

SUB-AREA 'A'  
SWP - 940001

DATE: 12/19/94 - 12/22/94

[illegible]

LUDLUM MICRO 'R' METER - MODEL 19

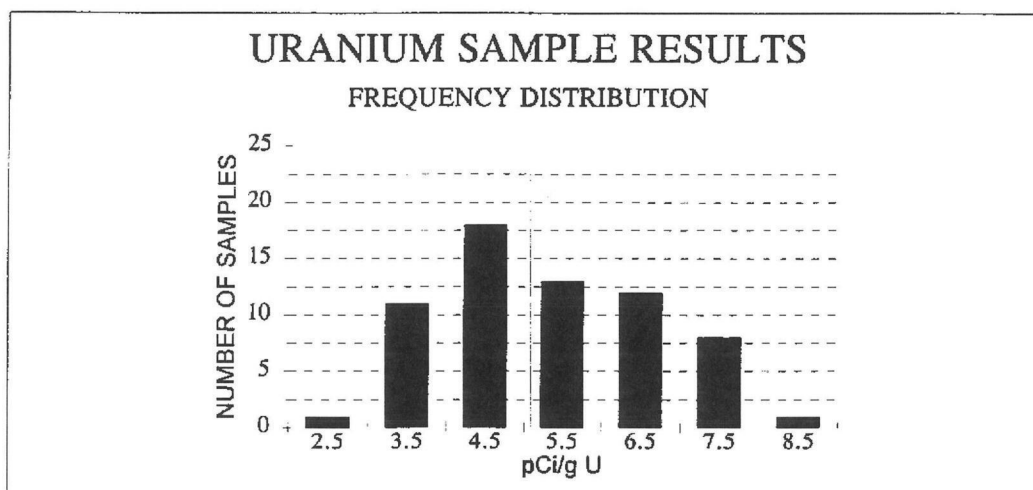
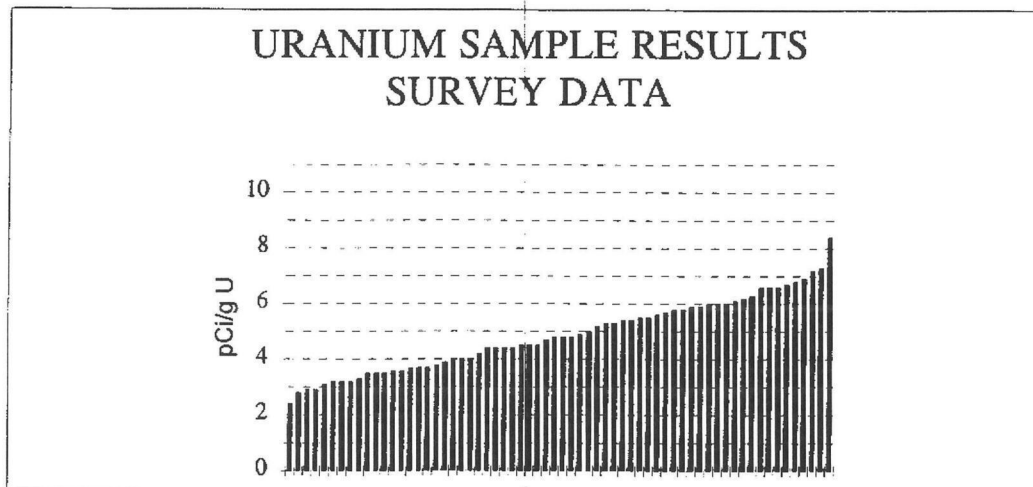
LUDDLUM 2220, UNSHIELDED 3" X 1 1/2" NaI DETECTOR

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

BACKGROUND NOT SUBTRACTED

REVIEWED BY: S. J. P. M. T. R. B. L. D. O. 7-20-95

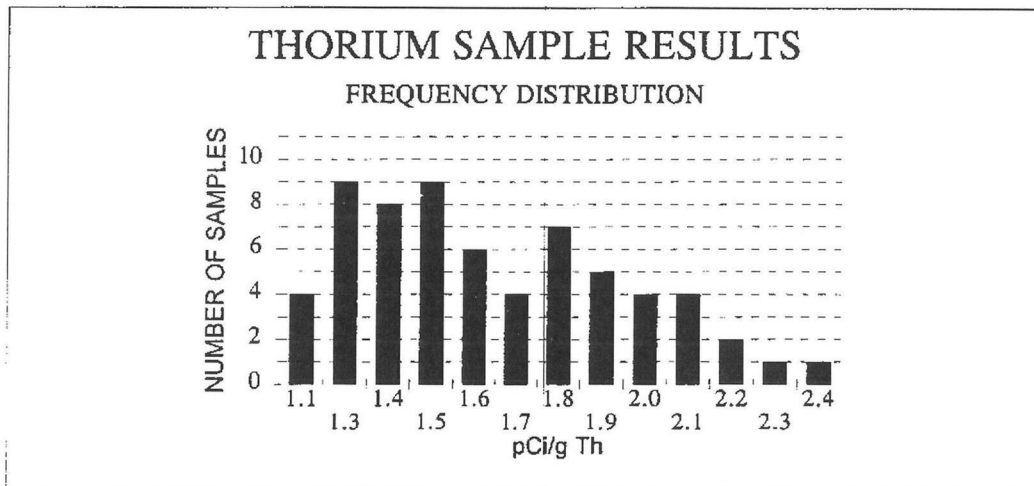
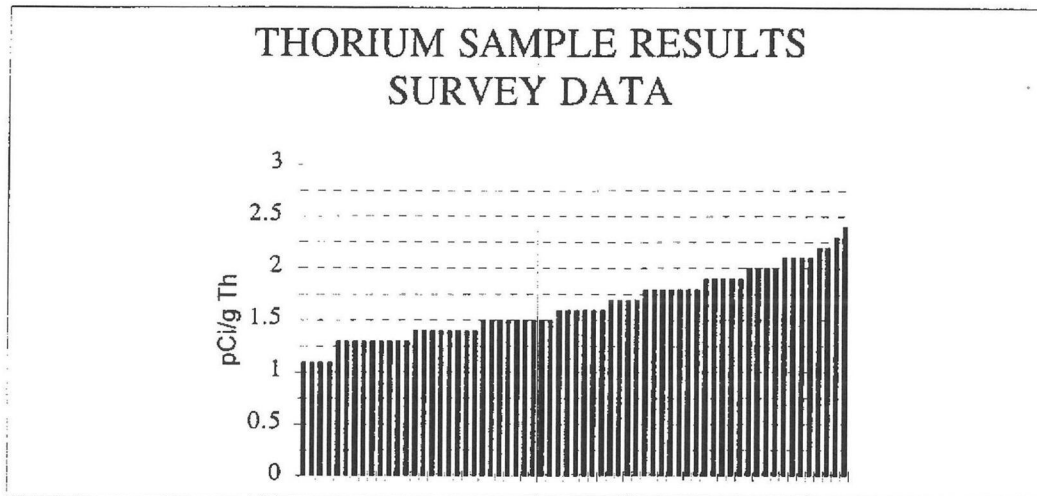
**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (GRID SURVEY SAMPLES)**  
**CIMARRON SOIL COUNTER**  
**URANIUM SOIL SAMPLE RESULTS**  
**SITE BACKGROUND OF 4 pCi/g URANIUM NOT SUBTRACTED**  
**JANUARY, 1995**



|                    |     |
|--------------------|-----|
| NUMBER OF SAMPLES  | 64  |
| AVERAGE SAMPLE     | 4.9 |
| MINIMUM SAMPLE     | 2.4 |
| MAXIMUM SAMPLE     | 8.4 |
| STANDARD DEVIATION | 1.3 |

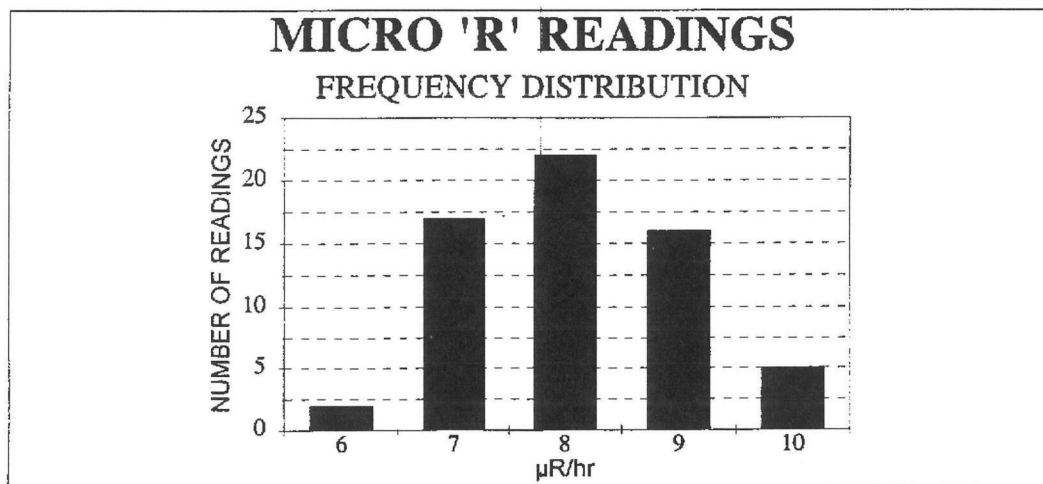
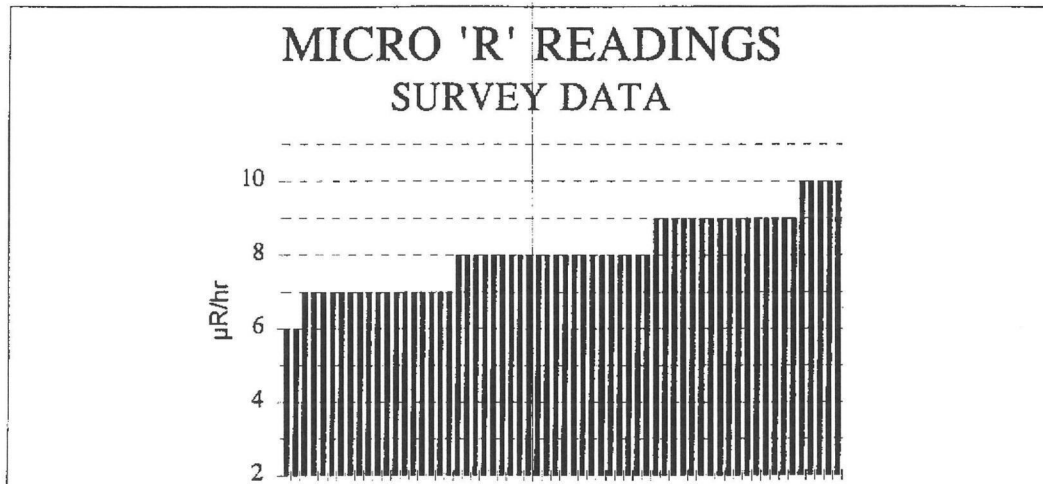


**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (GRID SURVEY SAMPLES)**  
**CIMARRON SOIL COUNTER**  
**THORIUM SOIL SAMPLE RESULTS**  
**SITE BACKGROUND OF 1.5 pCi/g Th NOT SUBTRACTED**  
**JANUARY, 1995**



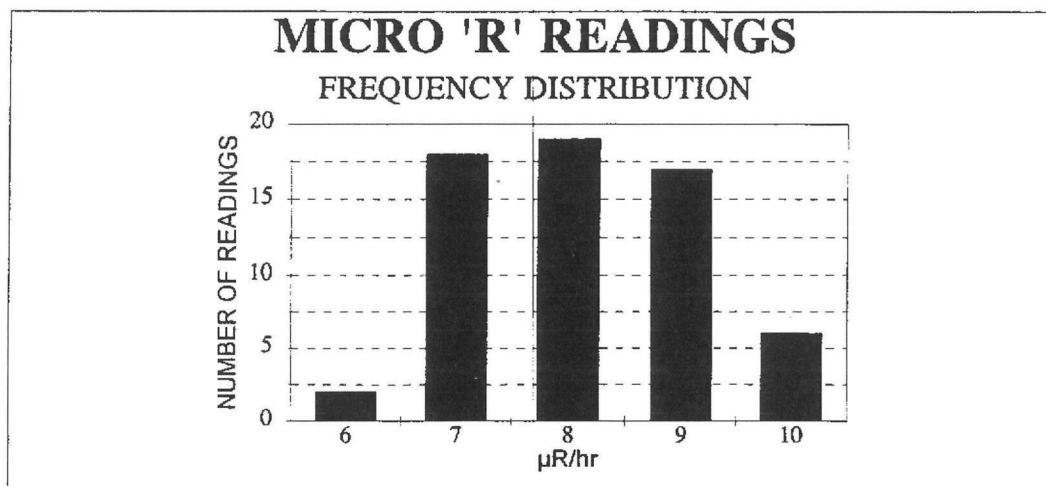
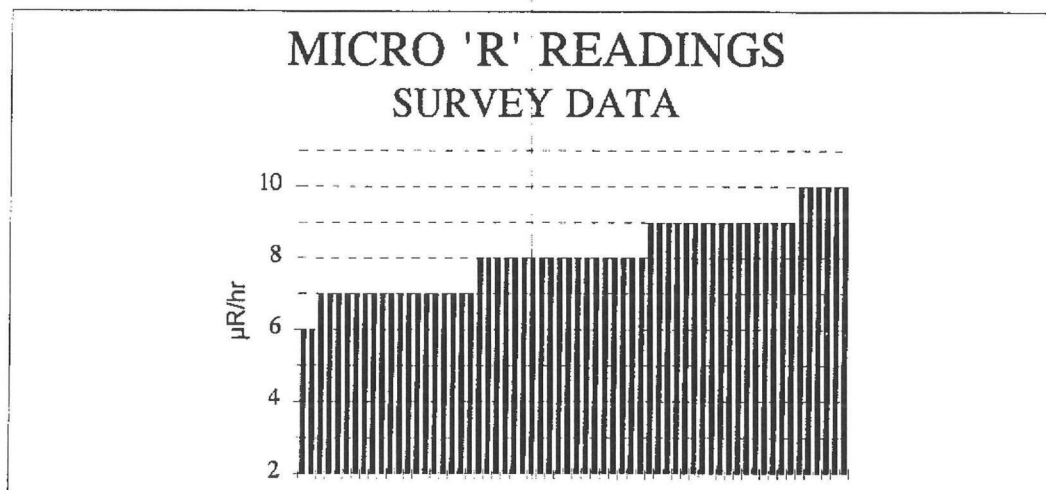
|                    |     |
|--------------------|-----|
| NUMBER OF SAMPLES  | 64  |
| AVERAGE SAMPLE     | 1.6 |
| MINIMUM SAMPLE     | 1.1 |
| MAXIMUM SAMPLE     | 2.4 |
| STANDARD DEVIATION | 0.3 |

FINAL STATUS SURVEY REPORT - PHASE I  
 SUB-AREA 'A' (GRID SURVEY READINGS)  
 MICRO 'R' METER READINGS AT SURFACE  
 LUDLUM MODEL 19 S/N 111299  
 RESULTS IN  $\mu\text{R/hr}$   
 SITE BACKGROUND 7-10  $\mu\text{R/hr}$   
 JANUARY, 1995



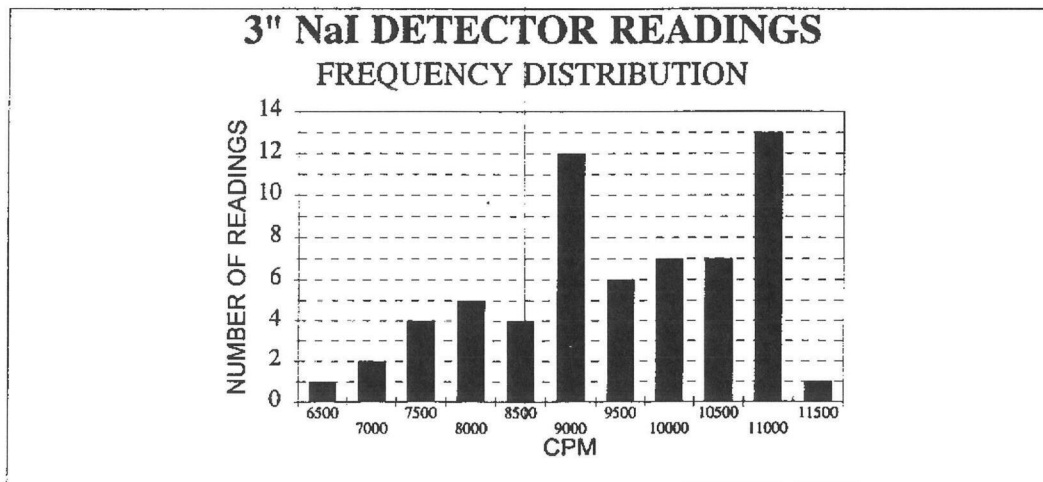
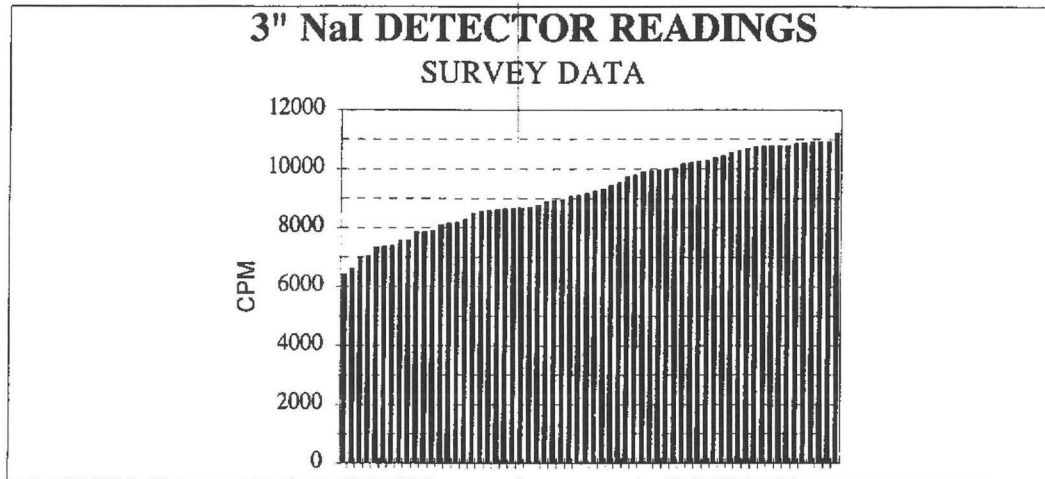
|                    |    |
|--------------------|----|
| NUMBER OF READINGS | 62 |
| AVERAGE READING    | 8  |
| MINIMUM READING    | 6  |
| MAXIMUM READING    | 10 |
| STANDARD DEVIATION | 1  |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (GRID SURVEY READINGS)**  
**MICRO 'R' METER READINGS AT ONE METER ABOVE SURFACE**  
**LUDLUM MODEL 19 S/N 111299**  
**RESULTS IN  $\mu\text{R/hr}$**   
**SITE BACKGROUND 7-10  $\mu\text{R/hr}$**   
**JANUARY, 1995**



|                    |    |
|--------------------|----|
| NUMBER OF READINGS | 62 |
| AVERAGE READING    | 8  |
| MINIMUM READING    | 6  |
| MAXIMUM READING    | 10 |
| STANDARD DEVIATION | 1  |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (GRID SURVEY READINGS)**  
**GROSS GAMMA READINGS IN CPM**  
**LUDLUM MODEL 2220 S/N 48395**  
**UNSHIELDED 3" X 1/2" NaI DETECTOR**  
**BACKGROUND AVERAGE: 8850 CPM**  
**JANUARY, 1995**



|                    |       |
|--------------------|-------|
| NUMBER OF READINGS | 62    |
| AVERAGE READING    | 9241  |
| MINIMUM READING    | 6424  |
| MAXIMUM READING    | 11236 |
| STANDARD DEVIATION | 1270  |

# FINAL STATUS SURVEY - PHASE I

## CIMARRON FACILITY

### BOUNDARY SURVEY

SUB-AREA 'A' BOUNDARY  
SWP - 940001

DATE: 1/27/95

[illegible]

## INSTRUMENTS:

## RESULTS IN BACKGROUND/MDA

LUDLUM MICRO 'R' METER - MODEL 19

 $\mu R/hr$ 

7-10 / <2

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG / 500

REVIEWED BY: William J. Charles 7-28-95

**FILE: FTU1SS95**

# FINAL STATUS SURVEY - PHASE I CIMARRON FACILITY BOUNDARY SURVEY

SUB-AREA 'A' BOUNDARY  
SWP - 940001

DATE: 1/27/95

[illegible]

**INSTRUMENTS:**

## RESULTS IN

## BACKGROUND/MDA

LUDLUM MICRO 'R' METER - MODEL 19

 $\mu R/hr$ 

7-10 / <2

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG / 500

REVIEWED BY: William T. Rhodes 7-28-95

**FILE: FTU1SS95**

SUB-AREA 'A' BOUNDARY  
SWP - 940001

[illegible]

## BACKGROUND/MDA

7-10 / <2

8850 AVG / 500

REVIEWED BY: William J. Rhodes 7-28-95

SUB-AREA 'A' BOUNDARY  
SWP - 940001

[illegible]

## RESULTS IN BACKGROUND/MDA

 $\mu\text{R}/\text{hr}$ 

7-10 / <2

CPM

8850 AVG / 500

REVIEWED BY: William J. Rhodes 7-28-95

II A-17



DATE: 1/27/95

| INSTRUMENTS:                                   | RESULTS IN       | BACKGROUND/MDA |
|--|------------------|----------------|
| LUDLUM MICRO 'R' METER - MODEL 19              | $\mu\text{R/hr}$ | 7-10 / <2      |
| LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR | CPM              | 8850 AVG / 500 |

REVIEWED BY: William T. Rhodes 7-28-95

SUB-AREA 'A' BOUNDARY  
SWP - 940001[illegible]

| RESULTS IN | BACKGROUND/MDA |
|------------|----------------|
|------------|----------------|

7-10 / <2

8850 AVG / 500

REVIEWED BY: William T. Rhodes 7-28-95

**FINAL STATUS SURVEY - PHASE I  
CIMARRON FACILITY  
BOUNDARY SURVEY**

SUB-AREA 'A' BOUNDARY  
SWP - 940001

DATE: 1/27/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE |
|----------------|------------------------------|-------------------------|-------------------------|
| 220N - 380E    | 5604                         | 5                       | 6                       |
| 220N - 390E    | 7736                         | 7                       | 7                       |
| 220N - 400E    | 7600                         | 8                       | 7                       |
| 220N - 410E    | 7654                         | 7                       | 8                       |
| 220N - 420E    | 7734                         | 7                       | 7                       |
| 220N - 430E    | 7766                         | 8                       | 7                       |
| 220N - 440E    | 7924                         | 8                       | 8                       |
| 220N - 450E    | 7858                         | 8                       | 7                       |
| 220N - 460E    | 6888                         | 8                       | 6                       |
| 220N - 470E    | 6922                         | 6                       | 6                       |
| 220N - 480E    | 7580                         | 7                       | 7                       |
| 220N - 490E    | 7534                         | 8                       | 8                       |
| 220N - 500E    | 8036                         | 8                       | 8                       |
| 220N - 510E    | 7862                         | 8                       | 7                       |
| 220N - 520E    | 7842                         | 8                       | 7                       |
| 220N - 530E    | 8028                         | 7                       | 8                       |
| 220N - 540E    | 7936                         | 9                       | 8                       |
| 220N - 550E    | 7776                         | 8                       | 8                       |
| 220N - 560E    | 8184                         | 8                       | 8                       |
| 220N - 570E    | 7878                         | 8                       | 7                       |
| 220N - 580E    | 8098                         | 7                       | 7                       |
| 220N - 590E    | 7760                         | 7                       | 8                       |
| 220N - 600E    | 7764                         | 7                       | 8                       |
| 220N - 610E    | 7820                         | 7                       | 8                       |
| 220N - 620E    | 8332                         | 9                       | 8                       |
|                |                              |                         |                         |
|                |                              |                         |                         |

INSTRUMENTS:

RESULTS IN BACKGROUND/MDA

LUDLUM MICRO 'R' METER - MODEL 19

$\mu$ R/hr

7-10 / <2

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG / 500

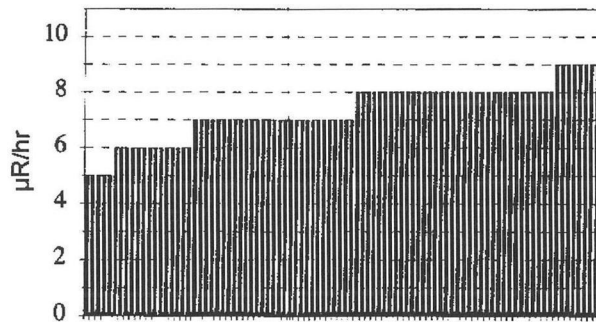
REVIEWED BY: S. J. Rhodes 7-28-95

FILE: FIU1SS95

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (BOUNDARY SURVEY READINGS)**  
**MICRO-R METER READINGS AT SURFACE**  
**LUDLUM MODEL 19 S/N 222399**  
**RESULTS IN  $\mu\text{R/hr}$**   
**SITE BACKGROUND 7-10  $\mu\text{R/hr}$**   
**JANUARY , 1995**

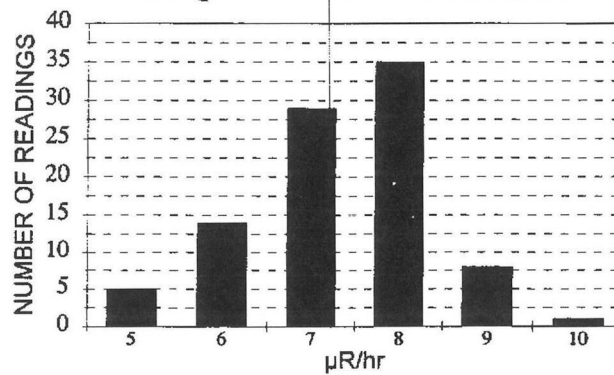
### MICRO-R READINGS

#### SURVEY DATA



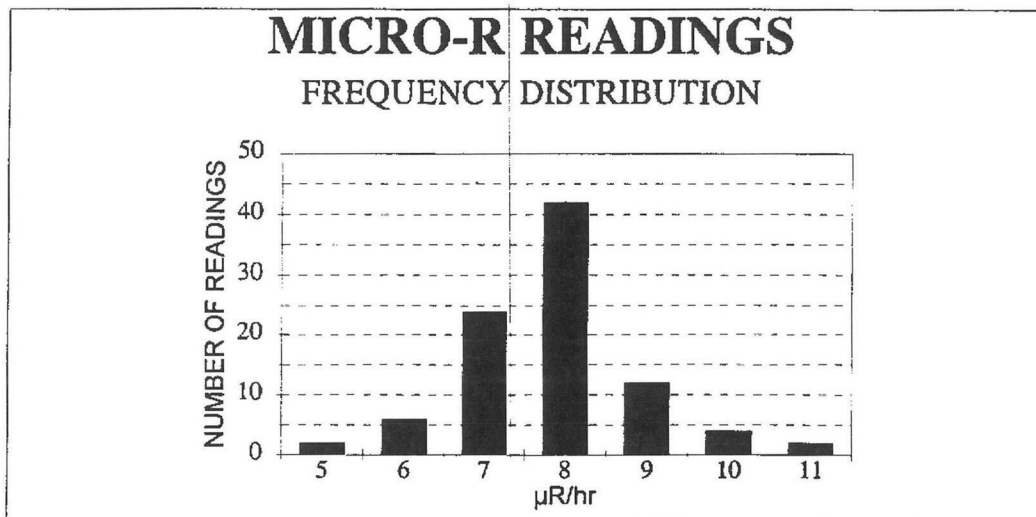
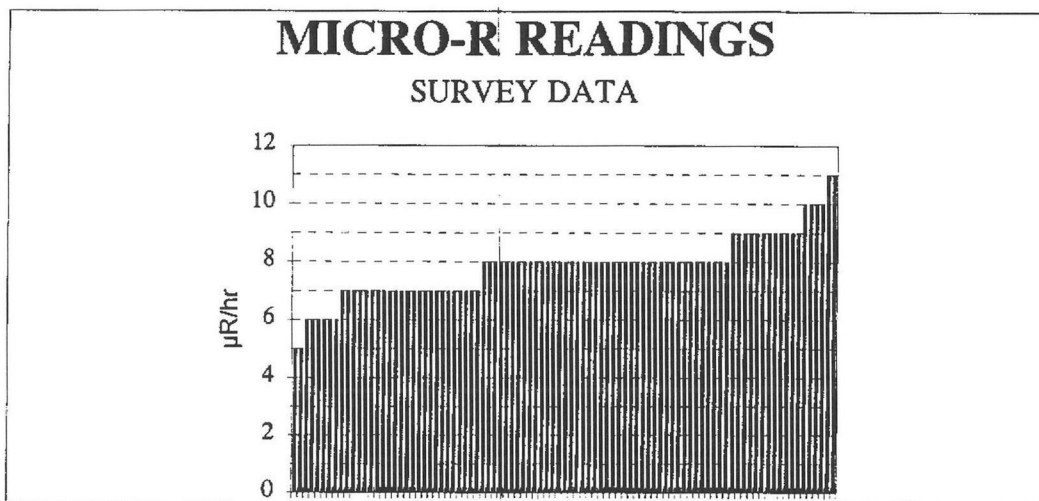
### MICRO-R READINGS

#### FREQUENCY DISTRIBUTION



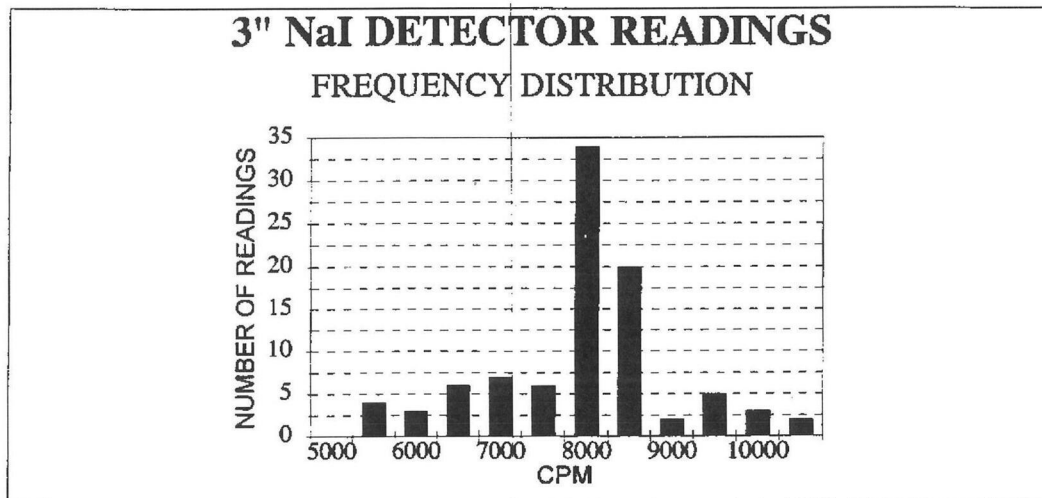
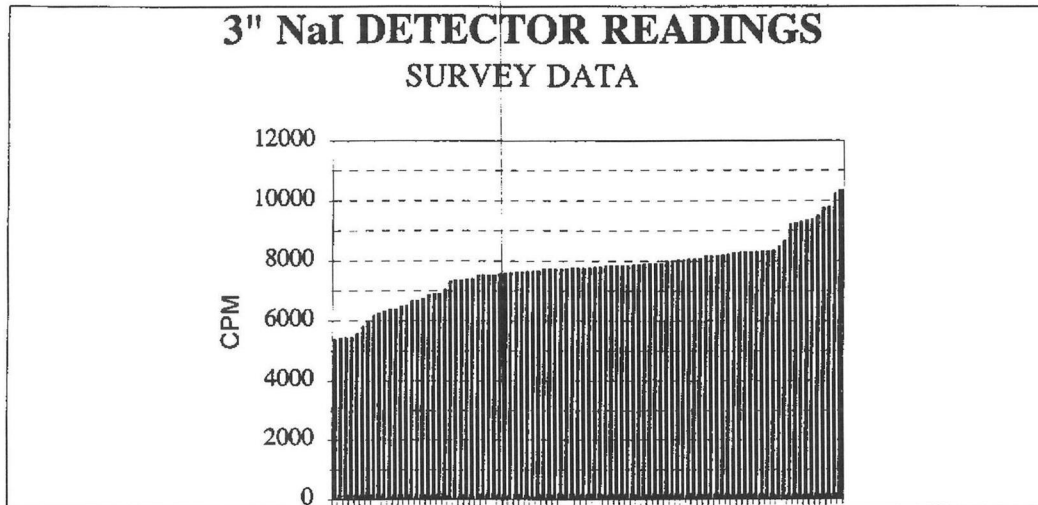
|                    |    |
|--------------------|----|
| NUMBER OF READINGS | 92 |
| AVERAGE READING    | 7  |
| MINIMUM READING    | 5  |
| MAXIMUM READING    | 10 |
| STANDARD DEVIATION | 1  |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (BOUNDARY SURVEY READINGS)**  
**MICRO-R READINGS AT 1 METER ABOVE SURFACE**  
**LUDLUM MODEL 19 S/N 222399**  
**RESULTS IN  $\mu\text{R/hr}$**   
**SITE BACKGROUND 7-10  $\mu\text{R/hr}$**   
**JANUARY , 1995**



|                    |    |
|--------------------|----|
| NUMBER OF READINGS | 92 |
| AVERAGE READING    | 8  |
| MINIMUM READING    | 5  |
| MAXIMUM READING    | 11 |
| STANDARD DEVIATION | 1  |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'A' (BOUNDARY SURVEY READINGS)**  
**GROSS GAMMA READINGS IN CPM**  
**LUDLUM 2220 S/N 48395**  
**UNSHIELDED 3" X 1/2" NaI DETECTOR**  
**BACKGROUND AVERAGE: 8850 CPM**  
**JANUARY ,1995**



|                    |        |
|--------------------|--------|
| NUMBER OF READINGS | 92     |
| AVERAGE READING    | 7,710  |
| MINIMUM READING    | 5,386  |
| MAXIMUM READING    | 10,358 |
| STANDARD DEVIATION | 1,019  |

## **Sub Area A**

### **Soil Sample Statistical Evaluation of Data**

FINAL STATUS SURVEY REPORT - (PHASE I)  
 CIMARRON CORPORATION STATISTICAL EVALUATION OF DATA FOR SUB AREA - A (pCi/gU)  
 CALCULATIONS FROM *MANUAL FOR CONDUCTING RADIOLOGICAL SURVEYS IN SUPPORT  
 OF LICENSE TERMINATION NUREG/CR-5849, DRAFT REPORT FOR COMMENTS*

NO. OF SAMPLES (n): 64

SAMPLE MEAN ( $\bar{x}$ ) = 4.9  
 EQUATION 8-12

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

STANDARD DEVIATION 1.3  
 EQUATION 8-13

$$s_x = \sqrt{\frac{\sum_{i=1}^n (\bar{x} - x_i)^2}{n-1}}$$

DEGREES OF FREEDOM (df) = n-1

DATA LISTED ON TABLE B-1

$t_{1-\alpha, df} =$  1.670

95% CONFIDENCE LEVEL

AREA'S AVERAGE LEVEL  
 EQUATION 8-11

$$\mu_a = \bar{x} + t_{1-\alpha, df} \frac{s_x}{\sqrt{n}}$$

$\mu_a =$  5.1 pCi/gU

ACCEPTABLE LEVEL = 11.5 pCi/gU

TABLE B - 1

| FACTORS FOR COMPARISON OF SURVEY DATA WITH GUIDELINES |       |        |          |       |       |
|---|-------|--------|----------|-------|-------|
| (df)  | 95%   | 97.5%  | (df)     | 95%   | 97.5% |
| 1   | 6.314 | 12.706 | 19       | 1.729 | 2.093 |
| 2   | 2.92  | 4.303  | 20       | 1.725 | 2.086 |
| 3   | 2.353 | 3.182  | 21       | 1.721 | 2.08  |
| 4   | 2.132 | 2.776  | 22       | 1.717 | 2.074 |
| 5   | 2.015 | 2.571  | 23       | 1.714 | 2.069 |
| 6   | 1.943 | 2.447  | 24       | 1.711 | 2.064 |
| 7   | 1.895 | 2.365  | 25       | 1.708 | 2.06  |
| 8   | 1.86  | 2.306  | 26       | 1.706 | 2.056 |
| 9   | 1.833 | 2.262  | 27       | 1.703 | 2.052 |
| 10  | 1.812 | 2.228  | 28       | 1.701 | 2.048 |
| 11  | 1.796 | 2.201  | 29       | 1.699 | 2.045 |
| 12  | 1.782 | 2.179  | 30       | 1.697 | 2.042 |
| 13  | 1.771 | 2.16   | 40       | 1.684 | 2.021 |
| 14  | 1.761 | 2.145  | 60       | 1.671 | 2     |
| 15  | 1.753 | 2.131  | 120      | 1.658 | 1.98  |
| 16  | 1.746 | 2.12   | 400      | 1.649 | 1.966 |
| 17  | 1.74  | 2.11   | INFINITE | 1.645 | 1.96  |
| 18  | 1.734 | 2.101  |          |       |       |
|   |       |        |          |       |       |



**FINAL STATUS SURVEY REPORT - (PHASE I)**  
**CIMARRON CORPORATION STATISTICAL EVALUATION OF DATA FOR SUB AREA - A (pCi/gU)**  
**CALCULATIONS FROM MANUAL FOR CONDUCTING RADIOLOGICAL SURVEYS IN SUPPORT**  
**OF LICENSE TERMINATION NUREG/CR-5849, DRAFT REPORT FOR COMMENTS**

| NUMBER | $\bar{x}$ | $\bar{x} - x_i$ | $(\bar{x} - x_i)^2$     |
|--------|-----------|-----------------|-------------------------|
| 1      | 2.9       | -2.0            | 3.9                     |
| 2      | 7.2       | 2.3             | 5.4                     |
| 3      | 4.4       | -0.5            | 0.2                     |
| 4      | 4.4       | -0.5            | 0.2                     |
| 5      | 6.6       | 1.7             | 3.0                     |
| 6      | 5.8       | 0.9             | 0.9                     |
| 7      | 6.6       | 1.7             | 3.0                     |
| 8      | 4.8       | -0.1            | 0.0                     |
| 9      | 5.3       | 0.4             | 0.2                     |
| 10     | 4.8       | -0.1            | 0.0                     |
| 11     | 5.5       | 0.6             | 0.4                     |
| 12     | 8.4       | 3.5             | 12.4                    |
| 13     | 6.9       | 2.0             | 4.1                     |
| 14     | 6.1       | 1.2             | 1.5                     |
| 15     | 4.9       | 0.0             | 0.0                     |
| 16     | 5.5       | 0.6             | 0.4                     |
| 17     | 3.8       | -1.1            | 1.1                     |
| 18     | 4.8       | -0.1            | 0.0                     |
| 19     | 4.4       | -0.5            | 0.2                     |
| 20     | 5.9       | 1.0             | 1.1                     |
| 21     | 4.7       | -0.2            | 0.0                     |
| 22     | 5.4       | 0.5             | 0.3                     |
| 23     | 3.7       | -1.2            | 1.4                     |
| 24     | 6.3       | 1.4             | 2.0                     |
| 25     | 4         | -0.9            | 0.8                     |
| 26     | 3.7       | -1.2            | 1.4                     |
| 27     | 3.2       | -1.7            | 2.8                     |
| 28     | 6         | 1.1             | 1.3                     |
| 29     | 4         | -0.9            | 0.8                     |
| 30     | 2.8       | -2.1            | 4.3                     |
| 31     | 5.8       | 0.9             | 0.9                     |
| 32     | 3.6       | -1.3            | 1.6                     |
| 33     | 6         | 1.1             | 1.3                     |
| 34     | 7.3       | 2.4             | 5.9                     |
| 35     | 5.6       | 0.7             | 0.5                     |
| 36     | 3.5       | -1.4            | 1.9                     |
| 37     | 5         | 0.1             | 0.0                     |
| 38     | 3.2       | -1.7            | 2.8                     |
| 39     | 3.7       | -1.2            | 1.4                     |
| 40     | 6.8       | 1.9             | 3.7                     |
| 41     | 4.5       | -0.4            | 0.1                     |
| 42     | 6.7       | 1.8             | 3.3                     |
| 43     | 4.2       | -0.7            | 0.5                     |
| 44     | 3.5       | -1.4            | 1.9                     |
| 45     | 6.2       | 1.3             | 1.8                     |
| 46     | 3.1       | -1.8            | 3.1                     |
| 47     | 3.3       | -1.6            | 2.5                     |
| 48     | 6         | 1.1             | 1.3                     |
| 49     | 4.5       | -0.4            | 0.1                     |
| 50     | 3.6       | -1.3            | 1.6                     |
|        |           |                 |                         |
|        | 248.9     |                 | 89.228926               |
|        | Sum (x)   |                 | Sum $(\bar{x} - x_i)^2$ |

| NUMBER | $\bar{x}$ | $\bar{x} - x_i$ | $(\bar{x} - x_i)^2$     |
|--------|-----------|-----------------|-------------------------|
| 51     | 4         | -0.9            | 0.8                     |
| 52     | 6.6       | 1.7             | 3.0                     |
| 53     | 4.5       | -0.4            | 0.1                     |
| 54     | 3.9       | -1.0            | 0.9                     |
| 55     | 4.4       | -0.5            | 0.2                     |
| 56     | 2.9       | -2.0            | 3.9                     |
| 57     | 5.7       | 0.8             | 0.7                     |
| 58     | 5.4       | 0.5             | 0.3                     |
| 59     | 2.4       | -2.5            | 6.1                     |
| 60     | 5.2       | 0.3             | 0.1                     |
| 61     | 5.9       | 1.0             | 1.1                     |
| 62     | 3.2       | -1.7            | 2.8                     |
| 63     | 5.3       | 0.4             | 0.2                     |
| 64     | 3.5       | -1.4            | 1.9                     |
| 65     |           |                 |                         |
| 66     |           |                 |                         |
| 67     |           |                 |                         |
| 68     |           |                 |                         |
| 69     |           |                 |                         |
| 70     |           |                 |                         |
| 71     |           |                 |                         |
| 72     |           |                 |                         |
| 73     |           |                 |                         |
| 74     |           |                 |                         |
| 75     |           |                 |                         |
| 76     |           |                 |                         |
| 77     |           |                 |                         |
| 78     |           |                 |                         |
| 79     |           |                 |                         |
| 80     |           |                 |                         |
| 81     |           |                 |                         |
| 82     |           |                 |                         |
| 83     |           |                 |                         |
| 84     |           |                 |                         |
| 85     |           |                 |                         |
| 86     |           |                 |                         |
| 87     |           |                 |                         |
| 88     |           |                 |                         |
| 89     |           |                 |                         |
| 90     |           |                 |                         |
| 91     |           |                 |                         |
| 92     |           |                 |                         |
| 93     |           |                 |                         |
| 94     |           |                 |                         |
| 95     |           |                 |                         |
| 96     |           |                 |                         |
| 97     |           |                 |                         |
| 98     |           |                 |                         |
| 99     |           |                 |                         |
| 100    |           |                 |                         |
|        |           |                 |                         |
|        | 311.8     |                 | 111.2694                |
|        | Sum (x)   |                 | Sum $(\bar{x} - x_i)^2$ |

FINAL STATUS SURVEY REPORT - (PHASE I)  
 CIMARRON CORPORATION STATISTICAL EVALUATION OF DATA FOR SUB AREA - A (pCi/gTh)  
 CALCULATIONS FROM *MANUAL FOR CONDUCTING RADIOLOGICAL SURVEYS IN SUPPORT  
 OF LICENSE TERMINATION NUREG/CR-5849, DRAFT REPORT FOR COMMENTS*

NO. OF SAMPLES (n): 64

SAMPLE MEAN ( $\bar{x}$ ) = 1.6  
 EQUATION 8-12

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

STANDARD DEVIATION 0.3  
 EQUATION 8-13

$$s_x = \sqrt{\frac{\sum_{i=1}^n (\bar{x} - x_i)^2}{n-1}}$$

DEGREES OF FREEDOM (df) = n-1

DATA LISTED ON TABLE B-1

$t_{1-\alpha, df} =$  1.670

95% CONFIDENCE LEVEL

AREA'S AVERAGE LEVEL  
 EQUATION 8-11

$$\mu_a = \bar{x} + t_{1-\alpha, df} \frac{s_x}{\sqrt{n}}$$

$\mu_a =$  1.7 pCi/gTh

ACCEPTABLE LEVEL = 4.0 pCi/gTh

TABLE B - 1

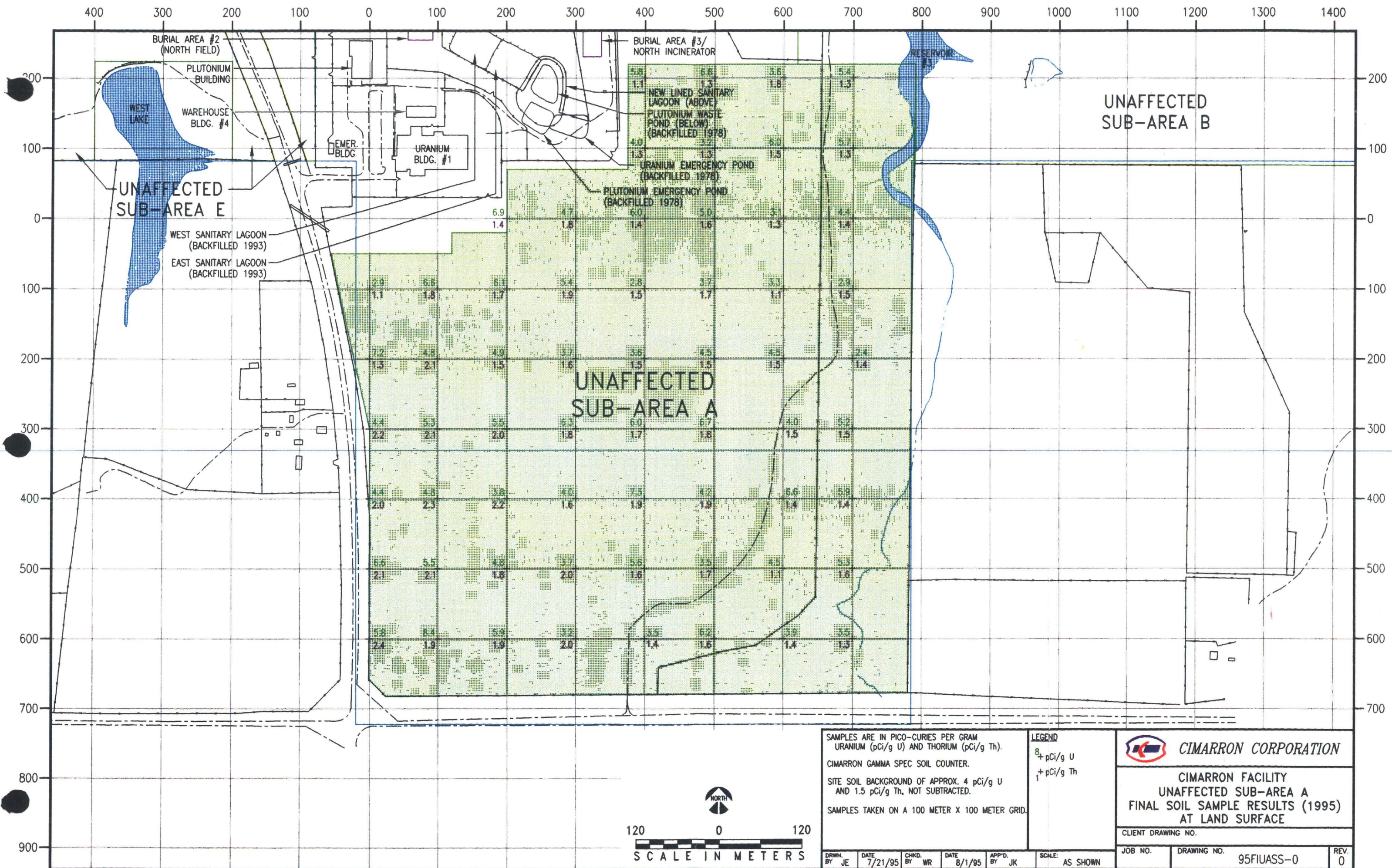
| FACTORS FOR COMPARISON OF SURVEY DATA WITH GUIDELINES |       |        |          |       |       |
|---|-------|--------|----------|-------|-------|
| (df)  | 95%   | 97.5%  | (df)     | 95%   | 97.5% |
| 1   | 6.314 | 12.706 | 19       | 1.729 | 2.093 |
| 2   | 2.92  | 4.303  | 20       | 1.725 | 2.086 |
| 3   | 2.353 | 3.182  | 21       | 1.721 | 2.08  |
| 4   | 2.132 | 2.776  | 22       | 1.717 | 2.074 |
| 5   | 2.015 | 2.571  | 23       | 1.714 | 2.069 |
| 6   | 1.943 | 2.447  | 24       | 1.711 | 2.064 |
| 7   | 1.895 | 2.365  | 25       | 1.708 | 2.06  |
| 8   | 1.86  | 2.306  | 26       | 1.706 | 2.056 |
| 9   | 1.833 | 2.262  | 27       | 1.703 | 2.052 |
| 10  | 1.812 | 2.228  | 28       | 1.701 | 2.048 |
| 11  | 1.796 | 2.201  | 29       | 1.699 | 2.045 |
| 12  | 1.782 | 2.179  | 30       | 1.697 | 2.042 |
| 13  | 1.771 | 2.16   | 40       | 1.684 | 2.021 |
| 14  | 1.761 | 2.145  | 60       | 1.671 | 2     |
| 15  | 1.753 | 2.131  | 120      | 1.658 | 1.98  |
| 16  | 1.746 | 2.12   | 400      | 1.649 | 1.966 |
| 17  | 1.74  | 2.11   | INFINITE | 1.645 | 1.96  |
| 18  | 1.734 | 2.101  |          |       |       |

**FINAL STATUS SURVEY REPORT - (PHASE I)**  
**CIMARRON CORPORATION STATISTICAL EVALUATION OF DATA FOR SUB AREA - A (pCi/gTh)**  
**CALCULATIONS FROM MANUAL FOR CONDUCTING RADIOLOGICAL SURVEYS IN SUPPORT**  
**OF LICENSE TERMINATION NUREG/CR-5849, DRAFT REPORT FOR COMMENTS**

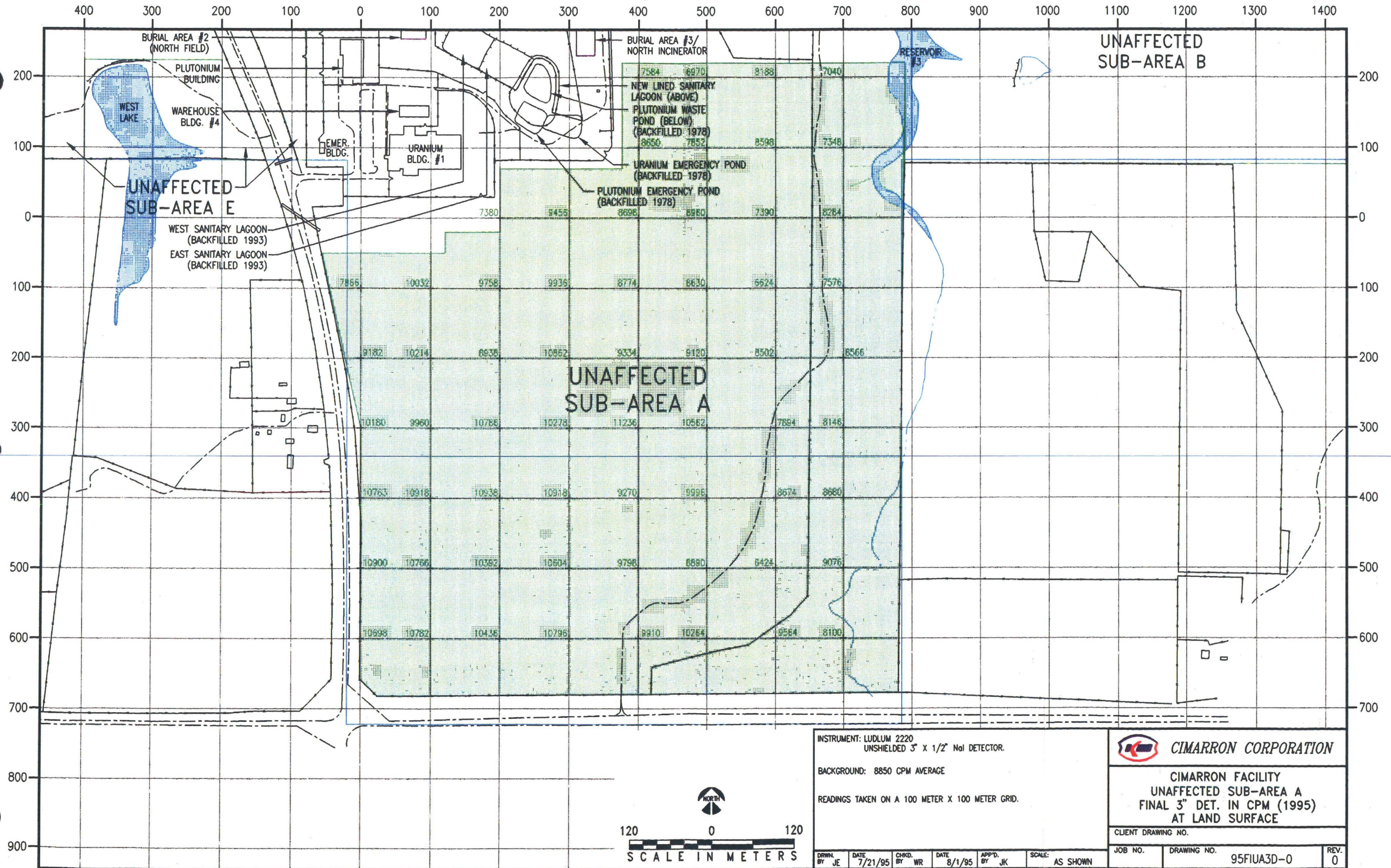
| NUMBER | $\bar{x}$ | $\bar{x} - x_i$ | $(\bar{x} - x_i)^2$                  |
|--------|-----------|-----------------|--------------------------------------|
| 1      | 1.1       | -0.5            | 0.3                                  |
| 2      | 1.3       | -0.3            | 0.1                                  |
| 3      | 2.2       | 0.6             | 0.3                                  |
| 4      | 2         | 0.4             | 0.1                                  |
| 5      | 2.1       | 0.5             | 0.2                                  |
| 6      | 2.4       | 0.8             | 0.6                                  |
| 7      | 1.8       | 0.2             | 0.0                                  |
| 8      | 2.1       | 0.5             | 0.2                                  |
| 9      | 2.1       | 0.5             | 0.2                                  |
| 10     | 2.3       | 0.7             | 0.4                                  |
| 11     | 2.1       | 0.5             | 0.2                                  |
| 12     | 1.9       | 0.3             | 0.1                                  |
| 13     | 1.4       | -0.2            | 0.1                                  |
| 14     | 1.7       | 0.1             | 0.0                                  |
| 15     | 1.5       | -0.1            | 0.0                                  |
| 16     | 2         | 0.4             | 0.1                                  |
| 17     | 2.2       | 0.6             | 0.3                                  |
| 18     | 1.8       | 0.2             | 0.0                                  |
| 19     | 1.8       | 0.2             | 0.0                                  |
| 20     | 1.9       | 0.3             | 0.1                                  |
| 21     | 1.8       | 0.2             | 0.0                                  |
| 22     | 1.9       | 0.3             | 0.1                                  |
| 23     | 1.6       | -0.0            | 0.0                                  |
| 24     | 1.8       | 0.2             | 0.0                                  |
| 25     | 1.6       | -0.0            | 0.0                                  |
| 26     | 2         | 0.4             | 0.1                                  |
| 27     | 2         | 0.4             | 0.1                                  |
| 28     | 1.4       | -0.2            | 0.1                                  |
| 29     | 1.3       | -0.3            | 0.1                                  |
| 30     | 1.5       | -0.1            | 0.0                                  |
| 31     | 1.1       | -0.5            | 0.3                                  |
| 32     | 1.5       | -0.1            | 0.0                                  |
| 33     | 1.7       | 0.1             | 0.0                                  |
| 34     | 1.9       | 0.3             | 0.1                                  |
| 35     | 1.6       | -0.0            | 0.0                                  |
| 36     | 1.4       | -0.2            | 0.1                                  |
| 37     | 1.6       | -0.0            | 0.0                                  |
| 38     | 1.3       | -0.3            | 0.1                                  |
| 39     | 1.7       | 0.1             | 0.0                                  |
| 40     | 1.3       | -0.3            | 0.1                                  |
| 41     | 1.5       | -0.1            | 0.0                                  |
| 42     | 1.8       | 0.2             | 0.0                                  |
| 43     | 1.9       | 0.3             | 0.1                                  |
| 44     | 1.7       | 0.1             | 0.0                                  |
| 45     | 1.6       | -0.0            | 0.0                                  |
| 46     | 1.3       | -0.3            | 0.1                                  |
| 47     | 1.1       | -0.5            | 0.3                                  |
| 48     | 1.5       | -0.1            | 0.0                                  |
| 49     | 1.5       | -0.1            | 0.0                                  |
| 50     | 1.8       | 0.2             | 0.0                                  |
|        |           |                 |                                      |
|        | 85.4      |                 | 5.3053125                            |
|        | Sum (x)   |                 | Sum ( $\bar{x} - x_i$ ) <sup>2</sup> |
|        |           |                 |                                      |

| NUMBER | $\bar{x}$ | $\bar{x} - x_i$ | $(\bar{x} - x_i)^2$                  |
|--------|-----------|-----------------|--------------------------------------|
| 51     | 1.5       | -0.1            | 0.0                                  |
| 52     | 1.4       | -0.2            | 0.1                                  |
| 53     | 1.1       | -0.5            | 0.3                                  |
| 54     | 1.4       | -0.2            | 0.1                                  |
| 55     | 1.4       | -0.2            | 0.1                                  |
| 56     | 1.5       | -0.1            | 0.0                                  |
| 57     | 1.3       | -0.3            | 0.1                                  |
| 58     | 1.3       | -0.3            | 0.1                                  |
| 59     | 1.4       | -0.2            | 0.1                                  |
| 60     | 1.5       | -0.1            | 0.0                                  |
| 61     | 1.4       | -0.2            | 0.1                                  |
| 62     | 1.3       | -0.3            | 0.1                                  |
| 63     | 1.6       | -0.0            | 0.0                                  |
| 64     | 1.3       | -0.3            | 0.1                                  |
| 65     |           |                 |                                      |
| 66     |           |                 |                                      |
| 67     |           |                 |                                      |
| 68     |           |                 |                                      |
| 69     |           |                 |                                      |
| 70     |           |                 |                                      |
| 71     |           |                 |                                      |
| 72     |           |                 |                                      |
| 73     |           |                 |                                      |
| 74     |           |                 |                                      |
| 75     |           |                 |                                      |
| 76     |           |                 |                                      |
| 77     |           |                 |                                      |
| 78     |           |                 |                                      |
| 79     |           |                 |                                      |
| 80     |           |                 |                                      |
| 81     |           |                 |                                      |
| 82     |           |                 |                                      |
| 83     |           |                 |                                      |
| 84     |           |                 |                                      |
| 85     |           |                 |                                      |
| 86     |           |                 |                                      |
| 87     |           |                 |                                      |
| 88     |           |                 |                                      |
| 89     |           |                 |                                      |
| 90     |           |                 |                                      |
| 91     |           |                 |                                      |
| 92     |           |                 |                                      |
| 93     |           |                 |                                      |
| 94     |           |                 |                                      |
| 95     |           |                 |                                      |
| 96     |           |                 |                                      |
| 97     |           |                 |                                      |
| 98     |           |                 |                                      |
| 99     |           |                 |                                      |
| 100    |           |                 |                                      |
|        |           |                 |                                      |
|        | 104.8     |                 | 6.39                                 |
|        | Sum (x)   |                 | Sum ( $\bar{x} - x_i$ ) <sup>2</sup> |
|        |           |                 |                                      |





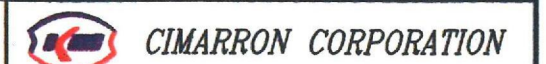




INSTRUMENT: LUDLUM 2220  
UNSHIELDED 3" X 1/2" NaI DETECTOR.

BACKGROUND: 8850 CPM AVERAGE

READINGS TAKEN ON A 100 METER X 100 METER GRID.



CIMARRON FACILITY  
UNAFECTED SUB-AREA A  
FINAL 3" DET. IN CPM (1995)  
AT LAND SURFACE

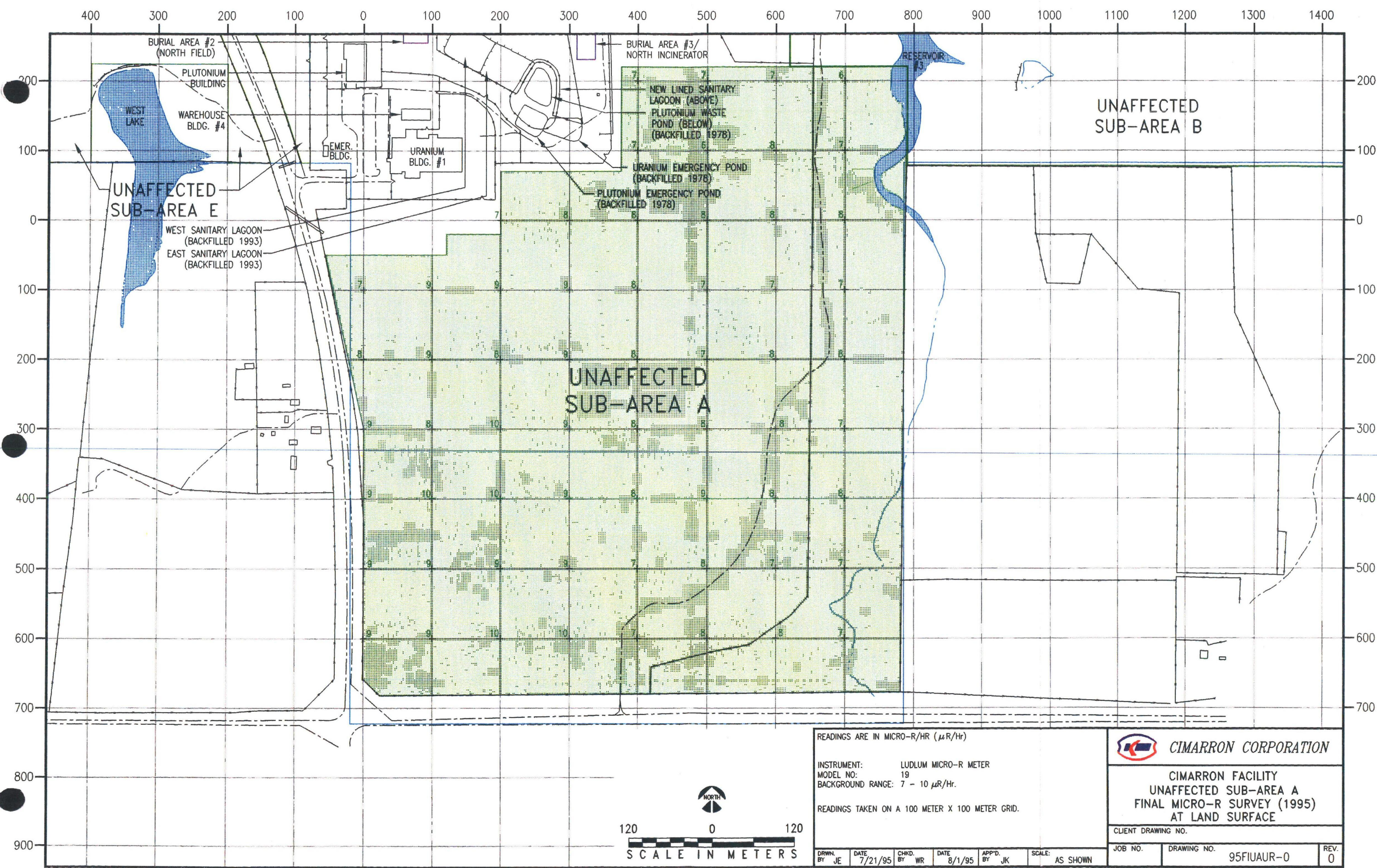
CLIENT DRAWING NO.

|          |         |          |        |           |          |
|----------|---------|----------|--------|-----------|----------|
| DRWN. BY | DATE    | CHKD. BY | DATE   | APP'D. BY | SCALE    |
| JE       | 7/21/95 | WR       | 8/1/95 | JK        | AS SHOWN |

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 95FIUA3D-0  | 0    |

M:\CIMARRON\UNAFAREA\95FIUA3D

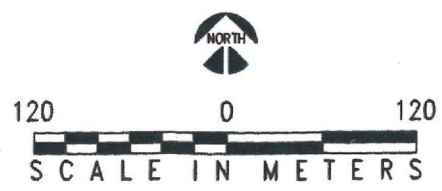




READINGS ARE IN MICRO-R/HR ( $\mu$ R/Hr)

INSTRUMENT: LUDLUM MICRO-R METER  
MODEL NO: 19  
BACKGROUND RANGE: 7 - 10  $\mu$ R/Hr.

READINGS TAKEN ON A 100 METER X 100 METER GRID.



CIMARRON FACILITY  
UNAFFECTED SUB-AREA A  
FINAL MICRO-R SURVEY (1995)  
AT LAND SURFACE

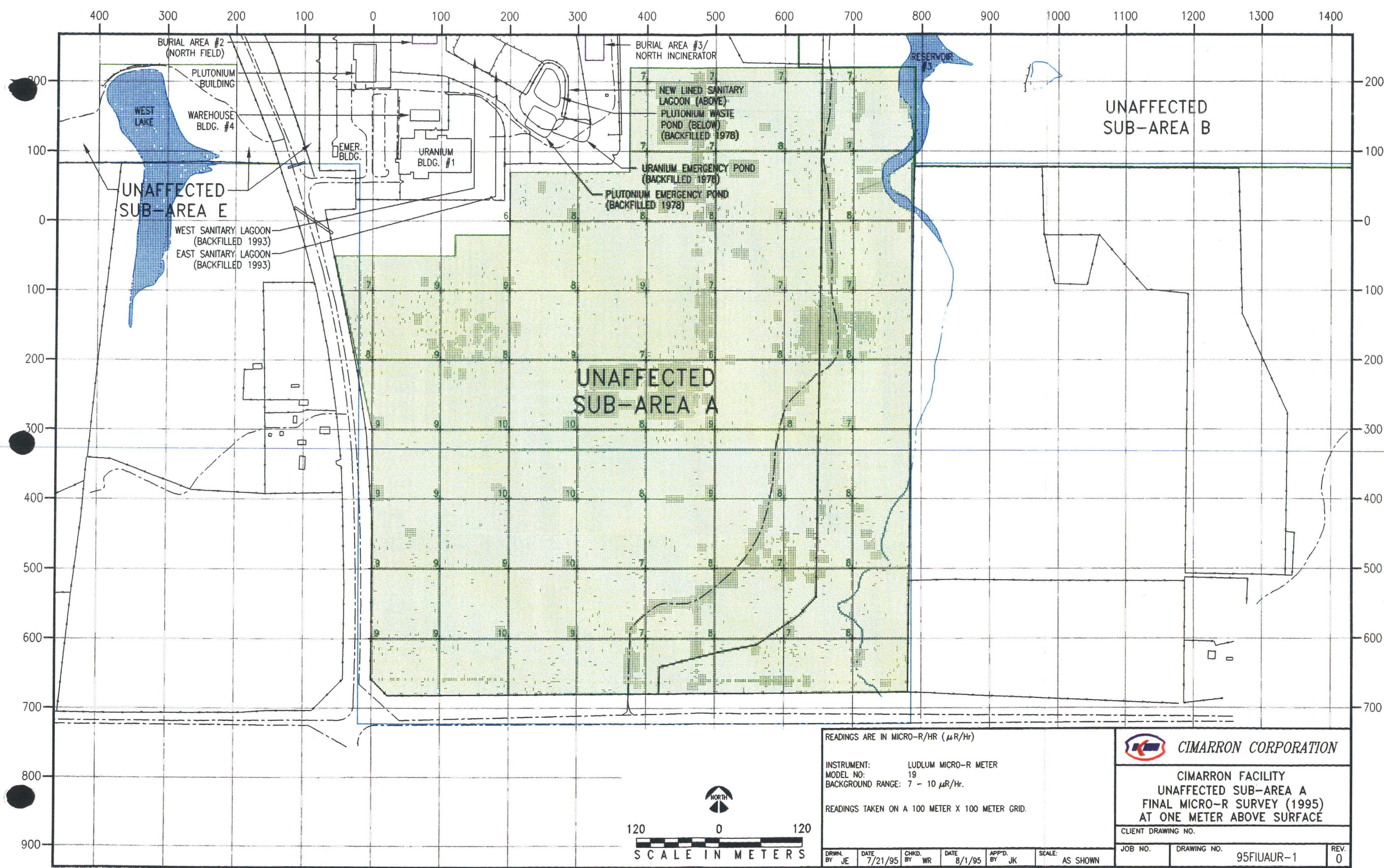
CLIENT DRAWING NO.

|         |             |      |
|---------|-------------|------|
| JOB NO. | DRAWING NO. | REV. |
|         | 95FUAUR-0   | 0    |

|          |         |          |        |           |          |
|----------|---------|----------|--------|-----------|----------|
| DRWN. BY | DATE    | CHKD. BY | DATE   | APP'D. BY | SCALE    |
| JE       | 7/21/95 | WR       | 8/1/95 | JK        | AS SHOWN |

M:\CIMARRON\UNAFAREA\95FUAUR

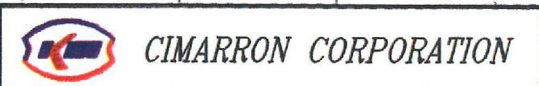




READINGS ARE IN MICRO-R/HR ( $\mu$ R/Hr)

INSTRUMENT: LUDLUM MICRO-R METER  
MODEL NO: 19  
BACKGROUND RANGE: 7 - 10  $\mu$ R/Hr.

READINGS TAKEN ON A 100 METER X 100 METER GRID.



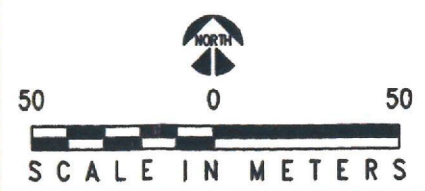
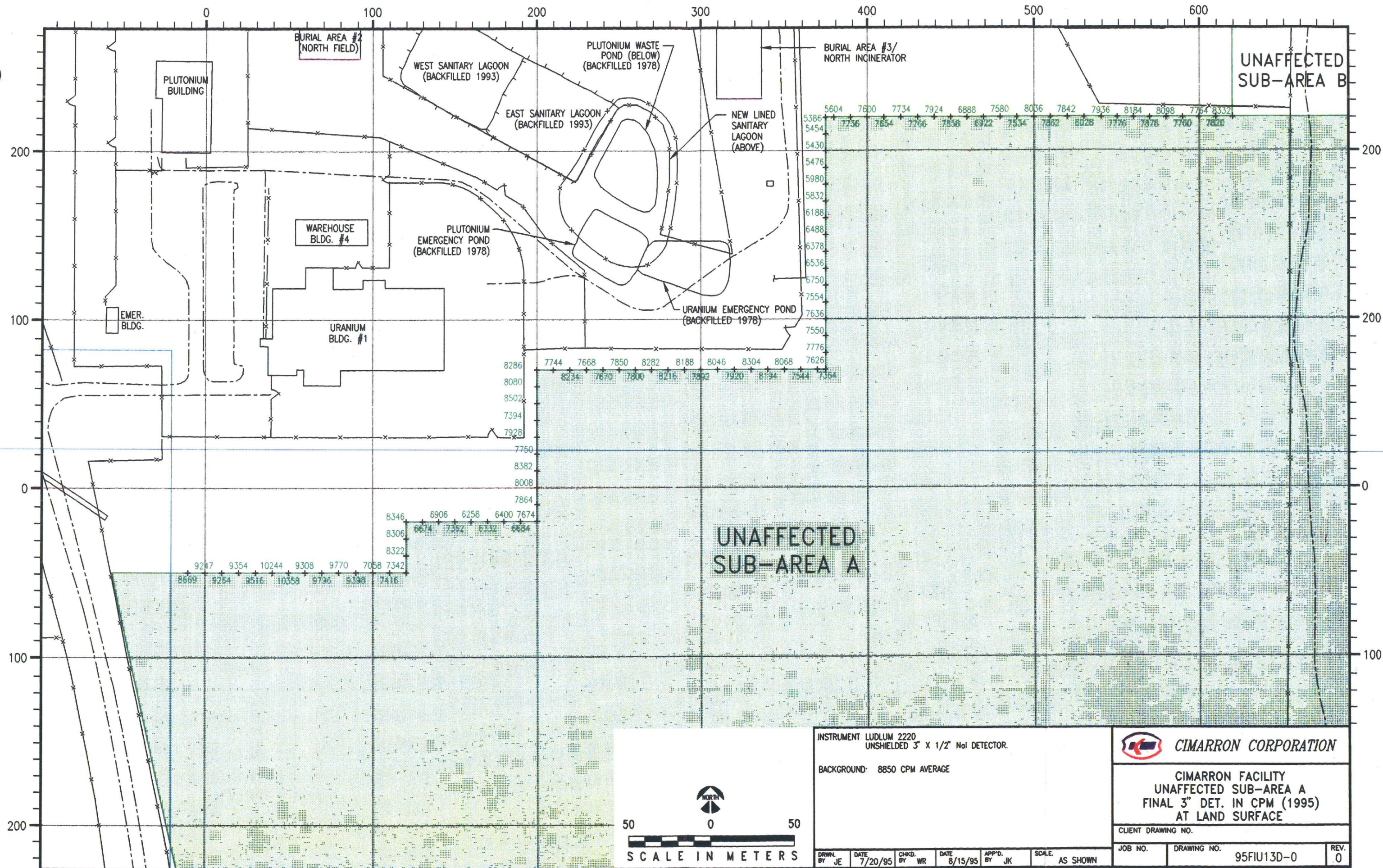
CIMARRON FACILITY  
UNAFECTED SUB-AREA A  
FINAL MICRO-R SURVEY (1995)  
AT ONE METER ABOVE SURFACE

CLIENT DRAWING NO.

|          |         |          |        |           |          |         |             |      |
|----------|---------|----------|--------|-----------|----------|---------|-------------|------|
| DRWN. BY | DATE    | CHKD. BY | DATE   | APP'D. BY | SCALE    | JOB NO. | DRAWING NO. | REV. |
| JE       | 7/21/95 | WR       | 8/1/95 | JK        | AS SHOWN |         | 95FIUAUR-1  | 0    |

M:\CIMARRON\UNAFAREA\95FIUAUR






INSTRUMENT LUDLUM 2220  
UNSHIELDED 3" X 1/2" NaI DETECTOR.

BACKGROUND: 8850 CPM AVERAGE

|                |                 |                |                 |                 |                   |
|----------------|-----------------|----------------|-----------------|-----------------|-------------------|
| DRWN.<br>BY JE | DATE<br>7/20/95 | CHKD.<br>BY WR | DATE<br>8/15/95 | APP'D.<br>BY JK | SCALE<br>AS SHOWN |
|----------------|-----------------|----------------|-----------------|-----------------|-------------------|

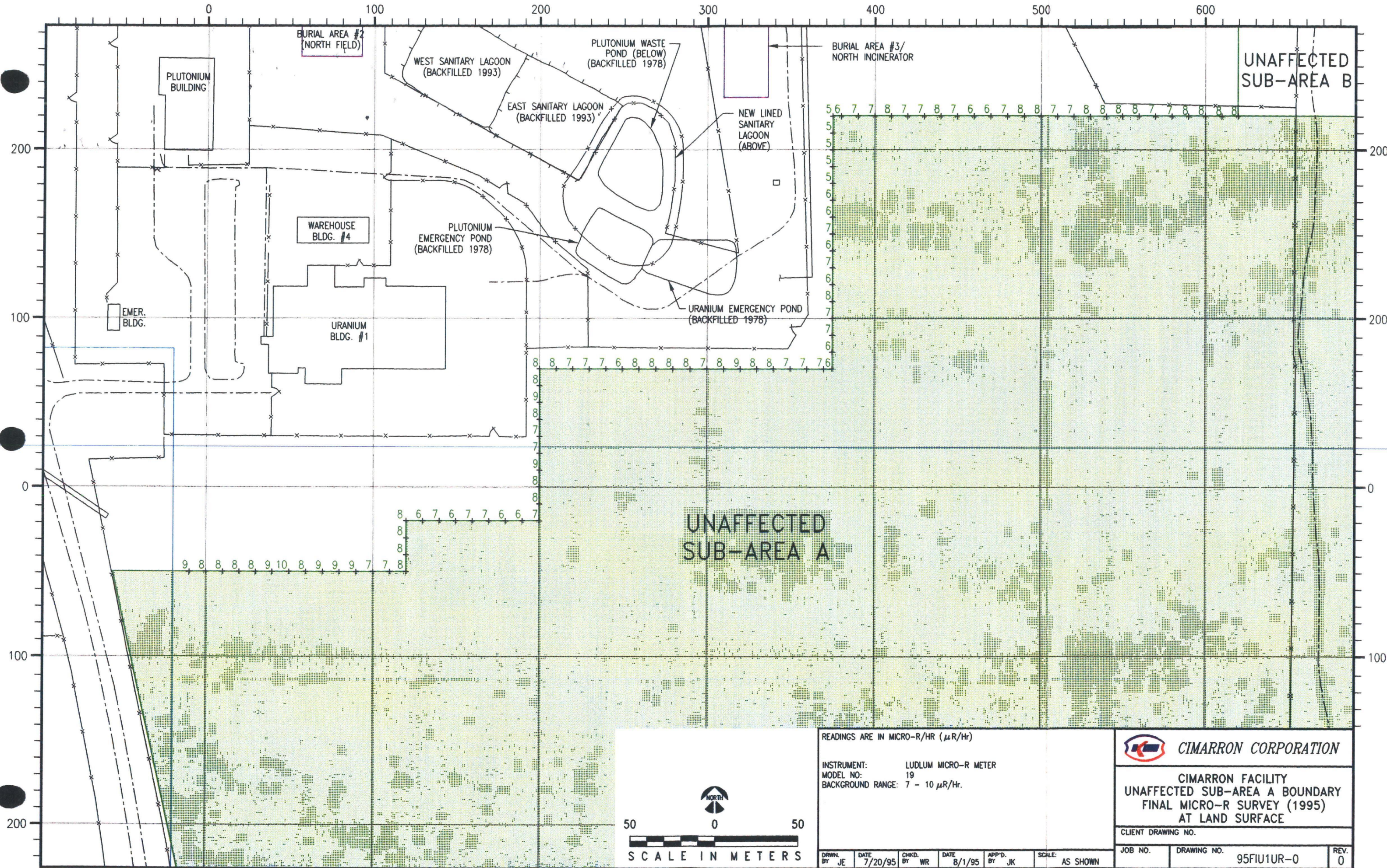
**CIMARRON CORPORATION**

**CIMARRON FACILITY  
UNAFECTED SUB-AREA A  
FINAL 3" DET. IN CPM (1995)  
AT LAND SURFACE**

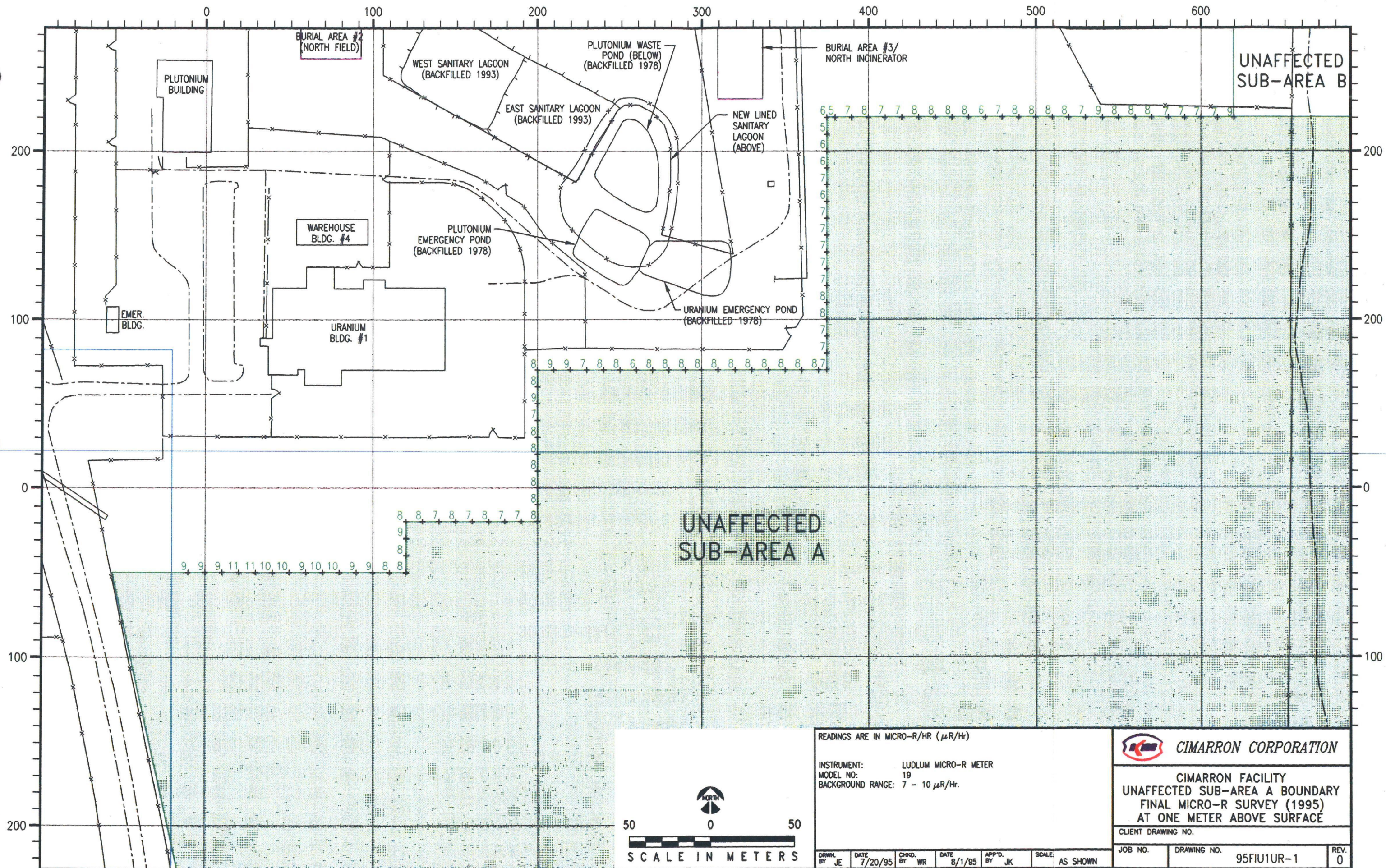
CLIENT DRAWING NO.

|         |                           |           |
|---------|---------------------------|-----------|
| JOB NO. | DRAWING NO.<br>95FIU13D-0 | REV.<br>0 |
|---------|---------------------------|-----------|











SUB-AREA 'B'  
SWP - 940001

DATE: 1/16/95 - 1/20/95

[illegible]

LUIDLUM MICRO 'R' METER - MODEL 19

$\mu_{\text{Zr}}/\mu_{\text{r}}$  7-10

7

LUDLUM 2220, UNSHIELDED 3" X 1 1/2" NaI DETECTOR

CPM 8850 AVG 500

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

|                 |      |
|-----------------|------|
| Th (Nat) - 1.5  | 0.25 |
| U (Total) - 4.0 | 4.0  |

### BACKGROUND NOT SUBTRACTED

REVIEWED BY: William J. Rhodes 7-28-95

**FILE: FIUBSS95**

SUB-AREA 'B'  
SWP - 940001

DATE: 1/16/95 - 1/20/95

[illegible]

LUIDLUM MICRO 'R' METER - MODEL 19

7-10

7

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG

005

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

pCi/g

Th (Nat) - 1.5  
U (Total) - 4.0

$$\frac{.25}{4.0}$$

BACKGROUND NOT SUBTRACTED

REVIEWED BY: William F. Rhodes 7-28-95

**FILE: FIUBSS95**

SUB-AREA 'B'  
SWP - 940001

DATE: 1/16/95 - 1/20/95

| GRID<br>NUMBER      | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE | pCi/g<br>0 - 6"   |            |
|---------------------|------------------------------|-------------------------|-------------------------|-------------------|------------|
|                     |                              |                         |                         | TOTAL U           | Th (Nat)   |
| 1200E - 100N        | 9761                         | 9                       | 9                       | 4.5               | 1.7        |
| 1200E - 200N        | 9206                         | 8                       | 9                       | 4.1               | 1.5        |
| 1200E - 300N        | 9473                         | 7                       | 8                       | 3.1               | 1.5        |
| 1200E - 400N        | 8492                         | 8                       | 7                       | 3.9               | 1.3        |
| 1200E - 500N        | 7598                         | 6                       | 6                       | 3.3               | 1.1        |
| 1200E - 600N        | 7544                         | 6                       | 7                       | 2.6               | 1.4        |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
|                     |                              |                         |                         |                   |            |
| <b>INSTRUMENTS:</b> |                              |                         |                         | <b>BACKGROUND</b> | <b>MDA</b> |

LUDDLUM MICRO 'R' METER - MODEL 19

7-10

7

LUDDLUM 2220, UNSHIELDED 3" X 1 1/2" NaI DETECTOR

CPM

500

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

pCi/g

Th (Nat) - 1.5  
U (Total) - 4.0

BACKGROUND NOT SUBTRACTED

REVIEWED BY: William T. Rhodes 7-28-95

**FILE: FIUBSS95**

SUB-AREA 'B'  
SWP - 940001

DATE: 1/16/95 - 1/20/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE | pCi/g<br>0 - 6" |          |
|----------------|------------------------------|-------------------------|-------------------------|-----------------|----------|
|                |                              |                         |                         | TOTAL U         | Th (Nat) |
| 1300E - 100N   | 8738                         | 7                       | 7                       | 4.2             | 1.6      |
| 1300E - 100N   | 8738                         | 7                       | 7                       | 5.1             | 1.6      |
| 1300E - 200N   | 8847                         | 8                       | 8                       | 2.7             | 1.4      |
| 1300E - 300N   | 8465                         | 7                       | 7                       | 3.6             | 1.3      |
| 1300E - 400N   | 9209                         | 8                       | 8                       | 4.8             | 1.5      |
| 1300E - 500N   | 7624                         | 8                       | 8                       | 3.7             | 1.7      |
| 1300E - 600N   | 5259                         | 5                       | 5                       | 3.6             | 0.9      |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
| INSTRUMENTS:   |                              |                         |                         | BACKGROUND      | MDA      |

LUDLUM MICRO 'R' METER - MODEL 19

 $\mu\text{r/hr}$ 

7-10

7

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG

500

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

pCi/g

Th (Nat) - 1.5  
U (Total) - 4.0

|      |     |
|------|-----|
| 0.25 | 4.0 |
|------|-----|

BACKGROUND NOT SUBTRACTED

REVIEWED BY: William T. Rhodes

**FILE: FIUBSS95**

SUB-AREA 'B'  
SWP - 940001

DATE: 1/16/95 - 1/20/95

[illegible]

LU DLUM MICRO 'R' METER - MODEL 19

LUDDLUM 2220, UNSHIELDED 3" X 1 1/2" NaI DETECTOR

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

BACKGROUND NOT SUBTRACTED

REVIEWED BY: William T. Anderson 7-28-95

**FILE: FIUBSS95**

SUB-AREA 'B'  
SWP - 940001

DATE: 1/16/95 - 1/20/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE | pCi/g<br>0 - 6" |          |
|----------------|------------------------------|-------------------------|-------------------------|-----------------|----------|
|                |                              |                         |                         | TOTAL U         | Th (Nat) |
| 1500E - 100N   | 7046                         | 7                       | 7                       | 2.9             | 0.9      |
| 1500E - 200N   | 6968                         | 7                       | 6                       | 2.2             | 1.0      |
| 1500E - 700N   | 8608                         | 7                       | 8                       | 2.9             | 1.5      |
| 1500E - 800N   | 9129                         | 8                       | 8                       | 2.6             | 1.6      |
| 1500E - 800N   | 9129                         | 8                       | 8                       | 6.6             | 1.8      |
| 1500E - 900N   | 6225                         | 6                       | 6                       | 3.7             | 0.9      |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
|                |                              |                         |                         |                 |          |
| INSTRUMENTS:   |                              |                         | RESULTS IN              | BACKGROUND      | MDA      |

LUDLUM MICRO 'R' METER - MODEL 19

7

LUDDLUM 2220, UNSHIELDED 3" X 1 1/2" NaI DETECTOR

8850 AVG

500

CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR

Th (Nat) - 1.5  
U (Total) - 4.0

4.0  
.25

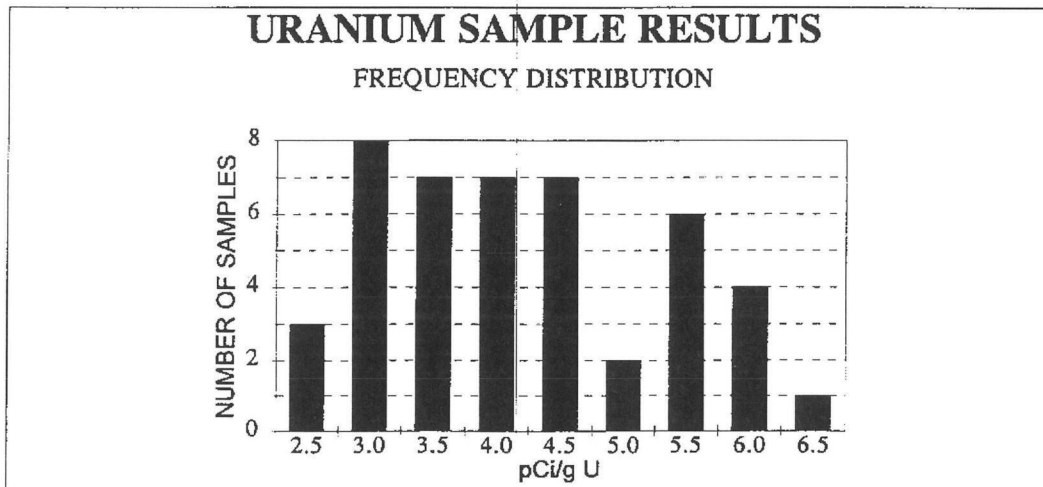
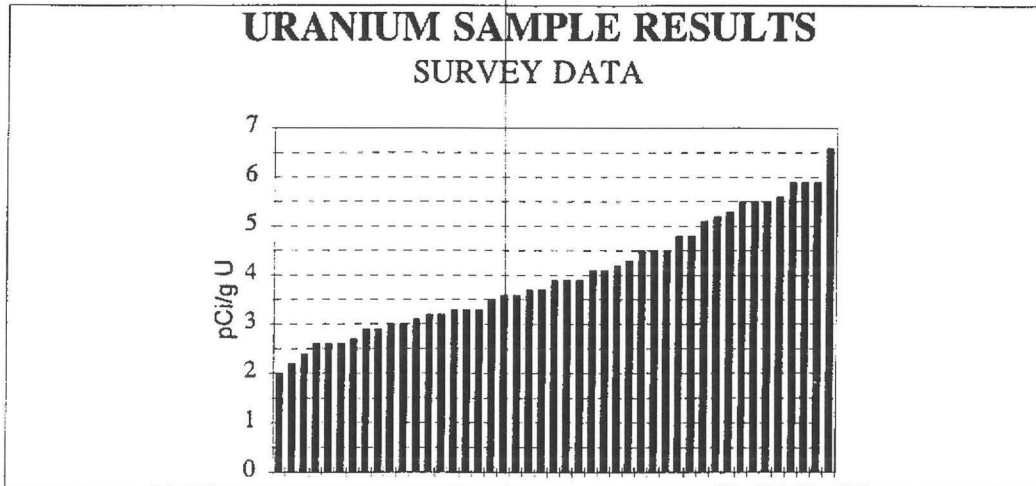
BACKGROUND NOT SUBTRACTED

REVIEWED BY: William F. Brodeur 7-28-95

**FILE: FIUBSS95**

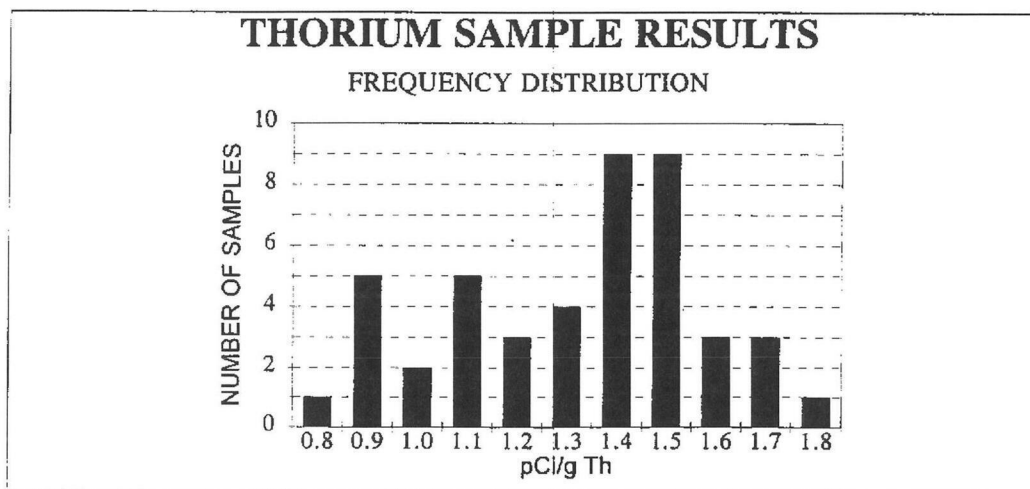
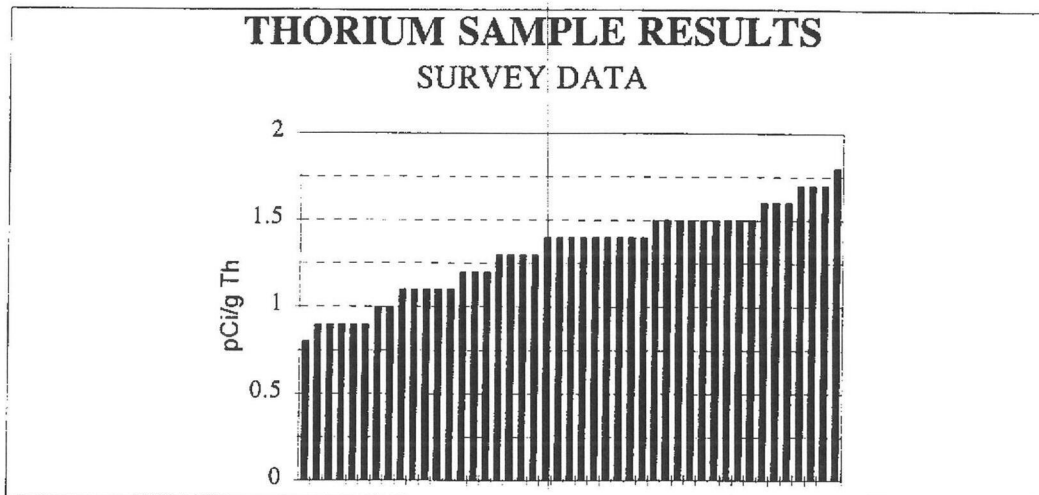


**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'B' (GRID SURVEY SAMPLES)**  
**CIMARRON SOIL COUNTER**  
**URANIUM SOIL SAMPLE RESULTS**  
**SITE BACKGROUND 4 pCi/g URANIUM NOT SUBTRACTED**  
**JANUARY, 1995**



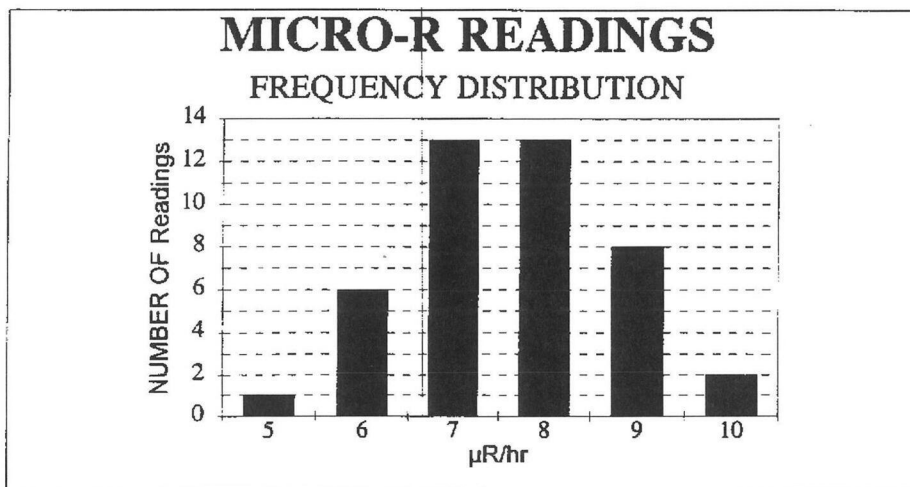
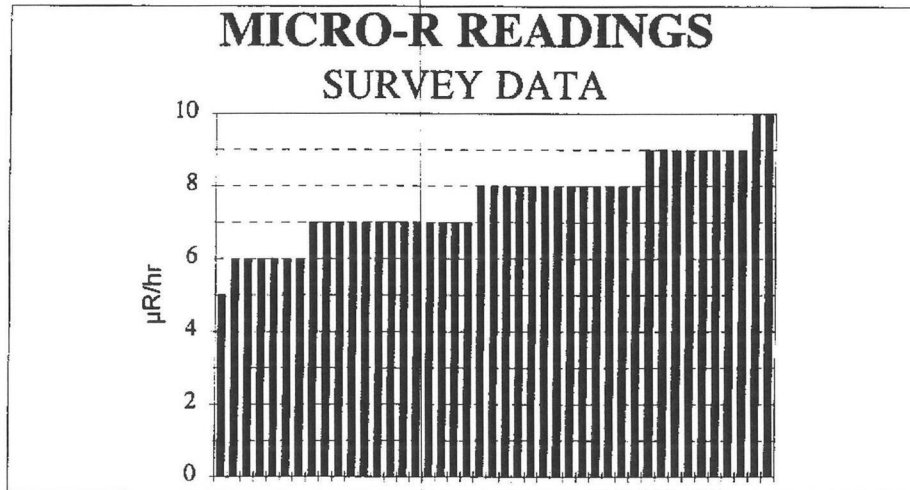
|                    |     |
|--------------------|-----|
| NUMBER OF SAMPLES  | 45  |
| AVERAGE SAMPLE     | 4.0 |
| MINIMUM SAMPLE     | 2.0 |
| MAXIMUM SAMPLE     | 6.6 |
| STANDARD DEVIATION | 1.2 |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'B' (GRID SURVEY SAMPLES)**  
**CIMARRON SOIL COUNTER**  
**THORIUM SOIL SAMPLE RESULTS**  
**SITE BACKGROUND OF 1.5 pCi/g Th NOT SUBTRACTED**  
**JANUARY, 1995**



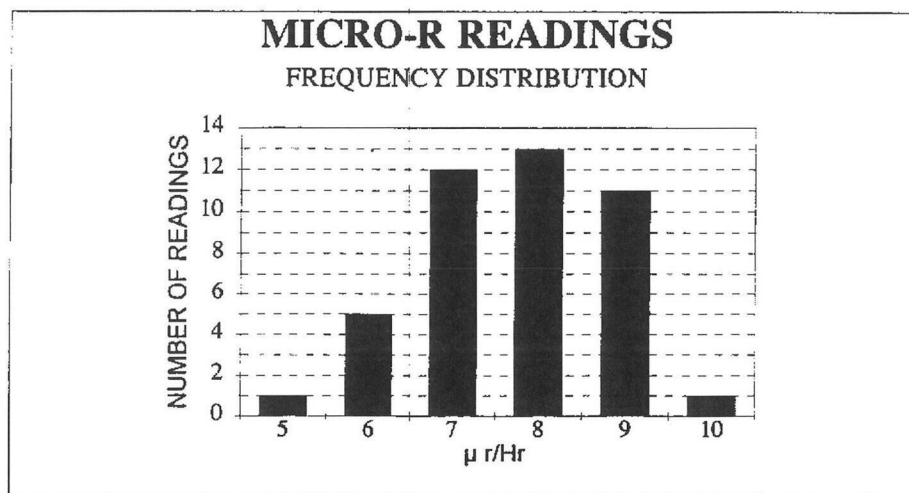
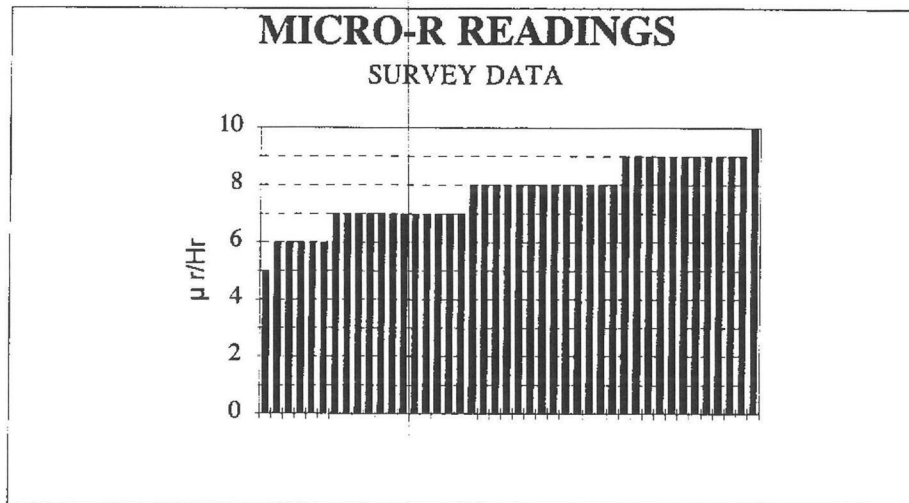
|                    |     |
|--------------------|-----|
| NUMBER OF SAMPLES  | 45  |
| AVERAGE SAMPLE     | 1.3 |
| MINIMUM SAMPLE     | 0.8 |
| MAXIMUM SAMPLE     | 1.8 |
| STANDARD DEVIATION | 0.3 |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'B' (GRID SURVEY READINGS)**  
**MICRO-R METER READINGS AT SURFACE**  
**LUDLUM MODEL 19 S/N 111299**  
**RESULTS IN  $\mu$  R/hr**  
**SITE BACKGROUND 7-10  $\mu$  R/hr**  
**JANUARY, 1995**



|                           |           |
|---------------------------|-----------|
| <b>NUMBER OF READINGS</b> | <b>43</b> |
| <b>AVERAGE READINGS</b>   | <b>8</b>  |
| <b>MINIMUM READINGS</b>   | <b>5</b>  |
| <b>MAXIMUM READINGS</b>   | <b>10</b> |
| <b>STANDARD DEVIATION</b> | <b>1</b>  |

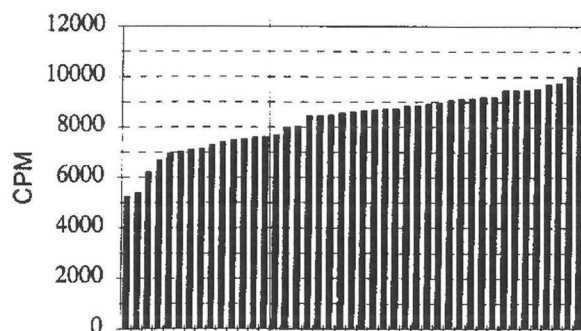
**UNAFFECTED AREA 'B' CHARACTERIZATION**  
**SUB-AREA 'B' (GRID SURVEY READINGS)**  
**MICRO-R METER READINGS AT 1 METER ABOVE SURFACE**  
**LUDLUM MODEL 19 S/N 111299**  
**RESULTS IN  $\mu\text{R/hr}$**   
**SITE BACKGROUND 7-10  $\mu\text{R/hr}$**   
**JANUARY, 1995**



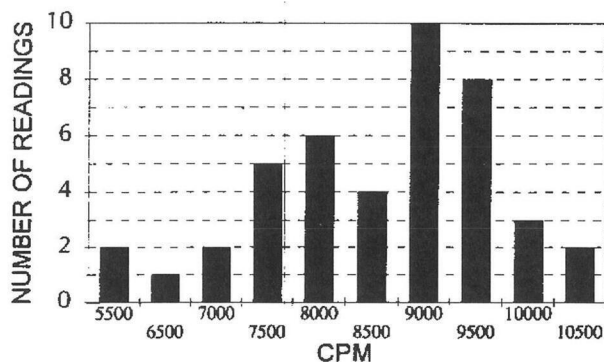
|                    |    |
|--------------------|----|
| NUMBER OF READINGS | 43 |
| AVERAGE READING    | 8  |
| MINIMUM READING    | 5  |
| MAXIMUM READING    | 10 |
| STANDARD DEVIATION | 1  |

**FINAL STATUS SURVEY REPORT - PHASE I**  
**SUB-AREA 'B' (GRID SURVEY READINGS)**  
**GROSS GAMMA READINGS IN CPM**  
**LUDLUM 2220 S/N 48395**  
**UNSHIELDED 3" X 1/2" NaI DETECTOR**  
**BACKGROUND AVERAGE: 8850 CPM**  
**JANUARY, 1995**

**3" NaI DETECTOR READINGS**  
**SURVEY DATA**



**3" NaI DETECTOR READINGS**  
**FREQUENCY DISTRIBUTION**



|                    |       |
|--------------------|-------|
| NUMBER OF READINGS | 43    |
| AVERAGE READING    | 8307  |
| MINIMUM READING    | 5259  |
| MAXIMUM READING    | 10431 |
| STANDARD DEVIATION | 1164  |

**FINAL STATUS SURVEY - PHASE I  
CIMARRON FACILITY  
BOUNDARY SURVEY**

SUB-AREA 'B' BOUNDARY  
SWP - 940001

DATE: 1/31/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE |
|----------------|------------------------------|-------------------------|-------------------------|
| 620E - 230N    | 8106                         | 7                       | 7                       |
| 620E - 240N    | 8196                         | 8                       | 6                       |
| 620E - 250N    | 7806                         | 8                       | 6                       |
| 620E - 260N    | 7590                         | 7                       | 6                       |
| 620E - 270N    | 7380                         | 8                       | 8                       |
| 620E - 280N    | 7542                         | 8                       | 7                       |
| 620E - 290N    | 7524                         | 7                       | 7                       |
| 620E - 300N    | 7020                         | 7                       | 7                       |
| 620E - 310N    | 7228                         | 8                       | 8                       |
| 620E - 320N    | 7358                         | 8                       | 7                       |
| 620E - 330N    | 7438                         | 7                       | 7                       |
| 620E - 340N    | 7674                         | 7                       | 7                       |
| 620E - 350N    | 7508                         | 7                       | 7                       |
| 620E - 360N    | 8698                         | 8                       | 9                       |
| 620E - 370N    | 8636                         | 8                       | 7                       |
| 620E - 380N    | 8664                         | 8                       | 9                       |
| 620E - 390N    | 8712                         | 9                       | 8                       |
| 620E - 400N    | 8856                         | 9                       | 9                       |
| 620E - 410N    | 8422                         | 9                       | 7                       |
| 620E - 420N    | 8620                         | 9                       | 9                       |
| 620E - 430N    | 8812                         | 9                       | 9                       |
| 620E - 440N    | 8614                         | 10                      | 9                       |
| 620E - 450N    | 8170                         | 9                       | 8                       |
| 620E - 460N    | 8272                         | 7                       | 9                       |
| 620E - 470N    | 8600                         | 8                       | 9                       |
| 620E - 480N    | 8918                         | 9                       | 9                       |
| 620E - 490N    | 10514                        | 10                      | 8                       |

INSTRUMENTS:

RESULTS IN BACKGROUND/MDA

LU DLUM MICRO 'R' METER - MODEL 19

$\mu$ R/hr

7-10 / <2

LU DLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG / 500

REVIEWED BY: William J. Kludner 7-28-95

FILE: FIU2SS95

SUB-AREA 'B' BOUNDARY  
SWP - 940001

[illegible]

| RESULTS IN | BACKGROUND/MDA |
|------------|----------------|
| 1.0        | 0.0            |
| 0.9        | 0.1            |
| 0.8        | 0.2            |
| 0.7        | 0.3            |
| 0.6        | 0.4            |
| 0.5        | 0.5            |
| 0.4        | 0.6            |
| 0.3        | 0.7            |
| 0.2        | 0.8            |
| 0.1        | 0.9            |
| 0.0        | 1.0            |

 $\mu\text{R/hr}$ 

7-10 / <2

CPM

8850 AVG / 500

REVIEWED BY: William T. Rhodes 7-28-95

II B-13

**FINAL STATUS SURVEY - PHASE I  
CIMARRON FACILITY  
BOUNDARY SURVEY**

SUB-AREA 'B' BOUNDARY  
SWP - 940001

DATE: 1/31/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE |
|----------------|------------------------------|-------------------------|-------------------------|
| 600N - 620E    | 8984                         | 9                       | 8                       |
| 600N - 630E    | 9026                         | 9                       | 10                      |
| 600N - 640E    | 9336                         | 8                       | 9                       |
| 600N - 650E    | 9310                         | 8                       | 9                       |
| 600N - 660E    | 9268                         | 9                       | 9                       |
| 600N - 670E    | 9264                         | 9                       | 8                       |
| 600N - 680E    | 9732                         | 8                       | 9                       |
| 600N - 690E    | 9728                         | 9                       | 9                       |
| 600N - 700E    | 9036                         | 9                       | 8                       |
| 600N - 710E    | 9390                         | 9                       | 9                       |
| 600N - 720E    | 8618                         | 8                       | 8                       |
| 600N - 730E    | 8248                         | 8                       | 8                       |
| 600N - 740E    | 7832                         | 7                       | 8                       |
| 600N - 750E    | 7438                         | 7                       | 7                       |
| 600N - 760E    | 7804                         | 7                       | 7                       |
| 600N - 770E    | 7514                         | 7                       | 7                       |
| 600N - 775E    | 6522                         | 7                       | 6                       |
| 600N - 780E    | LAKE<br><br>WATER            |                         |                         |
| 600N - 790E    |                              |                         |                         |
| 600N - 800E    |                              |                         |                         |
| 600N - 810E    |                              |                         |                         |
| 600N - 820E    |                              |                         |                         |
| 600N - 830E    |                              |                         |                         |
| 600N - 840E    |                              |                         |                         |
| 600N - 850E    |                              |                         |                         |
| 600N - 860E    |                              |                         |                         |
| 600N - 870E    |                              |                         |                         |
| 600N - 880E    | 6176                         | 6                       | 6                       |

INSTRUMENTS:

RESULTS IN BACKGROUND/MDA

LUDLUM MICRO 'R' METER - MODEL 19

μR/hr

7-10 / <2

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG / 500

REVIEWED BY: William J. Rhodes 7-28-95

FILE: FIU2SS95



SUB-AREA 'B' BOUNDARY  
SWP - 940001

[illegible]

| RESULTS IN | BACKGROUND/MDA |
|------------|----------------|
|------------|----------------|

 $\mu R/hr$ 

CPM

REVIEWED BY:

William F. Rhodes

7-28.95

II B-15

**FINAL STATUS SURVEY - PHASE I  
CIMARRON FACILITY  
BOUNDARY SURVEY**

SUB-AREA 'B' BOUNDARY  
SWP - 940001

DATE: 1/31/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE |
|----------------|------------------------------|-------------------------|-------------------------|
| 890E - 590N    | 5594                         | 6                       | 6                       |
| 1010E - 590N   | 8748                         | 8                       | 9                       |
| 1020E - 595N   | 8770                         | 8                       | 8                       |
| 1030E - 600N   | 9012                         | 9                       | 9                       |
| 1040E - 605N   | 9324                         | 8                       | 10                      |
| 1050E - 610N   | 9470                         | 9                       | 8                       |
| 1060E - 615N   | 8032                         | 9                       | 8                       |
| 1070E - 620N   | 8016                         | 9                       | 8                       |
| 1080E - 625N   | 8338                         | 8                       | 8                       |
| 1090E - 630N   | 8710                         | 8                       | 9                       |
| 1100E - 635N   | 8716                         | 9                       | 8                       |
| 1110E - 640N   | 8546                         | 8                       | 9                       |
| 1120E - 645N   | 9058                         | 10                      | 9                       |
| 1130E - 650N   | 9246                         | 8                       | 9                       |
| 1140E - 655N   | 8842                         | 8                       | 8                       |
| 1150E - 660N   | 8656                         | 8                       | 8                       |
| 1160E - 665N   | 8430                         | 8                       | 8                       |
| 1170E - 670N   | 7918                         | 8                       | 8                       |
| 1180E - 675N   | 7742                         | 8                       | 7                       |
| 1190E - 680N   | 7286                         | 7                       | 7                       |
|                |                              |                         |                         |
|                |                              |                         |                         |
|                |                              |                         |                         |
|                |                              |                         |                         |
|                |                              |                         |                         |
|                |                              |                         |                         |
|                |                              |                         |                         |

**INSTRUMENTS:** **RESULTS IN** **BACKGROUND/MDA**

LUDLUM MICRO 'R' METER - MODEL 19  $\mu$ R/hr 7-10 / <2

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR CPM 8850 AVG / 500

REVIEWED BY: William T. Rhodes 7-28-95

FILE: FIU2SS95

**FINAL STATUS SURVEY - PHASE I  
CIMARRON FACILITY  
BOUNDARY SURVEY**

SUB-AREA 'B' BOUNDARY  
SWP - 940001

DATE: 1/31/95

| GRID<br>NUMBER | 3" NaI<br>DETECTOR<br>C.P.M. | MICRO<br>'R'<br>1 METER | MICRO<br>'R'<br>SURFACE |
|----------------|------------------------------|-------------------------|-------------------------|
| 690N - 1200E   | 6676                         | 7                       | 7                       |
| 690N - 1210E   | 6364                         | 7                       | 7                       |
| 690N - 1220E   | 6488                         | 6                       | 6                       |
| 690N - 1230E   | 6636                         | 7                       | 6                       |
| 690N - 1240E   | 7138                         | 7                       | 7                       |
| 690N - 1250E   | 7068                         | 7                       | 7                       |
| 690N - 1260E   | 7018                         | 7                       | 7                       |
| 690N - 1270E   | 6684                         | 6                       | 7                       |
| 690N - 1280E   | 6698                         | 6                       | 6                       |
| 690N - 1290E   | 7246                         | 7                       | 6                       |
| 690N - 1300E   | 5402                         | 6                       | 6                       |
| 690N - 1310E   | 5842                         | 5                       | 6                       |
| 690N - 1320E   | 5910                         | 6                       | 6                       |
| 690N - 1330E   | 5648                         | 6                       | 5                       |
| 690N - 1340E   | 5422                         | 6                       | 6                       |
| 690N - 1350E   | 6328                         | 5                       | 5                       |
| 690N - 1360E   | 5744                         | 5                       | 6                       |
| 690N - 1370E   | 6538                         | 5                       | 5                       |
| 690N - 1380E   | 6222                         | 5                       | 7                       |
| 690N - 1390E   | 6206                         | 6                       | 7                       |
| 690N - 1400E   | 5566                         | 6                       | 5                       |
| 690N - 1410E   | 5980                         | 6                       | 6                       |
| 690N - 1420E   | 5784                         | 5                       | 6                       |
| 690N - 1430E   | 5790                         | 5                       | 5                       |
| 690N - 1440E   | <b>LAKE WATER</b>            |                         |                         |
| 690N - 1450E   |                              |                         |                         |
| 690N - 1460E   |                              |                         |                         |

**INSTRUMENTS:**

**RESULTS IN BACKGROUND/MDA**

LUDLUM MICRO 'R' METER - MODEL 19

μR/hr

7-10 / <2

LUDLUM 2220, UNSHIELDED 3" X 1/2" NaI DETECTOR

CPM

8850 AVG / 500

REVIEWED BY: *William F. Rhodes* 7-28-95

FILE: FIU2SS95

SUB-AREA 'B' BOUNDARY  
SWP - 940001

[illegible]

## RESULTS IN BACKGROUND/MDA

 $\mu\text{R/hr}$ 

CPM

REVIEWED BY: *William T. Rhodes* 7-28-95