DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
PHOENIX, ARIZONA

CHAS. H. DUNNING, DIRECTOR

REGULATIONS GOVERNING MINERAL LOCATIONS in ARIZONA

Compiled by
J. E. BUSCH

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TABLE OF CONTENTS

INDEX

estimating the equivalent weight of gold. In the table given below the weights and values are approximate only, viz:

Coin	Troy Weights				Value @ $35 Gold and 1000-fine
10c—dime (new)	2.33	grams, or	35.95	grains	= $2.63
1c—penny (new)	3.18	" "	49.07	"	= 3.59
5c—nickel (new)	5.075	" "	78.31	"	= 5.73
25c—quarter (new)	6.225	" "	96.06	"	= 7.03

Note: Coins vary in weight. Use new ones when possible.

Second note: Be conservative—Your gold is never 1000 fine.

INTRODUCTION

From the time the Arizona Department of Mineral Resources was created there has been a demand for information on the mining laws, particularly as they apply to the huge acreage of Arizona land now within Government reservations, and the large areas that have been withdrawn.

This booklet is in answer to that demand. It was prepared primarily for the prospector, miner and small mine operator.

The essence of the law is set forth, rather than the statutes themselves. It is believed no fundamental requirement of the law or administrative regulations thereunder have been over looked or deleted. That is a specialized subject, and not intended to be fully covered in an information booklet of this nature. This booklet is designed as a guide for the layman and not for lawyers.

Full and free use has been made of the many excellent books on American mining law that may be found in most public law libraries. Among these may be mentioned:

Lindley, On Mines
American Mining Law (Ricketts)
Morrison's Mining Rights
Mining Statutes, Annotated (U. S. Bureau of Mines)
Land Decisions, Dept. of Interior
General Land Office circulars

The Department is indebted to the aid and counsel freely given by Arizona lawyers, particularly E. S. Clark, Col. C. H. Rutherford, F. J. Elliott, J. Hubert Smith and D. V. Mulhern.

The accompanying map of Arizona, showing land withdrawals and reservations, was prepared by R. I. C. Manning.

CHAS. H. DUNNING,
Director

Special Rules and Regulations

Prospectors, miners, and operators should make inquiry as to any "emergency" laws, rules and regulations affecting the industry. These special laws and rules usually apply only during war times or other national emergency, and are generally revoked soon after the emergency has passed. Examples may be cited as to the storage and use of explosives, manpower regulations, mineral production taxes, stockpiling requirements, priorities, quotas, premiums, contract terminations, etc.

The Department of Mineral Resources keeps advised on all such matters. Operators should make inquiry relating to special emergency regulations before commencing work.

Who May Locate a Mining Claim

Any citizen of the United States, or anyone who has declared his intention to become a citizen, may legally locate a mining claim.

A group of citizens may make a mining location.

A qualified corporation may make a mining location.

An Indian can make a mining location; so also, can a minor child. In the case of an Indian locator he had best be fully advised in the law, and of the tribal regulations of the Indian Bureau. If he is a ward of the Government his status as a locator is questionable.

The location or transfer of an unpatented claim to an alien is not absolutely void, but is voidable. (Manuel vs. Wolff, 152 U. S. 507).

The United States mining laws do not limit the number of locations that can be made by an individual or association, except in Alaska.

Lands Subject to Location

The location notice, as well as the mineral discovery, must be upon "vacant, unreserved, unappropriated public lands." The land may be either surveyed or unsurveyed.

Whether the land proposed to be located is of that character can only be officially determined from the records of the U. S. Land Office at Phoenix.

If the desired area is found to be State land, then inquiry must be made of the State Land Commission as to procedure. Such land is no longer "unappropriated, public land." It belongs to the State, and the general mining laws do not apply thereto. This is true also of the railroad grant lands.

Lands within certain types of Government withdrawals, or reservations, are not subject to location under any of the mining laws.

Other Government-owned lands can be prospected and mined under certain restrictions. These various withdrawn areas and applicable laws are discussed below:

be a practical miner familiar with the region. Usually the nearest storekeeper or postmaster knows a qualified man. More can thus be learned of a locality, its mines, prospects, history, roads, trails, campsites, etc., than can possibly be gained on several trips alone or from any instructions that could be published.

Good shoes are a MUST, and, in most of Arizona, a shoulder canteen of water is a necessity. A small pair of tweezers for removal of cactus spines, and a rubber-stopper bottle of iodine are helpful. One or two drops per gallon will help disinfect impure drinking water. A good knife, match case, and watch are likewise necessities. A watch can serve as a compass by pointing the hour hand to the sun; half-way between it and 12 will be almost south.

Some simple antidote for possible scorpion and other insect stings should be in the camp-kit, and one should know how to treat a snake bite. Ask your physician about these before venturing too far away from him. Plain baking soda can serve many useful purposes, i. e., tooth paste, an antiseptic, for burns, indigestion, etc. Sun glasses reduce the desert glare.

It is unwise to enter old mine workings alone. In addition to caving ground, uncovered winzes, etc., there is always the possibility of bad air that may be harmful or knock you out. This is especially true if there is much of decayed timber.

Grubstake

A "grubstake" has been defined as " . . . an agreement between two or more persons to locate mining claims upon the public domain by their joint effort, labor, or expense, whereby each is to acquire by virtue of the act of location such an interest in the location as is agreed on in the contract."

It is something in the nature of a qualified partnership, although some courts have held it does not constitute a "mining partnership" unless the parties thereto actually engage in joint working of the property. Otherwise, the parties are tenants in common in the property thus acquired.

Parties to a grubstake agreement should be sure that its conditions are clearly stated and agreed upon.

Placer Gold Scale

Pocket coins afford a convenient standard for field use in

"A spring which does not constitute the source of a water course belongs to the owner of the land who may appropriate and use its entire flow."
(McKenzie vs. Moore, 20 Ariz., 1; 176 Pac., 568.)

It is advisable that mineral locators be guided and governed by the StateWater Code (Chap. 75, beginning with Sect. 75-101, Ariz. Code, 1939) in the appropriation and use of water, and to consult the State Land and Water Commissioners concerning the use of water from each source.

GENERAL INFORMATION

State Maps and Bulletins

The Arizona Bureau of Mines, Tucson, Arizona, has published many valuable bulletins on Arizona mines, mining, and geology. Some of these bulletins are now out of print, but many valuable ones are still available. A list of the available publications will be furnished upon request made to the Bureau. The cost is very nominal.

They have likewise prepared maps of the State for different purposes; that is, geography, relief, geology, mineral deposits, etc. A description of such maps and the price thereof can be obtained by request to the Bureau.

The Department of Mineral Resources does not have these bulletins and maps for distribution.

Information and Data

The Department keeps advised of changes in "emergency" laws and regulations on metals and minerals. Most of these relate to the war and war production problems. Information will be furnished on requirements concerning annual assessment work, quota, premiums, stockpiling, silver and gold affidavits, contract termination, mine access roads, drilling and exploratory work by the U. S. Bureau of Mines and the U. S. Geological Survey, etc.

Location Notices and Blank Forms

Booksellers and most printing shops have location notices for sale. These are in accordance with the State and Federal laws, and usually contain footnote instructions as to locating claims, accompanied by a claim diagram. The Department does not furnish these blanks.

Suggestions to Prosepctors

For inexperienced persons it is suggested they seek local advice before their first prospecting trip. A good guide would

LAND WITHDRAWALS

A mining location, to be valid, must be upon "vacant, unoccupied, unreserved" public lands.

In Arizona there are large areas of "public land" (i.e., it belongs to the United States) that are nevertheless not open to mining location. This is because of various withdrawals made for governmental uses and purposes. These withdrawals are as follows:

National Parks and Monuments: Such areas include the Grand Canyon National Park, Grand Canyon National Monument, the Petrified Forest, Saguaro National Monument, and others in different parts of the State that have been established for scientific, historical, educational, scenic or recreational purposes.

All lands within these areas are withdrawn from location or entry under any of the public land laws, including the mining laws.

An exception in Arizona is the Organ Pipe National Monument. Prospecting and mining within this area is authorized under an Act of Congress of October 27, 1941. The mineral claimant is restricted as to his surface rights; the law providing for such surface as is "reasonably necessary" for mining purposes.

Spanish Land Grants: If these grants have been "confirmed" by treaty, or by final U. S. Supreme Court decision, the lands therein are not subject to mining location.

Military Reservations: Lands within a military reserve cannot be located. Some of these reserves in Arizona, such as the Fort Huachuca Military Reserve, will doubtless remain permanent reserves. Other military reservations established during World War II for aerial gunnery and artillery practice will doubtless be largely restored to public domain. There is a great area within such reserves in Yuma, Maricopa, Pima and Mohave Counties, aggregating on June 30, 1944, 3,452,854 acres.

Reclamation Withdrawals: Mining location and entry is prohibited on lands within a "First form" reclamation withdrawal. However, under the Act of April 23, 1932 (47 Stat. 138) Congress provided for the entry and patent of mining claims within Reclamation projects, subject to certain conditions. These conditions are the approval of the Commissioner, Bureau of Reclamation, and, after that, of the Secretary of the Interior. If both

easements for canals, right-of-way, and the use of any rock, gravel, etc., for United States reclamation work. Interested parties should secure a copy of General Land Office Circular No. 1275 wherein the law and regulations are fully set forth.

The "Second form" withdrawal for Reclamation projects makes lands therein subject to homestead entry under certain homestead laws. The statute is silent as to mining claims. However, the Act of April 23, 1932, above cited, makes no distinction between first and second forms of withdrawals. In the regulations under the Act it states:

> "This act authorizes the Secretary of the Interior in his discretion to open to location, entry and patent under the general mining laws . . . public lands of the United States . . . within the limits of withdrawals made pursuant to Section 3 of the reclamation act of June 17, 1902 (32 Stat. 388)."

The areas within reclamation withdrawals in Arizona are along the rivers where such projects have been completed, are now under construction, or being investigated. Lands along the Colorado, Gila, Salt and Bill Williams Rivers, with some tributaries, are affected by reclamation withdrawals.

Mineral claimants within reclamation projects should bear in mind that their patent when obtained, will be a restricted one, and that in their mining operations they may be regulated as to tailings disposal, roads, etc.

Power Sites: The Federal Water Power Act of June 10, 1920 (41 Stat. 1075) provides that any public land claim, including a mining location, in conflict with land withdrawn under the Act, is allowable only when the Power Commission determines the located area will not be needed for power purposes. If such allowed claim advances to patent it will be with a reservation that the area may be occupied by the United States if needed for power purposes (see Circular No. 729, General Land Office, for instructions).

Recreational Areas: These areas are those set aside for public use outside of the National Parks and Monuments. The withdrawal can be made upon petition of a state, county or municipality. Non-mineral and unreserved lands are the character contemplated by the law for these sites, and the withdrawals are made subject to any valid and prior existing rights. The areas applied for are examined by a representative of the Secretary of the Interior before approved. The sale of lands is authorized under the law, but usually the title remains in the Federal Government and the lands administered by the petitioners. An example is the Tucson Mountain Park. It covers

The Desert land act of March 3, 1877 (19 Stat. 377) provides for recognition of bona fide prior water rights. So, also, does the Right of Way act of March 3, 1891 (26 Stat. 1005) which provides for ditches, canals, etc.

The Act of June 17, 1902 (32 Stat. 388), commonly known as the Reclamation Act, expressly prohibits interference with the state laws relative to water and water rights.

The Act of June 10, 1920 (41 Stat. 1063), known as the Federal Water Power act, recognizes the state laws as governing in the use of water.

The U. S. Supreme Court in various decisions has recognized the State's right to the control of its waters.

(See Trenton vs. New Jersey, 232 U.S. 122; Kansas vs. Colorado, 206 U.S., 46, 92.)

One of the last expressions of Congress is found in the Taylor Grazing Act of June 28, 1934 (48 Stat. 1272), in both Sections 1 and 3, wherein the administrative authority (Secretary of Interior) is directed that

> "Nothing in this Act shall be construed in any way to diminish, restrict, or impair any right which has heretofore or may hereafter be initiated under existing law validly affecting the public lands . . . nor as limiting or restricting the power or authority of any State as to matters wthin its jurisdiction . . ."

> "That nothing in this Act shall be construed or administered in any way to diminish or impair any right to the possession and use of water for mining, agriculture, manufacturing, or other purposes which has heretofore vested or accrued under existing law validly affected the public lands or which may hereafter be initiated or acquired and maintained in accordance with such law . . ."

The Arizona Supreme Court has decided that the locator or owner of a valid mining claim is entitled to the water on his claim (except surface streams and mineral springs) in the following language:

> "(syllabus) Locator's unquestionable right to possession of the area within the boundary of the claim carries the right to possession of the timber, soil, country rock, percolating waters, natural springs, except certain mineral springs, and every appurtenant belonging to the realty."

Occupational Diseases:

The State laws and regulations under this heading are too voluminous for inclusion in this booklet. Interested parties should make inquiry of the Industrial Commission of Arizona.

Labor laws:

Females are not allowed to work underground in Arizona, nor can a male under 18 years of age be employed underground.

The law requires compensation insurance be carried if more than 3 men are employed.

The labor laws of the state are published in pamphlet form by the Industrial Commission.

Community property:

While Arizona is a community-property state the law does not require the wife's signature to the conveyance of an unpatented mining claim.

(See sec. 71-409, Ariz. code, 1939.)

Water and Water Rights

A full discussion of water rights is not within the scope of this booklet. However, because Arizona is an arid state, and water is of such vital importance to the miner, a brief synopsis of the principal laws affecting water rights is given.

The earliest Federal mining statute, the Act of July 25, 1866, Sec. 2339, R.S., provides:

> "Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the some are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same."

It is fair to assume from the wording of the last part of that statute, namely,

> " . . . the possessors and owners of such vested water rights shall be maintained and protected in the same."

that Congress meant they would be recognized and respected by the Government and its agencies.

Congress further recognized accrued water rights by Sec. 2340, R. S., which provides that all patents issued on homesteads shall be subject to accrued water rights.

most of the Tucson Mountains, and includes some mineralized areas. It is under the jurisdiction of the Board of Supervisors. Prospectors contemplating exploration within the area should first contact the Supervisors. The law makes no provisions for the development of any mineral resources within recreational areas and". . . until regulations shall have been issued the reserved deposits will not be subject to disposition. (See Act of June 14, 1926, 44 Stat. 1926, and General Land Office Circular No. 1085.)

The Phoenix Mountain Park is somewhat different because the lands therein were purchased from the Government under a special act of Congress, with a mineral reservation. Mining is not prohibited under the law; however, it must be done under regulations of the Interior Department. These have never been issued. In effect, therefore, the lands belong to the city. Prospectors should confer with the city authorities relative to the Park lands.

Other forms of Recreational Withdrawals are the camp-sites in the National Forests. These are usually of small area and unmineralized.

Administrative sites for ranger stations, State Inspection stations, Border Patrol stations, etc. are not subject to location. Neither are rifle ranges for the National Guard, or lands within any township where a re-survey is pending.

Spring and Water Holes: A withdrawal of which few miners have knowledge, but one affecting their interests, is an Executive Order of April 17, 1926. The text of the order is as follows.

> "It is hereby ordered that every smallest legal subdivision of the public land surveys which is vacant unappropriated unreserved public land and contains a spring or water hole, and all land within one-quarter of a mile of every spring or water hole located on unsurveyed land be, and the same is hereby withdrawn from settlement, location, sale, or entry, and reserved for public use in accordance with the provisions of Section 10 of the Act of December 29, 1916, and in aid of pending legislation."

The effect of this is to withdraw any 40-acre tract ("smallest legal subdivision") containing a spring or water hole when on surveyed land; and all land within one-quarter mile of such spring or water hole if upon unsurveyed land.

It is to be noted that only "vacant, unappropriated, unreserved public land" is subject to the withdrawal. Usually, in Arizona, the springs and water seeps have been appropriated

and used prior to April 17, 1926. The Executive Order has been interpreted to mean a spring or water hole of dependable flow, and of sufficient quantity to be of public use. Small trickles of water and "wet weather seeps" are not of the character contemplated by the withdrawal.

Miners locating claims that include a spring or water hole are advised to identify the 40-acre tract upon which it occurs (if in a surveyed township). If unsurveyed land, the section can be determined by protraction of the surveyed lines on a map. Thereafter inquiry should be made of the U. S. Land Office as to any Public Water Reserve before work is started on the claim.

It is not amiss here to cite a U. S. Supreme Court case relative to water rights as stated by Mr. Justice Brewer, viz:

> "The State undoubtedly has the power, and it is its duty, to control and conserve the use of its water resources for the benefit of all its inhabitants. The power to determine the conditions upon which waters may be so diverted is a legal function. The State may grant or withhold the privilege as it sees fit." Trenton vs. New Jersey (262 U. S. 182).

It is noteworthy, too, that in Arizona's suit involving the construction of Boulder Dam the U. S. Supreme Court made no adjudication of the water. The Court's decision related solely to the right of the Federal Government to build the dam.

The latest expression of the Arizona Supreme Court is found in the case of Fourzan vs. Curtis, 29 Pacific, 2nd, 722.

The Court decided that percolating waters developed and collected at a damp place on mountain side by means of tunnel or open cut were not subject to appropriation as from a spring on the surface; and that percolating waters belong to owner of land on which they are found, and may be conveyed to other premises, provided rights of others are not thereby injured.

Interested parties should obtain a copy of the Water Code from the State Water Commissioner, Phoenix.

RESERVED LAND SUBJECT TO MINING LOCATIONS

National Forests

Mining is unrestricted in the National Forests except in a few local areas in some of the Arizona forests. Such areas will be posted. Rangers can be consulted to advantage not only as to trails, roads, etc., but as to water supplies for camp purposes. Usually the Ranger office will have maps, showing pat-

ing house, and that a copy be placed upon the proper county records. It is advisable to post additional notice in some conspicuous place where both the employees and the general public may see and read.

Failure to post such non-liability notice renders the property liable for labor and merchandise liens. (See Sec. 62-210, Arizona Code, 1939.)

Corporation Commission and Stock Sales

Anyone seeking to raise money through the sale of stock must first secure permission from the Arizona Corporation Commission. The law and regulations are given in pamphlet form, obtainable from the Commission upon request. They cannot be set forth in this booklet.

Taxes

> "A valid subsisiting mining location or an interest therein is subject to taxation by a state, though the title to the land on which such mining claim is located is in the United States and a part of the public lands."
>
> (Elder vs. Wood, 208 U. S. 231, aff'g. 37 Colo. 174)

In Arizona unpatented mining claims are not generally assessed if non-productive and without buildings or other taxable improvements.

Patented claims are classified as productive and non-productive for taxation purposes. Rates and rules governing taxes may be obtained from the State Tax Commission or County Assessor.

Mine Safety Rules:

Operators employing more than three men on any one shift should inform themselves on the State mine safety laws and regulations. These are published in a separate booklet issued by the State Mine Inspector's Office.

It is generally recognized that mining is a hazardous occupation, and that it is clearly within the scope of the police powers of a State to insure conditions that shall conserve the lives and health of employees.

(Holden vs. Hardy, 169 U. S. 366)

A mine operator must exercise reasonable precautions in guarding open and dangerous pits and excavations.

(Union Pac. R.R.Co. vs. McDonald, 152 U.S. 262.)

it. In Arizona mining is declared by the constitution of the state to be a public use (See Inspiration Co. vs. New Keystone Co., 16 Ariz. 257).

Under the state constitution any local statute authorizing the taking of land by a corporation, or a miner, for mining purposes, is a public use; such as for tailings pond, pipe line, tunnel for mine haulage, etc. (Sec. 27-901, Ariz. Code, 1939.)

> "The Federal Government's general sovereignty of eminent domain within a state or territory is not delegated to the mining claimant, but the power of eminent domain is vested in the State, which may delegate it to corporations or individuals." (Kohl vs. U. S., 91 U.S. 367.)

Rights-of-Way

By the Act of July 26, 1866 (Sec. 2338 and 2339, R.S) rights-of-way for ditches and canals is acknowledged and confirmed.

Additional acts of Congress relative to rights-of-way are quite numerous. It is impractical to cite or quote all such laws here. They cover pipe lines, telephone and telegraph, tramroads, roads and highways, oil and gas pipe lines, reservoir sites, pumping plant sites, power projects, transmission lines, etc.

Rights-of-way is an involved legal subject. Some authorities state that Sec. 2338 of the Revised Statutes imposed conditions upon mineral land acquired under the mining laws which could not be ignored by the states; that, in substance, they were a limitation on the estate conveyed; that they were, therefore, above and beyond state legislation upon the subject; that a state constitution could not abridge or curtail the privileges sanctioned by the the law of Congress.

Nevertheless, the Supreme Court has ruled that the exercise by the state of its sovereign right of eminent domain cannot be interferred with by the United States. (98 U.S. 403.)

Interested parties are referred to General Land Office Circular No. 1237a, of May 23, 1938, for the statutes and regulations thereunder.

Liens and Liability

The owner of a mining property should protect himself against liens by posting a non-liability notice when the property is being worked by others. The law requires that such notice be posted at both the collar of the shaft and at the board-

ented claims, camp sites) and recreational areas. Prospectors must have due regard for Forest rules as to the fire hazards, stream pollution, and other similar administrative regulations.

State Game Refuge

Mining is unrestricted within the State Game Refuges. Strict compliance with the State game laws is required. Such refuge, if within a National Forest, is subject to Forest Service regulations as to fires, stream pollution, etc.

Grazing Districts

Prospecting and mining is unrestricted within the Grazing Districts. These districts cover considerable area of the State, and include much private, State and railroad lands. Exchanges of these lands are encouraged by the Federal Government that grazing control may be exercised by the Grazing Service. Care must be exercised that locations are not made on appropriated land. The U. S. Land Office at Phoenix, and the District Grazing Office, should be consulted as to title. The Grazing Offices have up-to-date status maps.

LANDS SUBJECT TO RESTRICTED LOCATIONS

Indian Reservations

Unalloted land reserved for tribal Indians is subject to mineral lease. Certain restricted alloted Indian lands may also be leased for mining. The general terms are:

(a) Leases will be granted for ten years, or longer if mineral produced in paying quantity.

(b) Bond must be furnished in amounts varying with acreage leased.

(c) Showing as to compliance with Securities Exchange Commission if a corporation.

(d) Royalty of not less than 10%, computed on mint returns (for bullion) and on smelter returns as to concentrates, etc. for metals. On coal, a royalty of 10 cents per ton of 2,000 pounds, mine-run, on asphaltum and allied substances, a royalty of 10 cents per ton on 2,000 pounds of crude material, and not less than 60 cents per ton on refined substances. On oil or gas, a royalty of 12½% of the value or amount of all oil or gas or natural gasoline, or other hydrocarbon substances.

(e) An annual expenditure of not less than $5.00 per acre for the metalliferous mineral lease, including lease rental.

(f) An annual expenditure of $100 per 160 acres, or fraction thereof, including lease rental, on lands producing placer gold, gypsum, asphaltum, phosphate, iron ores.

(g) An annual expenditure of not less than $10 per acre, including lease rental, for coal lands.

The maximum acreage that will be leased is:
For oil or gas—not over 10,240 acres.
For metalliferous metals—not over 640 acres.
For placer gold, gypsum, etc.—not more than 960 acres.
For coal—not over 10,240 acres.

Lease applications must be made to the superintendent of the particular Reservation. These are located at:

Colorado River Indian Agency	Parker, Arizona
Fort Apache Indian Agency	Whiteriver, Arizona
Hopi River Indian Agency	Keams Canyon, Arizona
Navajo Indian Agency	Window Rock, Arizona
Pima Indian Agency	Sacaton, Arizona
San Carlos Indian Agency	San Carlos, Arizona
Sells, or Papago Indian Agency	Sells, Arizona
Hualpai Indian Agency	Valentine, Arizona

The lease contains the usual clauses regarding safety, inspection, etc., and interested parties should secure the blank forms from the proper Indian Agency office.

The Papago Reservation is less restricted as to mining. The usual procedure of locating a claim prevails, but, in addition, the locator must furnish the Superintendent of the Reservation a copy of the location notice within 90 days of date of location, and pay five cents per acre for each acre or fraction thereof covered by the location. This rental must be paid annually.

Water reservoirs, charcos, water holes, springs, wells, or any form of water development by the United States or the Papago Indians shall not be used for mining purposes, except under special permit of the Secretary of the Interior.

State Lands

Arizona and New Mexico, under the Enabling Act, were given title to four sections in every township as against two in other public land states. In addition, Arizona was granted additional lands in support of various state institutions. In all, the Federal Government has granted the state 10,640,000 acres of land as of July 1, 1944.

Title to this huge acreage did not vest in the state under one law, or one set of conditions. Instead the State acquired its title under and by virtue of various acts of Congress, and the

the center of the earth; and there is also a title that may be exercised laterally beyond such boundaries.

It was the intent of the law to give the locators of a lode claim the vein discovered as well as the surface. Hence it is that a vein may be followed downward on its dip beyond the side-lines of the claim and into another's property. It cannot be followed beyond the end-lines of the claim. The law excludes the "strike" or onward course of the vein beyond end-lines.

By Sec. 2336, R. S. provision is made for the ownership of intersecting veins, or cross-veins. Priority of title governs. The prior locator is entitled to all the ore within the space of intersection, and where two veins unite, the senior location takes the vein below the point of union.

To exercise "extralateral rights" under a location one must have the apex of the vein proposed to be followed, and it must be continuous in the sense that it may be proven to be the same vein.

The "apex law" has been the source of much litigation, and the mining law text-books devote much space to the subject. Intricate questions of surveying, geology, ore deposition, vein structure, etc., often enter into apex suits. The party mining ore from another's property under "extralateral rights" should be prepared to prove the absolute continuity of the vein at various depths. This oftentimes means expensive exploratory work as to faults, "horses" of country rock, etc.

Mining Leases

Each mining lease has its own peculiar details, and since this is not a mining law text book we cannot offer legal advice. In general, the intentions of the parties, as expressed in the instrument, determines whether it can be termed a lease, a license, or a contract for labor. Oftentimes a lease is coupled with an option to purchase the leased property. The option may outlive the lease. Any number of conditions may affect a given situation. Terms such as "gross proceeds," "net royalty," "shifts per month," "liquidated damages," etc., should be clearly set forth. In general, courts will usually construe covenants strongly against the lessor in favor of the lessee.

The service of a competent attorney is advised in the preparation of a mining lease.

Eminent Domain

This is the right of a government to take and appropriate private property to public use whenever the exigency requires

This circular is out of print, but its contents will be found on page 58, et al, Vol. 49, Land Decisions.

Patent proceedings are somewhat complex, and the regulations exacting. A conference with the U. S. Land Office is suggested, and thereafter the services of a mining attorney.

> "A mining claim, until patent therefor has been issued, is held by a peculiar title, which is never complete and absolute, and which can only be maintained by the annual expenditure thereon of the work as required by law." (El Paso Brick Co. vs. McKnight, 233 U.S. 250.)

Adverse Claim

In mining law an "adverse claim" is a location in conflict with a claim for which patent is sought.

> "The intention of the law in providing for adverse claims is to give an opportunity, where there is a possibility of conflicting claims, to have the controversy decided by a judicial tribunal before the rights of either party are foreclosed by the issuance of a patent." (Richmond Co. vs. Rose, 114 U.S. 584.)

> "The publication of notice of an application for a patent for a mining claim is in the nature of a summons. It brings all adverse claimants into court though no supposed adversary is named in the notice; and on failure to assert their claims it is conclusively presumed that none exist. (Gwillim vs. Donnellan, 115 U.S. 45.)

The Federal statute governing adverse claims is found in Sec. 2326, R. S. The rules and regulations under the law are published in General Land Office Circular No. 430, or may be found in 49 Land Decisions, p. 79.

An adverse suit is a somewhat complex procedure and the detailed instructions pertaining thereto are too voluminous for this booklet. The Department recommends the services of a qualified and competent attorney where such suit is contemplated.

APPURTENANCES

Apex or "Extralateral Rights" Law

The "extralateral rights" feature of the mining law is granted by Sec. 2322, R. S. It is unique in that it gives a two-fold title to lode claims. That is, there is a title to the surface boundaries, and, presumably all within such boundaries down to

regulations thereunder. Because of this fact it is impractical in a booklet of this kind to set forth the different organic laws, or the regulations with respect thereto, nor yet as to the land acquired under any one given law. For instance, the State now owns various tracts of land, widely scattered, and acquired under the exchange proviso of Section 8 of the Taylor Grazing Act.

Under these exchanges of land either party (Government or State) may reserve the minerals in the surrendered land. Quite generally this has been done by both parties. The result is that the land thus acquired by the State has the minerals reserved to the Government, and, conversely, the land given up by the State in exchange (assuming the State had full title when exchanged) has its minerals in State ownership. To illustrate: the State had full ownership to a certain Section 16. It used that section as base land for an exchange with the Federal Government. The State reserved the minerals in making the exchange. Thus, insofar as the U. S. Land Office records disclose, this particular Section 16 is Government land, and, as such, is open to location under the mining laws. But a locator thereon would obtain only a surface title; he would still have to deal with the State as to the minerals. Such conditions, from the miners standpoint, are both regrettable and detrimental—but there they are. Regulations governing these State exchanges may be found in 55 Land Decisions, 583.

The miner is safe as to State ownership when he locates upon unsurveyed land. The State's title to their four sections in each township does not attach until the township plat of survey is accepted by the General Land Office. These sections are 2, 16, 32 and 36 in Arizona.

The essential requirements for a mineral lease under the State laws are:

> (1) Locate a claim in the usual manner, as provided in the United States mining laws and under the Arizona mining code. If the deposit be in vein form, a lode claim should be located. It is desirable from an administrative standpoint that the location conform to the lines of the land survey; however, this is not compulsory under the amended State mining code passed by the 17th legislature and approved March 14, 1945.
>
> Mineral deposits other than in vein form should be located as placer claims, and, as such, must conform to the public land survey.
>
> (2) Furnish the State Land Commissioner with a copy of the location notice, together with the recorder's

certification of the record, within 30 days of the date of location.

(3) Perform the usual "discovery" work within 90 days of location date.

(4) Apply for a State lease, paying a $2.00 application fee and $2.00 issuance fee upon issuance of lease, and describing the claim with reference to the land section in which located.

At this time, furnish proof that the "discovery" work required under the law has been completed.

Pay $15.00 per claim, or fractional claim, as first year's rental. This rental will be credited upon the royalties which may become due during the year.

After these steps have been taken, and lease issued, the lessee must perform the usual $100.00 worth of work upon each claim located, or for its benefit if in a group. Proof of such work must be furnished the State Land Commissioner, together with a statement of any additional work.

If production of either metallic or nonmetallic substances is made, a five percent royalty must be paid monthly. This payment should be accompanied by copy of shipping receipts or smelter returns, showing the net returns, and a five percent payment of such net return.

Leases may be issued for 20 years. The surface must be kept open for grazing, other than the area actually needed for mining operations, and must be kept free from hazards, such as open shafts, stopes, etc.

The grazing lessee is granted the use of any water not actually needed for mining purposes.

Upon a proper statement or showing to the State Land Commissioner a 90-day prospecting permit will be issued without cost or fees.

Railroad Lands

Various acts of Congress granted public lands to the transcontinental railroads for the purpose of aiding in the construction of railroads across the United States. These grants usually excepted all mineral lands from the grant, other than coal and iron.

In Arizona the railroad grant of interest and concern to the miner is that made to the Atlantic and Pacific Railroad Co. by the Act of July 27, 1866 (14 Stat. 292). The successor to that

other co-owners to contribute their share of the expense, and upon failure to do so their interest in the claim is subject to forfeiture on proper notice to such co-owners, or if they are dead, to their heirs." (Elder vs. Horseshoe Mining Co., 70 NW, 1069; 94 U.S. 762.)

Relocation by Delinquent Owner

The law does not forbid a delinquent owner from relocating his claim after the expiration of the "assessment year." The ground is then open to relocation, but the original owner has no superior rights as against others who might desire the claim. He cannot remain in possession if the work be unperformed and exclude all others. However, if he resumes his work prior to an intervening right and continues same diligently until fully done the law will protect him as against a new locator.

A person holding confidential relations with the owner of a mining claim—a lessee or optionee, for example, who, in violation of a contract or in breach of the trust, attempts to relocate the claim in his own name, will be held as trustee for the rightful owner and he will secure no advantage by such act.

A relocation by a co-tenant inures to the benefit of his cotenants and he cannot by recording in his own name prejudice their rights nor forfeit his own individual interest thereby.

Miners generally frown upon the practice of relocating to avoid doing annual work and such practice often leads to trouble and litigation far more costly than the work expenditure.

Patent to Mining Claims

A United States patent may be obtained for one or a group of mining claims by making application therefor to the U. S. Land Office. The application must be preceded by a "patent-survey" (as to lode claims). This survey is made by a bonded U. S. Mineral Surveyor, and at the request and expense of the mineral applicant. The claim must have at least $500 worth of improvements of a mining nature, or, if more than one claim, that amount ". . . upon or for the benefit of each claim" in the group. This expenditure must be made before the period of publication expires, if not already done at time of survey. Cost of advertising must be paid by applicant. A price of $5.00 per acre must be paid the Government for lode claims, and $2.50 per acre for placer claims. Placer claims do not require a special survey if the public land survey includes the ground.

Full requirements for patent are found in Sections 2325, 2334, R.S. (Federal) and in Circular 430, General Land Office.

Co-owners

Much litigation has resulted from lack of proper understanding of the "co-owner" provisions of the mining law.

Most miners are aware of the "advertising-out" feature of the Federal mining law. (Sec. 2324, R.S.) Under this law one co-owner may, by proper service or advertising and recording, divest the other co-owners of their interests and title in and to the mining property. This is usually done where co-owners have failed to contribute their proportion of the annual work required on the claim.

What is often forgotten is that a co-owner, say, for example, owning a one-sixth interest, cannot satisfy the law by doing only one-sixth of the required $100 of improvements annually. The entire work must be done to the full $100 value per claim. His relief, under such circumstances, is to "advertise out" the other co-owners after the full $100 of work has been done, and after their refusal to reimburse to the extent of their ownership.

If John Jones locates a claim in the name of himself, Sam Smith, Joe Brown and George Black, they are all co-owners of co-tenants even though they may not know their names have been used. The possession of the claim by one is presumed to be for the benefit of all the co-tenants. And if Jones alone does the required $100 of work, he is entitled to three-fourths of its cost from Smith, Brown and Black, or one-fourth each.

If they fail or refuse to pay their proportion after one year's time has elapsed, Jones can then give personal notice in writing, or by publication. If personal notice is served, a true copy thereof, attached to the affidavit of the person serving same, shall be recorded on the proper county record after a period of ninety days.

If notice be given by publication there must be a copy of the published notices, attached to the affidavit of the publisher, wherein is set forth the first and the last days of publication, and when and where the papers were published. This notice and affidavit shall be recorded after 180 days from date of first publication.

Either of the foregoing notices, when recorded, shall be prima facie evidence of the delinquency of a co-owner.

> "Where a location is made by two or more persons they become co-owners, and one or more of such co-owners may perform the required assessment work and thereby continue the right of themselves and co-owners to the exclusive possession of the mining claim; but if the work is done by one or more the law requires the

company is the A. T. & S. F. Ry. (Santa Fe) and its grant lands lie in northern Arizona.

The acreage owned by the Santa Fe is approximately as follows:

Apache County	472,000 acres
Coconino County	206,000 acres
Mohave County	1,629,000 acres
Navajo County	116,000 acres
Yuma County	28,000 acres
Yavapai County	44,000 acres

These grant lands are presumed to have been classified as to their mineral or non-mineral character before title vests in the railroad company. After such title passes to the company they are not subject to the public land laws. Mining on such lands must be under lease obtained from the company. The general lease requirements may be summarized as follows:

> Lease granted for term of three years, with renewals for like period—subject to termination if production ceases for 60 consecutive days.
>
> Lease is subject to any existing agricultural or grazing lease, or any lease that may be issued for such purposes, with exclusive possession to mineral lessee for all necessary mining purposes.
>
> Lessee to begin work within sixty days. This can be prospecting work. Work is to be continuously maintained, and with due regard for preservation of the property, and in accordance with the mining laws of Arizona.
>
> Any ore, or other products mined or produced, to be shipped and settled for in the name of lessor. Royalties are on the net smelter returns, after treatment and transportation charges only are deducted, and are at rates of 10 percent on all ore of $40.00 per ton or under, and 20 percent on all ore over $40.00 per ton value.
>
> In addition to the royalty, lessee pays a lease rental of 25 cents per acre for first year's lease at time lease is signed, and thereafter 25 cents per acre annually in advance. This rental will be credited on any royalty received during that particular year.
>
> The lease forms contain the usual clauses as to liens, liability, judgments, etc., and the lessee is required to keep proper notices posted on the premises,

and to pay $10.00 fee for the first posting of such notice. All requirements of the Arizona Workman's Compensation law, and of the Industrial Commission, must be met by lessee.

The railroad mineral leases differ from the State land mineral lease in not requiring any location to be made under the general mining laws, recording, etc., nor yet as to "discovery" work or performance of $100.00 worth of labor per claim.

It is the opinion of some attorneys that anyone operating a mine under lease from the railroad company should also protect themselves by the usual mining location. The basis of this opinion is the nature of the grants whereunder the railroad company acquired the land. Such grants usually exclude mineral lands (other than coal or iron); that if the land is in fact mineral land the railroad company could not acquire title; that any lessee, if he develops a valuable property, stands in danger of its loss under an adverse mining location; that while a lessee must accept the landlord's title, a mining location on the railroad land, made by the lessee, would be an added safeguard to both landlord and tenant from possible intervention by third parties.

This is a technical point of law. It is mentioned here as a "pointer" for lessees of railroad lands. It has been generally held that the title begins with the date of the grant, although until the lands are surveyed and identified they are in the nature of a "float". Interested parties are referred to a U. S. Supreme Court case, Burke vs. S. P. Co., 234 U. S. 669, wherein the high court held that the General Land Office (Interior Department) was the legally constituted tribunal to determine whether or not the land to be patented to the railroad company was or was not mineral land within the meaning of the act.

The extent or exact location of these railroad lands cannot be given in this booklet. Whether or not title has passed to a certain "railroad section" or part of such section, can be determined from the records of the U. S. Land Office at Phoenix. Inquiry should also be made of the Land Department, Santa Fe Railroad, at Albuquerque, New Mexico; and that office should be consulted as to terms of lease or sale.

The county assessor's records will show lands belonging to the railroad company. These should be consulted if a location is on a railroad section. Such sections are usually the odd-numbered sections.

Regulations relative to railroad grant lands will be found in 48 Land Decisions 172.

2. Location of same as a mining claim, giving all required data in the location notice.
3. Properly marking the boundaries of the claim.
4. The full "discovery" or "title work" has been done of the dimensions specified in the Arizona statute.
5. Recording a copy of the location notice on the county records within 90 days (60 days for a placer location)

Thereafter, the locator or owner" . . . shall have the exclusive right of possession and enjoyment of all the surface included within the limits of their locations . . ." (U.S.R.S. Sec. 2322).

"The owner is not required to purchase the claim or secure patent from the United States; but so long as he complies with the provisions of the mining laws, his possessory right, for all practical purposes of ownership, is as good as though secured by patent." (U. S. vs. Krushnic, 280 U. S. 306).

It is to be noted that to maintain this title he must comply with "the provisions of the mining laws".

Defects in Location—Amended Location

While the Federal law does not provide for an "amended" location, the various State statutes permit "amended locations" to be made where errors occur in making the original location. In other words, they ". . . provide an escape from the consequences of loose or careless records." The boundaries of the claim may be changed, provided such changes do not interfere with the rights of others acquired between the time of making the original location and the amendment.

It may include additional territory if without prejudice to the rights of others. It does not require additional discovery in the added ground nor additional expenditure. It must be based upon a pre-existing but not necessarily perfect location. It cannot be made to exclude the name of a co-locator without his knowledge and consent. There is no limit as to the time in which it may be posted or recorded.

The whole purpose of an amended location is to cure defects in the original location. However, it will not cure lack of discovery. Neither does it provide relief from failure to do the discovery work or annual assessment.

An amended location notice should contain the statement that it is made without "waiver of any previously acquired right," or a similar phrase. Most printed forms of amended location notice contain such statement.

subject to loss by relocation. And the law is clear that no relocation can be made if work be resumed after default and before such relocation."

". . . Resumption of work by the owner, unlike a relocation by him, is an act not in derogation but in affirmance of the original location; and thereby the claim is "maintained" no less than it is by the performance of the annual assessment labor. Such resumption does not RESTORE a lost estate . . . it PRESERVES an EXISTING estate . . ."

In other words, if the owner fails to do his annual work in any one year ending July 1, the ground is then subject to location. But if the owner goes back to the claim, and resumes work prior to any new location of the same area, his title relates back to the date of the original location.

An Arizona Supreme Court decision involving this point can be found in 6 Arizona, p. 70, Jordan vs. Duke.

"If assessment work be not completed on a mining claim in any part of the year in which the statute requires it to be done, but the owners thereof are upon the ground for the purpose of doing the work before the year expires, and then prosecute the work to completion, the work so prosecuted will have relation to the year in which it should have been done, and such resumption will prevent the claim from being forfeited until there is a failure to prosecute the work after the same has been resumed."

This department advises a faithful and full performance of the annual work when the law requires it. Such work has been exempt by statute for certain years. The last Act of Congress, approved May 3, 1943, suspends annual work "until the hour of 12 o'clock meridian on the first day of July after the cessation of hostilities in the present war as determined by proclamation of the President or concurrent resolution of the Congress."

To secure the benefits of this waiver or suspension of the annual labor requirement the claimant must file in the proper County Recorder's office his "Intention-to-hold-mining-claim" notice. Such notice must be filed before July 1 to cover the preceding year.

Nature of Title Acquired by a Valid Mining Location

To sum up, we will assume that all of the foregoing steps have been properly taken, viz:

1. Discovery of "mineral in place" on vacant public land.

Stock Raising Homesteads

The mineral in any land patented as a stock-raising homestead is reserved to the Federal Government, together with the right to "prospect for, mine and remove the same." The miner will be limited in his surface rights to such lands as are reasonably necessary for mining purposes. The owner of the surface right can require the miner to furnish bond to cover possible damages to houses, barns, corrals, tanks, water, etc.

Section 9 of the Act of December 29, 1916 (39 Stat. 864), and General Land Office Circular 523 give the law and the regulations thereunder.

Stock Driveways

The land in the stock driveways was withdrawn for a specific purpose, i. e., the transportation of livestock. Prior to January 29, 1929, mining locations could not be made on the driveways. By act of Congress of that date (45 Stat. 1144) the original stockraising homestead act was amended, and provision made for location of mining claims prior to May 4, 1929, and subsequent to the driveway withdrawal. Locations on a driveway are partially restricted. Watering places cannot be enclosed, nor access thereto prevented, and mining generally must be conducted with due regard to driveway purposes. Regulations are found in General Land Office circular No. 1189.

Taylor Grazing Act Exchanges

The essential features of these exchanges have been set forth herein under the heading of "State Lands." The law likewise authorizes exchanges of privately owned lands, with a mineral reservation permissible by either party. The result is the same insofar as the miner is concerned. If he locates on the land thus acquired by the Federal Government, he is confronted with a dual title, i. e., the mineral may still belong to the former private owner. See State Lands.

Boulder Dam Recreational Area

This area is covered, in part, by several withdrawals affecting different portions of the land. Mining operations are not prohibited, however, they are subject to such restrictions as will not interfere with the activities of the National Park Service, the U. S. Biological Survey (Fish and Wildlife Service), and the Reclamation Service.

On the small scale map with this bulletin it was impractical to show the areas under control of the respective bureaus.

Inquiry should be made of the U. S. Reclamation Service, Boulder City, Nevada.

Beds of Streams

Minerals under navigable waters are the property of the state, hence the Federal mining laws do not apply.

The beds of unnavigable streams containing mineral deposits may be appropriated for mining purposes by placer locations, and as to the water itself, the locator obtains only the temporary use thereof.

Minerals and Non-metalliferous Substances That May Be Located Under the Mining Law

"Whatever is recognized as mineral by the standard authorities, whether metallic or other substance, when found in the public lands in quantity and quality sufficient to render the lands valuable on account thereof, is treated as coming within the purview of the mining laws. Deposits of coal, oil, gas, oil shale, sodium, phosphate, potash, and in Louisiana and New Mexico sulphur, belonging to the United States, can be acquired under the mineral leasing laws, and are not subject to location and purchase under the United States mining laws." (General Land Office Circular No. 1278.)

In a broad and general sense it may be stated that the metalliferous minerals are located as lode claims, while such deposits as bentonite, fuller's earth, clays, sand, gravel, building stone, etc., are located as placer claims.

With respect to the non-metalliferous substances there is unfortunately no clear or definite criteria formulated by the courts or the Land Department (Interior) by the application of which a locator can be assured that he has used the proper form of location. This is particularly true when the substance occurs in "rock in place."

The conflicting rulings and court decisions render it unsafe in a booklet of this kind to say with certainty and finality that a given non-metalliferous substance may or may not be located as a lode or placer. Further information on this subject will be found under "Placer Claims."

MINING LOCATIONS

The three major requirements in making a mining location are:

1. Discovery
2. Location
3. Record

Materials taken to the claim but not used for mining purposes.

Negotiations, traveling, contracts, preparation for work, etc.

The annual expenditure may be made by the locator, his heirs, assigns, legal representative, or by someone in privity therewith, or by one who has an equitable interest. A stockholder, or a receiver appointed by the court, are within the rule. Labor done by a trespasser, or a stranger to the title, will not inure to the benefit of the claimant.

Annual work done in any one year will not answer for another year. Each year's work must be fully done for that year. However, a claim owner who completes his work on June 30 for the assessment year ending that date could continue work on July 1 and thereafter until his full work had been done for the next year. This might result in some saving, such as fixing camp, moving, etc.

Annual expenditure is not required upon a mill site nor upon a tunnel location.

Recording Annual Assessment Work

The Federal law makes no requirement as to recording, either of the location notice or of the performance of the annual work.

In Arizona the recording of an annual labor affidavit is not compulsory. The statute (Sec. 65-108, Ariz. Code) provides that the owner, or someone for him knowing the facts

" . . . **may** make and record . . . an affidavit. . . ."
(Emphasis supplied)

Neither the failure to make or record such an affidavit will forfeit the claim. But such a record is prima facie evidence of the facts therein stated. Among other advantages of this record is that of a continuous chain of title on the county record, and the fact that its filing may (and ofen does)prevent attempted relocation. A relocator or other person may attack the verity of the recorded affidavit of labor and show its falsity.

Failure to Perform Annual Assessment Work

In the case of Wilbur vs. Kruschnic (280 U. S. 306) the U. S. Supreme Court stated:

"While he (claim owner) is required to perform labor of the value of $100 annually, a failure to do so does not ipso facto forfeit the claim, but only renders it

Final Certificate of Mineral Entry" from the proper U. S. Land Office under patent application.

(Note—a mineral claimant is not compelled to apply for patent within any stated term or time. He may continue to hold a claim indefinitely if his annual work is faithfully done each year.)

What May Be Applied As Annual Work

Annual work may be underground or on the surface. It may be done off the claim if clearly of benefit or value to it. An example would be a cross-cut driven for the evident purpose of intersecting a vein at depth. And this is allowable even where the portal of the cross-cut is not within the claim itself (or group). Work done for the purpose of developing mineral is "improvements" within the spirit of the statute. However, some courts have held that mere prospecting, or taking samples, or even cleaning a shaft or drift solely for sampling purposes, cannot be credited as annual work.

Allowable expenditures include:

Buildings, if upon the claim and actually used for mining purposes.

Expenses of a watchman, provided his services are necessary for the preservation of the property.

Machinery, tools, etc., essential to the development of the claim.

Timber used for mine purposes.
Roadways, if for the benefit of the property.
Construction of flumes, etc., for placer mining.

Reasonable compensation for use of horses used in development work.

Surface cuts and trenches, if measurable, and not merely sample trenches.

Diamond drill and churn-drilling.

Questionable expenditures include:

Buildings off of the claim and not used for mining purposes.

Pumping water out of mine solely for purposes of examination and sampling (this is a California case).

Repairs on a stamp mill—and, by inference, any ore-treatment plant.

The procedure outlined below assumes that the land is vacant, unoccupied, and subject to location.

(1) A "discovery" of mineral is the foundation upon which the whole mining law is based. It is the inception of title to a mining claim. The courts have almost uniformly held that until discovery has been made there is no valid claim.

The discovery need not be "commercial ore." The statutes say "mineral in place"; and this requirement has been held to mean a mineralized seam, veinlet, fissure, fault, fracture or vein, or disseminated mineral of such character, or such mineral indications, as to warrant the belief that it may lead to an ore body if developed.

This does not mean the finding of "float," or detached pieces of mineral in the "wash," or loose soil. Even where such "float" may be profitably collected it still does not meet the statutory requirement of "mineral in place."

The discovery may be at any point "within the limits of the claim," but it is preferable to have it at or near the location notice.

Where the prospector believes that he can uncover a vein that is not visible on surface he may, under the law, make a location. But his possessory right thereto depends upon due diligence in trying to uncover the vein. That is to say, he can hold the claim so long as he is at work, provided someone else does not first find the vein. "Priority of discovery gives priority of right as against naked location and possession."

(2) (a) Post a location notice on the ground—preferably at point of discovery.

This notice must contain the following data:
Name of the claim.
Name (or names) of locator, or locators.
Date of the location.
Length and width of the claim in feet.
(Note — This is limited to a maximum of 1500 feet in length, by 600 feet in width. The width cannot be more than 300 feet on either side of the location.)
General course or direction of the claim.
Reference to some natural object, or monument from which claim could be identified.

There should be a location monument for each claim. The locator should not use a common end-center between

two adjoining claims as a location monument. Instances are known where such monument has been used for two location notices.

The date of the location and the date of its posting on the ground should be the same.

A sketch of the claim on the margin or back of the notice is very helpful to determine its course and boundaries.

(Note—If the land is surveyed, the location should give approximate course and distance from the nearest survey corner. This is not mandatory with a lode location. It is required under a placer location.)

While the Federal law makes no provision for the time in which the location must be marked upon the ground the various State statutes fix a time limit. In Arizona this is 90 days for lode claims and 60 for placer location. The marking of the claim is done by erecting at each corner, and on each end line center of the claim, a monument of stone at least 3 feet high, or, if a post is used, one that projects at least 4 feet above the ground. These boundaries should be marked, as for instance, "N.E. corner of R.A.M. claim," etc. The end lines of lode claims must be parallel. If the vein curves, and the claim is laid out to cover the vein, monuments must be erected at angle corners.

3. Within 90 days (in Arizona) a discovery shaft must be sunk on the claim to a depth of at least 8 feet from the lowest part of the rim of the shaft at surface, and deeper, if necessary, until there is disclosed in said shaft mineral in place.

In lieu of such shaft, a cut, adit or tunnel can be made . . . "which shall be equal in amount of work to a shaft eight feet deep by four feet wide by six long, and which shall cut a lode or mineral in place at a depth of ten feet from the surface . . ."

This work is what is known as "discovery work," or "title work," or "location work." It is required as a condition of title or ownership. It should be done as soon as practicable after the posting of the location notice, and in all cases it must be done within 90 days of the date of location.

It is **important** to remember that this "discovery work" is **not** the annual assessment work required to maintain the claim. Neither can it be used or applied for such annual work.

Phoenix, or secure General Land Office circulars Nos. 672 and 823.

State Lands: The state laws relative to oil and gas are found in sections 11—1301 to 1323, inc., Arizona code, 1939.

Reference to this law, and to regulations thereunder, is all that space permits. Interested parties are advised to consult the State Land & Water Commissioner, or request that official to furnish them with data.

MAINTENANCE OF TITLE

How Title to a Mining Location Is Maintained

After these three steps have been taken, (valid discovery of mineral, location and marking of the claim, "title work" and recording) the claim is then the property of the locator, subject, however, to the Federal requirement that

> "On each claim located after the tenth of May, eighteen hundred and seventy-two, and until a patent has been issued therefore, not less than one hundred dollars worth of labor shall be performed or improvements made during each year." Sec. 2324, R. S.

It is to be carefully noted that the statute requires $100.00 of labor or improvements "on each claim." Thus, five claims would require $500 in work or improvements on mining claims of common ownership, provided such work tends to prospect or develop or benefit all claims of the group.

> "The law does not require any particular character of labor, nor does it require that the work shall be wisely and judiciously done. It gives no direction as to how it shall be performed. If the necessary amount of labor in the nature of mining is performed upon the location, whether the same is beneficial or not, there can be no forfeiture." (Wailes vs. Davis, 158 Fed. 670.)

This work must be completed by July 1 of any assessment year, or it must be in diligent prosecution by that date.

The date of location is a governing factor as to the time in which the first annual assessment work must be done. An "assessment year" is construed as beginning on July 1 next succeeding the date of location. Thus, on a claim located (for example) September 1, 1945, and discovery work completed within 90 days, no annual work is required on that claim until some time between July 1, 1946, and July 1, 1947.

The annual work must be continued on the claim (or group) until such time as the claim owner has his "Register's

Section 2323, R. S. This right extends for a maximum distance of 3,000 feet from the portal and on the line of the tunnel site. The law does not specify any width. Any veins cut in driving the tunnel and not appearing on the surface, or not previously known to exist, may be located by the tunnel operator as a lode claim. Thus, a tunnel site may create a mining claim. The right to any such veins thus discovered relates back to the time of the location of the tunnel site. And it has also been held by the U. S. Supreme Court that the tunnel owner has extralateral rights on any vein thus discovered.

Since the Arizona laws make no reference to the location and retention of a tunnel site the Federal laws apply. (Sec. 2323, R.S.)

> "The owner of a tunnel never receives a patent for it. There is no provision in the statute for one, and none is in fact ever issued. No discovery of mineral is essential to create a tunnel right or to maintain possession of it. A tunnel is only a means of exploration . . ." (Creede & C. C. Min. Co. vs. Uinta T. M. & T. Co., 196 U.S. 337.)

Private Land Claims

Under authority of the act of June 8, 1926 (44 Stat. 710), the Secretary of the Interior is authorized to lease mineral deposits on private land claims that have been confirmed by decree of the Court of Private Land Claims. This authority is confined to such claims as did not convey the mineral rights to the grantee under the terms of the original grant, and to which such grantee has not become otherwise entitled in law or in equity.

Oil & Gas

Public Lands: By the act of February 25, 1920 (41 Stat. 437), known generally as the "Leasing Act" and amendments thereto, oil, gas, oil shale, sodium, phosphate, potassium and coal, when found in or upon public lands, including the National Forests, are disposable under lease.

The law provides for prospecting permits and for leases to citizens, associations and corporations. The acreage is limited in accordance with certain conditions. Thus, not more than 2560 acres may be held on any one geologic structure within a producing field. There are various restrictions as to easements, conservation measures, assignments, forfeiture clauses, royalties, etc. These are too lengthy and detailed to set forth here. Interested parties should make inquiry at the U. S. Land Office,

4. Record:

Within 90 days (60 days for placer claim) of date of discovery, or of location, file with the Recorder of the county wherein the claim is situated a copy of the location notice. This copy need not be an exact duplicate, however, it should contain the same essential requirements as the posted notice. The law does not require that it be notarized or witnessed, but one or the other is desirable.

Types of Mining Locations

Two main types of mining locations are authorized by Federal law. These are for lode and placer claims.

Lode Claims

In general, the preceding data in this booklet applies to lode claims. Some additional information is given below about placer claims.

Placer Claims

The Federal law (Sec. 2329, R.S.) states "Claims usually called 'placers,' including all forms of deposit, excepting veins of quartz, or other rock in place, shall be subject to entry and patent, under like circumstances and conditions, and upon similar proceedings, as are provided for vein or lode claims," etc. . . . The courts have almost invariably held that land containing mineral scattered or diffused through a superficial deposit of sand or gravel not "in place" may be located as a placer claim.

Sec. 2329, R.S., above cited, was supplemented by the Act of August 4, 1892 (27 Stat. 348), which provided for the location of lands "chiefly valuable" for building stone under the placer law.

A second supplemental act was that of February 11, 1897 (29 Stat. 526), whereunder land containing petroleum and other mineral oils, "and chiefly valuable therefor," could be located as placer claims. This law has been superseded by the general leasing law.

A third supplemental law of January 31, 1901 (31 Stat. 745), provided that "salt springs, or deposits of salt in any form" could be acquired under the placer mining laws.

A fourth supplemental act of March 2, 1911 (36 Stat. 1015), provided for patent to oil-containing land under certain conditions.

Placer claims differ from lode claims in:

(a) Amount of land that may be included in one location.
(b) Conditions under which claim is held.
(c) Rights conferred by placer patent.
(d) Price per acre paid Federal Government when patented.
(e) Survey for patent.

Under (a) 160 acres may be included in an association placer location as against a maximum of 20.66 acres in a lode location.

Under (b) the placer claim may be prospected, and partially claimed by others, if it includes any "known lodes."

Under this provision of the mining law if an applicant for patent to a placer mining claim fails to state that there is a known lode within the boundaries of the claim, it is taken as a conclusive declaration that he has no right of possession thereto. If no such vein or lode be known, the placer patent will convey all valuable minerals within the boundaries of the claim. A "known lode" not included in a placer claim patent may be applied for after issuance of the placer claim patent.

What constitutes a "known lode" is one known to exist at the time of the patent **application,** not of the patent itself. The "lode" should be clear and unmistakable. Lode claimants within a placer location are limited by statute to a width of 25 feet on each side of the vein. (See Sec. 2333, R.S., Reynolds vs. Iron Silver Min. Co., 116 U.S. 687.)

Under (c) the owner cannot mine beyond his claim boundaries; that is, the "apex law" does not apply to placer claims.

Under (d) the purchase price is $2.50 per acre as against $5 for lode claims.

Under (e) no survey is required, providing the Government land surveys (sections, township, range) embrace the placer claim.

Some Arizona attorneys are of the opinion that the "discovery" or "location" work required to be done on a lode claim need not be done upon a placer claim. It is to be noted, however, that the Federal law (Sec. 2329, R.S.) provides that

> "Claims usually called 'placers' . . . shall be subject to entry and patent, under like circumstances and conditions . . . as are provided for vein or lode claims . . ."

The U. S. Supreme Court has held that a placer location must have the requisites of discovery, citizenship, marking boundaries, ". . . and performance of the representation work."

As Morrison points out, the decision by the Circuit Court of Appeals in the Webb vs. Asphaltum M. Co. case is the last authoritative one, and until it reaches the Supreme Court must rest as the "ultimate adjudication," although he does not ". . . concede that it is the correct expositiou of the law."

There does not appear to be any clear or definite criteria formulated by the court of the Interior Department by the application of which a locator can be assured that he has used the proper form of location for some nonmetalliferous minerals occurring in mass formation in rock in place.

It is important to remember that an actual discovery of mineral on a placer claim is as necessary as upon a lode claim. In the absence of discovery the claim is invalid. The law will protect a locator who is in good faith working and prospecting a claim for purpose of making a discovery. However, priority of an actual discovery gives priority of title.

> "A junior placer location with earlier placer discovery prevails over a senior lode location with later lode discovery."

> "A placer discovery will not sustain a lode location, nor a lode discovery a placer location."
> (Cole vs. Ralph, 252 U.S. 286.)

Millsite

This is a tract of non-mineral land of five acres area that may be located for "mining or milling" uses. Its location must be upon vacant and unappropriated land. Usually it is adjacent to the mine (or claim) for which located. Sometimes it adjoins, or sidelines, a lode claim, providing such adjoining millsite location is, in fact, non-mineral land. Its location on the end-line of a lode claim is not illegal; however, it is questionable because it always raises the presumption that the vein enters the millsite on its strike.

At time patent is sought for a millsite it must be actually in use for mining or milling purposes.

The Federal law is silent as to the manner of locating a millsite, nor does it require annual assessment work. Under the state law a copy of the location notice must be recorded.

No annual assessment work is required on a millsite.

Tunnel Claim

This is not in reality a mining claim; it is merely a means of exploration and discovery granted by the Federal law under

and that have been entered and patented as placer claims. One case, in fact, involving granite for building and ornamental purposes, finally came before the Supreme Court, i. e., N. P. R. Co. vs. Soderberg, 188 U.S. 526. The placer location—granite quarry in that case—was sustained by the high court as against the railroad grant. This decision, incidentally, discusses the term "minerals" quite fully.

Perlite locators may well give consideration to the Act of August 4, 1892 (27 Stat. 348), whereunder lands that are "chiefly valuable for building stone" may be entered as placer claims.

In "Morrison's Mining Rights," 16th Edition, page 252-53, that authority on mining law states:

> "Distinction Between Lode and Placer: In Webb v. American Asphaltum M. Co., 157 F., 203, 84 C.C.A., 651, a placer location had been made on a string-shaped injection of asphalt. Later, lode locations were made over it. The issue turned on whether it was lode or placer ground. The Court held that the issue was determined by the form of the deposit and the formation being fissure-like and in place it was a lode, discarding entirely the nonmetallic character of the mineral. In United States v. Iron S. M. Co., 128 U.S. 673, 679, . . .
>
> The Supreme Court had said:
>
> > 'By 'veins or lodes,' as here used, are meant lines or aggregations of metal embedded in quartz or other rock in place. The terms are found together in the statutes, and both are intended to indicate the presence of metal in rock.'
>
> "And in St. Louis S. & R. Co. v. Kemp, 104 U. S. 636, 649 . . . occurs this clause: 'A mining claim is a parcel of land containing precious metal in its soil or rock.'
>
> "But in neither of these last two cases was the point directly involved and the use of the word 'metal' is therefore not of binding force. The Asphaltum Co. case is therefore thus far the authoritative decision on this important question, and so we print it with the qualification that it remains for the ultimate adjudication of the Federal Supreme Court before we can concede that it is a correct exposition of the law.
>
> "A clear distinction between lode and placer is made in Cole v. Ralph, 252 U.S. 286."

(Donnelly vs. U. S., 228 U.S. 243.)

It is advisable to do the location work on a placer claim as insurance against "claim jumpers" and litigation.

Coal, oil,gas, oil shale, sodium, phosphate, potash and magnesium deposits cannot be located. They are disposed of under lease by various acts of Congress. A prospecting permit may be obtained for exploration of lands believed to contain such deposits. The rules and regulations are too voluminous to repeat here. The nearest U. S. Land Office should be contacted. That office will have the law and regulations thereunder in pamphlet form.

Whether or not a given material or substance is subject to location as a lode or as a placer claim is a highly controversial question. The U. S. Supreme Court has decided that the term "placer claim" comprehends ". . . the location of a tract or parcel of land located for the sake of the loose deposits of mineral upon or near the surface of the ground . . ."

(Clipper Co. vs. Eli Co., 194 U.S. 228.)

Thus, some of the placer gold deposits of California were found beneath a considerable thickness of a later lava flow. Such deposit would be of the type contemplated by the Court as "near the surface of the ground."

This is true of oil and gas; however, these substances can no longer be sought under a placer mining location. They now come under a leasing law.

Building stone, sand, gravel deposits, "fuller's earth," clays, volcanic ash, pumice, limestone used for flux, gypsum, magnesite, salt beds, may be acquired under the placer mining law.

A form of placer claim permissible under the law is what is known as a "gulch placer." This is where placer deposits have accumulated along the bed of an unnavigable stream, or gulch, with precipituous, non-mineral, and uncultivable banks. It is sometimes referred to as located "from rim-rock to rim-rock." Even where the land is surveyed this form of location is permissible if it conforms with reasonable accuracy to the survey lines.

Lands desirable or "chiefly valuable" for building stone may be acquired as a placer claim under the provisions of the Act of August 4, 1892 (27 Stat. 348).

In effect, this act extends the provisions of the earlier Timber & Stone Act to all the public land states. It differs from the general mining laws in two particulars: (1) it requires the land to be "chiefly valuable" for building stone, and (2) such lands

(Continued on Page 25)

PUBLIC LAND SURVEY

Anyone seeking land, whether as a mining location or otherwise, should understand the survey system. It is the basis for title descriptions.

Lands are surveyed into townships six miles square. Surveys start from an initial point from whence a base line is carried east and west, and a guide meridian north and south. In Arizona this is known as the Gila and Salt River Meridian—usually written G&SRB&M. Townships are numbered consecutively north and south and ranges east and west, according to the distance and direction from the initial point. Thus, Kingman is in T 21 N, R 17 W; St. Johns is in T 13 N, R 28 E; Bisbee is in T 22 S, R 24 E; Yuma is in T 8 S, R 23 W.

Each township is subdivided into 36 sections, each 1 mile square (the boundaries of which run due north and south, and east and west, in a regular and uniform township). At the corners of each section since 1912 the surveyor sets an iron pipe with a brass cap whereon is stamped the township, range, and section corners. At each half-mile on every section line a smaller pipe is set whereon the cap is stamped "S 1/4"—or the corner of a quarter-section, often called a quarter-corner. A line on the cap will be N-S, or E-W, and the sections on either side of line numbered thus 8|9 or $\frac{3}{10}$.

Typical markings of these corners are shown on the diagram on opposite page.

All of the foregoing is illustrated by the maps on opposite page. Four townships are shown, and the numbering of the sections within the townships. Additional diagrams show how a single section is further sub-divided into 40-acre tracts, and how land within a section may be described.

(Continued from Page 19)

are not to be withheld or excluded from reservations or grants to States for school purposes.

> "The term 'mineral,' as used in this statute, is not merely a synonym for 'metal,' but is a comprehensive term including every description of stone and rock deposit whether containing metallic substances or entirely nonmetallic."
>
> (Northern Pac. R. Co. vs. Soderberg, 99 Fed. 506 See also 41 Land Decisions, 655-659; U. S. vs. Iron Silver Min. Co., 128 U.S. 673, 684.)

Perlite Locations

Perlite, one of the volcanic glasses, and now being processed into commercial products, is found in Arizona. Its location as a lode or placer claim has been much discussed by the mining fraternity. The proponents for a lode location cite Sec. 2329, R.S., viz.:

> "Claims usually called 'placers,' including all forms of deposit, **excepting** veins of quartz, or **other rock in place,** shall be subject to entry and patent, under like circumstances and conditions, and upon similar proceedings, as are provided for vein or lode claims . . ."
> (Emphasis supplied)

This statute was cited by the Supreme Court in Deffeback vs. Hawke, 115 U.S., 392-401, in the following language:

> "Claims usually called placers are expressly declared to include all forms of deposit except veins of quartz or other rock in place."
>
> The Interior Department, in 41 L.D., 403, has ruled that: "A mineral deposit in vein or lode formation—in place in the general mass of the mountain—whether the mineral it bears be metallic or nonmetallic, is subject to disposition only under the provisions of the lode mining laws."

That case involved a deposit of rock phosphate. Patent was sought as a lode claim and the application sustained by the Secretary. A similar deposit was declared subject to lode location by the Federal court in San Francisco Chemical vs. Duffield, 201 Fed. 830.

Arguments in support of placer location for perlite point to marble, limestone for flux, slate, granite for building stone, etc., that are legally, physically and geologically "rock in place,"

MISCELLANEOUS TABLES

Land

1 acre=43,560 sq. ft.=208.71 ft. square.
¼ section=160 acres and is ½ mile square.
1 section=640 acres and is 1 mile square.
1 township=36 sections and is 6 miles spuare.
80 chains=1 mile, or 1.6093 kilometers.
1 foot=0.3048 meters.
1 yard=3 feet=36 inches=0.9144 meters.
Maximum size of a lode claim is 600′ wide by 1500′ long and it contains 20.66 acres and end lines must be parallel.
1 kilometer=.6214 miles.

Water

1 gallon weighs 8⅓ pounds.
7.48 gallons weigh 62.4 pounds and=1 cu. ft. water.
Hydraulic pressure in pounds per square inch=head in feet x 0.4335.
1 miner's inch in Arizona equals about 11.2 gallons per minute.
(Note—This varies in different western states.)
Gallons per minute x 6=tons of water per day.
Cubic feet per second x 449=gallons per minute.
1 inch water per acre=27,000 gallons.
1 foot water per acre=325,850 gallons.
1 second foot=40 miner's inches.
1 liter=1.057 quarts.

Weight

Many persons mistakenly believe that an avoirdpois pound contains 16 or 12 troy ounces. Neither is correct. Neither the pound nor ounce is the same in the two scales of weight. All precious metals are bought or sold by the troy ounce.

The following table shows the relationship:
1 gram=15.432 troy grains.
24 troy grains=1 penny weight.
20 penny weight=1 troy ounce.
12 troy ounces=1 troy pound.
1 pound, avoirdupois=1.215 pounds troy=14.5833 oz. troy.
1 ounce troy=31.103 grams=1.097 ounce avoirdupois.
1 pound troy=0.823 pounds avoirdupois.
1 assay ton=29.166 grams=1.07 ounce troy.
1 ton=2,000 pounds (short ton)=907.185 kilograms.
1 kilogram=2.205 pounds.

Atmosphere

21 per cent oxygen
78 per cent nitrogen } Approximate
1 per cent other gasses

Pressure at sea level is 14.7 pounds per square inch.
Each 1000′ rise reduces pressure ½ pound.
Each 1000′ drop increases pressure ½ pound.
Boiling point water 212° Fahrenheit at sea level.
Each 1000′ rise reduces boiling point 2°.

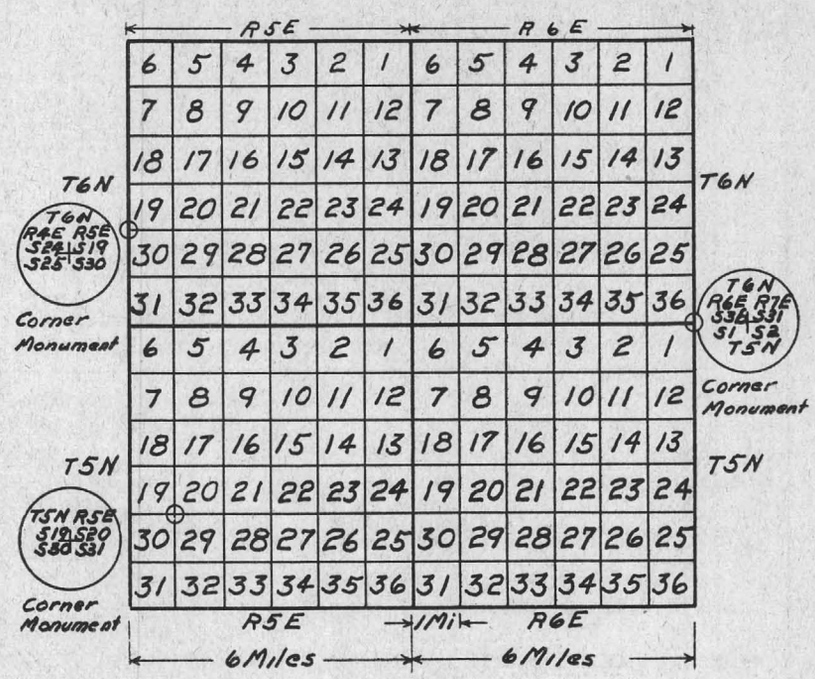
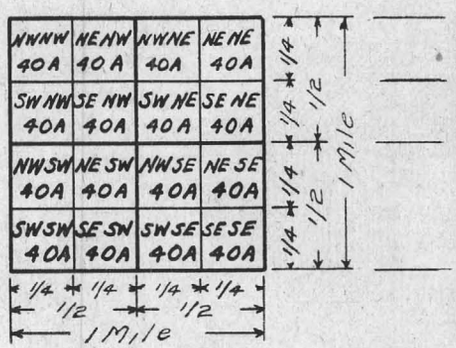
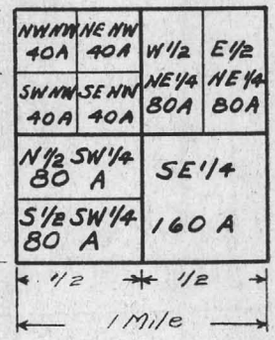


Diagram showing four adjacent townships



Section



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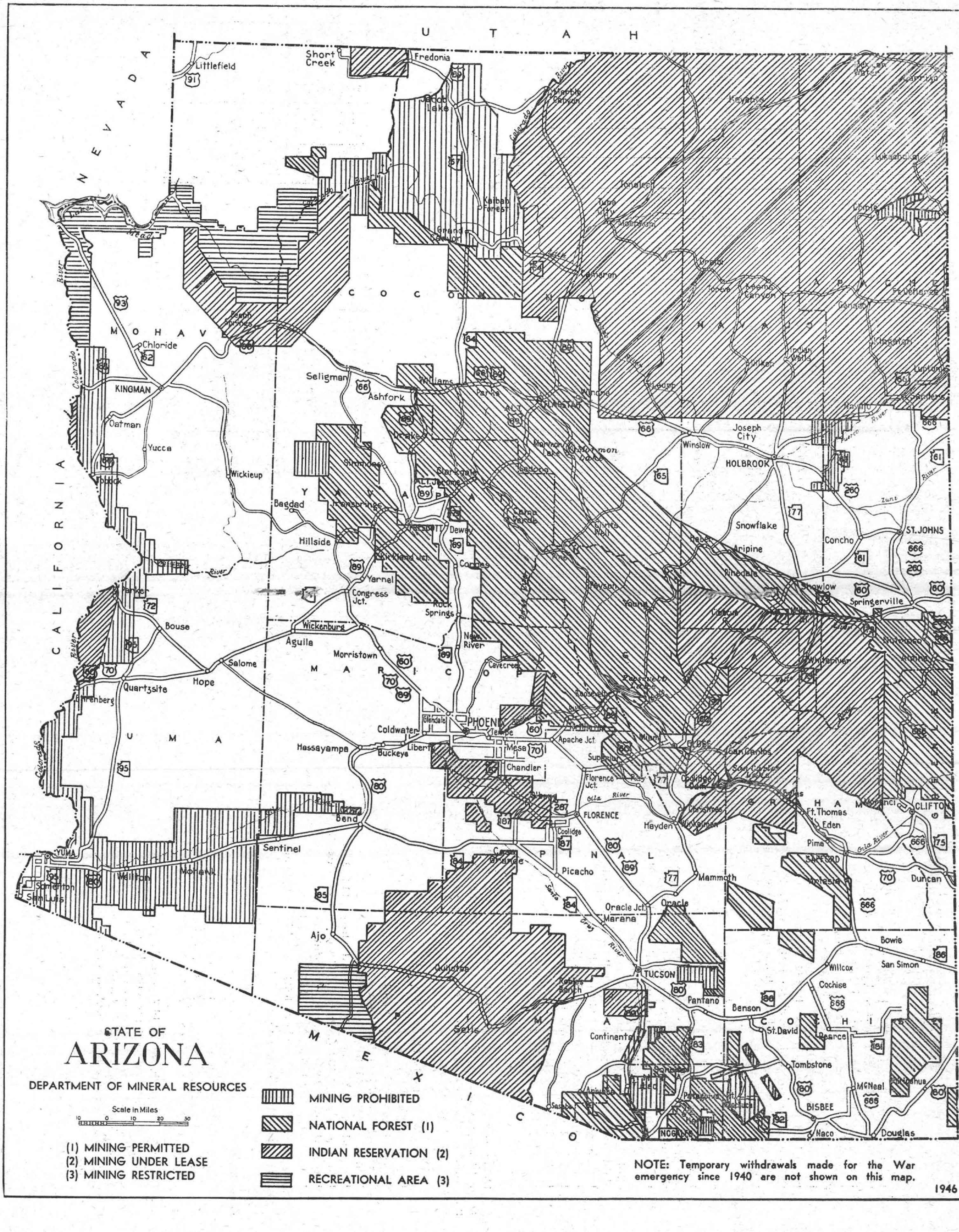
STATE OF
ARIZONA
DEPARTMENT OF MINERAL RESOURCES
Scale in Miles
10 0 10 20 30
(1) MINING PERMITTED
(2) MINING UNDER LEASE
(3) MINING RESTRICTED
MINING PROHIBITED
NATIONAL FOREST (1)
INDIAN RESERVATION (2)
RECREATIONAL AREA (3)
NOTE: Temporary withdrawals made for the War emergency since 1940 are not shown on this map.
1946
U T A H
NEVADA
CALIFORNIA
NEW MEXICO
MEXICO
KINGMAN
PHOENIX
TUCSON
FLAGSTAFF
PRESCOTT
YUMA
HOLBROOK
FLORENCE
GLOBE
CLIFTON
BISBEE
NOGALES
ST. JOHNS