



## **CONTACT INFORMATION**

Mining Records Curator  
Arizona Geological Survey  
1520 West Adams St.  
Phoenix, AZ 85007  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: DIAMOND POINT QUARTZ

ALTERNATE NAMES:

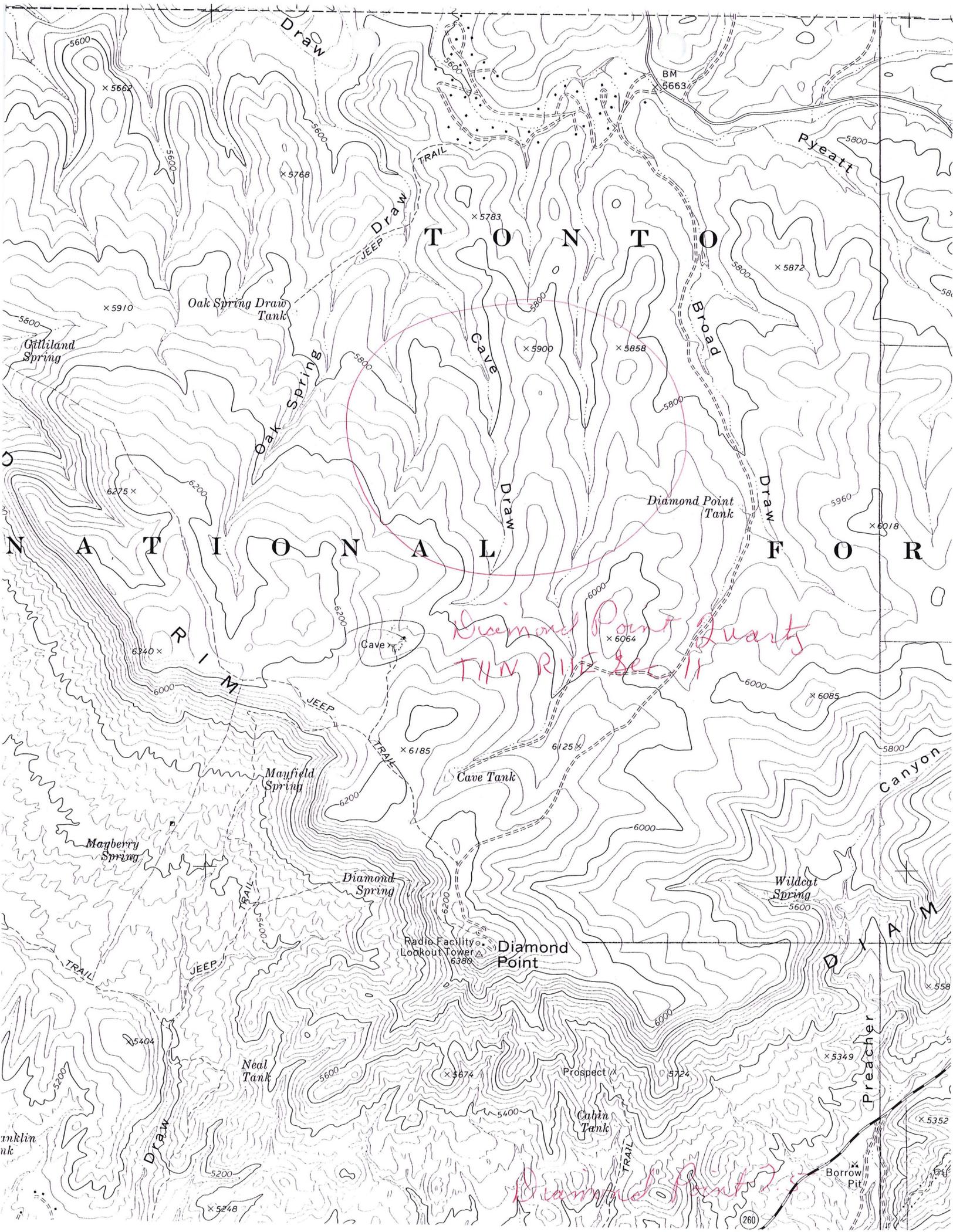
GILA COUNTY MILS NUMBER: 584

LOCATION: TOWNSHIP 11N RANGE 11E SECTION 11 QUARTER C  
LATITUDE: N 34DEG 18MIN 40SEC LONGITUDE: W 111DEG 11MIN 30SEC  
TOPO MAP NAME: DIAMOND POINT - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:  
GEMSTONE QUARTZ XL

BIBLIOGRAPHY:  
ADMMR DIAMOND POINT QUARTZ FILE  
US FOREST SERVICE ENVIRON. ASSESSMENT FOR  
DIAMOND RIM REC. MINERAL COLLECTION AREA  
PRESMYK, L., 1998, MINERALS OF ARIZONA, 6TH  
ANNUAL SYMPOSIUM, DIAMOND POINT QUARTZ



*Diamond Point Quartz  
TIN RISE SEE II*

*Diamond Point 2.5*

260



United States  
Department of  
Agriculture

Forest  
Service

Payson  
Ranger  
District

1009 E. Hwy. 260  
Payson, AZ 85541

File Code: 1950  
Date: July 9, 1999

File

W.D. Sawyer, Director  
Arizona Department of Mines and Mineral Resources  
1502 W. Washington  
Phoenix, AZ 85007

Dear W.D. Sawyer:

Enclosed you will find a copy of the Environmental Assessment (EA) for the Diamond Rim Recreational Mineral Collection Area. Please direct written comments to: Ms. Esther Morgan, Tonto National Forest, Payson Ranger District, 1009 E. Highway 260, Payson, Arizona 85541. Comments must be received by August 9, 1999.

Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision (under 36 CFR Parts 215 or 216). Additionally, pursuant to 7 CFR 1.27(d), any person may request the agency to withhold a submission for the public record showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality should be aware that, under the FOIA, confidentiality may be granted in only very limited circumstances such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality. Where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without a name and address within a specific amount of time.

If you have any questions about this EA, please contact Ms. Esther Morgan at (520) 474-7900.

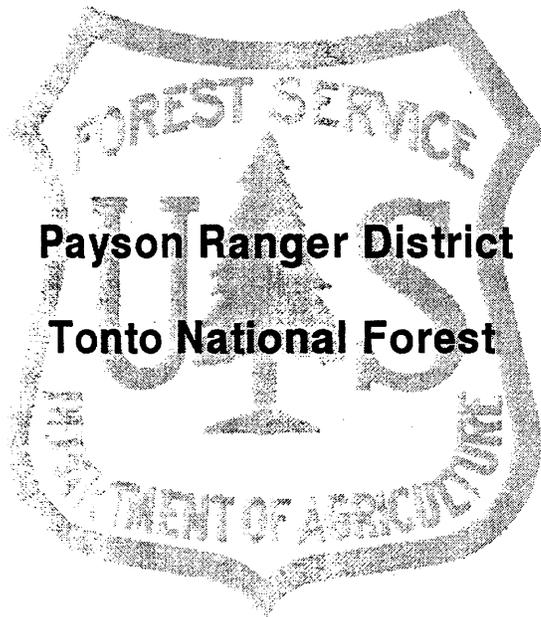
Sincerely,

STEPHEN L. GUNZEL  
District Ranger

Enclosure



**Environmental Assessment**  
**for the**  
**Mineral Withdrawal (Proposed)**  
**of the**  
**Diamond Rim Recreational Mineral Collection Area**



# ENVIRONMENTAL ASSESSMENT

Mineral Withdrawal (Proposed)  
for the  
Diamond Rim Recreational Mineral Collection Area  
USDA Forest Service  
Southwestern Region  
Tonto National Forest  
Payson Ranger District  
Gila County, Arizona  
June, 1999

Type of Action: Administrative

Lead Agency: USDA Forest Service

Responsible Official: Eleanor S. Towns, Regional Forester

For Further Information: Stephen Gunzel, District Ranger  
Payson Ranger District  
1009 East Highway 260  
Payson, AZ 85541  
(520) 474-7900

**Abstract:** Three alternatives are described and compared for the proposed 7,040 acre Diamond Rim Mineral Withdrawal area. The alternatives are:

- A. This alternative is the no action alternative as required by the National Environmental Policy Act regulations. Selection of this alternative would mean the proposed withdrawal would not be considered at this time. A no action alternative leaves the area open for location and entry under the United States mining laws to be administered by the Forest Service under the 36 CFR 228 regulations.
- B. This alternative proposes the withdrawal of 7,040 acres of land from location and entry under the United States mining laws as identified in the temporary segregation and subject to existing rights. All other activities will continue to be allowed.
- D. This alternative proposes the withdrawal of less than 7,040 acres of land from location and entry under the United States mining laws. Only areas that have historically been popular public recreational mineral collecting areas are included with the withdrawal, making the withdrawal area smaller than the segregation boundary. All other activities will continue to be allowed.

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## CHAPTER 1 - PROJECT SCOPE

### I. General Introduction and Background

This chapter describes the proposed Diamond Rim Recreational Mineral Collection Area Withdrawal by providing some basic background, describing the purpose and need for withdrawal, by listing issues created from Interdisciplinary Team (IDT) and public meetings, and by listing mitigation measures for managing the withdrawal area.

It is Forest Service policy to consider withdrawals for areas with a history of mineral findings, where management direction is not compatible with alienation or use under the mining laws, and for lands that are occupied by capital improvements in which relocation or replacement would be impractical. The Forest Service requests withdrawal of National Forest System Lands through the Secretary of Interior, under the Bureau of Land Management Regulations 43 CFR 2310.1.

Currently, the proposed Diamond Rim Recreational Mineral Collection Area Withdrawal area is open to the general public for all legal uses, including, but not limited to: recreational mineral collecting (rockhounding), camping, hunting, hiking, and mineral exploration. The area is unique for its geology and for its accessibility by the public. Recently, a claim was filed in the area and extraction of quartz crystals from their natural limestone matrices has taken place; potentially limiting approximately 21 acres of National Forest land from crystal collecting by the public. Additional claims in the area may result in more land that cannot be used for recreational mineral collecting. Thus, a temporary mineral segregation was filed with the Department of Interior in order to assess the impacts of such claims on the public and on natural and heritage resources, as outlined in this Environmental Assessment. The proposed withdrawal boundaries were identified based on the local geology, knowledge of the most popular crystal collecting areas and accessibility. The proposed boundary does not encompass the entire surface area where crystals are known to occur. Notice of this proposed withdrawal was published on September 25, 1997 in the *Federal Register* (Vol. 62, No. 186, p. 50,404)

The application for the two year segregation outlined the reasoning for the proposed withdrawal, that the Forest Service management regulations found at Title 36 of the Code of Federal Regulations, Part 228 (36 CFR 228) do not provide adequate protection from prospecting disturbance, mining operations or mineral patent. The Surface Management Regulations cannot substitute for a withdrawal from mineral entry in order to protect the natural area in their modified condition.

There is no known base metal production within the surrounding proposed withdrawal area. This area is valuable for providing a spectrum of recreational opportunities to meet expected recreation demand and recognize recreation opportunities that can best be provided on the Tonto National Forest.

The Surface Management Regulations, 36 CFR 228, are not meant to be a means of denying consent to conduct mining operations. Rather, they are a means of avoiding unnecessary or undue degradation, minimizing surface resource disturbance and providing for reclamation.

Therefore, mining operations can be controlled by surface mining regulations and disturbance can be minimized, but not eliminated. Thus, the risk of losing a recreation area increases if this area remains open to further mineral location.

The area proposed for withdrawal will provide opportunities for recreational mineral collecting. The opportunities could be lost or greatly restricted if this area remains open to further mineral location.

## II. Location

The proposed Diamond Rim Recreational Mineral Collection Withdrawal area, as outlined in the temporary segregation, is located in Sections 1, 2, 3, 10, 11, 12, 13, 14, 15 (NW 1/4), 23 (N1/2, N1/2), and 24 (N1/2) of Township 11 N., Range 11 E., and Sections 34, 35 (W1/2, SE1/4), and 36 (SW1/4) of Township 11.5 N., Range 11 E., G&SRBM. This proposed withdrawal will overlap Public Land Order 3965 issued on March 30, 1966 for the Diamond Point Lookout Administrative Site, which consists of 20 acres located in the E1/2, NW1/4, NE1/4 of Section 23 of Township 11 N., Range 11 E., G&SRBM.

## III. Purpose and Need for Action

Withdrawal of the Diamond Rim Recreational Mineral Collection Area would protect the public interest in the area by excluding new location and entry under United States mining laws, subject to valid existing rights. Withdrawal would dedicate the area to recreational use and would ensure future public access in an area that is popular with recreationists for crystal collecting. Plans for mineral operations in the withdrawn area would not be accepted, subject to valid existing rights.

Recently the Forest Service was approached by a claimant proposing a mining operation on one claim in the area. A Plan of Operation for the extraction of quartz crystals was approved and commercial mining of the crystals has taken place over the past couple of years. This activity indicated that additional claims would most likely be located throughout the area for the same purpose, resulting in exclusion of possibly a large part of the area from historic crystal collecting by the general public. This withdrawal would help fulfill the Tonto National Forest Plan goal of providing a spectrum of recreational opportunities to meet expected recreational demand and recognize recreational opportunities that can best be provided on the Forest.

#### IV. Objectives

The following objectives were described for this project and provide specific details how this project will contribute to the proposed action.

1. Withdraw land on the Diamond Rim for 20 or 50 years, so that the general public can continue to enjoy crystal collecting in that area.
2. The area would be withdrawn from location and entry under the United States mining laws only; all other current and future activities such as recreational crystal collecting, camping, grazing, timber harvesting, non-locatable mineral extraction, and camping will still continue.
3. Possibly develop a management plan in the future to ensure public access and use without resource damage.

#### V. Decision to be Made

Section 204 of the Federal Land Policy and Management Act of 1976 (FLPMA, 43 U.S.C. 1714) gives the Secretary of Interior general authority to make, modify, extend, or revoke most withdrawals on public land systems. The Forest Service must apply to the Secretary of the Interior through the Bureau of Land Management (BLM) for withdrawal actions on the National Forest. The Forest Service will determine whether or not to apply for formal withdrawal of the Diamond Rim area to the BLM, and if so, which alternative to propose. The Regional Forester, Southwestern Region, has the authority to act on matters related to this application.

#### VI. Scoping

On January 15, 1999 and March 15, 1999 two scoping letters were mailed to interested parties inviting input, not only to the issues, but to the development of the alternatives. In March, a copy of the proposal was taken to the Rim Country Museum in Payson. Two public meetings were held, one on February 25, 1999 in Phoenix, and the other held on March 30, 1999 in Payson. The majority of the responses were in support of the withdrawal; only two of the respondents, one of which is the current mine operator, opposed the withdrawal. Five additional issues and three additional alternatives were offered through the scoping process. The issues are outlined in this chapter and the alternatives are outlined in Chapter 2. Two suggestions were to consider areas to the southwest of the current proposed boundary and to extend the withdrawal area to the west to Pyeatt Draw. Both of these alternatives fit within the current Alternative C. One suggestion was to restrict the whole Diamond Rim area from location and entry under the US mining laws, recreational crystal collecting, recreationists in general, and fire. This suggestion has been added as Alternative E. Another suggestion was to consider making the whole Diamond Rim into a new wilderness area and keeping it open only to casual crystal

collection and recreational users. These suggestions have been combined into Alternatives F and G in Chapter 2.

A follow-up IDT meeting to discuss public response to the scoping letters was held on May 8, 1999 and three area visits with concerned tribal members were conducted on May 28, 1999, June 16, 1999 and June 21, 1999 in order to discuss any heritage resource, Native American Graves and Protection and Repatriation Act (NAGPRA), and American Indian Religious Freedom Act (AIRFA) issues and concerns. All tribes that responded to the scoping letters, phone calls, and field visits are in support of the withdrawal.

## VII. Environmental Issues

Below are the key environmental issues that are pertinent to the proposed action. Issues are statements of problems to be solved or problems which may be created by the proposed project. Issues developed during Interdisciplinary Team (IDT) and public meetings were dismissed if they were outside the proposed action scope, irrelevant to the decision being made, or beyond geographic influence of the proposed action. These issues are listed in Section VIII below.

An Interdisciplinary Team was appointed to guide the organization of this report and provide the expertise to analyze the potential impacts of this project. The ID Team identified the key issues (listed below as issue numbers 1 through 8) involved in this project. Interested individuals and organizations were then invited to add to or modify those issues.

In response to the scoping letter, the public identified one new issue (listed below as issue number 9). This public issue was considered to be relevant to the proposed project and have been integrated into the analysis process.

The issues that have been identified for this project are:

1. *Focussed attention and increased collection: The proposed withdrawal may promote focussed attention and increased use of the area than is known historically because knowledge about the withdrawal may lead the public to that one area alone rather than dispersing the public to other crystal areas located outside the withdrawal.*

Interviews with local people who have lived in the vicinity of Payson all of their lives indicate that the Diamond Rim area has been popular tourist attraction even prior to the creation of the Tonto National Forest Reserve in 1908. Recently, mineral and rockhouser guides and newspaper articles have been written about Diamond Rim (Blair 1992; Webster 1997a, 1997b). As a result, the area's popularity is continuing to increase. Given the area's popularity, there is a great deal of use and misuse by the public for camping and rockhounding for quartz crystals ("Arizona Diamonds"). It is also a favorite stop for school buses, families, and tour groups who

collect the small quartz crystals that are found on the ground surface and in drainages. There is also increasing evidence of small scale digging (1-3 ft. diameter and 1-3 ft. deep) in popular areas, and of digging in drainages, causing stream erosion and changes in stream channelling. Respondents to the scoping letters indicate that the size and frequency of crystals found on the surface has diminished over time. For example, excerpts from the memoirs of former Payson District Ranger Clyde Moose (March 13, 1937 to April 15, 1940) indicate that in the late 1930s, quartz crystals that range from the size 1/4 inch to about one inch wide could be picked up "by the gallons" (Moose n.d.: 15). Today, the larger crystals are a rare sight and a person is lucky to find a handful of crystals on the surface. Interviews of recreationists who visit the area suggest that there is a real concern for increased use of the area and a depletion of the resource.

Two respondents in favor of the withdrawal suggested that it would help protect forest resources and/or help reduce the depletion of the resources in the area. One respondent that opposes the withdrawal argued that the withdrawal would encourage the depletion of quartz crystals in the withdrawal area.

2. *A decision not to withdraw the crystal area may result in denying access by the public through established mining claims.*

Nine respondents, some of which were representatives of recreational mineral collector groups, commented on the accessibility issue. Seven out of the nine were concerned about the future of accessibility through established mining claims. The other two felt that there would be no accessibility problems within mining claims.

The proposed withdrawal area has been identified by the Yavapai-Apache Nation, and the Hopi, the Tonto Apache, and the Yavapai-Prescott Tribes as a Traditional Cultural Property (TCP)/Traditional Use Area (TUA); and the tribes are concerned about having continued access to the withdrawal area. Currently, Hopi and Zuni tribal practitioners are forced to purchase crystals for traditional uses from commercial sources. The Hopi Tribe has asked for a guarantee to ensure future access to the crystal areas and the Yavapai-Apache Nation, Zuni Pueblo, and the Tonto Apache, and the Yavapai-Prescott Tribes have expressed a similar need.

3. *Threatened, Endangered, and Sensitive (TES) Species and Other Wildlife values: Will withdrawal or a decision not to withdraw have an impact of TES habitat?*

Species that are federally threatened and endangered are afforded protection under the Endangered Species Act. Section 9 of the Act prohibits taking of listed species. Legal taking of a listed species may be allowed through Section 7 or 10 of the Act, if the U.S. Fish and Wildlife Service determines that the proposed action does not jeopardize the continued existence of the species and the taking is incidental. Sensitive species are species of special concern to the Forest Service. Presence of sensitive species on federal lands typically requires either avoidance or mitigation of impacts.

The only Federally listed species that is known to occur within the analysis area is the Mexican spotted owl. The only sensitive species actually confirmed within the area is the northern goshawk, although suitable habitat exists for the flammulated owl and a number of sensitive bat species, including both tree and cave roosters. A entire Mexican spotted owl (MSO) Protected Activity Center (PAC) and a portion of a second one; and an entire northern goshawk post-fledging family area (PFA) and a portion of a second one, are located within the proposed withdrawal area.

One person responded that a withdrawal would have no effect on TES species and other wildlife.

4. *Will withdrawal or a decision not to withdraw affect heritage resources and/or cultural and traditional use values associated with the area?*

Quartz crystals from the Diamond Rim Recreational Mineral Collection Withdrawal Area were collected, traded, and used throughout the Southwest prehistorically and historically. Archeological sites and other features found within the Diamond Rim Recreational Mineral Collection Withdrawal Area may be of cultural and/or archeological significance. Heritage resource sites, Traditional Cultural Properties (TCPs), and Traditional Use Areas (TUAs) within the proposed withdrawal area could be potentially impacted by mining activities and/or recreational rock collecting. A mining project within the boundary of a heritage resource site may require site avoidance or mitigation through data recovery and other means; casual collecting creates a potential for unregulated, unmonitored impacts on heritage resources and a potential for resource damage through indiscriminate digging or collecting from heritage resource sites.

Ten respondents commented on the heritage resource issues. Tribal members are concerned about direct and indirect impacts to heritage resources. They are concerned about the presence of the existing mining claim and the possibility for additional mines if there is a decision not to withdraw and their potential for impacts on cultural and traditional use values associated with the area. Some Tribal members are also concerned about the collection and use of the quartz crystals by non-Indians because of their spiritual significance. Non-Indian respondents were also concerned about direct and indirect impacts to heritage resources; some suggested an active management plan in order to insure that heritage resources are not impacted, and that no digging be allowed within the withdrawal area in order to ensure site protection.

5. *Sustainability: A decision not to withdraw could result in the potential depletion of the geological resource.*

Resource depletion in relation to the geological resource will either be determined by mining if there is a decision not to withdraw the area, or it will be determined by natural weathering and recreational use if there is a withdrawal.

Six respondents commented on resource depletion. Five out of the six suggested that only surface collection should be promoted; that the withdrawal area should have signs that outline rules for collecting quartz crystals. Five respondents were concerned about the depletion of the quartz crystals over time -- either from collecting and/or mining the materials.

6. *How will the proposed withdrawal affect the local economy?*

The potential impact of withdrawal on the local economy is related to the value of the site as a recreation attraction as compared with potential mineral operations. Services provided to visitors or operators would affect the local economy similarly, on a per-person basis, with more emphases on equipment services for commercial operators.

Tourists to the Diamond Rim Recreational Mineral Collection Withdrawal Area generally camp on site or stay at local campgrounds or motels, and purchase food and fuel locally. The current operator may purchase some food and fuel locally, but he lives outside the area, sells the quartz crystals outside the local area, and operates his own equipment which was purchased outside the local area, thus contributing little to the local economy.

One respondent to the scoping letter indicated that the withdrawal of the area from mineral entry would impact Gila County economically; two others indicated that withdrawal of the area from mineral entry benefited the many for recreational opportunity whereas mineral entry only benefitted the few. One of these respondents felt it was more important to allow the general public to collect crystals for the enjoyment of it rather than for profit (miners).

7. *Visual Quality Objectives (VQOs): How will a withdrawal or a decision not to withdraw affect visual quality?*

The VQOs for Management Area 4D is the retention of the visual quality, "which in general means man's activities are not evident to the casual forest visitor" (Tonto National Forest Plan, Pp. 128 and 257). A decision not to withdraw the proposed area could have an affect on visual quality for recreationists along the Diamond Point Road (FR 65).

Three respondents from the scoping letters received suggested that mining would affect visual quality whereas casual collecting would not. Tribal members who visited the proposed withdrawal area also indicated that mining would affect visual quality.

8. *Will the proposed withdrawal affect the ability to meet NAGPRA requirements?*

The question has arisen as to how does the Forest Service control what may or may not be found on the ground. Protection and administration of Heritage Resource sites are set forth by

the National Historic Preservation Act (NHPA) of 1966 and the Archeological Resources Protection Act (ARPA) of 1979.

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 requires the repatriation of human remains, sacred objects, or objects of cultural patrimony to Native Americans, Alaskan Natives, and Native Hawaiians who claim them. NAGPRA applies to human remains, sacred objects, or objects of cultural patrimony that have to be removed from a site because of inadvertent discovery situations where they cannot be left in place or from data recovery at archeological sites that are subject to mitigation under Section 106 of the National Historic Preservation Act.

One Tribal representative voiced concerns about how NAGPRA requirements would be met with the treatment and disposition of human remains, sacred objects, or objects of cultural patrimony that may be discovered, either through data recovery at mine sites should there be a decision not to withdraw, or inadvertently by crystal collectors should there be a withdrawal.

Public response to the scoping letters or phone calls added one (1) issue to those already defined. It is listed below as number 9.

9. *The withdrawal will encourage unregulated environmental impacts by recreational mineral collectors; whereas, without the withdrawal, the environment in the area would be better protected under the mining regulations.*

The Surface Management Regulations (36 CFR 228) are a means of avoiding unnecessary or undue degradation, minimizing surface resource disturbance and providing for reclamation on mine claims. There are no regulations that provide adequate surface resource protection from recreationists. The worst-case scenario would be that both recreational mineral collectors and miners could impact the local environment; however, there is a choice of either regulating mining under 36 CFR 228, withdrawing the area from mining and not regulating recreational mineral collecting, or regulating recreational mineral collecting through a management plan.

The two respondents who were not in favor of the proposed withdrawal argued that environmental impacts from unregulated crystal collecting activity could not be managed and would be worse than impacts from mining, which are regulated, thus providing a better control over the resources. Mining operations can be controlled by surface regulations such as 36 CFR 228 and disturbance could be mitigated.

Other respondents in support of the withdrawal, many of which were recreational mineral collectors, argued that the extent of the disturbance from collecting is far less than that of mining and therefore is easier to reclaim. One respondent suggested that impacts by mineral collectors can be reduced to a minimum by posting "a information sign board...at the entrance to the crystal collection area cautioning the public to use only hand tools in the collection of crystals

and not to remove large amounts of soil in order to avoid damage..." and "[a]dditional notices could be posted on the sign board to assist visitors and encourage them in conservation of heritage resources and endangered species."

#### VIII. Issues Considered but Eliminated from Further Analysis

Eight issues that were either brought up by the IDT or by the public through the scoping process that were considered but determined outside the scope of this environmental assessment are listed below with an explanation as to why they were determined to be outside the scope.

1. *Cave protection and creek use: Caverns/caves/sinkholes are located within the proposed withdrawal area. Washes have a potential for breaking into caverns/caves/sinkholes, and there may be a loss of drainage from washes because of this karst topography. Open pockets may be created from use. Continuous misuse of the resource may cause washes to break into caves/caverns/sinkholes.*

This issue was brought forth by the IDT. There were no responses from the public. This issue is outside of the project scope because the Forest Service is not proposing to do anything outside of the withdrawal, and there are no restrictions planned for recreational entry and creek use, though it may be addressed in a future management plan.

2. *Cave protection in general: How do we reduce impacts to caves? The Organic Administration Act (OAA) and the Federal Caves Resources Protection Act (FCRPA) authorize the protection of cave resources. Caves may contain unique microenvironments and biological, geological and hydrological resources.*

Continuous use and misuse by the public, especially if mining claims prevent public access in popular areas, or because of overuse of the resource in one area causes collectors to find new areas, may cause caves to be impacted more than they are now because they will become known to the general public. Unique microenvironments, biological, geological, and hydrological resources may be destroyed.

This issue was brought forth by the IDT. There were no responses from the public. This issue is outside of the project scope because the Forest Service is not proposing to do anything outside of the withdrawal, and there are no restrictions planned for recreational entry and cave use, unless it is specifically outlined in the OAA and the FCRPA, though it may be addressed in a future management plan. Any caves that may be found on a mining claim can be adequately protected within the Plan of Operations.

3. *The Little Green Valley livestock allotment is located within the proposed withdrawal area. The frequency of livestock fence maintenance and the accessibility to water and grazing areas by livestock may become an issue because there is a potential for collectors to cut fences, disturb grazing areas or restrict water access by camping by livestock tanks. The fencing off of certain collection areas from cattle grazing may also be an issue, if such a need ever comes up. A decision not to withdraw could have an affect on grazing with more mining affecting more ground cover.*

This issue was brought forth by the IDT. One respondent was concerned about the cattle management practices in the area and how they would be affected by the withdrawal, especially if cattle were fenced off of the area. The grazing allotment permittee did not respond. This issue is outside the scope of the EA because a withdrawal has no effect on limiting grazing in any manner, since the limitation of access to feed is infinitesimally small.

4. *The process of removing large amounts of soil from the ground, either by mining operations or from uncontrolled digging for quartz crystals in an upland environment or in drainages can cause erosion and decreases the quality of water in creeks and may impact nearby springs (such as Gillian and Wildcat Springs).*

This issue was brought forth by the IDT. Four respondents were very concerned about current and possible future uncontrolled activities that may affect soil erosion. Several called for management practices that would restrict the use of the area by allowing only surface collection and no digging in streambeds. This issue is outside the scope of the withdrawal because a withdrawal would have no effect on current erosion problems, since it is only an administrative action, but it could be addressed if there was a future management plan revision.

5. *Will restrictions and fees be implemented within the proposed withdrawal area?*

This issue was brought forth by the public. Four respondents in favor of the withdrawal and one respondent that opposes the withdrawal brought up the topic of fees and how they would affect crystal collectors. Two respondents indicated that a permit with a small fee would help reduce the impacts to the withdrawal area by a) helping pay for signs and patrols and b) encourage public education about the acceptable land use practices in the withdrawal area, since there would be more control over the numbers of people that would visit the withdrawal area. Two respondents would prefer that there is a minimum of government regulation in the area. The respondent that opposes the withdrawal argues that there is no reason to manage the withdrawal area now, since it has never been managed in the past, and that, "Currently, there is no fee for collecting. With the implementation of this withdrawal, additional time will be required to process collecting permits and subsequent policing and enforcement...There are no fees now so why implement a program that will ultimately require fees?" One respondent in favor of the withdrawal argued that with increased use on the Diamond Rim area, there would be increased trash accumulation that would need cleanup. This issue is outside the scope of the EA

for right now. Any consideration for use restrictions or possible use fees could be a function of a management plan revision and not a function of this EA.

6. *No fires.*

This issue was brought forth by the public. One respondent was concerned about uncontrolled campfires in the area. A second respondent's intent about the restriction of fire was unclear, stating only "no fires". While this issue is a concern with all of the recreational activity that occurs in the area, it is outside the scope of decision on this withdrawal.

7. *NAGPRA issues: If data recovery at prehistoric or historic Native American sites had to be conducted and human remains were encountered, how would they be treated?*

This issue was brought forth by the public. At least two tribes are concerned about the treatment and disposition of human remains, should they be encountered. While the treatment and disposition of human remains is a valid concern, and while the Native American Graves Protection and Repatriation Act was passed to assist tribes in the repatriation of exposed human remains, sacred objects, and objects of cultural patrimony, the withdrawal, as an administrative action would not have any affect on NAGPRA. This issue is therefore outside the scope of the project and would need to be further studied through tribal consultation if a management plan is developed.

8. *The withdrawal should be expanded to protect scenic values.*

This issue was brought forth by the public. At least one of the respondents to the scoping letter commented that the withdrawal area should include more acreage than is within the current segregation because of the scenic beauty of the area and because of the large quantity of quartz crystals that can be found as outside the proposed withdrawal area. This issue is outside the scope of the project because no areas outside the current segregation will be considered.

IX. Further NEPA Analysis Needed

This EA will guide recommendation to the Bureau of Land Management for withdrawal. Any future project proposals for the development of the management plan may be tiered to this EA (40 CFR 1508.28). Tiering means that, if needed, future environmental documents for those projects will focus on site specific issues unique to the project.

The IDT and members of the public presented several relevant concerns about the management area, and that if there is a withdrawal there should be further analysis in conjunction with

a proposed management plan. Any future management plan will conform with the National Environmental Policy Act (NEPA).

## CHAPTER 2 - ALTERNATIVES

### I. Alternative Development

During the initial meeting of the Diamond Rim Recreational Mineral Collection Withdrawal Area Interdisciplinary Team (IDT) on September 25, 1998 there were five alternatives generated that were based upon the twelve issues that were identified on that same day. Alternatives A through D were identified by the IDT. Three additional alternatives (E through G) were identified through the public scoping process. All derived alternatives are listed in Section 1 below.

#### 1. List of Alternatives

- A. This alternative is the no action alternative as required by the National Environmental Policy Act regulations. Selection of this alternative would mean the proposed withdrawal would not be considered at this time. A no action alternative leaves the area open for location and entry under the United States mining laws to be administered by the Forest Service under the 36 CFR 228 regulations.
- B. This alternative proposes the withdrawal of 7,040 acres of land from location and entry under the United States mining laws as identified in the temporary segregation and subject to existing rights. All other activities will continue to be allowed.
- C. This alternative proposes the withdrawal area from location and entry under the United States mining laws to cover the whole geological unit in the vicinity of the current segregation where quartz crystals could occur and is larger than the 7,040 acres of land currently segregated. All other activities will continue to be allowed.
- D. This alternative proposes the withdrawal of less than 7,040 acres of land from location and entry under the United States mining laws. Only areas that have historically been popular public recreational mineral collecting areas are included with the withdrawal, making the withdrawal area smaller than the segregation boundary. All other activities will continue to be allowed.
- E. This alternative proposes to restrict the Diamond Rim area from location and entry under the United States mining laws, recreational crystal collecting, recreationists, and fire, in order to preserve it for future generations.
- F. This alternative proposes to create a new wilderness area within the current segregation. All motorized vehicle activity would be restricted.
- G. This alternative proposes to keep the Diamond Rim open only for crystal collecting and other recreational uses.

## 2. Alternatives Dropped From Detail Study

Seven alternatives were considered by the interdisciplinary team as the analysis process progressed. Four of the alternatives were dropped from detail study for the reasons described below:

- C. This alternative was developed by the IDT and modified to be based off Tribal and other concerns for extension of the withdrawal through the scoping process. It proposes the area to be withdrawn from location and entry under the United States mining laws to cover the area located within the current segregation, plus the rest of the geological unit in the vicinity of the current segregation where quartz crystals could occur, and is larger than the 7,040 acres of land proposed to be withdrawn from mineral entry for locatable minerals. All other activities will continue to be allowed. This alternative was dropped because the geological unit where the quartz crystals could be found is extensive and withdrawing the whole area would not meet the objectives listed in Chapter 1.
- E. This alternative was proposed as a result of the public scoping process. This alternative was proposed to restrict the Diamond Rim area from mineral entry, recreational crystal collecting, recreationists, and fire, in order to preserve it for future generations. This alternative was dropped because it is contrary to the purposes and policy of the use of National Forest lands for multiple use.
- F. This alternative was proposed as a result of the public scoping process. This alternative would create a new wilderness area within the current segregation. All motorized vehicle activity would be restricted. This alternative was dropped because the area does not meet the criterion for designation as Wilderness
- G. This alternative was proposed as a result of the public scoping process. This alternative would keep the Diamond Rim open only for crystal collecting and other recreational uses. This alternative was dropped because it conflicts with the Tonto National Forest Land Management Plan (TLMP) for the area, which calls for multiple use.

## 3. Alternatives Considered in Detail

Three out of seven alternatives assessed were kept for assessment. These alternatives are:

- A. This alternative is the no action alternative as required by the National Environmental Policy Act regulations. Selection of this alternative would mean the proposed withdrawal would not be considered at this time. A no action alternative leaves the area open for location and entry under the United States mining laws to be administered by the Forest Service under the 36 CFR 228 regulations.

- B. This alternative proposes the withdrawal of 7,040 acres of land from location and entry under the United States mining laws as identified in the temporary segregation and subject to existing rights. All other activities will continue to be allowed.
- D. This alternative proposes the withdrawal of less than 7,040 acres of land from location and entry under the United States mining laws. Only areas that have historically been popular public recreational mineral collecting areas are included with the withdrawal, making the withdrawal area smaller than the segregation boundary. All other activities will continue to be allowed.

## II. Locations of Alternatives B and D

### 1. Alternative B

The segregated area for the proposed Diamond Rim Recreational Mineral Collection Area (Alternative B) is located in Sections 1, 2, 3, 10, 11, 12, 13, 14, 15 (NW 1/4), 23 (N1/2, N1/2), and 24 (N1/2) of Township 11 N., Range 11 E., and Sections 34, 35 (W1/2, SE1/4), and 36 (SW1/4) of Township 11.5 N., Range 11 E (Figure 1).

### 2. Alternative D

Alternative D is located within the current segregated area but contains less acreage (approximately 4,640 acres, a reduction of about 2,400 acres, see Figure 1). The eastern and western boundaries are the same as in Alternative B. The northern boundary is located south of the Diamond Point Summerhomes and part of the southern boundary is moved to the north a few hundred feet. The geology in the northern portion of the proposed withdrawal is comprised of younger rock and recent surveys on the north have not indicated surface occurrence of the crystals. Alternative D is located in Sections 1 (N1/2), 2 (N1/2), 3 (N1/2) 10, 11, 12, 13, 14, 15 (NE 1/4), 23 (N1/2, N1/2), and 24 (N1/2, N1/2) of Township 11 N., Range 11 E.

## III. Objectives Common to Alternatives

Objectives to keep the Diamond Rim Recreational Mineral Collection Area open for all other current and future activities such as crystal collecting, camping, grazing, timber harvesting, non-locatable mineral extraction, and camping can be met by both Alternatives B and D. Alternative A may not meet that objective.

Objectives to consider developing a management plan to ensure public access and use without resource damage can be met by both Alternatives B and D. Alternative A may not meet that objective.

#### IV. Comparison of Alternatives

A description of each alternative is listed above in Section 3. The alternatives include a "no action" alternative and two action alternatives that respond to the issues described in Chapter 1. A map is provided that depicts Alternatives B and D with respect to the proposed withdrawal area (see Figure 1). Refer to Chapter 1 for a description of the key issues.

##### 1. Alternative A (No Action)

**Issue 1: Increasing Collections.** Rockhouser guides (such as Blair 1992) already show the segregated area as being a good collection area, and word of mouth has also contributed to the increased use in that area. A decision not to withdraw may mean that additional claims will be filed and conflicts arising between mine claimants and collectors may increase.

**Issue 2: Public Access.** A decision not to withdraw would mean that the area will remain opened for location and entry under U.S. mining laws. People may still have access but will be subject to sufferance of mining claimants. A decision not to withdraw would also mean that commercial interests can make claims to the crystals which have been identified by the Hopi, Yavapai, and Western Apache and Zuni as minerals that play a significant role in their religion and culture. The tribes see commercial development as limiting their access to a traditional resource used in the practice of their religion.

**Issue 3: TES.** The MSO recovery plan recommends that within PACs, managers should assess the presence and intensity of recreational activities, and make appropriate decisions regarding the possible need for management action. Such actions could include spatial or temporal restrictions, or even area closures. In general, existing levels of recreational mineral collection are acceptable within both the PAC and the PFA. Under existing management, mineral activity has the potential for conflicts, particularly within the PAC and PFA. These conflicts include the potential for direct disturbance, especially during the breeding season, and habitat modification. Under current management, these impacts can be mitigated for mining activity by including timing restrictions and other measures in the plans of operation.

**Issue 4: Heritage Resources/TCPs, TUAs.** The locations of heritage resources (archeological sites, TCPs, and other significant places associated with traditional Tribal religious practices) are protected under existing heritage resource laws. Only 1/3 of the proposed withdrawal area has been surveyed and heritage resource sites have been found. More sites are probably present. Heritage resources will not be inventoried and managed unless there are planned ground disturbing activities, such as the opening of a new mining operation. In such situations as the filing of new claims and the opening of new ground, it would mean that sites would need to be inventoried and sites, TCPs and TUAs would have to be avoided or mitigated. If properties are determined eligible for the National Register of Historic Places, then the effect that the mining project may have on them must be evaluated as well and any adverse effects or other impacts must be avoided or mitigated by data recovery or other means.

A decision not to withdraw may have direct and/or indirect impacts on heritage resource sites, potential Traditional Cultural Properties (TCPs), Traditional Use Areas (TUAs) or areas significant to tribal history, culture, or religion. Miners can "prospect" for crystals and disturb the ground without heritage resource survey. Such ground disturbance could damage heritage resource sites and TUAs by destroying site context and by destroying various plants that may have cultural or economic value to tribes. In addition, crystals will be diminished, potentially interfering with tribal practices. Direct impacts from proposed mining activities that will impact heritage resources have to be mitigated through Section 106 of the National Historic Preservation Act. Historic and prehistoric sites and features within mining claims must also be evaluated and/or monitored, depending on how the area is to be managed. Known sites, TCPs, and TUAs may require monitoring. Indirect impacts from damages done from crystal collectors and/or miners digging in sites will be under the jurisdiction of the Archeological Resources Protection Act (ARPA).

**Issue 5: Depletion.** The locations of the Arizona Diamonds have not been totally identified. The matrix in which the crystals are found is located in a narrow bed of limestone that is either on or close to the ground surface. Since a decision not to withdraw would allow additional claims in the area, the destruction of the geological matrix and extraction of crystals could increase. A decision not to withdraw may therefore have an adverse impact on the geological matrix and could result in the depletion of the geological resource within the proposed withdrawal area, which is the most popular area for crystal collectors to look for the quartz crystals. Once crystals are extracted from that bed of limestone, natural erosional processes would cease to uncover crystals in that area.

**Issue 6: Economy.** Withdrawal or a decision not to withdraw would have little or no effect in either enhancing the stability of the recreation/tourism sector of the local economy, or enhancing the existing mining/equipment services sector. The collection of quartz crystals by recreationists or the extraction of quartz crystals by miners is insignificant to the local economy because of the small scale of the current and expected mining operations and recreational collecting.

**Issue 7: Visual Quality.** The existing mineral exploration within the only claim that is currently within the proposed withdrawal area indicates that there is already a potential for visual impacts along FR 65, Broad Draw, and in the most popular areas for crystal collecting. Because the current claim is encouraging others to dig just outside its boundaries, visual impacts may result from future miners and recreational collectors "prospecting" in concentrated areas in the general vicinity of the current and future claims. Visual impacts can be mitigated through a mine claimants' operating plan provisions, but visual impacts at Diamond Rim could increase. Large holes and busted up rock along FR 65 or in other highly visible areas could increase.

**Issue 8: NAGPRA.** Human remains, sacred objects, or objects of cultural patrimony could be encountered at a site within a mining claim that is subject to mitigation under Section 106 of the National Historic Preservation Act and is destroyed by mitigation. Human remains, sacred objects, or objects of cultural patrimony could also be inadvertently discovered and may need to

be removed in order to save them from being looted or from being destroyed. Affects on NAG-PRA will not change no matter which alternative is chosen; it is not a deciding factor in choosing an alternative because it is the same no matter which alternative is chosen. If human remains, sacred objects, or objects of cultural patrimony are encountered by recreationists at previously inventoried sites, they are protected under the Archeological Resources Protection Act (ARPA). In either situation, the Tribes will be consulted as required by law.

**Issue 9: Regulated Versus Unregulated Environmental Impacts.** The Surface Management Regulations can protect the natural area to the extent practicable. Mining operations can be controlled by surface mining regulations such as 36 CFR 228 and disturbance can be mitigated. Recreational crystal collection would continue, restricted to unclaimed areas. Impacts by recreational mineral collectors can be reduced to a minimum by a management plan and by public education.

## 2. Alternative B (Withdrawal of the Area Currently Under Segregation)

Alternative B consists of the segregated area for the proposed Diamond Rim Recreational Mineral Collection Area, and consists of 7,040 acres. The withdrawal could be for 20-50 years. It is located in Sections 1, 2, 3, 10, 11, 12, 13, 14, 15 (NW 1/4), 23 (N1/2, N1/2), and 24 (N1/2) of Township 11 N., Range 11 E., and Sections 34, 35 (W1/2, SE1/4), and 36 (SW1/4) of Township 11.5 N., Range 11 E (Figure 1).

**Issue 1: Increasing Collections.** Due to publicity about the Diamond Rim, increased use by collectors will continue whether or not there is a withdrawal. Conflicts arising between claimants and collectors would be limited to existing valid rights under the U.S. mining laws.

**Issue 2: Public Access.** Subject to valid existing rights, crystal collectors and others will be able to access the complete withdrawal area. A withdrawal would also prevent additional commercial interests from claiming crystals and allow tribal members unrestricted access to these objects outside the existing claim.

**Issue 3: TES.** Withdrawal of claims within the analysis area would reduce the potential for conflicts with mineral extraction. As such, the proposed withdrawal would result in minimized impacts to the Mexican spotted owl and northern goshawk. In the same manner, the proposed withdrawal would minimize impacts to any other TES species that may occur there. Any future increases in recreational mineral collection that might occur in PACs or PFAs may require management action to avoid conflicts. The Recovery Plan recommends that no increases in recreational use occur in PACs.

**Issue 4: Heritage Resources/TCPs, TUAs.** As an administrative action, the proposed withdrawal will not have an effect on heritage resources. Known sites, TCPs, TUAs, and areas significant to tribal history, culture, or religion may require monitoring, especially in areas of high

collector use. Historic and prehistoric sites and features within the withdrawal area must also be evaluated and/or monitored depending on how the withdrawal area is to be managed.

The locations of heritage resources (archeological sites, Traditional Cultural Properties, and other significant places associated with traditional Tribal religious practices) are protected by federal law. Casual collecting may create a potential for unregulated, unmonitored impacts on heritage resources and a potential for resource damage through indiscriminate digging. Heritage resources will not be inventoried and managed unless there are planned ground disturbing activities, such as designating specific areas for digging up crystals. In such a situation, the National Historic Preservation Act of 1966 requires the identification, evaluation, and consideration of heritage resources in planning and mitigation measures such as avoidance, data recovery, or monitoring. If properties are found and are determined eligible for the National Register of Historic Places, then the effect that the project may have on them must be evaluated as well and any adverse effects or other impacts must be avoided or mitigated by data recovery or other means.

**Issue 5: Depletion.** A withdrawal could result in the conservation of the geological resource for future generations because their removal rate will be greatly reduced. The matrix in which the crystals are found is located in a narrow bed of limestone that is either on or close to the ground surface. Since a withdrawal would not allow additional claims in the area, activity would be limited to small-scale digging and surface collection rather than extensive digging and mineral extraction by use of heavy equipment.

**Issue 6: Economy.** Withdrawal or a decision not to withdraw would have little or no effect in either enhancing the stability of the recreation/tourism sector of the local economy, or enhancing the existing mining/equipment services sector. The collection of quartz crystals by recreationists or the extraction of quartz crystals by miners is extremely insignificant to the local economy because of the small scale of the current and expected mining operations and recreational collecting.

**Issue 7: Visual Quality.** The increased frequency of digging by collectors and mineral exploration within the only claim that is currently located within the proposed withdrawal area indicates that there is already a potential for visual impacts along FR 65 and in the most popular areas for crystal collecting. The extent to which collectors impact visual quality could be reduced with the future implementation of a management plan for the withdrawal area.

**Issue 8: NAGPRA.** Human remains, sacred objects, or objects of cultural patrimony could be accidentally discovered by crystal collectors. Human remains, sacred objects, or objects of cultural patrimony could be displaced if they have to be removed in order to protect them from further disturbance. Affects on NAGPRA will not change no matter which alternative is chosen; it is not a deciding factor in choosing an alternative because it is the same no matter which alternative is chosen. If human remains, sacred objects, or objects of cultural patrimony are encountered by recreationists at previously inventoried sites, they are protected under the

Archeological Resources Protection Act (ARPA). If human remains, sacred objects, or objects of cultural patrimony have to be displaced, the Tribes will be consulted, as required by law.

**Issue 9: Regulated Versus Unregulated Environmental Impacts.** The Surface Management Regulations can protect the natural area to the extent practicable. Mining operations can be controlled by surface mining regulations such as 36 CFR 228 and disturbance can be mitigated. Recreational crystal collection could occur, subject to valid existing rights. Future management direction could be implemented to mitigate any impacts observed by crystal collection activity.

### 3. Alternative D (Withdrawal of a Smaller Area Than Currently Under Segregation)

Alternative D is exactly the same as Alternative B, but the acreage is smaller. Alternative D is located within the current segregated area but contains less acreage (approximately 4,640 acres, a reduction of about 2,400 acres, see Figure 1). Because this alternative is for the withdrawal of land that is less than 5,000 acres, it can only last up to 20 years. The eastern and western boundaries are the same as in Alternative B. The northern boundary is located south of the Diamond Point Summerhomes and part of the southern boundary is moved to the north a few hundred feet. The geology in the northern portion of the proposed withdrawal is comprised of younger rock and recent surveys on the north have not indicated surface occurrence of the crystals.

**Issue 1: Increasing Collections.** Due to publicity about the Diamond Rim, increased use by collectors will continue whether or not there is a withdrawal and whether or not the withdrawal location is outlined on a map that will be viewed by the public. Withdrawal of a smaller area currently under segregation will mean that conflicts arising between claimants and collectors within that smaller area would be minimal, but conflicts between different groups of collectors may increase within the smaller proposed withdrawal area.

**Issue 2: Public Access.** Subject to valid existing rights, collectors and others have access to a smaller withdrawal area which covers the areas historically popular for crystal collecting. A withdrawal would also prevent additional commercial interests from claiming crystals in this smaller area and allow tribal members unrestricted access to traditional use areas outside the existing claim.

**Issue 3: TES.** Withdrawal of claims within the analysis area would reduce the potential for conflicts with mineral extraction. As such, the proposed withdrawal would result in minimized impacts to the Mexican spotted owl and northern goshawk. In the same manner, the proposed withdrawal would minimize impacts to any other TES species that may occur there. Any future increases in recreational mineral collection that might occur in PACs or PFAs may require management action to avoid conflicts. The Recovery Plan recommends that no increases in recreational use occur in PACs.

**Issue 4: Heritage Resources/TCPs, TUAs.** As an administrative action, the proposed withdrawal will not have an effect on heritage resources within the smaller area; however, the portion of the segregated area that is outside of the withdrawal will not be closed to mineral entry. If a future management plan is developed, the sites may be managed through Section 106 of the National Historic Preservation Act. Known sites, TCPs, and TUAs, and or areas significant to tribal history, culture, or religion may require monitoring, especially in areas of high collector use. Historic and prehistoric sites and features within the withdrawal area must also be evaluated and/or monitored, depending on how the withdrawal area is to be managed.

The locations of heritage resources (archeological sites, Traditional Cultural Properties, and other significant places associated with traditional Tribal religious practices) are protected by federal law. Casual collecting may create a potential for unregulated, unmonitored impacts on heritage resources and a potential for heavy resource damage through indiscriminate digging. Heritage resources will not be inventoried and managed unless there are planned ground disturbing activities, such as designating specific areas for digging up crystals. In such a situation, the National Historic Preservation Act of 1966 requires the identification, evaluation, and consideration of heritage resources in planning and mitigation measures such as avoidance, data recovery, or monitoring. If properties are found and are determined eligible for the National Register of Historic Places, then the effect that the project may have on them must be evaluated as well and any adverse effects or other impacts must be avoided or mitigated by data recovery or other means.

**Issue 5: Depletion.** A withdrawal could result in the conservation of the geological resource for future generations because their removal rate will be greatly reduced. The matrix in which the crystals are found is located in a narrow bed of limestone that is either on or close to the ground surface. Since a withdrawal would not allow additional claims in the area, activity would be limited to small-scale digging and surface collection rather than extensive digging and mineral extraction by use of heavy equipment.

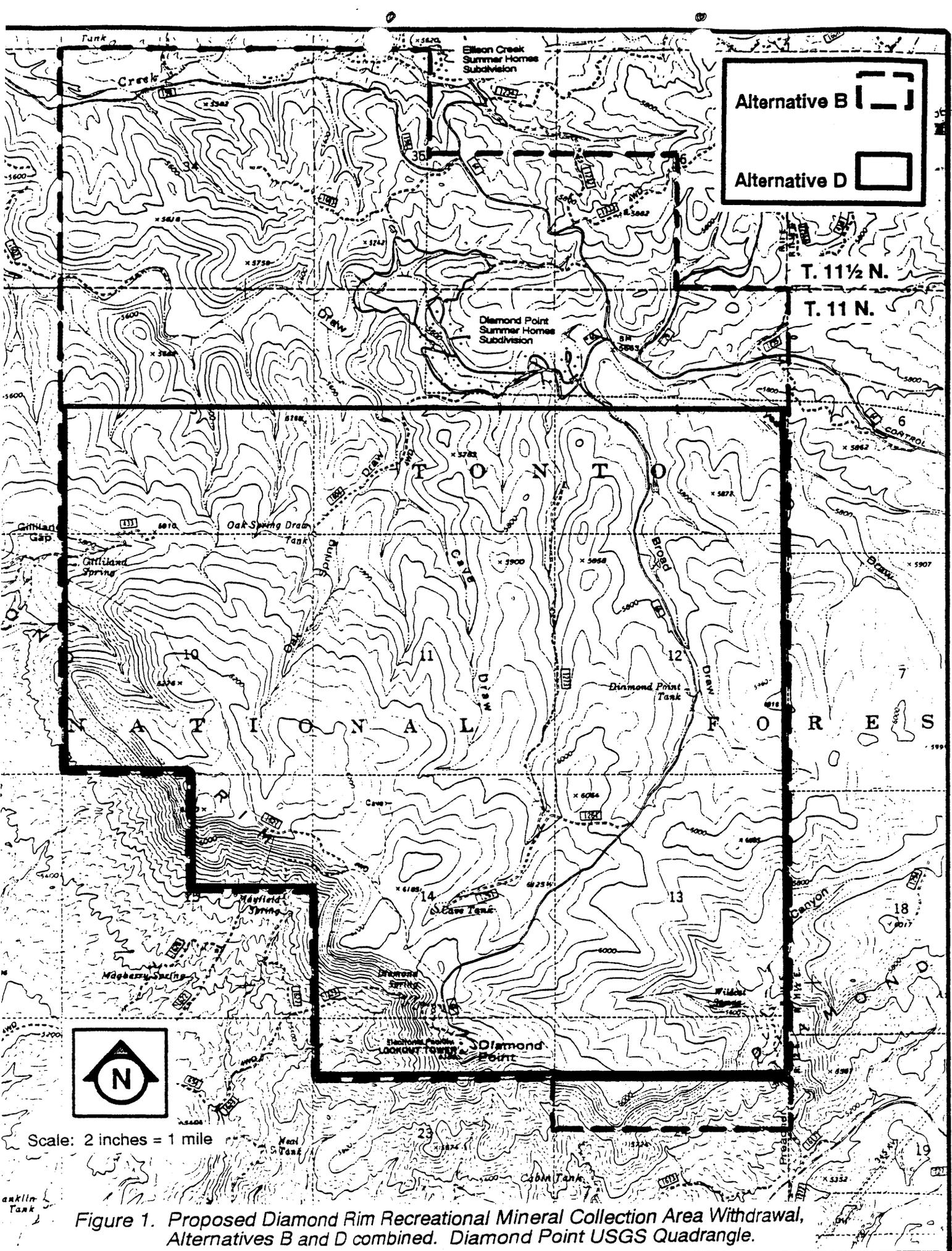
**Issue 6: Economy.** Withdrawal or a decision not to withdraw would have little or no effect in either enhancing the stability of the recreation/tourism sector of the local economy, or enhancing the existing mining/equipment services sector. The collection of quartz crystals by recreationists or the extraction of quartz crystals by miners is extremely insignificant to the local economy because of the small scale of the current and expected mining operations and recreational collecting.

**Issue 7: Visual Quality.** The increased frequency of digging by collectors and mineral exploration within the only claim that is currently located within the proposed withdrawal area indicates that there is already a potential for visual impacts along FR 65 and in the most popular areas for crystal collecting. The extent to which collectors impact visual quality could be reduced with the future implementation of a management plan for the withdrawal area.

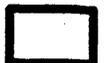
**Issue 8: NAGPRA.** Human remains, sacred objects, or objects of cultural patrimony could be encountered at a site that had to undergo data recovery within a mining claim. Human

remains, sacred objects, or objects of cultural patrimony could be displaced if they are encountered either at a site within a mining claim that is subject to mitigation under Section 106 of the National Historic Preservation Act and is destroyed by mitigation, or by inadvertent discovery by crystal collectors. Affects on NAGPRA will not change no matter which alternative is chosen; it is not a deciding factor in choosing an alternative because it is the same no matter which alternative is chosen. If human remains, sacred objects, or objects of cultural patrimony are encountered by recreationists at previously inventoried sites, they are protected under the Archeological Resources Protection Act (ARPA). In either situation, the Tribes will be consulted as required by law.

**Issue 9: Regulated Versus Unregulated Environmental Impacts.** The Surface Management Regulations can protect the natural area to the extent practicable. Mining operations can be controlled by surface mining regulations such as 36 CFR 228 and disturbance can be mitigated. Recreational crystal collection could occur, subject to valid existing rights. Future management direction could be implemented to mitigate any impacts observed by crystal collection activity.



Alternative B 

Alternative D 

T. 11 1/2 N.

T. 11 N.



Scale: 2 inches = 1 mile

Figure 1. Proposed Diamond Rim Recreational Mineral Collection Area Withdrawal, Alternatives B and D combined. Diamond Point USGS Quadrangle.

## CHAPTER 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### I. Introduction

This Chapter describes the present condition (i.e., affected environment) within the project area and the changes that can be expected either from implementing the action alternatives or taking no action at this time. The no action alternative sets the environmental base line for comparing effects of the action alternatives.

The key issues (see Chapter 1) define the scope of environmental concern for this project. The environmental effects (changes from present base line condition) that are described in this chapter reflect the identified major issues. Issue numbers are shown in brackets after each subheading to cross reference issues with the impact discussions that follow.

### II. Vegetation

#### 1. Affected Environment

The proposed withdrawal area is located within the transition life zone below the Mogollon Rim. The northern portion of the withdrawal area is a Ponderosa pine/white oak woodland mixture transitioning into a pine-juniper-chaparral scrub vegetation community on south-facing slopes, with Ponderosa pine (*Pinus ponderosa*) being the predominant species. Other species in this area include Arizona white oak (*Quercus arizonica*) in dry areas, alligator juniper (*Juniperus deppeana*), plains love grass (*Eriogonum intermedia*), and a mixture of pine and chaparral scrub on south-facing slopes. Ponderosa pines are found mainly in drainages in this part of the withdrawal area. Other species in the southern portion of the withdrawal area include Arizona white oak which is the predominant species, gambel oak (*Quercus gambelii*), Parry's agave (*Agave parryi*), Ceanothus (*Ceanothus* sp.), and manzanita (*Arctostaphylos* sp.), with Ponderosa pine/gambel oak present in the southeastern portion of the withdrawal area. Alligator juniper is a common co-dominant throughout most of the area and makes up a large percentage of the basal area in both vegetation types. Chaparral species are found throughout the area in the understory and on south-facing slopes. Several oak, agave, juniper, and pine species are important plants for traditional Tribal use.

#### 2. Environmental Consequences

Alternatives A, B, and D will have no effect on the existing vegetative mix. Focused attention on the withdrawal area [1] may cause some removal of undergrowth, including grasses, forbs, shrubs, and seedlings and saplings in order to get to crystals that are subsurface. Trees may be undercut if no management plan is developed. Removal and/or damage to undergrowth will not have an effect on TES species and other wildlife [3]. Alternative A may affect visual quality objectives (VQOs) [7] by a continuation of vegetation removal/tree undercutting by mining, but

Alternatives B and D may not have an effect, if a management plan is developed. Alternative A may affect traditional plant gathering areas if some species that are needed for traditional purposes are removed [4] but may not have an effect if a management plan is developed.

### III. Geology

#### 1. Affected Environment

The proposed withdrawal area is located below the Mogollon Rim in the Payson Basin Physiographic Area of the Transition Geologic Province of Arizona. The geology of the withdrawal area consists of Paleozoic units comprised of mainly the Martin Limestone, Redwall Limestone, and Tapeats Sandstone Formations overlying Payson Granite. The quartz crystals that are the focus of this proposed withdrawal are found within the Martin Formation. The quartz crystals were formed by several complex processes within pockets of the limestone and seem to have formed along a fault line. The double-terminated crystals found on the surface and in the soil located within the Diamond Rim area are the result of erosion of the limestone matrix. The geological unit in which the quartz crystals can be found is located both within and outside of the proposed withdrawal area, but to what extent outside the general vicinity of the proposed withdrawal area is unknown. Within the proposed withdrawal, the crystals have been found in Sections 10, 11, 12, 13, 14, 22, 23, and 24 of Township 11 N., Range 11 E. and Section 7 of Township 11 N., Range 11.5 E. Outside the proposed withdrawal area, surface occurrence of quartz crystals have been found in Sections 3, 4, 9, 10, 15, 16, 21, 22, 23, and 24 of Township 11 N., Range 11 E. In addition, quartz crystals are reportedly found on the Little Diamond Rim located north of Payson.

#### 2. Environmental Consequences

**Alternative A.** Rockhouser guides (such as Blair 1992) identify the withdrawal area as being a good collection area, and word of mouth have contributed to the popularity of crystal collecting in the general area [1]. A decision not to withdraw may mean that additional claims could be filed and potential conflicts arising between mine claimants and collectors could increase throughout the area.

The matrix in which the crystals are found is located in a narrow bed of limestone that is either on or close to the ground surface. Because the true extent of the quartz crystals located within the limestone is unknown, a decision not to withdraw could eventually result in the accelerated depletion of the geological resource [5]. Since a decision not to withdraw could allow additional claims in the proposed withdrawal area, the destruction of the geological matrix and extraction of crystals could increase. Once crystals are extracted from that bed of limestone, natural erosional processes would cease to uncover crystals from that area.

**Alternative B.** A withdrawal could result in the conservation of the geological resource for future generations in that area because their removal rate will be greatly reduced. Since a

withdrawal would not allow additional claims in the area, activity would be limited to small-scale digging and surface collecting rather than extensive digging and mineral extraction with heavy equipment.

**Alternative D.** The affected environment will be the same as Alternative B [1, 5] except the total acreage will be reduced, since it only encompasses easily accessible areas that are popular with crystal collectors.

#### IV. Soil

##### 1. Affected Environment

Soils in the proposed withdrawal area are mostly shallow to moderately deep, and are derived mainly from limestone and some sandstone that outcrops in the area. Soil condition varies depending upon the amount of vegetation present, the presence of roads, and the amount of disturbance caused by recreationists. Many of the soils contain clay in the subsoil. Once the clay subsoil is exposed, it tends to erode easily and is difficult to revegetate.

##### 2. Environmental Consequences

The excavation for quartz crystals during the last decade has resulted in some disturbance, especially along drainages and in the vicinity of the current claim. Although the recent interest in mining has increased, soil erosion can be mitigated through a Plan of Operations reclamation requirement. Erosion is not considered to be a significant issue for any of the three alternatives.

#### V. Hydrology

##### 1. Affected Environment

The Diamond Rim Recreational Mineral Collection Withdrawal Area occupies approximately 7,040 acres in the northern portion of the Tonto National Forest. Most of the area lies within the East Verde River fifth code watershed, with a small portion in the southeast corner located in the Middle Tonto Creek fifth code watershed. Annual precipitation in the analysis area ranges from about 24-35 inches and averages about 30 inches.

The major tributary to the East Verde River in the analysis area is Ellison Creek. Ellison Creek is an intermittent stream that originates on the Mogollon Rim and flows approximately 11 miles to its confluence with the East Verde River. The creek is used heavily for recreation and flows through Ellison Creek Summer Homes in the north part of the analysis area.

Water quality standards for Ellison Creek and its tributaries are intended to protect the designated uses of cold water fishery (A&Wc), full body contact recreation (FBC), fish consumption (FC), and agricultural livestock watering (AgL). Water quality assessments are conducted by the Arizona Department of Environmental Quality (ADEQ) and reported every two years. The 1998 report indicates Ellison Creek is in full support of designated uses.

Pyeatt Draw is an intermittent stream that flows east through the northern part of the analysis area and into Ellison Creek. Diamond Point Summer Homes are located on Pyeatt Draw. Several north flowing ephemeral drainages and springs are tributary to Pyeatt Draw. The drainages flow only in response to precipitation. Some of the drainages are being impacted by recreationists digging for crystals in the stream bed and banks. This impairs the function of the stream and causes erosion during storm events. Roads located in some of the drainages are also a source of sediment to the streams. The existing mining operation is located near Broad Draw, an ephemeral tributary to Pyeatt Draw. Impacts to the drainage have been minimal due to implementation of mitigation measures required under the Forest Service Surface Management regulations.

Preacher Canyon, an intermittent tributary to Green Valley Creek, lies in the southeastern corner of the analysis area within the Middle Tonto Creek watershed. The National Wetlands Inventory map (USDI 1991-1995) indicates some pockets of mixed-broadleaf riparian vegetation along this reach of Preacher Canyon.

## 2. Environmental Consequences

**Alternative A.** Under the no action alternative, commercial miners could continue to file claims and extract crystals from the area. This could include the removal of large amounts of soil and some vegetation with heavy equipment and could possibly occur in the drainages. These activities could impair stream function and cause an increase in sedimentation, though these environmental consequences would be mitigated by best management practices (BMPs) and other mitigation measures as required under the Forest Service Surface Management regulations.

Recreational mining would also continue. Activities range from picking up crystals on the surface to digging in the bed and banks of drainages, which could impair stream function.

Both mining operations and recreational mining could involve the use of roads located in drainages, causing increased sedimentation in the streams.

**Alternative B.** Under this alternative, location and entry under the United States mining laws would be prohibited on approximately 7,040 acres. This would preclude the possibility of stream channel impairment by these operations.

Recreational mining and associated vehicle use would continue as described in Alternative A. If the withdrawal increases or concentrates this activity relative to historical patterns, increased

impacts from digging in the drainages and use of the roads would be expected, but can be minimized by public education.

**Alternative D.** Under this alternative, location and entry under the United States mining laws would be prohibited on approximately 4,640 acres. This would preclude the possibility of stream channel impairment by these operations, but in a smaller area than Alternative B. This withdrawal area would not include Ellison Creek or Pyeatt Draw, therefore location and entry could be allowed in these drainages and the effects would be the same as those described in Alternative A.

Recreational mining and associated vehicle use would continue as described in Alternative A. If the withdrawal increases or concentrates this activity relative to historical patterns, increased impacts from digging in the drainages and use of the roads would be expected but can be minimized with public education.

## VI. Wildlife

### 1. Affected Environment

Management emphasis for wildlife in Management Area 4D is for creation of wildlife habitat diversity and improvement of wildlife habitat quality. Very specific standards and guidelines have been included by amendment for resource management activities that occur in and around habitat for the Mexican spotted owl and the northern goshawk.

**Nongame Species.** Wildlife species typical of Montane Conifer Forests include mammals such as elk (*Cervus elaphus*), Abert's squirrel (*Sciurus aberti*), and big brown bat (*Eptesicus fuscus*); birds such as the Mexican spotted owl (*Strix occidentalis lucida*), warbling vireo (*Vireo gilvus*), and pygmy nuthatch (*Sitta pygmaea*); and reptiles such as the mountain skink (*Eumeces callicephalus*) and alligator lizard (*Gerrhonotus kingi*). Wildlife species associated with juniper woodlands include bird species such as pinyon jay (*Gymnorhinus cyanocephalus*), gray vireo (*Vireo vicinior*), and gray flycatcher (*Empidonax wrightii*); and mammal species such as pinyon deer mouse (*Peromyscus truei*) and bushy-tailed woodrat (*Neotoma cinerea arizona*). The most common reptile in the pinyon-juniper woodland is the plateau whiptail (*Cnemidophorus velox*). In addition to these species, a larger number of species which typically display a wider range of habitat use are also found in pinyon-juniper woodlands. Among these species are greater roadrunner (*Geococcyx californianus*), gray-breasted jay (*Aphlecoma ultramarina*), bushtit (*Psaltriparus minimus*), dark-eyed junco (*Junco oregonus*), striped plateau lizard (*Sceloporus virgatus*), Great Plains skink (*Eumeces obsoletus*), Rocky Mountain elk (*Cervus elaphus*), and Coues' whitetail (*Odocoileus virginianus couseii*).

Habitat requirements for upland nongame species are currently adequate to maintain acceptable population levels.

**Game Species.** All species typically found in the habitats represented in the proposed withdrawal area and noted in the Strategic Plans for Management of Arizona's Game Species (AGFD 1992) are listed in this section.

<u>Big Game</u>	<u>Small Game</u>	<u>Fur-Bearing/Predatory</u>
Mule Deer	Tree Squirrel	Bobcat
White-tailed Deer	Cottontail Rabbit	Coyote
Elk	Band-tailed Pigeon	Gray Fox
Wild Turkey	Gambel Quail	Skunk
Javelina	Mourning Dove	Ringtail
Black Bear		Raccoon
Mountain Lion		

Specific management objectives for these species are identified in the AGFD Strategic Plan (1992) and the Forest Plan (1985). Evidence of elk, deer, and turkey is common in many portions of the analysis area. Habitat conditions for other species appear to be adequate to maintain stable populations.

**Threatened, Endangered, and Sensitive Species.** The following is a list of threatened, endangered, proposed, and sensitive species (TES) known to occur in the vicinity, or species with habitat that may be present in the proposed withdrawal area.

Federally Listed Species

<u>Common Name</u>	<u>Status</u>
Mexican Spotted Owl	USFWS Threatened

Sensitive Species

Northern Goshawk	FS-sensitive, ST-category
Flammulated Owl	FS-sensitive
Occult Little Brown Bat	FS-sensitive
Western Small-footed Bat	FS-sensitive
Allen's Big-eared Bat	FS-sensitive
Long-eared Bat	FS-sensitive
Pale Townsend's Big-eared Bat	FS-sensitive
Fringed Myotis	FS-sensitive
Cave Myotis	FS-sensitive
Long-legged Myotis	FS-sensitive
Yuma Myotis	FS-sensitive

This list was developed from the personal knowledge of the area by Zone biologists, the Forest fisheries biologist, District records, Region VI of the Arizona Game and Fish Department, and the Arizona Game and Fish Heritage Data Management System. The District biologist also communicated with Arizona Game and Fish, Region VI Habitat Specialist, Unit 22 Wildlife Manager, and the United States Fish and Wildlife Service.

There is no critical habitat for any listed species within the proposed withdrawal area.

As a result of surveys conducted in the area, the only Federally listed species that is known to occur within the analysis area is the Mexican spotted owl (MSO). The only sensitive species that has actually been confirmed within the area is the northern goshawk, although suitable habitat exists for the flammulated owl and a number of sensitive bat species, including both tree and cave roosters. Within the area encompassed by Alternative B, there is an entire MSO Protected Activity Center (PAC) and a small portion of another. Alternative D also contains the entire PAC but does not contain any portion of the other one. Within Alternative B, there is an entire northern goshawk post-fledging family area (PFA) and a portion of another. Alternative D also contains this PFA, and contains a smaller portion of the other one. None of the other TES species listed above have been documented in the analysis area, however suitable habitat does exist and the presence of at least some of them is likely.

## 2. Environmental Consequences

In general, existing levels of recreational mineral collection are acceptable within the PAC(s) and PFA(s). This is partly due to limited access and partly due to the distribution of the sought after minerals. Under any of the alternatives, an increase in the level of recreational mineral collection within MSO PACs or goshawk PFAs could result in a re-assessment of the management situation. The MSO recovery plan recommends that within PACs, recreational activities should be kept at existing levels. An increase should require managers to assess the presence and intensity of recreational activities, and make appropriate decisions regarding the possible need for management action [3]. Such actions could include spatial or temporal restrictions, or even area closures. Aside from recreational mineral collection, there are differences in the potential impacts to TES species depending on which Alternative is selected.

The exclusion of mineral extraction through withdrawal decreases the potential for direct impacts to TES species. Mineral extraction generally involves a higher level of disturbance, both in the form of direct disturbance to species and degradation of habitat. Direct disturbance can be mitigated to a certain extent through timing restrictions which would require cessation of activities during TES breeding seasons. However, habitat degradation or loss resulting from extraction is less easily mitigated. As such, the two action alternatives are generally expected to result in reduced levels of direct disturbance (which may require mitigation) as well as less impact to TES species habitat.

## VII. Air

Air quality in the project area is good, though it can get quite dusty in the vicinity of the Control Road (FR 64) and FR 65 when there is a lot of traffic during dry conditions. Both FR 64 and FR 65 are dirt roads that are regularly maintained by Gila County and people drive both roads in excess of 25 m.p.h. For all of the alternatives, there would be some minor, short-term reduction of air quality due to dust during travel over FRs 64 and 65. Under Alternative A, there would be some additional minor, short-term reduction of air quality from mining activity. Dust will be rapidly dispersed over areas that are not part of any minimum air quality non-attainment area. The increase in traffic resulting from visitors or mining (Alternatives A, B, or D) will not significantly impact air quality.

## VIII. Heritage Resources, TCPs and TUAs

### 1. Affected Environment

The locations of heritage resources (archeological sites, TCPs, and other significant places associated with traditional Tribal religious practices) are not released to the public. Approximately 30% of the proposed withdrawal area has been previously inventoried for heritage resources. Many prehistoric and historic properties have been identified within and adjacent to the proposed withdrawal area and there is a likelihood that more would be found as additional surveys are conducted. The Yavapai-Apache Nation and Hopi, Zuni, Western Apache, and Yavapai-Prescott Tribes place a cultural and religious value on the crystals, and they play a significant role in the Tribes' religion and culture. The withdrawal area and its surrounding environs also served as a TUA for the Tonto Apache and the Yavapai-Prescott Tribes.

Currently, known heritage resource sites have not been impacted by the existing mining claim, but at least one site has been impacted by recreational crystal collection activities within its boundaries. A potential for continual impacts by collectors exists as they increase their efforts to dig for crystals.

### 2. Environmental Consequences

**Alternative A.** Under the No Action alternative, heritage resources, TCPs, and TUAs will not be inventoried and managed unless there are planned ground disturbing activities, such as the opening of a new mining operation. In such a situation, heritage resource surveys are conducted and site inventories are made under Section 106 of the National Historic Preservation Act. If sites are found and are determined eligible for the National Register of Historic Places, then the effect that the mining project may have on them must be evaluated as well and any adverse effects or other impacts must be avoided or mitigated by data recovery or other means [4]. Any NAGPRA - related requirements will be carried out if human remains, sacred objects, and objects of cultural patrimony were encountered during data recovery or from inadvertent discovery [8]. Impacts from recreational collection activities cannot be mitigated until after-the-

have better chance of access to a traditional resource used in the practice of their religion [2, 4] than would otherwise be the case without a withdrawal [2].

Impacts from recreational crystal collector activities cannot be mitigated until after-the-fact. For example, if a site is damaged by crystal collectors and its complete destruction is threatened, a data recovery program may be developed to try to save what information is left [4]. Any requirements set forth by NAGPRA will be carried out if human remains, sacred objects, and objects of cultural patrimony were encountered during data recovery or from inadvertent discovery [8].

Heritage resources will not be inventoried and managed unless there is planned ground disturbing activities, such as designating specific areas for digging up crystals. Casual collecting creates a potential for unregulated, unmonitored impacts on heritage resources and a potential for resource damage through indiscriminate digging. If a management plan was created that allowed only surface gathering, then the indirect impacts are few, and will probably be more related to those of off road driving as people keep going farther and farther from the main access roads to find better crystal areas [5]. Any effects on TCPs/TUAs would depend on the nature of the TCP/TUA. If the TCPs/TUAs are not focused around the gathering or use of crystals, then the effect will be negligible (i.e. collectors will probably not disrupt an acorn or agave gathering area too much). If collectors are focused on the crystals, then the effect may be to diminish them, possibly lessen their integrity, and interfere with tribal practice, though it can be argued that mining will deplete the material at a much faster rate, "disrupt and corrupt" landscape settings and associated vegetation, etc. more quickly and more extensively than collecting and would severely restrict Tribal access and use [5]. Should a specific "use area" be defined for recreational crystal collection, it will require survey and consultation with tribes. The National Historic Preservation Act of 1966 requires the identification, evaluation, and consideration of heritage resources in planning and mitigation measures such as avoidance, data recovery, or monitoring; if properties are found and are determined eligible for the National Register of Historic Places, then the effect that the project may have on them must be evaluated as well and any adverse effects or other impacts must be avoided or mitigated by data recovery or other means.

**Alternative D.** The environmental consequences for Alternative D will be the same as Alternative B, except there will be less acreage that would be withdrawn. Miners will be able to mine in the areas adjacent to the withdrawal [6], potentially reducing conflicts between miners and the public in the most accessible areas [1, 2]. Heritage resources, TCPs, and TUAs located outside of the proposed boundaries for Alternative D will be subject to the same impacts as those outlined above for Alternative A (no action).

## IX. Socioeconomic Effects

### 1. Affected Environment

Tourists to the proposed Diamond Rim Recreation Mineral Collection Withdrawal Area generally camp on site or stay at local campgrounds or motels, and purchase food and fuel locally. The current mine operator may purchase some food and fuel locally, but he lives outside the area, sells the quartz crystals outside the local area, and operates his own equipment which was purchased outside the local area, thus contributing little to the local economy.

### 2. Environmental Consequences

Withdrawal (Alternatives B and D) or a decision not to withdraw (Alternative A) would have little or no effect in either enhancing the stability of the recreation/tourism sector of the local economy, or enhancing the existing mining/equipment services sector [6]. The collection of quartz crystals by recreationists or the extraction of quartz crystals by miners is extremely insignificant to the local economy because of the small scale of the current and expected mining operations and recreational collecting.

## X. Cumulative Effects

There are no cumulative effects that are identifiable.

## XI. National Forest Management Act Findings

Alternatives A, B, and D are in compliance with the National Forest Management Act (NFMA) and are in compliance with the guidelines and prescriptions in the Tonto National Forest Management Plan for Area 4D. This project does not involve timber harvest; therefore, the other required NFMA findings do not need to be addressed.

## CHAPTER 4 - LIST OF PREPARERS

### I. List of Preparers.

Norm Ambos, Forest Soils Specialist - Tonto National Forest

Karyn Harbour, Forest Geologist - Tonto National Forest

Lynn Mason, Hydrologist - Tonto National Forest

Esther Morgan, ID Team Leader - Payson Ranger District Archeologist

Don Pollock, Wildlife and Threatened/Endangered Plant and Animal Specialist -  
Payson/Pleasant Valley Districts Zone Wildlife Biologist

J. Scott Wood, Forest Archeologist - Tonto National Forest

### II. Other Contributors

An Interdisciplinary Team was formed to identify and analyze the issues associated with the location and identify alternatives for the Diamond Rim withdrawal project. The following individuals served on that ID Team:

Norm Ambos, Forest Soils Specialist - Tonto National Forest

Henry Apfel, Wildlife Manager - Arizona Game and Fish Department

Rodney E. Byers, Lands and Minerals Officer - Payson Ranger District

Stephen Gunzel, District Ranger - Payson Ranger District

Karyn Harbour, Forest Geologist - Tonto National Forest

Thomas Lister, Law Enforcement Officer - Tonto National Forest

Debbie Lutch, Wildlife Biologist - Payson Ranger District

Lynn Mason, Hydrologist - Tonto National Forest

Esther Morgan, ID Team Leader - Payson Ranger District Archeologist

Don Pollock, Wildlife and Threatened/Endangered Plant and Animal Specialist -  
Payson/Pleasant Valley Districts Zone Wildlife Biologist

Natalie Robb, Habitat Specialist - Arizona Game and Fish Department

Walter Thole, Recreation Officer - Payson Ranger District

J. Scott Wood, Forest Archeologist - Tonto National Forest

## CHAPTER 5 - CONSULTATION WITH OTHERS

### I. Scoping.

Since Diamond Rim often became a topic of discussion during public outreach and interpretation projects, it was recognized from the time of the initial proposal of this project that there would be concerns raised over the future use of the withdrawal area. A list of interested parties was compiled from meetings and from the master NEPA mailing list on the Payson Ranger District. In addition, 38 rockhound and small mining organizations, USFWS, the Town of Payson, two chapters of the Arizona Archeological Society (Agave House and Shoofly), the Arizona Department of Geological Resources, the Gila County Supervisors, and the Fort McDowell, Hopi, Salt River Pima-Maricopa, San Carlos Apache, Tonto Apache, White Mountain Apache, Yavapai-Apache Nation, Yavapai-Prescott, and Zuni Indian Tribes were sent the scoping letter. A total of 126 copies of the first scoping letter were mailed.

A second scoping letter was sent out because the mandatory *Federal Register* notice was not published in time for the first public meeting. A total of 65 second scoping letters were sent out. These letters were sent to rock hounding and small mining associations, Tribal members, and interested parties from the local community. We received 3 requests from Tribal members and the public to fax or mail copies out, making the total number of letters sent out as 68.

In addition, Tribes on the Tonto National Forest Tribal mailing list were called at least four times to discuss any concerns tribal members may have had. Three field visits were set up for concerned Tribal members for the purpose of consultation. We received written responses from two Tribes after the field visits.

We received a total of 23 responses. Two respondents were individuals not on the original mailing list that were either contacted by other interested parties or noted the announcement in the *Federal Register* and called in a request.

Other agencies that have been contacted include:

- Arizona State University
- Arizona State Game and Fish Department
- Fort McDowell Indian Community
- Gila County Board of Supervisors
- Hopi Tribe
- Northern Arizona University
- Payson Town Manager
- Salt River Pima-Maricopa Indian Community
- San Carlos Apache Tribe
- Tonto Apache Tribe
- University of Arizona
- US Fish and Wildlife Service

White Mountain Apache Tribe  
Yavapai-Apache Nation  
Yavapai-Prescott Tribe  
Zuni Pueblo

## II. What We Heard

All but two of the respondents to the two scoping letters, the *Federal Register* notice, the two public meetings and the three tribal meetings were in support of the proposed withdrawal. Of these, most of them were concerned about accessibility to the crystal area and were concerned about the depletion of the resource within the proposed withdrawal area - both by future mining operations and by continuous unregulated collecting. Some respondents suggested that a management plan was needed and that it should outline what the public will and will not be allowed to do (i.e., restrictions in digging in certain areas that may have sensitive resources) and that signs should be set up for the purposes of public education about land use ethics. Others would like to see a small fee charged for a permit to collect in the withdrawal area. They felt that a small fee and/or permit would help reduce the amount of damage that is occurring within the area. At least two respondents would like to see the current miner leave the proposed withdrawal area. Representatives from Hopi, Tonto Apache, White Mountain Apache, and Yavapai-Prescott Tribes, Yavapai-Apache Nation, and Zuni Pueblo have identified the proposed withdrawal area, and its resources, including the quartz crystals, as a TCP/TUA. Tribal members would like to see guaranteed access to the crystal area so that they can gather crystals and other materials of traditional value. Tribal members and other members of the general public would also like to see heritage and other sensitive resources preserved.

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