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Australia . . .



From J.C. Balla courtesy Bob Walker

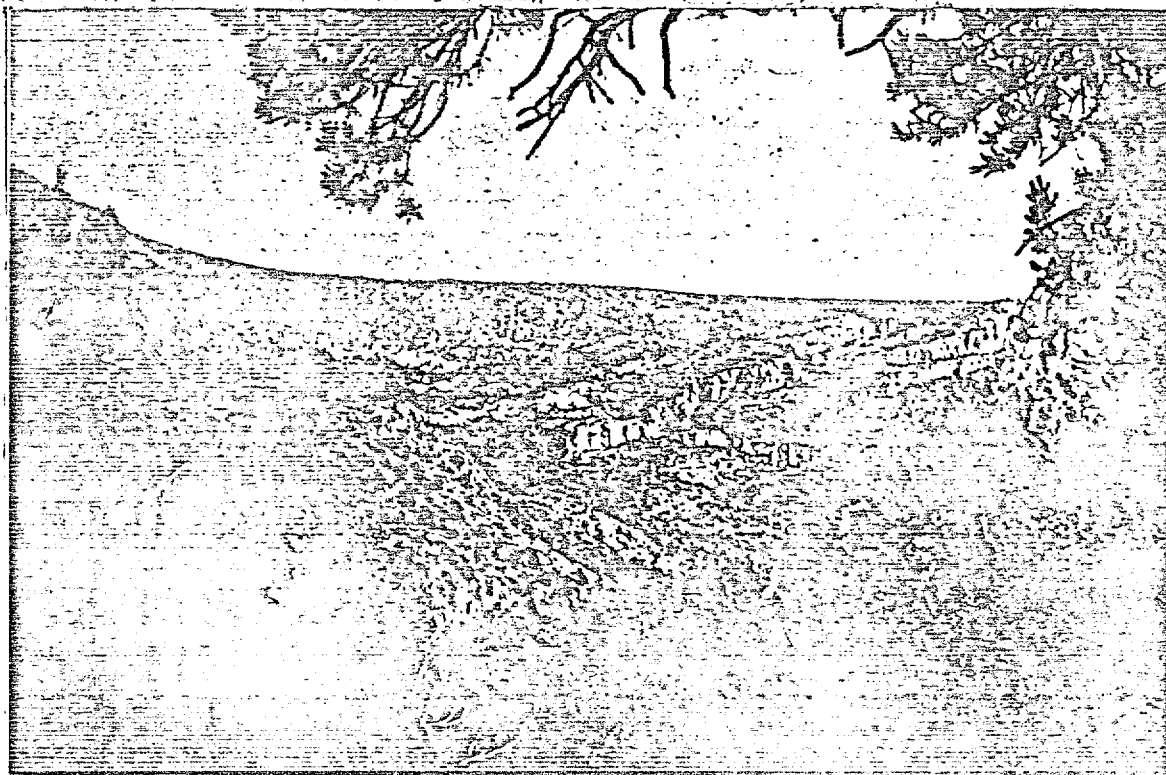
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PHYSICAL, ENVIRONMENTAL & ECONOMIC ASPECTS  
OF EXPLORATION  
WITHIN THE  
BLUE RANGE PRIMITIVE AREA  
by  
Edward M. Schern, Geologist  
Morenci, Arizona

PHYSICAL, ENVIRONMENTAL, AND ECONOMIC ASPECTS  
OF EXPLORATION  
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BY  
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PHYSICAL, ENVIRONMENTAL AND ECONOMIC ASPECTS  
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BY

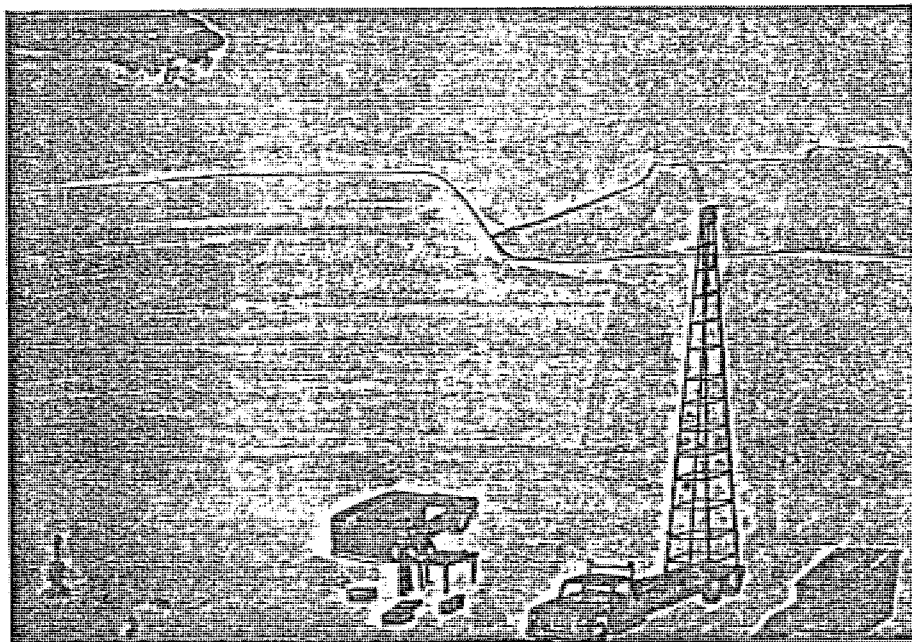
EDWARD M. SCHERN, Geologist  
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MORENCI, ARIZONA

A Paper Presented at the  
"Base Metal and Precious Metal Districts of  
New Mexico and Arizona Symposium"  
sponsored by the New Mexico and Arizona Geological  
Societies at Silver City, New Mexico on  
May 23, 1975

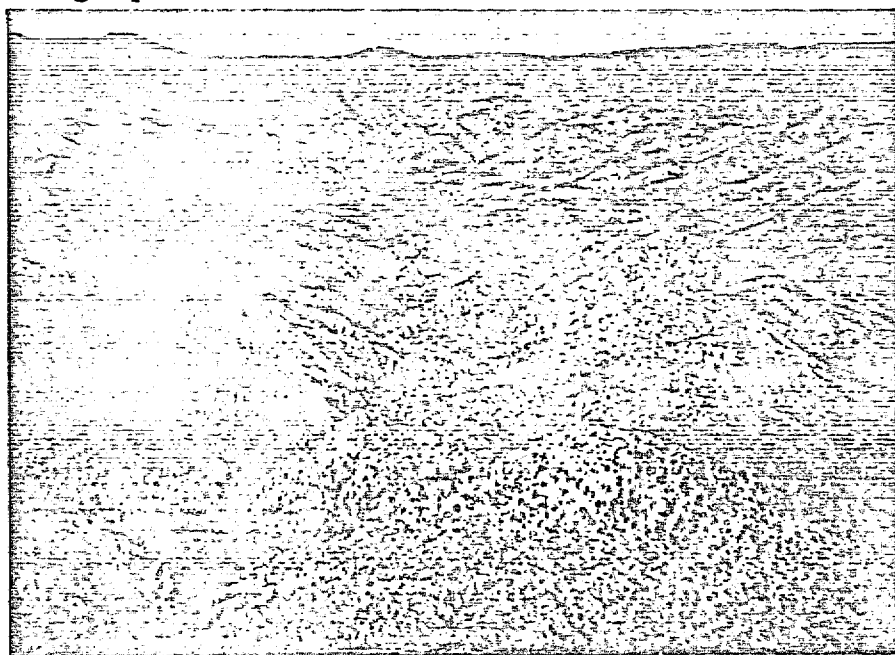
Self sufficiency of the United States in energy and base metals resources has been re-emphasized in recent years.



Vanishing (1) of the old prospector and his surface ore discoveries has created a new era of more sophisticated exploration for buried ore deposits (2).

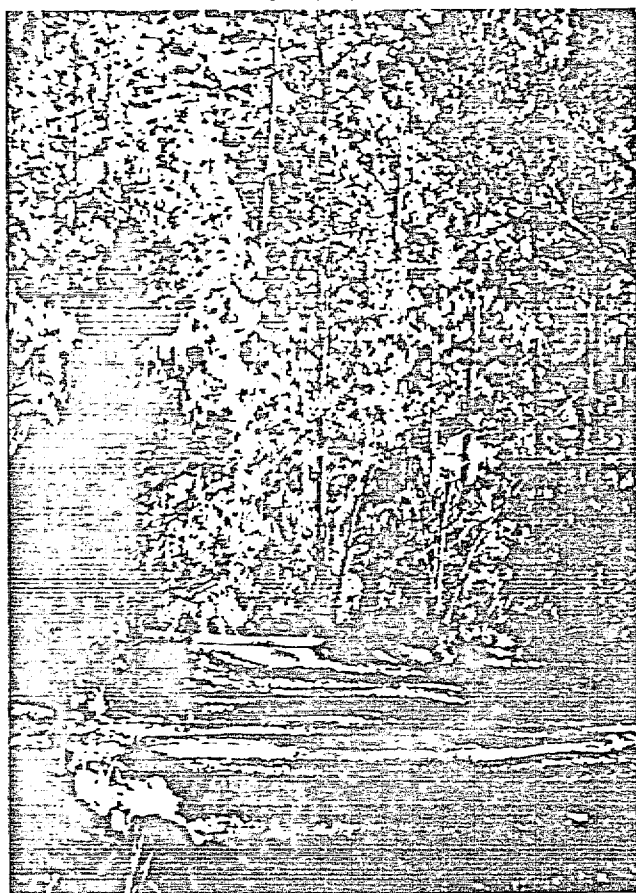


Most of the known porphyry copper deposits in the Southwest have been mantled by Tertiary Volcanics (3) and recent alluvium which covers a large portion of the Southwestern United States.



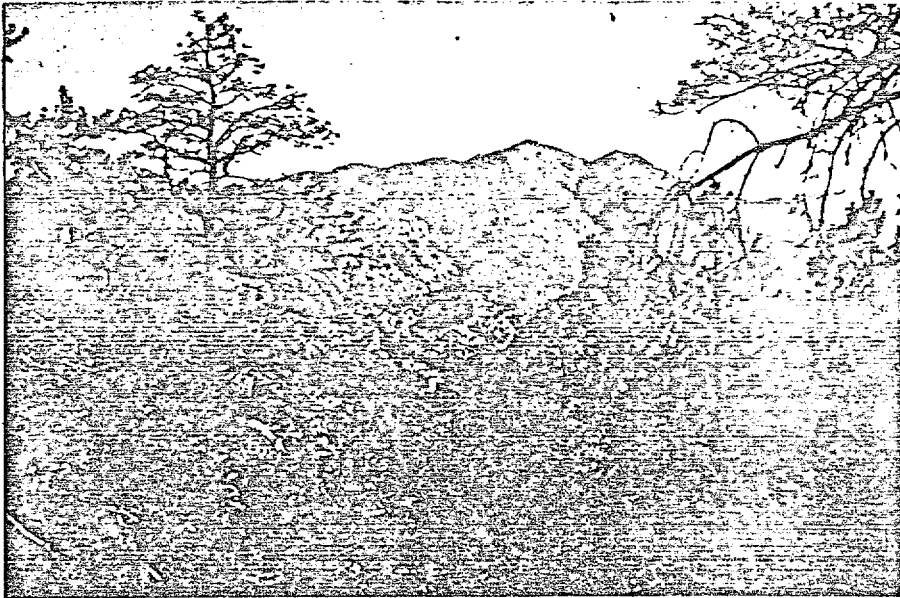
3.

These areas, which on casual observation appear to be non-mineral in nature, may hold potential for underlying ore grade mineralization, the exploration for which is rather expensive under these deeply buried conditions. Mining companies must therefore establish high priority prospects based upon the most favorable evidence for ore mineralization, especially in areas that might be withdrawn from mineral entry (4).



4.

Increasing concern for the preservation of the environmental status-quo has precipitated a labyrinth of legislative regulations and administrative guidelines pertaining to mineral exploration, which pose a real threat to future mineral production in the United States (5).



5.

The Wilderness Act of 1964 set aside certain roadless areas as "Wilderness" and other lands as "Primitive" subject to inclusion within the Wilderness classification. According to the Wilderness Act, mining laws of the United States, including the rights of ingress and egress, will apply to these areas until December 31, 1983, at which time the designated "Wilderness" areas will be closed to mineral entry. In passing the Wilderness Act, Congress stated: (6)



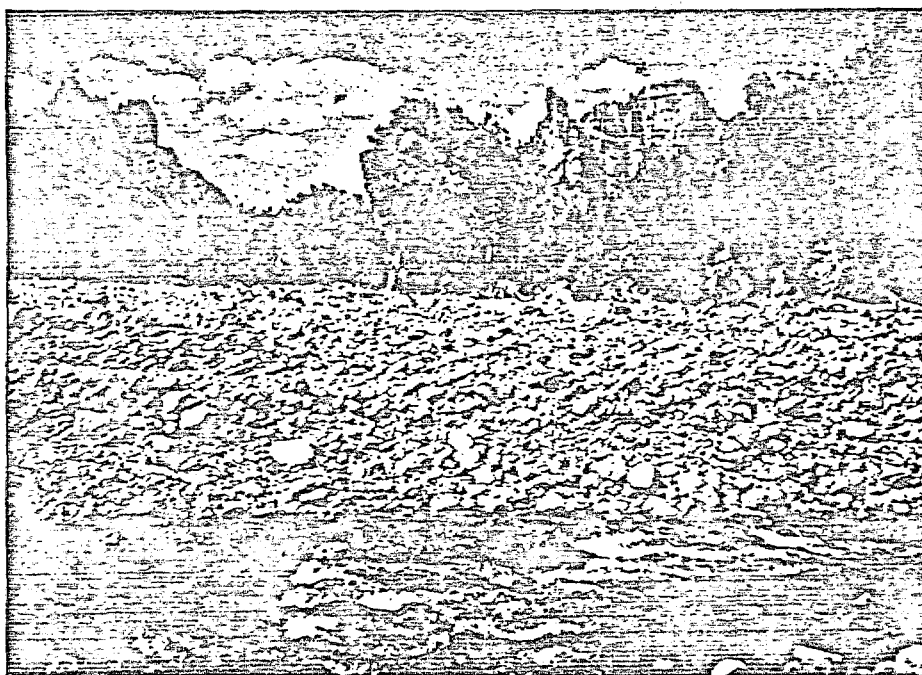
6.

"The Conference Committee expects that the mining industry and the agencies of the Department of Interior will explore existing



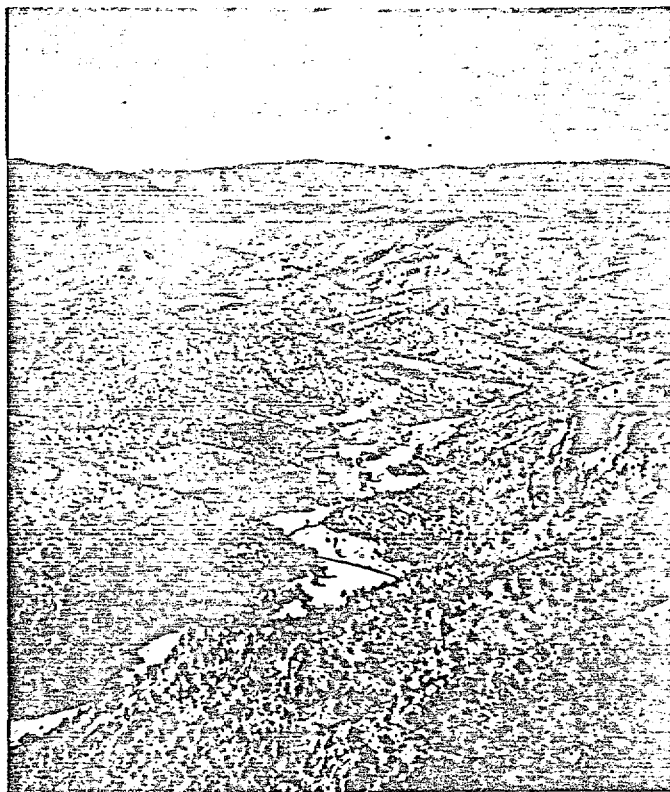
primitive areas so that when legislation pertaining to such primitive areas is considered at a later date, Congress will have the benefit of professional, technical advice as to the absence or presence of minerals in such area."

This exploration can only be conducted if access to primitive areas is allowed in a manner which is not prohibitive or restrictive either financially or chronologically (7).



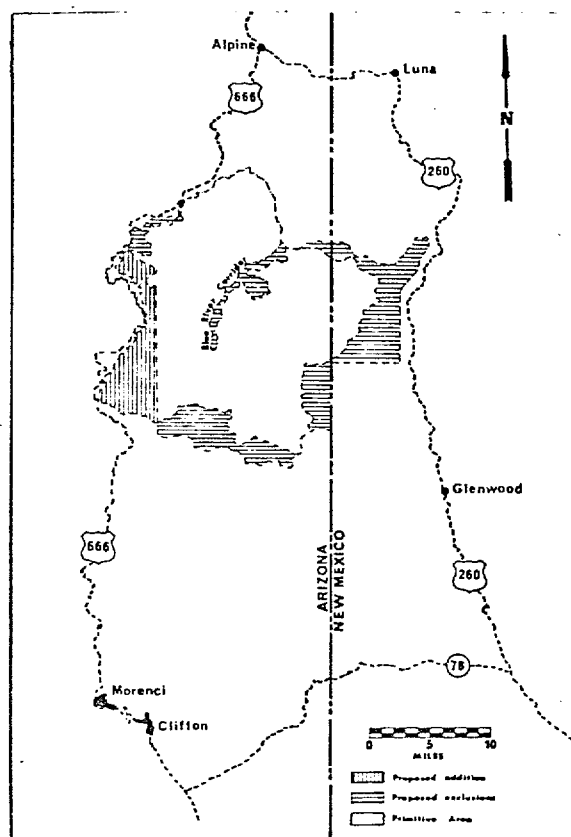
7.

The time factor has been dangerously increased by administration of the National Environmental Policy Act of 1969. This Act made it necessary for all Federal agencies to prepare an environmental statement for "major Federal actions significantly affecting the quality of the human environment." The Forest Service has taken the position that permitting motorized ingress and egress for prospecting purposes within primitive areas is such a "major Federal action." (8)



8.

The intent and purpose of this paper is to present the experience encountered by Phelps Dodge Corporation in attempting to prudently conduct an exploration program (9) within the Blue Range Primitive Area.



9.

The Blue Range Primitive Area consists of 380 square miles of the Apache Sitgreaves National Forest in Arizona and New Mexico bisected by the Blue River (10).



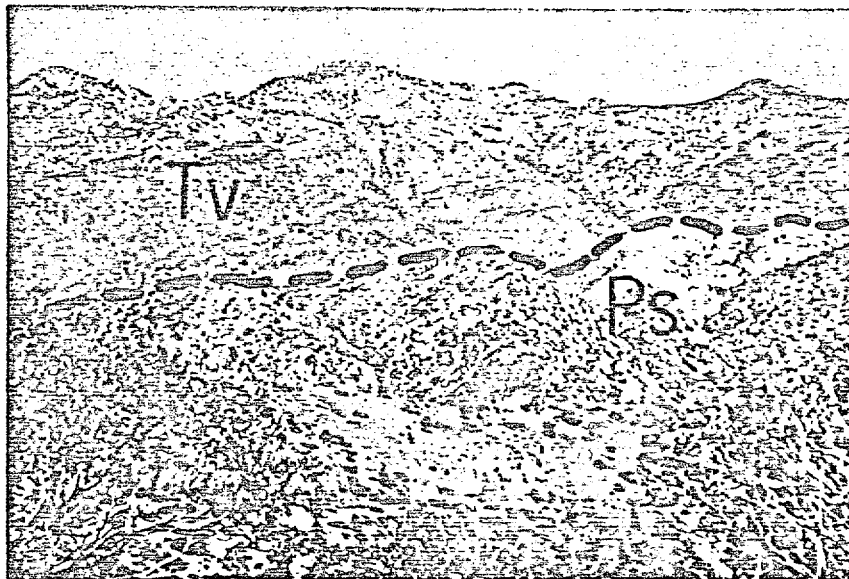
10.

Topographic relief is approximately 5,000 feet, ranging from 9,400 feet on the western side to (11) 4,500 feet on the southern edge.



11.

Proximity of the Blue Range to the Morenci-Metcalf district prompts some comparisons. The volcanic cover in the Primitive Area is similar to the post mineral cover at Morenci (12).



12.

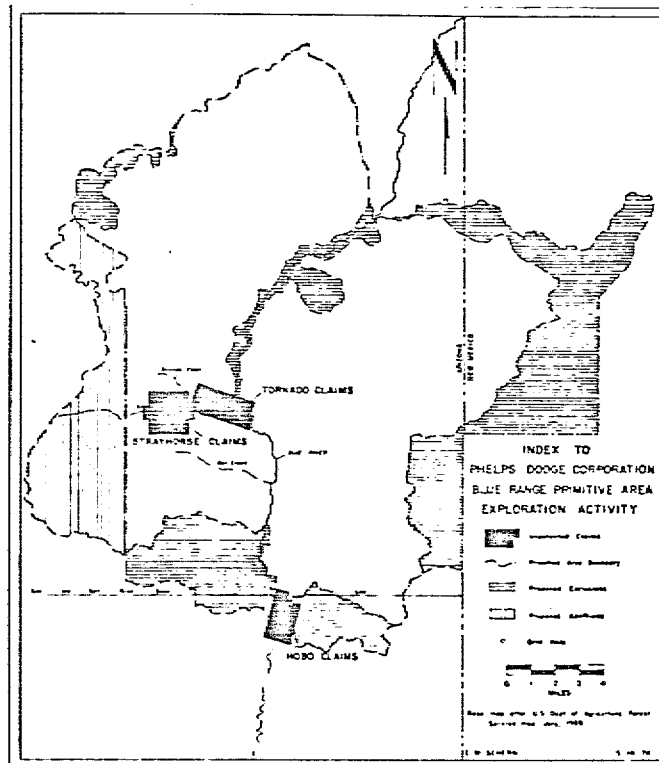
Paleozoic sediments in Morenci extend northward beneath these volcanics and many structural similarities are evident. In addition, the United States Geological Survey Bulletin 1261-E indicates that the Blue Range (13) has mineral potential.



13.

This statement was substantiated by a subsequent Federal Mineral Report concerning the area in the vicinity of Tornado and Strayhorse Creeks.

Phelps Dodge decided that the evidence supporting possible ore mineralization was sufficient to warrant a major exploration program (14).

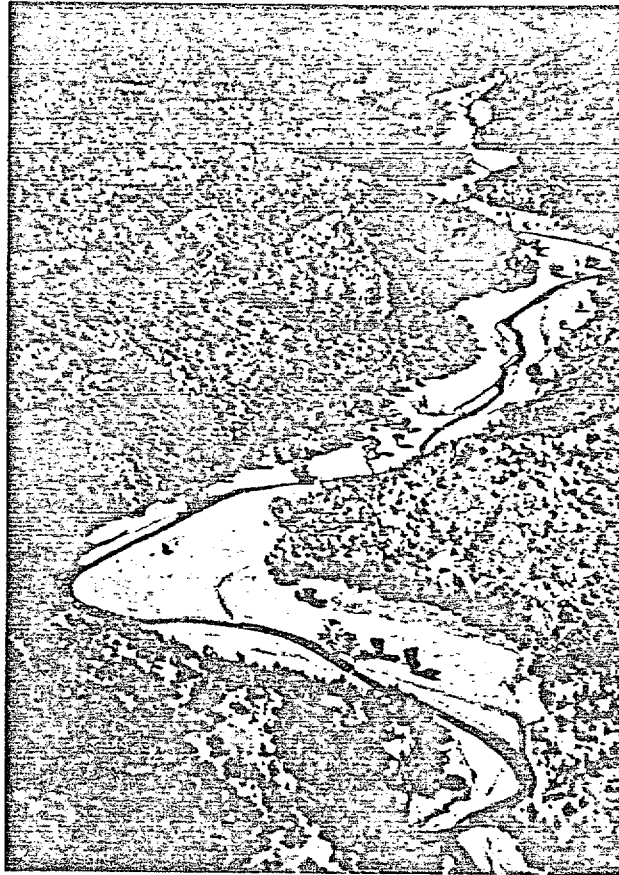


14.

This investigation was conducted in three phases: Hobo, Tornado, and Strayhorse.

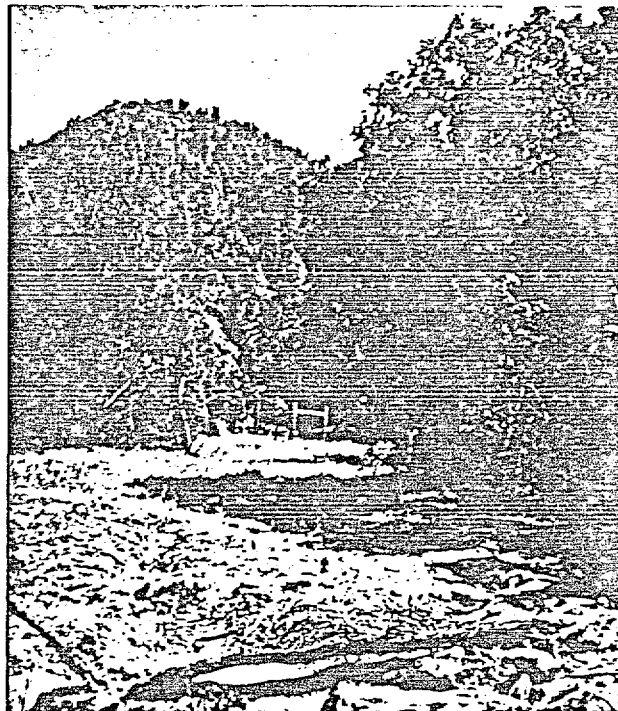
The Hobo Project, located mainly in a proposed exclusion of the Primitive Area, was begun in 1969. The site was chosen on the basis of anomalous mineralization associated with sulfotatic alteration. Project delays were due only to normal lead time of claim staking and equipment transport. Impact on the environment was minimal.

During the concluding stages of the Hobo Project, the Tornado Project was begun. This general area was chosen on the basis of structural interpretation. Indications that unreasonably extensive delays would be encountered by requesting a drill trail and site at the actual target, prompted the selection of an alternate site nearer to the Primitive Area boundary. Following a request for permission to construct a road and site within the Primitive Area, a Special Use Permit was issued after a 10-month delay that increased project costs by \$10,700. Prudent renovation of the area was accomplished to the satisfaction of Forest Service officials (15).



15.

The camp site was located on the Blue River flood plain in what was a grassy meadow until a flood destroyed it.



16.

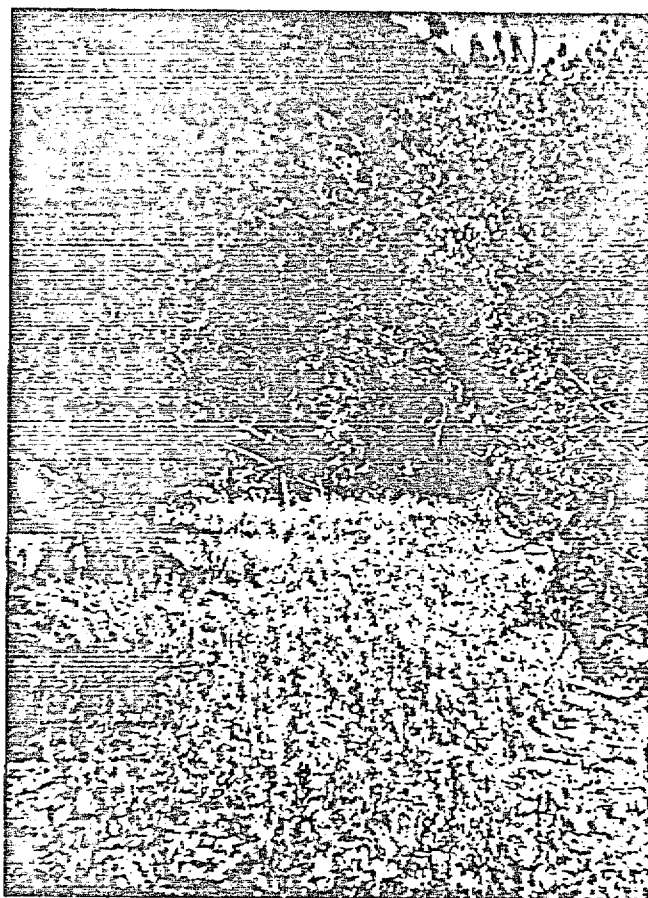
A portion of this reseeded meadow (16) is shown here.

The access trail (17) was blocked at the primitive area boundary according to Forest Service specifications.



17.

Although cattle actively graze this area, reseeding of the trail (18) was quite successful.



18.



Where necessary, the trail was obliterated (19) to restore original drainage paths. .



19.

The drill site (20) remains basically as it was prior to any drilling activity.

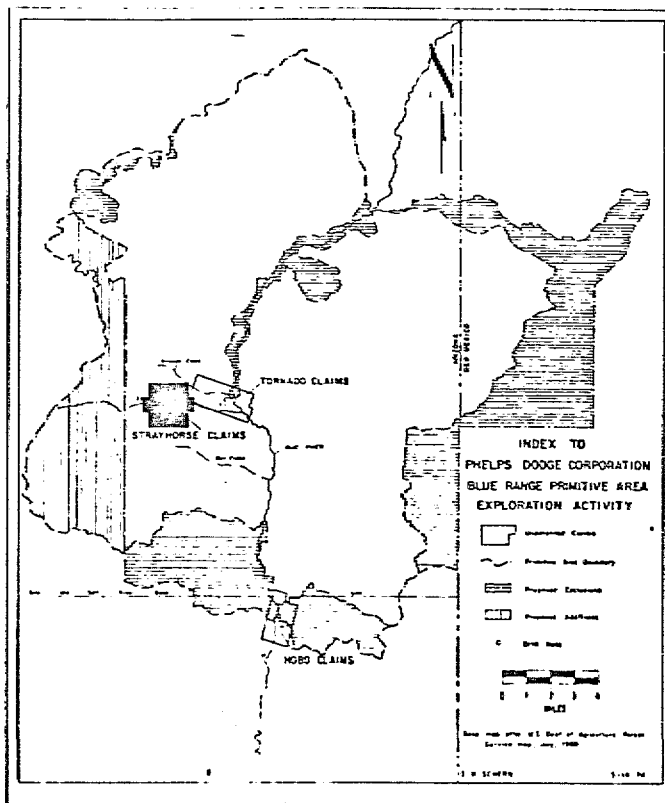


20.

Downhole induced polarization surveys conducted from this



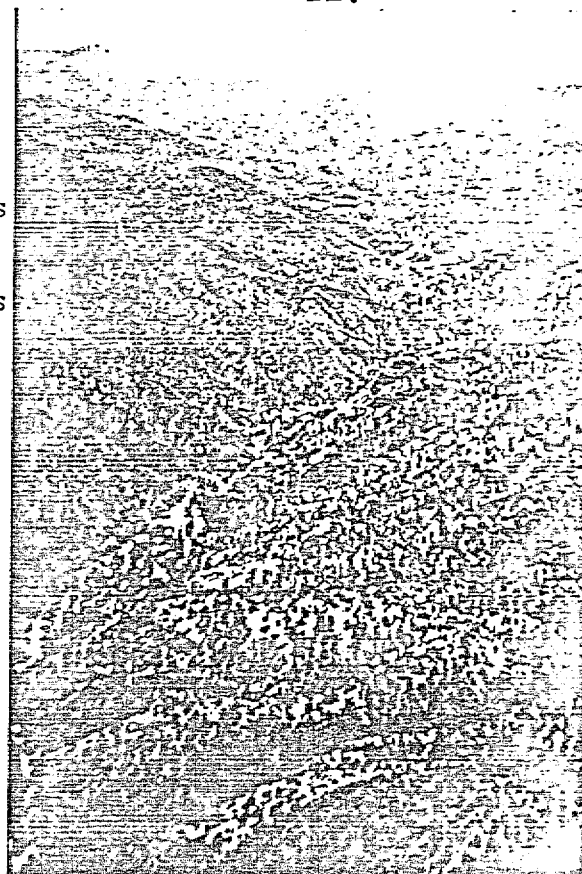
Tornado drill hole indicated that the originally proposed site would have tested the best potential for mineralization in the immediate area. Due to the compromised offset, the third phase of the program (21), Strayhorse, was necessary to investigate the western anomaly revealed by the Tornado geophysical survey.



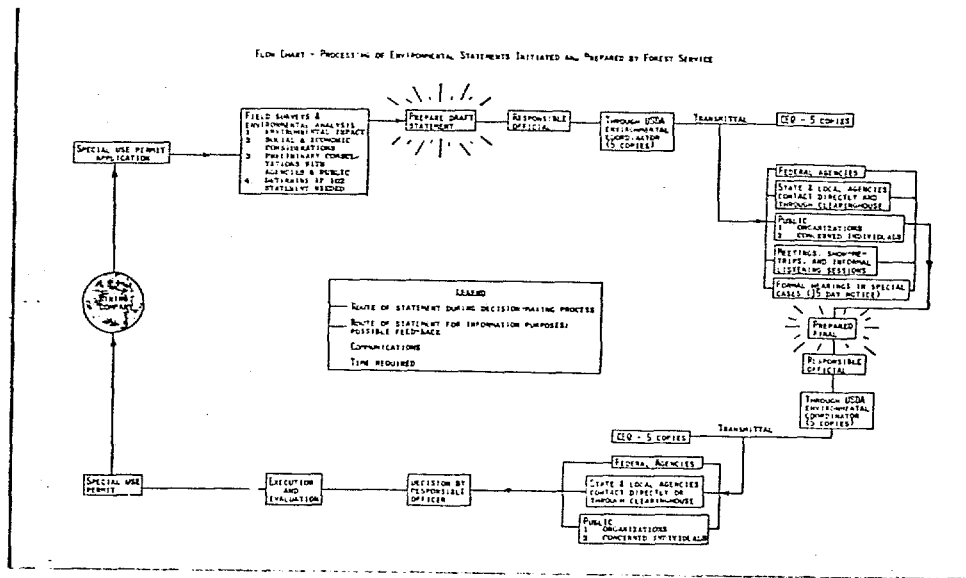
21.

22.

The Strayhorse Project was initiated by staking claims in the vicinity of Strayhorse Creek (22). A Special Use Permit Application was transmitted to the Forest Service which prompted major attention and administrative action leading to a Draft Environmental Statement.



The administrative maze surrounding the Environmental Impact Statement is illustrated here (23).



23.

This administrative action greatly increased the delay time and cost involved. The Draft Environmental Statement was followed by a Final Environmental Impact Statement and finally by a Special Use Permit. The Special Use Permit, which took 18 months to be granted, complicated the nature and immensely increased the cost of the entire project. Additional stipulations in the Permit delayed the Project by another month.

This being our first encounter with the full fledged Environmental Impact Statement Procedures, it was truly an eye-opening experience.

Water. It has been mentioned that the creeks involved flow into the Blue River. The Blue River joins the San Francisco River about 19 air miles downstream and eventually joins the Gila River. The Gila forms San Carlos Lake on the San Carlos Apache Reservation at Coolidge Dam. Water from the Gila is used for irrigation and domestic purposes, both above and below the dam. The proposal and Alternatives No. 1 and 3 would both add considerably to reducing the water quality, and a long-lasting effect would be expected on the water resource.

24.

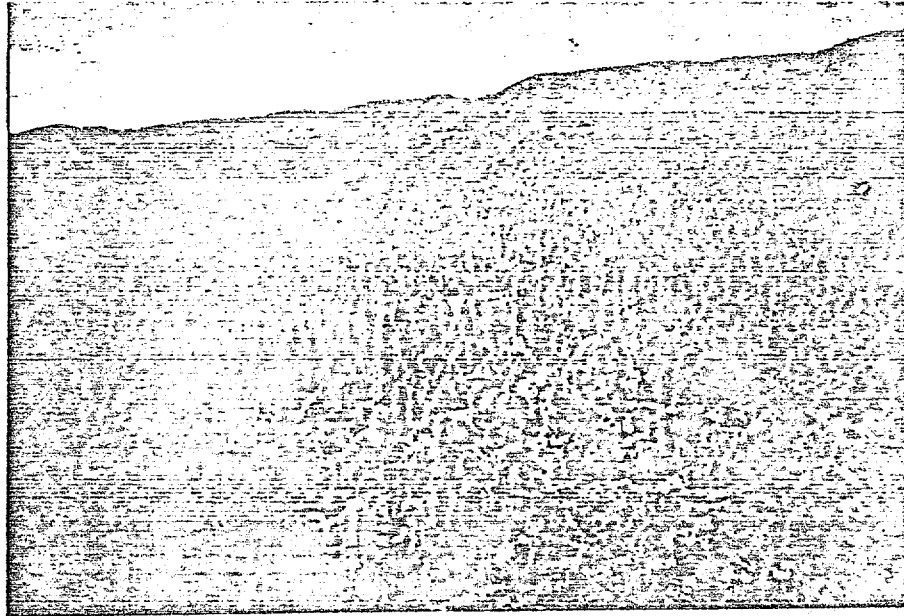
Page 23 DES

For example, the Draft Statement implied (24) that the proposed 3.8 mile equipment trail and drill site would result in deterioration in water quality of the Gila River below Coolidge Dam, notwithstanding that run off from the area that would have been traversed by the road constitutes an infinitesimal portion of the water flowing into San Carlos Lake behind Coolidge Dam, and the dam is approximately 180 stream miles from the drill site (25).



25.

After the Final Environmental Impact Statement was released, permission was granted for access via helicopter, and denied by road (26).



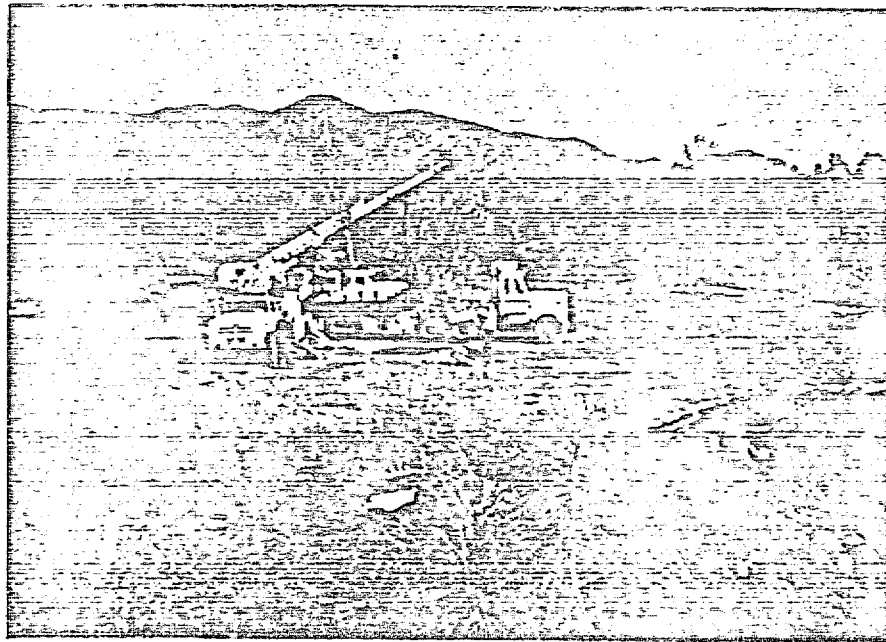
26.

The site chosen for a staging heliport outside the Primitive Area was on Strayhorse Divide in a clearing used as a water tank and camping spot (27).



27.

Vegetation in the area consisted of low brush, scrub pine and oak which had been burned off approximately 20 years previously. It would take, quoting from the Environmental Statement, "...40 years to grow sapling size timber as is now in place at the Strayhorse proposed helispot." It was not necessary to remove a single tree or bush from the site.



28.

(28) A total of 70 tons of equipment was disassembled, staged, transported, and reassembled within the Primitive Area.



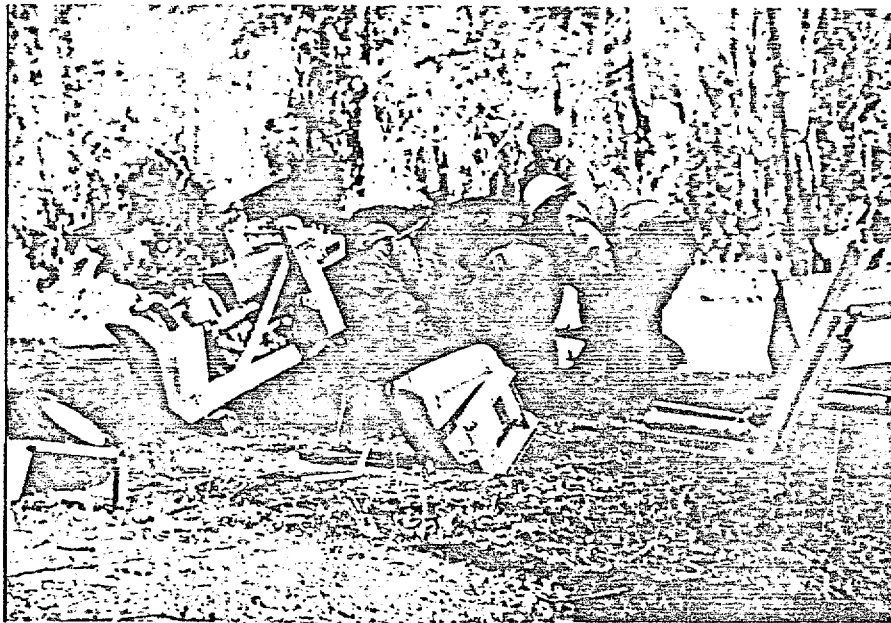
29.



30.

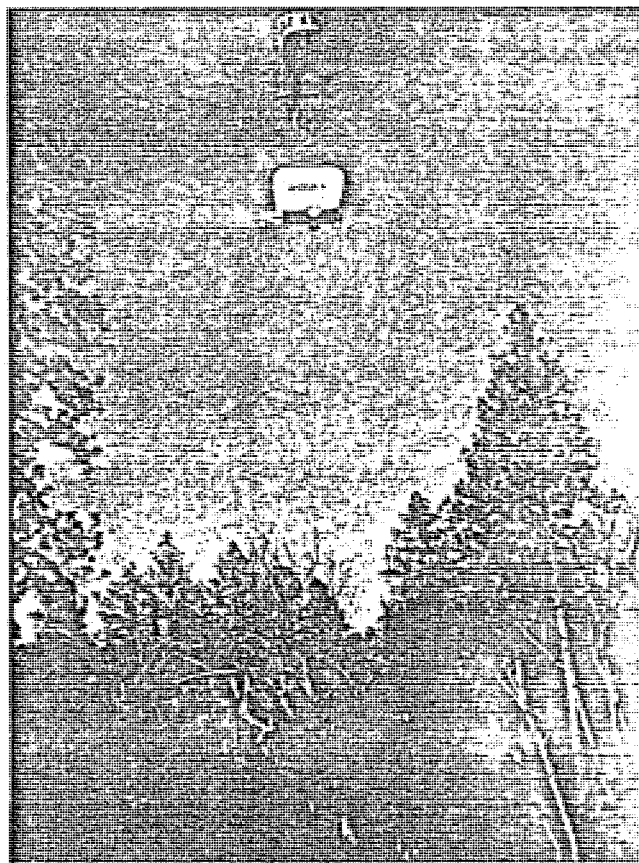
The drill was assembled at the site (29) by using a helicopter to lift the engine and hoist (30) onto the skid.

A tractor was brought in by helicopter and was used to transport equipment at the site (31), excavate sump pits, and assemble equipment.



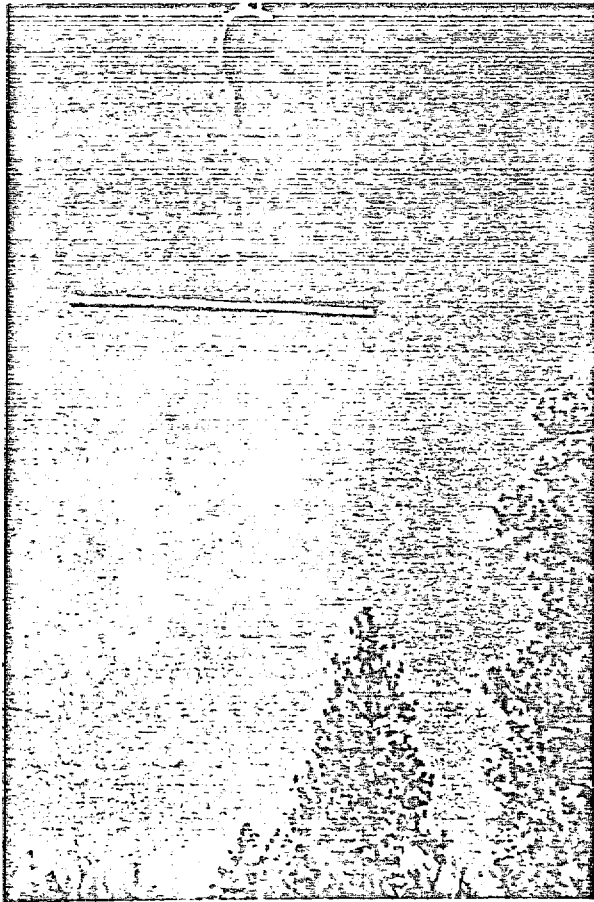
31.

Because the men were to be isolated, it was necessary to provide living accommodations (32) and food for all personnel.



32.

The skid drill which was capable of drilling in excess of 3,000 feet deep, required a special pole tripod (33).



33.

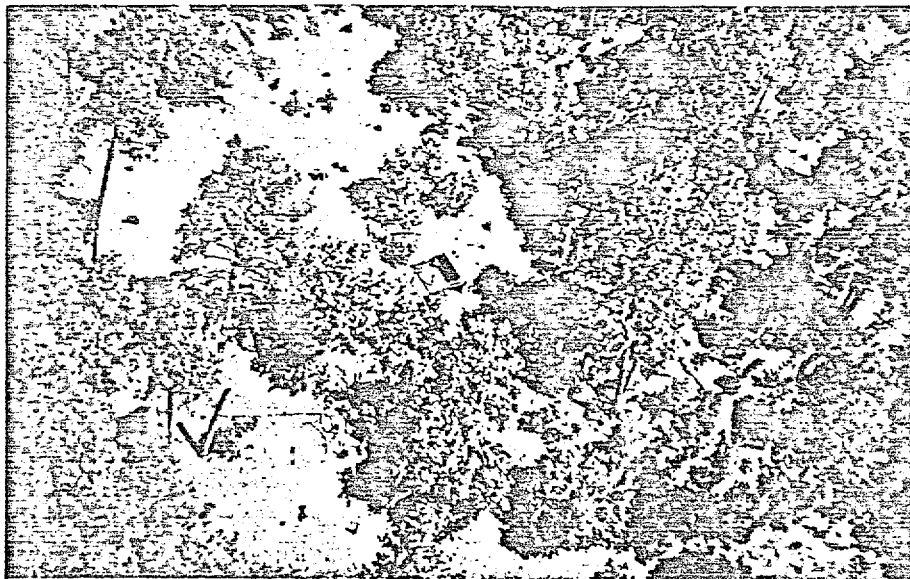
Of course, man not being a natural residing animal in this environment, stipulations to provide sanitary facilities that could be removed from the Primitive Area had to be met by acquiring and changing frequently, a portable privy (34).



34.



The site chosen for the drill and helispot was a clearing (35) containing a cabin and corrals used by ranchers in roundups.



35.

Only scrub brush and small hardwood trees had to be cut, contrary to the Forest Service's expectation expressed in the Environmental Impact Statement that "many of the yellow pines (120 to 200 years old) will be removed to make room for the helispot, drill site, and the settling ponds." Ground cover at the site prior to the drilling was correctly described as (36) "nearly absent" with bare ground prevalent everywhere.

Vegetation at the drill site consists primarily of ponderosa pine, sycamore, oak, and pinyon-juniper. Grasses are nearly absent at the drill site and Smith Place helispot, and bare ground is prevalent everywhere.

36.

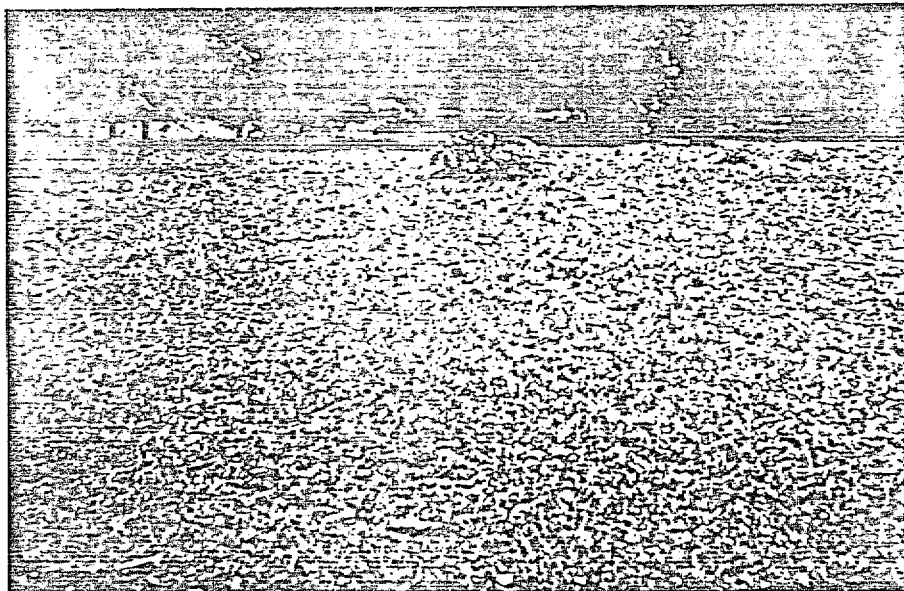


The drill area prior to activity is shown here (37).



37.

The Environmental Impact Statement stated that revegetation after closure would be impossible without forcing cattle from the area. However, no cattle were removed, salt blocks were placed at the edge of the site by ranchers, and (28) a grassy meadow was produced.



38.

The Environmental Impact Statement concluded that "Drill site, construction will destroy the pristine, 'Untouched by Man' characteristics of all land from which the developments can be seen."

(39) On the same page it is stated that an abandoned line cabin is presently within 50 feet of the proposed drill site.

Natural Beauty. The proposed Strayhorse Ridge (Highway 666) helispot and the drill site would leave a scar on the landscape. The drill site is proposed to be placed in a natural clearing surrounded by mature yellow pine. An abandoned line cabin is presently within 50 feet of the proposed drill site. Many of the yellow pines (120 to 200 years old) will be removed to make room for the helispot, drill site, and the settling ponds.

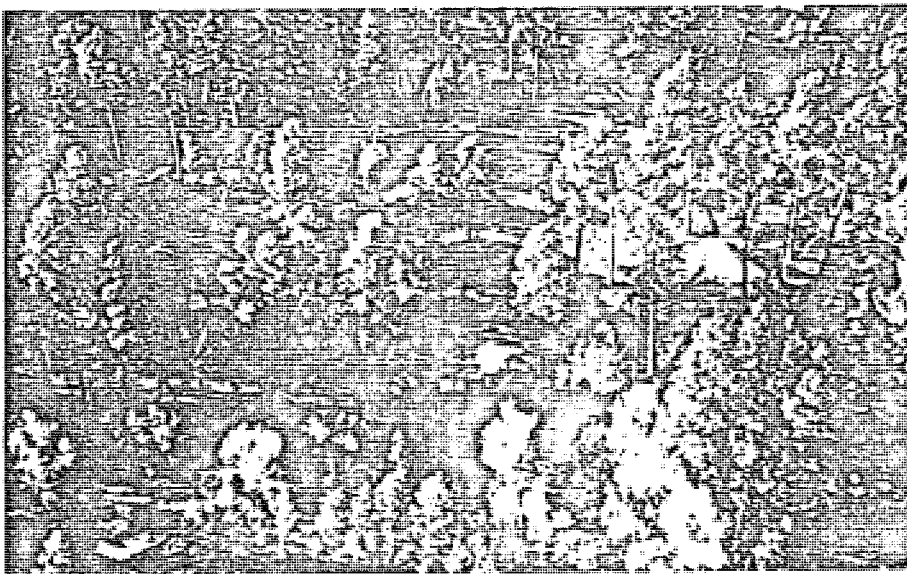
39.

Page 5 EIS



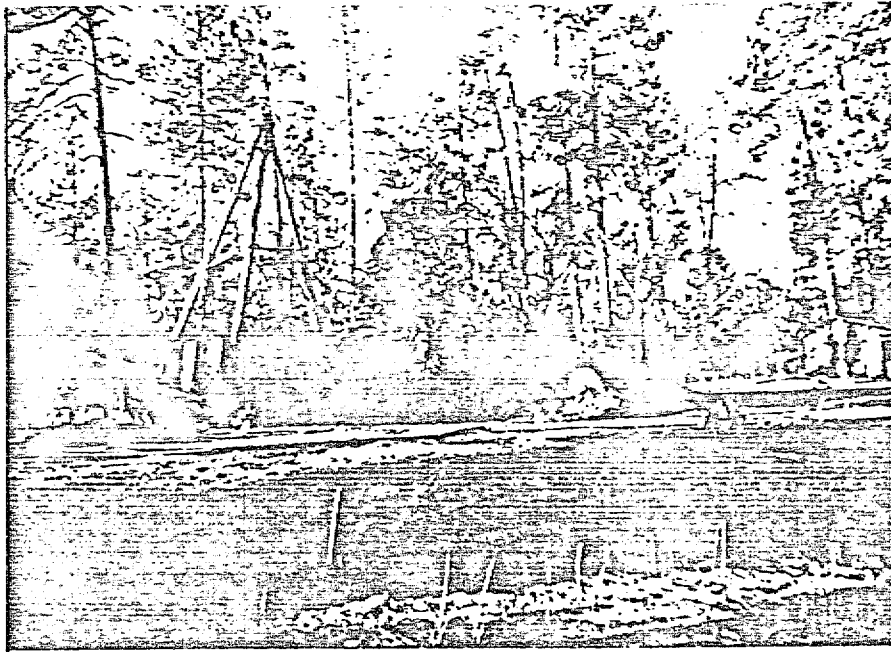
40.

The natural clearing for the drill site (40) was located in a bend of Strayhorse Creek and was laid out as shown here (41).



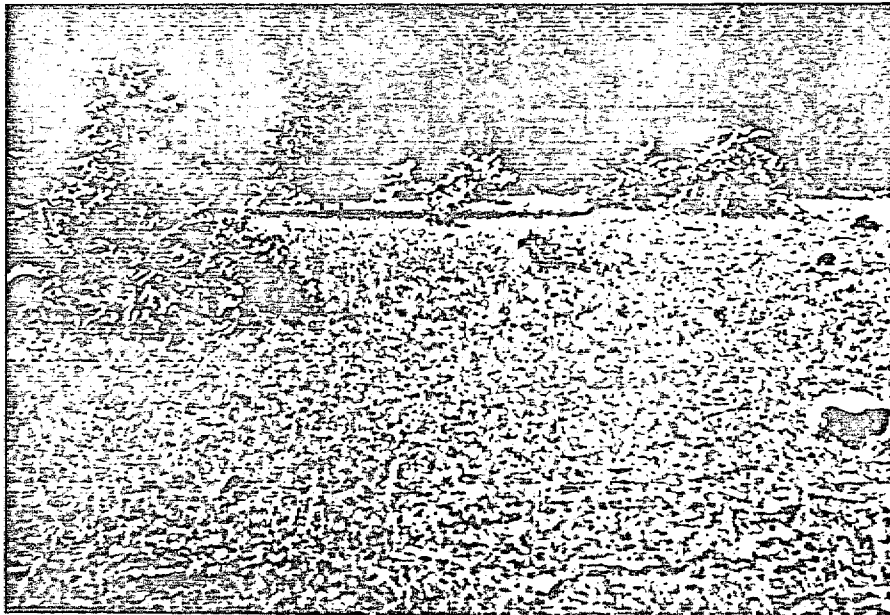
Note the location of the drill, camp trailers, and core tent. The camp could only be seen from the air by flying directly overhead.

41.



42.

This slide (42) shows the drill site during the drilling program, and this one (43) shows the site after the drilling was completed and the site rehabilitated.



Post

Cap

43.

The success of our reseeding program is evident. All that can be seen of the site and two 20' x 20' sumps is the validation post and drill hole cap located here.



44.

The campsite was likewise revegetated as shown before (44) and after (45).



45.

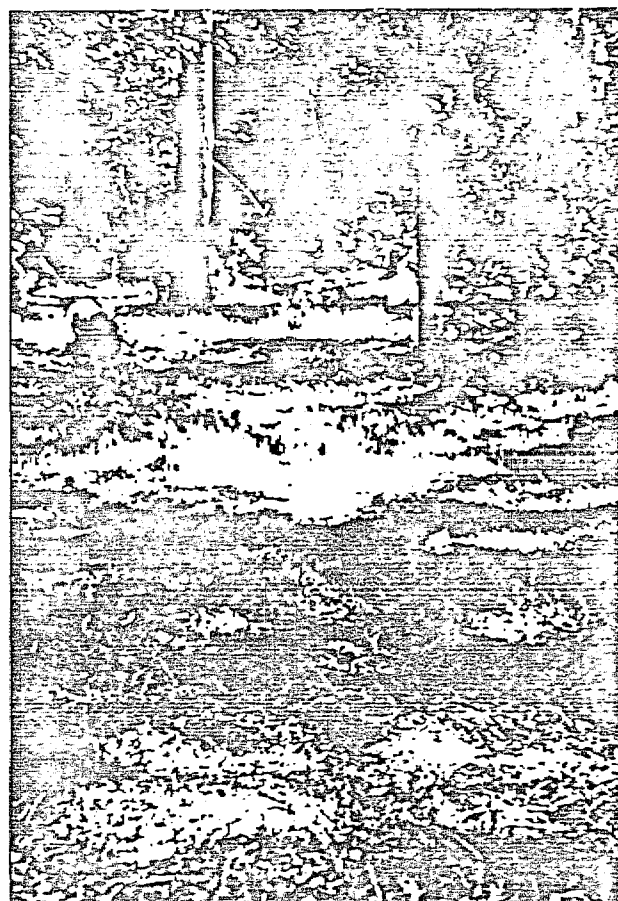


46.

Drill transport to a second site was conducted by skidding the drill (46) along the Forest Service trail, which was not harmed (47) and was reseeded successfully (48);

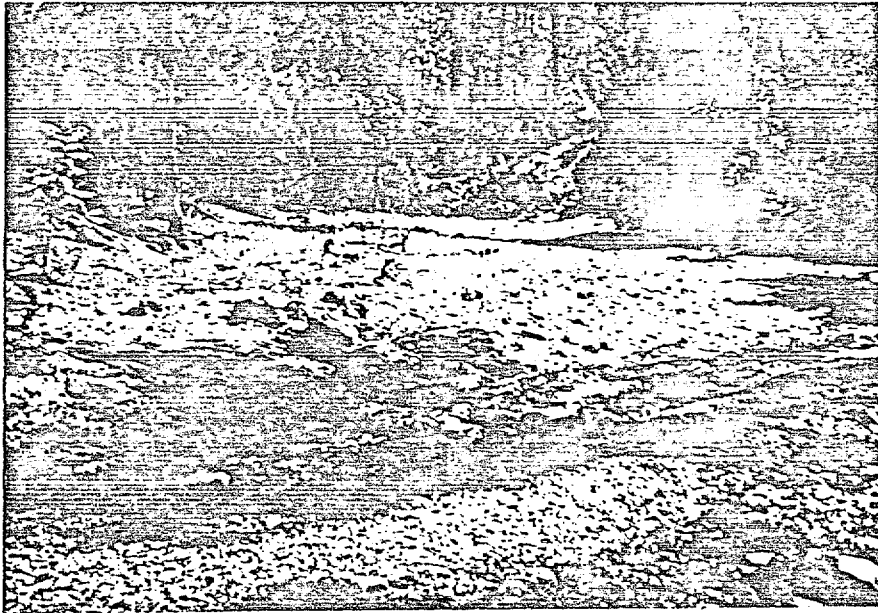


47.



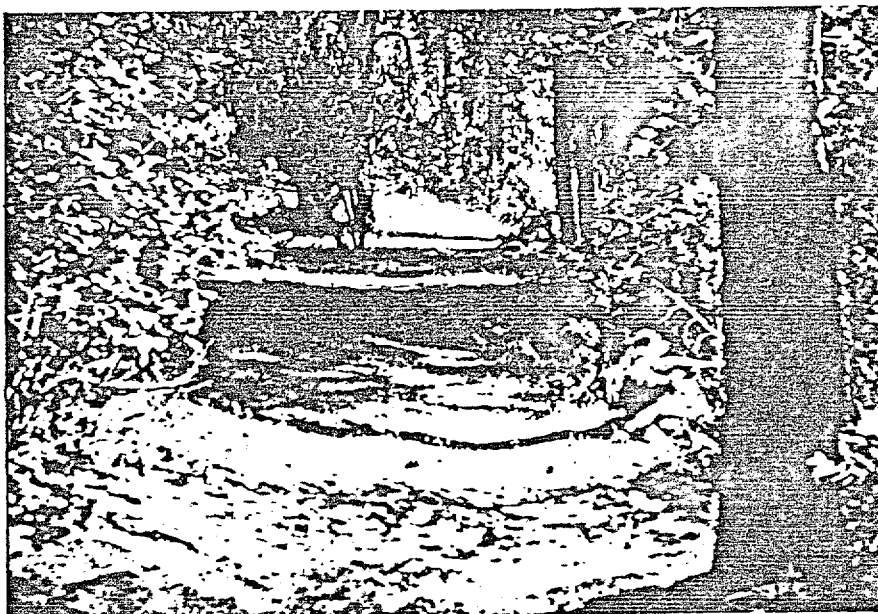
48.





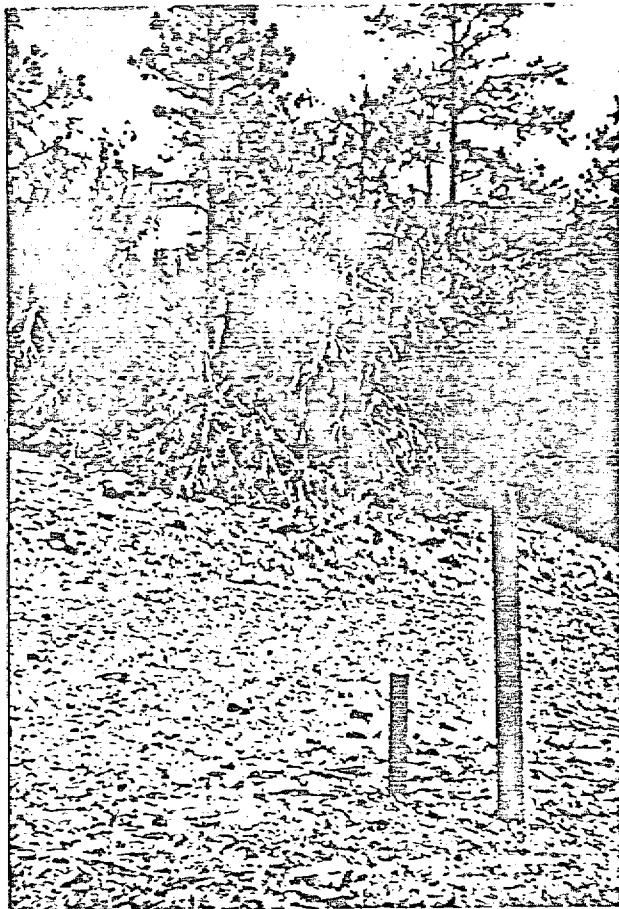
49.

then along the streambed, with no adverse effects (49); and finally along the Forest Service trail again (50) to the second drill site. The second portion of the trail also was reseeded.

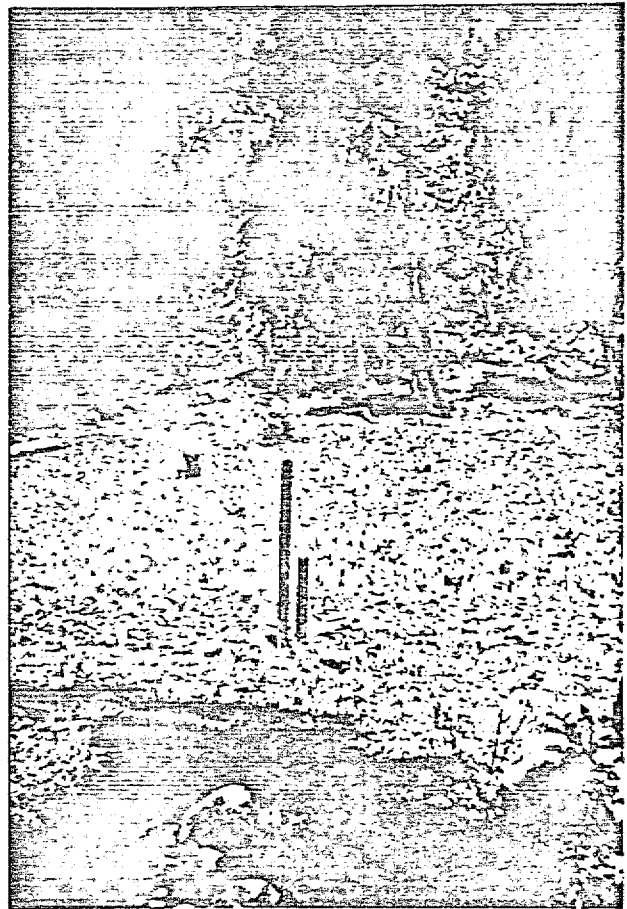


50.

The Number 2 site (51) was initially devoid of grasses. Two pine trees were cut at this site to enable the helicopter to operate safely. The mud pit was covered and the entire site was reseeded (52).



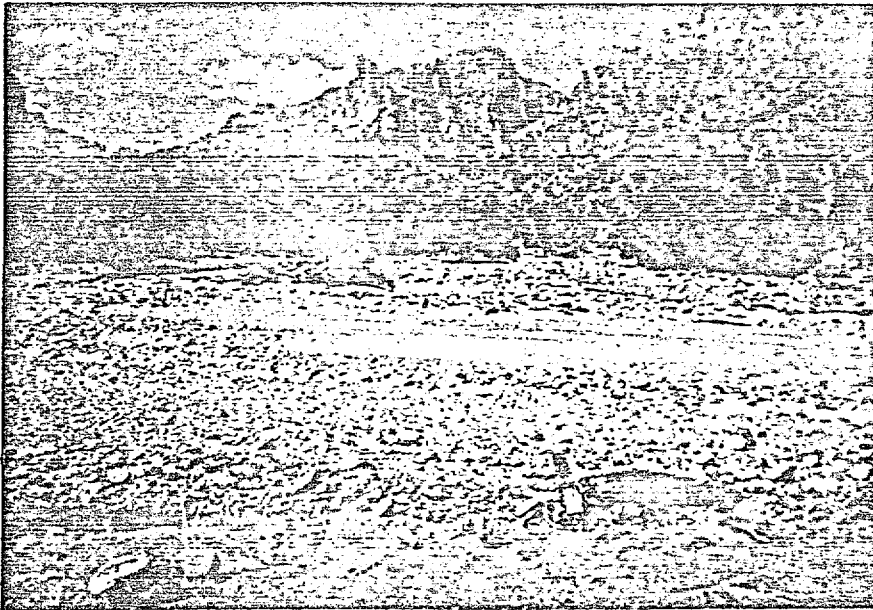
51.



52.

As can be seen, adverse impact upon the environment was negligible and in fact, the project improved the natural beauty by creating green areas where there were previously none.

Let me quote a couple of conclusions in the Environmental Impact Study concerning other supposed potential impacts of the drilling program. Assuming that a mine would result from this two-hole drilling program (which is an optimistic assumption, I am sure that you would agree), the study says that "A mine would greatly help the economics of northern Greenlee County," but later in the same paragraph, the writer states "There is also evidence that although the economic growth of a new mine area is rapid and spectacular, eventually the attraction of higher wages brings in more population than industry demands, and, therefore unemployment." The reasoning by which a new mine is deduced to cause unemployment is difficult to follow, to say the least.



53.

(53) Concerning the intangible relationship of man to his environment under the heading of social and cultural impacts, the Environmental Impact Statement contended: "Public response to the draft statement indicates that the proposed action is highly controversial and, therefore, could be considered to have social and cultural effects on many people." In evaluating whether the responses received by the Forest Service accurately reflected public feeling about the proposal it is important to note that all responses by people living in the immediate area were in favor of the Phelps Dodge proposal. All unfavorable responses were by people living outside of the area, predominantly by respondents associated with environmental groups or government agencies.

Social and Cultural. Any consideration of environmental impacts would have to concern itself with the intangible relationship of man to his environment. One of the objectives of the environmental analysis and statements is to determine the attitude of the general public toward the proposal. Public response to the draft statement indicates that the proposed action is highly controversial and, therefore, could be considered to have social and cultural effects on many people. Development of this pristine area into another copper mining center would lower the social and cultural mores of the now predominantly ranching and retirement community.

54.

Page 6 EIS

Reading further, the Environmental Impact Statement proclaimed that (54) "Development of this pristine area into another copper mining center would lower the social and cultural mores of the now predominantly ranching and retirement community." It would be interesting to see the scientific backing for this conclusion.



Project lead time (55) and cost were greatly increased by the preparation and processing of environmental studies and compliance with the attendant specifications. A summary of the time necessary for the three phases is shown here.

BLUE RANGE PRIMITIVE AREA EXPLORATION - CHRONOLOGY SUMMARY				
PROJECT	CLAIMS STAKED	PERMIT APPLICATION	PROJECT COMMENCEMENT	DELAY
HOB	NOV. 1969	-	NOV. 1969	0
TORNADO	DEC. 1969	DEC. 1969	OCT. 1970	10 MONTHS
STEAKHOUSE	MARCH 1972	APRIL 1972	NOV. 1973	19 MONTHS

55.

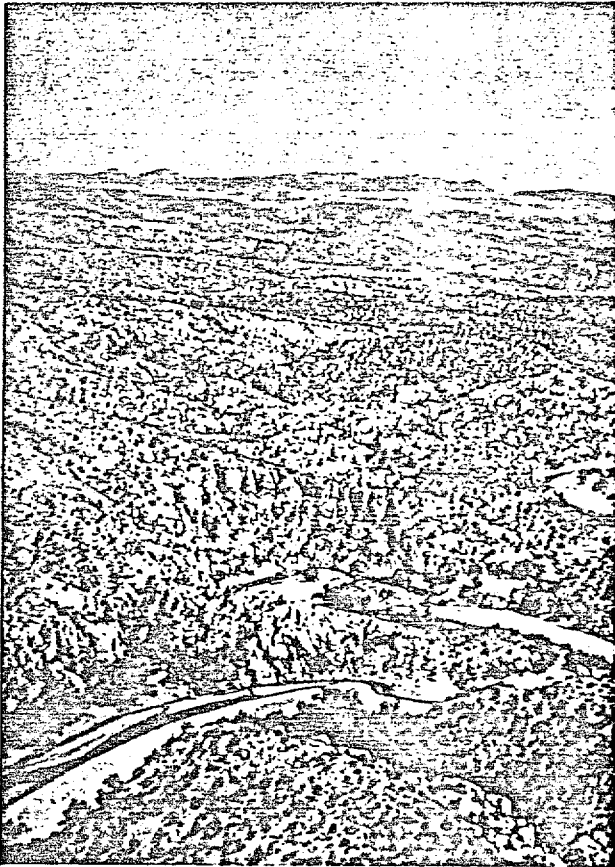
Note that delay time increased from zero months in 1969 to 19 months in 1972-73 reflecting this administrative treadmill. Many things added to the increased cost of the program as shown in this cost comparison (56).

ITEM	COST	
	CONVENTIONAL	HELICOPTER
ROAD & SITE CONSTRUCTION AND REHABILITATION	\$ 16,000	\$ 7,500
DRILL MOBILIZATION	1,200	16,000
HELICOPTER TRANSPORT	0	22,019
ACCOMMODATIONS	2,420	9,900
TRACTOR	0	1,000
EMERGENCY TRANSPORTATION	0	800
SUPPLY HAULAGE	2,300	55,922
DRILLING	57,300	84,300
ENGINEERING	50,000	45,722
ADMINISTRATIVE DELAYS	0	22,749
TOTAL	\$ 104,220	\$ 267,912
	\$16.50/ft.	\$42.85/ft.

56.

The costs for drilling these two holes soared from an estimated \$16.50 per foot to approximately \$43/foot due to administrative delays and restrictions. A few reasons for this increased cost are:

1. Helicopter transport instead of road construction and transport,
2. Increased mobilization charges levied by the drilling contractor,
3. Increased footage rates for drilling,
4. Acquisition of special equipment to accommodate the program.



57.

(57) The need for preserved areas for recreation and enjoyment cannot be refuted. However, the obvious need for mineral self-sufficiency must also be considered and these "Primitive" and "Wilderness" areas must be examined for both purposes.

58.

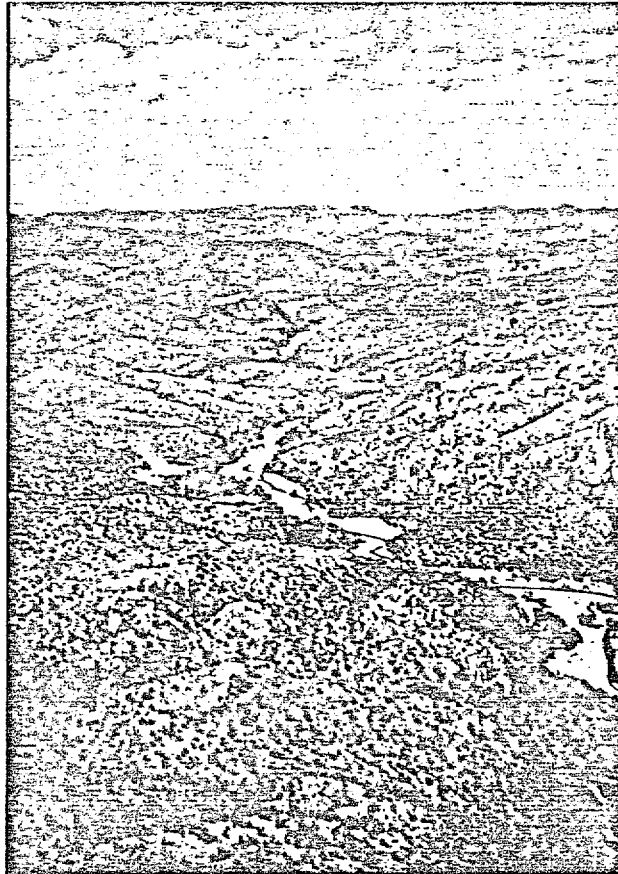
The greatest potential for finding new copper reserves in the United States is in the 11 western states and Alaska. These states also include the largest areas of protected lands, with new ones being added constantly.





59.

(59) The necessity for having flexibility in exploration programs is well known by those in the mining industry. Essentially, each hole in an unestablished area must be predicated upon each preceeding hole. Truly, a 19-month delay between holes at \$43/foot borders upon the prohibition of exploration, which is contrary to Congressional intent.



60.

(60) If legislative and administrative restrictions continue to accelerate at the rate experienced since 1969, and new areas are added to the Wilderness system with no extension of the 1984 deadline, then the mining industry simply will be unable to carry out its right and obligation to evaluate the existing Primitive and Wilderness Areas for economic mineral potential, and the expanding need for base metal self-sufficiency will be met head-on by a legislated decrease in prospectable areas. We cannot forget that the stability and prosperity of any nation are determined by its available natural resources.

# SLIDE SUMMARY

<u>Slide #</u>	<u>Description</u>	<u>Slide #</u>	<u>Description</u>
1	Cartoon - prospector	19	Tornado trail - obliterated
2	Cartoon - exploration equipment	20	Tornado drill site - reseeded
3	Blue Range Panorama	21	Index map - Strayhorse Claims
4	Scenery - Mountain Stream	22	Scenery - Strayhorse Creek Panorama
5	Scenery - Primitive Area	23	Flow Sheet - Environmental Statement
6	Scenery - Primitive Area	24	Excerpt - Draft Environmental Statement
7	Scenery - Blue River Canyon	25	Scenery - Strayhorse Creek
8	Scenery - Blue River Panorama	26	Scenery - Strayhorse Divide
9	Index Map - Primitive Area	27	Scenery - Strayhorse Divide heliport
10	Scenery - west side of Primitive Area	28	Strayhorse Divide heliport w/equipment
11	Scenery - south side of Primitive Area	29	Helicopter w/drill skid
12	Scenery - volcanics overlying sediments north of Morenci	30	Helicopter w/drill rig
13	Scenery - Primitive Area	31	Tractor being assembled
14	Index map - location of Hobo, Tornado, and Strayhorse Claims	32	Helicopter w/camp trailer
15	Scenery - Blue River - Tornado Camp	33	Helicopter w/pole for tripod
16	Tornado - reseeded	34	Helicopter w/outhouse
17	Tornado - Primitive Area Gate	35	Aerial view of Strayhorse site
18	Tornado trail - reseeded	36	Excerpt - Environmental Impact Statement

<u>Slide #</u>	<u>Description</u>	<u>Slide #</u>	<u>Description</u>
37	Strayhorse site - ground cover (before)	49	Strayhorse Creek
38	Strayhorse site - reseeded (after)	50	Reseeded Forest Service trail
39	Excerpt - Environmental Impact Statment	51	SC-2 drill site - before reseeding
40	Aerial oblique of Strayhorse site	52	SC-2 drill site - after reseeding
41	Aerial oblique of Strayhorse camp	53	Scenery - Blue River Valley
42	Drill site during operation	54	Excerpt - Environmental Impact Statement
43	Drill site after reseeding	55	Chronology Summary
44	Camp site during project	56	Cost Comparison
45	Camp site after reseeding	57	Scenery - Blue Panorama
46	Drill mobilization	58	Helicopter transport
47	Forest Service trail	59	Skidding Drill
48	Forest Service trail reseeded	60	Scenery - Blue Panorama

December 24, 1969

J.H.C.

DEC 24 1969

Please copy for WES  
12/30/69  
KOS

MR. T. A. SNEDDEN  
BUILDING

RE: BLUE RANGE WILDERNESS HEARING  
SPRINGVILLE, ARIZONA.

Dear Sir:

As you know, I attended the hearing held at Springerville, Arizona, on Saturday, December 20th, in connection with the Forest Service proposal to create a Wilderness Area out of most of the present Blue Range Primitive area, plus some additional ground on the west. While I did not count heads, there must have been around two hundred people there, of which about seventy presented testimony. In numbers, the people who spoke in favor were in the majority, in a ratio perhaps 60-40. However, with a few exceptions, no arguments were presented as to why this area should be classified as Wilderness, except the usual one that land should be left in its natural state as a retreat from the noise, dirt and confusion of civilization. The Sierra Club, as spokesman for many wilderness and conservation groups, presented a proposal that would add another seventy thousand acres to the one hundred and seventy-seven thousand acres proposed by the Forest Service.

The mining industry was presented by the following persons who gave presentations:

Edward Peplow, Arizona Mining Association; John Summer, University of Arizona (geophysics); Willard C. Lacy, University of Arizona (geological engineering, his paper was on time and cost of exploration and development); R. L. Hamilton, Anaconda, who read a paper by Art Barber; Jack Langton, Phelps-Dodge; Frank Bowman, Banner Mining Company; S. I. Bowditch, Asarco; C. H. Phillips, Kennecott; Dean Lynch, Duval; W. W. Simmons, Miami Copper; John E. O'Neill, Phelps-Dodge; Don Hammer, Magma; Hugh Olmstead, Inspiration; and Stanley Secrist, Arizona Small Mine Operators Association. Frank Knight, Director of the Arizona Department of Mineral Resources, gave his paper as part of the State's presentation. Present, but not speaking, were T. G. Chilton, Magma, C. K. Vance, Kennecott, Bob Zache of Arizona Mining Association and Keith Knobloch of American Mining Congress.

The mining group had planned to present their papers as a group, but the chairman of the hearing preferred to alternate them with the conservation people, though he did pretty well follow the order we wished. Incidentally, the chairman, a Forest Service lawyer from Washington, D. C. did an excellent job of conducting the meeting.

It was notable that no local resident or county official approved the proposal - all were unanimously and vehemently against it. The Governor of Arizona, and the state departments of Mineral Resources and Forestry and

Mr. T. A. Snedden  
December 24, 1969  
page .....2

Water, were in opposition, while the Fish and Game Department was for it, although it gave no very good reasons. The Greenlee County attorney had persuaded the Commissioners of eight other counties to pass resolutions against the wilderness, which he offered in evidence. Lumbermen and cattle raisers were also in opposition.

I did not attend the hearing at Reserve, New Mexico, held the 19th, but Peplow, Knoboch, Zache, Dean Lynch and Chilton attended as observers, and said the number testifying was less, and about equally divided pro and con.

The mining group emphasized that this was the first wilderness proposed in the southwest to which we had objected.

As one speaker noted, probably no one present had his mind changed, but at least there is enough opposition on the record so that the reviewing officials will have something to think about.

Yours very truly,

*S. I. Bowditch*

S. I. BOWDITCH

SIB/mps

cc: JHCourtright ✓  
RBMeen  
JJSense  
JJCcollins



~~SIB~~ see page 2 your draft J.H.C.  
Thanks

DEC 8 1969

W.E.S.

AMERICAN SMELTING AND REFINING COMPANY  
TUCSON ARIZONA

DEC 17 1969

December 5, 1969

Mr. J. J. Collins, Chief Geologist,  
ASARCO  
NEW YORK

MR. WES  
READ AND RETURN \_\_\_\_\_  
PREPARE ANSWERS \_\_\_\_\_ HANDLE \_\_\_\_\_  
FILE ✓ INITIALS \_\_\_\_\_

SUBJECT: BLUE RANGE PRIMITIVE AREA HEARINGS

As you probably have heard from Mr. Courtright, I attended a meeting at the Arizona Mining Association office in Phoenix in connection with the hearings to take place December 19 and 20 on the Blue Range proposal. For your information, I am enclosing copies of my memo to Mr. Snedden and Mr. Peplow's memo concerning this meeting. I am also enclosing a copy of the first draft of my proposed testimony.

After the hearings are over I will write a memo concerning them.

Yours very truly,

ORIGINAL SIGNED BY  
S. I. BOWDITCH  
S. I. BOWDITCH

SIB/mps  
Encl. (3)  
cc: JHCourtright ✓

PROPOSED TESTIMONY AT DECEMBER 20 HEARING ON  
BLUE RANGE WILDERNESS AREA

My name is S. I. Bowditch, and I am geologist and Property Manager for American Smelting and Refining Company at Tucson.

I agree whole heartedly with the testimony given previously that it is most inadvisable to lock up the Blue Range Area as a wilderness, especially because, although in theory prospecting is allowed, the ban on motorized equipment effectively prevents even preliminary geophysical prospecting.

I should like to describe very briefly two mining areas with which I am familiar which have a bearing on the topic under discussion. The Silver Bell Mine of Asarco, forty miles northwest of Tucson, produces around 11,500 tons of ore per day from two open pits. The time these ore deposits were formed is about 65 million years ago. After the introduction of the mineralization, erosion wore the country down, exposing the mineralization, and processes connected with weathering enriched the ore to commercial grade. Then the area was covered with a series of volcanic lava flows and sediments similar to those making up the present Blue Range, and of similar age, and it is only the accident of recent erosion that has again exposed the mineralized area so that it was easily found by the old-time prospector looking on the surface.

The situation in the Pima-Mission Area is somewhat different. These two adjoining open pits, owned by Pima Mining Company and Asarco, about twenty miles <sup>South</sup>~~North~~ of Tucson, are both working on the same orebody, and between them are producing around 60,000 tons of ore per day. Until the early 1950's this orebody was completely concealed under 200 feet of gravel, and it was only in the presence of magnetite in one high grade area in the Pima portion of the orebody which allowed the ore

to be found when it was. The magnetite was detected by a magnetometer, and subsequent drilling to see what caused the anomaly discovered the ore. That was the only area which contained detectable magnetite. Other geophysical methods in use at the time were not capable of detecting the ore, even at that shallow depth.

*No. — believe mineral Hill fault & contained sulfides were indicated by resistivity or equipotential method*

Methods developed since then and in use today would have indicated this deposit. Thus, just because today we do not have geophysical methods which will reveal mineralization which may lie beneath a thousand or more feet of post-mineral rocks, there is no reason to think that at some date not too far in the future, such methods will not be developed. Areas containing the potential for deposits which can only be so found should not be withdrawn just because we cannot make a discovery today.

*W.E.S.*



AMERICAN SMELTING AND REFINING COMPANY  
EXPLORATION DEPARTMENT  
SOUTHWESTERN UNITED STATES DIVISION  
P. O. BOX 5795, TUCSON, ARIZONA 85703

J. H. C.  
DEC 8 1969

S. I. BOWDITCH  
PROPERTY MANAGER

1150 NORTH 7TH AVENUE  
TELEPHONE 602-792-3010

December 5, 1969

Mr. Edward H. Peplow, Jr.,  
Executive Secretary  
Arizona Mining Association  
Arizona Title Building,  
Suite 1117  
111W. Monroe Street  
Phoenix, Arizona 85007

Dear Ed:

Enclosed is a preliminary draft of my prospective testimony  
on December 20th. It has not been reviewed by anyone in this  
company.

Sincerely Yours,

S. I. BOWDITCH

SIB/mps  
encl.

cc: JHCourtright ✓

AMERICAN SMELTING AND REFINING COMPANY  
TUCSON ARIZONA

December 4, 1969

MEMO TO: MR. T. S. SNEDDEN - Tucson  
FROM: MR. S. I. BOWDITCH - Tucson  
SUBJECT: BLUE RANGE WILDERNESS PROPOSAL

W.E.S.  
DEC 4 1969

J. H. C.  
DEC 4 1969

At your request I attended the meeting held at 10 a.m. December 3rd at the Arizona Mining Association office in Phoenix to discuss preparation for the hearings to be held December 19th at Reserve, N.M., and December 20th at Springerville, Arizona.

There were about sixteen people present, including Ed Peplow, Howard Twitty, Alfred Carr and ? Ferguson (from Evans, Kitchell and Jenks). The following companies were represented: Banner, Kennecott, Magma, Asarco, Inspiration, Miami, Phelps-Dodge, Anaconda, and Duval. Frank Knight from the Arizona Department of Mineral Resources and Stanley Secrist of the Arizona Small Mine Operators Association also attended.

The New Mexico Mining Association plans to have people at the Reserve hearing, and although Ed Peplow will attend these as an observer the Arizona people will testify only at the Springerville hearing. Peplow and his New Mexico counterpart will coordinate the testimony of the two groups.

Although the only known surface showings of mineralization are at the very south edge of the proposed Wilderness, the feeling was that the entire withdrawal should be protested, because we have no present certainty that there may not be orebodies elsewhere under the post-mineral volcanics.

Greenlee County may protest the withdrawal of potentially taxable land, and someone will testify that the Gila Wilderness already contains a similar ecological environment, so that the Blue Range is not necessary for this purpose.

The geologists present were each asked to prepare a short (no more than five minutes) paper. The Phelps-Dodge man, who is most familiar with the area, will be allowed more time to present his reasons for believing the area may be mineralized, and those of us who are not acquainted there will describe mines which were covered when found or can be shown to have once been covered by past-mineral volcanics. I propose to very briefly describe Mission and Silver Bell.

A few of us will meet in Phoenix on December 12 to coordinate and edit the papers. All will assemble in Springerville Friday evening, December 19, for a final briefing.

*S. I. Bowditch*  
S. I. BOWDITCH

CC: R B Meen  
J J Sense  
J H Courtright ✓

November 5, 1969

MINING N. AMERICA

NOV 10 1969

TUCSON

T. A. S.

NOV 12 1969

J. H. C.

DEC 3 1969

MEMORANDUM TO: BOARD OF DIRECTORS & REPRESENTATIVES  
ARIZONA MINING ASSOCIATION

FROM: Edward H. Peplow, Jr.  
Executive Secretary

Howard Twitty, as a member of the American Mining Congress committee on public lands, has suggested that all members of the Arizona Mining Association receive copies of the enclosed USGS bulletin. He also suggests that since Phelps Dodge has its Morenci operation close to the Blue Range that it should take the lead in presenting the position of the industry at a hearing which is to be held at Springerville, Arizona in the VFW Hall at 9:00 a.m., December 20.

Mr. Twitty also suggests that all other interested companies have representatives at that hearing. He calls attention also to the fact that there will be a public hearing at 9:00 a.m., December 19 at the Catron County Court House in Reserve, New Mexico.

From the enclosed bulletin, you will note that USGS reports most of the Blue Range Primitive Area is without significant mineralization but that a portion of approximately ten per cent of it has marked mineralization and indications of ore at depth.

Keith Knoblock of the American Mining Congress has been kind enough to make this mailing for us from Washington.

EHP:vl  
enclosure



# American Mining Congress

RING BUILDING • WASHINGTON, D. C. 20036 • TELEPHONE 202 - 338-2900

J. ALLEN OVERTON, JR., EXECUTIVE VICE PRESIDENT

September 16, 1969

## MEMORANDUM

TO: AMC Public Lands Committee and  
Officials of State Mining Organizations

FROM: Keith R. Knoblock  
Assistant to the Director of Govt. Relations

J.H.C. JC Collins  
DEC 3 1969  
Geol Dept  
Library  
7

### Blue Range Primitive Area Mineral Report Published

Pursuant to the Wilderness Act, the U. S. Geological Survey has completed its mineral resource study of the Blue Range Primitive Area and certain additional contiguous areas proposed for consideration for wilderness status. The report states that there is no evidence of potential mineral resources in more than 90 percent of the area. The Wilderness Act provided that each primitive area should be studied for its suitability for incorporation into the National Wilderness Preservation System. The area studied, comprising about 500 square miles in southeastern Arizona and southwestern New Mexico, was appraised by means of geologic mapping, geochemical sampling, aeromagnetic survey, and examination of all mining claims and areas of mineralized and altered rocks.

Noted in the report is the presence of hydrothermal alteration and low-level geochemical anomalies in two areas near the south border of the primitive area. This would indicate, according to the USGS, that ore may be found at greater depth, the most likely type being disseminated copper-molybdenum deposits. The southern part of the primitive area is considered by the Geological Survey to be a likely site for further mineral exploration. The report points out that a thorough assessment of mineral potential at depth would require drilling, which is beyond the scope of this study.

There is no record of mineral production from the area. Eight groups of unpatented mining claims are located in or near the primitive area. Exploration work was reportedly undertaken on one group by a large mining company about 1963-64. Surface examination of all claims by the USGS disclosed only traces of metallic minerals.

A copy of Geological Survey Bulletin 1261-E is enclosed. The field hearing on the proposed Blue Range Wilderness is scheduled for late 1969.

DRAFT

The Regional Forester  
Building 85 - Denver Federal Center  
Denver, Colorado

<sup>E</sup>  
WEMINUCHAG WILDERNESS AREA - COLORADO

Dear Sir:

I wish you would record this letter as evidence in your recommendations to the Secretary of Agriculture, to the President, and to Congress with respect to the boundaries of the proposed Weminuchag<sup>E</sup> Wilderness Area. We have studied U.S. Geological Survey Bulletin 1261-F "San Juan, Colorado" and find descriptions of mineralization and clues to mineralization of such importance that we feel the four mineralized areas (cited by the U.S. Geological Survey) should be excluded from the proposed wilderness area, together with the logical transportation routes thereto.

It is not <sup>correct</sup>~~sufficient~~ to say that these four mineralized areas are of little consequence because they have not, in the past, been great producers. Such ~~"inconsequential"~~ districts are the most fertile hunting grounds for new mines. For example the great San Manuel Copper Mine in Arizona is located in an area that was drilled during World War I but no ore was found until a renewed effort during World War II did turn up the clue that led to the discovery of this tremendous ore body. Future generations of geologists will have to find similar, overlooked orebodies if the United States is to continue providing the metallic base for its industrialized civilization. Mineralized areas, no matter how faintly mineralized, must not be locked up in wilderness areas.

I use the phrase "locked-up" intentionally because the restrictive regulations applied in a wilderness area effectively prevent prospecting and exploration by prohibiting mechanical equipment. It is no help to say that

Cont'd.....



- 2 -

prospecting is allowed in the wilderness areas until 1983. The search for minerals must be conducted ad infinitum since future generations will need additional ore bodies.

Would you kindly put my name on your mailing list to receive notification of announcements regarding this proposed wilderness area. Thank you.

Very truly yours,

blcc: CFBarber  
K RKirkpatrick  
G Kidd

JJC

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

J. H. C.  
NOV 14 1969

November 14, 1969

TO: W. E. Saegart  
FROM: R. D. Karvinen

Blue Range Primitive Area  
Greenlee County, Arizona  
Catron County, New Mexico  
Comments on Proposed Withdrawal

A review of the published literature and the Company files indicates ASARCO should not contest wilderness status for this area.

Though several interesting geologic lineaments can be projected into the area, the possibilities for finding commercial mineralization are too remote to be of interest.

The USGS Bulletin 1261-E is a rather thorough report of the Mineral potential of the area and concurrence with its conclusions is accorded. This bulletin studied the latent potential of fossil fuels and nonmetallic deposits, as well as the possibilities for base and precious metal occurrences. Allowance is made for a possible deep-seated deposit in the southern sector of the area and this will probably be contested for by Phelps Dodge.

No pre-ore rocks are exposed in the area and the depth to pre-Tertiary rocks have been estimated to exceed 2000 feet by the USGS. No mineral production has been reported from the area.

In 1953, Messrs. Courtright and Papke (Company File Aa-7B.13A.3) examined one of the alteration zones mentioned in the USGS Bulletin and found it to be limited in extent with the alteration being fumarolic rather than the type associated with porphyry copper mineralization.

Nearest commercial mining operations are at Morenci and Silver City, 20 miles southerly and 60 miles southeasterly, respectively.

Mr. Wayne Farley (personal communication) reviewed the geophysical data and concluded the volcanics totally mask basement conditions.

  
R. D. Karvinen

RDK:lab

cc: JHCourtright 