

STATE OF COLORADO

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S. Laboratory Services Division
Denver, Colorado 80246-1530 8100 Lowry Blvd.
Phone (303) 692-2000 Denver, Colorado 80230-6928
Located in Glendale, Colorado (303) 692-3090

<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

Covenant Information:

Covenant ID RSNOT00002

Covenant Date 11/9/2011

Self Reporting

Media of Concern:

Surface Water:

Ground Water:

Air:

Soil:

Other:

Site Contact Information:

Owner Corp: Chemetall Foote Corporation

Contact Name: Ron A. France, President

Contact Address: 348 Holiday Inn Drive

Contact City: King Mountain

Contact State: NC

Contact Zip: 28086

Contact Phone: 704-734-2727

Contaminants of Concern:

Radium, Uranium, Vanadium

Property Restrictions:

- 1: Radon vent systems required in all habitable structures
- 2: No withdrawal of groundwater, except for temporary construction dewatering
- 3: No activities that may contribute to erosion of cover materials
- 4: Soil disturbing activities must be in accordance with the Materials Handling Plan
- 5: No activities that may impair groundwater monitoring well

Site Information:

ID: UM NAT

Name: Naturita Mill #3

Address: See legal description

City: Naturita

State: Co

Zip: 81422

Legal Description:

See Covenant

NATURITA #3

108°37'0"W

108°36'30"W

Featured Institutional Control



38°14'30"N

38°14'30"N

38°14'0"N

38°14'0"N



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RSNOT00002

108°36'30"W



**This property is subject to a
Notice of Environmental Use Restrictions
Imposed by the
Colorado Department of Public Health and Environment
Pursuant to Section 25-15-321.5, C.R.S.**

Notice of Environmental Use Restrictions

WHEREAS, Chemetall Foote Corp. is the owner of certain property commonly referred to as Naturita, Colorado, Processing Site, located in Township 46 North, Range 16 West, Sections 15 and 16, Montrose County, Colorado, more particularly described in Attachment A, attached hereto and incorporated herein by reference as though fully set forth (hereinafter referred to as "the Property"); and

WHEREAS, for purposes of indexing in the County Clerk and Recorder's office Grantor-Grantee index only, Chemetall Foote Corp. shall be considered the **Grantor**, and the Colorado Department of Public Health and Environment shall be considered the **Grantee**; nothing in the preceding clause shall be construed to create or transfer any right, title or interest in the Property; and

WHEREAS, pursuant to the Groundwater Compliance Action Plan, the Property is the subject of enforcement and remedial action pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, Public Law 95-604 (UMTRCA) and UMTRCA regulations at 40 CFR § 192, Subpart B; and

WHEREAS, the purpose of this Notice of Environmental Use Restrictions (hereinafter, "Restrictive Notice") is to ensure protection of human health and the environment by preventing unsafe exposure to residual contaminated soils and groundwater on the Property.

WHEREAS, Chemetall Foote Corp. has requested that the Colorado Department of Public Health and Environment ("the Department") issue this Restrictive Notice as provided in Article 15 of Title 25, Colorado Revised Statutes,

NOW, THEREFORE, the Department issues this Restrictive Notice pursuant to section 25-15-321.5. The Property described in Attachment A shall hereinafter be subject to the following requirements set forth in paragraphs 1 through 11, below, which shall be binding on Chemetall Foote Corp. and all parties now or subsequently having any right, title or interest in the Property, or any part thereof, and any persons using the land, as described herein. As used in this Restrictive Notice, the term OWNER means the then current record owner of the Property and, if any, any other person or entity otherwise legally authorized to make decisions regarding the transfer of the Property or placement of encumbrances on the Property, other than by the exercise of eminent domain.

- 1) Use restrictions:
 - a) No habitable structure shall be constructed on the Property without a radon mitigation system approved by the Department. As used in this Restrictive Notice, "habitable structure" means any building intended for, or capable of, human occupation for any use, including, but not limited to, residential, commercial, industrial, or recreational uses. "Habitable structure" does not include structures, such as storage sheds or well covers that are too small for human occupation, or are not sufficiently airtight to allow the accumulation of radon gas. The purpose of this restriction is to prevent human exposure to unsafe levels of radon gas that may accumulate in enclosed structures.
 - b) Drilling for, pumping or otherwise withdrawing groundwater from the uppermost alluvial aquifer is prohibited on the Property, except as provided below. The purpose of this restriction on groundwater use is to prevent human or environmental exposure to contaminated groundwater in, under, or about the Property that is impacted from historic operations of the Naturita Mill. Drilling for, pumping or otherwise withdrawing groundwater from the uppermost alluvial aquifer is permissible under the following circumstances:
 - i) temporary construction dewatering in accordance with the provisions of the Materials Handling Plan attached hereto as Attachment B, as such plan may be amended from time to time by the Department; and
 - ii) monitoring and remedial wells installed by the U.S. Department of Energy, in connection with its ongoing, approved remedial activities at the Property, and wells installed by the U.S. Geological Service for research purposes.
 - c) Activities that may cause or contribute to the erosion or deterioration of the cover material placed on the Property, or that may impair any engineering control constructed or installed on the Property, are prohibited. The purpose of this restriction is to prevent human exposure to buried radioactive contamination on the Property by protecting the cover and engineered structures installed as part of the remedial action on the Property.
 - d) Tilling, excavation, grading, construction, and any other activity that disturbs the ground surface are prohibited on the Property, except in compliance with the attached Materials Handling Plan. The purpose of this restriction is to prevent unsafe human exposure to buried radioactive contamination on the Property when conducting soil-disturbing activities.
 - e) Activities that may damage any monitoring, remedial or research wells installed by the U.S. Department of Energy or the U.S. Geological Survey on or about the Property, or interfere with the maintenance, operation, or monitoring of said wells, are prohibited.

- 2) Modifications: This Restrictive Notice runs with the land and is perpetual, unless modified or terminated pursuant to this paragraph. OWNER may request that the Department approve a modification or termination of the Restrictive Notice. The request shall contain information showing that the proposed modification or termination shall, if implemented, ensure protection of human health and the environment. The Department shall review any submitted information, and may request additional information. If the Department determines that the proposal to modify or terminate the Restrictive Notice will ensure protection of human health and the environment, it shall approve the proposal. No modification or termination of this Restrictive Notice shall be effective unless the Department has approved such modification or termination in writing. Information to support a request for modification or termination may include one or more of the following:
 - a) a proposal to perform additional remedial work;
 - b) new information regarding the risks posed by the residual contamination;
 - c) information demonstrating that residual contamination has diminished;
 - d) information demonstrating that the proposed modification would not adversely impact the remedy and is protective of human health and the environment; and
 - e) other appropriate supporting information.
- 3) Attachment B, the Materials Handling Plan, is attached hereto for convenience, and is not incorporated as part of this Restrictive Notice. It may be amended from time to time without modifying this Restrictive Notice. Persons who plan to conduct any activities that may disturb the soil on the Property should check with the Remedial Programs Manager of the Department's Hazardous Materials and Waste Management Division to obtain a copy of the currently approved Materials Handling Plan.
- 4) Conveyances: OWNER shall notify the Department at least fifteen (15) days in advance of the closing on any proposed sale or other conveyance of any interest in any or all of the Property.
- 5) Notice to Lessees: OWNER agrees to incorporate either in full or by reference the restrictions of this Restrictive Notice in any leases, licenses, or other instruments granting a right to use the Property.
- 6) Notification for proposed construction and land use: OWNER shall notify the Department simultaneously when submitting any application to a local government for a building permit or change in land use.
- 7) Inspections: The Department shall have the right of entry to the Property at reasonable times with prior notice for the purpose of determining compliance with the terms of this Restrictive Notice. Nothing in this Restrictive Notice shall impair any other authority the Department may otherwise have to enter and inspect the Property.

- 8) Third Party Beneficiary: The OWNER of the Property and the United States Department of Energy are third party beneficiaries with the right to enforce the provisions of this Restrictive Notice as provided in § 25-15-322, C.R.S.
- 9) No Liability: The Department does not acquire any liability under State law by virtue of accepting this Restrictive Notice, nor does any other named third party beneficiary of this Restrictive Notice acquire any liability under State law by virtue of being such a beneficiary.
- 10) Enforcement: The Department may enforce the terms of this Restrictive Notice pursuant to §25-15-322, C.R.S. Chemetall-Foote and, any named third party beneficiaries of this Restrictive Notice may file suit in district court to enjoin actual or threatened violations of this Restrictive Notice.
- 11) Owner's Compliance Certification: OWNER shall execute and return a certification form provided by the Department, on an annual basis, detailing OWNER's compliance, and any lack of compliance, with the terms of this Restrictive Notice.
- 12) Notices: Any document or communication required under this Restrictive Notice shall be sent or directed to:

Remedial Programs Manager
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and the Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

And:

Naturita Site Manager
U.S. Department of Energy, Office of Legacy Management
2597 B ³/₄ Road
Grand Junction, CO 81503

And

Chemetall Foote Corp.
348 Holiday Inn Drive
Kings Mountain, NC 28086
Attention: President

This Notice of Environmental Use Restrictions is issued by the Colorado Department of Public Health and Environment

this 9th day of November, 2011.

By: Gary W. Baughman

Gary W. Baughman
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and the Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

STATE OF COLORADO

ss:

COUNTY OF DENVER

The foregoing instrument was acknowledged before me this 9 day of NOVEMBER, 2011 by GARY W. BAUGHMAN on behalf of the Colorado Department of Public Health and Environment.

Notary Public

Claudette M. Ferris
Address 4300 Cherry Creek Dr So, Denver, CO 80246
My commission expires:

October 21, 2015

Attachment A

Parcel 1

Those three patented mill site claims located in Sections 14 and 15 of Township 46 North, Range 16 West, NMPM, Montrose County, Colorado, more particularly described as follows:

| <u>Claim Name</u> | <u>Patent No.</u> | <u>Mineral Survey No.</u> |
|--------------------------|-------------------|---------------------------|
| Columbine Mill Site | 1119601 | 20652 |
| West Extension Mill Site | 1119601 | 20652 |
| Raven Mill Site | 1119601 | 20652 |

Containing 14.435 acres, more or less

Parcel 2

The following described tracts of land, all being portions of the Kentucky patented placer claim, Patent No. 16811, Mineral Survey No. 2534, located in Sections 14 and 15 of Township 46 North, Range 16 West, NMPM, Montrose County, Colorado:

Tracts 1 and 2 Those two tracts containing 37.40 acres and 11.17 acres as described in that certain Warranty Deed dated March 13, 1940, between Ernest Maupin and Lyle Maupin, Sellers, and Vanadium Corporation of America, Purchaser, recorded in Book 282, Page 521, records of Montrose County, Colorado;

Tract 3 That tract of land containing 19.83 acres as described in that certain Special Masters Deed dated July 16, 1932, between Dan H. Hughes, Special Master, and Vanadium Corporation of America, recorded in Book 264, Page 44, records of Montrose County, Colorado; and

Tract 4 That tract of land containing 4.15 acres as described in that certain Correction Warranty Deed dated March 9, 1979, between Philo Maupin and May Maupin, Grantors, and Foote Mineral Company, Grantee, recorded in Book 674, Page 246, records of Montrose County, Colorado.

Excepting therefrom that tract of land containing 24.053 acres as conveyed by Warranty Deed dated January 13, 1977 to Ranchers Exploration and Development Corporation, Grantee, by Foote Mineral Company, Grantor, recorded in Book 637, Page 435, records of Montrose County, Colorado, and that 3.4 acre tract for Highway No. 145 right of way.

Denver 052162

The United States of America

To all to whom these presents shall come, Greeting:

WHEREAS, in pursuance of the provisions of the Revised Statutes of the United States, Chapter Six, Title Thirty-two, and legislation supplemental thereto, there have been deposited in the General Land Office of the United States the Plat and Field Notes of Survey and the Certificate of the Register of the Land Office at **Denver, Colorado,** accompanied by other evidence whereby it appears that **the Vanadium Corporation of America**

has entered and paid for the **Columbine, West Extension and The Raven mill site** claims

designated as **Survey No. 20652, embracing a portion of Sections fourteen and fifteen in Township forty-six north of Range sixteen west of the New Mexico Principal Meridian, in the Oro Mining District, Montrose County, Colorado,**

and bounded, described, and platted as follows: Beginning for the description of the **Columbine mill site claim, at corner No. 1, a sandstone rock 7 x 9 x 24 inches, marked CMS - 1 - 20652, in mound of stone, from which the southwest section corner of Section fourteen in Township forty-six north of Range sixteen west of the New Mexico Principal Meridian, bears south fifty-one degrees forty-five minutes west one thousand two hundred sixty-six and six tenths feet distant;**

Thence, first course, north forty-two degrees thirty-two minutes west six hundred nineteen and three tenths feet to corner No. 2, a sandstone rock 6 x 11 x 24 inches, marked CMS - 2 - 20652, in mound of stone:

Thence, second course, north fifty-six degrees four minutes east three hundred forty-seven and forty-eight hundredths feet intersect line

1119601

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1 - 2, the southwest side line of Survey No. 2534, the Kentucky placer claim; three hundred fifty feet to corner No. 3, a sandstone rock 5 x 8 x 28 inches, marked CMS - 3 - 20652 and WEMS - 5 - 20652, in mound of stone;

Thence, third course, south forty-two degrees thirty-two minutes east six hundred nineteen and three tenths feet to corner No. 4, a sandstone rock 3 x 8 x 27 inches, marked CMS - 4 - 20652, in mound of stone;

Thence, fourth course, south fifty-six degrees four minutes west two and fifty-two hundredths feet intersect line 1 - 2 of said Survey No. 2534; three hundred fifty feet to corner No. 1, the place of beginning;

Beginning, for the description of the West Extension mill site claim, at corner No. 1, in road and not established, from which the witness corner, a sandstone rock 5 x 12 x 27 inches, marked WC - WEMS - 1 - 20652 and WC - RMS - 1 - 20652, in mound of stone, bears south fifty-six degrees four minutes east forty-seven and thirty-four hundredths feet distant; and said southwest section corner bears south twenty-six degrees fifty-six minutes fifty seconds west one thousand four hundred fifty-four and two tenths feet distant;

Thence, first course, north forty-two degrees thirty-two minutes west eight hundred three and seven hundredths feet to corner No. 2, a sandstone rock 6 x 9 x 24 inches, marked WEMS - 2 - 20652 and RMS - 2 - 20652, in mound of stone;

Thence, second course, north fifty-six degrees four minutes east three hundred thirty-two and fifty-four hundredths feet intersect line 2 - 3 of said Survey No. 2534, at north twenty-nine degrees twenty minutes west three hundred sixty-eight and twenty-eight hundredths feet from corner No. 2; three hundred thirty-four and three hundredths feet to corner No. 3, in road and not established;

Thence, third course, south twenty-nine degrees thirty minutes east nineteen and sixty-eight hundredths feet to witness corner to said corner No. 3, a sandstone rock 4 x 10 x 26 inches, marked WC - WEMS - 3 20652; three hundred sixty-eight and four tenths feet to corner No. 4, in road and not established;

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Thence, fourth course, south forty-two degrees thirty-two minutes east fifty-five and twenty-nine hundredths feet to witness corner to said corner No. 4, a sandstone rock 4 x 12 x 28 inches, marked WO - WEMS - 4 - 20652, in mound of stone; four hundred thirty-one and six tenths feet to corner No. 5, identical with corner No. 3 of said Columbine mill site claim;

Thence, fifth course, south fifty-six degrees four minutes west two and fifty-two hundredths feet intersect line 1 - 2 of said Survey No. 2534, at south forty-two degrees thirty-two minutes east four hundred thirty-one and eight tenths feet from corner No. 2; two hundred fifty feet to corner No. 1, the place of beginning;

Beginning, for the description of The Raven mill site claim, at corner No. 1, identical with corner No. 1 of said West Extension mill site claim;

Thence, first course, north forty-two degrees thirty-two minutes west eight hundred three and seven hundredths feet to corner No. 2, identical with corner No. 2 of said West Extension mill site claim;

Thence, second course, south fifty-six degrees four minutes west one hundred thirty-nine and eighty-five hundredths feet intersect the east boundary of the northeast quarter of the southeast quarter of Section fifteen in Township forty-six north of Range sixteen west of the New Mexico Principal Meridian; two hundred seventy feet to corner No. 3; a sandstone rock 5 x 9 x 26 inches, marked RMS - 3 - 20652, in mound of stone;

Thence, third course, south forty-two degrees thirty-two minutes east one hundred fifty-nine and seventy-three hundredths feet intersect the west boundary of said northeast quarter of the southeast quarter of Section fifteen; eight hundred three and seven hundredths feet to corner No. 4, in gulch and not established;

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Thence, fourth course, north fifty-six degrees four minutes east nine and seventy-three hundredths feet to witness corner to said corner No. 4, a sandstone rock 6 x 9 x 24 inches, marked WC - RMS - 4 - 20652 in mound of stone; two hundred twenty-two and sixty-six hundredths feet to witness corner to said corner No. 1, identical with witness corner to corner No. 1 of said West Extension mill site claim; two hundred seventy feet to corner No. 1, the place of beginning; expressly excepting and excluding from these presents all that portion of the ground hereinbefore described, embraced in said mining claim or Survey No. 2534 and said northeast quarter of the southeast quarter of Section fifteen; the premises herein granted, containing fourteen acres and four hundred thirty-five thousandths of an acre.

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises and in conformity with said Revised Statutes of the United States, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said Vanadium Corporation of America, and to its successors and assigns, the said premises above described, as Survey No. 20652, with the exclusive right of possession and enjoyment of all the land included within the exterior lines of said survey not herein expressly excepted from these presents.

TO HAVE AND TO HOLD said mill sites or premises, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature thereunto belonging, unto the said Vanadium Corporation of America, and to its successors and assigns forever, subject, nevertheless, to the following conditions and stipulations:

First. That the premises hereby conveyed shall be held subject to any vested and accrued water rights for mining, agricultural, manu-

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facturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local laws, customs, and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

Second. That in the absence of necessary Legislation by Congress the Legislature of Colorado, may provide rules for working the mining claims or premises hereby granted, involving easements, drainage, and other necessary means to the complete development thereof.

Reserving unto the United states, its permittees or licensees, the right to enter upon, occupy, and use, any part or all of said lands for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063) and subject to the conditions and limitations of Section 24 of said Act as amended by the Act of August 26, 1935 (49 Stat. 846).

IN TESTIMONY WHEREOF, I, **Harry S. Truman**

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the **NINTH**

(SEAL)

day of **MAY** in the year of our Lord one thousand

nine hundred and **FORTY-FIVE** and of the Independence of the

United States the one hundred and **SIXTY-NINTH.**

By the President: **Harry S. Truman,**

By **Ruth W. Talley**, Secretary.

R. S. Clinton,

Chief, Patents Division, General Land Office.

1119601

RECORD OF PATENTS: Patent Number

APPENDIX
Parcel 2 Parcel Descriptions

1. As to Tracts 1 and 2: That part of the Kentucky Placer Mining Claim, U.S. Mineral Survey 2534 described as follows:

"Beginning at corner number 5 of said Placer, and running thence Easterly along line 5 – 6 thereof 700 feet; thence South 525 feet; thence South 5 degrees and 45 minutes East 554 feet; thence South 46 degrees 30 minutes East 520 feet; thence South 66 degrees and 25 minutes East 430 feet to the North line of the tract of land sold by Anna Belle Hutchins to The Rare Metals Corporation by deed recorded in Book 246 on Page 318 of the Montrose County Colorado records; thence South 56 degrees and 4 minutes West along said line to line 2 – 3 of said Kentucky Placer; thence North 29 degrees 30 minutes West to corner 3 of said Kentucky Placer; thence North 31 degrees and 38 minutes West to corner 4 of said Kentucky Placer; thence North 17 degrees and 10 minutes to corner No. 5 of said Kentucky Placer the point of beginning." (Deed Reference - Book 282, Page 521).

As to Tract 3: A certain portion of the Kentucky Placer Survey No. 2534, containing twenty (20) acres, more or less:

"Commencing at a point on a line of said Kentucky Placer whence corner 3 bears N 28 degrees 20' W 511.0 feet; thence S. 28 degrees 20' E. 368.4 feet to corner 2; thence S. 42 degrees 32' E. 431.6 feet; thence N. 56 degrees 04' E. 1089 feet; thence N. 42 degrees 32' W. 431.6 feet; thence N 28 degrees 20' W. 368.4 feet; thence S 56 degrees 04' W. 1089 feet to point of beginning. However, the party of the first part reserves a right of way for dredging purposes along the present river channel through the above described twenty ace tract." (Deed Reference - Book 246, Page 318).

As to Tract 4: A tract of land situated in the W ½ Section 14, Township 46 North, Range 16 West, New Mexico Principal Meridian and lying within part of the Kentucky Placer Mining Claim, Survey No. 2534, more particularly described as follows:

"Commencing at a point on the northerly line of said Kentucky Placer Mining Claim from whence Corner No. 5 of said Claim bears South 87 degrees 02' West, 700 feet; thence south 525 feet; thence South 5 degrees 45' East 238.85 feet to true point of beginning; thence South 5 degrees 45' East 315.5 feet; thence South 46 degrees 30' East, 520.0 feet; thence 66 degrees 25; East 434.74 feet to a point on the North line of a tract sold by Anna Belle Hutchins to Rare Minerals (sic) Corporation by deed recorded in Book 246 at page 318; thence North 7 degrees 21' East 21.22 feet; thence North 40 degrees 40' West 500.00 feet; thence North 47 degrees 24' West 657.64 feet to the true point of beginning and containing 4.15 acres, more or less." (Deed Reference - Book 671, Page 851).

LESS AND EXCEPT: that tract of land containing 24.053 acres as conveyed by Warranty Deed dated January 13, 1977, to Ranchers Exploration and Development Corporation, Grantee, by Foote Mineral Company, Grantor, recorded in Book 637, Page 435, records of Montrose County Colorado, and that 3.4 tract for Highway No. 145 right-of-way.

Naturita UMTRA Site Materials Handling Plan

Background Information

This Materials Handling Plan describes procedures that must be followed by any person who conducts operations that are expected to result in soil disturbances or construction dewatering at the Title 1 Uranium Mill Tailings Site at Naturita, Colorado, formerly known as the "Vanadium Corporation of America Site" or the "Naturita UMTRA Site."

The Naturita Site is a former uranium and vanadium ore processing facility that operated intermittently between the 1930s and 1958, during which time approximately 704,000 tons of ore were processed. From 1961 to 1963, Vanadium Corporation of America operated a uranium up-grader at the site. The milling operations produced radioactive tailings, a predominantly sandy material that covered about 24 acres of the site. Between 1977 and 1979, Ranchers Exploration and Development Corporation bought the 24-acre tailings pile and moved the majority of the tailings materials off-site for reprocessing to extract additional uranium and vanadium. An additional 126 acres of land around the tailings pile were contaminated from ore storage and windblown tailings. Groundwater beneath the site became contaminated as constituents in the tailings pile leached into the underlying soil.

From 1993 to 1997, the U.S. Department of Energy (DOE), in cooperation with the State of Colorado, removed approximately 800,000 cubic yards of contaminated soil and other contaminated materials from the site and stabilized them in an engineered disposal cell near Uravan. The remediation was conducted in accordance with regulations promulgated by the U.S. Environmental Protection Agency (EPA) in 40 CFR 192. These regulations require that the concentration of radium-226 in land averaged over any area of 100 square meters shall not exceed the background level by more than: 5 pCi/g (picocuries per gram), averaged over the first 15 cm (centimeters) of soil below the surface, and 15 pCi/g averaged over 15 cm thick layers of soil more than 15 cm below the surface.

Due to the shallow depth of the water table beneath the Site, complete excavation of all radioactively-contaminated material was not feasible without extensive dewatering. Thus, in accordance with the EPA regulations, a procedure was developed whereby contamination was left in place once the water table was reached in the excavation. Most of the site was then backfilled with approximately 3 to 10 feet of clean backfill material from off-site sources.

Radioactively contaminated soil with concentrations of radium in excess of 15 pCi/g was left in place at the Naturita Site in five areas, called "Supplemental Standards Areas" totaling 11 acres on the site. Supplemental Standards were also applied on an additional 11 acres on an adjacent property. These areas are along the steep slopes of State Highway 141, near high voltage power poles, and in wetland areas adjacent to the San Miguel River. Supplemental Standards are allowable under the EPA regulations in circumstances where excavation would have produced excessive environmental harm (in the wetlands areas) or posed a significant risk to workers (near

the high voltage power line and on steep slopes). Figure 1 is a map of the Naturita Site and adjacent property. This map delineates the areas where Supplemental Standards were applied.

Despite the remediation efforts described above, it is likely that contaminated material also remains at the site outside the Supplemental Standards areas. Harmful exposure to radioactively contaminated soil or groundwater could result if certain precautions are not taken during construction and maintenance activities at the site. This is particularly true in: 1) Supplemental Standards Areas, 2) native cobble materials beneath the water table, and 3) contaminated groundwater. Supplemental Standards Areas pose the greatest risk to workers on the site.

Materials Handling Procedures

Procedures for Soil Excavation

The following procedures must be used during any soil-disturbing activities at the site, including, but not limited to, soil tilling, grading, drilling and any sort of excavation (e.g., digging fence post holes, planting, utility work, and larger excavations.) During excavation, a scintillometer must be used to segregate contaminated material from clean backfill. Any materials with readings more than 18 MicroRems per hour are considered contaminated (this corresponds approximately to the net weighted average 5 pCi of Radium-226 per gram above background required by 40 CFR 192.) Contaminated soil must be separated from clean soil by placing the excavated contaminated materials on disposable plastic sheeting.

The operator may seek permission from the U.S. Department of Energy to dispose any contaminated material at the Grand Junction Disposal Cell (GJDC). Prior to seeking permission from DOE, the operator must coordinate the proposed request with CDPHE. If permission to dispose of the contaminated soil at the GJDC is denied or not sought, all contaminated materials must be re-buried on site. Two options are available for on-site reburial:

- 1) Materials must be replaced into the same excavation from which they came and reburied at approximately their original depth. A cap of 6 inches of clean fill material must be placed over the reburied material, or
- 2) Materials must be placed into a landscaping berm, with a minimum 6 inches of clean fill material as a cap. The placement and construction details of this berm must be pre-approved by the CDPHE.

Records must be maintained by the property owner, and copied to the CDPHE, that delineate areas where contaminated material has been reburied on site.

Clean fill material (for capping and backfill) can either be segregated from contaminated material during excavation using a scintillometer, or can be brought in from an off-site source. **Excavated soil, sand or gravel cannot be removed from the site, unless it is for the purpose of transporting it to the GJDC.**

Worker Protection

Workers must use caution when working in and around contaminated areas. The following practices, which minimize exposure to contaminated materials, must be followed:

- a. A scintillometer or equivalent must be used at all times work is being conducted to monitor contamination levels.
- b. Dust suppression – keep soil damp during soil-disturbing activities to minimize dust.
- c. Hygiene – workers must scrub boots prior to leaving the work zone. Workers must always wash their hands immediately after leaving the work zone.
- d. Food – workers must not eat or drink, chew or smoke while in the work zone.

If other situations arise that are not covered by this plan, or for other questions about compliance with this plan, contact CDPHE for technical assistance.

Procedures for Managing Groundwater

1. Dewatering, other than temporary construction dewatering, is prohibited.
2. Construction dewatering is approved with the following conditions:
 - a. Groundwater produced from construction dewatering may be land applied only on-site.
 - b. Land application of groundwater from construction dewatering may be accomplished either through a spray irrigation system or by pumping the water into a bermed area to contain the water within the site boundaries.
 - c. Best Management Practices must be used to ensure that oil and grease, sediment and/or other pollutants are not entrained in the construction water.
 - d. CDPHE provides this conditional approval for construction dewatering under the authority of the Colorado Water Quality Control Act C.R.S. 25-8-506, where CDPHE has found that there will be no significant pollution resulting from the dewatering activities or that any pollution will be limited to waters in a specified limited area from which there is no significant migration.

Construction water cannot be discharged directly to the San Miguel River without a discharge permit from the Water Quality Control Division of the Colorado Department of Public Health and Environment. Because the groundwater at the site is contaminated, such a permit will likely require treatment.

Additional information concerning the remedial action, groundwater conditions, and Supplemental Standards is available from the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division.

Figure 1

