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Memorandum

To: **LaDonna Turner, Site Assessment Manager**
Technical and Enforcement Branch
U.S. Environmental Protection Agency, Region 6

From: **Dana Bahar, Manager, Superfund Oversight Section**
Ground Water Quality Bureau, New Mexico Environment Department.

Date: **September 10, 2009**

Subject: **Pre-CERCLIS Screening Assessment of Doris Mine, McKinley County, New Mexico: Further action under CERCLA Recommended**

Site name	Doris Mine				
City	not applicable	**State**	New Mexico	**Zip code**	not applicable
County	McKinley				
Latitude	35° 20’ 20.24”	**Longitude**	107° 47’ 48.34”		

Site physical description: The Doris Mine is easily accessible from State Highway 605, and is located within 0.25 miles of San Mateo Creek. The site currently has a fenced open decline within a collapsing subsidence crater and a second unfenced and caved shaft approximately 0.25 miles south of the decline. Several waste material piles are scattered around the site. An archaeological site, marked by piles of rock and pottery shards, is located in the middle of the minesite. An erosional protection berm has been constructed parallel to the highway along most of the site perimeter.

Site identification: Potential alluvial ground water contamination within the Grants Mineral Belt was identified because background standards established for the contaminants of concern for ongoing remedial action associated with the Homestake Mining Company NPL site (CERCLIS NMD0007860935) are generally higher than Maximum Contaminant Levels (MCLs). NMED conducted sampling of private residential wells in subdivisions located in the vicinity of the HMC site, and found that the majority had one or more contaminant concentrations exceeding MCLs.

Site summary: Observations made during NMED’s Site reconnaissance are shown on

the accompanying figures. The open decline shows recent evidence of subsidence, and is poorly protected from public access by a fence that will collapse as the crater containing the decline continues to enlarge. The highest radioactivity reading was measured at a waste rock pile (823 counts per second [cps]; background=32 cps). Contamination may be dispersed via precipitative erosion and wind, or may impact ground water via seepage through alluvium or through the open shaft and decline. The open decline is easily accessible from the paved road.

Targets: Residences are located near junction State Hwy. 605 and 509, approximately 1.0 air-miles northeast of the Site. Other potential targets may include cattle and wildlife.

Closest well sampled to date: livestock well SMC-34 (0.6 air-miles; 52.8 µg/l total uranium in 2009 sampling [total uranium Maximum Contaminant Level=30 µg/l]).

Site ownership and Potentially Responsible Parties: Surface rights reportedly are held by the Schmitt; mineral rights are held by Newmont Mining Company. M&M Mining Company reportedly last operated the mine in 1981.

File review: NMED staff reviewed the following files:

- Database compiled by Mining and Minerals Division of the New Mexico Energy, Minerals, and Natural Resources Department (07/20/2007).
- Anderson, Orin J., 1980. "Abandoned or inactive uranium mines in New Mexico".
- McLemore, Virginia T. and William L. Chenoweth, 1991. "Uranium mines and deposits in the Grants district, Cibola and McKinley Counties, New Mexico." New Mexico Bureau of Mines and Mineral Resources Open-file report 353.
- Rappaport, Linda, "Uranium deposits of the Poison Canyon ore trend, Grants District," in "Geology and technology of the Grants Uranium Region, 1963. State Bureau of Mines and Mineral Resources.
- U.S. Geological Survey, 1997. "Gallup quadrangle NURE HSSR study." OFR-97-492.

Site reconnaissance: NMED staff conducted a Site reconnaissance on July 2, 2009.

Recommendation: A release of CERCLA hazardous substances has been documented at the site. NMED recommends further investigation under CERCLA to assess the risk posed by the site using the Hazard Ranking System.

NMED recommends that the investigation include the following:

1. Sample sediments along drainages to characterize extent of Site-derived waste dispersion.
2. Investigate and characterize ground water impacts.

In addition NMED recommends the following actions be performed to address immediate threats to public health and the environment:

1. Remove waste with elevated radioactivity.
2. Plug open decline and shaft.

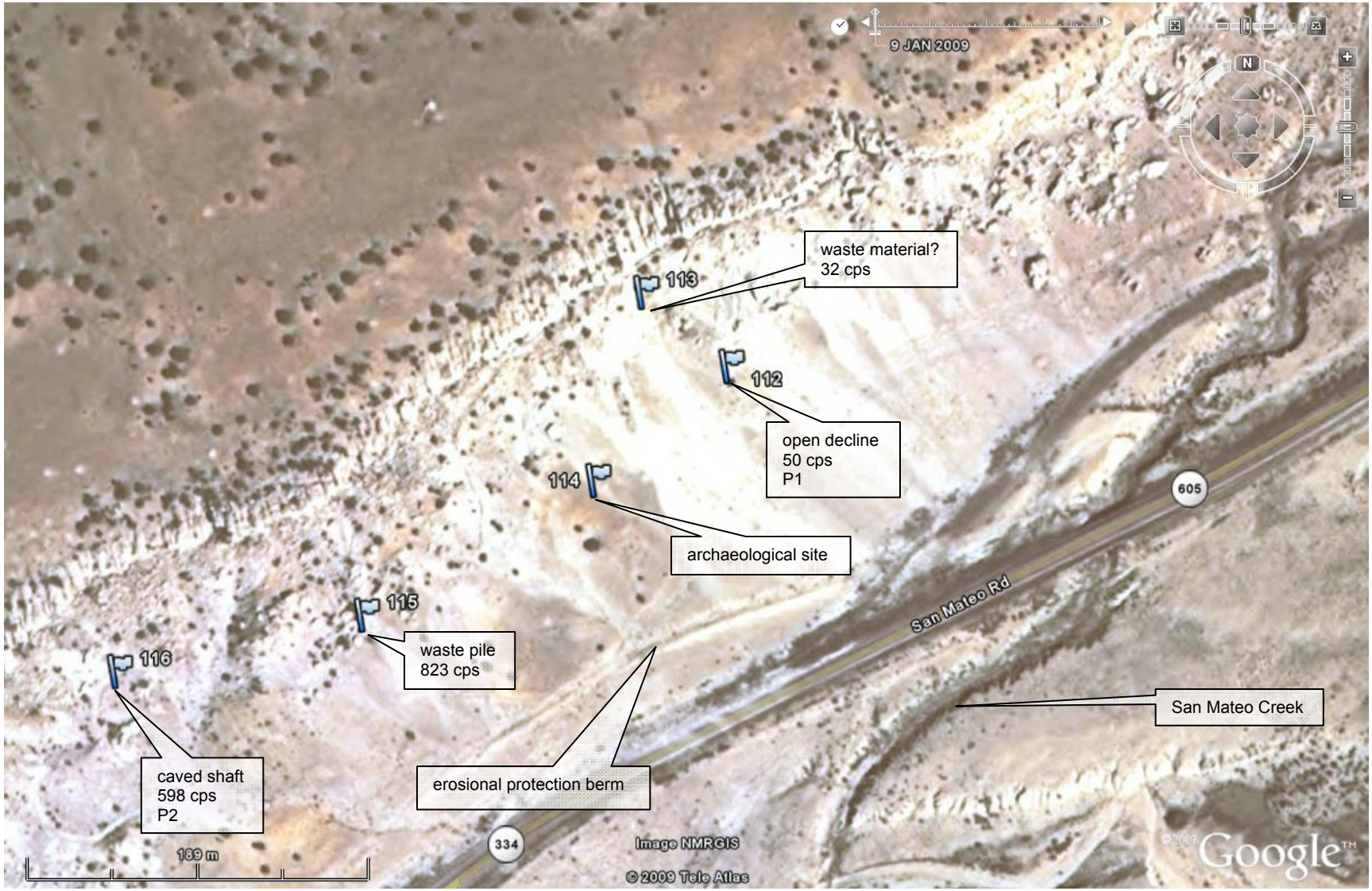

Figure 1: Doris Mine

"Px" reference the location of photographs on pages following.

P1: Doris mine open decline

P2: Doris mine caved shaft