

3.2 Quality Assurance Plan and Procedure

The Cimarron Corporation Quality Assurance Program is an integral part of the Cimarron Radiation Protection Program. A principal component of this program is to affirm the quality of project work performed during decommissioning by assuring that tasks are performed in an organized manner by qualified personnel. Also, this program ensures that all samples are collected, controlled and analyzed in accordance with all applicable quality controls such that data accuracy and validity are verifiable. The data generated is compared to the criteria discussed in Section 1.4 and managed per approved Cimarron procedures. Such quality controls allow for the independent verification of analysis results by third party review, thereby assuring that all characterization data is accurate and complete.

The Cimarron Quality Assurance Program is implemented and maintained in accordance with written policies, procedures and instructions. This Quality Assurance Program is administered under the direction of the Quality Assurance Manager. Periodic audits and reviews are conducted to ensure that all aspects of the Cimarron Quality Assurance Program are being addressed. The Cimarron Quality Assurance Program satisfies the applicable requirements of 10 CFR 50, Appendix B, and NQA-1.

The methods employed by Cimarron Corporation to assure the quality of the data generated, including instrumentation available, method of analysis, quality checks and soil split sampling, are discussed in greater detail in Section 5.0 of the Characterization Report.

4.0 Final Cimarron Radiation Survey

Decommissioning efforts involving characterization, decontamination and decommissioning for the Uranium Plant were initiated in 1976 and are still ongoing. The goal of the decommissioning effort is to release the entire 840 acre site for unrestricted use. Based upon historic knowledge of site operations and the characterization work completed to date (presented in the Characterization Report), the site has been divided into affected and unaffected areas. Affected areas are areas in which residual contamination has been identified or where historical information indicates the potential for radioactive contamination. Other areas which are not expected to contain residual radioactivity are considered unaffected.

Cimarron has divided the entire 840 acre site into three major areas which contain both affected and unaffected areas. Each of these three reference areas are shown on Drawing No 95MOST-RF3 and are designated by Roman Numerals I, II, and III (herein referenced as Phases I, II, and III). In some instances, these reference areas are further subdivided into smaller sections (i.e. A, B, C, D, etc.).

The first of these three reference areas (Phase I), was addressed in the October, 1994, Final Status Survey Plan for Unaffected Areas which was submitted to the NRC for review and approval. This Plan has been reviewed by the NRC and the NRC submitted their comments to Cimarron on February 24, 1995. The NRC's comments have been addressed and incorporated into the Survey Plan as required.

Final Survey Plans have not been developed for Phases II and III at this time. Cimarron proposes to discuss Phases II and III in general terms in this Decommissioning Plan and submit at a later date the Final Survey Plans for these two Phases. Each of the three phases are discussed below.

4.1 Affected vs. Unaffected Area Survey Plan (Phase I)

In October 1994 Cimarron submitted a "Final Status Survey Plan for Unaffected Areas" to the NRC. This plan addressed a major portion of the unaffected areas located on the 840 acre Cimarron site. These areas have been designated by Cimarron as unaffected areas based upon the history of the site and surveys performed to date. Drawing No. 95MOST-RF3 depicts the designated affected and unaffected areas discussed in the October 1994 Final Survey Plan (herein referenced as Phase I). The unaffected areas described in this plan are primarily open fields that are leased to local farmers for agricultural purposes.

The surveys and soil sampling proposed in the October 1994 "Final Survey Plan for Unaffected Areas" have been completed. The survey and soil sample analytical results are currently being reviewed and compiled into a summary document. The number of soil samples collected and analyzed for these unaffected areas significantly exceeds the number of samples recommended for unaffected areas in NUREG/CR-5849. In addition, the number of soil samples for unaffected area Section D was increased to 30 based upon NRC recommendations. The results of the Final Survey for Phase I will be documented in a report which will be submitted to the NRC in conjunction with a license amendment request to remove the Phase I unaffected areas from License SNM-928.

4.2 Reference Area No. II (Phase II)

This reference area is designated as Phase II on Drawing No. 95MOST-RF3. The Phase II areas contain both affected and unaffected areas which are located on the Cimarron site. This referenced area includes the Burial Area #1 which was released by the NRC on December 28, 1992. This burial area was backfilled with clean soil and seeded when released by the NRC. Also included within this Phase are the East and West Sanitary Lagoons and the MOFF Plant building exterior and yard. Specific detailed information regarding the closure of Burial Area #1, the two lagoons and the MOFF building, can be found in Section 7.0, 11.0 and 17.0, respectively, of the Characterization Report. The general approach to be followed for the Final Status Survey Plan for Phase II will be in accordance with the methodology prescribed in NUREG/CR-5849. A Final Status Survey Plan for Phase II will be submitted to the NRC for review and approval.

4.3 Reference Area No. III (Phase III)

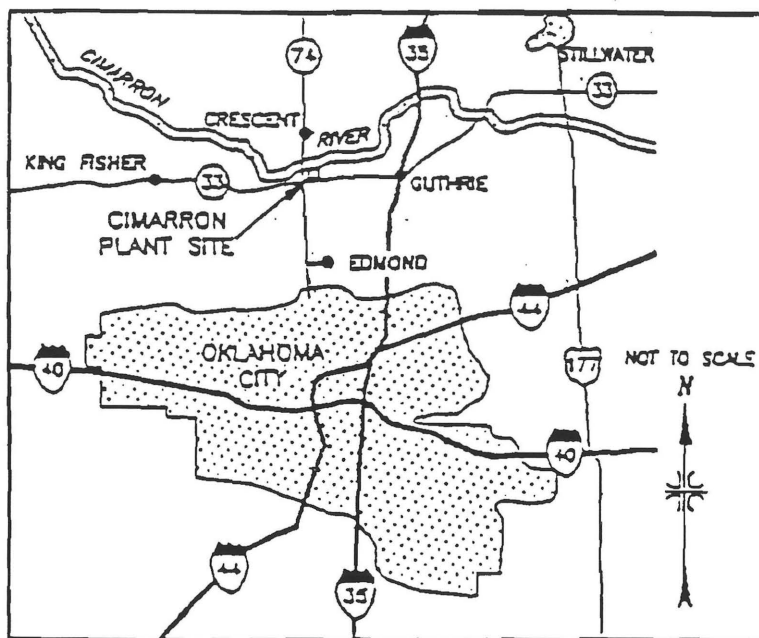
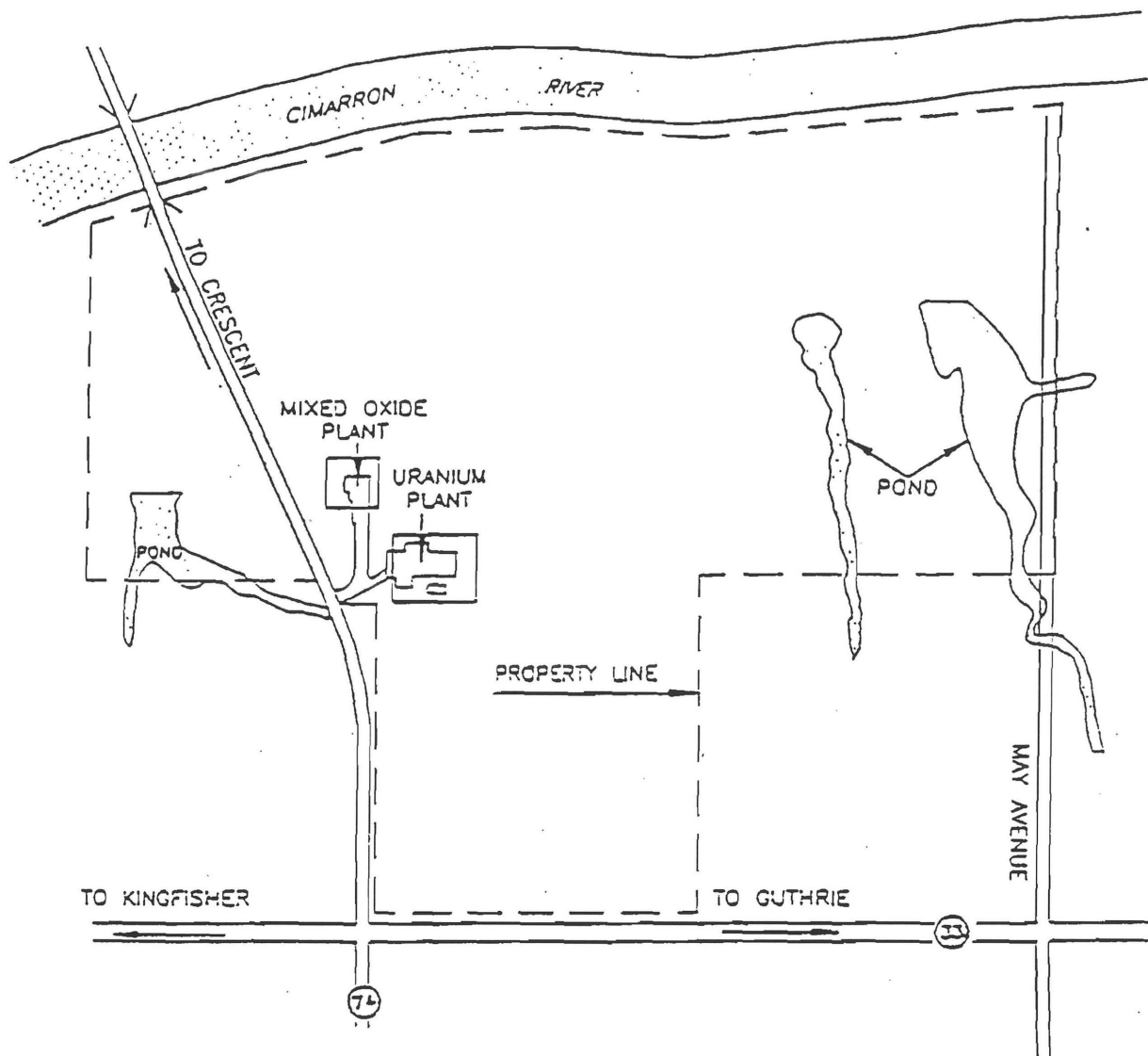
This reference area is designated as Phase III on Drawing No. 95MOST-RF3. The Phase III area contains only affected areas which are located on the Cimarron site. This reference area includes the former uranium process buildings, numerous evaporation ponds and lagoons, two former on-site burial areas, stockpiles of Option #2 material, and the new on-site disposal cell. The characterization and decommissioning status of these buildings and areas are discussed in detail in the Characterization Report and are also summarized in Section 1.4 of this Plan. The general approach to be followed for the Final Status Survey Plan for Phase III will be in accordance with the methodology prescribed in NUREG/CR-5849. A Final Status Survey Plan for Phase III will be submitted to the NRC for review and approval.

5.0 Decommissioning Funding

Decommissioning efforts have been ongoing at the Cimarron site since 1977. Cimarron currently estimates that approximately 95% of the decommissioning work has been completed at the Cimarron site as of March 1, 1995. Current estimates are for all decommissioning activities at the Cimarron site to be completed by December of 1996. The majority of waste materials requiring off-site disposal have already been removed from the Cimarron site, which represents the most substantial financial liability associated with decommissioning the Cimarron site. For this reason, Cimarron believes that an updated cost estimate for establishing financial assurance requirements for decommissioning is not applicable. All funds for decommissioning will continue to be provided by Cimarron Corporation from ongoing corporate operating revenues. Cimarron Corporation is a wholly-owned subsidiary of Kerr-McGee Corporation.

6.0 Physical Security/Material Control

A Physical Security Plan and a Material Control and Accounting Plan is not required for the Cimarron Facility. Cimarron Corporation currently maintains 24-hour security at the site for insurance and liability concerns. All Special Nuclear Materials requiring control under 10 CFR 70 have been removed from the site. As stated in condition #19 of License SNM-928 "The licensee is exempt from the provisions of 10 CFR 70.24 insofar as this section applies to materials held under this license." All Radioactive Material Areas are fenced and have the appropriate postings.



NOT TO SCALE



Cimarron Corporation
Crescent Oklahoma Facility
Location Map

Figure 1.1

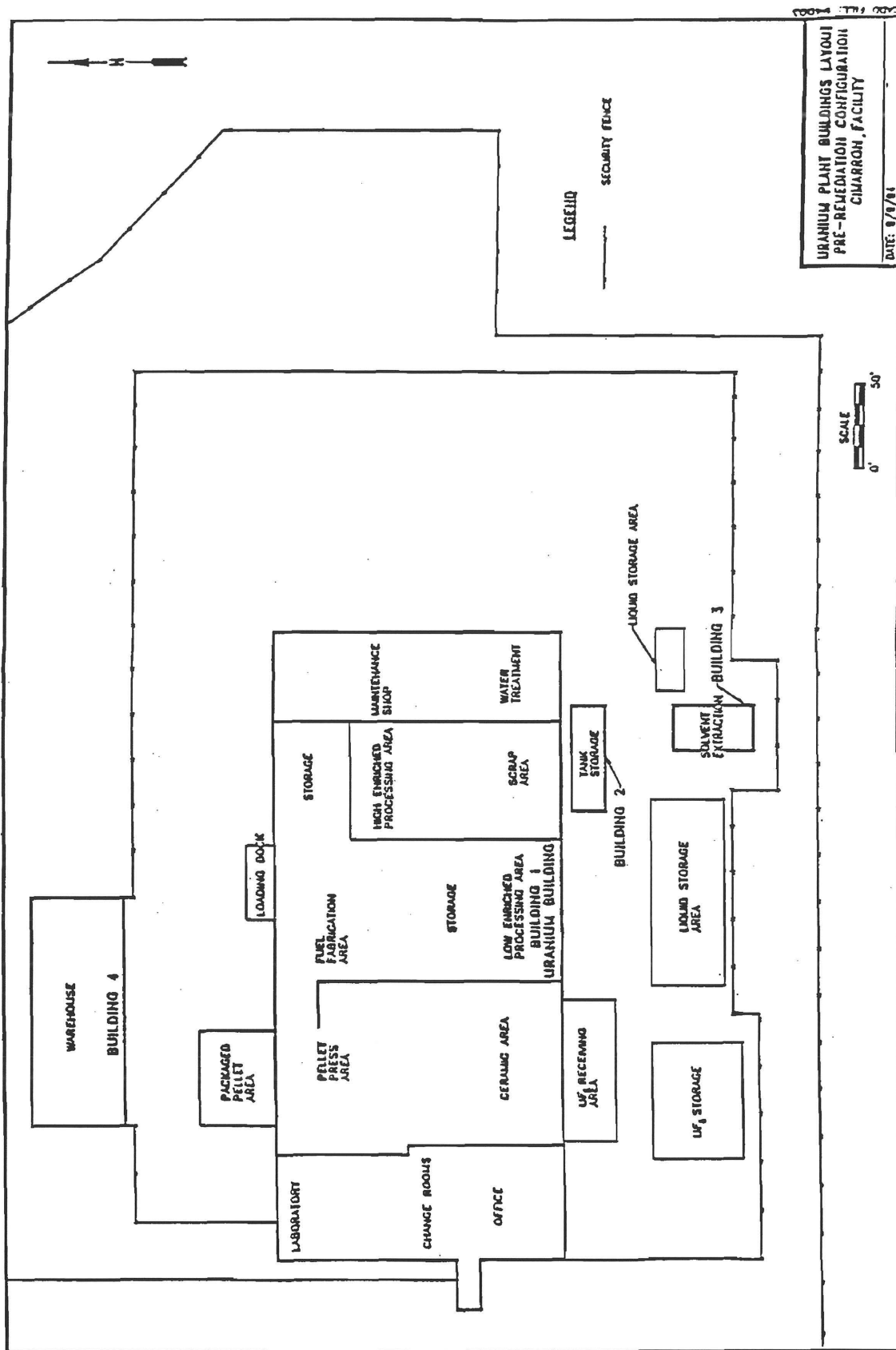


Figure 1.2

Figure 2.1

Cimarron Corporation
1977 Soil Sample Locations

Uranium Waste Pond #1

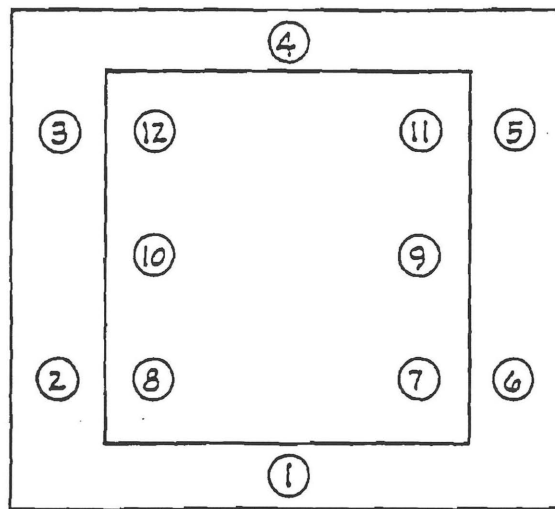


Figure 2.2

Cimarron Corporation
1977 Soil Sample Locations

Uranium Waste Pond #2

A-6	B-6	C-6	D-6
V		VI	
A-5	B-5	C-5	D-5
A-4	B-4	C-4	D-4
III		IV	
A-3	B-3	C-3	D-3
A-2	B-2	C-2	D-2
I		II	
A-1	B-1	C-1	D-1



Table 2.1

**Analytical/Calculated Values
from NRC's 1977
Sampling Round for U-Ponds #1 and #2**

U-Pond #1

Sample No.	Depth	U-235 (pCi/g)	U-238 (pCi/g)	U-234 Calculated (pCi/g)	Total U Activity (pCi/g)	U ug/g (Calculated)
1-1	0 - 1 1/2"	18	99	351	450	309
1-2	0 - 1 1/2"	2	11	39	50	34
1-3	0 - 10"	12	67	233	300	34
U-Pond #1 Sum		11	59	208	267	183

U-Pond #2

Sample No.	Depth	U-235 (pCi/g)	U-238 (pCi/g)	U-234 Calculated (pCi/g)	Total U Activity (pCi/g)	U ug/g (Calculated)
1-1	1 1/2 - 3"	11	61	214	275	189
1-2	0 - 1 1/2"	11	72	203	275	189
1-3	0 - 6"	8	57	143	300	137
U-Pond #2 Sum		10	63	187	250	172

Table 2.2

**Analytical/Calculated Values for Cimarron 1977 Sampling Round
U-Ponds #1 and #2**

U-Pond #1

Sample Location	U-Alpha, pCi/g	U, ug/g
Composite of pts 1,2,3		
Tar & Gravel	97	64
0 - 1.5"	33	32
1.5 - 3"	32	35
3 - 6"	20	8
Composite of 4, 5, 6		
Tar & Gravel	65	64
0 - 1.5"	47	31
1.5 - 3"	50	29
3 - 6"	52	24
Composite of 8, 10, 11		
Tar & Gravel	1486	934
0 - 1.5"	936	761
1.5 - 3"	1309	828
3 - 6"	469	283
Composite of 7, 9, 11		
Tar & Gravel	776	452
0 - 1.5"	85	56
1.5 - 3"	160	93
3 - 6"	102	52
Composite of pts 8, 9, 12		
6 - 10"	220	127
AVERAGE	349	228

U-Pond #2

Sample Location	U-Alpha, pCi/g	U, ug/g
SW Grid Composite of A-1, A-2, B-1, B-2		160
0 - 0.5"	314	
0 - 1.5"	404	
1.5 - 3"	145	
3 - 6"	33	
SE Grid Composite of C-1, C-2, D-1, D-2		160
0 - 0.5"	409	
0 - 1.5"	407	
1.5 - 3"	114	
3 - 6"	20	
W Central Grid Composite of A-3, A-4, B-3, B-4		160
0 - 0.5"	223	
0 - 1.5"	391	
1.5 - 3"	223	
3 - 6"	50	
E Central Grid Composite of C-3, C-4, D-3, D-4		240
0 - 0.5"	334	
0 - 1.5"	418	
1.5 - 3"	432	
AVERAGE	261	180

Table 2.3

**Analytical/Calculated Value
for Cimarron 1993 Sampling Round
U-Ponds #1 and #2**

U-Pond #1

Depth of Sample	Number of Samples	Average pCi/g	Max Reading pCi/g	U ug/g (calculated)
0-1	34	7.0	15.0	3.2
1-2	35	7.9	17.0	3.7
2-3	39	8.2	16.0	3.8
3-4	39	13.7	125.0	6.4
4-5	43	14.9	104.0	6.9
5-6	35	20.2	167.0	9.3
6-7	11	58.3	172.0	27.0
7-8	11	53.1	137.0	24.6
8-9	9	61.7	197.0	28.5
9-10	8	35.9	121.0	16.6
10-11	6	18.0	27.0	8.3
11-12	4	13.3	20.0	6.1
Average	274	26.0	-	12.0
Total				144.5

U-Pond #2

Depth of Sample	Number of Samples	Average pCi/g	Max Reading pCi/g	U ug/g (calculated)
0-1	83	7.5	17.0	3.5
1-2	83	11.5	89.0	5.3
2-3	75	19.2	109.0	8.9
3-4	71	26.3	140.0	12.2
4-5	74	30.2	347.0	14.0
5-6	63	16.8	86.0	7.8
6-7	3	49.3	92.0	22.8
7-8	3	53.0	127.0	24.5
8-9	3	17.7	39.0	8.2
9-10	3	8.3	14.0	3.9
10-11	3	7.7	10.0	3.5
11-12	3	9.3	11.0	4.3
Average	467	21.4	-	9.9
Total				118.9

TABLE 2.4

**CIMARRON DECOMMISSION PLAN
SOIL DATA EVALUATION
(1993 Sampling Round)
URANIUM WASTE POND #1**

Location Waste Pond #1	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Number of Sample Locations	34	35	39	39	43	35	11	11	9	8	6	4
Overall Average (pCi/g)	8.1	8.7	24.7	24.3	39.4	19.0	42.7	55.6	31.5	23.8	13.0	9.4
Number of Sample Locations Above 100 pCi/g U	0	0	0	1	1	1	2	1	4	1	0	0
Average Concentration of Readings Above 100 pCi/g U	0	0	0	125.0	104.0	167.0	170.5	137.0	122.0	121.0	0	0
Weighted Average (pCi/g)	8.1	8.7	24.7	26.9	40.9	23.2	65.9	63.0	71.7	36.0	13.0	9.4
Maximum Calculated Allowable Weighted Average (pCi/g)	<100	<100	<100	624.5	655.7	591.6	234.5	331.7	150.0	282.8	<100	<100
Maximum Individual Concentration (pCi/g)	15	17	16	125	104	167	172	137	197	121	27	20

URANIUM WASTE POND #2

Location Waste Pond #2	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Number of Sample Locations	83	83	75	71	74	63	3	3	3	3	3	3
Overall Average (pCi/g)	7.5	11.5	18.0	21.9	17.7	16.8	49.3	16.0	17.7	8.3	7.4	9.3
Number of Sample Locations Above 100 pCi/g U	0	0	1	3	4	0	0	1	0	0	0	0
Average Concentration of Readings Above 100 pCi/g U	0	0	109.0	125.3	249.5	0	0	127.0	0	0	0	0
Weighted Average (pCi/g)	7.5	11.5	18.7	24.4	26.0	16.8	49.3	53.0	17.7	8.3	7.7	9.3
Maximum Calculated Allowable Weighted Average (pCi/g)	<100	<100	866.0	486.5	430.1	<100	<100	173.2	<100	<100	<100	<100
Maximum Individual Concentration (pCi/g)	17	89	109	140	347	86	92	127	39	14	10	11

Table 2.5

Regression Analysis Results

Sample Depth (ft.)	Analysis (pCi/g)					
	0-1	1-2	2-3	3-4	4-5	5-6
Average N.G. 500	7.1	16.6	31.5	22.0	17.7	10.6
Average N.G. 490	6.4	8.4	41.5	23.5	15.1	14.1
Average N.G. 480	6.0	5.8	11.6	13.4	20.0	12.8
Expected Result N.G. 470	5.4	0	8.3	11.0	20.6	14.7
Expected Result N.G. 460	4.8	0	0	6.7	22.2	15.7
Expected Result N.G. 450	4.3	0	0	2.4	23.9	16.8
Expected Result N.G. 440	3.7	0	0	0	25.5	17.9

NOTE: N.G. represents northern grid location.

U-Plant and Vaporizer Room Floor

LOCATION	WIDTH(FT)	LENGTH(FT)	DEPTH(FT)	VOLUME (CUBIC FT.)
TRENCH - U-PLANT NORTH WALL	180	3.3	0.5	297
TRENCH - MAINTENANCE	30	5	0.5	75
PELLET FLOOR	76	11	0.5	418
SCRAP FLOOR	21	21	0.5	220.5
TRENCH - CERAMIC WEST WALL	26.6	3.3	0.5	43.89
WASTE FLOOR	23.1	8	0.5	92.4
TRENCH - WATER TREATMENT	6.6	6.6	0.5	21.78
SCRAP FLOOR	80	40	0.5	1600
CERAMIC FLOOR	40	20	0.5	400
TRENCH - SCRAP/DECON	180	3.3	0.5	297
TRENCH - SCRAP	40	3.3	0.5	66
DECON FLOOR	40	23.1	0.5	462
SCRAP FLOOR	36.5	20	0.5	365
TRENCH - WASTE/DECON	80	8	0.5	320
TRENCH - WASTE	66.6	3.3	0.5	109.89
TRENCH - NDA	36.3	1.5	0.5	27.225
CERAMIC FLOOR	8	9	0.5	36
DECON FLOOR	50	20	0.5	500
TRENCH - DECON	40	3.3	0.5	66
TRENCH - PELLET/WASTE	80	6.6	0.5	264
CERAMIC FLOOR	26.6	20	0.5	266
CERAMIC FLOOR	80	40	0.5	1600
DECON FLOOR	20	13.2	0.5	132
TRENCH - SCRAP	20	6	0.5	60
VAPORIZER ROOM	74	33	0.5	1221
TOTAL				8960.685

Table 2.7

Cimarron Facility Concrete Rubble

Uranium Plant and U-Yard

LOCATION	WIDTH(FT)	LENGTH(FT)	DEPTH(FT)	VOLUME (CUBIC FT.)
ISOLATION BARRIER IN LAB	8	5	0.66	26.4
INCINERATOR PAD	19	4	0.5	38
TRANSFORMER PADS	32	5	1	160
WALKWAY SE. OF WATER TREATMENT	42	3	0.16	20.16
WALKWAY NORTH OF GUARD STATION	76	4	0.16	48.64
WALKWAY WEST OF WAREHOUSE	100	3	0.16	48
UF-6 PAD	40	60	0.83	1992
WALKWAYS TO EXIT DOORS N. SIDE	9	6	0.5	27
ELECTRICAL PAD SOUTH OF WAREHOUSE	16	4	0.83	53.12
LAB CHILLER PAD	21	6.6	0.83	115.038
OFFICE AIR CONDITIONER PAD	5	5	0.83	20.75
BUILDING #3 PAD	40	24	0.83	796.8
PAD SOUTH OF VAPORIZER ROOM	12	30	0.5	180
CALCINER SLABS	60	4.5	1.2	324
WALL BETWEEN SCRAP & DECON	132	12	0.66	1045.44
WALL BETWEEN SCRAP & WASTE STOR.	60	12	0.66	475.2
BAGHOUSE PAD	15	15	2	450
WALL BETWEEN OFFICE & CERAMICS	89	12	0.66	704.88
WALL BETWEEN DECON/IPO & PELLET/CER.	156	12	0.66	1235.52
WALL BETWEEN NEAR BOILER	18	12	0.66	142.56
PELLET PRESS PADS	40	6	1.25	300
SUPER C AND D PADS	12	12	5	720
COOLING TOWER PUMP PAD	14	14	3	588
CONTROL ROOM WALLS	46	10	0.5	230
TANK ISOLATION WALLS IN SCRAP	67	15	2	2010
PIPEWAY EAST OF VAPOR. ROOM	11	49.5	0.5	272.25
	0	0	0	0
	0	0	0	0
DOCK DRIVEWAY	45	10	0.5	225
ACID TANKS CURBING WALL	100	1.5	0.5	75
PAD BETWEEN COAL BLDG. & DOCK AREA	20	20	0.33	132
CAUSTIC TANK CURBING WALL	150	0.5	0.5	37.5
TOTAL				12493.258

U-Yard - Buildings #2 and #3

T-8

Cimarron Facility Concrete Rubble

LOCATION	WIDTH(FT)	LENGTH(FT)	DEPTH(FT)	VOLUME (CUBIC FT.)
LAB FLOOR SEAMS	30	0.5	0.5	7.5
SX FLOOR	3	5	0.5	7.5
TIGER LOCK PAD	5	6	0.33	9.9
VALVE BOX FOR 6K & 10K	9	3	0.33	8.91
BLOCK FOOTING INST. SHOP & DEV. BLDG.	54	0.66	0.66	23.5224
SIDE WALK	50	4	0.17	34
WALL BETWEEN RM. 121 & 123	24	18	0.66	285.12
X-RAY ROOM WALL	27	24	0.66	427.68
WALL BETWEEN RM. 124 & 127	23	13	0.66	197.34
WALL BETWEEN RM. 127 & 128	24	13	0.66	205.92
WALL BETWEEN RM. 123 & 124	10	10	0.66	66
MEN'S CHANGE RM. FLOOR	3	4	0.5	6
ROOM 106	3	4	0.5	6
ROOM 114	3	5	0.5	7.5
HALLWAY FLOOR	2	5	0.5	5
ROOM 140 FLOOR	15	3	0.5	22.5
ROOM 138 FLOOR	3	4	0.5	6
ROOM 132 FLOOR	14	3	0.5	21
ROOM 136 FLOOR	3	3	0.5	4.5
ROOM 135 FLOOR	11	3	0.5	16.5
LAB FLOOR	12	3	0.5	18
LAB FLOOR	8	4	0.5	16
MISCELLANEOUS				2908
TOTAL				4310.3924

TABLE 2.10
1994 ENVIRONMENTAL SAMPLE RESULTS
CIMARRON FACILITY
AIR SAMPLES ($\mu\text{Ci}/\text{ml} \times \text{E}-14$)

WEEK No.	NW 1/2 Mi 1101	KM LAKE E 1102	HWY 33/74 1103	WEEK No.	NW 1/2 Mi 1101	KM LAKE E 1102	HWY 33/74 1103
1	2.1	*	1.8	27	.76	1.2	.65
2	1.9	1.2	1.6	28	1.5	1.2	1.1
3	1.1	1.4	.96	29	1.7	.64	1.4
4	1.3	1.8	1.6	30	1.7	1.6	1.3
5	1.5	1.4	1.7	31	1.2	.45	.59
6	1.1	1.1	.90	32	2.0	.36	1.3
7	1.3	1.6	1.2	33	.88	.64	1.8
8	1.5	1.3	1.2	34	.58	.68	.10
9	**	**	**	35	.91	.71	.93
10	1.2	.9	.81	36	.93	1.1	1.3
11	.92	1.1	1.1	37	.81	.83	.97
12	.79	.99	.57	38	.83	.76	1.2
13	1.1	.81	.29	39	1.3	1.5	1.6
14	.59	.46	.74	40	.83	.83	.94
15	.62	.45	.53	41	.67	.76	.34
16	.61	.47	.56	42	.95	.98	1.2
17	.27	.28	.14	43	1.1	.27	.44
18	.83	.47	.38	44	.76	.96	.17
19	.50	.55	.31	45	.46	1.1	.34
20	.66	.14	.50	46	.35	.43	.27
21	.40	.32	.29	47	.14	.26	.26
22	.35	.30	.38	48	.27	.23	.46
23	.11	.15	.19	49	.62	.61	1.1
24	.22	.48	.34	50	.26	.11	.31
25	.36	.59	.53	51	.38	.44	.46
26	.36	.56	.31	52	.37	.70	.41

* Pump Failure ** Samples not changed

TABLE 2.11
1994 ANNUAL ENVIRONMENTAL SAMPLE RESULTS
CIMARRON FACILITY
SURFACE WATERS

LOCATION	NO.	DATE	F mg/L	No ₃ (N) mg/L	GROSS ALPHA pCi/L	GROSS BETA pCi/L	TOTAL U mg/L	U 234 pCi/L	U 235 pCi/L	U 238 pCi/L
River-Upstream	1201	6/27/94	3.8	0.1	<10	<20	<0.005	*	*	*
River-Downstream	1202	6/27/94	3.9	0.1	<10	<20	<0.005	*	*	*
Pond West of Plant	1204	6/27/94	0.3	0.1	<10	<20	<0.005	*	*	*
KM Lake East	1205	6/27/94	0.3	0.1	<10	<20	<0.005	*	*	*
Slough-NNW of Inc.	1206	6/27/94**	3.6	61	261	37	0.14	252	83.4	182
Stream NW Old #2	1208	6/27/94**	35	1650	1010	2360	<0.005	52.5	9.3	26.3
KM Lake West	1209	6/27/94	0.3	0.2	<10	<20	<0.005	*	*	*
New San. Lagoon	1214	6/27/94**	2.3	0.2	43	<20	0.012	37.0	9.5	16.6

* No isotopic (Gross Alpha <15 pCi/L, Gross Beta <20 pCi/L)

**Isotopic U-samples were collected on 11/1/94.

TABLE 2.12
1994 ANNUAL ENVIRONMENTAL SAMPLE RESULTS
CIMARRON FACILITY

WELL WATER (Note: No Isotopic if Gross Alpha <15 pCi/L, Gross Beta <20 pCi/L)

LOCATION	NO.	DATE	F mg/L	No ₃ (N mg/L	GROSS ALPHA pCi/L	GROSS BETA pCi/L	TOTAL U mg/L	U 234 pCi/L	U 235 pCi/L	U 238 pCi/L
S. of Landfill	1311	6/13/94	0.6	20.5	<10	<20	<0.005	24.1	1.1	7.6
W. of Landfill	1312	6/14/94	22	406	348	521	0.016	1.6	0	0.6
N. of Landfill	1313	6/14/94	100	497	936	1240	0.046	21.5	0.8	2.7
S. of Burial Pit	1314	6/15/94	1.2	0.5	<10	<20	<0.005	*	*	*
N. of Burial Pit	1315	6/20/94	1.0	<0.1	1710	148	1.3	853	77.8	609
NW of Burial Pit	1316	6/20/94	1.1	<0.1	233	<20	0.18	166	14.6	84
N. of Burial Pit	1317	6/20/94	1.0	<0.1	56	<20	0.046	18.2	1.2	11.3
U-Plant Yard	1319	6/13/94	<0.2	0.2	17	<20	<0.005	66.6	2.5	21
N. of Designated Area	1320	6/17/94	0.9	27	19	<20	<0.005	20.8	0.6	10.7
N. of D. A. (Deep)	1321	6/17/94	2.0	0.9	16	<20	0.007	6.6	0.2	3.7
W. of Tractor Shed	1322	6/9/94	0.9	4.8	16	<20	0.006	6.3	0.4	3.4
W. of T. S. (Deep)	1323	6/13/94	2.2	1.0	42	<20	0.014	0.8	0	0.7
E. of Designated Area	1324	6/14/94	0.9	9.9	<10	<20	<0.005	*	*	*
S. of Designated Area	1325	6/14/94	0.8	14.7	<10	<20	<0.005	*	*	*
E. of U-Plant Yard	1326	6/13/94	0.5	14.5	19	<20	<0.005	14.3	0.6	6.3
W. of U-Plant Yard	1327	6/9/94	0.8	7.9	<10	<20	<0.005	*	*	*
S. of U-Plant (Deep)	1328	6/20/94	3.0	0.4	28	<20	0.020	21.5	0.8	11.1
S. of U-Plant	1329	6/20/94	4.3	0.7	<10	<20	<0.005	*	*	*
SW of U-Plant Yard	1330	6/20/94	1.0	55	18	<20	0.006	9.0	0.9	3.8
NE of Pu-Plant Yard	1331	6/9/94	1.1	22.6	198	<20	0.090	139	25.1	40.5
W. of San. Lag. (Deep)	1332	6/20/94	4.5	0.3	39	<20	0.008	21.4	1.5	12.7
W. of San. Lagoon	1333	6/9/94	1.3	1.5	20	<20	0.010	9.7	0.2	2.8
N. of San. Lagoons	1334	6/9/94	1.3	2.0	15	<20	<0.005	3.7	0.2	1.4
W. of Designated Area	1335	6/13/94	0.9	20	<10	<20	<0.005	*	*	*
N. of Old Pond #2	1336	6/20/94	36	673	682	1100	0.014	17.3	1.1	5.7

TABLE 2.13 PAGE 1
1994 MONTHLY SAMPLE RESULTS FOR WELLS 1315 & 1316
CIMARRON FACILITY

Well 1315	Gross Alpha	Gross Beta	Total U	U-234	U-235	U-238
DATE	pCi/l	pCi/l	pCi/l**	pCi/l	pCi/l	pCi/l
3/28/94	2190	427	1980	1490	65.38	969
4/15/94	1340	167	1350	1190	70.7	788
5/13/94	2470	337	2040	1250	170	903
6/20/94	1710	148	1950	853	77.8	609
7/28/94	*	*	1210	750	74.9	476
8/11/94	*	*	1060	898	55.7	614
9/20/94	*	*	986	842	43.1	526
10/19/94	*	*	969	*	*	*
11/7/94	*	*	*	457	118	399
12/8/94	*	*	974	*	*	*

* No analysis

**Value converted assuming 2.7% enrichment

Well #1316	Gross Alpha	Gross Beta	Total U	U-234	U-235	U-238
DATE	pCi/l	pCi/l	pCi/l**	pCi/l	pCi/l	pCi/l
3/28/94	163	28.6	162	174	4.0	76.5
4/15/94	89.7	23.1	143	143	6.1	63.1
5/13/94	232	57.8	183	155	13.4	71.8
6/20/94	233	<20	270	166	14.6	84
7/28/94	*	*	<0.6	93.7	5.0	40.5
8/11/94	*	*	97	89.2	3.2	37
9/20/94	*	*	47.9	48.2	2.1	20.1
10/19/94	*	*	47.8	*	*	*
11/7/94	*	*	*	79.3	25.8	64.8
12/8/94	*	*	69	*	*	*

* No analysis

** Value converted assuming 2.7% enrichment

TABLE 2.13 PAGE 2
1994 MONTHLY SAMPLE RESULTS FOR WELLS 1315 & 1316
CIMARRON FACILITY

WELL #1315	Th pCi/l		
DATE	230	228	232
8/11/94	1.4	0.3	0.3
9/20/94	0.8	0.2	0.2

WELL #1316	Th pCi/l		
DATE	230	228	232
8/11/94	0.1	ND	ND
9/20/94	2.4	ND	0.4

TABLE 2.14
1994 ANNUAL ENVIRONMENTAL RESULTS
CIMARRON FACILITY
SOIL

SURFACE	No.	DATE	TOTAL U $\mu\text{g/g}$
North 1/2 mile	1401	6/22/94	0.7
North Fence	1402	6/22/94	7.5
South Fence	1403	6/22/94	7.5
South 1/2 mile	1404	6/22/94	0.9
East 1/2 mile	1405	6/22/94	0.6
West 1/2 mile	1406	6/22/94	1.3
North 1 mile	1407	6/22/94	0.7
South 1 mile	1408	6/22/94	1.2
East 1 mile	1409	6/22/94	0.6
West 1 mile	1410	6/22/94	1.3
North Pu Fence	1418	6/22/94	1.3

SUB-SURFACE	No.	DATE	TOTAL U $\mu\text{g/g}$
North 1/2 mile	1401	6/22/94	1.0
North Fence	1402	6/22/94	5.0
South Fence	1403	6/22/94	5.4
South 1/2 mile	1404	6/22/94	1.1
East 1/2 mile	1405	6/22/94	0.7
West 1/2 mile	1406	6/22/94	1.3
North 1 mile	1407	6/22/94	0.5
South 1 mile	1408	6/22/94	1.5
East 1 mile	1409	6/22/94	0.8
West 1 mile	1410	6/22/94	1.3
North Pu Fence	1418	6/22/94	1.4

TABLE 2.15
1994 ANNUAL ENVIRONMENTAL RESULTS
CIMARRON FACILITY
VEGETATION

LOCATION	No.	DATE	TOTAL U $\mu\text{g/g}$
Covered #1 Pond	1508	6/22/94	<2
Covered #2 Pond	1509	6/22/94	<2
Burial Ground	1510	6/22/94	<2
Disposal Cell	1512	6/22/94	<2



Attachment I-1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
February 5, 1993

RECEIVED

FEB 22 1993

ENVIRONMENTAL SERVICES

Docket No. 70-1193
License No. SNM-1174

Cimarron Corporation
ATTN: J.C. Stauter, Director
Environmental Services
P.O. Box 25861
Oklahoma City, Oklahoma 73125

Dear Mr. Stauter:

RE: License No. SNM-1174; Docket No. 70-1193
Request for Termination of Plutonium Plant License

Pursuant to Title 10, Code of Federal Regulations, Part 70, Special Nuclear Material License No. SNM-1174 is hereby terminated as you requested in your letter of August 20, 1990. The staff has determined that (1) all special nuclear material relating to this license has been properly disposed, (2) reasonable effort has been made to eliminate residual radioactive contamination, and (3) a radiation survey has been performed, and confirmed by the NRC, which demonstrates that the premises are suitable for release for unrestricted use. We are enclosing the Safety Evaluation Report in support of these findings. The Environmental Assessment and Finding of No Significant Impact were sent to you by letter dated February 5, 1993.

This license termination is granted on the basis, in part, of the information provided by the licensee that documents the decontamination work and the concentrations and distribution of residual radioactive contamination remaining on the facilities and grounds covered by License No. SNM-1174. The NRC's existing criteria for residual radioactivity at decommissioning, as applied to the decontamination of the facilities and grounds covered by License No. SNM-1174, are judged adequate to protect the health and safety of the public and the environment. However with regard to the possession and use of special nuclear material, source material, and byproduct material, the NRC has authority under Sec. 161 of the Atomic Energy Act of 1954, as amended, to require action to protect health or to minimize danger to life or property, even after license termination. The Action Plan¹ states the NRC Position: "If a licensee or responsible party cleaned up a site, or was in the process of cleaning up a site, under an NRC-approved decommissioning plan, the NRC will not require the licensee to conduct additional cleanup in response to NRC criteria or standards established after NRC approval of the plan. An exception to this case would be in the event that additional contamination, or noncompliance with the plan, is found indicating a significant threat to public health and safety. Noncompliance would occur when a licensee or

¹Action Plan to Ensure Timely Cleanup of Site Decommissioning Management Plan Sites, Federal Register, Vol. 57, No. 74, p. 13389-13392, April 16, 1992.

J. C. Stauter

- 2 -

February 5, 1993

responsible party does not comply with an approved decommissioning plan, or provides false information."

The termination of License No. SNM-1174 does not alter your Special Nuclear Material License No. SNM-928 (Docket No. 70-925) in any way. Because the land formerly licensed under License No. SNM-1174 is contained within the bounds of License No. SNM-928, a second confirmatory survey of the former Mixed-Oxide Facility and associated grounds may be made at the time of termination of the Uranium Facility license. Any cross-contamination will be required to be remediated before the Uranium Facility license will be terminated.

If you have any questions as a result of this action, please contact John T. Greeves of my staff at (301) 504-3334.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Enclosure:
Safety Evaluation Report

Attachment I-2



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Handwritten initials: G, B

DEC 28 1979

FCUF:JCD
70-925

Kerr-McGee Nuclear Corporation
ATTN: Mr. William J. Shelley, Director
Regulation and Control
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Gentlemen:

This refers to your letter dated September 18, 1979 regarding the use of certain sections of your Cimarron facility uranium plant for a bench-scale coal liquefaction development project.

We have no objection to your use of the areas indicated in the September 18, 1979 correspondence for the joint project with the Electric Power Research Institute, subject to your continued compliance with your existing license conditions.

We agree with your proposal to decontaminate the building to below the NRC guidelines for release for unrestricted use prior to using it for non-nuclear activities; however we will not eliminate this area as a place of use under your license since it is an integral part of the Cimarron facilities. Accordingly, no amendment to your license is necessary at this time.

If you have any questions regarding this letter feel free to call me or Mr. J. C. Delaney at 301-427-4510.

Sincerely,

Handwritten signature: W. T. Crow

W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

JAN 10 1994

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

Mr. Edwin T. Still
Environmental and Health
Management Division
Kerr-McGee Corporation
Kerr-McGee Center
Oklahoma City, OK 73125

Dear Mr. Still:

SUBJECT: APPROVAL TO BACKFILL SCRAP RECOVERY AREA IN THE CIMARRON FACILITY
URANIUM BUILDING

In a November 15, 1993, letter, Kerr-McGee requested approval from the Nuclear Regulatory Commission staff to backfill the scrap recovery area in the Cimarron facility uranium building (scrap recovery area), which was excavated as a part of the uranium building decommissioning. The staff has reviewed the results of the scrap recovery area surveys that were submitted in Kerr-McGee's July 8, 1993, and November 15, 1993, letter reports. The staff of Oak Ridge Institute for Science and Education also reviewed the data and transmitted comments to the NRC staff on November 22, 1993.

Based on the data presented, the residual contamination in the scrap recovery area appears to be less than the BTP Option 1 concentration limits for enriched uranium, i.e., 30 pCi/g. Therefore, the staff approves Kerr-McGee's request to backfill the scrap recovery area. However, please note that confirmatory surveys by NRC or its contractor may be required before releasing the scrap recovery area for unrestricted use.

If you have any questions, please contact me in writing or by telephone at (301) 504-2554.

Sincerely,

A handwritten signature in cursive script, reading "David N. Fauver", is written over a horizontal line.

David N. Fauver, Project Manager
Facilities Decommissioning Section
Decommissioning and Regulatory
Issues Branch
Division of Low-Level Waste Management
and Decommissioning
Office of Nuclear Material Safety
and Safeguards

Attachment I-4



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

RECEIVED BY
ET STILL

JAN 04 1993

DEC 30 1992

Docket No. 70-0925
License No. SNM-928
Amendment No. 9

Kerr-McGee Corporation
ATTN: Dr. John Stauter
Vice President
Environmental Services
Kerr-McGee Center
Oklahoma City, OK 73125

Dear Dr. Stauter:

In accordance with your application dated September 11, 1991, and follow up letter of June 24, 1992, and pursuant to Title 10, Code of Federal Regulations, Part 70, Special Nuclear Material License No. SNM-928 is hereby amended. Item 20 was amended to extend the completion date of the decommissioning project, and items 22.a through 22.e were added to authorize backfilling of two sanitary lagoons and the former burial ground at the Cimarron Corporation's Crescent, Oklahoma site. These areas are to be remediated in the manner described in your license amendment application, and returned to normal topography and usage.

All other conditions of this license shall remain the same.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, reading "George M. McCann".

George M. McCann, Chief,
Materials Licensing Section

cc w/enclosure:
J. Hickey, NMSS
J. Swift, NMSS
R. Caniano, RIII
D. Wiedeman, RIII
E. Still, Vice President,
Cimarron Corporation
DCD/DCB (RIDS)

Attachment I-5



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
JUL 10 1978

FCRR:WGB
Docket No. 70-1193
License No. SNM-1174, Amendment No. 2

Kerr-McGee Nuclear Corporation
ATTN: Mr. W. J. Shelley, Director
Regulation and Control
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Gentlemen:

In accordance with your application dated August 19, 1977 and the supplement dated March 3, 1978, and pursuant to Title 10, Code of Federal Regulations, Part 70, Special Nuclear Material License No. SNM-1174 is hereby amended (item 21c of the license) to authorize backfilling of the retention or settling ponds at the Cimarron Facility in the manner described in your license application, and the return of these areas to normal topography and usage.

All other conditions of this license shall remain the same.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, reading "Richard W. Starostecki", is positioned above the typed name.

Richard W. Starostecki, Chief
Fuel Reprocessing and Recycle Branch
Division of Fuel Cycle and Material Safety

State Board of Health

OTHO R. WHITENECK, D.O.S., PRESIDENT

ROBERT D. McCULLOUGH, D.O., VICE PRESIDENT

HAROLD A. TOAZ, SECRETARY

GLEN L. BERKENBILE, M.D.

WALLACE BYRD, M.D.

THOMAS DONICA, M.D.

ARNOLD HELVEY

EUGENE A. OWENS, M.D.

W.A. "TATE" TAYLOR



CC. ✓
AWN
BEB

Commissioner

JOAN K. LEAVITT, M.D.

Oklahoma

State Department of Health

Northeast 10th Street & Stonewall
Post Office Box 53551
Oklahoma City, Oklahoma 73105

March 2, 1978

W.J. Shelley, Director
Regulation and Control
Kerr-McGee Nuclear Corp.
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Dear Mr. Shelley:

This is in response to your letter dated August 19, 1977 in which you requested the approval of the Oklahoma State Department of Health for disposal of the ponds at your Cimarron Facility.

After review of the results of analyses of the soil in the bottom of the ponds by Kerr-McGee, U.S. Nuclear Regulatory Commission, and our laboratory it has been determined that the concentration of radioactive materials in the soil in these areas is less than those concentrations which are exempted from regulation under the Radiation Protection Regulations (Section 4.2).

After reviewing your plans for decommissioning the ponds, and in view of the above, your plans are approved as required by Section 13.3 of the regulations.

Very truly yours,

A handwritten signature in cursive script, reading "Robert L. Craig".

Robert L. Craig, Director
Radiation Protection Division

RLC/kc



Attachment I-6

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 4, 1994

Dr. John C. Stauter
Kerr-McGee Corporation
Kerr-McGee Center
Oklahoma City, OK 73125

Dear Dr. Stauter:

On September 4, 1987, Kerr-McGee Corporation submitted a request to amend License SNM-928 to allow disposal of soil contaminated with low concentrations of enriched uranium (EU) at Kerr-McGee's Cimarron, Oklahoma, site. The request was made pursuant to 10 CFR 20.2002 (formerly 10 CFR 20.302). The soil to be disposed of was contaminated during the licensed operations conducted at the Cimarron facility and is located on the Cimarron site. The proposed disposal method is onsite burial.

Based on the Nuclear Regulatory Commission staff's review of the Kerr-McGee submittals related to the onsite disposal, the staff's analyses presented in the Safety Evaluation Report (SER) and the Environmental Assessment (EA), and subject to new conditions in the license, the staff approves the amendment request (Amendment No. 10) to license SNM-928 (Enclosure 1). Note that this approval relates only to disposal at the location described in Kerr-McGee's October 9, 1989, submittal. Any other proposal to dispose of contaminated material on the Cimarron site will be evaluated on its own merit.

The staff prepared an SER for the proposed onsite disposal (Enclosure 2). The purpose of the SER was to estimate the potential radiological impact on worker health and safety from the movement of contaminated soil to the disposal cell, and the placement and compaction of the soil in the disposal cell. The SER concluded that a conservative estimate of worker dose is 408 mrem, predominantly from the inhalation of contaminated dust. This dose is less than 10 percent of the occupational dose limit in 10 CFR Part 20. However, in a letter dated November 3, 1994, Kerr-McGee committed to maintain a program to keep worker doses as low as reasonably achievable (ALARA). Kerr-McGee's ALARA goal is to limit worker doses to approximately 250 mrem for the project. Kerr-McGee projects that the actual doses for the project will be less than about 125 mrem.

The staff also prepared an EA for the proposed onsite disposal (Enclosure 3). Based on the results of the EA, the staff concluded that the impact on the public and the environment would be minimal, and made a Finding of No Significant Impact (FONSI). The FONSI, and an opportunity for a hearing on the amendment request, was published in the Federal Register on March 22, 1994, (59 FR 13513).

J. Stauter

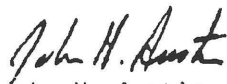
- 2 -

In the EA, the staff recommended several license conditions. In addition, the Commission, in a staff requirements memorandum dated October 30, 1992, made a number of recommendations related to the onsite disposal at the Cimarron site. The staff and Commission recommendations have been incorporated into a new license condition (Condition No. 23).

Amendment No. 10 to License SNM-928 also modifies six existing license conditions. Condition 10 was updated to include the Kerr-McGee submittals related to the onsite disposal request. Conditions 11 and 12 were modified to reflect changes in the new 10 CFR Part 20. Condition 15 was revised to include the current reference for surface contamination limits for the release of equipment and materials from controlled areas. Condition 18 was modified to clarify the existing condition that any contaminated solid waste generated during decommissioning, other than that designated for onsite disposal, shall be disposed of at a licensed low-level waste facility. Finally, Condition 20 was modified to reflect a commitment made by Kerr-McGee, in a letter dated February 25, 1993, to submit a decommissioning plan for the remaining contaminated soil and structures on the Cimarron site. Condition 20 sets a date of May 1, 1995, for Kerr-McGee to submit the decommissioning plan to NRC.

Please be advised that Kerr-McGee must conduct activities at the Cimarron site involving radioactive material in accordance with the conditions in License SNM-928, representations made in the license and amendment applications, as supplemented, and NRC regulations. If you have any questions, please contact David N. Fauver, of my staff, on 301-415-6625.

Sincerely,

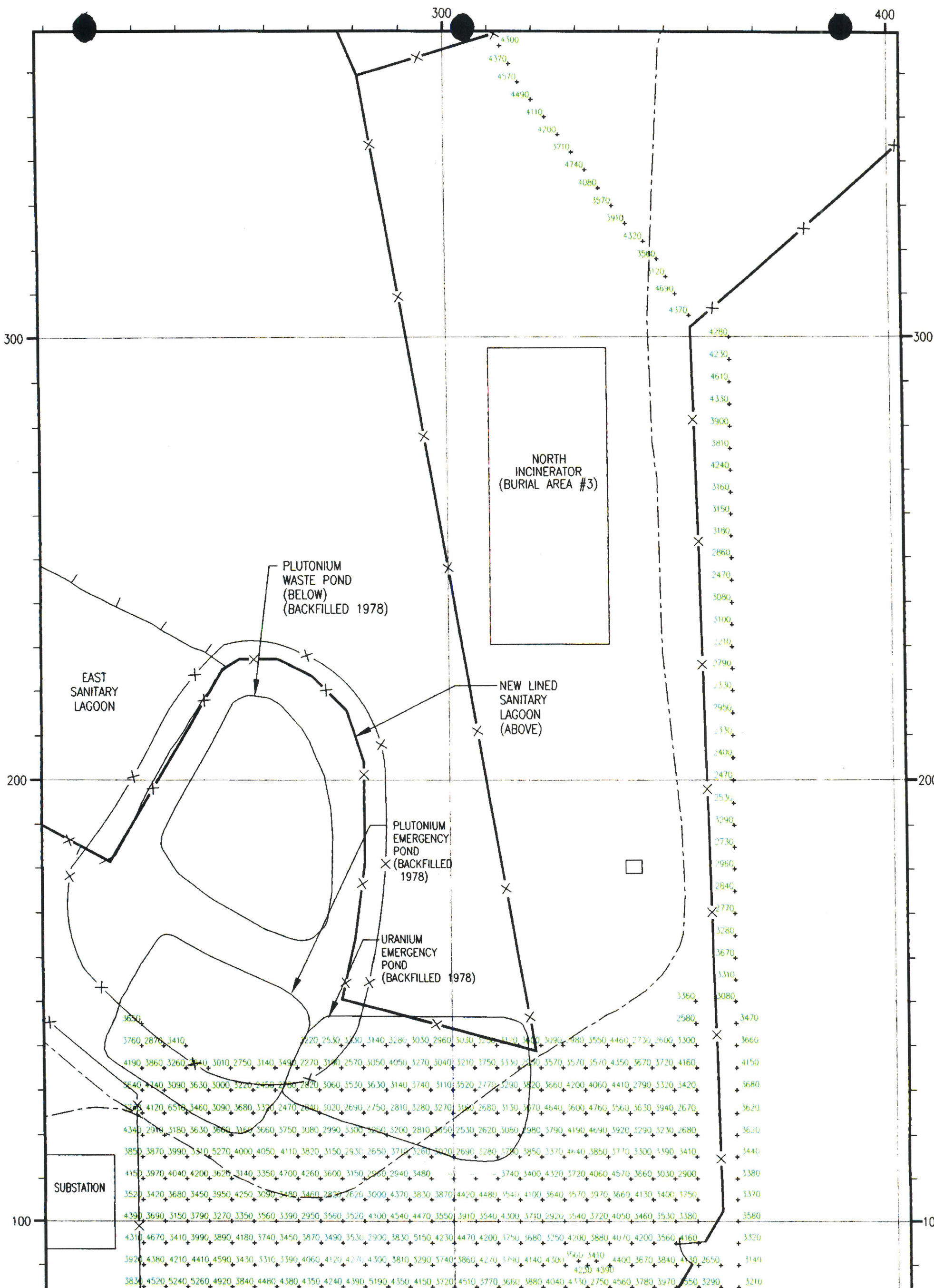


John H. Austin, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

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


Enclosures: As stated (3)

cc: Lloyd Kirk
Earl Hatley



INSTRUMENT: LUDLUM 2220, S/N 48395,
LEAD SHIELDED 5" X 1 1/2"
NaI DETECTOR.
BACKGROUND: 3570 CPM
READINGS TAKEN ON 5 METER X 5 METER GRID.

LEGEND
2340 + < 6999 CPM
7931 7000 - 8999 CPM
9293 > 9000 CPM
+ NO SAMPLE TAKEN -
AREA COVERED
BY ROCK

**CIMARRON CORPORATION**

**CIMARRON FACILITY
EAST OF SUBSTATION AREA
PRE-REMEDIATION GAMMA SURVEY (1994)
READINGS IN CPM (3" DET.) SURFACE**

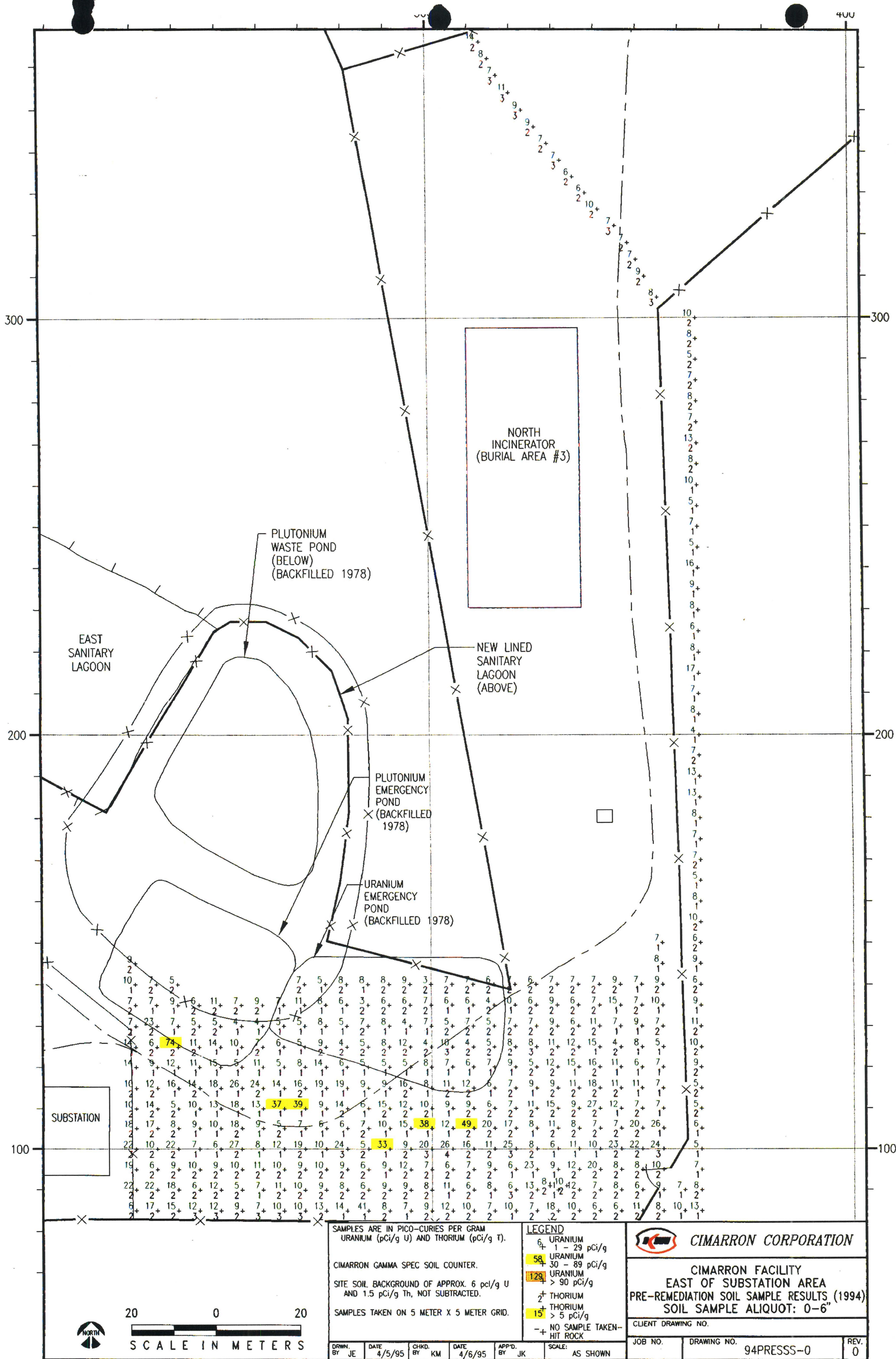
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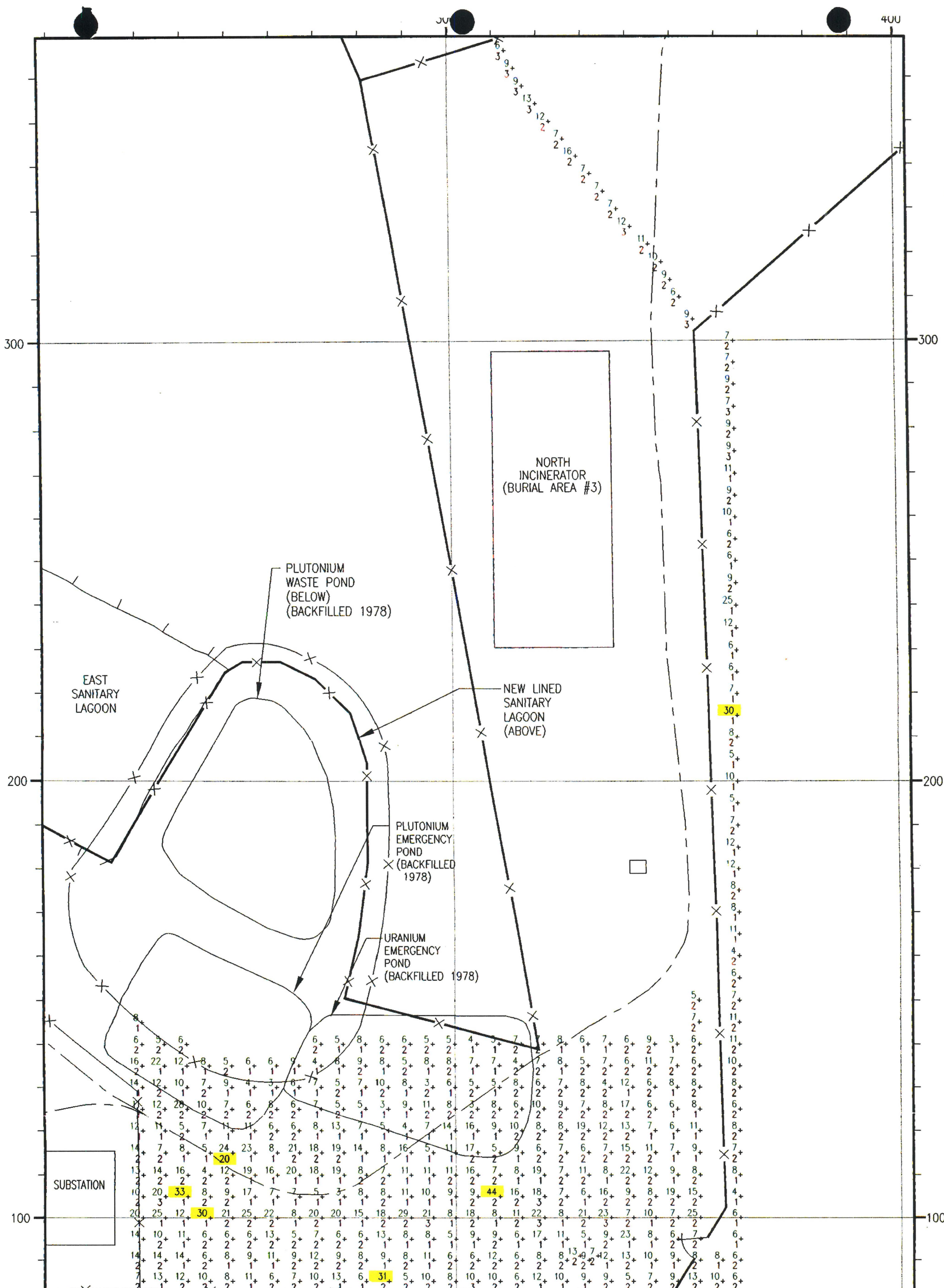
JOB NO.

DRAWING NO. 94PRES3D-0

REV. 0

DRWN. BY JE DATE 3/31/95 CHKD. BY KM DATE 4/1/95 APP'D. BY JK SCALE: AS SHOWN





SUBSTATION

NORTH
INCINERATOR
(BURIAL AREA #3)

PLUTONIUM
WASTE POND
(BELOW)
(BACKFILLED 1978)

NEW LINED
SANITARY
LAGOON
(ABOVE)

PLUTONIUM
EMERGENCY
POND
(BACKFILLED 1978)

URANIUM
EMERGENCY
POND
(BACKFILLED 1978)

SAMPLES ARE IN PICO-CURIES PER GRAM
URANIUM (pCi/g U) AND THORIUM (pCi/g T).
CIMARRON GAMMA SPEC SOIL COUNTER.
SITE SOIL BACKGROUND OF APPROX. 6 pCi/g U
AND 1.5 pCi/g Th, NOT SUBTRACTED.
SAMPLES TAKEN ON 5 METER X 5 METER GRID.

LEGEND
6+ URANIUM 1 - 29 pCi/g
58+ URANIUM 30 - 89 pCi/g
129+ URANIUM > 90 pCi/g
2+ THORIUM
15+ THORIUM > 5 pCi/g
-+ NO SAMPLE TAKEN - HIT ROCK



CIMARRON CORPORATION

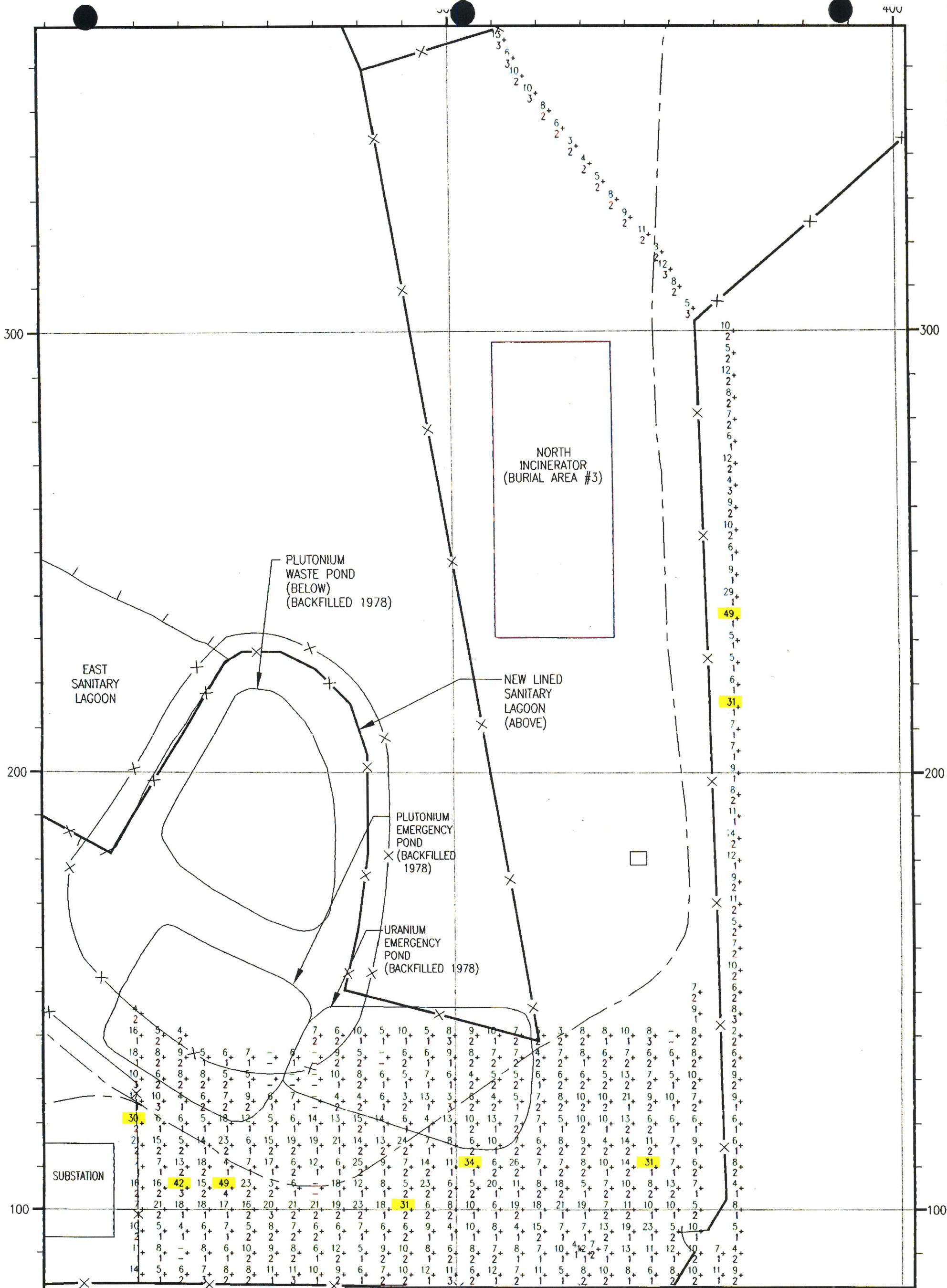
CIMARRON FACILITY
EAST OF SUBSTATION AREA
PRE-REMEDIATION SOIL SAMPLE RESULTS (1994)
SOIL SAMPLE ALIQUOT: 6"-1"

CLIENT DRAWING NO.
JOB NO. DRAWING NO. 94PRESS-1 REV. 0



20 0 20
SCALE IN METERS

DRWN. BY JE DATE 4/5/95 CHKD. BY KM DATE 4/6/95 APP'D. BY JK SCALE: AS SHOWN



SAMPLES ARE IN PICO-CURIES PER GRAM
URANIUM (pCi/g U) AND THORIUM (pCi/g Th).

CIMARRON GAMMA SPEC SOIL COUNTER.

SITE SOIL BACKGROUND OF APPROX. 6 pCi/g U
AND 1.5 pCi/g Th, NOT SUBTRACTED.

SAMPLES TAKEN ON 5 METER X 5 METER GRID.

LEGEND

- 6 URANIUM
1 - 29 pCi/g
- 58 URANIUM
30 - 89 pCi/g
- 129 URANIUM
> 90 pCi/g
- 2 THORIUM
- 15 THORIUM
> 5 pCi/g
- NO SAMPLE TAKEN -
HIT ROCK



CIMARRON CORPORATION

CIMARRON FACILITY
EAST OF SUBSTATION AREA
PRE-REMEDIATION SOIL SAMPLE RESULTS (1994)
SOIL SAMPLE ALIQUOT: 1'-2'

CLIENT DRAWING NO.

JOB NO.

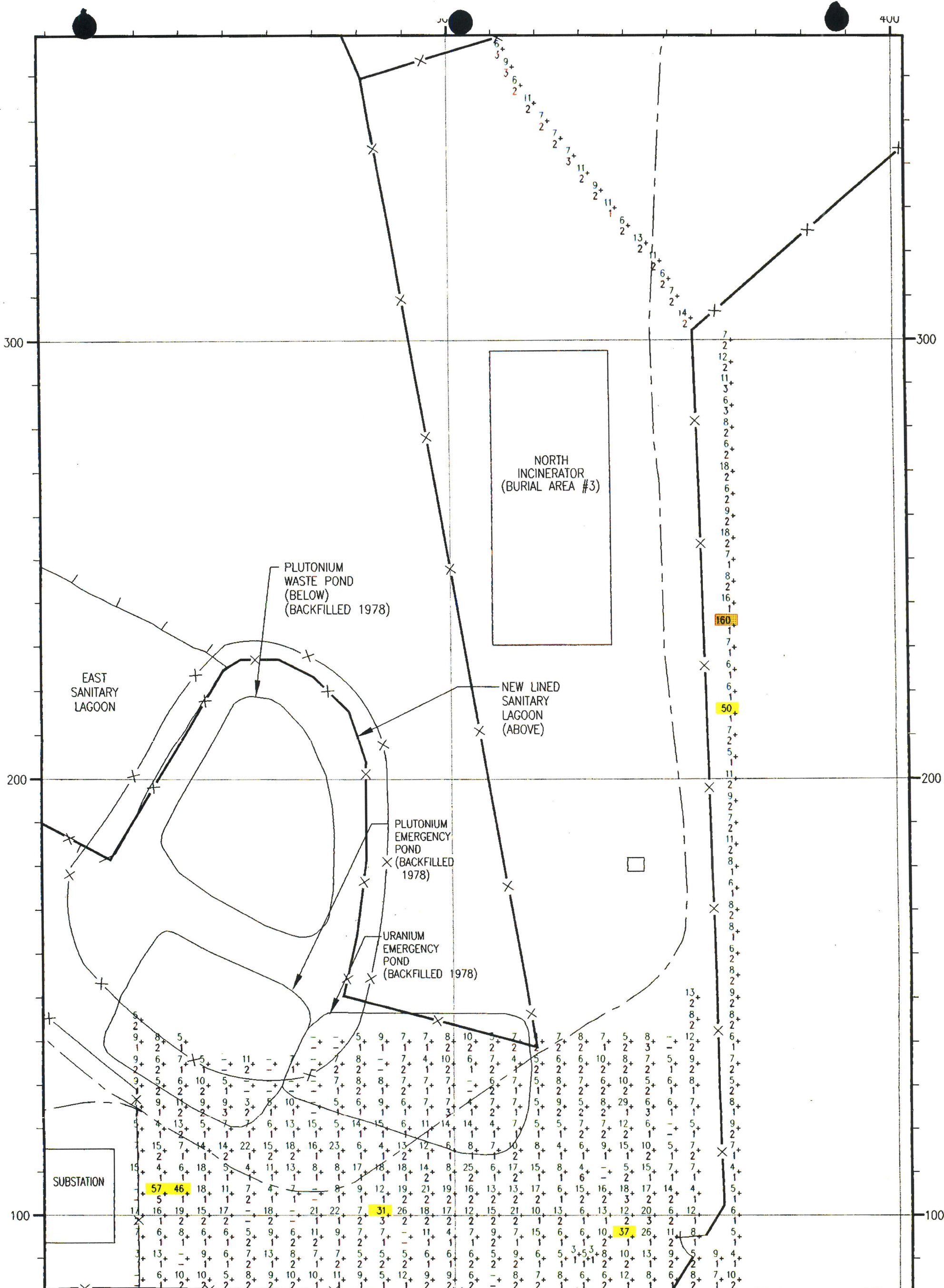
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REV.

0

M:\CIMARRON\SUBSTATION\94PRESS



SAMPLES ARE IN PICO-CURIES PER GRAM
URANIUM (pCi/g U) AND THORIUM (pCi/g T).

CIMARRON GAMMA SPEC SOIL COUNTER.

SITE SOIL BACKGROUND OF APPROX. 6 pCi/g U
AND 1.5 pCi/g Th, NOT SUBTRACTED.

SAMPLES TAKEN ON 5 METER X 5 METER GRID.

LEGEND

6+ URANIUM
1 - 29 pCi/g

58+ URANIUM
30 - 89 pCi/g

129+ URANIUM
> 90 pCi/g

2+ THORIUM
> 5 pCi/g

15+ THORIUM
> 5 pCi/g

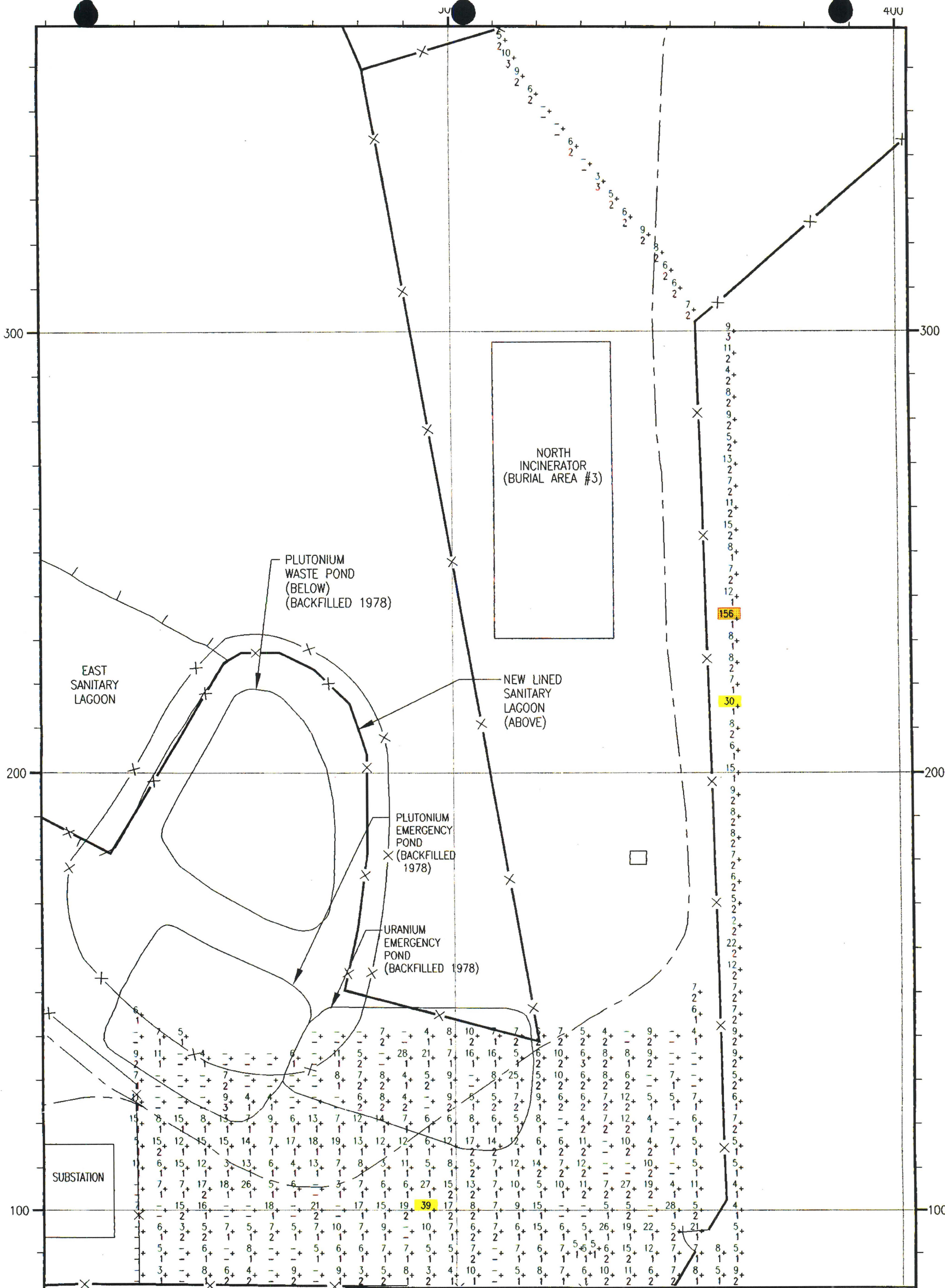
-+ NO SAMPLE TAKEN -
HIT ROCK

CIMARRON CORPORATION

**CIMARRON FACILITY
EAST OF SUBSTATION AREA
PRE-REMEDIATION SOIL SAMPLE RESULTS (1994)
SOIL SAMPLE ALIQUOT: 2'-3'**

CLIENT DRAWING NO.

JOB NO. DRAWING NO. 94PRESS-3 REV. 0



SAMPLES ARE IN PICO-CURIES PER GRAM
URANIUM (pCi/g U) AND THORIUM (pCi/g T).

CIMARRON GAMMA SPEC SOIL COUNTER.

SITE SOIL BACKGROUND OF APPROX. 6 pCi/g U
AND 1.5 pCi/g Th, NOT SUBTRACTED.

SAMPLES TAKEN ON 5 METER X 5 METER GRID.

LEGEND

- URANIUM
1 - 29 pCi/g
- URANIUM
30 - 89 pCi/g
- URANIUM
> 90 pCi/g
- THORIUM
> 5 pCi/g
- NO SAMPLE TAKEN -
HIT ROCK



CIMARRON CORPORATION

CIMARRON FACILITY
EAST OF SUBSTATION AREA
PRE-REMEDIATION SOIL SAMPLE RESULTS (1994)
SOIL SAMPLE ALIQUOT: 3'-4'

CLIENT DRAWING NO.

DRWN.
BY JE

DATE
4/5/95

CHKD.
BY KM

DATE
4/6/95

APP'D.
BY JK

SCALE:
AS SHOWN

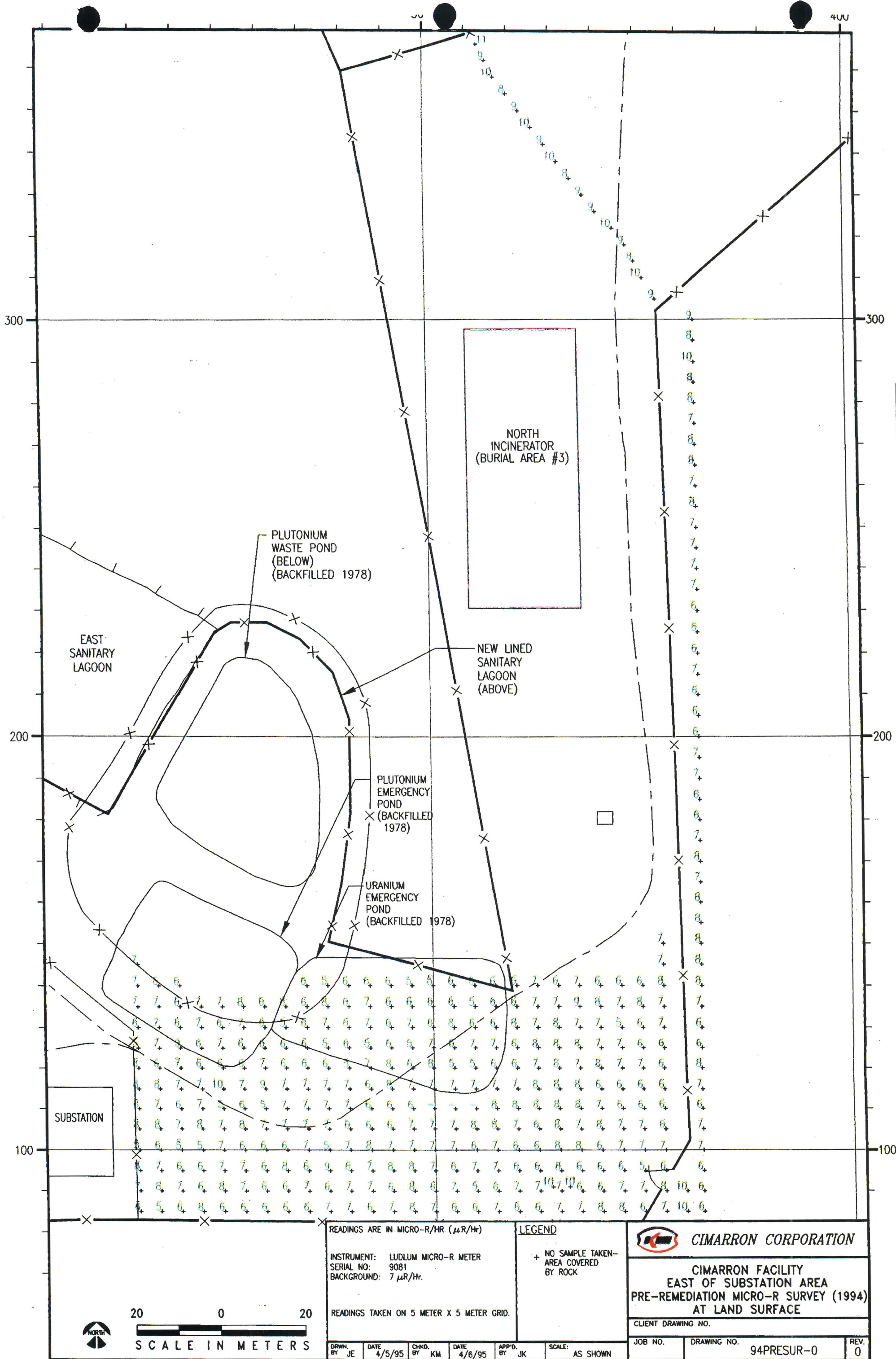
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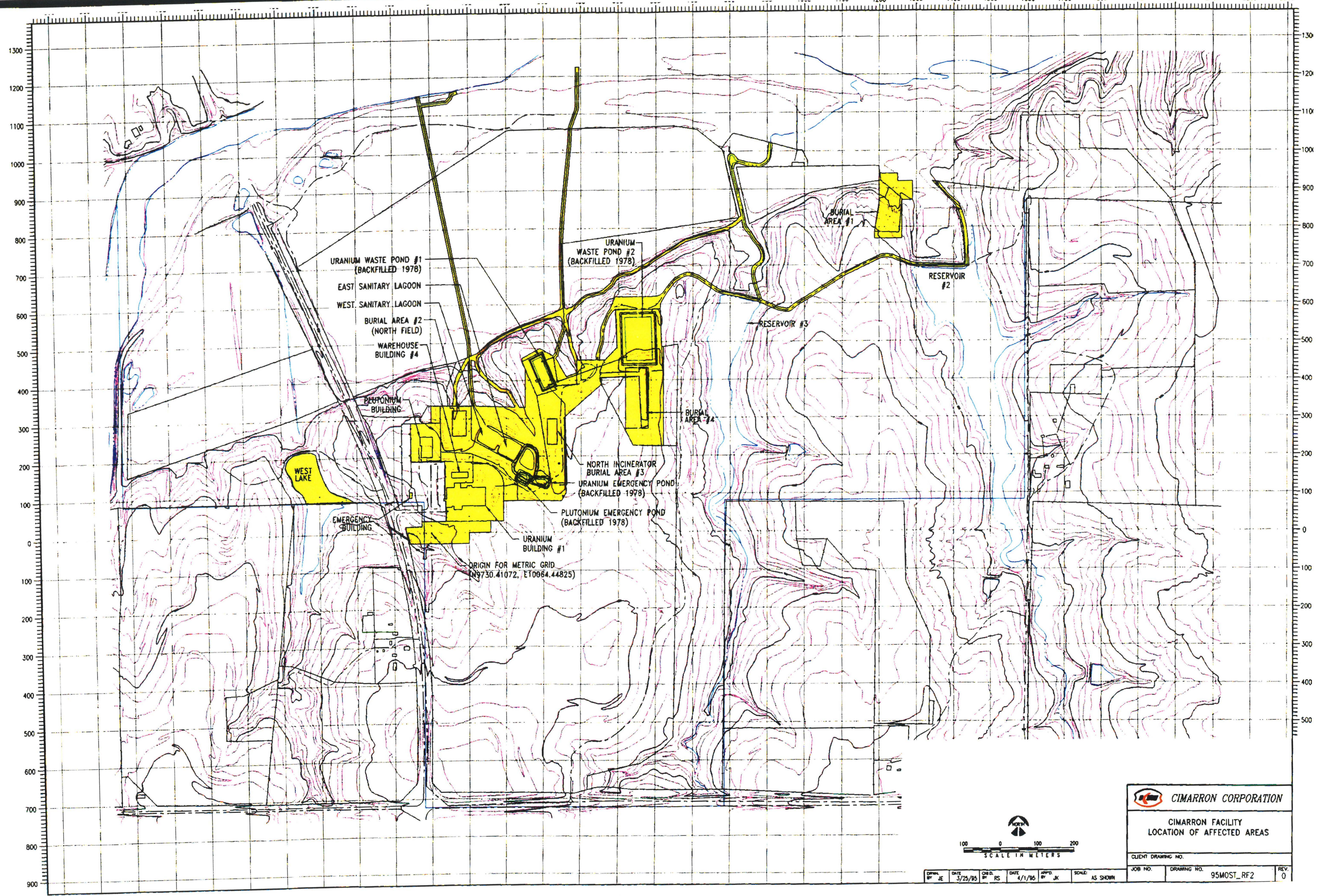
DRAWING NO.


94PRESS-4

REV.
0

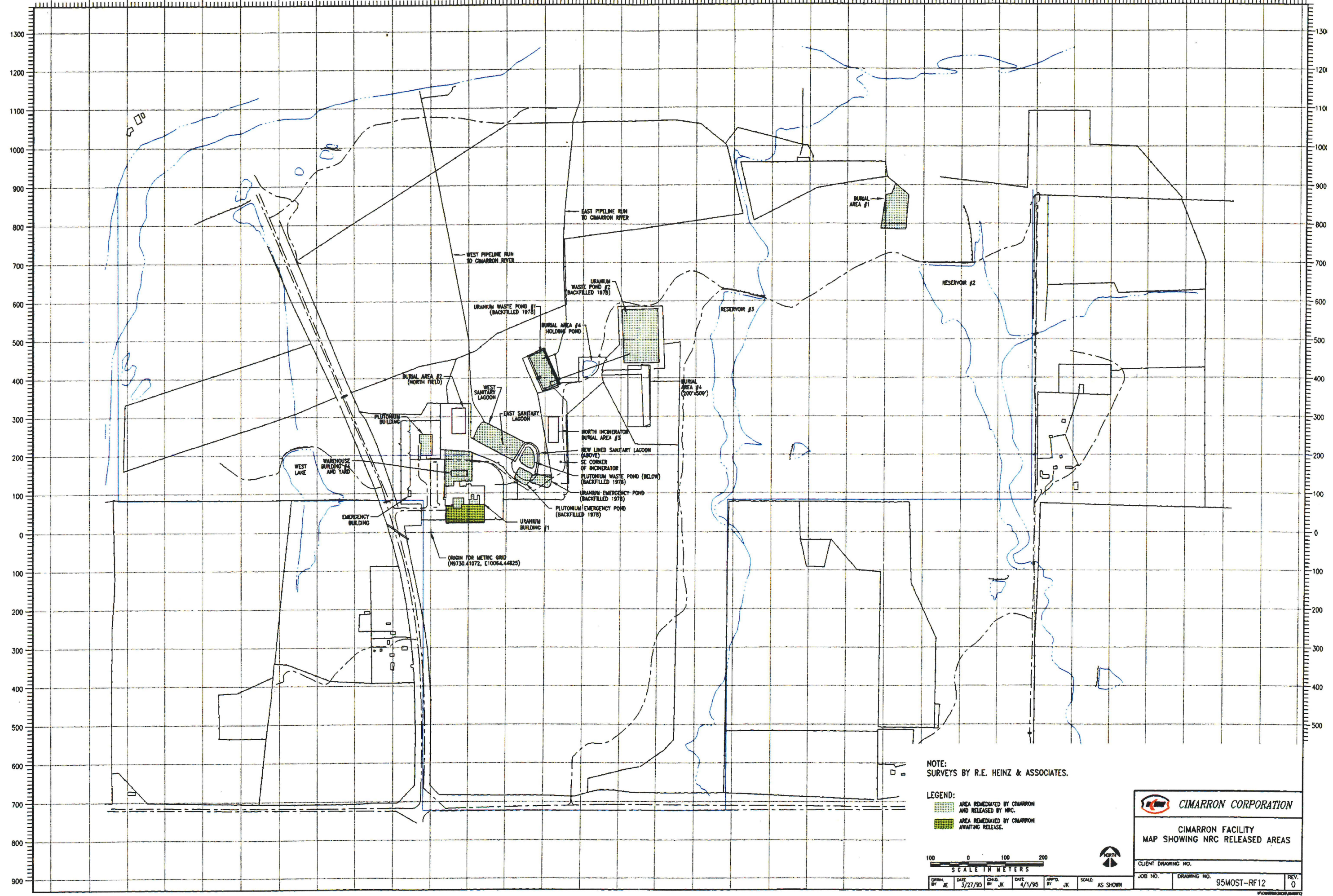
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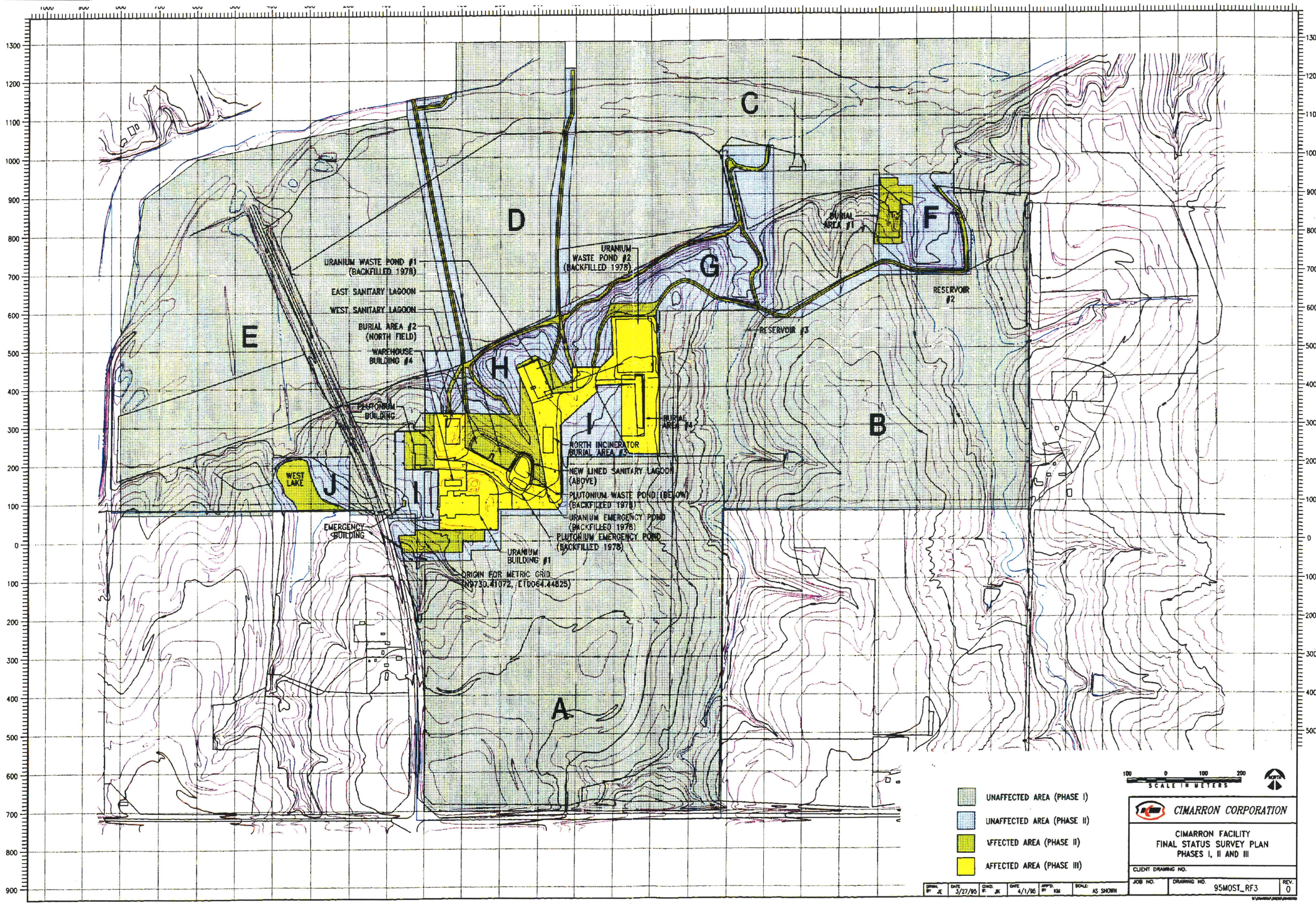




 CIMARRON CORPORATION	
CIMARRON FACILITY LOCATION OF AFFECTED AREAS	
CLIENT DRAWING NO.	
JOB NO.	DRAWING NO.
95M08T_RF2	0

DATE	3/25/95	DATE	4/1/95	SCALE	AS SHOWN
BY	JE	BY	RS		





- UNAFECTED AREA (PHASE I)
- UNAFECTED AREA (PHASE II)
- AFFECTED AREA (PHASE II)
- AFFECTED AREA (PHASE III)

100 0 100 200
SCALE IN METERS

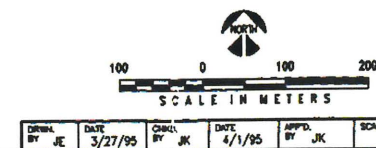
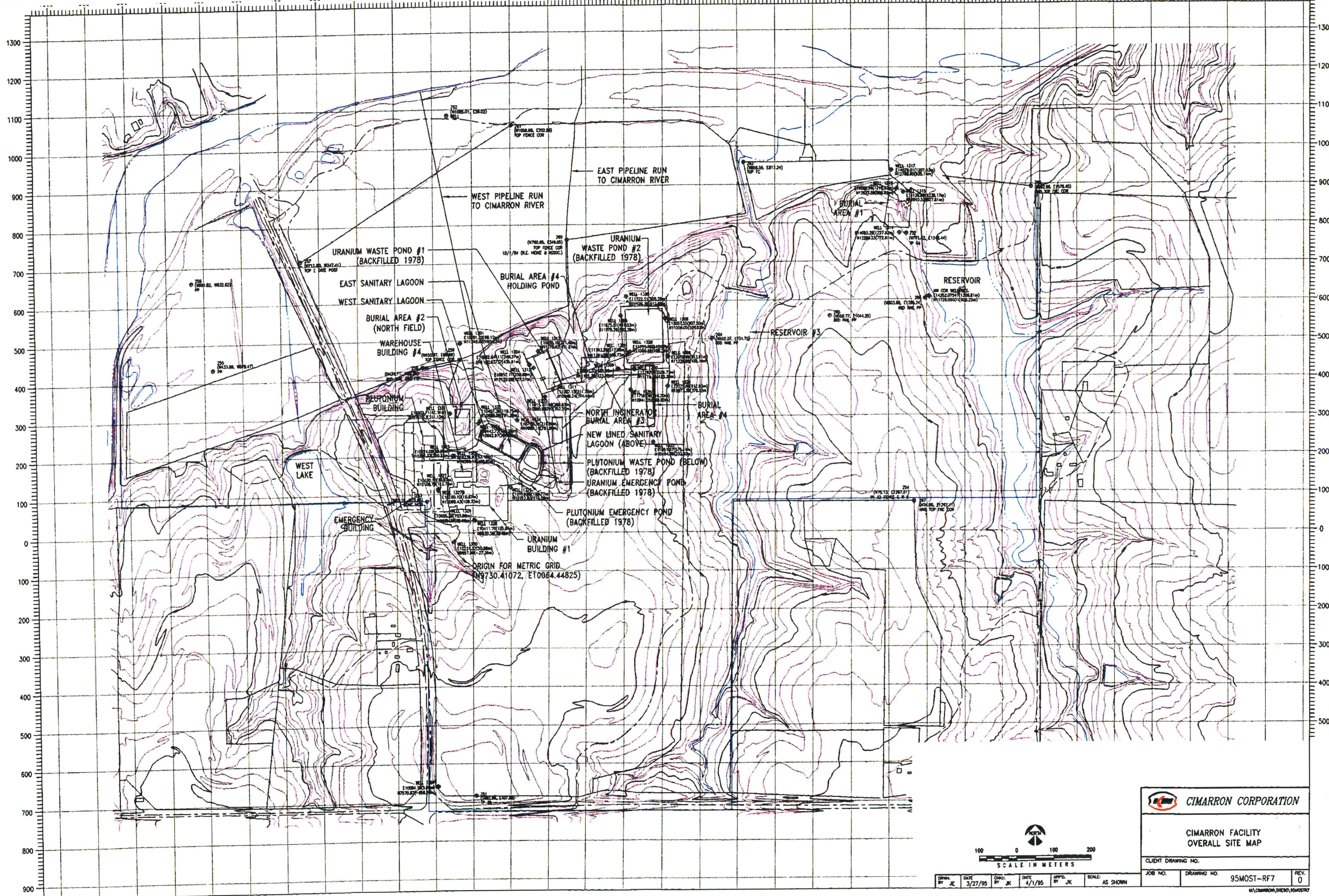
CIMARRON CORPORATION

CIMARRON FACILITY
FINAL STATUS SURVEY PLAN
PHASES I, II AND III

CLIENT DRAWING NO.

JOB NO.	DRAWING NO.	REV.
	95MOST_RF3	0

DRAWN BY: JE DATE: 3/27/95
CHECKED BY: JK DATE: 4/1/95
SCALE: AS SHOWN



CIMARRON CORPORATION

**CIMARRON FACILITY
OVERALL SITE MAP**

CLIENT DRAWING NO. _____

JOB NO. _____	DRAWING NO. 95MOST-RF7	REV. 0
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DATE: 3/27/95
DRAWN BY: JE
CHECKED BY: JK
DATE: 4/1/95
APPROVED BY: JK
SCALE: AS SHOWN

NOT TO SCALE, SEE PLAN