LEGISLATIVE SUMMARY SHEET
Tracking No. 0176-15

DATE: May 7, 2015

TITLE OF RESOLUTION: PROPOSED STANDING COMMITTEE RESOLUTION, AN ACTION RELATING TO RESOURCES AND DEVELOPMENT; CLARIFYING ACJA-21-83; CLARIFYING ACAU-161-88; CLARIFYING RCAU-126-91; CLARIFYING THAT LAND USERS' CONSENTS ARE REQUIRED FOR WITHDRAWING A TOTAL OF 17.29 ACRES, MORE OR LESS, OF NAVAJO TRUST LAND (15.06 ACRES FOR USE AS A SAND AND GRAVEL PIT AND 2.23 ACRES FOR AN ACCESS ROAD), IN THE FORT DEFIANCE CHAPTER VICINITY AND CLARIFYING THAT AFTER THE LAND USERS' CONSENTS FOR THE LAND WITHDRAWAL ARE OBTAINED, A PROPOSED RESOLUTION FOR THE APPROVAL OF THE SAND AND GRAVEL LEASE AND ACCESS ROAD RIGHT-OF-WAY FOR 17.29 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS TO FORT DEFIANCE SAND AND GRAVEL, INC. TO OPERATE AND MAINTAIN A GRAVEL PIT AND ACCESS ROAD IN THE FORT DEFIANCE CHAPTER VICINITY WILL BE READY FOR CONSIDERATION BY THE RESOURCES AND DEVELOPMENT COMMITTEE

PURPOSE: The purpose of the resolution is for the Resources and Development Committee to clarify three resolutions (ACJA-21-83, ACAU-161-88 and RCAU-126-91) as they relate to land withdrawals and land user consents. Another purpose of this resolution is to state that land user consents are required for land withdraws and that the consents are to be for particular land withdrawal purposes.

This written summary does not address recommended amendments as may be provided by the standing committees. The Office of Legislative Counsel requests each Council Delegate to review each proposed resolution in detail.

5-DAY BILL HOLD PERIOD: Latonya Bulah
Website Posting Time/Date: 5:30pm 5/11/15
Posting End Date: 5/16/15
Eligible for Action: 5/17/15

PROPOSED STANDING COMMITTEE RESOLUTION

23rd NAVAJO NATION COUNCIL – First Year, 2015

INTRODUCED BY

(Prime Sponsor)

TRACKING NO. 0170-15

AN ACTION

RELATING TO RESOURCES AND DEVELOPMENT; CLARIFYING ACJA-21-83; CLARIFYING ACAU-161-88; CLARIFYING RCAU-126-91; CLARIFYING THAT LAND USERS' CONSENTS ARE REQUIRED FOR WITHDRAWING A TOTAL OF 17.29 ACRES, MORE OR LESS, OF NAVAJO TRUST LAND (15.06 ACRES FOR USE AS A SAND AND GRAVEL PIT AND 2.23 ACRES FOR AN ACCESS ROAD), IN THE FORT DEFIANCE CHAPTER VICINITY AND CLARIFYING THAT AFTER THE LAND USERS' CONSENTS FOR THE LAND WITHDRAWAL ARE OBTAINED, A PROPOSED RESOLUTION FOR THE APPROVAL OF THE SAND AND GRAVEL LEASE AND ACCESS ROAD RIGHT-OF-WAY FOR 17.29 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS TO FORT DEFIANCE SAND AND GRAVEL, INC. TO OPERATE AND MAINTAIN A GRAVEL PIT AND ACCESS ROAD IN THE FORT DEFIANCE CHAPTER VICINITY WILL BE READY FOR CONSIDERATION BY THE RESOURCES AND DEVELOPMENT COMMITTEE

BE IT ENACTED:

SECTION ONE. FINDINGS

A. Pursuant to 2 N.N.C. § 501 (B)(2), the Resources and Development Committee of the Navajo Nation Council has authority to give final approval of all land withdrawals, non-mineral leases, permits, licenses, rights-of-way, surface easements

and bonding requirements on Navajo Nation lands and unrestricted (fee) land. This authority shall include subleases, modifications, assignments, leasehold encumbrances, transfers, renewals, and terminations.

B. Pursuant to ACJA-21-83, the Advisory Committee of the Navajo Nation Council approved the withdrawal of 149.90 acres of land "for the purpose of a dam in the Fort Defiance Community." *See* ACJA-21-83 attached as Exhibit A.

C. The land was withdrawn for the purpose of constructing the Blue Canyon Dam and Recreational Area. The Resolution does not include a Sand and Gravel Pit as a purpose for the withdrawal. *See* ACJA-21-83 attached as Exhibit A.

D. Grazing permittees' consents were obtained and compensation made at the time of the initial Blue Canyon Dam Project withdrawal. *See* Agreement to Relinquish Grazing Rights for Proposed Blue Canyon Dam Project attached as Exhibit B.

E. Despite the land being withdrawn partially for the purpose of a dam and for recreation, the land was never used for those purposes.

F. Subsequently, in 1988 the Resources Committee recommended the withdrawal of an additional 40.979 acres of land at the Blue Canyon Dam area for the purpose of reopening the Blue Canyon Gravel Pit and the "reopening of the gravel pit at Blue Canyon Dam". *See* RCJL-85-88 attached as Exhibit C; *see also* RCJL-87-88 Recommending the Reopening of the Gravel Pit at Blue Canyon Dam and the Amendment of Advisory Committee Resolution ACJA-21-83 attached as Exhibit D.

G. In 1988 at the recommendation of the Resources Committee, the Advisory Committee amended ACJA-21-83 "approving the reopening of the Blue Canyon Dam Gravel Pit as described in Exhibit A" *See* ACAU-161-88 attached as Exhibit E.

H. Exhibit A in ACAU-161-88, which is a map of the Blue Canyon Dam area, purported to withdraw an additional 40.979 acres for the specific purpose of the gravel pit as originally recommended by the Resources Committee in RCJL-85-88. *See* Exhibit E.

I. However, it is uncertain as to whether land users' consents in that 40.979 acres was ever obtained (as there was no documentation of land users' consents attached to

resolution ACAU-161-88) or whether compensation was made as required by 16 N.N.C. § 1403 (Adverse disposition of Navajo Nation land not to be made until individual damages are estimated).

J. In 1991, the Resources Committee approved a Sand and Gravel Lease Permit for an "existing gravel pit" identified as the Blue Canyon Gravel Pit. *See* RCAU-126-91 attached as Exhibit F.

K. As in 1983 with ACJA-21-83, the affected land users were determined and consents were obtained. The applicant was directed to pay the land users for surface damages. *See* Exhibit F at Section 4 in the Whereas Clauses.

L. The affected land users consented to the gravel pit lease and received compensation "for the diminishment in value of [their] land use rights as a result of the above-referenced project as proposed." The above-referenced project was a six-month Sand and Gravel Lease for Daye Concrete, Inc. The land users' consents were obtained for the six month term of the sand and gravel lease.

M. The Fort Defiance Sand and Gravel, P.O. Box 1678, Window Rock, Arizona 86515, has submitted a Sand and Gravel Lease application for use of the Blue Canyon Gravel Pit. The proposed Sand and Gravel Lease is attached as Exhibit G.

N. The proposed Sand and Gravel Lease consists of 15.06 acres more or less, of Navajo Nation Trust Lands located E ½ & NW ¼ of Section 25, T.28N, R.30E, G&SRM, Apache County, Arizona. The location of said site is more particularly described on the map marked Exhibit H.

O. Fort Defiance Sand and Gravel has also applied for a right-of-way. The proposed Sand and Gravel Lease consists of 15.06 acres more or less, of Navajo Nation Trust Lands located E ½ & NW ¼ of Section 25, T.28N, R.30E, G&SRM, Apache County, Arizona. The location of the site is more particularly described on the map marked Exhibit I.

P. The issue of whether Land Users' Consents have been obtained for the 40.979 acres withdrawn in 1988 is still undetermined as it was not addressed in ACAU-161-88. See Memorandum from Herman Billie, Executive Review Summary Sheet and Memo from the Department of Justice attached collectively as Exhibit J.

Q. If consents are not obtained, affected land users must be given valid compensation for surface damages in accordance with 16 N.N.C. § 1403 (Adverse disposition of Navajo Nation land not to be made until individual damages are estimated) as determined by the Navajo Land Department and its agents. *See* Memorandum from Esther Kee dated August 8, 2014 attached as Exhibit K.

R. The Fort Defiance Chapter supports the establishment of a Sand and Gravel Pit. *See* Resolution FD-2012-02-09-06 attached as Exhibit L.

S. All environmental and archaeological studies and clearances, attached as Exhibit M, have been completed and are attached hereto and incorporated herein by this reference.

SECTION TWO. CLARIFYING ACJA-21-83

A. The Resources and Development Committee hereby clarifies that ACJA-21-83 withdrew 149.90 acres of land "for the purpose of a dam in the Fort Defiance Community.

B. The Resources and Development Committee hereby clarifies that the land users' consents were obtained for the withdrawal of 149.90 acres of land "for the purpose of a dam in the Fort Defiance Community.

C. The Resources and Development Committee hereby clarifies that the 149.90 acres of land was not withdrawn for sand and gravel leasing purposes.

SECTION THREE. CLARIFYING ACAU-161-88

A. The Resources and Development Committee hereby clarifies that ACAU-161-88 identified 40.979 acres for withdrawal at the Blue Canyon Gravel Pit for purposes of a gravel pit.

B. The Resources and Development Committee hereby clarifies that no land users' consents documentation was attached to Resolution ACAU-161-88 for the withdrawal of the 40.979 acres at the Blue Canyon Gravel Pit.

C. The Resources and Development Committee hereby clarifies that documentation of land users' consents must be obtained before the 40.979 acres may be withdrawn for sand and gravel leasing purposes.

SECTION FOUR. CLARIFYING RCAU-126-91

A. The Resources and Development Committee hereby clarifies that RCAU-126-91 approved a six-month term Sand and Gravel Lease for Daye Concrete, Inc.

B. The Resources and Development Committee hereby clarifies that RCAU-126-91 included the land user consents for that specific project which expired at the end of the lease term.

C. The Resources and Development Committee hereby clarifies that the land users' consents in RCAU-126-91 for the six month Sand and Gravel Lease for Daye Concrete, Inc., are not applicable to the current request for a sand and gravel lease for Fort Defiance Sand and Gravel because RCAU-126-91 was for a specific six month lease for Daye Concrete, Inc.

SECTION FIVE. CLARIFYING THAT LAND USERS' CONSENTS ARE REQUIRED FOR WITHDRAWING A TOTAL OF 17.29 ACRES (15.06 ACRES FOR USE AS A SAND AND GRAVEL PIT AND 2.23 ACRES FOR AN ACCESS ROAD), MORE OR LESS, OF NAVAJO TRUST LAND, IN THE FORT DEFIANCE CHAPTER VICINITY

A. The Fort Defiance Chapter supports the establishment of a Sand and Gravel Pit. See Resolution FD-2012-02-09-06 attached as Exhibit L.

B. The proposed land withdrawal for use as a sand and gravel pit consists of 15.06 acres more or less, of Navajo Nation Trust Lands located E ½ & NW ¼ of Section 25, T.28N, R.30E, G&SRM, Apache County, Arizona. The location of the site is more particularly described on the map marked Exhibit H.

C. The proposed access road land withdrawal consists of 15.06 acres more or less, of Navajo Nation Trust Lands located E ½ & NW ¼ of Section 25, T.28N, R.30E,

G&SRM, Apache County, Arizona. The location of the site is more particularly described on the map marked Exhibit H.

D. As Land Users' Consents are not evidenced in Resolution ACAU-161-88 withdrawing the 40.979 acres for the gravel pit, land users' consents will have to be obtained or if consents are not obtained, affected land users must be given valid compensation for surface damages in accordance with 16 N.N.C. § 1403 (Adverse disposition of Navajo Nation land).

E. All environmental and archaeological studies and clearances, attached as Exhibit M, have been completed and are attached hereto and incorporated herein by this reference

F. When land users' consents are obtained (or if consents are not obtained, affected land users must be given valid compensation for surface damages in accordance with 16 N.N.C. § 1403), the Resources and Development Committee of the Navajo Nation Council will consider a proposed resolution approving a land withdrawal of 15.06 acres, more or less, for a sand and gravel lease site, and 2.23 acres, more or less, for an access road for a total of 17.29 acres, more or less, of Navajo Nation Trust Lands located within the Fort Defiance Chapter vicinity (Apache County, Arizona), Navajo Nation. The location is more particularly described on the survey map attached hereto as Exhibits H and I.

SECTION SIX. CLARIFYING THAT AFTER THE LAND USERS' CONSENTS FOR THE LAND WITHDRAWAL ARE OBTAINED, A PROPOSED RESOLUTION FOR THE APPROVAL OF THE SAND AND GRAVEL LEASE AND ACCESS ROAD RIGHT-OF-WAY FOR 17.29 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS TO FORT DEFIANCE SAND AND GRAVEL, INC. TO OPERATE AND MAINTAIN A GRAVEL PIT AND ACCESS ROAD IN THE FORT DEFIANCE CHAPTER VICINITY WILL BE READY FOR CONSIDERATION BY THE RESOURCES AND DEVELOPMENT COMMITTEE

A. When land users' consents are obtained (or if consents are not obtained, affected land users must be given valid compensation for surface damages in accordance with 16 N.N.C. § 1403), a proposed resolution will be ready for drafting to approve a sand and gravel lease to Fort Defiance Sand and Gravel, P.O. Box 1678, Window Rock, Arizona 86515, to operate and maintain a sand and gravel operation that will consist of 15.06 acres more or less, of Navajo Nation Trust Lands located E ½ & NW ¼ of Section 25, T.28N, R.30E, G&SRM, Apache County, Arizona. The location is more particularly described on the survey map attached hereto as Exhibit "H".

B. When land users' consents are obtained (or if consents are not obtained, affected land users must be given valid compensation for surface damages in accordance with 16 N.N.C. § 1403), a proposed resolution will be ready for drafting to approve an Access Road Right-of-Way that will be situated across Navajo Nation Trust Lands in E ½ Section of 35 & SE ¼ Section 26 & SW ¼ of Section 25, Township 28 North, Range 30 East, Gila and Salt River Meridian, Apache County, Arizona. A strip of land twenty feet (20 ft.) wide lying ten feet (10 ft.) each side of the following described center line and situated in E/2 Sec. 35, SE/4 Sec. 26 and SW/4 Sec. 25, Township 25 North, Range 30 East, Apache County, Arizona. The strip of land will be 0.92 miles long and will contain a total of 2.238 acres. The location is more particularly described on the map attached hereto and incorporated herein as Exhibit I.

C. When land users' consents are obtained (or if consents are not obtained, affected land users must be given valid compensation for surface damages in accordance with 16 N.N.C. § 1403), a proposed resolution will be ready for drafting to approve a Sand and Gravel Lease and Access Road Right-of-Way subject to, but not limited to the terms and conditions in the Lease attached hereto as Exhibit G.

EXHIBIT
tabbies
A

ACJA-21-83

Class "B" Resolution
Area Approval Required.

RESOLUTION OF THE
ADVISORY COMMITTEE OF THE
NAVAJO TRIBAL COUNCIL

See also ACAU-161-88

Concurring in the Order of the Chair
Navajo Tribal Council Withdrawing 149
Tribal Land for the Construction of the
and Recreational Area

WHEREAS:

1. Navajo Tribal Council Resolution CJN-24-55 authorizes the Chairman of the Navajo Tribal Council, with the concurrence and recommendation of the Advisory Committee, subject to the approval of the Secretary of the Interior or his authorized representative, to execute orders withdrawing designated tribal land for use in connection with authorized programs of benefit to the Navajo people; and

2. The Fort Defiance Chapter approved and recommended the withdrawal of 149.90 acres of land for the purpose of a dam in the Fort Defiance Community, as shown by the attached resolution marked Exhibit "A"; and

3. The Navajo Tribe entered into a Memorandum of Agreement with the United States of America and the Navajo Engineering and Construction Authority for the construction of the Blue Canyon Dam attached hereto as Exhibit "B"; and

4. The Navajo Tribal Council appropriated funds to be utilized in the Phase I construction of the Blue Canyon Dam by Resolution CF-17-82, attached hereto as Exhibit "C"; and

5. It is necessary to withdraw lands for the construction project area on which this dam and reservoir will be located; and

6. The withdrawal of said land has been approved by the local residents; and

7. Necessary field clearances have been made for said land by the Navajo Land Development Department; and

8. The Chairman of the Navajo Tribal Council has issued an Executive Order withdrawing said land attached hereto as Exhibit "D"; and

9. It is in the best interest of the Fort Defiance Chapter and the Navajo Tribe that said land be withdrawn for the purposes stated herein.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Advisory Committee of the Navajo Tribal Council does hereby concur in and approve the Order of the Chairman of the Navajo Tribal Council withdrawing the land described in Exhibit "C" at Fort Defiance, Navajo Nation (Arizona), for the construction of the Blue Canyon Dam and Recreational Area.

2. The Advisory Committee of the Navajo Tribal Council hereby sets the following policy with reference to these lands withdrawn and/or the lands in the immediate area thereof:

a. There shall be no fencing of the lands withdrawn without approval of the local grazing permittees.

b. Roads in the area withdrawn and the immediate area thereof shall be improved and maintained as funds are available.

c. Electricity will be made available to local residents in the immediate area of this withdrawn land when electric power becomes available.

d. The future management of the dam and reservoir recreation area and contributory watershed will be conducted by the Tribal Division of Resources in accordance with the Blue Canyon Reservoir and watershed operation and management plan to be adopted by the Resources Committee of the Navajo Tribe.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Advisory Committee of the Navajo Tribal Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 11 in favor and 0 opposed, this 10th day of January, 1983.

Harry Jim

Chairman Protempore
Advisory Committee

EXHIBIT "A"

RESOLUTION OF THE FORT DEFIANCE CHAPTER

Supporting the Construction of the Blue Canyon Reservoir near Fort Defiance, Arizona

WHEREAS:

1. The Indian Health Service/Navajo Tribal Utility Authority have conducted extensive engineering studies to determine the feasibility of construction of the Blue Canyon Dam and Reservoir; and

2. The Navajo Tribal Council has appropriated the Phase I construction funds for the project in the amount of $1,100,000 in the winter Council Session 1982; and

3. That the project is not feasible as a effective water storage reservoir unless the meadow wash reservoir located in the Fort Defiance Chapter (S9, R6W, T1N owned by the Navajo Tribe) is placed into a controlled release management program to pass water to the downstream proposed reservoir where water can be more effectively stored; and

4. The project is not feasible when construction of future reservoirs in the Blue Canyon watershed are subject to tribal approval and possible curtailment if those proposed upstream structures adversely affect the Blue Canyon Reservoir; and

5. The water storage reservoir will provide a major local resource to the Black Creek Valley in improved water supply, recreation benefits, and economic growth potential.

NOW, THEREFORE BE IT RESOLVED THAT:

The Fort Defiance Chapter supports the proposed construction of the Blue Canyon Dam subject to the following stipulations:

1. That the traditional land users in the reservoir construction area are compensated for grazing lands lost due to the project in accordance with Navajo Tribal Regulations.

2. That a concerted effort will be made to provide electric power to local residents in the immediate area of the land withdrawn for the project, when electric power is available.

3. That a concerted effort will be made to improve and maintain roads in the area of the land withdrawn for the project as funds are available.

EXHIBIT "A"

4. That a concerted effort will be made to provide water supply and waste disposal facilities in the area of the land withdrawn for the project as funds are available.

5. That there shall be no fencing of the lands withdrawn except for fencing of areas of danger (vertical cliffs) as determined necessary and intermittent security fencing where necessary.

6. That the future operation of the dam and reservoir will be in accordance with a documented operational plan which will include orderly release of water, planned recreational use of the facilities, maintenance of sanitary facilities, orderly housekeeping of areas open to public use.

7. That the Fort Defiance Chapter officials shall have input into the development of the operational plan and it shall be delegated to the Tribal Division of Resources for implementation.

That the Navajo Tribe will provide a method of replacing the stock water supply at the Meadow Wash Reservoir if the future operation of the reservoir under the management program results in adequate water not being available for stock watering.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Fort Defiance Chapter at a duly called meeting at Fort Defiance, Arizona, at which a quorum was present and that same was passed by a vote of 59 in favor and 0 opposed this 27 day of June, 1982.

Lennie Robertson
Council Delegate
Fort Defiance Chapter

Chapter President

Robert Natonabah
Council Delegate
Fort Defiance Chapter

Chapter Vice President

Chapter Secretary

MEMORANDUM OF AGREEMENT
BETWEEN
THE UNITED STATES OF AMERICA
AND
THE NAVAJO TRIBE, NAVAJO NATION
ARIZONA, NEW MEXICO, AND UTAH
AND
THE NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY

Blue Canyon Dam

Ft. Defiance, Arizona
Apache County
Navajo Nation

NA-82-432

Public Law 86-121

THIS AGREEMENT is made between the United States of America, acting through the Indian Health Service, Department of Health and Human Services, under and pursuant to the provisions of Public Law 86-121 (73. Stat. 267); and the Navajo Tribe, Navajo Nation; Arizona, New Mexico, and Utah; hereinafter called the Tribe, acting through the Navajo Tribal Council; and the Navajo Engineering and Construction Authority, an operating agency of the Navajo Tribe, hereinafter called NECA.

WITNESSETH:

WHEREAS, the Tribe is desirous of obtaining satisfactory water supply and adequate waste disposal facilities for the Indians in the Navajo Nation; and

WHEREAS, the Navajo Tribal Council established the Water Development Program and appropriated funds for Phase I Blue Canyon Dam construction through resolution *(illegible)*CF-17-82 on February 6, 1982 to provide a long term water supply for residents of Black Creek Valley on the Navajo Nation; and

WHEREAS, the Indian Health Service is desirous of assisting in the construction of sanitation facilities at the aforementioned location as a means of improving the health of the Indians; and

WHEREAS, the Tribe has reviewed and concurs with the provisions of the referenced Project Summary; and

WHEREAS, the Navajo Tribal Council has appropriated $1.1 million for Phase I construction which has been reduced to $700,000 by the Navajo Water Development Board due to funding needs on other Navajo water projects; and

EXHIBIT "B"

WHEREAS, the Navajo Tribal Council anticipates appropriating an additional $2.2 million in FY 83 and FY 84 to support the Phase II and Phase III Blue Canyon Dam construction effort.

NOW THEREFORE, in order to carry out the project as set forth in the attached Project Summary entitled Blue Canyon Dam, Phase I, Ft. Defiance, Arizona, dated June 1982, hereinafter called facilities, the parties mutually agree:

1. That the Tribe will provide through NECA:

   A. Necessary support services to procure and install equipment and supplies. NECA shall enter into contracts with outside entities where required due to specialized aspects of dam construction. NECA shall also provide the necessary administrative services to contract with an engineering firm who will provide the dam design and who will furnish construction inspection and monitoring. It is understood that retention of the design engineer by NECA is for administrative purposes only and that technical supervision of the dam designer shall be furnished by the Indian Health Service with periodic review by the engineering personnel of the Navajo Tribe, Division of Community Development.

   B. Necessary labor, tools, equipment, on-site supervision, and general field construction management necessary to complete Phase I construction.

   C. Necessary management of the field construction activities for this project in accordance with plans and specifications to be developed by the design engineer.

2. That NECA will make a report to the Chief, Sanitation Facilities Construction Branch, Office of Environmental Health and Engineering, Navajo Area Indian Health Service, in writing, of actual expenditures and project progress at least once each month. All field expenditures shall be certified by the Indian Health Service Project Engineer.

3. That the IHS will provide the Tribe and NECA:

   A. Technical direction and coordination of the project on behalf of the Navajo Tribe. This shall include the necessary services to direct and coordinate the activities of NECA, the design engineer, and various entities of the Navajo Tribe involved in the project.

   B. Technical direction in the selection of an engineering firm who shall furnish the actual design of the Blue Canyon Dam. Selection of an engineering firm shall be performed by a selection board composed of representatives of the Indian Health Service and the Navajo Tribe.

C. Review and concurrence in the design engineer's proposed plans and specifications for dam construction. Such review is to be conducted in conjunction with the Navajo Tribe, Division of Community Development.

D. Coordination of necessary permits, clearances, and approvals for the project.

E. On-site technical representation on behalf of the Navajo Tribe during construction. Such on-site technical representation shall include maintenance of an overall project schedule, coordination of the design engineer's activities with NECA, certification of costs incurred under this memorandum of agreement for payment, and maintenance of project cost records, coordination of field layout, liaison with interested entities of the Navajo Tribe, maintenance of change order documentation, field engineering to expedite actual project construction, correspondence with the design engineer and NECA, maintenance of as-built construction data, participation in the selection of outside services necessary for specialized aspects of dam construction, and all other functions necessary as the owner's representative in construction of the dam project.

F. Technical assistance in the development of operating guidelines for the proper utilization, maintenance, and protection of the dam facility constructed hereunder, which includes recreational and other aspects of the project.

G. Sanitation facilities for four relocation homes.

H. A monthly status report on the project will be provided to the Navajo Tribe, Division of Community Development.

I. A concerned effort towards seeking additional funding sources for the Phase II and Phase III construction effort.

4. That the Navajo Tribe, Division of Community Development will provide:

A. Five relocation homes affected by construction of the Blue Canyon Dam. House construction will be coordinated with IHS, for provision of a water supply project to serve four of the homes.

B. Approximately $24,000 will be provided to the Office of Navajo Land Development for grazing permittee compensation for the withdrawal of 150 acres for the project.

5. An engineering firm shall be retained to provide the actual design, plans and specifications of the dam under this agreement. The engineer shall prepare plans and specifications for construction of the project based upon recognized dam engineering

practices. During actual construction, the engineer shall monitor field construction practices to ensure compliance with the plans and specifications. The engineer shall also be responsible for furnishing field layout and other specialized engineering services as are jointly deemed necessary by the engineer and the Indian Health Service. The engineer shall review any proposed deviations from plans and specifications made during the construction process and shall make recommendations in regard to their feasibility and cost effectiveness which will be submitted to IHS for approval in the form of change order request. The engineer shall coordinate and document engineering tests required for quality control during construction. The contract under which the engineer is retained shall include language requiring errors and omission, public liability, and property damage insurance to protect the Tribe, IHS, and NECA from liabilities resulting from the engineering involvement in this project and shall also require the engineer to provide evidence of insurance. The limits of insurance shall be established as agreeable to the parties signatory to this agreement.

The engineer shall prepare preliminary plans and specifications together with detailed cost estimates for the dam which shall be submitted to IHS. IHS and the engineering staff of the Navajo Tribe, Division of Community Development, shall review and comment on the preliminary submittal. Upon concurrence by IHS and the Navajo Tribe, the plans and specifications shall be submitted by the engineer to the U.S. Bureau of Reclamation for approval. The engineer shall incorporate the requirements of the Bureau of Reclamation into final plans and specifications. The final plans and specifications as approved by BOR, IHS, and the Navajo Tribe shall govern actual field construction.

6. That to assist NECA in carrying out its portion of the Project and this Agreement, the Indian Health Service will make a monetary contribution to NECA for the full amount of its non-profit construction costs, including all direct and indirect overhead costs associated with the execution of this project.

7. Upon execution of this agreement the Navajo Tribe will make a contribution to the Phase I project in the amount of $676,000 from the Tribal Water Development fund. The IHS will make a contribution to the Phase I project in the amount of $100,000. The Indian Halth Service will administer these funds to make contributions to NECA, based on percentage of completion, periodically. The sum of all payments to NECA will not exceed $620,000, unless agreed upon in advance by the Indian Health Service, and the Navajo Tribe, Division of Community Development.

8. This agreement will be modified for the anticipated Phase II and Phase III construction periods.

9. That in consideration of the contributions made and maintenance responsibilities undertaken by the Tribe, upon completion of the Phase I construction, the Indian Health Service will waive all financial interest of the IHS in favor of the Tribe for all community facilities.

10. That in consideration of the contributions made and responsibilities assumed by the Tribe and undertaken by the individual Indian residents participating in this project, upon completion of the project, the Indian Health Service will transfer to the head of each household, without charge, the individual facilities and appurtenances provided on his premises. The proposed complete water well to serve the four families will be transferred in joint ownership.

11. That in the event that the Phase II or Phase III construction funds are not forthcoming, the Indian Health Service will transfer to the Navajo Tribe all facilities, including all design documents, cost analysis, and all facilities completed to that date.

12. That it is important that installation of the facilities provided for herein be completed as soon as is practicable in accordance with the schedule of the Indian Health Service Project Engineer.

13. That each agency will participate as described in the Project Summary. If unexpected circumstances occur which significantly change participation such as inability to perform, greater costs than estimated or changes in scope of work, an Amendment to this Agreement will be initiated.

IN WITNESS WHEREOF, the parties hereto have subscribed their names.

FOR THE NAVAJO TRIBE

NOV - 2 1982
Date

VICE Chairman, Navajo Tribal Council, having been duly authorized to enter into this Agreement on behalf of the Navajo Tribe by Resolution CN-62-59, passed by the Tribal Council on November 12, 1959

FOR THE NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY

9/14/82
Date

General Manager

FOR THE UNITED STATES OF AMERICA

9/16/82
Date

Director, Navajo Area Indian Health Service, Department of Health and Human Services

CF-17-82

Class "B" Resolution
Area Approval Required.

RESOLUTION OF THE
NAVAJO TRIBAL COUNCIL

Amending the Fiscal Year 1982
Approved Budget of the Navajo Nation
By Appropriating $4,853,637.00 From
Unappropriated Surplus Funds for the
Construction of Navajo Water Projects

WHEREAS:

1. The future growth and development of the Navajo Nation is inextricably intertwined with the Navajo Nation's efficient utilization of its water resources; and

2. The current hardships faced by the Navajo people in their daily struggle to survive will be lessened by further development of tribal water resources; and

3. To date, the federal government has substantially neglected its responsibility in providing for water developmental projects in the Navajo Nation; and

4. The lack of a meaningful federal commitment in terms of resources and dollars has had the effect of virtually halting water related economic development on the Navajo reservation; and

5. In light of the current budgetary cutbacks, it is even more doubtful that the Federal government will in the future provide financial support for water developmental projects; and

6. The Navajo Tribal Government must consequently make an immediate multi-year commitment within the limits of its own scarce resources to expend a minimum of $20 Million over a five year period for programs and projects designed to increase the number of acre feet of water resources utilized by the Tribe; and

7. Section 284 of Title Two of the Navajo Tribal Code vests the Chairman with such authority as is necessary to recommend a comprehensive water development program; and

8. Pursuant to this delegated authority, the Chairman of the Navajo Tribal Council requested the Navajo Water Commission, Navajo Division of Resources, Navajo Division of Community Development, Williams Brothers Engineering Company, Navajo Tribal Utility Authority, the Indian Health Service, and the Bureau of Indian Affairs to coordinate and submit plans for water development projects and cost estimates for such projects; and

EXHIBIT "C"

9. As a result of the collaboration of the above delineated entities, a proposal containing suggested specific projects for implementation was compiled and is attached hereto as Exhibit "A"; and

10. In order to examine the feasibility, to provide technical review and to initiate implementation of projects such as those contained in Exhibit "A" there is a need to create a Water Development fund; and

11. This action takes on increased urgency because the Navajo Nation faces increased competition from other present and potential users of scarce water resources throughout the Southwest, and because the Navajo Nation is now engaged in litigation in numerous courts in an effort to preserve and protect its water rights; and

12. There is increasing pressure from numerous sources to deprive the Navajo Nation of all present rights to the beneficial use of water not presently in actual use by the Tribe so that the Tribe stands to lose the overwhelming portion of its water rights, unless it embarks on an immediate program of accelerated usage; and

13. There is correspondingly a need by the tribal government to increase the capabilities of the Water Commission of the Tribal Government by authorizing additional funds to enhance the technical and regulatory capability of the Water Commission and to enhance its capacity to assert and protect the tribe's water rights; and

14. The Budget and Finance Committee has studied the proposed Water Development Program and recommended that the Fiscal Year 1982 Navajo Tribal Budget be amended in the amount of $4,603,637 from un-appropriated surplus as set forth below.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Navajo Tribal Council hereby amends the Fiscal Year 1982 Budget of the Navajo Nation by appropriating $4,853,637.00 from unappropriated surplus funds to be utilized to develop Navajo Water Development Projects such as those contained in Exhibit "A" and to provide technical review and determine feasibility and cost effectiveness in order to utilize tribal water resources more effectively for the benefit of the Navajo people.

2. The funds appropriated here shall not lapse at the end of Fiscal Year 1982 but shall be available as no-year funds until feasible water projects are completed.

3. The Navajo Tribal Council hereby directs the Chairman to submit a water projects proposal for Fiscal Year 1983 prior to approval of the Fiscal Year 1983 budget of the Navajo Nation so that funding for these programs may be incorporated into the budget.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Navajo Tribal Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 67 in favor and 2 opposed, this 12th day of February, 1982.

Vice Chairman
Navajo Tribal Council

EXHIBIT "D"

EXCUTIVE ORDER

Pursuant to the authority vested in me by the Navajo Tribal Council Resolution CJ-24-55 (16 N.T.C. § 1101), 149.90 acres, more or less, of Navajo Tribal land located at Fort Defiance, Navajo Nation, (Arizona), in the SE 1/4, Sec. 22, T1N, R6W, surveyed by the Office of Environmental Health and Engineering, Navajo Area Office, Public Health Service, Indian Health Service as described herein is hereby withdrawn for a dam site purpose, as authorized by the Fort Defiance Chapter.

Navajo land so reserved shall remain in a withdrawn status for so long as used for the purposes authorized and all land and improvements will revert to the Navajo Tribe when the dam and other related facilities ceases to exist for the purposes authorized.

TRACT DESCRIPTION

A certain tract or parcel of land lying and being situate wthin Township 1 North, Range 6 West, County of Apache, State of Arizona, being more particularly bounded and described as follows to wit:

Beginning at a point being the most southerly point of said tract or parcel of land, said same beginning point having Arizona (East Zone) State Plane Coordinate Values X=815,442.00 (scaled), Y=1,740,450.00 (scaled) said point being 50 feet from the apparent centerline of Navajo Route No. 73 and from whence the East side monument B.C. as set by William Pettit & Associates bears a grid bearing of N 17° 27' 04" W,

a distance of 1491.28 feet; thence on a grid bearing of N 31°43'54"E
a distance of 332.85 feet; thence on a grid bearing of N 14°42'22"W,
a distance of 311.30 feet; thence on a grid bearing of N 36°44'13"E,
a distance of 516.78 feet; thence on a grid bearing of N 00°43'10"E,
a distance of 637.27 feet; thence on a grid bearing of N 26°31'47"E,
a distance of 727.86 feet; thence on a grid bearing of N 35°16'52"W,
a distance of 259.79 feet; thence on a grid bearing of N 15°08'18"E,
a distance of 517.12 feet; thence on a grid bearing of N 87°47'51"W,
a distance of 442.48 feet; thence on a grid bearing of N 10°15'15"E,
a distance of 404.60 feet; thence on a grid bearing of N 08°56'26"W,
a distance of 740.24 feet; thence on a grid bearing of N 24°45'35"W,
a distance of 781.04 feet; thence on a grid bearing of N 80°53'19"W,
a distance of 859.13 feet; thence on a grid bearing of N 11°06'08" E,
a distance of 649.37 feet; thence on a grid bearing of N 43°50'40"W,
a distance of 491.00 feet; thence on a grid bearing of S 23°27'52"W,
a distance of 537.62 feet; thence on a grid bearing of S 01°54'41"W,
a distance of 809.73 feet; thence on a grid bearing of S 52°48'47"E,
a distance of 723.26 feet; thence on a grid bearing of S 16°58'43"W,
a distance of 846.16 feet; thence on a grid bearing of S 16°58'43"W,
a distance of 514.47 feet; thence on a grid bearing of S 62°52'22"E,
a distance of 733.04 feet; thence on a grid bearing of S 00°32'51"W,
a distance of 314.12 feet; thence on a grid bearing of S 43°19'33"W,
a distance of 677.93 feet; thence on a grid bearing of S 63°40'49"W,
a distance of 313.61 feet; thence on a grid bearing of S 33°11'22"E,
a distance of 508.03 feet; thence on a grid bearing of S 25°58'36"E,

A distance of 609.79 feet to a point 50 feet North, of the apparent centerline of Navajo Route No. 73; thence on a grid bearing of S 48° 09' 13" E, a distance of 1028.64 feet to the true point and place of beginning.

Containing 149.90 acres more or less.
Surveyed May 06, 1982.

Peter MacDonald, Chairman
Navajo Tribal Council

Dated this _____ day of _____, 1982.

AGREEMENT TO RELINQUISH GRAZING RIGHTS
FOR THE PROPOSED BLUE CANYON DAM PROJECT
IN FORT DEFIANCE, NAVAJO NATION (ARIZONA)

EXHIBIT B

We, the undersigned, representing members of the Haskie family living in the geographic area of the Fort Defiance Chapter, who hold valid and legal grazing permits in the area of the proposed Blue Canyon Dam Project, which is more particularly shown on the preliminary right-of-way map dated March 12, 1982 (Project NA-82-432), hereby agree to relinquish all grazing and legal rights to said land if the following compensation is paid and the following conditions are met. It is understood that no more than 92.6 acres, more or less, of our land will be withdrawn for the purpose of the dam.

The consent to the relinquishment of grazing rights in the above-described land is subject to the following conditions:

1. Authorized Grazing permittees will receive $160.00 per acre for the loss of grazing land.

2. Electrical service will be provided to affected families, as per the attached letter of commitment dated May 20, 1982 from the Navajo Tribal Utility Authority.

3. A new home will be constructed for the one family that will require relocation as a result of the dam project, as per the attached letter of commitment dated May 21, 1982 from the Division of Community Development.

NAME	CENSUS NUMBER	DATE
Ronalah Haskie	C#	5-24-82
[illegible]	C#	5-21-82
[illegible]	C#	5-24-82
[illegible]		5-21-82

Exhibit D

CONSENT TO USE

NAVAJO TRIBAL LANDS

WHOM IT MAY CONCERN:

Nanabah Haskie — Census #
General Delivery, Fort Defiance, Arizona 86504

Key Watchman — Census #
General Delivery, Fort Defiance, Arizona 86504

Lennie Robertson — Census #
General Delivery, Fort Defiance, AZ 86504

Dorothy H. Belone — Census #
Box #282, Fort Defiance, AZ 86504

reby grant consent to the Navajo Tribe, the Bureau of Indian Affairs, dow Rock, Arizona to permit.

dian Health Services, Navajo Tribal Utility Authority, and Division of Community Development

Window Rock, Arizona to use a portion of my (our) authorized tomary Use Area, as drawn on the back, for the following purpose (s):

or the withdrawal of land for contruction of Blue Canyon Dam, Project No. NA-82-432, subject the attach agreement and letters of commitments.

e:		Permittee, Grazing Permit # Unit	Witness:
e: 5-24-82	1. Nanabah Hoskie	18-520	
	Permittee, Grazing Permit # Unit		Witness:
e: 5-21-82	2. Kee Watchman	1/2 unit - P# 18-560	
	Permittee, Grazing Permit # Unit		Witness:
e: 6-24-82	3. Lenn Robertson	18-520	
	Permittee, Grazing Permit # Unit		Witness:
e: 5-21-82	4. Dorothy Belone	1/2 unit P# 18-03-78	
	Permittee, Grazing Permit # Unit		Witness
: 6-21	5. Delbert L Benally		18
	Grazing Committee Member		District Number
: 6/22/82	6. Acting		Fort Defiance
	Branch of Land Operations Natural Resource C...		Agency

RKS: Our records verify that Kee Watchman and Dorothy Belone have valid grazing permits, and Permit No. 18-520 belonged to Robert Hoskie, who is deceased, and his permit has not been probated to anyone yet. However, Nonabah Hoskie and Lenny Robertson claim their interes(o the permit.

R E L E A S E

For and in consideration of the sum of Three Thousand Six Hundred Thirty-Two Dollars ($3,632.00) paid to the undersigned by the The Navajo Tribe, Division of Community Development the undersigned for (herself/~~xxxxxxxx~~) and (her/~~xxxx~~) heirs, distributees, executors, administrators, and assigns, does remise release and forever discharge the THE NAVAJO TRIBE, its successors and assigns, from any and every claim or cause of action arising out of the withdrawal of Tribal land for Construction of Blue Canyon Dam and Recreational Area, IHS Project No. NA-82432, pursuant to Advisory Committee Resolution No. ACJA-21-83 and pursuant to Memorandum of Agreement between Indian Health Services (U.S.), Navajo Tribe and Navajo Engineering and Construction Authority (NECA)

In witness whereof, (we/I) have hereunder set (my/~~xxx~~) hand(s) this 27th day of April 19 83

WITNESSES:

Payee, Nanabah Hoskie C#

Grazing Permit # 18-520

~~Payee~~ ~~C#~~

Pd. by Check No. 829462 $3,632.00

Dated 04/26/83

R E L E A S E

For and in consideration of the sum of "Three Thousand Six Hundred Thirty-Two Dollars" ($3,632.00) paid to the undersigned by the THE NAVAJO TRIBE, Division of Community Development the undersigned for (herself/~~themselves~~) and (her/~~their~~ heirs, distributees, executors, administrators, and assigns, does remise release and forever discharge the NAVAJO TRIBE, its successors and assigns, from any and every claim or cause of action arising out of the withdrawal of Tribal land for Construction of Blue Canyon Dam and Recreational Area, IHS Project No. NA-82432, pursuant to Advisory Committee Resolution No. ACJA-21-83 and pursuant to Memorandum of Agreement between Indian Health Services (U.S.), Navajo Tribe and Navajo Engineering and Construction Authority (NECA).

In witness whereof, (~~we~~/I) have hereunder set (my/~~our~~) hand(s) this 27th day of April 19 83

WITNESSES:

Payee, Kee Watchman C#

Grazing Permit # 18-560

~~Payees~~, ~~C#~~

Pd. by Check No. 829465 $3,632.00

Dated 04/26/83

R E L E A S E

For and in consideration of the sum of "Three Thousand Six Hundred Thirty-Two Dollars" ($3,632.00) paid to the undersigned by the THE NAVAJO TRIBE, Division of Community Development the undersigned for (himself/~~themselves~~) and (his/their) ~~heirs~~, distributees, executors, administrators, and assigns, does remise release and forever discharge the NAVAJO TRIBE, its successors and assigns, from any and every claim or cause of action arising out of the withdrawal of Tribal land for Construction of Blue Canyon Dam and Recreational Area, IHS Project No. NA-82432, pursuant to Advisory Committee Resolution No. ACJA-21-83 and pursuant to Memorandum of Agreement between Indian Health Services (U.S.), Navajo Tribe and Navajo Engineering and Construction Authority (NECA).

In witness whereof, (~~we~~/I) have hereunder set (my/~~our~~) hand(s) this 27th day of April 19 83

WITNESSES:

Payee, Lennie Robertson C#

Grazing Permit # 18-520

~~Assignee~~, ~~C#~~

Pd. by Check No. 829464 $3,632.00

Dated 04/26/83

R E L E A S E

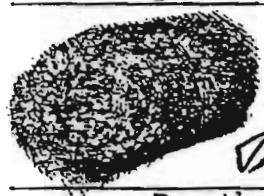
For and in consideration of the sum of "Three Thousand Six Hundred Thirty-Two Dollars" ($3,632.00) paid to the undersigned by the THE NAVAJO TRIBE, Division of Community Development the undersigned for (herself/themselves) and (her/their) heirs, distributees, executors, administrators, and assigns, does remise release and forever discharge the Navajo Tribe, its successors and assigns, from any and every claim or cause of action arising out of the withdrawal of Tribal land for Construction of Blue Canyon Dam and Recreational Area, IHS Project No. NA-83432, pursuant to Advisory Committee Resolution No. ACJA-21-83 and pursuant to Memorandum of Agreement between Indian Health Services (U.S.), Navajo Tribe and Navajo Engineering and Construction Authority (NECA).

In witness whereof, (we/I) have hereunder set (my/our) hand(s) this 27th day of April 19 83

WITNESSES:

Regina D. Smith / granddau.

Larry A. Smith



left thumb print
THUMB PRINT FOR DOROTHY Belone Signature

Payee, Dorothy H. Belone C# 50112

Grazing Permit # 18-03-78

Payee, C#

Pd. by Check No. 829460 $3,632.00

Dated 04/26/83

B. Landusers within the North Portion of the Withdrawn Area.

1. Nanabah Hoskie , C#55473
General Delivery
Fort Defiance, Arizona 86504

2. Kee Watchman, C#50106
General Delivery
Fort Defiance, Arizona 86504

3. Lennie Robertson, C#51530
General Delivery
Fort Defiance, Arizona 86504

4. Dorothy H. Belone, C#50112
General Delivery
Fort Defiance, Arizona 86504

Per attached agreement, the above authorized grazing permittees will receive $160.00 per acre for lands below and above waterline.

a. Land above waterline, 42.21 Ac. x $160.00 = $ 6,753.60
b. Land below waterline, 48.59 Ac. x $160.00 = $ 7,774.40

90.80 Ac. TOTAL: $14,528.00

Summary:

$14,528.00 ÷ 4 = $3,632.00 to be issued to each individual listed above.

C. Landuse Right Holder with Agricultural Use Permit Located within the North Portion of the Withdrawn Area.

1. Harriet Yazzie, C#84081
P.O. Box 782
Fort Defiance, Arizona 86504

Land Use Permit #18-12-78 for Agricultural Use for a total of 6.0 Acres, issued on Dec. 11, 1978.

As appraised and determined by the Office of Navajo Land Development for farm land situated within the withdrawn area comprising of 6.0 acres, shall be compensated for at a dollar value of $500.00 per acre.

a. Farm Land, 6.0 Ac. x $500.00 = $3,000.00

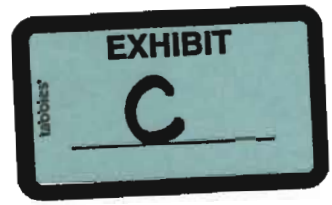
6.0 Ac. TOTAL: $3,000.00

... to the permit holder listed above ... must ...
... section.

... Navajo Land Development, Navajo ...

Alfred DeMaya, Acting Director
Office of Navajo Land Development
Navajo Division of Resources

RCJL-85-88



RESOLUTION OF THE
RESOURCES COMMITTEE OF
THE NAVAJO TRIBAL COUNCIL

Recommending the Withdrawal of an Additional 40.979 Acres of Land at Blue Canyon Dam and the Amendment of Advisory Committee Resolution ACJA-21-83

WHEREAS:

1. Pursuant to CJA-1-81, the Resources Committee of the Navajo Tribal Council, a Standing Committee, has been authorized to investigate matters relating to lands and resources of the Navajo Tribe; and

2. Pursuant of Resolution ACMA-35-84, the Resources Committee of the Navajo Tribal Council is authorized to oversee the regulation of all activities within ;the Tribal ranch lands, including recommending approval or disapproval of lease, acquisitions and all actions which may involve disposition or acquisition of resources, surface disturbances, or alteration of the natural resources; and

3. The Advisory Committee of the Navajo Tribal Council approved a land withdrawal of 149.90 acres, more or less, for the construction of the Blue Canyon Dam and Recreational Area by Resolution ACJA-21-83, attached hereto as Exhibit "B" and made a part hereof; and

4. The Fort Defiance Chapter has requested for an amendment of the withdrawal of an additional 40.979 acres, more or less, which is adjacent to the withdrawn area, the location is more particularly described on the survey plat marked as Exhibit "A", attached hereto and made a part hereof;and

5. By Resolution attached hereto as Exhibit "C", the Fort Defiance Chapter recommended to reopen the Blue Canyon Gravel Pit, so that a vendor can use the gravel pit for the construction of the Highway 264 from Arizona/New Mexico State Line to Ya-Ta-Hey Junction, McKinley County, New Mexico; and

6. It is in the best interest of the Navajo Nation that the said land be withdrawn for the purpose of reopening the Blue Canyon Gravel Pit.

NOW THEREFORE BE IT RESOLVED THAT:

The Resources Committee of the Navajo Tribal Council does hereby recommend the amendment of Advisory Committee Resolution ACJA-21-83, by withdrawing an additional 40.979 acres along with the original 149.90 acre tract, for a total withdrawal of 190.879 acres.

RCJL-85-88

C E R T I F I C A T I O N

I hereby certify that the foregoing resolution was considered by the Resources Committee of the Navajo Tribal Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present, and that same was passed by a vote of 4 in favor and 0 opposed, and 1 abstaining, this 28th day of July, 1988.

Benjamin A. House, Chairman
Resources Committee

MOTIONED: Walter Atene
SECONDED: Alfred L. Yazzie

RCJL-87-88

EXHIBIT
tabbies
D

RESOLUTION OF THE
RESOURCES COMMITTEE OF THE
NAVAJO TRIBAL COUNCIL

Recommending the Reopening of the Gravel Pit
at Blue Canyon Dam and
the Amendment of Advisory Committee Resolution ACJA-21-83

WHEREAS:

1. Pursuant to Resolution CJA-1-81, the Resources Committee of the Navajo Tribal Council was reaffirmed as a Standing Committee of the Navajo Tribal Council; and

2. Pursuant to Resolution ACMA-35-84, the Resources Committee is authorized to make recommendations concerning the disposition of lands to the Advisory Committee of the Navajo Tribal Council; and

3. The Advisory Committee of the Navajo Tribal Council approved a land withdrawal of 149.90 acres, more or less, for the construction of the Blue Canyon Dam and Recreational Area by Resolution ACJA-21-83, attached hereto as Exhibit "B" and made a part hereof; and

4. By Resolution attached hereto as Exhibit "C", the Fort Defiance Chapter recommended the reopening of the Blue Canyon Gravel Pit, so that a vendor can use the gravel pit materials for the construction of the additional lanes for Highway 264 from the Arizona/New Mexico State Line to Ya-Ta-Hey Junction, McKinley County, New Mexico; and

5. It is in the best interest of the Navajo Nation that the Blue Canyon gravel pit be reopened.

NOW THEREFORE BE IT RESOLVED THAT:

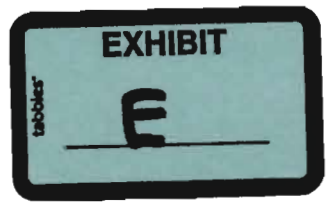
The Resources Committee of the Navajo Tribal Council hereby recommends to the Advisory Committee of the Navajo Tribal Council the reopening of the Blue Canyon Dam gravel pit and the amendment of Resolution ACJA-21-83.

C E R T I F I C A T I O N

I hereby certify that the foregoing resolution was duly considered by the Resources Committee of the Navajo Tribal Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present, and that same was passed by a vote of 4 in favor and 0 opposed, this 29th day of July, 1988.

Benjamin A. House, Chairman
Resources Committee

MOTIONED: Alfred L. Yazzie
SECONDED: Robert E. Ahkeah



ACAU-161-88

Class "C" Resolution
No BIA Action Required.

RESOLUTION OF THE
ADVISORY COMMITTEE OF THE
NAVAJO TRIBAL COUNCIL

Approving the Reopening of the Blue Canyon Dam Gravel Pit and the Amendment of Resolution ACJA-21-83

WHEREAS:

1. Pursuant to Resolution CJA-1-81, the Advisory Committee of the Navajo Tribal Council is authorized to give final approval of withdrawals of Navajo lands; and

2. By Resolution ACJA-21-83, attached hereto as Exhibit "B" and made a part hereof, the Advisory Committee of the Navajo Tribal Council approved a land withdrawal of 149.90 acres, more or less, for the construction of the Blue Canyon Dam and Recreational Area; and

3. By Resolution, attached hereto as Exhibit "C", the Fort Defiance Chapter recommended the reopening of the Blue Canyon Gravel Pit as described in Exhibit "A" so that a vendor can use the gravel pit for the construction of the additional lanes for Highway 264 from the Arizona/New Mexico State Line to Ya-Ta-Hey Junction, McKinley County, New Mexico; and

4. It is in the best interest of the Navajo Nation that the Blue Canyon gravel pit be reopened.

NOW THEREFORE BE IT RESOLVED THAT:

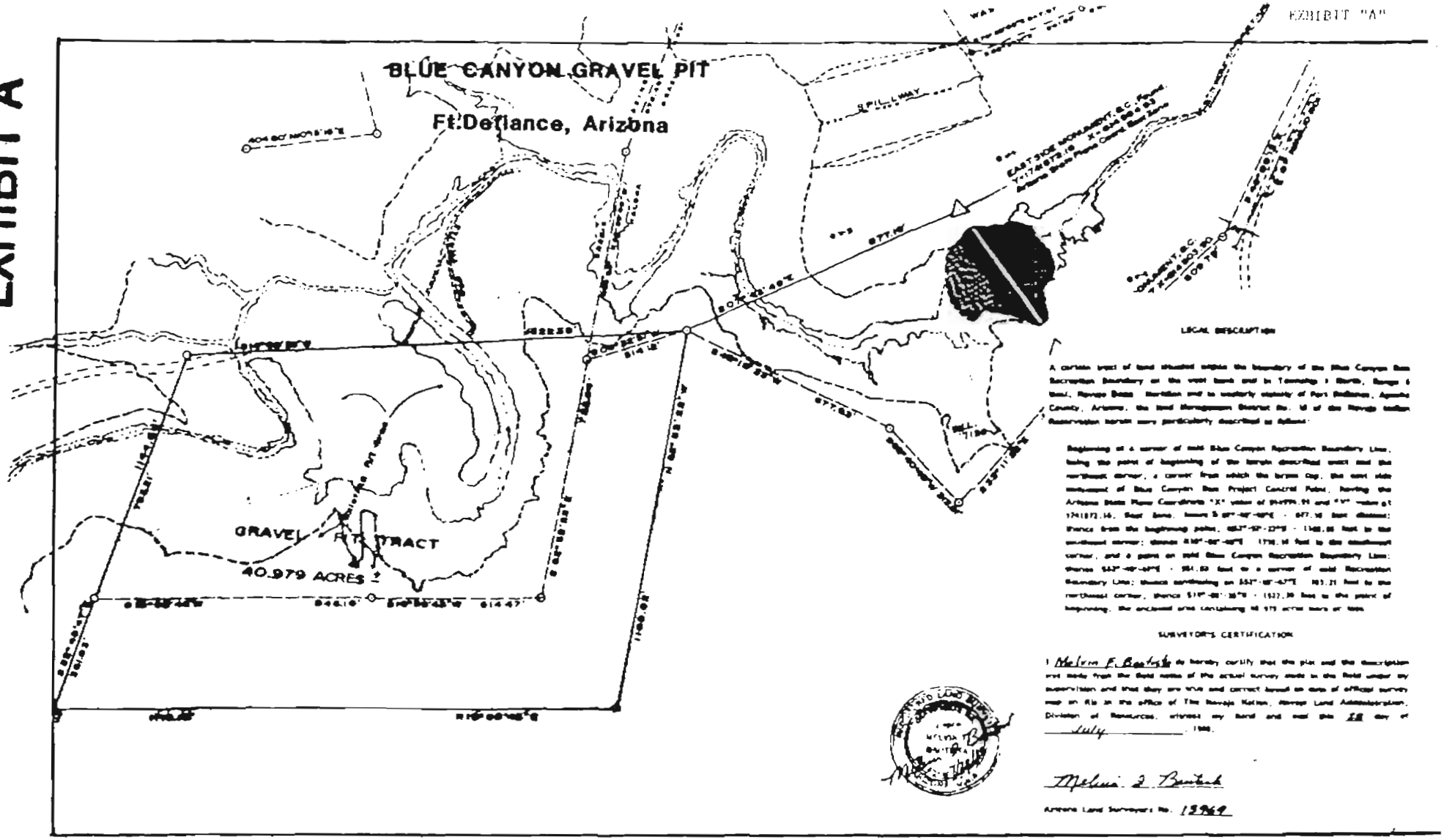
The Advisory Committee of the Navajo Tribal Council hereby approves the reopening of the Blue Canyon Dam gravel pit as described in Exhibit "A", and amends Resolution ACJA-21-83 accordingly.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Advisory Committee of the Navajo Tribal Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 12 in favor and 0 opposed, this 1st day of August, 1988.

Vice Chairman
Navajo Tribal Council

EXHIBIT A



BEST AVAILABLE

EXHIBIT "B"

ACJA-21-83

Class "B" Resolution
Area Approval Required.

RESOLUTION OF THE
ADVISORY COMMITTEE OF THE
NAVAJO TRIBAL COUNCIL

Concurring in the Order of the Chairman of the Navajo Tribal Council Withdrawing 149.90 Acres of Tribal Land for the Construction of the Blue Canyon Dam and Recreational Area

WHEREAS:

1. Navajo Tribal Council Resolution CJN-24-55 authorizes the Chairman of the Navajo Tribal Council, with the concurrence and recommendation of the Advisory Committee, subject to the approval of the Secretary of the Interior or his authorized representative, to execute orders withdrawing designated tribal land for use in connection with authorized programs of benefit to the Navajo people; and

2. The Fort Defiance Chapter approved and recommended the withdrawal of 149.90 acres of land for the purpose of a dam in the Fort Defiance Community, as shown by the attached resolution marked Exhibit "A"; and

3. The Navajo Tribe entered into a Memorandum of Agreement with the United States of America and the Navajo Engineering and Construction Authority for the construction of the Blue Canyon Dam attached hereto as Exhibit "B"; and

4. The Navajo Tribal Council appropriated funds to be utilized in the Phase I construction of the Blue Canyon Dam by Resolution CF-17-82, attached hereto as Exhibit "C"; and

5. It is necessary to withdraw lands for the construction project area on which this dam and reservoir will be located; and

6. The withdrawal of said land has been approved by the local residents; and

7. Necessary field clearances have been made for said land by the Navajo Land Development Department; and

8. The Chairman of the Navajo Tribal Council has issued an Executive Order withdrawing said land attached hereto as Exhibit "D"; and

9. It is in the best interest of the Fort Defiance Chapter and the Navajo Tribe that said land be withdrawn for the purposes stated herein.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Advisory Committee of the Navajo Tribal Council does hereby concur in and approve the Order of the Chairman of the Navajo Tribal Council withdrawing the land described in Exhibit "C" at Fort Defiance, Navajo Nation (Arizona), for the construction of the Blue Canyon Dam and Recreational Area.

2. The Advisory Committee of the Navajo Tribal Council hereby sets the following policy with reference to these lands withdrawn and/or the lands in the immediate area thereof:

a. There shall be no fencing of the lands withdrawn without approval of the local grazing permittees.

b. Roads in the area withdrawn and the immediate area thereof shall be improved and maintained as funds are available.

c. Electricity will be made available to local residents in the immediate area of this withdrawn land when electric power becomes available.

d. The future management of the dam and reservoir recreation area and contributory watershed will be conducted by the Tribal Division of Resources in accordance with the Blue Canyon Reservoir and watershed operation and management plan to be adopted by the Resources Committee of the Navajo Tribe.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Advisory Committee of the Navajo Tribal Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 11 in favor and 0 opposed, this 10th day of January, 1983.

Harry Jim

Chairman Protempore
Advisory Committee

RESOLUTION OF THE
FORT DEFIANCE CHAPTER

008-FDC-88-0520

Requesting the Resources Committee of the Navajo Tribal Council to Reopen Fort Defiance Chapter's Blue Canyon Gravel Pit.

EXHIBIT "C"

WHEREAS:

1. The Fort Defiance Chapter is a certified local government of the Navajo Nation pursuant to 2 NTC 4001., vested with the authority to address and act on the needs and concerns of its community; and

2. The Fort Defiance Community Chapter has withdrawn 149.9 acres of Navajo Tribal Land for Blue Canyon Dam by the Advisory Committee Resolution, ACJA-21-83; and

3. The Fort Defiance Community Chapter Planning Committee approved and recommended to the chapter to reopen the Blue Canyon Gravel Pit, so the vendor will be able to move his equipment (Crusher) to the location as soon as possible to crush the amount of gravel needed for the Highway 264 Project in phase I,II and III as stated in the Specification; and

4. The Fort Defiance Community Chapter will enter a written agreement with the vendor to initiate special stipulations for all work executed under the agreement to have the contractor be responsible for any misfunctions and will not hold the Fort Defiance Community Chapter responsible; and

5. That all necessary field clearance has been made for the landsite for the gravel pit by the Navajo Land Development Department; and

6. The project is in the best interest of the Fort Defiance Community Chapter and the Navajo Tribe in reopening the gravel pit for the stated purpose.

NOW THEREFORE BE IT RESOLVED THAT:

The Fort Defiance Chapter requests the Resources Committee of the Navajo Tribal Council to approve the reopening of the Fort Defiance Blue Canyon Gravel Pit for it will serve a very beneficial purpose to the Navajo Tribe by implementing the improvement of Highway 264.

The Fort Defiance Community Chapter further requests the Resources Committee of the Navajo Tribal Council to direct BIA and Navajo Tribal Inspectors to be present at the gravel pit site for the inspection of the project for accountability of the safety purposes.

C E R T I F I C A T I O N

We hereby certify that the foregoing resolution was considered at a duly called chapter meeting at Fort Defiance, Navajo Nation, (Arizona), at which a quorum was present and that same was passed by a vote of 36 in favor, and 0 opposed, this 27th day of MAY, 1988.

Raymond Haycock
Chapter President

Chapter Vice-President

Lena C. Williams
Chapter Secretary

Council Delegate

RCAC-126-91

EXHIBIT F tabbies

RESOLUTION OF THE RESOURCES COMMITTEE
OF THE NAVAJO NATION COUNCIL

Approving a Sand and Gravel Permit for Daye Concrete Inc. of Houck, Arizona to Utilize 35.62 Acres of Navajo Tribal Trust Lands at the Fort Defiance Blue Canyon Gravel Pit, within Apache County, State of Arizona

WHEREAS:

1. Pursuant to 2 NTC § 695(2) as amended by CD-68-89, the Resources Committee of the Navajo Nation Council has been delegated authority to give final approval of Sand and Gravel Permits in accordance with applicable federal and Navajo Nation Laws; and

2. Daye Concrete Inc., of Box 168, Houck, Arizona, 86506, has applied for a Sand and Gravel Permit, attached hereto as Exhibit "A" and made a part hereof, to utilize an existing pit along with an access road which consist of 35.62 acres of Navajo Tribal Trust lands to excavate, process and remove aggregate materials to be used for the maintenance of Routes N30 and N302 to the Air Route Surveillance Radar (ARSR) Facility access road at Washington Pass and various construction, resurfacing projects and highway projects for Bureau of Indian Affairs (BIA), State Highway, County Roads and other construction projects; and

3. The proposed pit is 22.89 acres, identified as the Blue Canyon Gravel Pit and the haul road is 31 feet wide, 3.38 miles in length, consisting of 12.72 acres, more or less, located within Section 22, Township 01 North, Range 06 West, Navajo Baseline, Apache County, Arizona. The location is more particularly described on the map marked Exhibit "B", attached hereto and made a part hereof; and

4. The Project Review Office with the Division of Natural Resources has determined who the affected land users (grazing permittees) are and has obtained consents from the land users. The applicant will pay the land users for surface damages; and

5. The applicant has paid a sum of $500.00 for filing and processing fees; and

6. All environmental and archaeological studies have been completed and have received appropriate clearances.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Resources Committee of the Navajo Nation Council hereby approves the Sand and Gravel Permit for Daye Concrete Inc., to utilize an existing pit and haul road consisting of 35.62 acres, which is more particularly described on Exhibit "A" attached hereto and made a part hereof.

2. The Resources Committee of the Navajo Nation Council hereby approves the Sand and Gravel Permit, subject to, the terms and conditions of the Navajo Nation contained herein as follows:

a) The quantity of material that can be removed pursuant this permit is limited to five thousand (5,000) tons.

b) This permit does not allow the permittee to conduct any blasting operations.

c) The grantee shall comply with applicable federal and tribal antiquities regulations and legislation; and

d) The grantee shall comply with all applicable regulations contained in 25 Code of Federal Regulation, Part 169; and

e) The grantee shall comply with all Navajo Labor laws and regulations; and

f) The grantee shall pay a royalty of $0.90 per ton for the materials; and

g) The grantee shall pay a minimum advance royalty of $450.00; and

h) The grantee shall notify the Director of Navajo Environmental Protection Administration immediately upon completion of the operation so that site inspection can be made; and

i) The grantee shall pay a right-of-way consideration of $2,010.00 for a six (6) month term; and

j) The grantee shall ensure that the air quality of the Navajo Nation is not jeopardize due to violation of applicable law(s) by its operation pursuant to this right-of-way; and

The grantee, his agent, contractor and subcontractor shall comply with the air pollution control practices for minimizing emissions as specified in 40 Code of Federal Regulations, Part 60 Subpart I, Performance for Asphalt Concrete Plants, and shall submit all applicable permits and information to the Navajo Air Quality Regulatory Program, Navajo Nation Water Resources Management Administration, Post Office Box 308, Window Rock, Arizona 86515; and

k) The grantee, his agent, contractor, and subcontractor shall comply with the Navajo Nation Water Code and shall apply for and submit all applicable permits and information to the Navajo Nation Environmental Protection Administration, Post Office Box 308, Window Rock, Arizona 86515; and

l) The grantee shall comply with the Navajo Business Preference Act provisions, Rules and Regulations of the Navajo Nation Commerce Department as specified in Title Five, Navajo Nation Code, Chapter Two, as amended;

m) The permittee must notify the Minerals Department prior to the start of the operation in order that the Department make site inspections and acquaint his worker with Tribal Mine Safety and Health requirements; and

n) The permittee must abide by the Tribal Mine Safety Code and the provisions of 30 CFR, Part 48, 50 and 56; and

o) The grantee will be responsible to promptly pay for all damages as they

may be sustained; and

p) The grantee shall post a performance and reclamation bond in the amount of $5,000.00. This bond shall be in addition to any bond the permittee may have posted for past permit(s).

q) The term of the permit shall be for six (6) months effective the date of approval by the Navajo Nation.

r) The grantee, his agent, contractor and subcontract shall implement the mitigation measures on page 4 of the `Addendum to the Environmental Assessment for the Blue Canyon Borrow Pit, Fort Defiance, Arizona' prepared by SWCA June 1991, and the Surface Restoration Plan of the `Enviromental Assessment, Blue Canyon Borrow Pit' prepared by Daye Concrete, 9 August 1988.

s) Prior to the start of the operation, all workers shall be trained as required by 30CFR, Part 48. In addition, the workers must undergo a training in "Job Safety Analysis" and "Alcohol and Substance Abuse"; and

t) All surplus gravel belongs to the Navajo Nation; and

u) Production reports, truck run tickets and payments shall be submitted to the Minerals Department on a monthly basis.

3. The operation shall not commence unless the permittee pays all past dues to the Navajo Nation.

4. The Resources Committee of the Navajo Nation Council hereby authorize the President of the Navajo Nation to execute any and all documents necessary to effect the intent and purpose of this resolution.

C E R T I F I C A T I O N

I hereby certify that the foregoing resolution was duly considered by the Resources Committee of the Navajo Nation Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 05 in favor, 00 opposed and 00 abstained, this 1st day of August, 1991.

Elmer L Milford, Chairman

MOTIONED BY: Irving Billy
SECONDED BY: Norman John II

THE
NAVAJO
NATION

MEMORANDUM: July 18, 1991

TO : ALL CONCERNED

FROM : Melvin Bautista
Melvin Bautista, Director
Office of Navajo Land Administration
Division of Natural Resources

SUBJECT: DELEGATION OF AUTHORITY

Mr. Raymond Kee, Supervisor, Title Section, will be delegated the authority to act in the capacity of Acting Director for the Office of Navajo Land Administration, beginning July 22, 1991 from 8:00 a.m. and ending on July 26, 1991 at 5:00 p.m.

He will assume the duties and responsibilities including the signing of all routine documents pertaining to the overall operation of the Office of Navajo Land Administration except those he feels requires my immediate attention and/or approval.

Your cooperation with Mr. Kee will be appreciated by this office.

ACKNOWLEDGEMENT:

Raymond Kee
Raymond Kee, Supervisor
Title Appraisal & Records Section
Office of Navajo Land Administration

DISTRIBUTION

5. *Prevention of Damage.*—The Permittee shall conduct all operations authorized in this permit with due regard to preventing unnecessary damages to vegetation, timber, soil, roads, bridges, cattleguards, fences, and other improvements, and on termination of operations under this permit, shall make provisions for conservation and protection of the property and leave all of the areas on which the Permittee has worked in a condition that will not be hazardous to life or limb, and will be to the satisfaction of the superintendent. All damages shall be repaired or paid for at appraised value.

6. *Liquor.*—The Permittee further agrees that it will not use or permit to be used any part of said premises for any unlawful conduct or purpose whatsoever; that it will not use or permit to be used any part of said premises for the manufacture, sale, gift, transportation, drinking, or storage of intoxicating liquors or beverages in violation of existing laws relating thereto, and that any violation of this clause by the Permittee or with his knowledge, shall render this permit voidable at the option of the superintendent.

7. *Assignment.*—The Permittee agrees not to assign the Permit or any interest therein by an operating agreement or otherwise, nor to sublet any portion of the permitted premises, except with the approval of the Secretary of the Interior or his authorized representative.

8. *Regulations.*—The Permittee agrees to abide by and conform to any and all regulations of the Secretary of the Interior now or hereafter in force relative to such permits: *Provided*, That no regulation hereafter approved shall effect a change in the rate of royalty without the written consent of the parties to this permit.

9. *Inspection.*—The Permittee agrees that the permitted premises and producing operations, improvements, machinery, and fixtures thereon and connected therewith shall be open at all times for inspection by any duly authorized officer or agent of the Secretary of the Interior.

10. *Surrender and Termination.*—The Permittee may, at any time, during the time hereof, surrender this permit in writing upon the performance of all the Permittee's obligations hereunder, upon the payment of $5 and upon a showing satisfactory to the Secretary of the Interior or his authorized representative, that full provision has been made for the conservation and protection of the property. If this permit has been recorded, Permittee shall file a recorded release with its application for surrender.

11. *Bond.*—Before this permit shall become effective, Permittee shall furnish to the superintender of the Fort Defiance Agency, ~~A copy of current collective~~, an acceptable surety bond in the amount of Five Thousand 5000.00 Dollars ($.....). This bond shall be in addition to any bond furnish for past permits.

12. *Cancellation and Forfeiture.*—When, in the opinion of the Secretary of the Interior or his authorized representative, there has been a violation of any of the terms and conditions of this permit, or the applicable regulations, the Secretary or his authorized representative shall have the right at any time after 30 days' notice to the Permittee specifying the violations, and after a hearing if the Permittee shall so request within 30 days of receipt of notice, to declare this permit null and void.

Paragraphs No. 13, 14, 15, and 16 attached hereto are made a part of this permit.

In Witness Whereof, the said parties have hereunto subscribed their names and affixed their seals on the day and year first above mentioned.

Two witnesses to execution by Permittor: .....

Permittor,

.....

NAVAJO TRIBE

P. O. .....

.....

P. O. .....

.....

John Yellowhouse

(Permittee)

4/10/91

Two witnesses to execution by Permittee:

.....

P. O. .....

.....

P. O. .....

The within permit is ..... approved. ....., 19....

.....

Superintendent, _____ Agency

RECOMMENDED FOR APPROVAL BY

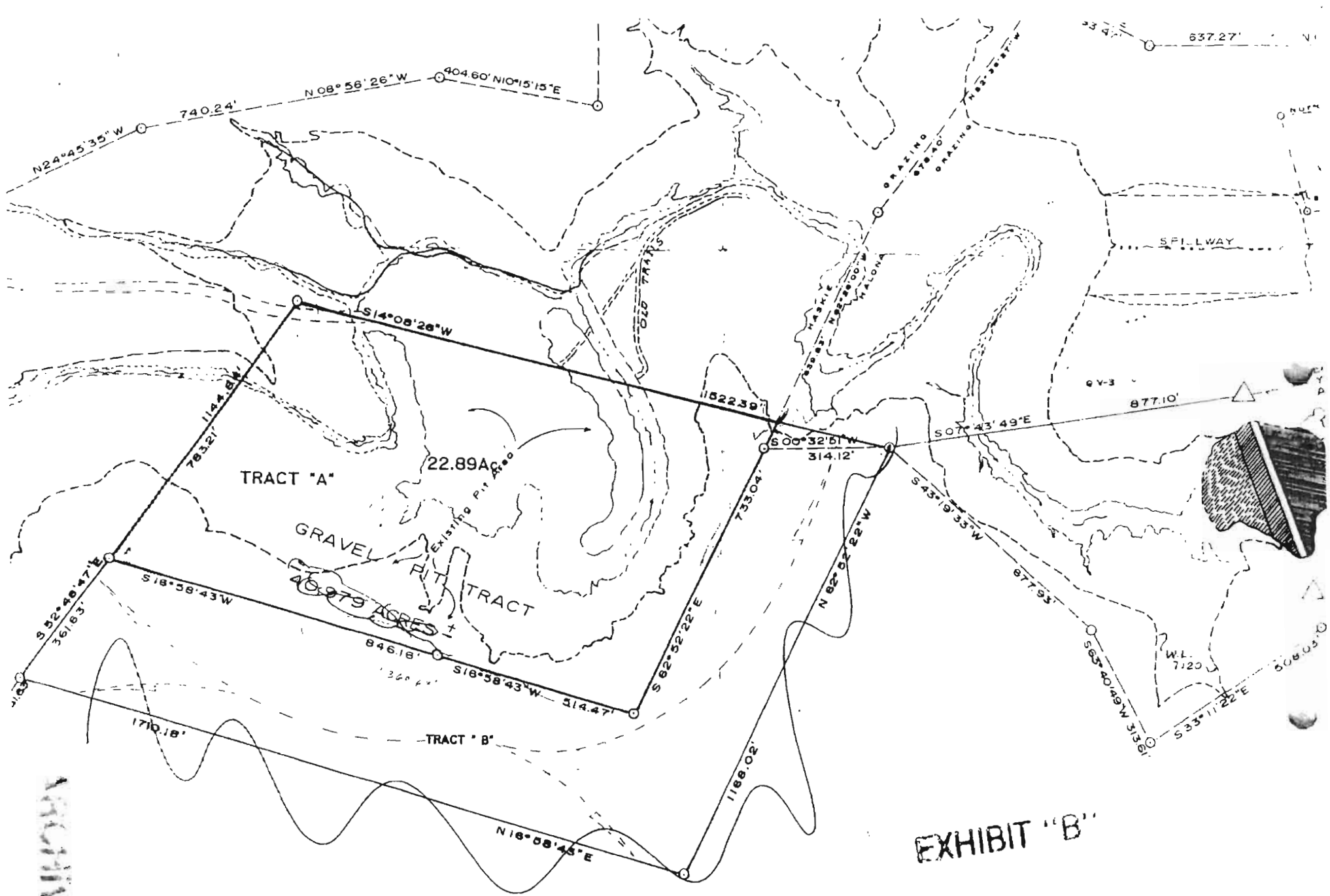
DELEGATES OF DIST. NO. .....

Elmer J. Mitchell 4/10/91

A 04/10/91

.....

.....



100,000 TONS
(+ —)

DAYE CONCRETE, SAND AND GRAVEL
P.O. BOX#: 168
HOUCK, ARIZONA 86506
(602) 688-2449

Fort Defiance Chapter
Planning Committe
Fort Defiance, Arizona 86504

Re: Request to renew permit for Blue Canyon Gravel Pit

This is a formal request to renew the Blue Canyon Gravel Pit for Daye Concrete, Sand and Gravel, P.O. Box 168, Houck, Arizona 86506, (602)688-2449, for excavating, crushing and the removal of gravel. This pit is located 3 1/2 miles, North of Fort Defiance Chapter, an already existing gravel pit.

This request will be for (1) one year. The gravel removed from this pit will be used for various B.I.A. and Navajo Tribal road projects in and around the Fort Defiance, Window Rock area.

Proposed payments to the area land users, the Fort Defiance Chapter and the Navajo Nation are as follows:

$10,000.00	Divide among the area's land users
$2,000.00	Access road leading from the gravel pit site to Navajo Route 7.
.15¢	Per ton royalties to Fort Defiance Chapter.
.80¢	Per ton royalties to the Navajo Nation.

Daye Concrete Company will abide by all Navajo Nation, Federal and State laws that are applicable.

Sincerely,

John Yellowhorse

John Yellowhorse, President
Daye Concrete, Sand and Gravel

(3) And finally further that the Dave Concrete and Gravel Company, Post Office Box 168 Houck, Arizona, will hereby establish an 100 ton stockpile surplus of gravel for the Ft. Defiance Chapter Projects.

C E R T I F I C A T I O N

We hereby certify that the foregoing resolution was duly considered by the Fort Defiance Community Chapter at a duly called meeting at the Fort Defiance, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 36 in favor and 0 opposed this 24 day of March, 1991.

1 Motion: Johnny Belone
2 Motion: Harold Foster

Alfred D. Bryant
Alfred Bryant, President

Larry Anderson, Council Delegate

Rena Williams
Rena Williams, Secretary

Elmer L. Milford
Elmer Milford, Council Delegate

Howard McKinley
Howard McKinley, Vice-President

MARCH 26, 1991

Mr. Bryant;

Per our telephone conversation on March 21, 1991. We have talked about the interest of the Gravel Pit that was to become in existance in the near future at the Blue Canyon Dam.

Well, I have stressed that I was interseted in it, since I am a permit holder in that area. Sometimes ago, my sister Lora Scott, had informed me that payment was to be made to the people in that area with permits.

The permit I am holding right now is in my maiden name, which is Wauneka. I haven't had time to change my name on the permit to my married name, which is Claw. On the permit is shows the name Minnie Wauneka, census number 51782, and the permit number is 18-1118.

On the back of the permit shows the name of the people that has interest in the permit, which are my brothers and sisters.

You have stated that I need to show my present address on the letter that I am suppose to sent. Mailing Address: Minnie Wauneka Claw
P. O. Box # 325
Kayenta, Arizona 86033

Even if I am living in Kayenta, I still go back to Blue Canyon, to see if the permit is use by all members alike. Try to be fair to every one so they can share the permit equally. But it just don't work.

I hope that this will clarify that I am the holder of the above permit.

Thanks for understanding.

Sincerely,

Minnie Wauneka Claw.

Minnie W. Claw

CONSENT FORM - 3

(Waiver of compensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Ben Billie, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs to permit _____ of _____ to use a portion of my land use area for the following purpose (s): Gravel Pit

_____

_____

as shown on the map showing the location of the proposed project on the back of this consent form.

I hereby waive any rights I may have to compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

_____

Date	Land User Signature (or thumbprint)	Census No.	Permit No.

WITNESS:

Date	Grazing Committee or Land Board Member	District No.
3/12/91	Alfred Bryant	

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (check where applicable).

Tom Brumley

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, JOHNNIE J. BELONE, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit 18-04-84 of ONE YEAR to use a portion of my land use area for the following purpose(s): GRAVEL PIT

as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of $1000.00, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: Compensation for the use of Road — To haul gravel from gravel pit - in Blue Canyon Area

3-12-91 Johnnie J Belone ____ 18-04-84
Date Land User Signature (or thumbprint) Census No. Permit No.

WITNESS:

3-12-91 Alfred Bryant 18-3
Date Grazing Committee or Land Board Member District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

L. Bradley
Field Agent Signature

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Marie Laloma, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit ___ _____ of _____ to use a portion of my land use area for the following purpose(s): _____

Gravel Pit

_____

as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____ _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

_____

_____

3/13/91	Marie Ann Laloma	_____	18-11-80
Date	Land User Signature (or thumbprint)	Census No.	Permit No.

WITNESS:

_____

3/13/91	Alfred Bryant	18-3
Date	Grazing Committee/or Land Board Member	District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

_____
Field Agent Signature

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Cecila Bydonie, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit ___ _____ of _____ to use a portion of my land use area for the following purpose(s): _____

Gravel Pit

as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____ _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: [redacted] Dom signing for Thomas Haskin Our agreement with the chapter should be follow up on — fix our road in Blue Canyon

3/14/91 — Date
Cecila Bydonie — Land User Signature (or thumbprint)
Census No.
Permit No.

WITNESS:

3/14/91 — Date
Arland Bryant — Grazing Committee or Land Board Member
18-B — District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

Field Agent Signature

CONSENT FORM - 3

(Waiver of compensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, BAH YAZZIE, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs to permit _____ of _____ to use a portion of my land use area for the following purpose (s): _____

_____

_____

as shown on the map showing the location of the proposed project on the back of this consent form.

I hereby waive any rights I may have to compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

_____

Date	Land User Signature (or thumbprint)	Census No.	Permit No.

WITNESS:

Date	Grazing Committee or Land Board Member	District No.
3/12/95	Alfred Bryant	18-5

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (check where applicable).

Tim Nally

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Cecila Bydonie, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit Daye Concrete, Sand, Gravel of P.O.Box # 168, Houck, Arizona to use a portion of my land use area for the following purpose(s): 3.8 mile of Dirt Road that will be use for transporting Gravel out of Blue Canyon as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: Don signing for Theresa Haskie Our agreement with the Chapter shall be follow up on - fix the road Blue Canyon

3/14/91 Cecila Bydonie _____ _____
Date Land User Signature (or thumbprint) Census No. Permit No.

WITNESS:

_____

3/14/91 Alfred Bryant 18-3
Date Grazing Committee or Land Board Member District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

_____
Field Agent Signature

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Sadie Robbins, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit Daye Concrete, Sand, Gravel of P.O.Box # 168, Houck, Arizona to use a portion of my land use area for the following purpose(s): 3.8 mile of Dirt Road that will be use for transporting Gravel out of Blue Canyon as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

X 3-17-91 (Date) X Sadie Robbins (Land User Signature (or thumbprint)) _____ (Census No.) X18-51-85 (Permit No.)

WITNESS:

_____

3/17/91 (Date) Alfred Bryant (Grazing Committee or Land Board Member) 18-3 (District No.)

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

X [signature] (Field Agent Signature)

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Henry Boyd, Sr., hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit Daye Concrete, Sand, Gravel of P.O.Box # 168, Houck, Arizona to use a portion of my land use area for the following purpose(s): 3.8 mile of Dirt Road that will be use for transporting Gravel out of Blue Canyon as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

3/14/91	Henry Boyd Sr.		18-27-80
Date	Land User Signature (or thumbprint)	Census No.	Permit No.

WITNESS:

3/13/91	Alfred Bryant	18-3
Date	Grazing Committee or Land Board Member	District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

Field Agent Signature

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Thomas Blatchford, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit Daye Concrete, Sand, Gravel of Box # 168, Houck, Arizona to use a portion of my land use area for the following purpose(s): 3.8 mile of Dirt Road that will be u sed for transporting Gravel out of Blue Canyon as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

3/12/91 Thomas Blatchford _____ _____
Date Land User Signature (or thumbprint) Census No. Permit No.

WITNESS:

_____

3/12/91 Alfred Bryant 18-3
Date Grazing Committee or Land Board Member District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

_____
Field Agent Signature

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Laurita Begay, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit Daye Concrete, Sand ,Gravel of Box # 168, Houck, Arizona to use a portion of my land use area for the following purpose(s): 3.8 mile of Dirt Road that will be used for transporting Gravel out of Blue Canyon as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of _____, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: _____

3-12-91	Laurita Begay		18-18-87
Date	Land User Signature (or thumbprint)	Census No.	Permit No.

WITNESS:

3-12-91	Alfred Bryant	18-3
Date	Grazing Committee or Land Board Member	District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

Field Agent Signature

CONSENT FORM 2
(Conpensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Willie Wright, hereby grant consent to the Navajo Tribe and the Bureau of Indian Affairs, Window Rock, Arizona to permit Daye Concrete, Sand & Gravel of PO Box 168 Honeek AZ to use a portion of my land use area for the following purpose(s): Gravel pit

GRAVEL Pit

as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of ______________, which I acknowledge as good and adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS: GRAVEL for my Homesites
in Blue Canyon AREA

3/12/91	[signature]		18-740
Date	Land User Signature (or thumbprint)	Census No.	Permit No.

WITNESS:

____

3/12/91	Alfred Bryant	18-3
Date	Grazing Committee or Land Board Member	District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable).

[signature]
Field Agent Signature

I hereby give conditional approval with the following stipulations.

1) A small evaporation setting pond should be built to impound mining refuses from the construction and mining activities so that water quality concerns would be assured for the main reservoir overflow.

2) The five (5) conditions expressed in Mr. Ronald C. Ferguson, P.E., District Engineer IHS should be considered if and when blasting become necessary during quarry operations.

3) Water Rights Office will monitor the water level storage level concerns and to submit monthly report to the Executive Director on the storage capabity.

This memo supersedes earlier concerns and I hereby recommend conditional permit approval issued to Daye Concrete, Inc.

TWIN MOUNTAIN CONSTRUCTION COMPANY

P.O. Box 30128
Albuquerque, NM 87190
505-884-9715

Missing Minerals

July 26, 1991

Ram Dawes, Minerals Dept.
Division of Resources
Navajo Nation
Window Rock, Arizona 86515

Enclosed are copies of truck scale tickets representing a quantity of 1,941.05 tons of aggregates hauled on 10/6/90, 10/24/90 and 10/25/90 from Blue Canyon Quarry.

These aggregates were hauled to and used on New Mexico State Highway and Transportation Department Project #F-036-1(2) located on SR 264.

Daye Concrete will be paid for those aggregates upon receipt of final payment from the NMSHTD and release of all claims by Daye Concrete.

If you need anymore information regarding the use of these aggregates, please contact John Yellowhorse or myself. You can reach me at 505/884-9715.

Sincerely,

TWIN MOUNTAIN CONSTRUCTION COMPANY

Marty J. Ward
General Superintendent

MJW/mkh

enclosure

DAYE CONCRETE
P.O. BOX 1713 505-863-4902
GALLUP, NM 87305

1149

07/ 19 91 86-187/1022

PAY TO THE ORDER OF The Navajo Tribe $ 1,514 02/100

One Thousand Five Hundred Fourteen and 02/100 DOLLARS

United New Mexico Bank at Gallup
300 W. Aztec 505 863-9511
Gallup, New Mexico 87301

UNITED NEW MEXICO BANK

Twin Mountain
66 HWY 264

FOR 1,941.05 Tons @ .78

John Yellowhorse
Jane Yellowhorse Jones

⑈001149⑈ ⑆102201875⑆ 0123517 ⑈

U.S. Department
of Transportation
**Federal Aviation
Administration**

Southwest Region
Arkansas, Louisiana,
New Mexico, Oklahoma,
Texas

Fort Worth, Texas 76193-0000

JUN 4 1991

Mr. Leroy Gishi
Branch of Roads
Bureau of Indian Affairs
P.O. Box 1060
Gallup, NM 87301-1060

Dear Mr. Gishi:

Memorandum of Agreement Mountain
Roads N30 and N302, Air Route
Surveillance Radar (ARSR) Facility
Access Road, Washington Pass, New Mexico

Enclosed are four copies, executed by the Federal Aviation Administration, of the Memorandum of Agreement for Mountain Roads N30 and N302, at Washington Pass, New Mexico.

Please return one fully executed copy to the Department of Transportation, Federal Aviation Administration, Real Estate Branch, Fort Worth, Texas 76193-0056.

If you require any additional information, please contact me at FTS 734-5083, or (817) 624-5083.

Sincerely,

for Lottie M. Kusich
David Houser
Contracting Officer

Enclosure (4)

NAVAJO NATION SAND AND GRAVEL LEASE
AND ACCESS ROAD RIGHT-OF-WAY (ROW)

THIS AGREEMENT for a Sand and Gravel Lease (Lease) is made and entered by and between the Navajo Nation and whose address is at P. O. Box 7440, Window Rock, Arizona 86515 called the Lessor and Fort Defiance Sand and Gravel, Inc. whose address is at P. O. Box 1678, Window Rock, Arizona 86515, herein called the Lessee.

Definitions:

Sand & Gravel means: ____ *Earth Borrow, Sand and Natural or Processed Gravel* ____

Department means the Navajo Nation Minerals Department.

Navajo Nation (Nation) means the Navajo Tribe of Indians.

Secretary means the Secretary of the U.S. Department of Interior or his/her designated representative.

Performance bond means a surety bond, collateral bond or self-bond or a combination thereof, by which a lessee assures faithful performance of all the requirements this lease and mining and reclamation plan.

Reclamation means those actions taken to restore mined land as required to a post-mining land use approved by the Department.

Resources and Development Committee means the Resources and Development Committee of the Navajo Nation Council.

Slope means average inclination of a surface, measured from the horizontal normally expressed as a unit of horizontal distance to vertical distance.

Stabilize means to control movement of soil, or areas of disturbed earth by modifying the geometry of the mass, or by otherwise modifying physical or chemical properties, such as by providing a protective surface coating.

Ton means 2,000 pounds.

Water table means the upper surface of a zone of saturation.

Lessee, Permittee & Operator means the lessee of the sand and gravel lease/permit.

The Navajo Nation hereby grants Lessee a Lease right to extract sand and gravel from E ½, NW ¼, Section 25, Township 28 North, Range 30 East, Apache County, Navajo Nation, Arizona. The area encompassed by the lease is 15.06 acres, more or less. The location and legal description are shown in Exhibits ___"A"_____. The access road is in Sections 25, 26, and 35, T28N, R30C. It is 0.92 miles

long, 20 feet wide country of 2.23 acres, more or less. The location and legal description is shown on Exhibit "B".

1. The Lease and the Access Road shall be valid for a period of five (5) years effective the date it is approved by the Secretary. This date shall be known as the Effective Date of the Lease.

2. Payments to the Nation by the Lessee:

(i) The Lessee shall pay an annual advance royalty for each lease year. The first payment in the amount of thirty thousand, four hundred and forty-five dollars ($30,445.00) is due within ten (10) days of the Effective Date. Subsequent annual advance royalty payments are due on or before each anniversary of the Effective Date. The annual advance royalty payment shall be credited against production royalties only during the year for which the advance royalty has been paid.

(ii) A royalty at the rates of $2.50 per ton for sand and gravel material removed from the Lease premises. The royalty payment shall be made on a monthly basis within fifteen (15) days following the month for which the royalty is due.

(iii) The subsequent annual advance payments and the royalty rate shall be subject to annual adjustments on each anniversary of the Effective Date. The adjustments shall be based upon the increase in the Consumer Price Index (CPI), U.S. City Average for All Urban Consumers. The CPI for May 2014 shall be used as the base for all adjustments.

(iv) Lessee shall make a lump sum payment in the amount of $7,360.00 for the access road right-of way.

3. Mining and Reclamation Plan: The Lessee shall abide by all the requirements of the mining plan and reclamation plan attached as Exhibit "C" to this lease. The U.S. Department of the Interior (DOI) may require additional conditions. The majority of the revegetated species will be native to the area. The Lessee shall ensure that no poisonous and noxious vegetation are allowed to grow in the leased area. The Lessee shall ensure that the final post-mining topographic plan does not allow water to collect in the leased area. No water shall be discharged off the leased area without written authorization from the Navajo Nation and all federal agencies having jurisdiction.

4. Bond: Lessee shall furnish a performance and reclamation bond for two hundred and fifty thousand dollars ($250,000.00) with the DOI's Navajo Region, Bureau of Indian Affairs. The Lessee shall maintain this bond at all times even if the Lease has expired or is terminated. The bond shall only be released with the written consent of the Navajo Nation. The bond may also be increased by the Navajo Nation and/or the DOI. The Lessee shall request a bond release to DOI only after the expiration or termination of the Lease and Lessee has fulfilled all its obligations, including payments to the Navajo Nation and reclamation of site under the terms and conditions of this Lease.

5. The Lessee shall comply with the requirements of the Blasting Plan attached as Exhibit "D" to this lease and all applicable federal regulations including but not limited to 30 CFR, Part 56, Subpart E – Explosives.

6. Water Use Permit: Lessee shall not use water from the Navajo Nation unless a water use permit is approved by the Navajo Nation Water Resources Department.

7. Records and Reports: The Lessee shall maintain accurate records of all sand and gravel material extracted, stockpiled, sold and removed from the Lease and the royalty due and paid to the Navajo Nation. A copy of the records shall be provided to the DOI and the Navajo Nation Minerals Department (P.O. Box 1910, Window Rock, AZ 86515) on a monthly basis within fifteen (15) days following the sale month. Monthly production reports must be filed even if there was no sale of material. All material removed from the site shall be weighed and all records pertaining to the sale shall be kept for audit purposes for a term required under 30CFR§ 1212.200, Subpart E, Section (a).

8. Method of Payments: All required payments under Section 2 of this Lease shall be made to the Department, in lawful money of the United States. A copy of the payments shall be provided to the DOI.

9. Diligence: The Lessee shall exercise diligence in the conduct of its mining operation and the land described herein shall not be held for speculative purposes, but in good faith for the extraction of sand and gravel and shall begin operation within one (1) month of the Effective Date.

10. No work shall commence until the mandatory mine health and safety training has been provided to the workers pursuant to 30 CFR, Part 46. The Lessee shall maintain the required training plan pursuant to the provisions of 30 CFR, Part 46 and a copy of minuets trained.

11. The Lessee shall obtain a mine identification number from the U. S. Mine Safety and Health Administration prior to the start of the operation.

12. The Lessee may develop, use and occupy the area under the Lease for the purpose of removing sand and gravel material. The Lessee may not develop, use or occupy the area under the Lease for any other purpose without the prior written approval of the Nation and the Secretary. Such approval of the Nation may be granted upon conditions or withheld at the sole discretion of the Nation. The Lessee may not develop, use or occupy the area under the permit for any unlawful purpose. Any unlawful use of the land within the Lease shall render the Lease void at the option of the Nation and/or the Secretary.

13. Lessee shall maintain an emergency evaluation plan to address emergencies such as possible flooding. All workers must be thoroughly familiar with the emergency plan.

14. Sand and gravel material shall not be used for projects outside the Nation unless it is expressly authorized by the Resources and Development Committee of the Navajo Nation Council.

15. In all activities conducted by the Lessee within the Navajo Nation, the Lessee shall abide by all laws and regulations of the Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:

a. Title 25, Code of Federal Regulations, Parts 162 and 169;

b. Title 30, Code of Federal Regulations, Parts 46 and 56;

c. The Navajo Nation Mine Safety Code 18 N.N.C. § 401;

d. All applicable federal and Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery, all operations in the immediate

vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, "discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/ traditional beliefs or practice;

e. To the extent allowed by applicable law, the Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq.; and

f. The Navajo Nation Water Code, 22 N.N.C. § et seq., Lessee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.

g. Applicable section of the Navajo Nation Tax Code.

16. The Lessee shall ensure that the air quality of the Nation is not unduly degraded during operations by violating federal and Nation's applicable laws and regulations.

17. The Lessee shall clear and keep clear the lands within the Lease area to the extent compatible with the purpose of the Lease, and shall dispose of all vegetation and other materials cut, uprooted, or otherwise accumulated during any surface disturbance activities.

18. The Lessee shall at all times during the term of the Lease and at the Lessee's sole cost and expense, maintain the land subject to the Lease and all improvements located thereon and make all necessary reasonable repairs.

19. The Lessee shall obtain prior written permission to cross an existing permit or lease areas, if any, from the appropriate parties.

20. The Lessee shall be responsible for and promptly pay all damages when they are sustained, from actions the Lessee causes.

21. The Lessee shall indemnify and hold harmless the Nation and the Secretary and their respective authorized agents, employees, land users and occupants against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of area under the Lease by the Lessee.

22. The Lessee shall not assign, convey, transfer or sublet in any manner whatsoever, the lease or any interest therein, or in or to any of the improvements on the land subject to the lease, without the prior written consent of the Nation and the Secretary. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Nation may be granted, granted upon conditions or withheld at the sole discretion of the Nation.

23. The Nation may recommend termination of the Lease by DOI for violation of any of the terms and conditions stated herein.

24. At the termination of the Lease, the Lessee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written

request from the Nation, the Lessee shall provide the Navajo, at the Lessee's sole cost and expense, with an environmental audit assessment of the premises at least thirty (30) days after completion and notification to the Nation that all required reclamation has been performed.

25. Holding over by the Lessee after the termination of the Lease shall not constitute a renewal or extension thereof or give the Lessee any rights hereunder or in to the land subject to the Lease or to any improvements located thereon.

26. The Nation and the Secretary shall have the right, at any reasonable time during the term of the permit, to enter upon the premises, or any part thereof, to inspect the same and any improvements located therein. The Nation and Secretary have further right to audit all payments due to the Nation.

27. By acceptance of the grant of Lease, the Lessee consents to the full territorial legislative, executive and judicial jurisdiction of the Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Lessee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Nation.

28. By acceptance of the grant of the Lease, the Lessee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Nation on the basis that such jurisdiction is inconsistent with the status of the Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare) over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the Lease or to the Nation.

29. Any action or proceeding brought by the Lessee against the Nation in connection with or arising out of the terms and conditions of the Lease shall be brought only in the Courts of the Nation, and no such action or proceeding shall be brought by the Lessee against the Nation in any court of any state.

30. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Nation.

31. Except as prohibited by applicable federal law, the law of the Nation shall govern the performance and enforcement of the terms and conditions contained herein.

32. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Lessee, and the term "Lessee" whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.

33. There is expressly reserved to the Nation full territorial legislative, executive and judicial jurisdiction over the area under the Lease and all lands burdened by the Lease, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the area under the Lease and all lands burdened by the Lease shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.

34. The Lessee is required to maintain and submit a certificate issued by an insurance company authorized to do business in the United States, and on the Navajo Nation, certifying that the applicant has a public liability insurance policy in force for the mining and reclamation operations pursuant to this Lease. Such policy shall provide for personal injury and property damage protection in an amount adequate to compensate any person injured or property damaged as a result of the mining and reclamation operations, including the use of explosives. Minimum insurance coverage for bodily injury and property damage shall be $ 500,000 for each occurrence and $1,000,000 aggregate.

(a) The policy shall be maintained in full force during the term of the Lease and the liability period necessary to complete all reclamation requirements under the Plan.

(b) The policy shall include a rider requiring that the insurer notify the Department and DOI whenever substantive changes are made in the policy including any termination or failure to renew.

THE NAVAJO NATION, Lessor

_____
Date

BY _____
Ben Shelly, President
The Navajo Nation

FORT DEFIANCE SAND AND GRAVEL, INC., Lessee

_____
Date

BY _____

ACKNOWLEDGEMENT OF LESSOR

State of Arizona)
) **ss.**
County of Apache)

Before me, a Notary Public, on this _____ day of _____, 2014, personally appeared Ben Shelly, who executed the foregoing lease in his official capacity as President of the Navajo Nation for and on behalf of the Navajo Nation.

_____
Notary Public

My Commission Expires:

_____

ACKNOWLEDGEMENT OF LESSEE

State of Arizona)
) **ss.**
County of Apache)

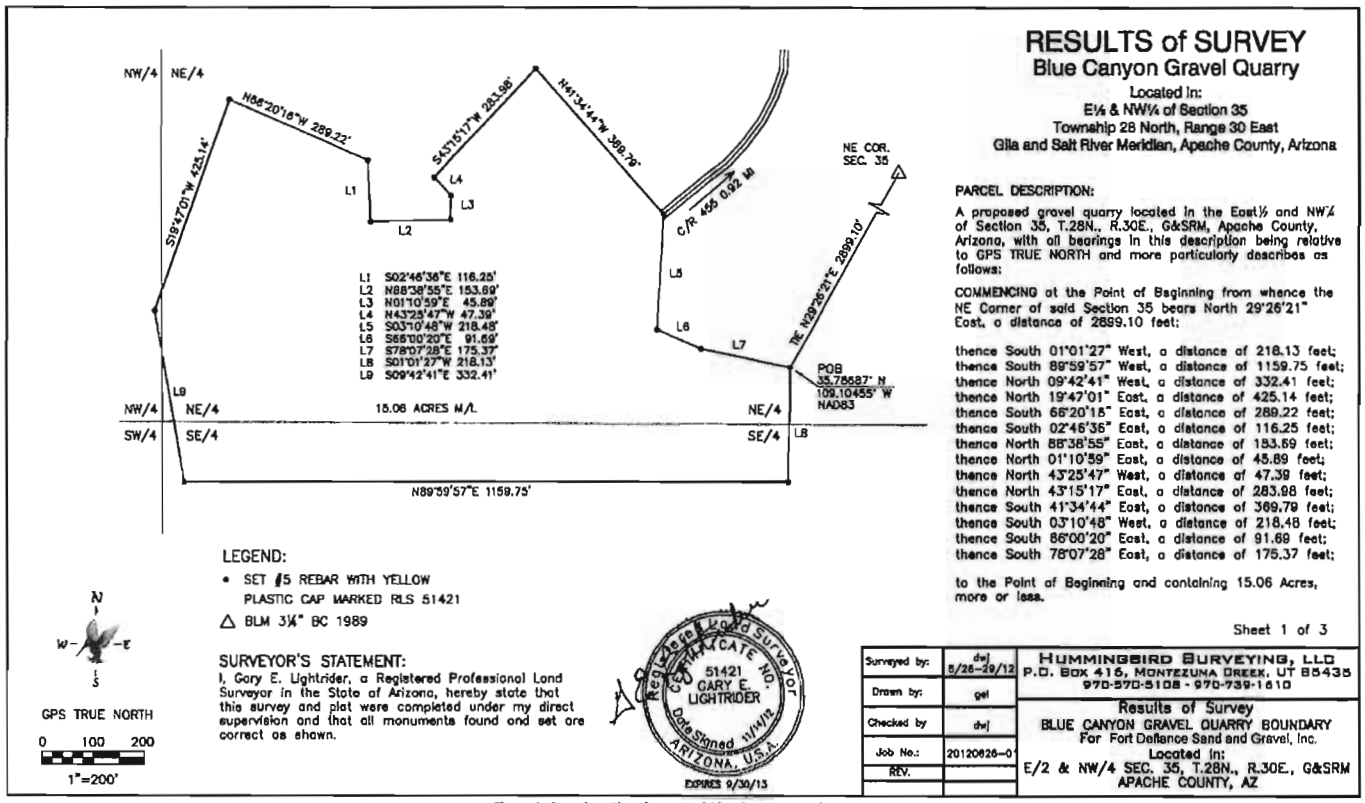
Before me, a Notary Public, on this _____ day of _____, 2014, personally appeared, who executed the foregoing lease in his official capacity on behalf of Fort Defiance Sand and Gravel, Inc.

_____
Notary Public

My Commission Expires:

_____

EXHIBIT
tabbies
H



RESULTS of SURVEY
Blue Canyon Gravel Quarry

Located in:
E½ & NW¼ of Section 35
Township 28 North, Range 30 East
Gila and Salt River Meridian, Apache County, Arizona

PARCEL DESCRIPTION:

A proposed gravel quarry located in the East½ and NW¼ of Section 35, T.28N., R.30E., G&SRM, Apache County, Arizona, with all bearings in this description being relative to GPS TRUE NORTH and more particularly describes as follows:

COMMENCING at the Point of Beginning from whence the NE Corner of said Section 35 bears North 29°26'21" East, a distance of 2899.10 feet;

thence South 01°01'27" West, a distance of 218.13 feet;
thence South 88°59'57" West, a distance of 1159.75 feet;
thence North 09°42'41" West, a distance of 332.41 feet;
thence North 19°47'01" East, a distance of 425.14 feet;
thence South 66°20'18" East, a distance of 289.22 feet;
thence South 02°46'36" East, a distance of 116.25 feet;
thence North 88°38'55" East, a distance of 153.89 feet;
thence North 01°10'59" East, a distance of 45.89 feet;
thence North 43°25'47" West, a distance of 47.39 feet;
thence North 43°15'17" East, a distance of 283.98 feet;
thence South 41°34'44" East, a distance of 369.79 feet;
thence South 03°10'48" West, a distance of 218.48 feet;
thence South 86°00'20" East, a distance of 91.69 feet;
thence South 78°07'28" East, a distance of 175.37 feet;

to the Point of Beginning and containing 15.06 Acres, more or less.

Sheet 1 of 3

LEGEND:

- SET #5 REBAR WITH YELLOW PLASTIC CAP MARKED RLS 51421
△ BLM 3¼" BC 1989

SURVEYOR'S STATEMENT:
I, Gary E. Lightrider, a Registered Professional Land Surveyor in the State of Arizona, hereby state that this survey and plat were completed under my direct supervision and that all monuments found and set are correct as shown.

Registered Land Surveyor
CERTIFICATE NO.
51421
GARY E. LIGHTRIDER
Date Signed 11/14/12
ARIZONA, U.S.A.
EXPIRES 9/30/13

GPS TRUE NORTH
0 100 200
1"=200'

Surveyed by:	dwj 5/26-29/12
Drawn by:	gel
Checked by	dwj
Job No.:	20120626-01
REV.	

HUMMINGBIRD SURVEYING, LLC
P.O. BOX 416, MONTEZUMA CREEK, UT 84535
970-570-5108 - 970-739-1610

Results of Survey
BLUE CANYON GRAVEL QUARRY BOUNDARY
For Fort Defiance Sand and Gravel, Inc.
Located in:
E/2 & NW/4 SEC. 35, T.28N., R.30E., G&SRM
APACHE COUNTY, AZ

Figure 4. Boundary Plat of proposed Blue Canyon Gravel Quarry.

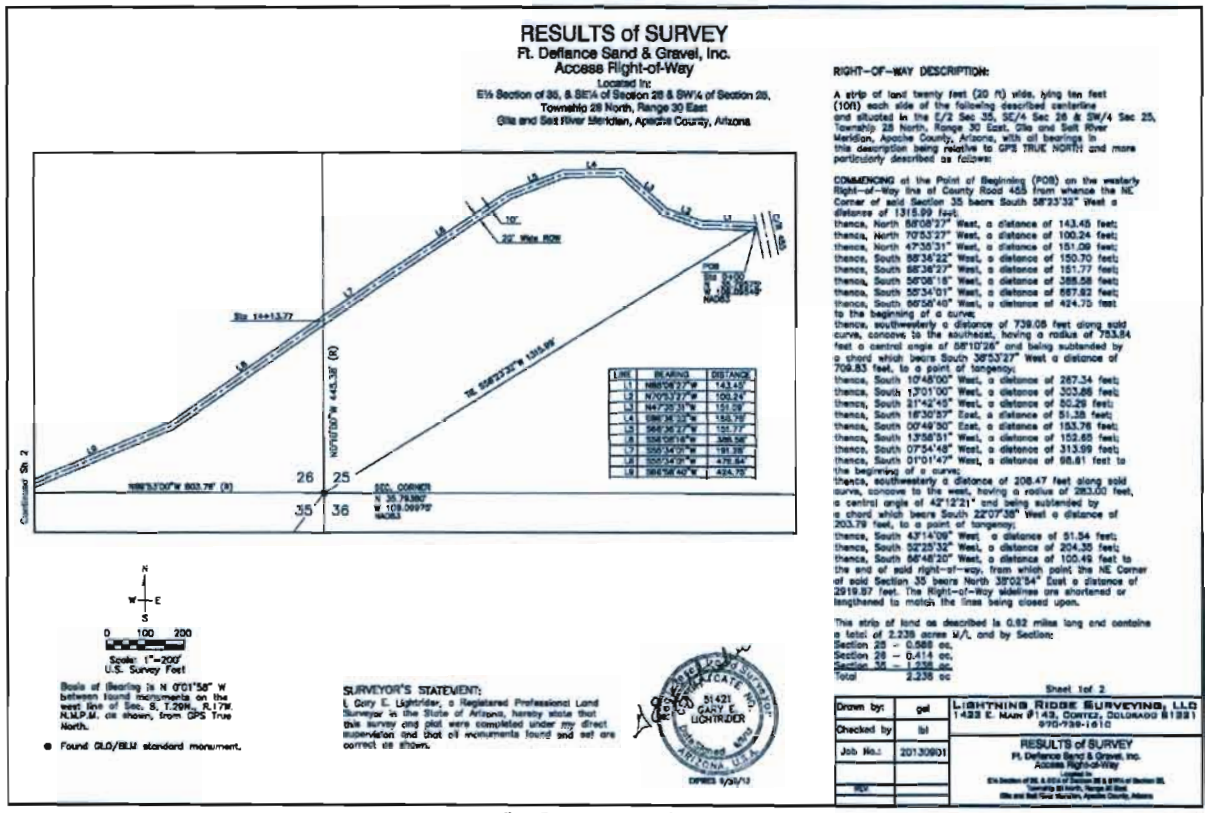


Figure 7a. Access road plat sheet 1.

THE NAVAJO NATION
FORT DEFIANCE CHAPTER

P.O. Box 366 • Ft Defiance, Arizona 86504
Phone: (928) 729-4352 • Fax (928) 729-4353
Email: *ftdefiance@navajochapters.org*

Zondra J. Bitsuie, *President*
Lorraine W. Nelson, *Vice-President*
Brenda Wauneka, *Secretary/Treasurer*
Herman Billie, *Grazing Official*
Roscoe Smith, *Council Delegate*
***Tony K. Watchman**, C.S. Coordinator*

EXHIBIT
J

BEN SHELLY
Navajo Nation President

REX LEE JIM
Navajo Nation Vice President

RECEIVED
AUG - 4 2014
DEPARTMENT OF JUSTICE
NATURAL RESOURCES UNIT

August 1, 2014

To: whom it may concern:

Subject: Survey Pertaining to Blue Canyon Gravel Pit

I, Herman Billie Fort Defiance Chapter Grazing Official made an on-site survey of every house ¾ mile radius from the old gravel pit.

Eleanor Yazzie is opposing of reopening of the pit, she has a permit but needs to be probated. Thomas Haskie and Robert Haskie Jr. live side by side are opposing of re-opening of the pit. Thomas has a valid grazing permit with livestock. Fernelia Castrwita id the livestock operator for her mother Verna Mea Cardy, valid grazing permit, this family is also opposing of re-opening of the pit. Harriet S. and Jerry Yazzie living next door to the Castruita's have a valid grazing permit and are opposing the re-opening of the gravel pit. Fannie Yazzie, no grazing permit, yes to the opening of the gravel pit, wants gravel road for Blue Canyon up yo her house.

Sarah, Christina, Glordane and Ronald Cecil live in one area, no grazing permit, Ok with re-opening of the gravel pit, one said long overdue for better roads. Gilbert Williams, no grazing permit, this person is blind and Ok with re-opening of the gravel pit. Needs roads from Ft Defiance –Blue Canyon to Sawmill improved. Edison Billie, no comment- if passed hoping for better roads. Sherri and Debra Wauneka, opposing the re-opening of the gravel pit, no further comment. Regina Tsosie - no contact. Wilbert Wauneka; ok with re-opening of the gravel pit, have gravel roads to homes and Blue Canyon roads improved. Dennis Wauneka; no comment. Mea Billie and Evangeline E. Hoskie; undecided, later changed her mind, ok for re-opening of the gravel pit even the two live closets to the gravel pit. (Westside).

I only took the names of people that are head of house hold and interviewed.

Herman Billie

		NAME:		DATE:	No. IN HOUSEHO
IP/PROBATE	1.	Eleanor Yazzie		6-21-14	9
	2.	ROBERT HASKIE Jr.		6-21-14	6
G.P.	3.	THOMAS HASKIE		6-21-14	1
G.P.	4.	Fenelia Castruita	194 RA	6-21-14	5
H.S.L	5.	FANNIE YAZZIE	404 RA	6-21-14	2
	6.	Jurrah Cecil		6-21-14	3
	7.	Christina Cecil		6-21-14	3
	8.	Glorelana Cecil		6-21-14	4
	9.	Ronald Cecil		6-21-14	4
	10.	Gilbert Williams		6-21-14	1
	11.	Harriet S Yazzie		06/21/2014	5
	12.	MAE BILLIE			2
	13.	Kelsey Halona		6-22-14	3
	14.	Pearl Yazzie		6-22-14	2
I.P. H.S.L.	15.	KENNETH HALONA		6-22-14	2
I.P H.S.L	16.	CAROL LEFTHAND		6-22-14	1
H.S.L	17.	MARIE HALONA		6-22-14	1
	18.	Mary C. Litson		6-22-14	6

6/28/14

ELEANORA
~~LENORA~~

1. OPPOSING GRAVEL PIT L. YAZZIE

2. THOMAS HASKIE - OPPOSING OF PIT.

3. FENELIA CASTRUITA / VERNA MAE CARDY - OPPOSING PIT.

4. N35° 47.098 W109° 05.935 Harriet & Yazzie
OPPOSING GRAVEL PIT

5 MAE BILLIE / Evangeline E. HOSKie
OPPOSING, IF PIT IS OPEN, ~~GRAND~~ KIDS AROUND.
CHANGED HER MIND, YES FOR HER.
N 35°.47.272 W109° 06.678

NEAREST HOUSE WEST OF GRAVEL PIT. EVANGELINE OPPOSED, LATER SHE CHANGED HER MIND FOR OPENING OF GRAVEL PIT - ~~MAE~~ BILLIE WAS'NT HOME. ASKED WHY CHANGE OF MIND, NO ANSWER.

6. KENNETH HALONA - ~~SANE~~ MARIE Halona NCAINT MARE A DECISION
WAS CONSTIPENTED FOR - WAS TOLD BY DELBERT BENALLY, LATE NOTAH, BEN LYNCH, CAROL LEFTHAND SANE OPPOSITION.

EON CHEE N 35° 44.06 · 3250 · WL
W 109° - 15.00 FEE

DENNIS W. - NO COMMENT - (ANNIE BOYD)
MAE BILLIE - OK WITH OPENING OF PIT.
FANNIE YAZZIE - " " " " " .
Christina Cecil - Ward - OKing with opening the Pit
Sarah Cecil - OK with opening of the Pit
Ronald L. Cecil - " " " "
GILBERT WILLIAMS - O.K. FOR REOPEN
MILEAGE 7776 - G. WILLIAMS
Edison Billie - NO COMMENT
Sherri Wauneka - No (OPPOSING)
Debra Wauneka - No (opposing)
RENA BILLIE - NO CONTACT
Regina Tsosie - No Contact
WILBERT WAUNEKA - ~~OPPOSE~~ YES TO REOPEN PIT

B

NAVAJO NATION DEPARTMENT OF JUSTICE
OFFICE OF THE ATTORNEY GENERAL

HARRISON TSOSIE
ATTORNEY GENERAL

DANA L. BOBROFF
DEPUTY ATTORNEY GENERAL

MEMORANDUM

TO: Heather Clah, Legal Counsel
Office of the President/Vice President

FROM: Bidtah N. Becker, Assistant Attorney General
Natural Resources Unit, Department of Justice

DATE: September 5, 2014

SUBJECT: **164 Review Document No. 000893: Sand and Gravel Lease – THT Enterprise, Inc.**

The Department of Justice (DOJ) has reviewed the above referenced resolution and lease packet which is a proposed commercial sand and gravel operation to be operated by Fort Defiance Sand and Gravel Inc. DOJ finds the packet legally insufficient for the following reasons.

Land Users' Consents

The Division of Natural Resources (DNR), through Robert Allan, has indicated that the resolution is legally insufficient because the land user consents have not been obtained. See Executive Official Review Sheet No. 863 signature dated 4/4/2014 and additional note dated 8/19/2014. Under 16 N.N.C. § 1403, a lessee shall not "make any change in the grade or contour" of Navajo Nation lands or "remove any surface vegetation thereon until the damages to the improvements thereon or the customary use rights of the individuals affected thereby have been estimated by the Navajo Land Department." Typically, the Navajo Land Department fulfills its section 1403 duties by obtaining the consent of land users whose customary use rights will be affected, such as land users who hold valid grazing permits. There are situations wherein the grazing permittee whose customary use rights are affected does not consent and is compensated for the damages to surface vegetation as required under section 1403, but it is more common for the grazing permittee, also referred to as the land user, to provide his/her consent. DOJ agrees with DNR that 16 N.N.C. § 1403 must be fulfilled before any sand and gravel lessee makes any change in the grade or contour of the land or removes any surface vegetation. Currently, the packet contains a list of individuals who live within three-quarter miles of the proposed sand and gravel operation. *See* Memorandum by Herman Billie, Grazing Official, dated August 2, 2014. The Navajo Land Department, through the Right of Way Agent Esther Kee, has reduced that list to only those individuals who claim to hold a valid grazing permit. See Memorandum by Esther Kee, Right of Way Agent, Project Review Office, Navajo Land Department, dated August 18, 2014. In her memorandum, Ms. Kee indicates that no land users consent to the sand and gravel operations. DNR has indicated that the proceedings under 16 N.N.C. §§ 1401 - 1403 must be met.

DOJ met with Ms. Kee to determine if the Navajo Land Department has begun to determine damages as required under section 1403. Ms. Kee indicated that she needs verification from the Bureau of Indian Affairs (BIA) as to who holds grazing permits before she can continue to fulfill the requirements of section 1403. The Grazing Official has requested the information from BIA. See Memorandum of Herman Billie dated August 22, 2014. In an attempt to ensure that this packet is legally sufficient by the time the Resources and Development Committee considers the proposed sand and gravel operation, DOJ, through Irvin Chee, is continuing to work with the Navajo Land Department and the Grazing Official Billie to obtain from BIA the a list of valid grazing permit holders.

DOJ also points out for the reviewers' edification that who the affected land users are has been difficult to ascertain because the sand and gravel project *partially* falls within an area of land that was withdrawn for the Blue Canyon Dam and Recreational Area through Resolution No. ACJA-21-83 titled *Concurring in the Order of the Chairman of the Navajo Tribal Council Withdrawing 149.90 Acres of Tribal Land for the Construction of the Blue Canyon Dam and Recreational Area. See* attached map labeled Blue Canyon Dam Land Withdrawal 05/06/1982. According to the Land Department, this map shows in red outline the area of land that the proposed sand and gravel operation would utilize and shows the land withdrawal for the Blue Canyon Dam and Recreation Area. The dam failed and therefore the recreational area was not constructed and this area is not being used for a dam and recreational area. DOJ has participated in many conversations with many entities including the Office of the President, the Bureau of Indian Affairs, the Land Department, the Grazing Official, and Recon Oil Company concerning whether or not land user consents must be obtained for that portion of the sand and gravel operation that falls within the land withdrawal. While at first blush, this question might seem like a purely legal question, there are important facts that must be obtained and considered, including but not limited to whether there are valid grazing permit holders. At this time, due to the lack of facts, DOJ cannot provide legal advice to the Navajo Nation on the specific question of whether or not land user consents must be obtained for that portion of the sand and gravel operation that falls within the land withdrawal.

Please note that according to the map attached hereto, the proposed sand and gravel operation falls on land that is outside of the withdrawn area. Please note that the access road of .92 miles that is part of proposed lease is not shown on the map. There may be an additional effect on land users by the contemplated access road. It needs to be determined whether or not there are land users who will be affected by the operation in the land area that area that falls outside of the withdrawal. As mentioned above, DOJ, through Irvin Chee, is working with the Navajo Land Department and the local Grazing Official to request from the Bureau of Indian Affairs a list of affected grazing permit holders.

Mining within the Land Withdrawal

If the Resources and Development Committee chooses to approve the current proposed sand and gravel operation, DOJ advises that the Resources and Development Committee amend Resolution No. ACJA-21-83 to include as one of the purposes of the land withdrawal sand and gravel mining.

Other Documents not attached or referenced in Proposed Resolution

A map referenced in the proposed resolution and referred to as Exhibit A is not in the packet. There are no environmental or archaeological clearances in the packet. The necessary environmental and

archaeological studies and associated clearances need to be referenced in the proposed resolution and attached to the proposed resolution in order to be legally sufficient.

Lease

DOJ has marked some edits and concerns on the Lease that will need to be fixed or addressed and should be addressed before the RDC considers the packet.

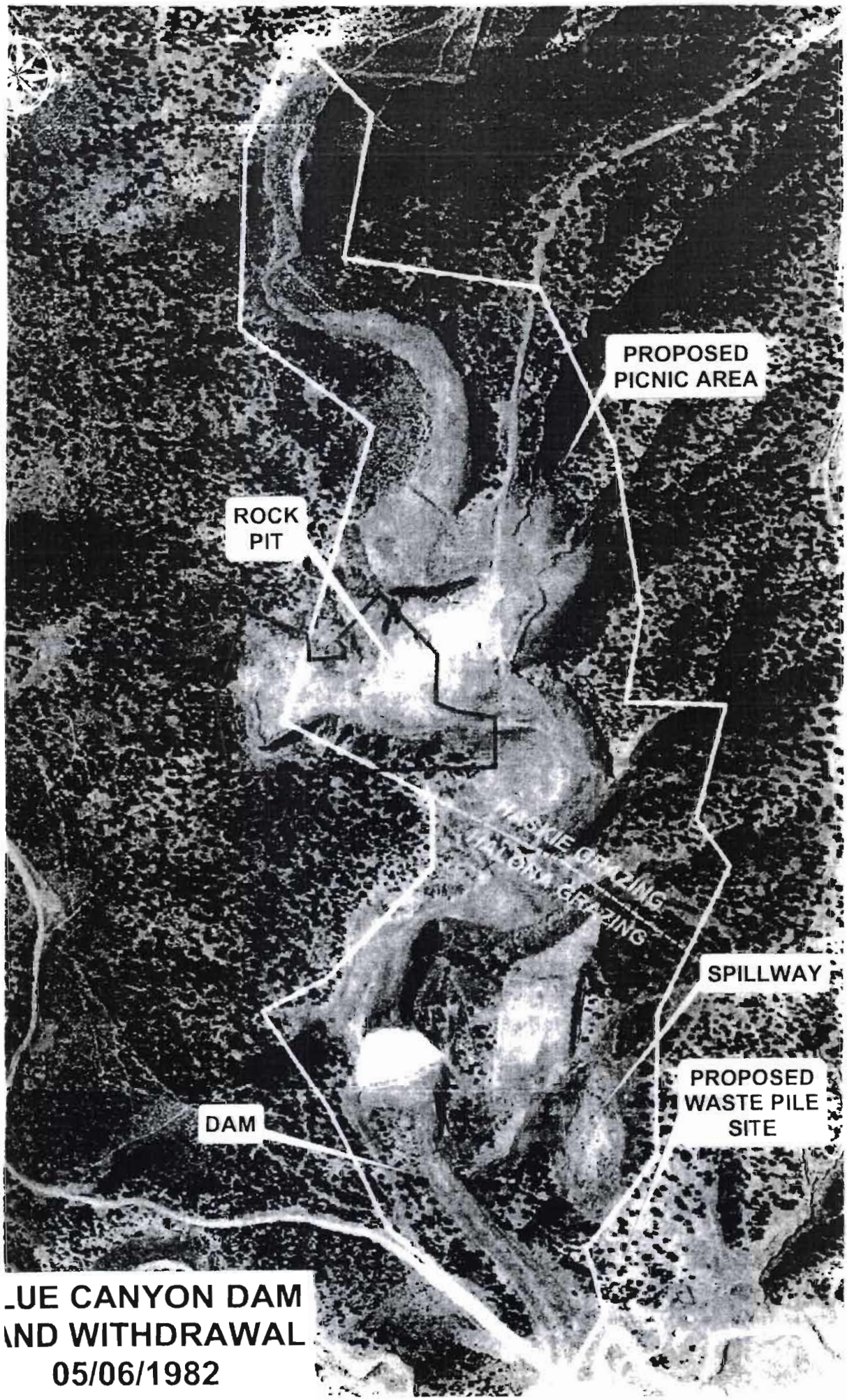
Other Considerations

The Navajo Land Department noted that the resolution is insufficient because there is no Chapter resolution supporting a commercial sand and gravel operation by Recon Oil. There are two resolutions in the packet. The first resolution is Resolution No. FD-2012-02-09-0 (note that this is the number shown on the copy of the resolution contained in the packet) titled *Supporting and Approving for Recon Oil Company, Inc. to Establish Sand and Gravel Pit and to perform a Survey Request for All Studies Needed as to Provide Needed Community Service Projects for the Beneficial Use of the Community.* This Resolution indicates Chapter support for a company named Recon Oil, not for Fort Defiance Sand and Gravel, Inc. This Resolution also indicates Chapter support for "needed community service projects for beneficial use of the community," and not commercial mining operations. *See* Chapter Resolution No. FD-2012-02-09-0 at Resolved Clause 1. The second resolution is Resolution No. FDC-2014-07-06-06 titled *Opposing the Proposed Blue Canyon Gravel Pit because of Failure to Get Consensus and Approval by All Local Residents.*

The Executive Review form needs to be corrected to reflect who the actual applicant for the sand and gravel operation is. The applicant listed on Executive Review Form No. 893 is THT Enterprise, Co. DOJ understands that the applicant is now Fort Defiance Sand and Gravel, Inc.

As always, please contact me with any questions or concerns about this memorandum. I can be reached at bbecker@nndoj.org or at extension 6347.

xc: Robert Allan, Attorney, Division of Natural Resources
Levon Henry, Chief Legal Counsel, Office of Legislative Counsel
Mariana Kahn, Attorney, Office of Legislative Counsel
W. Mike Halona, Director, Navajo Land Department
Esther Kee, Right-of-Right Agent, Navajo Land Department
Irvin Chee, Tribal Court Advocate, Natural Resources Unit, NNDOJ



LUE CANYON DAM
ND WITHDRAWAL
05/06/1982

Document No. 000893 Date Issued: 10/28/2013

EXECUTIVE OFFICIAL REVIEW

Title of Document: Sand & Gravel Lse. THT Enterprise, Inc Contact Name: DRAPER, HOWARD

Program/Division: DIVISION OF NATURAL RESOURCES

Email: howarddraper@frontiernet.net Phone Number: 928-871-6447

			Sufficient	Insufficient
☐ **Business Site Lease**				
1. Division:	_____	Date: _____	☐	☐
2. Office of the Controller:	_____	Date: _____	☐	☐
(only if Procurement Clearance is not issued within 30 days of the initiation of the E.O. review)				
3. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Business and Industrial Development Financing, Veteran Loans, (i.e. Loan, Loan Guarantee and Investment) or Delegation of Approving and/or Management Authority of Leasing transactions**				
1. Division:	_____	Date: _____	☐	☐
2. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Fund Management Plan, Expenditure Plans, Carry Over Requests, Budget Modifications**				
1. Office of Management and Budget:	_____	Date: _____	☐	☐
2. Office of the Controller:	_____	Date: _____	☐	☐
3. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Navajo Housing Authority Request for Release of Funds**				
1. NNEPA:	_____	Date: _____	☐	☐
2. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Lease Purchase Agreements**				
1. Office of the Controller: (recommendation only)	_____	Date: _____	☐	☐
2. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Grant Applications**				
1. Office of Management and Budget:	_____	Date: _____	☐	☐
2. Office of the Controller:	_____	Date: _____	☐	☐
3. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Five Management Plan of the Local Governance Act, Delegation of an Approving Authority from a Standing Committee, Local Ordinances (Local Government Units), or Plans of Operation/Division Policies Requiring Committee Approval**				
1. Division:	_____	Date: _____	☐	☐
2. Office of the Attorney General:	_____	Date: _____	☐	☐
☐ **Relinquishment of Navajo Membership**				
1. Land Department:	_____	Date: _____	☐	☐
2. Elections:	_____	Date: _____	☐	☐
3. Office of the Attorney General:	_____	Date: _____	☐	☐

Pursuant to 2 N.N.C. § 164 and Executive Order Number 07-2013

☐ **Land Withdrawal or Relinquishment for Commercial Purposes**

			Sufficient	Insufficient
1. Division:		Date:	☐	☐
2. Office of the Attorney General:		Date:	☐	☐

☐ **Land Withdrawals for Non-Commercial Purposes, General Land Leases and Resource Leases**

1. NLD		Date:	☐	☐
2. F&W		Date:	☐	☐
3. HPD		Date:	☐	☐
4. Minerals		Date:	☐	☐
5. NNEPA		Date:	☐	☐
6. DNR		Date:	☐	☐
7. DOJ		Date:	☐	☐

☐ **Rights of Way**

1. NLD		Date:	☐	☐
2. F&W		Date:	☐	☐
3. HPD		Date:	☐	☐
4. Minerals		Date:	☐	☐
5. NNEPA		Date:	☐	☐
6. Office of the Attorney General:		Date:	☐	☐
7. OPVP		Date:	☐	☐

☐ **Oil and Gas Prospecting Permits, Drilling and Exploration Permits, Mining Permit, Mining Lease**

1. Minerals		Date:	☐	☐
2. OPVP		Date:	☐	☐
3. NLD		Date:	☐	☐

☐ **Assignment of Mineral Lease**

1. Minerals		Date:	☐	☐
2. DNR		Date:	☐	☐
3. DOJ		Date:	☐	☐

☐ **ROW (where there has been no delegation of authority to the Navajo Land Department to grant the Nation's consent to a ROW)**

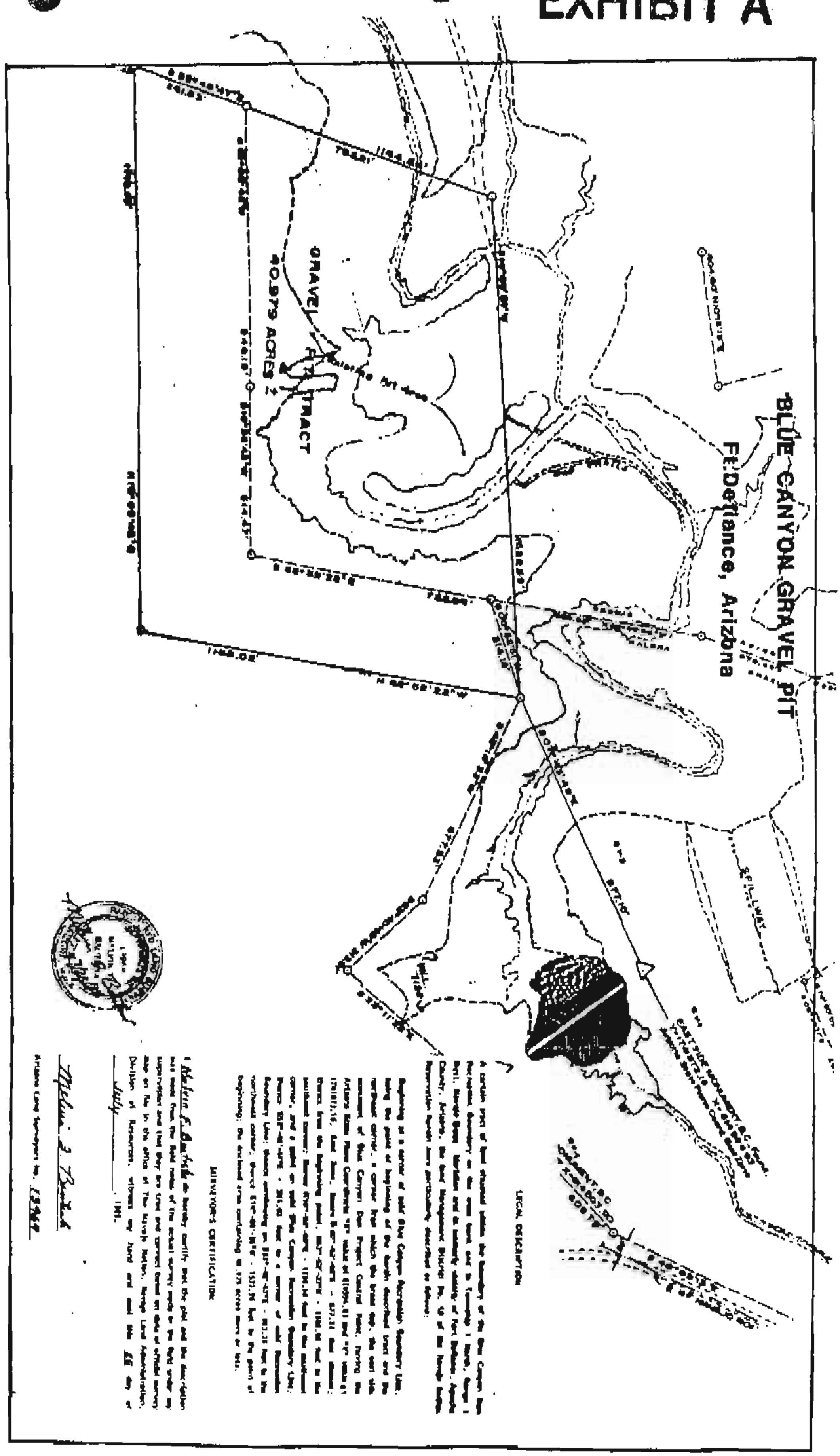
1. NLD		Date:	☐	☐
2. F&W		Date:	☐	☐
3. HPD		Date:	☐	☐
4. Minerals		Date:	☐	☐
5. NNEPA		Date:	☐	☐
6. DNR		Date:	☐	☐
7. DOJ		Date:	☐	☐
8. OPVP		Date:	☐	☐

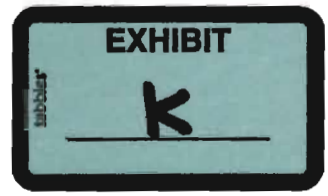
☒ **OTHER:**

1. NLD		Date: 2/NOV/13	☐	☒
2. F&W		Date: 12/03/13	☒	☐
3. HPD		Date: 12-5-13	☒	☐
4. Minerals		Date: 12/16/13	☒	☒
5. NNEPA		Date: 01-10-14	☒	☐
6. DNR		DATE 4/4/14	☐	☒
7. DOJ		DATE 9/5/14	☐	☒
8. P/VP		DATE 9/5/14	☐	☐

Pursuant to 2 N.N.C. § 164 and Executive Order Number 07-2013

EXHIBIT A


BLUE CANYON GRAVEL PIT
Ft. Defiance, Arizona
GRAVEL PIT TRACT
40.979 ACRES ±
SPILLWAY
LEGAL DESCRIPTION
SURVEYOR'S CERTIFICATION



TO : Howard P. Draper, Supervisor
Project Review Section, NLD

FROM : Esther Kee
Esther Kee, R/W Agent
Project Review Section, NLD

DATE : August 8, 2014

SUBJECT: Field Clearance Status on Blue Canyon Sand & Gravel Lease

Fort Defiance Sand & Gravel, Inc., dba Recon, Post Office Box 1678, Window Rock, Arizona 86515, submitted a Sand & Gravel Lease with haul road in Blue Canyon vicinity, Fort Defiance, Arizona. The sand & gravel lease occupies 15.06 acres, and the haul road consists of 2.23 acres, in Sections 35, 26 & 25, T28N, R30E, Apache County, AZ.

Herman Billie, Fort Defiance Chapter grazing official identified four (4) grazing permittees who will be affected by the proposed request:

Thomas Hoskie (Cecelia Tracy)
Verna M. Cardy
Fanellia Castruita
Harriet S. Yazzie (Jerry Yazzie)

On Friday (8/8/14) afternoon I went out to contact landusers for consent – I met with Robert Hoskie and he informed that Thomas was doing personal business in Gallup, Verna Cardy – nobody home, Fanellia Castruita – out of town, Harriet S. Yazzie – working and will contact Project Review Office next week. I just left my name and phone number with family members I met with.

THE NAVAJO NATION
FORT DEFIANCE CHAPTER

P.O. BOX 366 • Fort Defiance, Arizona 86504
Phone: (928) 729-4352 • Fax: (928) 729-4353
E-mail: *fidefiance@navajochapters.org*

Ben Bennett, *President*
Aaron Sam, *Vice-President*
Eva D. Platero, *Secretary/Treasurer*
Dorothy Upshaw, *Community Service Coordinator*
Roscoe Smith, *Council Delegate*
Stanley Denetdeel, *Grazing Official*

BEN SHELLY
Navajo Nation President

REX LEE JIM
Navajo Nation Vice President

RESOLUTION OF THE FORT DEFIANCE CHAPTER **FD-2012-02-09-06**

SUPPORTING AND APPROVING FOR RECON OIL COMPANY, INC. TO ESTABLISH SAND AND GRAVEL PIT AND TO PERFORM A SURVEY REQUEST FOR ALL STUDIES NEEDED AS TO PROVIDE NEEDED COMMUNITY SERVICE PROJECTS FOR THE BENEFICIAL USE OF THE COMMUNITY.

WHEREAS:

1. Pursuant to "Local Governance Act" Title 26 of the Navajo Tribal Code, chapter 1, section 39(a) the Fort Defiance ("The Chapter") is continued as certified local governmental entity of the Navajo Nation, by the Navajo Nation Council Resolution Number CAP=3498; and

2. Pursuant to 26 N.N.C. 3 (A) and 1 (B)(2), the Fort Defiance Chapter is vested with authority to review all matters affecting and to make appropriate recommendations to the Navajo Nation and other Federal, State and Local Agencies; and

3. The Fort Defiance Chapter has had a long time need for sand and gravel pit and other related earth projects for services in the community to meet the needs of our local service area; and

4. The Fort Defiance Chapter request upon proper clearances,, approval and establishment of the Sand and Gravel Pit, also requesting to utilize gravel for Community Road Improvement with technical assistance of Recon Oil Company, Inc.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The Fort Defiance Chapter, hereby, approves the request for Recon Oil Company, Inc. to establish a Sand and Gravel Pit and perform a survey request for all studies needed as to provide needed community service projects for beneficial use of the community.

EXHIBIT
L

CERTIFICATION

We hereby certify that the forgoing resolution was duly consider by the Fort Defiance Chapter at a duly called meeting at Fort Defiance, Arizona, at which a quorum was present and that the same was passed by a vote 28 in favor, 0 opposed, and 1 abstained, the 9th day of February, 2012.

Motion by: Alice Yazzie Second by: Bernard Kinlicheee

Ben Bennett, Chapter President

EXHIBIT

M

Fort Defiance Sand and Gravel, Inc.

Blue Canyon Gravel Quarry

Mining and Production Plan

Sections 25, 26, and 35, T. 28 N., R. 30 E.

Apache County, AZ

Fort Defiance, AZ 7.5 Minute Quadrangle

Feb. 25, 2014

Prepared by:

PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

TABLE OF CONTENTS

LIST OF FIGURES

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1.0 INTRODUCTION

Fort Defiance Sand and Gravel, Inc. (FDSGI) is interested in acquiring a lease from the Navajo Nation for the use of Tribal surface to mine Tribal minerals (gravel) ≈2.5 miles northwest of Fort Defiance, AZ. The proposed Blue Canyon Quarry is 15.06 acres in size located within the Blue Canyon drainage at an outcrop of quartzite suitable for industrial and engineered gravel applications. FDSGI will apply to the Navajo Nation for a lease of the land and minerals in question and for approval of the proposed mining action.

2.0 OVERVIEW OF PROPOSED ACTION

2.1 QUARRY LOCATION

The proposed project area is located on the west side of Bonito Wash, a major ephemeral drainage within Blue Canyon. The proposed Blue Canyon Quarry would be located in Sections 25, 26, and 35, T. 28 N., R. 30 E., in Apache County, AZ (Figure 1). The proposed project is in the Bureau of Indian Affairs (BIA) Fort Defiance Agency, Fort Defiance Chapter. The quarry is ≈2.5 miles northwest of Fort Defiance, AZ, and approximately 0.92 miles west of County Road 455. The proposed quarry would be located within an existing quarry that was previously mined for material to build the Bonito Wash dam immediately downstream of the project area. The proposed quarry is ≈15.06 acres which includes the mine area and work areas (Figures 3 and 4). The surface and subsurface minerals at the site are owned by the Navajo Nation. Figures 5 and 6 provide an illustration of the pre-mining and post-mining topography in the project area.

2.2 ACCESS

Access to the Blue Canyon Quarry will be along an existing 0.92-mile long dirt roadway that was previously used to access the mine (Figure 1 & 2). The access road will require a ROW which will be applied for following mine approval. The access road will be bladed and maintained as necessary to 20' wide to allow safe travel to and from the Blue Canyon Quarry. No other upgrades will be applied to the access road. The access road will be the only means of ingress and egress from the proposed quarry. Currently, access to the quarry is from BIA – N7, which travels north from Fort Defiance approximately 5 miles to County Road 455. From County Road 455 and N7, travel west, then south approximately 2.5 miles to the junction of the proposed access road. Then, travel west and south on the access road for 0.92 miles to the east boundary of the proposed quarry (Figure 1). The Navajo Nation owns all land within the project area including the access road.

Figure 2 is a map provided by Garren Burbank of the Navajo Department of Transportation (NDOT) showing designated public roads near the project area incorporated into the 2008 Navajo Indian Reservation Roads (IRR) Inventory. The Navajo DOT map confirms that a new 0.92-mile long, by 20-foot wide, access road right-of-way (ROW) will be required for access from CR 455 to the mine (Figure 1). The access road will have a locking gate installed northeast of the project area, at a mid-point in the access road (Figure 1). The locking gate will limit unwanted access to the site.

2.3 LAND USE CONSENT

FDSGI will request permission from the Navajo Nation to lease the land and minerals in the project area. The Fort Defiance Chapter endorsed the quarry on February 9, 2012 (Resolution FD-2012-02-09-06; Attachment A). The closest house to the quarry site is located approximately 816' west of the project area. The quarry will not be visible from any houses due to terrain and trees blocking the view. The entrance of the proposed access road at CR 455 will be visible from the house located near the east end of the road, but the rest of the project area is blocked from view.

Fort Defiance Sand and Gravel, Inc. - Blue Canyon Gravel Quarry

Sections 25, 26, and 35, T. 28 N., R. 30 E., Apache County, AZ

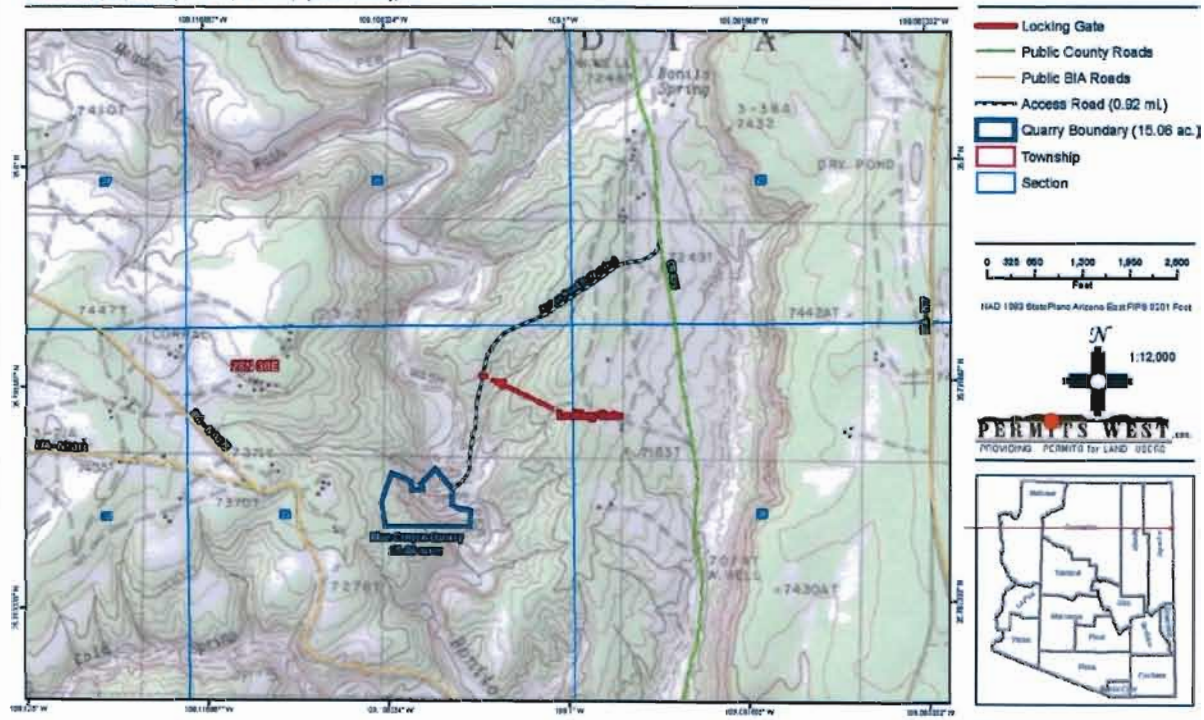


Figure 1. Overview of Project Area.

Figure 2. Map provided by the Navajo Department of Transportation (NDOT) showing designated public roads near the project area.

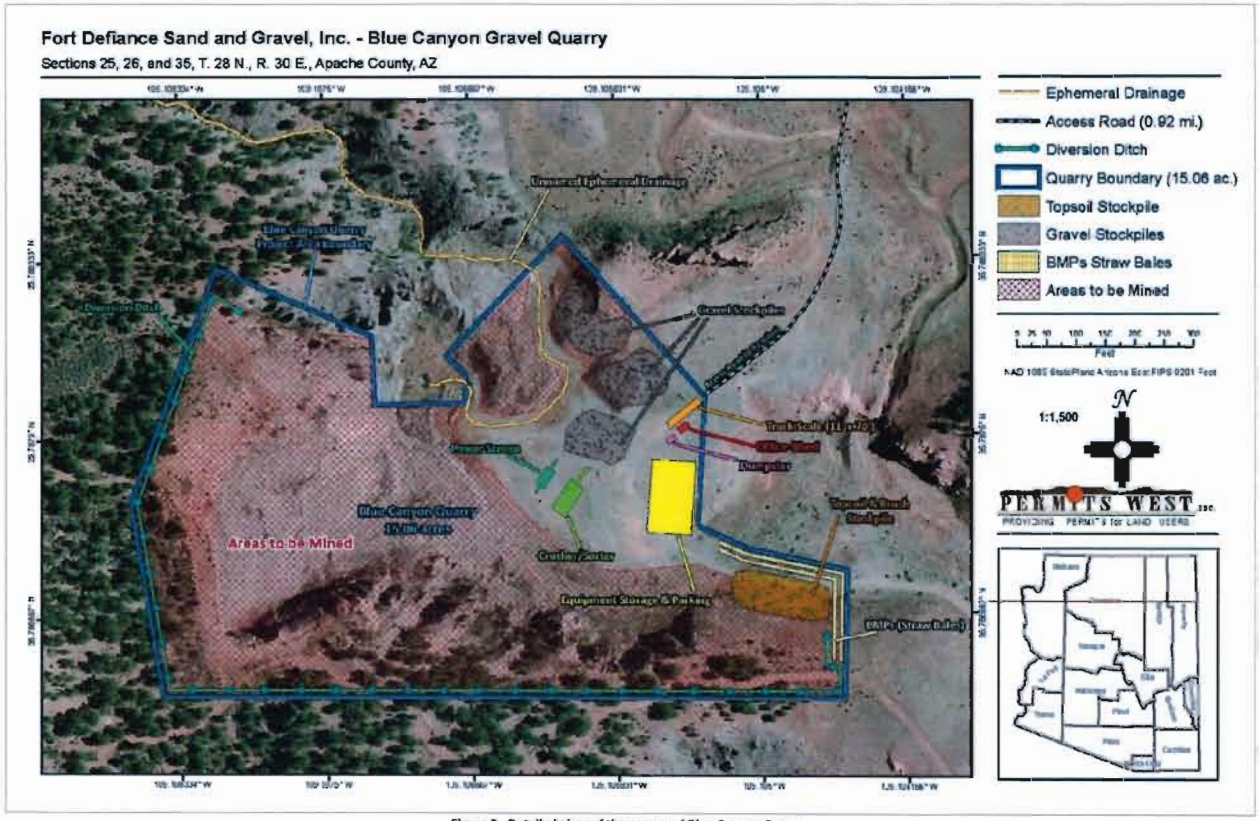
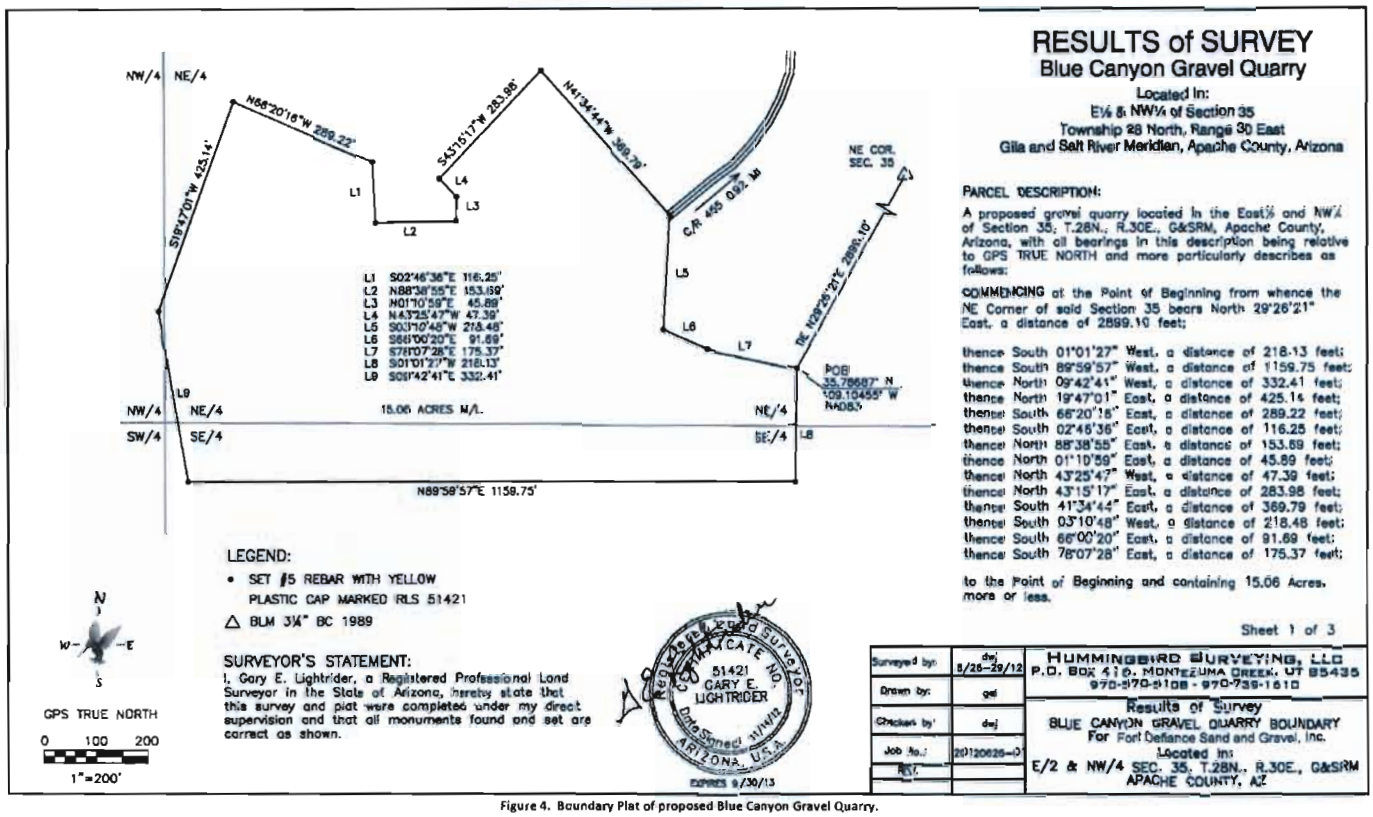


Figure 3. Detailed view of the proposed Blue Canyon Quarry.



RESULTS of SURVEY
Blue Canyon Gravel Quarry

Located In:
E½ & NW¼ of Section 35
Township 28 North, Range 30 East
Gila and Salt River Meridian, Apache County, Arizona

PARCEL DESCRIPTION:

A proposed gravel quarry located in the East½ and NW¼ of Section 35; T.28N., R.30E., G&SRM, Apache County, Arizona, with all bearings in this description being relative to GPS TRUE NORTH and more particularly describes as follows:

COMMENCING at the Point of Beginning from whence the NE Corner of said Section 35 bears North 29°26'21" East, a distance of 2899.10 feet;

thence South 01°01'27" West, a distance of 218.13 feet;
thence South 89°59'57" West, a distance of 1159.75 feet;
thence North 09°42'41" West, a distance of 332.41 feet;
thence North 19°47'01" East, a distance of 425.14 feet;
thence South 66°20'16" East, a distance of 269.22 feet;
thence South 02°46'36" East, a distance of 116.25 feet;
thence North 88°38'55" East, a distance of 153.69 feet;
thence North 01°10'59" East, a distance of 45.89 feet;
thence North 43°25'47" West, a distance of 47.39 feet;
thence North 43°15'17" East, a distance of 283.98 feet;
thence South 41°34'44" East, a distance of 369.79 feet;
thence South 03°10'48" West, a distance of 218.48 feet;
thence South 66°00'20" East, a distance of 91.69 feet;
thence South 78°07'28" East, a distance of 175.37 feet;

to the Point of Beginning and containing 15.06 Acres, more or less.

Sheet 1 of 3

LEGEND:

- SET #5 REBAR WITH YELLOW PLASTIC CAP MARKED RLS 51421
- △ BLM 3¼" BC 1989

SURVEYOR'S STATEMENT:

I, Gary E. Lightrider, a Registered Professional Land Surveyor in the State of Arizona, hereby state that this survey and plat were completed under my direct supervision and that all monuments found and set are correct as shown.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
51421
GARY E. LIGHTRIDER
Date Signed 11/9/12
ARIZONA, U.S.A.
EXPIRES 9/30/13

Surveyed by:	dwj 8/28-29/12	HUMMINGBIRD SURVEYING, LLC P.O. BOX 410, MONTEZUMA CREEK, UT 84535 970-979-9108 - 970-739-1610
Drawn by:	gel	Results of Survey BLUE CANYON GRAVEL QUARRY BOUNDARY For Fort Defiance Sand and Gravel, Inc. Located in: E/2 & NW/4 SEC. 35, T.28N., R.30E., G&SRM APACHE COUNTY, AZ
Checked by:	dwj	
Job No.:	20120625-01	
REV.		

Figure 4. Boundary Plat of proposed Blue Canyon Gravel Quarry.

2.4 ARCHAEOLOGICAL INVENTORY AND REPORTING

Complete Archaeological Service Associates (CASA) surveyed the project area on June 21, 2012. No cultural resource sites or traditional cultural properties were identified during the survey. The survey findings have been published in a report titled "CASA 12-55." A determination of "no historic properties affected" with no stipulations is recommended based on the lack of located cultural resources (CASA, 2012). If buried cultural resources are located during construction, work will immediately cease, and the Navajo Nation would be contacted for guidance.

2.5 BIOLOGICAL SURVEYS AND REPORTING

Plants: On June 26, 2012, a pedestrian botanical survey was conducted by a qualified botanist of the 15.06 acre site, along with a 50-foot buffer around the project area. No plant species of interest to the Navajo Natural Heritage Program or the U.S. Fish and Wildlife Service were observed; however, potential habitat may exist for the Utah bladder fern (*Cystopteris utahensis).* Three species of noxious weeds were observed (salt cedar, Russian olive, and cheatgrass); however, these noxious weeds do not represent a serious problem at this time. Also, a small, seasonally flooded closed basin and drainage inlet were found that could qualify as wetland; however, this area is excluded from the project area and will be entirely avoided. The Plant Survey Report dated July 7, 2012 is provided as Attachment B.

Wildlife: On June 26, 2012, a pedestrian wildlife survey was conducted by a qualified wildlife biologist. The entire project area was inspected, plus a 50-foot buffer around the site. Also, the 0.92–mile by 20' access road was surveyed along with a 25-foot buffer on both sides of the road. Furthermore, a 0.5-mile radius around the project area was inspected, along with a 1.0-mile line-of-sight survey from the project area for raptor nests. No federally or Navajo listed species were observed during the wildlife surveys. The Wildlife Survey Report dated July 20, 2012 is provided as Attachment C.

2.6 GEOLOGY, SOILS, AND HYDROLOGY

2.6.1 GEOLOGY

The project area lies within the south-central Colorado Plateau Physiographic Province. Tectonically, the region is dominated by the large Defiance uplift which is lies at the southwestern San Juan Basin. The Defiance uplift is a north-trending uplift about 30 miles wide and 100 miles long. It is asymmetrical on the east and as a result of the sharp, sinuous Defiance monocline which determines the eastern boundary. Locally, at about 4 miles northwest of Fort Defiance, Precambrian rocks are found unconformably beneath the Permian (Kelly, 1967). The Precambrian quartzite outcrops are surrounded by outcrops of reddish siltstone or very-fine-grained sandstone. The reddish siltstone and sandstone are part of the Fort Defiance member of the De Chelly Sandstone, which is Permian in age (Peirce 1967). This sandstone outcrops all around the quarry site, along the access road, and on the east side of Bonito Wash. Quartzite is the rock type that will be mined from the proposed Blue Canyon Quarry. The depth of the quartzite in the project area is not readily known; however, quartzite is assumed to be present to significant depths where it is exposed at the surface.

2.6.2 SOILS

Soils within the project area are entirely characterized as Evpark-Vessilla-Arabrab complex, 1 to 25 percent slopes. This soil complex is found at elevations ranging from 6,300 to 7,800 feet. The mean annual precipitation is 14 to 18 inches with a mean annual temperature of 48 to 51° F, and a frost-free period of 110 to 140 days (NRCS, 2012). Soils of the Evpark-Vessilla-Arabrab complex develop on mesas, plateaus, crests, and hills, and are composed from eolian deposits and slope alluvium derived from sandstone and shale. Other attributes of this soil association are as follows:

- Drainage class: Well drained
- Depth to water table: More than 80 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Maximum salinity: nonsaline (0.0 to 2.0 mmhos/cm)
- Available water capacity: Very low to low (about 1.6 to 5.3 inches)
  (NRCS, 2012)

2.6.3 HYDROLOGY

The hydrology of the project area is dominated by a small ephemeral drainage. There are no perennial or intermittent sources of water in the project area, and no springs, seeps, or riparian areas or wetlands in the project area. Also, no signs of shallow groundwater were observed within the project area. There is a closed depression and inlet channel just north of the project area that is refilled by ephemeral flows at irregular intervals. This area may be a wetland but has been entirely avoided and excluded from the project area. Just east of the project area is Bonito Wash, an ephemeral drainage that drains Blue Canyon. Although water does not regularly flow in this drainage, it has a significant upstream watershed and has the potential to produce flood flows during summer thunderstorm activity. Also, a major stormwater control dam is located a few thousand feet downstream of the quarry site that is large enough to contain flood flows sufficient to entirely inundate the project area. However, this type of flow regime for Bonito Wash is highly infrequent and is relatively unlikely in any given year.

2.7 NEPA PROCESS

An Environmental Assessment (EA) will be developed and submitted to the BIA as part of the SAS package. The NEPA document will analyze specific effects or reason for "no effect" to various resources that may be affected by the proposed operation. Resources likely to be affected are included in the following list. This list may not represent the complete list, as the NEPA process for the Blue Canyon Quarry would be ongoing and continue to evolve.

Potentially affected resources analyzed in the EA:

- Biological Resources (Vegetation and Wildlife)
- Cultural Resources
- Visual Resources
- Soil Resources
- Health and Human Safety
- Geologic Resources
- Air Quality
- Traffic Resources
- Noise

3.0 MINING

3.1 OPERATING HOURS

Operating hours would adhere to the Navajo Nation requirements. Typical operation hours would be Monday through Friday from 8:00 a.m. to 5:00 p.m.

3.2 MINING METHODS, EQUIPMENT, AND TIMING

Mining of the proposed quarry would be accomplished according to applicable federal and tribal regulations. The direction of mining will proceed west and south into the existing quarry area and steeply sloped quartzite cliffs (Figure 5). The pace of development of the Blue Canyon Quarry will entirely depend on demand. It is anticipated that products from the quarry would be purchased for commercial, transportation, and industrial improvements by the Fort Defiance Chapter, other

surrounding chapters, as well as businesses and private individuals. FDSGI proposes to use 15.06 acres within the abandoned quarry to perform mining activities, store equipment, and perform initial crushing and sorting operations. The entire project area has not been subdivided into individual mining blocks due to the limited safe operating areas beneath the highwall and cliffs that dominate the relatively small work site. These safety considerations will require continuous use of the entire site during operations in order to safely navigate to the top of the highwall and cliffs for drilling and blasting to loosen rock, reducing highwall slopes.

There are limited amounts of topsoil available for stockpiling within the project area. In areas that provide sufficient topsoil coverage, the top 6 inches of topsoil will be removed and stockpiled (Figure 3). FDSGI will seed the topsoil stockpile with a NNDFW approved seed mix and cover with mulch to maintain the integrity of the topsoil while it is stored.

Overburden is extremely limited at the site, and no overburden will be stockpiled. Overburden will be immediately used for concurrent reclamation of appropriate areas. Any berms as required by the Mine Safety and Health Administration (MSHA) will be constructed using overburden to serve as safety barriers. During reclamation, FDSGI will coordinate all revegetation efforts (See Attachment D for Revegetation Plan) with the NNDFW staff as appropriate.

Material will be drilled and blasted loose from the highwall. Material will be progressively blasted from the top of the highwall to the bottom along the contour across the entire site to safely work material free while still maintaining safe and stable work areas. FDSGI will comply with the ground control plan stipulated in 30 CFR, Subpart B, § 56.3000 through§ 56.3430. FDSGI will also maintain an inspection report of ground conditions required under 30 CFR, § 56.3401. Once loosened, material will either fall or be pushed downslope to the quarry floor with a bulldozer , excavator, or manually using scaling bars. A front-end loader will then collect the material from the bottom of the highwall slope and load it directly into the sorter/crusher, or haul trucks. Very little overburden exists at the site. Therefore, crusher fines, waste rock, overburden, and other unmarketable material will be used as reclamation backfill to reduce and stabilize slopes.

The crusher/sorter will crush rock to approximately 6" diameter or less. The crushed rock will then go through a sorter which will distribute the rock via conveyor belt(s) to the secondary crusher. The secondary crusher will crush oversized rock to a smaller acceptable size. Rock discharged from the secondary crusher will then be distributed by size by the splitter, conveyed into piles, and loaded into dump trucks and hauled off, or stockpiled for future sale.

All truck weights will be measured with an 11' x 70' truck scale at the entrance of the mine site (Figure 3). The scale would be rated to ≈200,000 pounds. Each trucks tare weight would be measured and recorded in the morning, and again in the afternoon to determine accurate tare weights. Once a haul truck is weighed, it would be loaded and reweighed to determine the tonnage of material being removed prior to exiting the quarry. Royalties would be based on these weight records and would be delivered to the Navajo Nation at regular intervals. A small office building will be located near the scale at the entrance to the quarry site for records and site management (Figure 3). The office building will have self-contained water and sewage tanks, or a portable toilet will be brought in. Sewage will be hauled to a State approved disposal facility. A trash dumpster will be placed near the office trailer for collection of garbage (Figure 3). The dumpster will be hauled away to an approved transfer station or landfill as needed.

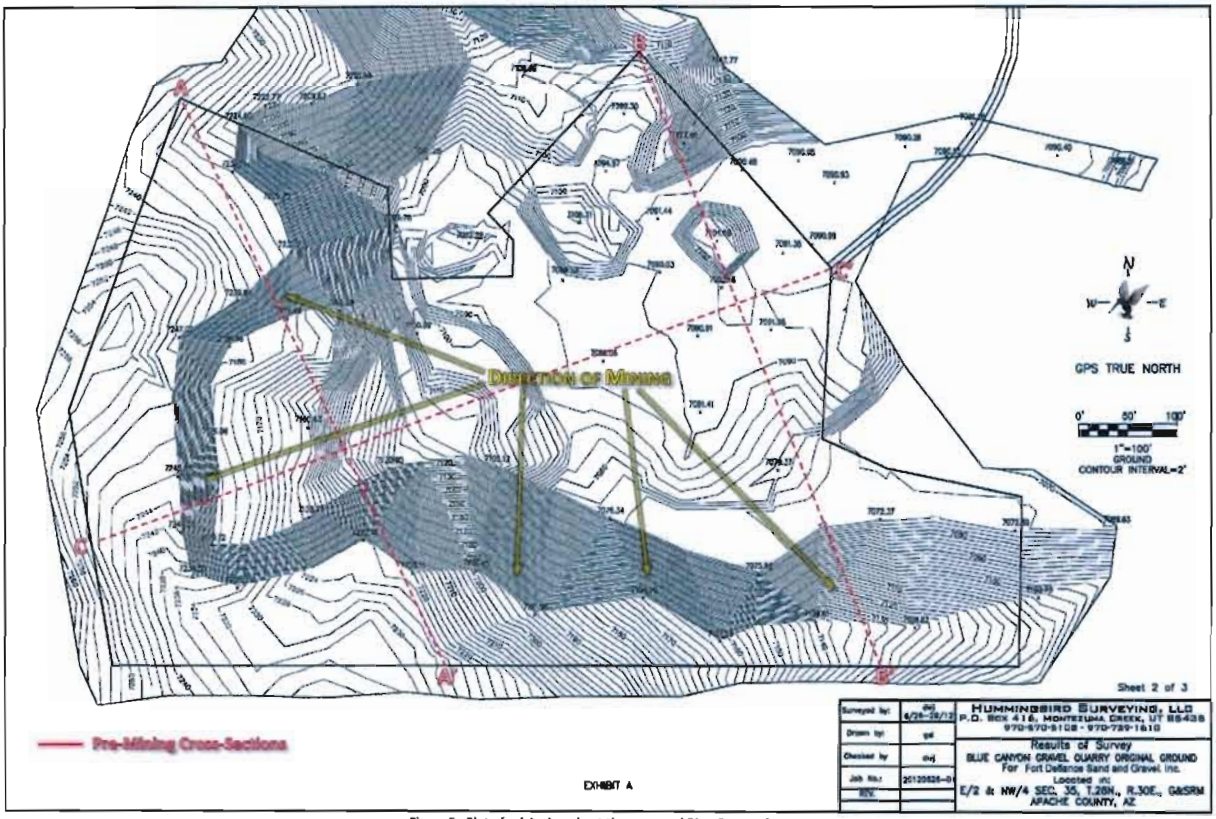


Figure 5. Plat of original grade at the proposed Blue Canyon Quarry.

Specific vehicles and equipment that will be used at the site are included in Table 1.

Table 1. Vehicles and Equipment to be used at the site.

Vehicles and Equipment		
Primary and Secondary Crushers	Screening stacker	Service Truck(s)
Front-end loader/Excavator	Bulldozer	Pickup Trucks
Feeder hopper	Splitter/Sorter	Conveyor belt(s)
Office Building	Dumpster or trash cage	Water Truck
Portable toilet	≈200,000 pound truck scale	Explosives Trucks

3.3 RESERVES

An estimated 268,590 cubic yards could be excavated over the five year life of the lease. A cubic yard of quartzite weighs ≈4,534 pounds (2.267 tons), thus ≈608,893 tons could be excavated over the five year life of the lease (or an average of 121,779 tons per year), depending on market conditions. The quartzite is a Precambrian deposit and has not been tested.

3.4 CONFIGURATION

The final elevation of the proposed quarry floor will be 7,090 feet. The maximum width (north-south) of the potential 15.06-acre quarry would be ≈786 feet. The maximum length of the quarry (east-west) would be ≈1,225 feet (Figure 4). The access road is ≈0.92 miles long, by 20 feet wide (2.23 acres). The Access Road is not a designated public roadway and therefore will require a ROW. The total land use for the quarry (15.06 acres) and 20' wide access road (2.23 acres) is 17.29 acres. Plats for the access road are provided as Figures 7a and 7b. The desired material to be mined (quartzite) is present at the surface and would result in very little overburden being generated at the site. Also, previous mining at the site did not stockpile overburden or topsoil and most disturbed land is characterized as bare rock scree fields, or compacted gravel flats with little topsoil or vegetation. In areas where overburden is produced, it will be immediately used for earthwork reclamation and highwall reduction.

3.5 SLOPE STABILITY

Currently, the Blue Canyon Quarry has several near-vertical to vertical highwalls. Existing highwalls and natural cliff outcrops of quartzite will be entirely mined through and would not require additional stabilization following mining and earthwork reclamation. The proposed slopes for earthwork reclamation highwalls will be 1V:2.5H (1 vertical to 2.5 horizontal). The general shape of the reclaimed site would be an approximately 159' deep half-bowl (from top of highwall to floor) with a north to northeast facing slope having positive drainage to the southeast (Figure 6). The new highwall would be created at the west and south boundaries of the project area (Figure 6). Active quarry slopes will be no steeper than 1V:1H. All other mining faces will comply with all applicable MSHA and Tribal regulations. Caution will also be exercised during any mine activities that occur beside or beneath steeply sloped areas and highwalls.

Figures 8, 9, and 10 provide cross-sections of the existing topography in the project area (pre-mining cross-section locations are displayed in Figure 5). Figures 11, 12, and 13 provide cross-sections of the post-mining topography in the project area (reclamation section locations are displayed in Figure 6).

3.6 PILE STABILITY

Stockpile slopes will be at the angle of repose for the material being piled. This applies to topsoil & brush, overburden, unprocessed material, all marketable products (e.g., pit run, gravel, sand), and all unmarketable material (e.g., crusher fines). The angle of repose for the material being mined is between 32-40° depending on the proportions of fine and coarse material being piled and the moisture content of the material.

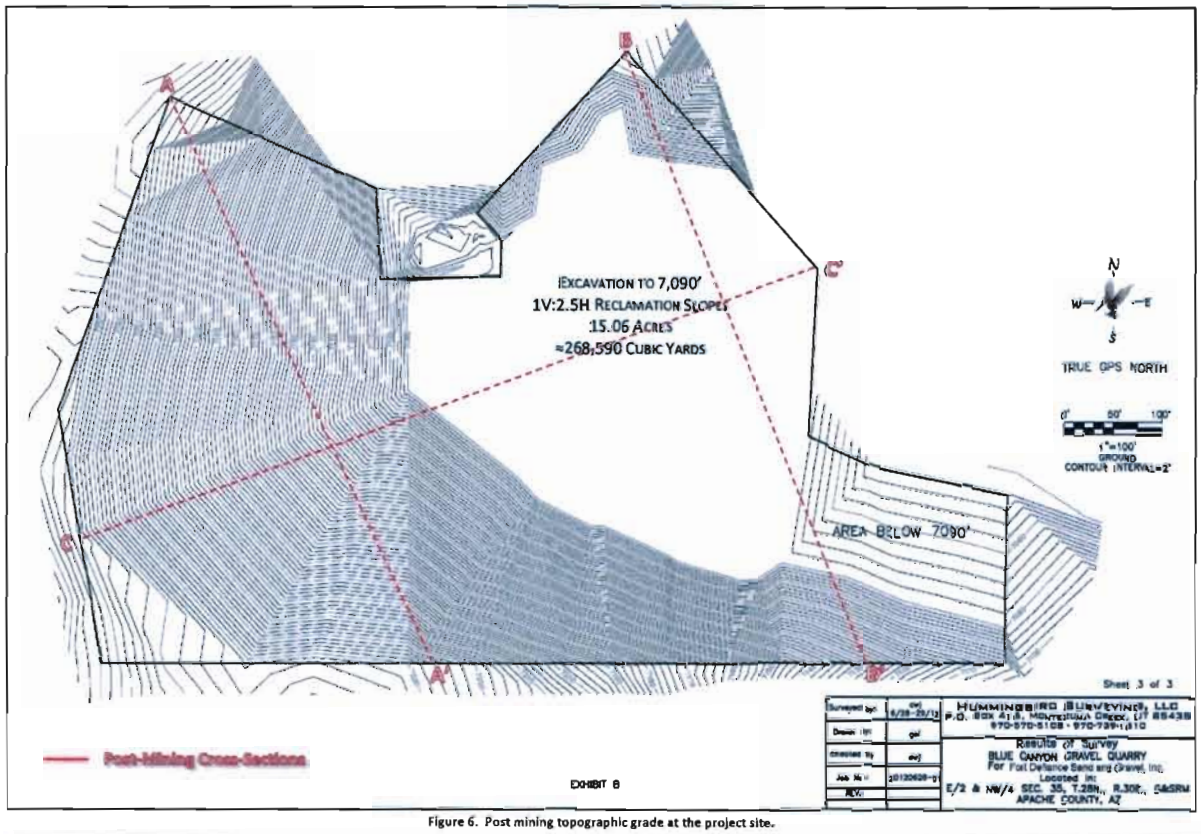


Figure 6. Post mining topographic grade at the project site.

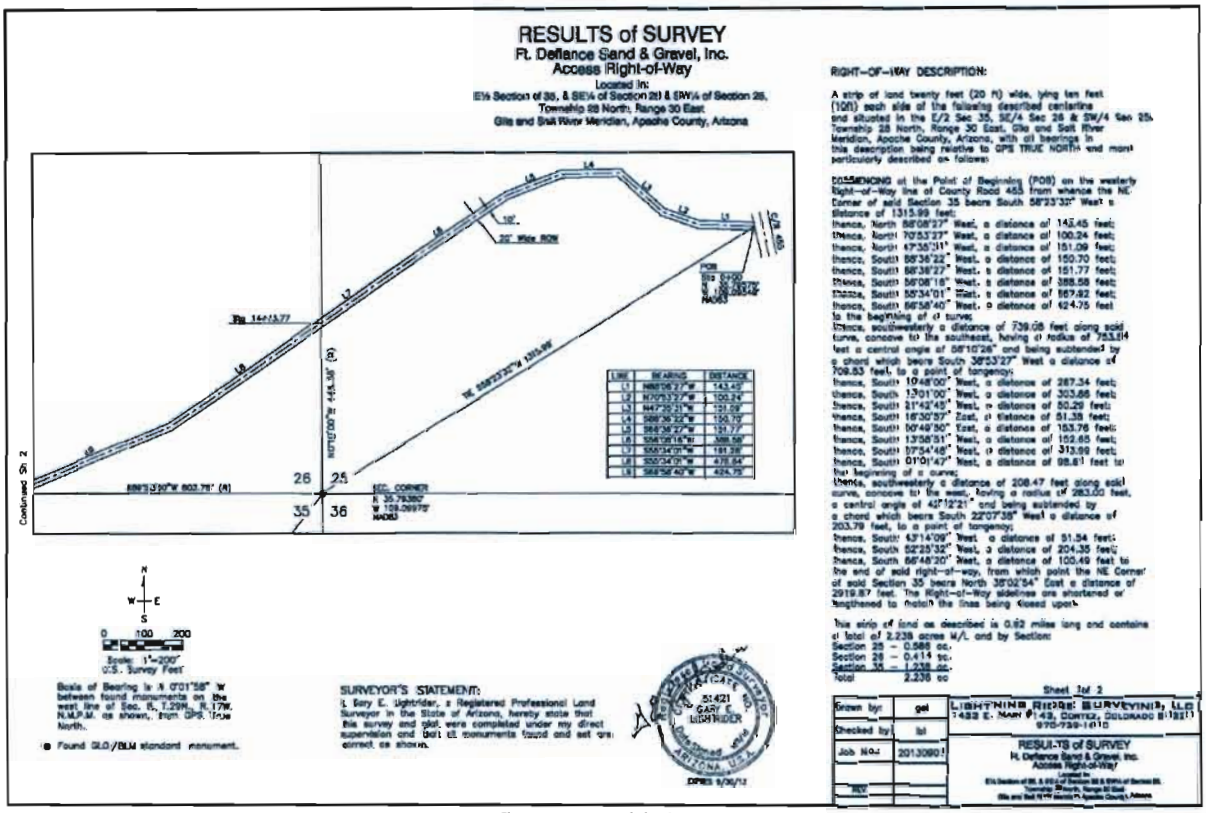


Figure 7a. Access road plat sheet 1.

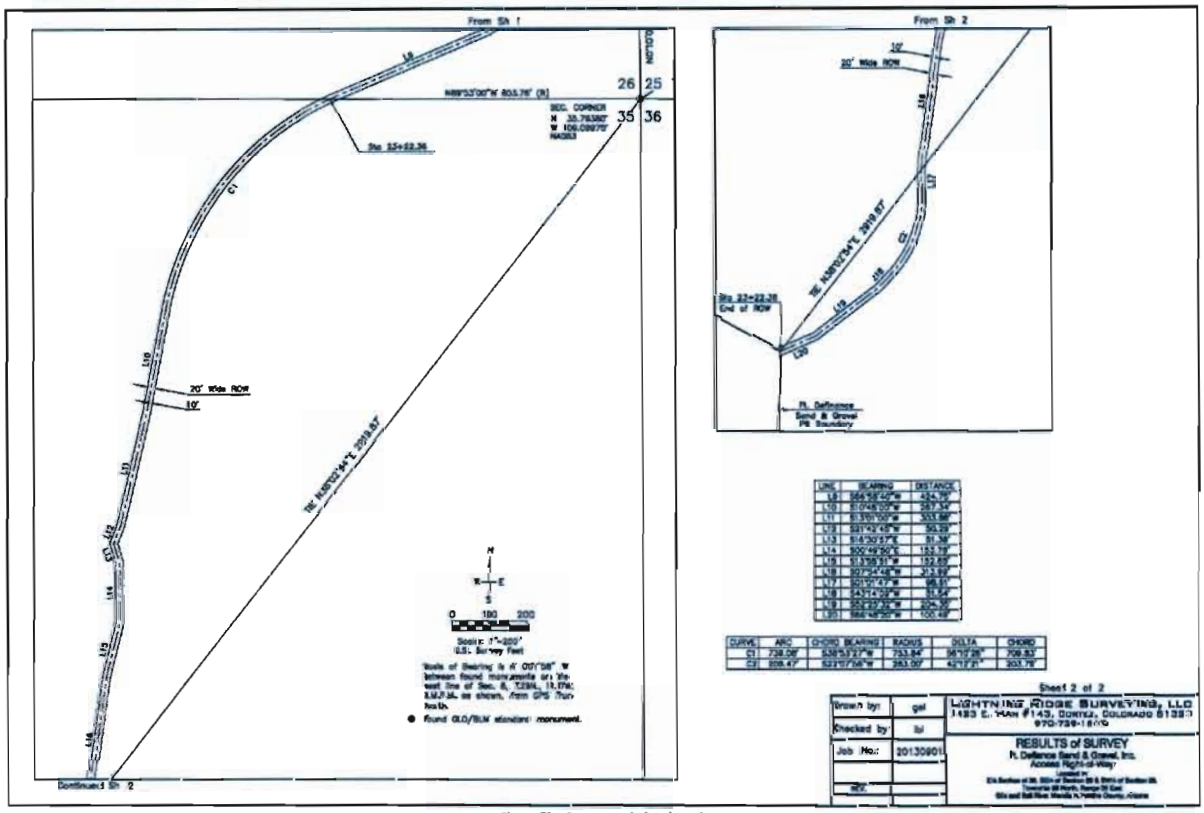


Figure 7b. Access road plat sheet 2.

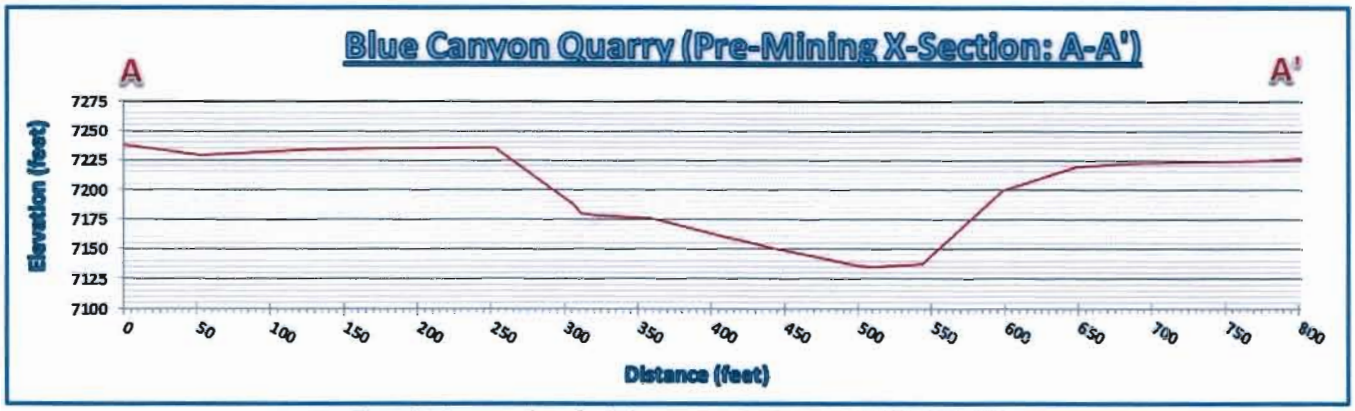


Figure 8. Cross-section of existing topography (Refer to A-A' in Figure 5).

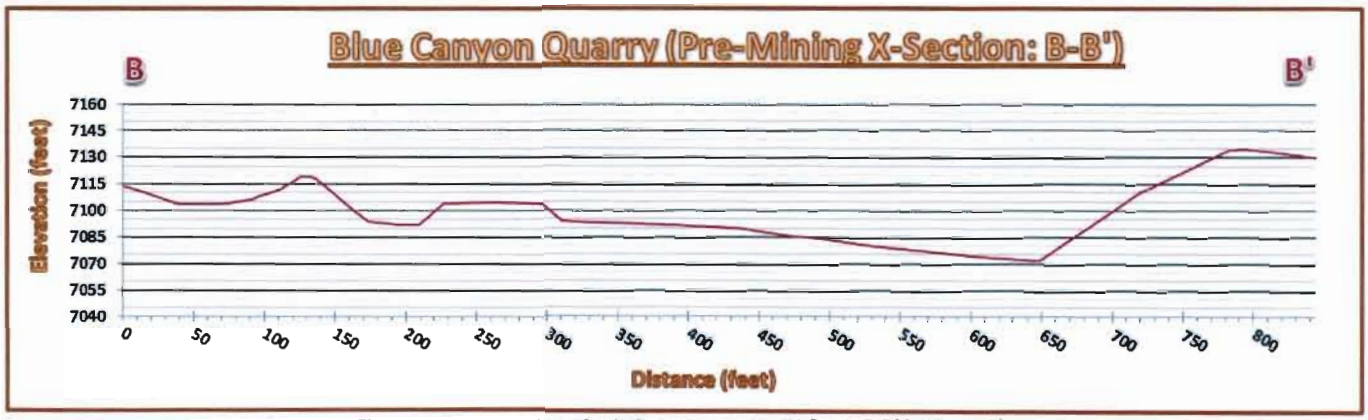


Figure 9. Cross-section of existing topography (Refer to B-B' in Figure 5).

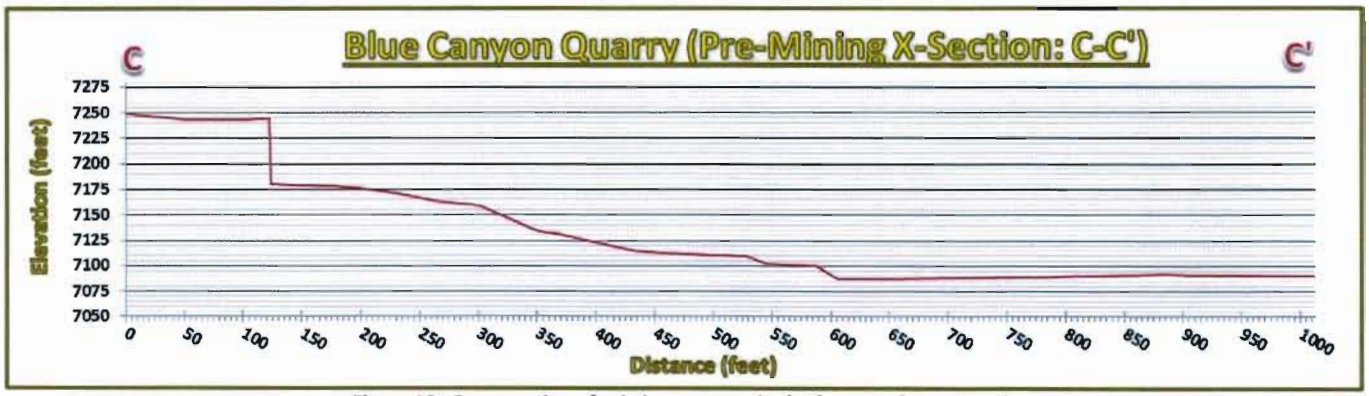


Figure 10. Cross-section of existing topography (Refer to C-C' in Figure 5).

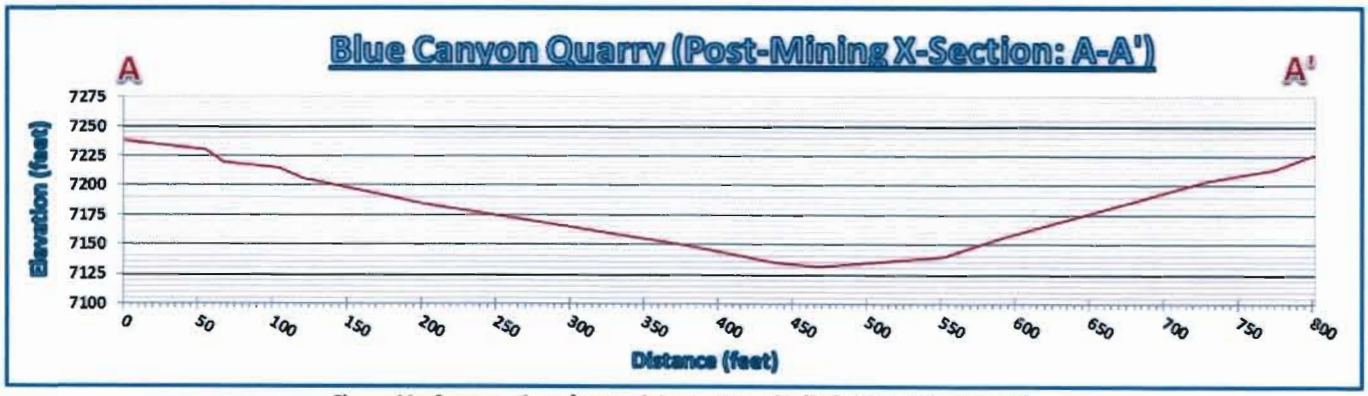


Figure 11. Cross-section of post mining topography (Refer to A-A' in Figure 6).

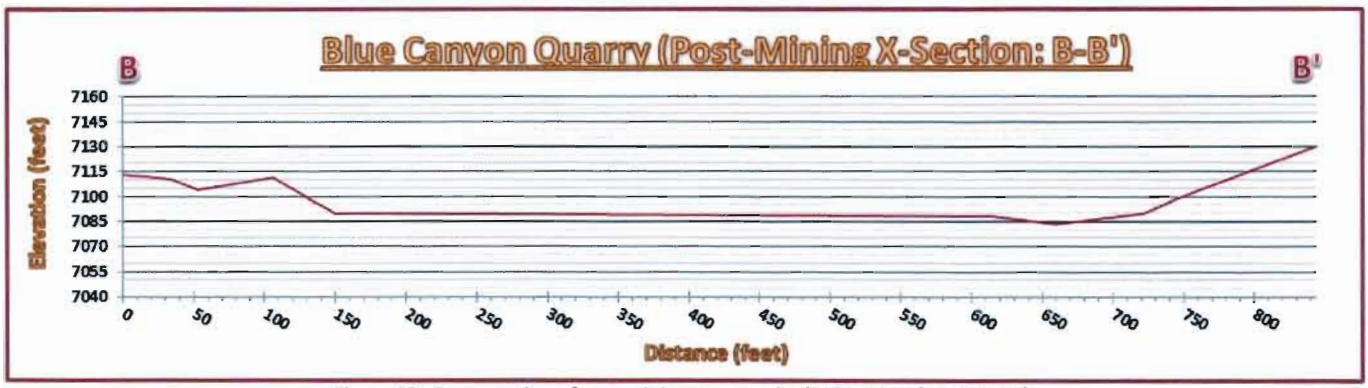


Figure 12. Cross-section of post mining topography (Refer to B-B' in Figure 6).

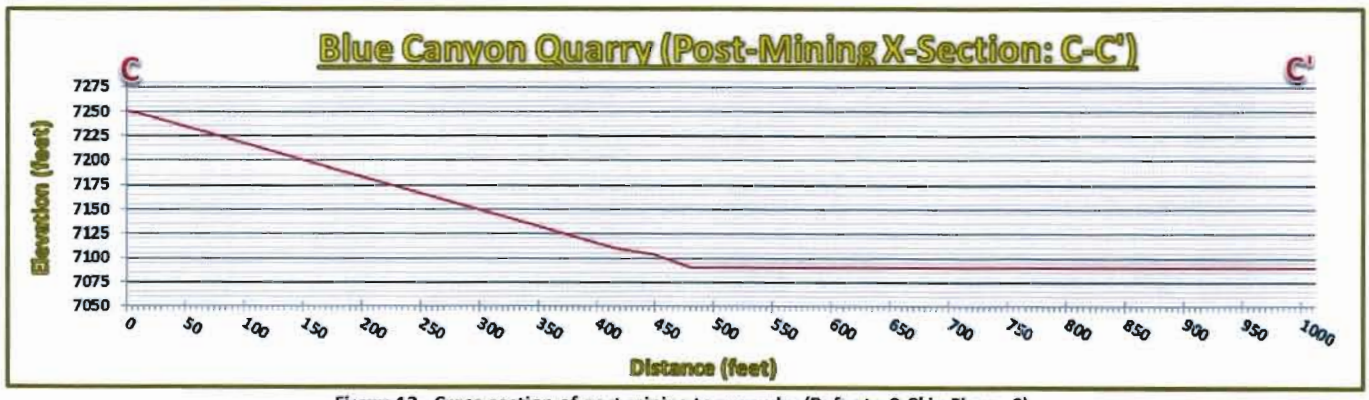


Figure 13. Cross-section of post mining topography (Refer to C-C' in Figure 6).

3.7 TOPSOIL

In areas that contain sufficient topsoil and brush cover, the top 6" of topsoil will be stockpiled separate from overburden in the southeastern part of the project area (Figure 3). FDSGI will interim-seed the topsoil stockpiles with a NNDFW approved seed mix and cover the piles with mulch to maintain soil viability.

3.8 EROSION & SEDIMENT CONTROL

Erosion and sediment will be controlled in the short-term by seeding and mulching the topsoil pile, installing stormwater runoff barriers (e.g., straw bales and/or geotextile fabric fences) and a diversion ditch around the uphill side of the site at the boundary to control stormwater from entering the site. The walls of the site will be sloped toward the interior of the quarry, initially capturing stormwater falling directly into the project area. Thus, only direct rain or snowfall will accumulate on the quarry floor. There is expected to be minimal precipitation accumulation since the evaporation rate exceeds the precipitation rate, and the Evpark-Vessilla-Arabrab soil complex has no frequency of flooding or ponding. All off-site runoff would be detailed in a yet to be developed Storm Water Pollution Prevention Plan (SWPPP) and filed with the U.S. Environmental Protection Agency (EPA).

Erosion and sedimentation will be controlled in the long-term by implementing Best Management Practices (BMPs) (Figure 3), shaping slopes to no steeper than 1V:2.5H (Figure 6), spreading topsoil (where available), and ripping compacted areas at least 12" deep on the contour. Then, all disturbed areas will be harrowed and seeded with an approved seed mix as described in the attached Revegetation Plan (Attachment D). The seed bed will then be drug with a chain or other covering device to protect seeds if the seed is broadcast instead of drilled.

Dust will be controlled as necessary by spraying high travel areas with water from a water truck. Water will be hauled from FDSGI's Gallup, NM office, or purchased from an approved source. Water for dust suppression will only be applied at a rate sufficient to control the dust and will not be placed at a volume that would result in runoff from the site. To control stormwater, BMPs including straw bales will be positioned along the contour on the mine floor at the low point in the southeastern project area (Figure 3) to strain sediment and limit the velocity of stormwater exiting the site. No water, other than that used to control fugitive dust, is proposed for use at the site. Also, no water will be generated, and none is anticipated to be intercepted during mining. Furthermore, no hazardous materials will be stored at the site, and no toxic or hazardous substances will be generated during the mining process. Therefore, water is not anticipated to collect or transport toxic or hazardous substances. Also, sediment would be strained out using straw bales to ensure drainages outside the project area receiving stormwater flows from the site (Bonito Wash) would not experience significant sedimentation or reductions in water quality.

3.9 CONTOURS

The quarry walls will not necessarily be contoured during active mining operations. However, reclaimed walls will slope inward at no steeper than 1V:2.5H (Figure 6).

3.10 DRILLING & BLASTING

Drilling and blasting is proposed at the Blue Canyon Quarry site and will be conducted according to Western Explosives Systems Company's (Wesco) Blasting Plan attached as Attachment E. Material will be loosened using explosive charges set in drilled holes. The type of explosives, drilling pattern, size of charges, test detonation, and vibration monitoring array configuration would be established during a

pre-blast survey conducted by Wesco at the Blue Canyon Quarry prior to any blasting work. For a complete detail of how Wesco would conduct the blasting program, refer to Attachment E.

3.11 HAZARDOUS MATERIALS

Mining equipment would be routinely inspected for leaks and other deficiencies that could cause spillage of hazardous products. Fueling of equipment would only occur at the crusher/sorter location. Leaks would be promptly corrected and reported if necessary. Spills and disposal of contaminated material would be managed in accordance with Federal and Tribal regulations and guidelines.

3.12 AIR QUALITY

Dust will be controlled by a water truck spraying high traffic surfaces with water.

3.13 WATER USE

The only use of potable water planned at the site is for the office shed. Water for the shed would be hauled from FDSGI's Gallup, NM office, or obtained from another approved source. No water well or other supply of water is available or required at the quarry. FDSGI does not plan to use surface water or pump groundwater for mining. If water is required to control fugitive dust at the mine, it will be purchased from an approved source. When necessary, water will be hauled to the site and dispensed onto dust generating surfaces using a water truck. If additional water is required for mining, then a water use permit will be obtained from the Navajo Nation Department of Water Resources.

There will be no discharge of produced water at the site. A Storm Water Pollution Prevention Plan (SWPPP) will be submitted to the U.S. EPA for approval following Navajo Nation approval of the Mine Plan. Runoff into the quarry will be prevented by installing a diversion ditch on all uphill sides of the quarry (Figure 3). Thus, only direct precipitation will enter the site. Precipitation accumulation is not anticipated since the quarry floor will be sculpted with positive drainage (Figure 6). All water leaving the quarry will pass through an approved BMP sediment trap such as straw bales or silt fencing prior to exiting the quarry (Figure 3).

3.14 HEALTH & SAFETY

FDSGI will comply with all tribal and federal health and safety regulations. The existing orphan highwalls and steeply sloping quartzite outcrops will be eliminated and replaced with a lower angle highwall that will have a slope of 1V:2.5H. Mining personnel will receive mandatory health and safety training pursuant to the provisions of 30 CFR Part 46 and 56. The company shall have the training plan approved by the U. S. Department of Labor, Mine Safety & Health Administration (MSHA). If FDSGI wants the Navajo Nation Minerals Department to provide the training, then the Minerals Department will be listed as a provider in the Training Plan. The MSHA Mine ID # will be provided upon receipt.

All personnel working at the site will receive onsite basic fire awareness training by FDSGI and will be notified of the locations of fire extinguishers and their proper methods of use. Every six months, persons assigned firefighting responsibilities will undergo firefighting drills conducted by FDSGI in order to maintain a clear understanding of firefighting methods, equipment, and fire safety.

3.15 BOND

The Navajo Minerals Department will determine the amount of the performance and reclamation bond; however, the BIA may require a higher bond. The bond will not be released without the consent of the Navajo Nation and BIA.

Generally, reclamation costs are derived from estimates of earthwork needed to stabilize and contour the site, along with estimating revegetation efforts and costs. However, bonding costs are entirely

dependent on the bond cost estimation methodology the Navajo Nation employs to determine appropriate financial assurance for a project. Depending on the site, the State of New Mexico has set performance and reclamation bonds at anywhere from $1,500 per acre for a flat simple site, to about $4,000 per acre for difficult sites with complex issues, lots of overburden, and significant slopes. Typically, performance and reclamation bonds are set near $3,000 per acre for sites with significant overburden (over 20 feet average) requiring considerable manpower and equipment to process and handle the waste material. The Blue Canyon site has been previously disturbed and is almost entirely void of overburden. The most significant contributor to higher reclamation bonding is the amount of waste material that must be handled, rather than reseeding efforts.

Using a conservative bonding rate taken from similar projects in New Mexico, FDSGI proposes using a bonding rate of $3,000 per acre. This proposed bond rate represents a higher rate than those typically applied to similar projects with 20+ feet of overburden (Blue Canyon Quarry has very little overburden). Therefore, FDSGI proposes for the Blue Canyon Quarry project, with its 17.29 acres of total disturbance area (15.06 ac. for mine site, 2.23 ac. for access road), a bond of approximately $51,870 for the entire project area using a rate of $3,000 per acre.

4.0 RECLAMATION AND REVEGETATION

Upon completion of the proposed project, all unused material and equipment would be completely removed from the project area. A complete Revegetation Plan for the proposed Blue Canyon Quarry is attached as Attachment D.

4.1 EROSION AND SEDIMENT CONTROL

See Section 3.8 of this Mine Plan.

4.2 REVEGETATION

Reclamation will be performed concurrently as part of the mining cycle. Successful revegetation will be achieved by stockpiling the top 6" of topsoil (where available), seeding and mulching the topsoil pile for interim-reclamation, installing BMPs (Figure 3), ripping compacted areas at least 12" deep on the contour to allow easier root growth, pitting or ripping on the contour to trap stormwater runoff and enhance growth, spreading topsoil evenly as a seed bed, seeding with a NNDFW approved seed mix to avoid a monoculture which would be vulnerable to drought and/or pests, and controlling for noxious weeds. Once seeded, reclaimed areas will be fenced.

Seed mix suggestions are provided in Table 2. The seed mix application rate of pure live seed will follow the suggested species specific rates defined in Table 3. Pure live seed for each component of the mixture ([1]Regreen™, grasses, shrubs, and forbs) will be applied at an approved rate. In addition, Regreen™ will be applied at a rate of 10 pounds per acre as recommended in the attached Revegetation Plan (Attachment D). The area will be monitored following seeding for noxious weeds. If noxious weeds are discovered, an eradication effort coordinated with the Navajo Nation will be initiated that would eradicate the noxious weed populations using the best practice available.

Seed mix suggestions for the project area are included in Table 2. The seed mix would be composed of at least two shrub species, four grass species, and three forb species.

[1] Regreen™ is a wheat x wheatgrass (*Triticum aestivum x Elytrigia elongata*) hybrid that produces a sterile plant. Regreen™ has a dense, fibrous root system that can stabilize the soil surface but it also has a deep root system that confers drought tolerance, winter hardiness, and adaptability to varying soil and moisture conditions.

Table 2. Seed mix suggestions.

Life form	Botanical name	Six-letter acronym	Common name
Shrubs			
Shrub	*Ericameria nauseosa*	Erinau	Rabbitbrush
Shrub	*Rhus trilobata*	Rhutri	Three-leaf sumac
Shrub	*Ribes cereum*	Ribcer	Wax currant
Shrub	*Artemisia carruthii*	Artcar	Carruth's wormwood
Sub shrub	*Berberis repens*	Berrep	Creeping Oregon-grape
Grasses			
Grass	*Bouteloua gracilis*	Bougra	Blue grama
Grass	*Elymus smithii*	Elysmi	Western wheatgrass
Grass	*Sporobolus cryptandrus*	Spocry	Sand dropseed
Grass	*Elymus elymoides*	Elyely	Bottlebrush squirreltail
Grass	*Aristida purpurea*	Aripur	Purple threeawn
Forbs			
Forb	*Melilotus officinalis*	Meloff	Yellow sweet clover
Forb	*Sphaeralcea fendleri*	Sphfen	Fendler's globemallow
Forb	*Ipomopsis aggregata*	Ipoagg	Skyrocket
Forb	*Heterotheca villosa*	Hetvil	Hairy goldenaster
Forb	*Achillea millefolium*	Achmil	Common yarrow

End of Table

Table 3 provides seeding rates for the project site. Estimates are made with the goal of 60% germinating seeds per acre. Plant species are represented by the six-letter acronym.

Table 3. Suggested native seed mix and seeding rate for the project site.

Species	Bougra	Spocry	Elyely	Aripur	Erinau	Rhutri	Meloff	Ipoagg	Achmil
% of mix	35	25	15	15	2	2	2	2	2
seed per ft^2	21	15	9	9	1.2	1.2	1.2	1.2	1.2
PLS	80	80	80	80	80	80	80	80	80
# seeds/lb.	710,000	5,600,000	190,000	260,000	400,000	20,300	258,550	357,000	2,700,000
seeds/acre	914,760	653,400	392,040	392,040	52,272	52,272	52,272	52,272	52,272
lbs./acre if 80% germination	1.55	0.12	2.48	1.81	0.16	3.09	0.24	0.18	0.02
Round up to nearest half or one-tenth of a lb.	2.0	0.2	2.5	2.0	0.2	3.5	0.3	0.2	0.1

End of Table

A comprehensive Revegetation Plan has been developed for the proposed Blue Canyon Gravel Quarry and is attached to this Mine Plan as Attachment D.

4.3 FINAL GRADING AND TOPOGRAPHY

Final grading would result in positive drainage out the southeast side of the quarry as outlined in Figure 6.

5.0 APPLICANT'S CONTACT INFORMATION

The applicant's contact information is provided in Table 4.

Table 4. Applicant's contact information.

PRESIDENT
Hubert Dayzie P.O. Box 1678 Window Rock, AZ 86515 Phone: (214) 394-7561 (505) 488-3314
VP OPERATIONS:
Bruce Nicholson P.O. Box 1678 Window Rock, AZ 86515 Phone: (214) 394-7561

6.0 REFERENCES

(CASA, 2012). Archaeological Inventory Documentation for Proposed Blue Canyon Quarry. Report No. CASA 12-55. Nov. 16, 2012.

(Kelly, 1967). Vincent C. Kelly. Tectonics of the Zuni-Defiance Region, New Mexico and Arizona. New Mexico Geological Society – Fall Field Conference Guidebook 18: Defiance- Zuni- Mt. Taylor Region, Arizona and New Mexico., F. D. Trauger, ed.: 28-31.

(NRCS, 2012). Web Soil Survey for the Evpark-Vessilla-Arabrab complex, 1 to 25 percent slopes soil. Natural Resources Conservation Service. Accessed via the internet at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Peirce, H. W. 1967. Permian Stratigraphy of the Defiance Plateau, Arizona. New Mexico Geological Society – Fall Field Conference Guidebook 18: Defiance- Zuni- Mt. Taylor Region, Arizona and New Mexico. F. D. Trauger, ed.: 57-62.

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37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

PLANT SURVEY REPORT

FOR

FORT DEFIANCE SAND AND GRAVEL, INC.'S PROPOSED BLUE CANYON GRAVEL QUARRY & ACCESS ROAD

APACHE COUNTY, ARIZONA

By: James R. McGrath

July 7, 2012

1.0 INTRODUCTION

On June 26, 2012 an endangered, threatened and sensitive plant survey was conducted on an approximate 15-acre rock quarry called the Blue Canyon Quarry. The site lies about 5 miles northwest of Fort Defiance, AZ on the west side of Bonito Wash. The site is located at latitude/longitude coordinates of 35.787701° N, 109.105355° W (datum = NAD 83) and is in Sections 25, 26, and 35, T. 28 N., R. 30 E., Apache County, Arizona. The project also includes a proposed 0.92 mile long, by 20-foot wide, access road that follows an existing dirt road from County Road 455 to the quarry site. The site is entirely within the jurisdiction of the Navajo Nation as the Nation owns both the surface and minerals at the site.

2.0 RARE PLANT TARGETS

The target species for the survey were those species found on the Navajo Endangered Species List (NESL) (NNDFWL 2008), and federally listed species (USFWS 2012) which are also found in, or expected to occur in, Apache County, AZ. The NESL is divided into 4 groups. There are no plant species on Group 1. Plants in Groups 2 and 3 are considered "endangered." These are "any species or subspecies whose prospects of survival or recruitment within the Navajo Nation are in jeopardy [Group 2] or are likely within the foreseeable future to become so [Group3]" (NNDFWL 2008). Species of these two Groups that occur in, or have potential to occur in, Apache County, AZ are *Astragalus humillimus*, *Erigeron rhizomatus*, *Allium gooddingii*, *Asclepias welshii*, *Carex specuicola*, *Errazurizia rotundata, Lesquerella navajoensis*, *Platanthera zothecina*, and *Zigadenus vaginatus* (NNHP 2012). Group 4 species are those species for which there is not enough information to justify listing them as "endangered" in Groups 2 or 3 (NNDFWL 2008). Nine Group 4 species are known to occur, or have potential to, occur in Apache County, AZ. They are: *Amsonia peeblesii*, *Cisium rydbergii*, *Cypripedium parviflorum* var. *pubescens*, *Cystopteris utahensis*, *Erigeron sivinskii, Eriogonum lachnogynum var. sarahiae*, *Primula specuicola*, *Puccinellia parishii* and *Salvia pachyphylla* ssp. *eremopictus* (NNHP 2012).

A total of 18 target species occur, or have the potential to occur in the project area. Of the 18 target species, *Astragalus humillimus* is listed endangered while *Erigeron rhizomatus*, *Asclepias welshii,* and *Carex specuicola* are listed as threatened by the U.S. Fish and Wildlife Service (NNHP 2012; USFWS 2012; NMRPTC 1999).

Table 1 lists the targeted species, their expected habitats, and their potential to occur within the survey area.

3.0 METHODOLOGY

The project area was surveyed by Botanist James McGrath on by pedestrian survey, paying particular attention to the various habitats while recording the presence of plant species. Habitats in the project area include: steep rocky slopes, rock ledges, sheer ≈60' tall highwall cliff of quartzite, and quartzite talus slopes. These habitats were given special attention because they are likely places to find rare plants. The following habitats were surveyed less intensively: pinion-juniper woodland occupying the mesa top above the old mine area (north, west, and south portions of project area); grassland-dominated hillside; disturbance vegetation community on the northern and western edges of the mesa top; quartzite gravel and debris piles; the flats below the cliffs and steep slopes that contain a disturbed vegetation regime resulting from vehicular and other activities associated with the previous mining operation; and an apparent ephemeral wet area on the flats surrounded by the project area (this potential wet area is being entirely avoided and is outside the project area. Additionally, a buffer of 50-feet was surveyed around the proposed project boundary, and the proposed access road was surveyed by pedestrian survey with a 25-foot buffer on both sides of the road.

4.0 GENERAL SITE DESCRIPTION

4.1 GEOLOGY

The geology associated with the project area is unique. A Precambrian quartzite is exposed in this very unique location as part of the Defiance Uplift (Kelley 1967). Mining the quartzite ore was also the objective of the previous mining operation at the site.

The quartzite exposures are surrounded by outcrops of reddish siltstone or very-fine-grained sandstone. The reddish siltstone and sandstone are part of the Fort Defiance member of the De Chelly Sandstone, which is Permian in age (Peirce 1967). This sandstone outcrops all around the quarry site, along the access road, and on the east side of Bonito Wash.

The flats adjacent to Bonito Wash are of alluvial origin. These flats grade into angular gravel flats associated with the old mining operation. These gravel flats are man-made and include rock and gravel left over from previous mining.

4.2 SOILS

The talus slopes and left over gravel stockpiles on the flats are composed of the desired quartzite. The surface of soils on the mesa top and slopes surrounding the quarry contain red rocks to 6" in diameter. These soils are sandy and gravelly in composition. The dried soil in the middle of the closed depression appeared to be loamy.

Although soils were not tested in the quarry area, it was tested in two seperate places along the access road using the method described by Pierce (1999). Near a red sandstone outcrop about 0.25 miles from the quarry, the soil is gravelly sandy clay loam. Presumably, the reddish soil on the mesa top and hillsides adjacent to the old mining operation is similar in composition to this tested site. Additionally, a second soil sample was taken near the northeast end of the access road was a gravelly clay loam.

4.3 ELEVATION

Elevation in the survey area is approximately 7,090 feet.

5.0 SURVEY RESULTS

5.1 TARGET RARE PLANT SPECIES

None of the target species were found during the June 26, 2012 botanical survey. Table 1 lists the targeted species, their expected habitats, and their potential to occur within the project area.

Table 1. Plant species listed on the NESL or listed endangered or threatened by the U.S. Fish and Wildlife Service (NNHP 2012; USFWS 2012; NMRPTC 1999).

Common Name (*Scientific Name*)	Status*	Habitat Associations	Potential to Occur
Mancos milkvetch (*Astragalus humillimus*)	NESL - Grp. 2 Fed. - E	"large, nearly flat sheets of exfoliating whitish-tan colored sandstone, in small depressions and sand filled cracks on or near ledges and mesa tops in slickrock communities of Point Lookout & Cliffhouse Sandstone." (NNHP 2012)	**Potential habitat does not exist.** No exfoliating white-tan sandstone present, nor are any rocks of the Point Lookout and Cliffhouse Sandstone. Small depressions and sand-filled cracks are lacking. Species not found.
Zuni fleabane (*Erigeron rhizomatus*)	NESL - Grp. 2 Fed. - T	Clay hillsides derived from Chinle or Baca Formations in Zuni, Chuska, Sawtooth and Datil mountain ranges between 7000 and 8300 feet (NNHP 2012)	**Potential habitat does not exist.** Soils are sandy-gravelly. Chinle and Baca Formations are not present. No plants resembling this species were observed.
Goodding's onion (*Allium gooddingii*)	NESL – Grp. 3 Fed. - None	Conifer forests, Gambel oak thickets; "moist, shady canyon bottoms...often along streams...6400-9400 ft. elevation (NNHP 2012).	**Potential habitat does not exist.** Conifer forests, streams, shady canyon bottoms are not present. Species not found
Welsh's milkweed (*Asclepias welshii*)	NESL – Grp. 3 Fed. - T	"Active sand dune...in sagebrush, juniper and ponderosa pine communities" (NNHP2012)	**Potential habitat does not exist.** There are no active or inactive sand dunes within the survey area.
Navajo sedge (*Carex specuicola*)	NESL – Grp. 3 Fed. - T	"seeps and hanging gardens, on vertical sandstone cliffs and alcoves...4600ft to 7200ft." (NNHP 2012).	**Potential habitat does not exist.** There are no seeps or hanging gardens within the survey area.
Round dune-broom (*Errazurizia rotundata*	NESL – Grp. 3 Fed. - None	Sandy and gravelly soils; alluvial cinders; exposed habitats in Great Basin desert scrub. 4600-5200 ft. elevation. (NNHP 2012)	**Potential habitat does not exist.** Elevation of survey area is more than 2000 feet higher than expected elevation range. Survey area is in pinon-juniper woodland, not Great Basin desert scrub. Species not found.
Navajo bladderpod (*Lesquerella navajoensis*)	NESL – Grp. 3 Fed. - None	"windswept mesa rims and nearby habitat with little vegetative cover and high insolation...base and slopes of small hills of the Chinle Formation" (NNHP 2012)	**Potential habitat does not exist.** Chinle Foramtion is not present. Windswept mesa rims are lacking. Vegetative cover is good except where ground has been

Common Name (*Scientific Name*)	Status*	Habitat Associations	Potential to Occur
			disturbed. Species not found. No *Lesquerella* (*Physaria*) species were observed during the survey.
Alcove bog orchid (*Platanthera zothecina*)	NESL – Grp. 3 Fed. - None	Seeps, hanging gardens, and moist stream areas from the desert shrub to pinion-juniper & Ponderosa pine/mixed conifer communities...4000-7200 ft. (NNHP 2012)	**Potential habitat does not exist.** There are no seeps, hanging gardens or streams in the survey area. Species not found.
Alcove death camas (*Zigadenus vaginatus*)	NESL – Grp. 3 Fed. - None	"Hanging gardens in seeps and alcoves...3700 –6700ft." (NNHP 2012)	**Potential habitat does not exist.** No seeps or hanging gardens are present within the survey area. Species not found.
Peebles Blue Star (*Amsonia peeblesii*)	NESL – Grp. 4 Fed. - None	"Plains Grassland, Great Basin Shrub-Grassland, and Great Basin Desert Scrub communities...strongly alkaline sedimentary conglomerates to volcanic cinders...4000 to 5620 ft." (NNHP 2012)	**Potential habitat does not exist.** Survey area is in pinion-juniper woodland vegetation type; substrate is rock, sandy and gravelly soils and elevation of survey area is 2000 feet higher than expected elevation for this species. Species not found.
Rydberg's thistle (*Cirsium rydbergii*)	NESL – Grp. 4 Fed. - None	"Hanging gardens, seeps and sometimes stream banks below hanging gardens, 3300-6500 ft." (NNHP 2012)	**Potential habitat does not exist.** No seeps, hanging gardens or streams are present within the survey area. Species not found.
Yellow lady's slipper (*Cypripedium parviflorum* var. *pubescens*	NESL – Grp. 4 Fed. - None	"moderate shade along stream banks, mountain meadows...in Ponderosa pine, mixed conifer and aspen forest communities." (NNHP 2012)	**Potential habitat does not exist.** No stream bank or ponderosa pine forest, mixed conifer forest or aspen forest is present within the survey area. Species not found.
Utah bladder fern (*Cystopteris utahensis*)	NESL – Grp. 4 Fed. - None	"Seepages, cracks and ledges on cliffs; on calcareous substrates including sandstone, limestone, and dacite...4200 to 8800 ft." (NNHP 2012).	**Potential habitat possible.** Seepages are lacking but ledges in cliffy areas are common within the survey area. However, the rocks present do not appear to be of calcareous origin. Species not found. No ferns were observed during the survey.
Sivinski's fleabane (*Erigeron sivinskii*)	NESL – Grp. 4 Fed. - None	"Steep, barren, shale slopes of the Chinle Formation, in pinion-juniper woodland and Great Basin Desert Scrub communities...6100 to 7400ft." (NNHP 2012)	**Potential habitat does not exist.** No steep, barren, shale slopes are present within the survey area. The Chinle Formation is also not present within the survey area. Species not found.
Sarah's buckwheat (*Eriogonum lachnogynum var. sarahiae*)	NESL – Grp. 4 Fed. - None	"Windswept mesa tops in pinon–juniper communities at 5900-7500 ft.. Endemic on the Owl Rock Member of the Chinle Fma. topped by Todilto Limestone." (NNHP	**Potential habitat does not exist.** Windswept mesas are lacking as are the Chinle and Todilto Formations. Species not found.

Common Name (*Scientific Name*)	Status*	Habitat Associations	Potential to Occur
		2012)	
Cave primrose (*Primula specuicola*	NESL – Grp. 4 Fed. - None	"Hanging gardens and occasionally streamsides below" (NNHP 2012)	**Potential habitat does not exist.** There are no hanging gardens or streams present within the survey area. Species not found.
Parish's alkali grass (*Puccinellia parishii*)	NESL – Grp. 4 Fed. - None	"Alkaline seeps, springs, and seasonally wet areas such as washes. Populations are known to occur between 5000 and 7200 ft elevation (NNHP 2012). Often associated with wetlands with white alkaline crusts (Detsoi 2011).	**Potential habitat does not exist.** A seasonally inundated wetland is present near the survey area, but the origin of the wetland is not a seep or spring. According to former New Mexico state botanist Bob Sivinski, Parish's alkali grass is always associated with springs or seeps. There were no alkaline crusts observed anywhere within the survey area. Species not found.
Arizona rose sage *Salvia pachyphylla* ssp. *eremopictus*	NESL – Grp. 4 Fed. - None	"Desert shrublands and Pinion-Juniper communities on basalt or soils derived from the Chinle Formation, from 5500 to 6500 m elevation. On the Navajo Nation often along the base of volcanic plugs, mesa tops and slopes." (NNHP 2012)	**Potential habitat does not exist.** The habitat preference is rather broad, but basalt and the Chinle Formation are lacking within the survey area. A Precambrian quartzite is present within the survey area, but the rock is a metamorphic rock of intrusive origin, not of volcanic origin like basalt or volcanic plugs. Species not found.

**Status: Fed. = Federal (U.S. Fish and Wildlife Service); E = Endangered, T =Threatened*
NESL = Navajo Endangered Species List
Grp 2 = Group 2 – "Endangered" - Any species or subspecies whose prospects of survival or recruitment are in jeopardy.
Grp 3 = Group 3 – "Endangered" - A species or subspecies whose prospects of survival or recruitment are likely to be in jeopardy in the foreseeable future.
Grp 4 = Group 4 - Any species or subspecies for which the NNDFWL does not currently have sufficient information to support their being listed in Grp 2 or Grp 3, but has reason to consider them.

Potential habitat for 17 of the 18 target species does not exist (Table 1). Potential habitat for one species may exist within the survey area. However, the Utah bladder fern (*Cystopteris utahensis*) occurs in cracks and on ledges on cliffs and on calcareous substrates, but the rocks within the survey area are not calcareous. Portions of the cliffs are of artificial origin within the quarry highwall area. The most likely place to find this fern within the survey area are ledges where rocks outcrop on the steep slopes or the edge of the mesa top adjacent to the sheer cliff. No ferns were observed during the survey.

5.2 SENSITIVE SPECIES

The Navajo Natural Heritage Program maintains a Navajo Nation Sensitive Species List (NNHP 2008) in addition to the NESL. None of the plant species on the list were found during this survey.

5.3 POTENTIAL WETLAND

A small closed depression approximately 5' deep, measuring 30' by 15', is located on disturbed flats in the middle of the quarry area, but outside the project area. It is very likely a wetland. The middle of the depression was composed of completely bare ground brown in color. The bare ground is surrounded by vegetation dominated by foxtail barley (*Hordeum jubatum*), Baltic rush (*Juncus arcticus* var. *balticus*), and salt cedar (*Tamarix chinensis*). The wetland indicator status of the foxtail barley and Baltic rush is FAC- and OBL, respectively (Reed, jr. 1988). This vegetation qualifies as hydrophytic vegetation (USACE 2008). No groundwater was detected to a depth of 13 inches. However, hydrology was verified by secondary indicators (aerial imagery from Google Earth showing water in the depression along with the FAC-Neutral Test). The soil was not tested for hydric indicators, but would likely qualify as hydric soil on grounds of recently developed wetland and the presence of a closed depression that is seasonally flooded (USACE 2008). The closed depression is located at the end of a steep ephemeral drainage entering the proposed mine site at the north boundary, then flowing back off the site to the ponded area outside the proposed project area. The original drainage was through the project area without significant obstruction; however, it has since been significantly altered by past mining activity. The drainage now terminates on the disturbed flats at the closed depression at the base of the disturbed talus slope and natural cliff band.

There is a small erosion channel approximate 50 feet long and 3 feet deep flowing into the closed depression outside the project area. The channel contained dead grass (not identifiable) and a small patch of rabbit-foot grass (*Polypogon monspeliensis*). Rabbit-foot grass qualifies as hydrophytic vegetation (Reed, jr. 1988). It is possible that this channel may qualify as wetland; however, it was not tested but will be entirely avoided.

5.4 NOXIOUS WEEDS

No plant species on the BIA Navajo Area Noxious Weed List (USDI-OSM 1998) was found during the survey. However, three species found during the survey are reported as "major noxious/invasive weed species" by the Southwest Vegetation Management Association–Moenkopi Cooperative Weed Management Area (2011) based in Tuba City, AZ. These species are tamarisk or salt cedar (*Salix chinensis)*, Russian olive (*Elaeagnus angustifolia*), and cheatgrass (*Bromus tectorum*).

Approximately 17 salt cedar trees or clumps were observed on the flats within or very near the survey area. Three salt cedar clumps were observed within the closed depression described above. An estimated six Russian olive trees were also observed on the flats. A large population (20' by 20') of cheatgrass was observed on the talus slope at the base of the steep sheer cliff in the extreme southwest corner of the old mining quarry. These weed species do not pose a serious problem at present; however, if populations of noxious weeds establish, adequate control strategies should be implemented to limit their spread.

5.5 VEGETATION

The project area contains different habitat types that correlate to differing vegetation communities. The following habitats types are describe along with the various plant communities encountered during the survey.

5.5.1 Pinion–Juniper Woodland

Pinion pine is the dominant tree in the project area. Pinion pine provides 20-40% cover in areas where it is present. Big sagebrush (*Artemisia tridentata*) is the primary shrub component, providing 10 to 20% cover and sometimes absent. Blue grama (*Bouteloua gracilis*) is the primary herbaceous component with cover variable from 15-35% depending on location. Bare ground, litter, and rocks generally comprise about 35-50 % of the ground surface. The pinion-juniper woodland occupies the mesa top on the north, west, and south sides of the proposed quarry, and it also flanks both sides of the access road.

5.5.2 Grassland

This community occupies the hillside in the southeast portion of the project area. A variety of perennial grasses including purple threeawn (*Aristida purpurea*), dropseed (*Sporobolus* sp.), and western wheatgrass (*Elymus smithii*) dominate this community providing about 50% cover. Shrub component is about 10% and includes big sagebrush, broom snakeweed (*Gutierrezia sarothrae*), and Carruth's wormwood (*Artemisia carruthii*). Bare ground is roughly 40%.

5.5.3 Sheer Quartzite Cliff

This man-made highwall contains no vegetation.

5.5.4 Steep Slopes with Quartzite Rock Outcrops and Ledges

Dominant plants include Carruth's wormwood, California brickellbush (*Brickellia californica*), taperleaf (*Pericome caudata*), and Fendler globemallow (*Sphaeralcea fendleri*).

5.5.5 Talus Slope and Gravel Stockpiles

Taperleaf and Fendler globemallow are dominant on the talus slope beneath the highwall, were vegetation cover is only 5-10%. Rock cover is about 95% on the talus slope. Rocks on the talus are from 6" to 2' in diameter. Where the quartzite debris is more or less level, blue grama and hairy golden aster (*Heterotheca villosa*) are dominant with vegetation cover at about 15%. Gravel piles contain stones about 0.25" in diameter. Taperleaf and Fendler globemallow are dominant on the gravel piles at about 10-15% cover.

5.5.6 Disturbed Vegetation Regime Above Highwalls

Pinion pine trees have been removed to a distance of about 50 feet at the top of the cliffs by past operators. Big sagebrush, purple threeawn, and broom snakeweed are dominant in this area. Big sagebrush is also dominant adjacent to the access road, where pinion pine is not present.

5.5.7 Man-made Gravel Flats

This area has a disturbance vegetation regime. The shrub component is 10% and the dominant shrubs are big sagebrush, salt cedar, and rabbitbrush (*Ericameria nauseosa*). Hairy golden aster and an unidentified annual or biennial plant of the Aster family are the dominant forbs. Purple threeawn is the dominant grass. Bare ground is 50 -65 %. The disturbance vegetation regime is also found along and adjacent to the access road where big sagebrush is dominant.

6.0 SPECIES LIST

The following is a list of species observed during the botanical survey. Scientific nomenclature follows Allred (2008).

6.1 TREES

Elaeagnus angustifolia	Russian olive
Juniperus monosperma	One-seed juniper
Juniperus osteosperma	Utah juniper
Juniperus scopulorum	Rocky Mountain juniper
Pinus edulis	Pinion pine
Populus tremuloides	Quaking aspen
Quercus gambelii	Gambel oak
Tamarix chinensis	Salt cedar

6.2 SHRUBS

Artemisia tridentate	Big sagebrush
Brickellia californica	California brickellbush
Ericameria nauseosa	Rabbitbrush
Rhus trilobata	Three-leaf sumac
Ribes sp.	Gooseberry or currant
Yucca angustissima (?)	Narrowleaf yucca
Yucca baileyi	Bailey yucca

6.3 SUBSHRUBS AND CACTI

Artemisia carruthii	Carruth's wormwood
Berberis repens	Creeping Oregon grape
Cylindropuntia whipplei	Whipple cholla
Echinocereus triglochidiatus	Claret cup cactus
Gutierrezia sarothrae	Broom snakeweed
Opuntia polyacantha	Starvation prickly pear

6.4 GRAMINOIDS (GRASS-LIKE PLANTS)

Aristida purpurea	Purple threeawn
Bouteloua gracilis	Blue grama
Bromus tectorum	Cheatgrass
Elymus elymoides	Bottlebrush squirreltail
Elymus smithii	Western wheatgrass
Hordeum jubatum	Foxtail barley
Juncus arcticus var. *balticus*	Baltic rush
Polypogon monspeliensis	Rabbit-foot grass
Sporobolus sp.	Dropseed

6.5 FORBS

Achillea millefolium	Common yarrow
Antennaria rosulata	Least pussytoes
Astragalus kentrophyta var. *elatus*	Spiny milkvetch
Boechera fendleri	Fendler rock-cress
Castilleja linariifolia	Wyoming Indian paintbrush
Chaetopappa ericoides	Sand aster

Cryptantha flava	Yellow hiddenflower
Geranium lentum	New Mexico geranium
Hedeoma drummondii	Drummond false pennyroyal
Hedeoma nana (?)	Dwarf false pennyroyal
Heterotheca villosa	Hairy golden aster
Hymenopappus sp.	Woolywhite
Hymenoxys richardsonii	Pinque rubberweed
Ipomopsis aggregata	Skyrocket
Marrubium vulgare	Horehound
Melilotus officinalis	Yellow sweet clover
Pericome caudate	Taperleaf
Potentilla pensylvanica	Pennsylvania cinquefoil
Ranunculus cymbalaria	Alkali buttercup
Senecio flaccidus	Threadleaf groundsel
Sphaeralcea fendleri	Fendler globe mallow
Urtica dioica	Stinging nettle
Verbascum Thapsus	Common mullein

7.0 SUMMARY OF FINDINGS

1) No threatened, endangered, or other sensitive plant species were found during the survey.
2) No potential habitat was found for 17 of the18 target species.
3) Potential habitat may exist for the Utah bladder fern (*Cystopteris utahensis*).
4) A small seasonally flooded closed basin and drainage inlet were found that may qualify as wetland; however, this area is excluded from the project area and will be entirely avoided.
5) Three noxious weed species (salt cedar, Russian olive, and cheatgrass) were found during the survey. These noxious weeds do not represent a serious problem at this time; however, if populations of noxious weeds establish, adequate control strategies should be implemented to limit their spread.

James McGrath

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WILDLIFE SURVEY REPORT

FOR

FORT DEFIANCE SAND AND GRAVEL, INC.'S PROPOSED BLUE CANYON GRAVEL QUARRY & ACCESS ROAD

APACHE COUNTY, ARIZONA

By: Charles Black

July 20, 2012

1.0 INTRODUCTION

A threatened, endangered, and special status wildlife survey was conducted at the proposed Blue Canyon Gravel Quarry (Sections 25, 26, and 35, T. 28 N., R. 30 E.) Apache County, Arizona. The project site is located on Navajo Tribal Lands and is 15.06 acres in size with a 0.92 mile access road. The proposed construction will expand an existing gravel mine.

2.0 METHODS

Prior to the survey, a data request to the Navajo Natural Heritage Program was made for Navajo Nation endangered species known to occur or with the potential to occur on the 7.5 minute Fort Defiance Quadrangle. The reply was issued on July 2, 2012.

On June 26, 2012 Wildlife Biologist Charles Black conducted a pedestrian survey of the project area to inspect for the potential presence of threatened, endangered, or special status species. Weather during the survey was clear and calm, with daytime highs about 85°F. The survey area consisted of the proposed Blue Canyon gravel quarry site (15.06 acres) and a 20-foot proposed access road which runs northeastward approximately 0.92 miles to County Road 455. In addition, a 50-foot buffer around the quarry site and a 25-foot buffer on both sides of the access road were inspected. Habitat and existing conditions were evaluated. A 0.5-mile radius around the project area was surveyed for raptor nests. An additional 1.0-mile line-of-site survey was conducted from the project area for raptor nests. The surveyor used 10 x 40 binoculars.

3.0 DESCRIPTION OF EXISTING HABITAT

The project scope consists of the 15.06-acre proposed gravel quarry site and the 20' wide access road which runs northeastward approximately 0.92 miles to County Road 455.

Terrain throughout the project area is highly variable. The proposed gravel quarry sits at the bottom of Blue Canyon within Bonito Wash. This canyon is drained by Bonito Wash which is a small, ephemeral wash. Terrain at the quarry site is fairly flat in the bottomlands with one small, steep hill located in the northeast project area. There is also a near-vertical cliff along the southern and western edges of the quarry site. The access road runs north and climbs a gradual hillside to a small ridge where it intersects with County Road 455. Hillsides adjacent to the pit are moderately steep and rocky, composed of quartzite and/or sandstone.

Vegetation at the quarry site is highly denuded from previous gravel mining activity. There is a high percentage of bare ground and exposed rock on the old mine floor and highwall slope.

There are also some small grassy and brushy areas within the quarry site at the bottom of the undisturbed slopes. The southernmost portion of the proposed quarry site is comprised of a vegetated hillside. Vegetation on this hillside as well as other adjacent slopes, and the access road alignment are dominated by pinyon (*Pinus edulis*)-juniper (*Juniperus spp.*) woodland with some scattered thickets of gambel's oak (*Quercus gambelli*). There is no significant amount of native riparian vegetation along the bottom of Bonito Wash which drains Blue Canyon.

The quarry site is significantly disturbed from historic mining. This past mining has created an extremely denuded landscape dominated by plants indicative of heavy disturbance.

Wildlife occurring in the area is typical of pinyon-juniper woodlands in foothill habitats. This includes passerines such as juniper titmouse (*Baeolophus ridgwayi*) and western bluebird (*Sialia mexicana*), as well as cottontail rabbits (*Sylvilagus spp.*) and whiptail lizards (*Aspidocelis spp.).*

4.0 THREATENED, ENDANGERED, AND SPECIAL STATUS WILDLIFE SPECIES

According to the July 02, 2012 correspondence from the Navajo Natural Heritage Program, the following species have the potential to occur on the land covered by the Fort Defiance, 7.5-minute quadrangle.

For the species listed below, the following tribal and federal statuses are indicated: the Navajo Endangered Species List (NESL), the federal Endangered Species Act (ESA), Eagle Protection Act (EPA) and the Migratory Bird Treaty Act (MBT). No legal protection is afforded species with only ESA candidate or NESL group 4 statuses.

Species	Status	Habitat	Habitat Suitability Within the Project Area
Northern Goshawk (*Accipiter gentilis*)	Navajo Endangered Species List (NESL) Group 4, MBTA,	Mature, multi-layered canopy, mixed conifer forest at elevations above 7,500 feet.	NP
Northern saw-whet owl (*Buteo regalis*)	NESL Group 3, MBTA	Montane coniferous forest above 7,500 feet	NP
Golden eagle (*Aquila chrysaetos*)	NESL Group 3, MBTA, EPA	A wide variety of open habitats, typically nests in steep cliffs typically > 30 meters in height	See Discussion Below
Bluehead sucker (*Catostomus discobolus*)	NESL Group 4	Small perennial headwater streams in montane areas, larger streams and rivers	NP
Mountain plover (*Charadrius montanus*)	NESL Group 4, MBTA	Open desserts, prairies and grasslands	NP
Blue grouse (*Denragapus obscurus*)	NESL Group 4, MBTA	High montane habitats, generally found above 8,000 feet	NP
Southwestern willow flycatcher (*Empidonax traillii extimus*)	NESL Group 2, MBTA, Federal-Endangered	Cottonwood-willow habitats within perennial riparian areas	NP

Species	Status	Habitat	Habitat Suitability Within the Project Area
Peregrine falcon (*Falco peregrinnus*)	NESL Group 4, MBTA	Nests in sheer cliff faces typically > 30 meters in height usually near water or mesic canyons. In migration, occurs in a variety of lowland, wetland habitats	NP
Bald Eagle (*Haliaeetus leucocephalus*)	NESL (Sensitive Species), MBTA, EPA,	Winters along lakes and rivers with large trees	NP
Wild turkey (*Meleagris gallopavo*)	This species is of cultural and economic significance	Very localized in occurrence. Found in a wide variety of montane habitats, generally where oak thickets are prevalent.	See Discussion Below
Black-footed ferret (*Mustela nigripes*)	NESL Group 2, ESA-Endangered	Grassland or shrubby habitats where large, densely populated prairie dog towns are present	NP
Mule derr (Odocoileus hemoines)	This species is of cultural and economic significance	A wide variety of montane to lowland habitats. Most prevalent in open meadows in wooded areas	See Discussion Below
Mexican spotted owl (*Strix occidentalis lucida*)	NESL Group 3, MBTA, ESA-Threatened	Mature, multi-layered canopy, mixed conifer forest at elevations above 7,500 feet.	NP
Band-tailed pigeon (*Patagioenas fasciata*)	NESL Group 4, MBTA	A variety of montane habitats, most prevalent where large snags are present on hillsides	See Discussion Below
American black bear (*Ursus americanus*)	This species is of cultural and economic significance	A variety of montane habitats	See Discussion Below

*Status**

E - Endangered T - Threatened NESL - Navajo Endangered Species List EPA - Eagle Protection Act C - Candidate

*Presence***

K - Known, documented observation within project area.
S - Habitat suitable and species suspected to occur within the project area.
NS - Habitat suitable but species is not suspected to occur within the project area.
NP - Habitat not present and species unlikely to occur within the project area.

5.0 SURVEY RESULTS AND DISCUSSION

No threatened, endangered, or special status wildlife species were observed within or adjacent to the project area during the June 26, 2012 wildlife survey. No Navajo Nation Department of Fish & Wildlife (NNDFW) listed species were observed during the survey. If habitat suitability was observed during the survey, a discussion of the species follows.

5.1 GOLDEN EAGLE

The project site provides suitable forage habitat for golden eagles. No suitable eagle nest structures are present within a one-mile radius of the project area. Eagles may occasionally pass through the project area. Given the relatively small scale of the proposed disturbance, and the severity of existing disturbance at the site, this species should not be adversely impacted by the proposed project.

5.2 WILD TURKEY

This species could possibly occur in the project area despite the severity of existing disturbance. Oak thickets along the adjacent hillsides, and along the access road, provide suitable habitat and structure. However, no turkey tracks were observed during the wildlife survey. If measures outlined in the Recommendations Section of this report are followed, this species should not be adversely impacted by the proposed project.

5.3 MULE DEER

Mule deer are common throughout the Defiance Plateau area, and no doubt pass through the project area routinely. Some relatively fresh deer scat was found along the access road alignment. Given the severity of existing disturbance at the site, and the fact that mule deer are very common in the area, this species should not be adversely impacted by the proposed project.

5.4 BAND-TAILED PIGEON

Band-tailed pigeons likely forage in and over the project area from time to time. No nesting habitat for this species was observed in the project vicinity. If measures outlined in the Recommendations Section of this report are followed, this species should not be adversely impacted by the proposed project.

5.5 AMERICAN BLACK BEAR

Black bear are common throughout the Defiance Plateau area, and no doubt pass through the project area routinely. No bear sign was observed during June 26, 2012 survey. Given the severity of existing disturbance, and the fact that black bear have a secure status in the area, this species should not be adversely impacted by the proposed project.

5.6 MIGRATORY BIRDS

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA). Birds protected under the Act include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows and others, including their body parts (feathers, plumes etc.), nests, and eggs. The Act protects migratory birds from a "take". Take is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities". A "take" does not include habitat destruction or alteration, as long as these is not a direct taking of birds, nests, eggs, or parts thereof.

Eighteen species observed during the wildlife surveys are protected under the Migratory Bird Treaty Act. If measures outlined in the Recommendations Section of this report are followed, there will be no take of migratory birds.

6.0 WILDLIFE OBSERVATIONS

While the field visits focused on T&E species, observations of non-listed species were also noted. The following lists include all wildlife species observed:

AVIAN SPECIES OBSERVED:

- Red-tailed hawk (*Buteo jamaisencis*)
- American kestrel (*Falco sparverius*)
- Mourning dove (*Zenaida macroura*)

- Common raven (*Corvus corax*)
- Bewick's wren (*Thryomanes bewickii*)
- Rock wren (*Salpinctus obsoletus*)
- Blue-gray gnatcatcher (*Polioptila caerulea*)
- Western scrub jay (*Aphelocoma californica*)
- Western bluebird (*Sialia mexicana*)
- American robin (*Turdus migratorius*)
- Juniper titmouse (*Baeolophus ridgwayi*)
- Yellow-rumped warbler (*Dendroica coronata*)
- Spotted towhee (*Pipilo maculates*)
- Dark-eyed junco (*Junco hyemalis*)
- Chipping sparrow (*Spizella passerina*)
- Vesper sparrow (*Pooecetes gramineus*)
- Lark sparrow (*Chondestes grammacus*)
- Pine siskin (*Carduelis pinus*)

MAMMALIAN SPECIES OBSERVED (FROM TRACKS, SCAT, AND OTHER SIGN):

- Rocky Mountain elk (*Cervus canadensis*)
- Mule deer (*Odocoileus hemionus*)
- Mountain cottontail (*Sylvilagus nuttallii*)
- Coyote (*Canis latrans*)

REPTILIAN AND AMPHIBIAN SPECIES OBSERVED:

- Whiptail spp. (*Cnemidophorus spp.*)

7.0 RECOMMENDATIONS

It is recommended that any removable of vegetation associated with the proposed action be conducted outside of the breeding season of migratory birds (April 1-August 15).

Charles Black

Charles Black

8.0 REFERENCES

Mikesic, D. G. and J. R. Nystedt. 2001. Species Accounts for *Patagioenas fasciata.* Updated 15 February 2005. Navajo Natural Heritage Program. P. O. Box 1480, Window Rock, Arizona 86515.

Mikesic, D. G. and J. R. Nystedt. 2001. Species Accounts for *Meleagris gallopavo.* Updated 15 February 2005. Navajo Natural Heritage Program. P. O. Box 1480, Window Rock, Arizona 86515.

REVEGETATION PLAN

FOR THE

BLUE CANYON GRAVEL QUARRY

FORT DEFIANCE SAND AND GRAVEL, INC.

Sections 25, 26, and 35, T. 28 N., R. 30 E.
Apache County, New Mexico

JANUARY 2, 2013

PREPARED BY:

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

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1.0 SUMMARY

A reclamation and revegetation plan typically considers three phases:

1. Documentation of the plant species composition and quantitative estimation of the ground cover prior to mining activities.
2. Reclamation and revegetation methods.
3. Monitoring and measuring of the success of the revegetation effort.

This document primarily emphasizes phases 1 and 3. General issues for phase 2 are described. Reclamation and re-seeding methods will be refined and described in detail by that contractor in a separate document.

The criteria for successful revegetation are summarized as follows. Vegetation is predominantly composed of native species. Reclamation vegetation cover is at least 90 percent of the reference area cover and shrub frequency is at least 90 percent of shrub frequency in the reference area in at least two years between years 6 and 10 after the initial seeding. Invasive non-native species are absent or are present at no higher cover levels than pre-disturbance levels. Note that grasses and forbs are measured as percent cover whereas shrub and tree frequency is the metric to be measured. This is because shrubs and trees grow at much slower rates and it is unrealistic to expect either shrub or tree cover to approach pre-disturbance levels within ten years of seeding.

2.0 INTRODUCTION

This report addresses the reclamation and revegetation of a proposed quartzite quarry expansion located approximately 2.5 miles northwest of Fort Defiance, AZ. This project area is in Sections 25, 26, and 35, T. 28 N., R. 30 E., in Apache County, AZ. The project area is on Navajo Nation Tribal Trust Land.

The elevation of the quarry floor in the project area is approximately 7,090 feet. The soils at the site were identified using the USDA NRCS soils map at 1:24,000 (interactive web site at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx). Soils within the project area are entirely characterized as Evpark-Vessilla-Arabrab complex, 1 to 25 percent slopes. This soil complex is found at elevations ranging from 6,300 to 7,800 feet. The mean annual precipitation is 14 to 18 inches with a mean annual temperature of 48° to 51°F, and a frost-free period of 110 to 140 days (USDA NRCS 2012). Soils of the Evpark-Vessilla-Arabrab complex develop on mesas, plateaus, crests, and hills, and are composed from eolian deposits and slope alluvium derived from sandstone and shale. Other attributes of this soil association are as follows:

- Drainage class: Well drained
- Depth to water table: More than 80 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Maximum salinity: nonsaline (0.0 to 2.0 mmhos/cm)
- Available water capacity: Very low to low (about 1.6 to 5.3 inches; USDA NRCS 2012)

The vegetation represented at the project site was reported to be dominated by little plant cover on steep rocky slopes, rock ledges, sheer ≈60' tall highwall, and talus slopes, with small amounts of pinyon pine (*Pinus edulis)*-one-seed or utah juniper (*Juniperus osteosperma or Juniperus Osteosperma*) woodland, grassland-dominated hillsides, and a disturbance vegetation community.

This reclamation and revegetation plan has three phases to it:

1. Documentation of the plant species composition and a quantitative estimate of the ground cover prior to the commencement of mining activities.
2. Methods for reclamation and revegetation.
3. Monitoring and measuring the success of the revegetation effort.

This Revegetation Plan largely emphasizes Phases 1 and 3, and describes general issues to be considered for Phase 2. Reclamation and re-seeding methods will be refined and described in detail by that contractor in a separate document.

2.1 GOALS

The outcome goals of any endeavor must be clearly defined before commencing any restoration or revegetation program. The overall goal of this effort is to eventually restore the land to its pre-mining condition (or better) so that it can provide suitable wildlife habitat and forage.

The chronology of activities to meet these goals are:

- Pre-mining activities: On-site inventory to document plant species composition; measurements of ground cover values and shrub frequencies using transect line surveys.
- Reclamation and post-mining grading, stabilizing and seeding activities.
- Post-seeding monitoring and quantitative assessment.

3.0 VEGETATION SURVEYS

3.1 PRE-MINING

On-site inventory to document plant species composition and estimates of cover values have to be made prior to the commencement of mining.

The existing communities at the site were described and a species inventory was compiled in February 2010 (McGrath, 2012). This inventory provides information on which to base seed mixes for post disturbance revegetation efforts. Reseeding with plant species native to the vegetation communities of the development area is now recognized as being an important element for successful revegetation and reclamation and is now part of public policy. A second inventory survey needs to be made in a subsequent year to capture the extent of plant species diversity at the site.

In addition to inventory, quantitative estimates of vegetation cover need to be made. The reasons for these measurements are two-fold. Primarily, cover measurements establish a baseline upon which to estimate the success of revegetation efforts. They also indicate the relative amounts of each species that are appropriate in the post mining seeding mix. Late summer or early fall are appropriate times of year to make quantitative surveys.

The proposed gravel quarry is on flat to steeply sloping land, much of which has experienced considerable disturbance in the past. Therefore, quantitative measures of average ground cover values and their variability needs to be conducted only in undisturbed portions of the project area and in contiguous suitable surrounding habitat that has not been significantly altered.

If possible, the success of previous revegetation efforts should also be assessed so that the positive aspects can be included in the next reclamation effort and any shortcomings can be avoided (see Proactive Management Section later in this report).

3.2 METHODOLOGY FOR GROUND COVER MEASUREMENTS

Quantitative estimates of ground cover need to be made prior to mining activity so that revegetation success can be measured. This can be most easily carried out by surveying the ground cover along 50m-long transect lines.

There are three methods that are typically used to measure ground cover; a point-intercept method, a line-intercept method, or a method utilizing quadrants (usually referred to as Daubenmire quads - after Daubenmire, 1959) along a transect line (Elzinga et al. 2001). It is recognized that each method has inherent strengths and weaknesses.

The point-intercept method is often recommended and will be used in this project since it is objective and relatively rapid. Floyd and Anderson (1987) found that the point intercept method achieved the same level of precision as the line-intercept method while taking one third of the time (Elzinga et al. 2001). In some cases this method can tend to overestimate cover (Korb et al. 2003). However, this source of error will be minimized if the same method is used when measuring the success of revegetation. The objective nature of the data gathering makes it appropriate for use over several years with different operators involved.

A 50-m tape measure (transect line) will be laid across the ground and secured at each end. The cover that intercepts the line at 1m intervals along the 50m-transect will be measured. Using this method, the cover types and the amount of bare ground can be calculated as the percentage of interceptions ("hits"), relative to the total number of points sampled (e.g. see Forest and Range.org at http://www.forestandrange.org/modules/vegmonitor/mod9/mod9-14.shtml).

Vegetation cover types will be: total native trees, total native grasses; total native forbs; total native shrubs; total succulents; total graminoid species (sedges etc.); total non-native grasses; total non-native forbs; total non-native shrubs. Although salt cedar (*Tamarix chinensis) and* Russian olive (*Elaeagnus angustifolia*) were observed at the project site (McGrath 2012), non- native trees are not expected outside the areas that have been substantially disturbed. However, if non-natives are observed they will need to be documented as well. The cover of individual plant species will also be measured by recording the plant species name whenever it is intercepted by a point.

Other cover classes include: bare ground defined as soil alone; coarse sand are particles less than 3 mm (0.12 inches) across; gravels are particles up to 7.6 cm (3 inches); rocks are particles greater than 7.6 cm (3 inches). Microbiotic crust will be recorded as a separate cover class with the most prominent life form (moss, lichen or cyanobacteria) in the crust noted. Litter is dead plant material directly covering the ground, dead perennial vegetative bases, or animal scat, including cow dung. If a small stem or piece of litter is not considered large enough to intercept a raindrop, the "hit" is the ground covering, or lack of covering, below it. Dead annual forbs are considered as litter cover when unattached to the roots and can potentially be windblown. A dead annual forb that is rooted and recognizable to species will be recorded as that species. Species will be recorded when the sampling point falls on any part of the vegetation. When the canopy of multiple species overlaps all of the cover-types are recorded.

These transect lines will also be used to estimate shrub frequency. In addition to measuring cover along the transect line, the number of sub-shrubs and shrubs within a 1 m wide belt along the transect line (a "belt transect") will be counted and recorded by species name. In a similar way, the number of trees will be counted within a 10m-wide belt transect.

An important disadvantage of the point-intercept method is that species with low cover values may not be effectively sampled because they are so rarely intercepted with the pointing device (Korb et al. 2003). This problem will be mitigated by estimating the canopy cover of each species within a 10m

square at the beginning, in the mid-section, and at the end of each transect (see Figure 1). All species that are in this 10m-wide square will be recorded and their cover estimated, so that 1 m^2 (1 square meter) of vegetative cover equals 1 percent, 5 m^2 equals 5 percent, etc. Cover of individual plant species will be estimated to be within one of seven cover classes: T = trace, 1= 1% to 5%, 2= 5% to 25%, 3=25% to 50%, 4= 50 to 75%, 5= 75 to 85% and 6=95 to 100%. These squares are termed "species diversity squares" (Figure 1).

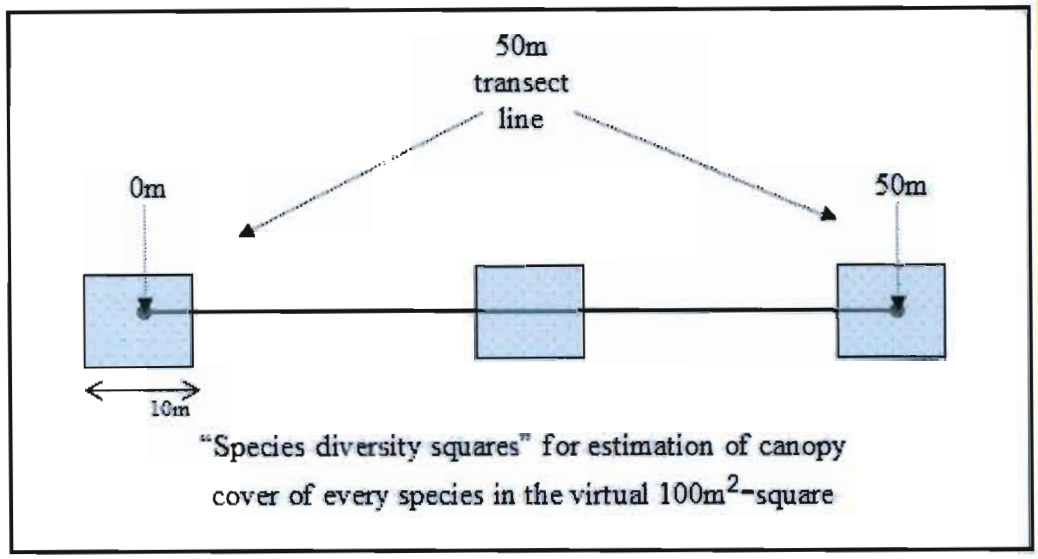

Figure 1. Diagram to show the arrangement of the species-diversity squares (see text for details).

3.3 TRANSECT LINE PLACEMENT

The center and western part of the site has been significantly disturbed and does not represent undisturbed habitat. Therefore, in order to thoroughly document the natural ground cover and its variability, transect lines distributed in the central and western portions of the project area will be surveyed. Since this area is relatively large, the survey may be extended into contiguous areas to achieve a representative quantitative estimate of the community. It is anticipated that 10 to 15 transect lines will need to be surveyed. This estimate of the number of lines required is made from an aerial photograph of the site. The number of transect lines that need to be surveyed in order to document the variability may be increased during ground-truthing. In addition, the variance among transect lines needs to be small enough to meet a statistical sample adequacy test (see Data Analysis section).

The geographic coordinates marking the location of each end of the transect line will be recorded using a GPS unit. The ends will not be permanently marked since it is anticipated that those locations will be excavated.

3.4 REFERENCE AREA

The vegetation cover and shrub and tree frequency within the reference area provides a means by which to track changes that occur to the vegetation throughout the mining and revegetation phase. They indicate if significant changes occur to the vegetation due to environmental conditions. For example, lasting impacts of a drought or a storm on the vegetation within the project area during the mining or revegetation phases will be reflected in the condition of the vegetation within the exclosure. These changes may be reflected in percent cover, shrub frequency, or in the species composition and will help in interpreting the results of the revegetation effort.

The reference area needs to be in established in a location that will be unaffected by mining activities but where there are very similar cover conditions. If there is livestock grazing the reference area should be fenced in order to exclude the livestock. It is therefore termed an "exclosure." Such areas protected from livestock grazing provide a clear indication as to the potential and natural successional trajectory of the native vegetation at the site.

Since much the project site has been significantly disturbed by prior mining activity, the reference area will be selected on the basis of land in the far western or southern portion of the project site and that is contiguous with it.

Generally reference areas are selected to be as close as possible to the project site. However this region has cliffy and ridged topography and possible reference areas near the site appear to have substantially variable aspects and slopes. Slope and aspect needs to be considered when selecting the area since they will affect all facets of vegetation cover. Likely reference site locations will be established and recorded using Google Earth and will be planned with similar aspect, slope, vegetation, and elevation (within 300 feet) as the project site. However, other areas in the region may provide sites that are likely to be as appropriate.

The exclosure needs to be approximately 10 acres (approx. 4 ha) in size. This area will encompass the community type representative of the project site and there will be approximately 15 transects established in independent locations within this reference area. The exact number will be determined by a statistical sample adequacy test. The UTM coordinates marking the location of each end of the transect lines will be recorded using a GPS unit. The reference area perimeter will also be recorded with UTM coordinates.

The mean and standard deviation of ground cover and tree and shrub frequencies within the reference site will be calculated within and between the reference site and the project area. Data analysis is discussed later in the document.

3.5 PHOTO-POINTS

Photographs will be taken of each transect line and exclosure. Additional photographs that show landscape views and close-up views of the vegetation that are representative of the project site will be taken to describe the area. The azimuth of the photograph shot and UTM coordinates of the location where all the photographs are taken will be recorded.

4.0 PROACTIVE MANAGEMENT

Starting at the beginning of mining activities, cursory inspections at three monthly intervals will be used as an adaptive management tool to correct problems as they arise. These visual inspections will include considering and remediating these elements:

1. Invasion of noxious weeds;
2. Damage to fences, etc. resulting from human or livestock trespass;
3. Presence of other conditions, such as severe erosion, that, if unchecked, will result in failure to meet revegetation success criteria

Actions taken to respond to observations might include mending or erecting additional fencing to exclude grazing animals from the exclosures, weed control, and installation of erosion control blankets.

No specific recommendations for noxious weed control have been made by either The Navajo Natural Heritage Program or the Navajo Nation Department of Fish and Wildlife. Emphasis is placed on immediate control, prevention of seed spread, and eradication. Awareness, identification, control, and

monitoring are priorities (USDI, OSM, 1999). An example of proactive weed management may be that if a noxious weed is observed along the access road or within the project site, measures will be taken to eliminate it. No noxious weeds on the BIA Navajo Area Noxious Weed List were reported in the project area (McGrath 2012); however, three species considered by various agencies were present, tamarisk, Russian olive, and cheatgrass. A survey during the summer and fall months will be made to confirm this observation since many species are easily overlooked or are not detectable at certain times of the year.

After revegetation seeding has been completed, the condition of the seeded area needs to be evaluated. All disturbances to reclaimed areas need to be minimized. The seeded areas should be protected from all grazing for at least five years after seeding. Establishing vigorous stands of desirable native plants will limit the opportunity for invasion by noxious weeds.

Visual inspections of the seeded area will include checking and remediating these elements:

- Bare spots,
- Eroded areas,
- Areas of excessive settlement,
- Wash out areas, and
- Areas where initial attempts to establish vegetation were not successful.

If there is a drought, the possibility of temporary irrigation will be considered. Follow-up seeding or corrective erosion control measures may be required on areas that experience reclamation failure. Interseeding, secondary seeding, or staggered seeding may be required to accomplish revegetation objectives. If small areas experience being washed out or eroded, local applications of mulch followed by reseeding may be a good way to keep a successful revegetation effort on track. Re-seeding small areas in a timely manner is better than having to reseed large acreages after several years have passed.

After three years, vegetation cover and shrub frequency will be measured using transect lines and species diversity squares to monitor the seeding results in detail. This is distinct from the measurements that will determine success for bond release. Periodic checking in the course of proactive management may miss localized areas where seeding has obviously failed. During the three-year survey time seedling/small plants will be observed in detail by a botanist. Seeding is often considered a failure when an average of less than one seeded species per square meter is established (Wright et al. undated).

Understanding the reasons why seeding fails helps anticipate and prevent future failures. When evaluating why an initial seeding failed, either locally or more widely, the following questions can be asked (after Wright et al. Undated):

A simple but often overlooked question is: *Was the area missed by the seeder?*

Questions relating to seed source include:

- Was good seed used from a reputable vendor?
- Was the seed tested?
- Were the best adapted seed varieties, sources and species used?

Questions relating to environmental factors:

- Was the seed planted too late in the spring or too early in the fall?
- Was the year drier than normal?
- Was the spring drier than normal?
- Was the seed eaten by rodents or birds?
- Was the seed exposed to wind or water erosion?

In relatively small areas where there are no obvious reasons for poor germination and/or seedling development, soil testing will be done to determine if soil amendments are needed before re-seeding. Soil tests will also indicate if the soil is inhospitable to certain species in some way, e.g. having a particularly acidic or saline soil. In the case of acidic soils, if an amendment cannot change the pH, a seed mix of different native species may have to be used to achieve the revegetation objectives. In this case, spores need to be collected from plants in the vicinity of the site to ensure that locally adapted ecotypes are used and alien genes are not introduced into the gene pool.

5.0 POST MINING RECLAMATION AND REVEGETATION

Reclamation and re-seeding methods will be refined and described by the operator in a separate document. Some issues that affect revegetation success are listed in the following section.

The goals of the reclamation effort are:

1. Stabilize disturbed sites by reducing the potential for soil erosion by wind and water runoff.
2. Re-establish healthy, vigorous ground cover to their original condition or better using native plant species.
3. Establish regenerating and self-supporting native vegetation

Documentation detailing the dates of revegetation activity, specific seed mixtures applied, and materials, equipment, and personnel involved in each activity, will be maintained so they can be referred to in the future.

Immediate site stabilization to limit wind and water erosion in the short-term will be carried out so that there is not undue substrate loss before the long-term reclamation effort commences.

When excavation of the site has been completed, the sides will be sloped, graded or scaled, and the general pit area smoothed and stabilized. The original contours and drainage patterns will be replicated as much as possible. Slopes will be stabilized with erosion blankets, mulch, and/or applicable techniques to reduce the potential for soil erosion by wind and water.

Soil analysis will be undertaken before fertilizer will be applied. Unless the topsoil is particularly poor in nutrients, fertilizer is not planned since seed germination and seedling establishment is often enhanced to a far greater degree for weeds than for native species.

Mulch can be applied before or after seeding and is important for preventing water erosion, reducing wind erosion, reducing soil crusting, decreasing rainfall impact, insulating the soil surface, and decreasing evaporation (Munshower, 1994). The mulch used will be free from mold, fungi, and noxious weed seeds. Certified noxious-weed free straw and hay will be ordered. Biodegradable material will be used and mulch options include native hay, small grain straw, wood fiber, cotton, or jute. Native hay and small grain straw tends to contain seeds of the vegetative material and they also tend to attract livestock and wildlife. Therefore, they may not be the first choice but both are viable options.

Disturbance to reclaimed areas will be minimized. The seeded areas will be protected from grazing for at least five years after seeding. This is essential in regions with low-precipitation. If re-seeding is necessary, the length of time the areas are protected from grazing will be extended.

It is generally recognized that adequate topsoil can be of great importance in reclamation success. Therefore, stockpiling topsoil is a common practice. The stockpiled topsoil is spread on the exposed surface and used as a seedbed for sowing the selected seeds. However, the quality (microbial components and structure) of topsoil and the germinability of native seeds in the seed bank declines in

proportion to the length of time the soil is stored, whereas the population of seed bank-weed seeds capable of germinating increases proportionally. That is, the seeds of only a few species of native grasses will usually survive storage in a topsoil stockpile whereas weed seeds usually have efficient dormancy mechanisms and can survive quite adverse storage conditions. In some circumstances it is preferable to seed native grass species directly into the mined surface substrate as long as it has been well prepared (Service NSW 2005). However, this is a site specific situation and requires the advice and recommendations of a soil scientist familiar with native plant growth requirements. At the current time, stockpiling available topsoil appears to be the best course of action for this site. The quantitative estimates of weed infestation made by transect line survey will help determine if alternative approaches are more appropriate.

Topsoil piles need to be stabilized by seeding a sterile non-native species or a mix of native grass and forb species that is similar to the seed mix recommended for the site. Shrub species are not needed in this mix since they will take a long time to establish and reproduce so their value to a short-term stabilization effort is not cost effective. The topsoil pile should be checked for weed germination. If there is significant weed germination on the topsoil piles, the weeds should not be allowed to set seed.

Contemporaneous reclamation may be carried out if the mining activity is such that discrete areas can be excavated, stabilized, reclaimed and can be left undisturbed while the mine is operating. The major benefit of this option is that topsoil would not have to be stored for very long periods.

Soil preparation is important. Appropriate surface roughness improves retention of seed, water, and soil. Care will be taken not to compact the soil surface. The number of passes made by the tillage and seeding machinery will be minimized. In addition to tillage surface preparation, "habitat niches" that create an environment that promotes seed germination and seedling survival will be formed if possible. One problem with reseeding litter-free areas is that there is often insufficient moisture to sustain seedling development. One mechanical way of roughing the surface and providing a variation in microclimates is by pitting. Pitting is literally creating pits in the ground surface that will collect litter, seeds, fine dust and precipitation and act as a refugia from wind for seed germination and seedling establishment (Bainbridge 1997).

A native grass and forb mix is the primary component of the revegetation plan and will be used to provide initial cover and stabilization. However, shrubs are also important elements of the community, especially in the long term, at the project site. Shrub seed will be seeded with the grass and forb mix.

6.0 POST-SEEDING SURVEY - MONITORING AND MEASURING SUCCESS

Frequent examination of the seeded areas will be made after the seed mix of native species is sown. The revegetated areas will be formally and quantitatively surveyed three years post-seeding (see Proactive Management section). Monitoring the results of the seeding and seedling tree planting efforts allows proactive management and timely reactions to localized failures of the revegetation processes. Therefore, appropriate monitoring at frequent intervals between the initial reseeding event and the quantitative survey after 3 years will alert managers if possible proactive efforts or remedial activities are required to ensure the success of the effort.

Quantitative evaluation of the results of the revegetation effort is necessary to determine if the revegetation and reclamation effort has met its goals and objectives. Revegetation efforts should not be considered a failure for a minimum of two years after the original planting effort. For the project site, a quantitative measure of success will first be made 3 years after the original sowing time. Because of the long length of time shrubs take to mature, shrub revegetation success will be considered on a frequency

basis since their immature size makes it unreasonable to use a cover measurement. Viewing shrub frequency early or late in the growing season helps identify them since seedlings and small young shrubs are easily obscured by other vegetation.

If the cover along the transect lines in the exclosure and along the revegetation transects are similar but different to the original baseline cover, the cause of the difference is likely environmental. Vegetation cover will obviously be lower in years with low precipitation. Therefore, the success of the revegetation effort needs to be evaluated in the context of the cover of the native vegetation in the reference area (exclosure) in the year that the survey is made rather than only to that of the original values.

The revegetation effort has been successful when:

- Native species are predominant at the site;
- Non-native species are at the same levels or lower than the baseline levels before mining commenced;
- The mean native grass and forb cover and the mean native shrub frequency in the reclaimed areas are no less than 90 percent of those in the exclosure (reference) areas, with 90 percent statistical confidence, for any two consecutive years six to ten years after the initial seeding.

7.0 DATA ANALYSIS

7.1 PRE-MINING PHASE

Approximately 80% of the project area appears to have been significantly disturbed prior to this project. Therefore, only the northwestern portion or the southern portion of the project area will be surveyed for cover since this is likely the vegetation community at the site prior to disturbance. Since this is quite a small area, the survey may be extended into contiguous areas to achieve a representative quantitative estimate of the community.

Ten (10) to fifteen (15) transect lines in each of the project area and in the reference area will be surveyed prior to mining activities. The final number surveyed will depend upon meeting statistical sample adequacy tests for values measured.

"Percent cover" will be calculated using results from the point-intercept survey results. For data analysis purposes, transformations (e.g. arcsine transformation) may need to be performed on the percent cover values if they do not follow a normal distribution.

Frequency (number per acre) of shrubs and sub-shrubs will be calculated from counts made in the belt transects. Results from surveying the "species diversity squares" (see Methodology for Ground Cover Measurements section) will be reported as: the number of species diversity squares in which the species occurred, the arithmetic mean, the mode, and median of the species cover class. All of these values are useful in visualizing the frequency (commonness/rareness) with which the species occurs as well as how much canopy they contribute to cover. These observations also provide insight into the species diversity at the project site.

The ground cover and shrub frequency on the transect lines surveyed within the reference area will be compared by analysis of variance with the cover on the transect lines surveyed at the project site. Cover measurements are expected to be no different between the two groups at the 90 percent level of probability.

Percent cover of all species and shrub frequencies will be reviewed when deciding the final seed mix that will be sown during the revegetation phase. These survey results will also provide a basis upon which to measure revegetation success.

7.2 POST-SEEDING PHASE

The transect lines within the reference area indicates the potential of the site and successional processes that occur due to environmental conditions. It is essential that there is no livestock grazing pressure to obscure changes that are a result of the environment.

Transect lines, belt transects, and species diversity squares will be surveyed on the revegetated area and within the reference area at appropriate times after seeding and planting. The results will be used to determine the success of the revegetation effort (see previous "Proactive management" and "Post-seeding survey - monitoring and measuring success" sections).

Some discussion is required about the statistical analyses of vegetation data. It is proposed that these guidelines using a "reverse null hypothesis" are followed when estimating the success of the revegetation effort.

For these types of measurements, the major issue is in determining how many transects are needed to make a valid statistical comparison between pre- and post-mining conditions and/or between reference and revegetated areas. Generally, measuring more transects is more costly, but provides quantitative metrics with lower variance. Some states do not use a sample-adequacy assessment but instead define the comparison result requirements in a way where higher measurement variability makes it harder to demonstrate reclamation success.

Neighboring New Mexico's approach of using a "reverse null hypothesis" starts with the statistical premise that the pre- and post-mining conditions are not the same until quantitatively shown to be otherwise (Ames 1993). Measurements from transects both before and after disturbance (and within the reference areas) gives values to be compared. Each of these values consists of a mean (average) and a range (variance). The variance can be high if only a small number of transects are measured and/or the transect lines are not located in areas with similar plant habitat. Instead of directly putting limits on the amount of variance, New Mexico requires that nearly all of the post-mining value range is higher than the pre-mining or reference area value range. This encourages the use of enough transect measurements to minimize the range and reduce the difficulty in meeting the comparison standard.

8.0 SEED MIXES

Final seed species selection and seed mixture specifications will need to be reviewed after the quantitative cover surveys are completed. All seed will be tested for purity by an AOSCA-certified seed laboratory.

The seed mix will contain at least three species of forbs, two species of shrubs, four species of grasses. Seedlings of at least one tree species will be transplanted. A mix of life forms and species that grow at different times of year and that have contrasting root growth forms, for example fibrous-rooted grasses and tap-rooted forbs, more efficiently fill all the available niches and use resources most effectively (Weaver 1968). In this case both resource use and productivity will be maximized. A diverse plant community is likely to be more weed-resistant because few resources are available to a potential invader. Seed mixtures of grasses with legumes (members of the *Fabaceae* such as *Astragalus*, *Trifolium*, and *Lupinus*) have been shown to improve the rate of microbial and soil structure recovery compared to that of grasses alone.

In practice, seed mix is likely to be influenced by seed availability. The most appropriate mix can be achieved if seed collection is contracted and coordinated with the seeding activity and preparations are made two years ahead of when they will be needed.

Locally adapted ecotypes and cultivars will be purchased when available. Other factors that will be taken into consideration for seed selection include ease of establishment, and seedling vigor. If any non-native species have to be added to the mix due to unavailability of natives, they will be annual and sterile.

As an enhancement to the native seed plantings or in the event that native seed is unavailable, a cover of sterile non-native species can provide immediate ground cover. At the end of the growing season the litter or stubble will serve to trap moisture and wind-blown seed from the surrounding communities and provide the microsites needed for successful native seed germination and seedling establishment. It is important that these non-natives do not produce viable seed so that there is no chance of permanent establishment. After sterile plants die, they do not leave a new generation of seeds behind to compete with native annuals or slower growing native perennial species. [1]Regreen™ is a wheat x wheatgrass (*Triticum aestivum* x *Elytrigia elongata*) hybrid that produces a sterile plant and is often used in revegetation projects (Glen 1992). There are also other varieties of spring wheat (*Triticum aestivum*), oats (*Avena sativa*), and barley (*Hordeum vulgare*) that do not produce viable seed and may be available commercially. Regreen™ can be planted in either the spring or fall in most climates although adequate soil moisture is necessary. Regreen™ has a dense, fibrous root system that can stabilize the soil surface but it also has a deep root system that confers drought tolerance, winter hardiness, and adaptability to varying soil and moisture conditions. When seeding in a mix of other grasses a seeding rate of 10 pounds per acre for Regreen™ is recommended. At this rate the plants contribute to stabilizing the soils while competition is minimized.

Sculptured seeding is the name given to the method of matching seed mixes of native grass species to varying site conditions and is widely and successfully used in revegetation efforts (Jacobsen et al. 1994). Often such methods are applied to local communities. There are several communities of native species within the project area (McGrath 2012). However, these communities appear to be due to prior disturbances and are not sharply delineated. It is likely that the communities described intergrade and moreover would not be applicable in post disturbance soils. Therefore it is recommended that one seed mix be used for reclamation

The plant species selected will, if possible, include locally adapted species that are currently present in the area (Table 1). The forb species will include at least one nitrogen-fixing species, such as a species of *Astragalus, Lupinus, Vicia,* or *Trifolium*. Appropriate grass species in the seed mix includes *Bouteloua gracilis, Elymus longifolius, Aristida purpurea,* and *Elymus smithii* and appropriate forbs include *Astragalus kentrophyta var. elatus* and *Heterotheca villosa*. For small patches, an appropriate seeding rate for the forbs and grasses is 9.75 gm/m2 taking care to dispense the species in the proportions appropriate for the area (Elseroad et al. 2003).

Rhus trilobata (three-leaf sumac) and *Ericameria nauseosa* (rabbitbrush) both occur at the site (McGrath 2012). These may be particularly appropriate species for this reclamation effort because both are tolerate of a wide range of environmental conditions. Both naturally occur in full sunlight and in the understory and are found on a wide range of edaphic conditions. More information on seed handling and on their potential for mined land reclamation is available in Rosner et al (2001).

The suggestions for the species to be included in the seed mix are indicated in Table 1. Seeding rates depend upon the species, the number of seeds per lb., and the seed quality. Seed quality is usually expressed as PLS (Pure Live Seed). PLS is a combination of how pure the seed is (amount of seed vs.

[1] Regreen™ is a wheat x wheatgrass (*Triticum aestivum x Elytrigia elongata*) hybrid that produces a sterile plant. Regreen™ has a dense, fibrous root system that can stabilize the soil surface but it also has a deep root system that confers drought tolerance, winter hardiness, and adaptability to varying soil and moisture conditions.

amount of chaff, other non-viable plant material, and weed seeds), and what the germination rate is of the seed. For example, seed with 90 percent purity and a 50 percent germination rate would have PLS calculated as shown:

$$\text{PLS} = \frac{\text{(percent purity) * (percent germination rate)}}{100} = \frac{90 * 50}{100} = 45\ \%\ \text{PLS}$$

To get the desired amount of seed to germinate, seeds with a lower PLS will need to be applied at higher rates than seed with higher PLS values.

An example seeding rate for an appropriate mix is displayed in Table 2. *Aristida purpurea* (purple threeawn) is a perennial warm season C4 grass that complements the other C3 cool season grasses in the mix. One legume is included for its association with nitrogen-fixing microbes. The format of Table 2 is such that the reader can understand and work through how the figures were developed. The rates in Table 2 assume 100% purity and 80% germination rates. The rates suggested are appropriate for drill seeding. If broadcasting or hydroseeding needs to be used, the seeding rates should be at least doubled. The number of seeds per pound (lb.) depends on the variety. A median value is used in Table 2 but the variation can be significant.

Table 1. Seed mix suggestions for the project site. The seed mix needs to be composed of at least two shrub species, four grass species and three forb species.

Life form	Botanical name	Six-letter acronym	Common name
Shrubs			
Shrub	*Ericameria nauseosa*	Erinau	Rabbitbrush
Shrub	*Rhus trilobata*	Rhutri	Three-leaf sumac
Shrub	*Ribes cereum*	Ribcer	Wax currant
Shrub	*Artemisia carruthii*	Artcar	Carruth's wormwood
Sub shrub	*Berberis repens*	Berrep	Creeping Oregon-grape
Grasses			
Grass	*Bouteloua gracilis*	Bougra	Blue grama
Grass	*Elymus smithii*	Elysmi	Western wheatgrass
Grass	*Sporobolus cryptandrus*	Spocry	Sand dropseed
Grass	*Elymus elymoides*	Elyely	Bottlebrush squirreltail
Grass	*Aristida purpurea*	Aripur	Purple threeawn
Forbs			
Forb	*Melilotus officinalis*	Meloff	Yellow sweet clover
Forb	*Sphaeralcea fendleri*	Sphfen	Fendler's globemallow
Forb	*Ipomopsis aggregata*	Ipoagg	Skyrocket
Forb	*Heterotheca villosa*	Hetvil	Hairy goldenaster
Forb	*Achillea millefolium*	Achmil	Common yarrow
End of Table			

Table 2. Seed mix and seeding rate for the project site. Estimates are made with the goal of 60% germinating seeds per acre. Plant species are represented by the six-letter acronym.

Species	Bougra	Spocry	Elyely	Aripur	Erinau	Rhutri	Meloff	Ipoagg	Achmil
% of mix	35	25	15	15	2	2	2	2	2
seed per ft^2	21	15	9	9	1.2	1.2	1.2	1.2	1.2
PLS	80	80	80	80	80	80	80	80	80
# seeds/lb.	710,000	5,600,000	190,000	260,000	400,000	20,300	258,550	357,000	2,700,000

Species	Bougra	Spocry	Elyely	Aripur	Erinau	Rhutri	Meloff	Ipoagg	Achmil
seeds/acre	914,760	653,400	392,040	392,040	52,272	52,272	52,272	52,272	52,272
lbs./acre if 80% germination	1.55	0.12	2.48	1.81	0.16	3.09	0.24	0.18	0.02
Round up to nearest half or one-tenth of a lb.	2.0	0.2	2.5	2.0	0.2	3.5	0.3	0.2	0.1

End of Table

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WESCO
ground breaking service.

February 18,2014

BLASTING PLAN FOR BLUE CANYON

The following blasting plan for the Blue Canyon Quarry will cover some of the aspects of explosive applications and the concerns that may arise. The following plan will discuss the procedure for a "typical" blast. Explosive products, initiation systems, site security and vibration issues will all be part of design.

PRODUCTION BLASTING:

Production shots will be drilled with either a 3 ½ or 5 inch bit. It is our understanding that the material depth is 12 to 50 ft.in depth. The starting pattern that will be used is a 10 x 12 foot pattern. The stemming will probably be in the 8-10 foot range. Explosive selection will include the following products; ANFO or possible a HANFO (heavy ANFO, a light blend of emulsion and ANFO), cast boosters or an ammonium gel dynamite and non electric detonators as the primer. The above described scenario should yield a powder factor in the 0.90 to 1.20 range depending on depth. The NONEL system will assist in controlling vibrations in sensitive areas by limiting the weight of explosives detonating in any particular delay period.

NOTE:

It should be noted that the above described plans are designed for a "typical" shot. Geology, pit geometry and vibration concerns will dictate modifications that will have to be made by WESCO's blaster in charge as he deems necessary. The need for these changes will be explained on the respective shot report.

SHOT TIMES AND SHOT VOLUMES

Because of the magnitude of the project and the accelerated rate that production is expected, the blasting crew must have flexibility in time of blast, which should be sun up to sun down, unless there is specific issues to the general public's safety. The volume or size of the shots should also not be impeded as long as the vibrations are within the tolerances set out by Aimone-Martin Associates. WESCO and Aimone-Martin have a long history of doing a lot of good work over the years without incident. We are confident that work together will allow us to maximize explosive energy and keep environmental issues in check.

BLAST AREA AND BLAST SITE SECURITY

It is imperative that all parties involved in this project understand and agree that once the loading of explosive materials commences that the blaster in charge has complete and total control of the blast site and the blasting area. This would include the stopping of all traffic in the event that explosives are loaded and thunderstorm approaches. The blaster in charge will also be involved in the placement and instructions to road guards prior the blasting.

Respectfully submitted

Tim Hine
NM Q & C Manager

Joe Strobbe
Technical Manager

BLASTING PLAN
FOR
FORT DEFIANCE SAND AND GRAVEL, INC.'S PROPOSED
BLUE CANYON QUARRY SITE

FEBRUARY 18, 2014

Table of Contents

1.0 SAFETY PLAN

1.1 REQUIREMENTS

A. Code of Federal Regulations (CFR)

The purchase, transportation, handling, storage, and use of explosives will be subject to provisions of Subpart U, "Blasting and Use of Explosives," of the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) 29 CFR Part 1926 and Section 109, "Explosives and Blasting Agents," of29 CFR Part 1910, regulations of Department of Justice, Bureau of Alcohol, Tobacco and Firearms, and Explosives, contained in 27 CFR Part 555, "Commerce in Explosives", implementation of the Safe Explosives Act, Title XI, Subtitle C of Public Law 107-296; Interim Final Rule and Department of Transportation CFR 49, parts 100-177; 301-399. In case of conflicts, the more stringent will prevail.

B. State and Local Permit if Required

C. Non-Regulatory Industry

1. International Society of Explosive Engineers (ISEE), Field Practice Guidelines for Blasting Seismographs (2009).
2. IME (Institute of Makers of Explosives) Safety Library Publications (SLPs).

D. WESCO

WESCO work place safety program will be in force at all times throughout the blasting project.

1.2 QUALIFICATIONS OF THE BLASTER AND BLASTING CONSULTANT

A. Blaster-in-Charge

1. The transportation, handling, storage, and use of explosives, including blasting agents, will be directed and supervised by persons of proven experience and competency in blasting and use of explosives.
2. The blaster-in-charge is Mr. Tim Hine, lead blaster for WESCO, located in Grants, NM. Mr. Hine has 25 years of experience performing all phases of construction and mine blasting. Mr. Hines serves as ISEE Chapter President in New Mexico.
3. The blaster-in-charge is qualified, by reason of training, knowledge, or experience, in. the field of transporting, storing, handling, and use of explosives, and has a working knowledge of Federal and State laws and regulations that pertain to explosives.

B. Vibration Consultant

Aimone-Martin Associates, LLC (AMA) will serve as vibration consultants for this project under the supervision of Dr. Catherine Aimone-Martin. AMA will provide vibration and airblast monitoring during the test blasting and production phases of operations.

Aimone-Martin Associates, LLC (AMA) will serve as vibration consultants for this project under the supervision of Dr. Catherine Aimone-Martin. AMA will provide vibration and airblast monitoring during the test blasting and production phases of operations.

Dr. Aimone-Martin has over 37 years of experience in blast design, vibration monitoring and control. She is a nationally-recognized expert in blast-induced structure respon.se instrumentation and protection of off-site above-ground and buried structures that include monitoring and water wells,

seismograph data base analysis, controlled blasting, and blasting in environmentally sensitive locations.

1.3 NOTIFICATIONS

A. General

Blasting operations in the immediate vicinity of buildings, public roads, utility services, or similar facilities will be undertaken only after owners and/or operators have been notified and all necessary precautions taken for safe control of the blasting operations.

1.4 SITE SECURITY AND SAFETY

A. Security and Inventory

Reasonable and adequate security will be in place to prevent loss or theft of explosives. Inventory of all explosives will be maintained on the jobsite, including a record of explosives received and withdrawn from the magazines. Such records will be available and any loss or theft promptly reported to the appropriate authorities.

B. Warning Signs

Warning signs will be posted at access points to blasting areas and at the entrance to the job site from all pubic accesses.

C. Smoking Restrictions

Smoking, firearms, matches, open flame lamps, fire, heat-producing devices, and sparks will be prohibited in or near explosive storage sites or in areas where explosives are being handled, transported, or used.

D. Thunderstorms

Lightening potential will be monitored using an approved portable lightening detector. The handling or use of explosives will be discontinued during the approach and progress of a thunderstorm. All persons will be removed from the shot area to a place of safety until the storm passes. Once loading begins, the shot will not be left unguarded until blasting is complete.

E. Destruction of Explosives

Explosives, blasting agents, and blasting supplies that have deteriorated or been damaged will not be used. 'They and all excess explosives will be destroyed or removed from the site in accordance with specific written explosive manufacturer instructions.

F. Empty Explosive Containers

Empty boxes and combustible packing materials that have contained explosives will be destroyed by burning method and procedure acceptable to the manufacturer and employer. In no case will any person be allowed within 100 feet of the burning site once the material has been ignited, or until no visible flames or smoke have been detected for one (1) hour.

G. Fire

Fires that involve explosives or where the fire is in imminent danger of contacting the explosives will not be fought. All employees shall be evacuated away from the fire area to a safe distance. The area is to be guarded until the fire is out and explosives are removed or completely destroyed.

1.5 TRANSPORTATION OF EXPLOSIVES

A. Vehicles

1. Vehicles used to transport explosives will be in good repair with all electrical wiring completely protected and securely fastened to prevent short circuits.
2. Vehicles will be thoroughly inspected prior to use to ensure that they are in safe condition and comply with the requirements of this paragraph.
3. Vehicles will have tight floors and any exposed spark-producing metal will be covered with wood or other non-sparking material to prevent contact with containers of explosives.
4. Vehicles will not be loaded beyond rated capacity and the explosives will be secured to prevent shifting or dislodgment.
5. In open-body-type vehicles, the explosives will be covered with a fire-resistant tarpaulin or transported in a class II magazine.
6. Vehicles transporting explosives will be marked with reflectorized signs on both sides, the front and rear, with the word "EXPLOSIVES" in red letters not less than 4 inches high on a white background or placarded in accordance with 49 CFR Part 172, Subpart F "Placarding."
7. Vehicles will be equipped with two or more fire extinguishers having a rating of at least 2-A:40-B:C.

B. Vehicle Operators

Operators of vehicles transporting explosives will be licensed, physically fit, competent, able to read and understand instructions, and not addicted to the use of intoxicants or use narcotics. The operator will be familiar with local, State, and Federal regulations, and all safety requirements for transportation of explosives.

C. Detonators

Detonators including all blasting caps will not be transported with other explosives, unless the detonators are contained in a closed metal storage container having at least a 2-inch wood lining. Such containers will be separated at least 2 feet from other explosives.

D. Flammable Materials

Spark-producing tools, oil, matches, firearms, acids, storage batteries, oxidizing or corrosive compounds, or flammable materials will not be transported with explosives.

E. Parking

Vehicles containing explosives will not be left unattended or parked in garages, shops, or other congested areas.

F. Fueling

Except in emergency, vehicles carrying explosives will not be refueled.

G. Smoking Restrictions

Persons employed in the transportation, handling, or use of explosives will not smoke or carry on their persons or in the vehicle matches, lighters, firearms, ammunitions, or flame-producing devices of any description.

H. Riders

Only the authorized driver and his helper will be permitted to ride on trucks transporting explosives or detonators.

1.6 STORAGE OF EXPLOSIVES

A. Requirement

A request for explosive storage on site is pending. Until storage is approved, explosives will be delivered to the job site in quantities planned for consumption that day.

In the event that explosive storage is approved, the following provisions will be enforced.

B. Magazine Location

Explosives will be stored in accordance with applicable provisions of the Bureau of Alcohol, Tobacco and Firearms as set forth in 27 CFR Part 55. The magazines are subject to mandatory periodic inspections by Federal authorities.

C. Detonators

Detonators will not be stored in the same magazine with other explosives or blasting agents. Detonator magazines will be located at least 100 feet, if unbarricaded, and 50 feet, if barricaded, from magazines containing other explosives or blasting agents.

D. Combustible Materials

Smoking and open flame will not be permitted within 100 feet of storage magazines. Vegetation and combustible material will be removed for a distance of at least 25 feet from all magazines.

E. Security and Inventory

Magazines will be kept securely locked at all times except for inspection or the movement of explosives. An inventory will be maintained of all explosives, blasting agents, and detonators transported to, stored at and used at this site. A written record will be kept at the storage facility of all explosives brought onto the site, explosive used on site, and extra (or unused) explosives returned to the storage facility.

Any magazine storing explosives will be inspected at least every 7 days to ensure that there has been no unauthorized entry or removal of explosives.

F. Posting

Areas around magazines will be posted with "EXPLOSIVES" signs, located so a bullet passing through the sign will not strike a magazine.

G. Storage

Explosives will be stored only in their original containers. Containers of explosives will be stored with the top side up as designated on the container. The oldest stock of explosives will be used first.

H. Maintenance

Debris and combustible material will be promptly removed from magazines. When magazine floors become stained with explosives, they will be cleaned in accordance with the instructions of the manufacturer of the explosives.

I. Transfer In and Out

Provision will be made for the safe transfer of explosives in and out of magazines, including provision for ramps or walkways as necessary.

1.7 HANDLING OF EXPLOSIVES

A. Requirement

Explosives will be handled carefully, and will not be dropped, thrown, or slid. Detonators, primers, and other explosives will be carried in separate containers when transported manually. When not in their original containers, they will be placed in a suitable nonmetallic container for manual transportation.

1. Blast hookup shall not begin until all holes have been loaded and stemmed, the blast site is clear of all vehicles and unnecessary people, and no hazards that might delay the blast exist in the blasting security zone.
2. The blaster-in-charge, and one other crewmember, shall independently inspect and double-check all hookups.
3. To prevent hook-up mistakes caused by rushing to meet a blasting time limit; blasting work schedules shall allow adequate time for careful blast hookup work.
4. When blast hookups are completed more than one half hour befo.re blast time, the hookup shall be inspected again just prior to detonation.

1.8 PRE-BLAST REVIEW MEETING

Before blasting, all non-essential equipment and people shall be removed from blast site. The blaster-in-charge shall assemble all blast crew personnel to review the blast area security plan and blast emergency plan. The blaster-in-charge shall cover the following issues and responsibilities at each pre-blast meeting.

1. Acknowledge the shot is properly loaded, hooked up, secured, and ready for detonation.
2. Review the blasting firing time schedule.
3. Specify who shall fire the shot and define the safe shot initiation location.
4. Review the communication system that shall be used between the blaster-in-charge and all blast area security personnel.
5. Specify what signals shall be used to announce
   - Pre-blast warnings
   - Blast time
   - All clear
   - Blast countdown suspension
6. Outline general emergency plans that shall be used in the event of an accident or other unplanned event.
7. Review procedures for handling misfires.

1.9 Clear, Guarding, and Firing Procedures

1. Prior to connecting the lead line to the surface connectors, the blaster-in--charge shall notify all personnel in the danger area of the blast and all non-essential personnel shall he moved to a safe area.
2. Guards will be posted at all blast area entrance locations ensuring that no one enters the area prior to the blast.

B. Removal from Containers

Explosives will be removed from original containers only as needed for immediate use. Such containers will be opened only by means of non-sparking tools or devices. Empty containers and packing will be promptly burned in an approved location or disposed of in accordance with the manufacturer's MSDS recommendations.

1.10 Drilling

1. All drillers must have adequate experience and operating knowledge about each drill before they operate it.
2. 2. Drillers shall perform safety inspections and on all drills before they are operated. Any conditions that might cause unsafe operation shall be corrected before drill is put into service. Drills must be routinely serviced and lubricated as specified by the manufacturer. All safety equipment, such as hose release guards, must be properly installed.
3. Drillers shall monitor bit wear and penetration rates, and they shall vary feed pressure, hammer rates, and other operating variables to achieve maximum bit life.
4. Tile blaster-in-charge shall establish a system for marking hole collar locations. Drillers shall collar holes as close as possible to the designed collar location and they shall carefully align the drill boom to guide the drill stem along the intended hole path.
5. The driller's primary goal is to drill properly aligned and clean holes. Drillers should vary hole flushing rates and determine which drill settings produce the cleanest and most accurately placed holes.
6. Holes shall never be drilled in any positions where there is any chance they might intersect another live hole. Unless a specific variance is granted, the minimum collar distance from a loaded hole must be greater than the planned depth of the new hole.
7. Drilling will not be done in an area previously blasted until the total area has been examined to make sure that there are no unexploded charges remaining. Drills, picks, or bars will not be inserted into hole with suspected unexploded charges even if examination fails to disclose explosives.
8. Drillers shall note any unusual conditions or modifications to the original plan. Drill log information shall be submitted to the blaster-in-charge at the end of each drilling shift.

1.11 Loading Explosives and Blasting Agents

A. Blast Planning

Excavation will be planned and scheduled in order that drilling and loading operations will not conflict. Loading operations will be under the supervision of the blaster-in-charge.

B. Loading Areas

Boreholes will be made ready and equipment and tools not used for loading will be removed from the area before the explosives are delivered to the site. The loading areas will be isolated by appropriate signs and/or temporary barricades to prohibit access by unauthorized persons.

C. Loading of Blast Holes

1. Prior to the loading of any holes, the highwall shall be inspection from the quarry floor for loose rock, mud seams, and fractures. The crest shall be inspected for tension cracks and backbreak and the ground surface of the blast will be examined for loose rock near the whole collars.
2. Prior to hole loading, the blaster-in-charge will define the blast area based observed site conditions.
3. Blasting machines and non-electric starters must be stored away from the blast area while blasts are loaded and tied in.
4. Explosive products will be small enough to permit loading of cartridges and explosives without forcing. Priming, loading, tamping, and firing will be carried on as promptly as possible with a minimum of exposure to personnel.
5. Tamping will be done only with wooden or plastic tamping poles without exposed metal parts. Primers will not be tamped.
6. The manufacturer's recommendations will be followed in priming high explosive cartridges. Primers will be made up only at the loading area, and in quantities limited to the number required for a single blast
7. All blast holes will be stemmed with 3/4- inch angular crushed rock to the collar to confine the charge.
8. Delay timing and explosive charge weight will be designed in much a manner to prevent flyrock beyond the blast area.
9. Loaded holes will not be left unattended or unprotected. If possible, all holes will be fired on soon after loading. In the event it is necessary to delay firing due to an emergency, the area will be isolated and guards posted to prevent entry to the area. In so far as possible, blasting operations above ground will be conducted between sunup and sundown.

1.12 Initiation System Hook-up Procedure

1. Only persons designated by the blaster-in-charge shall participate in blast hookups. All other persons shall vacate the blast site. ·
2. Blast crews shall only use connections and hookups that are approved by the product manufacturer.
3. The blaster-in-charge will be in command and only when the site is secured, will connect the firing line to non-electric starter or primary initiating device.
4. The Blaster will initiate the blast warning signals in the prescribed sequence. The following blasting signals will be sounded on a clearly audible whistle, horn, or siren before each blast:
   - Blasting warning: a prolonged burst for (1) minute starting 5 minutes prior to the blast signal
   - Blast signal: short bursts over a 30-second duration starting 1 minute prior to the shot
   - All clear: a prolonged burst for 15 seconds following inspection of the blast area

5. Blasting signals will be posted at all access points.

1.13 Inspection Following a Blast

A. Post-Blast Site Inspection

1. Prior to the all-clear signal, and after post blast fumes have dissipated to safe levels, a thorough inspection will be made by the blaster.
2. The blaster will determine if all charges have been fired, and look for any dangerous rock conditions and any abnormal blast conditions and any other hazards.
3. Surface shock tubes will be carefully checked and a search made for unexploded charges.

B. All-Clear

The all-clear signal will be sounded only after the inspection of the area has been satisfactorily completed.

1.14 Misfires

A. Requirement

If a misfire is suspected or found, the blaster-in-charge shall ensure no one enters the blast area, and it remains secured, for at least 30 minutes. All personnel, except the blaster and employees necessary to develop and plan to safely handle the misfire, will be kept out of the danger area. No work will be done in the danger area except that necessary to remove the hazard of the misfire.

B. Refiring

If broken shock tube or faulty connections arc determined as the cause, repairs will be made, the firing line reconnected, and an attempt made to fire the charge. Prior to removing explosives from a borehole, a new primer will be placed in the hole and an attempt made to fire the charge.

C. Removal of Explosives

If the cause of the miss~ fire is suspected within the blast hole, removal of explosives will take place. This procedure will be the last resort and performed only when refiring has failed or when refiring would present a hazard. Explosives may be removed by washing out with water or, if the misfire is under water, blown out with air.

D. Work Restrictions

No drilling, digging, or picking will be permitted until all missed holes have been detonated or the explosive removed, and the blaster has approved that work can proceed.

The location of any potentially un-detonated explosives shall be noted on the blast report.

The blast security area will be expanded if flyrock potential is increased when misfires are re-blasted.

2.0 BLAST PLAN

2.1 EXPLOSIVES AND EXPLOSIVE PRODUCTS

Blasting will be performed using ammonium nitrate fuel oil (ANFO) and primed using Dynomax Pro™ boosters in 1.5 by 8 inch sticks. Non-electric detonating (blasting) caps, NONEL®, manufactured by DYNO will be used to provide time delays between blast holes. All holes will be designed with a common 500 millisecond (ms) in-hole delay. Surface delays will be include various combinations of 9 ms, 17 ms, and 25 ms, and initiated in a manner to provide a center "V" cut.

2.2 MSDS SAFETY SHEETS FOR EXPLOSIVES

MSDS sheets will be provided for blasting materials as Appendix A following the pre-blast survey and determination of which explosive material will be used.

2.3 BLAST DESIGN

A. General

Controlled blasting techniques will be employed to prevent flyrock, misfires, and adverse off-site impacts by limiting charge weights detonated per time delay. Drilling and blasting will take place only to the depth, amount, and at such locations, with explosives of such quantity, distribution, and density, that will not produce unsafe or damaged rock beyond the prescribed excavation limits. All possible care shall be exercised in drilling and blasting operations to prevent excess ground vibrations and air overpressures and limit flyrock to the blasting area as defined by the Mining Safety and Health Administration (MSHA).

Controlled techniques will include the following:

1. Careful placement of measured explosive quantities in blast holes,
2. Limiting explosives quantities per time delay, starting with the smallest quantities of explosives possible and scaling up to production-size blasts,
3. The decking (or separating single columns of explosives into smaller, individual lengths separated by crushed rock) of charges in holes when explosive quantities need to be severely limited,
4. Adjustment of drilling patterns to achieve fragmentation when explosives quantities are limited, and
5. A sequence of initiation of blasting time delays that will mitigate ground vibrations toward the closest structures or facility.

B. Blast Pattern

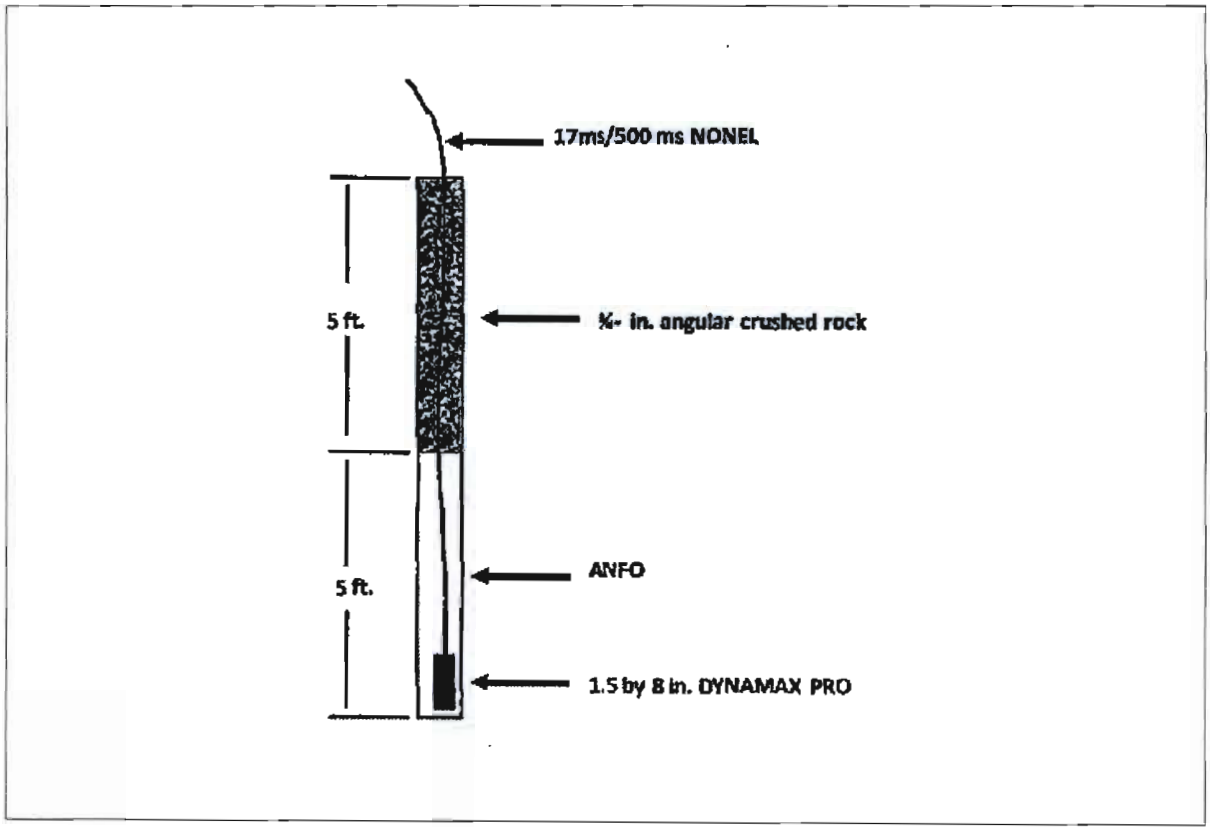
1. Blast holes will be 4.5 inches in diameter. The first blast will be performed as a test blast to establish the optimum drill pattern for the given rock formations and delay timing between explosive charges. This test blast will also provide information on the design parameters required to minimize the generation of dust, ground vibrations, airblast, and flyrock.

2.4 BLASTING SCHEDULE

Blasting will take place on an as-needed basis with a 24-hour notice between the hours of sunup to sundown.

2.5 BLASTING REPORT

A report will be prepared for each blast to document explosives and products used the shot pattern layout and the timing of each blast hole. The reporting format will be the same format used for the Daily Blasting Plan.



Typical blast hole cross-section for single deck.

3.0 VIBRATION MONITORING PLAN

3.1 REQUIREMENTS

A. Seismograph Monitoring of Blasts

1. Each blast will be monitoring using blasting seismographs to record ground vibration and airblast time histories and report peak particle velocity (PPV in inches per second) and maximum airblast (in decibels, dB) along with the frequency associated with the PPV.
2. Production blasting will be monitored by Aimone-Martin Associates, LLC on a routine basis. On-site ground vibration and air overpressure measurements will be reported on the blasting report and kept as permanent record by Delhur Industries, Inc.
3. Seismographs meeting all criteria specified in the International Society of Explosives Engineers in the 2009 publication "ISEE Field Practice Guidelines for Blasting Seismographs" will be placed at the closest structure and include the closest monitoring wells and other utilities of concern.
4. During tests blasts, additional seismographs will be deployed in linear attenuation arrays of multiple seismographs at logarithmically increasing distances apart in a variety of azimuthal directions to obtain site-specific attenuation or decrease in-ground motions amplitude with scaled distance. The results of these arrays will be used by the blaster to design future blasts and mitigate ground vibration to the lowest possible levels.

B. Seismograph Specifications for Use

1. Seismographs shall be state of art, digital units, proven to be in calibration. All seismograph units are capable of recording a frequency range of 2 to 200 Hz and air overpressure resolution of 0.0001 psi. Ground transducers have the same frequency range with a velocity resolution range between 0.005 and 20 in/sec.
2. The operation of seismographs shall follow the recommended guidelines set forth by the International Society of Explosives Engineering Seismograph Section (2009), titled, "ISEE Field Practice Guidelines for Blasting Seismographs".

3.2 SAFE GROUND VIBRATION STANDARDS

A. Above Ground Structures

1. Above-ground buildings

Ground vibrations, measured at the closest above-ground structure, will comply with the safe blasting criteria as recommended by the U.S. Bureau of Mines (Siskind, et al., 1980) and shown in Figure 1 for the protection of typical one- and two-story structures. This safe blasting criterion represents industry standards used throughout the U.S. to protect off-site structures from blast induced cosmetic or threshold damage.

Appendix A

Material Safety Data Sheets

[To be completed following pre-blast survey by Wesco]

Appendix B

Pre-Blast Survey and Results

[To be completed following pre-blast survey by Wesco]

Appendix C

Typical Blasting Plan Hole Layout, Existing Topography, and Distances to Structures Surrounding Blue Canyon Quarry

WESCO
ground breaking service.

Daily Blasting Plan

Timing Layout

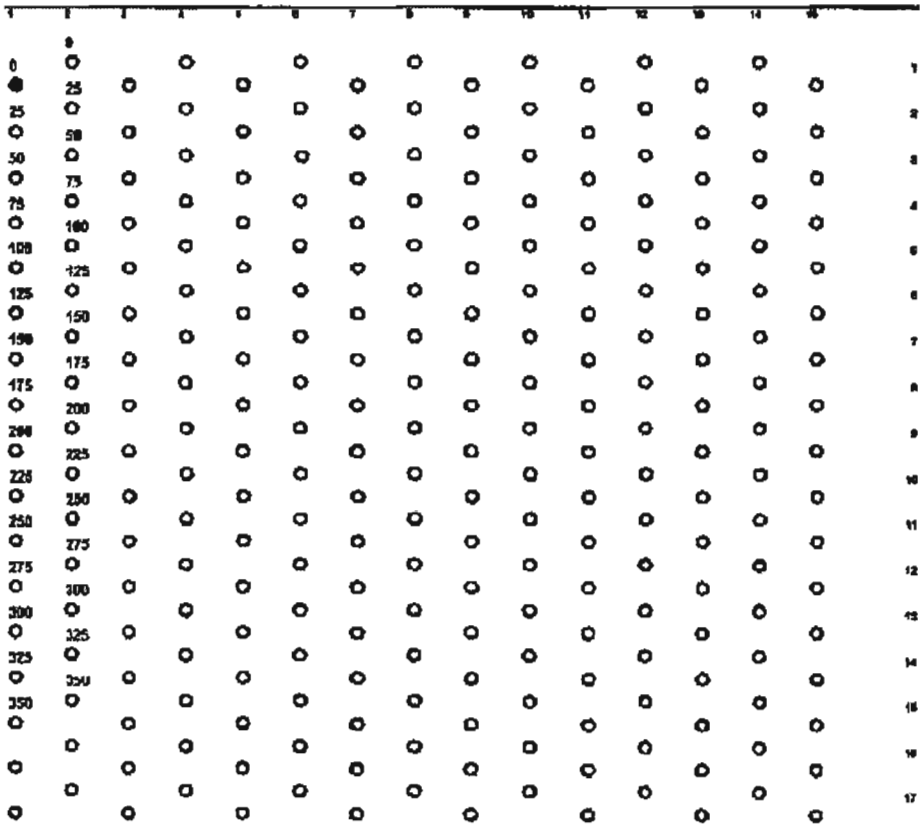
Shot No. _____ Location _____
Date _____ Time _____

Type of Timing Layout: [illegible]

Shot pattern (column x row) [illegible]

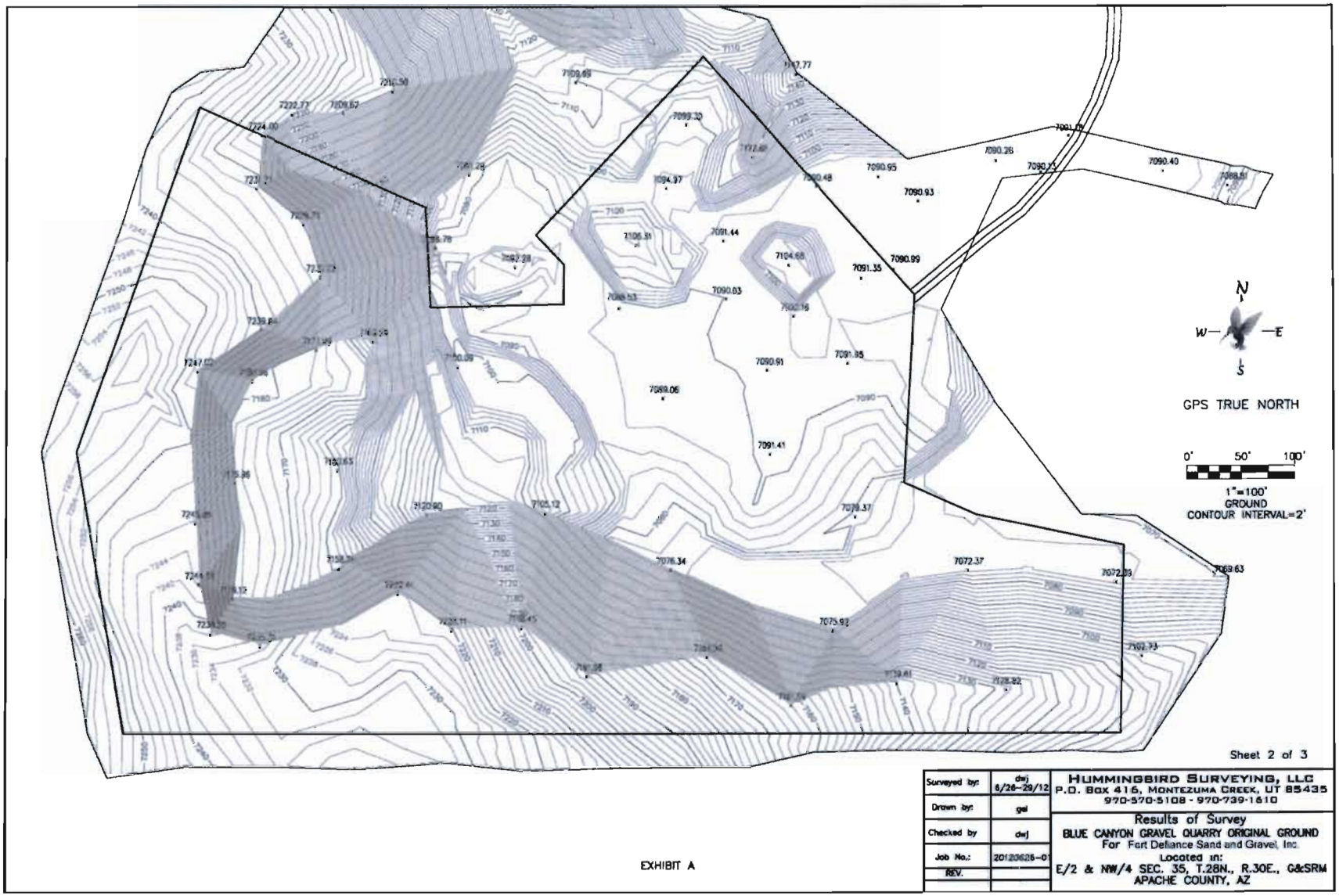
Initiation hole position [illegible]
Initiation delay [illegible] 0 ms
Column delay (left) [illegible] 0 ms
Column delay (right) [illegible] 0 ms
Down row / in-hole delay [illegible] ms
Lateral holes delay [illegible] ms

No. of holes in the pattern	30
BR Diameter (in)	3
Ave. Depth (ft)	7
Ave. Stem (ft)	5
ANFO density (lb/cc)	0.85
Expansion factor	1
Loading density (lbs/ft)	2.60
average lbs/hole (lbs)	5.2
Maximum Holes/Delay	2
Maximum lbs/delay (lbs)	10.4
Distance closest structure	
Scaled Distance (ft/lbs1/2)	



TO BE CHANGED

Draft Daily Blasting Plan (To be changed following pre-blast survey).



Existing Topography at the Blue Canyon Quarry Site (2-foot contours).

Distances to Structures Surrounding Blue Canyon Quarry Site.

CULTURAL RESOURCES COMPLIANCE FORM

THE NAVAJO NATION
HISTORIC PRESERVATION DEPARTMENT
PO BOX 4950
WINDOW ROCK, ARIZONA 86515

ROUTE COPIES TO:

☑ CASA

NNHPD NO. HPD-12-995
OTHER PROJECT NO.: CASA 12-55

PROJECT TITLE: Cultural Resource Inventory, Blue Canyon, Inc.'s Proposed Blue Canyon Quarry, Fort Defiance Chapter, Apache County, Arizona

LEAD AGENCY: BIA/NR

SPONSOR: Brian Wood, Permits West, 37 Verano Loop, Santa Fe, New Mexico 87508

PROJECT DESCRIPTION: The proposed undertaking will involve the clean-up and expansion of the existing Blue Canyon Quarry. A 1350-ft by 880-ft block area was inventoried for the existing pit, and the pit expansion. A 0.92-mile access road from CR 455 was also inventoried which will be bladed & widened. The area of effect is 17.29-acres. Ground disturbance will be intensive and extensive with the use of heavy equipment.

LAND STATUS: Navajo Tribal Trust
CHAPTER: Ft. Defiance
LOCATION: T.28N, R.30E – Sec. 25, 26 & 35; Fort Defiance Quadrangle, Apache County, Arizona G&SRPM

PROJECT ARCHAEOLOGIST: Mary Errickson
NAVAJO ANTIQUITIES PERMIT NO.: B12401

DATE INSPECTED: 06/21/12
DATE OF REPORT: 11/16/12
TOTAL ACREAGE INSPECTED: 38.45- ac.

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m. apart.

LIST OF CULTURAL RESOURCES FOUND:	**None**
LIST OF ELIGIBLE PROPERTIES:	**None**
LIST OF NON-ELIGIBLE PROPERTIES:	**None**
LIST OF ARCHAEOLOGICAL RESOURCES:	**None**

EFFECT/CONDITIONS OF COMPLIANCE: **No historic properties affected.**

In the event of a discovery ["*discovery*" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7147.

FORM PREPARED BY: Tamara Billie
FINALIZED: December 26, 2012

Notification to
Proceed Recommended: Yes ☑ No ____
Conditions: Yes ____ No ☑

Tamara Billie 1/2/13
Alan S. Downer, Navajo Nation Historic Preservation Officer — Date

Navajo Region Approval: Yes X No ____

1/10/13
BIA-Regional Director — Date

Jan 14 2013

NAVAJO NATION
Department of Fish & Wildlife
Navajo Natural Heritage Program
P.O. Box 1480
Window Rock, AZ 86515

NNHP
Navajo Natural Heritage Program

Phone: 928.871.6472 • Fax: 928.871.7603 • http://nnhp.nndfw.org

Ben Shelly, President

Rex Lee Jim, Vice-President

02 July 2012

File#12PERM-24

Tim Holman, Natural Resource Specialist
Permits West, Inc.
37 Verano Loop
Santa Fe, NM 87508

NAVAJO ENDANGERED SPECIES LIST (NESL) INFORMATION FOR:

PROJECT: BLUE CANYON GRAVEL QUARRY
T28N, R30E, SECTIONS 25, 26 & 35
APACHE COUNTY, AZ
UTM COORDINATES 671155E, 3961798N

Mr. Holman:

The following information on species of concern[1] is provided in response to your 20 June 2012 request concerning the subject project, which consists of a 16.62 acre gravel quarry located approximately 2.5 miles northwest of Fort Defiance, AZ, legal description T28N, R30E, Sections 25, 26 & 35, Apache County, AZ. UTM Coordinates 671155E, 3961798N.

Known to occur within three miles of the project site:
1. *Lesquerella navajoensis* (Navajo Bladderpod); NESL Group 4.

Species of concern with potential to occur on the 7.5-minute *Fort Defiance, AZ* quadrangle(s) containing the project boundaries include the following. Potential is based primarily on quadrangle-wide coarse habitat characteristics and species range information. Your project biologist should determine habitat suitability at the project site(s).
1. *Accipiter gentilis* (Northern Goshawk); NESL Group 4.
2. *Aegolius acadicus* (Northern Saw-whet Owl); NESL Group 4.
3. *Aquila chrysaetos* (Golden Eagle); NESL Group 3; MBTA.

[1] "Species of concern" include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For each species, the following tribal and federal statuses are indicated: Navajo Endangered Species List (NESL), federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate or NESL group 4 status; please be aware of these species during surveys and inform the NFWD of observations. Documentation that these species are more numerous or widespread than currently known, and addressing these species in project planning and management is important for conservation and may contribute to ensuring they will not be uplisted in the future. Species without ESA or NESL legal protection (e.g., NESL group 4 species) are only included in responses on a regular basis and may not be included in this response. Please refer to the NESL for a list of group 4 species; contact me if you need a copy.

4. *Catostomus discobolus* (Bluehead Sucker); NESL group 4.
5. *Charadrius montanus* (Mountain Plover); NESL Group 4. ESA proposed Threatened. MBTA.
6. *Dendragapus obscurus* (Blue Grouse); NESL Group 4.
7. *Empidonax traillii extimus* (Southwestern Willow Flycatcher); NESL Group 2. ESA Endangered; MBTA.
8. *Falco peregrinus* (Peregrine Falcon); NESL Group 4. MBTA.
9. *Haliaeetus leucocephalus* (Bald Eagle); NESL Group 3; MBTA.
10. *Meleagris gallopavo* (Wild Turkey). This species is of cultural and economic significance.
11. *Mustela nigripes* (Black-footed Ferret); NESL Group 2; ESA Endangered.
12. *Odocoileus hemionus* (mule deer). This species is of cultural and economic significance.
13. *Strix occidentalis lucida* (Mexican Spotted Owl); NESL Group 3. ESA Threatened. MBTA.
14. *Patagioenas fasciata* (Band-tailed Pigeon); NESL Group 4.
15. *Ursus americanus* (Black bear). This species is of cultural and economic significance.
16. *Erigeron rhizomatus* (Rhizome Fleabane/Zuni Fleabane) NESL Group 2.

AREA 1: HIGHLY SENSITIVE WILDLIFE RESOURCES

Potential for the black-footed ferret should be evaluated if prairie-dog towns of sufficient size (per NFWD guidelines) occur in the project area.

Potential for Puccinellia parishii should be evaluated if wetland conditions exists that contain white alkaline crusts.

Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts.[4] Further questions pertaining to surveys should be referred to Species Account. Surveyors on the Navajo Nation must be permitted by the Director, NFWD. Contact Jeff Cole at (928) 871-7068 for permitting procedures. Questions pertaining to surveys should be directed to the NFWD Zoologist (Chad Smith) for animals at 871-7070 and Botanist (Andrea Hazelton) for plants at (928)523-3221. Questions regarding biological evaluations should be directed to Pamela Kyselka (Acting Environmental Reviewer) at 871-7065.

Potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. NWI maps are available for examination at the NFWD's Natural Heritage Program (NHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NHP). The NHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation.

The information in this report was identified by the NFWD's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is strongly recommended. It

[4] Available free of charge on our website at http://nnhp.navajofishandwildlife.org/

should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NFWD's information is continually updated, any given information response is only wholly appropriate for its respective request.

For a list of sensitive species on the Navajo Nation in addition to the species listed on the Navajo Endangered Species List (NESL) please refer to our website at www.nndfw.org.

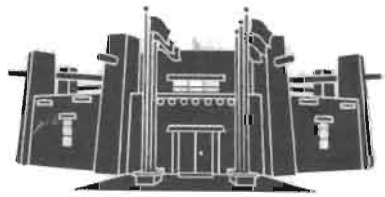
An invoice for this information is attached.

If you have any questions I may be reached at (928) 871-6472.

Sonja Detsoi, Wildlife Tech.
Natural Heritage Program
Department of Fish and Wildlife

xc: file/chrono

LEGISLATIVE BRANCH
NAVAJO NATION



HONORABLE LoRenzo Bates
Speaker, 23rd Navajo Nation Council

MEMORANDUM

To : Honorable Edmund Yazzie
Churchrock, Iyanbito, Mariano Lake, Pinedale, Smith Lake, Thoreau Chapters

From : Mariana Kahn
Mariana Kahn, Attorney
Office of Legislative Counsel

Date : May 7, 2015

Re : PROPOSED STANDING COMMITTEE RESOLUTION, AN ACTION RELATING TO RESOURCES AND DEVELOPMENT; CLARIFYING ACJA-21-83; CLARIFYING ACAU-161-88; CLARIFYING RCAU-126-91; CLARIFYING THAT LAND USERS' CONSENTS ARE REQUIRED FOR WITHDRAWING A TOTAL OF 17.29 ACRES, MORE OR LESS, OF NAVAJO TRUST LAND (15.06 ACRES FOR USE AS A SAND AND GRAVEL PIT AND 2.23 ACRES FOR AN ACCESS ROAD), IN THE FORT DEFIANCE CHAPTER VICINITY AND CLARIFYING THAT AFTER THE LAND USERS' CONSENTS FOR THE LAND WITHDRAWAL ARE OBTAINED, A PROPOSED RESOLUTION FOR THE APPROVAL OF THE SAND AND GRAVEL LEASE AND ACCESS ROAD RIGHT-OF-WAY FOR 17.29 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS TO FORT DEFIANCE SAND AND GRAVEL, INC. TO OPERATE AND MAINTAIN A GRAVEL PIT AND ACCESS ROAD IN THE FORT DEFIANCE CHAPTER VICINITY WILL BE READY FOR CONSIDERATION BY THE RESOURCES AND DEVELOPMENT COMMITTEE

As requested, I have prepared the above-referenced proposed resolution and associated legislative summary sheet pursuant to your request for legislative drafting. Based on existing law and review of documents submitted, the resolution drafted is legally sufficient. However, as with all legislation, it is subject to review by the courts in the event of challenge. You are encouraged to review the proposed resolution to ensure that it is drafted to your satisfaction.

If you are satisfied with the proposed resolution, please sign it as "sponsor" and submit it to the Office of Legislative Services where it will be given a tracking number and sent to the Office of the Speaker for assignment. If the proposed resolution is unacceptable to you, please contact me at the Office of Legislative Counsel and advise me of the changes you would like made to the proposed resolution.
Thank you for your service to the Navajo Nation.

15-237-1

OFFICE OF THE SPEAKER
NAVAJO NATION LEGISLATIVE BRANCH

HONORABLE LORENZO C. BATES
SPEAKER, 23RD NAVAJO NATION COUNCIL

May 11, 2015

MEMORANDUM

TO : *Honorable* Members
Resources and Development Committee

FROM :

Hon. LoRenzo C. Bates, *Speaker*
23rd Navajo Nation Council

SUBJECT : **ASSIGNMENT OF LEGISLATION**

Pursuant to 2 N.N.C § 164 (A)(4), this memorandum serves to inform and advise you that I assign the following legislation to the Resources and Development Committee;

Legislation No. 0170-15

Relating to Resources and Development; Clarifying ACJA-21-83; Clarifying ACAU-161-88; Clarifying RCAU-126-91; Clarifying that Land Users' Consents are Required for Withdrawing a Total of 17.29 Acres, More or Less, of Navajo Trust Land (15.06 Acres for Use as Sand and Gravel Pit and 2.23 Acres for an Access Road), in the Fort Defiance Chapter Vicinity and Clarifying that After the Land Users' Consents for the Land Withdrawal are obtained, a Propose Resolution for the Approval of the Sand and Gravel Lease and Access Road Right-Of-Way for 17.29 Acres, More or Less, of Navajo Nation Trust Lands to Fort Defiance Sand and Gravel, Inc. to Operate and Maintain a Gravel Pit and Access Road in the Fort Defiance Chapter Vicinity will be Ready for Consideration by the Resources and Development Committee.

As the Committee assigned to consider the legislation, Legislation No. 0170-15 must be placed on the Resources and Development Committee agenda at the next regular meeting for final consideration.

ATTACHMENT:Legislation No. 0170-15

xc: Hon. Ben Shelly, *President*
The Navajo Nation
Harrison Tsosie, *Attorney General*
Robert Willie, *Controller*
Dominic Beyal, *Executive Director, OMB*
Honorable Edmund Yazzie, Council Delegate (*Prime Sponsor*)

Post Office Box 3390 / Window Rock, Arizona 86515 / T: (928) 871-7160 F: (928) 871-7255

THE NAVAJO NATION
LEGISLATIVE BRANCH
INTERNET PUBLIC REVIEW PUBLICATION

LEGISLATION NO: _0170-15__ SPONSOR: Edmund Yazzie

TITLE: An Action Relating To Resources And Development; Clarifying ACJA-21-83; Clarifying ACAU-161-88; Clarifying RCAU-126-91; Clarifying That Land Users' Consents Are Required For Withdrawing A Total of 17.29 Acres, More Or Less, Of Navajo Trust Land (15.06 Acres For Use As Sand And Gravel Pit And 2.23 Acres For An Access Road), In The Fort Defiance Chapter Vicinity And Clarifying That After The Land Users' Consents For The Land Withdrawal Are Obtained, A Propose Resolution For The Approval Of The Sand And Gravel Lease And Access Road Right-Of-Way For 17.29 Acres, More Or Less, Of Navajo Nation Trust Lands To Fort Defiance Sand And Gravel, Inc. To Operate And Maintain A Gravel Pit And Access Road In The Fort Defiance Chapter Vicinity Will Be Ready For Consideration By The Resources And Development Committee

Date posted: May 11, 2015 at 5:50PM

Digital comments may be e-mailed to comments@navajo-nsn.gov

Written comments may be mailed to:

Executive Director
Office of Legislative Services
P.O. Box 3390
Window Rock, AZ 86515
(928) 871-7586

Comments may be made in the form of chapter resolutions, letters, position papers, etc. Please include your name, position title, address for written comments; a valid e-mail address is required. Anonymous comments will not be included in the Legislation packet.

Please note: This digital copy is being provided for the benefit of the Navajo Nation chapters and public use. Any political use is prohibited. All written comments received become the property of the Navajo Nation and will be forwarded to the assigned Navajo Nation Council standing committee(s) and/or the Navajo Nation Council for review. Any tampering with public records are punishable by Navajo Nation law pursuant to 17 N.N.C. *§374 et. seq.*

THE NAVAJO NATION
LEGISLATIVE BRANCH
INTERNET PUBLIC REVIEW SUMMARY

LEGISLATION NO.: 0170-15

SPONSOR: Honorable Edmund Yazzie

TITLE: Relating To Resources And Development; Clarifying ACJA-21- 83; Clarifying ACAU-161-88; Clarifying RCAU-126-91; Clarifying That Land Users' Consents Are Required For Withdrawing A Total of 17.29 Acres, More Or Less, Of Navajo Trust Land (15.06 Acres For Use As Sand And Gravel Pit And 2.23 Acres For An Access Road), In The Fort Defiance Chapter Vicinity And Clarifying That After The Land Users' Consents For The Land Withdrawal Are Obtained, A Propose Resolution For The Approval Of The Sand And Gravel Lease And Access Road Right-Of-Way For 17.29 Acres, More Or Less, Of Navajo Nation Trust Lands To Fort Defiance Sand And Gravel, Inc. To Operate And Maintain A Gravel Pit And Access Road In The Fort Defiance Chapter Vicinity Will Be Ready For Consideration By The Resources And Development Committee.

Posted: May 11, 2015 at 5:50 PM

5 DAY Comment Period Ended: May 16, 2015

Digital Comments received: *No comments were received.*

Latanya Birdale
Policy Analyst
Office of Legislative Services

5/18/15 9:02am
Date/Time