

CIMARRON CORPORATION

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S. JESS LARSEN
VICE PRESIDENT

January 12, 1997

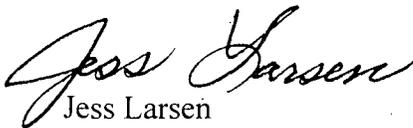
Mr. Kenneth L. Kalman, Project Manager
Low-Level Waste and Decommissioning Projects Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555-0001

Ref: Docket No. 70-925; License No. SNM-928
Response to NRC Comments: "Cimarron Corporation Radiation Protection
Plan (Annex A)"

As you requested in your letter of December 2, 1996, Cimarron Corporation submits herewith its response to the NRC staff's comments on Cimarron Corporation's Radiation Protection Plan (Annex A).

Our response to the comments and attached amended sections of the Radiation Protection Plan are submitted for your review and action regarding the previously requested license amendment, dated September 20, 1996.

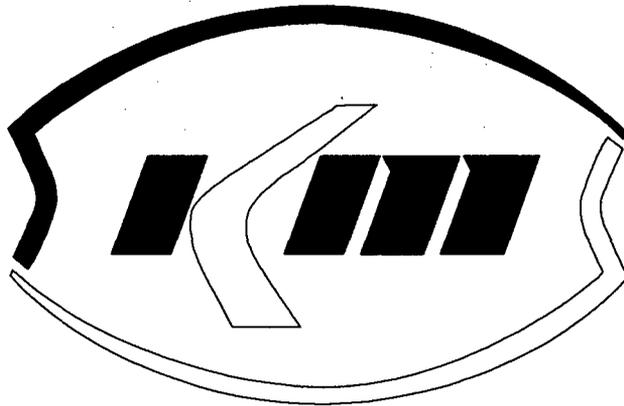
Best regards,



Jess Larsen
Vice President

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KERR-McGEE CORPORATION



**Response to NRC Comments on the
Cimarron Corporation Radiation
Protection Plan (Annex A) for the
Former Nuclear Fuels Fabrication Facility
near Crescent, Oklahoma,
Dated September 19, 1996**

**License No. SNM-928
Docket No. 70-0925**

January 2, 1997

**CIMARRON CORPORATION
CRESCENT, OKLAHOMA**

**Response to NRC Comments
on the
Cimarron Corporation Radiation Protection Plan (Annex A)
for the Former Nuclear Fuels Fabrication
Facility near Crescent, Oklahoma
dated September 19, 1996**

General Comments

NRC Comment #1:

The radiation protection plan should address the response to emergency or accidental occurrences such as radioactive material spills, fire, and personal injury.

Cimarron Response:

Cimarron will respond to all emergencies in accordance with the Emergency Plan which is part of the Cimarron Corporation Site Health, Safety and Emergency Manual. The Emergency Plan considers potential hazards at the facility and contains requirements for the emergency response organization, implementation of the emergency plan (for fire, releases, clean-up, severe weather, and contaminated/injured personnel), evacuation plan, equipment requirements, response agency familiarization, reporting requirements, emergency response follow-up actions, drills/training, and Plan changes. The Emergency Plan is modified as necessary to incorporate changes to the facility, response requirements, and organizations.

Section 2.0 - General Information

NRC Comment #2:

Subsection 2.3, "Responsibilities," should include provisions to ensure that radiation protection and safety issues are brought to the attention of top management. This subsection should also list individuals who have the authority to stop operations if a situation arises that may pose an immediate threat to life, health, or the environment. Furthermore, this subsection should also discuss actions that will be taken if an employee fully disregards provisions of the radiation protection plan.

Cimarron Response:

Section 2.0 of Annex A has been revised (see Attachment #1) to incorporate NRC comments.

Top management involvement in the Cimarron Radiation Protection Program is achieved through the review and approval of the Radiation Protection Plan and procedures, through participation on the ALARA Committee and the setting of ALARA goals, through the administration of the Emergency Plan, and through company policies of notification. Day to day radiation protection and safety issues operations are generally handled at the Site level, while issues involving regulatory or health and

safety concerns requiring notifications or responses to regulatory agencies are brought to the full attention of top management such as the Vice President, Cimarron Corporation.

Individuals who have the authority to stop operations if a situation arises that may pose an immediate threat to life, health, or the environment include Supervisors, Radiation Safety Officer, Quality Assurance Manager, Site Manager, and the Vice Presidents and Presidents of Cimarron Corporation or Kerr-McGee Corporation.

The actions to be taken by Cimarron Corporation when an employee fully disregards provisions of the Radiation Protection Plan depend on the severity of the infraction and can range from reprimand and additional training for the individual to discharge.

NRC Comment #3:

An organizational chart illustrating the organizational structure to carry out the objectives of the radiation protection plan should be included in this section.

Cimarron Response:

Section 3.0 of Annex A has been revised to include organizational charts (see Attachment # 2).

NRC Comment #4:

Subsection 2.4. "Training Requirements and Policy," indicates that all persons who are permitted to enter restricted areas shall receive training in radiation safety. Please list the objectives and general areas that will be covered through training. Is training required prior to starting work? Furthermore, who is responsible for ensuring that employees are adequately trained?

Cimarron Response:

As stated in Section 2.4 of Annex A (see Attachment #1), the depth of the training will be commensurate with the potential radiation safety problems and will be in compliance with 10 CFR 19 and 10 CFR 20. Cimarron may have several levels of training, such as visitor, escorted radiation worker, radiation worker, and health physics technician training. Each of the levels of training will ensure that individuals are:

- Aware that radioactive materials are present in the restricted areas;
- Informed regarding additional risks that may arise due to the anticipated exposure of the individual;
- Informed regarding precautions or procedures to minimize exposure to radioactive materials or radiation;

- Informed of the purposes and functions of protective devices and monitoring devices that will be used; and
- Informed regarding additional protection available for the embryo/fetus, as applicable.

Training for workers will include:

- Applicable provisions of the regulations and licenses for the protection of personnel from exposures to radiation or radioactive materials;
- Responsibility of the worker to report promptly to Cimarron Corporation any condition that may lead to or cause a violation of regulations or licenses or unnecessary exposure to radioactive material or radiation;
- Appropriate responses to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation or radioactive material; and
- Radiation exposure reports that may be requested by the worker pursuant to the regulations.

All individuals receive appropriate training prior to entering the restricted area, whether as a visitor or as a worker. As discussed above, the level of training provided is commensurate with the activity to be performed.

The Radiation Safety Officer is responsible for training of workers. Visitor training requirements are approved by the RSO, but may be administered by radiation workers.

Section 5.0 - Assessments

NRC Comment #5:

This section should describe the record maintenance of the radiation protection program as described in 10 CFR 20.2102.

Cimarron Response:

Section 3.7 of Annex A, "Radiation Protection Program Documentation" (see Attachment #2), states that "Radiation Protection Documents shall be controlled in accordance with regulatory requirements and the requirements of the Cimarron Corporation Quality Assurance Plan." This specification provides for control over the records required by 10 CFR 20.2102.

Section 6.0 - Personnel Monitoring

NRC Comment #6:

In addition to maintaining exposures within the limits established by 10 CFR Part 20, the objective of the radiation protection plan should also be to minimize exposure to as low as reasonably achievable (ALARA). Please describe how the ALARA philosophy as presented in section four will be implemented. Will Administrative limits be used to implement ALARA philosophy?

Cimarron Response:

Implementation of the ALARA Program will be accomplished through radiation protection program procedures. Administrative limits are currently used to ensure that exposures are maintained below the regulatory limits. More importantly, however, the current ALARA Program incorporates the use of ALARA goals which are set by the ALARA Committee and are markedly below the regulatory limits.

NRC Comment #7:

Subsection 6.8, "Internal Exposure Monitoring," states that "intakes shall normally be calculated based upon the results of the air monitoring program." Where is the air monitoring program defined? When will air monitoring be performed? How will air samples be collected? How frequently will air samples be collected and analyzed?

Cimarron Response:

Section 10 of Annex A (see Attachment #6) contains policies for Radiation Protection Surveys, including air monitoring. Section 10.2 states:

"Air samples shall be collected whenever the airborne activity levels exceed or are expected to exceed 10 percent of the Derived Air Concentration (DAC). In addition, permanently mounted air sampling equipment used to determine the concentration of radionuclides in the workers breathing zone shall be evaluated by the RSO for representativeness at least once every six months and whenever a licensed operational change is made."

"Breathing zone (BZ) air sampling shall be performed as necessary to establish the concentrations of radioactive contaminants available for inhalation by the worker. In addition, BZ sampling shall be performed whenever respiratory protection devices are worn by personnel. BZ samples shall be analyzed every shift or after each operation, whichever is shorter. If air sample data indicates a measured level greater than 40 DAC-hours, the RSO shall conduct an investigation and take corrective actions to reduce airborne contamination levels."

"Air sample collection media shall be appropriate to address the radionuclide mixture(s) present. In addition, the analysis of air samples (including preliminary field screening) shall be performed in a timely and expeditious manner."

Cimarron Corporation implements the above policies using procedures that address the specific methods, equipment, and instrumentation that is required.

Section 7.0 - Instrument Inventory

NRC Comment #8:

Please list the type of instrumentation that will be used to conduct surveys and monitor radiation levels and note how each instrument will be used.

Cimarron Response:

Instrumentation requirements at Cimarron will vary from time to time as the decommissioning process continues. The attached table, "Radiation Monitoring Instruments" (Attachment #3), summarizes the instrumentation types, number available, radiation detected, scale ranges, and typical background and MDA for radiation detection instrumentation currently in use at Cimarron.

Section 8.0 - Access Control

NRC Comment #9:

Please include diagrams of the site that illustrate Controlled Areas, Restricted/Radiologically Controlled Areas, and Unrestricted Areas. Also, please describe, in the plan, the posting that will be used to designate areas in accordance with 10 CFR 20.1902, "Posting Requirements."

Cimarron Response:

Drawing number 96MOST-RF2, attached, shows areas that are currently designated as Controlled, Restricted, and Unrestricted Areas. Section 8.0 of Annex A has been revised (see Attachment #4) to incorporate Section 8.5 which specifically addresses posting requirements.

NRC Comment #10:

Are there or will there be areas where airborne activity is a concern? These areas should be posted accordingly.

Cimarron Response:

Airborne radioactivity areas shall be posted in accordance with 10 CFR 20. See the response to NRC Comment #9.

Section 9.0 - Special Work Permits

NRC Comment #11:

Please describe work conditions that require special work permits.

Cimarron Response:

Special Work Permits are required when, based upon the evaluation of the Radiation Safety Officer and Health and Safety Officer, hazardous or radioactive materials are present in quantities that could result in health hazards due to the work to be performed, or when the work to be performed is hazardous due to the presence of industrial hazards.

NRC Comment #12:

Specify who will approve and sign the Special Work Permits. The Special Work Permits should be signed by both the Radiation Safety Officer, or designee, and the individuals performing the work.

Cimarron Response:

Special Work Permits (SWPs) shall be approved by the Radiation Safety Officer. In addition, each individual who performs work governed by a SWP shall receive training regarding the SWP. All SWP training will be documented by having the worker sign a form acknowledging that training was received.

Section 9.0 of Annex A has been revised to incorporate these revisions (see Attachment #5).

Section 10.0 - Radiation Protection Surveys

NRC Comment #13:

Who will perform radiation and contamination surveys and what type of training will they receive in radiation surveys?

Cimarron Response:

Surveys are performed by radiation workers who have been trained commensurate with the type of surveys to be performed. Training will address the appropriate instrumentation to be used, operational and response checks for survey instrumentation, survey methods, recording of data, calculations, data evaluation, and action levels, as applicable.

NRC Comment #14:

This section should describe, in general, how survey and monitoring information will be recorded and maintained.

Cimarron Response:

Radiation and contamination surveys performed for compliance purposes, or to demonstrate that decommissioning criteria or unconditional release criteria have been met, shall be documented and maintained in accordance with 10 CFR 20, Subpart L.

Section 10.0 of Annex A has been revised to incorporate the response to this comment (see Attachment #6).

Section 11.0 - Radioactive Material Control

NRC Comment #15:

Please describe your program for waste minimization.

Cimarron Response:

Most of the waste generated at Cimarron is in the form of soils and is therefore not well suited for significant compaction or other types of volume reduction. Cimarron practices a policy of minimizing the potential for waste generation by training workers to keep unnecessary materials out of the restricted areas. In addition, Cimarron maintains a Contamination Control policy in accordance with Section 12.0 of Annex A. This policy serves to minimize the spread or buildup of radioactivity in the facility or environment from decommissioning operations.

Section 12.0 - Contamination Control

NRC Comment #16:

Please provide more detail regarding decontamination for personnel and equipment contamination control and decontamination (i.e., personnel hygiene, personnel monitoring and survey, equipment surveys, etc.).

Cimarron Response:

Section 12.0 of Annex A (see Attachment #7) has a new paragraph titled "Contaminated Personnel." Routine personnel monitoring is covered in Section 10.5 (see Attachment #6). Section 12.2 of Annex A has been modified to incorporate general good health physics practices pertaining to decontamination. Equipment survey and release is covered in Section 13.0 - Unconditional Release of Materials.

NRC Comment #17:

What administrative limits will be used concerning personnel radioactive contamination? What actions will be taken if these limits are exceeded?

Cimarron Response:

Cimarron has not established administrative limits for personnel radioactive contamination. Personnel surveys are performed by workers as they leave contaminated areas and also upon egress from the Restricted Area. These surveys are qualitative in nature. Personnel are instructed to notify Health Physics when radioactivity levels exceeding background are found on the skin, clothing, or personal items. Health Physics personnel will then determine the need for decontamination. In accordance with the ALARA concept, radioactive materials on skin, clothing, or personal items will be minimized to the extent practicable before allowing an individual to leave the facility. Decontamination of individuals is performed in accordance with specific procedures. Any individual who cannot be decontaminated to background levels is instructed by the RSO or designee regarding the risks involved and follow-up actions that may be necessary.

Section 14.0 - Respiratory Protection

NRC Comment #18:

Please provide more detail regarding the types of engineering and administrative controls to be employed to control exposure to airborne radioactivity.

Cimarron Response:

Cimarron health physics and supervisory personnel evaluate all radiation work which could result in exposures to airborne radioactivity in accordance with Section 9.0, "Special Work Permits" (Attachment #5). This evaluation includes means to ensure that dose to workers is maintained ALARA. The engineering and administrative controls necessary are assigned with this commitment in mind. Current engineering practices at Cimarron include the use of vacuum systems discharging through HEPA filtration devices, dust suppression and control by wetting of surfaces and soils, washing down equipment and materials prior to handling, vacuuming of surfaces, and the use of tents, glove boxes, and hoods. Workers are trained to stand up-wind of work, perform frequent surveys of work areas for airborne contaminants and loose surface contamination, and to perform work in open areas rather than in confined areas when practical. Other techniques will be used and implemented as necessary. Cimarron also has an ALARA Committee that meets quarterly.

NRC Comment #19:

How frequently will cartridges and filters be changed?

Cimarron Response:

Cartridges and filters are changed when necessary due to dust loading which results in difficulty in breathing or increased levels of contamination on the cartridge. Personnel are trained in the proper use of respiratory protective equipment and regarding Cimarron Corporation policies that address

relief from respiratory or other stress caused by the wearing of respiratory protective equipment (see Section 14.2 of Annex A, Attachment #8).

NRC Comment #20:

As specified in 10 CFR 20.1703, this section should reference and generally describe the air monitoring program established to identify the potential hazard and estimate exposures (see comment to #7).

Cimarron Response:

See the response to NRC Comment #7.

NRC Comment #21:

Although this section states that “the respiratory protection program shall meet the requirements found in 10 CFR 20, Subpart H,” this section should refer specifically to the following requirements of Subpart H --

20.1703 (a)(3)(i)	Air sampling program
20.1703 (a)(3)(iii)	Testing of respirators prior to each use
20.1703 (a)(5)	Relief of respiratory use
20.1703 (b)(1)	Respiratory protection factors
20.1703 (b)(2)	NRC Authorization for use protection factors in excess of Appendix A
20.1703 (c)	NIOSH certified equipment for emergency use
20.1703 (d)	Notification of Regional Administrator prior to use of respiratory protection

Cimarron Response:

Section 14.0 of Annex A (see Attachment #8) has been modified where necessary to specifically address the above sections of 10 CFR 20, Subpart H, as follows:

20.1703 (a)(3)(i)	Section 14.4.
20.1703 (a)(3)(iii)	Section 14.9.
20.1703 (a)(5)	No modification. Section 14.2 addresses this criteria.
20.1703 (b)(1)	Section 14.5.
20.1703 (b)(2)	Section 14.5.
20.1703 (c)	Section 14.5.
20.1703 (d)	No modification. Previous notification has been made.

Section 15.0 - Environmental Monitoring

NRC Comment #22:

This section should list the administrative limits for each type of environmental sample collected and the action required should an environmental pathway exposure exceed the limit. Also, please ensure that the radiation protection plan includes the monitoring location (i.e., diagram), type of instrumentation to be used, the minimal detectable activity of the measurement technique and the isotopes that are to be measured for each type of environmental pathway measured.

Cimarron Response:

Section 15.0 of Annex A (see Attachment #9) has been modified to incorporate NRC comments.

NRC Comment #23:

Subsection 15.10, "Quality Control in Sampling", should include a discussion of how a chain of custody documentation will be used to ensure the integrity of samples collected.

Cimarron Response:

Section 15.10 has been modified (see Attachment #9).

2.0 GENERAL INFORMATION

2.1 Section Overview

This section provides requirements for radiation safety definitions, gives the responsibilities of those involved in Cimarron Corporation radiological operations, and discusses radiation safety training requirements.

2.2 Definitions

Definitions are required to ensure that individuals understand the requirements of the regulations and the Radiation Protection Program at Cimarron Corporation. Cimarron Corporation shall utilize regulatory definitions whenever possible, or definitions that are more restrictive than the regulatory definition. In addition, Cimarron Corporation uses definitions which are consistent with standard industry guideline documents.

2.3 Responsibilities

Cimarron Corporation shall incorporate clearly defined responsibilities in the Radiation Protection Program. Each individual at Cimarron shares responsibility for their own radiation protection as well as for their co-workers and individual members of the public. Key responsibilities under the Radiation Protection Program are outlined below. Job specific responsibilities under the Radiation Protection Program shall be outlined in the Radiation Protection Program Procedures.

The President of Cimarron Corporation has ultimate responsibility for ensuring that the Radiation Protection Plan at Cimarron Corporation is developed and implemented in a manner consistent with regulatory requirements and company policies. The President has authority to stop work in the event that the health and safety of workers or members of the public may be compromised or if regulatory non-compliance may be achieved.

The Vice President, Cimarron Corporation has responsibility for assuring that an effective Radiation Protection Program is developed and implemented at Cimarron Corporation. This responsibility is delegated via the Cimarron Site Manager to the Radiation Safety Officer. The Vice President has authority to stop work in the event that the health and safety of workers or members of the public may be compromised or if regulatory non-compliance may be achieved.

The ALARA Committee is responsible for reviewing, evaluating and approving the Radiation Protection Plan, certain operations dealing with radioactive materials and radiological controls, and providing direction to the Radiation Safety Officer for

decisions involving ALARA, methods of operations, and approving annual ALARA goals for the Cimarron Facility.

The Site Manager is responsible for assuring that resources are allocated to the radiation protection program, that coordination between Supervisory personnel occurs, and that an effective response capability for emergency issues dealing with radioactive materials is maintained. The Site Manager has authority to stop work in the event that the health and safety of workers or members of the public may be compromised or if regulatory non-compliance may be achieved.

The Radiation Safety Officer (RSO) is responsible for development, implementation, and oversight of the Radiation Protection Program. The RSO chairs the ALARA Committee and is responsible for bringing pertinent radiation protection and safety issues to the attention of the ALARA Committee. The RSO has authority to stop work in the event that the health and safety of workers or members of the public may be compromised or if regulatory non-compliance may be achieved.

The Quality Assurance Manager is responsible for assessments of the radiation protection program, for the maintenance and distribution of controlled documents, and for long-term storage of quality assurance documents after they are no longer required for operational purposes. The QA Manager has authority to stop work in the event that the health and safety of workers or members of the public may be compromised or if regulatory non-compliance may be achieved.

Each Supervisor is responsible for the effective implementation of radiation protection procedures within their scope of activities. Each Supervisor has authority to stop work in the event that the health and safety of workers or members of the public may be compromised or if regulatory non-compliance may be achieved.

Each employee at Cimarron Corporation is responsible for following regulatory requirements and Cimarron Corporation radiation protection procedures to the best of his/her ability and knowledge. These responsibilities include proper use of protective and personnel monitoring equipment, notifying management of any potential or real radiation hazards or improper practices, and maintaining his/her individual radiation exposure and that of others ALARA. All Cimarron Corporation employees should be aware of and heed the instructions on the "Notice to Employees" (NRC Form 3). Employees are subject to reprimand and possible discharge from the Company for activities deemed to be in violation of Company policy or regulatory requirements.

Employees are requested to contact management first regarding potential regulatory or license violations before contacting regulatory agencies. However, any employee who is not satisfied with the management response regarding the

potential violation is encouraged to contact the regulatory agency for resolution of the concern.

2.4 Training Requirements and Policy

All persons who are permitted to enter the Cimarron Corporation restricted area shall receive information and training in radiation safety. The depth of the training will be commensurate with the potential radiation safety problems and will be in compliance with the requirements in 10 CFR 19 and 10 CFR 20. The RSO is responsible for ensuring that appropriate training is provided to all individuals who enter the restricted area.

The Cimarron Corporation training program meets these requirements using a combination of several or all of the following techniques: classroom training, videotapes, reading assignments, on-the-job training, demonstrations, drills, and discussions. Cimarron Corporation radiation workers attend an appropriate classroom training session upon employment and receive periodic review training at least annually. Training records for all individuals shall be maintained in accordance with the Quality Assurance Plan.

3.0 ADMINISTRATION

3.1 Section Overview

This section describes the administration of Cimarron Corporation's Radiation Protection Program. Administration of the Cimarron Corporation Radiation Protection Program requires coordination between the Radiation Safety Officer, Site Manager, Quality Assurance Manager, Supervisors, the ALARA Committee, and workers. Organization and staffing requirements of the Radiation Protection organization are presented, as well as the requirements of the ALARA Committee. Relationships between documents used to achieve compliance with the regulations and Cimarron Corporation's radioactive materials licenses are presented.

Compliance with the Radiation Protection Program policies are achieved through the implementation of procedures. Requirements for the development, review, approval, and control of procedures are also provided.

The Radiation Protection Program results in the generation of documents and records. In addition, notifications and reports are required by the regulations. Requirements for proper generation, storage, and turnover of documents and notifications are described to ensure regulatory compliance.

3.2 Radiation Protection Organization

The current organizational structure for Cimarron Corporation, including relationships between Cimarron Corporation and Kerr-McGee Corporation, is presented in Figures 3-1 through 3-3. Changes to the Radiation Protection Organization require the approval of the Vice President, Cimarron Corporation. Radiation Protection staffing levels shall be periodically reviewed by the Vice President, Cimarron Corporation, Site Manager, and Radiation Safety Officer, as applicable, to ensure that adequate staffing levels are maintained which are consistent with current and planned activities. Duties and responsibilities that are required for each health physics procedure shall be clearly defined.

3.3 Radiation Protection Program Document Hierarchy

Hierarchy of the Radiation Protection Program documents shall be as follows:

Federal and State Regulations (e.g., 10 CFR)

Radioactive Materials Licenses and Permits issued by the Nuclear Regulatory Commission, other Federal offices, and the State of Oklahoma, including all documents incorporated by reference, such as the Cimarron Corporation Radiation Protection Plan.

Radiation Protection Program Procedures. These procedures shall administer and implement the Cimarron Radiation Protection Plan.

3.4 Radiation Protection Program Manuals

The Radiation Protection Program shall be specifically defined and implemented using administrative and/or implementing procedures. Administrative procedures contain the policies, regulatory requirements, and administrative guidelines that will be used in the Radiation Protection Program. Implementing procedures contain specific information for achieving the requirements found in the Radiation Protection Plan or in the administrative procedures.

3.5 Procedure Development

Radiation Protection Program Procedures shall be developed in accordance with the Cimarron Corporation Quality Assurance Plan. In addition, procedures shall be prepared in accordance with regulatory requirements and the Cimarron Corporation Radiation Protection Plan and should incorporate applicable technical guidance documents (e.g., ICRP, NCRP, U.S. NRC Regulatory Guides, ANSI Standards, ASME Standards, etc.).

3.6 Procedure Review, Approval, and Control

Procedures shall undergo technical verification and review to ensure compliance with regulatory requirements, all applicable licenses and permits, the Cimarron Corporation Radiation Protection Plan, and conformance, to the extent practicable, with applicable technical guidance documents. Procedure review shall also assure compatibility with all other Cimarron Corporation procedure manuals and documents. Reviews shall ensure that the procedure can be performed as written and that responsibilities are clearly defined and consistent with position descriptions. Review of procedures shall be performed by the Site Manager, Quality Assurance Manager, and the Radiation Safety Officer. All Radiation Protection Program procedures shall be approved by the Vice President, Cimarron Corporation. Procedures shall be issued and controlled by the Quality Assurance Manager in accordance with the Quality Assurance Plan.

3.7 Radiation Protection Program Documentation

Implementation of the Radiation Protection Program results in generation of documents demonstrating the quality of services performed and compliance with federal and state regulations. Radiation Protection documents shall be controlled in accordance with regulatory requirements and the requirements of the Cimarron Corporation Quality Assurance Plan.

3.8 Notifications and Reports

Notifications and reports shall be made in accordance with the requirements of 10 CFR 19, 10 CFR 20, 10 CFR 21, 10 CFR 30, and 10 CFR 70.

Figure 3-1
Kerr-McGee Corporation
Safety and Environmental Affairs Division

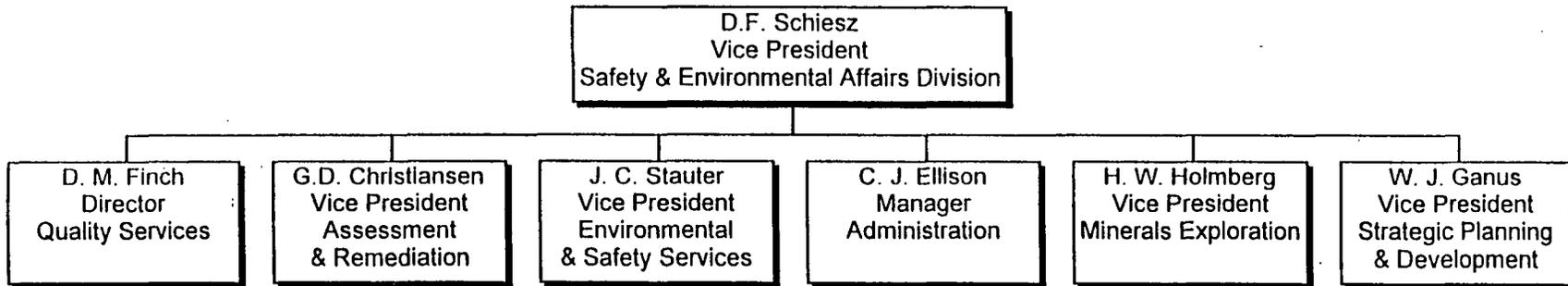
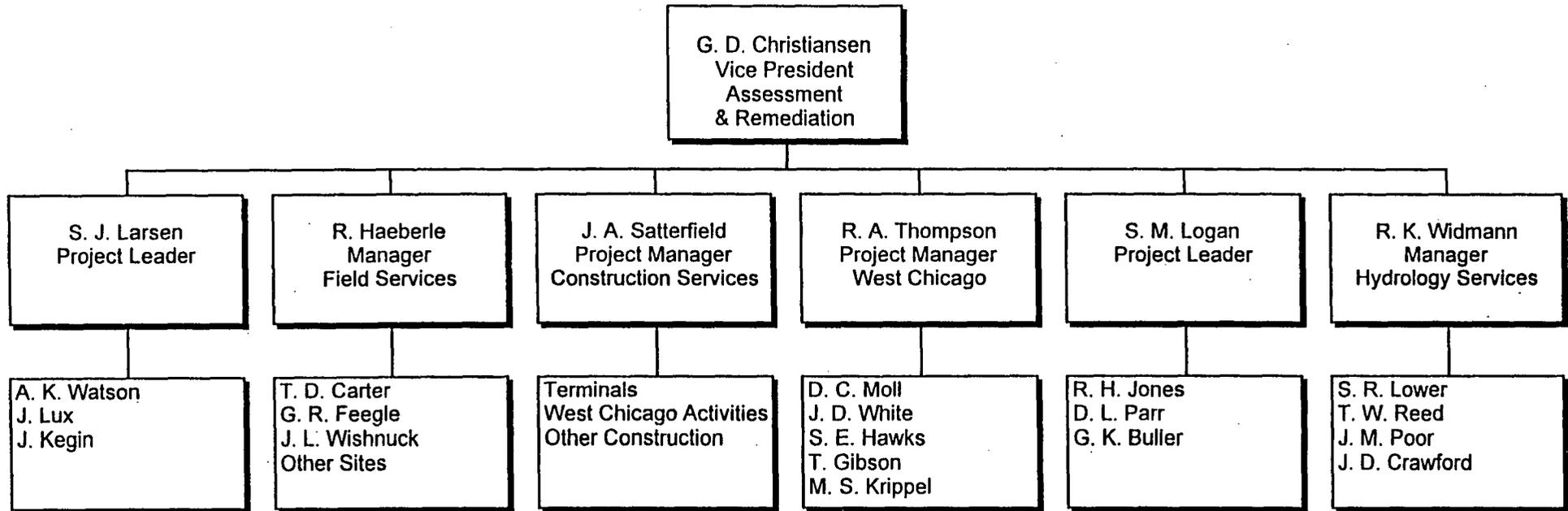
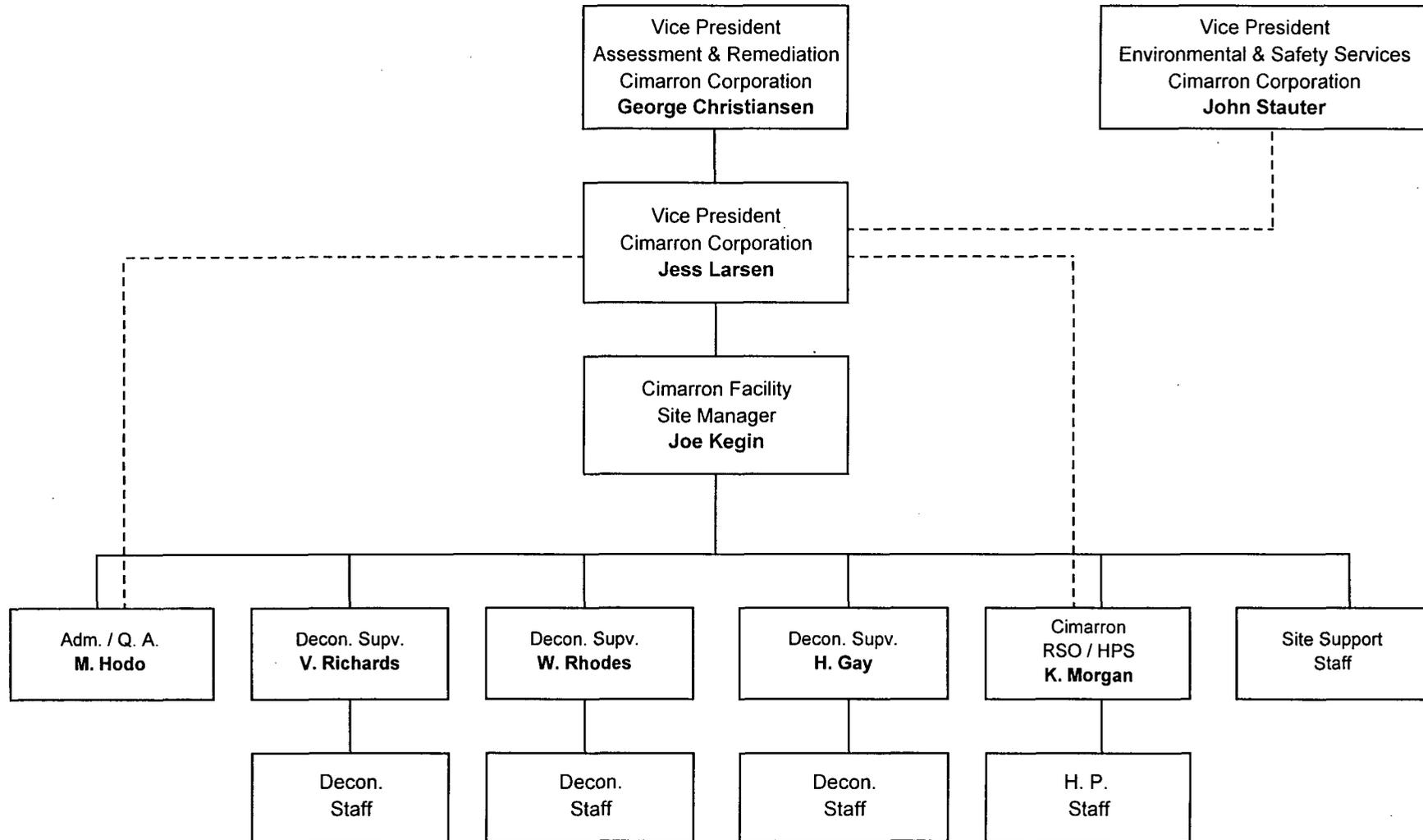


Figure 3-2
Kerr-McGee Corporation
Safety and Environmental Affairs Division
Assessment & Remediation



**Figure 3-3
Cimarron Corporation Organizational Chart**



**Attachment #3
Radiation Monitoring Instruments**

INSTRUMENT TYPE	NUMBER AVAILABLE	RADIATION DETECTED	SCALE RANGE	BKG	TYPICAL MDA 95% CONFIDENCE LEVEL
Scintillation (Ludlum 2224) Scaler/Ratemeter (fixed measurement)	2	Alpha Beta	0-500,000 cpm	< 10 cpm < 300 cpm	100 dpm/100 cm ² 500 dpm/100cm ²
Micro-R Meter (Ludlum) 1" x 1" NaI Detector	1	Gamma	0 - 3,000 μR/h	7 μR/h	7 uR/h
Ion Chamber (Victoreen)	2	Gamma	0.1 - 300 mR/h	<0.1 mR/h	<0.2 mR/h
3" x 1/2" NaI Scintillation Detector Digital Scaler	3	Gamma	0 - 500,000 cpm	3,000 cpm avg shielded 9,000 cpm avg unshielded	250 cpm 500 cpm
435 cm ² gas flow (43-27) Digital Scaler	1	Alpha	0 - 500,000 cpm	<10 cpm	20 dpm/100 cm ²
100 cm ² gas flow (43-68) Digital Scaler	1	Alpha	0 - 500,000 cpm	<10 cpm	100 dpm/100 cm ²
60 cm ² gas flow (43-4) Digital Scaler	1	Alpha	0 - 500,000 cpm	<10 cpm	200 dpm/100 cm ²
60 cm ² Count Rate Meter (PRM-6)	6	Alpha	0 - 500,000 cpm	<100 cpm	350 dpm/100 cm ²
50 cm ² Personnel Room Monitor (Ludlum 177)	3	Alpha	0 - 500,000 cpm	<100 cpm	500 dpm/100 cm ²
5" Slide-Drawer Counter	1	Alpha	0 - 500,000 cpm	<0.3 cpm	2 dpm
Eberline 2" GM Tube (Pancake)	1	Beta, Gamma	0 - 500,000 cpm 720 cpm = 0.2 mR/h	<200 cpm	70 cpm
Ludlum 2" GM Tube (Pancake)	2	Beta, Gamma	0 - 500,000 cpm 720 cpm = 0.2 mR/h	<200 cpm	70 cpm
Tennelec LB5100 Computer Based Auto Sample Counter	1	Alpha Beta	0 - 99,999,999 cpm	<0.3 cpm 1.5 cpm	0.4 dpm 1.5 dpm
Ludlum Dirt Probe 1 1/2" x 4" NaI (T1) Detector	2	Gamma	0 - 500,000 cpm	20,000 cpm	700 cpm
Soil Counter - Computer Linked 4" x 4" x 16" NaI (T1) Detector	1	Gamma	---	4 pCi/g Total U 1.2 pCi/g Th (Nat)	10 pCi/g U (5 minute count) 4 pCi/g U (30 minute count) .25 pCi/g Th (Nat)
100 cm ² Gas Flow Digital Scaler	2	Beta, Gamma	0 - 10,000 cpm	<300 cpm	600 dpm/100 cm ²
Ludlum 2" GM Tube (Pancake)	1	Alpha-Beta Gamma	0-500,000 cpm	<200 cpm	70 cpm

Attachment #4

8.0 ACCESS CONTROL

8.1 Section Overview

The Access Control program provides the access control requirements established for all entry into and exit from the Cimarron Facility. The Access Control Program is designed to ensure that all individuals have received appropriate training for *qualification, and authorization for entry*. The access control requirements are applicable to all Cimarron personnel, contractors and visitors who frequent the Controlled Area, Restricted Area/Radiologically Controlled Area (RCA).

8.2 General Requirements

- All Cimarron personnel who normally work within restricted areas shall be issued dosimetry.
- Only properly trained or escorted personnel shall be permitted inside the Restricted Area.
- Visitors shall surrender personal dosimetry to security when leaving the facility.
- Cimarron employees shall store badges in proper storage locations prior to leaving the facility.
- Unescorted individuals working in the RCA shall be required to receive radiation worker training.

8.3 Controlled Area Access Controls

Controlled areas at the Cimarron Facility include all areas outside of the restricted area fence, but within the site boundary for which access can be limited for any reason. The Cimarron Facility currently maintains 24 hour guard watch over the facility entrance, pending completion of the decommissioning process.

8.4 Restricted Area/Radiologically Controlled Area Access Controls

Restricted Areas/Radiologically Controlled Areas (RCAs) currently include all areas designated as "Phase III Areas." RCAs are those areas within the fenced area of the Cimarron Facility that require the completion of specific training prior to entry. RCAs include Radioactive Materials Areas, Radiation Areas, Airborne Radioactivity Areas, and High Radiation Areas. RCAs should be surrounded by a security fence, but may be controlled through the use of guards, barriers, signs, gates, or doors. Currently, the entrance to restricted areas is monitored and controlled by Security at the Main Access Control Point. Individuals granted unescorted access to the RCAs shall be provided with dosimetry which should be stored at the main access control point when not in use.

RCA boundaries shall be defined by the use of postings, barriers, walls, tape, ropes, markings, or locked doors. Each access point for RCA's at the Cimarron facility shall be posted.

8.5 Posting Requirements

Each radiation area, high radiation area, airborne radioactivity area, and radioactive materials area shall be posted in accordance with 10 CFR 20.1902 unless excepted from posting under the provisions of 10 CFR 20.1903.

Attachment #5

9.0 SPECIAL WORK PERMITS

9.1 Section Overview

A Special Work Permit (SWP) is a document or series of documents prepared by the Project Manager, with input and approval from appropriate departments (i.e., Health Physics, Quality Assurance), as necessary, to inform individuals of the radiological and non-radiological conditions that exist in the work area and the safety requirements for the job. The ALARA review process is an integral part of the SWP process and is performed prior to completing a SWP.

9.2 SWP Preparation

SWP documentation shall consider all safety and radiological hazards and protective equipment needed for the project. SWPs should include information on the nature of the work, equipment needed to perform the job, work procedures, safety requirements, necessary surveys, training requirements, and records to be maintained.

9.3 SWP Requirements

The SWP job description shall be consistent with the activities or task to be performed. The location identified on the SWP shall be consistent with the location entered. The SWP shall be posted at the main entrance to the RCA and Supervisors shall review the provisions of specific SWPs with their workers prior to work starting.

9.4 SWP Approval

The Radiation Safety Officer, or designee, shall approve all SWPs.

9.5 SWP Training

Each individual who performs work governed by a SWP shall receive training regarding the SWP. SWP training shall be documented by having the worker sign a form acknowledging that training was received.

10.0 RADIATION PROTECTION SURVEYS

10.1 Section Overview

This section provides a general description of the requirements for performance and documentation of radiation protection surveys. Radiological surveys are performed in order to identify, quantify and evaluate the potential hazard associated with the radiological conditions in the area. Survey information is used to assist in the development of Special Work Permits, to inform individuals of the radiological conditions/hazards in the area, to determine area postings (if required), to determine the type(s) of personnel protective equipment necessary, and to ensure personnel exposures to radiation and radioactive materials are maintained ALARA.

10.2 General Requirements

Cimarron shall conduct radiation and contamination surveys, perform air sampling, and take samples to assess radiation fields, to verify that radiological conditions have not changed, and to establish specific radiological controls for work to be performed. Decommissioning surveys shall be performed, to the extent practical, to conform with NUREG/CR-5849, the U.S. NRC Branch Technical Position for Onsite Storage and Disposal of Uranium and Thorium, and the 1987 U.S. NRC "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material."

Contact dose rates are used to locate and identify the maximum radiation levels to which personnel could be exposed as well as localized sources of radiation which present unique radiological concerns.

Indirect (smears) and direct (fixed) contamination surveys are performed to detect and quantify alpha emitting radioactive contaminants. Qualitative (large area) loose-surface contamination surveys should be periodically performed to ensure that radioactive contamination has not inadvertently spread.

Air samples shall be collected whenever the airborne activity levels exceed or are expected to exceed 10 percent of the Derived Air Concentration (DAC). In addition, permanently mounted air sampling equipment used to determine the concentration of radionuclides in the workers breathing zone shall be evaluated by the RSO for representativeness at least once every six months and whenever a licensed operation change is made.

Breathing zone (BZ) air sampling shall be performed as necessary to establish the concentrations of radioactive contaminants available for inhalation by the worker. In addition, BZ sampling shall be performed whenever respiratory protection

devices are worn by personnel. BZ samples shall be analyzed every shift or after each operation, whichever is shorter. If air sample data indicates a measured level greater than 40 DAC-hours, the RSO shall conduct an investigation and take corrective actions to reduce airborne contamination levels.

Air sample collection media shall be appropriate to address the radionuclide mixture(s) present. In addition, the analysis of air samples (including preliminary field screening) shall be performed in a timely and expeditious manner.

Appropriate instrumentation for common survey and analyses shall be procedurally addressed.

10.3 Routine Surveys

Surveys shall be conducted at a frequency commensurate with the hazards present and the personnel occupancies in a given area. Cimarron's survey program consists of daily, weekly, monthly, quarterly and semi-annual surveys to monitor the radiological conditions. Survey frequencies should maintain personnel exposures ALARA. Temporary changes to established survey frequencies shall require approval from the RSO and shall be documented.

10.4 Investigative Surveys

Investigative surveys shall be performed as soon as practicable following the discovery or indication of abnormal radiological conditions.

Appropriate air samples shall be collected in areas where unanticipated personnel contamination occurs and where equipment has failed and the failure may cause elevated airborne radioactivity. If air sample data indicates a measured level greater than 40 DAC-hours, the RSO shall conduct an investigation and take corrective actions to reduce airborne contamination levels.

10.5 Personnel Contamination Monitoring

Personnel shall routinely perform contamination monitoring (frisking) prior to exiting the Radiologically Controlled Area. A hand and foot frisk shall be performed at a minimum, when exiting the Radiologically Controlled Area.

10.6 Survey Documentation

Radiation and contamination surveys performed for compliance purposes, or to demonstrate that decommissioning criteria have been met, shall be documented and maintained in accordance with 10 CFR 20, Subpart L.

Attachment #7

12.0 CONTAMINATION CONTROL

12.1 Section Overview

The purpose of contamination control is to prevent and/or minimize the spread of contamination to individuals, areas, and equipment. Control of radioactive surface contamination minimizes possible inhalation or ingestion of radioactivity by personnel, skin dose from small particles of radioactivity, and the spread to or build-up of radioactivity in the facility or environment from decommissioning operations.

12.2 General

Cimarron shall maintain restricted areas of the facility below the smearable contamination limit of 5,000 dpm/cm² gross alpha. In addition, Cimarron shall establish Contaminated Area control, including posting, whenever smearable contamination in an area exceeds 1,000 dpm/100cm². Cimarron shall incorporate the ALARA philosophy when selecting decontamination methods and practices.

As a general rule, decontamination should be performed by working from areas of low contamination to areas of high contamination. Decontamination materials should be limited to the minimum required for the task. All decontamination materials shall be collected, monitored, and properly dispositioned.

12.3 Control and Use of Radiological Containments

The Health Physics Department, along with Job Supervisors, shall determine the need for a particular type of containment to control the spread of contamination.

12.4 Contaminated Personnel

The performance of non-routine monitoring (e.g., contaminated personnel) shall be proceduralized. Decontamination of personnel shall be performed under the guidance of health physics personnel and shall incorporate good health physics practices and ALARA. Cimarron shall not allow an individual whose skin or personal clothing is found contaminated above the unconditional release criteria (Section 13.4) to exit an controlled area without prior approval of the site manager or RSO.

12.5 Spill of Radioactive Material

A spill of radioactive material requires immediate actions which include stopping the spill, warning other personnel, isolating the area, and minimizing radiation exposure. Supplementary actions should include the performance of radiological surveys in immediate and adjacent areas, including downwind.

Attachment #8

14.0 RESPIRATORY PROTECTION

14.1 Section Overview

Respiratory protection measures shall be employed at Cimarron to protect workers from a variety of airborne hazards. The hazards may be of a radiological or non-radiological nature. The respiratory protection program shall meet the requirements found in 10 CFR 20, Subpart H, "Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas" for radiological hazards and the Code of Federal Regulations Title 29 Part 1910.134 for non-radiological hazards.

The Respiratory Protection Program shall include the following elements as required by NUREG-0041, "Manual of Respiratory Protection Against Airborne Radioactive Material":

- Written standard operating procedures and policy statement;
- Proper selection of equipment, based on the hazard;
- Proper training and instruction of users;
- Proper fitting, use, cleaning, storage, inspection, quality assurance, and maintenance of equipment;
- Appropriate surveillance of work conditions, degree of employee exposure to stress;
- Regular inspection and evaluation to determine the continued program effectiveness;
- Program responsibility vested in one qualified individual;
- An adequate medical surveillance program for respirator users;
- Use of only Bureau of Mines/National Institute of Occupational Safety and Health (NIOSH) certified equipment; and
- Maintenance of a bioassay program.

14.2 Respiratory Protection Policy Statement

It is Cimarron Corporation policy to maintain personnel exposure to both internal and external hazards as low as is reasonably achievable (ALARA). Personnel exposure to airborne contaminants shall be limited by process and engineered controls whenever possible. However, under some conditions, process and engineered controls may not be feasible or provide adequate assurance that exposure to contaminants will be maintained ALARA. In such instances, respiratory protection devices may be required for individuals performing work in areas containing airborne contaminants if the use of the equipment maintains overall exposure ALARA. Consideration of both internal and external hazards shall be made when evaluating the need for respiratory protective equipment.

When respirators must be used, appropriate rest or relief periods shall be provided. An individual wearing a respirator may leave the work area at any time for relief in the event of equipment malfunction, physical or psychological distress, procedural or communication failure, significant deterioration of work area conditions, or any other condition that might require relief.

Cimarron Corporation is committed to establishing and maintaining a respiratory protection program consistent with the goal of protecting its employees. It is therefore the policy of this company that all employees, when using respirators in the workplace, or administering the Respiratory Protection Program, shall adhere to the principles established in the written procedures.

14.3 Engineering and Administrative Controls

Respirators shall be used to control personnel exposure to airborne radioactive materials when administrative and engineered controls are not practical or fully effective and the use of respirators result in Total Effective Dose Equivalent (TEDE) being ALARA. Administrative controls shall be used to limit personnel access to or time spent in an area requiring respiratory protective equipment. Engineered controls shall be used, to the extent practicable, to limit of airborne contaminants and to control airborne radioactive materials.

14.4 Determination of Respiratory Protection Requirements

An air sampling program sufficient to determine the potential hazards, permit proper equipment selection, and estimate exposures shall be established. Determination of respiratory protection requirements and selection of equipment for non-radiological contaminants shall be made by the RSO or designee.

14.5 Selection of Respiratory Devices

Respiratory protection device selection shall consider all hazards and working conditions and shall incorporate ALARA philosophy. Respiratory protective equipment shall provide a protection factor (in accordance with Appendix A to 10 CFR 20) which is greater than the multiple by which peak concentrations of radioactive material in the working area are expected to exceed the Derived Air Concentration given in Table 1, Column 3 of Appendix B to 10 CFR 20. If the selection of a respiratory protection device with a protection factor greater than the peak concentration is inconsistent with the goal of keeping the total effective dose equivalent (TEDE) ALARA, equipment with a lower protection factor may be selected when the equipment will result in keeping the TEDE ALARA. In the event that respiratory protection factors in excess of those found in Appendix A to 10 CFR 20 are warranted, Cimarron shall obtain written authorization from the NRC prior to assigning higher values.

In the event of an emergency requiring the use of respiratory protective equipment, Cimarron shall use equipment that has been specifically certified or had certification extended for emergency use by NIOSH/MSHA.

14.6 Facial Hair Policy

Individuals using tight-fitting respirators shall not have any facial hair that interferes with the sealing surface of the respirator.

14.7 Medical Requirements

A medical examination (physical) shall be performed by a physician on all personnel who will use respiratory protection equipment in the course of work. The physical shall be performed prior to the wearing of any respiratory protection device. Physical examinations shall be required at least annually (every 12 months). Personnel shall be medically evaluated to ensure they possess the physical and psychological capabilities necessary to perform tasks while wearing a respirator. This medical evaluation shall use Regulatory Guide 8.15, "Acceptable Programs for Respiratory Protection" as guidance in determining if an individual is medically qualified to wear respiratory protection equipment.

14.8 Training

Training in the proper use and maintenance of respiratory protective equipment shall be provided annually to all users of the equipment.

14.9 Respirator Fit Testing

Respirators with a tight-fitting face piece shall be fit tested to each individual to verify that an adequate seal can be obtained. The fit-testing shall be performed prior to first use for all users and shall be repeated at a frequency not to exceed 12 months. Fit-testing shall be performed only on individuals who have a current medical approval, received respiratory protection training within the past year and are clean shaven. Respirators shall be tested for operability by the user (e.g., negative pressure test for full face respirators) immediately prior to each use.

14.10 Respirator Maintenance

Respirators shall be cleaned and disinfected after each use. Respirators shall be inspected after each cleaning and necessary maintenance shall be performed. Respirators shall be stored in clean sanitary conditions. Respirators ready for issue shall be free of significant smearable and fixed surface contamination.

14.11 Corrective Lenses

Personnel requiring corrective lenses when wearing a full-face respirator shall wear prescription eye glasses approved for use inside a full-face respirator. Contact lenses shall not be used when wearing a full-face respirator.

14.12 Supplied Breathing Air

All sources of breathing air shall meet the requirements for Grade D breathing air as specified in ANSI/CGAG-7.1 - 1989, "Commodity Specification for Air." Fittings to supplied air systems manifolds and cylinders shall be unique such that the introduction of gases other than pure breathing air is prohibited. Sources of breathing air shall be approved by the RSO.

14.13 Bioassay

Personnel bioassay results shall be used to verify the respiratory protection program's effectiveness for selection of adequate respiratory protection devices and provision of properly functioning respiratory protection devices.

15.0 ENVIRONMENTAL MONITORING

15.1 Section Overview

Environmental monitoring shall be performed at the controlled area boundary and at various locations outside of the restricted areas to ensure that the conditions of Cimarron's radioactive materials license and all applicable regulations are complied with. Cimarron shall monitor all potential environmental pathways through appropriate measurements. This program will be modified as decommissioning activities reduce the potential for exposure to the general public. The following sections describe the environmental monitoring program that is currently in place.

15.2 Environmental Air Sampling

Environmental air samples are collected approximately weekly at three locations. Samples are analyzed for gross alpha and gross beta activity. The air monitoring program, along with action levels, is summarized on Table 15-1. Figure 15-1 shows the location of the samplers.

15.3 Surface Water Monitoring

Cimarron collects annual grab surface samples at seven locations across the facility and in the Cimarron River. Samples are analyzed for Fluoride, NO_3 (as N), gross alpha, gross beta, and total uranium. Additional analysis for isotopic uranium is performed if the total uranium action level is exceeded. Analysis for Tc-99 shall be performed if the gross beta to gross alpha ratio exceeds 3:1 and gross beta exceeds 30 pCi/L. Sampling locations and analyses are summarized in Table 15-1. Figure 15-2 shows the sampling locations. The action level for surface water is 50 percent of the effluent concentration limit found in Appendix B to 10 CFR 20.

15.4 Ground Water Monitoring

Ground water monitoring is currently performed at 25 locations. Samples are collected annually and are analyzed for the same constituents as given above for surface water. Additional analysis for isotopic uranium is performed if the total uranium action level is exceeded. Analysis for Tc-99 shall be performed if the gross beta to gross alpha ratio exceeds 3:1 and gross beta exceeds 30 pCi/L. Sampling locations and analyses are summarized in Table 15-1. Figure 15-3 shows the ground water sampling locations. The action level for ground water is 50 percent of the effluent concentration limit found in Appendix B to 10 CFR 20.

15.5 Soil Sampling

Soil samples are collected annually at 11 locations surrounding the facility. Samples are analyzed for total uranium. Sampling locations and analyses are summarized in Table 15-1. Figure 15-4 shows the soil sampling locations. The action level for total uranium in soil is 11.5 pCi/g.

15.5 Vegetation Sampling

Vegetation samples are collected annually at three locations and are analyzed for total uranium. The action level for total uranium in vegetation is 0.02 micrograms per microgram of vegetation. Sampling locations and analyses are summarized in Table 15-1. Figure 15-5 shows the vegetation sampling locations.

15.6 Ambient Radiation Monitoring

Thermoluminescent Dosimeters (TLD's) are currently posted at 14 locations throughout the facility and at boundaries to monitor potential exposures to individuals in unrestricted areas. Badges are changed quarterly, with an action level of 20 mrem (above background) per quarter. Locations and analyses are summarized in Table 15-1. Figure 15-6 shows the locations where badges are currently placed.

15.7 Samples Exceeding Action Levels

Immediate notification shall be made to the RSO of any samples or doses exceeding action levels. In the event that sample analytical results exceed action levels, the RSO shall perform an investigation consisting of one or more of the following actions, as appropriate.

- Verification of laboratory data and calculations;
- Analyze and review probable causes;
- Evaluate the need for sample re-analysis or additional analysis;
- Evaluate the need for re-sampling;
- Evaluate the need for sampling of other environmental pathways;
- Evaluate the need for notifications to regulatory agencies;
- Evaluate the need to perform dose assessment.

15.8 Laboratory and Environmental Monitoring Program Quality Control Requirements

Laboratory counting performed for purposes of environmental or effluent stream monitoring should comply with the requirements of U.S. NRC Regulatory Guide 4.15. Laboratory minimum detectable limits should be less than or equal to 50 percent of the action levels for all environmental media.

15.9 Records

Records of environmental monitoring data shall be kept indefinitely after license termination until they are determined to be of no further use by management. The minimum time period for record retention shall be ten years after termination of the licenses.

15.10 Quality Control in Sampling

Steps should be taken to ensure that samples collected are representative of the material sampled. Sample integrity should be maintained from the time of collection to time of analysis. Cimarron shall utilize sample chain of custody documentation to track environmental samples sent to off-site laboratories for analysis.

Quality control records for laboratory counting systems shall include the results of measurements of radioactive check sources, calibration sources, backgrounds, and blanks.

15.11 Reference Standards

All standards used for calibration of laboratory equipment shall be NIST traceable when such standards are available.

15.12 Performance Checks of Radiation Measurement Systems

Scheduled checks should be performed on laboratory equipment to determine background counting rate and response to check sources. Corrective actions shall be taken whenever measurement values fall outside of predetermined control values. Background counting should normally be performed daily or before each use. Check source measurements are usually measured daily or with each batch of samples counted on automated equipment.

15.13 Calculations and Computations

Calculations and computations used in determining concentrations of radioactive materials shall be independently checked prior to implementation. The calculations shall be proceduralized and implemented in accordance with quality assurance requirements for procedure development.

15.14 Audits

Periodic audits shall be made of the laboratory and environmental monitoring program to verify implementation of the quality assurance program. Audit results shall be documented and follow-up actions taken when required.

12/96 Response to Comments
on Annex A

**TABLE 15-1
CIMARRON FACILITY ENVIRONMENTAL SAMPLING SCHEDULE**

<u>Location Sample</u>	<u>Description</u>	<u>Frequency</u>
AIR		
1101	North - 0.5 mile	Weekly
1102	East - 0.5 mile	
1103	South - 0.5 mile	
SURFACE		
1201	Cimarron River - Upstream	Annually
1202	Cimarron River - Downstream	
1204	Pond - West of Plant	
1205	Kerr-McGee Lake - East	
1206	Slough - NW of Incinerator	
1208	Stream North of Uranium Pond #2	
1209	Kerr-McGee Lake - West	
WELL WATER		
1311	Monitor Well - South of Landfill	Annually
1312	Monitor Well - West of Landfill	
1313	Monitor Well - North of Landfill	
1314	Monitor Well - South of Burial Pit	
1315	Monitor Well - North of Burial Pit	
	Monitor Well - Northwest of Burial Pit	
1317	Monitor Well - North of Burial Pit	
1319	Monitor Well - U Plant Yard East of Building	
1320	Monitor Well - North of Designated Area	
1321	Monitor Well - North of Designated Area (deep)	
1322	Monitor Well - By Flammable Liquid Storage Pad	
1323	Monitor Well - By Flammable Liquid Storage Pad (deep)	
1324	Monitor Well - East of Designated Area	
1325	Monitor Well - South of Designated Area	
1326	Monitor Well - East of U-Plant Yard	
1327B	Monitor Well - West of U-Plant Yard	
1328	Monitor Well - South of U-Plant Yard (deep)	
1329	Monitor Well - South of U-Plant Yard	
1330	Monitor Well - Southwest of U-Plant Yard	
1331	Monitor Well - Northeast of Pu-Plant Yard	
1332	Monitor Well - West of Sanitary Lagoons (deep)	
1333	Monitor Well - West of Sanitary Lagoons	
1334	Monitor Well - North of Sanitary Lagoons	
1335A	Monitor Well - West of Designated Area	
1336A	Monitor Well - North of U Pond #2	

Alpha
Beta

Gross Alpha
Gross Beta
Action level is
6E-14 uCi/cc
1E-12 uCi/ml
F, NO3, Gross
α, Gross β,
Total Uranium
(if Gross α > 15
pCi/l or gross β
>20 pCi/l,
analyze for
isotopic uranium)

Deleted

1516

TABLE 15-1 (continued)
CIMARRON FACILITY ENVIRONMENTAL SAMPLING SCHEDULE

<u>Location Sample</u>	<u>Description</u>	<u>Frequency</u>
SOIL		
1401	North - 0.5 mile	Annually Total Uranium Action level of 11.5 pCi/g
1402	North of Uranium Fence Line	
1403	South of Uranium Fence Line	
1404	South - 0.5 mile	
1405	East - 0.5 mile	
1406	West - 0.5 mile	
1407	North - 1.0 mile	
1408	South - 1.0 mile	
1409	East - 1.0 mile	
1410	West - 1.0 mile	
1418	North of Plutonium Fence Line	
VEGETATION		
1508	Covered Pond #1	Annually Total Uranium Action level of 0.02µg-U per µg vegetation.
1509	Covered Pond #2	
1510	Old Burial Pit	
AMBIENT GAMMA		
TLD01	N.E. U Yard Fence	Quarterly Action level of 20 mR/quarter above background
TLD02	South U Yard Fence	
TLD03	U-Plant Bldg- South Side	
TLD04	East Pu Fence	
TLD05	North Pu Fence	
TLD06	West Pu Fence	
TLD07	N. U-Yard Fence	
TLD08	N. Designated Area Burial Cell Fence	
TLD09	E. Designated Area Burial Cell Fence	
TLD10	S. Designated Area Burial Cell Fence	
TLD11	W. Designated Area Burial Cell Fence	
TLD12	Highway Marker #1	
TLD13	U-Plant Count Room	
TLD14	Intersection Routes 33/74	

Figure 15-1
Cimarron Corporation
Air Sampling Locations

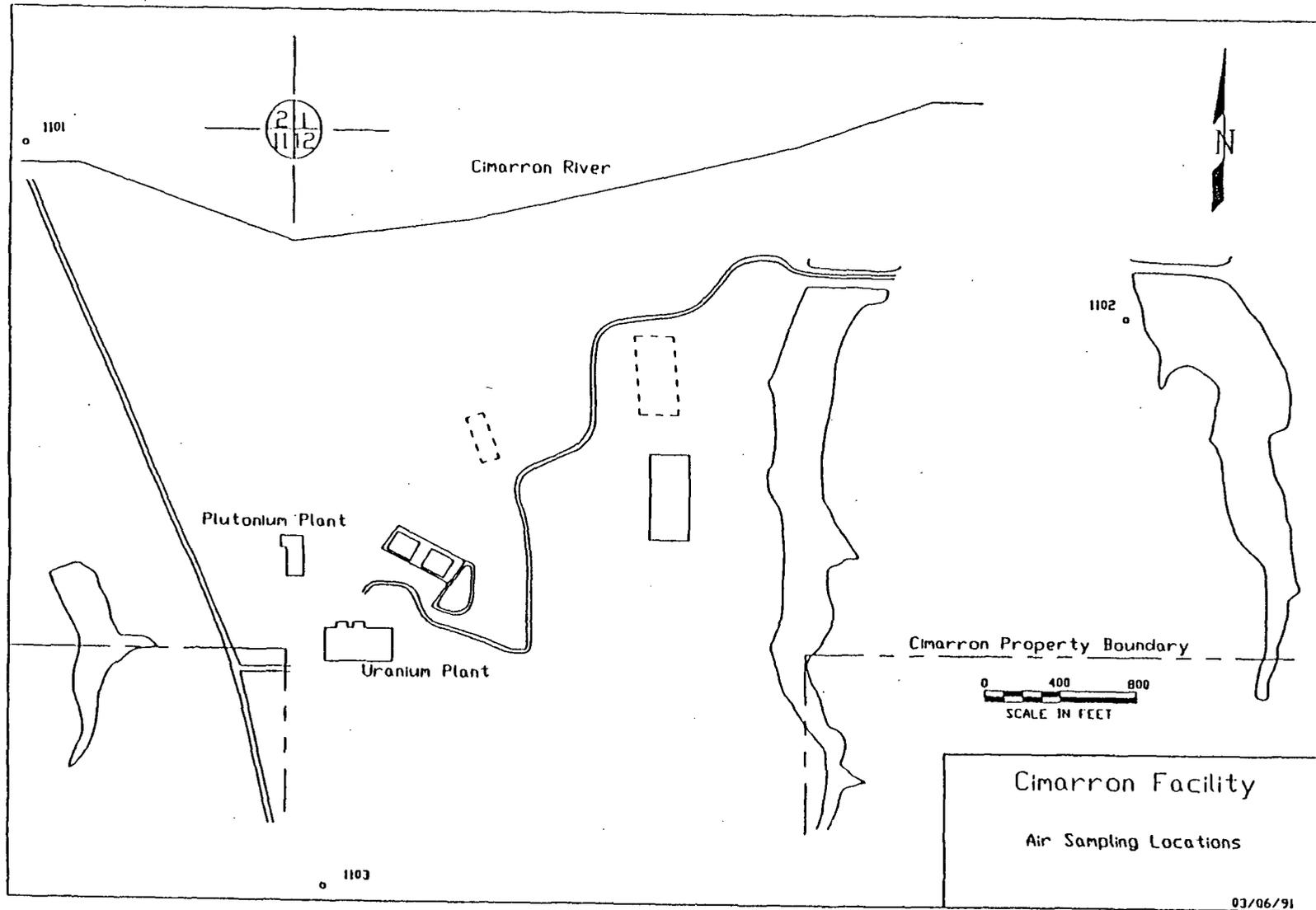
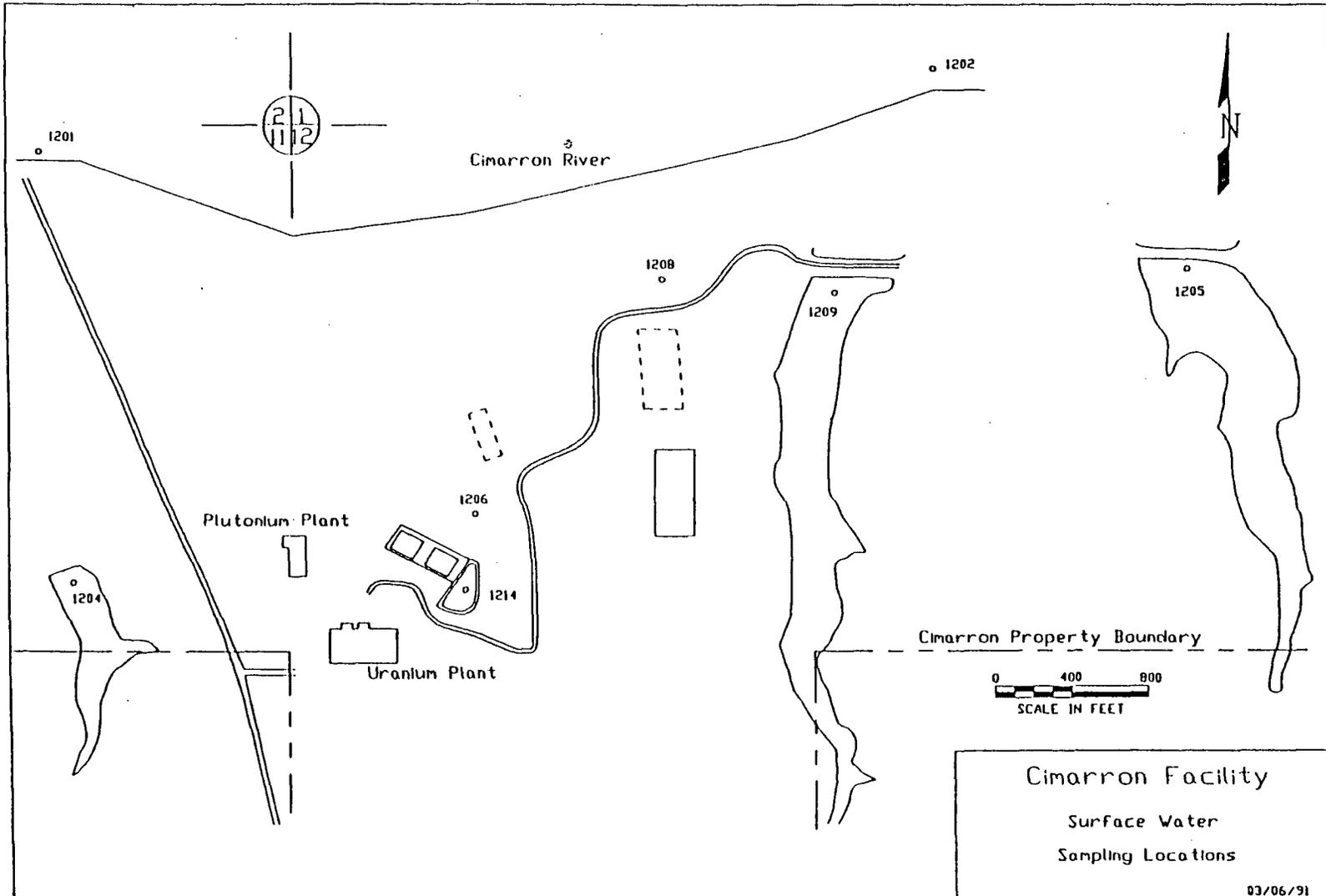


Figure 15-2
Cimarron Corporation
Surface Water Monitoring Locations



**Figure 15-5
Cimarron Corporation
Ground Water Monitoring Locations**

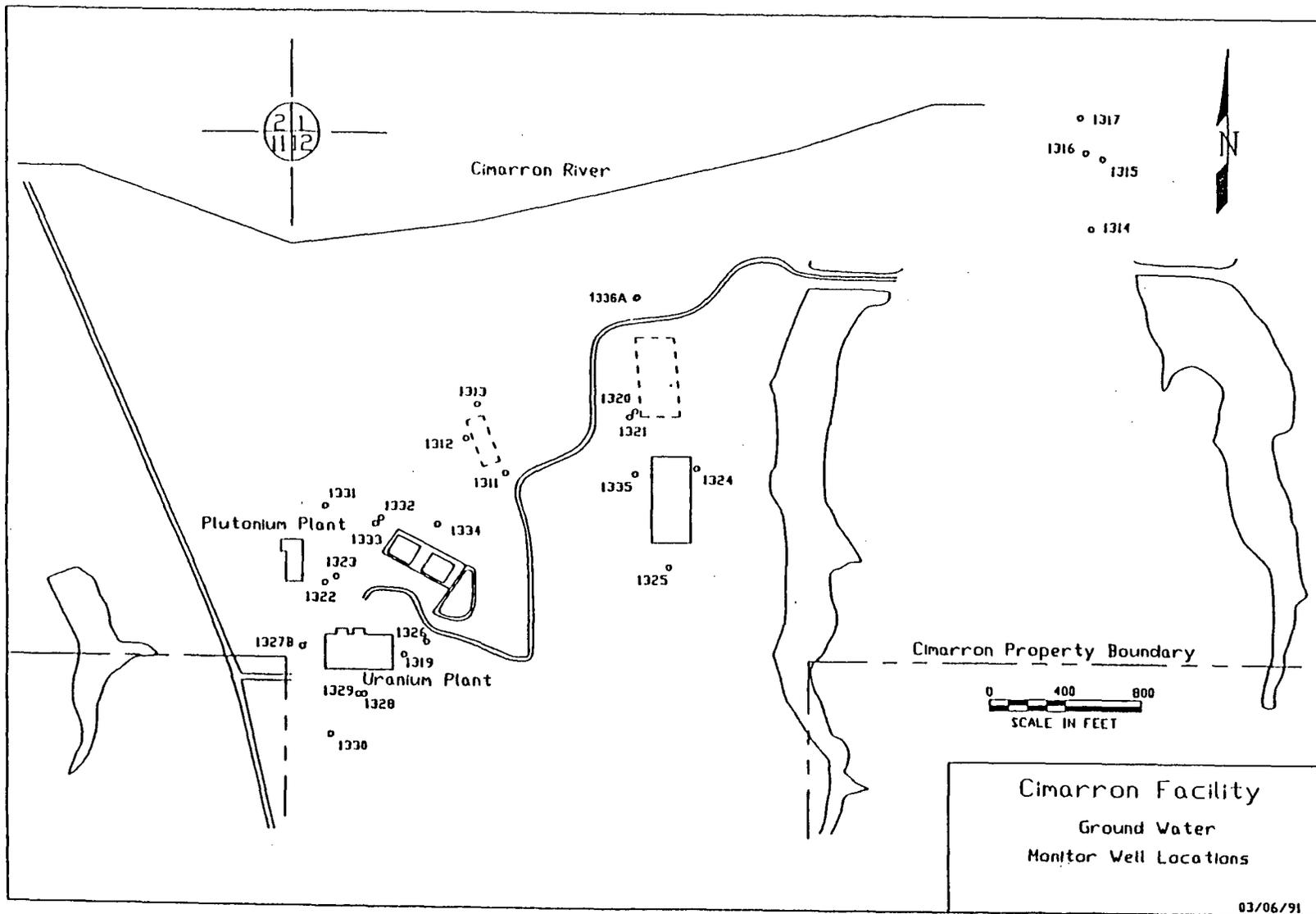


Figure 15-4
 Cimarron Corporation
 Soil Sampling Locations

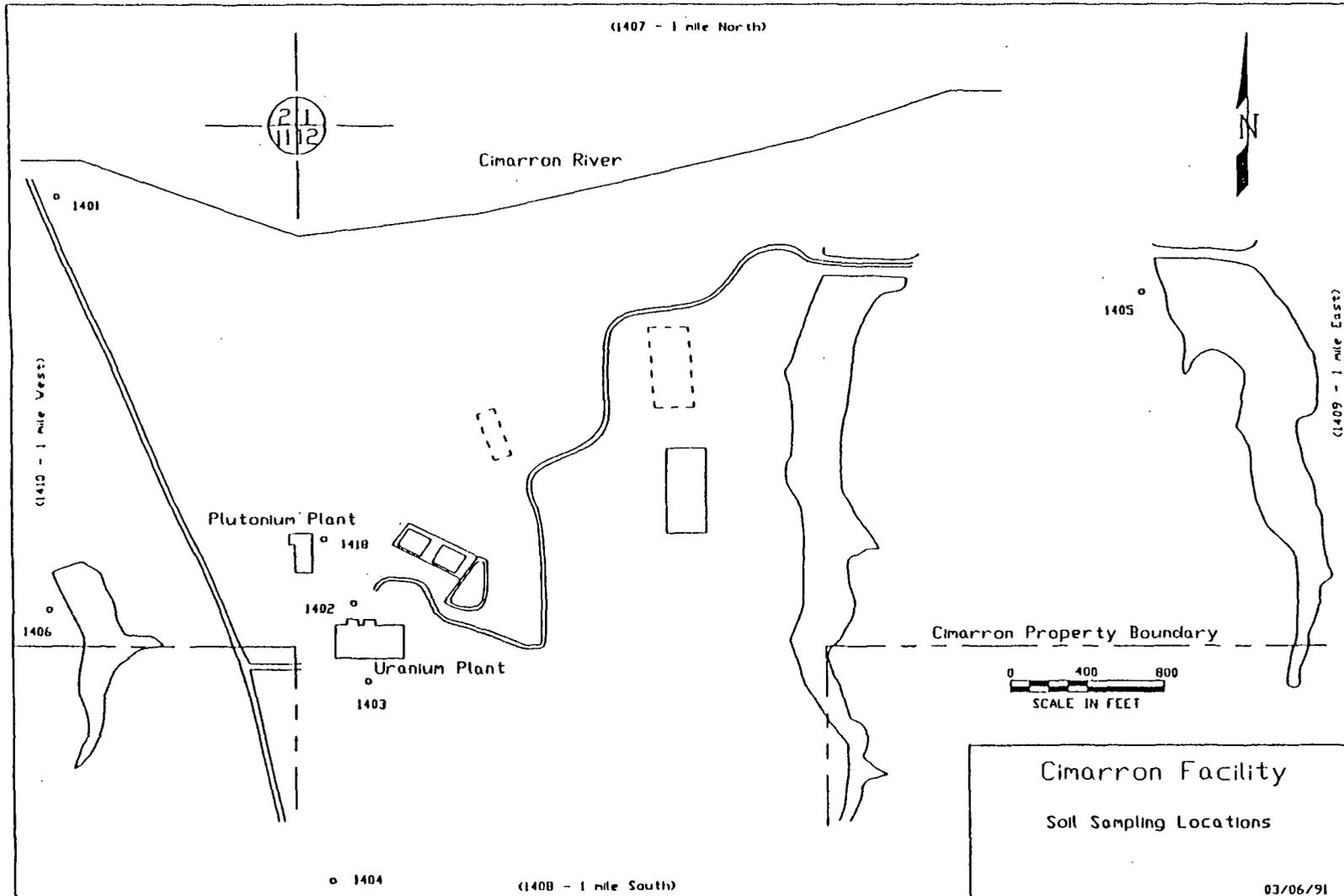


Figure 15-5
Cimarron Corporation
Vegetation Sampling Locations

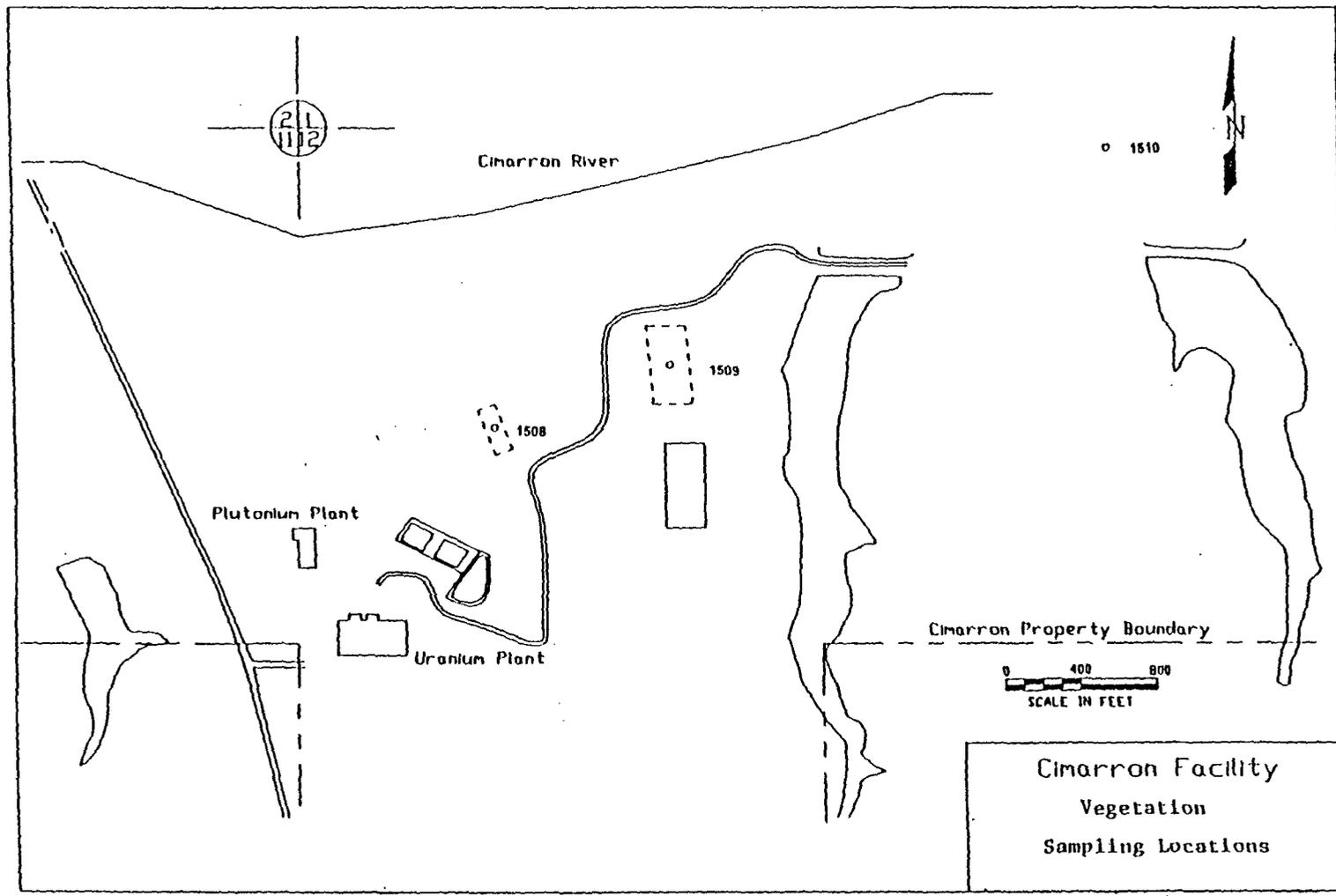
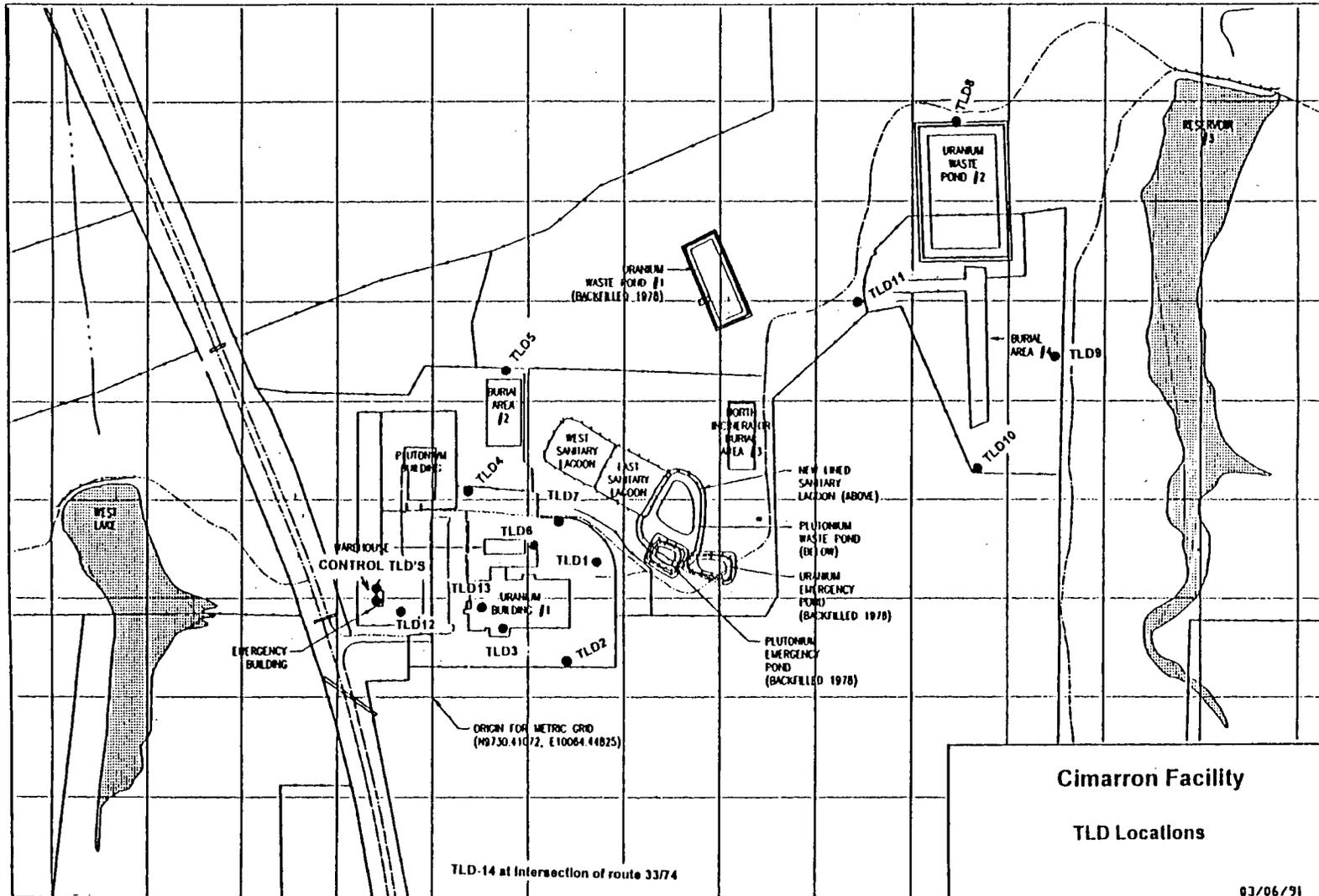
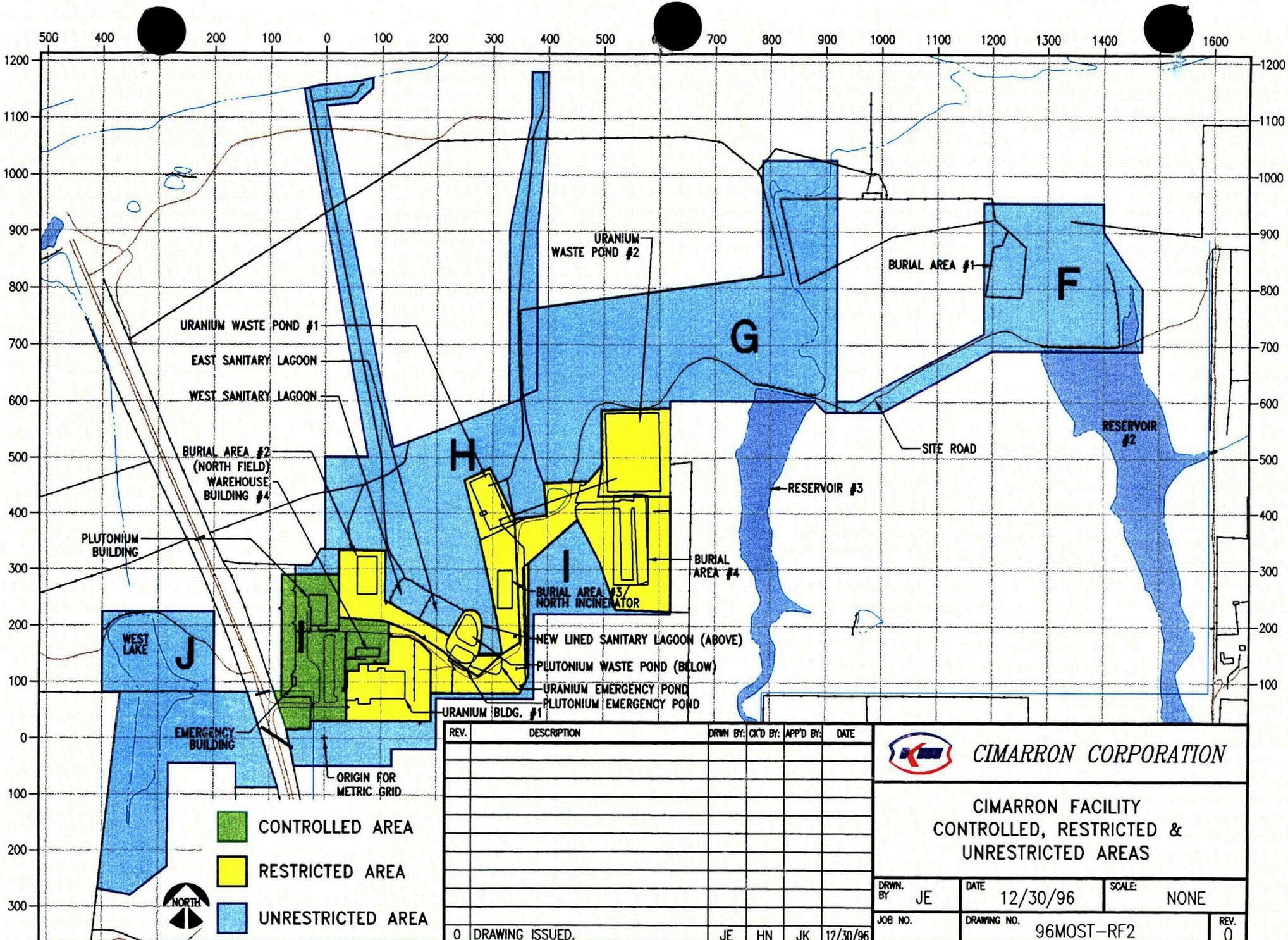


Figure 15-6
Cimarron Corporation
Ambient Radiation Monitoring Locations





REV.	DESCRIPTION	DRWN BY:	CK'D BY:	APP'D BY:	DATE
0	DRAWING ISSUED.	JE	HN	JK	12/30/96



CIMARRON CORPORATION

**CIMARRON FACILITY
CONTROLLED, RESTRICTED &
UNRESTRICTED AREAS**

DRWN. BY: JE	DATE: 12/30/96	SCALE: NONE
JOB NO.	DRAWING NO. 96MOST-RF2	REV. 0