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September 15, 2008

Jeff Inglis
United States Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: Moonlight Mine, Preliminary Assessment Report
EPA ID NO.: NNN000908583

Attached is the Preliminary Assessment Report for the Moonlight Mine site, prepared by Weston Solutions, Inc. Also included are the Transmittal List, Contact Log, Contact Reports, Latitude and Longitude Calculation Worksheet, References and the Environmental Protection Agency Quick Reference Fact Sheet. The HRS Scoresheets and Rationale are included in the separately bound confidential information packet.

If you have any questions regarding this report, please do not hesitate to contact me at (925) 948-2656 or Alex.Grubb@westonsolutions.com.

Respectfully submitted,

Alex Grubb
Project Scientist

Attachments

COMPONENTS FOR SITE ASSESSMENT REPORT PACKAGES

******Applicable to PA, PA/SI, SI and ESI report packages******
(to be submitted to EPA by the contractor, state agency, or tribe)

Site Name: Moonlight Mine **EPA ID NO.: NNN000908583**

- ☑ 1. Cover Letter
- ☑ 2. Site Assessment Report (Including table of contents and list of appendices, tables, and figures)
- ☑ 3. Appendix A, Transmittal List
- ☑ 4. Appendix B, Site Reconnaissance Interview and Observation Report/Photographic Documentation
- ☑ 5. Appendix C, Contact Log and Contact Reports
- ☑ 6. Appendix D, Latitude and Longitude Calculations Worksheet
- ☑ 7. Appendix E, References
- ☑ 8. Appendix F, EPA Quick Reference Fact Sheet: (Site Assessment: Evaluating Risks at Superfund Sites)
- ☐ 9. Appendix G, Sampling and Analysis Plan
  - ☑ **Not applicable to non-sampling sites**
- ☐ 10. Appendix H, Analytical Results (From EPA-sponsored sampling event only)
  - ☑ **Not applicable to non-sampling sites**
- ☐ 11. Appendix I, EPA Region 9 Remedial Site Assessment Decision Form **(To be completed by EPA).**
- ☑ 12. Confidential Information Packet - separately bound (Including HRS Scoresheets, HRS Rationale, and GIS Report)

Approved by: _____
Program Manager
Weston Solutions, Inc.

Approved by: _____
EPA Task Monitor
United States Environmental Protection Agency, Region 9

Preliminary Assessment Report
Moonlight Mine
Navajo County, Arizona

EPA ID No.: NNN000908583
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Appendix C: Contact Log and Contact Reports
Appendix D: Latitude and Longitude Calculations Worksheet
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LIST OF ACRONYMS

bgs	below ground surface
BLM	Bureau of Land Management
CDC	Center for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
EPA	United States Environmental Protection Agency
HRS	Hazard Ranking System
MCLs	Maximum Contaminant Levels
NAMLRP	Navajo Nation Division of Natural Resources – Navajo Abandoned Mine Lands Reclamation Program
NPL	National Priorities List
NSP	Navajo Nation Environmental Protection Agency – Navajo Superfund Program
NTUA	Navajo Tribal Utility Authority
OSMRE	U.S. Office of Surface Mining Reclamation Enforcement
PA	Preliminary Assessment
pCi/L	Pico-Curies Per Liter
Ppb	Parts Per Billion
RCRAInfo	Resource Conservation and Recovery Act Information
SARA	Superfund Amendments and Reauthorization Act
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WESTON	Weston Solutions, Inc.

1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), Weston Solutions, Inc. ($WESTON_7$) has been tasked to conduct a Preliminary Assessment (PA) of the Moonlight Mine site, located in Navajo County, Arizona.

The purpose of the PA is to review existing information on the site and its environs, to assess the threat(s), if any, posed to public health, welfare, or the environment, and to determine if further investigation under CERCLA/SARA is warranted. The scope of the PA includes the review of information from federal, state, tribal and local agencies and performance of an on-site reconnaissance visit.

Using the sources of existing information, the site is then evaluated using the U.S. Environmental Protection Agency's (EPA's) Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites at which the EPA may conduct remedial response actions. This report summarizes the findings of these preliminary investigative activities.

The Moonlight Mine site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on April 11, 2008 (EPA ID No.: NNN000908583) (1).

More information about the Superfund program is available on the EPA web site at http://www.epa.gov/superfund. The attached fact sheet describes EPA's site assessment process (Appendix F).

1.1 Apparent Problem

The apparent problems at the Moonlight Mine, which contributed to EPA's determination that a PA was necessary, are as follows:

- Between 1955 and 1966 the site operated as a uranium mine producing approximately 1,177,501 pounds of uranium and 940,725 pounds of vanadium (2).
- In July 2008, field screening data collected onsite indicated gamma radiation measurements to be significantly above background measurements. There are no access barriers or physical restrictions to entering the site area (3).

2.0 SITE DESCRIPTION

2.1 Location

The Moonlight Mine site is located approximately 5 miles south of Oljato, Utah, in Navajo County, Arizona, within the boundaries of the Navajo Nation. The geographical coordinates for the site are 36° 57' 49.11" North latitude and 110° 17’ 10.63” West longitude. The site location is presented in Figure 2-1.

2.2 Site Description

The Moonlight Mine is approximately 53 acres and is located in a rural area in northeastern Arizona. Exploration drilling during the mid-1950s identified several large uranium ore bodies in buried channels in the Oljato syncline area of the Monument Valley , Navajo County, Arizona. The largest of these deposits was the Moonlight Mine. Moonlight Mine was also the second largest deposit in the entire Monument Valley area. The deposit was located on a Navajo Tribal Mining Permit issued in 1953. At a time of the discovery, exploration and mining were just beginning in the Monument Valley area (2, 3, 4).

The site had originally been an underground mine but had been converted to an open pit operation after the deposit size was determined. Mining commenced at the site for approximately 11 years, from 1955 until 1966. The ore bodies at Moonlight Mine were found within the Shinarump channel deposit. The channel at the site was approximately 250 to 300 feet wide and between 50 to 75 feet deep. The Navajo Nation Division of Natural Resources - Navajo Abandoned Mine Lands Reclamation Program (NAMLRP) back filled the pit in 1994 (2, 3, 4, 5). A site layout map is presented in Figure 2-2.

2.3 Operational History

As a result of the federal government’s need for war armaments in 1942, the United States Army Corps of Engineers (USACE) began the process of procuring raw materials for the development of atomic weapons. The U.S. Southwest, in particular the Colorado Plateau, became a major focal point in the government’s search for raw materials. Later in 1942, the Metals Reserve Company was developed and began a program for purchasing the ore throughout the region, primarily in northeastern Arizona and southeastern Utah. In order to stimulate mining in the area, buying stations for the ore were built in the region. Three parcels of land in the Oljato Chapter area of the Navajo Indian Reservation were leased by the U.S. Department of Interior’s Bureau of Indian Affairs from 1942 until 1944. The land was leased for uranium ore mining. Over the period of the next 24 years, many leases throughout the region were issued to a variety of individuals and companies (2, 4).

Mining Permit No. 73 was issued to Seth T. Bigman in 1953 for 600 acres of the sand-dune covered El Capitan Flat area on the eastern side of the Oljato syncline region of Monument Valley named the Moonlight Numbers 1 & 2 claims. The Industrial Uranium Company (IUC) took out a drilling permit on the Moonlight claims in 1954, and blind drilling within the area located several large uranium ore deposits. The ore bodies at Moonlight Mine were found within the Shinarump channel deposit. The channel at site was approximately 250 to 300 feet wide and between 50 to 75 feet deep. IUC was given the mining rights to an additional 40.8 acres of Mining Permit No. 73 in 1955 (2, 4).

Initially, the ore was mined underground. The first shipments of ore were sent to buying stations in 1956. The assignment of the mining permit was converted to Lease No. 14-120-603-2289 in 1957. The term of the lease was for a further 10 years. When the mining extended towards the north ore body in 1958, the decision was made to begin open pit mining the ore bodies, and all underground mining ceased. According to records, the pit was stripped by Wells Cargo, Inc. Initial production from the open pit began in 1959. The mining operation was turned over to the North Elk Mining, Co. in 1960. Beginning in 1960, the ore production of the mine declined steadily, and by 1966, following underground mining of the pit walls by U.A. Small Co., the final shipments of ore were completed. Other owners and operators of the mine area during the production period included the Texas Zinc Minerals Corporation, and the Atlas Corporation (2, 4).

When mining was completed at the Moonlight Mine, the oval shaped pit was 750 feet long, 525 feet wide and 145 feet deep. The water table in the Shinarump was perched during the mining operations at the south ore body. A sump was installed at the foot of the mine, to pump out any residual water. The flow of water subsequently decreased and by 1967 the pit was reportedly dry. The NAMLRP back filled the pit in 1994 (2, 4, 5).

A total of 223,236.77 tons of ore averaging 0.26 percent uranium(U_3O_8)and containing 1,177,501.29 pounds U_3O_8 were produced during the 11 year operational period of Moonlight Mine. The production at Moonlight Mine ranks as the second largest uranium mine in the Monument Valley area (2, 4). The total ore production of the Moonlight Mine is shown in Table 2-1.

Table 2-1 **Moonlight Mine Uranium Ore Production** **Uranium and Vanadium Content**					
Year	*Tons of Ore*	*U_3O_8 (lbs)*	*U_3O_8 (%)*	*V_2O_5 (lbs)*	*V_2O_5 (%)*
1956	10,462.12	70,717.65	0.34	78,992.00	0.38
1957	39,736.45	259,243.08	0.33	425,608.03	0.54
1958	27,877.68	189,434.84	0.34	380,899.71	0.72
1959	73,730.63	338,025.76	0.23	51,169.54	1.49
1960	34,018.47	158,994.24	0.23	N/A	N/A
1961	17,824.60	69,684.70	0.20	N/A	N/A
1962	9,866.10	59,646.10	0.30	4,056.01	1.37
1963	148.10	1,155.28	0.39	940,725.29	0.60
1964	2,520.17	9,253.34	0.18	N/A	N/A
1965	3,139.84	11,027.29	0.18	N/A	N/A
1966	3,947.76	10,318.94	0.13	N/A	N/A
Total	*223,236.77*	*1,177,501.29*	*0.26*	*940,725.29*	*0.60*
U_3O_8 = Uranium ; V_2O_5 = Vanadium *N/A = No shipments made during calendar year*					

In 1991 the United States Geological Survey (USGS) conducted sampling activities of the standing water in the open pit at Moonlight Mine, and found elevated levels of total uranium, at concentrations of 22,440 pico-curies per Liter (pCi/L), and 28,530 pCi/L (6).

In 1997, the EPA in conjunction with the Center for Disease Control (CDC) collected groundwater samples of several wells throughout the region, and found elevated levels of total uranium at concentrations of 31.0 pCi/L at well 08A_180, located approximately 23 miles southeast of the Moonlight Mine, and concentrations of 46 pCi/L at well 8A179, located approximately 28 miles southeast of the mine. Uranium mine sites are scattered thoughout the region, and the elevated levels of uranium at these wells are likely attributable to mine sites other than the Moonlight Mine (7).

From 1998 through 2000, the USACE conducted preliminary water sampling activity throughout the Navajo Nation for the EPA. Various sources of water within the Oljato Chapter area were sampled and analyzed for heavy metals and radionuclides. Federal Safe Drinking Water Act's Maximum Contaminant Levels (MCLs) for alpha, beta, Radium-226, Uranium-234, and Uranium-238 were exceeded in some samples. Groundwater sampling activities from several nearby wells found levels of total uranium at concentrations of 171.9 pCi/L at well 8K-433 (formerly 8A-299) located approximately 1 mile south of the Moonlight Mine, this well is not believed to be used for drinking

water. Levels of total uranium were also found at concentrations of 40.0 pCi/L at the Monument Valley well, approximately 10.5 miles northeast of the mine (4, 6, 7).

In 2008, the EPA conducted additional groundwater sampling activities throughout the region, and found elevated levels of uranium and arsenic above MCLs at nearby wells. Well 8K-433 had concentrations of uranium at 130 parts per billion (ppb) and arsenic at 11 ppb. The Monument Pass well had concentrations of uranium at 39 ppb and arsenic at 11 ppb (6, 7).

Historical sampling results in the vicinity of the site are presented in Figure 2-1 and Table 2-2.

Table 2-2
Historical Water Sampling Results
In the Vicinity of Moonlight Mine Site

Agency	*Year*	*Sample ID*	*Analyte*	*Result*	*MCL*	*Description*
USGS	1991	MVD-1	Total Uranium	22,440 pCi/L	20.1*pCi/L	Standing water located in Moonlight Mine open pit
USGS	1991	MVD-2	Total Uranium	28,530 pCi/L	20.1*pCi/L	Standing water located in Moonlight Mine open pit
EPA/CDC	1997	08A_180	Total Uranium	31 pCi/L	20.1*pCi/L	Well located approximately 23 miles SE of Site
EPA/CDC	1997	8A179	Total Uranium	46 pCi/L	20.1*pCi/L	Well located approximately 28 miles SE of Site
USACE	1998	8K-433 (Old 8A-299)	Total Uranium	171.9 pCi/L	20.1*pCi/L	Well located approximately 1 miles S of Site
USACE	2000	Monument Valley Well	Total Uranium	40.0 pCi/L	20.1*pCi/L	Well located approximately 10.5 miles NE of Site
EPA	2008	8K-433	Uranium	130 ppb	30 µg/L	Well located approximately 1 miles S of Site
EPA	2008	8K-433	Arsenic	11 ppb	10 µg/L	Well located approximately 1 miles S of Site
EPA	2008	Monument Valley Well	Uranium	39 ppb	30 µg/L	Well located approximately 10.5 miles NE of Site
EPA	2008	Monument Valley Well	Arsenic	11 ppb	10 µg/L	Well located approximately 10.5 miles NE of Site

pCi/L = pico-curies per Liter
ppb = parts per billion
µg/L = micrograms per Liter
MCL = US EPA Maximum Contaminant Level for drinking water
* MCLs in pCi/L based on Tier I conversion of 0.67 pCi/L = 1 µg/L, where uranium MCL = 30 µg/L

In July 2008, WESTON conducted a site visit at the Moonlight Mine site, and gamma radiation measurements were collected throughout the site. Two background readings were collected from locations that appeared to be undisturbed and not associated with mining activities. The two background readings measured at 8,183 counts per minute (cpm) and 7,279 cpm. Readings throughout the site, including the waste rock filled pit, were primarily consistent, ranging from 9,000

to 14,000 cpm. Readings elevated above 50,000 cpm were encountered at a small area northwest of the open pit cap. A home compound approximately 1 mile north of the site was also surveyed, where readings of 8,000 to 10,000 cpm were encountered outside the home, and readings of 12,000 to 13,000 cpm were encountered at the wellheads. Gamma reading locations and measurement maps are presented in Figure 2-2. .

2.4 Regulatory Involvement

2.4.1 U.S. Environmental Protection Agency

In 1997, the EPA in conjunction with the CDC collected groundwater samples of several wells throughout the region, and found elevated levels of total uranium at concentrations of 31.0 pCi/L at well 08A_180, located approximately 23 miles southeast of the Moonlight Mine, and concentrations of 46 pCi/L at well 8A179, located approximately 28 miles southeast of the mine. Uranium mine sites are scattered thoughout the region, and the elevated levels of uranium at these wells are likely attributable to mine sites other than the Moonlight Mine (6).

From 1998 through 2000, the USACE conducted preliminary water sampling activity throughout the Navajo Nation for the EPA. Various sources of water within the Oljato Chapter area were sampled and analyzed for heavy metals and radionuclides. Federal Safe Drinking Water Act's Maximum MCLs for alpha, beta, Radium-226, Uranium-234, and Uranium-238 were exceeded in some samples Groundwater sampling activities from several nearby wells found levels of total uranium at concentrations of 171.9 pCi/L at well 8K-433 (formerly 8A-299) located approximately 1 mile south of the Moonlight Mine, this well is not believed to be used for drinking water. Levels of total uranium were also found at concentrations of 40.0 pCi/L at the Monument Valley well, approximately 10.5 miles northeast of the mine (4, 6, 7).

In 2008, the EPA conducted additional groundwater sampling activities throughout the region, and found elevated levels of uranium and arsenic above MCLs at nearby wells. Well 8K-433 had concentrations of uranium at 130 parts per billion (ppb) and arsenic at 11 ppb. The Monument Pass well had concentrations of uranium at 39 ppb and arsenic at 11 ppb (6, 7).

WESTON collected additional gamma radiation measurements in 2008, indicating the presence of radiation at levels greater than twice the background levels (3). Gamma reading location and measurement maps are presented in Figure 2-3 and Figure 2-4.

The Moonlight Mine site is not listed in the Resource Conservation and Recovery Act Information (RCRAInfo) database, as of August 14, 2008 (8).

2.4.2 Navajo Nation Division of Natural Resources - Navajo Abandoned Mine Lands Reclamation Program

The Surface Mining Control and Reclamation Act of 1977 under public law 95-87 states that land that has been mined and abandoned without adequate reclamation and constituting a hazard to the public health and safety is eligible for reclamation funding by the U.S. Office of Surface Mining Reclamation Enforcement (OSMRE). The NAMLRP required that sites be reclaimed so that the residual gamma emission from the reclaimed surfaces did not exceed 50 micro roentgens per hour, approximately 50,000 counts per minute. In addition, the NAMLRP required that the residual Radium-226 concentration in the first 6 inches of reclaimed soil did not exceed 25 picocuries per gram in order to be considered reclaimed. The NAMLRP backfilled the Moonlight Mine pit in 1994. Reclamation activities conducted by the NAMLRP included backfilling the open pits with radioactive mine waste (low-grade uranium ore) left at the Site, diverting drainage from the backfilled areas, and capping the backfilled areas. Non-contaminated soil may also have been used as cover in some areas. NAMLRP periodically conducts reviews of the reclamation work. During the 2008 WESTON site visit, no erosion or any other damage to the backfilled pit was encountered (2, 4, 5).

2.4.3 United States Geological Survey

In 1991 the United States Geological Survey (USGS) conducted sampling activities of the standing water in the open pit at Moonlight Mine, and found elevated levels of total uranium, at concentrations of 22,440 pico-curies per Liter (pCi/L), and 28,530 pCi/L (6).

3.0 HAZARD RANKING SYSTEM FACTORS

3.1 Sources of Contamination

For HRS purposes, a source is defined as an area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from migration of a hazardous substance.

Potential hazardous substance sources associated with the Moonlight Mine site include, but may not be limited to:

- Excavated onsite mine workings from previous uranium mining with elevated gamma radiation measurements. Gamma radiation measurements collected during a site reconnaissance were greater than twice the background gamma radiation measurements in certain areas of the Site. The measurements meet EPA's HRS criteria on the definition of "contaminated area" at those areas (3).

3.2 Groundwater Pathway

In determining a score for the groundwater migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to groundwater; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on the number of people who regularly obtain their drinking water from wells that are located within 4 miles of the site. The HRS emphasizes drinking water usage over other uses of groundwater (e.g., food crop irrigation and livestock watering), because, as a screening tool, it is designed to give the greatest weight to the most direct and extensively studied exposure routes.

There are two known water wells within 4 miles of the site; the Moonlight Well, approximately 2.5 miles northeast of the site, well 8K-433, approximately 1.5 miles southwest of the site. Water from the Moonlight Well supplies a filling and transfer station located in the town of Goulding, Utah, approximately 5.5 miles northeast of the site. Local residents use the transfer station to collect drinking water for their homes across the general vicinity. While the Navajo Tribal Utility Authority (NTUA) provides water and utilities throughout the region, the NTUA is unaware of the operator of the Moonlight Well. According to the U.S. Census Bureau statistics from 2000, a total population of 864 people currently reside within the Ojato-Monument Valley region and have access to the Moonlight Well. Another well, the Seventh Day Adventist Church (SDA) Well was reported in the 2006 draft Monument Valley Preliminary Assessment report, but was unidentified by the Chapter President and was not found in the EPA database. The SDA Well is reportedly located approximately 2.5 miles northeast of the site, and was estimated to serve 303 people. No known sampling activities have occurred at the Moonlight Well or the SDA Well. Well 8K-433 was sampled as recently as 2008 and was found to contain elevated levels of uranium and arsenic, although this well is not believed to be actively used for drinking water. The wells collect water from the alluvial aquifer. Groundwater in the vicinity of the site location is known to occur in two separate aquifers, an upper alluvial aquifer and a lower confined aquifer. The upper aquifer is encountered at the top depth approximately 13 feet below ground surface (bgs), with soils in the vadoze zone being characterized as highly permeable coarse sands and gravels. The lower aquifer is encountered at a top depth of approximately 45 to 50 feet bgs, and is separated from the upper aquifer by a layer of less permeable conglomerate and mudstone. The water table in the Shinarump was perched during the mining operations at the south ore body. The flow of water subsequently decreased and by 1967 the pit was reportedly dry. The depth of the mining pit was below the top of the known lower aquifer level, the contamination may have found a pathway to migrate into the aquifer (3, 4, 9, 10).

3.3 Surface Water Pathway

In determining the score for the surface water pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to surface water (e.g., streams, rivers, lakes, and oceans); 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, persistence, bioaccumlulation potential, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on drinking water intakes, fisheries, and sensitive environments associated with surface water bodies within 15 miles downstream of the site.

Surface water runoff from the site enters a primary drainage within the Oljato watershed – the El Capitan Wash. The El Capitan Wash courses to the southwest of the Moonlight Mine site and converges with Oljato Wash to the west of the site. The Oljato Wash courses for another 20 miles until emptying in the San Juan River (2, 4).

No known drinking water intakes or fisheries are associated with the El Capitan Wash or Oljato within the immediate vicinity of the site or within 15 miles downstream of the site (4).

3.4 Soil Exposure and Air Pathways

In determining the score for the soil exposure pathway, the HRS evaluates: 1) the likelihood that there is surficial contamination associated with the site (e.g., contaminated soil that is not covered by pavement or at least 2 feet of clean soil); 2) the characteristics of the hazardous substances in the surficial contamination (i.e., toxicity and quantity); and 3) the people or sensitive environments (targets) who actually have been or potentially could be, exposed to the contamination. For the targets component of the evaluation, the HRS focuses on populations that are regularly and currently present on or within 200 feet of surficial contamination. The four populations that receive the most weight are residents, students, daycare attendees, and terrestrial sensitive environments.

There are species of concern that have the potential of occurring within or in the vicinity of the Monument Valley region. These species include: Asclepias cutleri (Cutler milkweed), Astragalus monumentalis var. cottamii (Cottam milkvetch), Carex specuicola (Navajo sedge), Habenaria zothecina (alcove bog-orchid), Phalcelia howlliana (Howell phacelia), Asio otus (Long-eared owl), Butorides striatus (Green-backed heron), Lampropeltis triangulum (Milk snake), Lanius ludovicianus (Loggerhead shrike), Mustela nigripes (Black-footed ferret), Nycticorax nycticorax (Black-crowned night heron), Ovis Canadensis nelsoni (Desert bighorn sheep), Rana pipiens (Northen leopard frog), Speotyto cunicularia (Burrowing owl), and Xantusia vigilis utahensis (Utah night lizard). While all of these have the potential of occurring within the vicinity of the site, none meet the requirement of sensitive species as defined by the HRS (4).

Based on the historic mining operations and the results of the onsite gamma measurements collected on the Moonlight Mine site, there is a potential that contaminants may have been released to onsite

soil. Approximately 15 residences are located within 1 mile of the site. There are no residences, schools or daycare facilities on, or within 200 feet, of the site. In addition, there are no terrestrial sensitive environments, as defined by the HRS, onsite (3, 6, App. B).

4.0 EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40CFR 300.415 (b) (2)] authorizes the USEPA to consider emergency response actions at those sites that pose an imminent threat to human health or the environment. For the following reasons, a referral to Region 9's Emergency Response Office does not appear to be necessary:

- The site does not generation, receive, or store hazardous waste.
- No residences, schools, or daycare centers are within 200 feet of contamination associated with the site.

5.0 SUMMARY

Exploration drilling during the mid-1950s identified several large uranium ore bodies in buried channels in the Oljato syncline area of the Monument Valley, Navajo County, Arizona. The largest of these deposits was the Moonlight Mine. Moonlight Mine was also the second largest deposit in the entire Monument Valley area. The deposit was located on a Navajo Tribal Mining Permit issued in 1953. The site had originally been an underground mine but had been converted to an open pit operation after the deposit size was determined. Mining commenced at the site for approximately 11 years, from 1955 until 1966. The ore bodies at Moonlight Mine were found within the Shinarump channel deposit. The channel at the site was approximately 250 to 300 feet wide and between 50 to 75 feet deep. The Navajo Abandoned Mine Lands (AML) Reclamation Program back filled the pit in 1994. Currently, there are no structures at the mine site (2, 4, 5).

The following pertinent Hazard Ranking System factors are associated with the site:

- Gamma radiation measurements collected during a site reconnaissance were greater than twice the background gamma radiation measurements in certain areas of the Site. The measurements meet EPA's Hazard Ranking System criteria on the definition of "contaminated area" at those areas (3).
- Historical groundwater samples collected from nearby wells have shown the presence of elevated levels of uranium. None of wells sampled are within 4 miles of the site or are actively been used for drinking water (6, 7).
- There are two known water wells within 4 miles of the site, the Moonlight Well, approximately 2.5 miles northeast of the site, and well 8K-433, approximately 1.5 miles southwest of the site. Another well, the SDA Well is reportedly located approximately 2.5 miles northeast of the site, and was estimated to serve 303 people. The Moonlight Well has a transfer station located in the town of Goulding, Utah, approximately 5.5 miles northeast of

the site. Local residents use the transfer station to collect drinking water for their homes. The total population using the well may be approximately of 864 people.(3, 9, 10)

- There are no drinking water intakes within 15 miles downstream of the site (4).
- No residences, schools, or daycare centers are within 200 feet of contamination associated with the site (3).

6.0 REFERENCE LIST

1. U.S. Environmental Protection Agency, Envirofacts Warehouse CERCLIS query results, http://www.epa.gov/enviro/html/cerclis/cerclis_query.html, accessed August 7, 2008.

2. Chenoweth, William L., Arizona Geological Survey – Geology and Production History of the Moonlight Uranium and Vanadium Mine, Navajo County, Arizona, July 2003.

3. Weston Solutions, Inc., Field Screening Data, Moonlight Mine site, July 2008.

4. Navajo Nation Environmental Protection Agency Waste Regulatory Compliance Department, Preliminary Assessment Report – Monument Valley Aggregated Uranium Mines, February 2006.

5. Navajo Nation, Monument Valley 4 AML Reclamation Project Proposal Documents, June 2001.

6. U.S. Environental Protection Agency, Abandoned Uranium Mines And The Navajo Nation - North Central AUM Region Screening Assessment Report, 2008.

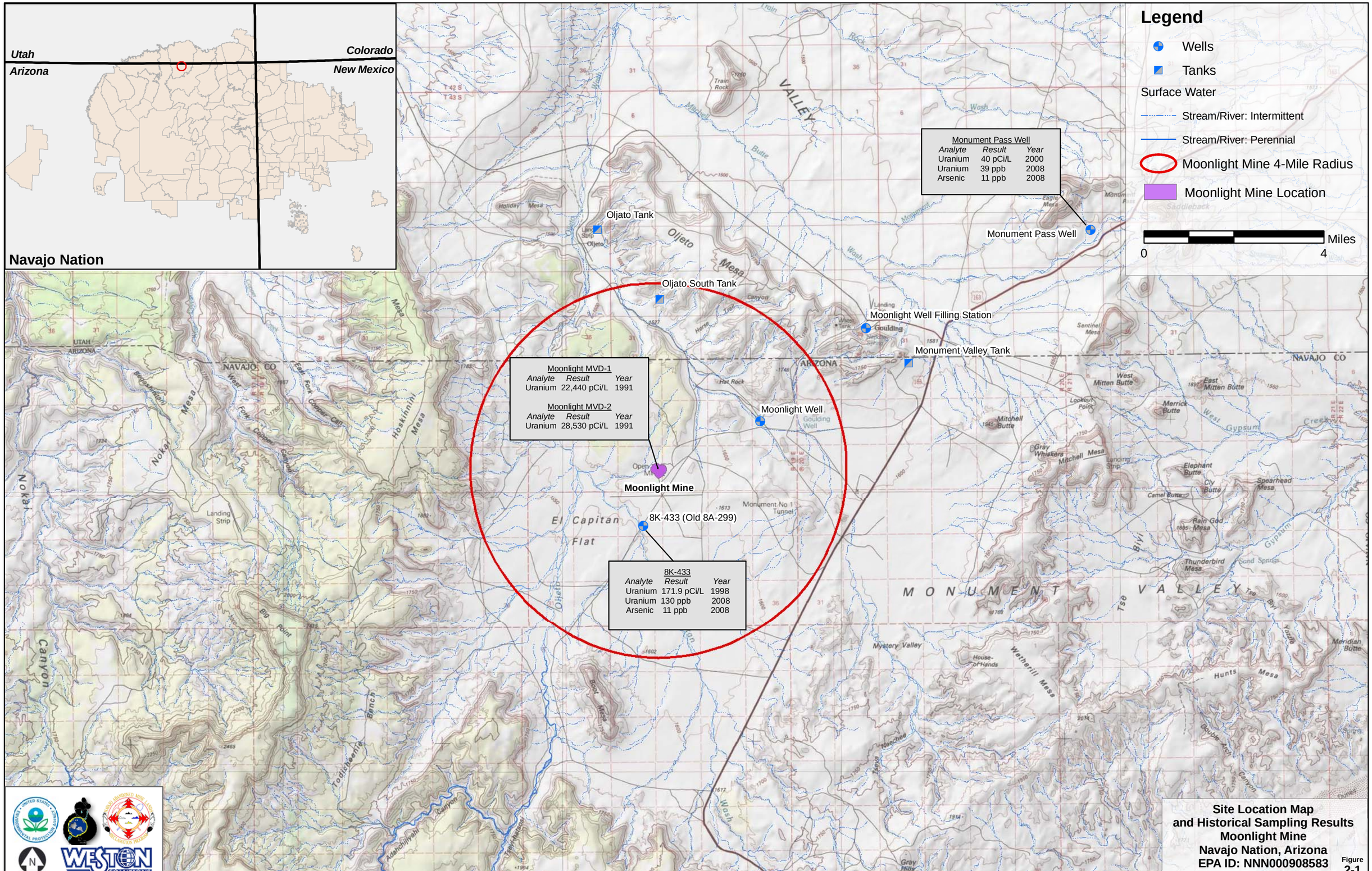
7. Reeves, Linda, U.S. Environmental Protection Agency, Email correspondence with attached tables and figures.

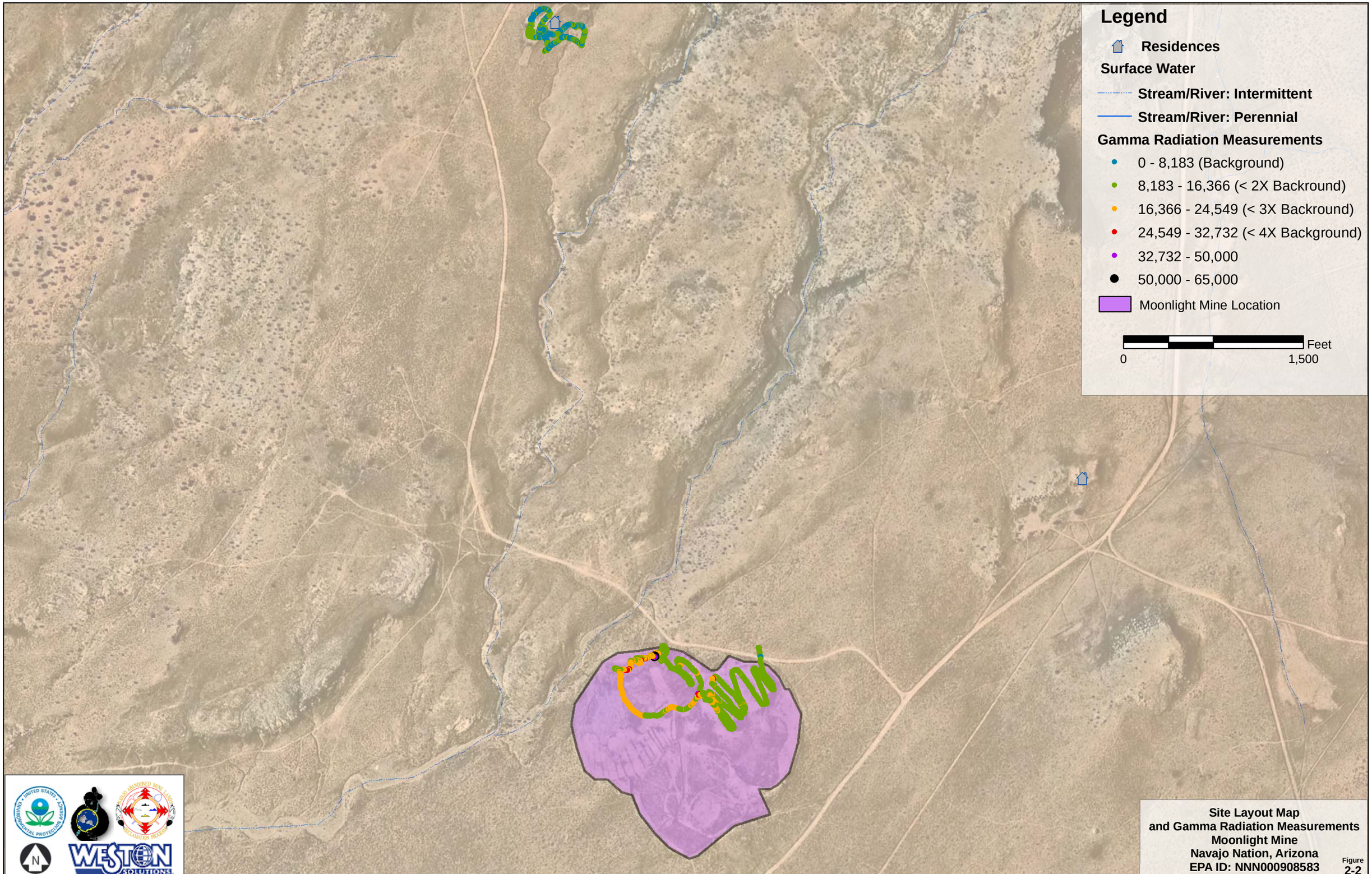
8. U.S. Environmental Protection Agency, Envirofacts Warehouse RCRAInfo Query Results, http://oaspub.epa.gov/enviro/fii_master.fii_retrieve?fac_search=primary_name&fac_value=NNN000908583&fac_search_type=Beginning+With&postal_code=&location_address=&add_search_type=Beginning+With&city_name=&county_name=&state_code=&epa_region_code=&naic_code_desc=&naic_code=&all_programs=YES&univ_search=0&univA=FULL_ENFORCEMENT&univB=LQG&LIBS=&proc_group=0&procname=&program_search=1&report=1&page_no=1&output_sql_switch=TRUE&database_type=RCRAINFO, accessed August 14, 2008.

9. Austin, Jimmy, Navajo Tribal Utility Authority, Telephone conversation recorded on Contact Report by Alex Grubb, WESTON, August 15, 2008.

10. U.S. Census Bureau, Oljato-Monument Valley Census Demographic Profile Fact Sheet, accessed August 20, 2008.

Note: This document is confidential and is included in the confidential information packet.


Utah
Colorado
Arizona
New Mexico
Navajo Nation
Legend
Wells
Tanks
Surface Water
Stream/River: Intermittent
Stream/River: Perennial
Moonlight Mine 4-Mile Radius
Moonlight Mine Location
0
4
Miles
Monument Pass Well
Analyte Result Year
Uranium 40 pCi/L 2000
Uranium 39 ppb 2008
Arsenic 11 ppb 2008
Monument Pass Well
Oljato Tank
Oljato South Tank
Moonlight Well Filling Station
Monument Valley Tank
Moonlight Well
Moonlight MVD-1
Analyte Result Year
Uranium 22,440 pCi/L 1991
Moonlight MVD-2
Analyte Result Year
Uranium 28,530 pCi/L 1991
Moonlight Mine
8K-433 (Old 8A-299)
8K-433
Analyte Result Year
Uranium 171.9 pCi/L 1998
Uranium 130 ppb 2008
Arsenic 11 ppb 2008
NAVAJO CO
ARIZONA
UTAH
MONUMENT VALLEY
El Capitan Flat
Oljato Mesa
Goulding
Train Rock
Eagle Mesa
Sentinel Mesa
West Mitten Butte
East Mitten Butte
Merrick Butte
Mitchell Butte
Gray Whiskers
Mitchell Mesa
Elephant Butte
Cly Butte
Spearhead Mesa
Camel Butte
Rain God Mesa
Thunderbird Mesa
Sand Springs
Meridian Butte
Hunts Mesa
Mystery Valley
House of Hands
Wetherill Mesa
Tsegi Bluff
Tsegi Canyon
Nokai Canyon
Todichaenini Bench
Big Point
Boot Mesa
Hoskininni Mesa
Monument No 1 Tunnel
Landing Strip
Gypsum Creek
Gray Hills
Saddleback
Holiday Mesa
Hat Rock
Horse Trail
Mushroom Butte
Adahchilyahi Canyon
Tsay-Nacod Canyon
Double Arch Canyon
Site Location Map
and Historical Sampling Results
Moonlight Mine
Navajo Nation, Arizona
EPA ID: NNN000908583
Figure
2-1



Site Layout Map
and Gamma Radiation Measurements
Moonlight Mine
Navajo Nation, Arizona
EPA ID: NNN000908583

Figure
2-2

APPENDIX A:
Transmittal List

TRANSMITTAL LIST

Date: September 24, 2008
Site Name: Moonlight Mine
EPA ID No.: NNN000908583

A copy of the Preliminary Assessment Report for the Moonlight Mine site should be sent to the following people:

Stanley Edison
Navajo Superfund Program
Navojo Nation Environmental Protection Agency
P.O. Box 2946
Window Rock, AZ 86515

Melvin Yazzie
Navajo AML Shiprock Office
P.O. Box 3605
Shiprock, NM 87420

James Black
Chapter President
Oljato Chapter Administration
P.O. Box 360455
Monument Valley, UT 84536

APPENDIX B:
Site Reconnaissance Interview and Observation Report/ Photographic Documentation

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT/PHOTOGRAPHIC DOCUMENTATION

DATE: July 4, 2008

OBSERVATIONS MADE BY: Joseph DeFao

SITE: Moonlight Mine

EPA ID: NNN000908583

A site visit was conducted on July 4, 2008. The following information was obtained and photographs were taken during the site visit:

The weather was hot and sunny. The temperature was approximately 100°F.

Prior to the site visit of the Moonlight Mine, WESTON employees Joe DeFao and Tommy Evans met with Oljato Chapter President James Black in Goulding, Utah. Mr. Black led the WESTON team to the Moonlight Mine site. Before arriving at the site, Mr. Black identified a well that was located approximately 2.5 miles to the northeast of the site. Mr. Black explained that residents living in the Oljato Chapter obtain their drinking water from this well. He indicated that water is delivered to a transfer station at the post office, located in the town of Goulding. Individual residents fill up portable tanks with the water from the transfer station. WESTON collected a GPS reading at the well location.

Upon arrival at the Moonlight Mine site, Mr. Black helped WESTON locate the reclaimed mine site, which has been backfilled with native material and re-vegetated. Additionally, Mr. Black identified a house located to the north of the mine site. He indicated that the residents lived closer to the mine during its operation; however, they moved further away due to concerns about impacts from the mine. During the visit, WESTON collected gamma radiation readings throughout the site using a combination sodium-iodide scintillation detector and a GPS unit. A stand-alone scintillation detector was used as well. Background radiation readings were collected to the north of the site in an area that appeared to be undisturbed by mining activites. In addition to collecting radiation readings at the Moonlight Mine site, WESTON collected readings at the residence located to the north of the site.

No surface water runoff was identified during the site visit. No animal species were identified on the site; however, the site was partially re-vegetated with native plants.

Photographic Documentation
Moonlight Mine Site
Navajo County, Arizona

Photo 1: View of the reclaimed surface of the Moonlight Mine site.

Photo 2: Background radiation readings were collected near the shrubs beyond the vehicle.

Photographs taken by Joseph DeFao, Weston Solutions, Inc.

Photo 3: WESTON collecting gamma radiation readings using a combination scintillation detector and GPS unit.

Photo 4: WESTON collecting readings with a stand-alone scintillation detector.

Photographs taken by Joseph DeFao, Weston Solutions, Inc.

APPENDIX C:
Contact Log and Contact Reports

CONTACT LOG

SITE: MOONLIGHT MINE
EPA ID NO.: NNN000908583

Name	Affiliation	Phone	Date	Information
Jimmy Austin	Navajo Tribal Utility Authority – Kayeta District Office	928-697-3574	08/15/08	See Contact Report

CONTACT REPORT

AGENCY/AFFILIATION: Navajo Tribal Utility Authority		
DEPARTMENT: Kayeta District Office		
ADDRESS/CITY: P.O. Box 37, Kayeta		
COUNTY/STATE/ZIP: Navajo County, AZ 86033		
CONTACT(S)	TITLE	PHONE
Jimmy Austin	District Officer	928-697-3574
PERSON MAKING CONTACT: Alex Grubb		DATE: 8/15/08
SUBJECT: Moonlight Well		
SITE NAME: Moonlight Mine		EPA ID#: NNN000908583

Water generated at the Moonlight Well is distributed at a filling station in the town of Goulding, Utah. Local residents collect drinking water for their homes at the filling station. Mr. Austin was not able to define an exact number of the users of the well, but noted that lines regularly form around the filling station. He does not believe the NTUA operates the well, and is not sure what agency would be responsible for it. He is going to check with other associates to see if the owner/operator of the well can be identified.

APPENDIX D:
Latitude and Longitude Calculation Worksheet

Latitude and Longitude Calculation Worksheet (7.5' quads)
Using an Engineer♠s Scale (1/50)

Site Name Moonlight Mine **CERCLIS #** N N N 0 0 0 9 0 8 5 8 3

AKA

Address 5 miles South of Oljato, Utah

City Oljato **State** U T **t**

Site Reference Point

USGS Quad Name **Scale**

Township **Range** **Section** ♠ ♠ ♠

Map Datum ☐ **1927** ☐ **1983** **(Check one)** **Meridian**

Map coordinates at southeast corner of 7.5' quadrangle (attach photocopy)

Latitude E ♣ ■N **Longitude** E ♣ ■W

Map coordinates at southeast corner of 2.5' grid cell

Latitude E ♣ ■N **Longitude** E ♣ ■W

Calculations

LATITUDE(x)

A) Number of ruler graduations between 2.5' (150") grid lines **(a)**

B) Number of ruler graduations between south grid line and the site reference point **(b)**

C) Therefore, a/150 = b/x, where **x= Latitude in decimal seconds, north of the south grid line**

Expressed as minutes and seconds (1' = 60") = E ♣ ■N

Add to grid cell latitude = E ♣ ■N + E ♣ ■N

Site latitude = 3 6 E 5 7 ♣ 4 9 ■N”

LONGITUDE(y)

A) Number of ruler graduations between 2.5' (150") grid lines **(a)**

B) Number of ruler graduations between south grid line and the site reference point **(b)**

C) Therefore, a/150 = b/x, where **x= Longitude in decimal seconds, west of the east grid line**

Expressed as minutes and seconds (1" = 60") = E ♣ ■W

Add to grid cell longitude = E ♣ ■N + E ♣ ■N

Site longitude = 1 1 0 E 1 7 ♣ 6 3 ■W•

APPENDIX E
References

APPENDIX F
EPA Quick Reference Fact Sheet

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Publication 9345.4-03FS
September 1993

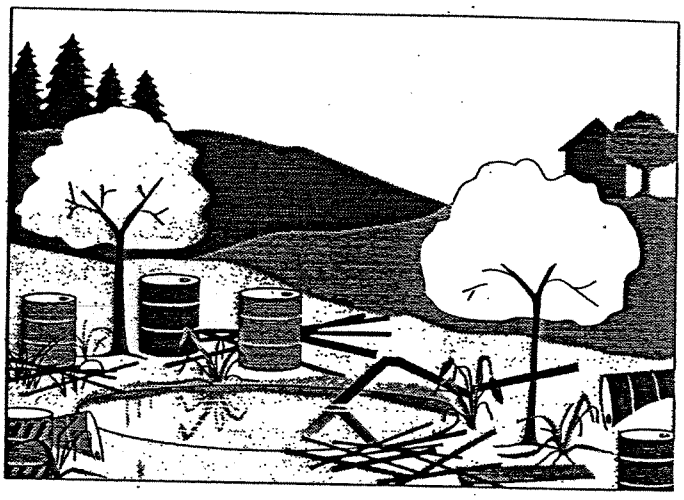
EPA

SITE ASSESSMENT:
Evaluating Risks at Superfund Sites

Office of Emergency and Remedial Response
Hazardous Site Evaluation Division 5204G

Quick Reference Fact Sheet

The Challenge of the Superfund Program



A series of headline-grabbing stories in the late 1970s, such as Love Canal, gave Americans a crash course in the perils of ignoring hazardous waste. At that time, there were no Federal regulations to protect the country against the dangers posed by hazardous substances (mainly industrial chemicals, accumulated pesticides, cleaning solvents, and other chemical products) abandoned at sites throughout the nation. And so, in 1980 Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, to address these problems.

The major goal of the Superfund program is to protect human health and the environment by cleaning up areas, known as "sites," where hazardous waste contamination exists. The U.S. Environmental Protection Agency (EPA) is responsible for implementing the Superfund program.

At the time it passed the Superfund law, Congress believed that the problems associated with uncontrolled releases of hazardous waste could be handled in five years with $1.6 billion dollars. However, as more and more sites were identified, it became apparent that the problems were larger than anyone had originally believed. Thus, Congress passed the Superfund Amendments and Reauthorization Act (SARA) in 1986. SARA expanded and strengthened the authorities given to EPA in the original legislation and provided a budget of $8.5 billion over five years. Superfund was extended for another three years in 1991.

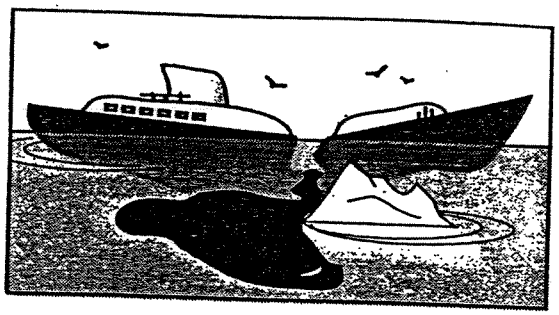
What is EPA's Job at Superfund Sites?

For more than 10 years, EPA has been implementing the Superfund law by:

- Evaluating potential hazardous waste sites to determine if a problem exists;
- Finding the parties who caused the hazardous waste problems and directing them to address these problems under EPA oversight or requiring them to repay EPA for addressing these problems; and
- Reducing immediate risks and tackling complex hazardous waste problems.

The Superfund site assessment process generally begins with the discovery of contamination at a site and ends with the completion of remediation (i.e., cleaning up the waste at a site) activities. This fact sheet explains the early part of the process, called the *site assessment* phase.

The National Response Center



The National Response Center (NRC), staffed by Coast Guard personnel, is the primary agency to contact for reporting all oil, chemical, and biological discharges into the environment anywhere in the U.S. and its territories. It is responsible for:

- Maintaining a telephone hotline 365 days a year, 24 hours a day;
- Providing emergency response support in specific incidents; and
- Notifying other Federal agencies of reports of pollution incidents.

To report a pollution incident, such as an oil spill, a pipeline system failure, or a transportation accident involving hazardous material, call the NRC hotline at **800-424-8802.**

1 Site Discovery

Hazardous waste sites are discovered in various ways. Sometimes concerned residents find drums filled with unknown substances surrounded by dead vegetation and call the NRC, EPA, or the State environmental agency; or an anonymous caller to the NRC or EPA reports suspicious dumping activities. Many sites come to EPA's attention through routine inspections conducted by other Federal, State, or local government officials. Other sites have resulted from a hazardous waste spill or an explosion. EPA enters these sites into a computer system that tracks any future Superfund activities.

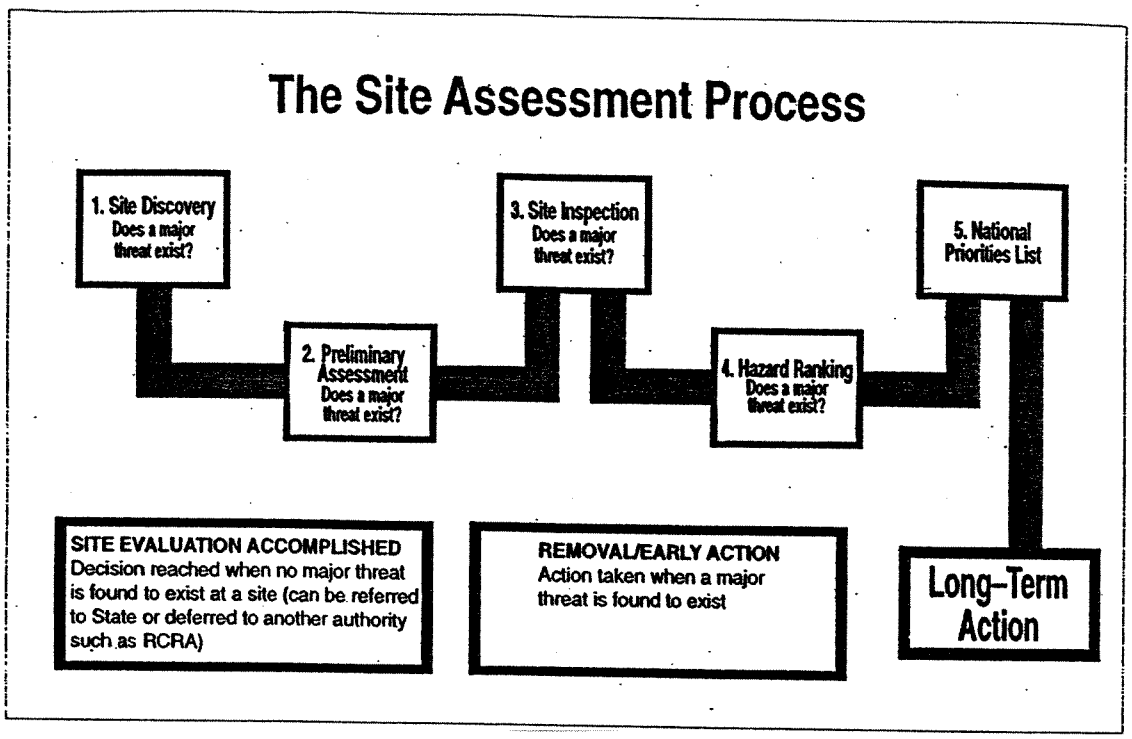
2 Preliminary Assessment

After learning about a site, the next step in the site assessment process is to gather existing information about the site. EPA calls this the *preliminary assessment*. Anyone can request that a preliminary assessment be performed at a site by petitioning EPA, the State environmental agency, local representatives, or health officials.

During the preliminary assessment, EPA or the State environmental agency:

- Reviews available background records;
- Determines the size of the site and the area around it;
- Tries to determine whether hazardous substances are involved;
- Identifies actual or potential pollution victims, such as the nearby population and sensitive environments;
- Makes phone calls or interviews people who may be familiar with the site; and
- Evaluates the need for early action using EPA's removal authority.

By gathering information and possibly visiting the site, EPA or the State environmental agency is able to determine if major threats exist and if cleanup is needed. Many times, the preliminary assessment indicates that no major threats exist.



However, if hazardous substances do pose an immediate threat, EPA quickly acts to address the threat. When a site presents an immediate danger to human health or the environment—for example, there is the potential for a fire or an explosion or the drinking water is contaminated as a result of hazardous substances leaking out of drums—EPA can move quickly to address site contamination. This action is called a *removal* or an *early action*. Additional information on early actions can be found on page 4.

EPA or the State environmental agency then decides if further Federal actions are required. Of the more than 35,000 sites discovered since 1980, only a small percentage have needed further remedial action under the Federal program.

A report is prepared at the completion of the preliminary assessment. The report includes a description of any hazardous substance release, the possible source of the release, whether the contamination could endanger people or the environment, and the pathways of the release. The information outlined in this report is formed into hypotheses that are tested if further investigation takes place. You can request a copy of this report once it becomes final— just send your name and address to your EPA regional Superfund office. See page 8 for further information on these contacts.

Sometimes it is difficult to tell if there is contamination at the site based on the initial information gathering. When this happens, EPA moves on to the next step of the site assessment, called the *site inspection.*

Making Polluters Pay

One of the major goals of the Superfund program is to have the responsible parties pay for or conduct remedial activities at hazardous waste sites. To accomplish this goal, EPA:

- Researches and determines who is responsible for contaminating the site;
- Issues an order requiring the private parties to perform cleanup actions with EPA oversight; and
- Recovers costs that EPA spends on site activities from the private parties.

Removals/Early Actions

EPA can take action quickly if hazardous substances pose an immediate threat to human health or the environment. These actions are called *removals* or *early actions* because EPA rapidly eliminates or reduces the risks at the site. EPA can take a number of actions to reduce risks, including:

- Fencing the site and posting warning signs to secure the site against trespassers;
- Removing, containing, or treating the source of the contamination;
- Providing homes and businesses with safe drinking water; and, as a last resort,
- Temporarily relocating residents away from site contamination.

"EPA can take action quickly if hazardous substances pose an immediate threat to human health or the environment."

3 Site Inspection

If the preliminary assessment shows that hazardous substances at the site may threaten residents or the environment, EPA performs a site inspection. During the site inspection, EPA or the State collects samples of the suspected hazardous substances in nearby soil and water. EPA may initiate a concurrent SI/remedial investigation at those sites that are most serious and determined early as requiring long-term action. Sometimes, wells have to be drilled to sample the ground water. Site inspectors may wear protective gear, including coveralls and respirators, to protect themselves against any hazardous substances present at the site. Samples collected during the site inspection are sent to a laboratory for analysis to help EPA answer many questions, such as:

- Are hazardous substances present at the site? If so, what are they, and approximately how much of each substance is at the site?
- Have these hazardous substances been released into the environment? If so, when did the releases occur, and where did they originate?
- Have people been exposed to the hazardous substances? If so, how many people?
- Do these hazardous substances occur naturally in the immediate area of the site? At what concentrations?
- Have conditions at the site gotten worse since the preliminary assessment? If so, is an early action or removal needed? (See box above.)

Often, the site inspection indicates that there is no release of major contamination at the site, or that the hazardous substances are safely contained and have no possibility of being released into the environment. In these situations, EPA decides that no further Federal inspections or remedial actions are needed. This decision is referred to as *site evaluation accomplished.* (See page 5 for more details on the *site evaluation accomplished* decision.)

At the completion of the site inspection, a report is prepared. This report is available to the public–call your EPA regional Superfund office for a copy. See page 8 for the phone numbers of these offices.

"During the site inspection, EPA or the State collects samples of the suspected hazardous substances in nearby soil and water."

At sites with particularly complex conditions, EPA may need to perform a second SI to obtain legally defensible documentation of the releases.

Because EPA has limited resources, a method has been developed to rank the sites and set priorities throughout the nation. That method, known as the *Hazard Ranking System*, is the next step in the site assessment process.

4 Hazard Ranking System

EPA uses the information collected during the preliminary assessment and site inspection to evaluate the conditions at the site and determine the need for long-term remedial actions. When evaluating the seriousness of contamination at a site, EPA asks the following questions:

- Are people or sensitive environments, such as wetlands or endangered species, on or near the site?
- What is the toxic nature and volume of waste at the site?
- What is the possibility that a hazardous substance is in or will escape into ground water, surface water, air, or soil?

Based on answers to these questions, each site is given a score between zero and 100. Sites that score 28.5 or above move to the next step in the process: listing on the *National Priorities List*. Sites that score below 28.5 are referred to the State for further action.

Site Evaluation Accomplished

In many instances, site investigators find that potential sites do not warrant Federal action under the Superfund program. This conclusion can be attributed to one of two reasons:

- The contaminants present at the site do not pose a major threat to the local population or environment; or
- The site should be addressed by another Federal authority, such as EPA's Resource Conservation and Recovery Act (RCRA) hazardous waste management program.

When investigators reach this conclusion, the site evaluation is considered accomplished. A site can reach this point at several places during the site assessment process, namely at the conclusion of the preliminary assessment or the site inspection, or once the site is scored under the Hazard Ranking System.

5 National Priorities List

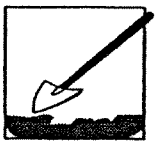
Sites that are listed on the *National Priorities List* present a potential threat to human health and the environment, and require further study to determine what, if any, remediation is necessary. EPA can pay for and conduct remedial actions at NPL sites if the responsible parties are unable or unwilling to take action themselves. There are three ways a site can be listed on the National Priorities List:

- It scores 28.5 or above on the Hazard Ranking System;
- If the State where the site is located gives it top priority, the site is listed on the National Priorities List regardless of the HRS score; or
- EPA lists the site, regardless of its score, because all of the following are true about the site:
  - The Agency for Toxic Substances and Disease Registry (ATSDR), a group within the U.S. Public Health Service, issues a health advisory recommending that the local population be *dissociated* from the site (i.e., that the people be temporarily relocated or the immediate public health threat be removed);
  - EPA determines that the site poses a significant threat to human health; and
  - Conducting long-term remediation activities will be more effective than addressing site contamination through early actions.

The list of proposed sites is published in the *Federal Register*, a publication of legal notices issued by Federal agencies. The community typically has 60 days to comment on the list. After considering all comments, EPA publishes a list of those sites that are officially on the National Priorities List. When a site is added to the National Priorities List, the site assessment is completed. Long-term actions take place during the next phase. See page 6 for more details on long-term actions.

As a Concerned Citizen, How Can I Help ?

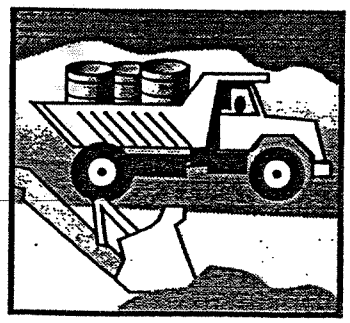
- Read this fact sheet.
- Call EPA with any potential sites in your area.
- Provide EPA with site information.
- Comment on proposed listing of sites on the National Priorities List.
- If the site is listed on the NPL, work with your citizens' group to apply for a technical assistance grant.



Addressing Sites in the Long Term

Once a site is placed on the National Priorities List, it enters the long-term or remedial phase. The stages of this phase include:

- ✓ Investigating to fully determine the nature and extent of contamination at the site, which can include a public health assessment done by the ATSDR;
- ✓ Exploring possible technologies to address site contamination;
- ✓ Selecting the appropriate technologies—also called remedies;
- ✓ Documenting the selected remedies in a record of decision (ROD);
- ✓ Designing and constructing the technologies associated with the selected remedies;
- ✓ If necessary, operating and maintaining the technologies for several years (e.g., long-term treatment of ground water) to ensure safety levels are reached; and
- ✓ Deleting the site from the National Priorities List, completing Superfund's process and mission.



Some Commonly Asked Questions

Q: What exactly is a site?

A: EPA designates the area in which contamination exists as the "site." Samples are taken to define the area of contamination. At any time during the cleanup process the site may be expanded if contamination is discovered to have spread further.

Q: How long will it take to find out if a threat exists?

A: Within one year of discovering the site, EPA must perform a preliminary assessment. The preliminary assessment allows EPA to determine if there is an immediate danger at the site; if so, EPA takes the proper precautions. You will be notified if you are in danger. EPA may also contact you to determine what you know about the site.

Q: What is the State's role in all these investigations?

A: The State can take the lead in investigating and addressing contamination. It also provides EPA with background information on (1) immediate threats to the population or environment, and (2) any parties that might be responsible for site contamination. The State shares in the cost of any long-term actions conducted by the Superfund program, comments on the proposal of sites to the National Priorities List, and concurs on the selected remedies and final deletion of sites from the National Priorities List.

Q: Why are private contractors used to assess sites?

A: EPA has a limited workforce. By using private contractors, EPA is able to investigate more sites. Also, EPA is able to draw on the expertise of private contracting companies.

Q: Why are there so many steps in the evaluation process? Why can't you just take away all the contaminated materials right now, just to be safe?

A: When EPA assesses a site, it first determines if contamination poses any threats to the health of the local population and the integrity of the environment. Dealing with worst sites first is one of Superfund's national goals. By evaluating contamination in a phased approach, EPA can quickly identify sites that pose the greatest threats and move them through the site assessment process. Once EPA understands the conditions present at a site, it searches for the remedy that will best protect public health and the environment. Cost is only one factor in weighing equally protective remedies. Many sites do not warrant actions because no major threat exists. However, if a significant threat does exist, EPA will take action.

about Superfund Sites

Q: If a site is added to the National Priorities List, how will we know when EPA has completed the cleanup efforts?

A: EPA notifies the public and requests their comments on the actions proposed to treat site contaminants. In addition, the community is notified when a site will be deleted from the National Priorities List. The entire process can take as long as 7 years; at sites where ground water is contaminated, it can take even longer.

Q: I live next door to a site and I see EPA and contractor personnel wearing "moon suits." Am I safe?

A: EPA and contractor personnel wear protective gear because they might actually be handling hazardous materials. Also, these people are regularly exposed to contaminants at different sites and do not always know what contaminants they are handling. EPA takes steps to protect the public from coming in contact with the site contamination. If a dangerous situation arises, you will be notified immediately.

Q: If a site is added to the National Priorities List, who pays for the activities?

A: EPA issues legal orders requiring the responsible parties to conduct site cleanup activities under EPA oversight. If the parties do not cooperate, Superfund pays and files suit for reimbursement from responsible parties. The sources of this fund are taxes on the chemical and oil industries; only a small fraction of the fund is generated by income tax dollars.

Q: How can I get more information on any health-related concerns?

A: Contact your EPA regional Superfund office for more information. The ATSDR also provides information to the public on the health effects of hazardous substances. Ask your EPA regional Superfund office for the phone number of the ATSDR office in your region.

Q: How can I verify your findings? What if I disagree with your conclusions?

A: You can request copies of the results of the site assessment by writing to your EPA regional Superfund office. The public is given the opportunity to comment on the proposal of a site to the National Priorities List and the actions EPA recommends be taken at the site. If a site in your community is listed on the National Priorities List, a local community group may receive grant funds from EPA to hire a technical advisor. Call your EPA regional Superfund office (see page 8) for the location of an information repository and for information on applying for a **technical assistance grant.**

Q: How can I get further information? How can I get a list of the sites EPA has investigated?

A: Contact your EPA regional Superfund office (see page 8) for more information and a list of sites in your area.

Important Phone Numbers

For information on the Superfund program or to report a hazardous waste emergency, call the national numbers below.

U.S. EPA Headquarters Hazardous Site Evaluation Division

- Site Assessment Branch
  703-603-8860

Federal Superfund Program Information

- EPA Superfund Hotline
  800-424-9346

Emergency Numbers:

Hazardous Waste Emergencies

- National Response Center
  800-424-8802

ATSDR Emergency Response Assistance

- Emergency Response Line
  404-639-0615

For answers to site-specific questions and information on opportunities for public involvement, contact your region's Superfund community relations office.

EPA Region 1: *Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont*

- Superfund Community Relations Section
  617-565-2713

EPA Region 2: *New Jersey, New York, Puerto Rico, Virgin Islands*

- Superfund Community Relations Branch
  212-264-1407

EPA Region 3: *Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia*

- Superfund Community Relations Branch
  800-438-2474

EPA Region 4: *Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee*

- Superfund Site Assessment Section
  404-347-5065

EPA Region 5: *Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin*

- Office of Superfund
  312-353-9773

EPA Region 6: *Arkansas, Louisiana, New Mexico, Oklahoma, Texas*

- Superfund Management Branch, Information Management Section
  214-655-6718

EPA Region 7: *Iowa, Kansas, Missouri, Nebraska*

- Public Affairs Office
  913-551-7003

EPA Region 8: *Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming*

- Superfund Community Involvement Branch
  303-294-1124

EPA Region 9: *Arizona, California, Hawaii, Nevada, American Samoa, Guam*

- Superfund Office of Community Relations
  800-231-3075

EPA Region 10: *Alaska, Idaho, Oregon, Washington*

- Superfund Community Relations
  206-553-2711