

From: "Blickwedel, Roy (Corporate)" <Roy.Blickwedel@corporate.ge.com>
To: "von Till, Bill (E-mail)" <rwv@nrc.gov>
Date: 5/24/05 10:10AM
Subject: NECR documentation request 1 - *UNC - Doc. 40-8907.*

Bill, Here are copies of the NECR documents that you requested during our meeting a couple of weeks ago. First, is UNC response to the conditional approval to implement the materials characterization work plan.

<<Response to MMD Comments_Final.pdf>>

Next is the approval letter...

<<MMD to UNC MC conditional approval.pdf>>

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Subject: NECR documentation request 1
Creation Date: 5/24/05 10:10AM
From: "Blickwedel, Roy (Corporate)" <Roy.Blickwedel@corporate.ge.com>

Created By: Roy.Blickwedel@corporate.ge.com

Recipients

nrc.gov
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RWV (Bill VonTill)

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Files	Size	Date & Time
MESSAGE	553	05/24/05 10:10AM
Response to MMD Comments_Final.pdf		1439157
MMD to UNC MC conditional approval.pdf		225767
Mime.822	2281353	

Options

Expiration Date: None
Priority: Standard
Reply Requested: No
Return Notification: None

Concealed Subject: No
Security: Standard



March 11, 2005

Mr. Terence G. Foreback, P.E.
Mining and Minerals Division
Pinon Building
1220 South St. Francis Drive
Santa Fe, NM 87505
(505) 476-3432

Dear Mr. Foreback:

On behalf of United Nuclear Corporation (UNC), the following responses are provided to the comments and conditions provided by the New Mexico Mining and Minerals Division (MMD) in the conditional approval, dated February 15, 2005, of the Northeast Church Rock Materials Characterization Plan (Plan). This letter shall serve as an addendum to the Plan. Responses in this letter supercede the Plan.

1. **Comment:** Update the surface ownership information in this section of the Plan. The ownership information is not consistent with other documentation received by MMD from UNC and from the Navajo Nation.

Response: The land ownership sentence in Section 1.1 of the plan shall be revised to state, "Surface ownership for the majority of the permit area is held in trust by the Bureau of Indian Affairs for the Navajo Nation. The remainder of the permit area is located on lands owned by UNC." Future documentation will be corrected to reflect that surface ownership of the portion of the permit area located in Section 3, Township 16 North, Range 16 West is held in trust by the Bureau of Indian Affairs for the Navajo Nation.

2. **Comment:** Please rewrite the last sentence of the second paragraph to state that UNC has adequately removed remaining byproduct material from the mine site, as stated in a memorandum from NRC, dated October 31, 1989. The use of the term, *released for unrestricted use* should be removed, since it was not actually stated by NRC in the October 31, 1989 memorandum.

Response: The sentence referencing the NRC October 31, 1989 memorandum will be rewritten to state, "Closure of facilities regulated by the Nuclear Regulatory Commission (NRC), including the NPDES/IX treatment ponds and the sandfill areas, was approved by the NRC as detailed in an NRC memorandum dated October 31, 1989. By approving the cleanup and deleting License Condition 33 in License Amendment 17 of Source Materials License SUA-1475, the NRC effectively released the subject areas for unrestricted use. Furthermore, the NRC exercises exclusive, pre-emptive jurisdiction over all radiological and non-radiological hazards in accordance with Commission direction in Staff Requirements Memorandum SECY-277 (NRC, 2000)."

3. **Comment:** UNC shall submit a plan to sample the concrete foundation material that will be buried on site for Radiochemical analytes that are listed on Table 2.3. This is in addition to the gamma ray exposure survey requested in comment number 9 to Section 3.2. Sampling should be proposed for the broken material prior to disposal.

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Steamboat Springs, Colorado
80477

Tel: 970 879 6260
Fax: 970 879 9048

Response: A concrete core sample will be collected from the warehouse concrete pad located in NECR-1, as shown on Figure 1. The gamma exposure rate of the sample location will be monitored prior to collection of the sample. The core sample will be submitted for laboratory analysis of the analytes listed in Table 2.3 of the Plan.

4. Comment: Section 2.2.2 NECR-2 of the Closeout Plan submitted by UNC states that NECR-2 consists primarily of native soils. One additional soil sample should be added in the NECR-2 location to verify that the material used for the NECR-2 pad was non-contaminated material.

Response: One additional sample will be added. The sample will be taken from the location shown on Figure 1. The sample will be a composite sample collected from 0 to 2 feet below ground surface using the methods and techniques in the Plan. The sample will be visually classified in the field and analyzed for the analytes in Table 2.2 and Table 2.3 of the Plan. Agronomic analyses will not be performed on this material. UNC notes that Comment 4 is an expansion of the MMD's original work plan request, dated November 10, 2004, which had asked for additional characterization in the NECR-1 and non-economic material storage area.

5. Comment: The last sentence of the second paragraph state that soils will be visually classified in accordance with ASTM D2488. All soils classification shall be done in accordance with USDA methods for both visually inspected and laboratory techniques. A qualified soil scientist familiar with the soils in the area should classify the soils.

Response: US Department of Agriculture (USDA) methods will be used for visual classification of soils in the field. Either USDA or American Society of Agronomy (ASA) methods will be used for laboratory classification of the soils, at the laboratories discretion. Methods used by the laboratory will be reported in the Material Characterization Report.

6. Comment: UNC proposes to composite soil sample from 0'-2' and 2'-4' depth intervals. Material from the waste rock pile may be required to be moved from the existing sloped areas to form a 3:1 slope for final closeout. Characterization of this material must be completed in order to ensure proper final placement. This may require the use of alternate soil collection equipment such as direct push technology or a hollow stem auger drill rig. UNC shall propose a plan for sampling the material on the outslopes of the waste rock and non economic piles.

Response: Due to safety risk associated with drilling on the existing slopes of NECR-1, UNC proposes that gamma surveys be performed daily during the regrade of NECR-1. The Materials Characterization Report will include threshold levels at which covers of designated thicknesses will be placed. Cover material will be sourced from the existing UNC borrow area located to the south of the central tailings cell. Material from this borrow area was characterized for the Tailings Reclamation Plan (Canonie, 1991). The material from this borrow area is a low plasticity clay (USCS classification of CL). This borrow area will be inspected to ensure sufficient cover material is available and additional samples will be collected for geotechnical characterization as required.

7. **Comment:** The number of samples and sampling locations shall be corrected with the addition of sampling locations required by the conditions contained in this approval and the comments contained in the correspondence from the New Mexico Environment Department in their February 3, 2005 Correspondence to UNC.

Response: Based on comments from the MMD and New Mexico Environment Department (NMED) the number of sampling locations has been revised to 35. The number of sampling locations in each area of the investigation are summarized in Table 1 with changes from the number of sampling locations contained in the Plan summarized below.

- NECR-1 sample locations have increased by one to include the concrete sampling location.
- One soil sample location has been added to NECR-2.

Laboratory testing will be performed on selected samples from these locations. Sample locations having the highest gamma emissions will be submitted to the laboratory for analytical tests listed in Tables 2.1, 2.2 and 2.3 of the Plan. Table 1 presents the number of locations and samples that will be submitted for laboratory analysis.

Area	Sampling Locations	Locations Analyzed	Samples Analyzed
NECR-1	16	5 ¹	9 ²
NECR-2	1	1	1 ³
Arroyo Adjacent to NECR-1	4	2	4
Non-economic Material Storage Area	4	2	4
Background	10	2	4

Notes:

1. Includes four soil sampling locations and one concrete sampling location
2. Concrete sample will be submitted for Radiochemistry (Table 2.3 of the Plan) only
3. NECR-2 sample will not be analyzed for agronomic properties (Table 2.1 of the Plan)

All samples from all sample locations will be field characterized as described in the Plan. A split from all samples collected will be stored by UNC and will be available for laboratory analysis, if required.

8. **Comment:** There needs to be a clear understanding as to what a background site should represent for this workplan and why the sites chosen meet the criteria for a background area. This should be added to the workplan.

As stated in Section 3.1, background sites should be representative of sites not affected by the past mining practices to the extent practicable. The background area west of the permit area has been disturbed by activities associated with mine site, so may not provide an adequate background site for the study. If UNC wants to use this area, then UNC must provide an explanation of the limited impact of mining on this area.

The proposed soil sample background area east of mine shaft NECR-2 is not an appropriate location. It is located downwind of mine shaft NECR-2. UNC shall provide an alternate location less likely to be affected by windblown sediments.

Response: UNC proposes to use the background areas shown in Figure 2. UNC proposes the use of the west background area and a new background area to the northwest of the permit area for determination of background levels and the exclusion of the background area located east of the NECR-2 shaft from the background analysis.

The west background area is located outside the permit boundary, upwind and upstream of mine disturbances. It is important to have one background area that is in a drainage channel environment because the gamma survey will be conducted in a similar setting as discussed in the response to Comment 10. Similar origins of the soils are needed to adequately compare the survey results to natural conditions. Mine disturbance in the vicinity of this background area include the former boneyard and non-economic material storage area located north and east of the background area and vent hole 10 located north of the area. No mine disturbances are located upstream or upwind of this background area.

A newly proposed background area is located to the northwest of the permit area. This area would replace the background area located east of the NECR-2 shaft. This background area is expected to have limited depth of soils overlying sandstone formations. For this reason, UNC proposes that soil samples be collected to the sandstone contact or four feet, whichever is shallower. Where soil depth is greater than two feet, two composite samples will be collected, 0 to 2 feet and 2 feet to termination depth. Where less than two feet of soil is present, a single composite sample will be collected.

9. Comment: UNC shall include structures such as foundations in the gamma survey in order to adequately characterize any material proposed for on-site disposal. Characterization is a requirement for on-site disposal under the New Mexico Solid Waste Regulations.

Response: In the Plan, UNC proposed to omit gamma ray exposure survey locations located on foundations and other structures. These locations will be included in the gamma ray exposure survey. The survey will be performed on a 50 foot grid, as presented in the Plan, with all locations surveyed. The material at the survey point (non-economic material, concrete, debris, etc.) will be recorded during the survey. Gamma exposure rate measurements will also be made at the concrete sample location discussed in Comment 3.

UNC notes that for construction debris, the New Mexico Solid Waste regulations (NMAC 20.9.1.400.A.2.d) require an inspection plan to detect and prevent the onsite disposal of regulated hazardous and unauthorized waste. Concrete is neither a listed hazardous waste nor does it exhibit hazardous characteristics. Characterization of this material is not a requirement. All Closeout activities, including foundation removal and burial, will be performed under the direct inspection of a MWH representative.

10. Comment: Material from NECR-1 has eroded into the unnamed arroyo on the northeast side of the permit area and has potentially been transported off the permit boundary to the north. Under 19.10.1.7(A)(3) "affected area" means the area outside the permit area where the land surface, surface water, ground water or air resources are impacted by mining operations within the permit area. A gamma ray exposure survey, as outlined in Section 3.2, included in the unnamed arroyo, will provide data to delineate the extent of potential material transport. The survey may be terminated at the

confluence with Pipeline arroyo, or before this point, if gamma levels are shown to be consistently at or below background levels.

Response: The gamma ray exposure survey will be extended down the arroyo to determine the extent of migration of material from NECR-1. The survey will be performed working downgradient beginning at the permit boundary. Shielded contact measurements will be made at 100 foot intervals at the center of the bottom of the arroyo. Shielded contact measurements provide specific data on gamma emissions from material directly under the shield. Shielded one-meter and unshielded measurements are influenced by emissions from the surrounding terrain and not specifically from material located in the arroyo. The survey will continue downgradient until three consecutive measurements are at or below background levels or until the confluence with the Pipeline Arroyo, whichever comes first.

11. **Comment:** UNC should correct the second sentence referring to the "St. Anthony Mine".

Response: Where "the St. Anthony's Mine" is referenced in Section 5.0 shall be replaced with "NECR".

12. **Comment:** Personnel are listed for all of the key jobs except for the radiation safety officer. Please identify the radiation safety officer.

Response: Max Chischilly, an UNC employee, will perform the duties of Radiation Safety Officer.

13. **Comment:** No comment provided.

14. **Comment:** Please correct the text that is apparently missing in this section. Currently the first paragraph of this section reads "...and a description of the to be characterized...".

Response: Section 5.1.3 shall be corrected to state, "Background information for the Northeast Church Rock project and a description of the work to be performed under this plan are provided in Section 1.0 of this document."

15. **Comments:** Analysis of nitrates and organic carbon require that the samples be placed in coolers containing ice and samples be protected from direct sunlight in the field. Please add this procedure to this section.

Response: All soil samples will be collected in sealed plastic bags and placed in coolers containing ice. Prior to placement in coolers, samples will be protected from direct sunlight to the extent possible. Split samples to be stored by UNC will be placed in a secure refrigerator in the UNC office building.

16. **Comments:** MMD recommends that UNC review the comments from the Navajo Nation EPA (NNEPA) that were forwarded to UNC in January. Comments regarding the Site Health and Safety Plan were included in the NNEPA document.

*Mr. Terence Foreback, P.E.
New Mexico Mining and Minerals Division
March 15, 2005
Page 6*

Response: UNC has reviewed the NNEPA comments on the Site Health and Safety Plan. UNC does not recommend any modifications to the Site Health and Safety Plan.

If you have any questions, please do not hesitate to contact me at (970) 879-6260.

Sincerely,



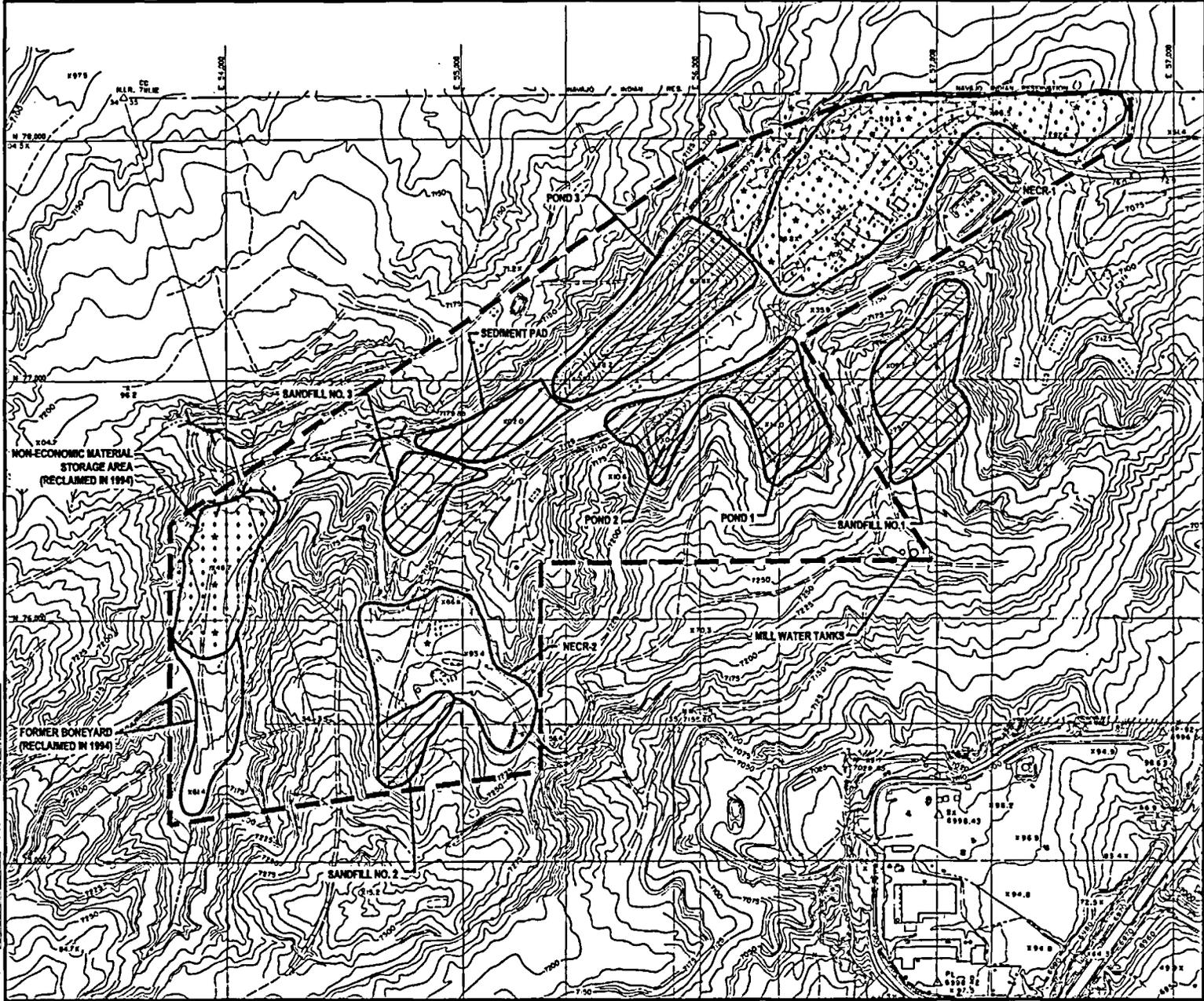
James Thompson
Associate Engineer
MWH

JET:hai

cc: Larry Bush, UNC
Roy Blickwedel, GE CEP
Jerry Schoepner, NMED
Al Pasteris, NMED

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80477

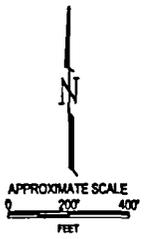
Tel: 970 879 6260
Fax: 970 879 9048



LEGEND

- PERMIT BOUNDARY
- FACILITY BOUNDARY (Approx.)
- [Hatched Box] NRC REGULATED AREAS RECLAIMED UNDER JURISDICTION OF NRC RADIOACTIVE MATERIAL LICENSE SUA-1475.
- [X Symbol] CULVERT
- [Star] GRID POINTS FOR GAMMA RAY EXPOSURE RATE MEASUREMENT
- [Star] SOIL SAMPLE AND GAMMA RAY EXPOSURE RATE MEASUREMENT LOCATION
- [Square] CONCRETE SAMPLE AND GAMMA RAY EXPOSURE RATE MEASUREMENT LOCATION

NOTE:
 1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED AUGUST 1998 BY KOOGLE & POULS ENGINEERING, INC.



10000 PLUS THE LARGE SCALE PROJECT NUMBER, 5000000

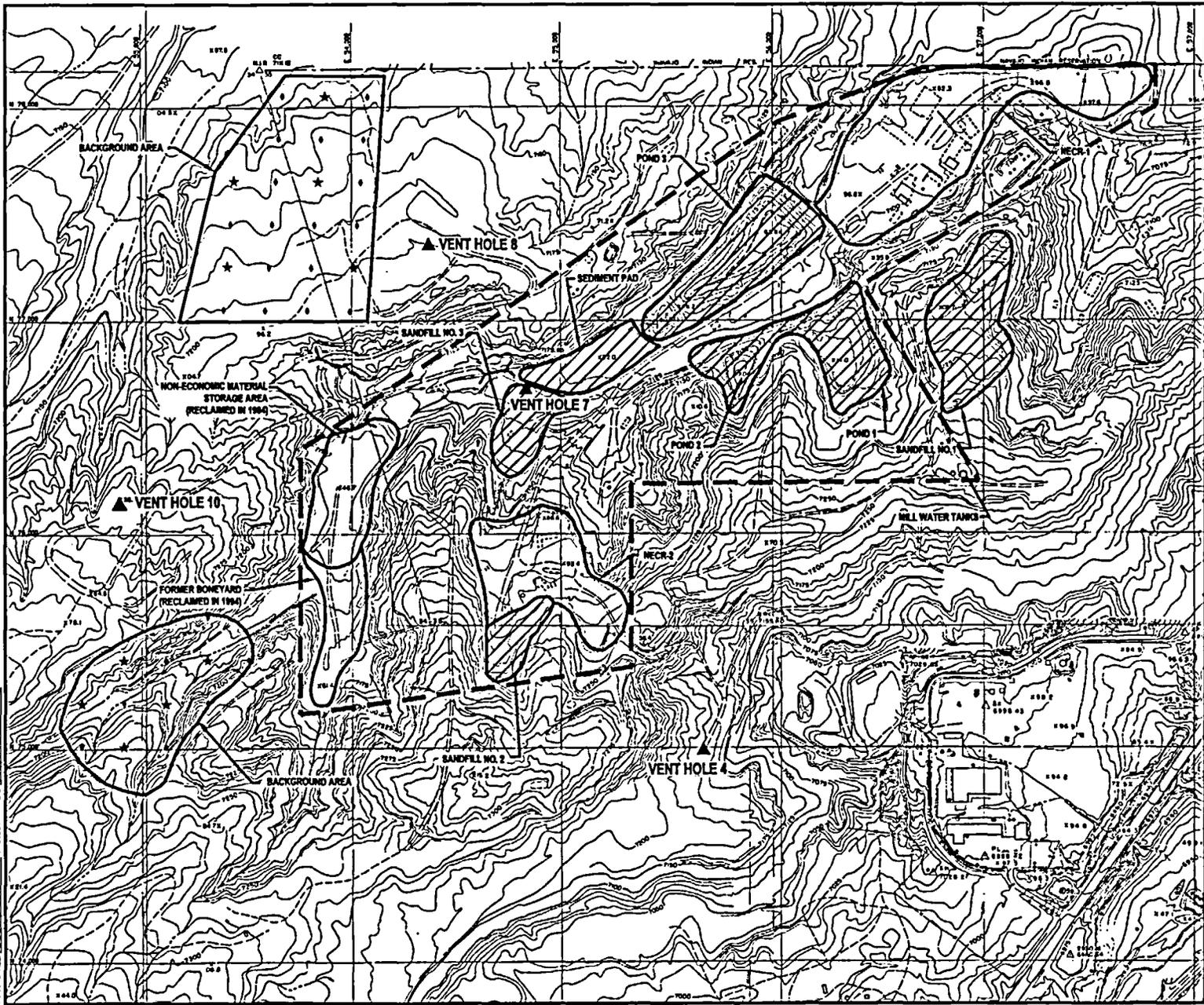
1	Author/In Charge	JWP	J.P.	J.P.	J.P.	J.P.
2	Checked by	JWP	J.P.	J.P.	J.P.	J.P.
3	Drawn by	JWP	J.P.	J.P.	J.P.	J.P.
4	Reviewed					

UNC P.O. BOX 3077
 Gallego, New Mexico 87335-3077

PROJECT: **NECR MATERIALS CHARACTERIZATION PLAN**
 DRAWING TITLE: **SAMPLING LOCATIONS**

MWH

Sheet	7	Of	7	Drawn
SCALE:				FIGURE NO.
As Shown				1



LEGEND

- PERMIT BOUNDARY
- FACILITY BOUNDARY (Approx.)
-  NRC REGULATED AREAS RECLAIMED UNDER JURISDICTION OF NRC RADIOACTIVE MATERIAL LICENSE SUA-1475.
-  CULVERT
-  VENT HOLE
-  GRID POINTS FOR GAMMA RAY EXPOSURE RATE MEASUREMENT
-  SOIL SAMPLE AND GAMMA RAY EXPOSURE RATE MEASUREMENT LOCATION

NOTE:
 1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED AUGUST 1996 BY KOOGLE & POULS ENGINEERING, INC.



PROJECT NUMBER: 8521000000
 DRAWING TITLE: BACKGROUND AREAS

NO.	REVISION	DATE	BY	CHECKED BY



PROJECT: **NECR MATERIALS CHARACTERIZATION PLAN**

DRAWING TITLE: **BACKGROUND AREAS**

 **MWH**

Sheet OF Sheets
 SCALE: AS SHOWN
 DRAWING NO.



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

Bill Richardson
Governor
Joanna Prukop
Cabinet Secretary

Bill Brancard
Director
Mining and Minerals Division

February 15, 2005

Mr. Larry Bush
UNC Holdings 2
PO Box 3077
Gallup, NM 87305

**RE: NECR Materials Characterization Work Plan, dated December 2004, Permit
MK004RE**

Mr. Bush,

The Mining and Minerals Division (MMD) has completed a technical review of the December 2004 Materials Characterization Work Plan (Plan) that MMD requested in the November 10, 2004 MMD letter to United Nuclear Corporation (UNC). The MMD finds that the Plan adequately addresses the MMD requirements from the November 10th letter with the following numbered conditions and comments:

1. Section 1.1 Site Background

Update the surface ownership information in this section of the Plan. The ownership information is not consistent with other documentation received by MMD from UNC and from the Navajo Nation. The document *Comments to NECR Site Assessment and Closeout Plan* sent to MMD from UNC stated:

Figure 2 shows land ownership in and around the permit area. The majority of the permit area is in Section 35, Township 17 North, Range 16 West and is held in trust by the Bureau of Indian Affairs (BIA) for the Navajo Reservation. The portion of the permit area located in Section 34, Township 17 North, Range 16 West is on a patented UNC mining claim. The remainder of the permit area is located in Section 3, Township 16 North, Range 16 West and is owned by the Navajo Indian Reservation. BLM does not have any land holdings within the permit boundary. BLM land holdings are located in Section 34, west of the permit boundary. All of the permit area is located within McKinley County.

Information from the Navajo Nation Land Office indicates that:

Section 3, Township 16 North, Range 16 West is Navajo trust land.
The south half, south half of Section 35, Township 17 North, Range

16 West is Navajo trust land. The south half, south half of Section 34, Township 17 North, Range 16 West is Bureau of Land Management Land. All of Section 34, except for lots 1-4 and the south half, south half of Township 17 North, Range 16 West is Navajo trust land. All of Section 35, except lots 1-4 and the south half, south half of Township 17 North, Range 16 West is Navajo trust land. The Bureau of Indian Affairs holds the surface ownership of Navajo trust land in trust.

Also, provide documentation that a portion of the permit area located in Section 34, Township 17 North, Range 16 West is on a patented UNC mining claim.

2. Section 1.1 Site Background

Please rewrite the last sentence of the second paragraph to state that UNC has adequately removed remaining byproduct material from the mine site, as stated in a memorandum from NRC, dated October 31, 1989. The use of the term, *released for unrestricted use* should be removed, since it was not actually stated by NRC in the October 31, 1989 memorandum.

3. Section 2.1 Sample Collection

UNC shall submit a plan to sample the concrete foundation material that will be buried on site for Radiochemical analytes that are listed on Table 2.3. This is in addition to the gamma ray exposure survey requested in comment number 9 to Section 3.2. Sampling should be proposed for the broken material prior to disposal.

4. Section 2.1 Sample Collection

Section 2.2.2 NECR-2 of the Closeout Plan submitted by UNC states that NECR-2 consists primarily of native soils. One additional soil sample should be added in the NECR-2 location to verify that the material used for the NECR-2 pad was non-contaminated material.

5. Section 2.1 Sample Collection

The last sentence of the second paragraph states that soils will be visually classified in accordance with ASTM D2488. All soils classification shall be done in accordance with USDA methods for both visually inspected and laboratory techniques. A qualified soil scientist familiar with the soils in the area should classify the soils.

6. Section 2.1 Sample Collection

UNC proposes to composite soil samples from 0'-2' and 2'-4' depth intervals. Material from the waste rock pile may be required to be moved from the existing sloped areas to form a 3:1 slope for final closeout. Characterization of this material must be completed in order to ensure proper final placement. This may require the use of alternate soil collection equipment such as direct push technology or a hollow stem auger drill rig. UNC shall propose a plan for sampling the material on the outcrops of the waste rock and non economic piles:

7. Section 2.1 Sample Collection

The number of samples and sampling locations shall be corrected with the addition of sampling locations required by the conditions contained in this approval and the comments contained in the correspondence from the New Mexico Environment Department in their February 3, 2005 correspondence to UNC.

8. Section 2.1 Sample Collection and Section 3.1 Background level Verification

There needs to be a clear understanding as to what a background site should represent for this workplan and why the sites chosen meet the criteria for a background area. This should be added to the workplan.

As stated in Section 3.1, background sites should be representative of sites not affected by the past mining practices to the extent practicable. The background area west of the permit area has been disturbed by activities associated with mine site, so may not provide an adequate background site for the study. If UNC wants to use this area, then UNC must provide an explanation of the limited impact of mining on this area.

The proposed soil sample background area east of mine shaft NECR-2 is not an appropriate location. It is located downwind of mine shaft NECR-2. UNC shall provide an alternate location less likely to be affected by windblown sediments.

9. Section 3.2 Gamma Ray Exposure Survey

UNC shall include structures such as foundations in the gamma survey in order to adequately characterize any material proposed for on-site disposal. Characterization is a requirement for on-site disposal under the New Mexico Solid Waste Regulations.

10. Section 3.2 Gamma Ray Exposure Survey

Material from NECR-1 has eroded into the unnamed arroyo on the northeast side of the permit area and has potentially been transported off the permit boundary to the north. Under 19.10.1.7 (A) (3) "affected area" means the area outside of the permit area where the land surface, surface water, ground water or air resources are impacted by mining operations within the permit area. A gamma ray exposure survey, as outlined in Section 3.2, included in the unnamed arroyo, will provide data to delineate the extent of potential material transport. The survey may be terminated at the confluence with Pipeline Arroyo, or before this point, if gamma levels are shown to be consistently at or below background levels.

11. Section 5.0 Quality Assurance Project Plan

UNC should correct the second sentence referring to the "St. Anthony Mine".

12. Section 5.1.1 Project Organization

Personnel are listed for all of the key jobs except for the radiation safety officer. Please identify the radiation safety officer.

14. Section 5.1.3 Problem Definition and Background

Please correct the text that is apparently missing in this section. Currently the first paragraph of this section reads "...and a description of the to be characterized....".

15. Section 5.2.1 Sample Handling and Custody Requirements

Analysis of nitrates & organic carbon require that the samples be placed in coolers containing ice and samples be protected from direct sunlight in the field. Please add this procedure to this section.

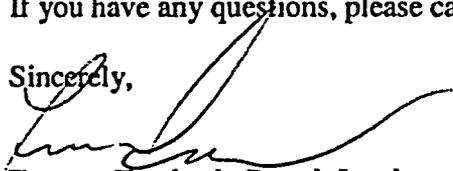
16. Appendix A Site Health and Safety Plan

MMD recommends that UNC review the comments from the Navajo Nation EPA (NNEPA) that were forwarded to UNC in January. Comments regarding the Site Health and Safety Plan were included in the NNEPA document.

Please provide a revised Material Characterization Work Plan by March 15, 2005.

If you have any questions, please call me at (505)-476-3432.

Sincerely,



Terence Foreback, Permit Lead
Mining Act Reclamation Program

Attachments

cc: Karen Garcia, Bureau Chief, Mine Regulatory Program
Holland Shepherd, Program Manager, MARP
Mary Ann Menetrety, Mining Act Team Leader, GWQB
Roy Blickwedel, GE Corporate Environmental Programs
Jerry Schoeppner, GWQB
Arlene Luther, Navajo Nation EPA
Al Pasteris, Surface Water Bureau
Rachel Jankowitz, NMGF
File