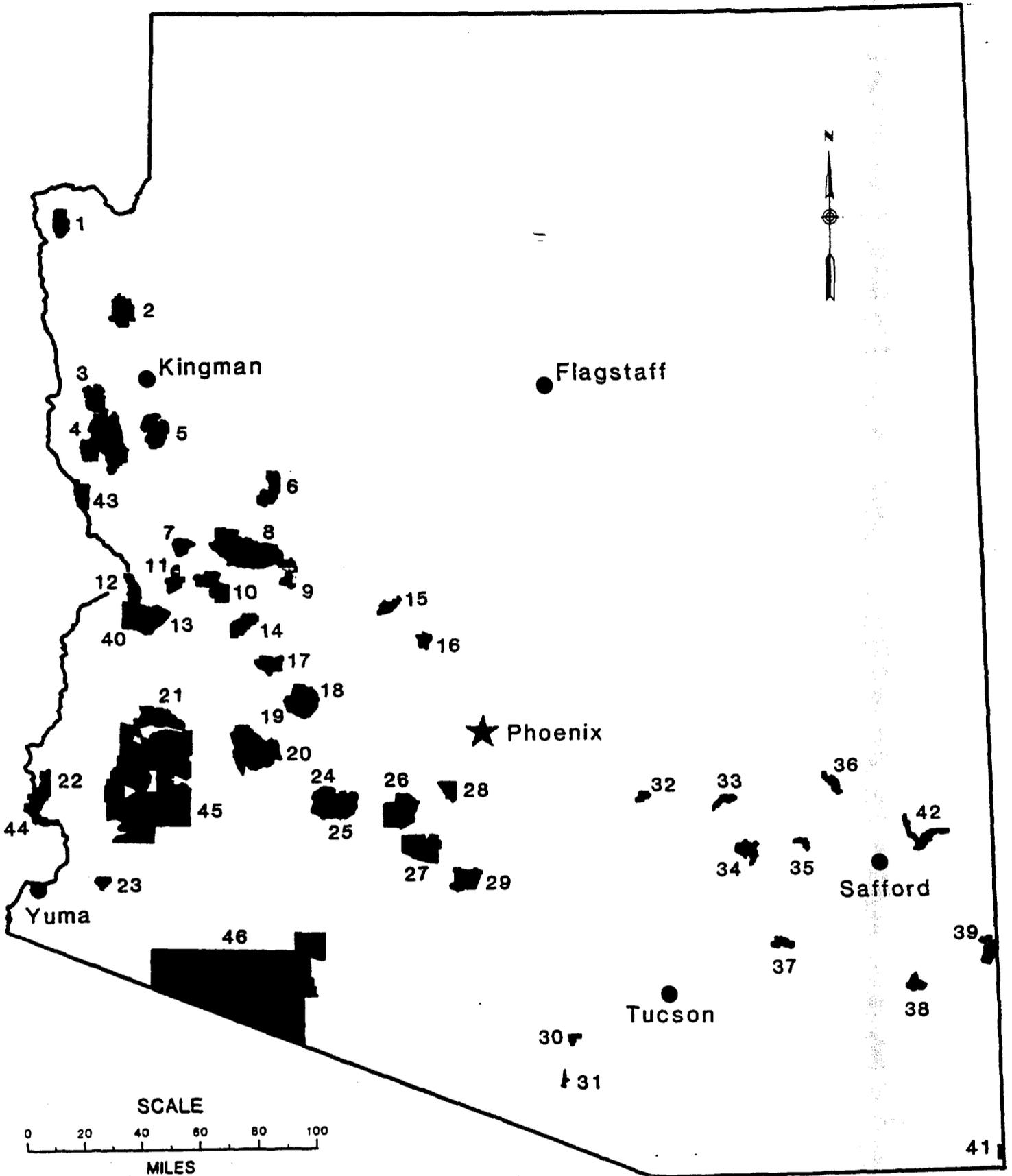
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EDITORS: Attached is a map showing the locations of the newly designated Bureau of Land Management and Fish and Wildlife Service Wilderness areas.

LEGISLATIVE PROPOSAL

VSA NUMBER	VSA NAME	VSA ACRES	ACRES RELEASED	ACRES DESIGNATED
02-01	Mount Wilson	24821	1221	23600
02-12/42	Mount Tipton	34060	2990	31070
02-24	Mount Nutt	29190	1660	27530
02-28/29	Warm Springs	114800	24200	90600
02-37/43	Wabayuna Peak	38940	540	38400
02-54	Aubrey Peak	16550	650	15900
02-58	Rawhide Mountains	58850	17250	41600
02-59/68/204	Arrastra Mountains	133595	6835	126760
02-62	Upper Burro Creek	27390	-510	27900
02-75	Harcuvar Mountains	74778	49491	25287
02-83	Hassayampa River Canyon	21900	10060	11840
02-95	Harquahala Mountains	73275	50410	22865
02-99	Big Horn Mountains	22337	1737	20600
02-100	Hummingbird Springs	67680	37510	30170
02-119	Hells Canyon	9379	179	9200
02-125	New Water Mountains	40600	18920	21680
02-128	Eagletail Mountains	119700	30700	89000
02-138	Signal Mountain	20920	5670	15250
02-142/144	Woolsey Peak	73930	12930	61000
02-157	North Maricopa Mountains	75483	11883	63600
02-160	Sierra Estrella	14830	330	14500
02-163	South Maricopa Mountains	72004	11204	60800
02-172	Table Top Mountain	39823	5423	34400
02-187	White Canyon	6968	1168	5800
02-202	Coyote Mountains	5080	0	5080
02-203	Baboquivari Peak	2065	0	2065
02-205	Tres Alamos	8910	210	8700
04-01	Needle's Eye	9436	235	9201
04-08	North Santa Teresa	8492	1902	6590
04-14	Fishhooks	15215	4332	10883
04-60	Peloncillo Mountains	12317		19650
04-65	Dos Cabezas Mountains	18509	6511	11998
04-81	Redfield Canyon	640		6600
05-12	Gibraltar Mountain	25260	6455	18805
05-15A	Swansea	41690	25935	15755
05-17	East Cactus Plain	13735		14630
05-23B	Trigo Mountain	36870	7775	29095
05-53A	Muggins Mountain	14455	5600	8855
	Aravaipa Additions			12711
02-07	Van Deeman	1510	1510	
02-08	Mockingbird	5815	5815	
02-09	Flack Mountains North	19900	19900	
02-10	Burns Springs	30600	30600	
02-14	Grapevine Wash	2200	2200	
02-15	Grand Wash Cliffs	12176	12176	
02-21	Mount Davis	2560	2560	
02-53	Planet	12765	12765	
02-56	Black Mesa	18575	18575	
02-60	Lower Burro Creek	22300	22300	
02-71	Buckskin Mountains	43798	43798	
02-84	South Bradshaws	640	640	
02-126	Little Horn Mountains West	13800	13800	
02-127	Little Horn Mountains	91930	91930	
02-129	East Clanton Hills	36600	36600	
02-135	Saddle Mountain	5500	5500	
02-136	Face Mountain	27575	27575	
02-164	Butterfield Stage Memorial	9566	9566	
02-194	Picacho Mountains	6400	6400	
02-197	Ragged Top	4460	4460	
04-22/23/24B	Turtle Mountain	17422	17422	
04-48	Javelina Peak	18853	18853	
04-66	Bowie Mountain	6156	6156	
05-05B	Needles East Addition	465	465	
05-07B	Crossman Peak	38630	38630	
05-07C/48	Mojave Wash	103365	103365	
05-13	Planet Peak	17645	17645	
05-23A	South Trigo Mountains	4500	4500	
05-31	Kofa 3 South	3400	3400	
05-33	Kofa 4 North	1900	1900	
05-34	Kofa 4 South	11220	11220	
TOTAL		2016703	953632	1089970
04-22/23/24A	Gila Box	17831	17831	NCA - 20866
04-70	Baker Canyon	4812		4812
05-14A/B	Cactus Plain	70360	12560	57800
TOTAL		75172	12560	62612
GRAND TOTALS		2109706	984023	

Arizona Desert Wilderness Act of 1990



NEWLY DESIGNATED BLM WILDERNESS AREAS

- 1 Mount Wilson
- 2 Mount Tipton
- 3 Mount Nutt
- 4 Warm Springs
- 5 Wabayuma Peak
- 6 Upper Burro Creek
- 7 Aubrey Peak
- 8 Arrastra Mountain
- 9 Tres Alamos
- 10 Rawhide Mountains
- 11 Swansea
- 12 Gibraltar Mountain
- 13 East Cactus Plain
- 14 Harcuvar Mountains
- 15 Hassayampa River Canyon
- 16 Hells Canyon
- 17 Harquahala Mountains
- 18 Hummingbird Springs

- 19 Big Horn Mountains
- 20 Eagletail Mountains
- 21 New Water Mountains
- 22 Trigo Mountains
- 23 Muggins Mountains
- 24 Signal Mountain
- 25 Woolsey Peak
- 26 North Maricopa Mountains
- 27 South Maricopa Mountains
- 28 Sierra Estrella
- 29 Table Top
- 30 Coyote Mountains
- 31 Baboquivari Peak
- 32 White Canyon
- 33 Needle's Eye
- 34 Aravaipa Canyon Additions
- 35 North Santa Teresa
- 36 Fishhooks
- 37 Redfield Canyon
- 38 Dos Cabezas Mountains
- 39 Peloncillo Mountains

BLM WILDERNESS STUDY AREAS

- 40 Cactus Plain
- 41 Baker Canyon

BLM RIPARIAN NATIONAL CONSERVATION AREA

- 42 Gila Box

FWS WILDERNESS AREAS

- 43 Havasu Refuge
- 44 Imperial Refuge
- 45 Kofa Refuge
- 46 Cabeza Prieta Refuge

ARIZONA WILDERNESS

1988



ARIZONA
MINING ASSOCIATION



ARIZONA MINING ASSOCIATION

DAVID C. RIDINGER
President

July 20, 1988

The Honorable Morris K. Udall (Identical packets provided
United States Representative to each Arizona Congressional
235 Cannon House Office Building delegate.)
Washington, D.C. 20515

Attention: Mark Trautwein

Dear Congressman Udall:

Arizona Wilderness Legislation

This letter is in response to the letter, dated April 8, 1987, from the Arizona Congressional delegation requesting input on potential legislation dealing with the issue of Arizona wilderness.

The Arizona Mining Association (AMA) is a trade association that represents the major mining companies that extract metals of copper, molybdenum, gold, and silver at Arizona mines. The mines and ancillary facilities of our member companies in Arizona provide nearly two-thirds of the nation's newly-mined copper annually, in addition to maintaining a workforce of nearly 10,000 employees.

We are deeply concerned with any federal legislation that would again withdraw more lands from multiple-use in Arizona or the rest of the nation. In legislating the Wilderness Act of 1964, Congress created the National Wilderness Preservation System to preserve and protect natural and pristine federal lands in national forests, parks and wildlife refuges. Originally, the system consisted of 54 wilderness areas encompassing 9 million acres of federal land. However, commencing with the 89th Congress and continuing through the 99th, each succeeding Congress

The Honorable Morris K. Udall
Arizona Wilderness Legislation
July 20, 1988

has passed new wilderness laws. Now there exist 72 laws that have created 455 wilderness areas encompassing nearly 90 million acres of public land. Arizona lands were involved in this succession of laws in the years 1964, 1970, 1972, 1976, 1978, 1980 and 1984.

Our concern is that any additional wilderness laws that may be enacted by the 100th Congress will be a staggering infringement upon the rights of the many users of public lands as well as a continuing erosion of that portion of land that remains open to exploration and location under existing mining laws. Our firm position is that all remaining federal land in Arizona be released for multiple-use for, and by, the public. The tools for proper administration of the multiple-use concept are already in place under the Federal Land Policy and Management Act of 1976.

The attached report was prepared by the AMA to document the position of the Arizona copper-mining industry on additional wilderness withdrawals in Arizona and to provide professional analysis of the mineral potential of some of the lands that will be effected by the wilderness proposals of various federal agencies or environmental groups. The report consists of an introduction, a summary, and conclusion, followed by 55 condensed mineral evaluations, as well as the AMA recommendation, on proposed wilderness areas in the Bureau of Land Management and U.S. Forest Service wilderness inventories.

The full mineral evaluation reports are included in 42 separate documents that will be delivered to your Arizona office within the next few days.

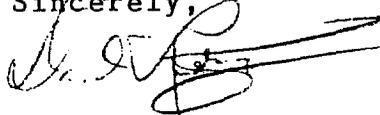
While the report contained herein pertains strictly to mineral issues, you should be aware that AMA is a participating member of the recently-formed Arizona Public Lands Multiple-use Coalition, which as the title signifies, is a coalition of public land users that includes AMIGOS, Arizona Chamber of Commerce, cattlemen, utilities, and a number of other user and recreational groups. You will receive a position paper from that group in the near future.

The Honorable Morris K. Udall
Arizona Wilderness Legislation
July 20, 1988

Also, aside from economic mineral potential and other important user-related issues, it is important that the issue of reserved water rights on these federal lands currently under consideration be solved to the satisfaction of those parties involved. Particularly in the Arizona desert, where water is a most important and vital resource, the locking up of acreage of any significant size can easily result in an inequitable imbalance of water usage, both upstream and downstream from a proposed or designated wilderness area. This issue cannot be overlooked; it must be solved.

We appreciate having the opportunity to submit our position to you on this issue that is so important to the future economic health of the State of Arizona. In the development of legislation on this matter, we urge that you conduct public hearings in Arizona. We look forward to working with you on this issue.

Sincerely,



David C. Ridinger

DCR/jc

pc: Tucson office:
The Honorable Morris K. Udall
373 S. Meyer Avenue
Tucson, Arizona 85701

A R I Z O N A W I L D E R N E S S

1 9 8 8

A PROPOSAL BY

THE

ARIZONA MINING ASSOCIATION

PREPARED FOR

THE ARIZONA

CONGRESSIONAL DELEGATION

JULY 1988

THE ARIZONA MINING ASSOCIATION
2702 North Third Street
Phoenix, Arizona

REPRESENTING

AMAX Incorporated
ASARCO Incorporated
Callahan Mining Corporation
Cyprus Minerals Company
Homestake Mining Company
Magma Copper Company
Phelps Dodge Corporation

LOOK TO THE FUTURE

Single use management as represented by the wilderness system is a step backward in land management policy. The unchecked expansion of the system and its philosophy may have impacts on the resource base of the United States which will echo for a century.

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Hassayampa River Canyon	30
Harquahala Mountains	32
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Crossman Peak	70
Mohave Wash	71
Gibraltar Mountain	72
Planet Peak	74
Cactus Plain	76
East Cactus Plain	78
Swansea	80
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ARIZONA MINING ASSOCIATION - SUMMARY OF WILDERNESS PROPOSALS

WILDERNESS STUDY AREA	BLM NUMBER	TOTAL WSA ACREAGE	BLM WILDERNESS PROPOSAL	AWC WILDERNESS PROPOSAL	AMA POSITION RETURN TO MULTIPLE USE	AMA REPORT NO.	CONGRESSIONAL DISTRICT
Mt Wilson	02-01	24 821	24 821	24 821	ALL	*	3
Black Mts N	02-09	19 900	18 400	19 150	ALL	A-25	3
Burns Springs	02-10	30 600	23 000	27 480	ALL	A-1	3
Mt Tipton	02-12/42	34 060	28 170	38 892	ALL	A-2	3
Grapevine Wash	02-14	2 200	0	7 680	ALL	*	3
Grand Wash Cliffs	02-15	12 176	0	12 176	ALL	*	3
Mt Davis	02-21	2 560	0	10 880	ALL	*	3
Mt Nutt	02-24	29 190	27 210	31 430	ALL	A-3	3
Warm Springs	02-28/29	114 800	90 600	94 180	ALL	A-4	3
Wabayuma Pk	02-37/43	38 940	38 940	40 500	ALL	A-5	3
Aubrey Pk	02-54	16 550	16 550	16 550	ALL	A-6	3
Black Mesa	02-56	18 575	0	16 000	ALL	A-7	3
Rawhide Mts	02-58	58 850	40 025	47 850	ALL	A-8	3
Arrastra Mts	02-59/68	123 930	109 523	133 100	ALL	A-9	3
Lower Burro Ck	02-60	22 300	21 660	24 640	ALL	A-10	3
Upper Burro Ck	02-62	27 390	0	38 910	ALL	A-11	3
Buckskin Mts	02-71	43 798	0	43 798	ALL	A-12	3
Harcuvar Mts	02-75	74 778	25 287	49 390	ALL	A-13	3
Hassayampa Rv Cyn	02-83	21 900	0	32 150	ALL	A-14	3
South Bradshaws	02-84	640	0	3 520	ALL	*	3
Harquahala Mts	02-95	73 275	22 865	62 545	ALL	A-15	3
Big Horn Mts	02-99	22 337	21 150	22 337	ALL	A-16	3
Hummingbird Sprs	02-100	67 680	0	31 500	ALL	A-16	3
Hells Canyon	02-119	9 379	0	9 700	ALL	A-17	3
New Water Mts	02-125	40 600	21 680	24 200	ALL	A-18	3
Little Horn Mts W	02-126	13 800	0	13 800	ALL	A-19	3
Little Horn Mts	02-127	91 930	0	106 650	ALL	A-19	3
Eagletail Mts	02-128	119 700	78 020	97 000	ALL	A-19	3
E Clanton Hills	02-129	36 600	0	36 560	ALL	A-19	3
Saddle Mtn	02-135	5 500	0	5 500	ALL	*	3
Face Mtn	02-136	27 575	0	29 375	ALL	A-20	3
Signal Mtn	02-138	20 920	15 250	18 490	ALL	A-20	3
Woolsey Pk	02-142/144	73 930	61 000	76 490	ALL	A-20	3
N Maricopa Mts	02-157	75 483	0	84 730	ALL	*	2
Butterfield Stage	02-164	9 566	0	--	ALL	*	2
S Maricopa Mts	02-163	72 004	0	72 004	ALL	*	2
Sierra Estrella	02-160	14 830	14 830	18 830	ALL	*	2
Table Top Mtn	02-172	39 823	34 400	39 823	ALL	A-21	2

*Not covered by reports due to a lack of specific information regarding these areas.

ARIZONA MINING ASSOCIATION - SUMMARY OF WILDERNESS PROPOSALS

Page 2

WILDERNESS STUDY AREA	BLM NUMBER	TOTAL WSA ACREAGE	BLM WILDERNESS PROPOSAL	AWC WILDERNESS PROPOSAL	AMA POSITION RETURN TO MULTIPLE USE	AMA REPORT NO.	CONGRESSIONAL DISTRICT
Batamote Mts	02-175	a	0	50 480	ALL	A-22	2
Sikort Chuapo Mts	02-176	a	0	10 665	ALL	A-22	2
Pozo Redondo	02-177	a	0	7 100	ALL	A-22	2
White Canyon	02-187	6 968	0	16 468	ALL	A-23	5
Picacho Mts	02-194	6 400	0	6 400	ALL	*	5
Ragged Top	02-197	4 460	0	14 995	ALL	A-24	2
Coyote Mts	02-202	5 080	5 080	9 060	ALL	*	2
Baboquivari Pk	02-203	2 065	2 065	7 465	ALL	*	2
Black Mts/Ives Pk	02-204	9 665	0	15 945	ALL	*	3
Tres Alamos	02-205	8 910	0	12 660	ALL	*	3
Needles Eye	04-01	9 716	9 201	9 201	ALL	*	4
Black Rock	04-08	8 492	6 590	6 590	ALL	*	5
Fishhooks	04-14	15 215	10 883	68 000	ALL	A-26	5
Day Mine	04-16	17 309	0	0	ALL	A-26	5
Gila Box	04-22/23/24A	17 831	0	17 831	ALL	A-27	5
Turtle Mtn	04-22/23/24B	17 422	0	17 422	ALL	A-27	5
Javelina Pk	04-48	18 853	0	18 853	ALL	*	5
Peloncillo Mts	04-60	12 317	0	12 317	ALL	A-28	5
Dos Cabeza Mts	04-65	18 509	11 998	14 088	ALL	A-29	5
Bowie Mtn-N End	04-66	6 156	0	37 156	ALL	A-30	5
Baker Canyon	04-70	4 812	0	24 910	ALL	*	5
Hoverrocker-Hell H.	04-77	2 791	0	37 121	ALL	A-31	5
Galiuro Add	04-81	640	640	13 500	ALL	A-32	5
Aravaipa Can-Add	--	--	--	27,520	ALL	A-33	
Needles East Add	05-05B	465	0	465	ALL	*	3
Crossman Peak	05-07B	38 630	19 290	38 630	ALL	A-34	3
Mohave Wash	05-07C;5-48;2-52	103 365	0	0	ALL	A-34	3
Gibraltar Mtn	05-12	25 260	15 675	25 260	ALL	A-35	3
Planet Peak	05-13	17 645	16 430	17 645	ALL	A-36	3
Cactus Plain	05-14A/B	70 360	62 325	70 360	ALL	A-37	3
Swansea	05-15A	41 690	11 795	41 690	ALL	A-38	3
E. Cactus Plain	05-17	13 735	13 735	13 735	ALL	A-37	3
S Trigo Mts	05-23A	4 500	0	4 500	ALL	A-39	3
Trigo Mts	05-23B	36 870	29 095	36 870	ALL	A-39	3
Kofa Unit 3 South	05-31	3 400	0	3 400	ALL	*	3
Kofa Unit 4 North	05-33	1 900	1 380	1 900	ALL	*	3
Kofa Unit 4 South	05-34	11 220	0	11 220	ALL	*	3
Muggins Mtn	05-53A	14 455	8 855	14 455	ALL	A-40	3

*Not covered by reports due to a lack of
specific information regarding these areas.

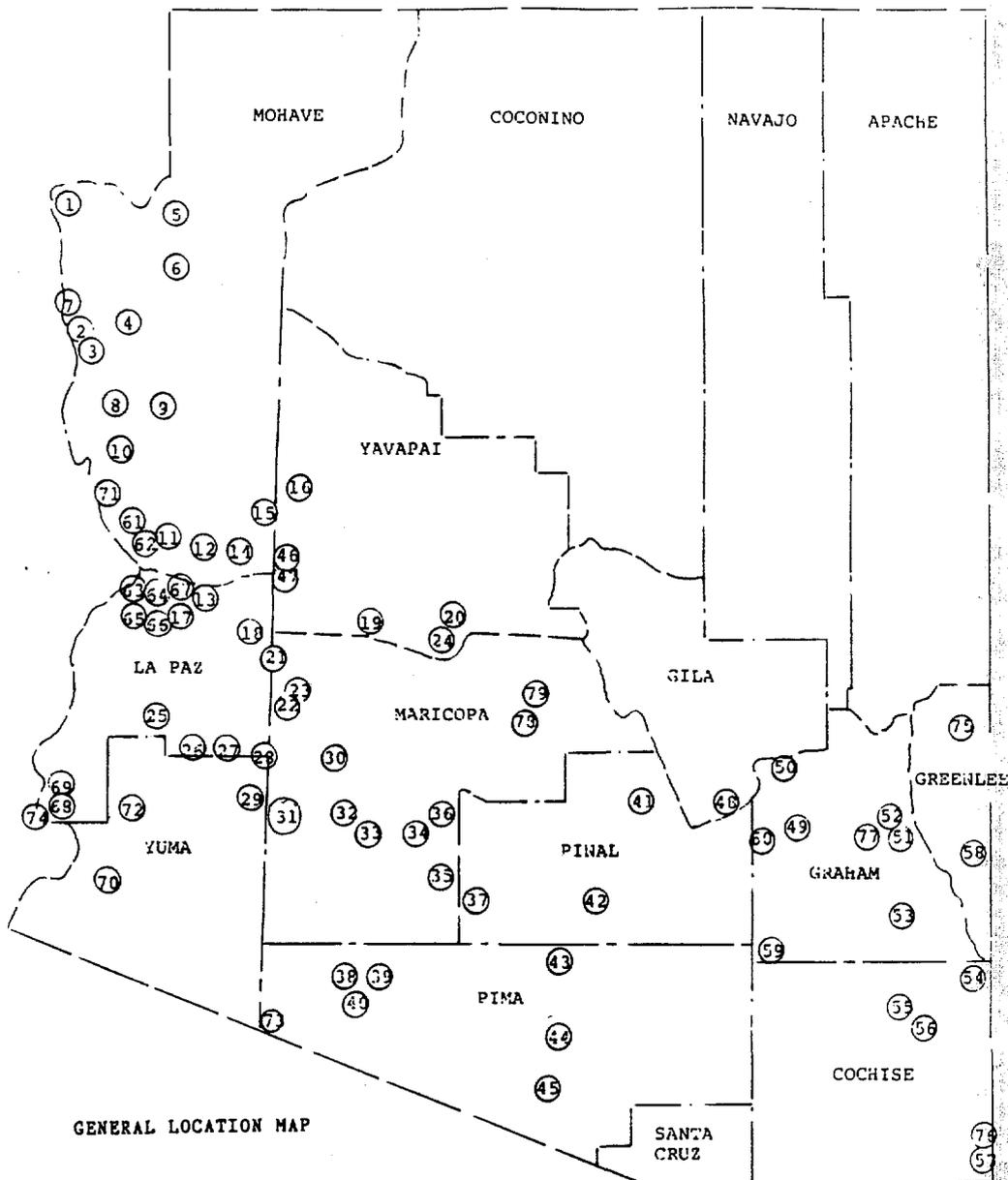
a = dropped from BLM inventory

ARIZONA MINING ASSOCIATION - SUMMARY OF WILDERNESS PROPOSALS

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OTHER AGENCY PROPOSALS	TOTAL WSA ACREAGE	AGENCY WILDERNESS PROPOSAL	AWC WILDERNESS PROPOSAL	AMA REPORT NO.
FISH AND WILDLIFE SERVICE REFUGE LAND				
Kofa Refuge	660 000	542 600	636 740	*
Cabeza Prieta Refuge	86 000	833 500	894 000	*
Imperial Refuge	17 806	8 340	15 050	*
Havasu Refuge	38 104	3 470	21 575	*
Total	801 910	1 387 910	1 567 365	
FOREST SERVICE LANDS				
Blue Primitive Area	167 379	187 410	304 096	A-41
Whitmire Canyon	12 740	0	12 740	*
Total	180 119	187 410	316 836	
OTHER AWC PROPOSALS				
Gila Complex Ntl Pk, Svc Study			151 680	A-27
Verde Wild & Scenic River Add		0	8.5 MILES	*
East Verde Wild & Scenic River Study			56 MILES	A-42

* Not covered by reports due to a lack of specific information regarding these areas.



GENERAL LOCATION MAP

Plate 1-d

- | | | | | | |
|-----------------------|------------|-------------------------|--------------------|------------------------------------|--------|
| 1. Mt Wilson | 02-01 | 35. S Maricopa Mts | 02-163 | 71. Needles East Add | 05-05B |
| 2. Black Mts N | 02-09 | 36. Sierra Estrella | 02-160 | 72. Kofa Unit 3 South | 05-31 |
| 3. Burns Springs | 02-10 | 37. Table Top Mtn | 02-172 | 72. Kofa Unit 4 North | 05-33 |
| 4. Mt Tipton | 02-12/42 | 38. Batamote Mts | 02-175 | 72. Kofa Unit 4 South | 05-34 |
| 5. Grapevine Wash | 02-14 | 39. Sikort Chuapo Mts | 02-176 | 73. Cabeza Prieta Refuge | |
| 6. Grand Wash Cliffs | 02-15 | 40. Pozo Redondo | 02-177 | 74. Imperial Refuge | |
| 7. Mt Davis | 02-21 | 41. White Canyon | 02-187 | 75. Blue Range/San Francisco | |
| 8. Mt Nutt | 02-24 | 42. Picacho Mts | 02-194 | 76. Whitwire Canyon | |
| 9. Warm Springs | 02-28/29 | 43. Ragged Top | 02-197 | 77. Gila Complex Ntl Pk, Svc Study | |
| 10. Wabayuma Pk | 02-37/43 | 44. Coyote Mts | 02-202 | 78. Verde Wild & Scenic River Add | |
| 11. Aubrey Pk | 02-54 | 45. Baboquivari Pk | 02-203 | 79. East Verde Wild & Scenic River | |
| 12. Black Mesa | 02-56 | 46. Black Mts/Ives Pk | 02-204 | | |
| 13. Rawhide Mts | 02-58 | 47. Tres Alamos | 02-205 | | |
| 14. Arrastra Mts | 02-59/68 | 48. Needles Eye | 04-01 | | |
| 15. Lower Burro Ck | 02-60 | 49. Black Rock | 04-08 | | |
| 16. Upper Burro Ck | 02-62 | 50. Fishhooks | 04-14 | | |
| 17. Buckskin Mts | 02-71 | 50. Day Mine | 04-16 | | |
| 18. Harcuvar Mts | 02-75 | 52. Turtle Mtn | 04-22/23/24B | | |
| 19. Hassayampa Rv Cyn | 02-83 | 53. Javelina Pk | 04-48 | | |
| 20. South Bradshaws | 02-84 | 54. Peloncillo Mts | 04-60 | | |
| 21. Harquahala Mts | 02-95 | 55. Dos Cabeza Mts | 04-65 | | |
| 22. Big Horn Mts | 02-99 | 56. Bowie Mtn-N End | 04-66 | | |
| 23. Hummingbird Sprs | 02-100 | 57. Baker Canyon | 04-70 | | |
| 24. Hells Canyon | 02-119 | 58. Hoverrocker-Hell H. | 04-77 | | |
| 25. New Water Mts | 02-125 | 59. Galiero Add | 04-81 | | |
| 26. Little Horn Mts W | 02-126 | 60. Aravaipa Can-Add | | | |
| 27. Little Horn Mts | 02-127 | 61. Crossman Peak | 05-07B | | |
| 28. Eagletail Mts | 02-128 | 62. Mohave Wash | 05-07C; 5-48; 2-52 | | |
| 29. E Clanton Hills | 02-129 | 63. Gibraltar Mtn | 05-12 | | |
| 30. Saddle Mtn | 02-135 | 64. Planet Peak | 05-13 | | |
| 31. Face Mtn | 02-136 | 65. Cactus Plain | 05-14A/B | | |
| 32. Signal Mtn | 02-138 | 66. E. Cactus Plain | 05-17 | | |
| 33. Woolsey Pk | 02-142/144 | 67. Swansea | 05-15A | | |
| 34. N Maricopa Mts | 02-157 | 68. S Trigo Mts | 05-23A | | |
| 34. Butterfield Stage | 02-164 | 69. Trigo Mts | 05-23B | | |
| | | 70. Muggins Mtn | 05-53A | | |



ARIZONA
MINING ASSOCIATION

ARIZONA WILDERNESS - 1988

A PROPOSAL BY

THE

ARIZONA MINING ASSOCIATION

INTRODUCTION

Arizona cannot afford to lock itself, its jobs, and its future out of public lands.

The Arizona Mining Association (AMA) represents seven major mining companies - AMAX Incorporated, ASARCO Incorporated, Callahan Mining Corporation, Cyprus Minerals Company, Homestake Mining Company, Magma Copper Company, Phelps Dodge Corporation - that extract the minerals of metals and fuels nationwide. Four of the companies - ASARCO Incorporated, Cyprus Minerals Company, Magma Copper Company, Phelps Dodge Corporation - are currently extracting and processing copper ore from 15 facilities located in 7 of the 15 counties of Arizona, and are responsible for the production of nearly two-thirds of the nation's newly-mined copper annually from Arizona mines.

The Arizona Congressional delegation has asked for public input in the selection of lands under wilderness review for inclusion into anticipated federal Arizona Wilderness legislation. In developing its position, the Association has joined with other major job-producing industries and land users that rely upon resources derived from Arizona lands. One common guideline has evolved---Arizona cannot afford to lock itself, its jobs, and its future out of public lands. Public lands must be maintained under multiple-use management principles. This not only assures progress in the development of precious resources such as timber, wildlife, forage, water and minerals, but also protects Arizona's unique and sensitive environment, as well as providing and protecting a facility for outdoor recreation.

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AMA's Public Lands Committee, consisting of member-company geologists and engineers with extensive exploratory and mineral production experience, has analyzed the data pertaining to each of the areas nominated by the Bureau of Land Management (BLM), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS) and the Arizona Wilderness Coalition (AWC) for inclusion into the wilderness system.

The findings of the AMA Public Lands Committee has been documented in 42 analytical reports indexed A-1 through A-42, which are being forwarded to Arizona Congressional offices under separate cover. A summary of those reports is contained in this document.

Average revenues from the Arizona copper-mining industry over the last decade have provided a combined direct and indirect economic impact of \$6 billion annually on the state's economy.

The mines of Arizona have contributed significantly to the economic and cultural growth of Arizona through the years. Average revenues from the Arizona copper-mining industry over the last decade have provided a combined direct and indirect economic impact of \$6 billion annually on the state's economy. This includes a total of \$407 million in property taxes and \$432 million in severance tax paid directly to the state over that ten-year period. Employment over the same period has followed the cyclical performance of the industry, reaching a high of 25,000 in 1981 and a current low of 10,000 employees. According to the U.S. Bureau of Mines, the value of non-fuel minerals production in Arizona in 1987 has been estimated at \$1.8 billion, an increase of 13% over 1986 and about two-thirds the peak output in 1981. Production from Arizona's mines is not only important to the economy of Arizona but also to the nation. The minerals of copper, gold, molybdenum, silver, uranium, rare earths and zinc play a significant part in countering this nation's growing dependency on foreign nations as a source of critical and strategic materials. The mines of Arizona can continue to contribute to Arizona and the nation well into the future, but only if the potential mineral lands are managed to provide access for mineral exploration and development.

The territory of Arizona has always been recognized as a highly mineralized area...

All through history, the territory of Arizona has always been recognized as a highly mineralized area. Prospectors have covered nearly every square foot and discovered most of the surface mineralization. The subsurface, however, is largely unexplored. Now, remote sensing data collected by space laboratories and new geophysical and drilling techniques have been combined to provide partial insight into the subsurface geology of Arizona. The potential for discovery of new mineral deposits and energy resources is significant. Recent advancements in technology of mineral extraction by leaching, in addition to the recognition of an, as yet, unbounded geologic environment hosting mineral deposits in an apparent trend that reaches from Sonora, Mexico, northwestward through Arizona to the prolific gold fields of Nevada, have provided encouragement that new target areas exist and can be identified to extend Arizona's mineral industry into the future.

Mineral exploration is the process of compiling bits and pieces of sometimes seemingly insignificant information, such as mineral occurrences, noteworthy geologic structures, and anomalous rock alteration, as well as historic production. Changes in economics, new processing methods, satellite scanning data, drilling data and new geologic theories often act as catalysts, precipitating renewed interest in areas leading to recognition of new target areas, and, potentially the development of new ore deposits or expansions of existing ore bodies.

In light of the latest important and rapidly developing new techniques and exploration concepts, the discovery process requires ongoing and repeated evaluation of old as well as new terrain.

Hydrometallurgy

Leaching is an extractive process that has been employed by the mining industry for many years. It is simply a process of introducing water or weak acids to mineral-bearing rock. The solution dissolves and

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captures metal contained in the rock. The enriched solution is then processed to recover the metal. The process is referred to as hydrometallurgy.

In recent years, the copper and gold mining companies in Arizona and Nevada, faced with declining ore grades in the mines and increasing foreign competition in the market place, have improved efficiencies of the hydro-metallurgical process to lower costs. The resulting process, called solvent-extraction/electrowinning (SX-EW), allows the efficient extraction of metals from low-grade mine dumps, pads, or in-place ore deposits in the form of a high quality product. The process by-passes the conventional costly method of producing metal by mining, milling and smelting. The final product is copper or gold of fine quality, available at a competitive cost. Lowering of production cost consequently allows lower grade ore deposits to be mined, having the effect of increasing the ore reserves at existing mines and developing new exploration parameters for future mines.

Western Detachment Zone

The Western Detachment Zone is a term applied to a developing mineral belt in western and southern Arizona. Large areas that were once thought to be weakly mineralized basement rock are, in fact, now known to be only thin, subhorizontal rock slabs faulted over underlying highly mineralized terrains. Detachment faults defining the rock slabs have localized stratiform deposits of gold and silver in the adjoining rock units. Recently, stratiform gold deposits exposed in erosional windows through detachment plates have been developed in Sonora, Mexico and La Paz County, Arizona. These deposits and similar mineral occurrences in western Arizona provide evidence that major mineral-associated geologic structures occur in a province extending from Mexico northwestward through Nevada. Although the structures and associated deposits are largely concealed by volcanic and granitic rocks, there is no doubt that the Western Detachment

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Zone in Arizona is one of the most favorable and promising areas in the United States for exploration and discovery of new precious metal deposits.

...The remaining federal lands with high mineral and energy resources... should not be locked-up under the restrictions of wilderness...

The U.S. Bureau of Mines has reported that 85% of the nation's copper reserves and 20% of its molybdenum reserves lie in Arizona. In addition, Arizona is rapidly becoming a major producer of uranium (Pathfinder Mines and Energy Fuels in Coconino County) as well as a major gold producer (Cyprus' Copperstone Mine in La Paz County). The extraordinarily high mineral potential of Arizona is unequivocal. Ongoing exploration efforts of industry, enhanced by the release of federal lands for multiple-use management, will undoubtedly result in important new discoveries of mineral resources, positively impacting local, state and national economies.

It is the firm position of the Arizona Mining Association that the remaining federal lands in Arizona, having been exempted from wilderness legislation which was enacted in 1964, 1970, 1972, 1976, 1978, 1980 and 1984, and which removed from public use some 2 million acres in 49 wilderness areas, now represent a selective collection of lands with high mineral and energy potential. These lands can be and should be professionally and properly managed by the Bureau of Land Management and the U.S. Forest Service under the multiple-use concept, and should not be locked up under the restrictions of wilderness.

A varied land ownership is superimposed upon the mineral resources of Arizona.

A varied land ownership is superimposed upon the mineral resources of Arizona. This includes State, private, Federal and Indian lands. The federal government controls 69% of the land, of which more than 27% consists of Indian reservations. Since

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the federal government oversees a major portion of the land in Arizona, the state, the mining industry and other job-producing industries, as well as outdoor recreationists, that rely on the use of public lands are significantly impacted by land-use policies and prohibitions dictated from Washington, D.C., especially when the federal government opts to manage the public lands for a single use instead of for multiple-use, which historically has properly served the many and varied users of public lands.

Multiple-use Management

Multiple-use management of public lands by the Bureau of Land Management is authorized by the Federal Land Policy and Management Act of 1976. Section 103(c) of the Act gives the definition of multiple-use as:

"The term 'multiple use' means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environ-

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ment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

The regulation of mining activities conducted on those lands administered by the Bureau of Land Management and U.S. Forest Service is contained in 43 CFR 3809. The regulations establish three categories which determine the actions required by a mining claimant in conducting mining activities: (1) casual use; (2) disturbance of five acres or less; and (3) disturbance of more than five acres. All mining activity must be preceded by a proposed plan of operation and a plan of reclamation. The plans must be approved by the appropriate agency before any activities are conducted.

Multiple-use management of public lands by the Bureau of Land Management and U.S. Forest Service was designed to protect the lands and yet allow utilization of their resource values. Multiple-use of federal lands in Arizona is beneficial to all Arizona citizens.

SUMMARY

The AMA reports contain site-specific resource data to support an industry position that recommends professional multiple-use management of the Federal lands in Arizona instead of locking the mineral and recreational potential into wilderness.

The Public Lands Committee of the Arizona Mining Association is structured by geologists from its member companies. They have combined their expertise, experience and a vast collection of data from company files in evaluating the federal lands, managed by the BLM, USFS, USFWS and NPS, that will probably be considered for legislated wilderness in the 100th Congress.

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The Committee has thoroughly examined the mineral potential of these lands and documented their findings in 42 analytical reports indexed A-1 through A-42. The reports refer to 55 of the 86 areas carried in the wilderness inventory of the various governmental agencies.

Each report contains site-specific resource data to support an industry position that recommends professional multiple-use management of the Federal lands in Arizona instead of locking the mineral and recreational potential into wilderness.

Existing wilderness in Arizona

As a result of Congressional actions since 1964, 2,031,877 acres in 49 areas in Arizona have been added to the National Wilderness Preservation System. These additions include: 272,520 acres in nine areas managed by the Bureau of Land Management; 1,315,657 acres in 36 areas managed by the U.S. Forest Service; and 443,700 acres in four areas managed by the National Park Service.

Federal wilderness inventory

The remaining federal lands in Arizona which have been or are being studied for their wilderness suitability are: 2,125,000 acres in 75 areas managed by the BLM; 67,900 acres in three areas managed by the U.S. Forest Service; 1,575,900 acres in four areas managed by the U.S. Fish and Wildlife Service; and 3,947,900 acres in four areas managed by the National Park Service.

Current Federal agencies' wilderness proposals

To date, Arizona offices of the BLM have recommended 958,418 acres in 36 areas as suitable for wilderness. The U.S. Forest Service is proposing that 187,410 acres in the Blue Range area be designated wilderness and the U.S. Fish and Wildlife Service is proposing that a total of 1,387,910 acres in the Kofa, Cabeza Prieta, Imperial and Havasu Refuges be included into the National Wilderness Preservation System.

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The Arizona Wilderness Coalition Proposal

The Arizona Wilderness Coalition (AWC), has submitted a wilderness proposal to the Arizona Congressional delegation that would increase the federal agencies' proposals by 60% and would include 2.2 million acres of BLM land, 1.6 million acres of U.S. Fish and Wildlife Service lands and 0.3 million acres of U.S. Forest Service land for a total of 4.1 million acres of wilderness, plus recommending extensive Wild and Scenic River studies.

Arizona Mining Association Proposal

The Arizona Mining Association recommends that the remaining Federal lands in Arizona be excluded from Congressional wilderness legislation and be released for multiple-use management.

CONCLUSION

The long-term economic growth of Arizona, and the nation as well, will be unreasonably and unjustifiably deterred if the areas nominated for wilderness and included in this report are withdrawn from multiple-use by federal legislation.

Arizona is a leader among the mining states. The state has a unique geologic history of nearly two billion years that has endowed it with deposits of critical mineral commodities that include: copper, molybdenum, gold, silver, uranium, coal, zinc and industrial minerals. The extent of these deposits can be determined only by continued exploration and development. Past exploration of Arizona's volcanogenic and porphyry copper deposits has provided the state with a stable mineral resource industry that has employed generations of its citizens. Mining continues to be a major contributor to Arizona's tax base and economic growth, as well as to that of the nation. The recently recognized mineral province being developed in western Arizona, the Western Detachment Zone, gives every indication of providing precious, base and industrial minerals that will sustain the mining industry well into the next century. However, future mineral development of this region is gravely threatened by the proposal to include more mineral rich Arizona land into the National Wilderness Preservation System. Restrictions imposed by

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wilderness designation will stop all economic development and most recreational uses. Wilderness does not create employment; wilderness does not contribute to the economy; wilderness does not allow recreation for most people.

The needs of Arizona wilderness advocates are adequately met by the existing 49 designated wilderness areas, comprising more than two million acres, in national parks, forest lands, national wildlife refuges, and federal and state monuments as well as millions of acres of rugged back country multiple-use lands. The diverse interest of the vast majority can best be served only if the public lands of western and southern Arizona remain open and properly regulated under the precepts of multiple-use management.

EXECUTIVE SUMMARY - AMA WSA

Evaluation Reports

Burns Springs AZ-020-010
AMA Report A-1

WSA Acreage 30,600 Acres

BLM Proposal - Partial Wilderness

Acres suitable	23,310
Not suitable	7,290
Private mineral rights	9,994
Private land	640
Active mining claims	265

AMA Recommendation

The Arizona Mining Association recommends that the Burns Springs WSA be released for multiple-use management.

Location

The Burns Springs WSA is located approximately 20 miles west of Kingman, Arizona, within the Western Detachment Zone.

Mineral Potential

The Portland gold mine adjoins the north side of the WSA. The Gold Key and Gold Chain properties adjoin the southside of the WSA. Numerous gold, silver, uranium and zeolite prospects are located within the WSA. The unit is highly mineralized.

The Bureau of Land Management has reported that one large, two medium and one small open pit mines will be developed within the unit that will provide employment for approximately 115 people.

If the Burns Springs WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Mt. Tipton - AZ-020-12/42
AMA Report A-2

WSA Acreage 34,060 Acres

BLM Proposal - Partial Wilderness

Acres suitable	28,170
Not suitable	5,890
Private mineral rights	10,240
Private land	2,240
Active mining claims	146

AMA Recommendation

The Arizona Mining Association recommends that the Mt. Tipton WSA be released for multiple-use management.

Location

The Mt. Tipton WSA is located 25 miles Northwest of Kingman, Arizona, and within the Western Detachment Zone.

Mineral Potential

There is a strong northwest orientation of mineralized structure in the Cerbat Mountains within the study area. This is documented in USGS Bulletin 978E, 1951, the Wallapai Mining District, Cerbat Mountains. There are surface occurrences of gold in the southeast corner and northwest corner of the WSA, indicating that the subsurface geology within the WSA is favorable for stratiform gold deposits.

The Bureau of Land Management reports that there will be one medium and one small mine in the area that will provide employment for approximately 30 people.

If the Mt. Tipton WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Mt. Nutt - AZ-020-024
AMA Report A-3

WSA Acreage 29,190 Acres

BLM Proposal - Partial Wilderness

Acres suitable	27,210
Not suitable	1,980
Private mineral rights	11,940
Private land	785
Active mining claims	635

AMA Recommendation

The Arizona Mining Association recommends that the Mt. Nutt WSA be released for multiple-use management.

Location

The Mt. Nutt WSA is located 15 miles west of Kingman, Arizona, in the Black Mountains and lies within the Western Detachment Zone.

Mineral Potential

The WSA is bordered on the west by the Oatman area which has produced over 1.5 million tons of gold ore averaging approximately 0.70 ounces per ton. Reserves in the area are estimated to be 2.2 million tons. The entire western portion of the WSA is blanketed by claims covering deposits of gold with silver, and the non-metallic minerals, brucite, beryl, and zeolites.

The Bureau of Land Management reports that a total of 12 exploration projects will result in one large open pit mine, one medium open pit mine, one medium underground mine and two small open pit mines. Two small, open pit gold mines would also be opened up on private mineral lands. Mining activities would employ about 100 people.

If the Mt. Nutt WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Warm Springs - AZ-02-28/29
AMA Report A-4

WSA Acreage

114,800 Acres

BLM Proposal - Partial Wilderness

Acres suitable	90,600
Not suitable	24,200
Private mineral rights	62,480
Private land	none
Active mining claims	283

AMA Recommendation

The Arizona Mining Association recommends that the Warm Springs WSA be released for multiple-use management.

Location

The Warm Springs WSA is located about 3 miles southeast of Oatman, Arizona, within the Western Detachment Zone.

Mineral Potential

The principal mineral deposits known to occur in the WSA area are gold, silver, zeolites, perlite and kaolinite. The Oatman area borders the WSA on the west. This area has reported production of 1.5 million tons of gold and silver ore and has reported reserves of 2.2 million tons. The BLM mineral potential map shows the entire WSA has at least moderate mineral potential with some areas in the northwest, central, and southeast having high mineral potential. The BLM also reports that there will be one large underground gold mine, one medium kaolinite mine, and two small open pit mines in the area that will provide employment for approximately 80 people.

If the Warm Springs WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Wabayuma Peak - AZ-02-37/43
AMA Report A-5

WSA Acreage 38,940 Acres

BLM Proposal - All Wilderness

Acres suitable	38,940
Not suitable	0
Private mineral rights	17,557
Private land	1,110
Active mining claims	24

AMA Recommendation

The Arizona Mining Association recommends that the Wabayuma Peak WSA be released for multiple-use management.

Location

The Wabayuma Peak WSA is located about 35 miles southwest of Kingman, Arizona, in the Hualapai Mountains.

Mineral Potential

Mineralization is characterized by highly anomalous concentrations of copper, zinc, tungsten, beryllium, gold, silver and lead occur in or near the Wabayuma Peak WSA. Once productive and significant mineral occurrences include 1) massive sulfide deposits of zinc, copper and lead; 2) deposits of tungsten and beryllium in quartz veins; 3) gold in quartz veins with lesser base metals; and 4) muscovite and minor beryl in pegmatites. Geochemically anomalous concentrations of other elements including molybdenum, antimony, bismuth, fluorine, lithium, and thorium are also represented in the area.

The Bureau of Land Management reports that five small mines and two moderate mines might be developed in the area.

If the Wabayuma Peak WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Aubrey Peak - AZ-020-54
AMA Report A-6

WSA Acreage 16,550 Acres

BLM Proposal - All Wilderness

Acres suitable	16,550
Not suitable	0
Private mineral rights	6,759
Private land	-
Active mining claims	132

AMA Recommendation

The Arizona Mining Association recommends that the Aubrey Peak WSA be released for multiple-use management.

Location

The Aubrey Peak WSA is located approximately 40 miles northeast of Lake Havasu City, Arizona, within the Western Detachment Zone.

Mineral Potential

The WSA overlies a portion of the McCracken mining district on the north and a portion of the Castaneda mining district in the south. The McCracken mine is located about one mile north of the WSA. Records show production of 173,000 tons of ore yielding 10,000 pounds of copper; 3,013,000 pounds of lead; 43,000 pounds of zinc; 699,000 ounces of silver and 100 ounces of gold. Mineral deposits of gold, silver, copper, lead, manganese and uranium occur within the WSA. Non-metallic mineral deposits of barite and fluorspar have been mined in the northern part of the study area.

The Bureau of Land Management reports that the north and southeast portion of the WSA has high mineral potential and projects that there will be seven small to moderately-sized mines opened in those areas.

If the Aubrey Peak WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Black Mesa - AZ-020-56
AMA Report A-7

WSA Acreage 18,575 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	18,575
Private mineral rights	9,147
Private land	-
Active mining claims	72

AMA Recommendation

The Arizona Mining Association recommends that the Black Mesa WSA be released for multiple-use management.

Location

The Black Mesa WSA is located approximately 50 miles east of Lake Havasu City, Arizona, within the Western Detachment Zone. The WSA is adjacent to the Aubrey Peak WSA on the west.

Mineral Potential

The Black Mesa and Aubrey Peak WSA's are separated by a highly mineralized area which has produced significant copper and lead associated with the minerals of silver, gold, sphalerite and barite. There are numerous manganese outcrops in the southern portion of the WSA. The Polianite group of claims adjoins the WSA on the south and has a reported production of 1,600 tons of ore grading 21% manganese. The northeast portion of this WSA overlaps the Eagle Point mining district. The BLM estimates that five small to moderately-sized mines will be developed in the area.

If the Black Mesa WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Rawhide Mountains - AZ-020-58
AMA Report A-8

WSA Acreage 58,850 Acres

BLM Proposal - Partial Wilderness

Acres suitable	40,025
Not suitable	18,825
Private mineral rights	5,940
Private land	-
Active mining claims	80

AMA Recommendation

The Arizona Mining Association recommends that the Rawhide Mountains WSA be released for multiple-use management.

Location

The Rawhide Mountains WSA is located approximately 25 miles east of Parker, Arizona, in the Western Detachment Zone.

Mineral Potential

Extensive exploration and mining data provided by governmental agencies and private industry unequivocally document the fact that the Rawhide Mountains WSA is an extraordinary area where metallic minerals have been widely concentrated. Metals having a high economic potential within the WSA include: gold, silver, copper, uranium and manganese. Somewhat lesser potential exists for the future production of beryllium, lead, zinc, fluorspar and other industrial minerals.

More than forty documented mines and significant prospects exist within or adjacent to the Rawhide Mountains WSA. Anomalous elements include gold, silver, copper, iron, arsenic, antimony, manganese, barium and uranium. High assay values have been reported. Exploration drilling totals over 63 drill holes since 1982, amounting to over 10,669 feet. Current exploration programs are being concentrated on precious metals and oxide copper deposits associated with low-angle faults like those in the Rawhide Mountains WSA and surrounding areas. Exploration geologists recognize that oxidized hematite, manganese, copper and gold veinlets with quartz, adularia, pyrite, amethyst, and barite mineralization are often indicators of underlying large tonnage, economic gold mineralization. Due to the low-angle detachment faults,

Rawhide Mountains - AZ-020-58
AMA Report A-8, continued

thin upper plate rocks very likely conceal undiscovered orebodies and broad expanses of apparently barren lower plate rocks may contain economic mineralization along deeper unexposed faults. The numerous prospects of gold and copper mineralization extending from the Planet Peak area through the Swansea Mine area, Clara Peak area and the mines in the Rawhide Mountains area north of the Bill Williams River may in fact represent mineralization along a single, largely subsurface, low-angle mineralized fault. The Rawhide detachment fault is exposed in the Rawhide Mountains WSA, and down-dip extensions and other related subhorizontal faults may have localized unexposed, subsurface mineralization.

Surface indicators of widespread mineralization are numerous. The geological environment of this WSA is extremely favorable for the occurrence of blind deposits with commercial mining economics. Discovery of such orebodies will depend upon multiple-use land status that permits comprehensive exploration with extensive drilling. In spite of the present level of inactivity, largely due to the uncertainties of wilderness designation, Rawhide Mountains WSA encompasses one of Arizona's most favorable regions for future precious and base metal mining.

If the Rawhide Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Arrastra Mountain - AZ-020-59/68
AMA Report - A-9

WSA Acreage 123,930 Acres

BLM Proposal - Partial Wilderness

Acres suitable	109,523
Not suitable	14,407
Private mineral rights	8,796
Private land	40
Active mining claims	192

AMA Recommendation

The Arizona Mining Association recommends that the Arrastra Mountain WSA be released for multiple-use management.

Location

The Arrastra Mountain WSA is located about 20 miles southeast of Bagdad, Arizona, within the Western Detachment Zone.

Mineral Potential

There are thirty-eight documented mines and significant prospects within and adjacent to the Arrastra Mountain WSA. Numerous multi-element assays have proven economic and near economic grade mineralization in many small mines, prospects and drill holes. This mineralization includes gold, silver, copper, lead, zinc, tungsten, manganese, rare earth elements and uranium. Tin and beryllium have some potential in the high fluorine rhyolitic suite occurring in the northeastern part of the WSA. Beryllium also has moderate potential in widely distributed pegmatites within the Precambrian terrain. Substantial exploration drilling has been done near the WSA and a development drilling program is currently being conducted at the Burro Mine, a few miles north of the area.

Gold prospects and small mines in the WSA may be the surface indications of substantial economic subsurface mineralization. The gold mineralization is of unknown age, but the mineralized structures, in part, may be related to the low-angle faulting associated with metamorphic core complexes and to gold and copper mineralization of the Copperstone type. Evidence for widespread hydrothermal gold mineralization is unequivocal, but any new discovery will depend upon continuing exploration.

Arrastra Mountain - AZ-020-59/68
AMA Report - A-9, continued

The mining and prospecting history, and the evidence of widespread mineralization in the Arrastra Mountain WSA clearly establish its widespread high mineral potential. The highest potential for future mine development exists in the northern and western portions of the WSA.

The price of gold has increased more than 1,000 percent in the past two decades, and dramatic advances in mining and extractive technology have occurred since the last gold production and mine development in the Arrastra Mountain WSA. Large, newly-opened gold mines in western Arizona and southeastern California have ores averaging only about 0.04 to 0.08 ounces per ton gold - one tenth the gold content generally needed for mining prior to the present decade. Technological and price changes have dramatically improved the present economics of gold mining in many old, seemingly exhausted mines and previously unimportant mining districts. In spite of the present level of inactivity, which is largely due to the uncertainties of Wilderness designation, the Arrastra Mountain WSA constitutes a prime target for future gold exploration.

If the Arrastra Mountain WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Lower Burro Creek - AZ-020-60
AMA Report A-10

WSA Acreage 22,300 Acres

BLM Proposal - Partial Wilderness

Acres suitable	21,660
Not suitable	640
Private mineral rights	1,281
Private land	-
Active mining claims	226

AMA Recommendation

The Arizona Mining Association recommends that the Lower Burro Creek WSA be released for multiple-use management.

Location

The Lower Burro Creek WSA is located about 15 miles southwest of Bagdad, Arizona.

Mineral Potential

Extensive exploration and mining data provided by governmental agencies and private industry unequivocally document the Lower Burro Creek WSA as one of those extraordinary areas where both metallic and industrial minerals have been widely concentrated. Metals and industrial minerals having a high economic potential within the WSA include: gold, silver, copper, tin, bentonitic clay and magnesite. Somewhat lesser potential exists for the future production of beryllium, uranium, tungsten, lead, zinc, platinum, chromium, nickel and zeolites. Surface indicators of widespread mineralization are numerous. The geological environment of the WSA is extremely favorable for the occurrence of blind deposits with commercial mining economics.

A long-established network of secondary roads and truck trails provides easy access to most of the WSA, including most of the 221 valid mining claims and the 69 kv power line which transects the northwestern portion of the area. Because of its accessibility, the Lower Burro Creek WSA is a prime recreational area for winter visitors, and is heavily traveled by rock collectors, prospectors, hunters and other outdoor enthusiasts. The BLM lists the use of this area by recreationists at 4,000 visitor days per year. Semi-precious lapidary stone including agate, chalcedony, opal, crystalline quartz and obsidian should continue to attract large numbers of enthusiastic collectors.

Lower Burro Creek - AZ-020-60
AMA Report A-10, continued

If the Lower Burro Creek WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Upper Burro Creek - AZ-020-62
AMA Report A-11

WSA Acreage 27,390 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	27,390
Private mineral rights	6,218
Private land	-
Active mining claims	18

AMA Recommendation

The Arizona Mining Association recommends that the Upper Burro Creek WSA be released for multiple-use management.

Location

The Upper Burro Creek WSA is located approximately 5 to 10 miles northwest of Bagdad, Arizona.

Mineral Potential

Mines and prospects are rather rare in and immediately adjacent to the Upper Burro Creek WSA. This is mostly due to the fact that a large portion of the WSA is covered by Tertiary basalts and intermediate agglomerates.

Four major deposit and anomaly types are present in and adjacent to the WSA. These are: (1) anomalous nickel and chromium in Precambrian mafic rocks; (2) anomalous molybdenum, fluorine and copper in an area of Precambrian rocks near Stone Corral; (3) porphyry copper mineralization; and (4) quartz veins bearing gold, silver, lead, zinc and copper.

Anomalous nickel values have been noted in a coarse-grained pyroxenite near the mouth of Boulder Creek. Assays of drill core from Mulholland Basin have indicated relatively high concentrations of chromium. Dike and lens-like bodies of magnetite and ilmenite are associated with gabbro and anorthosite south of Centipede Mesa and along Boulder Creek. Anomalous platinum group element values are expected by analogy with other Precambrian layered igneous complexes.

Molybdenum, fluorine and copper have been reported in anomalous amounts from stream sediment samples taken near Stone Corral at the edge of the WSA.

Upper Burro Creek - AZ-020-62
AMA Report A-11, continued

Extremely high fluorine was noted in water samples taken in the same area. This anomaly may be genetically associated with Tertiary topaz rhyolite which occurs immediately to the south of the WSA. A temporal and spatial relationship between topaz rhyolites and Climax-type molybdenum deposits is a well-documented association.

If the Upper Burro Creek WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Buckskin Mountains - AZ-020-71
AMA Report A-12

WSA Acreage 43,798 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	43,798
Private mineral rights	920
Private land	-
Active mining claims	123

AMA Recommendation

The Arizona Mining Association recommends that the Buckskin Mountain WSA be released to multiple-use management.

Location

The Buckskin Mountain WSA is located 35 miles east of Parker, Arizona, within the Western Detachment Zone.

Mineral Potential

Mineral deposits of gold, silver, copper, manganese, uranium, iron and fluorspar occur within and near the Buckskin Mountains WSA. Mineral deposits of the Buckskin region consist of (1) manganese deposits primarily in Tertiary redbeds and volcanics, as veins and interbedded with the sediments; (2) copper-gold-hematite deposits along a regional detachment fault; (3) copper-gold deposits in high-angle faults cutting the lower plate gneiss; (4) stratiform uranium occurrences in sediments and uranium occurrences in veins; (5) low-angle quartz, galena and fluorite veins; and (6) iron as hematite replacements of limestone near the detachment fault. The copper-gold occurrences are concentrated along the detachment fault and are most extensive as oxidized copper minerals (chrysocolla, copper carbonates), hematite (earthy and specular), gold and quartz occurring in carbonate host rocks just above the flat detachment surface.

Deposits of these types are currently exploration targets within the Rawhide Mountains area and throughout much of western Arizona and southeastern California. Other mines with similar geological

Buckskin Mountains - AZ-020-71
AMA Report A-12, continued

evolution include: 1) the Copperstone Mine located 15 miles north of Quartzite, Arizona, with open pit reserves of 6 million tons of 0.085 ounces per ton of gold and substantially higher grade gold reserves currently being evaluated for underground mining (presently producing 60,000 ounces of gold per year); 2) the Mesquite Mine located 27 miles northwest of Yuma, Arizona, with open pit reserves of over 60 million tons averaging 0.056 ounces per ton of gold (currently producing 150,000 ounces of gold per year); and 3) the Picacho Mine, located 18 miles northwest of Yuma, with open pit reserves of 9.7 million tons averaging 0.04 ounces per ton of gold (currently producing 30,000 ounces of gold per year).

It is important to note that relatively recent geological pioneering studies have only begun to unravel the extremely complex geology of western Arizona. Much additional geologic work remains in order to develop an understanding of the relationship between ore deposits and regional geologic structures in this widely mineralized terrain.

Surface indicators of widespread mineralization are numerous. The geological environment of this WSA is extremely favorable for the occurrence of blind deposits with commercial mining economics. Discovery of such orebodies will depend upon multiple-use land status that permits comprehensive exploration with extensive drilling.

The Bureau of Land Management reports that there are 6.5 miles of roadway in the area that provide access for hunters, campers and prospectors. The BLM estimates the use of this area by recreationists at 600 visitor days per year.

If the Buckskin Mountain WSA is declared a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Harcuvar Mountains AZ-020-75
AMA Report A-13

WSA Acreage

74,778 Acres

BLM Proposal - Partial Wilderness

Acres suitable	25,287
Not suitable	49,491
Private mineral rights	4,980
Private land	-
Active mining claims	99

AMA Recommendation

The Arizona Mining Association recommends that the Harcuvar Mountains WSA be released for multiple-use management.

Location

The Harcuvar Mountains WSA is located approximately 42 miles west of Wickenburg, Arizona, within the Western Detachment Zone.

Mineral Potential

Deposits of copper, gold and silver occur within and near the Harcuvar Mountains WSA. Mineral deposit types include: 1) copper-gold deposits as veins cutting the Precambrian metamorphic complex; and 2) copper and gold-bearing veins cutting various upper plate rocks.

The copper-gold deposits occur in northwest-trending veins localized along shear zones in the Cunningham Pass area. Gold values are relatively high, ranging up to 2.4 ounces per ton.

Copper-gold deposits in upper plate rocks occur only in a limited area in the Bullard Peak area. The Bullard detachment fault is exposed just north of Bullard Peak and places upper plate rocks over the mylonitic gneiss which makes up the main mass of the Harcuvar Mountains. Information on these deposits is limited, but they appear to be veins.

There is a possibility of porphyry copper mineralization in the vicinity of the Harcuvar Mountains WSA as indicated by the presence of Tertiary-Mesozoic intrusives and the association of dikes of this age with mineralization.

Harcuvar Mountains AZ-020-75,
AMA Report A-13, continued

Thirteen documented mines and significant prospects exist within and adjacent to the Harcuvar Mountains WSA. Numerous multi-element assays have shown economic and near economic grade mineralization in many small mines, prospects and drill holes in or near the Harcuvar Mountains WSA. This mineralization includes gold, silver, copper and iron. Substantial exploration drilling has been done in and near the WSA.

Gold prospects and small mines in the WSA may be the only surface indications of substantial economic subsurface mineralization. The Harcuvar Mountains mineralization can be related to no currently fashionable ore genesis model, but the mineralization can not be discounted simply because its genesis is poorly understood. Evidence of hydrothermal gold and copper mineralization is unequivocal, but any new discovery will depend upon continuing exploration.

If the Harcuvar Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Hassayampa River Canyon AZ-020-83
AMA Report A-14

<u>WSA Acreage</u>	21,900 Acres
<u>BLM Proposal</u> - No Wilderness	
Acres suitable	0
Not suitable	21,900
Private mineral rights	320
Private land	10,250 (state land)
Active mining claims	767

AMA Recommendation

The Arizona Mining Association recommends that the Hassayampa River Canyon WSA be released for multiple-use management.

Location

The Hassayampa River Canyon WSA is located approximately 10 miles northeast of Wickenburg, Arizona.

Mineral Potential

Mineralization within and near the Hassayampa River Canyon WSA is characterized by highly anomalous concentrations of gold, silver, copper, lead, zinc and nickel. Once productive and significant mineral occurrences within and near the Hassayampa River Canyon WSA include: 1) quartz veins with auriferous base-metal sulfides; 2) silver, silver sulfides, copper sulfides, nickel sulfides and cobalt sulfides in a quartz and calcite gangue; 3) quartz veins with copper-gold mineralization; 4) gold-bearing placers; and 5) beryl in pegmatites.

Gold occurs in veins, faults and breccias on the northeast and southwest margins of the WSA. The silver, copper, nickel, and cobalt association occurs in a single mine south of the WSA. Quartz veins with copper and gold mineralization occur south and east of the WSA, while gold-bearing placers are most important at the northern margin of the WSA. Beryl occurs in pegmatites east of the WSA.

Thirty-four documented mines and significant prospects exist within and adjacent to the Hassayampa River Canyon WSA. Numerous multi-element assays have proven economic and near economic grade mineralization in many small mines, prospects and drill holes.

Hassayampa River Canyon AZ-020-83
AMA Report A-14, continued

Surface indicators of widespread mineralization are numerous. The geological environment of the WSA is extremely favorable for the occurrence of undiscovered commercial deposits. The discovery and development of such orebodies will depend upon multiple-use land status that permits comprehensive exploration with extensive drilling.

If the Hassayampa River Canyon WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Harquahala Mountains AZ-020-95
AMA Report A-15

WSA Acreage

73,275 Acres

BLM Proposal - Partial Wilderness

Acres suitable	22,865
Not suitable	50,410
Private mineral rights	720
Private land	-
Active mining claims	912

AMA Recommendation

The Arizona Mining Association recommends that the Harquahala Mountains WSA be released for multiple-use management.

Location

The Harquahala Mountains WSA is located approximately 20 miles east of Vicksburg, Arizona, within the Western Detachment Zone.

Mineral Potential

Mineralization throughout the Harquahala range is dispersed through a variety of lithologies. Metal occurrences, worked mainly for precious metals, date back to the 1800's. Most gold-silver deposits contain minor base metals, particularly copper. Tungsten associations like those described in the neighboring Granite Wash Mountains are also noted. Precious metal production from the district totals about 2,450 oz. Au and 7,043 oz. Ag (Keith and others, 1983a) with the main producers being the Socorro, Hercules, and San Marcos mines (+600 oz. Au each).

The Bureau of Land Management projects that three moderate mines, eleven small mines and three geothermal wells may be developed in the area.

If the Harquahala Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Big Horn Mountains AZ-020-99
AMA Report A-16

WSA Acreage

22,337 Acres

BLM Proposal - Partial Wilderness

Acres suitable	21,150
Not suitable	1,187
Private mineral rights	1,120
Private land	1,120
Active mining claims	59

AMA Recommendation

The Arizona Mining Association recommends that the Big Horn Mountains WSA be released for multiple-use management.

Location

The Big Horn Mountains WSA is located approximately 18 miles northwest of Tonopah in west-central Arizona, south of, and adjacent to, the Hummingbird Springs WSA. The area is located within the Western Detachment Zone.

Mineral Potential

Some 14,600 acres have been described by the Bureau of Land Management as having high mineral potential and 1,390 acres as having moderate mineral potential.

Placer claims cover 2,600 acres in the northern and northwest portions of the WSA. Deposits of titaniferous magnetite within alluvial stream beds occur over a wide area. Production of magnetite with titanium is reported, but exact figures are unknown. Other prospects are located along the northern boundary of the WSA and contain gold, silver, copper and lead mineralization in quartz veins and siliceous shear zones. Prospects within the WSA contain some gold, silver and copper.

The large number of mines and prospects within, and adjacent to, the WSA indicate that the area contains wide-spread zones of mineralization. Work to date indicates that the mineralization dominantly occurs as small fissure veins of limited extent; no economic resource has yet been identified.

If the Big Horn Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Hummingbird Springs AZ-020-100
AMA Report A-16

WSA Acreage 67,680 Acres

BLM Proposal - No Wilderness

Acres suitable		0
Not suitable		67,680
Private mineral rights	approx.	3,000
Private land (state)		1,920
Active mining claims		266

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action for no wilderness in the Hummingbird Springs WSA and recommends that the unit be released for multiple-use management.

Location

The Hummingbird Springs WSA is located approximately 25 miles southwest of Wickenburg in west-central Arizona, within the Western Detachment Zone.

Mineral Potential

There are several mines within the WSA and 21 mines on or near the northwest boundary of the WSA. The U.S. Hope, mine located on the WSA boundary, has a potential of 15 to 30 million tons of 1.5% copper and \$3.00 combined gold and silver values per ton. Geological, geophysical, and geochemical data, as well as an inventory of mines and prospects, indicate that the area contains regions with moderate resource potential.

The large number of mines and prospects within, and adjacent to, the WSA indicate that the area contains broad zones of mineralization. Work to date indicates that the minerals dominantly occur in small fissure veins of limited extent.

If the Hummingbird Springs WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Hell's Canyon AZ-020-119
AMA Report A-17

WSA Acreage 9,379 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	9,379
Private mineral rights	640
Private land (state)	640
Active mining claims	124

AMA Recommendation

The Arizona Mining Association supports the Bureau of Land Management's proposed action of no wilderness and recommends that Hell's Canyon WSA be released for multiple-use management.

Location

The Hell's Canyon WSA is located approximately 20 miles west of Wickenburg, Arizona, within the Western Detachment Zone.

Mineral Potential

Known gold mineralization occurs in steep to shallow dipping epithermal veins that are largely composed of dark calcite at the surface. Several separate areas of mineralization occur in the district. The Copper Lakes (Clementine) and the Mystic deposits have been recently drilled and contain moderate and small reserves, respectively. The Black Prince mine has been the major historic producer in the district. Tungsten mineralization also occurs in the district and one prospect occurs very near the Clementine gold deposits.

The BLM anticipates two exploration projects to locate lead, silver and gold deposits within the WSA.

The Hell's Canyon WSA has been an area of sporadic exploration activity since 1980. Potential mine development has been limited because of the uncertainties of wilderness designation.

If the Hell's Canyon WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

New Water Mountains AZ-020-125
AMA Report A-18

WSA Acreage 40,600 Acres

BLM Proposal - Partial Wilderness

Acres suitable	21,680
Not suitable	18,920
Private mineral rights	-
Private land	-
Active mining claims	102

AMA Recommendation

The Arizona Mining Association recommends that the New Water Mountains WSA be released for multiple-use management.

Location

The New Water Mountains WSA is located approximately 15 miles east of Quartzite, Arizona, within the Western Detachment Zone.

Mineral Potential

The unit contains 18,860 acres listed as having high mineral potential and 9,240 acres with moderate mineral potential. The BLM Resource Management Plan states that "Tertiary volcanism produced many areas of gold and silver potential within and around the WSA". Also copper, zinc, manganese, and molybdenum are present within the WSA and there is a potential for tungsten, perlite and marble.

Past production of gold, silver and copper from mines in or near the WSA have been significant.

If the New Water Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Little Horn Mountains West AZ-020-126A
AMA Report A-19

WSA Acreage 13,800 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	13,800
Private mineral rights	1,200
Private land	40
Active mining claims	334

AMA Recommendation

The Arizona Mining Association supports the Bureau of Land Management proposal for no wilderness in the Little Horn Mountains West WSA and recommends that the area be released for multiple-use management.

Location

The Little Horn Mountains West WSA is located approximately 25 miles south of Vicksburg, Arizona, within the Western Detachment Zone.

Mineral Potential

The BLM has identified 2,560 acres as high and 8,230 acres as moderate for the mineral potential of gold, silver, copper, lead and manganese. The area contains 5 mines. Recent exploration at the Verstone mine indicates that the deposit could contain several million tons of ore grade gold mineralization. Reconnaissance work indicates that the mineralization is associated with flat-lying detachment faults.

Economic mineral concentrations are extremely rare and commonly appear to be randomly distributed in nature, requiring extensive exploration to locate and define deposits for economic development.

Little Horn Mountains West WSA is a unique area in Arizona in which potentially economic mineralization is clearly concentrated. Mineral investigations of favorable geologic environment indicate that major mineral deposits may be located in the area. The WSA should retain the multiple-use classification and should not be designated as wilderness in whole or in part.

If the Little Horn Mountains West WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Little Horn Mountains AZ-020-127
AMA Report A-19

WSA Acreage 91,930 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	91,930
Private mineral rights	2,680
Private land (state)	1,320
Active mining claims	259

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action of no wilderness in the Little Horn Mountains WSA and recommends that the area be released for multiple-use management.

Location

The Little Horn Mountains WSA is located approximately 25 miles south of Vicksburg, Arizona, within the Western Detachment Zone.

Mineral Potential

The Bureau of Land Management identifies 14,860 acres of high mineral potential and 18,680 acres of low mineral potential lands within the WSA, and reports that exploration programs in the southwestern portion of the WSA may result in the mining of manganese, barium, lead and silver resources. BLM also anticipates gold exploration in the northern portion just south of the El Paso gas line.

Economic mineral concentrations are extremely rare in nature, necessitating extensive exploration to locate and define deposits and their potential for economic development.

The Little Horn Mountains WSA is a unique area in Arizona in which minerals are clearly concentrated. Mineral investigations of favorable geologic environments suggest that major mineral deposits may be located in the area.

If the Little Horn Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Eagletail Mountains AZ 020-128
AMA Report A-19

WSA Acreage 119,700 Acres

BLM Proposal - Partial Wilderness

Acres suitable	78,020
Not suitable	41,680
Private mineral rights	5,120
Private land	2,400
Active mining claims	38

AMA Recommendation

The Arizona Mining Association recommends that the Eagletail Mountains WSA be released for multiple-use management.

Location

The Eagletail Mountains WSA is located approximately 30 miles southeast of Vicksburg, Arizona, within the Western Detachment Zone.

Mineral Potential

There are 22 mines and prospects in the Eagletail Mountains WSA that exhibit mineralization, including gold, silver, and manganese. Reported production from the area is 100 tons of manganese ore grading 22% Mn.

The Eagletail Mountains WSA is a unique area in Arizona where ore minerals are clearly concentrated. Mineral investigations have documented the presence of favorable geologic environments possibly containing major mineral deposits.

If the Eagletail Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

East Clanton Hills AZ-020-129
AMA Report A-19

WSA Acreage 36,300 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	36,300
Private mineral rights	0
Private land	0
Active mining claims	224

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action of no wilderness in the East Clanton Hills WSA and recommends that the unit be released for multiple-use management.

Location

The East Clanton Hills WSA is located approximately 25 miles southwest of Tonopah, Arizona, within the Western Detachment Zone.

Mineral Potential

In the East Clanton Hills WSA, gold, lead, and molybdenum vein deposits occur in Precambrian schist which is intruded by a Tertiary andesite. There was some production from one of the gold-bearing veins. A fluorite vein occurs in a Tertiary intrusive rock, and uranium mineralization, probably localized in Tertiary sediments, occurs on the southwest border of the WSA. Low temperature geothermal water wells are located a short distance to the south of the WSA.

The WSA has largely untested potential for significant metallic, non-metallic, and geothermal resources.

If the East Clanton Hills WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Face Mountain - AZ-020-136
AMA Report A-20

WSA Acreage 27,575 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	27,575
Private mineral rights	-
Private land (state)	1,800
Active mining claims	32

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action of no wilderness in the Face Mountain WSA and recommends that the area be released for multiple-use management.

Location

The Face Mountain WSA is located approximately 30 miles northwest of Gila Bend, Arizona, within the Western Detachment Zone.

Mineral Potential

Potential for exploration targets and mine development in the Face Mountain WSA occurs at Sundad, Loudermilk Wash and at Medicine Wash. An additional gold, copper, lead, zinc and silver exploration target reportedly exists on the north side of Face Mountain. Current exploration activity is focusing on detachment faults similar to those associated with large gold deposits at Copperstone, Arizona and Picacho and Mesquite, California.

Lead, zinc and silver production have been reported. Although exploration has been limited, the mineral potential appears to be high. Geothermal target areas are located within the Face Mountain WSA. A zone favorable for uranium exploration exists in the northern part of the WSA.

The geothermal areas also have great potential for development. The known metal deposits suffer from problems with post-mineral cover; however, changing economic conditions or additional discoveries in the area may change this situation.

If the Face Mountain WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Signal Mountain - AZ-020-138
AMA Report A-20

WSA Acreage 20,920 Acres

BLM Proposal - Partial Wilderness

Acres suitable	15,250
Not suitable	5,670
Private mineral rights	-
Private land	-
Active mining claims	115

AMA Recommendation

The Arizona Mining Association recommends that the Signal Mountain WSA be released for multiple-use management.

Location

The Signal Mountain WSA is located approximately 20 miles northwest of Gila Bend, Arizona, within the Western Detachment Zone.

Mineral Potential

Within the Signal Mountain WSA, significant potential for mine development occurs near Government Well, Webb claims, Idazona Mine, Butte Mine, and Harqua claims. Copper and gold have been mined in the Signal Mountain WSA. A welded tuff unit has potential for use as building stone. The geothermal temperature gradient in the area indicates the possibility of low temperature geothermal resources. In the northern part of the Signal Mountain WSA, exploration drilling has been conducted near mines with past copper production. These deposits contain significant gold and silver. Large detachment faults which underlie the WSA are only now being explored. Significant potential for large tonnage massive sulfide deposits may exist in the Precambrian aged rocks.

If the Signal Mountain WSA is designated a wilderness, significant mineral resources and extremely favorable exploration targets will be lost.

Woolsey Peak - AZ-020-142/144
AMA Report A-20

WSA Acreage 73,930 Acres

BLM Proposal - Partial Wilderness

Acres suitable	61,000
Not suitable	12,930
Private mineral rights	-
Private land	-
Active mining claims	224

AMA Recommendation

The Arizona Mining Association recommends that the Woolsey Peak WSA be released for multiple-use management.

Location

The Woolsey Peak WSA is located approximately 15 miles northwest of Gila Bend, Arizona, within the Western Detachment Zone.

Mineral Potential

The Woolsey Peak WSA appears to be underlain by a series of detachment faults that are mineralized. Detachment plates may cover a Precambrian mineralized terrain, including possible undiscovered sulfide deposits. The eastern portion of the WSA has substantial potential for copper-gold and silver deposits possibly associated with massive sulfide or exhalite gold environments. Significant potential for uranium, rare earth elements, and geothermal energy occurs in the southeast portion of the Wilderness Study Area. This WSA includes the eastern portion of an area designated by the U.S. Geological Survey (USGS) as having high potential for geothermal resources. High heat flow and the occurrence of wells with high temperature gradients make this WSA a prime geothermal resource area (Bureau of Geology and Mineral Technology, 1978). The areas most likely to contain economic mineral and geothermal resources within this WSA are included within the lands designated by the BLM as suitable for wilderness. According to the BLM Resource Management Plan (RMP), this WSA has extensive copper deposits and has produced a significant tonnage of medium grade copper ore. Lead, gold, silver, barite, perlite and some welded tuff building stone have been mined from this WSA. Also geothermal drilling

Woolsey Peak - AZ-020-142/144
AMA Report A-20, continued

programs are anticipated in the southeastern part of the WSA. Exploration may result in new mine development within the WSA near the Buckeye Copper Mine, Harcon Mine, Buckeye Copper Mine Well, Woolsey Peak, Hazen claims, Chamber claims and Rowley Mine.

It is important to note that relatively recent geological pioneering studies have only begun to unravel the extremely complex geology of western Arizona. Much additional geologic work is needed in order to develop an understanding of the relationship between ore deposits and regional geologic structures in this highly mineralized terrain.

If the Woolsey Peak WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

Table Top Mountain - AZ 020-172
AMA Report A-21

WSA Acreage 39,823 Acres

BLM Proposal - Partial Wilderness

Acres suitable	34,400
Not suitable	5,423
Private mineral rights	1,920
Private land	-
Active mining claims	148

AMA Recommendation

The Arizona Mining Association recommends that the Table Top Mountain WSA be released for multiple-use management.

Location

The Table Top Mountain WSA is located approximately 20 miles west of Casa Grande, Arizona, within the Western Detachment Zone.

Mineral Potential

Almost all of the areas within the WSA likely to contain locatable minerals, and a major portion of the areas likely to contain geothermal resources, are included within the area designated as suitable for wilderness. The BLM Resource Management Plan designates this WSA as having high mineral potential. It is difficult to understand why this area has been recommended for wilderness by the BLM, because the RMP sets forth that:

"The mineralization (in the Table Top Mountain WSA) is more diverse and more concentrated than in any of the other WSA's studied in this supplement. Copper, gold, lead, silver, zinc, manganese and iron have been mined. An unusually low silica, high alumina basalt has been located in the area. Tantalum associated with iron has been located by exploration geologists. The presence of hydrothermal mineralization has been found in several localities of the WSA. Concentrations of mineralization have been identified along the strike of nine known mapped faults within the WSA. A series of six intersecting faults are particularly high in mineral concentration. Mid-tertiary

Table Top Mountain - AZ 020-172
AMA Report A-21, continued

intrusives are numerous. Most of the area was subject to recent basaltic volcanism that enhanced mineralization. Fluorspar, perlite, and building stone have been located in the area. Known geothermal areas abound around the WSA (p. 155)."

If the Table Top Mountain WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

Batamote Mountains - AZ-02-175
Sikort Chuapo - AZ-02-176
Pozo Redondo - AZ-02-177
AMA Report A-22

The Bureau of Land Management inventoried these areas and concluded that the many established uses and improvements prevented the areas from meeting the criteria for wilderness and therefore chose not to give them Wilderness Study Area status. However, other groups have suggested that these areas be designated as wilderness.

AMA Recommendation

The Arizona Mining Association supports the BLM recommendation of no wilderness and recommends that these WSA's be managed for multiple-use.

Location

The Batamote, Sikort Chuapo and Pozo Redondo WSA's have a combined acreage of 68,245 acres and the western boundary is located approximately 2 miles east of Ajo, Arizona, within the Western Detachment Zone.

Mineral Potential

Over 20 documented mines and prospects exist within or adjacent to the Batamote, Pozo Redondo and Sikort Chuapo WSA's. Exploration projects have been conducted in these WSA's and the USGS has recently identified a large copper and silver anomaly in the Batamote Mountains WSA. The area has potential for large tonnage porphyry copper deposits under alluvium and volcanics. Precious metal occurrences of gold and silver, as well as industrial minerals, including perlite and zeolites, are known to occur within or adjacent to the WSA's.

The Batamote, Sikort Chuapo and Pozo Redondo WSA's are three areas in which economic minerals are clearly concentrated. Documented mineral occurrences, associated with favorable geologic environment indicate that major mineral deposits may be located in the area.

If the Batamote, Sikort Chuapo and Pozo Redondo WSA's are designated wilderness areas, significant mineral resources and favorable exploration targets will be lost.

White Canyon - AZ-02-187
AMA Report A-23

WSA Acreage 6,968 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	6,968
Private mineral rights	0
Private land	0
Active mining claims	419

The Bureau of Land Management's Final Environmental Impact Study recommended no wilderness for the White Canyon area; however, a wilderness group has suggested that the White Canyon WSA be designated wilderness.

AMA Recommendation

The Arizona Mining Association supports the BLM recommendation of no wilderness for the White Canyon WSA and recommends that the area be released for multiple-use management.

Location

The White Canyon WSA is located approximately 5 miles west of the mining complex at Ray, Arizona, and within the Arizona porphyry copper belt.

Mineral Potential

Three major copper deposits, the Copper Butte, Buckeye East and Buckeye West are currently under development along the southern boundary of this WSA. Proven economic copper ore reserves at the Copper Butte deposit are 22 million tons. Proven reserves at the Buckeye East deposit are 20 million tons with a potential resource of 40 million tons. Copper reserves in the Buckeye West deposit are currently being assessed. These deposits are located within eight patented and 190 unpatented mining claims held by ASARCO Incorporated. Other mining companies have 81 claims located within the WSA.

Copper mineralization occurs on the surface and in drill holes throughout the WSA. All indications are that the WSA contains favorable exploration targets.

If the White Canyon WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Ragged Top - AZ-020-197
AMA Report A-24

WSA Acreage

4,460 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	4,460
Private mineral (state)	1,280
Active mining claims	193

AMA Recommendation

The Arizona Mining Association supports the BLM recommendation of no wilderness for the Ragged Top WSA and recommends that the area be released for multiple-use management.

Location

The Ragged Top WSA is located approximately 2 miles east of the mining town of Silver Bell, Arizona, within the known porphyry copper province.

Mineral Potential

The mineral potential of the Ragged Top WSA is enhanced significantly by the Silver Bell mining operation located near the west boundary of the WSA. The first production from the district was recorded in 1865. By 1909, the economic possibilities of low grade disseminated copper in igneous rocks encouraged exploration drilling. ASARCO began further exploration drilling in 1948. The Silver Bell Mine was placed into production in 1954 and has sustained production for over 30 years. The time gap between mineral discovery, development and production is common not only in the Silver Bell area but also throughout all Arizona.

The BLM anticipates that there will be two exploration programs and two small mines developed within the WSA.

If the Ragged Top WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Black Mountains North AZ-020-09
AMA Report A-25

WSA Acreage 19,900 acres

BLM Proposal - Partial Wilderness

Acres suitable	18,400
Acres not suitable	1,500
Private mineral rights	10,371
Private land	680
Active mining claims	153

AMA Recommendation

The Arizona Mining Association recommends that the Black Mountain North WSA be released for multiple-use management.

Location

The Black Mountain North WSA is located approximately 25 miles northwest of Kingman, Arizona, and within the Western Detachment Zone.

Mineral Potential

The Portland gold mine adjoins the southern portion of the WSA. Production records indicate that the mine has produced 132,000 tons of ore with an average content of 0.21 ounces of gold per ton. Ore reserves are estimated to be 300,000 tons averaging 0.20 ounces of gold per ton.

The BLM forecasts that one large open pit mine, one medium open pit mine and three small mines will be developed within the area and employ approximately 85 miners and operators.

If the Black Mountain North WSA is designated a wilderness area, significant mineral resources will be lost, with the consequence that the favorable northwestward trending detachment zone cannot be developed.

Fishhooks - AZ-040-14
Day Mine - AZ-040-16
AMA Report A-26

WSA Acreage 32,524 Acres

BLM Proposal - Partial Wilderness

Acres suitable	10,883
Not suitable	21,641
Private mineral rights	-
Private land	-
Active mining claims	459

AMA Recommendation

The Arizona Mining Association recommends that the Fishhooks/Day Mine WSA's be released for multiple-use management.

Location

The Fishhooks/Day Mine WSA's are located approximately 20 miles north of Safford, Arizona, within a northwest trending belt of large tonnage porphyry copper deposits.

Mineral Potential

Numerous copper showings and old workings occur in the mineral belt starting northeast of Safford in the Lone Star Mining district and continuing to the northwest through the WSA's, for a total distance of at least 40 miles. The Lone Star Mining district, in the southeastern part of this mineralization trend, contains nearly two billion tons of known porphyry copper mineralization. The host rocks of this mineralization, in addition to outcroppings of the productive porphyry intrusive, continue to the northwest through the WSA's indicating a significant potential for additional copper deposits.

A number of years ago, the Southerland Copper Company encountered copper sulfides in a vein southeast of the WSA's. An additional copper prospect six miles north of Geronimo has produced material averaging 1% copper from a fault vein in the Mississippian limestone. These prospects indicate that copper mineralization exists in a continuous belt parallel to the Gila Mountains and extends throughout the WSA's. Several magnetic anomalies similar to anomalies associated with known porphyry copper deposits of the Lone Star District exist in the area. Other magnetic anomalies indicating skarn mineralization are also present in the area. Thus the WSA's contain several definitive porphyry copper and skarn targets for exploration.

Fishhooks - AZ-040-14
Day Mine - AZ-040-16
AMA Report A-26, continued

The Fishhooks/Day Mine WSA boundaries overlap one of the strongest copper trends in Arizona. Seismic surveys indicate that large geologic structures, favorable for hosting porphyry copper deposits, are buried beneath the volcanic cover.

If the Fishhooks/Day Mine WSA's are designated as wilderness areas, significant mineral resources and favorable exploration targets will be lost.

Gila Box - AZ-040-22/23/24A
AMA Report A-27

WSA Acreage 17,831 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	17,831
Private mineral rights (state)	760
Private land	3,000
Active mining claims	14

AMA Recommendation

The Arizona Mining Association supports the BLM proposal for no wilderness in the Gila Box Wilderness Study Area and recommends that the area be released for multiple-use management.

Location

The Gila Box WSA is located approximately 6 miles southwest of Morenci, along the southeastern Arizona porphyry copper mineral belt, midway between the Morenci copper mine and the Lone Star Copper deposit at Safford, Arizona.

Mineral Potential

1. Copper - Two large porphyry copper areas lie to the southwest and northeast of the Gila Box WSA. In the Gila Mountains to the west, porphyry copper and related copper vein deposits are associated with granodiorite plutons emplaced along ENE-trending shear zones in Tertiary andesite flows and breccias. At a minimum, this area alone contains well over a billion tons of copper-bearing ore which has been delineated by drilling on four deposits.

Total ore production within the Lone Star District (Safford) from 1903 to 1966 was 5,491 short tons (including 246,475 lbs. copper).

In the Clifton-Morenci area to the east, granodiorite-quartz monzonite-diorite intrusives and associated copper porphyry deposits intrude Precambrian granite and Paleozoic-Mesozoic sedimentary and igneous rocks. Earliest mining activity in the area occurred in the Copper Mountain District

(Clifton-Morenci) during the 1870's. Total ore production in this district from 1873 to 1987 has been over 930,000,000 short tons (including 14,600,000,000 lbs. copper).

The Morenci Mine is currently the largest copper mine in the United States and one of the largest mines in the world. The Lone Star District has one of the largest undeveloped copper reserves in the United States.

Geological and geophysical data collected by private industry and the USGS indicates that large tonnage porphyry copper deposits may indeed underlie parts of the Gila Box study area.

The Bureau of Land Management recognizes this very real potential for mineralization within the study area. In the Resource Management Plan (RMP) for the study area dated August, 1985, BLM concluded that: "The post mineralization volcanic rocks underlying the RMP area have yielded no mineral production in the past. The area, however, cannot be readily dismissed as having no mineral potential because it lies between Arizona's largest open pit copper mine and a relatively recent discovery of a district estimated to have over a billion tons of copper ore. Rocks of similar age underlie the RMP area, and are generally unexplored due to the depth of the burial and remote nature of the area." One exploratory drill hole has penetrated the study area volcanics, encountering copper mineralization at depths greater than 1,000 feet. Further attempts to explore the area were hampered by the drilling technology available at the time, as well as difficult access.

2. Precious Metals- Large irregular bodies of silver mineralization occur as fissure vein replacement deposits in the Clifton-Morenci area. Silver, in association with gold and copper minerals, is found in shear zones cutting massive cherty limestones and quartzites. Irregular deposits of gold are contained in limonite along well-defined fissure veins in limestone in the Clifton-Morenci area and in veins cutting Tertiary andesite volcanics in the Safford-Lone Star area.

Gila Box - AZ-040-22/23/24A
AMA Report A-27, continued

3. Manganese - Manganese deposits and associated barite and placer gold occur in the WSA. Manganese minerals, chiefly pyrolusite and wad, are concentrated in irregular pockets in shear zones within the Gila Conglomerate and a granite porphyry.

4. Industrial Minerals - The Gila and San Francisco Rivers contain alluvial and volcanoclastic sedimentary basin-fill deposits of economic value. Beds of pumicite, cinders, gravel, and perlite have been actively mined since the mid-1900's. Geothermal areas occur on contacts between basin-fill deposits and volcanoclastic units (Oligocene-Miocene).

5. Energy - All lands within the area are classified as prospectively valuable for geothermal resources. Gillard Hot Springs, on the north bank of the Gila River, discharge the hottest water in the Southwestern United States outside the Jemez Mountains in New Mexico. Measured surface temperatures range from 176 to 183 degrees Fahrenheit and studies suggest temperatures of 275 to 300 degrees Fahrenheit below 6,562-feet. Seven miles to the northwest, Eagle Creek Hot Springs discharge into a tributary of Eagle Creek. Shallow wells have tapped water up to 133 degrees Fahrenheit. Geothermal potential along the fault between Gillard Hot Springs and Eagle Creek Hot Springs is similar to that at the hot springs. Studies conducted in 1981 suggest temperatures up to 300 degrees Fahrenheit at a depth of 6,500-feet in the Clifton-Morenci area.

If the Gila Box WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Turtle Mountain - AZ-040-22/23/24B
AMA Report A-27

WSA Acreage 17,422 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	17,422
Private mineral rights (state)	1,600
Private land	440
Active mining claims	400

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action for no wilderness in the Turtle Mountain WSA and recommends that the area be released for multiple-use management.

Location

The Turtle Mountain WSA is located approximately 6 miles southwest of Morenci, along the southeastern Arizona porphyry copper mineral belt, midway between the Morenci copper mine and the Lone Star Copper deposit at Safford, Arizona.

Mineral Potential

1. Copper - Two large porphyry copper areas lie to the southwest and northeast of the Turtle Mountain WSA. In the Gila Mountains to the west, porphyry copper and related copper vein deposits are associated with granodiorite plutons emplaced along ENE-trending shear zones in Tertiary andesite flows and breccias. At a minimum, this area alone contains well over a billion tons of copper-bearing ore which has been delineated by drilling on four deposits.

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Turtle Mountain - AZ-040-22/23/24B
AMA Report A-27, continued

(Clifton-Morenci) during the 1870's. Total ore production in this district from 1873 to 1987 has been over 930,000,000 short tons (including 14,600,000,000 lbs. copper).

The Morenci Mine is currently the largest copper mine in the United States and one of the largest mines in the world. The Lone Star District has one of the largest undeveloped copper reserves in the United States.

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2. Precious Metals - Large irregular bodies of silver mineralization occur as fissure vein replacement deposits in the Clifton-Morenci area. Silver, in association with gold and copper minerals, is found in shear zones cutting massive cherty limestones and quartzites. Irregular deposits of gold are contained in limonite along well-defined fissure veins in limestone in the Clifton-Morenci area and in veins cutting Tertiary andesite volcanics in the Safford-Lone Star area.

Turtle Mountain - AZ-040-22/23/24B
AMA Report A-27, continued

3. Manganese - Manganese deposits and associated barite and placer gold occur in the WSA. Manganese minerals, chiefly pyrolusite and wad, are concentrated in irregular pockets in shear zones within the Gila Conglomerate and a granite porphyry.

4. Industrial Minerals - The Gila and San Francisco Rivers contain alluvial and volcanoclastic sedimentary basin-fill deposits of economic value. Beds of pumicite, cinders, gravel, and perlite have been actively mined since the mid-1900's. Geothermal areas occur on contacts between basin-fill deposits and volcanoclastic units (Oligocene-Miocene).

5. Energy - All lands within the area are classified as prospectively valuable for geothermal resources. Gillard Hot Springs, on the north bank of the Gila River, discharge the hottest water in the Southwestern United States outside the Jemez Mountains in New Mexico. Measured surface temperatures range from 176 to 183 degrees Fahrenheit and studies suggest temperatures of 275 to 300 degrees Fahrenheit below 6,562-feet. Seven miles to the northwest, Eagle Creek Hot Springs discharge into a tributary of Eagle Creek. Shallow wells have tapped water up to 133 degrees Fahrenheit. Geothermal potential along the fault between Gillard Hot Springs and Eagle Creek Hot Springs is similar to that at the hot springs. Studies conducted in 1981 suggest temperatures up to 300 degrees Fahrenheit at a depth of 6,500-feet in the Clifton-Morenci area.

If the Turtle Mountain WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Peloncillo Mountains - AZ-040-60
AMA Report A-28

WSA Acreage 12,317 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	12,317
Private mineral rights	840
Private land	-
Active mining claims	-

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action alternative for no wilderness in the Peloncillo Mountains WSA and recommends that the area be released for multiple-use management.

Location

The Peloncillo Mountains WSA is located approximately 42 miles south of Clifton, Arizona, within the southeastern Arizona copper porphyry mineral belt.

Mineral Potential

Within the study area, there is moderate potential for hidden mineralization. Specifically, the types of deposits that may be present are:

1. Porphyry copper-molybdenum deposits
2. Caldera ring-vein deposits, containing both precious or base metals,
3. Disseminated volcanic-hosted precious metals deposits, and
4. Carbonate-replacement base and precious metals deposits.

There is also a moderate to high potential for oil and gas in Paleozoic sediments beneath the Tertiary volcanics within the study area. At least 300 acres have been under oil and gas leases in the study area, and oil wells are present seven miles to the southwest, near San Simon. Moderate potential also exists for geothermal wells in the WSA, especially in areas of concentrated volcanic intrusion.

If the Peloncillo Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Dos Cabeza Mountains - AZ-040-65
AMA Report A-29

WSA Acreage 18,509 Acres

BLM Proposal - Partial Wilderness

Acres suitable	11,998
Not suitable	6,511
Private mineral rights	-
Private land	258
Active mining claims	306

AMA Recommendation

The Arizona Mining Association recommends that the Dos Cabeza Mountains WSA be released for multiple-use management.

Location

The Dos Cabeza Mountains WSA area is located approximately 16 miles east of Wilcox, Arizona.

Mineral Potential

Within and adjacent to the Dos Cabeza Mountains WSA are numerous metal deposits which have been examined and developed since the 1880's. It is estimated that approximately 100,000 tons of ore, primarily of gold and copper, were mined between the 1880's and 1930's. This production was from the Dos Cabeza and Teviston Mining Districts. Some production has been reported for silver, lead, zinc, iron, beryllium, tungsten and manganese. There has been exploration for molybdenum, uranium and fluorspar.

The USGS has identified portions of the WSA as having a mineral resource potential for copper, lead, zinc, molybdenum, tungsten and silver. These predictions are based upon the general geologic environment and are reinforced by geochemical and geophysical studies. Many of the major mining districts of the region exhibit a geological setting similar to that of the Dos Cabeza Mountains; i.e., host rock types, level of exposures of the volcano-plutonic systems, composition and age of igneous rocks and presence of major northwest trending fault zones.

If the Dos Cabeza Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Bowie Mountain/North End - AZ-040-66
AMA Report A-30

WSA Acreage 6,156 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	6,156
Private mineral rights	351
Private land	-
Active mining claims	19

AMA Recommendation

The Arizona Mining Association supports the BLM proposal of no wilderness for the Bowie Mountain/North End WSA and recommends that the area be released for multiple-use management.

Location

The Bowie Mountain/North End WSA is located on the northern end of the Chiricahua Mountain approximately 30 miles southeast of Wilcox, Arizona.

Mineral Potential

The Bowie Mountain WSA lies within the Teviston Mining District which is notable for its lead-zinc-silver-gold deposits. The Apache Pass mines and those near Old Fort Bowie lie just outside the northern boundary of the WSA. This area has produced at least 600 tons of ore.

Within the WSA, an abandoned marble quarry located along the axis of a syncline is covered by 351 acres of patented mining claims. The marble was formed by metamorphism of the Horquilla Limestone. This metamorphism, along with dikes and mineral occurrences, may be related to a buried mineralizing pluton in the vicinity of the WSA. Several of the sedimentary units present in the area are known to be host rocks favorable to mineralization in southern Arizona. These units include the El Paso Limestone, Escabrosa Limestone, Horquilla Limestone, and the Glance Conglomerate of the Bisbee Group. If a mineralizing pluton does exist in the area, a high potential exists for replacement-style ore bodies hosted by these limestone and conglomerate units. Ore bodies could be expected to be localized at the junctures of the well-developed fault zones within the area. There is strong evidence suggesting

Bowie Mountain/North End - AZ-040-66
AMA Report A-30, continued

the presence of such a mineralizing pluton. In the Emigrant hills, two miles north of the WSA, Bear Creek Mining Company and Phelps Dodge Corporation encountered anomalous copper and molybdenum values during their drilling and sampling program of hydrothermally altered Precambrian granite.

If the Bowie Mountain/North End WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Apache Box - AZ-040-76
AMA Report A-31

WSA Acreage

932 Acres

BLM Proposal - Not in BLM report

Acres suitable	-
Not suitable	-
Private mineral rights	-
Private land	-
Active mining claims	96

AMA Recommendation

The Arizona Mining Association recommends that the Apache Box WSA be released for multiple-use management.

Location

The Apache Box WSA is located on the Arizona-New Mexico border, about 45 miles east of Safford, Arizona within one of the largest copper provinces in the world.

Mineral Potential

The Apache Box WSA is within a highly mineralized, northwesterly-trending mineral zone in southwestern New Mexico and southeastern Arizona. The zone encompasses the southwestern United States porphyry copper province, including the copper mines at Morenci, Tyrone and Santa Rita.

The high mineral potential of the area is additionally attested by the historical and recent mining and exploration activity by various mining concerns, and new gold discoveries within the Apache Box WSA, by the Frazer-Martin Mines.

The mineral potential of this unit can be considered for three types of ore deposits: 1) porphyry copper-molybdenum deposits; 2) precious and/or base metal deposits; and 3) alunite deposits.

Porphyry copper deposits account for more than half of the world's copper production, as well as significant amounts of molybdenum, gold, and silver, making this class of deposits one of the most important to the world's mineral economy. It becomes even more important when the southwestern United States porphyry copper province is considered, inasmuch as this province supplies nearly 20% of the world's copper, and over 85% of the copper produced in the U.S.

If the Apache Box WSA is included in the wilderness preservation program, valuable mineral resources and favorable exploration targets will be lost.

Hoverrocker - AZ-040-77
AMA Report A-31

WSA Acreage 2,791 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	2,791
Active mining claims	-

AMA Recommendation

The Arizona Mining Association recommends that the Hoverrocker WSA be released for multiple-use management.

Location

The Hoverrocker WSA is located in southeastern Arizona approximately 15 miles southeast of Morenci, Arizona and within one of the largest copper provinces in the world.

Mineral Potential

The Hoverrocker WSA is within a highly mineralized, northwesterly trending, mineral zone in southwestern New Mexico and southeastern Arizona. The zone encompasses the southwestern United States porphyry copper province including the copper mines at Morenci, Tyrone and Santa Rita.

The high mineral potential of the area is additionally attested by the historical and recent mining and exploration activity by various mining concerns, and new gold discoveries within the Hoverrocker WSA, by the Frazer-Martin Mines.

The mineral potential of this unit can be considered for three types of ore deposits: 1) porphyry copper-molybdenum deposits; 2) precious and/or base metal deposits; and 3) alunite deposits.

Porphyry copper deposits account for more than half of the world's copper production, as well as significant amounts of molybdenum, gold and silver, making this class of deposits one of the most important to the world's mineral economy. The importance gains an even greater significance when the southwestern United States porphyry copper province is considered. This province supplies nearly 20% of the world's copper, and over 85% of the copper produced in the U.S.

If the Hoverrocker WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Hell's Hole Further Planning Unit
AMA Report A-31

RARE II STUDY AREA

Active mining claims

34,330 Acres
213 Claims

AMA Recommendation

The Arizona Mining Association recommends that the Hell's Hole Further Planning Unit (FPU) be released for multiple-use management.

Location

The Hell's Hole FPU is located in Apache Sitgreaves National Forest north of Clifton, Arizona, with portions in Arizona and New Mexico.

Mineral Potential

The Hell's Hole FPU is located within one of the largest copper provinces in the world and in close proximity to several known deposits. In addition to the porphyry copper potential of the area, there is also a moderate potential for the occurrence of porphyry molybdenum mineralization associated with younger volcanics.

The east-central portion of the unit contains a large area that the USGS assessed as an "area of greater mineral potential". Within this area widespread anomalous metal values were found to occur in two separate but overlapping areas: a major volcanic center that underlies most of the study area, and a northwest-trending fracture system that is the extension of the northern part of the Steeple Rock mining district.

Stream-sediment concentrates show anomalous beryllium and niobium over the volcanic center, particularly on outcrops of the rhyolite of Hell's Hole FPU and near the vent for the rhyolite of Mule Creek. Anomalous tin, boron, barium, and tungsten, though more dispersed, are also most common over, or peripheral to, the volcanic center. Anomalous silver, copper, molybdenum, lead, zinc, bismuth, antimony, and arsenic, on the other hand, are concentrated both over and around the volcanic center and along the northwest fracture zone. Samples of altered and mineralized rocks associated with the volcanic center show metal values of as much as 200 ppm beryllium, 150 ppm niobium, 20 ppm tin, greater than 5,000 ppm barium, 10 ppm molybdenum, 100 ppm silver, and 1,000 ppm copper.

Hell's Hole FPU
AMA Report A-31, continued

Altered and mineralized rocks from the northwest fracture zone include selected rock samples containing silver to 300 ppm, copper to greater than two percent, molybdenum to 1,000 ppm, zinc to 0.07 percent, lead to 0.07 percent, barium to 3,000 ppm, and one sample having 15 ppm gold from the Twin Peaks Mine. Fluorite is common in the concentrate samples in the northwest fracture zone, but was not seen in concentrates that might be associated with the rhyolites of the volcanic center. A tin porphyry system is also possible in this geologic environment, and although it would be unique, the strategic importance of tin make even the possibility of a tin porphyry system noteworthy.

Extensive mineralization is found within a northwest-trending fault zone that crosses the southern part of the area. The fault zone contains numerous siliceous veins, many of which display conspicuous primary and secondary copper minerals. Anomalous concentrations of both base and precious metals, including copper, silver, lead, arsenic, molybdenum, tungsten, and gold, are found in sediment samples from drainages that lie within the fault zone, with local intensifications of metal content. The anomaly patterns suggest that the copper mineralization may extend west and southwestward beneath the pediment gravels and that the molybdenum mineralization may increase south and southeastward of the area. Significant amounts of fluorite, which may be a "pathfinder" mineral for metallization at depth, also occur along the fault zone and in the upper portions of the andesitic units in the southeast corner of the area. Barium is depleted in some areas where the rocks have been intensely silicified.

If the Hell's Hole FPU is designated a wilderness area, valuable mineral resources and favorable exploration targets will be lost.

Galiuro Addition - AZ-04-81
AMA Report A-32

WSA Acreage 640 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	640

AMA Recommendation

The Arizona Mining Association supports the BLM proposed action alternative of no wilderness and recommends that the Galiuro Addition WSA be released for multiple-use management.

Location

The Galiuro Addition WSA lies in the southern part of the Galiuro Mountains approximately 32 air-miles southeast of the San Manuel Mine, a world class porphyry copper deposit.

Mineral Potential

The Galiuro Addition is not known to have metal deposits of significance at surface. It is the subsurface that must be considered in making a proper evaluation of the mineral potential.

Tertiary silicic volcanics constitute most of this north-northwest-trending Galiuro Mountains block. These young volcanics are cut by features which reflect precious and base metal mineralization. The volcanics conceal Precambrian basement rocks and perhaps Paleozoic carbonate rocks which may host a porphyry copper system similar in character and age to that of the San Manuel deposit.

Nearby deposits and known geologic structural features in the area indicate that three types of metal deposits may be present:

1. Veins, breccias, and fracture zones with gold, silver and copper. Deposits of this type have been explored and developed to limited extent in the Tertiary volcanics less than one mile north of the Galiuro Addition.
2. A porphyry copper system within basement rocks concealed beneath the volcanics.

Galiuro Addition - AZ-04-81
AMA Report A-32, continued

3. Base and precious metal skarn or high-grade, base and precious metal replacement deposits in carbonate rocks around a possible porphyry copper system.

If the Galiuro Addition is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Aravaipa Canyon Addition - Under Study
AMA Report A-33

Study Area	22,000 Acres
Private land	5,520
Claims	93

AMA Recommendation

The Arizona Mining Association recommends that the Aravaipa Canyon Addition WSA be released for multiple-use management.

Location

The Aravaipa Canyon Addition WSA adjoins the Aravaipa Wilderness area on its southern boundary and is located approximately 16 miles northeast of San Manuel and 8 miles north of Copper Creek, within the copper porphyry province of southeastern Arizona.

Mineral Potential

Two geologic features suggest the possibility of economic mineralization: 1) a postulated volcanic center; and 2) the projection of a west-northwest trending Precambrian shear zone into the area. Favorable Laramide and Paleozoic host rocks may be concealed beneath the young volcanic rocks. A possible target exists in the Red Basin area partially within the west-northwest part of the area. These favorable host rocks may have been mineralized by either Tertiary volcanic or Larimide porphyry systems.

The USGS (Krieger, et al., 1979) reports anomalous metal concentrations along faults that cut the Tertiary silicic volcanics. Farther south in the Galiuro Mountains, these rocks host Tertiary ore-grade gold, silver, and copper-bearing veins.

If the Aravaipa Canyon Addition WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Crossman Peak - AZ-050-007B
AMA Report A-34

WSA Acreage 38,630 Acres

BLM Proposal - Partial Wilderness

Acres suitable	19,290
Not suitable	19,340
Private mineral rights (Santa Fe)	7,977
Private land	-
Active mining claims	155

AMA Recommendation

The Arizona Mining Association recommends that the Crossman Peak WSA be released for multiple-use management.

Location

The Crossman Peak WSA is located approximately seven miles northeast of Lake Havasu City, Arizona, within the Western Detachment Zone.

Mineral Potential

In the Crossman Peak WSA there are 155 recorded mining claims. There are known mineral occurrences in Sections 7, 18, 19, 20, 21, 28, 29 & 30, T14N, R18W; Sections 1, 2, 6, 13, 16, 17, 21, 24 & 27, T14N, R19W; and in Sections 2, 3 T13N, R18W. These occurrences include lead, silver, gold, zinc, copper, and tungsten mineralization with assays ranging to 0.015 oz. per ton Au, 11 oz. per ton Ag, 0.66% Cu, 6.73% W03, 0.25% Pb, and 0.05% Zn. In addition to 7,977.51 acres of Santa Fe Pacific private mineral inholdings, there are two patented mining claims.

If the Crossman Peak WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

Mohave Wash - AZ-05-07C; 5-48; 2-52
AMA Report A-34

WSA Acreage 103,365 Acres

BLM Proposal - No Wilderness

Acres suitable	55,108
Not suitable	48,257
Private mineral rights (Santa Fe)	56,675
Private land	-
Active mining claims	45

AMA Recommendation

The Arizona Mining Association supports the BLM proposal of no wilderness and recommends that the Mohave Wash WSA be released for multiple-use management.

Location

The Mohave Wash WSA is located approximately ten miles southeast of Lake Havasu City in Mohave County, Arizona, within the Western Detachment Zone.

Mineral Potential

Within the Mohave Wash WSA there are 45 recorded mining claims. There are known mineral occurrences in Sections 17, 18, 19, 20, 21, 26, 28, 33 and 34, T12N, R17W. This mineralization includes gold and silver occurrences with assays ranging to 0.71 oz. per ton Au, and 0.26 oz. per ton Ag. There are 85,000 tons of estimated ore reserves containing more than 8,600 ounces of recoverable gold. In addition, there are 56,675.67 acres of Santa Fe Pacific Mining private mineral inholdings.

If the Mohave Wash WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Gibraltar Mountain - AZ-05-12
AMA Report A-35

WSA Acreage 25,260 Acres

BLM Proposal - Partial Wilderness

Acres suitable	15,675
Not suitable	9,585
Private mineral rights	8,874
Private land	75
Active mining claims	39

AMA Recommendation

The Arizona Mining Association recommends that the Gibraltar Mountain WSA be released for multiple-use management.

Location

The Gibraltar Mountain WSA is located approximately ten miles northeast of Parker, Arizona, within the Western Detachment Zone.

Mineral Potential

Twenty documented mines and significant prospects exist within or adjacent to the Gibraltar Mountain WSA. Anomalous concentrations of gold, silver, copper, iron, fluorine, manganese and barium, with high assay values have been reported. Current exploration programs are concentrating on precious metals and oxide copper deposits associated with low-angle detachment faults like those in the Gibraltar Mountain WSA and surrounding areas. Exploration geologists recognize that specular hematite, manganese oxide, secondary copper minerals, and minor gold occurrences with quartz, adularia, pyrite, amethyst and barite are often indicators of underlying large tonnage, economic gold mineralization. Due to the low-angle detachment faults, upper plate rocks commonly conceal undiscovered orebodies. Broad expanses of apparently barren lower plate rocks may contain economic mineralization along stacked sets of deeper unexposed faults. The numerous prospects of gold and copper mineralization extending from the Bill Williams/Colorado River area through the Swansea Mine area, Clara Peak area, Montana-Arizona Mine area, and the mines in the Rawhide Mountains area north of the Bill Williams River may in fact represent mineralization along a single largely subsurface, low-angle fault. This detachment fault is exposed in the Gibraltar Mountain WSA, and down

Gibraltar Mountain WSA
AMA Report A-35, continued

dip extensions and other related subhorizontal faults may have localized unexposed subsurface mineralization.

The price of gold has increased more than 1,000 percent in the past two decades, and dramatic advances in mining and extractive technology have occurred since the last gold production and mine development in the Gibraltar Mountain WSA. These technological and price changes have dramatically improved the present economics of gold mining in many old, seemingly exhausted mines and previously unimportant mining districts. In spite of the present level of inactivity, largely because of the possibilities of restrictions due to Wilderness designation, the Gibraltar Mountain WSA constitutes a prime target for future precious and base metal exploration and mine development.

If the Gibraltar Mountain WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Planet Peak - AZ-05-13
AMA Report A-36

WSA Acreage 17,645 Acres

BLM Proposal - Partial Wilderness

Acres suitable	16,430
Not suitable	1,215
Private mineral rights	4,200
Private land	-
Active mining claims	184

AMA Recommendation

The Arizona Mining Association recommends that the Planet Peak WSA be released for multiple-use management.

Location

The Planet Peak WSA is located approximately 15 miles east of Parker, Arizona and within the Western Detachment Zone.

Mineral Potential

Twenty-seven documented mines and significant prospects exist within or adjacent to the Planet Peak WSA. Anomalous elements include gold, silver, copper, manganese, fluorine, barium and iron. High assay values have been reported. Current exploration programs are concentrating on precious metals and oxide copper deposits associated with low-angle faults like those in the Planet Peak WSA and surrounding areas. Exploration geologists recognize that specular hematite, manganese, copper oxides, and minor gold occurrences with quartz, adularia, pyrite, amethyst and barite mineralization are often indicators of underlying large tonnage, economic gold mineralization. Due to low-angle detachment faults, relatively thin upper plate rocks commonly conceal undiscovered orebodies, and broad expanses of apparently barren lower plate rocks may contain economic mineralization along deeper unexposed faults. The numerous prospects of gold and copper mineralization extending from the Planet Peak area through the Swansea area, Clara Peak area, and the mines in the Rawhide Mountains area north of the Bill Williams River may, in fact, represent mineralization along a single largely subsurface, low-angle fault. This detachment fault is exposed in the Planet Peak WSA, and down-dip extensions and other related subhorizontal faults may have localized unexposed subsurface mineralization.

Planet Peak - AZ-05-13
AMA Report A-36, continued

The price of gold has increased more than 1,000 percent in the past two decades, and dramatic advances in mining and extractive technology have occurred since the last gold production and mine development in the Planet Peak WSA. These technological and price changes have dramatically improved the present economics of gold mining in many old, seemingly exhausted mines and previously unimportant mining districts. In spite of the present level of inactivity, largely due to the uncertainties of proposed wilderness designation, the Planet Peak WSA constitutes a prime target for future precious and base metal exploration.

If the Planet Peak WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Cactus Plain - AZ-05-14A/B
AMA Report A-37

WSA Acreage 70, 360Acres

BLM Proposal - Partial Wilderness

Acres suitable	62,325
Not suitable	8,035
Private mineral rights	2,560
Private land	-
Active mining claims	78

AMA Recommendation

The Arizona Mining Association recommends that the Cactus Plain WSA be released for multiple-use management.

Location

The Cactus Plain is in northern La Paz County, approximately 10 miles southeast of Parker, Arizona.

Mineral Potential

The largest gold mine ever discovered in Arizona lies approximately nine miles southwest of the Cactus Plain WSA. This deposit at the Copperstone mine contains 4,500,000 tons of proven ore reserves averaging 0.078 ounces of gold per ton. It is located in an area of flat, dry, sandy terrain similar to the Cactus Plain and East Cactus Plain WSA's. More importantly, the host rocks at the Copperstone mine, exposed in small outcrops with a total surface area of only one acre, are geologically equivalent to the upper plate rocks that underlie most or all of the Cactus Plain WSA.

It is very significant that the mineralized outcrops at Copperstone were not discovered or sampled until 1968. This recent and exciting discovery has completely revised industry's assessment of the mineral potential of western Arizona.

The Cactus Plain WSA is mostly covered by thin surface sand deposits concealing metamorphosed Paleozoic and Mesozoic limestones, shales and quartzites, which locally underlie thrust PreCambrian metamorphic rocks. The Santa Maria mining district (4 miles northeast) produced gold, silver, and copper from ore occurring in massive to lensing iron-oxide replacement bodies in Paleozoic carbonate rocks.

Cactus Plain - AZ-05-14A/B
AMA Report A-37

The Midway mining district (on the eastern boundary) is characterized by gold, silver, and copper in deposits along faults and fractures in Paleozoic limestones. The Plomosa mining district (0.5 miles south) contains deposits of gold, silver, copper, lead, zinc, manganese, and barite.

Recent recognition (Spencer, J.E. et al., 1988) that the Cactus Plain WSA is underlain by the upper plate of the Moon Mountains detachment provides compelling evidence of extremely high mineral potential. The structural and host rock environment that localized major gold mineralization at the Copperstone mine, nine miles southwest of the WSA, is now known to occur beneath the surficial deposits of the Cactus Plains.

If the Cactus Plain WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

East Cactus Plain - AZ-05-17
AMA Report A-37

WSA Acreage 13,735 Acres

BLM Proposal - All Wilderness

Acres suitable	13,735
Not suitable	0
Private mineral rights	640
Private land	-
Active mining claims	4

AMA Recommendation

The Arizona Mining Association recommends that the East Cactus Plain WSA be released for multiple-use management.

Location

The East Cactus Plain WSA area is in northern La Paz County, approximately 10 miles southeast of Parker, Arizona.

Mineral Potential

The largest gold mine ever discovered in Arizona lies approximately nine miles southwest of the East Cactus Plain WSA. This deposit at the Copperstone mine contains 4,500,000 tons of proven ore reserves averaging 0.078 ounces of gold per ton. It is located in an area of flat, dry, sandy terrain similar to the Cactus Plain and East Cactus Plain WSA's. More importantly, the host rocks at the Copperstone mine, exposed in small outcrops with a total surface area of only one acre, are geologically equivalent to the upper plate rocks that underlie most or all of the East Cactus Plain WSA.

It is very significant that the mineralized outcrops at Copperstone were not discovered or sampled until 1968. This recent and exciting discovery has completely revised industry's assessment of the mineral potential of western Arizona.

The East Cactus Plain WSA is mostly covered by thin surface sand deposits concealing metamorphosed Paleozoic and Mesozoic limestones, shales and quartzites, which locally underlie thrustured PreCambrian metamorphic rocks. The Santa Maria mining district (4 miles northeast) produced gold, silver, and copper from ore occurring in massive to lensing iron-oxide replacement bodies in Paleozoic

East Cactus Plain - AZ-05-17
AMA Report A-37, continued

carbonate rocks. The Midway mining district (on the eastern boundary) is characterized by gold, silver, and copper in deposits along faults and fractures in Paleozoic limestones. The Plomosa mining district (0.5 miles south) contains deposits of gold, silver, copper, lead, zinc, manganese, and barite.

Recent recognition (Spencer, J.E. et al., 1988) that the Cactus Plain and East Cactus Plain WSA's are underlain by the upper plate of the Moon Mountains detachment provides compelling evidence of extremely high mineral potential. The structural and host rock environment that localized major gold mineralization at the Copperstone mine, nine miles southwest of the WSA, is now known to occur beneath the surficial deposits of the Cactus Plains.

If the East Cactus Plain WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

Swansea - AZ-05-15A
AMA Report A-38

WSA Acreage 41,690 Acres

BLM Proposal - Partial Wilderness

Acres suitable	11,795
Not suitable	29,895
Private mineral rights	-
Private land	640
Active mining claims	130

AMA Recommendation

The Arizona Mining Association recommends that the Swansea WSA be released for multiple-use management.

Location

The Swansea WSA is located approximately 25 miles east of Parker, Arizona, within the Western Detachment Zone.

Mineral Potential

Surface indicators of widespread mineralization are numerous. The geological environment of the Swansea WSA is extremely favorable for the occurrence of buried deposits with commercial mining economics.

Twenty-four documented mines and significant prospects exist within or adjacent to the Swansea WSA. Anomalous elements include gold, silver, copper, manganese, fluorine, barium and iron. High assay values have been reported. Current exploration programs are concentrating on precious metals and oxide copper deposits associated with low-angle faults like those in the Swansea WSA and surrounding areas. Exploration geologists recognize that specular hematite, manganese, copper oxides and minor gold occurrences with quartz, adularia, pyrite, amethyst and barite mineralization are often indicators of underlying large tonnage, economic gold mineralization. Due to low-angle detachment faults, relatively thin upper plate rocks commonly conceal undiscovered orebodies, and broad expanses of apparently barren lower plate rocks may contain economic mineralization along deeper unexposed faults. The numerous prospects of gold and copper mineralization extending from the Planet Peak area through the Swansea area, Clara Peak area and the mines in the Rawhide Mountains north of the Bill Williams River may, in fact,

Swansea - AZ-05-15A
AMA Report A-38, continued

represent mineralization along a single, largely subsurface, low-angle fault. This detachment fault is exposed in the Swansea WSA, and down-dip extensions and other related subhorizontal faults may have localized unexposed subsurface mineralization.

If the Swansea WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

South Trigo Mountains - AZ-050-23A
AMA Report A-39

WSA Acreage 4,500 Acres

BLM Proposal - No Wilderness

Acres suitable	0
Not suitable	4,500
Private mineral rights	1,280
Private land	-
Active mining claims	51

AMA Recommendation

The Arizona Mining Association supports the BLM proposal of no wilderness for the South Trigo Mountains WSA and recommends that the area be released for multiple-use management.

Location

The South Trigo Mountains WSA is located approximately 25 miles north of Yuma, Arizona, within the Western Detachment Zone.

Mineral Potential

There are 25 known and recorded mines and mine groups within the South Trigo Mountains WSA. During the last 20 years, extensive exploration has been conducted within and adjacent to the WSA. This amount of exploration activity indicates that a major mineral belt exists within the area.

Extensive drilling programs in the early 1970's developed reserves in excess of 5 million tons with an average approximate grade of 4 ounces per ton (opt) silver and significant fluorite, barite, lead and zinc. The mineralization trends north-south into the WSA where similar geologic environments prevail, making this ground favorable for mineral development.

Gulf and Western Resources recently conducted an exploration program in the Silver Mining District near the eastern boundary of the Trigo Mountains study area and developed a significant tonnage of surface minable ore containing silver and lead values along the mineralized vein that outcrops across the Black Rock, Pacific, Red Cloud, and Silver Glance claims. Published data on this development lists 6,000,000 tons at an average grade of 4.5 opt Ag, along with values in barium, lead and zinc.

If the South Trigo Mountains WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

Trigo Mountains - AZ-050-023B
AMA Report A-39

WSA Acreage 36,870 Acres

BLM Proposal - Partial Wilderness

Acres suitable	29,095
Not suitable	7,775
Private mineral rights (State)	80
Private land	-
Active mining claims	146

AMA Recommendation

The Arizona Mining Association recommends that the Trigo Mountains WSA be released for multiple-use management.

Location

The Trigo Mountain WSA is located approximately 25 miles north of Yuma, Arizona, just north of the well-defined Silver Belt and within the Western Detachment Zone.

Mineral Potential

The Trigo Mountains WSA is located north of the well-defined Silver Mining District, which includes the Clip, Black Rock, and Red Cloud mines. Extensive drilling programs in the early 1970's developed reserves in excess of 5 million tons with an average approximate grade of 4 opt silver and significant fluorite, barite, lead and zinc. The mineralization occurs along the contact between Tertiary volcanic rocks and basement metamorphic rocks. The structures which control the mineralization trend north-south into the WSA where similar geologic environment prevail, making this ground favorable for mineral development.

Gulf and Western Resources recently conducted an exploration program in the Silver Mining District near the eastern boundary of the Trigo Mountains study area and developed a significant tonnage of surface minable ore containing silver and lead values along the mineralized vein that outcrops across the Black Rock, Pacific, Red Cloud, and Silver Glance claims. Published data on this development lists 6,000,000 tons at an average grade of 4.5 opt Ag, along with values in barium, lead and zinc.

If the Trigo Mountains WSA is designated a wilderness area, significant mineral resources and extremely favorable exploration targets will be lost.

Muggins Mountains - AZ-05-53A
AMA Report A-40

WSA Acreage 14,455 Acres

BLM Proposal - Partial Wilderness

Acres suitable	8,855
Not suitable	5,600
Private mineral rights	-
Private land	-
Active mining claims	116

AMA Recommendation

The Arizona Mining Association recommends that the Muggins Mountains WSA be released for multiple-use management.

Location

The Muggins Mountains WSA is located approximately 25 miles east of Yuma, Arizona, within the Western Detachment Zone.

Mineral Potential

The area is cut by extensive faults known to host significant gold reserves further to the west in California. The Muggins Mountains themselves contain, or are adjacent to, significant gold, silver and uranium anomalies. In addition, some bentonitic clays are present in old upper lake beds.

The Muggins Mountains are considered prospective mostly on the basis of their geologic similarity with terrains hosting large gold deposits to the west, and because of significant potential for stratibound uranium deposits.

If the Muggins Mountains WSA is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

Blue Range/San Francisco
AMA Report A-41

Primitive Area Acreage 167,379 Acres

<u>USFS Proposal - Partial Wilderness</u>	
Acres suitable	187,410
Not suitable	-
Non-Federal mineral rights	-
Private land	640
Active mining claims	887

AMA Recommendation

The Arizona Mining Association recommends that the Blue Range/San Francisco Primitive Area be released for multiple-use management.

Location

The Blue Range/San Francisco Primitive Area is located approximately 12-15 miles northeast of Morenci, Arizona, within the highly productive southeast porphyry copper mineral belt.

Mineral Potential

Potential economic mineral resources exist in the Blue Range Primitive Area and the area to the south toward the large Morenci-Metcalf Mines in southeast Arizona.

The Blue Range Primitive Area includes more than 200,000 acres of post-Laramide volcanics overlying an expanse of pre-Laramide to Laramide igneous and sedimentary rocks. This region is of special exploration interest due to its mineral potential.

The specific features of this area which make it attractive for mineral exploration are as follows:

1. Surface evidence of anomalous copper-lead-zinc mineralization in solfatarically altered zones occur within and adjacent to the primitive area.
2. Numerous geophysical surveys have been completed by the USGS and private industry. Aeromagnetic surveys have revealed anomalies that correlate significantly with anomalies associated with large metallic ore deposits in the western United States.

Blue Range/San Francisco
AMA Report A-41, continued

3. The primitive area lies within a regional structural zone encompassing the Morenci-Metcalf and the Gila River and Mogollon Mining Districts, and a NW-SE structural belt that trends through the Tyrone, Pinos Altos, and Chino districts.

4. The nearby Morenci-Metcalf deposits provide an excellent regional genetic model for the emplacement of orebodies which can be used in the exploration of the area. Comparisons with the Morenci-Metcalf District shed encouraging light on the mineral potential:

Surface structural expression indicates that stress conditions similar to those in the Morenci-Metcalf District have also occurred in the primitive area.

The Morenci-Metcalf District was once overlain by a volcanic sequence containing rocks as old as 34 million years. These lithologies and ages are similar to the volcanics found within the primitive area.

The indicated thickness of the volcanics in portions of the primitive area (2,000-2,700 feet), as inferred from aeromagnetic data confirmed by recent drilling, conforms to the estimated thickness of post-Laramide volcanic cover that developed over the Morenci-Metcalf District during the formation of the chalcocite enrichment blanket.

The target areas lie at the intersection of a NW-SE structural belt that trends through the Tyrone, Pinos Altos, and Chino deposits, and a zone which includes the Morenci-Metcalf and Mogollon Mining Districts.

In the Clifton-Morenci area to the south, granodiorite-quartz monzonite-diorite intrusives and associated copper porphyry deposits intrude Precambrian granite and Paleozoic-Mesozoic sedimentary and igneous rocks. Earliest mining activity in the area occurred in the Copper Mountain District (Clifton-Morenci) during the 1870's. Total ore production in this district from 1873 to 1987 has been over 930,000,000 short tons (including 14,600,000,000 lbs. copper).

Blue Range/San Francisco
AMA Report A-41, continued

The Morenci Mine is currently the largest copper mine in the United States and one of the largest mines in the world. The Lone Star District located further southwest of the Blue Range, has one of the largest undeveloped copper reserves in the United States.

Geological and geophysical data collected by private industry and the USGS indicates that large tonnage porphyry copper deposits may indeed underlie parts of the Blue Range/San Francisco River area.

Large irregular bodies of silver mineralization are found as fissure vein replacement deposits in the Clifton-Morenci area. Silver, in association with gold and copper minerals, is found in shear zones cutting massive cherty limestones and quartzites. Irregular deposits of gold are contained in limonite along well-defined fissure veins in limestone in the Clifton-Morenci area and in veins cutting Tertiary andesite volcanics in the Safford-Lone Star area. Gold anomalies likewise occur in the Horse Canyon-Maple Peak Area and along the San Francisco River around the Blue River Area.

Placer gold has been recovered from Quaternary river gravels resting in the Gila Conglomerate in curves of the Gila and San Francisco Rivers. Fine flakes and nuggets of gold up to one inch long are associated with ferruginous chert pebbles and black sand. The placer gold in the Gila and northern Peloncillo Mountains area occurs in both the old and modern gravels of the Gila and San Francisco Rivers. Abundant black sand and remnants of massive hematite, up to cobble size, are associated with the native gold.

The Gila and San Francisco Rivers contain alluvial and volcanoclastic sedimentary basin-fill deposits of economic value. Beds of pumicite, cinders, gravel, and perlite have been actively mined since the mid-1990's. Geothermal areas occur on contacts between basin-fill deposits and volcanoclastic units.

If the Blue Range area is designated a wilderness area, significant mineral resources and favorable exploration targets will be lost.

East Verde/Wild & Scenic River
AMA Report A-42

Affected Area

56 Miles

AMA Recommendation

The AMA recommends that the East Verde River not be considered for inclusion into the National Wild and Scenic Rivers System and remain under multiple-use management.

Location

From confluence with Verde River to source area on the Mogollon Rim.

Introduction

In their document, "ARIZONA WILDERNESS" - a proposal prepared by the ARIZONA WILDERNESS COALITION - December 1987", the AWC proposes that 56 miles of the East Verde River from its source to its confluence with the Verde River be studied for potential inclusion in the National Wild and Scenic Rivers System.

Citing the "perennial and free-flowing" river which is able to "maintain trout habitat" "even in drought years" and that "There is no existing water resource development on the East Verde River", the AWC has chosen to overlook the facts associated with the East Verde River.

FACT 1. The East Verde River is heavily developed along much of its reach upstream from the Mazatzal Wilderness with private property, houses, and roads along the stream.

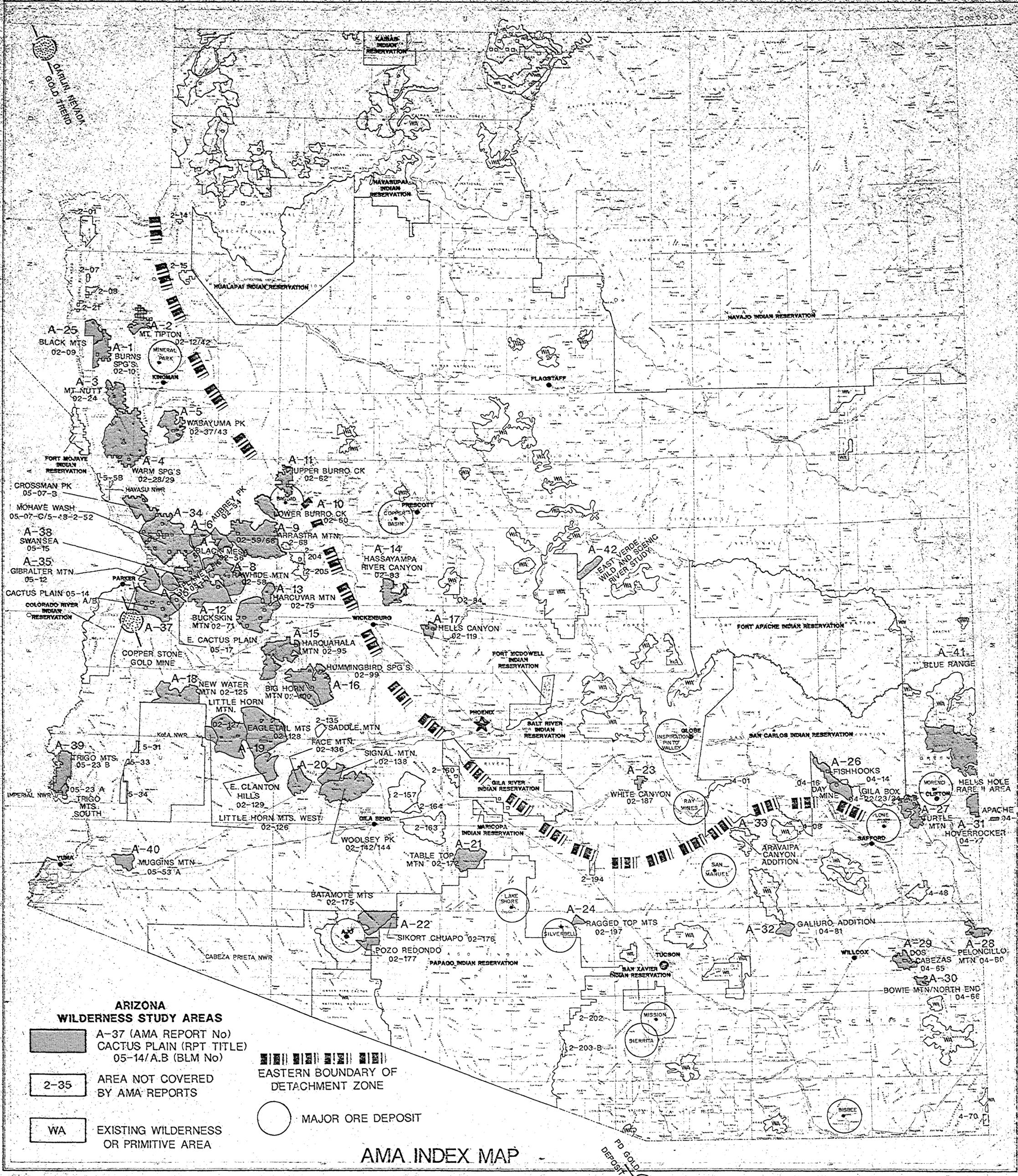
FACT 2. The stream is not perennial with its own virgin flow, but is rather an augmented stream receiving a large portion of its water during the summer months from the transbasin diversion of water pumped from Blue Ridge Reservoir which is located on the Mogollon Rim. This water is delivered to the Salt River Project in exchange for water used by Phelps Dodge Corporation and its Morenci mining facility.

FACT 3. Although there are no dams on the East Verde River, there is a major water resource development consisting of the trans-basin diversion system as mentioned in Fact 2.

East Verde/Wild & Scenic River
AMA Report A-42, continued

Water resources in Arizona are a very important issue, as is the issue of setting aside and protecting those special places in our state which contain unique, untouched areas. The East Verde River is an important segment of a detailed network of water transfer systems. As a result, the stream has benefitted from additional flows. These flows, however, are dictated by the need at the end point of transfer water use and not upon the natural flow condition, or lack thereof, in the stream. Therefore, the East Verde River must be examined as if these supplemental flows, which often constitute the only flow in the stream did not exist.

If the East Verde River is designated a Wild and Scenic River, the existing water-transfer systems will be disrupted and the end-point users will be adversely affected.



**ARIZONA
WILDERNESS STUDY AREAS**

- A-37 (AMA Report No)
CACTUS PLAIN (RPT TITLE)
05-14/A.B (BLM No)
- 2-35 AREA NOT COVERED
BY AMA REPORTS
- WA EXISTING WILDERNESS
OR PRIMITIVE AREA
- EASTERN BOUNDARY OF
DETACHMENT ZONE
- MAJOR ORE DEPOSIT

AMA INDEX MAP

PD GOLD
DEPOSIT