NDOT NOA & ERIONITE COMMERCIAL IMPORT MATERIAL CLEARANCE GUIDANCE

JULY 2019
Source of Supply and Quality Requirements. Rock, soil, and other mineral material (Materials) obtained or produced for Nevada Department of Transportation (NDOT) projects, brought into NDOT laboratories for testing, or placed within NDOT right of way shall have less than 0.25% asbestos (NOA) or erionite.

Materials include, but are not limited to: borrow embankment, selected borrow embankment, decorative rock, decorative boulders, granular backfill, drain rock, base aggregates, shoudering material, aggregates for bituminous mixtures, aggregates for concrete and Portland cement products, rip rap, rip rap bedding, and any other similar type of rock, soil, or mineral material required to construct the project.

Materials that are exempt from this guidance and required testing include: landscape mulch or rock that will not be subjected to regular vehicular traffic after placement and are less than 1,000 tons or 800 cubic yards for the entire project; boulders that will be placed unaltered at the project site; oil coated recycled asphalt; and recycled concrete with a known source where an AHERA (Asbestos Hazardous Emergency Response Act) demolition survey was performed before demolition.

The health risks of NOA and erionite are not well defined at this time. The EPA and other agencies continue to fund research into these subjects. As further research progresses NDOT will continue to revise and update the levels of NOA and erionite that are acceptable. This document was developed for NDOT’s use only to evaluate potential NOA and erionite effects on their projects and personnel. Anyone relying on this information for other uses does so at their own risk.

NDOT environmental services division has set the instructions for approving Materials in this document. Page 2 is an approval flow chart to assist the site operator in choosing the best approval method for their circumstances. Pages 3 through 7 describe the approval by annual certification with a professional geologist method. Pages 7 through 9 describe the approval by volume sampling or one time sampling method. Page 10 includes references. Appendix A includes the standard laboratory preparation and analysis techniques. Appendix B includes a copy of the checklist for volume sampling for the specified approval method. Appendix C includes a glossary of terms used throughout the document.

Materials will not be allowed on a project or within NDOT laboratories until the process has been completed and the required submittal information has been reviewed and approved by the NDOT NOA & erionite coordinator. The submittal shall be technically and legally defensible. The submittal information should be compiled and given to the NDOT NOA & erionite coordinator proactively. Once a submittal is approved, a document will be provided from the NDOT NOA & erionite coordinator stating the Materials approval length & stipulations. This document should be provided to the contractor, resident engineer, or NDOT laboratory personnel before they will accept Materials for project use or NDOT laboratory testing.

The processes described in this document are in place to prevent NDOT employees, construction workers, and the general public being exposed to NOA & erionite. NDOT is not responsible for the safety of non-NDOT personnel. It should be noted that even if high levels of NOA or erionite are detected in supplied Materials seeking approval, other steps can be taken to allow Materials from suspect pits to be used. Different solutions will be determined on a case by case basis and this should not deter a commercial pit owner/operator from submitting material for acceptance by NDOT.

For all submittals, questions about this document, or questions about NDOT NOA & erionite procedures please contact Austin Smith, email asmith@dot.gov.nv, 775-888-7691.
Approval by annual certification with a professional geologist

A: GEOLOGICAL EVALUATION & REPORT

The evaluation shall be conducted by a Professional Geologist (PG) meeting the standards set in Nevada Revised Statue (NRS) 514.005. The evaluation should include literature review as well as a site visit. The report written by the PG shall include the following information:

1. Company (The owner/operator of the site or source area)
2. Date
3. Site description
   a. Location/name
   b. Address (City, state, county)
   c. Coordinates obtained by a GPS unit that is accurate to 3 meters
   d. Study area (size)
   e. A map of the site (Including latitude/longitude coordinates for site boundary corners)
4. Geologic setting
   a. Age
   b. Bedrock/soil units
   c. Alluvium
   d. Other relevant geologic, geographic, or hydraulic information
5. Evaluation and supporting rationale from PG for the potential of the site to contain NOA or erionite and a determination if sampling is required based on this information
6. Qualifications of the PG preforming the study
7. Appendices
   a. Site and field survey photographs
   b. Supporting geologic mapping
   c. Field survey notes
   d. Other relevant information

B: NDOT REVIEW

Once NDOT receives a geology report for a site written by the PG it will be reviewed. NDOT will review the report for accurate information and make sure geologic interpretations are consistent with previous NOA & erionite findings in Nevada. If both the PG and NDOT reviewer concur that no testing is required, the material will be certified for a year. If the PG or NDOT believes the material needs to be tested, proceed to the next section, otherwise look further in the document for annual review and recertification instructions.

C: FIELD SAMPLING PLAN & SAMPLING

If sampling is required, the PG must determine whether to sample the source material or the product (products include stockpiles, surge piles, belt samples, and recycled materials). A field sampling plan shall be completed by the PG and submitted to NDOT for review. This review is to make sure samples are collected as described in this document and best represent the site conditions. Submitting samples to private laboratories as well as providing the split samples to NDOT can be time consuming and it’s important that sampling is done correctly to avoid resampling which causes delays to the project and unnecessary costs to the material supplier. Once the field sampling plan is approved by NDOT the PG may proceed with sampling, sending the samples into the private lab, and sending split samples to NDOT as applicable. The field sampling plan requirements will depend on whether source sampling or product sampling is performed. Please read the subsections below for sampling details:
1. Source Sampling

Resource area sampling shall use an unbiased sampling scheme unless there are non-homogeneous areas identified such as outcrops or depositional features. The non-homogeneous areas will require targeted sampling.

Personnel shall have field experience with soil and solid matrix sampling, composite sampling, and decontamination of field equipment. The resource sampling team shall include a PG per NRS 514.005; and a Certified Environmental Manager (CEM) per NRS 459.485 and 459.500; and Nevada Administrative Code (NAC) 459.9704, 459.972, and 459.9724.

The following is intended as a guideline for developing a Field Sampling Plan. It is the responsibility of the PG and CEM to develop a Field Sampling Plan that fully characterizes the source both vertically and horizontally. The Field Sampling Plan shall contain the following information:

   a. Site description
   b. Sampling rational
   c. Sample locations (Include map)
   d. Sampling equipment
   e. Type and amount of samples to be collected
   f. Analytical methods
   g. Quality control methods
   h. Decontamination procedures
   i. Personnel (Qualifications and/or certifications)

Source sampling instructions

1. The number and location of samples should be determined by the PG as adequate to characterize the resource being mined. Surface and subsurface samples can be collected as deemed appropriate. If evidence of intrusion of other rock types, thermal alteration, or other differences in mineral composition is observed, additional samples shall be obtained of the different materials.

2. Between 5 and 30 aliquots shall be collected for each composite sample. The composite samples can be collected from boreholes or excavated pits. Aliquots must adequately represent the vertical and horizontal extent of the areas being evaluated.

3. Each composite sample shall weigh approximately 2 kilograms (4.4 pounds). 1 kilogram for the laboratory and 1 kilogram to be delivered to NDOT for possible quality assurance (QA) analysis. See section D of “approval by annual certification with a professional geologist” for alternatives to supplying a split sample to NDOT.

4. Samples will be delivered to the laboratory under chain-of-custody documentation as outlined in ASTM D4840 (latest version).

2. Product Sampling

As an alternative to source sampling the PG may evaluate the product. The PG will ensure the samples collected are representative of the material that will be delivered to the project site and other future sites. The field sampling plan shall contain the following information:

   a. Site description
   b. Product type that is being evaluated
   c. Diagram of facility
   d. Sampling rational
   e. Sample locations (Identify area, i.e., storage pile #)
Product sampling stockpile and surge pile instructions

1. Random aliquots shall be chosen from all accessible areas of the stockpile. For every 15,000 cubic yards (CY) of aggregate, 1 composite sample shall be collected for analysis and shall be composed of not less than 5 randomly selected aliquots. The aliquots shall be combined into one composite sample for analysis. Each sample shall weigh approximately 2 kilograms (4.4 pounds). 1 kilogram for the laboratory and 1 kilogram to be delivered to NDOT for possible QA analysis. See section D of “approval by annual certification with a professional geologist” for alternatives to supplying a split sample to NDOT.

2. Samples can be collected from stockpiles or surge piles as outlined in ASTM D75/D75M (latest edition). As an alternative, an insertion tube or hand/machine operated auger can be used to collect samples from the stockpiles. Insertion tubes should contain an outside diameter of 2 to 5 inches. Insertion tubes or augers will be inserted at least 1 foot into the pile.

3. Each aliquot of material collected shall be placed in an appropriate sized container (5-gallon bucket or bowl) for combining with the remaining aliquots. After all aliquots are collected the composite samples will be transferred to an appropriate sample container for delivery to the laboratory and NDOT. Proper chain-of-custody documentation is required as outlined in ASTM D4840 (latest version).

4. Sampling frequency shall be 1 sample per 15,000 CY for the first 75,000 CY for a total of 5 samples. If these samples are less than 0.25% NOA & erionite then 1 sample per 50,000 CY for the next 100,000 CY will be collected. If all samples collected indicate less than 0.25% NOA & erionite the supplier may request that no additional sampling will be required for this product. NDOT will evaluate these requests on a case by case basis and reserves the right to request additional sampling.

Product sampling belt sample instructions

1. Belt Samples can be collected as outlined in ASTM D75/D75M. A minimum of 5 randomly selected aliquots shall be collected. The collection shall take place over a minimum of two days of operation. The aliquots shall be of equal size. Aliquots shall be stored in a secure area to avoid contamination or tampering before blending. The aliquots shall be combined into one composite sample for analysis. Each sample shall weigh approximately 2 kilograms (4.4 pounds). 1 kilogram for the laboratory and 1 kilogram to be delivered to NDOT for possible QA analysis. See section D of “approval by annual certification with a professional geologist” for alternatives to supplying a split sample to NDOT.

2. Proper chain-of-custody documentation is required as outlined in ASTM D4840 (latest version).

3. Sampling frequency shall be 1 sample per 15,000 CY for the first 75,000 CY for a total of 5 samples. If these samples are less than 0.25% NOA & erionite then 1 sample per 50,000 CY for the next 100,000 CY will be collected. If all samples collected indicate less than 0.25% NOA & erionite the supplier may request that no additional sampling
will be required for this product. NDOT will evaluate these requests on a case by case basis and reserves the right to request additional sampling.

**Product sampling recycled materials instructions**

1. Sampling of crushed concrete shall be conducted in accordance with the methodology described for stockpiles above. One sample shall be collected for every 25,000 CY. Since recycled materials are not homogenous testing at this rate is required for all material supplied to the project. If the supplier of the recycled concrete knows the source of the material and an AHERA (Asbestos Hazardous Emergency Response Act) demolition survey was performed before demolition on the concrete, results from this survey can be used in place of sampling the recycled concrete.

2. Recycled asphalt is oil coated and has a low probability of releasing NOA or erionite fibers into the air, and therefore it will be exempt from testing.

3. For any other recycled material, due to the potential variability of the materials, the required sampling frequency and methodology will be determined on a case by case basis. A request for acceptance shall be submitted to NDOT prior to sampling and testing.

**D: SAMPLE TESTING PROCEDURES, NDOT SPLIT SAMPLES FOR QA ANALYSIS, AND ALTERNATE LABORATORY METHODS**

All samples taken should be prepared and analyzed by the chosen laboratory as described in Appendix A of this document. Some labs are more proficient at detecting these minerals and familiar with NDOT procedures. Please contact NDOT if you require lab recommendations.

As mentioned in the previous section, any time sampling is performed a split sample will need to be provided to NDOT for QA analysis for every composite sample taken. These samples are to be mailed to the following address:

Austin Smith  
Nevada Department Of Transportation  
1263 S. Stewart St.  
Carson City, NV 89712

QA analysis can take up to 45 calendar days once the sample is received before the report approval is granted. If the pit operator wishes to avoid this potential delay they simply must follow the instructions in NDOT’s “Alternate Laboratory Methods” document. This document can be provided upon request by contacting asmith@dot.nv.gov and pit operators with time constraints are encouraged to do so.

**E: RESULTS, REPORTING, AND SITE CERTIFICATION**

Once results have returned from both the private lab and NDOT (if a split sample was sent in), the PG will update the geological report to include sampling analytical details, a discussion of the laboratory results, and any final conclusions. The PG will then send the finalized report, the lab results, the chain of custody documentation, and any additional information to NDOT for final approval.

As stated previously in the document, if high levels of NOA or erionite are detected in supplied Materials seeking approval, other steps can be taken to allow Materials from suspect pits to be used. Different solutions will be determined on a case by case basis and this should not deter a commercial pit owner/operator from submitting material for acceptance by NDOT.

The final submittal will be reviewed and approved by NDOT. NDOT will email a certificate stating the site name, operator, and what date the certification expires. This document should be provided to the contractor,
resident engineer, or NDOT laboratory personnel before they will accept Materials for project use or NDOT laboratory testing.

F: ANNUAL RECERTIFICATION

A PG will review the report and site conditions before the previous certificate lapses. A new report is not necessary; the PG only needs to evaluate if there are any changes in the site geology and verify that the original recommendations have not changed. If there are no changes a statement should be sent to NDOT by the PG and the site will be re-certified for another year. NDOT reserves the right to require additional testing based on site conditions.

**Approval by volume sampling or one time sampling**

A: COMPLETE THE CHECKLIST FOR VOLUME SAMPLING

This approval method does not require a written report by a professional geologist, but is more constrained by testing. A responsible party for the site seeking approval will fill out the "checklist for volume sampling" shown in Appendix B of this document. A Microsoft Word version of this file with fillable fields can be provided upon request. All information is required and one form must be completed for each sample taken. All sampling will be taken from products to be used at the site on NDOT projects. The number of samples required depends on the volume of material being imported for use on an NDOT project. These volume intervals are described in the sampling details further below. Once a checklist is filled out for each anticipated sample submit them to NDOT for review.

B: NDOT REVIEW

Once NDOT receives the checklist for volume sampling signed by a responsible party it will be reviewed. This review is to make sure samples will be collected as described in this document and best represent the site conditions and materials to be imported for use on NDOT projects. Submitting samples to private laboratories as well as providing the split samples to NDOT can be time consuming and it's important that sampling is done correctly to avoid resampling which causes delays to the project and unnecessary costs to the material supplier. Once the checklist is approved by NDOT the responsible party may proceed with sampling, sending the samples into the private lab, and sending split samples to NDOT as applicable.

C: PRODUCT SAMPLING

Approval by volume sampling or one time sampling requires sampling the products to be used on NDOT projects. The responsible party will follow the sampling instructions below and update the already completed checklists if any changes occur such as locations or number of aliquots. Please find the applicable product section below for sampling details:
Product sampling stockpile and surge pile instructions

1. Random aliquots shall be chosen from all accessible areas of the stockpile. For every 15,000 cubic yards (CY) of aggregate, 1 composite sample shall be collected for analysis and shall be composed of not less than 5 randomly selected aliquots. The aliquots shall be combined into one composite sample for analysis. Each sample shall weigh approximately 2 kilograms (4.4 pounds), 1 kilogram for the laboratory and 1 kilogram to be delivered to NDOT for possible QA analysis. See section D of “approval by volume sampling or one time sampling” for alternatives to supplying a split sample to NDOT.

2. Samples can be collected from stockpiles or surge piles as outlined in ASTM D75/D75M (latest edition). As an alternative, an insertion tube or hand/machine operated auger can be used to collect samples from the stockpiles. Insertion tubes should contain an outside diameter of 2 to 5 inches. Insertion tubes or augers will be inserted at least 1 foot into the pile.

3. Each aliquot of material collected shall be placed in an appropriate sized container (5-gallon bucket or bowl) for combining with the remaining aliquots. After all aliquots are collected the composite samples will be transferred to an appropriate sample container for delivery to the laboratory and NDOT. Proper chain-of-custody documentation is required as outlined in ASTM D4840 (latest version).

4. Sampling frequency shall be 1 sample per 15,000 CY for the first 75,000 CY for a total of 5 samples. If these samples are less than 0.25% NOA & erionite then 1 sample per 50,000 CY for the next 100,000 CY will be collected. If all samples collected indicate less than 0.25% NOA & erionite the supplier may request that no additional sampling will be required for this product. NDOT will evaluate these requests on a case by case basis and reserves the right to request additional sampling.

Product sampling belt sample instructions

1. Belt Samples can be collected as outlined in ASTM D75/D75M. A minimum of 5 randomly selected aliquots shall be collected. The collection shall take place over a minimum of two days of operation. The aliquots shall be of equal size. Aliquots shall be stored in a secure area to avoid contamination or tampering before blending. The aliquots shall be combined into one composite sample for analysis. Each sample shall weigh approximately 2 kilograms (4.4 pounds), 1 kilogram for the laboratory and 1 kilogram to be delivered to NDOT for possible QA analysis. See section D of “approval by volume sampling or one time sampling” for alternatives to supplying a split sample to NDOT.

2. Proper chain-of-custody documentation is required as outlined in ASTM D4840 (latest version).

3. Sampling frequency shall be 1 sample per 15,000 CY for the first 75,000 CY for a total of 5 samples. If these samples are less than 0.25% NOA & erionite then 1 sample per 50,000 CY for the next 100,000 CY will be collected. If all samples collected indicate less than 0.25% NOA & erionite the supplier may request that no additional sampling will be required for this product. NDOT will evaluate these requests on a case by case basis and reserves the right to request additional sampling.

Product sampling recycled materials instructions

1. Sampling of crushed concrete shall be conducted in accordance with the methodology described for stockpiles above. One sample shall be collected for every 25,000 CY.
Since recycled materials are not homogenous testing at this rate is required for all material supplied to the project. If the supplier of the recycled concrete knows the source of the material and an AHERA (Asbestos Hazardous Emergency Response Act) demolition survey was performed before demolition on the concrete, results from this survey can be used in place of sampling the recycled concrete.

2. Recycled asphalt is oil coated and has a low probability of releasing NOA or erionite fibers into the air, and therefore it will be exempt from testing.

3. For any other recycled material, due to the potential variability of the materials, the required sampling frequency and methodology will be determined on a case by case basis. A request for acceptance shall be submitted to NDOT prior to sampling and testing.

D: SAMPLE TESTING PROCEDURES, NDOT SPLIT SAMPLES FOR QA ANALYSIS, AND ALTERNATE LABORATORY METHODS

All samples taken should be prepared and analyzed by the chosen laboratory as described in Appendix A of this document. Some labs are more proficient at detecting these minerals and familiar with NDOT procedures. Please contact NDOT if you require lab recommendations.

As mentioned in the previous section, any time sampling is performed a split sample will need to be provided to NDOT for QA analysis for every composite sample taken. These samples are to be mailed to the following address:

Austin Smith  
Nevada Department Of Transportation  
1263 S. Stewart St.  
Carson City, NV 89712

QA analysis can take up to 45 calendar days once the sample is received before the report approval is granted. If the pit operator wishes to avoid this potential delay they simply must follow the instructions in NDOT’s “Alternate Laboratory Methods” document. This document can be provided upon request by contacting asmith@dot.nv.gov and pit operators with time constraints are encouraged to do so.

E: RESULTS, REPORTING, AND MATERIAL CERTIFICATION

Once results have returned from both the private lab and NDOT (if a split sample was sent in), the responsible party will send the finalized sample checklists, the lab results, the chain of custody documentation, and any additional information to NDOT for final approval.

As stated previously in the document, if high levels of NOA or erionite are detected in supplied Materials seeking approval, other steps can be taken to allow Materials from suspect pits to be used. Different solutions will be determined on a case by case basis and this should not deter a commercial pit owner/operator from submitting material for acceptance by NDOT.

The final submittal will be reviewed and approved by NDOT. NDOT will email their checklist which will include all the submittal information and a paragraph stating the approved volume of material, the material type, and any special stipulations. This document should be provided to the contractor, resident engineer, or NDOT laboratory personnel before they will accept Materials for project use or NDOT laboratory testing. Once this volume of material is used or another type of material is needed, more testing will be required based on the previously listed intervals following the same process.
References:


Appendix A
Solid Matrix Sample Preparation And Analysis
For NOA And Erionite
Solid-Matrix Sample Preparation and Analysis  
For NOA and Erionite  
February 11, 2019

The procedures below outline the steps to be applied to solid matrix samples such as soil and rock for the determination of the presence and quantity of natural occurrences of asbestos (NOA).

1. Sampling
   1.1 Samples submitted to the laboratory should be approximately 1 kilogram (2.2 lbs.) in size.
   1.2 Wide mouth plastic or glass containers with screw top lids or heavy duty ziplock bags (if double bagged) are acceptable.

2. Initial Lab Preparation
   2.1 Samples submitted wet need to be dried in a drying oven at 90 degrees Centigrade prior to subsequent steps.
   2.2 If more than 1 kilogram (approximately a quart) of soil is submitted to the laboratory the samples should be homogenized prior to any further prep and analysis.
   2.3 Riffle splitting, Turbula Mixing and/or hand mixing may all be acceptable homogenization techniques depending on the sample.

3. Initial Visual and Stereomicroscopic Inspection
   3.1 Complete a low-magnification examination of the entire sample submitted (up to approximately 1 kilogram) by viewing multiple fields of view with a stereomicroscope.
   3.2 The sample should be probed by turning over pieces and breaking apart larger clumps.
   3.3 Record all observations such as overall homogeneity, color, and friability of components.
   3.4 If any suspect fibers are observed, attempt to identify them with PLM by making slide mounts in appropriate oils. Record the identity and approximate percentage of fibers identified in the sample.

4. Sample Preparation for NOA Analyses
   4.1 The entire sample should be homogenized prior to obtaining a representative sub-sample to be milled.
   4.2 Depending on the sample this homogenization may require some initial crushing to reduce the size of any rock/aggregate present (maximum size of individual particles prior to milling should be ½ inch).
   4.3 The sub-sample obtained should be milled to a nominal 250 micrometer (um) particle size.


6. Submit results to NDOT for review.

7. NDOT will select a certain percentage of samples to be reanalyzed for Quality Assurance (QA) purposes. If samples are selected for this purpose, approval of the material can be delayed by as much as 45 days. For alternative to QA analysis by NDOT refer to Section D of this guidance.
Appendix B
Checklist For Volume Sampling
Please fill out all fields

Operator:

Pit name: Pit address:

Pit PLSS description:

Anticipated sample date:

Anticipated or actual sample location:
  Latitude:
  Longitude:
  Type(s) of material:

Sample volume represented (Refer back to guidance for required intervals):

Sampling protocol & equipment:

Anticipated or actual number of aliquots in sample:

Laboratory analysis description (Refer back to guidance and either choose to provide a split sample to NDOT or perform the alternate laboratory methods):

I certify that the information supplied in this form is correct.

Type or Print Name:

Title and/or qualifications:

Phone Number & Email:

Signature of responsible professional or CEM:

____________________________

Date:

Please include field photos, field notes, and facility diagram with final submittal to NDOT.
Appendix C
Definitions
### DEFINITIONS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Aliquot:</td>
<td>A number of equal subsamples that make up a whole</td>
</tr>
<tr>
<td>CARB:</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>CEM:</td>
<td>Certified Environmental Manager, a person meeting the requirements of NRS 459.485 and 459.500; and, Nevada Administrative Code 459.9704, 459.972, and 459.9724.</td>
</tr>
<tr>
<td>EPA:</td>
<td>The United States Environmental Protection Agency</td>
</tr>
<tr>
<td>Erionite:</td>
<td>Erionite is a naturally occurring fibrous mineral that belongs to a group of minerals called zeolites. It usually is found in volcanic ash that has been altered by weathering and ground water. Erionite forms brittle, wool-like fibrous masses in the hollows of rock formations. Erionite has been classified as a Group 1 Carcinogen by the International Agency for Research on Cancer a subgroup of the World Health Organization</td>
</tr>
<tr>
<td>Import Material:</td>
<td>Rock, soil, and other mineral materials obtained or produced to construct Nevada Department of Transportation projects that are not contained within the project site or included in the contract Special Provisions. In other words, materials that are imported onto any project related area and do not come from a project identified Nevada Department of Transportation material source described in Subsection 106.02 of the Special Provisions</td>
</tr>
<tr>
<td>Materials:</td>
<td>Rock, soil, and other mineral products</td>
</tr>
<tr>
<td>LAA:</td>
<td>Libby Amphibole Asbestos a complex mixture of amphibole fibers—both mineralogically and morphologically. The mixture primarily includes winchite, richterite, and tremolite fibers with trace amounts of magnesio-riebeckite, edenite, and magnesio-arfvedsonite. These fibers exhibit a complete range of morphologies from prismatic crystals to asbestiform fibers (Meeker et al., 2003) (EPA, Toxicologic Review of Libby Amphibole Asbestos 2014)</td>
</tr>
<tr>
<td>NAC:</td>
<td>Nevada Administrative Code</td>
</tr>
<tr>
<td>NDOT:</td>
<td>Nevada Department of Transportation, Environmental Services Division, NOA/Erionite Branch</td>
</tr>
<tr>
<td>NOA:</td>
<td>Naturally Occurring Asbestos: a term used to describe asbestos minerals as natural components of soil or rock. Asbestos has been classified as a Group 1 Carcinogen by the International Agency for Research on Cancer a subgroup of the World Health Organization</td>
</tr>
<tr>
<td>NRS:</td>
<td>Nevada Revised Statute</td>
</tr>
<tr>
<td>PG:</td>
<td>Professional Geologist, a person meeting the requirements of Nevada Revised Statue 514.005</td>
</tr>
<tr>
<td>PLM:</td>
<td>Polarized light microscopy, is a microscopy technique in which a polarized light source is used</td>
</tr>
<tr>
<td>TEM:</td>
<td>Transmission electron microscopy, is a microscopy technique in which a beam of electrons is transmitted through a specimen to form an image</td>
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