

### 13.0 Uranium Plant Yard

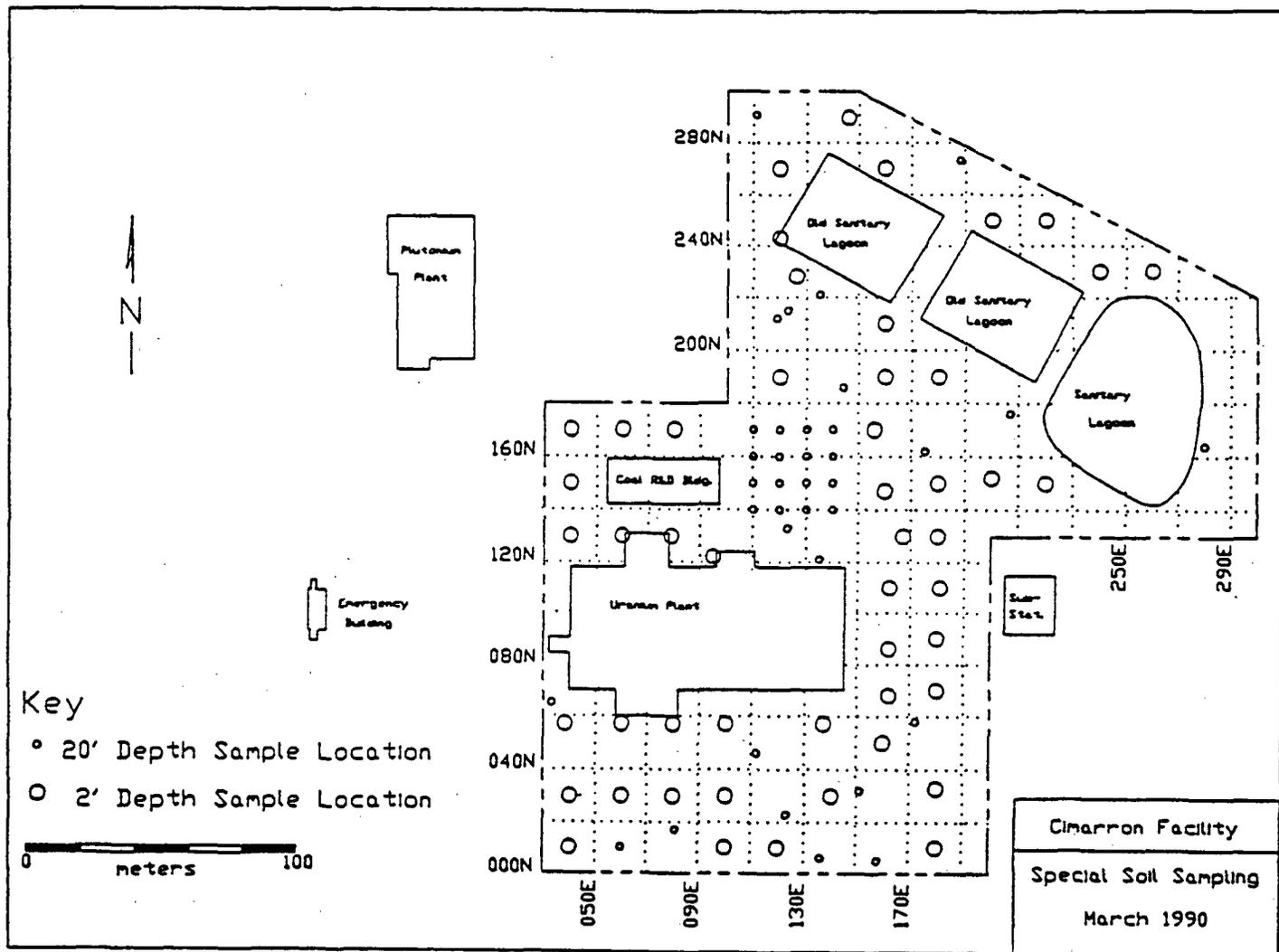
The restricted areas surrounding the Uranium Process Building (Building #1) and Warehouse Building (Building #4) have been extensively characterized and remediated. This area also contains a stockpile of Option #2 material awaiting approval from the NRC for on-site disposal. For this Characterization Report, the uranium plant yard has been segregated into four separate sections. They are the area north of Building #1 and surrounding Building #4, the area south of Building #1, the area east of Building #1, and the parking area west of Building #1. Stockpiles of Option #2 materials are contained in areas north and east of Building #1. The general layout of the uranium plant yard is shown on Figure 14.1 (included with Section 14.0).

The restricted yard area surrounding Building #1 was originally included in the Micro-R survey of the entire site which was conducted in 1979. The survey results have been placed on Drawing No. 79PRSBUR-0. This drawing is included as an attachment to Section 6.0. This survey showed numerous locations in the Uranium Plant Yard area with surface readings exceeding 30 uR/hr. Subsurface characterization and decommissioning work was initiated in this area and has continued up through the present.

#### A. Characterization Data (Restricted Area North of Uranium Building / Warehouse Building Yard):

A random soil sampling program was undertaken in late 1989, with analysis completed by February 1, 1990, by Cimarron personnel within the restricted area and around the three sanitary lagoons. The purpose of this sampling program was twofold: (1) to determine the extent of shallow surface soil contamination and (2) to determine the depth of soil contamination. The soil sampling program was completed with corings taken from 0 to 2 ft. and from 0 to 20 ft. and allowed Cimarron personnel to more accurately determine the volume of contaminated soil in this area. These sampling locations are shown on Figure 13.1. The soil data for the shallow sampling (0-2 ft.) and deep sampling (0-20 ft.) are shown in Tables 13.1 and 13.2, respectively. The 1990 soil sampling data indicates that, in general, contamination in the yard areas from uranium plant operations was limited to the upper 1 to 4 ft. of surface soils. Additionally, this sampling effort negated an earlier borehole gamma survey completed in 1988 that indicated contamination down to 20 ft. in depth. As a result of 1990 random soil sampling effort, it became obvious that the 1988<sup>14</sup> survey was producing false positives due to in-situ naturally occurring

Figure 13.1



**Table 13.1**  
**Cimarron Facility**  
**March 1990 Soil Sampling Events**  
**Uranium Plant Yard Area**  
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| Location    | Sample Depth | Total Uranium<br>pCi / gram |
|-------------|--------------|-----------------------------|
| 10N - 40E   | 0 - 1'       | 17.97                       |
|             | 1 - 2'       | 17.40                       |
| 10N - 100E  | 0 - 1'       | 14.20                       |
|             | 1 - 2'       | 12.37                       |
| 10N - 120E  | 0 - 1'       | 12.65                       |
|             | 1 - 2'       | 8.67                        |
| 10N - 180E  | 0 - 1'       | 9.17                        |
|             | 1 - 2'       | 7.77                        |
| 30N - 40E   | 0 - 1'       | 12.77                       |
|             | 1 - 2'       | 10.76                       |
| 30N - 60E   | 0 - 1'       | 30.90                       |
|             | 1 - 2'       | 22.39                       |
| 30N - 80E   | 0 - 1'       | 42.61                       |
|             | 1 - 2'       | 12.10                       |
| 30N - 100E  | 0 - 1'       | 53.62                       |
|             | 1 - 2'       | 26.72                       |
| 30N - 140E  | 0 - 1'       | 21.36                       |
|             | 1 - 2'       | 7.46                        |
| 33N - 180E  | 0 - 1'       | 6.10                        |
|             | 1 - 2'       | 6.18                        |
| 57N - 38E   | 0 - 1'       | 14.69                       |
|             | 1 - 2'       | 12.33                       |
| 57N - 60E   | 0 - 1'       | 120.82                      |
|             | 1 - 2'       | 66.47                       |
| 57N - 80E   | 0 - 1'       | 94.19                       |
|             | 1 - 2'       | 95.86                       |
| 57N - 100E  | 0 - 1'       | 28.18                       |
|             | 1 - 2'       | 15.04                       |
| 57N - 137E  | 0 - 1'       | 25.12                       |
|             | 1 - 2'       | 12.53                       |
| 50N - 160E  | 0 - 1'       | 16.93                       |
|             | 1 - 2'       | 12.10                       |
| 68N - 162E  | 0 - 1'       | 20.16                       |
|             | 1 - 2'       | 16.19                       |
| 70N - 180E  | 0 - 1'       | 41.26                       |
|             | 1 - 2'       | 13.09                       |
| 86N - 162e  | 0 - 1'       | 25.34                       |
|             | 1 - 2'       | 14.21                       |
| 90N - 180E  | 0 - 1'       | 47.82                       |
|             | 1 - 2'       | 29.58                       |
| 110N - 162E | 0 - 1'       | 39.07                       |
|             | 1 - 2'       | 24.76                       |
| 110N - 181E | 0 - 1'       | 41.61                       |
|             | 1 - 2'       | 31.43                       |
| 130N - 40E  | 0 - 1'       | 23.91                       |
|             | 1 - 2'       | 15.80                       |
| 130N - 60E  | 1 - 2'       | 30.95                       |
|             | 2 - 3'       | 21.33                       |

**Table 13.1**  
**Cimarron Facility**  
**March 1990 Soil Sampling Events**  
**Uranium Plant Yard Area**  
**Page 2 of 2**

| Location    | Sample Depth | Total Uranium<br>pCi / gram |
|-------------|--------------|-----------------------------|
| 130N - 79E  | 1 - 2'       | 27.71                       |
|             | 2 - 3'       | 16.68                       |
| 122N - 95E  | 1 - 2'       | 16.02                       |
|             | 2 - 3'       | 10.97                       |
| 130N - 167E | 0 - 1'       | 82.84                       |
|             | 1 - 2'       | 37.96                       |
| 130N - 180E | 0 - 1'       | 40.44                       |
|             | 1 - 2'       | 25.42                       |
| 150N - 40E  | 0 - 1'       | 60.53                       |
|             | 1 - 2'       | 30.60                       |
| 147N - 160E | 0 - 1'       | 34.27                       |
|             | 1 - 2'       | 18.32                       |
| 150N - 180E | 0 - 1'       | 30.79                       |
|             | 1 - 2'       | 19.52                       |
| 152N - 200E | 0 - 1'       | 48.46                       |
|             | 1 - 2'       | 29.63                       |
| 150N - 220E | 0 - 1'       | 6.61                        |
|             | 1 - 2'       | 7.43                        |
| 170N - 40E  | 0 - 1'       | 17.35                       |
|             | 1 - 2'       | 16.96                       |
| 170N - 60E  | 0 - 1'       | 19.62                       |
|             | 1 - 2'       | 14.09                       |
| 170N - 80E  | 0 - 1'       | 23.64                       |
|             | 1 - 2'       | 14.01                       |
| 170N - 156E | 0 - 1'       | 13.62                       |
|             | 1 - 2'       | 11.69                       |
| 190N - 120E | 0 - 1'       | 15.06                       |
|             | 1 - 2'       | 7.87                        |
| 190N - 160E | 0 - 1'       | 7.80                        |
|             | 1 - 2'       | 6.85                        |
| 190N - 180E | 0 - 1'       | 7.17                        |
|             | 1 - 2'       | 6.99                        |
| 210N - 160E | 0 - 1'       | 10.34                       |
|             | 1 - 2'       | 6.64                        |
| 228N - 126E | 0 - 1'       | 13.13                       |
|             | 1 - 2'       | 11.51                       |
| 230N - 240E | 0 - 1'       | 12.02                       |
|             | 1 - 2'       | 12.16                       |
| 230N - 260E | 0 - 1'       | 7.52                        |
|             | 1 - 2'       | 8.17                        |
| 243N 120E   | 0 - 1'       | 11.74                       |
|             | 1 - 2'       | 8.23                        |
| 250N - 200E | 0 - 1'       | 12.18                       |
|             | 1 - 2'       | 10.47                       |
| 250N - 220E | 0 - 1'       | 11.21                       |
|             | 1 - 2'       | 12.54                       |
| 270N - 120E | 0 - 1'       | 11.37                       |
|             | 1 - 2'       | 10.60                       |
| 270N - 160E | 0 - 1'       | 16.13                       |
|             | 1 - 2'       | 10.37                       |
| 290N - 146E | 0 - 1'       | 13.43                       |
|             | 1 - 2'       | 11.15                       |

table131

Table 13.2  
Cimarron Facility - Gamma Spec. Analysis  
Uranium Activity, pCi/g

| GRID LOCATION | SAMPLING DEPTHS |        |      |      |            |       |        |        |        |        |            |
|---------------|-----------------|--------|------|------|------------|-------|--------|--------|--------|--------|------------|
|               | 0 - 1'          | 1 - 2' | 3-4' | 5-6' | 7-8'       | 9-10' | 11-12' | 13-14' | 15-16' | 17-18' | 19-20'     |
| 170N, 110E    | 25              | 51     | 13   | 18   | 20         | 22    | 7.4    | 16     | 12     | 13     | 13         |
| 160N, 110E    | 29              | 13     | 11   | 10   | 11         | 9     | 13     | 3      | 13     | 13     | 12         |
| 150N, 110E    | 81              | 13     | 11   | 8.2  | 11         | 10    | 14     | 12     | -      | -      | 14         |
| 140N, 110E    | 410             | 37     | 13   | 27   | 16         | 13    | 4      | 15     | 12     | 16     | 13         |
| 170N, 120E    | 28              | 20     | 20   | 9.4  | 12         | 15    | 14     | 25     | 12     | 5.2    | 11         |
| 160N, 120E    | 46              | 110    | 13   | 23   | 13         | 23    | 23     | 22     | 73     | 12     | 12         |
| 150N, 120E    | 39              | 17     | 11   | 5.6  | 9.1        | 11    | 12     | 16     | 14     | 11     | 12         |
| 140N, 120E    | 180             | 120    | 11   | 8.1  | 7.4        | 16    | 20     | 25     | 13     | 15     | 12         |
| 170N, 130E    | 12              | 17     | 14   | 10   | 13         | 11    | 13     | 11     | 15     | 26     | 13         |
| 160N, 130E    | 20              | 15     | 18   | 30   | 19         | 15    | 11     | 87     | 13     | 14     | 11         |
| 150N, 130E    | 27              | 18     | 12   | 5.6  | 8.0        | 16    | 21     | -      | 13     | 14     | 12         |
| 140N, 130E    | 79              | 51     | 20   | 17   | 17         | 15    | 13     | 14     | 9.8    | 13     | 13         |
| 170N, 140E    | 21              | 61     | 5.3  | 18   | 21(10-11') | 16    | 14     | 12     | 11     | 11     | 17(16-17') |
| 160N, 140E    | 15              | 27     | 16   | 21   | 14         | 28    | 63     | 7.1    | 15     | 13     | 14         |
| 150N, 140E    | 51              | 7.1    | 13   | 14   | 16         | 26    | 22     | 13     | 13     | 11     | 6.4        |
| 140N, 140E    | 29              | 17     | 14   | 16   | 14         | 15    | 14     | 5.0    | 22     | 15     | 14         |
| 273N, 188E    | 11              | 17     | 15   | 23   | 12         | 7.4   | 12     | 18     | 11     | 8.3    | 7.1        |
| 133N, 123E    | 332             | 120    | 7.3  | 12   | 14         | 6.7   | 18     | 9.4    | 11     | 13     | 13         |
| 46N, 112E     | 60              | 15     | 11   | 8.4  | 12         | 9.3   | 9.8    | 8.1    | 14     | -      | -          |
| 17N, 81E      | 21              | 13     | 14   | 11   | 8.6        | 4     | 20     | 13     | 12     | 11     | 11         |
| 215N, 123E    | 23              | 15     | 12   | 15   | 13         | 13    | 14     | 16     | 15     | 9.2    | 10.4       |
| 23N, 123E     | 53              | 16     | 10   | 8.1  | 3.3        | 5.7   | 9.1    | 6.9    | 5.8    | 8.5    | 11         |
| 212N, 119E    | 9.9             | 33     | 10   | 11   | 17         | 13    | 12     | 12     | 15     | 15     | 13         |
| 176N, 207E    | 15              | 17     | 9.9  | 13   | 12         | 12    | 9.7    | 13     | 15     | 12     | 11         |
| 58N, 172E     | 134             | 36     | 19   | 16   | 12         | 14    | 16     | 4.4    | 20     | 12     | 9.3        |
| 65N, 33E      | 13              | 15     | 12   | 15   | 24         | 10    | 10     | 15     | 16     | 13     | 8.6        |
| 291N, 111E    | 24              | 22     | 16   | 15   | 6.8        | 9.2   | 3.1    | 6.9    | 9.2    | 9.2    | 13         |
| 32N, 151E     | 11              | 22     | 33   | 14   | 22         | 6.3   | 5.2    | 14     | 6.4    | 6.9    | 9.6        |
| 164N, 280E    | 16              | 16     | 11   | 11   | 13         | 11    | 9.8    | 20     | 19     | 11     | 6.7        |
| 6N, 136E      | 21              | 12     | 16   | 9.1  | 20         | 7.5   | 13     | 7.5    | 7.7    | 6.4    | 13         |
| 10N, 60E      | 7.5             | 14     | 13   | 7.2  | 10         | 33    | 16     | 14     | 8.3    | 10     | 15         |
| 221N, 135E    | 24              | 15     | 17   | 22   | 12         | 12    | 22     | 16     | 18     | 13     | 15         |
| 186N, 144E    | 18              | 37     | 8    | 14   | 12         | 22    | 12     | 12     | 19     | 18     | 15         |
| 162N, 175E    | 30              | 42     | 12   | 13   | 29         | 24    | 14     | 16     | 20     | 8.7    | 14         |
| 121N, 135E    | 15              | 23     | 12   | 15   | 13         | 12    | 13     | 13     | 7.5    | 8.9    | 9.8        |
| 5N, 158E      | 25              | 14     | 11   | 8.9  | 6.3        | 10    | 7.7    | 5.2    | 6.3    | 9.0    | 13         |

radionuclides. This data, presented in Table 13.2, was submitted to the NRC by letter from J. C. Stauter to Mr. Glen L. Sjoblom.<sup>15</sup>

Additionally, ORAU in 1988 collected soil samples from 19 boreholes around the site in potentially contaminated areas. As noted by the NRC<sup>16</sup>, there appears to be little evidence of subsurface radioactive contamination." Maximum sample depth was 25 feet.

In order to further characterize this area, in 1993 an extensive soil sampling program was completed on a 5m x 5m grid at depths of 0 to 4 ft. The soil sampling data is shown on Drawings No. 93PRCWSS-1 through 93PRCWSS-4. Based upon this characterization, the uranium plant yard north of the Uranium Building (Building #1) was remediated. Both Option #2 and #4 soils were removed from this area. Option #2 soil was placed in the stockpile for on-site disposal. Option #4 soil was packaged and shipped off site for disposal.

Soil sampling was performed after remediation of this area. This sampling indicated several areas that required further remediation. Resampling of this area was completed after additional contaminated soil was removed. Soil sampling was performed at a depth of 0 to 6 in. on a 10m x 10m grid prior to backfill. These data have been placed on Drawing No. 93POCWSS-0. Also, a gamma survey was performed prior to backfill. These data were placed on Drawing No. 93POCW3D-0. Verbal permission was received by Cimarron personnel from the NRC to backfill the area around Building #4 in 1993. After backfilling, the surface soil was sampled and final surveys were completed. The data from the gamma survey performed after backfill are shown on Drawing No. 93FICW3D-0. The data from the Micro-R survey performed at the surface and at one meter are shown on Drawings No. 93FICWUR-0 and 93FICWUR-1. The data from the soil sampling are shown on Drawing No. 93FICWSS-0.

The soil samples taken prior to and during remediation were analyzed at the Cimarron facility laboratory. The Option #2 soil that was removed from this area was placed in the stockpile area.

**B. Characterization Data (Restricted Area South of Uranium Building #1):**

This area contained the UF<sub>6</sub> Receiving Area (Vaporizer Room), Tank Storage Building (#2), Solvent Extraction Building (#3), Liquid

Storage Area and UF<sub>6</sub> Storage Area. Cimarron License SNM-928, Amendment #8, was issued January 5, 1990 to allow Cimarron to remove a portion of the inner control fence south of the Uranium Building for remediation of this area. The outer fence is still in place.

This area was included in the random soil sampling program undertaken in March, 1990. Both shallow corings (0 to 2 ft.) and deep corings (0 to 20 ft.) were performed with composite soil samples collected at one-foot intervals. The analytical data are included in Table 13.1 and Table 13.2. Data indicated elevated concentrations of uranium in the upper two feet of the soil.

In 1993, additional soil sampling was performed on a 5m x 5m grid. Samples were collected down to 4 ft., composited and analyzed for total uranium. The results of this sampling program are shown on Drawings No. 93PRSUSS-0 through 93PRSUSS-4. The sample results showed numerous areas requiring remediation. Remediation of this area was completed in 1994 with final surface soil sampling analytical results plotted on Drawing No. 94POSUSS-0. Also, surface surveys were completed and are shown on Drawings No. 94POSU3D-0, 94POSUUR-0 and 94POSUUR-1.

With the removal of the concrete floor in the Vaporizer Room, extensive soil sampling of this area was undertaken by Cimarron between May and July, 1992. The sampling was performed on a 2m x 2m grid at depths of from 0 to 2 feet with several samples taken down to 8 feet. The soil samples were composited at one-foot intervals and analyzed for total Uranium in the facility laboratory. The analytical results for the 0-1 ft. and 1-2 ft. sample aliquot are shown on Drawings No. 92PRVRSS-1 and -2. A total of 200 samples were collected and analyzed. The samples varied from near-background levels to 364 pCi/g, with the average activity being 41.7 pCi/g.

In 1994, after remediation of the area beneath the vaporizer room, soil samples were collected and analyzed for total uranium to verify that sufficient soil had been removed (i.e. to within Option #1 limits). Also, during this same period, a survey was performed using a lead-shielded 3 inch x 0.5 inch NaI detector and a Micro-R meter. The soil sampling results, survey readings, and Micro-R readings are shown on Drawings No. 94POVRSS-0, 94POVR3D-0, 94POVRUR-0 and 94POVRUR-1.

The Uranium Tank Storage Building (Building #2) area experienced several spills during the operating history of the Uranium Plant. Tank overflows in the building caused two liquid releases for which the NRC was notified. Option #4 soil beneath Building #2 was excavated in 1990 to a depth of approximately 12 ft., with 80,000 ft<sup>3</sup> of material shipped off site for disposal. The Option #4 soil beneath the building that was excavated and shipped off site for disposal showed uranium concentrations up to 1,600 pCi/g. The average uranium concentration in the soil samples was 1,000 pCi/g. Soil sampling data at depths collected are shown on Drawing No. 94POB2FSS. Also, the survey data collected for this excavation are shown on Drawings No. 94POB2F3D-0, 94POB2FUR-0, and 94POB2FUR-1. Soil sample data for the side walls of the excavation, and for the wall surveys are shown on Drawings No. 94POB2WSS, 94POB2W3D-0, 94POB2WUR-0 and 94POB2WUR-1. This area has not been backfilled.

Option #4 soil was also removed from beneath the Solvent Extraction Building in 1989. The soil samples had a maximum concentration of 650 pCi/g uranium, with an average concentration of 300 pCi/g. This area has not been backfilled.

C. Characterization Data (Restricted Area East of Uranium Building #1):

This area was included in the random soil sampling program which was completed in March, 1990. The data for this area, the shallow coring data and the deep coring data are included in Tables 13.1 and 13.2. As noted in the tables, shallow soil contamination was detected in several of the corings.

This area contains both of the Option #2 stockpiles, and for this reason, the areas underneath the stockpiles have not been characterized since March, 1990. There is reason to believe that characterization of this area will identify elevated levels of uranium in soil at shallow depths. In addition, the area east of the Uranium Building (near the electrical distribution panel) was utilized for storage of Cushing equipment awaiting disposal in Burial Ground #1. Thorium-contaminated soil has been removed from this area and shipped off site for disposal.

The two stockpiles containing Option #2 materials are awaiting NRC approval for on-site disposal. The soil in the stockpiles has been characterized by surveys and soil sampling. The stockpiles were leveled to approximately 7 to 7-1/2 feet, a 5m x 5m grid was

established, and the soil was cored to a depth of 2 meters. The general location of the two stockpiles is shown on Drawing No. 94MOST-RF1. Samples were collected for every 0.5 meter depth interval, composited, and analyzed at the Cimarron facility laboratory. The soil sample analytical results for the East Stockpile corings are included on Drawings No. 94POEPSS-0.5 through 94POEPSS-2.0. Also, a summary of the analytical data is shown on Drawing No. 94MOEPSS.

Additionally, gamma surveys were taken in the boreholes from the stockpile surface down to 2 meters in depth. This data can be used to compare the gamma survey results in cpm to the soil uranium concentrations in pCi/g. The gamma survey results are shown on Drawings No. 94POEPDP-0.5 through 94 POEPDP-2.0.

The surface of the Eastern Stockpile was surveyed with a Ludlum Model 2220 with a lead-shielded 3 in. x 0.5 in. NaI detector. Background was established and readings were taken on the 5m x 5m grid intersects. These readings are shown on Drawing No. 94POEP3D-0. A Micro-R survey was also performed at the surface and at one meter. These readings are shown on Drawings No. 94POEPUR-0 and 94POEPUR-1.

Similar surveys and soil sampling was performed on the North Stockpile. The soil sampling results are shown on Drawings No. 94PONPSS-0.5 through 94PONPSS-2.0; the soil summary data is shown on Drawing No. 94MONPSS; the bore hole gamma survey results are on Drawings No. 94PONPDP-0.5 through 94PONPDP-2.0; and the surface survey results are shown on Drawings No. 94PONP3D-0, 94PONPUR-0, and 94PONPUR-1.

D. Characterization Data (Restricted Area West of Uranium Building #1):

A gamma survey was completed in 1990 on the parking lot area using a Ludlum Model 2220 with a lead-shielded 3 in. x 0.5 in. NaI detector. This survey identified several areas of contamination as shown on Drawing No. 90PRUY3D-0. This drawing is included as an attachment to Section 8.0. With background established at 1,800 cpm, there were six grid locations that exceeded twice background. Soil sampling conducted in 1990 also included the parking lot. The results of this soil sampling effort are shown on Drawings No. 90PRUYSS-0 through 90PRUYSS-4. These drawings are included as attachments to Section 6.0. All sample

analysis results for the samples taken from the parking lot were within the guideline value for Option #1 material.

E. Characterization Data (South Drainage to Highway 74):

This area was included in the Micro-R survey completed in 1979. The survey results are included on Drawing No. 79PRSBUR-0 which is included as an attachment to Section 6.0. This area was affected by drainage from the Uranium Plant Yard. Additionally, this drainage area was included in the 1990 survey and soil sampling effort that included the area surrounding the Uranium Plant restricted area.

The soil sampling was conducted to a depth of 4 ft. The soil sample results are shown on Drawings No. 90PRSUSS-0 through 90PRSUSS-4. Several surface readings exceeded the Option #1 uranium guideline value (the maximum concentration was 119 pCi/g). The survey results for a gamma survey and two Micro-R surveys completed in 1990 are included on Drawings No. 90PRSU3D-0, 90PRSUUR-0 and 90PRSUUR-1.

F. Environmental Data:

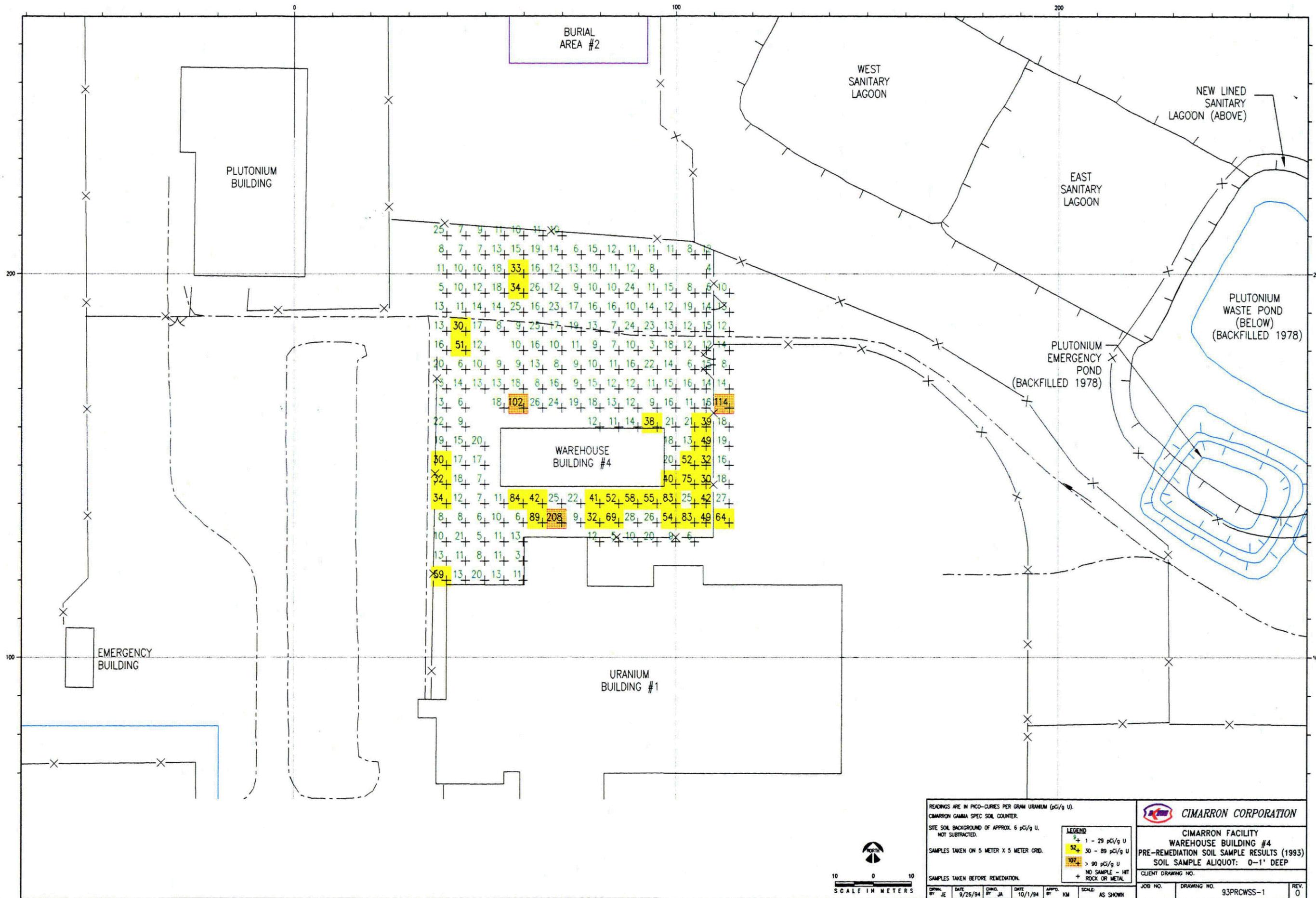
Well sampling data in the vicinity of the Uranium Building (Building #1) are available for well #1319 and #1326 (east of the U Building), well #1327B (west), and wells #1328, #1329, and #1330 located to the south.

Well #1326 had measurable concentrations of gross alpha ranging from 14 pCi/L (March, 1989) to 175 pCi/L (June, 1989). Gross beta concentrations in this well ranged from less than 20 pCi/L to 9,640 pCi/L (June, 1989). Total uranium concentrations in well #1326 ranged from less than 0.005 mg/L to 0.014 mg/L (approximately 21 pCi/L based upon an enrichment of 2.7 weight percent). Neither the gross alpha or the gross beta concentrations in June, 18, 1989 appear to be attributable to the presence of uranium from on-site activities. Recent measurements performed in 1993 and 1994 for gross alpha, gross beta, and total uranium are at levels near the historical lows for this well. However, isotopic measurements for uranium in 1994 do indicate some low-level concentrations (U-234:  $14.3 \pm 2.1$  pCi/L, U-235:  $0.6 \pm 0.3$  pCi/L, U-238:  $6.3 \pm 1.1$  pCi/L).

Gross alpha, gross beta, total uranium, and isotopic activities were less than detectable or near background levels in wells #1319, #1327B, #1329, and #1330 for the years 1989 through 1993.

Well #1328 had low levels of gross alpha ranging from 23 pCi/L to 35 pCi/L. The gross alpha in well #1328 is due to the presence of uranium as verified by isotopic analyses. Gross beta concentrations in this well were all less than detectable.

Soil samples are collected annually at sample location #1402, situated north of the uranium plant, and sample location #1403, south of the uranium plant. Surface soil concentrations of total uranium ranged from less than detectable up to 35  $\mu\text{g/g}$  (approximately 50 pCi/g) at sample location #1402 in 1986. Concentrations in 1993 surface soil samples were less than 3  $\mu\text{g/g}$  at location #1402 and 12  $\mu\text{g/g}$  (17 pCi/g) at sample location #1403. The 1993 values are below the facility release criteria. Subsurface soil sample data were consistent with results obtained for the surface soil samples.



READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROX. 6 pCi/g U.  
 NOT SUBTRACTED.

SAMPLES TAKEN ON 5 METER X 5 METER GRID.

SAMPLES TAKEN BEFORE REMEDIATION.

LEGEND  
 9+ 1 - 29 pCi/g U  
 52+ 30 - 89 pCi/g U  
 107+ > 90 pCi/g U  
 + NO SAMPLE - HIT ROCK OR METAL

SCALE IN METERS

10 0 10

CIMARRON CORPORATION

CIMARRON FACILITY  
 WAREHOUSE BUILDING #4  
 PRE-REMEDIATION SOIL SAMPLE RESULTS (1993)  
 SOIL SAMPLE ALIQUOT: 0-1' DEEP

CLIENT DRAWING NO.

JOB NO. DRAWING NO. 93PRCWS-1 REV. 0

DATE 9/26/94  
 CHECKED BY JA  
 DATE 10/1/94  
 APPROVED BY KM  
 SCALE AS SHOWN



READINGS ARE IN MICRO-CURIES PER GRAM URANIUM (µCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROX. 6 µCi/g U.  
 NOT SUBTRACTED.  
 SAMPLES TAKEN ON 5 METER X 5 METER (RID).  
 SAMPLES TAKEN BEFORE REMEDIATION.

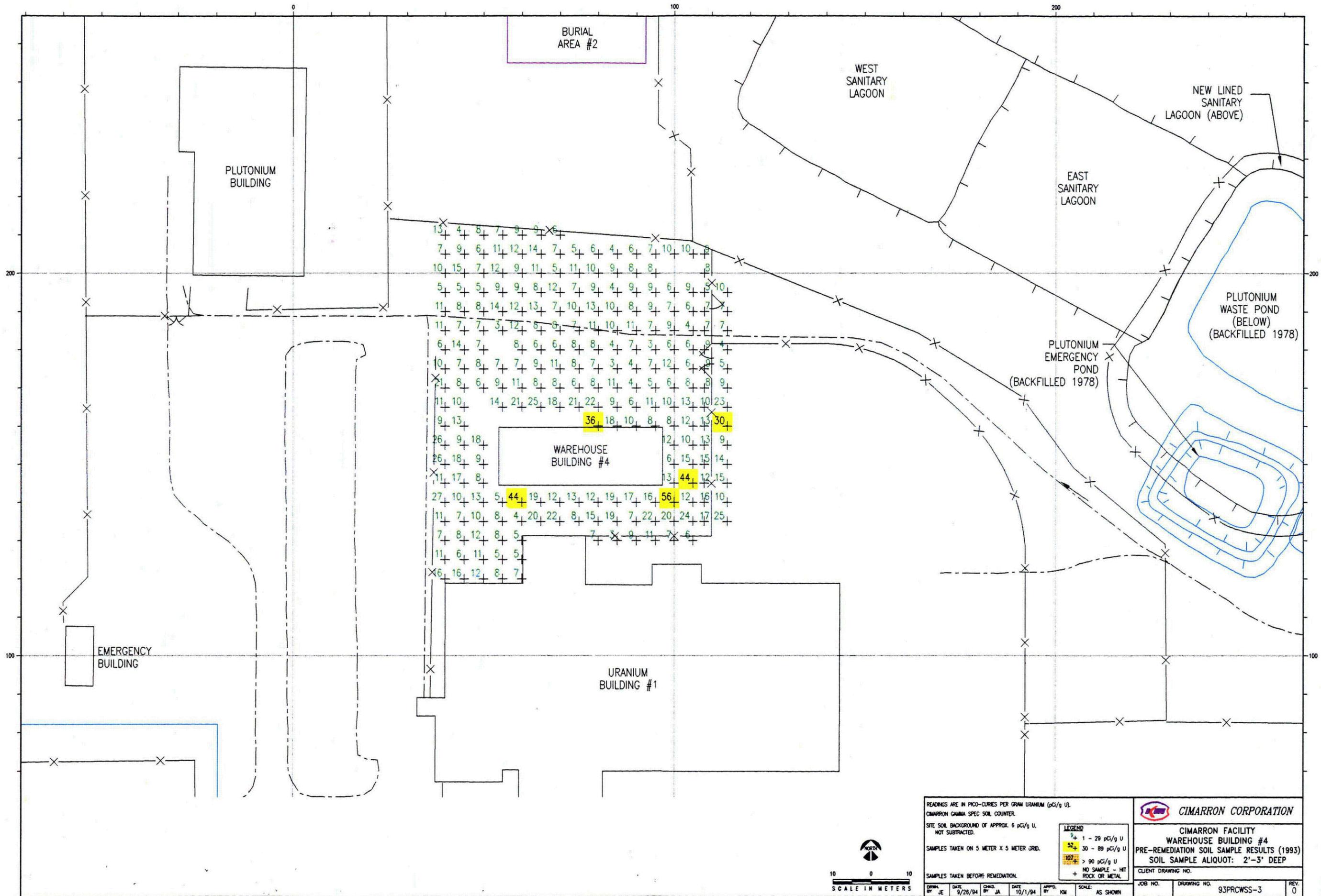
**LEGEND**  
 5+ 1 - 29 µCi/g U  
 52+ 30 - 89 µCi/g U  
 107+ > 90 µCi/g U  
 + NO SAMPLE - HIT ROCK OR METAL



**CIMARRON CORPORATION**

**CIMARRON FACILITY**  
**WAREHOUSE BUILDING #4**  
**PRE-REMEDIATION SOIL SAMPLE RESULTS (1993)**  
**SOIL SAMPLE ALIQUOT: 1'-2' DEEP**

CLIENT DRAWING NO. \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ DRAWING NO. 93PRCWS-2 REV. 0



READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROX. 6 pCi/g U.  
 NOT SUBTRACTED.

SAMPLES TAKEN ON 5 METER X 5 METER GRID.

SAMPLES TAKEN BEFORE REMEDIATION.

ORIGINAL DATE 9/26/94 BY JE  
 CHECKED DATE 10/1/94 BY JA  
 APP'D BY KM  
 SCALE: AS SHOWN

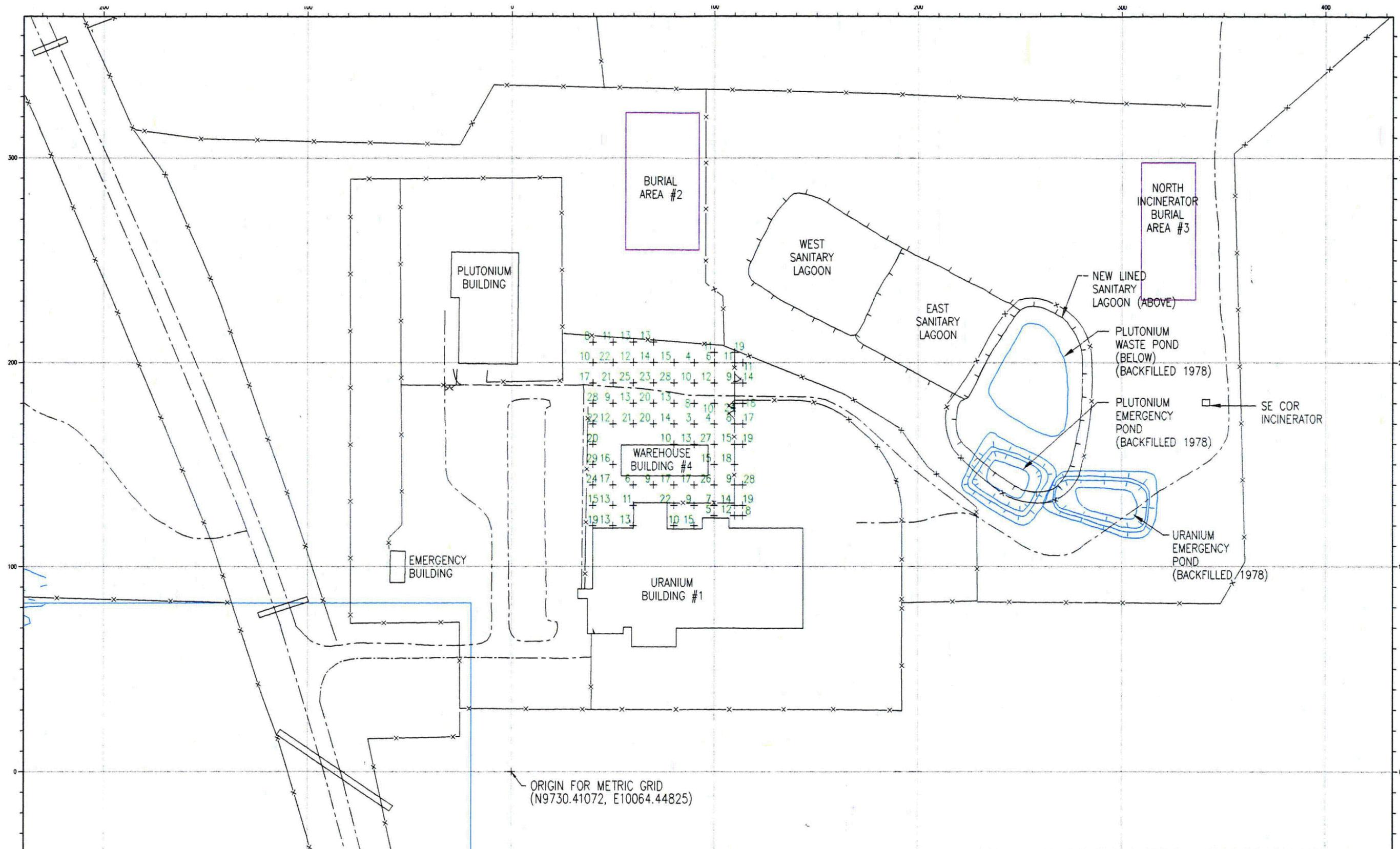
**CIMARRON CORPORATION**

**CIMARRON FACILITY**  
**WAREHOUSE BUILDING #4**  
**PRE-REMEDIATION SOIL SAMPLE RESULTS (1993)**  
**SOIL SAMPLE ALIQUOT: 2"-3" DEEP**

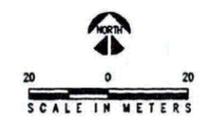
CLIENT DRAWING NO. \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ DRAWING NO. 93PRCWS-3 REV. 0

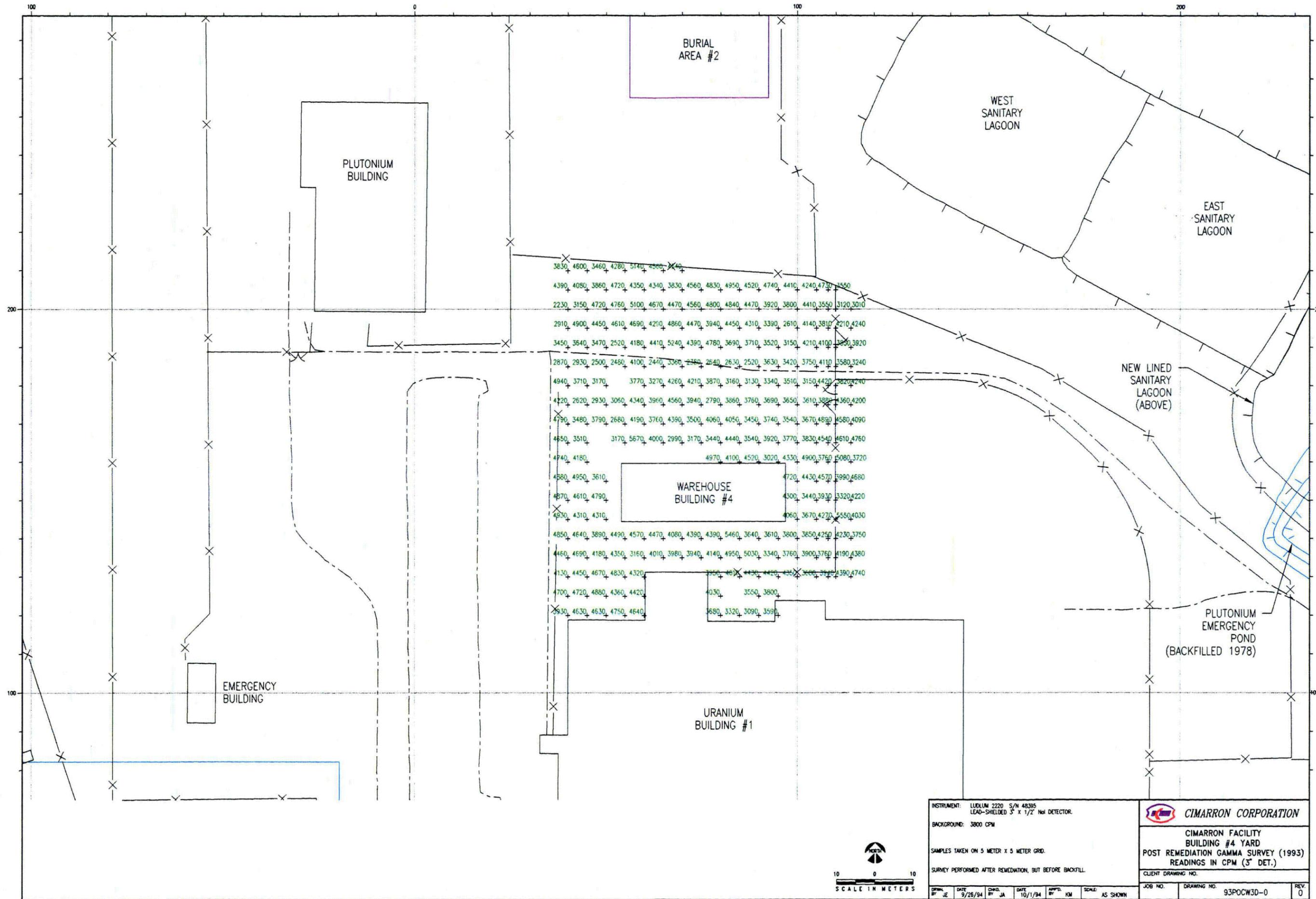






|  |                        |   |
|--|------------------------|---|
| READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).<br>CIMARRON GAMMA SPEC SOIL COUNTER.<br>SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.<br>SAMPLES TAKEN ON 10 METER X 10 METER GRID.<br>SURFACE SAMPLING PERFORMED AFTER REMEDIATION, BUT BEFORE BACKFILL. |                        | <b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>BUILDING #4 YARD<br>POST REMEDIATION SAMPLE RESULTS(1993)<br>SOIL SAMPLE ALIQUOT: 0-6" DEEP<br>CLIENT DRAWING NO. |
| JOB NO.  | DRAWING NO. 93POCWSS-0 |   |
| DESIGNED BY: JE<br>DATE: 9/26/94<br>CHECKED BY: JA<br>DATE: 10/1/94<br>APPROVED BY: KM<br>SCALE: AS SHOWN  |                        |   |



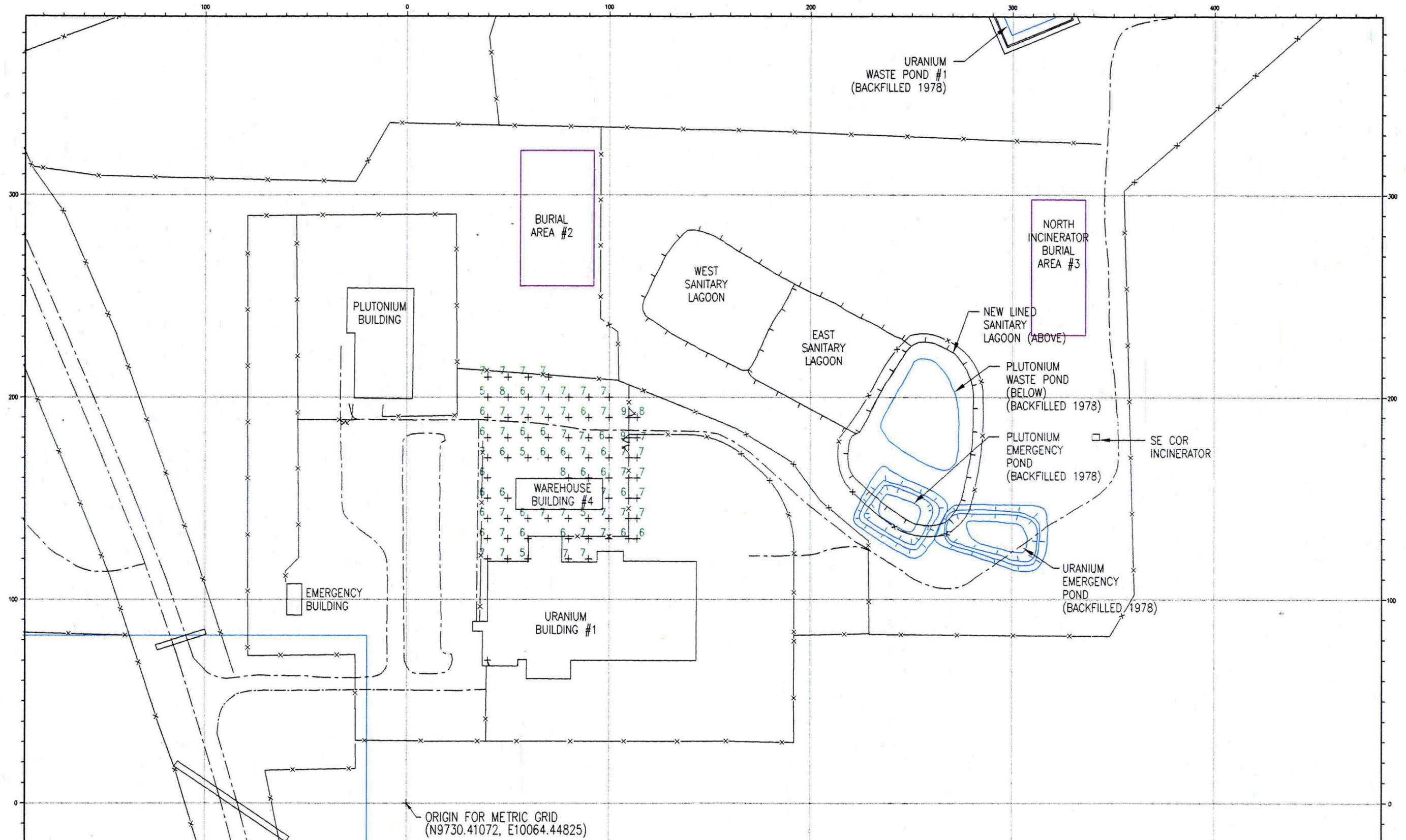


INSTRUMENT: LUDLUM 2220 S/N 48395  
LEAD-SHIELDED 3" X 1 1/2" NaI DETECTOR.  
BACKGROUND: 3800 CPM  
SAMPLES TAKEN ON 5 METER X 5 METER GRID.  
SURVEY PERFORMED AFTER REMEDIATION, BUT BEFORE BACKFILL.

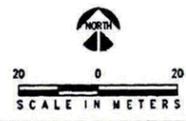
**CIMARRON CORPORATION**  
CIMARRON FACILITY  
BUILDING #4 YARD  
POST REMEDIATION GAMMA SURVEY (1993)  
READINGS IN CPM (3" DET.)  
CLIENT DRAWING NO. 93POCW3D-0  
JOB NO. DRAWING NO. 93POCW3D-0 REV. 0







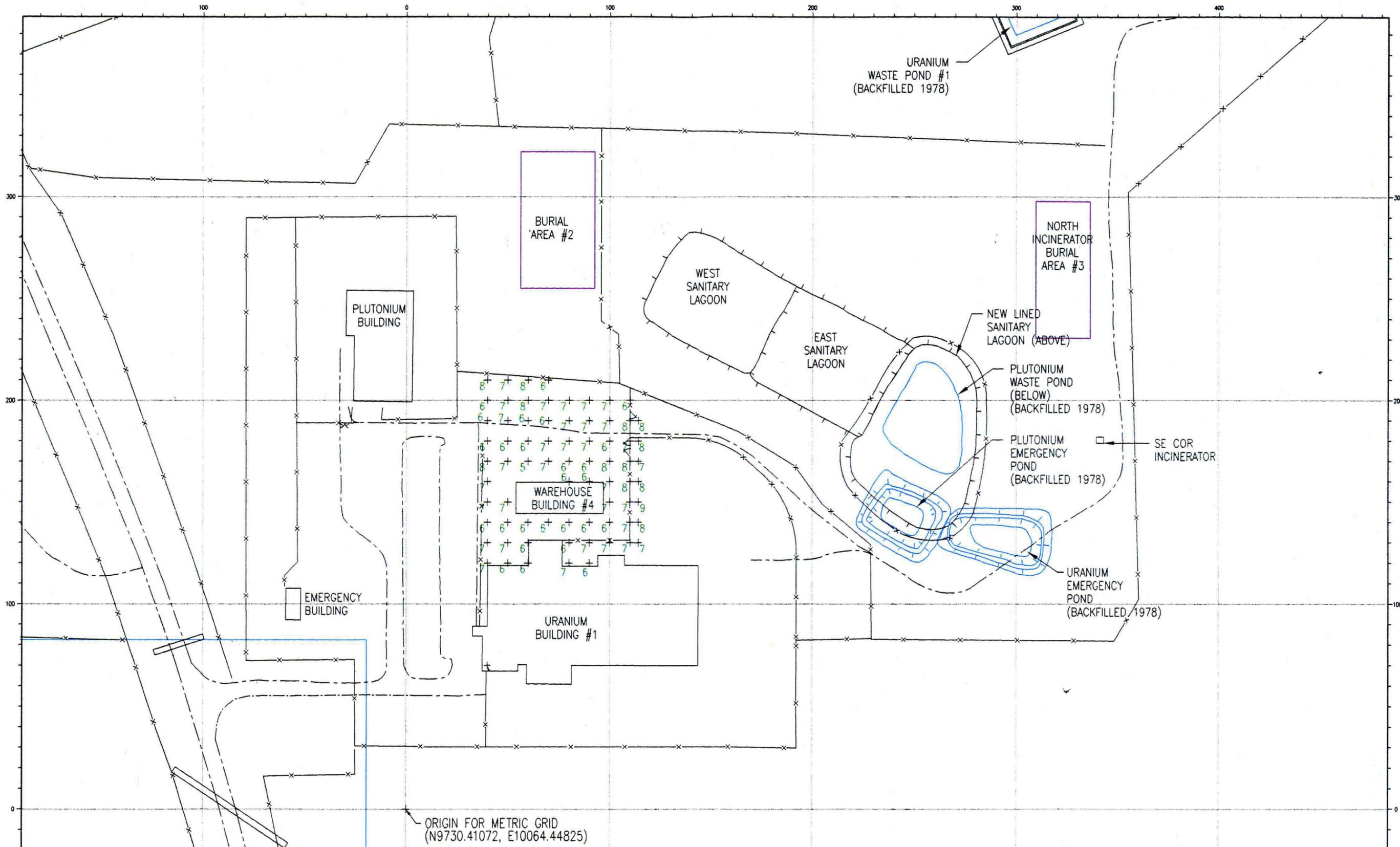
ORIGIN FOR METRIC GRID  
(N9730.41072, E10064.44825)



READINGS ARE IN MICRO-R/H (μR/H).  
 INSTRUMENT: LUDLUM MICRO-R METER.  
 MODEL NO: 19  
 SERIAL NO: 75544  
 BACKGROUND: 7 MICRO-R/H., NOT SUBTRACTED.  
 READINGS TAKEN ON A 10 METER BY 10 METER GRID.  
 READINGS TAKEN AFTER REMEDIATION AND BACKFILL.

|   |                        |
|---|------------------------|
|   |                        |
| CIMARRON FACILITY<br>BUILDING #4 YARD<br>FINAL MICRO-R SURVEY (1993)<br>AT LAND SURFACE |                        |
| CLIENT DRAWING NO.  |                        |
| JOB NO.   | DRAWING NO. 93FICWUR-0 |
| REV. 0  |                        |

|   |
|---|
| DESIGNED BY: JE<br>DATE: 9/28/94<br>CHECKED BY: JA<br>DATE: 10/1/94<br>APPROVED BY: KM<br>SCALE: AS SHOWN |
|---|



|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 7 | 8 | 6 |   |   |   |   |   |   |
| 6 | 7 | 8 | 7 | 7 | 7 | 7 | 6 |   |   |
| 6 | 7 | 6 | 6 | 7 | 7 | 7 | 8 | 8 |   |
| 6 | 6 | 6 | 7 | 7 | 6 | 6 | 8 | 8 | 7 |
| 8 | 7 | 5 | 7 | 6 | 6 | 6 | 8 | 8 | 7 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 8 |   |
| 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |   |
| 7 | 6 | 6 | 7 | 6 |   |   |   |   |   |
| 6 | 6 |   |   |   |   |   |   |   |   |



READINGS ARE IN MICRO-R/H (μR/H)

INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 19  
 SERIAL NO: 75544  
 BACKGROUND: 7 MICRO-R/H, NOT SUBTRACTED

READINGS TAKEN ON A 10 METER BY 10 METER GRID

READINGS TAKEN AFTER REMEDIATION AND BACKFILL

DRAWN BY: JE DATE: 9/28/94 CHD BY: JA DATE: 10/1/94 APP'D BY: KM SCALE: AS SHOWN

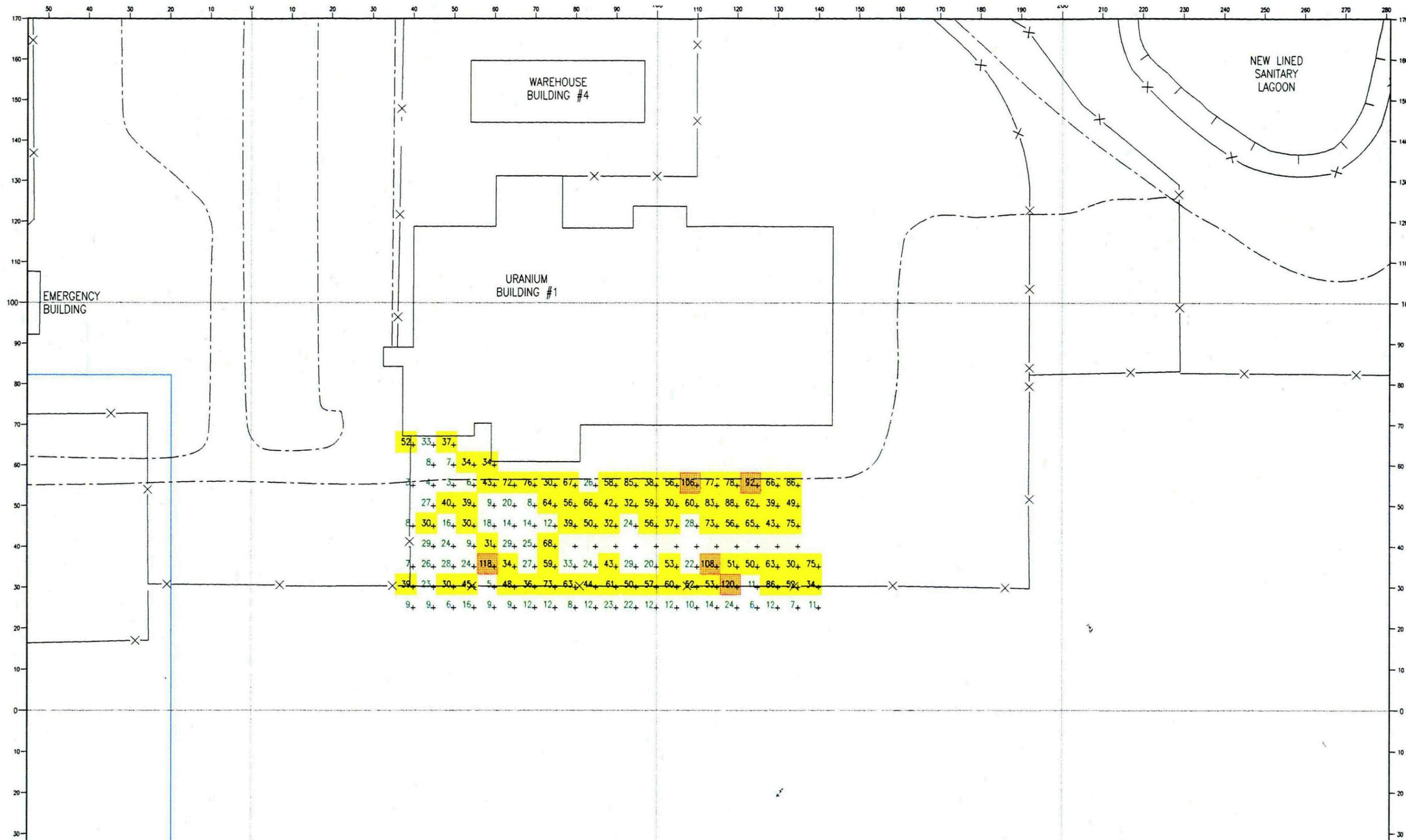
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 BUILDING #4 YARD  
 FINAL MICRO-R SURVEY (1993)  
 AT ONE METER ABOVE SURFACE

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 93FICWUR-1  | 0    |





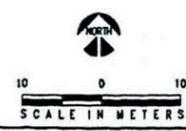
READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 5 METER X 5 METER GRID.

| LEGEND |   |
|--------|---|
| 6+     | 1 - 29 pCi/g                                    |
| 54+    | 30 - 89 pCi/g                                   |
| 128+   | 90 - 250 pCi/g                                  |
| 527+   | > 251 pCi/g                                     |
| X      | NO SAMPLE - STOCKPILE AREA OR HIT ROCK OR METAL |

**CIMARRON CORPORATION**  
 CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 PRE-REMEDIATION SOIL SAMPLE RESULTS (1993)  
 SOIL SAMPLE ALIQUOT: 0-6" DEEP

CLIENT DRAWING NO. \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ DRAWING NO. 93PRSUSS-0 REV. 0

DRWN. BY: JE DATE: 9/14/94 CHKD. BY: JA DATE: 10/1/94 APP'D. BY: KM SCALE: AS SHOWN













|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 15+ | 13+ | 19+ | 16+ | 9+  | 7+  | 10+ | 9+  | 19+ | 10+ | 26+ | 13+ | 9+  |     |     |     |     |     |     |     |     |     |
| 19+ | 28+ | 11+ | 9+  | 8+  | 27+ | 10+ | 18+ | 19+ | 20+ | 13+ | 17+ | 22+ |     |     |     |     |     |     |     |     |     |
| 1+  | 25+ | 3+  | 7+  | 16+ | 13+ | 5+  | 13+ | 28+ | 9+  | 15+ | 25+ | 18+ | 17+ | 16+ | 16+ | 17+ | 21+ |     |     |     |     |
| 19+ | 5+  | 1+  | 20+ | 9+  | 1+  | 8+  | 10+ | 1+  | 16+ | 23+ | 9+  | 24+ | 18+ | 12+ | 12+ | 4+  | 5+  | 23+ | 27+ | 2+  | 24+ |
| 28+ | 16+ | 29+ | 7+  | 11+ | 17+ | 15+ | 23+ | 15+ | 20+ | 20+ | 23+ | 8+  | 12+ | 13+ | 29+ | 10+ | 5+  | 53+ | 22+ | 8+  | 29+ |
| 10+ | 15+ | 10+ | 14+ | 12+ | 11+ | 11+ | 20+ | 19+ | 22+ | 18+ | 24+ | 21+ | 7+  | 19+ | 20+ | 10+ | 23+ | 13+ | 23+ |     |     |
| 18+ | 19+ | 9+  | 7+  | 16+ | 15+ | 16+ | 17+ | 17+ | 21+ | 16+ | 30+ | 22+ | 8+  | 21+ | 27+ | 10+ | 20+ | 14+ |     |     |     |
| 6+  | 13+ | 24+ | 4+  | 19+ | 8+  | 12+ | 13+ | 14+ | 7+  | 14+ | 23+ | 8+  | 23+ | 14+ | 10+ | 12+ | 28+ |     |     |     |     |
| 29+ | 17+ | 25+ | 24+ | 8+  | 17+ | 16+ | 10+ | 10+ | 14+ | 21+ | 11+ | 9+  | 13+ | 11+ | 20+ | 16+ | 10+ | 8+  | 25+ |     |     |
| 8+  | 20+ | 14+ | 9+  | 10+ | 9+  | 13+ | 4+  | 13+ | 12+ | 11+ | 12+ | 5+  | 8+  | 11+ | 15+ | 6+  | 5+  | 13+ | 11+ | 15+ |     |

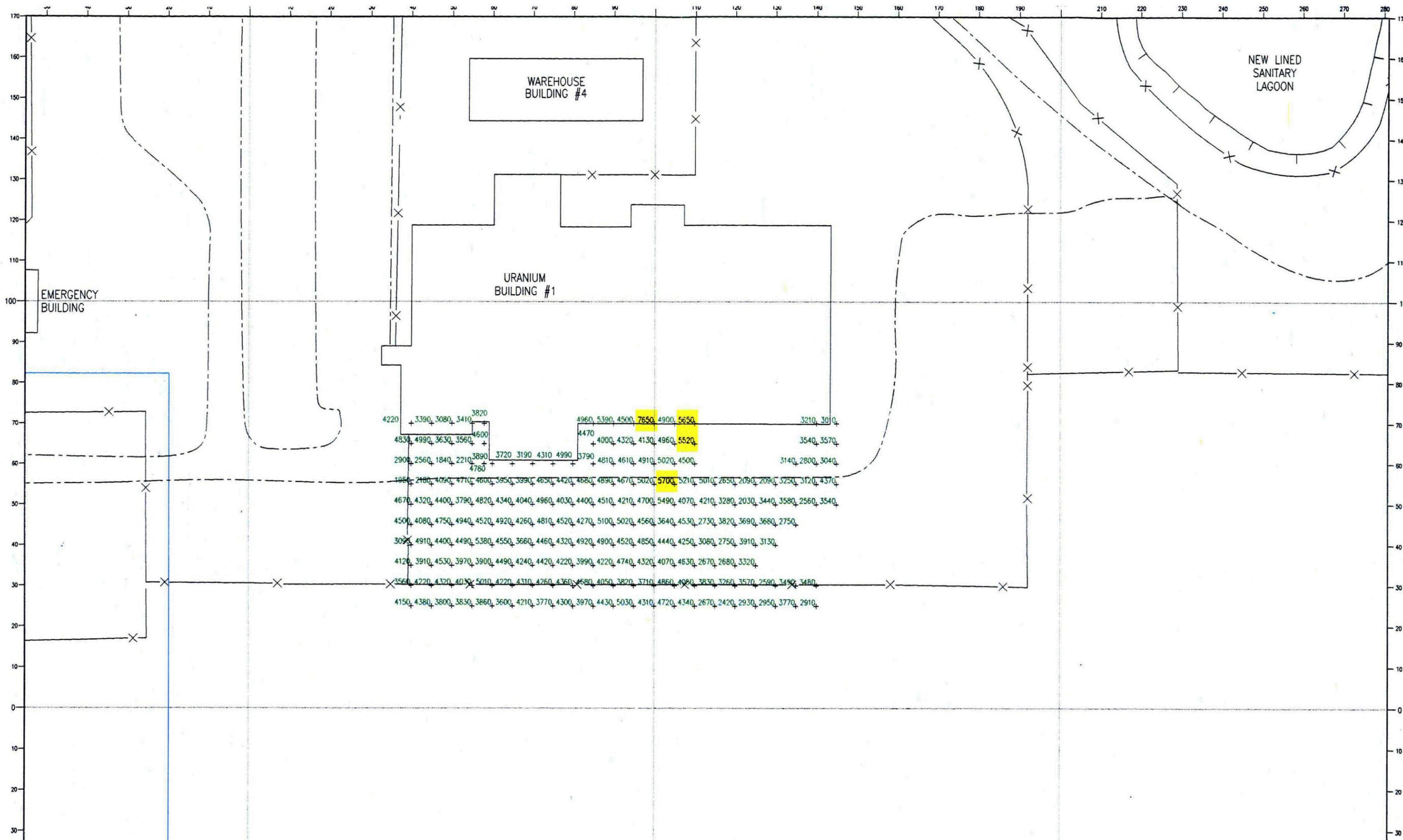
READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 5 METER X 5 METER GRID.  
 POST REMEDIATION - BEFORE BACKFILL.

| DRWN. BY | DATE    | CHKD. BY | DATE    | APPRD. BY | SCALE    |
|----------|---------|----------|---------|-----------|----------|
| JE       | 8/22/94 | JA       | 10/1/94 | KM        | AS SHOWN |

LEGEND  
 6+ 1 - 29 pCi/g  
 54+ 30 - 89 pCi/g  
 125+ 90 - 250 pCi/g  
 327+ > 251 pCi/g

CIMARRON CORPORATION  
 CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 POST-REMEDIATION SOIL SAMPLE RESULTS (93/94)  
 SURFACE SAMPLES  
 CLIENT DRAWING NO. 94POSUSS-0  
 JOB NO. DRAWING NO. 94POSUSS-0 REV. 0

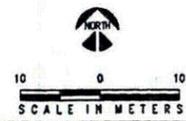




INSTRUMENT: LUDLUM 2220 S/N 48395  
 LEAD-SHIELDED 3" X 1/2" NaI DETECTOR  
 BACKGROUND RANGE: 2670-3630 CPM  
 READINGS TAKEN ON A 5 METER X 5 METER GRID.  
 POST REMEDIATION - BEFORE BACKFILL

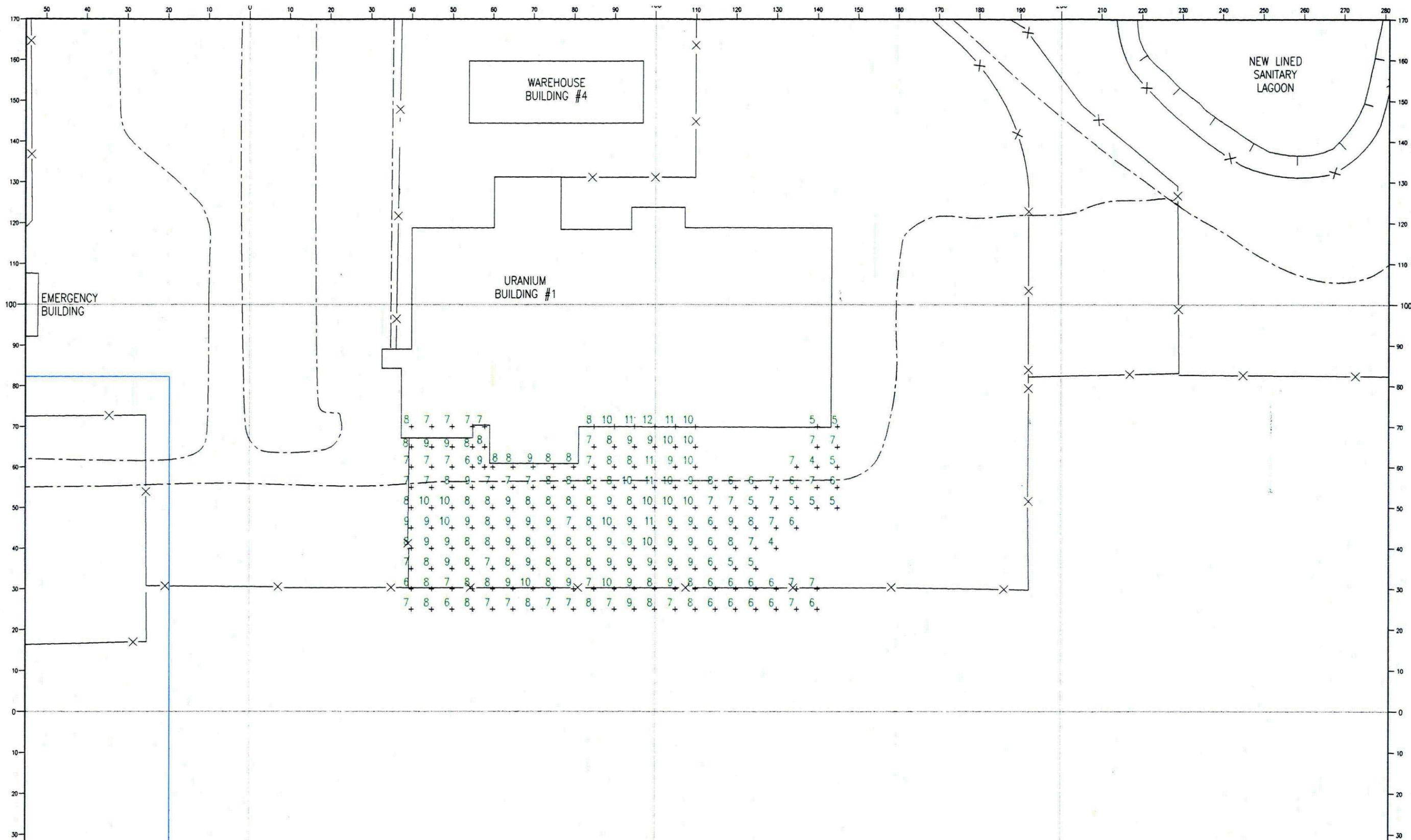
**CIMARRON CORPORATION**  
 CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 POST-REMEDIATION GAMMA SURVEY (93/94)  
 READINGS IN CPM (3" DETECTION)  
 CLIENT DRAWING NO. 94POSU3D-0

**LEGEND**  
 629+ < 5500 CPM  
 5536+ >= 5500 CPM



|         |    |         |    |      |    |          |
|---------|----|---------|----|------|----|----------|
| DATE    | BY | DATE    | BY | DATE | BY | SCALE    |
| 9/26/94 | JE | 10/1/94 | JA |      | KM | AS SHOWN |

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POSU3D-0  | 0    |



READINGS ARE IN MICRO-R/H ( $\mu\text{R}/\text{H}$ ).

INSTRUMENT: LUDLUM MICRO-R METER.  
 MODEL NO: 125  
 SERIAL NO: 9081  
 BACKGROUND: 7 MICRO-R/H.

SAMPLES TAKEN ON A 5 METER X 5 METER GRID.

POST REMEDIATION - BEFORE BACKFILL

|             |               |             |               |              |                 |
|-------------|---------------|-------------|---------------|--------------|-----------------|
| DRWN BY: JE | DATE: 9/26/94 | CHKD BY: JA | DATE: 10/1/94 | APP'D BY: KM | SCALE: AS SHOWN |
|-------------|---------------|-------------|---------------|--------------|-----------------|

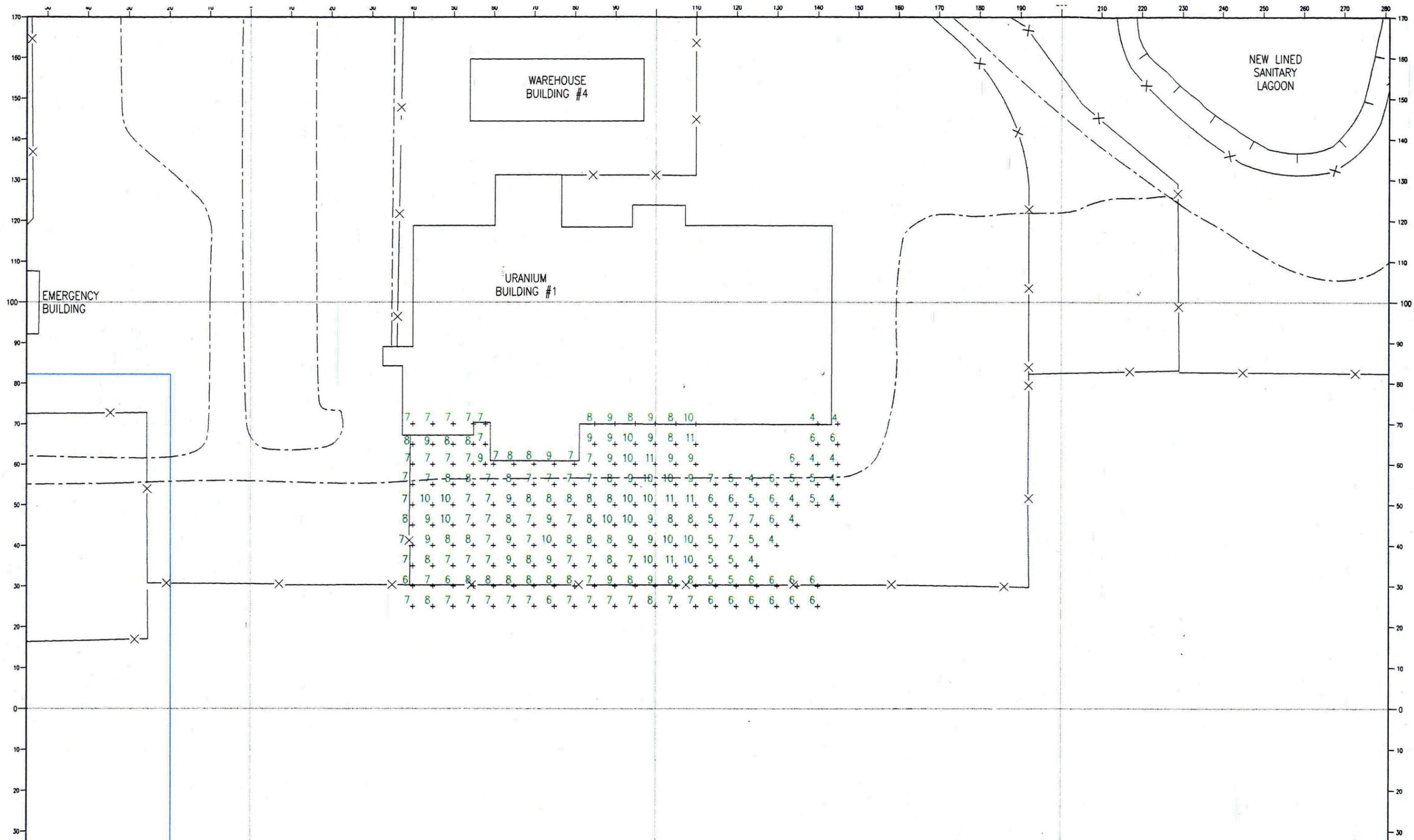
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 POST-REMEDIATION MICRO-R SURVEY (93/94)  
 AT LAND SURFACE

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POSUUR-0  | 0    |





READINGS ARE IN MICRO-R/HR ( $\mu\text{R}/\text{hr}$ ).

INSTRUMENT: LUDLUM MICRO-R METER.  
 MODEL NO: 125  
 SERIAL NO: 9081  
 BACKGROUND: 7 MICRO-R/HR.

SAMPLES TAKEN ON A 5 METER X 5 METER GRID.  
 POST REMEDIATION - BEFORE BACKFILL.

SCALE: AS SHOWN

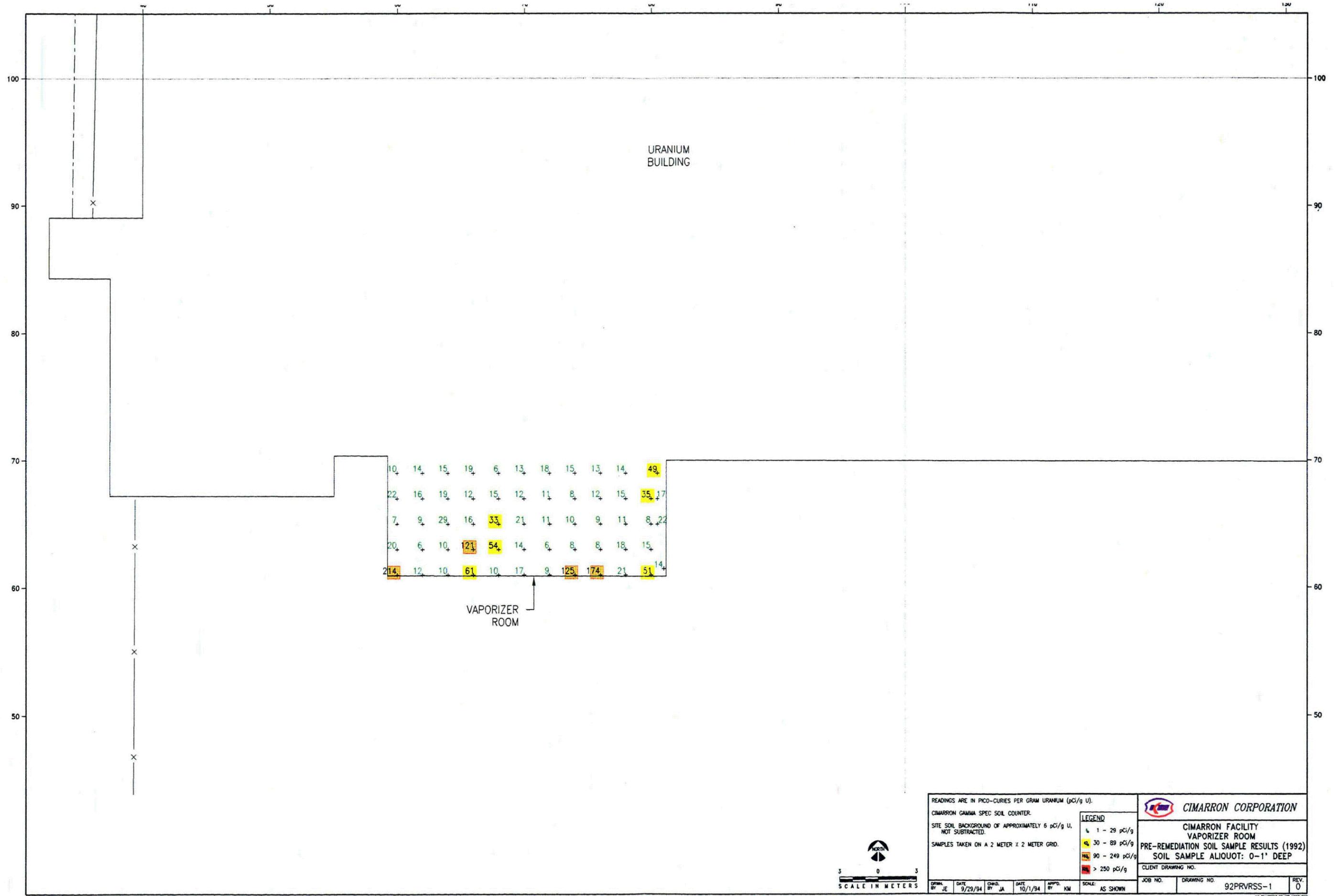
**CIMARRON CORPORATION**  
 CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 POST-REMEDATION MICRO-R SURVEY (93/94)  
 AT ONE METER ABOVE SURFACE

CLIENT DRAWING NO. 94POSUUR-1

DATE: 9/26/94  
 DRAWN BY: JE  
 CHECKED BY: JA  
 DATE: 10/1/94  
 APP'D BY: KM

JOB NO. DRAWING NO. 94POSUUR-1 REV. 0





READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).

CIMARRON GAMMA SPEC SOIL COUNTER.

SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U. NOT SUBTRACTED.

SAMPLES TAKEN ON A 2 METER X 2 METER GRID.

**CIMARRON CORPORATION**

**CIMARRON FACILITY VAPORIZER ROOM**

**PRE-REMEDATION SOIL SAMPLE RESULTS (1992)**

**SOIL SAMPLE ALIQUOT: 0-1' DEEP**

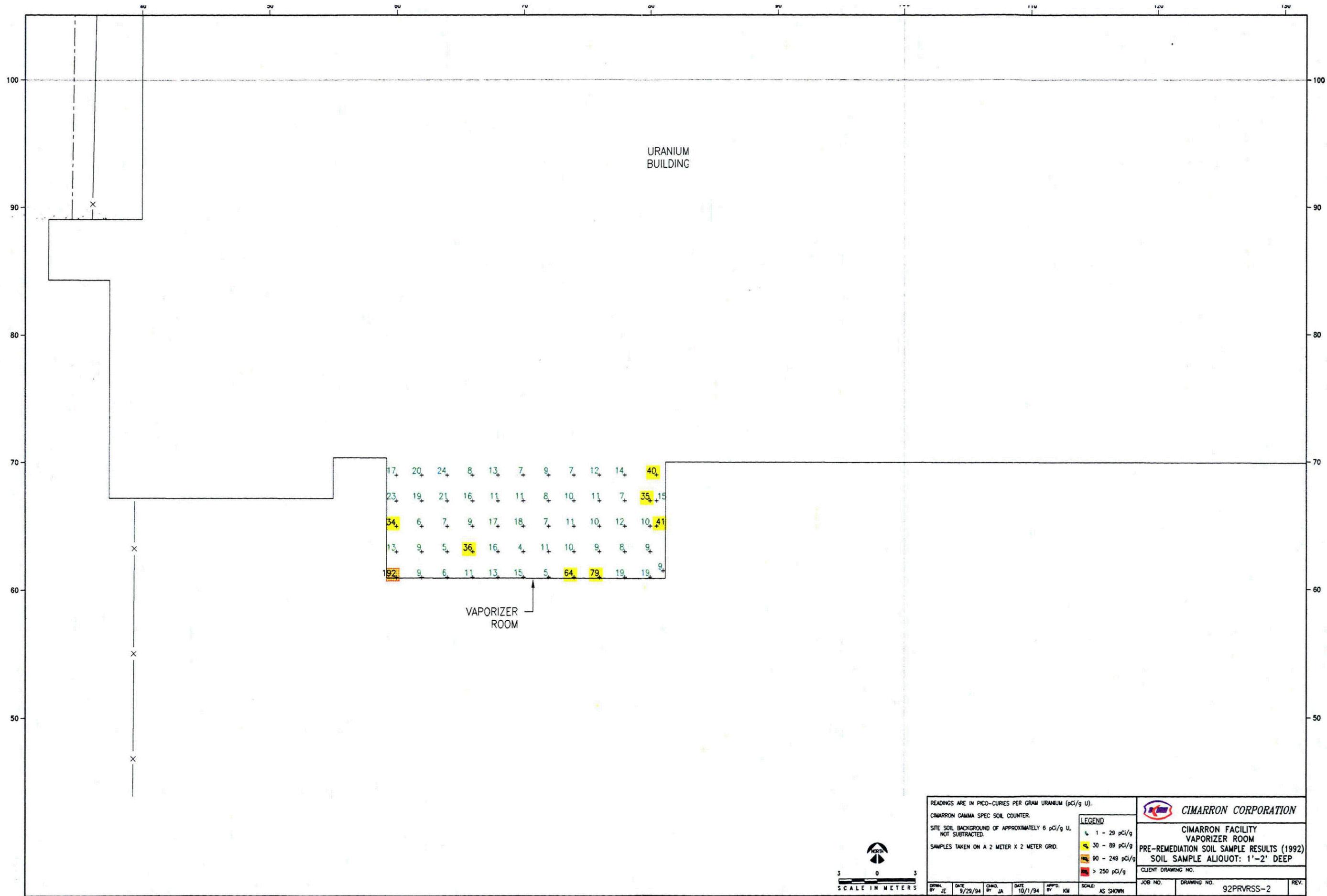
CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 92PRVRS-1   | 0    |

SCALE: AS SHOWN

|          |         |          |         |           |
|----------|---------|----------|---------|-----------|
| DRWN. BY | DATE    | CHKD. BY | DATE    | APP'D. BY |
| JE       | 9/29/94 | JA       | 10/1/94 | KM        |





READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).

CIMARRON GAMMA SPEC SOIL COUNTER.

SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.

SAMPLES TAKEN ON A 2 METER X 2 METER GRID.

**LEGEND**

- 1 - 29 pCi/g
- 30 - 89 pCi/g
- 90 - 249 pCi/g
- > 250 pCi/g

**CIMARRON CORPORATION**

CIMARRON FACILITY  
VAPORIZER ROOM  
PRE-REMEDIATION SOIL SAMPLE RESULTS (1992)  
SOIL SAMPLE ALIQUOT: 1'-2' DEEP

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 92PRVRS-2   |      |

SCALE: AS SHOWN

SCALE IN METERS

3 0 3

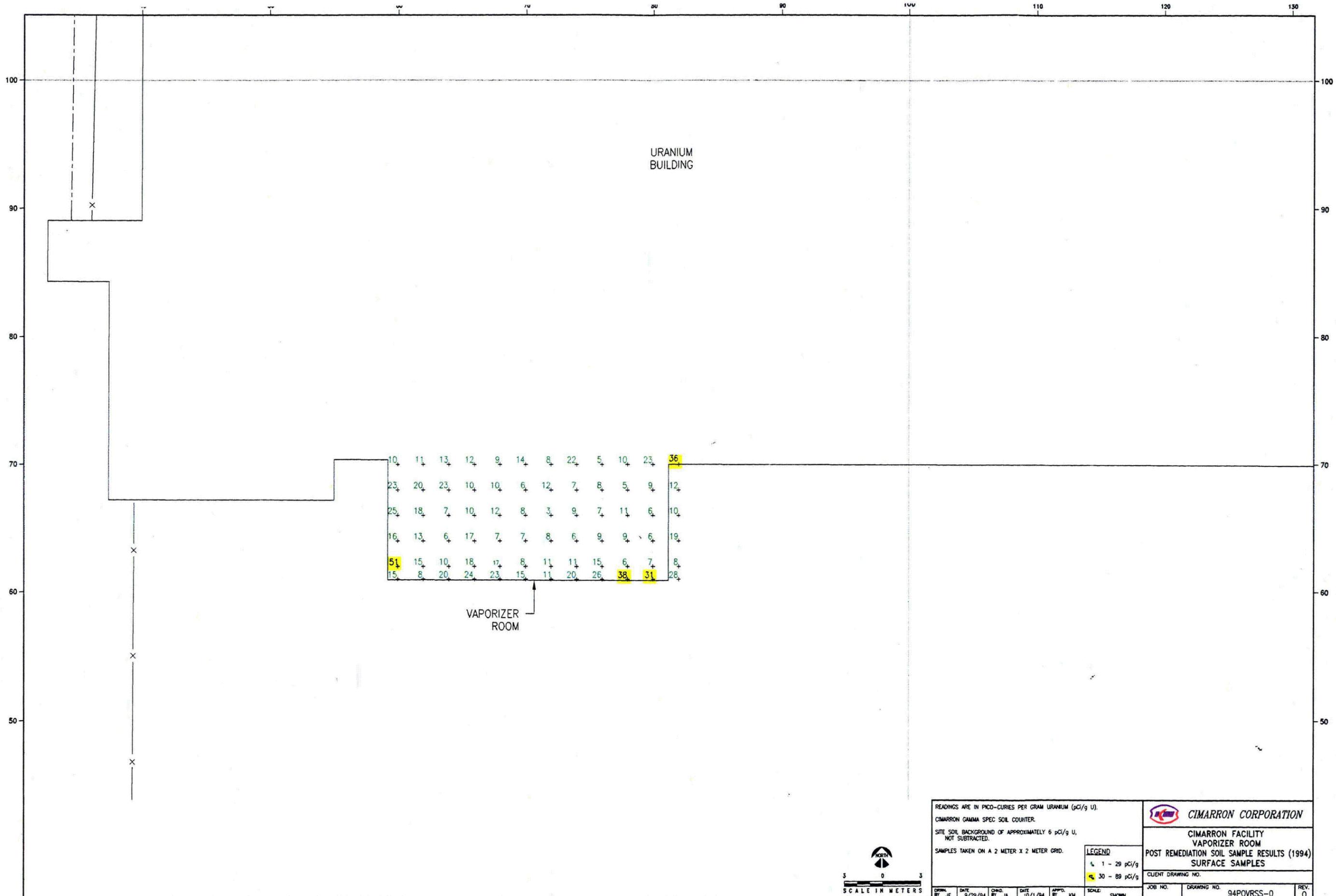
DATE 9/29/94

DATE 10/1/94

BY JE

BY JA

BY KM



URANIUM BUILDING

VAPORIZER ROOM

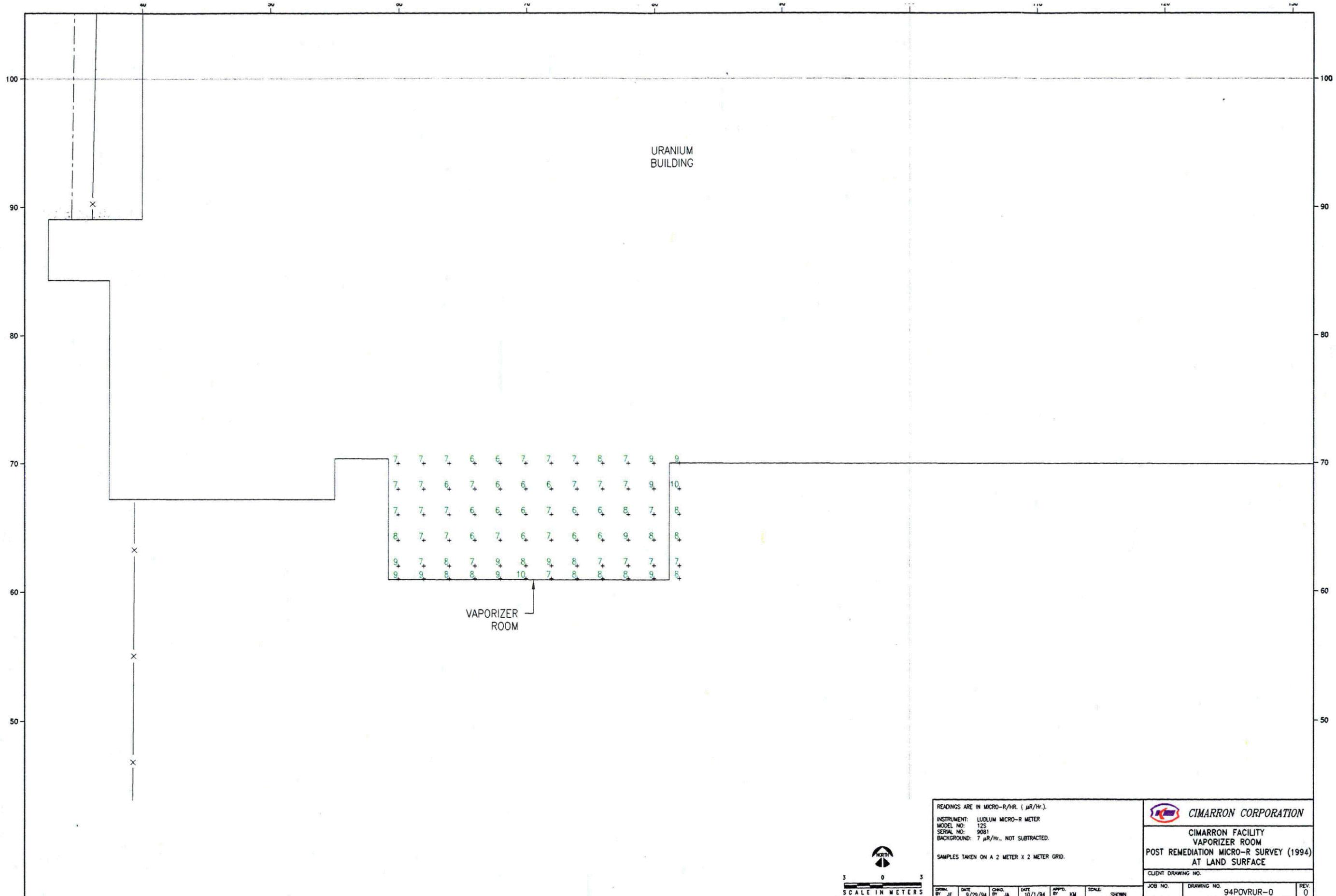
|   |  |  |  |  |  |   |  |
|---|--|--|--|--|--|---|--|
| READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).<br>CIMARRON GAMMA SPEC SOIL COUNTER.<br>SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U,<br>NOT SUBTRACTED.<br>SAMPLES TAKEN ON A 2 METER X 2 METER GRID. |  |  |  |  |  |   |  |
| LEGEND<br>1 - 29 pCi/g<br>30 - 89 pCi/g   |  |  |  |  |  | CIMARRON FACILITY<br>VAPORIZER ROOM<br>POST REMEDIATION SOIL SAMPLE RESULTS (1994)<br>SURFACE SAMPLES |  |
| CLIENT DRAWING NO.  |  |  |  |  |  | JOB NO.   |  |
| DRAWN BY: JE DATE: 9/29/94 CHG. BY: JA DATE: 10/1/94 APP'D. BY: KM SCALE: SHOWN   |  |  |  |  |  | DRAWING NO. 94POVRSS-0 REV. 0   |  |





|  |               |              |               |   |              |
|--|---------------|--------------|---------------|---|--------------|
| INSTRUMENT: LUDLUM 2220, S/N 48395,<br>LEAD SHIELDED 3" X 1/2" NaI DETECTOR.   |               |              |               |   |              |
| BACKGROUND: 3260 CPM, NOT SUBTRACTED.  |               |              |               |   |              |
| READINGS TAKEN ON A 2 METER X 2 METER GRID.  |               |              |               | <b>LEGEND</b><br>< 6500 CPM<br>>= 6500 CPM      |              |
| CIMARRON FACILITY<br>VAPORIZER ROOM<br>POST REMEDIATION GAMMA SURVEY (1994)<br>READINGS IN CPM (3" DET.) SURFACE<br>CLIENT DRAWING NO. |               |              |               | JOB NO.      DRAWING NO. 94POVR3D-0      REV. 0 |              |
| DRWN. BY: JE   | DATE: 9/29/94 | CHKD. BY: JA | DATE: 10/1/94 | APP'D. BY: KM                                   | SCALE: SHOWN |





URANIUM BUILDING

VAPORIZER ROOM

|   |   |   |   |   |    |   |   |   |   |   |    |
|---|---|---|---|---|----|---|---|---|---|---|----|
| 7 | 7 | 7 | 6 | 6 | 7  | 7 | 7 | 8 | 7 | 9 | 9  |
| 7 | 7 | 6 | 7 | 6 | 6  | 6 | 7 | 7 | 7 | 9 | 10 |
| 7 | 7 | 7 | 6 | 6 | 6  | 7 | 6 | 6 | 8 | 7 | 8  |
| 8 | 7 | 7 | 6 | 7 | 6  | 7 | 6 | 6 | 9 | 8 | 8  |
| 9 | 7 | 8 | 7 | 9 | 8  | 9 | 8 | 7 | 7 | 7 | 7  |
| 9 | 9 | 8 | 8 | 9 | 10 | 7 | 8 | 8 | 8 | 9 | 8  |

READINGS ARE IN MICRO-R/HR. ( $\mu\text{R}/\text{HR}$ ).

INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 BACKGROUND: 7  $\mu\text{R}/\text{HR}$ , NOT SUBTRACTED.

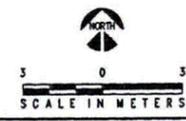
SAMPLES TAKEN ON A 2 METER X 2 METER GRID.

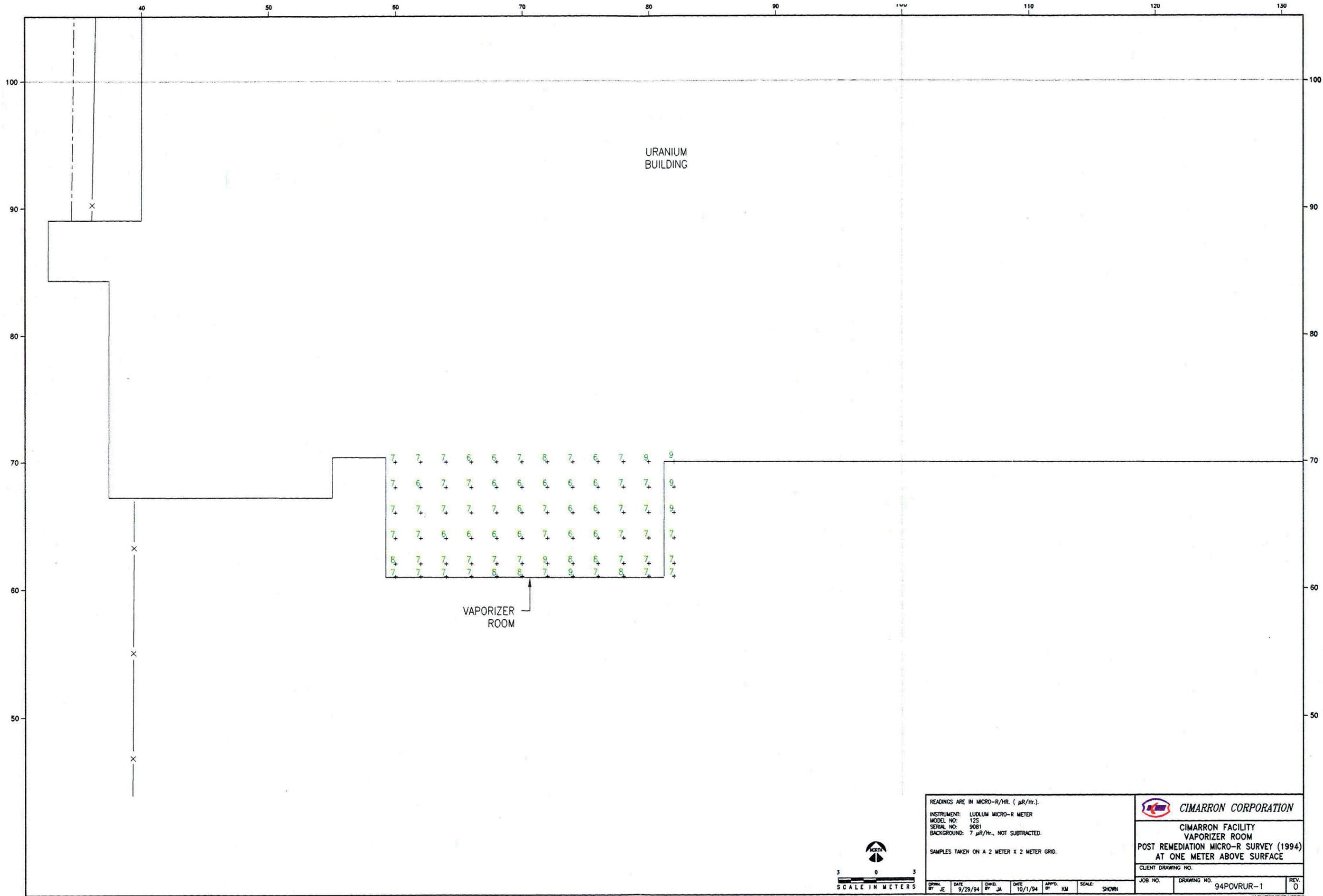
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 VAPORIZER ROOM  
 POST REMEDIATION MICRO-R SURVEY (1994)  
 AT LAND SURFACE

CLIENT DRAWING NO.

|              |               |              |               |              |              |         |                        |        |
|--------------|---------------|--------------|---------------|--------------|--------------|---------|------------------------|--------|
| DRWN. BY: JE | DATE: 9/29/94 | CHKD. BY: JA | DATE: 10/1/94 | APPR. BY: KM | SCALE: SHOWN | JOB NO. | DRAWING NO. 94POVRUR-0 | REV. 0 |
|--------------|---------------|--------------|---------------|--------------|--------------|---------|------------------------|--------|





READINGS ARE IN MICRO-R/HR. ( $\mu$ R/Hr.).  
 INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 BACKGROUND: 7  $\mu$ R/Hr., NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 2 METER X 2 METER GRID.

**CIMARRON CORPORATION**

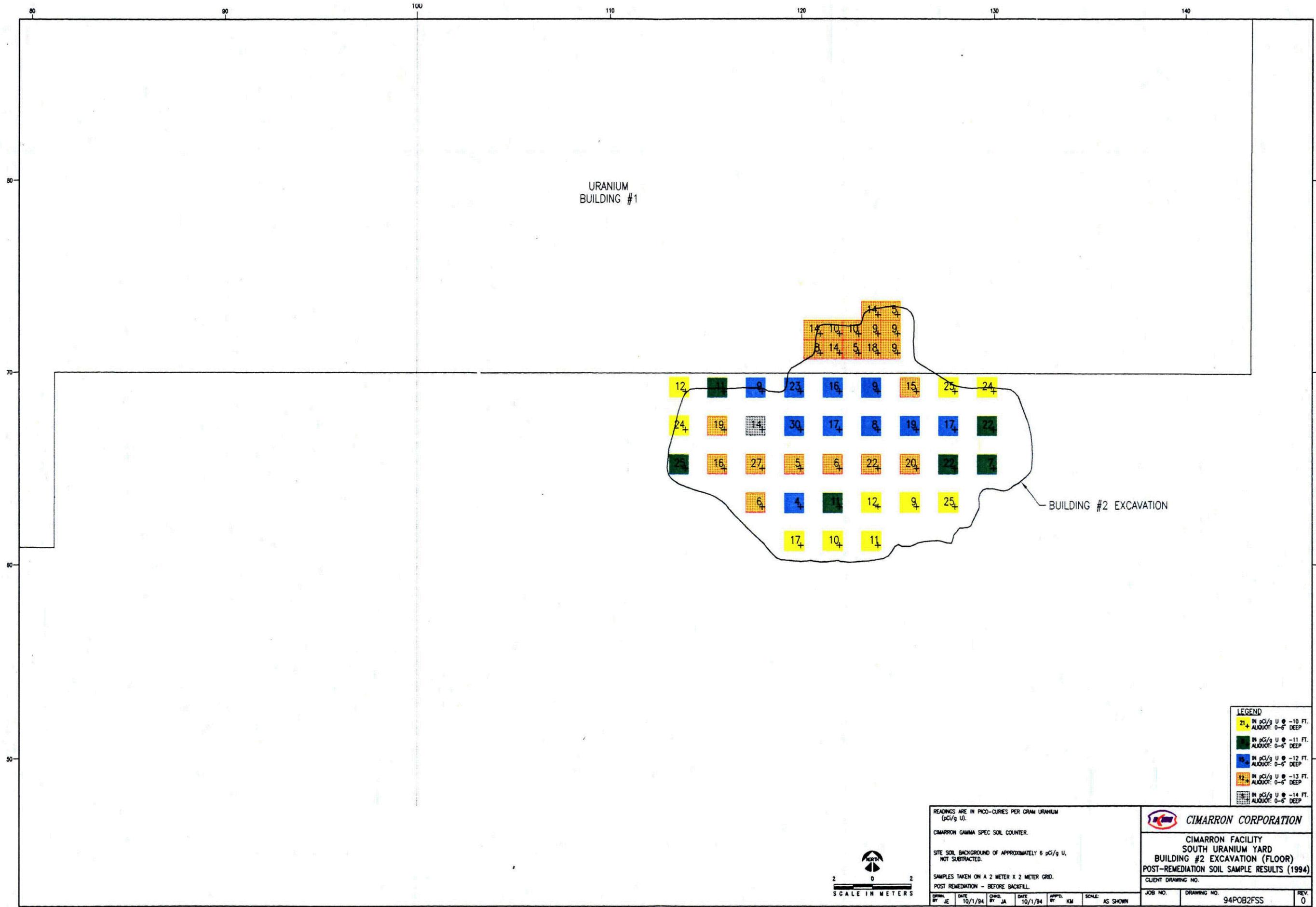
CIMARRON FACILITY  
 VAPORIZER ROOM  
 POST REMEDIATION MICRO-R SURVEY (1994)  
 AT ONE METER ABOVE SURFACE

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POVRUR-1  | 0    |



|               |               |             |               |               |              |
|---------------|---------------|-------------|---------------|---------------|--------------|
| DESIGN BY: JE | DATE: 9/29/94 | CHG. BY: JA | DATE: 10/1/94 | APPRO. BY: KM | SCALE: SHOWN |
|---------------|---------------|-------------|---------------|---------------|--------------|



URANIUM BUILDING #1

BUILDING #2 EXCAVATION

**LEGEND**

|     |  |
|-----|--|
| 21+ | IN pCi/g U @ -10 FT. ALQUOT: 0-5" DEEP |
| 22  | IN pCi/g U @ -11 FT. ALQUOT: 0-5" DEEP |
| 15  | IN pCi/g U @ -12 FT. ALQUOT: 0-5" DEEP |
| 12+ | IN pCi/g U @ -13 FT. ALQUOT: 0-5" DEEP |
| 14  | IN pCi/g U @ -14 FT. ALQUOT: 0-5" DEEP |

READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U. NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 2 METER X 2 METER GRID.  
 POST REMEDIATION - BEFORE BACKFILL.

|               |               |                |               |                 |                 |
|---------------|---------------|----------------|---------------|-----------------|-----------------|
| DESIGN BY: JE | DATE: 10/1/94 | CHECKED BY: JA | DATE: 10/1/94 | APPROVED BY: KM | SCALE: AS SHOWN |
|---------------|---------------|----------------|---------------|-----------------|-----------------|

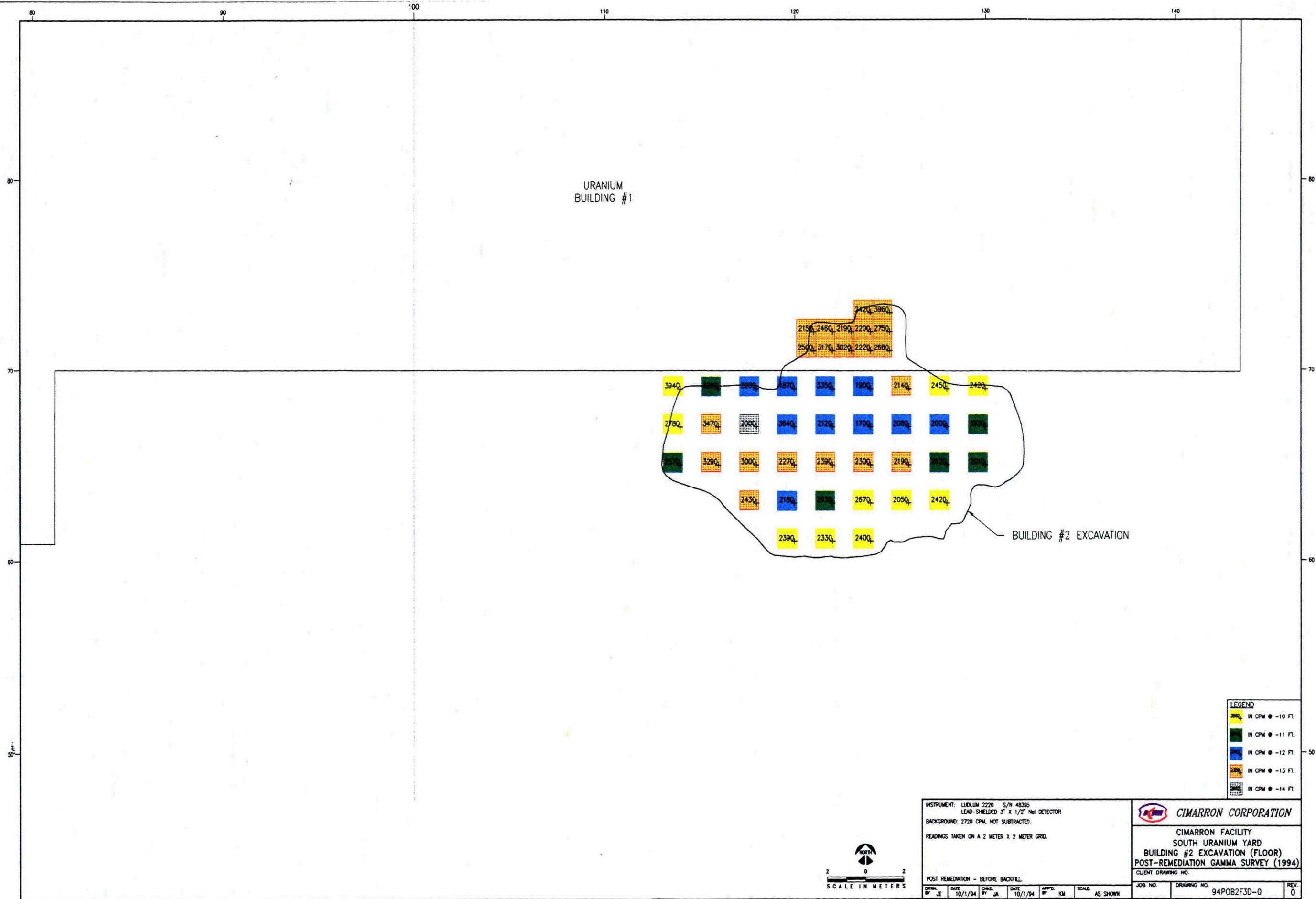


**CIMARRON CORPORATION**

CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 BUILDING #2 EXCAVATION (FLOOR)  
 POST-REMEDIATION SOIL SAMPLE RESULTS (1994)

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94P02FSS    | 0    |



**LEGEND**

|      |                  |
|------|------------------|
| 3940 | IN CPM @ -10 FT. |
| 2960 | IN CPM @ -11 FT. |
| 2870 | IN CPM @ -12 FT. |
| 3350 | IN CPM @ -13 FT. |
| 1900 | IN CPM @ -14 FT. |



INSTRUMENT: LUDLUM 2220 S/N 48385  
 LEAD-SHIELDED 3" x 1/2" NaI DETECTOR  
 BACKGROUND: 2720 CPM, NOT SUBTRACTED.  
 READINGS TAKEN ON A 2 METER X 2 METER GRID.

POST REMEDIATION - BEFORE BACKFILL

|              |               |             |               |               |                 |
|--------------|---------------|-------------|---------------|---------------|-----------------|
| DRWN. BY: JE | DATE: 10/1/94 | CHG. BY: JA | DATE: 10/1/94 | APP'D. BY: KM | SCALE: AS SHOWN |
|--------------|---------------|-------------|---------------|---------------|-----------------|

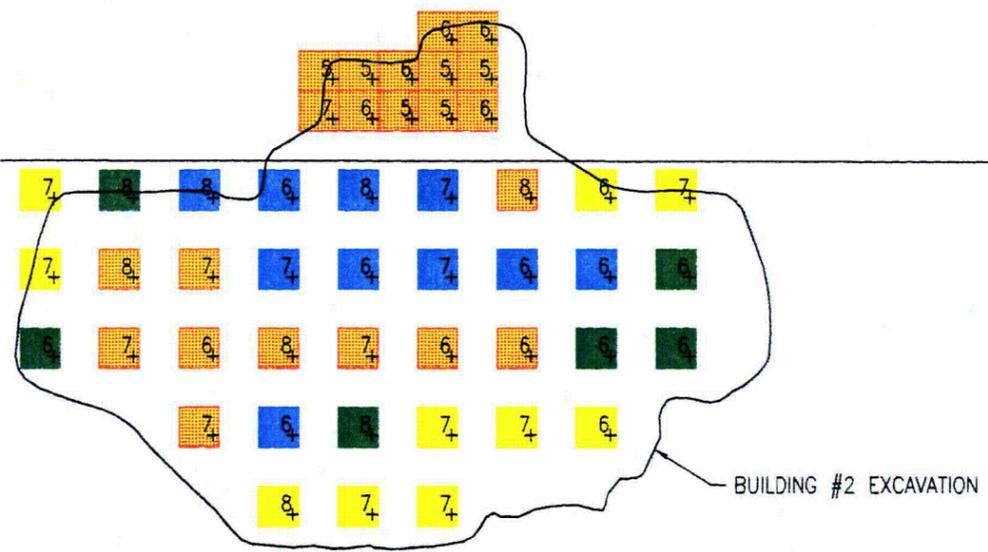
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 BUILDING #2 EXCAVATION (FLOOR)  
 POST-REMEDIATION GAMMA SURVEY (1994)

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94P082F3D-0 | 0    |

URANIUM  
BUILDING #1



BUILDING #2 EXCAVATION

READINGS ARE IN MICRO-R/Hr. ( $\mu$ R/Hr.)  
 INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 ESTABLISHED SITE BACKGROUND OF 7  $\mu$ R/Hr., NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 2 METER X 2 METER GRID.  
 READINGS WERE TAKEN AFTER REMEDIATION, BUT BEFORE BACKFILL.

**LEGEND**  
 12+  $\mu$ R/Hr. @ -10 FT. AT SURFACE  
 8  $\mu$ R/Hr. @ -11 FT. AT SURFACE  
 7  $\mu$ R/Hr. @ -12 FT. AT SURFACE  
 6  $\mu$ R/Hr. @ -13 FT. AT SURFACE

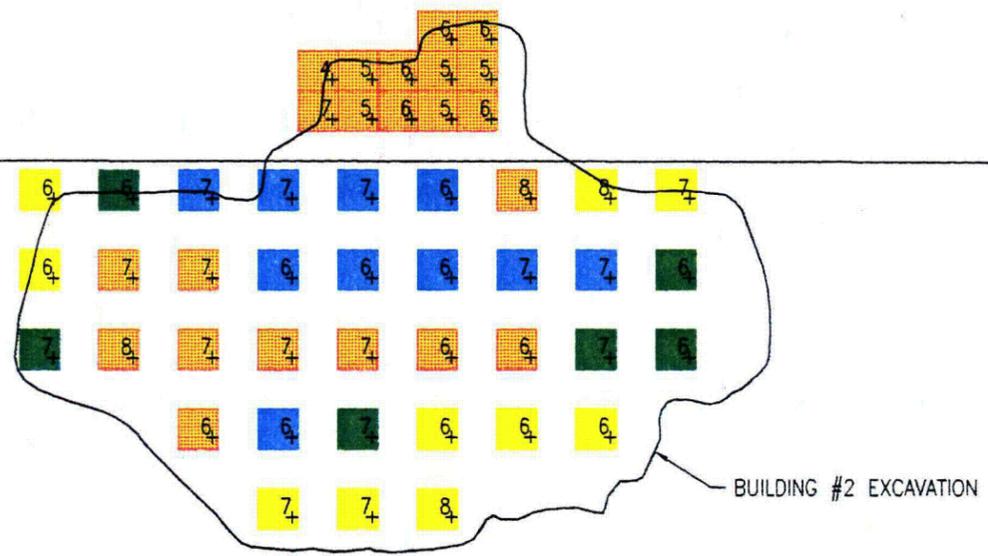
**CIMARRON CORPORATION**  
 CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 BUILDING #2 EXCAVATION (FLOOR)  
 POST-REMEDIATION MICRO-R SURVEY (1994)  
 CLIENT DRAWING NO.

DRAWN BY: JE DATE: 10/1/94 CHKD BY: JA DATE: 10/1/94 APP'D BY: KM SCALE: AS SHOWN

JOB NO. DRAWING NO. 94POB2FUR-0 REV. 0



URANIUM  
BUILDING #1



READINGS ARE IN MICRO-R/Hr. ( $\mu R/Hr.$ )

INSTRUMENT: LUDLUM MICRO-R METER  
MODEL NO: 12S  
SERIAL NO: 9081

ESTABLISHED SITE BACKGROUND OF  $7 \mu R/Hr.$ , NOT SUBTRACTED.

SAMPLES TAKEN ON A 2 METER X 2 METER GRID.  
READINGS WERE TAKEN AFTER REMEDIATION, BUT BEFORE BACKFILL.

LEGEND

|     |  |
|-----|--|
| 12+ | $\mu R/Hr.$ @ -10 FT. AT ONE METER ABOVE SURFACE |
| 15  | $\mu R/Hr.$ @ -11 FT. AT ONE METER ABOVE SURFACE |
| 15  | $\mu R/Hr.$ @ -12 FT. AT ONE METER ABOVE SURFACE |
| 23+ | $\mu R/Hr.$ @ -13 FT. AT ONE METER ABOVE SURFACE |

CIMARRON CORPORATION

CIMARRON FACILITY  
SOUTH URANIUM YARD  
BUILDING #2 EXCAVATION (FLOOR)  
POST-REMEDIATION MICRO-R SURVEY (1994)

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POB2FUR-1 | 0    |

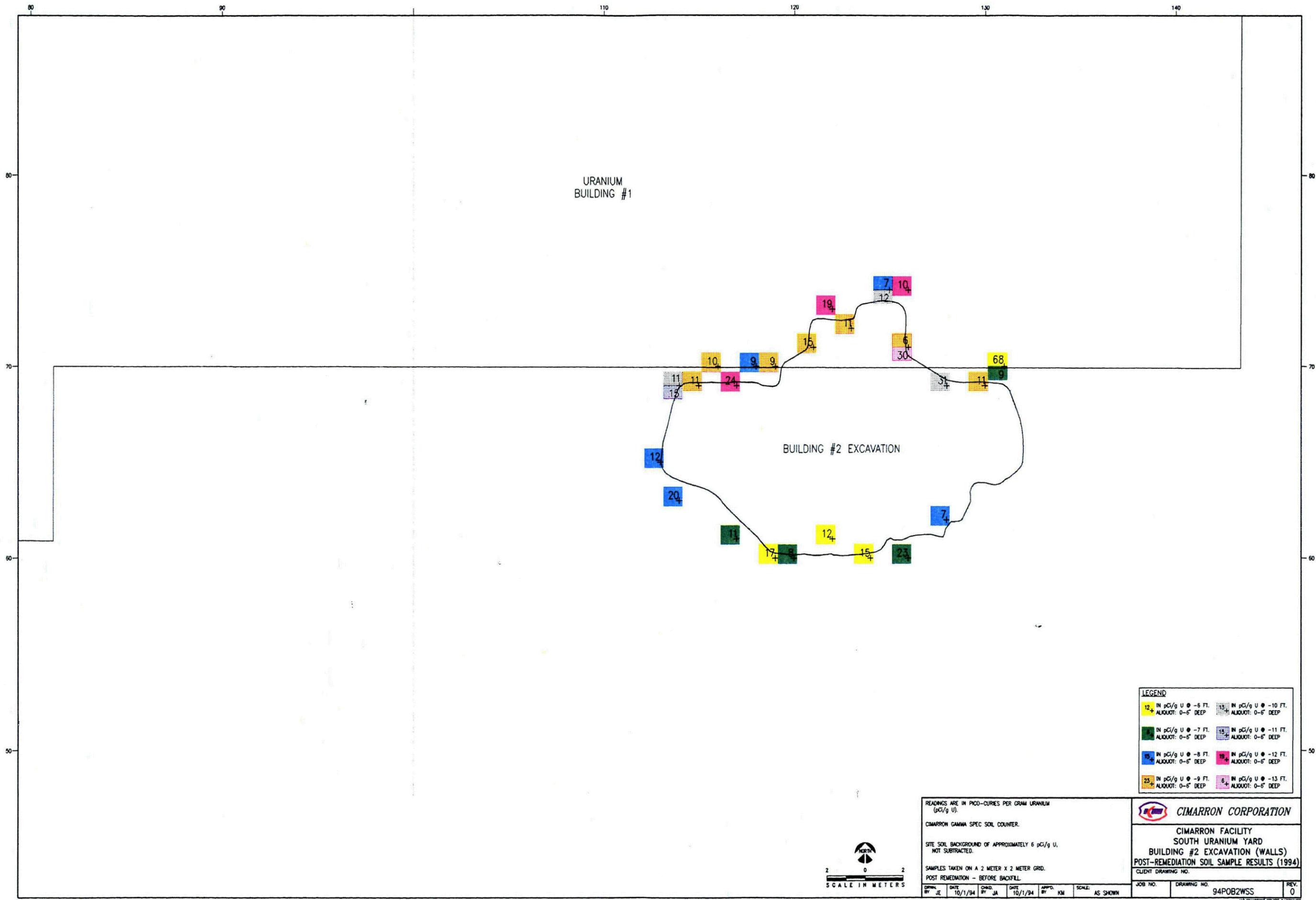
SCALE IN METERS

2 0 2

SCALE: AS SHOWN

DATE: 10/1/94  
DATE: 10/1/94

BY: JE  
BY: JA  
BY: KM



URANIUM  
BUILDING #1

BUILDING #2 EXCAVATION

**LEGEND**

|  |   |
|--|---|
| 12+ IN pCi/g U @ -5 FT.<br>ALQUOT: 0-5" DEEP | 13+ IN pCi/g U @ -10 FT.<br>ALQUOT: 0-5" DEEP |
| 14+ IN pCi/g U @ -7 FT.<br>ALQUOT: 0-5" DEEP | 18+ IN pCi/g U @ -11 FT.<br>ALQUOT: 0-5" DEEP |
| 15+ IN pCi/g U @ -8 FT.<br>ALQUOT: 0-5" DEEP | 19+ IN pCi/g U @ -12 FT.<br>ALQUOT: 0-5" DEEP |
| 25+ IN pCi/g U @ -9 FT.<br>ALQUOT: 0-5" DEEP | 6+ IN pCi/g U @ -13 FT.<br>ALQUOT: 0-5" DEEP  |

READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
 CIMARRON GAMMA SPEC SOIL COUNTER.  
 SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U,  
 NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 2 METER X 2 METER GRID.  
 POST REMEDIATION - BEFORE BACKFILL.

|              |               |              |               |               |                 |
|--------------|---------------|--------------|---------------|---------------|-----------------|
| DRWN. BY: JE | DATE: 10/1/94 | CHKD. BY: JA | DATE: 10/1/94 | APPRD. BY: KM | SCALE: AS SHOWN |
|--------------|---------------|--------------|---------------|---------------|-----------------|



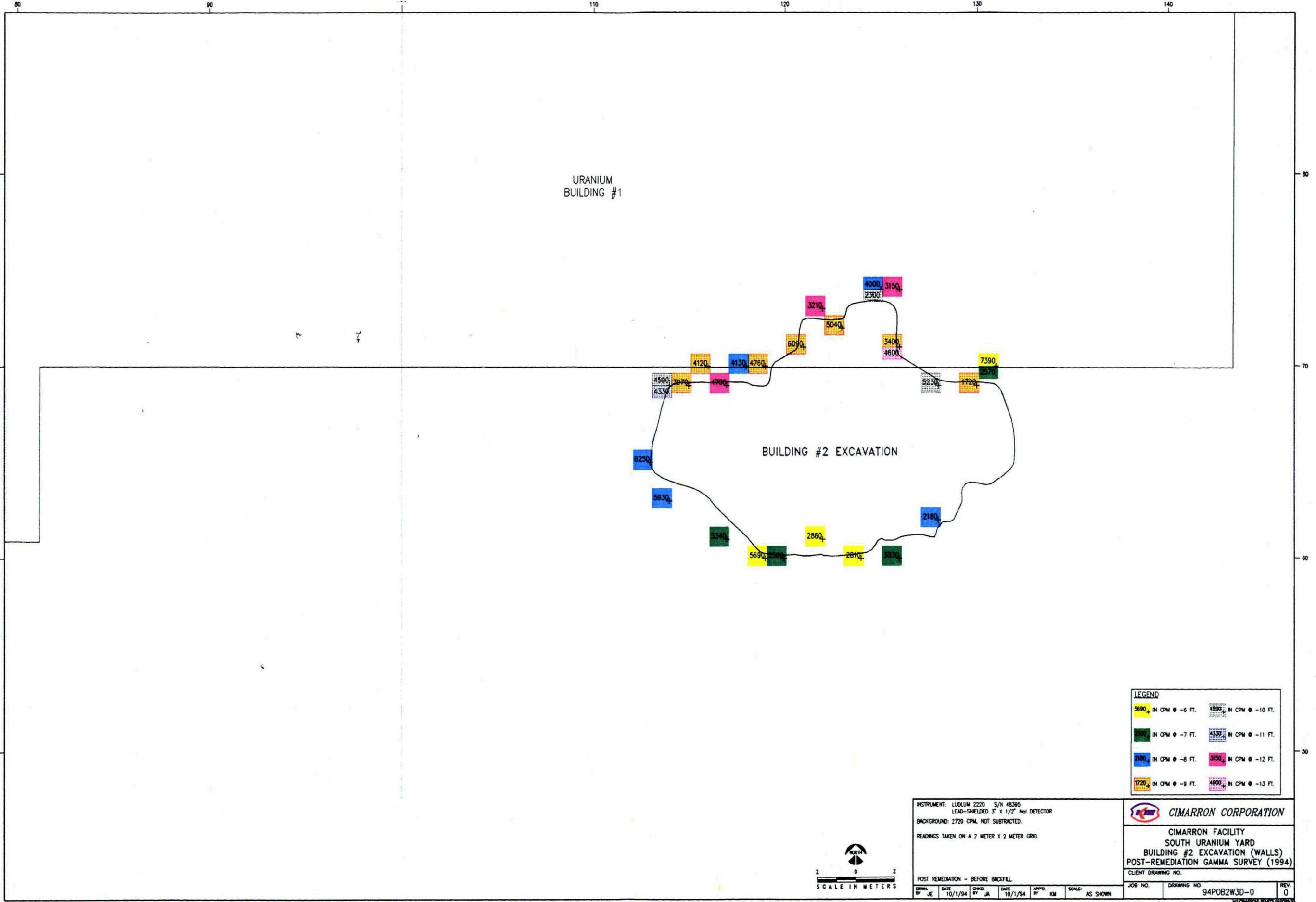
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 BUILDING #2 EXCAVATION (WALLS)  
 POST-REMEDIATION SOIL SAMPLE RESULTS (1994)

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POB2WSS   | 0    |

© CIMARRON CORPORATION



URANIUM  
BUILDING #1

BUILDING #2 EXCAVATION

**LEGEND**

|                      |                       |
|----------------------|-----------------------|
| 5690 IN CPM @ -6 FT. | 4890 IN CPM @ -10 FT. |
| 5340 IN CPM @ -7 FT. | 4330 IN CPM @ -11 FT. |
| 2180 IN CPM @ -8 FT. | 3150 IN CPM @ -12 FT. |
| 1720 IN CPM @ -9 FT. | 4000 IN CPM @ -13 FT. |

INSTRUMENT: LUDLUM 2220 S/N 48395  
LEAD-SHIELDED 3' X 1/2" NaI DETECTOR  
BACKGROUND: 2720 CPM NOT SUBTRACTED.  
READINGS TAKEN ON A 2 METER X 2 METER GRID.  
POST REMEDIATION - BEFORE BACKFILL.  
DRAWN BY: JE DATE: 10/1/94  
CHECKED BY: JA DATE: 10/1/94  
APP'D BY: KM SCALE: AS SHOWN

**CIMARRON CORPORATION**  
CIMARRON FACILITY  
SOUTH URANIUM YARD  
BUILDING #2 EXCAVATION (WALLS)  
POST-REMEDIATION GAMMA SURVEY (1994)  
CLIENT DRAWING NO.  
JOB NO. DRAWING NO. 94POB2W3D-0 REV. 0



URANIUM  
BUILDING #1

BUILDING #2 EXCAVATION

| LEGEND         |                                       |
|----------------|---------------------------------------|
| 12+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -6 FT.  |
| 13+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -10 FT. |
| 14+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -7 FT.  |
| 15+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -11 FT. |
| 16+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -8 FT.  |
| 17+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -12 FT. |
| 18+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -9 FT.  |
| 19+ AT SURFACE | IN $\mu\text{R}/\text{hr.}$ @ -13 FT. |

READINGS ARE IN MICRO-R/Hr. ( $\mu\text{R}/\text{hr.}$ )  
 INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 ESTABLISHED SITE BACKGROUND OF 7  $\mu\text{R}/\text{hr.}$ , NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 2 METER X 2 METER GRID.  
 READINGS WERE TAKEN AFTER REMEDIATION, BUT BEFORE BACKFILL.

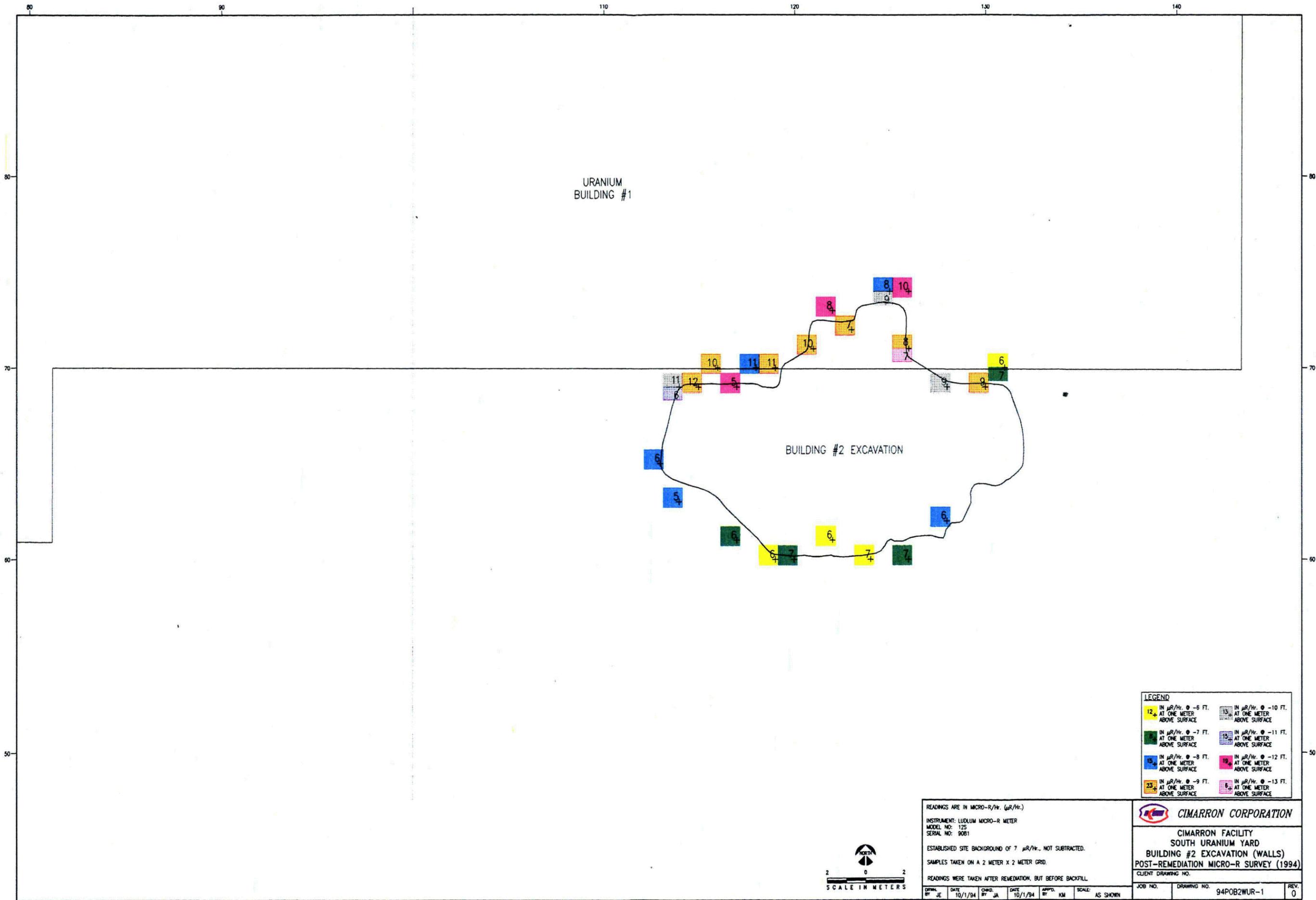


**CIMARRON CORPORATION**

CIMARRON FACILITY  
 SOUTH URANIUM YARD  
 BUILDING #2 EXCAVATION (WALLS)  
 POST-REMEDATION MICRO-R SURVEY (1994)  
 CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POB2WUR-0 | 0    |

| DRWN. BY | DATE    | CHKD. BY | DATE    | APP'D. BY | SCALE    |
|----------|---------|----------|---------|-----------|----------|
| JE       | 10/1/94 | JA       | 10/1/94 | KM        | AS SHOWN |



URANIUM  
BUILDING #1

BUILDING #2 EXCAVATION

**LEGEND**

|    |  |    |   |
|----|--|----|---|
| 12 | IN $\mu\text{R}/\text{hr.}$ @ -5 FT.<br>AT ONE METER ABOVE SURFACE | 15 | IN $\mu\text{R}/\text{hr.}$ @ -10 FT.<br>AT ONE METER ABOVE SURFACE |
| 13 | IN $\mu\text{R}/\text{hr.}$ @ -7 FT.<br>AT ONE METER ABOVE SURFACE | 16 | IN $\mu\text{R}/\text{hr.}$ @ -11 FT.<br>AT ONE METER ABOVE SURFACE |
| 14 | IN $\mu\text{R}/\text{hr.}$ @ -8 FT.<br>AT ONE METER ABOVE SURFACE | 17 | IN $\mu\text{R}/\text{hr.}$ @ -12 FT.<br>AT ONE METER ABOVE SURFACE |
| 18 | IN $\mu\text{R}/\text{hr.}$ @ -9 FT.<br>AT ONE METER ABOVE SURFACE | 19 | IN $\mu\text{R}/\text{hr.}$ @ -13 FT.<br>AT ONE METER ABOVE SURFACE |

READINGS ARE IN MICRO-R/Hr. ( $\mu\text{R}/\text{hr.}$ )  
 INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 ESTABLISHED SITE BACKGROUND OF 7  $\mu\text{R}/\text{hr.}$ , NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 2 METER X 2 METER GRID.  
 READINGS WERE TAKEN AFTER REMEDIATION, BUT BEFORE BACKFILL.

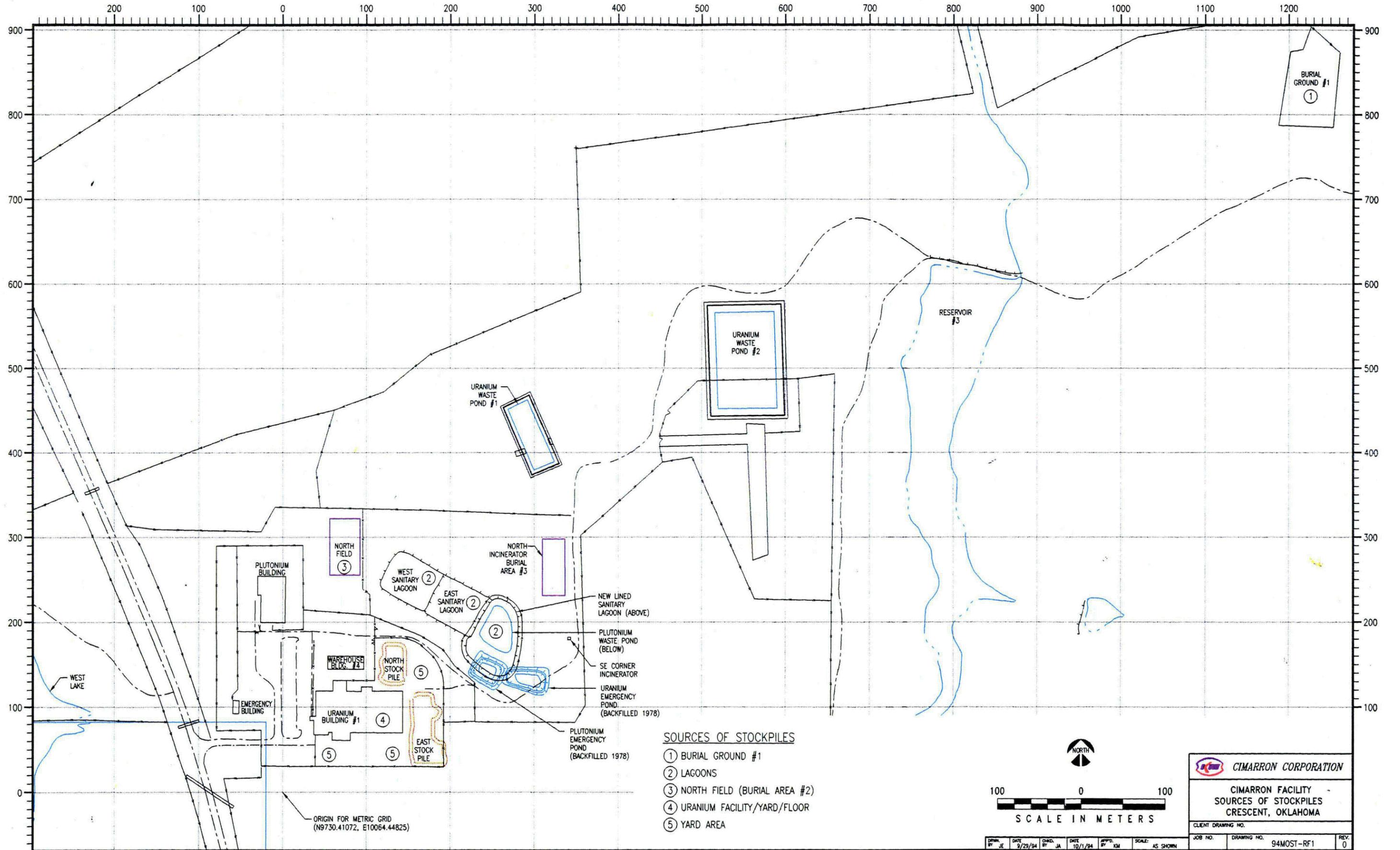


**CIMARRON CORPORATION**

CIMARRON FACILITY  
SOUTH URANIUM YARD  
BUILDING #2 EXCAVATION (WALLS)  
POST-REMEDIATION MICRO-R SURVEY (1994)  
CLIENT DRAWING NO.

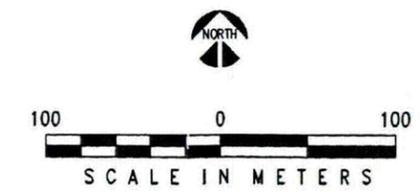
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|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 94POB2WUR-1 | 0    |

|         |         |         |          |          |
|---------|---------|---------|----------|----------|
| DATE    | CHG. BY | DATE    | APPD. BY | SCALE    |
| 10/1/94 | JA      | 10/1/94 | KM       | AS SHOWN |

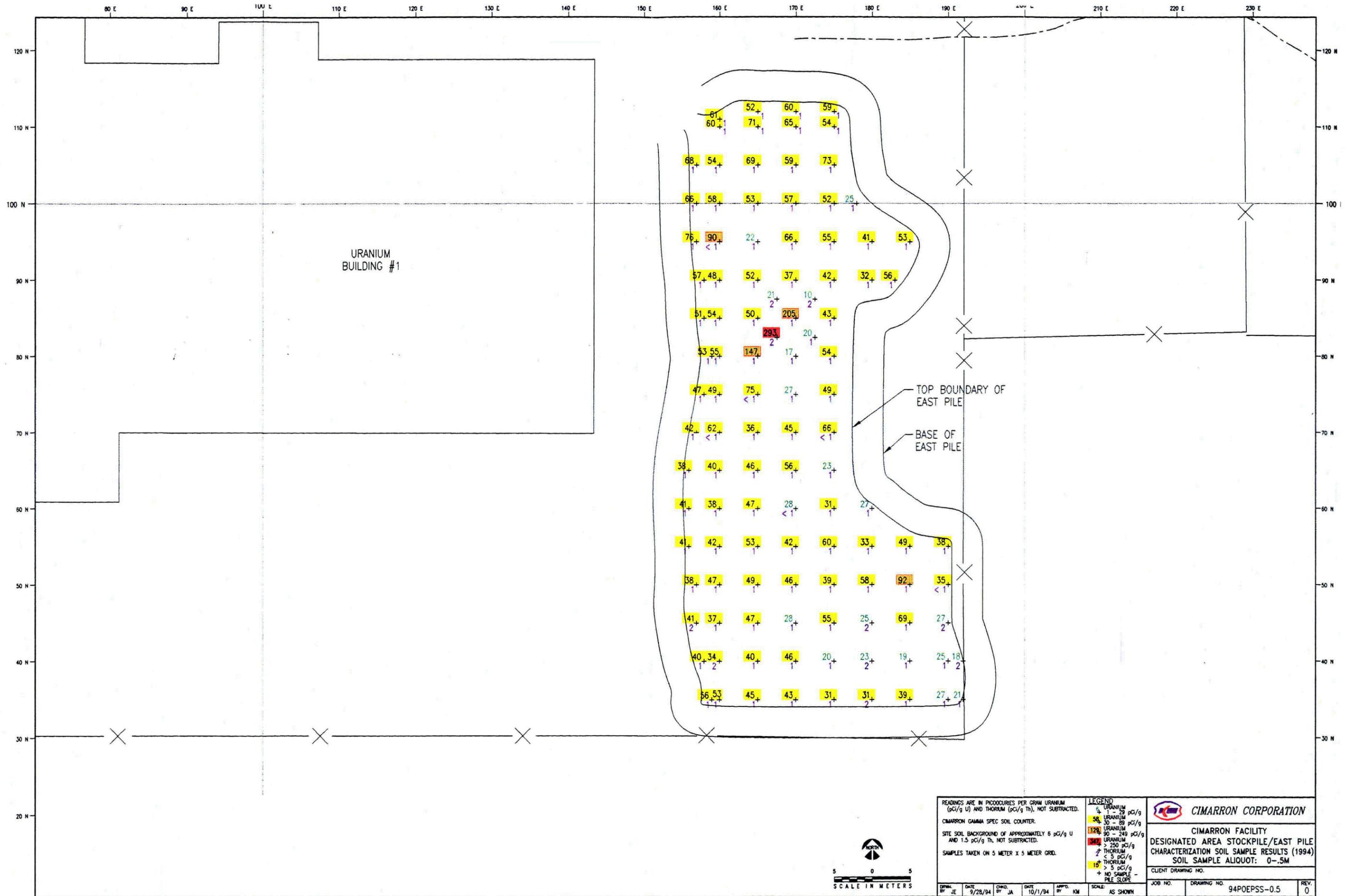


**SOURCES OF STOCKPILES**

- ① BURIAL GROUND #1
- ② LAGOONS
- ③ NORTH FIELD (BURIAL AREA #2)
- ④ URANIUM FACILITY/YARD/FLOOR
- ⑤ YARD AREA



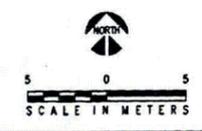
|  |             |      |
|--|-------------|------|
| <b>CIMARRON CORPORATION</b>  |             |      |
| <b>CIMARRON FACILITY<br/>SOURCES OF STOCKPILES<br/>CRESCENT, OKLAHOMA</b>          |             |      |
| CLIENT DRAWING NO.   |             |      |
| JOB NO.  | DRAWING NO. | REV. |
|  | 94MOST-RF1  | 0    |
| DATE: 9/29/94    CHD. BY: JA    DATE: 10/1/94    APP'D. BY: KCM    SCALE: AS SHOWN |             |      |

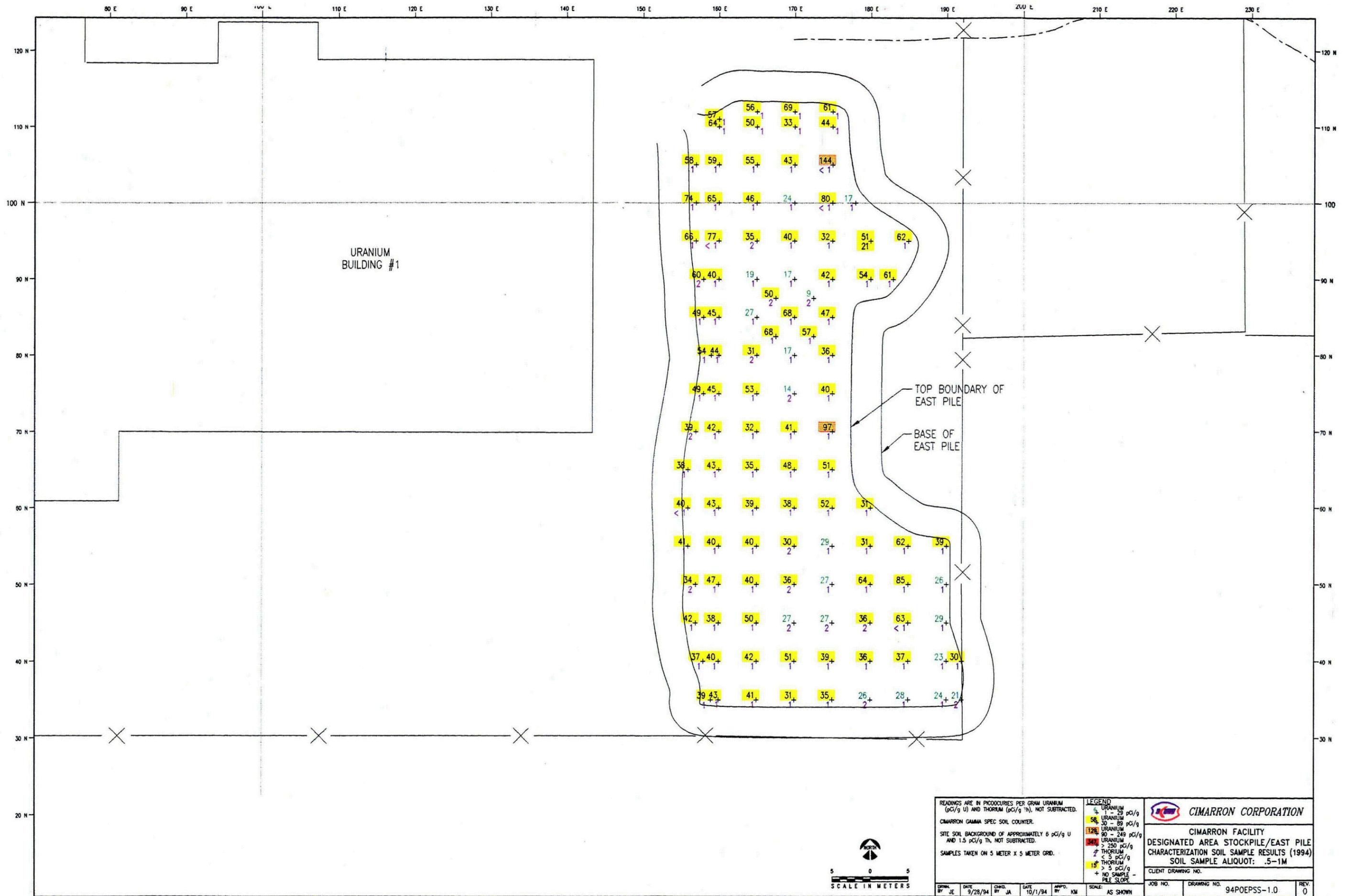


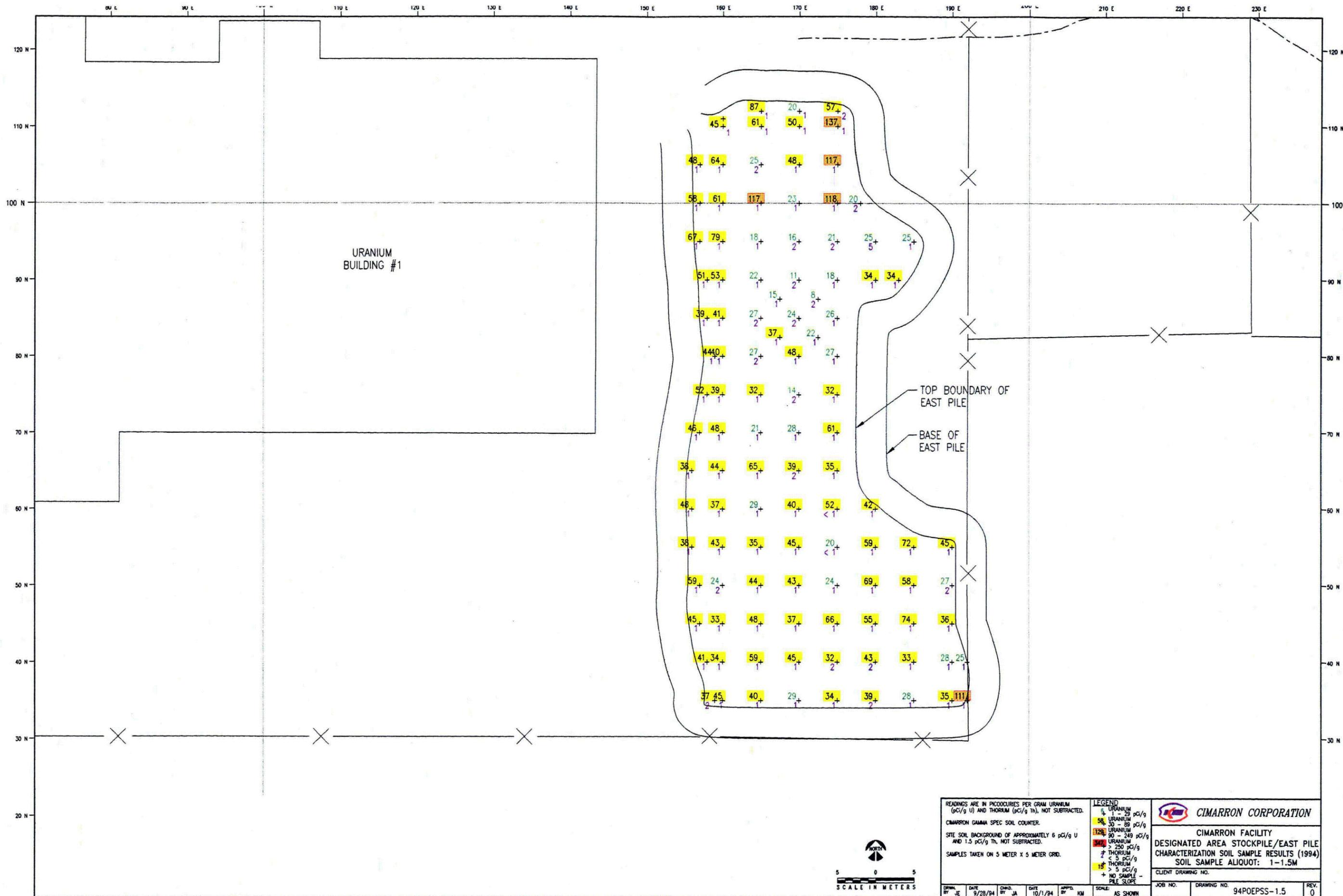
URANIUM BUILDING #1

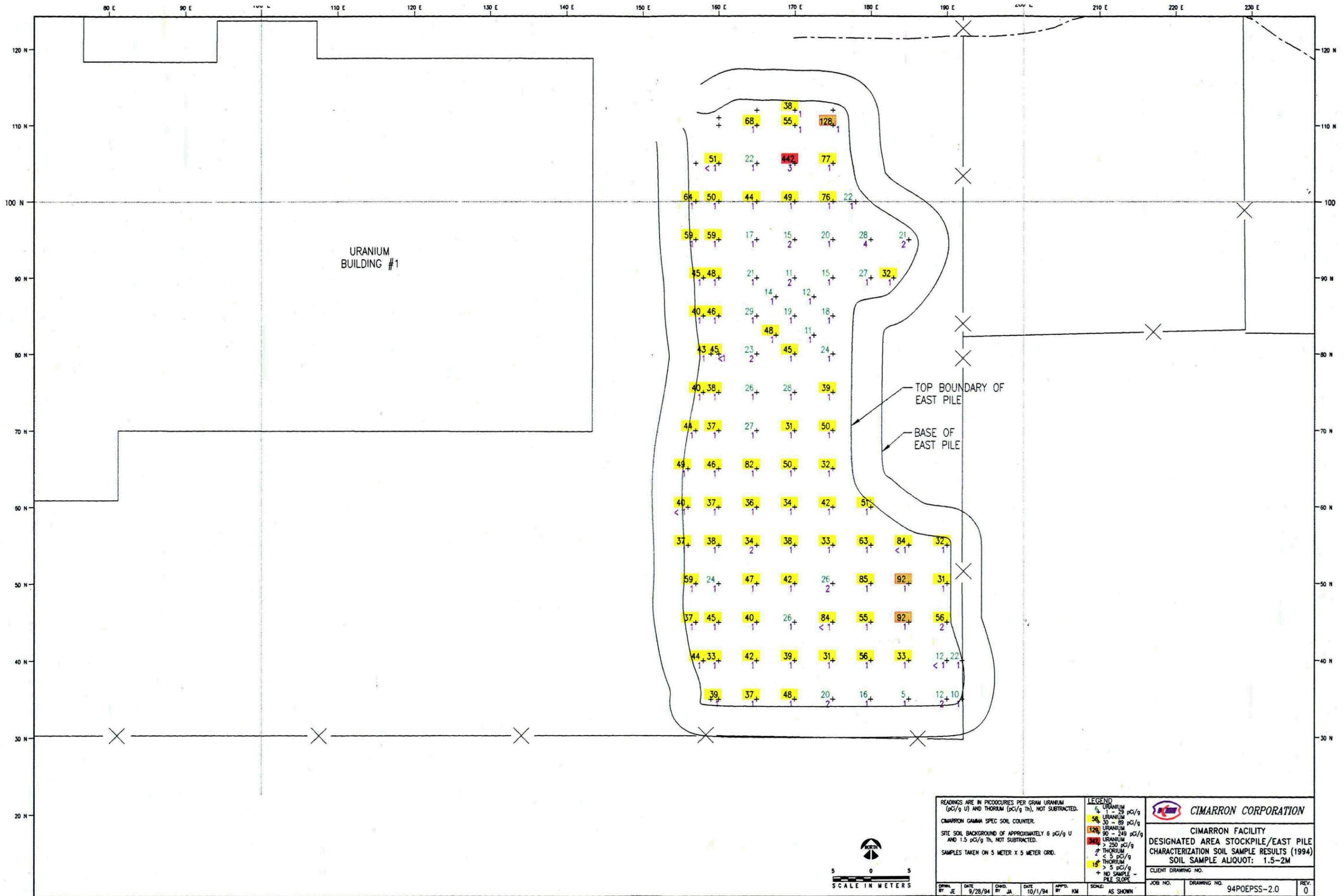
TOP BOUNDARY OF EAST PILE  
BASE OF EAST PILE

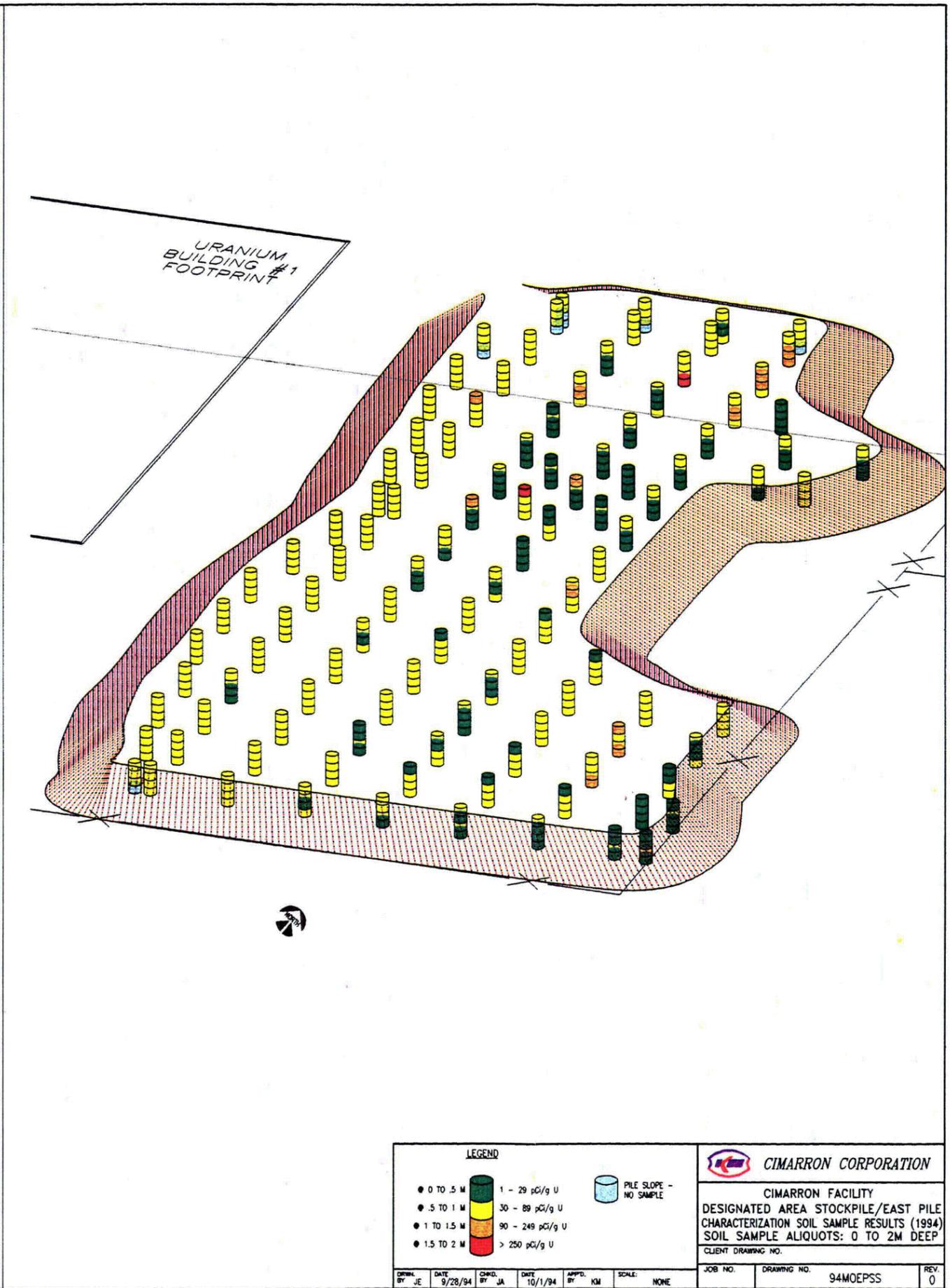
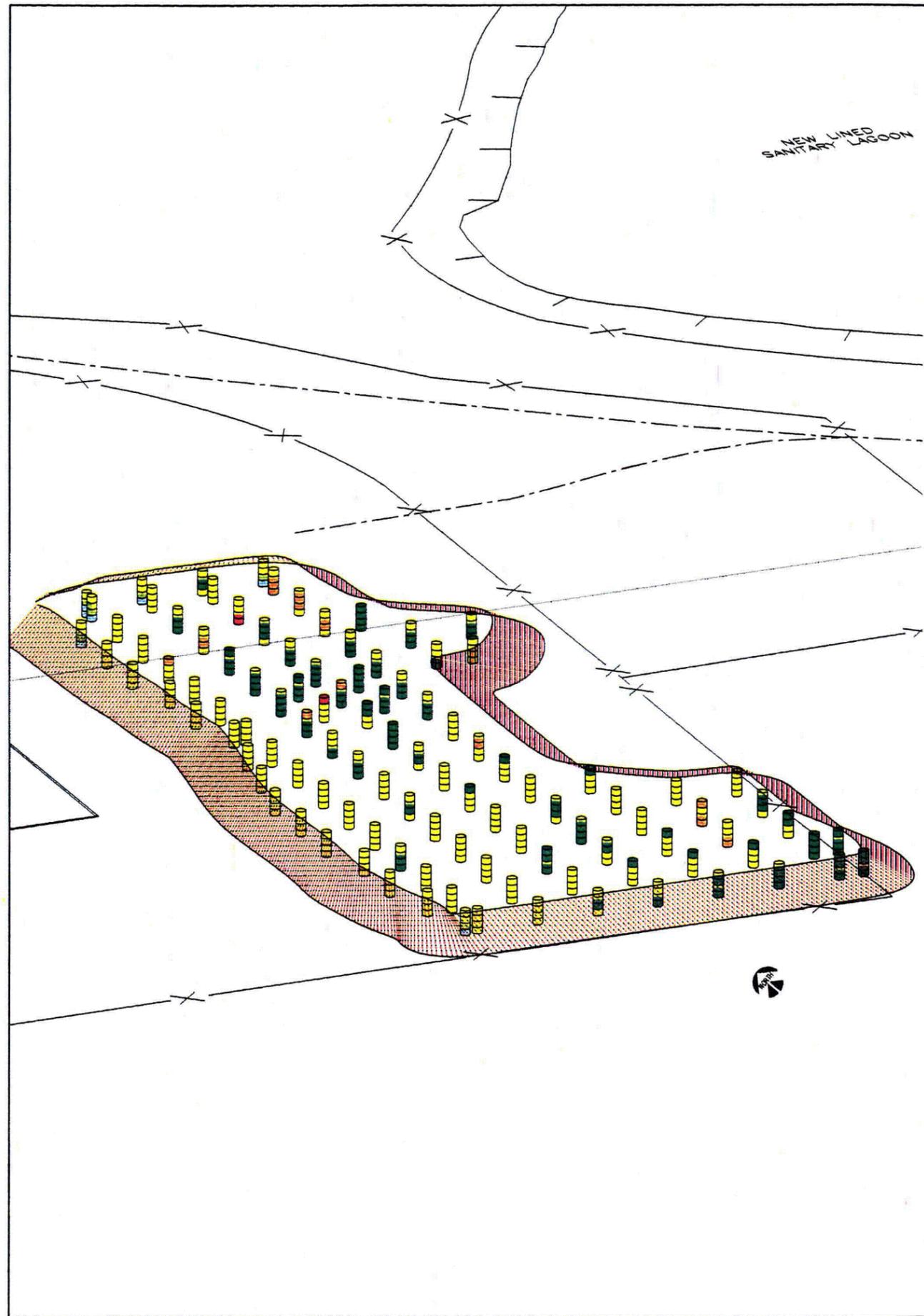
|  |  |   |                        |  |                                 |   |  |
|--|--|---|------------------------|--|---------------------------------|---|--|
| <p>READINGS ARE IN PICOGRAYS PER GRAM URANIUM (pg/g U) AND THORIUM (pg/g Th), NOT SUBTRACTED.<br/>CIMARRON GAMMA SPEC SOIL COUNTER.<br/>SITE SOIL BACKGROUND OF APPROXIMATELY 5 pg/g U AND 1.5 pg/g Th, NOT SUBTRACTED.<br/>SAMPLES TAKEN ON 5 METER X 5 METER GRID.</p> |  |   |                        | <p>LEGEND<br/>           5 URANIUM &lt; 29 pg/g<br/>           58 URANIUM 30 - 88 pg/g<br/>           128 URANIUM 90 - 249 pg/g<br/>           249 URANIUM &gt; 250 pg/g<br/>           7 THORIUM &lt; 5 pg/g<br/>           15 THORIUM &gt; 5 pg/g<br/>           + NO SAMPLE<br/>           - PILE SLOPE</p> |                                 | <p><b>CIMARRON CORPORATION</b><br/>           CIMARRON FACILITY<br/>           DESIGNATED AREA STOCKPILE/EAST PILE<br/>           CHARACTERIZATION SOIL SAMPLE RESULTS (1994)<br/>           SOIL SAMPLE ALIQUOT: 0-.5M<br/>           CLIENT DRAWING NO.</p> |  |
| <p>DATE: 9/28/94<br/>           DESIGNED BY: JE</p>  | <p>DATE: 10/1/94<br/>           CHECKED BY: JA</p> | <p>DATE: 10/1/94<br/>           APPROVED BY: KM</p> | <p>SCALE: AS SHOWN</p> | <p>JOB NO. 94POEPSS-0.5</p>  | <p>DRAWING NO. 94POEPSS-0.5</p> | <p>REV. 0</p>   |  |



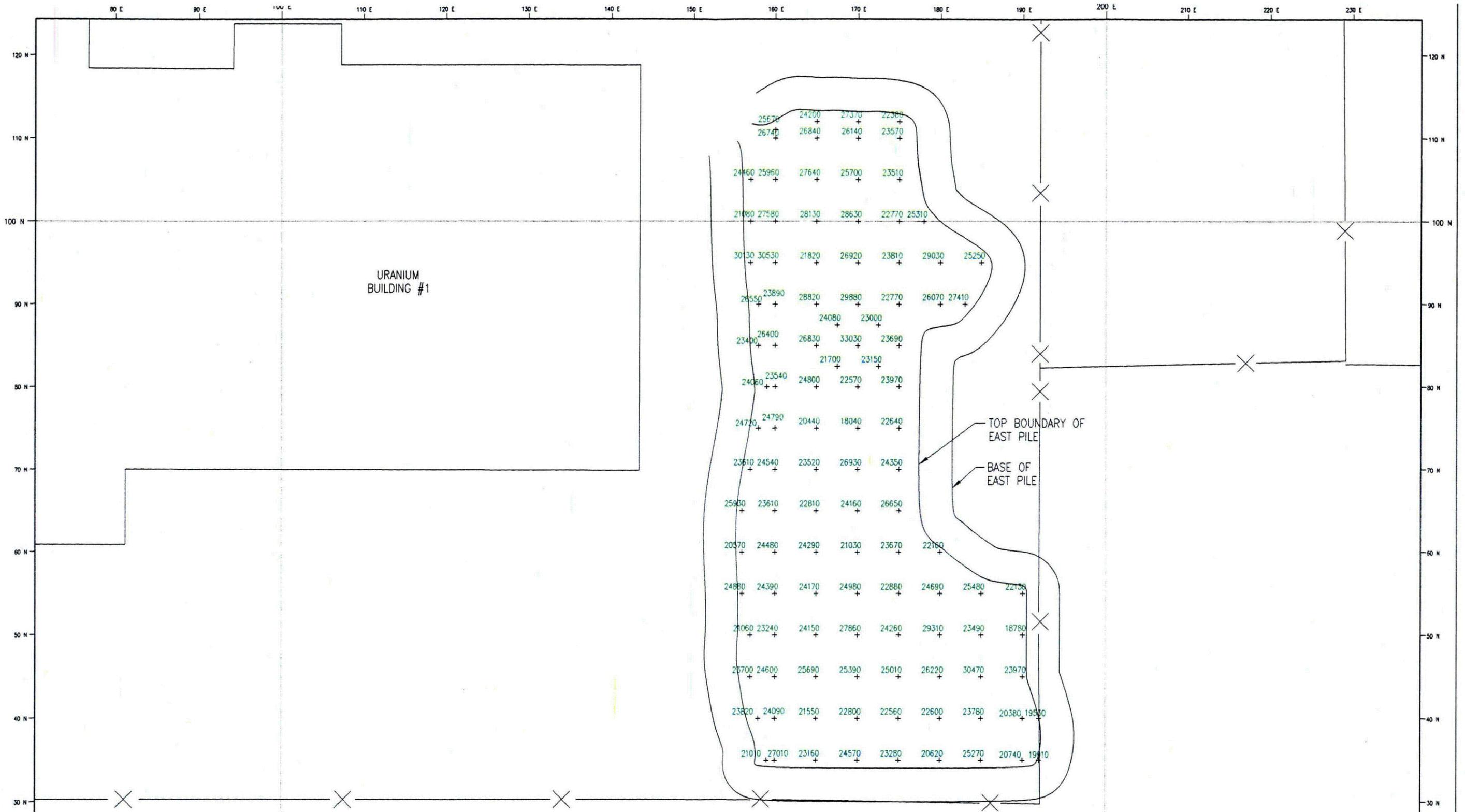








|  |                                 |                                   |  |                    |
|--|---------------------------------|-----------------------------------|--|--------------------|
| <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>● 0 TO .5 M 1 - 29 pCi/g U</li> <li>● .5 TO 1 M 30 - 89 pCi/g U</li> <li>● 1 TO 1.5 M 90 - 249 pCi/g U</li> <li>● 1.5 TO 2 M &gt; 250 pCi/g U</li> </ul> |                                 | <p>PILE SLOPE -<br/>NO SAMPLE</p> | <p><b>CIMARRON CORPORATION</b></p> <p>CIMARRON FACILITY<br/>DESIGNATED AREA STOCKPILE/EAST PILE<br/>CHARACTERIZATION AREA SOIL SAMPLE RESULTS (1994)<br/>SOIL SAMPLE ALIQUOTS: 0 TO 2M DEEP<br/>CLIENT DRAWING NO.</p> |                    |
| <p>DATE: 9/28/94<br/>BY: JE</p>  | <p>DATE: 10/1/94<br/>BY: JA</p> | <p>DATE: 10/1/94<br/>BY: KM</p>   |  | <p>SCALE: NONE</p> |

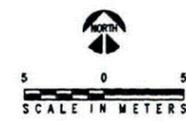


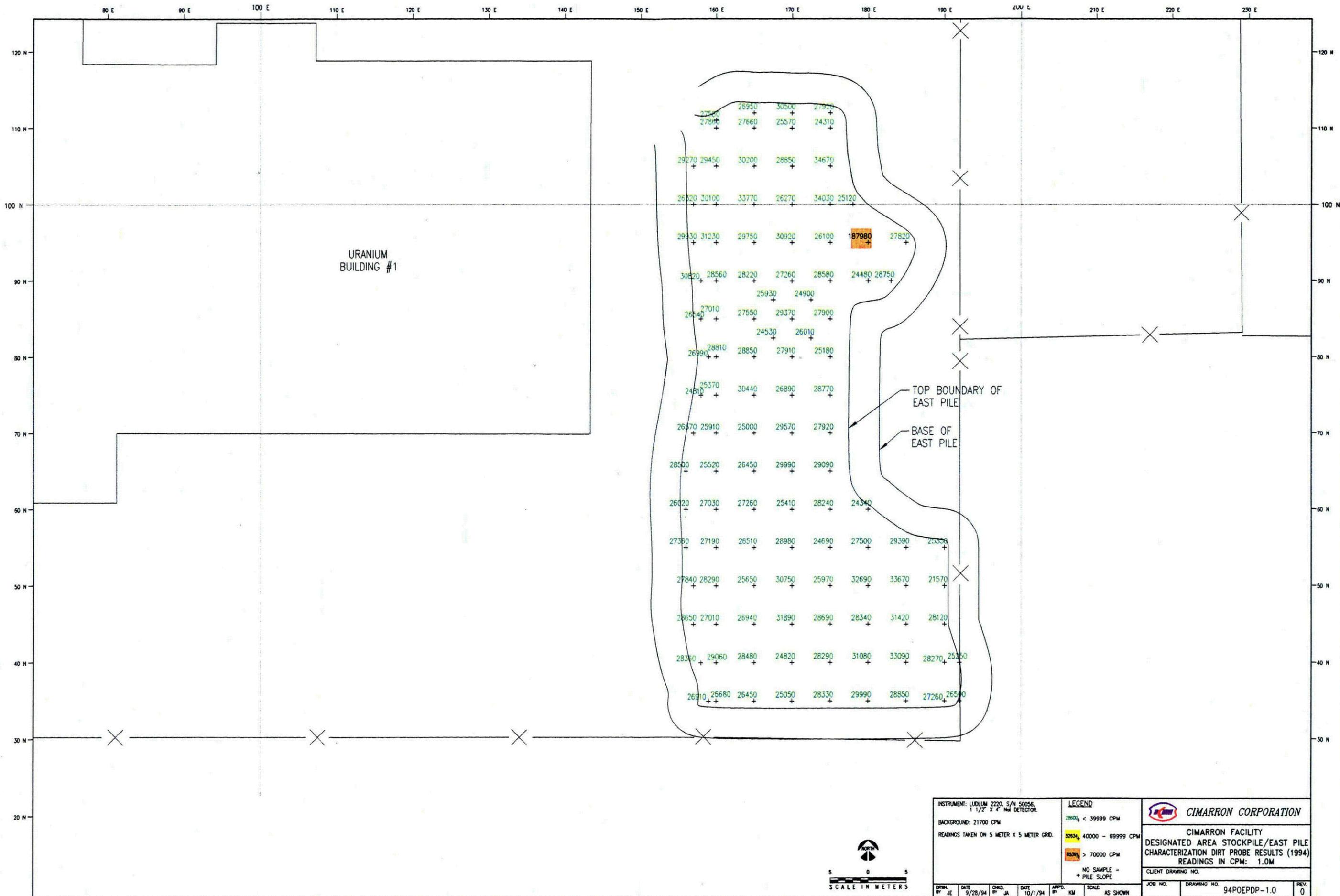
URANIUM  
BUILDING #1

TOP BOUNDARY OF  
EAST PILE

BASE OF  
EAST PILE

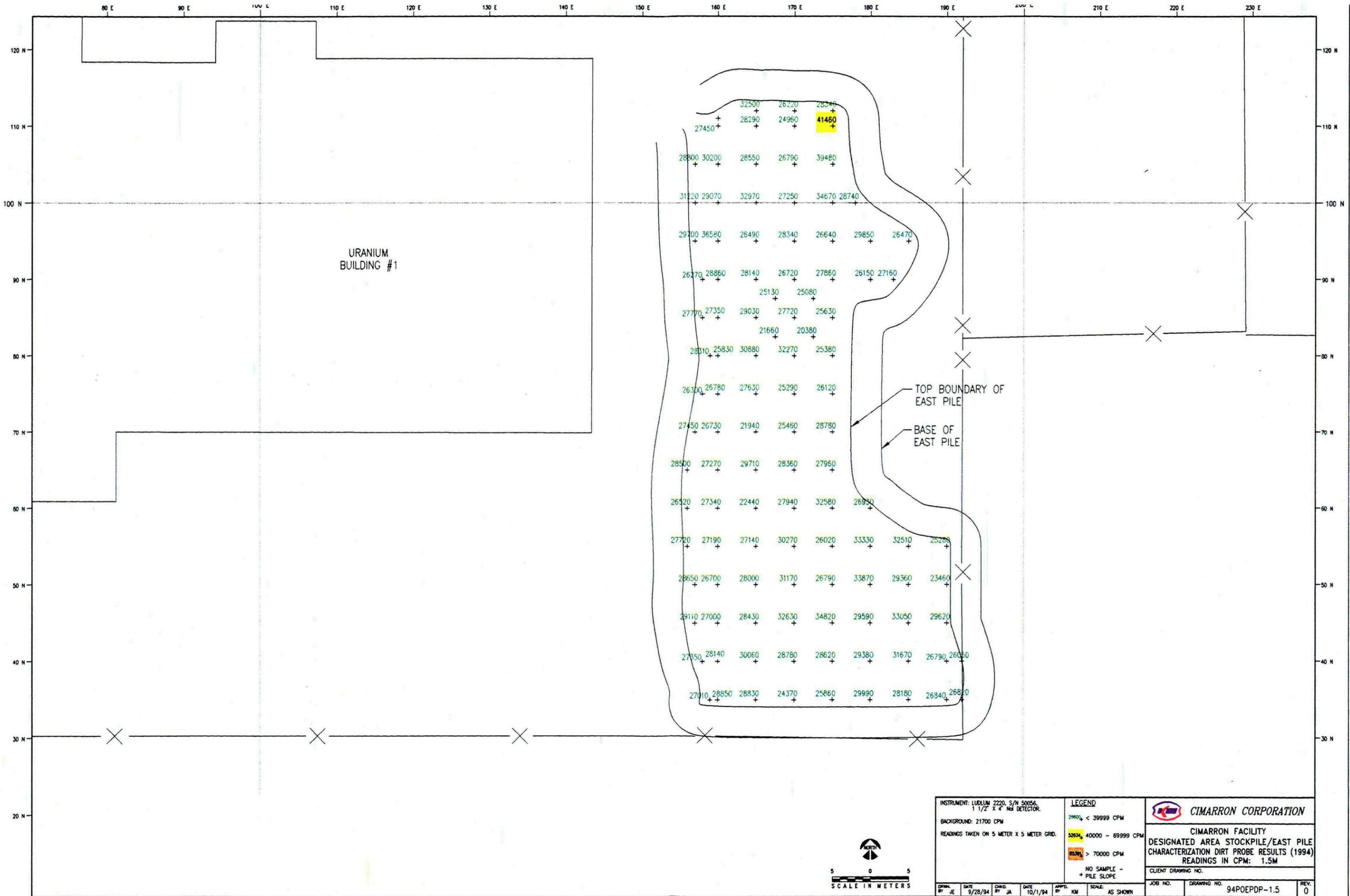
|  |         |         |         |                             |  |  |
|--|---------|---------|---------|-----------------------------|--|--|
| INSTRUMENT: LUDLUM 2220, S/N 50056,<br>1 1/2" X 4" NaI DETECTOR. |         |         |         | LEGEND                      |  | <br><b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/EAST PILE<br>CHARACTERIZATION DIRT PROBE RESULTS (1994)<br>READINGS IN CPM: .5M DEEP<br>CLIENT DRAWING NO. |
| BACKGROUND: 21700 CPM  |         |         |         | 28604 < 39999 CPM           |  |  |
| READINGS TAKEN ON 5 METER X 5 METER GRID.                        |         |         |         | 52634 40000 - 69999 CPM     |  | JOB NO.      DRAWING NO. 94POEPP-0.5      REV. 0<br><small>W:\CIMARRON\RD\94POEPP</small>  |
|  |         |         |         | 65294 > 70000 CPM           |  |  |
|  |         |         |         | NO SAMPLE -<br>+ PILE SLOPE |  |  |
| DATE   | DATE    | DATE    | DATE    | SCALE                       |  |  |
| 9/28/94  | 10/1/94 | 10/1/94 | 10/1/94 | AS SHOWN                    |  |  |





|  |  |  |  |
|--|--|--|--|
| INSTRUMENT: LUDLUM 2220, S/N 50056,<br>1 1/2" X 4" NaI DETECTOR.<br>BACKGROUND: 21700 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID. |  | <b>LEGEND</b><br>28600 < 39999 CPM<br>39999 - 40000 CPM<br>40000 - 69999 CPM<br>69999 - 70000 CPM<br>NO SAMPLE -<br>* PILE SLOPE | <b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/EAST PILE<br>CHARACTERIZATION DIRT PROBE RESULTS (1994)<br>READINGS IN CPM: 1.0M<br>CLIENT DRAWING NO. |
| DRAWN BY: JE<br>DATE: 9/28/94<br>CHKD BY: JA<br>DATE: 10/1/94<br>APPD BY: KM<br>SCALE: AS SHOWN  | JOB NO. 94POEPDP-1.0<br>DRAWING NO. 94POEPDP-1.0<br>REV. 0 | M:\CIMARRON\REMED\94POEPDP   |  |



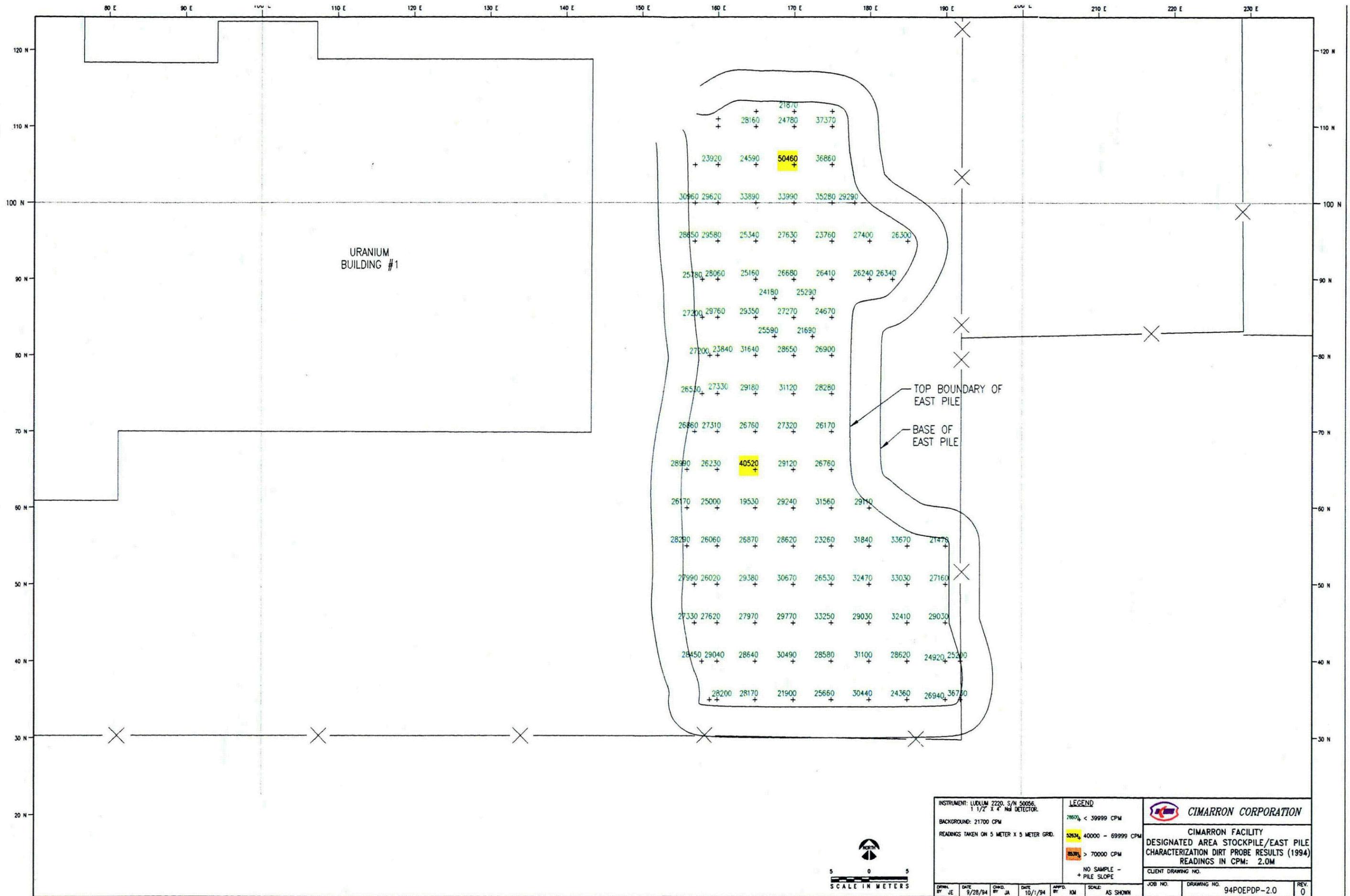


URANIUM  
BUILDING #1

TOP BOUNDARY OF  
EAST PILE

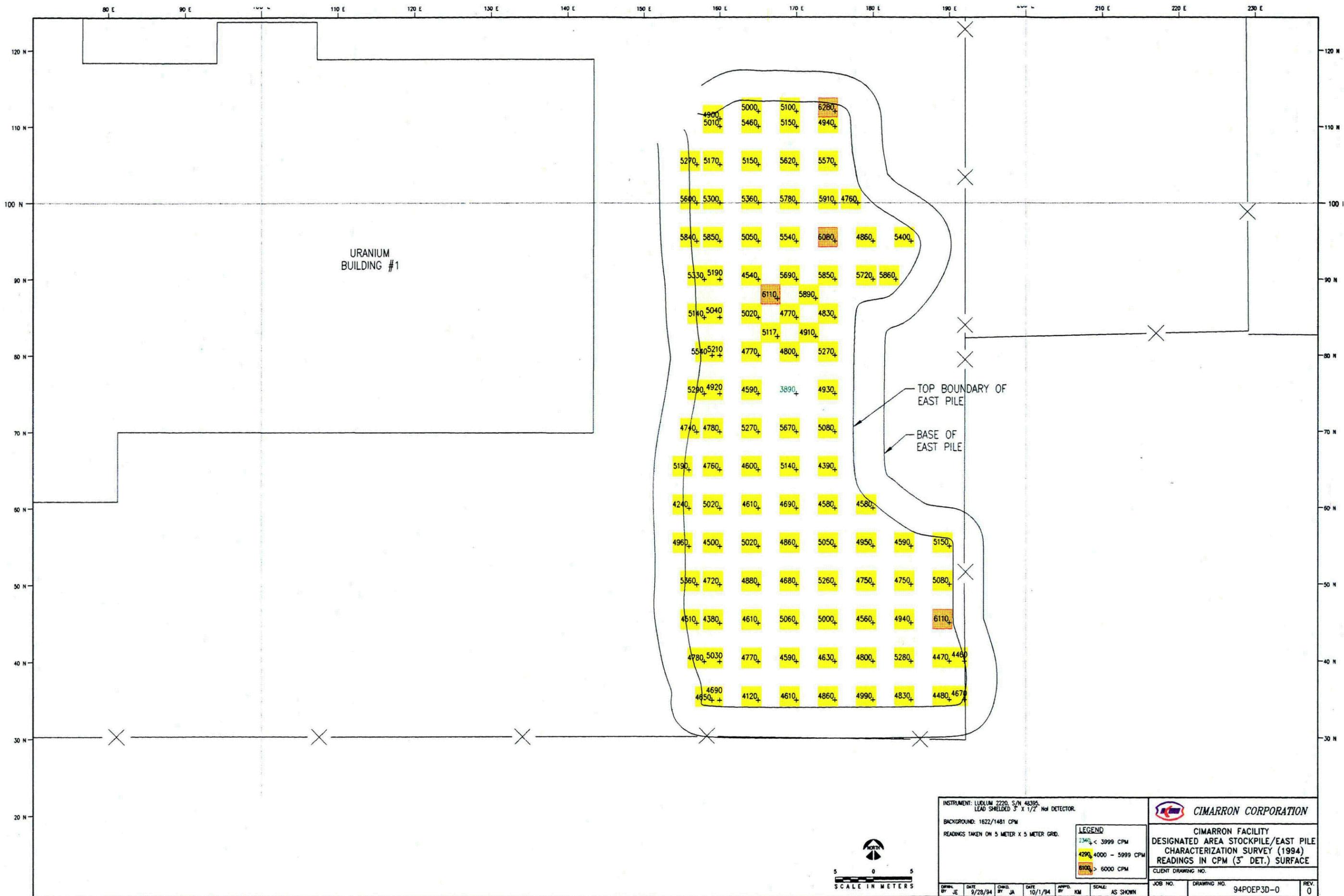
BASE OF  
EAST PILE

|  |                 |  |   |
|--|-----------------|--|---|
| INSTRUMENT: LUDLUM 2220, S/N 50056,<br>1 1/2" X 4" NaI DETECTOR.<br>BACKGROUND: 21700 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID. |                 | <b>LEGEND</b><br>2000 < 39999 CPM<br>40000 - 69999 CPM<br>> 70000 CPM<br>NO SAMPLE -<br>+ PILE SLOPE | <p><b>CIMARRON CORPORATION</b></p> <p>CIMARRON FACILITY<br/>         DESIGNATED AREA STOCKPILE/EAST PILE<br/>         CHARACTERIZATION DIRT PROBE RESULTS (1994)<br/>         READINGS IN CPM: 1.5M</p> <p>CLIENT DRAWING NO.</p> |
| DATE: 9/28/94<br>CHKD. BY: JA<br>DATE: 10/1/94<br>APPD. BY: KM   | SCALE: AS SHOWN | JOB NO.<br>DRAWING NO. 94POEPDP-1.5<br>REV. 0  |   |



|  |   |   |   |
|--|---|---|---|
| INSTRUMENT: LUDLUM 2220, S/N 50056,<br>1 1/2" X 4" NaI DETECTOR.<br>BACKGROUND: 21700 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID. |   | <b>LEGEND</b><br>28600 < 39999 CPM<br>52634 40000 - 69999 CPM<br>50460 > 70000 CPM<br>NO SAMPLE -<br>+ PILE SLOPE | <p><b>CIMARRON CORPORATION</b></p> <p>CIMARRON FACILITY<br/>         DESIGNATED AREA STOCKPILE/EAST PILE<br/>         CHARACTERIZATION DIRT PROBE RESULTS (1994)<br/>         READINGS IN CPM: 2.0M</p> <p>CLIENT DRAWING NO.</p> |
| DRAWN BY: JE<br>DATE: 9/28/94<br>CHECK BY: JA<br>DATE: 10/1/94<br>APP'D BY: KM<br>SCALE: AS SHOWN                                      | JOB NO.<br>DRAWING NO. 94POEPDP-2.0<br>REV. 0 |   |   |





INSTRUMENT: LUDLUM 2220, S/N 48395.  
LEAD SHIELDED 3" X 1/2" NaI DETECTOR.

BACKGROUND: 1622/1481 CPM

READINGS TAKEN ON 5 METER X 5 METER GRID.

DATE: 9/28/94  
DRAWN BY: JA  
DATE: 10/1/94  
APPROVED BY: KM

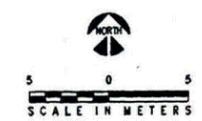
SCALE: AS SHOWN

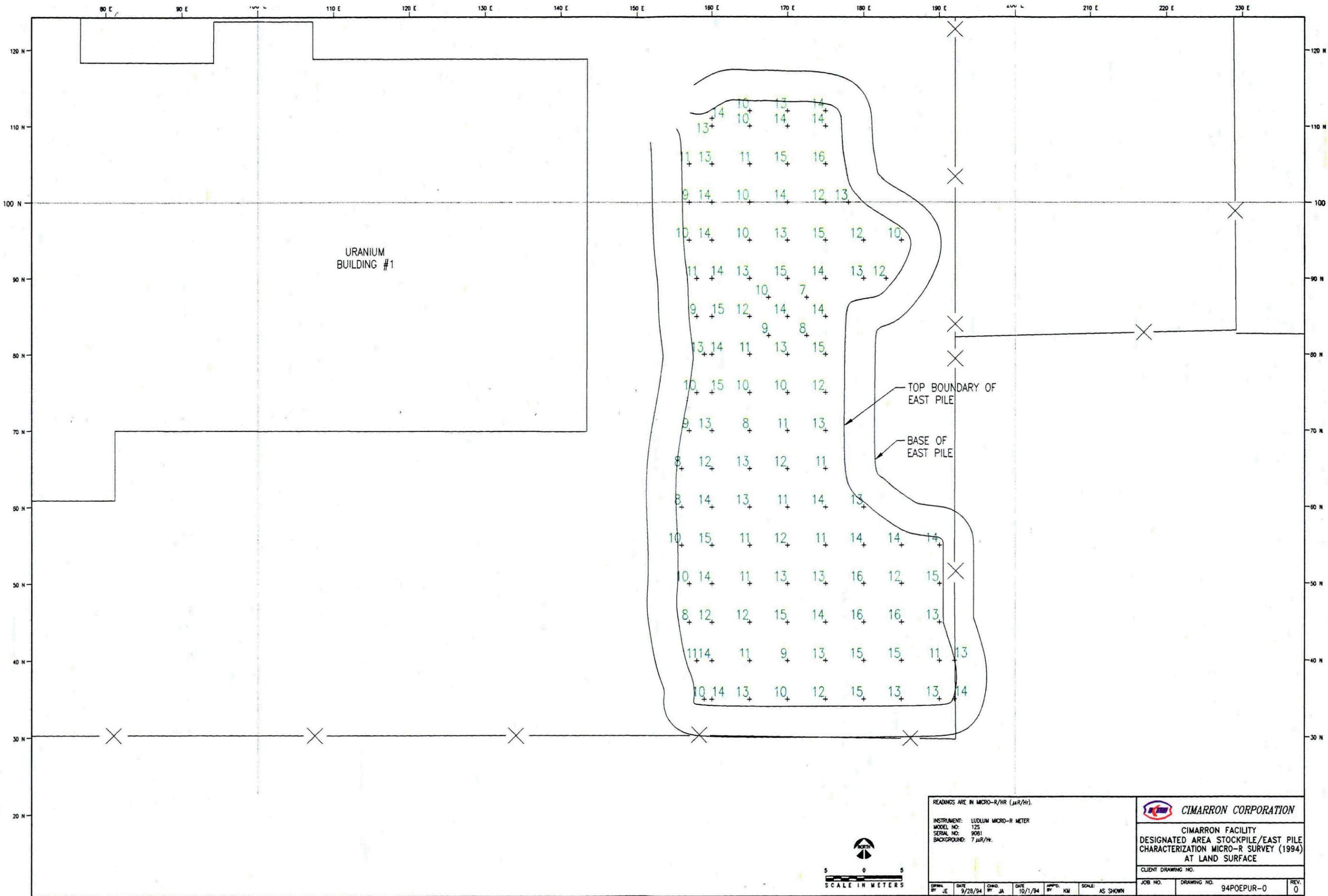
**CIMARRON CORPORATION**

CIMARRON FACILITY  
DESIGNATED AREA STOCKPILE/EAST PILE  
CHARACTERIZATION SURVEY (1994)  
READINGS IN CPM (3" DET.) SURFACE

CLIENT DRAWING NO.

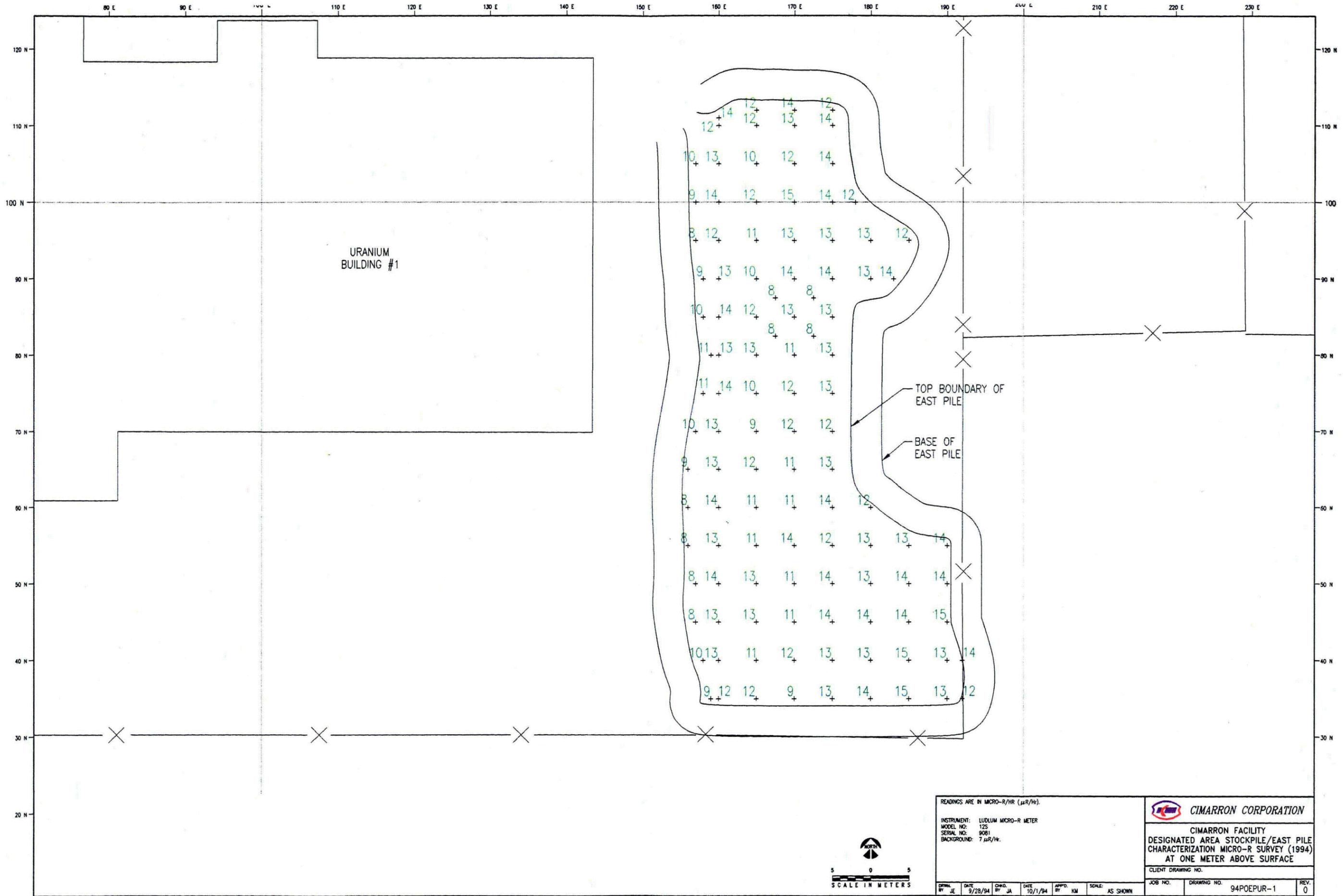
JOB NO. DRAWING NO. 94POEP3D-0 REV. 0





|   |   |  |
|---|---|--|
| READINGS ARE IN MICRO-R/HR (µR/Hr).<br>INSTRUMENT: LUDLUM MICRO-R METER<br>MODEL NO: 125<br>SERIAL NO: 9081<br>BACKGROUND: 7 µR/Hr. |   | <br><b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/EAST PILE<br>CHARACTERIZATION MICRO-R SURVEY (1994)<br>AT LAND SURFACE<br>CLIENT DRAWING NO. |
| DRAWN BY: JE<br>DATE: 9/28/94<br>CHECKED BY: JA<br>DATE: 10/1/94<br>APPROVED BY: KM<br>SCALE: AS SHOWN                              | JOB NO.<br>DRAWING NO. 94POEPUR-0<br>REV. 0 |  |





URANIUM  
BUILDING #1

TOP BOUNDARY OF  
EAST PILE

BASE OF  
EAST PILE

READINGS ARE IN MICRO-R/HR ( $\mu R/Hr$ ).

INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 BACKGROUND: 7  $\mu R/Hr$ .

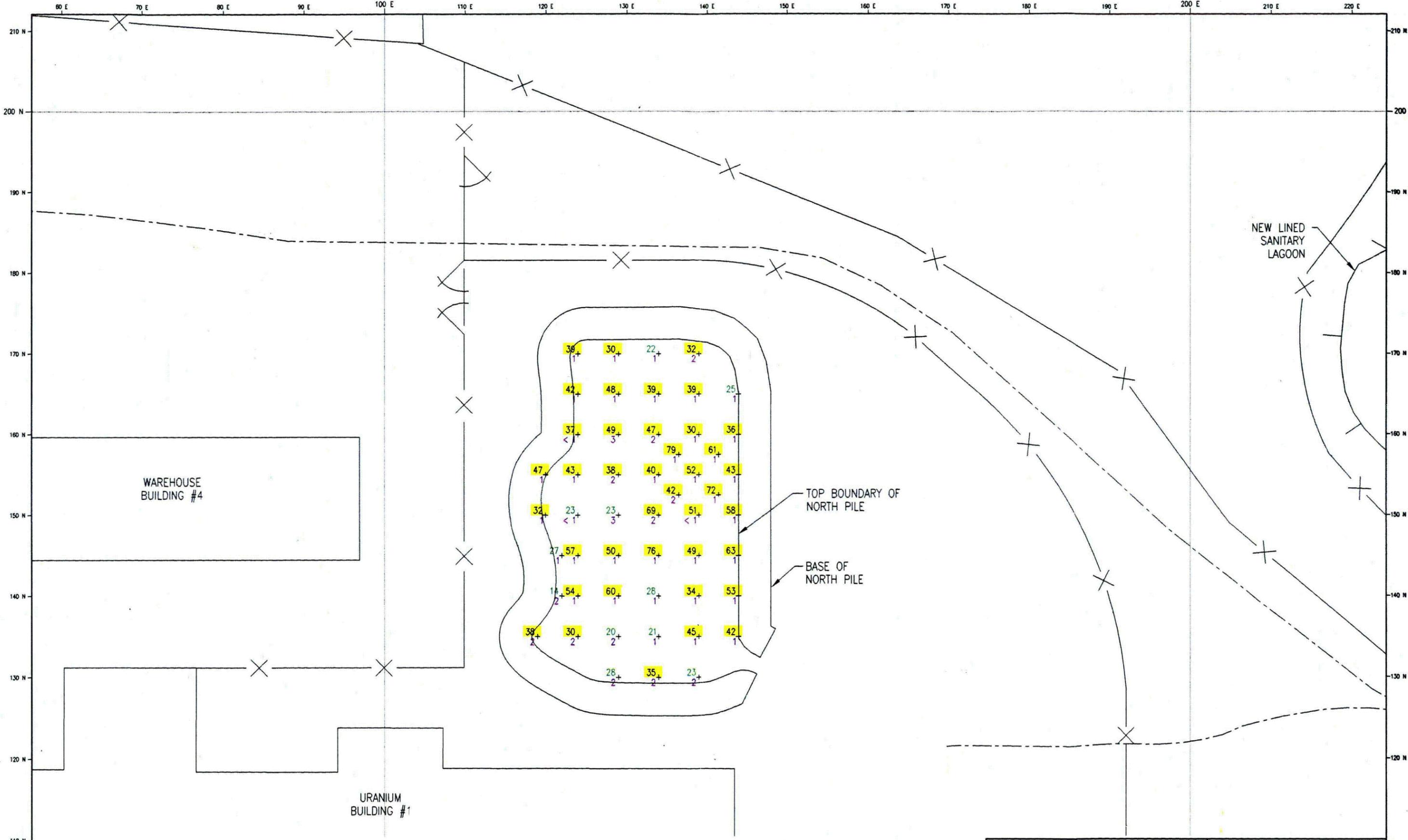
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 DESIGNATED AREA STOCKPILE/EAST PILE  
 CHARACTERIZATION MICRO-R SURVEY (1994)  
 AT ONE METER ABOVE SURFACE

CLIENT DRAWING NO.

|               |                 |                |                 |                |                   |         |                           |           |
|---------------|-----------------|----------------|-----------------|----------------|-------------------|---------|---------------------------|-----------|
| DATE<br>BY JE | DATE<br>9/28/94 | CHKD.<br>BY JA | DATE<br>10/1/94 | APPR.<br>BY KM | SCALE<br>AS SHOWN | JOB NO. | DRAWING NO.<br>94POEPUR-1 | REV.<br>0 |
|---------------|-----------------|----------------|-----------------|----------------|-------------------|---------|---------------------------|-----------|

145, CIMARRON, P.O. BOX 94, POEPUR



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

**LEGEND**  
 1 - 29 pCi/g URANIUM  
 30 - 89 pCi/g URANIUM  
 > 90 pCi/g URANIUM  
 T THORIUM  
 + NO SAMPLE - PILE SLOPE

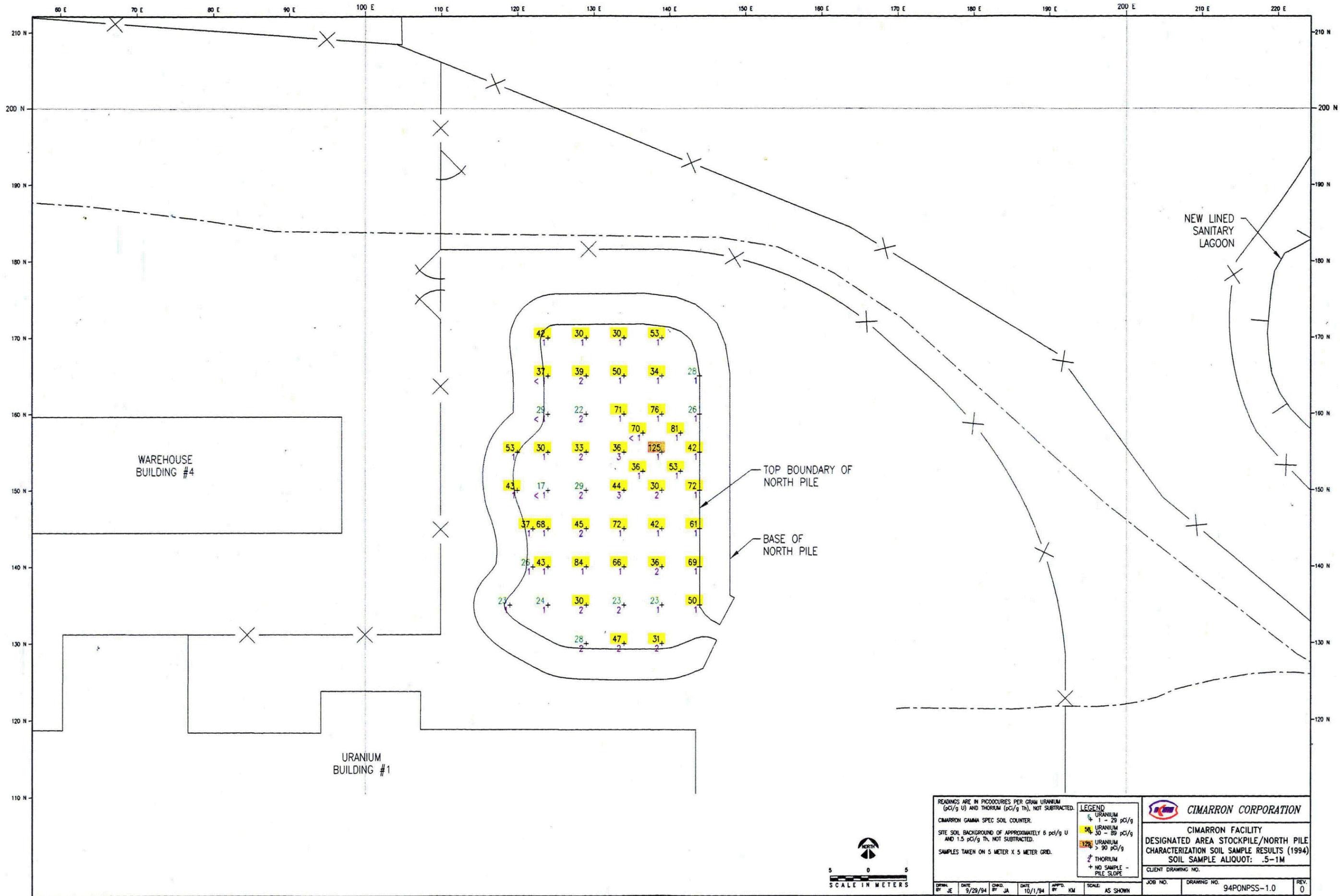
**CIMARRON CORPORATION**  
 CIMARRON FACILITY  
 DESIGNATED AREA STOCKPILE/NORTH PILE  
 CHARACTERIZATION SOIL SAMPLE RESULTS (1994)  
 SOIL SAMPLE ALIQUOT: 0-.5M

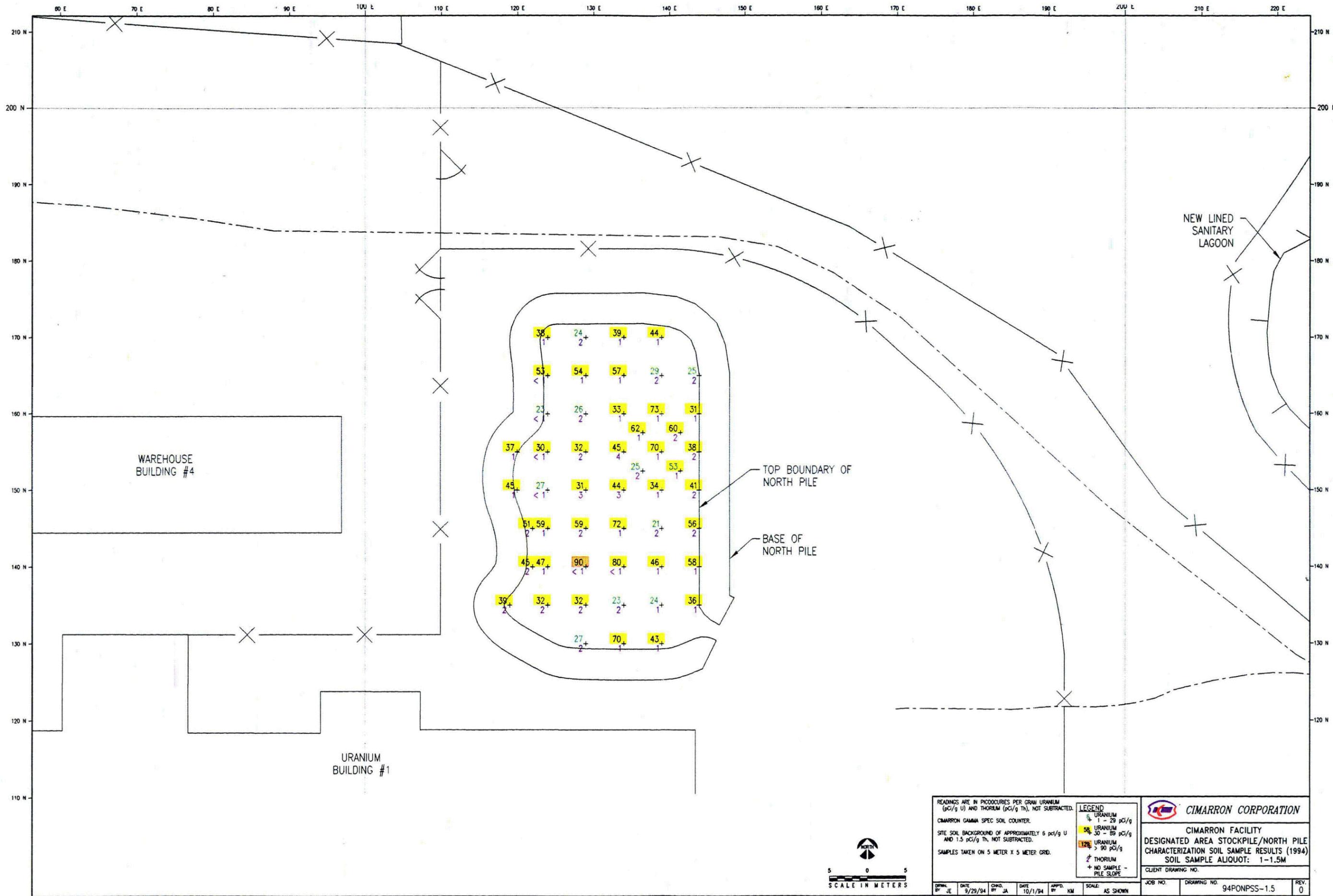
CLIENT DRAWING NO. \_\_\_\_\_  
 JOB NO. \_\_\_\_\_ DRAWING NO. 94PONPSS-05 REV. 0

SCALE: AS SHOWN

DATE: 9/29/94  
 DATE: 10/1/94







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

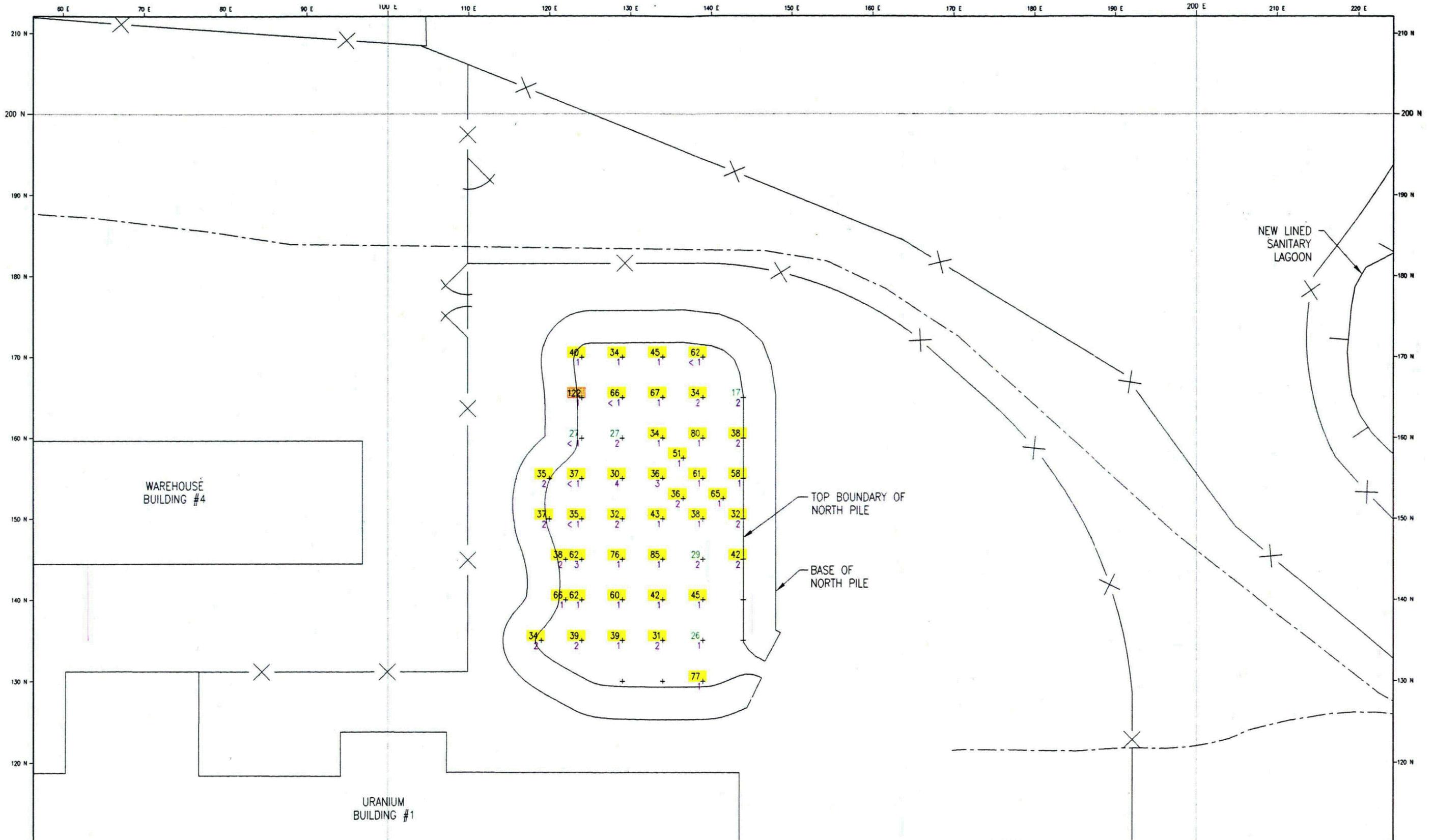
**CIMARRON CORPORATION**

**CIMARRON FACILITY**  
DESIGNATED AREA STOCKPILE/NORTH PILE  
CHARACTERIZATION SOIL SAMPLE RESULTS (1994)  
SOIL SAMPLE ALIQUOT: 1-1.5M

CLIENT DRAWING NO. \_\_\_\_\_

|         |    |         |    |      |    |          |              |             |      |
|---------|----|---------|----|------|----|----------|--------------|-------------|------|
| DATE    | BY | DATE    | BY | DATE | BY | SCALE    | JOB NO.      | DRAWING NO. | REV. |
| 9/29/94 | JE | 10/1/94 | JA |      | KM | AS SHOWN | 94PONPSS-1.5 |             | 0    |

SCALE IN METERS



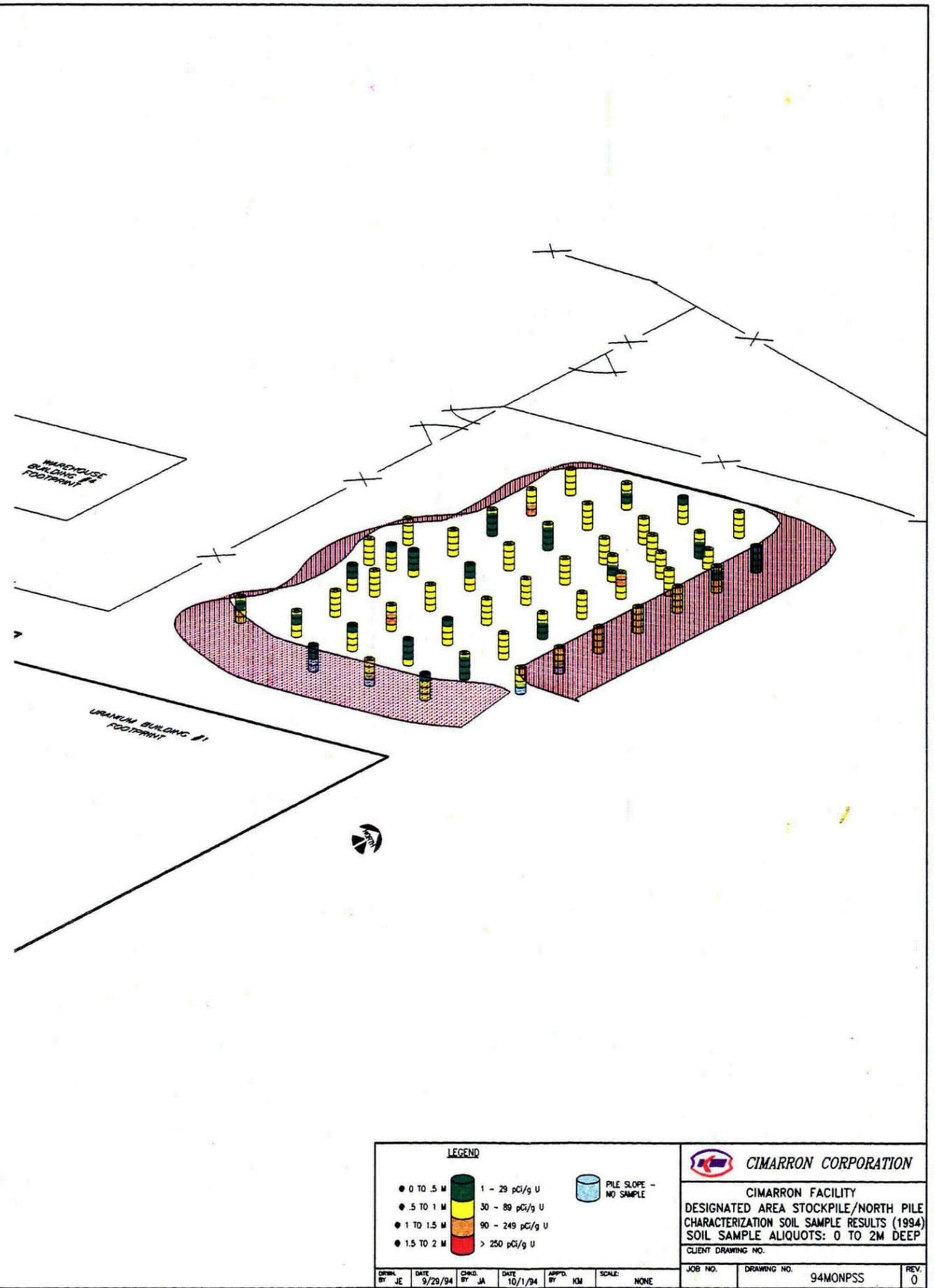
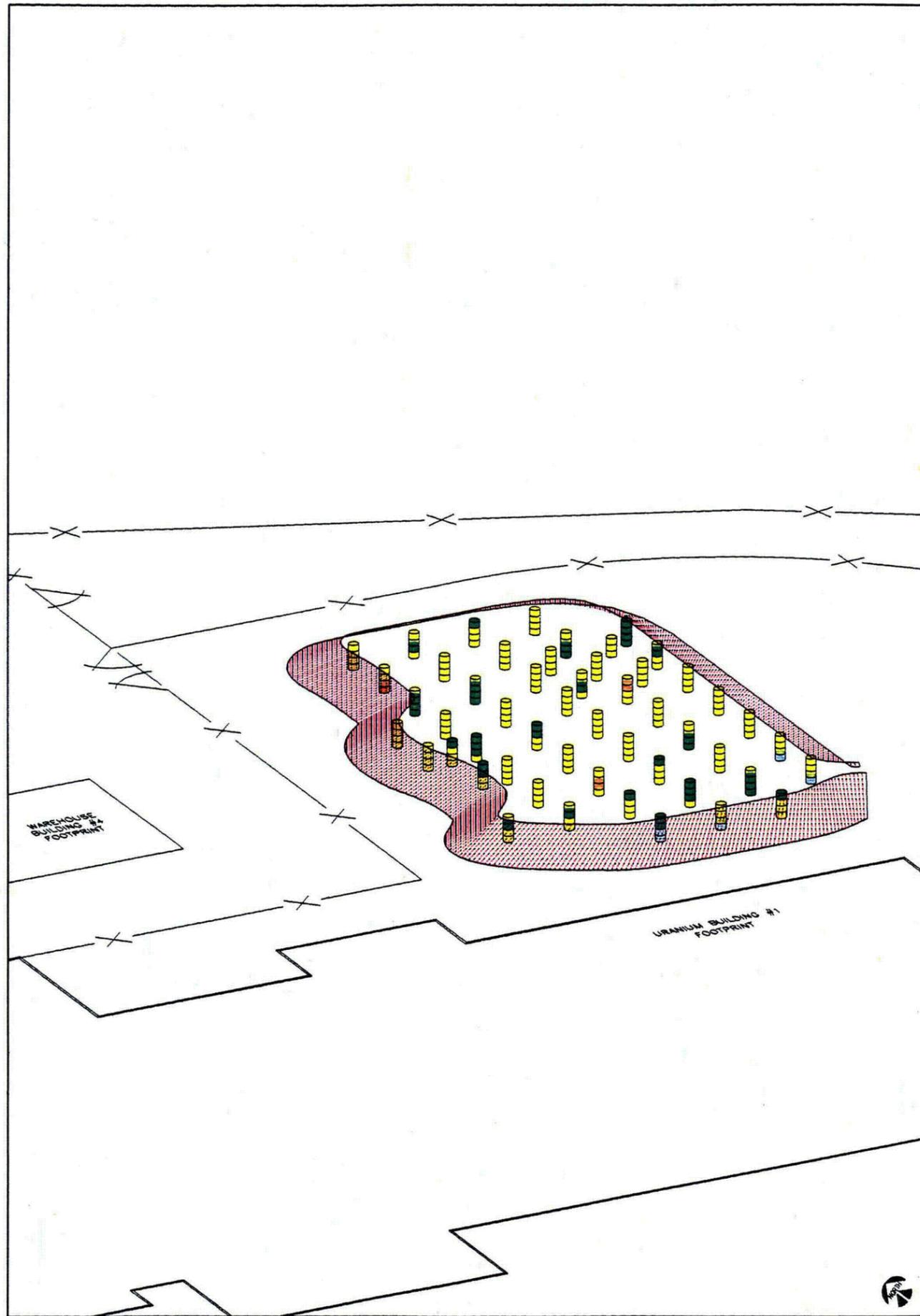
READINGS ARE IN PICOCURIES PER GRAM URANIUM (pCi/g U) AND THORIUM (pCi/g Th), NOT SUBTRACTED. CIMARRON GAMMA SPEC SOIL COUNTER. SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U AND 1.5 pCi/g Th, NOT SUBTRACTED. SAMPLES TAKEN ON 5 METER X 5 METER GRID.

**LEGEND**  
 1-29 pCi/g URANIUM  
 30-89 pCi/g URANIUM  
 > 90 pCi/g URANIUM  
 THORIUM  
 NO SAMPLE - PILE SLOPE

**CIMARRON CORPORATION**  
 CIMARRON FACILITY  
 DESIGNATED AREA STOCKPILE/NORTH PILE  
 CHARACTERIZATION SOIL SAMPLE RESULTS (1994)  
 SOIL SAMPLE ALIQUOT: 1.5-2M  
 CLIENT DRAWING NO.

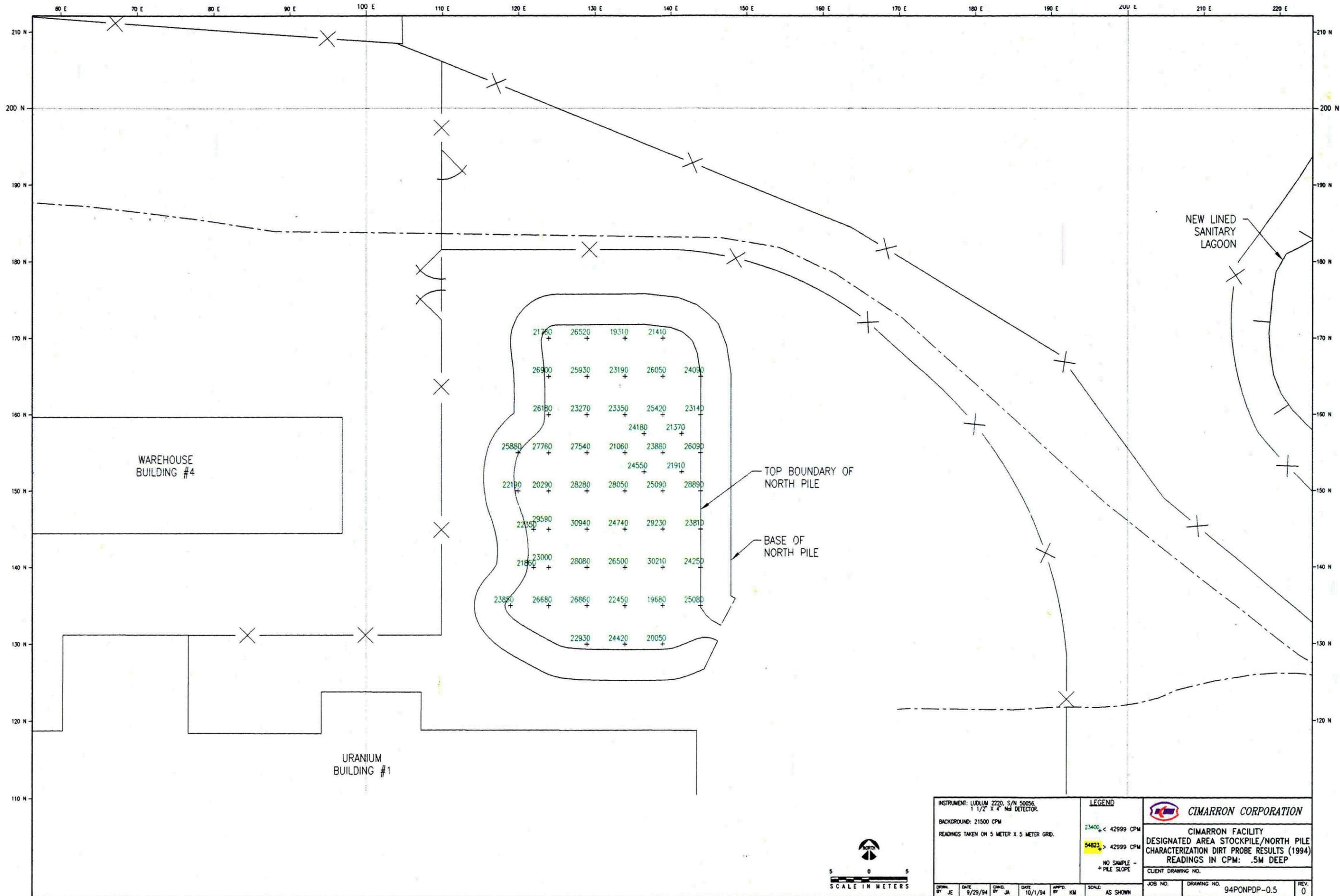
|               |                          |             |               |                |                 |
|---------------|--------------------------|-------------|---------------|----------------|-----------------|
| DESIGN BY: JE | DATE: 9/29/94            | CHG. BY: JA | DATE: 10/1/94 | APPROV. BY: KM | SCALE: AS SHOWN |
| JOB NO.       | DRAWING NO. 94PONPSS-2.0 | REV. 0      |               |                |                 |

SCALE IN METERS

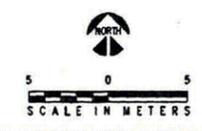


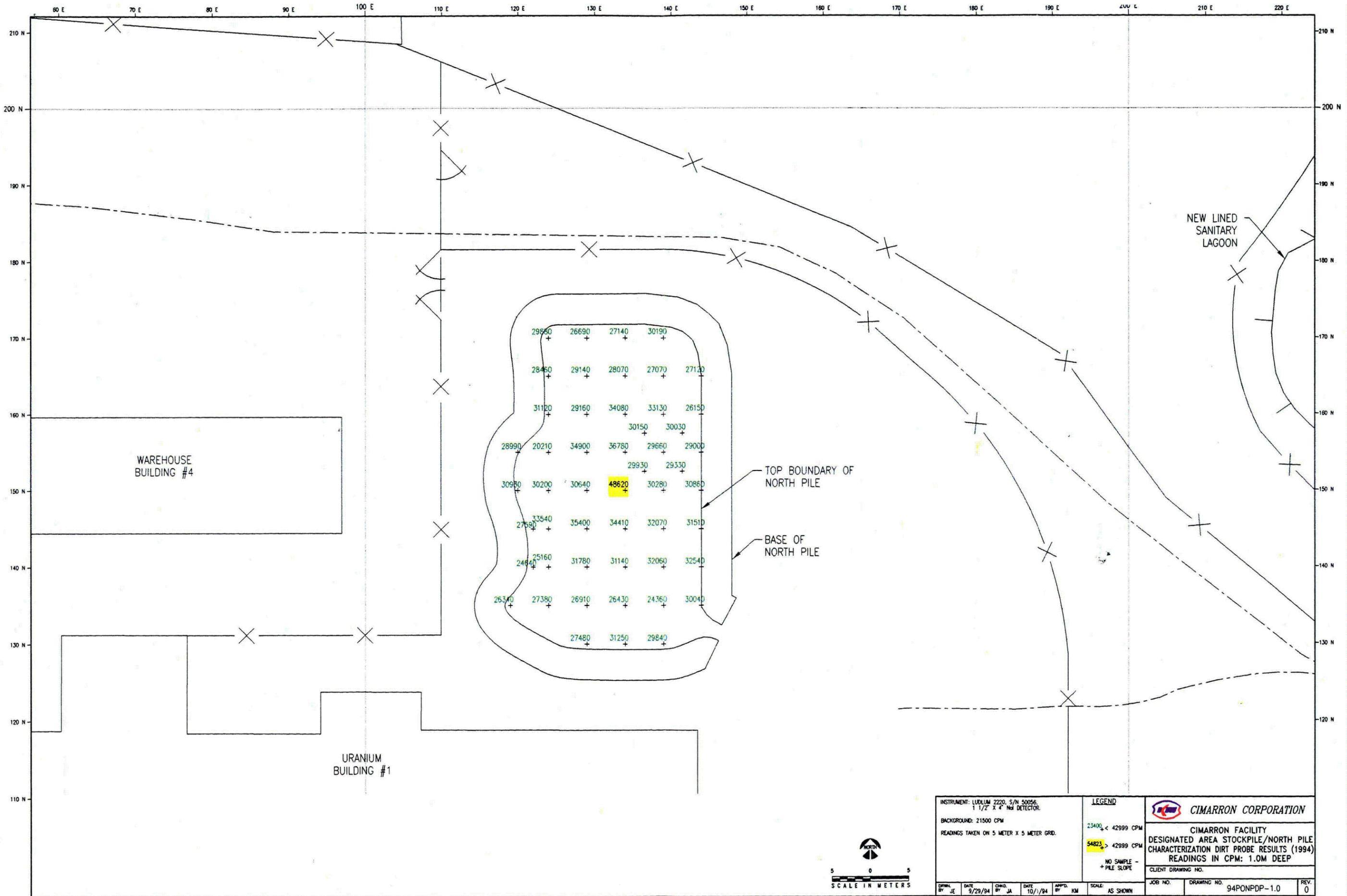
|  |                      |                               |  |                      |                      |                    |                |                             |
|--|----------------------|-------------------------------|--|----------------------|----------------------|--------------------|----------------|-----------------------------|
| <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>● 0 TO .5 M 1 - 29 pCi/g U</li> <li>● .5 TO 1 M 30 - 89 pCi/g U</li> <li>● 1 TO 1.5 M 90 - 249 pCi/g U</li> <li>● 1.5 TO 2 M &gt; 250 pCi/g U</li> </ul> |                      | <p>PILE SLOPE - NO SAMPLE</p> | <p><b>CIMARRON CORPORATION</b></p> <p>CIMARRON FACILITY<br/>         DESIGNATED AREA STOCKPILE/NORTH PILE<br/>         CHARACTERIZATION SOIL SAMPLE RESULTS (1994)<br/>         SOIL SAMPLE ALIQUOTS: 0 TO 2M DEEP<br/>         CLIENT DRAWING NO.</p> |                      |                      |                    |                |                             |
| <p>DRWN BY: JE</p>   | <p>DATE: 9/29/94</p> | <p>CRD BY: JA</p>             |  | <p>DATE: 10/1/94</p> | <p>APP'D BY: KJM</p> | <p>SCALE: NONE</p> | <p>JOB NO.</p> | <p>DRAWING NO. 94MONPSS</p> |

M:\CIMARRON\REMED\FILES



|  |                          |                   |               |   |                 |
|--|--------------------------|-------------------|---------------|---|-----------------|
| INSTRUMENT: LUDLUM 2220, S/N 50056<br>1 1/2" X 4" NaI DETECTOR |                          | <b>LEGEND</b>     |               | <b>CIMARRON CORPORATION</b>                     |                 |
| BACKGROUND: 21500 CPM  |                          | 23400 < 42999 CPM |               | CIMARRON FACILITY                               |                 |
| READINGS TAKEN ON 5 METER X 5 METER GRID.                      |                          | 54823 > 42999 CPM |               | DESIGNATED AREA STOCKPILE/NORTH PILE            |                 |
|  |                          | NO SAMPLE -       |               | CHARACTERIZATION AREA DIRT PROBE RESULTS (1994) |                 |
|  |                          | + PILE SLOPE      |               | READINGS IN CPM: .5M DEEP                       |                 |
|  |                          |                   |               | CLIENT DRAWING NO.                              |                 |
| DESIGN. BY: JE   | DATE: 9/29/94            | CHKD. BY: JA      | DATE: 10/1/94 | APPRD. BY: KM                                   | SCALE: AS SHOWN |
| JOB NO.  | DRAWING NO. 94PONPDP-0.5 | REV. 0            |               |   |                 |





|       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 29850 | 26690 | 27140 | 30190 |       |
| 28450 | 29140 | 28070 | 27070 | 27120 |
| 31120 | 29160 | 34080 | 33130 | 26150 |
|       |       | 30150 | 30030 |       |
| 28990 | 20210 | 34900 | 36780 | 29660 |
|       |       |       | 29930 | 29330 |
| 30950 | 30200 | 30640 | 48620 | 30280 |
|       | 33540 | 35400 | 34410 | 32070 |
| 27590 |       |       |       | 31510 |
| 24840 | 25160 | 31780 | 31140 | 32060 |
|       |       |       |       | 32540 |
| 26340 | 27380 | 26910 | 26430 | 24360 |
|       |       |       |       | 30040 |
|       |       | 27480 | 31250 | 29840 |

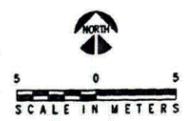
WAREHOUSE BUILDING #4

URANIUM BUILDING #1

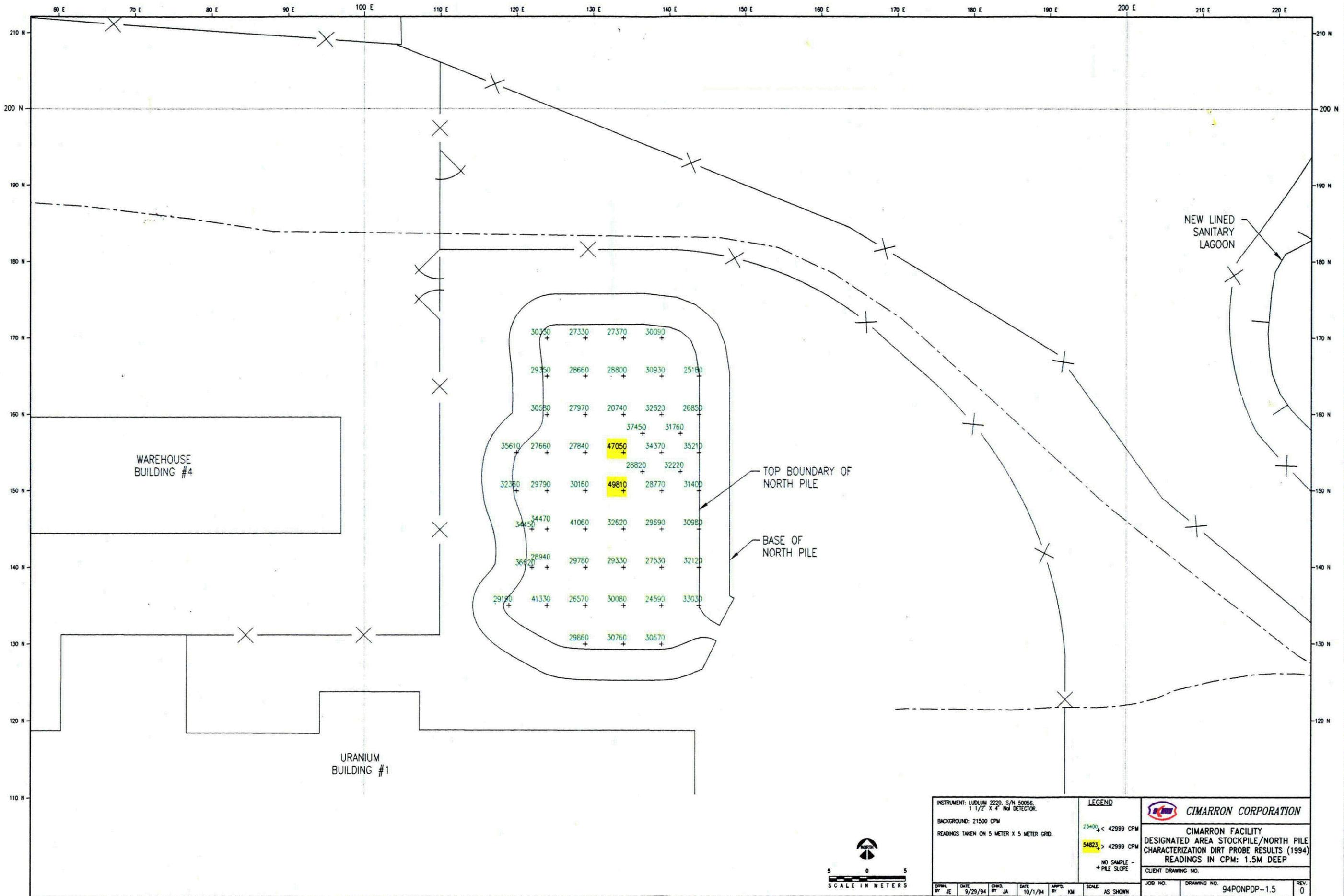
NEW LINED SANITARY LAGOON

TOP BOUNDARY OF NORTH PILE

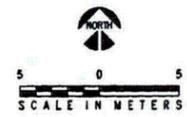
BASE OF NORTH PILE

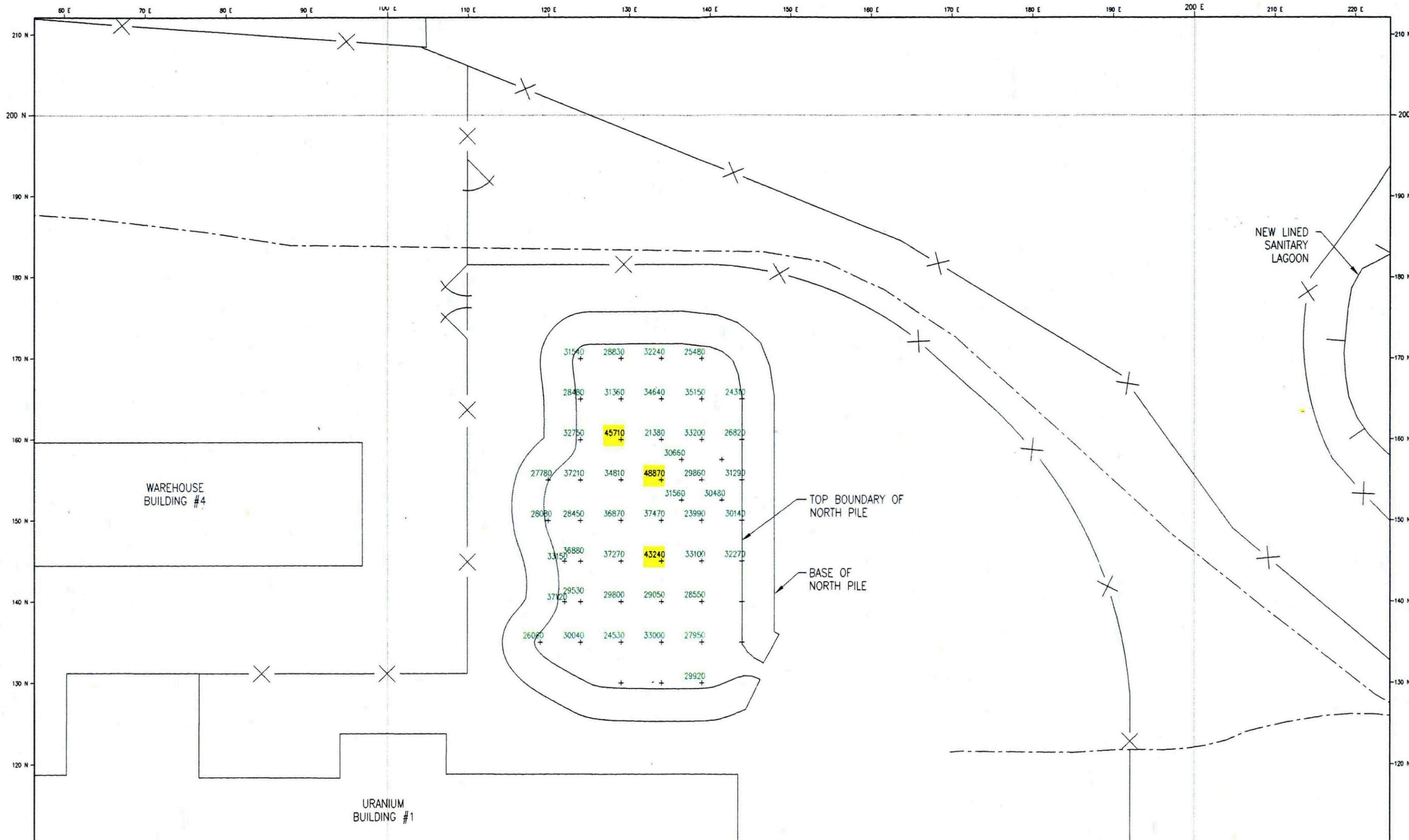


|   |               |                   |               |   |                          |
|---|---------------|-------------------|---------------|---|--------------------------|
| INSTRUMENT: LUDLUM 2220, S/N 50056<br>1 1/2" X 4" NaI DETECTOR. |               | LEGEND            |               |   |                          |
| BACKGROUND: 21500 CPM   |               | 23400 < 42999 CPM |               | CIMARRON FACILITY                               |                          |
| READINGS TAKEN ON 5 METER X 5 METER GRID.                       |               | 54823 > 42999 CPM |               | DESIGNATED AREA STOCKPILE/NORTH PILE            |                          |
|   |               | NO SAMPLE -       |               | CHARACTERIZATION AREA DIRT PROBE RESULTS (1994) |                          |
|   |               | + PILE SLOPE      |               | READINGS IN CPM: 1.0M DEEP                      |                          |
|   |               |                   |               | CLIENT DRAWING NO.                              |                          |
| DRWN. BY: JE  | DATE: 9/29/94 | CHKD. BY: JA      | DATE: 10/1/94 | APPR. BY: KM                                    | SCALE: AS SHOWN          |
|   |               |                   |               | JOB NO.   | DRAWING NO. 94PONPDP-1.0 |
|   |               |                   |               | REV. 0  |                          |



|  |          |                             |                   |  |
|--|----------|-----------------------------|-------------------|--|
| INSTRUMENT: LUDLUM 2220, S/N 50056,<br>1 1/2" x 4" NaI DETECTOR.   |          | LEGEND                      |                   | <br><b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/NORTH PILE<br>CHARACTERIZATION DIRT PROBE RESULTS (1994)<br>READINGS IN CPM: 1.5M DEEP<br>CLIENT DRAWING NO. |
| BACKGROUND: 21500 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID. |          | 23400 < 42999 CPM           | 54823 > 42999 CPM |  |
|  |          | NO SAMPLE -<br>+ PILE SLOPE |                   |  |
| DATE   | CHKD. BY | DATE                        | APP'D. BY         | SCALE: AS SHOWN  |
| 9/29/94  | JA       | 10/1/94                     | KM                |  |
| JOB NO.  |          | DRAWING NO. 94PONPDP-1.5    |                   | REV. 0   |





|       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 31540 | 28830 | 32240 | 25480 |       |
| 28480 | 31360 | 34640 | 35150 | 24310 |
| 32750 | 45710 | 21380 | 33200 | 26820 |
|       |       | 30650 |       |       |
| 27780 | 37210 | 34810 | 48870 | 29860 |
|       |       | 31560 | 30480 |       |
| 28080 | 28450 | 36870 | 37470 | 23990 |
|       |       | 31560 | 30480 |       |
| 33150 | 36880 | 37270 | 43240 | 33100 |
|       |       | 29530 | 29800 | 29050 |
| 37120 | 29530 | 29800 | 29050 | 28550 |
| 26020 | 30040 | 24530 | 33000 | 27950 |
|       |       |       |       | 29920 |

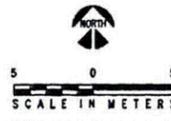
WAREHOUSE BUILDING #4

URANIUM BUILDING #1

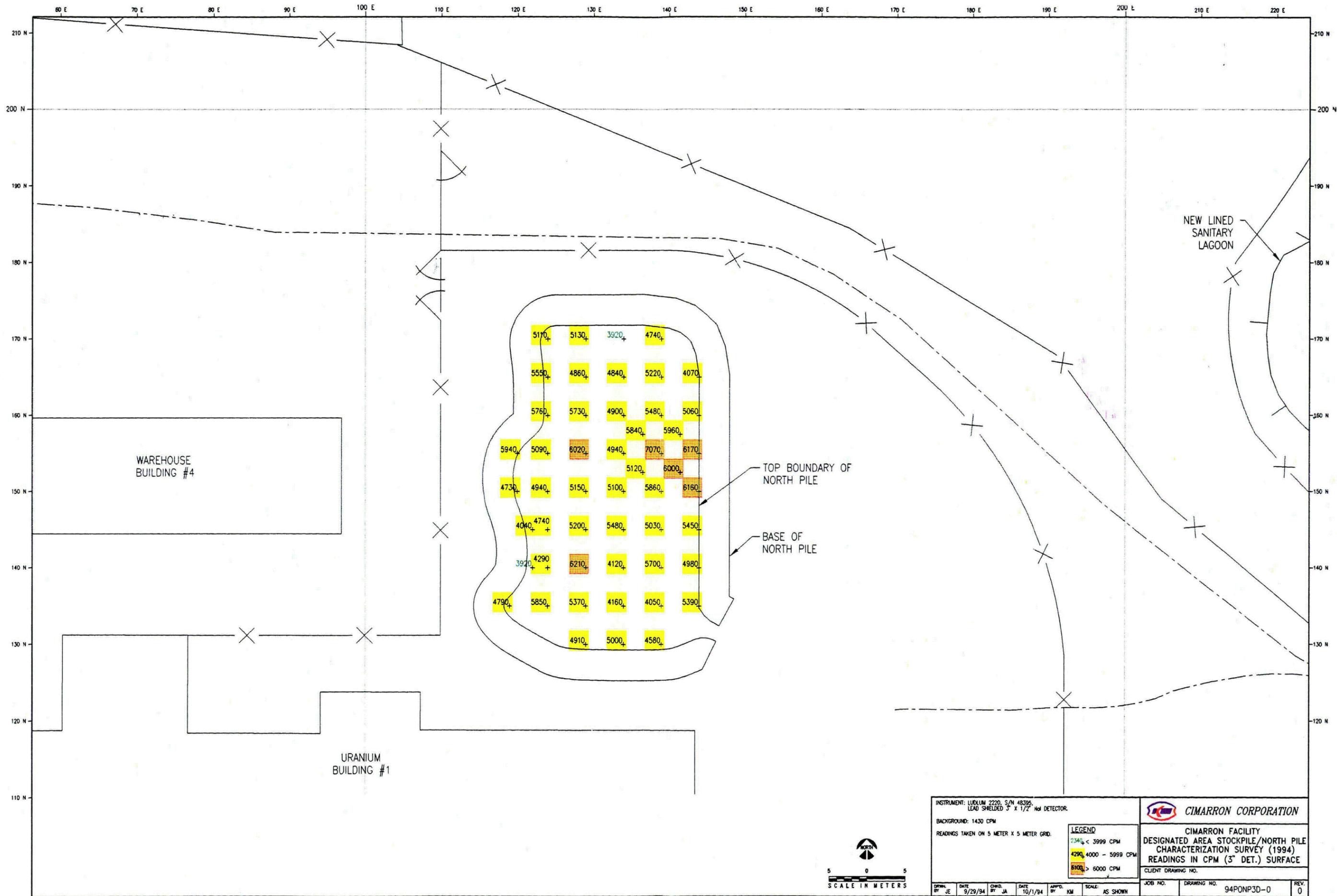
TOP BOUNDARY OF NORTH PILE

BASE OF NORTH PILE

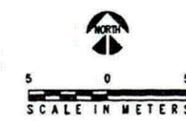
NEW LINED SANITARY LAGOON



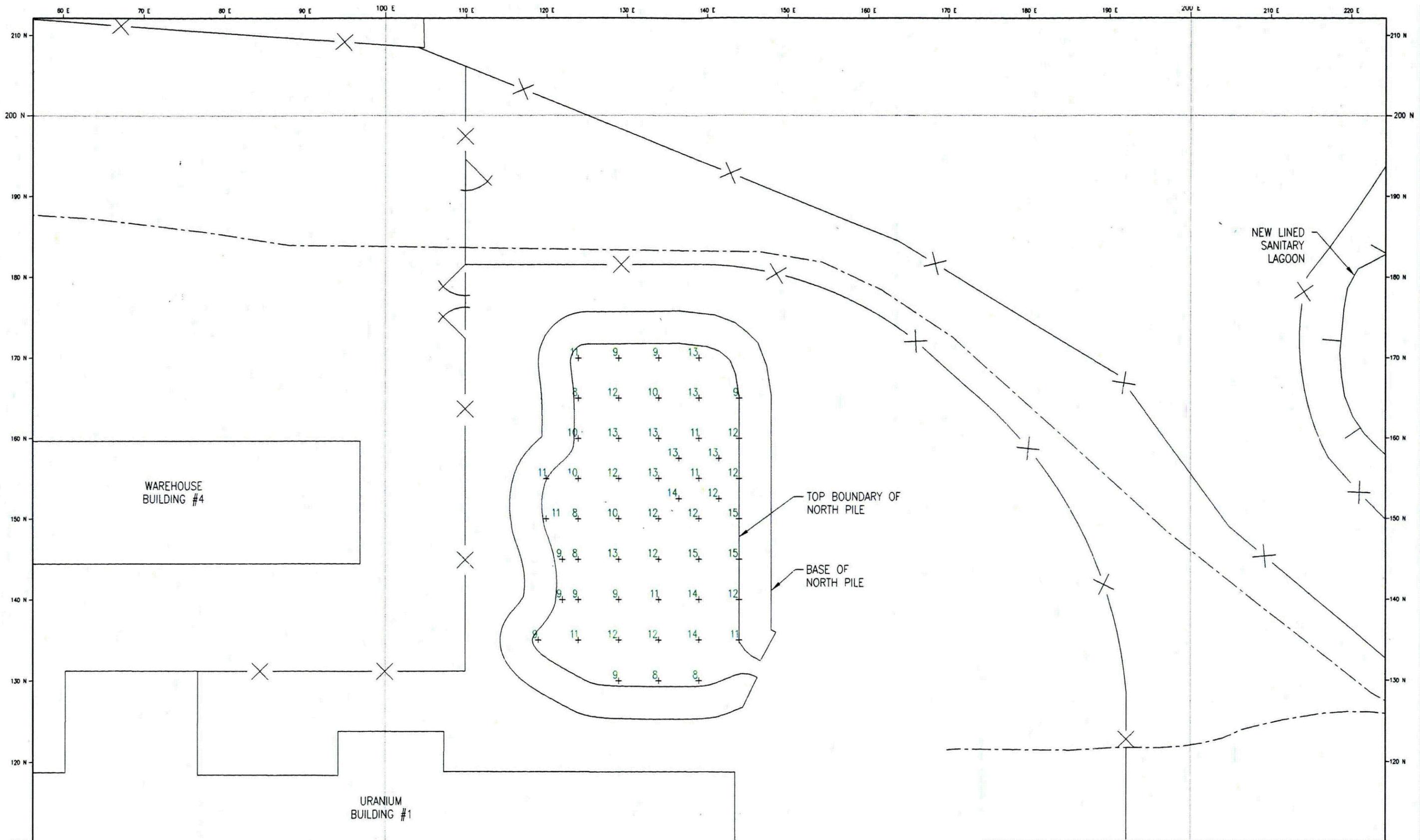
|  |               |                             |                          |  |
|--|---------------|-----------------------------|--------------------------|--|
| INSTRUMENT: LUDLUM 2220, S/N 50056<br>1 1/2" x 4" NaI DETECTOR     |               | LEGEND                      |                          | <br><b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/NORTH PILE<br>CHARACTERIZATION DIRT PROBE RESULTS (1994)<br>READINGS IN CPM: 2.0M DEEP<br>CLIENT DRAWING NO. |
| BACKGROUND: 21500 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID. |               | 23400 < 42999 CPM           | 54821 > 42999 CPM        |  |
|  |               | NO SAMPLE -<br>+ PILE SLOPE |                          |  |
| DRWN. BY: JE   | DATE: 9/29/94 | CHKD. BY: JA                | DATE: 10/1/94            | APP'D. BY: KM  |
| SCALE: AS SHOWN  |               | JOB NO.                     | DRAWING NO. 94PONPDP-2.0 | REV. 0   |



|  |  |   |
|--|--|---|
| INSTRUMENT: LUDLUM 2220, S/N 48395.<br>LEAD SHIELDED 3" x 1 1/2" Hcd DETECTOR.                   |  | <b>CIMARRON CORPORATION</b><br>CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/NORTH PILE<br>CHARACTERIZATION SURVEY (1994)<br>READINGS IN CPM (3" DET.) SURFACE<br>CLIENT DRAWING NO. |
| BACKGROUND: 1430 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID.                                |  |   |
| <b>LEGEND</b><br>234 < 3999 CPM<br>4290 4000 - 5999 CPM<br>6100 > 6000 CPM                       |  | JOB NO. _____<br>DRAWING NO. 94PONP3D-0<br>REV. 0   |
| DRAWN BY: JE<br>DATE: 9/29/94<br>CHD. BY: JA<br>DATE: 10/1/94<br>APPD. BY: KM<br>SCALE: AS SHOWN | INSTRUMENT: LUDLUM 2220, S/N 48395.<br>LEAD SHIELDED 3" x 1 1/2" Hcd DETECTOR.<br>BACKGROUND: 1430 CPM<br>READINGS TAKEN ON 5 METER X 5 METER GRID.<br><b>LEGEND</b><br>234 < 3999 CPM<br>4290 4000 - 5999 CPM<br>6100 > 6000 CPM<br>JOB NO. _____<br>DRAWING NO. 94PONP3D-0<br>REV. 0 |   |



W:\CIMARRON\REMED\94PONP3D



READINGS ARE IN MICRO-R/HR ( $\mu R/hr$ )

INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 BACKGROUND: 7  $\mu R/hr$

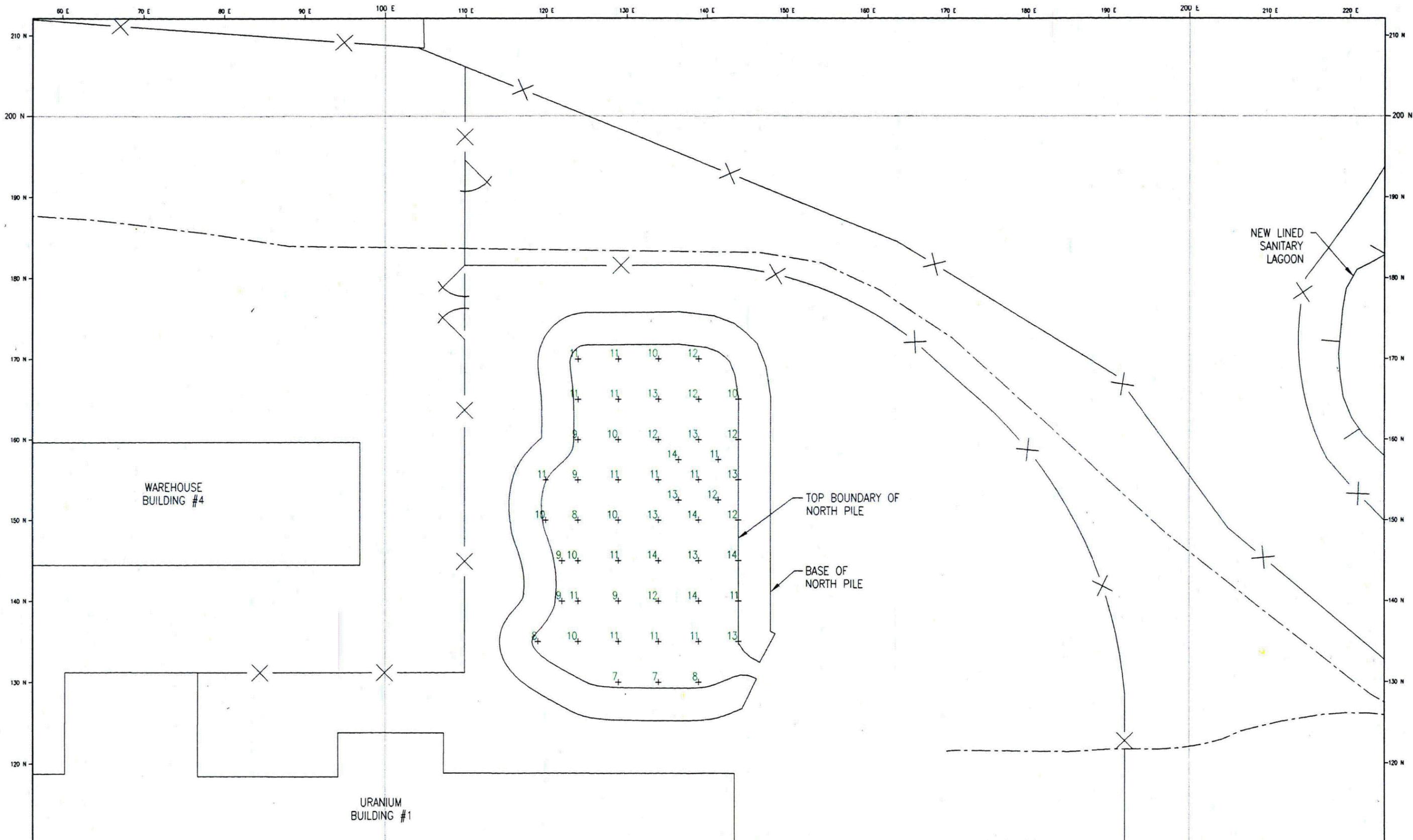
**CIMARRON CORPORATION**

CIMARRON FACILITY  
 DESIGNATED AREA STOCKPILE/NORTH PILE  
 CHARACTERIZATION MICRO-R SURVEY (1994)  
 AT LAND SURFACE

CLIENT DRAWING NO.

|              |               |              |               |               |                 |         |                        |        |
|--------------|---------------|--------------|---------------|---------------|-----------------|---------|------------------------|--------|
| DRWN. BY: JE | DATE: 9/29/94 | CHKD. BY: JA | DATE: 10/1/94 | APP'D. BY: KM | SCALE: AS SHOWN | JOB NO. | DRAWING NO. 94PONPUR-0 | REV. 0 |
|--------------|---------------|--------------|---------------|---------------|-----------------|---------|------------------------|--------|

SCALE IN METERS



|    |    |    |    |    |    |
|----|----|----|----|----|----|
| 11 | 11 | 10 | 12 |    |    |
| 11 | 11 | 13 | 12 | 10 |    |
| 9  | 10 | 12 | 13 | 12 |    |
| 11 | 9  | 11 | 11 | 11 | 13 |
| 10 | 8  | 10 | 13 | 14 | 12 |
| 9  | 10 | 11 | 14 | 13 | 14 |
| 9  | 11 | 9  | 12 | 14 | 11 |
| 8  | 10 | 11 | 11 | 11 | 13 |
| 7  | 7  | 8  |    |    |    |

TOP BOUNDARY OF NORTH PILE

BASE OF NORTH PILE

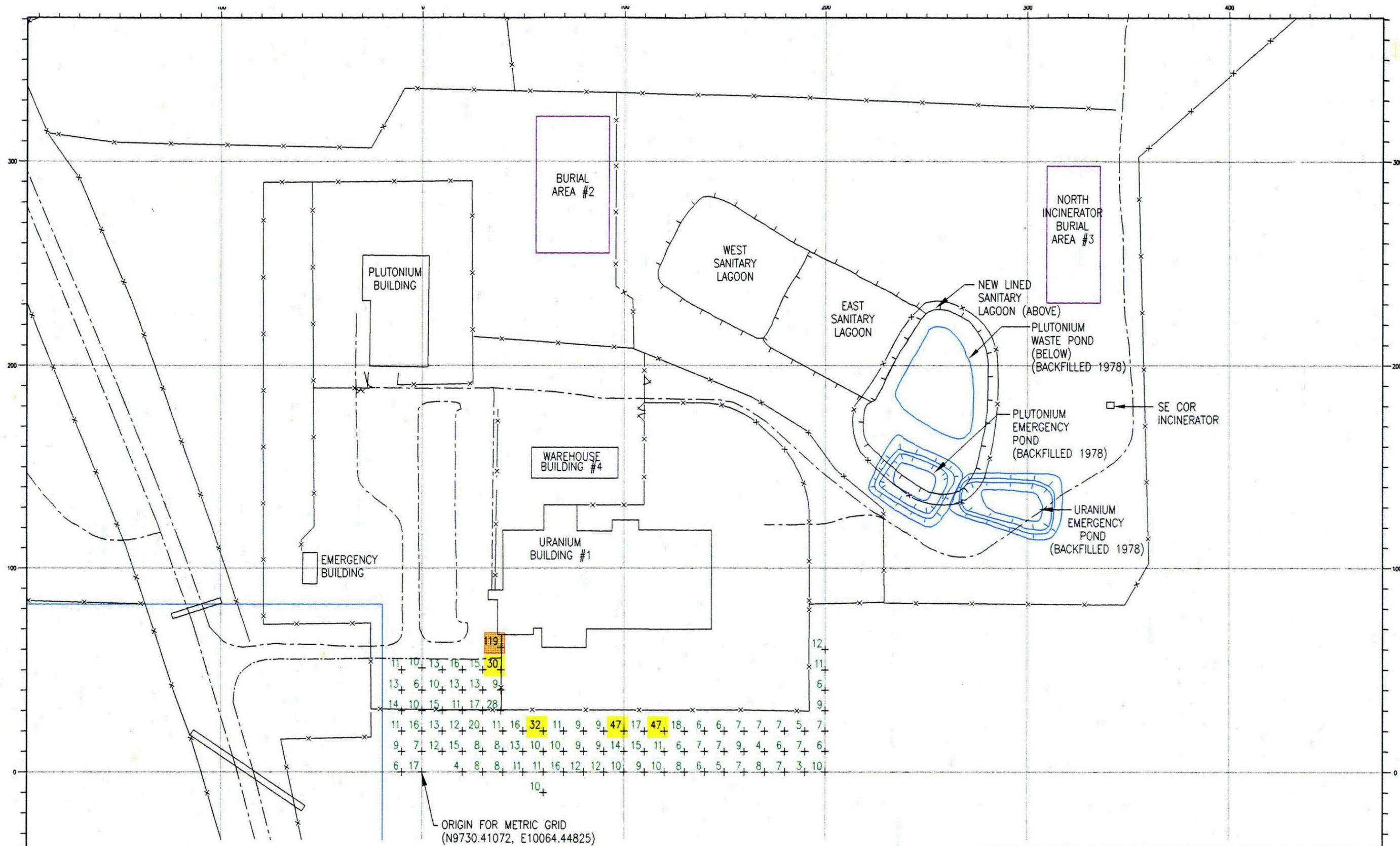
WAREHOUSE BUILDING #4

URANIUM BUILDING #1

NEW LINED SANITARY LAGOON



|   |         |  |                        |  |        |  |  |
|---|---------|--|------------------------|--|--------|--|--|
| READINGS ARE IN MICRO-R/HR ( $\mu\text{R/hr}$ )<br>INSTRUMENT: LUDLUM MICRO-R METER<br>MODEL NO: 125<br>SERIAL NO: 9081<br>BACKGROUND: 7 $\mu\text{R/hr}$ |         |  |                        |  |        |  |  |
| CIMARRON FACILITY<br>DESIGNATED AREA STOCKPILE/NORTH PILE<br>CHARACTERIZATION MICRO-R SURVEY (1994)<br>AT ONE METER ABOVE SURFACE                         |         |  |                        |  |        |  |  |
| CLIENT DRAWING NO.  |         |  |                        |  |        |  |  |
| DRAWN BY: JE<br>DATE: 9/29/94<br>CHG. BY: JA<br>DATE: 10/1/94<br>APP'D. BY: KM<br>SCALE: AS SHOWN   | JOB NO. |  | DRAWING NO. 94PONPUR-1 |  | REV. 0 |  |  |



ORIGIN FOR METRIC GRID  
(N9730.41072, E10064.44825)

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |    |   |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|----|---|
| 11 | 10 | 13 | 16 | 15 | 30 | 12 |    |    |    |    |    |    |    |    |   |   |   |   |   |    |   |
| 13 | 6  | 10 | 13 | 13 | 9  | 11 |    |    |    |    |    |    |    |    |   |   |   |   |   |    |   |
| 14 | 10 | 15 | 11 | 17 | 28 | 6  |    |    |    |    |    |    |    |    |   |   |   |   |   |    |   |
| 11 | 16 | 13 | 12 | 20 | 11 | 16 | 32 | 11 | 9  | 9  | 47 | 17 | 47 | 18 | 6 | 6 | 7 | 7 | 7 | 5  | 7 |
| 9  | 7  | 12 | 15 | 8  | 8  | 13 | 10 | 10 | 9  | 9  | 14 | 15 | 11 | 6  | 7 | 7 | 9 | 4 | 6 | 7  | 6 |
| 6  | 17 | 4  | 8  | 8  | 11 | 11 | 16 | 12 | 12 | 10 | 9  | 10 | 8  | 6  | 5 | 7 | 8 | 7 | 3 | 10 |   |
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |    |   |
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |    |   |



READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
CIMARRON GAMMA SPEC SOIL COUNTER.  
SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.

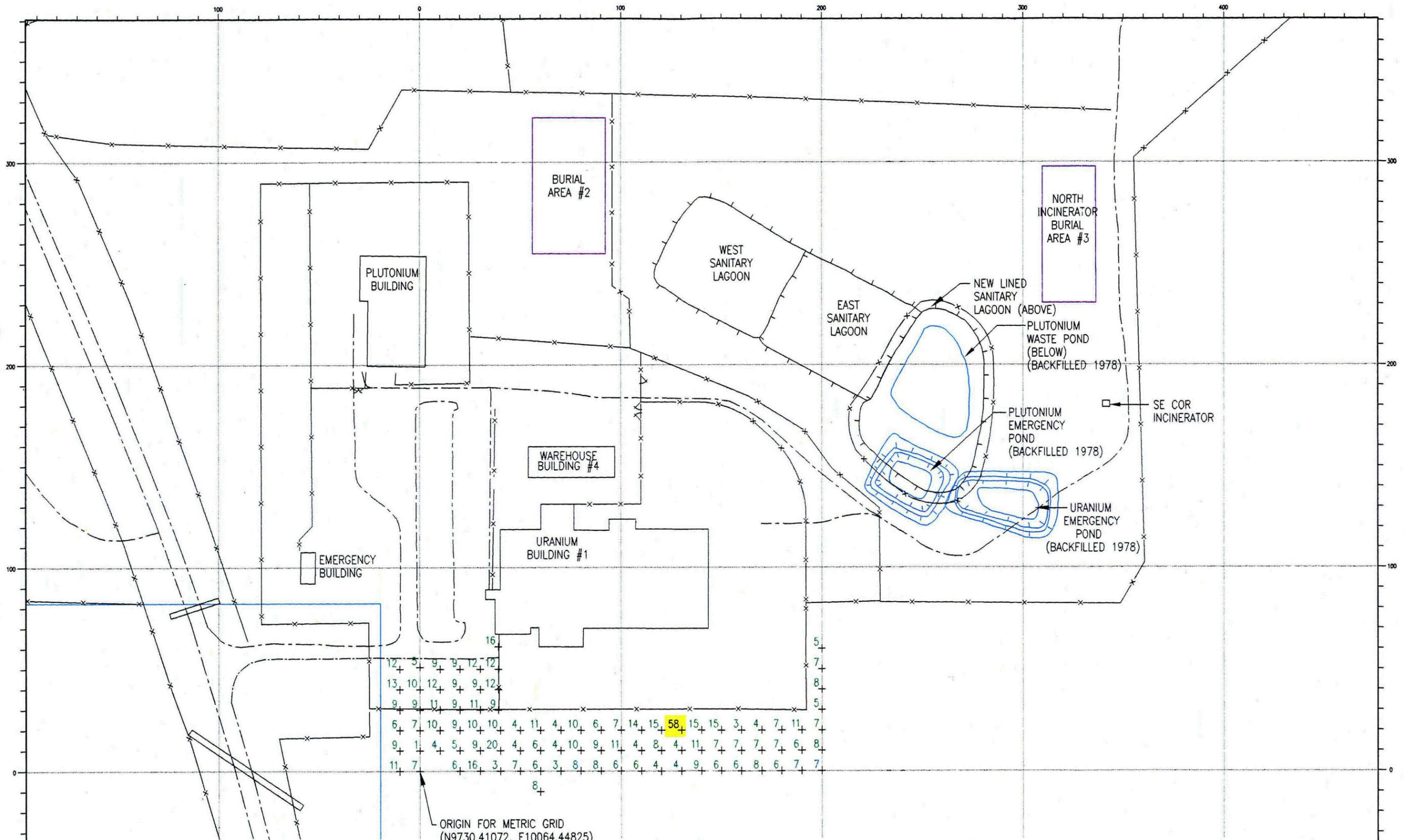
SAMPLES TAKEN ON 10 METER X 10 METER GRID.  
SAMPLES TAKEN BEFORE REMEDIATION.

LEGEND  
 4 1 - 29 pCi/g U  
 53 30 - 89 pCi/g U  
 108 > 90 pCi/g U

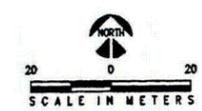
CIMARRON CORPORATION  
 CIMARRON FACILITY  
 SOUTH OF URANIUM YARD  
 PRE-REMEDIATION SOIL SAMPLE RESULTS (1990)  
 SOIL SAMPLE ALIQUOT: 0" - 6" DEEP  
 CLIENT DRAWING NO.

DRAWN BY: JE DATE: 9/14/94 CHG. BY: JA DATE: 10/1/94 APP'D. BY: KM SCALE: AS SHOWN  
 JOB NO. DRAWING NO. 90PRSUSS-0 REV. 0





ORIGIN FOR METRIC GRID  
(N9730.41072, E10064.44825)



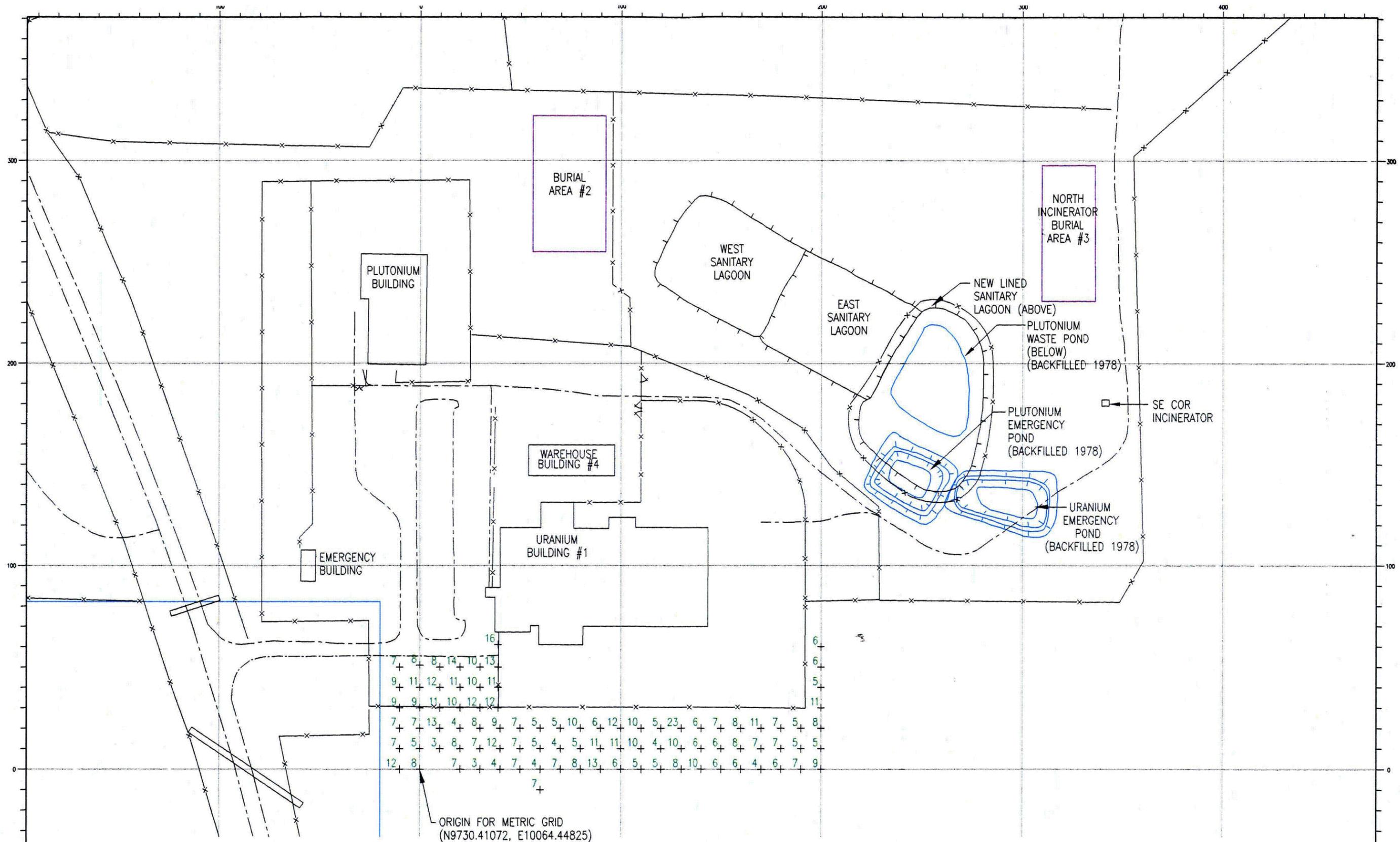
READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
CIMARRON GAMMA SPEC SOIL COUNTER.  
SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.  
LEGEND  
54 1 - 29 pCi/g U  
55 30 - 89 pCi/g U  
108 > 90 pCi/g U  
SAMPLES TAKEN ON 10 METER X 10 METER GRID.  
SAMPLES TAKEN BEFORE REMEDIATION.

**CIMARRON CORPORATION**

CIMARRON FACILITY  
SOUTH OF URANIUM YARD  
PRE-REMEDIATION SOIL SAMPLE RESULTS (1990)  
SOIL SAMPLE ALIQUOT: 1'-2' DEEP

CLIENT DRAWING NO. \_\_\_\_\_  
JOB NO. \_\_\_\_\_ DRAWING NO. 90PRSUSS-2 REV. 0

DATE 9/14/94  
BY JA  
DATE 10/1/94  
BY KM  
SCALE AS SHOWN



ORIGIN FOR METRIC GRID  
(N9730.41072, E10064.44825)



READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
CIMARRON GAMMA SPEC SOIL COUNTER.  
SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.  
LEGEND  
1 - 29 pCi/g U  
30 - 89 pCi/g U  
> 90 pCi/g U  
SAMPLES TAKEN ON 10 METER X 10 METER GRID.  
SAMPLES TAKEN BEFORE REMEDIATION.

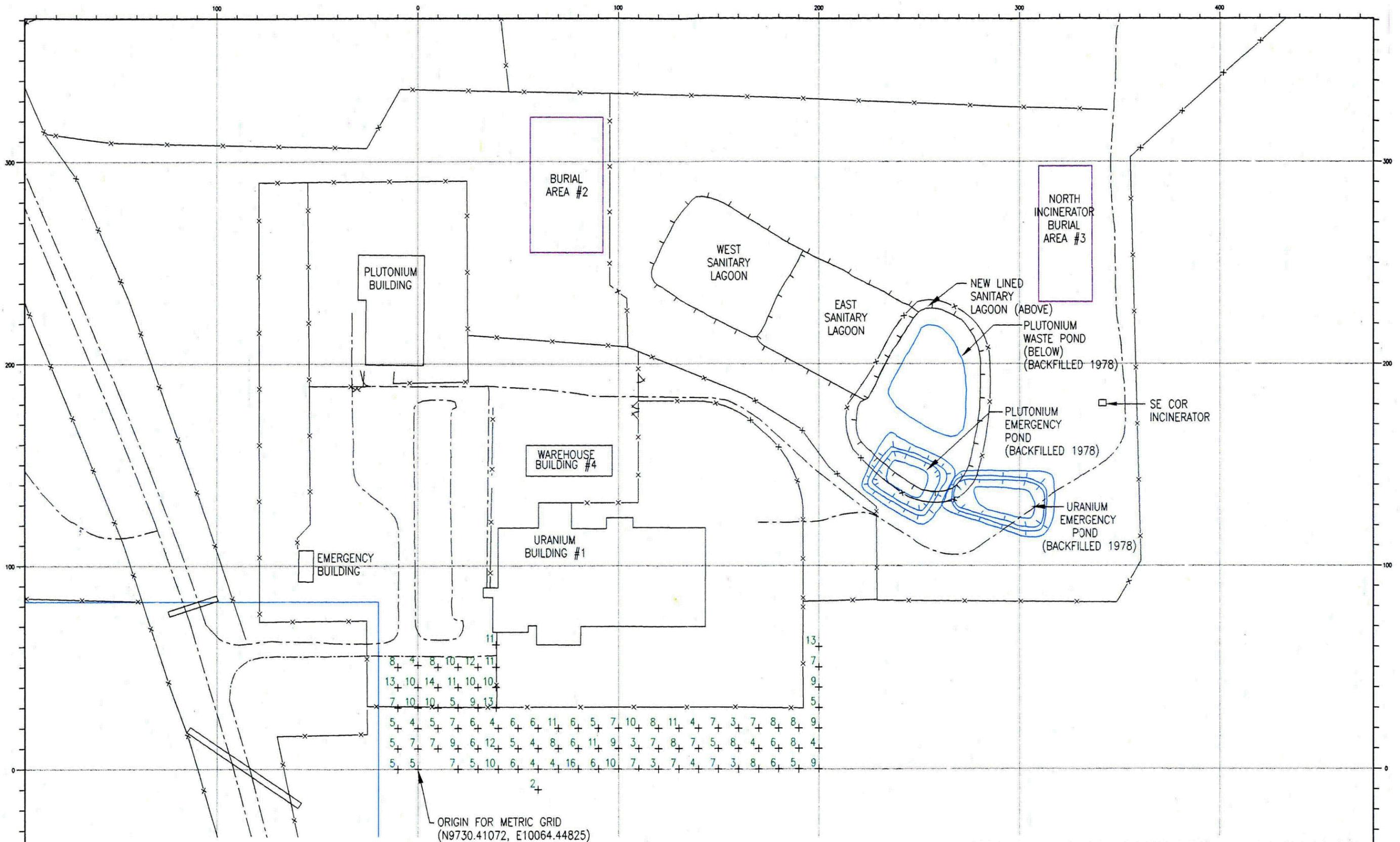
|       |         |       |          |
|-------|---------|-------|----------|
| DATE  | 9/14/94 | DATE  | 10/1/94  |
| BY    | JE      | BY    | JA       |
| APPR. | KM      | SCALE | AS SHOWN |

**CIMARRON CORPORATION**

CIMARRON FACILITY  
SOUTH OF URANIUM YARD  
PRE-REMEDIATION SOIL SAMPLE RESULTS (1990)  
SOIL SAMPLE ALIQUOT: 2'-3' DEEP

CLIENT DRAWING NO. \_\_\_\_\_

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 90PRSUSS-3  | 0    |



ORIGIN FOR METRIC GRID  
(N9730.41072, E10064.44825)

|    |    |    |    |    |    |    |    |    |   |    |   |    |   |    |   |   |   |   |   |   |   |
|----|----|----|----|----|----|----|----|----|---|----|---|----|---|----|---|---|---|---|---|---|---|
| 8  | 4  | 8  | 10 | 12 | 11 | 11 | 13 |    |   |    |   |    |   |    |   |   |   |   |   |   |   |
| 13 | 10 | 14 | 11 | 10 | 10 | 7  | 9  |    |   |    |   |    |   |    |   |   |   |   |   |   |   |
| 7  | 10 | 10 | 5  | 9  | 13 | 5  | 5  |    |   |    |   |    |   |    |   |   |   |   |   |   |   |
| 5  | 4  | 5  | 7  | 6  | 4  | 6  | 6  | 11 | 6 | 5  | 7 | 10 | 8 | 11 | 4 | 7 | 3 | 7 | 8 | 8 | 9 |
| 5  | 7  | 7  | 9  | 6  | 12 | 5  | 4  | 8  | 6 | 11 | 9 | 3  | 7 | 8  | 7 | 5 | 8 | 4 | 6 | 8 | 4 |
| 5  | 5  | 7  | 5  | 10 | 6  | 4  | 4  | 16 | 6 | 10 | 7 | 3  | 7 | 4  | 7 | 3 | 8 | 6 | 5 | 9 |   |
|    |    |    |    |    |    |    |    |    |   |    |   |    |   |    |   |   |   |   |   |   |   |



READINGS ARE IN PICO-CURIES PER GRAM URANIUM (pCi/g U).  
CIMARRON GAMMA SPEC SOIL COUNTER.  
SITE SOIL BACKGROUND OF APPROXIMATELY 6 pCi/g U, NOT SUBTRACTED.

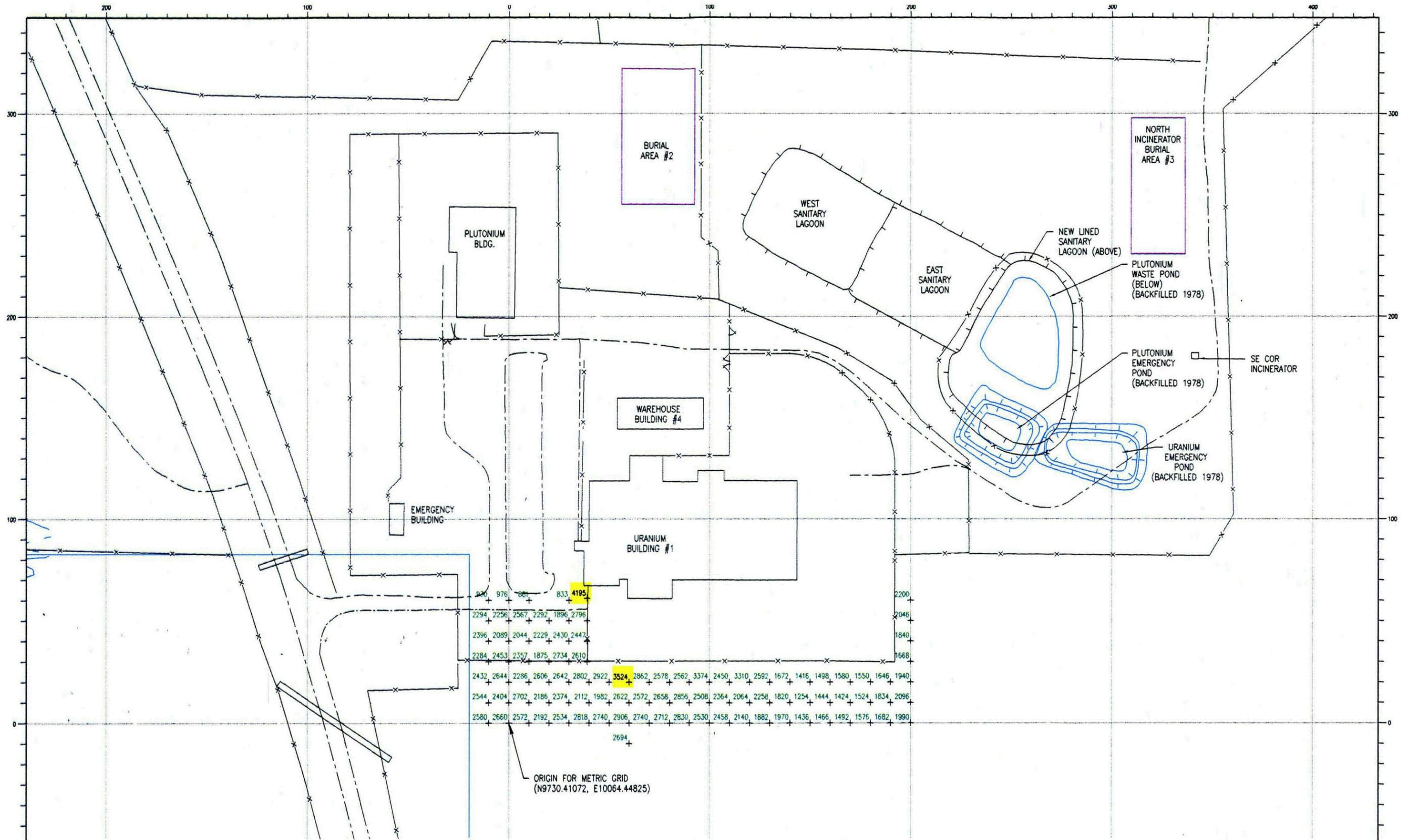
SAMPLES TAKEN ON 10 METER X 10 METER GRID.  
SAMPLES TAKEN BEFORE REMEDIATION.

|     |                 |
|-----|-----------------|
| 6   | 1 - 29 pCi/g U  |
| 33  | 30 - 89 pCi/g U |
| 105 | > 90 pCi/g U    |

**CIMARRON CORPORATION**  
CIMARRON FACILITY  
SOUTH OF URANIUM YARD  
PRE-REMEDIATION SOIL SAMPLE RESULTS (1990)  
SOIL SAMPLE ALIQUOT: 3'-4' DEEP

CLIENT DRAWING NO. \_\_\_\_\_  
JOB NO. \_\_\_\_\_ DRAWING NO. 90PRSUS-4 REV. 0

DRWN. BY: JE DATE: 9/14/94 CHG. BY: JA DATE: 10/1/94 APP'D. BY: KM SCALE: AS SHOWN



INSTRUMENT: LUDLUM 2220 S/N 48395,  
LEAD SHIELDED 3" x 1/2" NaI DETECTOR.

READINGS TAKEN ON A 10 METER X 10 METER GRID.

SURVEY PERFORMED BEFORE REMEDIATION.

| LEGEND |                 |
|--------|-----------------|
| 2290   | < 3500 CPM      |
| 4261   | 3500 - 5000 CPM |
| 6306   | > 5000 CPM      |

**CIMARRON CORPORATION**

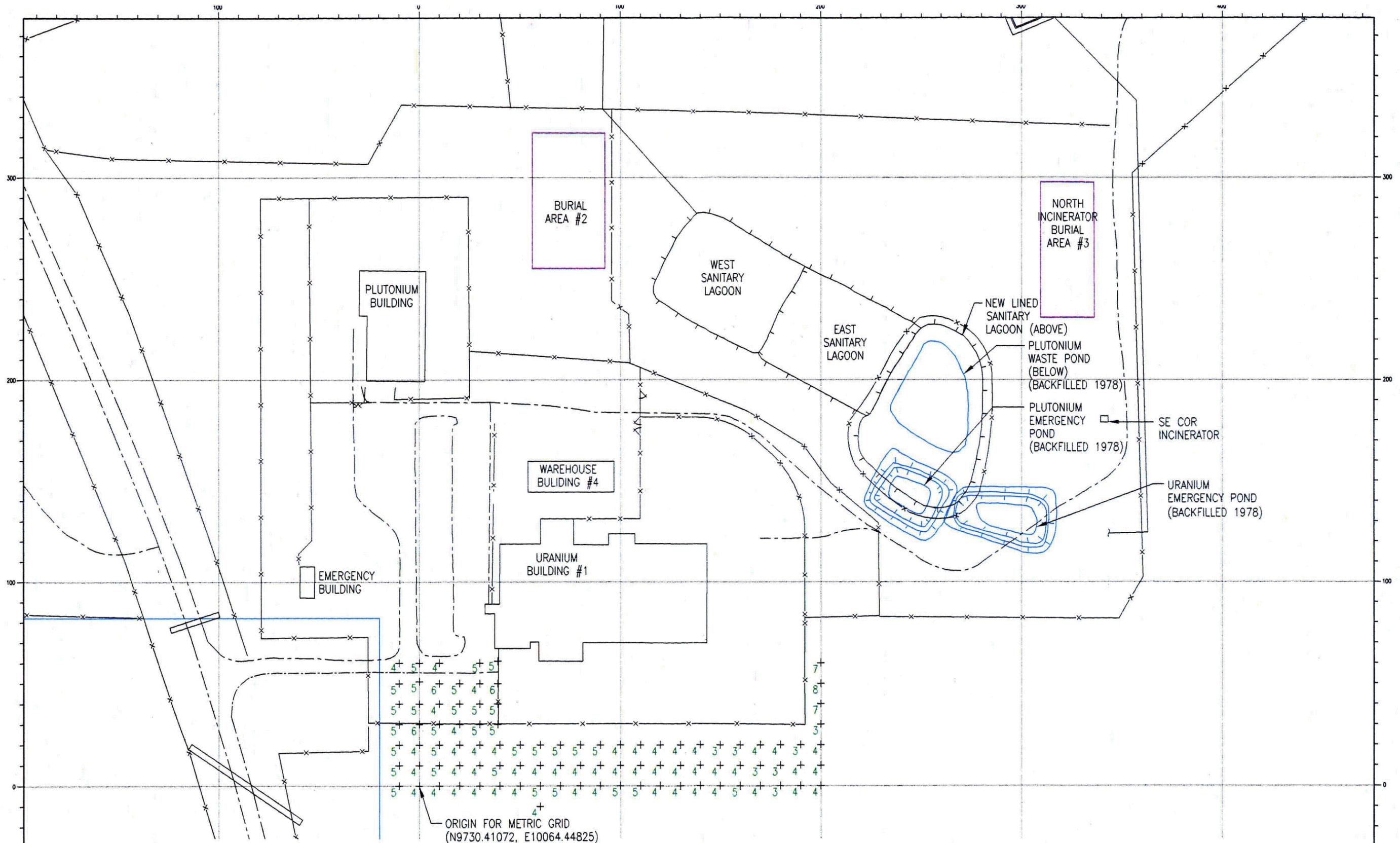
CIMARRON FACILITY  
SOUTH OF URANIUM YARD  
PRE-REMEDIATION GAMMA SURVEY (1990)  
READINGS IN CPM (3" DET.)

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 90PRSU3D-0  | 0    |







ORIGIN FOR METRIC GRID  
(N9730.41072, E10064.44825)



READINGS ARE IN MICRO-R/Hr. ( $\mu R/Hr$ )  
 INSTRUMENT: LUDLUM MICRO-R METER  
 MODEL NO: 125  
 SERIAL NO: 9081  
 ESTABLISHED SITE BACKGROUND OF  $7 \mu R/Hr$ . NOT SUBTRACTED.  
 SAMPLES TAKEN ON A 10 METER BY 10 METER GRID  
 READINGS TAKEN BEFORE REMEDIATION.  
 (EXCEPT FOR WEST SANITARY LAGOON).

|              |               |                |               |                 |                 |
|--------------|---------------|----------------|---------------|-----------------|-----------------|
| DRAWN BY: JE | DATE: 9/14/94 | CHECKED BY: JA | DATE: 10/1/94 | APPROVED BY: KM | SCALE: AS SHOWN |
|--------------|---------------|----------------|---------------|-----------------|-----------------|

**CIMARRON CORPORATION**

CIMARRON FACILITY  
 SOUTH OF URANIUM YARD  
 PRE-REMEDIATION MICRO-R SURVEY (1990)  
 AT ONE METER ABOVE SURFACE

CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 90PRSUUR-1  | 0    |