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Our Ref.: 073-81678E

March 17, 2009

Arizona Department of Environmental Quality
Water Permits Section
1110 West Washington Street
MC 5415-B3
Phoenix, AZ 85007

Attention: Ms. Michelle Robertson

RE: TRANSMITTAL OF NOTICE OF INTENT TO DISCHARGE FOR A TYPE 3 GENERAL AQUIFER PROTECTION PERMIT, PINENUT MINE NON-STORMWATER IMPOUNDMENT, MOHAVE COUNTY, ARIZONA

Dear Ms. Robertson:

On behalf of Denison Mines (USA) Corp. (Denison), Golder Associates Inc. (Golder) herewith transmits to the Arizona Department of Environmental Quality (ADEQ) the attached Notice of Intent to Discharge (NOI) and associated documents for a Type 3 General Aquifer Protection Permit related to the Non-stormwater Impoundment at Denison's Pinenut Mine in Mohave County, Arizona. The NOI and associated documents were prepared by Golder at Denison's request. One original and two copies of the following documents are included with this transmittal:

- Notice of Intent to Discharge for a Type 3 General Permit;
- NOI Supplement for Type 3.04 General Aquifer Protection Permit for Non-Storm Water Impoundments at Mining Sites [A.A.C. R18-9-D304]; and
- Supplemental Information for Pinenut Mine Non-stormwater Impoundment, Notice of Intent to Discharge Under a Type 3.04 General Aquifer Protection Permit, Mohave County, Arizona.

A check from Denison in the amount of $1,500.00 is also attached for the ADEQ review fee in accordance with A.A.C. 418-14-102(C).

If you have any questions regarding the attached documents, please contact Ms. Christy Woodward of Denison at (303)-389-4136.

Sincerely,

GOLDER ASSOCIATES INC.

Walter T. Weinig, P.G.
Senior Consultant

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Water Permits Section

NOI Supplement for Type 3.04 General Aquifer Protection Permit for Non-Storm Water Impoundments at Mining Sites [A.A.C. R18-9-D304]

This General Permit allows for discharges to lined surface impoundments, lined secondary containment structures and lined conveyance systems at mining sites. This permit does not authorize impoundments that continually contain process solution as a normal function of facility operations or any storage of process solutions containing a pollutant regulated under A.R.S § 49 - 243(I) that compromises the integrity of the liner. If the proposed discharge, design or operations do not conform to this rule, the owner or operator must obtain an individual APP.

Note: Please ensure that the narrative, design drawings, and any supplemental information provided is comprehensive and adequate to demonstrate conformance with A.A.C. R18-9-D304.

1. Attach a **narrative description of the facility** to be addressed under this General Permit. Describe the design and operation of the impoundment. Please place a check in the following boxes indicating that you have provided all of the following details in the narrative:

- [X] Description of the location, dimensions, capacity, and design and construction of the impoundment
  See Sections 2.0(A), 4.0 and Appendix B of attached Supplemental Information Report.
- [X] Demonstration that design and installation requirements are consistent with R18-9-D301(C)(1) and (C)(4)(a)
  See Sections 4.0(C)(1) and 4.0(C)(4) of attached Supplemental Information Report.
- [X] Description of the Quality Assurance/Quality Control program that meets or exceeds the liner manufacturer's specifications and includes subgrade preparation, liner installation, inspection procedures, field testing, laboratory testing and repair of seams during installation, and final inspection of the completed liner for functional integrity
  See Appendix B of attached Supplemental Information Report.
- [X] Demonstration that facility is adequately sized to handle projected maximum inflows plus any stormwater run-on, including sufficient freeboard ***See Section 4.0(C)(1) of attached Supplemental Information Report.***
- [X] Provisions for recordkeeping consistent with R18-9-D304(E) ***See Section 4.0(E) of attached Supplemental Information Report.***
- [X] A plan for impoundment inspection, maintenance, and repair consistent with R18-9-D304(D)
  See Section 4.0(D) of attached Supplemental Information Report.

2. If there are identified geologic hazards at this site, have you detailed any special design considerations or adjustments due to the identified hazards per R18-9-D304(C)(7) ☐ yes ☒ N/A- there are no geologic hazards

3. Is any part of the impoundment located in the 100-year flood plain ☐ yes ☒ no
If "yes" have you explained in the narrative how the design protects it from damage or flooding during such events ☐ yes **N/A**

4. Please provide the depth to groundwater in the area of the impoundment, and indicate how this was determined.

The depth to groundwater in the area of the impoundment is approximately 2,494 feet below land surface, based on the depth to groundwater in the Pinenut Mine water supply well, measured on September 26, 1987.

5. Identify below, by type and volume, all discharges which are, or have been, directed to the impoundment addressed under this permit (use additional pages if necessary): **See Section 4.0 (B) of attached Supplemental Information Report.**

List all process(es) generating the wastewater(s) directed to the impoundment and a brief description of each	Expected Average daily flow to be discharged	Expected Maximum flow per day to be discharged
Seepage from underground mine area as defined in A.A.C. R18-9-D304(A)(1)(a)	Initial - 28,800 gpd (20 gpm) During Operation - 144 gpd (0.1 gpm)	Initial - 72,000 gpd (50 gpm) During Operation - 432 gpd (0.3 gpm)
Discharge from Intermediate Ore Stockpile	130 gpd (0.09 gpm)	123,960 gpd (100-year, 24-hour storm)

List all process(es) generating the wastewater(s) directed to the impoundment and a brief description of each	Expected Average daily flow to be discharged	Expected Maximum flow per day to be discharged
Discharge from Development Rock Stockpile	**37 gpd (0.026 gpm)**	**35,417 gpd (100-year, 24-hour storm)**
Direct Precipitation	**1,086 gpd (0.75 gpm)**	**135,166 gpd (100-year, 24-hour storm)**
Surface Water Runoff	**818 gpd (0.57 gpm)**	**778,429 gpd (100-year, 24-hour storm)**

6. Does the impoundment receive process solutions, other than for temporary storage due to process upsets ☐ yes ☒ no
If "yes", refer to the Arizona Mining BADCT Guidance Manual for an individual APP for the process solution in the impoundment.

7. For facilities that are already operating, have you attached a representative chemical analysis of expected sources of inflow to the impoundment ☐ yes ☐ no **Not Applicable. The facility is not operational.**
Note: If a representative sample is not available before facility construction, a chemical analysis of solution present in the facility shall be provided to the Department within 90 days of the solution first entering the facility.

8. Have you attached a contingency plan that specifies actions to be taken in case of overflow, overtopping, or other accidental releases, and in the event unauthorized inflows are directed to the impoundment ☒ yes ☐ no
See Section 4.0(B)(3) and Appendix F of the attached Supplemental Information Report.

9. Have you included documentation that the design plans for the impoundment have been reviewed by a mining engineer or an Arizona registered P.E. ☒ yes ☐ no **See Section 4.0(B)(2) and Appendix B of the attached Supplemental Information Report.**

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Water Permits Section
1110 West Washington Street, MC 5415-B3 • Phoenix, Arizona 85007
(602) 771-4428 • www.azdeq.gov

NOTICE OF INTENT TO DISCHARGE FOR A TYPE 3 GENERAL PERMIT

Instructions: Every person who applies for a Type 3 general permit, as provided by Arizona Administrative Code (A.A.C.) Title18, Chapter 9, Article 3, must file a Notice of Intent to Discharge (NOI) required by A.A.C. R18-9-A301(B). In addition to this form, applicants must complete the appropriate **NOI Supplemental Form**. A separate NOI form and NOI Supplemental form must be completed for each discharging facility (i.e., unit, discharge point) intended to be covered under a General Permit. A person intending to operate under a General Permit must comply with all the provisions of the general permit and other applicable requirements of statute and rule.

1. **Type 3 General Permits**: Requires notification to the agency of activities to be conducted. Persons must: 1) Meet the requirements of Article 3, Part A and the specific terms of the applicable Type 3 General Permit; 2) File the appropriate NOI forms and supplemental information; 3) Pay applicable general permit review fees. Review fees, which are flat rate fees specified in A.A.C.R18-14-102(C), are NON-REFUNDABLE; 4) Satisfy any deficiency requests from the Department; and 5) Receive **a written Verification of General Permit Conformance** from the Department.

2. **Type 3 General Permit notification** (check the applicable box):

- ☐ 3.01 Lined Impoundments [A.A.C. R18-9-D301]
- ☐ 3.02 Process Water Discharges from Water Treatment Facilities [A.A.C. R18-9-D302]
- ☐ 3.03 Vehicle and Equipment Washes [A.A.C. R18-9-D303]
- ☒ 3.04 Non-storm Water Impoundments at Mining Sites [A.A.C. R18-9-D304]
- ☐ 3.05 Disposal Wetlands [A.A.C. R18-9-D305]
- ☐ 3.06 Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites [A.A.C. R18-9-D306]
- ☐ 3.07 Tertiary Treatment Wetlands [A.A.C. R18-9-D307]

3. **Applicant:** **Denison Mines (USA) Corp.**

Address: **1050 17th Street**
Suite 950
Denver, Colorado 80265

Phone No.: **(303) 628-7798**
Fax No.: **(303) 389-4125**

4. **Contact Person for Facility Operations:** **Harold R. Roberts, PE, Executive VP, US Operations**

Address: **1050 17th Street**
Suite 950
Denver, Colorado 80265

Phone No.: **(303) 628-7798**
Fax No.: **(303) 389-4125**

5. **Name of Owner/Operator responsible for ensuring compliance with this permit if different from No. 3 above:** **Same as above.**

Position held by party identified above: _____

Address: _____

_____ Phone No.: _____

_____ Fax No.: _____

_____

6. Specify a **name, number or other identifier** that can be used as a permanent reference to the discharging facility proposed to be covered under this General Permit [e.g.: Vehicle wash A; Wetlands # 4; or SE impoundment]:

Pinenut Mine Non-stormwater Impoundment

7. **Location** of the discharging facility proposed to be covered under this General Permit:

a. County: **Mohave**

b. Nearest Community: **Fredonia**

c. Legal Description (please reference the property deed. May be by Township, Range, Section; parcel numbers; metes and bounds; subdivision identifiers, etc. Attach separate page if lengthy):

See Section 2.0 (A) of the attached Supplemental Information Report.

d. Latitude/ Longitude: **36 • 30 ' 10.7 " N** **112 • 43 ' 57.6 " W**

8. **Expected dates of discharge**:

Date discharges began or are expected to begin **June 2009**

Date discharges began or are anticipated to cease **June 2012**

9. **Existing Environmental Permits**: List all types of state or federal environmental permits already held by the applicant or owner at this location or that are needed for the location: (Attach additional pages if necessary)

Permits needed are listed in Section 1.0(B) and existing permits are listed in Section 2.0(F) of the attached Supplemental Information Report.

10. Certification of Compliance. To be completed by the applicant.

I, **Harold R. Roberts**, certify that this document and all attachments were prepared under my direction or supervision and all information is, to the best of my knowledge, true, accurate and complete. I also certify that the facility described in this form is or will be constructed, designed, and operated in accordance with the provisions of Article 3 of the Aquifer Protection Permit rules as they pertain to this General Permit. I am aware that there are significant penalties for submitting false information, including permit revocation as well as the possibility of fine and imprisonment for knowing violations.

Signature

March 12, 2009
Date

Golder Associates Inc.
44 Union Boulevard, Suite 300
Lakewood, CO USA 80228
Telephone: (303) 980-0540
Fax: (303) 985-2080
www.golder.com

SUPPLEMENTAL INFORMATION FOR PINENUT MINE NON-STORMWATER IMPOUNDMENT NOTICE OF INTENT TO DISCHARGE UNDER A TYPE 3.04 GENERAL AQUIFER PROTECTION PERMIT MOHAVE COUNTY, ARIZONA

Prepared for:

Denison Mines (USA) Corp.
1050 17th Street, Suite 950
Denver, Colorado 80265

Prepared by:

Golder Associates Inc.
44 Union Boulevard, Suite 300
Denver, Colorado 80228

Distribution:

3 Copies – Arizona Department of Environmental Quality
4 Copies – Denison Mines (USA) Corp.
3 Copies – Golder Associates Inc.

March 17, 2009

073-81678E

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1.0 INTRODUCTION

This document has been prepared by Golder Associates Inc. (Golder) for Denison Mines (USA) Corp. (Denison) to present additional information in support of the preceding Notice of Intent to Discharge for a Type 3 General Permit (NOI) and NOI Supplement for Type 3.04 General Aquifer Protection Permit (APP) for Non-Stormwater Impoundments at Mining Sites (NOI Supplement) for the non-stormwater impoundment at Denison's Pinenut Mine in Mohave County, Arizona. This document presents a general overview of the site and planned mining operations for reference (Sections 1.0 through 3.0), and provides additional information related to the construction and operation of the non-stormwater impoundment (Section 4.0). In particular, Section 4.0 describes how the non-stormwater impoundment at the Pinenut Mine meets each of the conditions in A.A.C. R18-9-D304 (3.04 General Permit: Non-Stormwater Impoundments at Mining Sites) and includes appropriate cross-references to such conditions.

A. Project Summary

The Pinenut Mine is a planned restart of an existing uranium mining operation that will extract uranium ore from a mineralized breccia pipe through underground mining. The planned mine life is relatively short; current plans call for ore extraction to be completed within approximately 2 to 3 years, and for reclamation to be completed about 3 years after mining. The breccia pipe is between 200 and 300 feet in diameter; uranium ore occurs within the breccia pipe between approximately 1,050 and 1,500 feet below land surface (bls). The ore mined from the breccia pipe will be stockpiled onsite, then transported by truck to the White Mesa Mill near Blanding, Utah, for processing.

B. Facilities Subject to Aquifer Protection Permitting Requirements

All Pinenut Mine facilities potentially subject to APP requirements are eligible for a General Permit under Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Article 3. The facilities are listed below.

- Intermediate ore stockpile (Type 2.02 General Permit, A.A.C. R18-9-C302)
- Development rock stockpile (Type 2.02 General Permit, A.A.C. R18-9-C302)
- Non-stormwater impoundment (Type 3.04 General Permit, A.A.C. R18-9-D304)
- Septic system (Type 1 General Permit, A.A.C. R18-9-B301)

Separate NOIs will be prepared for the first two facilities and will be submitted to the Arizona Department of Environmental Quality (ADEQ) under separate cover. The septic system, which consists of a 2,000-gallon septic tank and a 2,590 square-foot leach field, was permitted by the Mohave County Department of Health Services in May 1986. Because the system produces less than 20,000 gallons per day (gpd) of effluent and was constructed and operating prior to January 1, 2001, it meets the criteria for a Type 1 General Permit prescribed under A.A.C. R18-9-B301(I)(1)(b), and no further permitting documents are required to be submitted. All other facilities at the site are either non-discharging, in accordance with Arizona Revised Statutes (A.R.S.) §49-241, or exempt from APP requirements (A.R.S. §49-250(B) or A.A.C. R18-9-102, 103).

2.0 SITE DESCRIPTION

A. Site Location

The Pinenut Mine is located approximately 30 miles south-southwest of the town of Fredonia in northeastern Mohave County, Arizona. The location of the Pinenut Mine is shown on Figure 1, along with the location of the White Mesa Mill near Blanding, Utah. The mine site encompasses an area of 17.24 acres within Section 21, Township 36 North, Range 4 West, of the Gila and Salt River Baseline and Meridian. The latitude/longitude coordinates of the site are 36°30'10.7"N, 112°43'57.6"W. The site is located on land owned by the U.S. Bureau of Land Management (BLM) and extends across parts of four unpatented lode mining claims (Pinyon 595, Pinyon 596, Pinyon 639, and Pinyon 640). The access shaft is located on Pinyon 595. Six other unpatented claims surround the site.

B. Physical Setting

The Pinenut Mine site is located on the Kanab Plateau, a 4,470-square mile region bounded on the north by the Arizona-Utah border, on the south and east by the Colorado River, and on the west by the Hurricane Cliffs. The site elevation is about 5,450 feet above mean sea level (amsl). The topography in the vicinity of the site is relatively flat and is dissected by numerous ephemeral streams that drain generally to the north. The area around the mine site is predominantly sage brush (approximately 60 percent) interspersed with Pinyon Pine, Juniper, and forage grasses. The temperature typically ranges from 20 to 90 degrees Fahrenheit, and the average annual precipitation is 13 inches.

C. Site Development and Ownership

Energy Fuels Nuclear (EFN) filed ten unpatented lode claims in 1982 with Mohave County and the BLM and filed a preliminary Plan of Operations in 1984 with BLM for the Pinenut Mine site (AS-010-86-10P). In January 1986, after discovering a viable uranium ore deposit, EFN submitted an Environmental Assessment and modification to the Plan of Operations to BLM (Energy Fuels Nuclear, Inc., 1986). In April 1986, BLM approved the Plan of Operations, ruling that an Environmental Impact Statement (EIS) was not needed because there would be no significant adverse environmental impacts (U.S. Bureau of Land Management 1986). Southwest Resource Council filed a Notice of Appeal against the BLM decision in May 1986; however, BLM did not reverse their decision, and further legal action was never taken against the Pinenut Mine.

In 1986, EFN began developing the surface installations at the Pinenut Mine site in accordance with the conditions in the Plan of Operations approved by BLM. By 1988, the mine had one access shaft with three mining levels at 4,070 feet, 4,200 feet, and 4,350 feet amsl (1,100 feet, 1,250 feet, and 1,380 feet bls). A fourth level was added 100 feet deeper in 1988 after the discovery of an ore chute extension. Over 25,000 tons of ore were mined through 1989; however, the mine was placed on standby before the end of 1989 because of low uranium prices. No mining has occurred on-site since that time.

In May 1997, EFN was acquired by International Uranium (USA) Corporation (IUC). In December 2006, IUC and Denison Mines Ltd. merged. Denison Mines Corp. is the parent entity and Denison Mines (USA) Corp. is the operator.

D. Existing Surface Facilities

Existing surface facilities at the Pinenut Mine are shown on the Facility Site Plan (Figure 2). They include the mine access shaft, headframe, maintenance shop/warehouse, equipment wash pad, sanitary septic system, office building, storage building, water supply well, water tank, fuel storage area, and lined non-stormwater impoundment. The non-stormwater impoundment contains stormwater runoff from the entire site, as well as water from the mine sump. The site is surrounded by an earthen berm that protects the site from stormwater runon. The site is secured by a chain-link fence and padlocked gate on top of the berm.

E. Planned Mining Activities

Denison plans to resume mining of the Pinenut ore body in 2009; ore extraction will be completed within approximately 2 to 3 years from the restart of mining activities. The Pinenut mine is already fully developed, so on-site construction will be limited to rehabilitating and upgrading the existing surface facilities. Mining will resume after site rehabilitation has been completed.

F. Existing Environmental Permits

The existing environmental permits for the Pinenut Mine are listed below.

- **Plan of Operations.** Approved by the U.S. Department of the Interior, Bureau of Land Management, April 25, 1986.

- **Septic System Permit No. 5918.** Authorized by the Mohave County Department of Health Services May 30, 1986.

- **Type 1.09 General APP for Septic System.** See A.A.C. R18-9-B301(I)(1)(b).

3.0 HYDROGEOLOGY

A. Geologic Setting and Stratigraphy

The Pinenut Mine site is located within the Colorado Plateau physiographic province (Wilson, 1962), an extensive region that encompasses approximately 150,000 square miles in parts of northern Arizona, eastern Utah, western Colorado and northwestern New Mexico. The stratigraphy of the Colorado Plateau is characterized by thick sequences of relatively undisturbed sedimentary rocks, ranging in age from Cambrian through Recent, which unconformably overlie Precambrian basement rocks. The structural geology is characterized by flat to gently dipping strata formed by structural basins, plateaus and monoclines. The Colorado Plateau is extensively dissected by the Colorado River and its tributaries.

Figure 3 presents a generalized stratigraphic section of the Grand Canyon south of the Pinenut Mine site. Rocks exposed in the Grand Canyon include the Precambrian basement rocks and a complete sequence of Paleozoic and Mesozoic sedimentary rocks, from the Cambrian Tapeats Sandstone through the Triassic Moenkopi Formation.

B. Breccia Pipe Formation and Mineralization

Breccia pipes on the Colorado Plateau in Arizona are vertical, generally cylindrical features that are believed to result from the collapse of solution cavities within the Redwall Limestone. The collapse progressed upward through overlying strata, forming breccia where the rock has collapsed and broken. As a result of the collapse, brecciated rock within the pipe is surrounded by a nearly vertical ring fracture that separates the breccia from the wall rock. This ring fracture is typically closed and healed. At some locations, breccia pipes have become silicified and/or mineralized. The surface exposures of breccia pipes are typically circular and are commonly rimmed by inward-dipping strata. Brecciated rock is well cemented and is composed of angular rocks ranging in size from less than 1 inch to more than 10 inches in diameter in a dense, compact, fine-grained sandy rock matrix.

At the Pinenut Mine site, the breccia pipe is believed to extend from the Redwall Limestone upward to current land surface, as depicted on Figure 3. The mineralized zone (1,050 to 1,490 feet bls) occurs entirely within Hermit Shale. Figure 4 is a geologic cross section of the Pinenut Mine that shows the geometry of the stratigraphic units, the breccia pipe and the orebody, based on exploratory drilling data.

C. Regional Hydrogeology

The Pinenut Mine site is located within the Plateau Uplands hydrogeologic province (Montgomery and Harshbarger, 1989), and the Kanab Plateau groundwater basin. The Kanab Plateau basin comprises about 4,470 square miles and is bounded to the north by the Arizona-Utah border, on the south and east by the Colorado River, and on the west by the Hurricane Cliffs. Surface water flow throughout the area is ephemeral and occurs only as a result of precipitation runoff. Groundwater occurs in the Kanab Plateau basin in localized perched aquifers within the Toroweap Formation, where groundwater is perched in sandstone beds above shaley confining units, and in the lower part of the Coconino Sandstone, where groundwater is perched above the Hermit Shale. These perched aquifers are typically thin and discontinuous. An extensive regional aquifer, the Redwall-Muav, occurs in the Redwall Limestone formation, approximately 2,500 feet bls. Perched groundwater has not been encountered during exploration drilling on the Pinenut site.

D. Depth to Groundwater

The Pinenut Mine water supply well (ADWR No. 55-513394) was completed in September 1986. The borehole for the well was advanced to a depth of 3,200 feet bls, and the well was completed open-hole in the Redwall-Muav aquifer from 2,524 to 3,200 feet bls. Prior to testing on September 26, 1987, the static depth to water was measured at 2,494 feet bls. During testing the well drew down 25 feet at a pumping rate of 11 gpm. The depth to groundwater at the Pinenut Mine site is about 1,000 feet below the bottom level of the mine, and 2,494 feet below the mine facilities at the surface.

4.0 NON-STORMWATER IMPOUNDMENT

The existing Pinenut Mine non-stormwater impoundment is located in the northern part of the site adjacent to the property boundary, as shown on Figure 2. The mine has been designed to ensure that stormwater runoff from the entire site drains toward the non-stormwater impoundment, as shown on Figure 5. The existing lined impoundment currently covers an area of approximately 0.76 acres (at land surface elevation). Appendix A presents the Quality Assurance/Quality Control procedures employed during the original liner installation for the impoundment.

Planned upgrades include expanding the non-stormwater impoundment to a total area of 1.35 acres to increase its capacity prior to resuming operations at the site. The upgrades include: 1) placing an additional liner over the liner for the existing impoundment; 2) expanding the impoundment footprint and installing a new multi-layer liner system in the expanded impoundment footprint; and 3) constructing lined conveyances from the planned intermediate ore stockpile and development rock stockpile to the impoundment.

Figures 5 shows the planned expansion of the impoundment. Appendix B presents the design documents for the upgraded liner system. The expanded impoundment is designed to contain all stormwater runoff from the site, and direct precipitation over the impoundment, from the 100-year, 24-hour storm as well as excess groundwater from the mine.

The following sections describe the non-stormwater impoundment and how the facility will comply with the requirements of A.A.C. R18-9-D304.

A. A.A.C. R18-9-D304(A): Allowable Discharge

The non-stormwater impoundment will contain the following allowable discharges:

1. Discharge from the intermediate ore stockpile [A.A.C. R18-9-D304(A)(1)(a) & (c)];
2. Discharge from the temporary development rock stockpile [A.A.C. R18-9-D304(A)(1)(a) & (c)];
3. Surface water runoff from the remainder of the site contained within the outside perimeter berm, including runoff from the 100-year, 24- hour storm event [A.A.C. R18-9-D304(A)(1)(c)];
4. Seepage from underground mine areas [A.A.C. R18-9-D304(A)(1)(a)]; and

5. Direct precipitation to the pond [A.A.C. R18-9-D304(A)(1)(c)].

No other discharges are anticipated to enter the non-stormwater impoundment under normal operating conditions. In particular, the non-stormwater impoundment will not contain process solutions [A.A.C. R18-9-D304(A)(2)] as no processing of uranium bearing material will take place at the Pinenut Mine site. Therefore, no chemicals, reagents, or other constituents normally used to process uranium ores will be transported, stored, or utilized at the mine site.

B. A.A.C. R18-9-D304(B): Additional Information

1. Sources of Inflow– A.A.C. R18-9-D304(B)(1)

Sources of inflow to the non-stormwater impoundment include:

- Discharge from the intermediate ore stockpile;
- Discharge from the temporary development rock stockpile;
- Surface runoff from the remainder of the site;
- Seepage from underground mine areas; and
- Direct precipitation.

No process solutions will be generated on site. The non-stormwater impoundment will not contain process solutions under either normal or upset operating conditions. Appendix C presents a water balance quantifying the inflows from the various sources.

Discharge from Intermediate Ore Stockpile: The intermediate ore stockpile will be constructed at the location shown on Figure 2. The intermediate ore stockpile will have a surface area of approximately 2.1 acres inside a perimeter berm.

Inflows from the intermediate ore stockpile into the non-stormwater impoundment are expected to range from zero to 0.076 acre-feet per month (ac-ft/mo), depending on the season, with an average inflow of 0.012 ac-ft/mo (130 gpd). Runoff and seepage from within the bermed area will be conveyed to the non-stormwater impoundment through a 12-inch diameter PVC pipe. The PVC pipe is an associated lined conveyance system as described in A.A.C. R18-9-D304(A).

Discharge from Temporary Development Rock Stockpile: The temporary development rock stockpile will be constructed at the location shown in Figure 2. The temporary development rock stockpile will have a surface area of approximately 0.6 acre inside a perimeter berm.

Inflows from the development rock stockpile into the non-stormwater impoundment are expected to range from zero to 0.02 ac-ft/mo, depending on the season, with an average inflow of 0.0035 ac-ft/mo (37 gpd). Runoff and seepage from within the bermed area will be conveyed to the non-stormwater impoundment through a 12-inch diameter PVC pipe. The PVC pipe is an associated lined conveyance system as described in A.A.C. R18-9-D304(A).

***Surface Water Runoff*:** Storm runoff from the remaining area within the perimeter berm, minus the impoundment area, will enter the non-stormwater impoundment via overland flow. The inflow from runoff into the non-stormwater impoundment is expected to range from zero to 0.48 ac-ft/mo, depending on the season, with an average runoff of 0.077 ac-ft/mo (818 gpd). This calculation is based on the U.S. Soil Conservation Service Curve Number (SCS CN) method using the historic precipitation record from June 1963 through July 2008 (refer to Appendix C for details).

The runoff volume of the 100-year, 24-hour storm event was calculated using the SCS CN method, again assuming a CN of 85. The 100-year, 24-hour precipitation depth is 3.68 inches, based on National Oceanic and Atmospheric Association (NOAA) Atlas 14 precipitation data for the site area. A storm depth of 3.68 inches was applied to the entire area to result in a runoff depth of 2.17 inches, generating 2.88 acre-feet (937,805 gpd) of runoff volume. This runoff volume includes discharge from the intermediate ore stockpile and temporary development rock stockpile.

Seepage from Underground Mine Areas: Experience gained in numerous breccia-pipe uranium mines indicates small mine inflows of a very temporal and localized nature, generally below 10 gpm in fully developed mines. This inflow is typically observed to decrease or cease with time, such that water needs to be imported into the mine to be used for drilling and dust control. Also, a significant fraction of the mine inflow is used underground for dust control and is lost to evaporation due to intensive mine ventilation. Hence, during operation the discharge reaching the surface is observed to be very small, typically ranging from 0.3 to 0.5 gpm.

For the Pinenut Mine the inflow into the non-stormwater impoundment from the underground mine area during operation is assumed to be a maximum of 0.3 gpm, or 432 gpd. Water from the underground mine area will be conveyed to the non-stormwater impoundment through a 4-inch

diameter steel pipe. The pipe is an associated lined conveyance system as described in A.A.C. R18-9-D304(A).

Water has accumulated in the existing shaft at the Pinenut Mine since operations ceased. Denison estimates that approximately 8.76 acre-feet of water has accumulated in the shaft. At the start of operations, accumulated water from the underground mine area will be pumped from the mine into the non-stormwater impoundment. The extraction rate is expected to vary from zero to 72,000 gpd (50 gpm) with an average expected rate of 28,800 gpd (20 gpm).

Pumping will continue until all accumulated water has been removed from the underground mine area. The pumping rate will be managed to maintain the required freeboard in the non-stormwater impoundment. The temporary discharge from the underground mine area will be conveyed to the non-stormwater impoundment through a 4-inch diameter steel pipe. The pipe is an associated lined conveyance system as described in A.A.C. R18-9-D304(A).

Direct Precipitation: All precipitation falling on the lined area of the non-stormwater impoundment was assumed to contribute 100 percent to the impoundment volume. As measured, the area of the impoundment is 1.35 acres. Hence, direct precipitation over the impoundment area will result in inflow ranging from zero to 0.67 ac-ft/mo, depending on the season, with an average direct precipitation of 0.102 ac-ft/mo (1086 gpd). The 100-year, 24-hour precipitation depth of 3.68 inches will generate 0.41 acre-feet (135,166 gpd) of volume.

Representative Chemical Analysis:

Because the facility is not currently operational, no representative chemical analysis of the combined water to be contained in the non-stormwater impoundment is available. Denison will collect a sample of solution contained in the non-stormwater impoundment and arrange for analysis of the solution at an Arizona-certified analytical laboratory after operations begin. The analytical results will be provided to ADEQ within 90 days after solution first enters the non-stormwater impoundment per A.A.C. R18-9-D304(B)(1).

2. Documentation of Review– A.A.C. R18-9-D304(B)(2)

The design documents for the upgraded liner system for the non-stormwater impoundment presented in Appendix B have been stamped by an Arizona-registered professional engineer responsible for the design of the upgraded liner system. The calculations of the peak flow capacity for the drainage

conveyance from the development rock stockpile to the impoundment presented in Appendix D have been stamped by an Arizona-registered professional engineer.

The remaining information regarding design and operation presented in this application has been reviewed by mining engineers familiar with the site, Arizona-registered professional engineers, and Arizona-registered professional geologists.

3. Contingency Plan– A.A.C. R18-9-D304(B)(3)

The Contingency Plan for the non-stormwater impoundment is provided in Appendix E. The following actions may be taken to address contingencies outside the normal operations:

Accidental Release: In the event that part of the non-stormwater impoundment fails, resulting in a release of liquid, Denison will immediately take steps to stop the release. These steps may include building a temporary berm, making temporary liner repairs, or operational controls such as stopping discharges from the mine to the impoundment. The exact steps to be taken will depend on the nature of the event causing the accidental release. In any event, the volume of liquid released will be contained within the perimeter berm of the mine site.

Overtopping of Impoundment:

Normal Operating Conditions

In the event that the water level exceeds the stage required to maintain a reserve volume sufficient to contain the runoff from the 100-year, 24-hour design storm plus a minimum freeboard of 2 feet under normal operating conditions, the following actions will be taken:

1. The water level in the non-stormwater impoundment will be reduced using enhanced evaporation methods.

2. If the water level cannot be reduced sufficiently using enhanced evaporation methods, operational controls such as limiting the rate and volume of pumping from the mine shaft will be implemented.

3. If steps 1 and 2 do not reduce the water level sufficiently, excess water from the non-stormwater impoundment will be hauled by tanker truck to another permitted facility.

4. If steps 1, 2, and 3 do not reduce the water level sufficiently, excess water from the non-stormwater impoundment will be temporarily stored in mobile tanks,

such as tanker-trailers or frac tanks, and released into the impoundment when sufficient freeboard is restored. The rate of release will be controlled to maintain normal operating freeboard requirements.

Extreme Precipitation Events

In the event that the water level exceeds the stage required to maintain a minimum freeboard of 2 feet during or immediately after extreme precipitation events, the following actions will be taken:

1. Operational controls such as limiting the rate and volume of pumping from the mine shaft will be implemented.

2. If step 1 does not reduce the water level sufficiently, excess water from the non-stormwater impoundment will be hauled by tanker truck to another permitted facility.

3. The water level in the non-stormwater impoundment will be reduced using enhanced evaporation methods after the extreme precipitation event is over.

4. If steps 1, 2, and 3 do not reduce the water level sufficiently, excess water from the non-stormwater impoundment will be temporarily stored in mobile tanks, such as tanker-trailers or frac tanks, and released into the impoundment when sufficient freeboard is restored. The rate of release will be controlled to maintain normal operating freeboard requirements.

In the unlikely event that the impoundment is completely overtopped, the excess water will be contained within the perimeter berm of the site.

Breach of Berm: Breaching the berm for the non-stormwater impoundment at the Pinenut Mine is unlikely because the impoundment is primarily an excavated, below-grade structure. Only a limited portion of the impoundment is contained by a berm constructed above the natural grade, and under normal operating conditions the water level in the impoundment is expected to be below the natural grade. This enhances the safety of the structure and minimizes the likelihood of any releases due to breaching a berm.

In the unlikely event that the structural integrity of the pond is compromised, any liquid released will be contained within the outer perimeter berm of the site. The area of the structural failure will be repaired as soon as practicable after the breach is discovered.

Unauthorized Inflows: Should an unauthorized inflow to the non-stormwater impoundment be discovered, the source of the unauthorized inflow will be identified and shut off.

C. A.A.C. R18-9-D304(C): Design, Construction, and Installation Requirements

1. Design and Construct per A.A.C. R18-9-D301(C)(1) – A.A.C. R18-9-D304(C)(1)

A.A.C. R18-9-D301(C)(1) describes the design and construction requirements for surface-water controls. The non-stormwater impoundment meets the requirements of A.A.C. R18-9-D301(C)(1) through the following design elements.

a. Freeboard and Design Volume: Figure 5 shows the current configuration of the non-stormwater impoundment based on topographic contours generated during an aerial survey in September 2007.

The planned expansion of the impoundment is also shown on Figure 5, with blue elevation contours superimposed on the existing impoundment. The planned upgrade will expand the impoundment to the south.

As currently constructed, the non-stormwater impoundment is a lined impoundment consisting of a single 36-mil Hypalon liner over compacted subgrade materials. The subgrade beneath the liner is native soil and Kaibab Formation, which consists primarily of limestone. The impoundment was constructed in accordance with the "Non-stormwater Impoundment QA/QC Plan, Synthetic Liner Installation", provided in Appendix A.

The upgraded non-stormwater impoundment will be a lined impoundment. The liner system will consist of a 60-mil high-density polyethylene (HDPE) geomembrane liner to be installed over the existing liner and a combination geosynthetic clay liner (GCL) and 60-mil HDPE geomembrane to be installed in the expanded impoundment area. The proposed liner design is presented in Appendix B.

The maximum surface area of the upgraded impoundment will be about 1.35 acres with a maximum capacity of about 9.6 ac-ft. The maximum depth of water in the impoundment will be about 9 ft. The stage-area-storage relationship for the upgraded impoundment is illustrated in Figure 6.

Appendix C presents a water balance for the non-stormwater impoundment. The water balance was constructed to evaluate the pool volume and freeboard for the upgraded impoundment using historic, measured precipitation and evaporation data. The model was run for the historic precipitation record from June 1963 through July 2008 at the Pipe Springs climate station (station number 02 6616).

Evaporation was included as an outflow in the water balance. Pan evaporation from the Grand Canyon NP 2 station, approximately 45 miles from the Pinenut site, was used to calculate monthly average pan evaporation. A total average annual pan evaporation of 73.26 inches was calculated. A pan coefficient of 0.7 was applied to adjust pan evaporation to shallow lake evaporation, which was then multiplied by the estimated surface area and monthly average pan evaporation for the month to calculate the volume of water evaporated. The evaporation rate ranges from zero to 0.42 ac-ft/mo depending on the surface area of the water in the impoundment during the month being calculated.

Figure 7 summarizes the results of the water-balance modeling. Considering all of the inflow components above and the climatic record, it can be concluded that the impoundment storage is not expected to increase consistently on a year-to-year basis. The freeboard demonstrated by the water-balance model complies with the 2-foot minimum freeboard after receiving runoff from the 100-year, 24-hour storm that is considered acceptable by default in A.A.C. R18-9-D301(C)(1)(a).

b. Divert Run-on: The non-stormwater impoundment is designed to capture and contain storm runoff from the entire area of the site within the perimeter berm. The perimeter berm is designed to divert run-on around the mine site from the 500-year, 24-hour storm, thus exceeding the requirements of A.A.C. R18-9-D301(C)(1)(b).

2. Conveyance System Peak Flow Capacity– A.A.C. R18-9-D304(C)(2)

A.A.C. R18-9-D304(C)(2) specifies that conveyance systems be capable of handling the peak flow from the 100-year storm. The conveyance systems at the site that may be affected by storm flows include the pipes into the non-stormwater impoundment from the intermediate ore stockpile and the development rock stockpile. Seepage into the underground mine area will not be affected by surface precipitation. The sizing of the pipe from the mine sump into the pond is therefore independent of the 100-year storm.

Conveyance from Intermediate Ore stockpile: Sizing of the 12-inch diameter pipe from the intermediate ore stockpile is presented in Appendix D. These calculations indicate that the conveyance is adequate to handle the peak flow from the 100-year storm.

Conveyance from Development Rock Stockpile: Sizing of the 12-inch diameter pipe from the development rock stockpile is presented in Appendix D. These calculations indicate that the conveyance is adequate to handle the peak flow from the 100-year storm.

3. Construct Liner per A.A.C. R18-9-D301(C)(4)(a) – A.A.C. R18-9-D304(C)(3)

A.A.C. R18-9-D301(C)(4)(a) specifies requirements for liner materials. The existing non-stormwater impoundment, combined with the planned upgrades described in this document, meet the requirements of A.A.C. R18-9-D301(C)(4)(a) as described below.

Existing Impoundment: The existing non-stormwater impoundment is a lined impoundment consisting of a single 36-mil Hypalon liner over compacted subgrade materials. This meets the requirement of A.A.C. R18-9-D301(C)(4)(a) that the liner be at least 30-mil thick, or 60-mil thick if the material is HDPE. The subgrade beneath the liner is native soil and Moenkopi Formation, which consists primarily of siltstone and mudstone. The QA/QC procedures used when installing the existing liner are included in Appendix A.

According to Hypalon manufacturer information, the material has excellent ultraviolet (UV)-resistance properties. Hypalon meets the requirements for UV resistance specified in A.A.C. R18-9-D301(C)(4)(a)(ii) and is chemically compatible with the liquids expected to be contained in the impoundment as specified in A.A.C. R-18-9-D301(C)(4)(a)(iii).

Planned Liner Upgrades: Appendix B presents the design report and associated documents for installing a 60-mil thick HDPE liner over the existing Hypalon liner and for the combination GCL and 60-mil HDPE geomembrane to be installed in the expanded impoundment area. The upgraded non-stormwater impoundment will thus meet and exceed the requirements of A.A.C.R18-9-D301(C)(4)(a).

As shown in Appendix B the new liner will be secured in an engineered anchor trench as required by A.A.C. R18-9-D301(C)(4)(a)(i). HDPE has appropriate UV-resistance characteristics as required by A.A.C. R18-9-D301(C)(4)(a)(ii).

Both HDPE and Hypalon are compatible with a wide range of solutions. Water contained in the impoundment will be primarily storm runoff, some of which may have come into contact with either development rock or ore. The water in the impoundment is expected to have a pH near neutral, relatively low concentrations of inorganic constituents, and low or no detectable concentrations of organic constituents.

The liner materials therefore are compatible with the liquid expected to be contained in the impoundment as required by A.A.C. R18-9-D301(C)(4)(a)(iii).

4. Liner Quality Assurance/Quality Control (QA/QC) Program– A.A.C. R18-9-D304(C)(4)

The existing liner for the non-stormwater impoundment was constructed in accordance with the "Containment Pond QA/QC Plan, Synthetic Liner Installation", provided in Appendix A. The QA/QC plan describes the procedures that were to be followed for the installation and testing of the liner, and includes the manufacturer's specifications for the liner.

The QA/QC program for the new liner is included with the design documents in Appendix B. The planned QA/QC program meets or exceeds the liner-manufacturer guidelines in accordance with A.A.C. R18-9-D304(C)(4). The QA/QC program includes the following elements described A.A.C. R18-9-D304(C)(4):

- Site and subgrade preparation;
- Inspection procedures;
- Field testing
- Laboratory testing;
- Repair of seams during installation, if necessary; and
- Final inspection of the completed liner for functional integrity.

5. Flood Plain– A.A.C. R18-9-D304(C)(5)

The mine site is not located within the 100-year flood plain. The perimeter berm is designed to divert run-on from the 500-year storm, thus exceeding the requirements of A.A.C. R18-9-D304(C)(5).

6. Groundwater Contact with Liner– A.A.C. R18-9-D304(C)(6)

The depth to groundwater at the Pinenut Mine site is approximately 2,494 feet below land surface, based on the static water level measured in the Pinenut Mine well on September 26, 1987. The depth of excavation of the non-stormwater impoundment is up to 21 feet below ground surface as described above. Groundwater is thus about 2,473 feet below the bottom of the liner. The design of the facility prevents contact of groundwater with the liner as required by A.A.C. R18-9-D304(C)(6).

7. Static and Seismic Stability– A.A.C. R18-9-D304(C)(7)

No significant geologic hazards related to static and seismic stability have been identified at the site. A seismic-stability analysis is presented in Appendix F.

8. Site Preparation– A.A.C. R18-9-D304(C)(8)

Site preparation for the impoundment upgrades is described in Appendix B. The stability of the existing impoundment for the past 20 years demonstrates that the surface slopes and foundation are stable and structurally sound as required by A.A.C. R18-9-D304(C)(8).

9. Anchor Trench and UV resistance– A.A.C. R18-9-D304(C)(9)

The edges of the existing Hypalon liner were secured around the perimeter in an anchor trench. The edges of the new HDPE liner will be installed in a 2-foot deep, engineered anchor trench as described in section 4.C.3 above and Appendix B. Both Hypalon and HDPE meet the requirements for UV resistance described in A.A.C. R18-9-D304(C)(9).

10. Clay Subgrade for Shallow Groundwater Conditions– A.A.C. R18-9-D304(C)(10)

No shallow groundwater conditions were encountered during construction of the existing impoundment. As described in section 4.C.6 above, groundwater is over 2,400 feet below the bottom of the liner. A clay subgrade is not required due to the great depth to groundwater at the site.

D. A.A.C. R18-9-D304(D): Operational Requirements

1. Freeboard– A.A.C. R18-9-D304(D)(1)

The freeboard required by A.A.C. R18-9-D304(C)(1) will be maintained through design of the impoundment by creating a sufficient surface area for evaporation from the impoundment surface. The non-stormwater impoundment water balance and associated freeboard calculations are described in section 4.C.1 above and illustrated in Appendix C.

2. Residue, Sediment, and Debris Removal– A.A.C. R18-9-D304(D)(2)

Accumulated residues, sediment, debris and vegetation will be periodically removed from the impoundment to maintain the integrity of the liner and the design capacity of the impoundment.

3. Visual Inspection– A.A.C. R18-9-D304(D)(3)

The impoundment will be visually inspected at least monthly for cracks, tears, perforations and residual buildup. Results of the inspection will be documented in a log maintained as required by A.A.C. R18-9-D304(E)(2). The impoundment will be inspected and the results documented after the facility receives significant volumes of stormwater inflow.

4. Report Cracks, Tears, and Perforations– A.A.C. R18-9-D304(D)(4)

Any cracks, tears of perforations in the liner will be reported to ADEQ. The liner will be repaired as soon as practicable, but no later than 60 days under normal operating conditions after the damage has been discovered.

5. Process Solution Due to Upsets– A.A.C. R18-9-D304(D)(5)

No process solutions are expected to be generated or handled on site. Therefore, process solutions are not expected to enter the non-stormwater impoundment due to upset conditions.

6. Process Solution Due to Rainfall– A.A.C. R18-9-D304(D)(6)

No process solutions are expected to be generated or handled on site. Therefore, process solutions are not expected to enter the non-stormwater impoundment due to rainfall.

E. A.A.C. R18-9-D304(E): Recordkeeping

The following information will be maintained for at least 10 years from the issuance of this permit. This information will be made available to ADEQ upon request.

a. Construction drawings and as-built plans from the construction of the upgraded liner system.

b. Log book documenting inspection results, repair and maintenance activities, monitoring results, and facility closure.

c. Capacity design criteria.

d. Standard Operating Procedures for the facility.

e. Written QA/QC program for liner installation per A.A.C. R18-9-D304(C)(4). The QA/QC program for the existing liner is included in Appendix A. The QA/QC program for the liner upgrade is included in Appendix B.

f. Records of any unauthorized flows into the impoundment.

F. A.A.C. R18-9-D304(F): Reporting Requirements

1. Liner Breach or Overtopping– A.A.C. R18-9-D304(F)(1)

If the liner is breached or the impoundment is breached or is overtopped due to a catastrophic or other significant effect, Denison will notify ADEQ within 5 days of discovery and will implement the contingency plan discussed in section 4.B.3 above. Denison will submit a final report to ADEQ within 60 days of the event summarizing the circumstances of the identified breach or overtopping and describing the corrective actions taken to rectify the problem.

2. Unauthorized Flows– A.A.C. R18-9-D304(F)(2)

Unauthorized flows into the impoundment will be reported to ADEQ by Denison within 5 days of discovery. The contingency plan described in section 4.B.3 will be implemented in this eventuality.

G. A.A.C. R18-9-D304(G): Closure Requirements

1. Notification– A.A.C. R18-9-D304(G)(1)

Denison will notify ADEQ when Denison intends to permanently close the non-stormwater impoundment.

2. Closure Procedure– A.A.C. R18-9-D304(G)(2)

Within 90 days of notifying ADEQ of its intent to permanently close the facility, Denison will take the following steps:

a. Any remaining liquid or solid residue will be removed from the liner and disposed of properly;

b. The liner will be inspected for evidence of holes, tears, or defective seams that could have leaked during facility operations;

c. If evidence of leakage is discovered, the liner will be removed in the area of the suspected leakage and potentially impacted soils will be sampled and analyzed. If applicable soil remediation levels are exceeded, Denison will, within 60 days of determining that applicable soil remediation levels are exceeded, notify ADEQ and submit an action plan to ADEQ for approval describing the proposed steps to address the potentially impacted soils.

d. If no evidence of holes, tears, or defective seams is discovered, the liner will be either covered in place or removed for disposal in accordance with A.A.C. R18-9-D304(G)(2)(d)(i) because the impoundment is an excavated impoundment. The facility will be graded to prevent impoundment of water after closure in accordance with A.A.C. R18-9-D304(G)(2)(d)(iii).

3. Reporting– A.A.C. R18-9-D304(G)(3)

Denison will notify ADEQ within 60 days following closure that the action plan, if any, has been implemented and closure is complete.

5.0 REFERENCES

Energy Fuels Nuclear, Inc., 1986. The Pinenut Project, Environmental Assessment, A Major Modification to the Site No. 156 Plan of Operations for Uranium Production/AS-010-86-10P: EA No. AZ-010-86-015, Submitted to the U.S. Department of the Interior Bureau of Land Management, January 1986.

Montgomery, E.L. and Harshbarger, J.W., 1989. Arizona Hydrogeology and Water Supply, in Jenny, J.P. and Reynolds, S.J., editors, Geologic Evolution of Arizona: Arizona Geological Society Digest 17, pp. 147-158.

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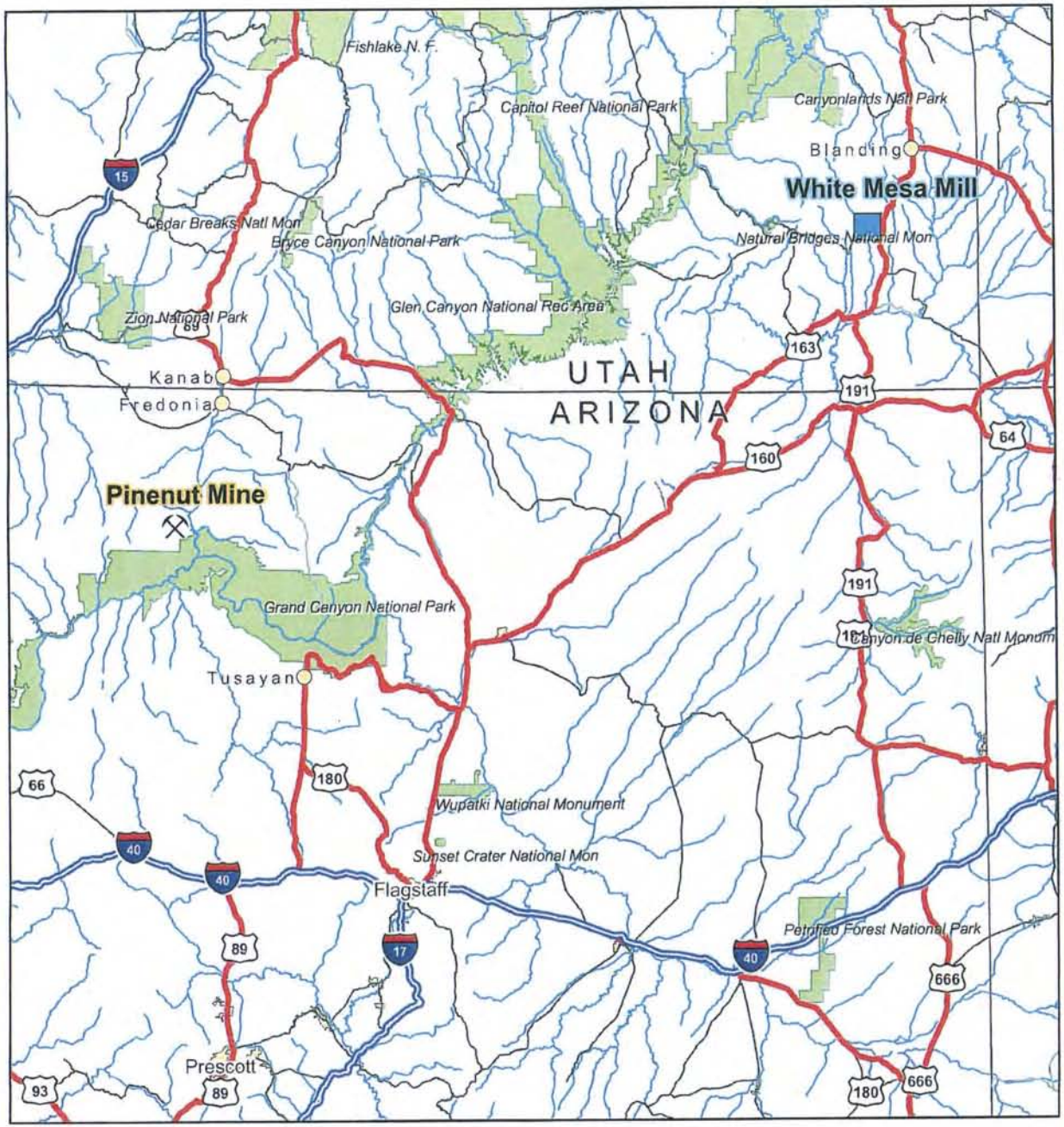
Wilson, E.D., 1962. A Resume of the Geology of Arizona: Arizona Bureau of Mines, Bulletin 171, p. 140.

FIGURES



LEGEND

- Pinenut Mine
- White Mesa Mill

N

0 25 50 100 Miles

SCALE 1:2,500,000

PROJECT

DENISON MINES
PINENUT MINE PROJECT
MOHAVE COUNTY, ARIZONA

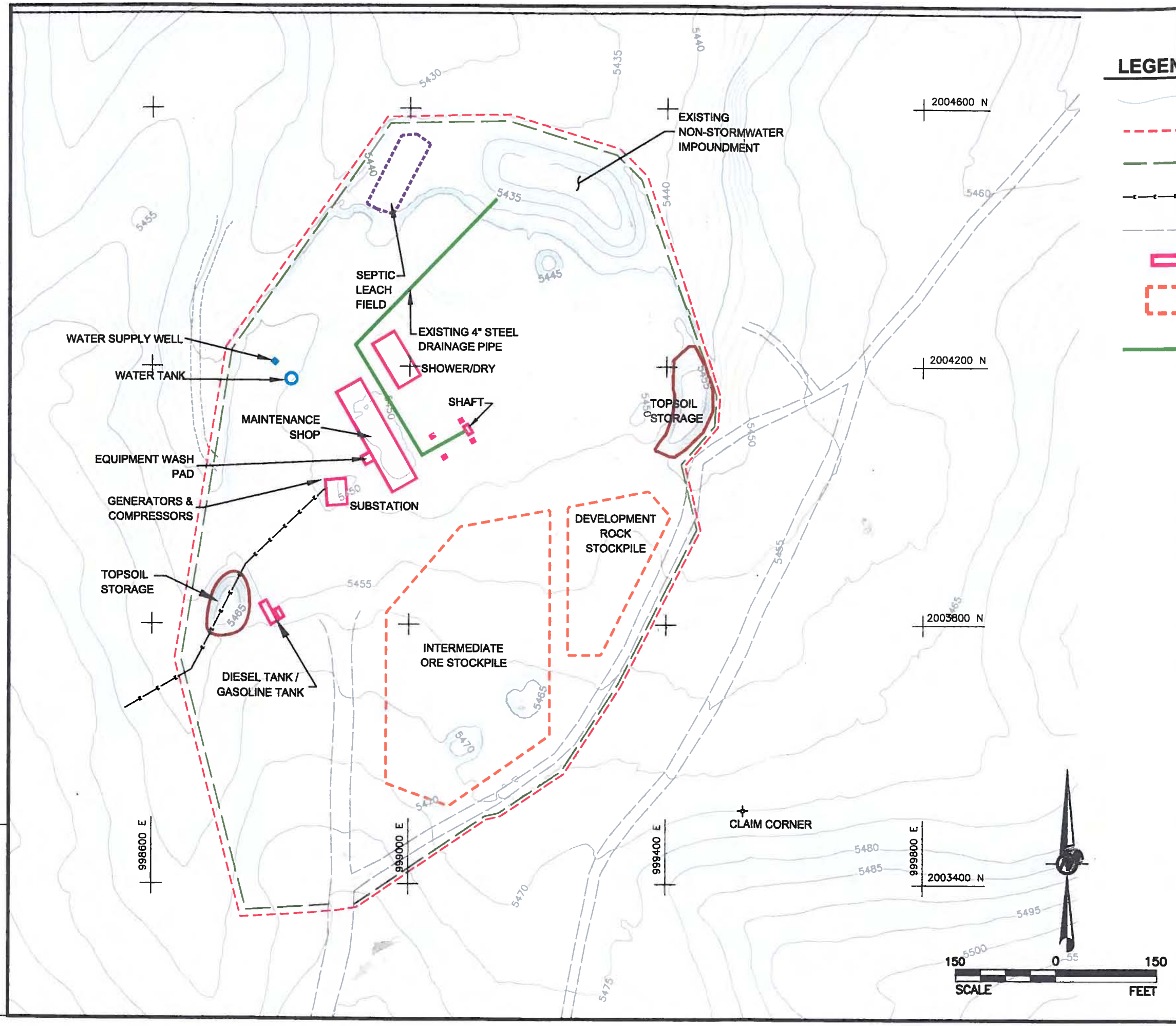
TITLE

SITE LOCATION

Golder Associates
Denver, Colorado

PROJECT No. 073-81678B			FILE No. Fig1_SiteLocation.mxd	
DESIGN	IJH	08/01/2007	SCALE 1:2,500,000	REV A
GIS	IJH	10/19/2007		
CHECK	RDH	11/26/2007		
REVIEW	DAC	12/19/07		

FIGURE 1



LEGEND

- EXISTING TOPOGRAPHIC CONTOURS
- PROPERTY BOUNDARY
- FENCE
- UTILITY LINE
- ROAD
- BUILDING/STRUCTURE
- FUTURE ORE/DEVELOPMENT ROCK STOCKPILE
- EXISTING DRAINAGE PIPE

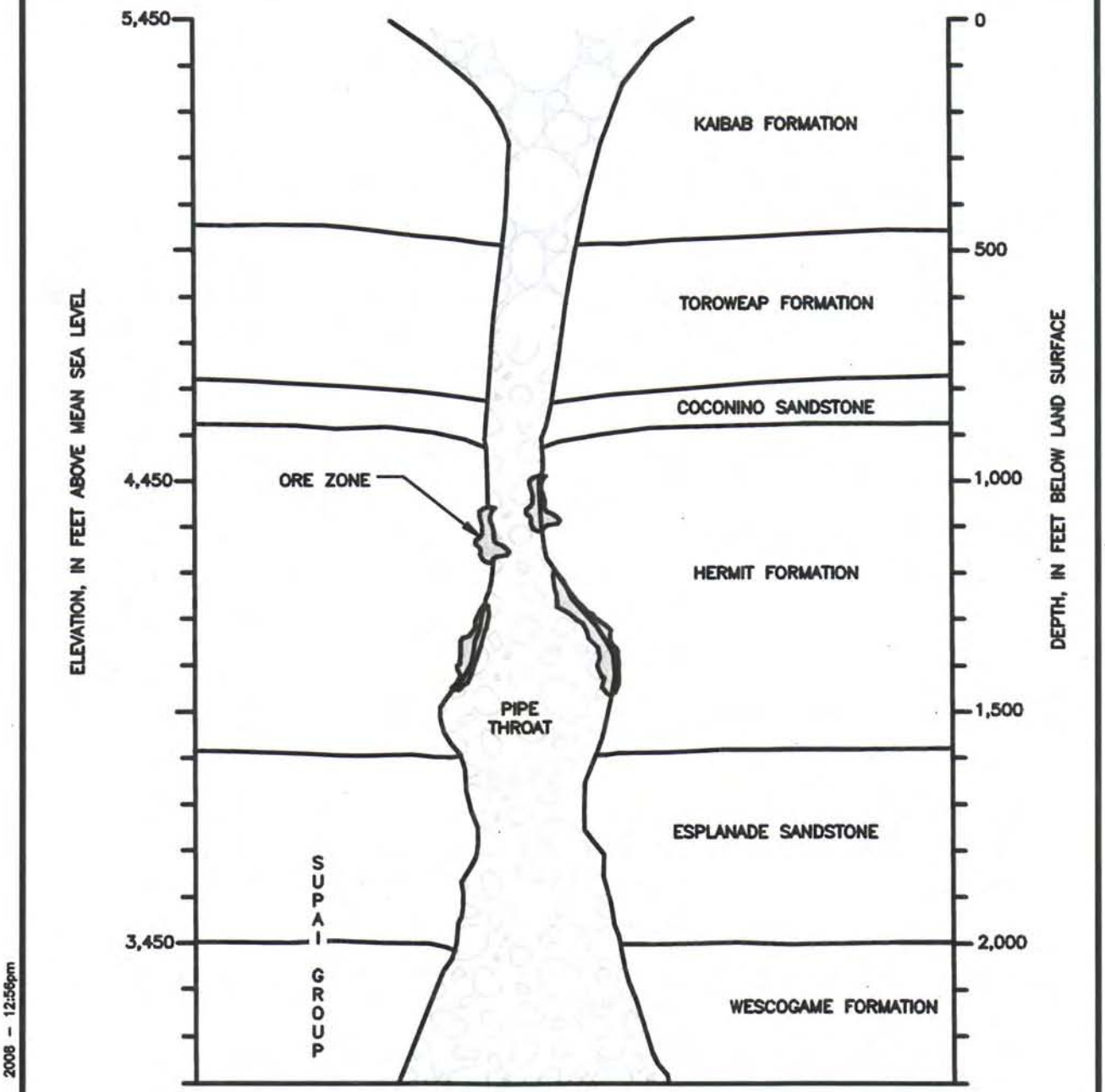
PROJECT
DENISON MINES (USA) CORP.
PINENUT MINE PROJECT
MOHAVE COUNTY, ARIZONA

TITLE
FACILITY SITE PLAN

Golder Associates
Denver, Colorado

PROJECT No.		073-81678E	FILE No.	07381678A016
DESIGN	JWR	01/04/08	SCALE 1" = 150'	REV. A
CADD	JWR	01/04/08		
CHECK	SS	02/09		
REVIEW	WTW	03/10/09		

FIGURE 2



PROJECT
DENISON MINES
PINENUT MINE PROJECT
MOHAVE COUNTY, ARIZONA

TITLE
GEOLOGIC CROSS-SECTION

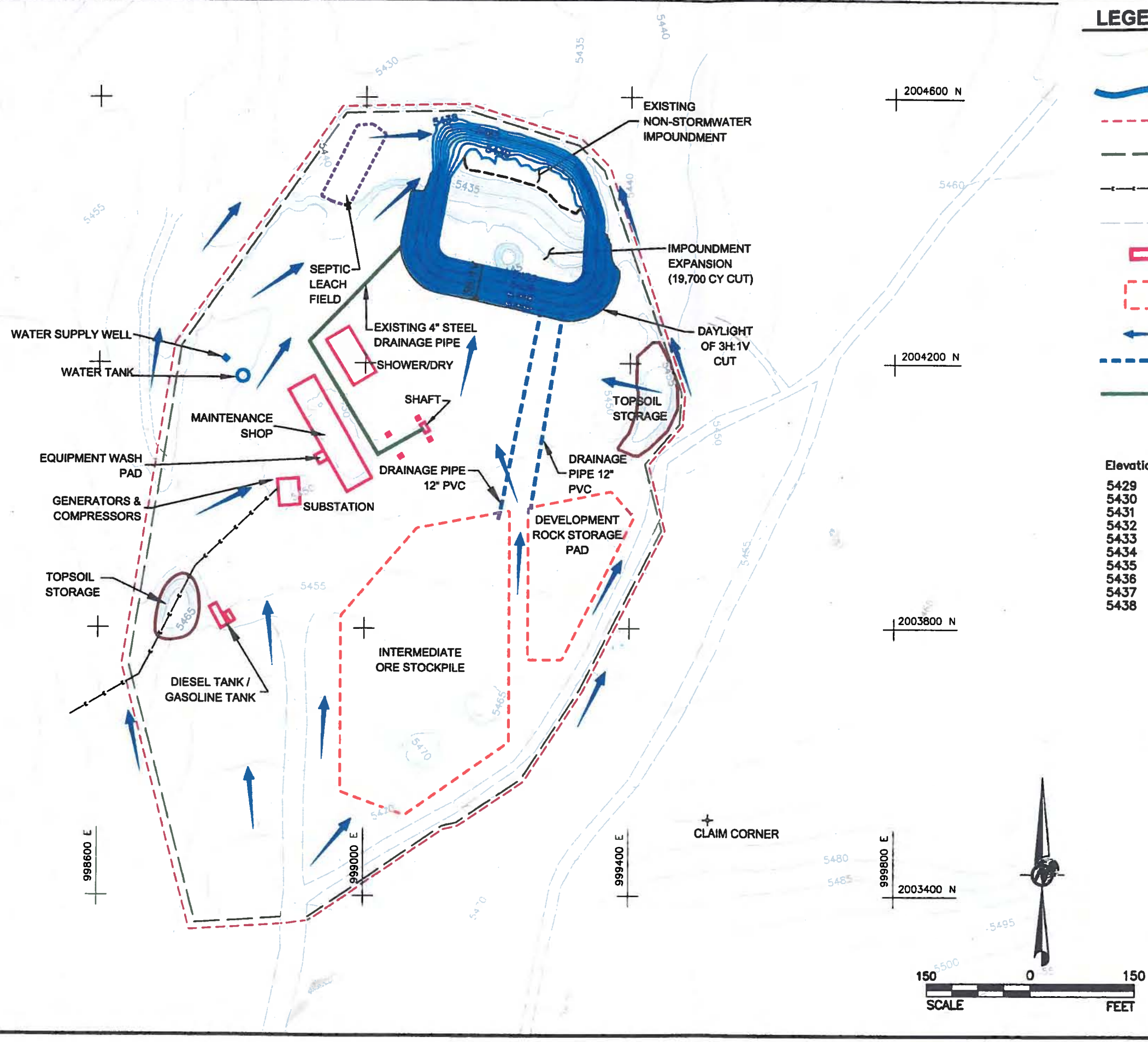
Sources:
(1) Adapted from Errol L. Montgomery & Associates, 1993, Canyon Mine APP Application, Figure 5
(2) Energy Fuels Nuclear, Inc., 1995, Pinenut Mine APP Permit Application
(3) Well Driller Report, ADWR Well Registration No. 55-613394

Golder Associates
Denver, Colorado

PROJECT No.	073-516788		FILE No.	073816784003
DESIGN	RB	10/31/07	SCALE AS SHOWN	REV. A
CADD	AMV	11/01/07		
CHECK	RDH	11/20/07		
REVIEW	DAC	11/21/07		

FIGURE 4

Drawing file: 073816784003.dwg Jan 14, 2008 - 12:56pm



LEGEND

- EXISTING TOPOGRAPHIC CONTOURS
- IMPOUNDMENT EXPANSION CONTOURS
- PROPERTY BOUNDARY
- FENCE
- UTILITY LINE
- ROAD
- BUILDING/STRUCTURE
- FUTURE ORE/DEVELOPMENT ROCK STOCKPILE
- SURFACE DRAINAGE
- FUTURE DRAINAGE PIPE
- EXISTING DRAINAGE PIPE

STAGE STORAGE–9.6 ACRE–FOOT EXPANDED POND

Elevation	Surface area SQ. FT.	Stage Volume CU. FT.	Cumulative Volume CU. FT.	Cumulative Volume ACRE FT.
5429	33226.08	0	0	0
5430	36762.82	34994.44	34994.44	0.8
5431	39706.13	38234.47	73228.91	1.7
5432	42427.07	41066.6	114295.51	2.6
5433	45050.28	43738.67	158034.18	3.6
5434	47653.76	46352.02	204386.2	4.7
5435	50277.91	48965.83	253352.03	5.8
5436	52944.05	51610.98	304963.01	7.0
5437	55725.39	54334.72	359297.73	8.2
5438	58912.75	57319.07	416616.8	9.6

Registered Professional Engineer (Civil)
CERTIFICATE NO
37318
SHEINA POOL
SADZA
Date Signed 3-17-09
ARIZONA U.S.A.
Expires 03-31-2011

FOR PERMITTING PURPOSES ONLY

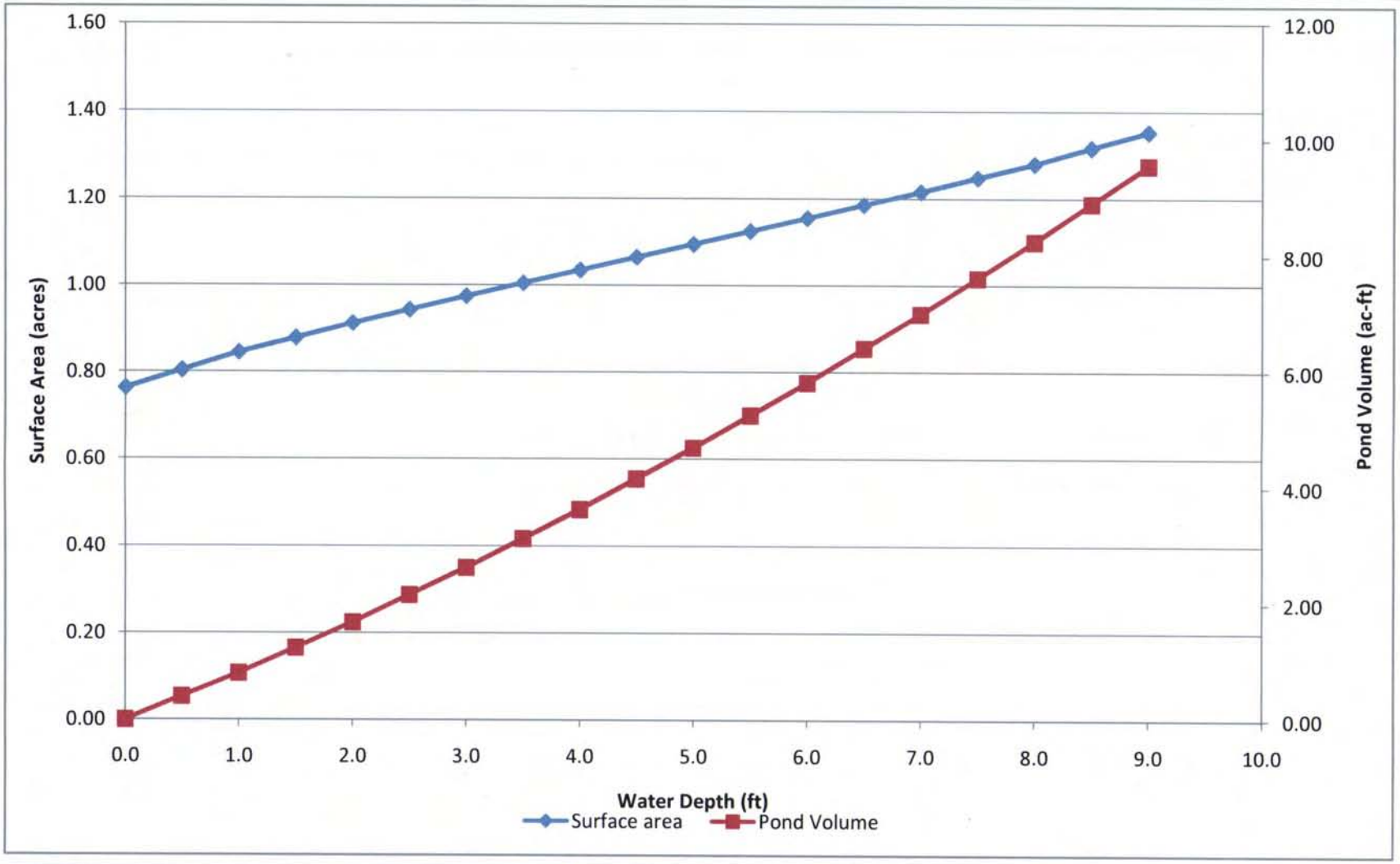
PROJECT
DENISON MINES (USA) CORP.
PINENUT MINE PROJECT
MOHAVE COUNTY, ARIZONA

TITLE
SITE DRAINAGE PLAN WITH CONCEPTUAL IMPOUNDMENT EXPANSION

Golder Associates
Denver, Colorado

PROJECT No.	073-81578E		FILE No.	07381678AD15
DESIGN	JWR	01/04/08	SCALE	1" = 150' REV. A
CADD	JWR	01/04/08		
CHECK	SS	02/09		
REVIEW	WTW	03/10/09		

FIGURE 5



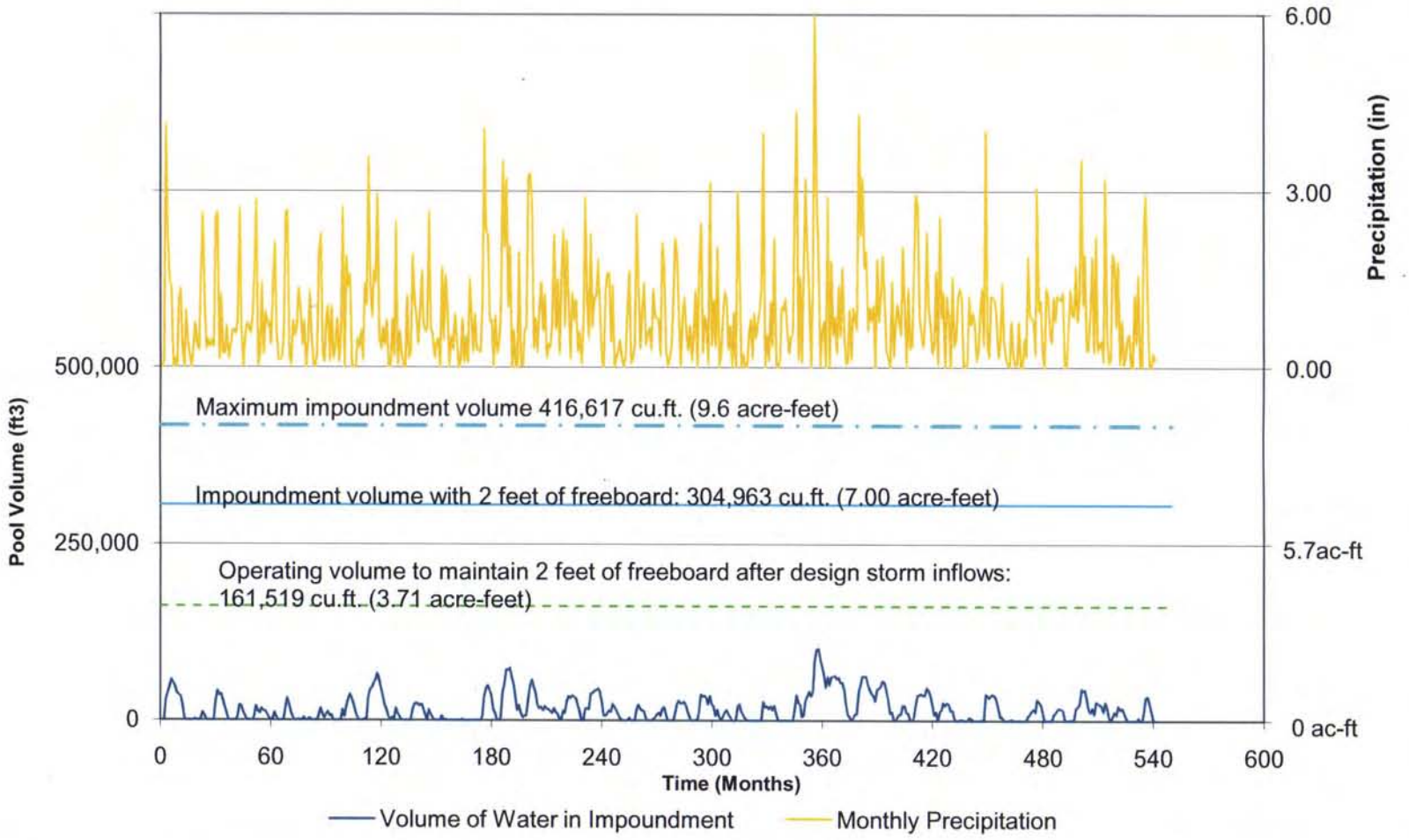
Golder Associates

DENVER, COLORADO USA

Stage-Area-Storage Relationship
Pinenut Mine Non-stormwater Impoundment

DENISON MINES (USA) CORP

DRAWN	SAH	DATE	Mar-09	JOB NO.	073-81678E
CHECKED	WTW	SCALE	As Shown	DWG. NO.	
REVIEWED	WTW	FILE NO.		FIGURE NO.	6



Golder Associates

DENVER, COLORADO USA

Non-Stormwater Impoundment Water Balance, Pinenut Mine
9.6 Acre-Foot Impoundment

DENISON MINES (USA) CORP

DRAWN	SAH	DATE	Mar-09	JOB NO.	073-81678E
CHECKED	WTW	SCALE	As Shown	DWG. NO.	
REVIEWED	WTW	FILE NO.		FIGURE NO.	7