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UMTRA Ground Water Project

Public Involvement Plan for the Environmental Assessment of Ground Water Compliance at the New and Old Rifle, Colorado, Uranium Mill Tailings Sites

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Prepared by
U.S. Department of Energy
Grand Junction Office
Grand Junction, Colorado

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Introduction

This Public Involvement Plan is tiered to the Uranium Mill Tailings Remedial Action (UMTRA) Ground Water Project Public Participation Plan dated October 1997. This Public Involvement Plan applies to both the Old and New Rifle, Colorado, UMTRA Project sites and details the activities that have been or will be carried out to meet the public participation requirements of the National Environmental Policy Act (NEPA) of 1969 and the Uranium Mill Tailings Radiation Control Act of 1978, as amended.

The objectives of this plan are to promote stakeholder involvement in the NEPA process and participation in the project decision-making processes; to maintain an active public affairs program that accurately identifies public and media concerns and provides timely information; and to establish stakeholder involvement and information to promote communication between the U.S. Department of Energy's Grand Junction Office (DOE**S**GJO) and affected stakeholders to accomplish the project mission successfully.

History

In 1978, public concern about potential human health and environmental effects of uranium mill tailings led Congress to pass the Uranium Mill Tailings Radiation Control Act (42 U.S.C. 7901 *et seq*.). In the Uranium Mill Tailings Radiation Control Act, Congress acknowledged the potentially harmful health effects associated with uranium mill tailings and designated 24 inactive uranium-ore processing sites for cleanup (Figure 1). These sites are located in 10 states; 23 sites are in states west of the Mississippi River. Of those, four sites are on Native American**S**owned lands.

In 1983, the U.S. Environmental Protection Agency (EPA) developed standards to protect the public and the environment from potential radiological and nonradiological hazards at abandoned processing sites. These standards included exposure limits for surface contamination and proposed compliance options for ground water contamination. The ground water standards (40 CFR 192) were made final in 1995. DOE is responsible for bringing surface and ground water contaminant levels at the 24 sites into compliance with EPA standards. DOE is accomplishing this through the UMTRA Surface Project and the UMTRA Ground Water Project.

Under the UMTRA Surface Project, DOE has been cleaning up surface contamination since 1983. The second phase of the UMTRA Project is to meet ground water standards at the 24 millsites; thus, the UMTRA Ground Water Project was established. Project management for the UMTRA Ground Water Project was transferred to DOE–GJO during fiscal year 1996.

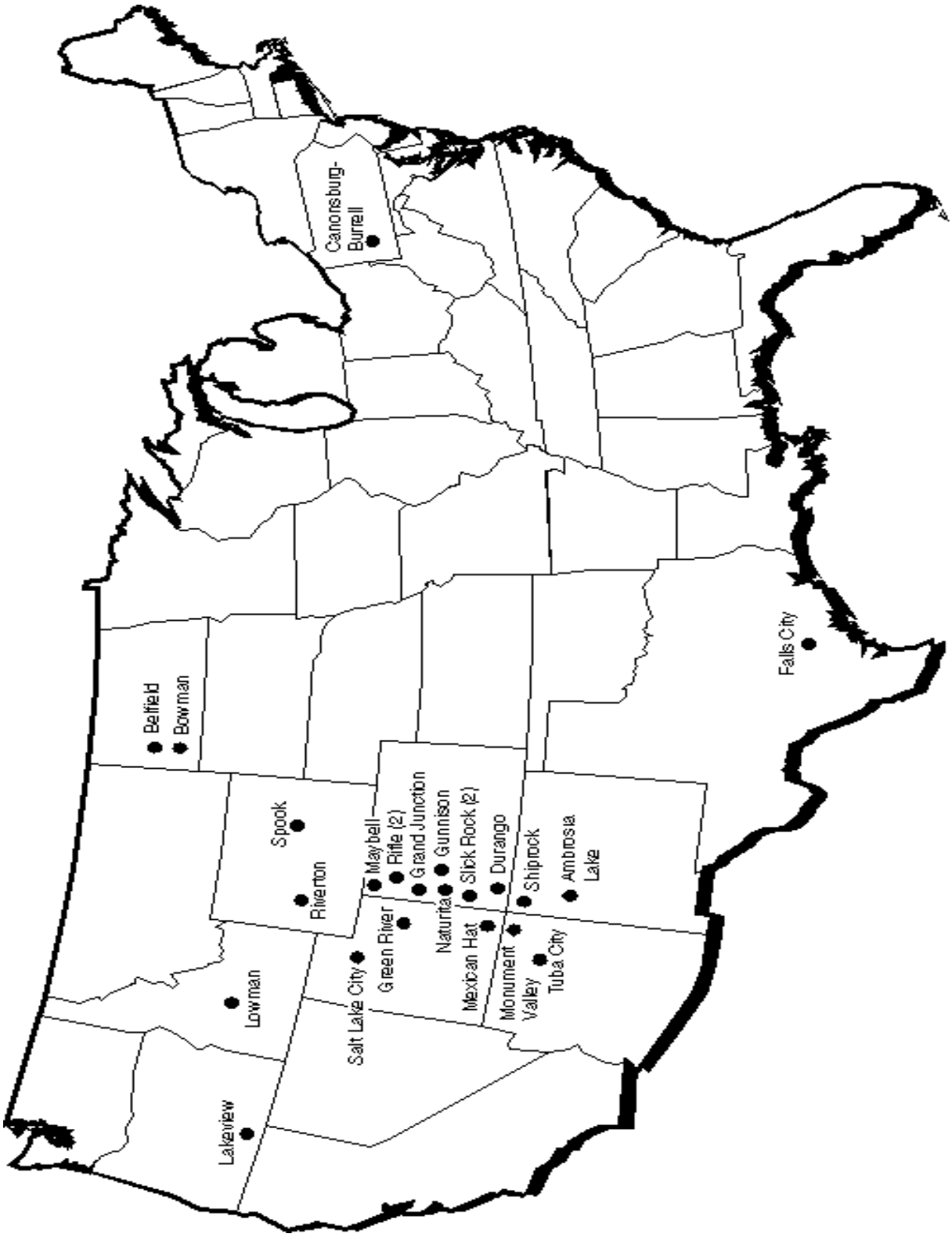

Figure 1. Locations of the Former Uranium-Ore Processing Sites

In 1992, DOE began preparation of a Programmatic Environmental Impact Statement (PEIS) for the UMTRA Ground Water Project. The PEIS presents analyses of the potential effects of four alternatives for implementing the UMTRA Ground Water Project: the proposed action, no action, active remediation to background levels, and passive remediation. Nineteen public scoping meeting were conducted between November 1992 and April 1993. Nine public hearings and a 120-day public comment period followed the issuance of the draft PEIS in April 1995. The final version was distributed to the public in December 1996.

The Record of Decision issued in April 1997 identified the preferred alternative that will become the programmatic foundation for conducting the UMTRA Ground Water Project at all sites. Under the proposed-action alternative, three ground water compliance strategies are presented to meet the EPA standards and may be selected for a given site: no remediation, passive remediation with natural flushing and monitoring, and active remediation. DOE may select one strategy or a combination of strategies to meet the EPA standards for a site.

Roles and Responsibilities

The UMTRA Ground Water Project Manager, the GJO Technical Assistance and Remediation contractor's Public Affairs Specialist, and the NEPA document manager are responsible for identifying the need for, and proposing the scope and content of, public information materials and activities that meet the public participation requirements of NEPA. These individuals are also responsible for developing appropriate plans to establish and maintain communication, identify and resolve issues of concern to stakeholders, support DOE**S**GJO in the implementation of these plans, and evaluate the success of the communication programs.

The DOE-GJO Public Affairs Office has day-to-day management responsibility for public affairs acitivities for the ground water phase of the UMTRA Project. DOE-GJO directs the activities of the contractors in preparing informational materials and in planning and conducting public participation activities. DOE-GJO personnel are the principal spokepersons for the UMTRA Ground Water Project in public meetings and interviews with the media.

Site Information

The Rifle UMTRA Project sites are two separate former uranium-ore processing sites near the city of Rifle in Garfield County, western Colorado (Figure 2). The Old Rifle site is approximately 0.3 mile east of the city of Rifle; the New Rifle site is approximately 2 miles southwest of the city of Rifle. The Colorado River is south of both sites. Both the Old Rifle and New Rifle sites were constructed, owned, and operated by Union Carbide corporation and it predecessor, the United States Vanadium Corporation. The State of Colorado acquired both sites in 1988, as specified by the Uranium Mill Tailings Radiation Control Act.

Surface remediation of the Rifle sites began in the spring of 1992 and was completed in October 1996. Tailings from both the New and Old Rifle processings sites have been relocated to the Estes Gulch disposal site approximately 9 miles north of the New Rifle site.

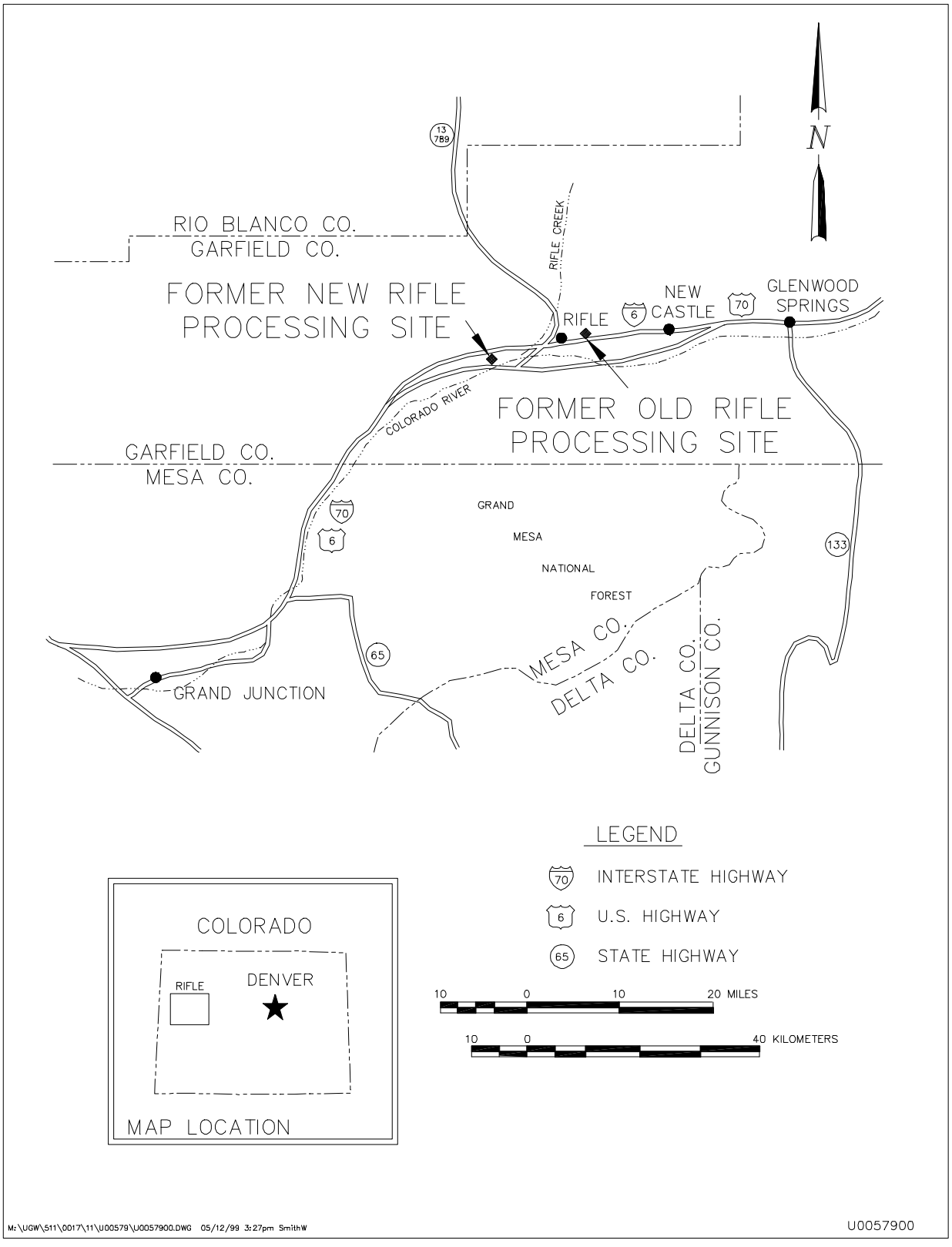

Figure 2. Locations of the Rifle UMTRA Sites

Both Rifle sites are underlain by Colorado River alluvium. Beneath the alluvium, semiconfined ground water occurs in interlayered sandstone, siltstone, and claystone beds in the Wasatch Formation. In general, ground water in the alluvium and in the Wasatch Formation flows southwest. The alluvial aquifer is contaminated by seepage from the tailings piles at both sites.

An initial baseline risk assessment was completed in 1992; however, the results were considered preliminary because data were limited. A second baseline risk assessment was completed in February 1996 and determined that contaminated ground water at the two Rifle sites may pose a risk to human health if it were used for drinking. Results of additional field characterization in 1998 are being incorporated into separate Site Observational Work Plans for each Rifle site. These work plans present the most recent site ground water conditions, update the baseline risk assessment, and document DOE's proposed strategy to achieve compliance with EPA ground water standards.

Old Rifle Site

Union Carbide owned and operated the Old Rifle uranium mill from 1924 to 1932 and from 1942 to 1958; the mill was idle from 1932 to 1942. It produced vanadium during both operating periods and uranium during the later period. Ore was shipped to the mill by truck and rail from eastern Utah, from the Uravan Mineral belt, and from the Meeker and Rifle Creek mines in Colorado. Atomic Energy Commission (AEC) records from 1947 to 1958 show that 761,000 tons of ore were processed at the site and over 2000 tons of uranium concentrate were sold to the AEC. After 1958, most of the tailings at the Old Rifle site were reprocessed and deposited at the New Rifle site.

Approximately 13 acres of tailings remained at the Old Rifle processing site prior to surface removal of the tailings. No structures remained at the millsite. The relatively flat tailings pile was at the base of a cliff below Highway 6. The tailings pile was partially stabilized by Union Carbide in 1967, in accordance with State of Colorado regulations. The edge of the pile was moved away from the railroad tracks and the entire pile was covered with 6 inches of soil, fertilized, and seeded with native grasses. Water from the Colorado River was used for irrigation. Surface water drainage originating from an upgradient seep across Highway 6 flows through the site. A lined pond collected this seep water as it passed the pile before releasing it to the Colorado River. This pond was removed during surface removal of the tailings in 1996.

Present contaminants of potential concern at the Old Rifle site are arsenic, selenium, uranium, and vanadium. Tailings seepage has not contaminated the Wasatch Formation that underlies the alluvium at the site.

New Rifle Site

The New Rifle mill replaced the Old Rifle mill in 1958 and was owned and operated by Union Carbide. The mill was constructed as part of a multisite complex that included the upgrading facilities at Slick Rock, Colorado, and Green River, Utah. Ore and upgrade products from those sites were shipped to the New Rifle mill by truck and rail. From 1958 to 1973, the mill produced

uranium and vanadium; AEC records show that 2.7 million tons of Old Rifle tailings and ore were processed and upgrade products were refined. Over 5,000 tons of uranium concentrate were sold to the AEC, and additional uranium and vanadium products were sold commercially. From 1973 to 1984, part of the mill was used to produce vanadium; this operation involved processing vanadium solutions and did not produce tailings.

The west central portion of the New Rifle millsite contained 33 acres of tailings and a mill area north and east of the pile. Former ponds that had held processing wastes (including vanadium and gypsum) were east of the tailings piles. All buildings and structures were demolished during Phase I of the surface remedial action. Before that, the site contained the mill facilities, water retention ponds, and two ore-storage areas. The tailings were partially stabilized with the application of mulch and fertilizer, and an irrigation system was installed. Much of the pile did not revegetate, and wind and water eroded the tailings pile.

At the New Rifle site, ground water contamination in the alluvial aquifer extends at least 10,000 feet downgradient of the former tailings area. Concentrations of arsenic, cadmium, molybdenum, nitrate, selenium, and uranium have exceeded the maximum concentration limits at least twice since 1990.

Proposed Compliance Strategy

The proposed compliance strategy for the Old Rifle site is passive remediation, which consists of natural flushing with institutional controls and monitoring. Natural flushing is a process in which natural geochemical and biological processes and ground water movement decrease contaminant concentrations in the aquifer. Institutional controls include actions such as deed restrictions that prevent installation of wells in the aquifer and prohibit use of contaminated ground water for ponds and fountains, and alsoconstruction of physical barriers such as fences to prevent access. Monitoring includes periodic collection of water samples for analysis of ground water contaminants.

The most recent ground water sampling and analysis data indicate that contaminant concentrations are decreasing over time. Ground water modeling results predict that contaminant levels at the Old Rifle site will be flushed to acceptable levels within the 100-year time frame allowed in 40 CFR 192. Computer modeling of ground water conditions at the New Rifle site is in preparation.

Public Participation Activities

Volume II of the PEIS includes comments received from the nineteen public scoping meetings held during the comment period before issuance of the final document. Comments 308**S**311 were received from the City of Rifle in a letter dated July 6, 1995. The first three comments addressed concerns pertaining to possible contamination of domestic wells, application of institutional controls, and the possibility of using active remediation. DOE responded to all three concerns by installing an alternative water supply system and maintaining ongoing communication with the City of Rifle and its consultant concerning institutional controls. A NEPA

review was completed in October 1996 for the alternative water supply system, which was constructed in 1996.

Since then, DOE-GJO has maintained ongoing discussions and meetings with the Colorado Department of Public Health and Environment (CDPHE), the U. S. Army Corp of Engineers, and the U.S. Fish and Wildlife Service. On December 2, 1998, a meeting was held with Wendy Naugle, CDPHE, to present data, risk evaluation, and the proposed compliance strategy to be presented in the Site Observational Work Plans for the Rifle sites.

Since February 1999, DOE representatives and subcontractor personnel have been meeting with Rifle City Council members, Garfield County Commissioners, the Rifle City Manager, and others to discuss the topic of institutional controls. On April 23, 1999, the DOE Technical Manager sent a letter to property owners providing them with information about the contaminated ground water. A Fact Sheet and Question and Answer Sheet were included with the letter. The DOE Technical Manager and a representative from CDPHE met informally with the property owners beginning the week of May 5. If a meeting was not convenient, a conference call was scheduled. As a follow-up to these activities, a public workshop was scheduled for Saturday, May 22, 1999, in Rifle. A news release dated May 4, 1999, announced the workshop.

Throughout the course of these public participation activities, stakeholders and the public have expressed no opposition to the proposed compliance strategy for the Old Rifle site. Therefore, DOE is recommending that no environmental assessment be prepared for the Old Rifle site. However, DOE is recommending preparation of an environmental assessment for the New Rifle site. A NEPA Environmental Checklist has been prepared and submitted to the U. S. Department of Energy Albuquerque Operations Office.

Table 1 provides information on additional public participation activities proposed to support the environmental assessment at the New Rifle site.

Information Contacts

Requests for information should be directed to the DOE UMTRA Ground Water Project Manager or Site Manager listed below. A toll-free hotline (1–800–399–5618) has been established to provide information and to take public comments. In addition, the DOE**S**GJO Home Page has information relevant to the UMTRA Ground Water Project. The home page address is **http://www.doegjpo.com**.

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Table 1. Scheduled Public Participation Activities for the Environmental Assessment (EA) of Ground Water Compliance at the New Rifle site

Activity	Timing
Review of final draft by the State of Colorado	August 1999
Notification of EA availability by • News release • Federal Register notice (not required)	September 1999
Transmit final draft EA to interested stakeholders, other agencies, public (upon request)	September 1999
Place copies of draft EA in public locations: • Mesa County Library • Rifle City Library • DOE**S**GJO Reading Room • Other	September 1999
Hold public meetings	As needed
Comments received from stakeholders	November 1999
Comments addressed	December 1999
News release of Finding of No Significant Impact (FONSI) approval	January 2000
Final EA and FONSI issued to the public, stakeholders, and agencies	January 2000
Place copies of EA in public locations: • Mesa County Library • Rifle City Library • DOE**S**GJO Reading Room • Other	February 2000