



**ACTION MEMORANDUM**  
**Dutchman Flat, Wild Dutchman, New Idea, Security**  
**And First Northerly Extension of Wild Dutchman Claims**  
**MS 5890, Lot 68, and MS 5866**

**PURPOSE**

A release, or significant threat of a release, of hazardous substances that potentially pose a threat to public health, welfare, or the environment has occurred or may occur at the Dutchman Flat area in American Fork Canyon (or the Site) on and/or from lands under the jurisdiction, custody, and control, of the USDA Forest Service, Uinta National Forest (National Forest System or NFS lands), Pleasant Grove Ranger District, or privately owned lands adjacent to NFS lands.

The purpose of this Action Memorandum is to document, pursuant to the guidelines of the *National Oil and Hazardous Substance Contingency Plan (NCP)*, 40 CFR 300, et. Seq. (1995), the decision to initiate a CERCLA Time Critical Removal Action, as authorized by *Section 104 (42 USC 9604) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; 42 USC 9601 et seq.)*, and *Executive Order 12580, 52 Federal Register 2923-26 (January 23, 1987)*. For the reasons herein stated, I hereby authorize the below described actions to occur on National Forest System lands.

**SITE CONDITIONS AND BACKGROUND**

The Site is located at an elevation of 7,800 feet, adjacent to the North Fork of the American Fork River, American Fork Canyon, Utah County, Utah. The Site is in Sections 27 and 28, T3S, R3E, SLB&M. (*See Project Site Map.*)

The Site consists of mine waste dumps generated by historic mining activity on the Wild Dutchman claim and a combination of a mill site, mine waste dump, and tailings pond at Dutchman Flat. The site is situated at the base of Miller Hill at the confluence of Mary Ellen Gulch stream and the North Fork of American Fork River. The Site is tied to mines known as either Dutchman or the Wild Dutchman in the literature and generally referred to as the Whirlwind Tunnel. Often the various units listed above are referred to as the Dutchman properties, with no differentiation as to which claim is actually being discussed. The purpose and scope of this Action Memo is to address the removal and disposal in a common repository of the Dutchman Mill tailings and the mine waste piles at Dutchman Flat and Wild Dutchman. A separate Action Memorandum addresses the Pacific Mine waste pile, Pacific Mill site, and the Pacific Mill tailings. These two Sites may be addressed through a singular removal action and contractual instrument. Both Sites were determined to be eligible for listing in the National Register of Historic Places in a June 8, 1994 report entitled "*Heritage Resource Inventory of American Fork Area Mine Closures, Utah County, Utah*".

*Historic Mining Activity*

In July of 1870, a group of miners in the American Fork Canyon formed the organization of the American Fork Mining District, with the town of Forest City (18 miles from American Fork) designated as the mining town and headquarters for the district. In September of the same year, the Miller Brothers found rich mineral deposits on top of Miller Hill, approximately 1 ½ miles upslope from the Site. In 1871, the Aspinwall Company bought out the Miller Brothers for \$190,000. They incorporated under the title of the Miller Mining and Smelting Company, with the principal owners being General Lloyd Aspinwall and Mr. Howland of New York, L.A. Hopkind of Chicago, and Mr. Baskin of Salt Lake City.

The Wild Dutchman mine is a 1/4 mile east of Forest City. It was discovered in 1870, patented in June 1891. Five large bodies of ore have been found, one 20 feet from the surface, one 300 feet from the surface, and others between these. The ore is the usual ochery carbonate of lead found in a limestone formation and contains small amounts of heavy spar. The mine was opened by seven working tunnels from the hillsides at various levels. The total product of the mine to 1880 was estimated at 7,900 tons, averaging 45 ounces of silver and 40 percent lead. After 1876, the mine was worked intermittently by various lessees until 1917.

Dutchman Flat was located on December 23, 1904 but never went to patent, nor did Security. In 1917 some ore was milled in a 100-ton concentration plant, erected by the Fissures Corporation at the portal of the Dutchman tunnel. The concentrator was subsequently dismantled and re-erected at the mouth of the Pacific (Blue Rock) tunnel, further up American Fork Canyon. According to the report on precious metals of the Director of the Mint for 1880, the development working at the Dutchman properties, consisting of tunnels, drifts, shafts, and winzes amounted to 20,000 feet. Very little additional work was done after 1880. Lessees were working in the lower tunnel in 1936, 1939, and 1942. From 1901 to the end of 1916 lessees of the Dutchman produced 2,492 tons of ore, averaging 89 cents in gold and 47.58 ounces of silver to the ton and 27.89 percent lead. About half of one percent of copper was contained in the total ore shipped. In 1939 and 1942 ore very rich in galena and sphalerite was mined below the lower tunnel. The ore was mainly a lead-silver ore, though zinc is said to have been relatively abundant in the lower workings. Barite appears to have been present in much of the ore and was locally abundant. Mining activity at the Site ceased in the 1950's and remains inactive, although a mining lease was granted on Wild Dutchman, New Idea, and the First Northerly Extension of Wild Dutchman from 1981 to 1986.

### *Current Uses*

American Fork Canyon has over 1.2 million visitors pass through a fee collection station at the mouth of the canyon each year. The majority of those visitors live in Utah Valley or in the cities to the north along the Wasatch Front. The popularity of the North Fork of American Fork Canyon is in part due to the fact that it comprises a block of public and private lands totaling 14,500 acres classified as "Roaded" with roads and trails open to ATV use. It is surrounded by much larger areas of Designated Wilderness and Inventoried Unroaded Lands. Some people come to the North Fork to recreate because it is less restricted than any other NFS lands in as close a proximity to Utah's population center. (*See the ATV Riding Opportunities on NFS Lands Along the Wasatch Front map attached.*)

The Site lies along the North Fork of the American Fork River, a popular motorized recreation route which leads to the Site's tailings pile, and Pacific Mill's tailings pile, farther up the canyon. There are individuals who frequent these sites almost daily during the summer months preferring it to the roads and trails designated on the

Forest for ATV use.

Notable tourist attractions are the historic mining landscape of the area amidst the scenic beauty of the canyon and the large skiing recreational use being continuously developed in the area. In 1999 ski runs and lifts were constructed in the headwaters of American Fork Canyon by Snowbird Ltd. accessed from their resort in Little Cottonwood Canyon on the Wasatch-Cache National Forest.

### *National Forest Management Direction*

The Uinta National Forest completed its Land and Resource Management Plan in 1984. The Site falls within the Pleasant Grove Management Area #2. The Plan states that population increases nearby will place increased demand on the area. Recreation-related activities will probably be the major use. Recreational use in the project area includes motorized sight seeing, ATV and Jeep riding, fishing, exploring mine sites, picnicking, hiking, camping, hunting, and equestrian riding. Heavy use is made of the streams and old mine sites. The portion of the site administered by the Forest Service are predominantly designated for dispersed recreation opportunities but use of motorized recreational vehicles on the site is restricted by the Uinta's Travel Management Plan.

### *Site Characterization*

The watershed's topography is typically high, rugged alpine peaks and lakes in cirque basins, steep to moderately steep timbered slopes, narrow canyon bottoms and brush/grass covered slopes and ridges. The watershed ranges in elevation from 6,000 feet to 11,000 feet. The vegetation types in the area are aspen, spruce/fir, dry and wet meadow vegetation, subalpine and alpine herblands. The annual average precipitation is 50 inches, mostly in the form of snow. The unit is also highly mineralized with many historic mines and mills present, and has, in the past, been under intense scrutiny by both independent miners and mining companies.

The geology of the Cottonwood-American Fork area has an aggregate thickness of about 12,000 feet. The lowest strata that occur in the area mapped are pre-Cambrian shales and quartzites, and the highest division, is a tillite, or glacial deposit. A series of limestones, quartzites, shales, and dolomite units are exposed throughout the geologic time scale, intruded by igneous rocks creating widespread metamorphic effects. The upper American Fork area is crossed by numerous faults, including the Silver Fork Fault near Mineral Flat, the Pittsburg Fault near Pittsburg Mine, the dry Fork Canyon Fault, several faults in the Miller Hill area, the Pacific Fault, and Dutchman Fault. This area is drained almost wholly by three streams, of general westerly course. The two Cottonwood Creeks (Little and Big), ever the Jordan River near Murray, and the American Fork flows into Utah Lake. The American Fork's main tributary in the area is the stream in Mary Ellen Gulch, which flows southeastward from the Twin Peaks. The crestline between Little Cottonwood and American Fork canyons is the most rugged in the area, and it bears half a dozen peaks whose altitude approaches or exceeds 11,000 feet. The highest of these, and in the area, is the Twin Peaks, 11,491 and 11,434, respectively.

The Dutchman workings are in a wedge of Devonian and Mississippian limestone, bounded on the north and west by two great faults, the Dutchman (which is part of the Silver Fork Fault) and the Whirlwind Fault. The greater part of the ore produced by the mine workings was taken from No. 1 tunnel. The ore fissures follow in

an ill-defined fracture zone, and pass through much of the Jefferson dolomite, the Madison, and into the Deseret, whose base is marked by characteristic black shaly beds. A thin branching dike of a rock, lamprophyre, largely altered to brown clayey material is cut in the eastern workings.

The area provides habitat for elk, mule deer, bighorn sheep, Rocky Mountain goat, black bear, moose, mountain lion, marmot, and abundant beaver. The river is spawning and rearing streams for Bonneville cutthroat trout (a sensitive species), brown and rainbow trout. Utah State classifies American Fork River as a Class 3-A Cold Water Fishery.

## **THREATS TO PUBLIC HEALTH OR WELFARE AND THE ENVIRONMENT**

### *Removal Site Evaluation*

As described earlier, the Site consists of a tailings pile, a mill site, and mine dump piles, with easy access for heavy recreational use. It warrants immediate attention through a Time Critical Removal Action under CERCLA. The Site lies approximately ¼ mile northeast (up slope) of the Sultana smelter site at the confluence of Mary Ellen Gulch stream and the North Fork of American Fork River and 1 1/2 miles southwest (down river) of the Pacific mine and mill site. Both the Dutchman Site and the Pacific Site are in close proximity to the North Fork of American Fork River. Under the Clean Water Act Action Plan, funding was provided to the Forests for abandoned mine land watershed restoration projects. Through this funding mechanism, thorough studies were conducted on water quality, soils, and biological organisms to assess the full affects of the mine, mill, and smelter sites. Water quality sampling, macroinvertebrate inventories, soils analyses, sediment sampling, and fish tissue sampling have been conducted by and for the USDA Forest Service in the American Fork Mining District. The watershed analysis considered 1988 investigations and follow-up water quality sampling and testing done under contract by Lidstone and Anderson in 1992, 1998 and 1999 Forest Service sampling, and a 1999 USGS Tracer study in the North Fork of American Fork River and a 2000 USGS Tracer study in Mary Ellen Gulch. Also, in 2000, the Bureau of Reclamation (BOR) was contracted to conduct an XRF soil sample analysis at various Sites in the canyon. Those investigations delineated the extent of heavy metal contamination at the Dutchman Site, the Sultana Smelter, the Pacific and Dutchman smelter sites, and various other mine sites in American Fork Canyon.

The XRF sampling of the soil in the Dutchman properties found unusually high levels of several constituents. Some of the higher concentrations by location are listed below.

<u>Sample Locations</u>	<u>Lead (ppm)</u>	<u>Zinc (ppm)</u>	<u>Arsenic (ppm)</u>	<u>Mercury (ppm)</u>
Dutchman Waste Rock	68,454	54,477	2,440	297
Wild Dutchman Waste Rock	11,200	12,000	286	71
Dutchman Mill Site	6,368	1,230	>300	>180

Alone, the total lead content at this Site is considerably above the EPA threshold and exists in a form that is harmful to human health if ingested.

Macroinvertebrate inventories and fish tissue samples demonstrate the impacts this Site and the Pacific Site are having on the aquatic habitat downstream. The Macroinvertebrate populations in the river were reduced from almost 14,000 individuals per square meter above these sites to less than 4,000, below. The diversity index of

species fell from 12 to less than 8. Fish were sampled from the river, including 4 from above Pacific mine/millsite (the upper site recommended for cleanup) and 16 further downstream. The fish from above Pacific did not exhibit high concentrations of heavy metals but of the 16 taken downstream, 10 fish had heavy metal concentrations above the amounts recommended for human consumption. In another comparison, the fish below the sites had an average of almost 10 times as much lead as those above the sites, with an individual fish exhibiting 20 times more lead below the mines versus individuals above the mines.

***Remedy of a Release, or Threatened Release,  
Into the Environment  
Of a Hazardous Substance, Pollutant, or Contaminant***

A CERCLA Time-Critical Removal Action is necessary to reduce exposure of Forest visitors to airborne lead particulates, and the release of heavy metals leached from the Site into the environment in the vicinity of the Site and downstream in the North Fork of American Fork Canyon.

#### **ACTIONS TAKEN TO DATE**

During the years of 1997 to present, the Forest Hydrologist conducted numerous studies in the watershed, funded by the Clean Water Action Plan abandoned mine restoration program. Studies included water quality, soils, stream sediment, macroinvertebrate, and fish. Most of these studies were concentrated in the heavily mined district area, as well as baseline information above the mining areas.

In October 1999, the Forest Supervisor and Regional Forester assigned an On-Scene Coordinator for the American Fork Canyon Watershed Reclamation Project. On January 24, 2000, a meeting was held between the Forest Service, Utah Division of Water Quality, and the Utah Division of Oil, Gas, and Mining. It was recognized by all the participants that the data that has been collected for Pacific Mine indicated closure of the site to recreational uses should occur as quickly as procedures will allow.

A Community Relations Plan was developed to describe the efforts to be taken to involve other Federal, State, and local agencies in this project and how to inform the public about the pending actions at sites in American Fork Mining District. *(That Community Relations Plan will be utilized as the Time Critical Removal Action at the Dutchman properties and at Pacific Mine move toward removal efforts.)* Letters were sent to elected officials on February 25, 2000 alerting them to the contamination in American Fork Canyon and the need for reclamation efforts to occur. Forest Representatives met with the Utah County Council of Governments on March 2, 2000 to inform County Commissioners and Mayors of the hazardous materials concerns in American Fork Canyon and actions that were developing directed at correcting those problems.

On March 7, 2000 Forest Service officials met with representatives of the Utah Division of Water Quality (UDWQ), Utah Division of Wildlife Resources (UDWR), and Utah County Department of Health and presented them with the data that had been collected in American Fork Canyon. They were subsequently asked to review the data and determine the significance of that information pertaining to public health and welfare

On March 28, 2000 a mass mailing of letters to Forest Users was done alerting them to the need for removal

actions in American Fork Canyon and the anticipated efforts that will occur in the near future.

In reviewing land ownership in the watershed, the Office of General Council determined it appropriate to also involve the Environmental Protection Agency (EPA) due to the large amount of private land, as well as the Utah Department of Environmental Quality (UDEQ), and owners of affected private lands.

On June 21, 1999, the FS hosted a meeting and invited the EPA, UDEQ, UDWR, and U.S. Fish and Wildlife Service. Results of the various environmental studies and land ownership was presented to the agencies. At that time it was decided to visit the area and on September 12<sup>th</sup> and 13<sup>th</sup>, the EPA, UDEQ, BOR, and Utah County Health Department visited many of the sites in the area. At that time, all agreed that several sites pose unacceptable risks to recreationists in the canyon or to the environment: Pacific mine and millsite, Dutchman Flats, Wild Dutchman, and the Sultana Smelter Site. It was also agreed that a Time Critical Removal Action under CERCLA was appropriate for these sites. The group discussed a potential repository for waste material from the sites and the appropriateness of the additional studies to be conducted by the BOR including surveying and drilling, in order to develop a removal plan.

The Forest Service entered into an Interagency Agreement with BOR on September 29, 2000 and funded the surveys and sampling efforts to be done by BOR to complete characterization of the Pacific Site, the Dutchman Site, and the Common Repository. BOR completed those field operations in October 2000, providing all the data needed to prepare contract plans and specifications for removal actions to be conducted at both sites. Upon issuance of this Time Critical Removal Action Memorandum, the contract documents can be prepared and removal begun within 6 months. Timely actions could result in completion of this TCRA by November 2001.

## **STATUTORY AND REGULATORY AUTHORITIES**

From our review of the conditions at the Site and the documentation above, we have determined that there is a threat to public health or welfare, and to the environment, as set forth in the National Contingency Plan at 40 C.F.R. 300.415(b)(2).

The Forest Service has CERCLA authority and is designated as "lead-agency" for lands under its jurisdiction and control at non-National Priorities List sites. No other appropriate response mechanisms or authorities are currently available to deal with hazardous waste at abandoned mine sites on National Forest System lands. The Environmental Protection Agency has CERCLA authority and is designated as "lead-agency" for privately owned lands in and around Pacific Mine and Dutchman Flat. Both sites involve predominantly NFS lands with some private land at the perimeter of the Sites. Removal Actions will occur on all affected lands, NFS or private, simultaneously under this Time Critical Removal Action. The Forest Service and EPA will work cooperatively to implement the removal actions.

In compliance with the Forest Service's and EPA's role in protecting the public health and welfare and the environment, and because the documented releases are on, or potentially impact, lands under the jurisdiction of the Uinta National Forest, and pursuant to the authority found at 42 U.S.C. 9604(a), Executive Order 12580, and 7 C.F.R. 2.60 (1993), we are jointly issuing this Removal Action Memorandum. We are directing the Forest Supervisor to take immediate steps for a Time Critical Removal Action at the Dutchman properties to remove the contaminated soils at the Wild Dutchman waste rock pile, and at the Dutchman mill site, Dutchman waste rock pile, and the Dutchman mill tailings pond to prevent further impacts to recreation uses by the general public,

and other natural resources downstream from the Site.

Although the Forest Service specifically denies any liability in this situation, it will be the "lead agency" for all response actions occurring on National Forest System lands, as defined by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. part 300, and all response actions will be consistent with the NCP.

## **PROPOSED ACTION**

Removal Actions will be implemented at the Site to remove and dispose of contaminated soils, while maintaining the integrity of the historic Dutchman Mill concrete foundations, with said soils to be transported to and disposed of in a Common Repository at a location shown on the Project Site Map attached.

All removal actions on-site will comply with all of the substantive provisions of Federal and State-Applicable or Relevant and Appropriate Requirements (ARARs), to the extent practical considering the exigencies of the situation, and in consultation with the State of Utah and EPA. No federal, state, or local permit shall be required for any removal or remedial action occurring on-site pursuant to 42 U.S.C. 9621(e)(1). For the purposes of the Forest Service response actions in the American Fork Mining District, "on-site" is defined as National Forest System lands, or other suitable areas in very close proximity to the contamination, that the Forest Service and EPA deems necessary for implementation of this and other related CERCLA response actions. In general, the ARARs will consist of UDWR adopted stream water quality standards and the list of ARAR's provided to the Forest Service by UDEQ, State of Utah, dated July 5, 2000.

If CERCLA requirements for the federal lands can be timely met, it is anticipated that the proposed removal action will commence in 2001. Overall project work plans call for continued investigations to be initiated this year, while other non time-critical portions of the overall removal plan will be initiated and completed in subsequent years.

## **EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

Should the proposed action be delayed, threats to public health and to the environment will continue and harm to individuals or resources could occur. Should the action not be taken, the potential for harm to individuals or resources will continue permanently. Additionally, continuing progress at this Site and at the Pacific Mine Site will demonstrate the Government's resolve to take action at offending sites in the American Fork Mining District and will encourage PRP's for other CERCLA sites in the canyon to address their sites.

## **ADMINISTRATIVE RECORD AND COMMUNITY RELATIONS**

Pursuant to 40 C.F.R. 300.415(m), Peter W. Karp, Uinta National Forest Supervisor, has designated Loyal Clark as spokesperson for this action. We reaffirm the designation of Ted Fitzgerald in his functions as On-Scene Coordinator for the Forest Service and Pete Stevenson as On-Scene Coordinator for EPA.

The Administrative Record for this time critical removal action will be available during regular business hours at the Forest Supervisor's Office in Provo, Utah within 60 days of the initiation of on-site removal activity. A Notice of Availability of Administrative Record will be published in the Daily Herald newspaper when the Administrative Record is available for public inspection. A public comment period of at least 30 days will be provided from the date the Administrative Record is made available for public inspection. Written responses will be prepared to address significant comments on the Administrative Record.

**DECISION**

By this memorandum, we find that a CERCLA time-critical removal action at the Dutchman Flat Site, American Fork Mining District, to be conducted by the Uinta National Forest, with cooperation from EPA, UDEQ and owners of affected private lands, is appropriate and we hereby direct that it be implemented.

By copy of this Action Memorandum, we are formally notifying UDEQ, the State of Utah of our finding of the appropriateness of a CERCLA removal action at the Site of the American Fork Mining District.

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**JACK A. BLACKWELL**  
Regional Forester

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**ROBERT DUPREY**  
USEPA, Region 8

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Date

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Date

cc: Pete Stevenson - Region 8 USEPA  
Duane Mortenson - UDEQ  
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