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JAN 22 2002

Mr. Henry Maddux, Field Supervisor
U.S. Fish & Wildlife Service
Salt Lake Field Office
2369 West Orton Circle
West Valley City, UT 84119

Subject: U.S. Department of Energy Request for Concurrence on Additional FY 2002 Activities at the Moab Mill Site

Dear Mr. Maddux:

Thank you for your quick response to our request for concurrence dated August 30, 2000, to perform characterization and general maintenance activities on the Moab Mill Site. The Department of Energy (DOE) desires to characterize areas of tamarisk that may be considered suitable habitat for the Southwest Willow Flycatcher. The DOE requests that USF&WS consider this request so that DOE can fulfill its obligations under the Uranium Mill Tailings Radiation Control Act (UMTRCA).

Introduction

The Floyd D. Spence National Defense Authorization Act of 2001 transferred the responsibility of remediation of the Atlas Mill Site, located in Moab, Utah, from the Moab Mill Reclamation Trust (Trust) to the DOE. Remediation of the mill site is to be managed under the authority of UMTRCA. Under the legislation, DOE is chartered with making "every reasonable effort ... to provide for the stabilization, disposal, and control in as safe and environmentally sound manner of such tailings in order to prevent or minimize radon diffusion into the environment and to prevent or minimize other environmental hazards from such tailings."

The Environmental Protection Agency (EPA), through its authority under UMTRCA, established cleanup levels in the regulation, Title 40 CFR Part 192, for both surface and ground water remediation. The levels of cleanup for soil are remediating Radium-226 to an average of 5 picoCuries per gram over an area of 100 square meters in the top 15 centimeters and to 15 picoCuries per gram in any 15-centimeter layer below the top 15 centimeters. Any soils that exceed these standards are classified as residual radioactive material. To adequately remediate the site under any of the alternative strategies (i.e., cap-in-place, or relocate off-site), the site must be properly characterized for radiological contamination.

The USF&WS has concurred with characterization (letter of September 12, 2001) of the tailings pile and ground water in areas where tamarisk would not be destroyed (see Attachment 1,

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Figure 1, Areas 1 and 4). To properly perform characterization of the entire site, however, some disturbance of the tamarisk is necessary. The following outlines DOE's proposed plan to characterize the tamarisk (Areas 2 and 3) as shown on Figure 1.

Soils Radiological Characterization

Characterization Requirements

The Trust and previous owner of the Atlas site have performed limited radiological characterization of the site. The most recent survey was conducted by the Trust and documented in a Baseline Characterization Report dated August 2001. Surveys focused on the area surrounding the tailings impoundment within the fence and excluded areas where dense vegetation and steep slopes prevented access with survey equipment. Because of the mobile survey equipment utilized (a 4-wheel drive vehicle and a 3-wheeled cart), Area 3 could not be accessed at all, and only half of Area 2 could be accessed.

Survey results indicate that the portion of Area 2 that was surveyed is extensively contaminated with residual radioactive material. Three test pits were dug showing contamination to depths of 4 feet in this area. The deep contamination coincides with reported historical spills from on-site ponds that spread tailings into these areas. No other data were collected demonstrating the depth and areal distribution of radiological contamination. Since Area 3 could not be accessed, no information exists on depth and extent of contamination in this area.

Characterization is needed to supplement the previous surveys and to determine the full nature and extent of residual radioactive material. Results and data gathered during characterization will be used to determine the appropriate level of remedial actions. The volume of residual radioactive material is needed to design the final cell configuration, whether it is transported off-site or stabilized in-place. The depths and areal extent are needed to demonstrate quantities to be removed for bidding purposes, and ultimately to demonstrate how the area will be remediated and verified that it meets EPA standards. The characterization will be documented as part of the Remedial Action Plan submittal to the Nuclear Regulatory Agency (NRC) to demonstrate how compliance to EPA standards, 40 CFR 192, will be achieved.

Proposed Characterization Sampling Plan

See the enclosed, detailed sampling and characterization plan for all areas of the mill site.

Ground and Surface Water Characterization

Thirty ground water monitoring wells exist (approximately 13 locations) in Areas 2 and 3. These wells need to have ground water samples taken and water levels taken on a quarterly basis. Existing access through the tamarisk (and dike roads) needs to be maintained so some branches of the tamarisk will be trimmed to maintain access and to continue performing these duties. Additional ground water monitoring wells may need to be installed after the current condition of

the existing wells is evaluated. At this time, however, we do not anticipate installing any additional wells in the tamarisk.

Access is required to sample the Colorado River adjacent to the site. Several paths will be cut from the access road that parallels the river southeast of the pile to the bank of the river. At this time we expect to cut limbs off the tamarisk to form six paths that will be 2 to 3 feet wide and an average of 50 feet long. No trunks will be cut or removed. Sampling of the river will follow accepted protocols.

The DOE is continuing to evaluate immediate and interim ground water actions. Once conceptual designs are developed for ground water actions, we will begin detailed discussion with your agency.

General Mitigation Efforts

The characterization activities proposed are not anticipated to affect aquatic species in the Colorado River or its tributaries. However, due to planned disturbances in the tamarisk located in Areas 2 and 3, potentially suitable habitat for the Southwest Willow Flycatcher (Empidonex trailii extimus) will be disturbed.

In general, the DOE will remove only that vegetation required to complete characterization activities. Further mitigation will be accomplished by completing the work around flycatcher migration and breeding activities (April 15 to July 15).

In Area 2 (southern portion), approximately 1.5 acres of surface disturbance of the 30-acre area is expected to occur, of which approximately 0.5 acres would occur in areas that could be considered potentially suitable flycatcher habitat. (Due to extensive historical and on-going land disturbances in this area, DOE does not believe that the majority of Area 2 is suitable as potential flycatcher habitat.) Limbs will be removed from some tamarisk; however, no trunks will be cut or removed. It is possible that the removal of limbs would kill some trees. It should be noted that Area 2 may eventually require excavation and remedial action activities to remove contaminated soils. If this is the case, this disturbance of the tamarisk will be part of later planned consultation with the USF&WS.

In Area 3, soil sample data will be collected at 28 locations. Data collection will be accomplished "on-foot," using portable equipment. Disturbance will be limited to clearing lower brush and limbs as necessary to access the 28 locations, generally no more than 2 to 3 feet in width. Approximately 0.1 acre of the 10-acre area will be disturbed. As in Area 2, it is possible that a few tamarisks may be killed by the removal of limbs; however, dense areas of trees will be avoided as much as possible. Visible "paths" are not needed nor anticipated. The abbreviated method of sampling in Area 3 is based on our assumption the area is not radiologically contaminated. If our statistical sampling methodology determines areas of contamination, we will pursue further consultation with USF&WS on how to obtain additional characterization data.

The proposed characterization activities may meet the criteria for categorical exclusion under the NEPA process. A formal determination will be made by the DOE-GJO NEPA Compliance Officer. The results of USF&WS consultation will be a key consideration in the determination of the appropriate level of NEPA documentation.

Determination

Disturbances associated with these activities are short-term with minimal affect on potential flycatcher habitat in Areas 2 and 3. Area 3 appears to have a greater potential for flycatcher habitat, but, based on the proposed mitigation, the short-term and temporary disturbances in this area are not likely to adversely affect the Southwest Willow Flycatcher. In addition, physical disturbances will occur outside the Southwest Willow Flycatcher breeding season.

This letter specifically requests concurrence with DOE's determination regarding the activities listed. If activities change significantly, we will bring them to your attention. If you have any questions, please contact me at 970-248-6001 or Tracy Plessinger of my staff at 970-248-6197.

Sincerely,

Donna Bergman-Tabbert

Donna Bergman-Tabbert
Manager

Enclosures

cc w/enclosures:
M. Fliegel, NRC
L. Morton, State of Utah
T. Plessinger, DOE-GJO
R. Plieness, DOE-GJO
J. Elmer, MACTEC-ERS

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Moab Millsite – Moab, Utah
Radiological Characterization Sampling Plan

The Moab millsite property shall be divided into four discrete areas (Figure 1) for the purpose of the radiologic assessment of the site as follows:

Area 1 – The former millsite area and previously disturbed areas adjacent to the tailings pile (north and west sides).
Area 2 – The disturbed tamarisk area adjacent to the east-southeast side of the tailings pile and in the northeast corner of the property.
Area 3 – The undisturbed tamarisk area between the disturbed tamarisk area and the Colorado River to the east.
Area 4 – Tailings pile; not included is this assessment.
Area 5 – Not shown; includes millsite property located outside of fenceline west of Highway 279.

Areas 1, 4, and 5 shall have a comprehensive radiologic survey to evaluate the estimated extent of contamination from residual radioactive material in excess of the Environmental Protection Agency (EPA) 'Standards for Remedial Action at Inactive Uranium Processing Sites' (40 CFR Part 192). Area 2 shall have a modified radiologic survey based on protocols and techniques developed for large properties. The tamarisk area immediately adjacent to the Colorado River (Area 3) is believed to be radiologically unaffected by operations at the Atlas mill and tailings site based upon limited knowledge of site operations and the undisturbed condition of the area. Because the habitat is ecologically sensitive, a less invasive, statistically-based scoping survey will be performed to assess whether this area should be considered contaminated with residual radioactive material.

The measurement techniques, instrumentation, and procedures to be used in these radiological assessments are based primarily on protocols developed by the Department of Energy (DOE) Office of Remedial Action and Waste Technology's Technical Measurements Center, and on field implementation experience gained from the characterization of millsites and vicinity properties for the Uranium Mill Tailings Remedial Action (UMTRA) Program. Detailed procedures for collecting soil samples and measurements are presented in *Field Services Procedures Manual* and *UMTRA Program Site Characterization Radiologic Field Measurements Procedures Manual*. Detailed analytical procedures are presented in *Administrative Plan and Quality Control Methods for Analytical Laboratories, Handbook of Analytical and Sample Preparation Methods, Gamma-Ray Spectrometry System Operation and Methods Manual,* and *Handbook of Petrology Laboratory Methods*.

Exterior Radiologic Survey

In Area 1, a 100-percent gamma survey and discrete ground- and waist-level gamma exposure-rate readings will be collected at approximately 10-foot intervals across the entire exterior

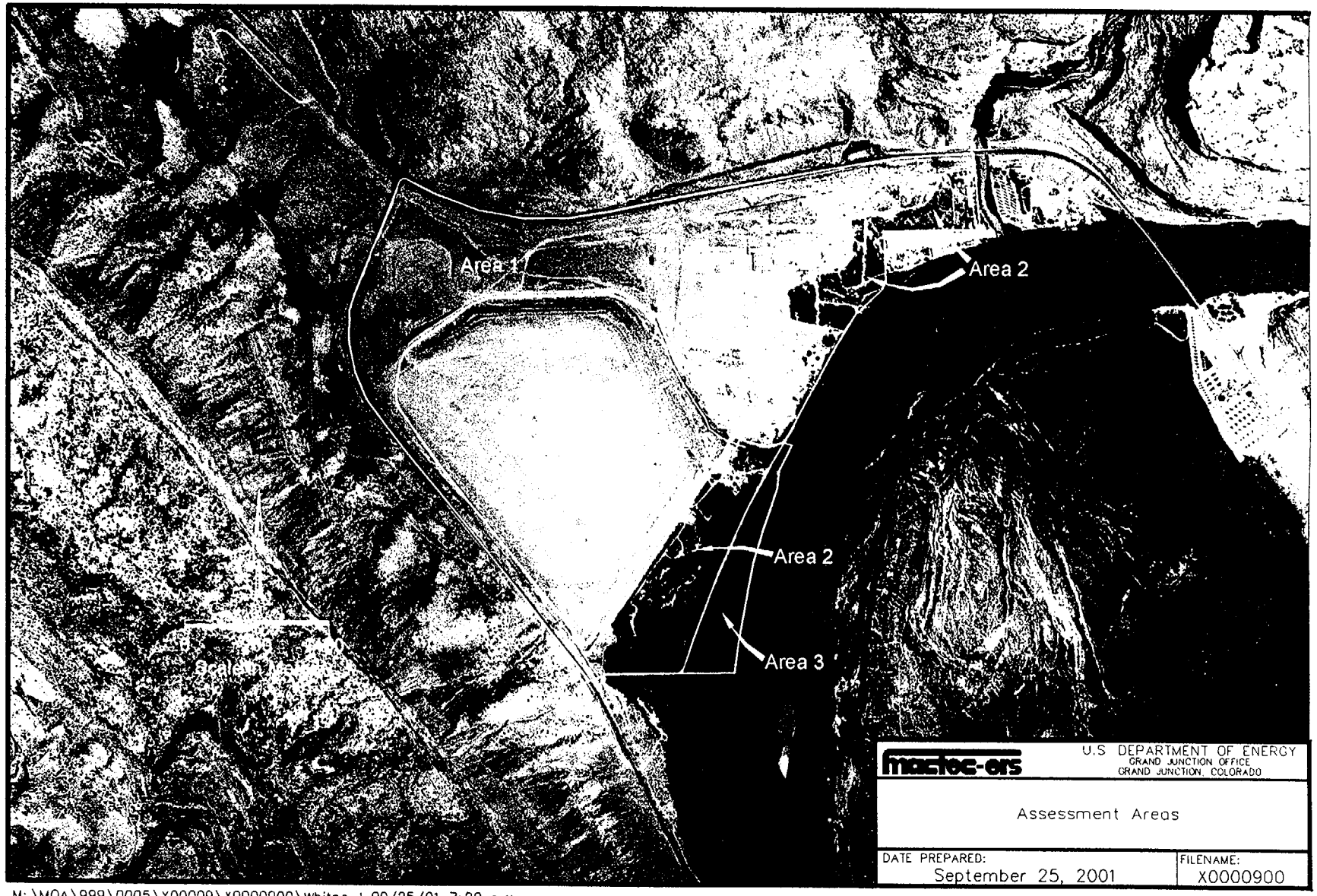

Figure 1. Assessment Areas

surface areas. In-situ and soil sample data will be collected across the entire area and boreholes will be drilled and logged at approximately 10 locations per acre. Additional sampling and boreholes may be necessary to investigate contaminated material that may have been backfilled or where man-made structures such as building foundations, underground storage tanks, septic tanks, or other features exist. This contamination may be shielded by the surface cover so it cannot be detected by surface gamma measurements. Subsurface measurements and soil samples shall be obtained in numbers and at locations sufficient to characterize this area.

Area 2 consists of groves of dense older tamarisk, abundant dead wood, and some open clearings. Previous activities in the disturbed tamarisk in the southern portion of Area 2 included installation of groundwater monitoring wells, test pits, and construction of an earthen berm along the southeast edge for flood control. This area appears to be extensively contaminated from spills associated from the tailings pile located adjacent to the west side of this area. Radium-226 measurements previously taken along with the visual observations and gamma readings of the previously excavated test pits indicate contaminated materials exist for the most part everywhere within Area 2 and extend to depths of 3 to 4 feet along the west edges of the area. The disturbed tamarisk areas located in the northeast portion of the property, historically had large volumes of uranium ore stockpiled in and around the general area. Based on these findings, environmentally sensitive assessment techniques, similar to the scoping survey for Area 3, are not practical for Area 2.

In Area 2, discrete ground- and waist-level gamma exposure-rate readings will be collected at approximately 30-foot intervals across the entire exterior surface areas. Typically, in-situ and soil sample data will be collected every 90 feet to determine radium concentrations in soil, and to differentiate between areas of secondary gamma radiation (shine from other sources) and areas of contamination. Boreholes will also be drilled from surface to a depth where undisturbed native soils are encountered and logged to determine if contamination exceeding EPA guidelines is present below the surface 6-inch soil layer and to what depth.

Area 3 will have a scoping survey performed based on statistical parameters and procedures derived from the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). Soil sample data will be collected at 28 discrete locations within the 13-acre area (Figure 2). Due to the density of the tamarisk contained in this area, no encompassing gamma exposure-rate surveys will be performed. Ground- and waist-level gamma measurements will be taken at the soil sample locations. In order to access this area, Land Survey and Assessment crews will be as environmentally sensitive in the area as possible; however, a 2- to 3-foot-wide line or walkway will have to be cut through the dense tamarisk for access to the sample locations. The 28 locations can be accessed from two existing roads in the area. One road is adjacent to the fence line on the east side of Area 2, and the other road is adjacent to the Colorado River approximately 40 to 50 feet from the bank of the river and follows the entire length of Area 3. Sample location points can be cut, with hand tools, perpendicularly from one of the two roads, depending on which road is closest to the sample point, to minimize the amount of vegetation that will have to be disturbed. Ground-level gamma readings will be collected along the walkway up to the sample point location. A 6-inch-thick soil sample will be collected for

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Figure 2. Sample Locations

radiologic analysis, the hole will be backfilled with uncontaminated soil, and no further investigations will be done at this time. If contamination is present, additional data collection at certain sample points may be necessary. All of the supplies, materials, and equipment will be collected and hand carried from the sample location site back to the equipment vehicles between each sampling event.

While performing the traditional radiologic assessment in Area 2, or during the scoping survey in Area 3, if a data point happens to fall near a small clearing close to where the surveyed point would be placed, the procedures would allow for moving the data point location out of a tamarisk area into an area where no cutting or destruction of the foliage would occur. Every attempt will be made to be as environmentally sensitive to not only the undisturbed tamarisk area (Area 3), but also while working in the disturbed tamarisk area (Area 2) while performing assessment activities.

In Areas 2 and 3, Land Survey shall prepare property drawings, to be used for the field survey, and have a grid superimposed on them. Permanent landmarks, features that may be involved in remediation, and property boundaries, will be shown on the drawings. In Areas 1 and 2, Land Survey will also set stakes or markers at 90-foot intervals on the site, based on the property drawing grid system, to aid in radiologic data collection (Figure 3). In Area 3, Land Survey will set markers at discrete sample locations identified by the statistical sampling method.

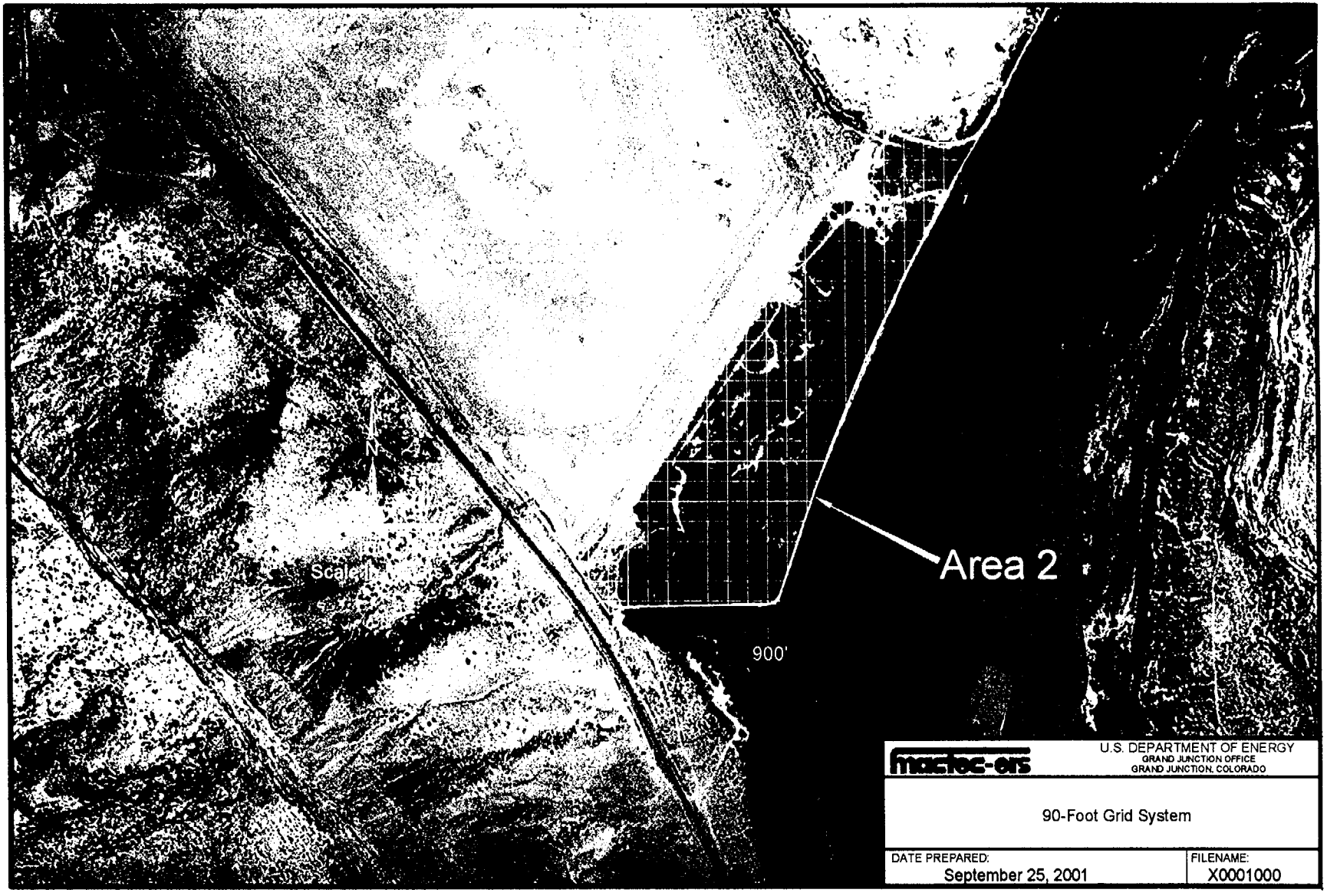

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Figure 3. 90-Foot Grid System