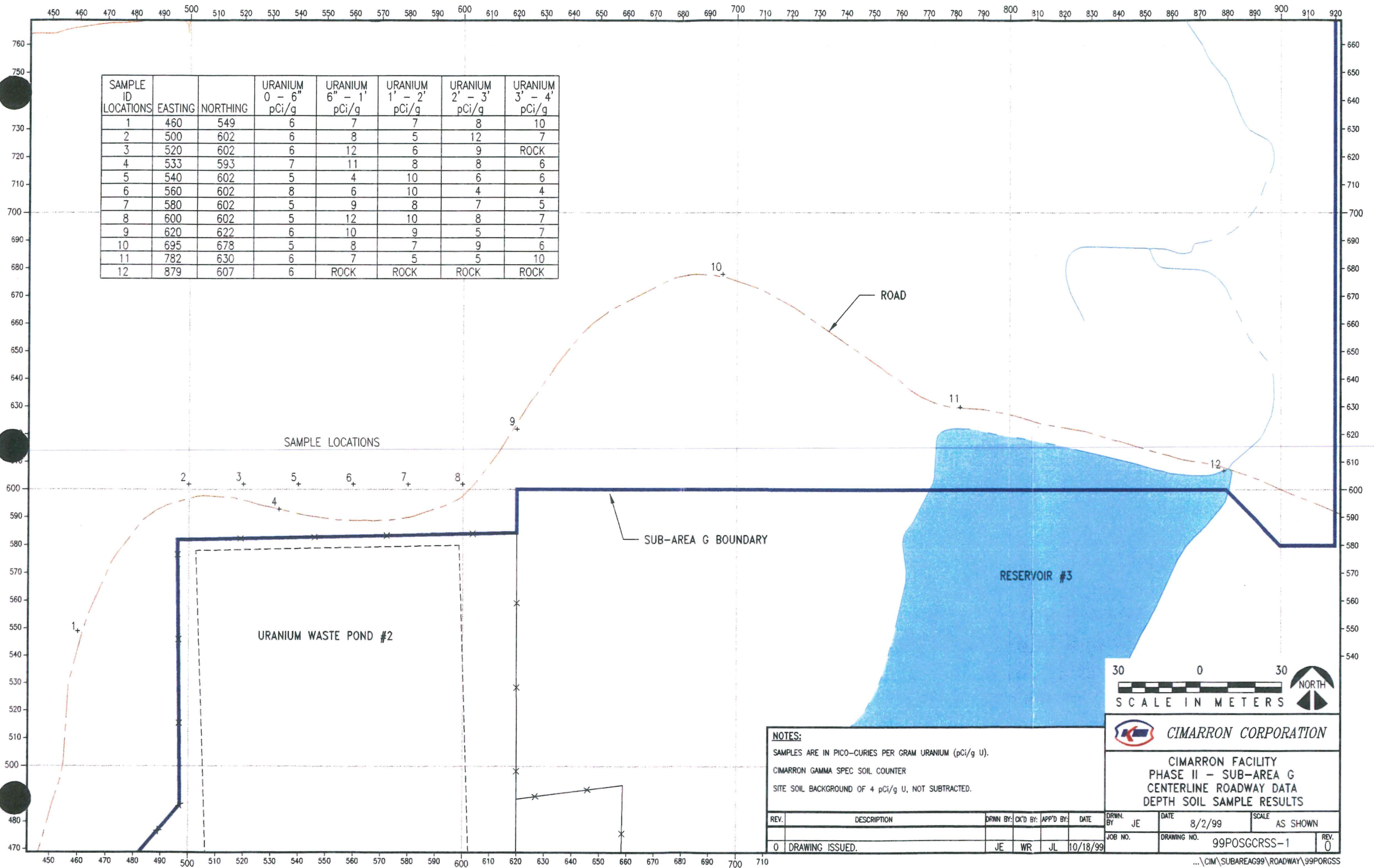


APPENDIX 2 – AFFECTED AREA ROADWAY

SAMPLE ID LOCATIONS	EASTING	NORTHING	URANIUM 0 - 6" pCi/g	URANIUM 6" - 1' pCi/g	URANIUM 1' - 2' pCi/g	URANIUM 2' - 3' pCi/g	URANIUM 3' - 4' pCi/g
1	460	549	6	7	7	8	10
2	500	602	6	8	5	12	7
3	520	602	6	12	6	9	ROCK
4	533	593	7	11	8	8	6
5	540	602	5	4	10	6	6
6	560	602	8	6	10	4	4
7	580	602	5	9	8	7	5
8	600	602	5	12	10	8	7
9	620	622	6	10	9	5	7
10	695	678	5	8	7	9	6
11	782	630	6	7	5	5	10
12	879	607	6	ROCK	ROCK	ROCK	ROCK



Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	480E-585N	5616	6	6	8	1
2	480E-590N	5578	7	7	10	1
3	480E-595N	7174	8	7	7	1
4	480E-600N	8516	10	9	11	2
5						
6	485E-585N	7758	8	7	6	1
7	485E-590N	5224	6	7	8	1
8	485E-595N	5714	7	7	10	1
9	485E-600N	7364	8	8	8	1
10						
11	490E-585N	7310	8	7	4	1
12	490E-590N	7950	8	8	6	2
13	490E-595N	5420	6	7	5	1
14	490E-600N	7318	9	8	5	1
15	490E-605N	8314	9	9	6	2
16	490E-610N	9020	10	9	3	1
17	490E-615N	8354	9	9	6	1
18	490E-620N	7692	9	8	7	1

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL 19 - S/N 11129

μR/hr

9

2

LUDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

Total U

4

10

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

pCi/g

Th(Nat)

1.5

0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W.A. Rogers

DATE: 7-21-99

FILE: AGAASURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	495E-585N	6928	7	7	6	2
2	495E-590N	7204	8	7	4	1
3	495E-595N	6466	7	7	6	1
4	495E-600N	6810	7	7	8	1
5	495E-605N	8168	10	8	6	1
6	495E-610N	8134	8	7	4	1
7	495E-615N	7132	9	7	8	1
8	495E-620N	5982	6	7	7	1
9						
10	500E-585N	7110	8	8	9	1
11	500E-590N	8284	8	7	5	1
12	500E-595N	6310	7	8	7	1
13	500E-600N	6252	7	7	5	1
14	500E-605N	8064	9	8	6	1
15	500E-610N	8276	9	8	6	1
16	500E-615N	8872	10	8	4	1
17	500E-620N	7960	7	8	5	2
18						

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDDLUM MICRO 'R' METER - MODEL 19 - S/N 11129

µR/hr

9

2

LUDDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W.A. Rogers

DATE: 7-21-99

FILE: AGAASURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	505E-585N	7158	7	8	6	1
2	505E-590N	7564	7	7	4	1
3	505E-595N	6380	7	6	9	1
4	505E-600N	5766	6	6	6	1
5	505E-605N	7886	8	7	7	1
6	505E-610N	8396	8	7	7	1
7	505E-615N	7996	9	8	4	1
8	505E-620N	8318	9	8	7	1
9						
10	510E-585N	7334	8	8	6	1
11	510E-590N	7200	7	7	9	1
12	510E-595N	7370	7	8	6	1
13	510E-600N	6254	6	7	6	1
14	510E-605N	7550	8	7	7	2
15	510E-610N	8534	9	8	5	1
16	510E-615N	8314	9	8	6	1
17	510E-620N	8552	8	9	4	2
18						

INSTRUMENTS: _____

RESULTS IN: _____

BACKGROUND MDA

LUDDLUM MICRO 'R' METER - MODEL 19 - S/N 11129

µR/hr

9

2

LUDDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY: _____

W. A. Rogers

DATE: 7-21-99

FILE: AGAASURF

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	515E-585N	7312	8	8	7	2
2	515E-590N	7460	7	7	7	1
3	515E-595N	7158	7	8	6	1
4	515E-600N	5848	7	6	5	1
5	515E-605N	7852	8	9	9	1
6	515E-610N	8282	9	8	6	1
7	515E-615N	8052	8	8	9	1
8	515E-620N	8048	10	8	6	1
9						
10	520E-590N	7324	8	7	8	2
11	520E-595N	7398	7	7	9	1
12	520E-600N	6564	7	7	6	2
13	520E-605N	7530	8	8	5	1
14	520E-610N	7658	10	8	10	1
15	520E-615N	7874	8	8	6	1
16	520E-620N	8724	9	8	8	1
17						
18						

INSTRUMENTS:	RESULTS IN:	BACKGROUND	MDA
LU DLUM MICRO 'R' METER - MODEL 19 - S/N 11129	μR/hr	9	2
LU DLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264	CPM	8288	N/A
		Total U	4
		Th(Nat)	10
CIMMARON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR	pCi/g	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY: *W. A. Rogers*

DATE: 7-21-99

FILE: AGAASURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	525E-590N	7184	8	8	10	1
2	525E-595N	7030	7	7	6	2
3	525E-600N	7606	8	7	7	1
4	525E-605N	7690	8	7	12	1
5	525E-610N	7748	8	7	8	1
6	525E-615N	7940	9	8	11	1
7	525E-620N	8478	8	8	8	1
8						
9	530E-590N	7406	8	8	8	1
10	530E-595N	6968	7	7	6	2
11	530E-600N	7526	7	7	9	1
12	530E-605N	7794	8	8	6	2
13	530E-610N	7526	9	8	4	2
14	530E-615N	7866	8	8	7	1
15	530E-620N	8304	8	7	4	2
16						
17						
18						

INSTRUMENTS:

RESULTS IN:

BACKGROUND MDA

LUDLUM MICRO 'R' METER - MODEL 19 - S/N 11129

μR/hr

9

2

LUDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. A. Rogers

DATE: 7-21-99

FILE: AGAASURF

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	535E-590N	6196	7	7	8	1
2	535E-595N	7538	8	8	7	2
3	535E-600N	7878	8	8	8	1
4	535E-605N	7754	9	8	6	1
5	535E-610N	7566	8	8	8	1
6	535E-615N	7710	8	8	6	1
7	535E-620N	8528	9	8	7	2
8						
9	540E-590N	6694	8	8	5	1
10	540E-595N	7978	8	8	7	2
11	540E-600N	7756	8	7	6	1
12	540E-605N	7624	8	7	4	1
	540E-610N	7554	8	8	7	1
14	540E-615N	7724	8	7	7	2
15	540E-620N	8186	8	9	5	1
16						
17						
18						

INSTRUMENTS:	RESULTS IN:	BACKGROUND	MDA
LUDLUM MICRO 'R' METER - MODEL 19 - S/N 11129	µR/hr	9	2
LUDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264	CPM	8288	N/A
CIMMARON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR	pCi/g	Total U	4
		Th(Nat)	1.5
			10
			0.25

BACKGROUND NOT SUBTRACTED
REVIEWED BY: W.A. Rogers DATE: 7-21-99
FILE: AGAASURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	545E-590N	8618	8	8	9	1
2	545E-595N	7726	7	7	7	2
3	545E-600N	8352	8	8	6	1
4	545E-605N	7688	8	8	5	1
5	545E-610N	7494	8	7	5	1
6	545E-615N	8240	8	8	6	1
7	545E-620N	7570	8	8	8	1
8						
9	550E-590N	7798	7	7	5	2
10	550E-595N	9118	10	9	7	2
11	550E-600N	9192	10	8	5	1
12	550E-605N	7820	8	8	4	1
13	550E-610N	7952	8	9	8	1
14	550E-615N	7988	8	8	7	1
15	550E-620N	8644	7	9	9	1
16						
17						
18						

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUCLUM MICRO 'R' METER - MODEL 19 - S/N 11129

μR/hr

9

2

LUCLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W.A. Rogers

DATE: 7-21-99

FILE: AGAASURF

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	555E-590N	7610	8	8	9	2
2	555E-595N	9516	10	9	6	2
3	555E-600N	8850	8	9	6	1
4	555E-605N	9286	9	8	9	1
5	555E-610N	8880	9	9	8	1
6	555E-615N	8054	9	9	11	1
7	555E-620N	6712	6	6	7	1
8						
9	560E-590N	7254	7	8	7	2
10	560E-595N	8744	9	8	4	2
11	560E-600N	9070	9	8	6	2
12	560E-605N	5616	6	7	ROCK	ROCK
	560E-610N	6582	8	8	5	1
14	560E-615N	7534	8	7	6	1
15	560E-620N	8762	8	8	6	1
16						
17						
18						

INSTRUMENTS:	RESULTS IN:	BACKGROUND	MDA
UDLUM MICRO 'R' METER - MODEL 19 - S/N 11129	μR/hr	9	2
UDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264	CPM	8288	N/A
		Total U	4
		Th(Nat)	10
CIMMARON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR	pCi/g	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY: W.A. Rogers DATE: 7-21-99
FILE: AGAASURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	565E-590N	8978	10	9	7	2
2	565E-595N	7972	8	8	4	1
3	565E-600N	7336	7	7	6	1
4	565E-605N	7454	8	8	4	2
5	565E-610N	9002	10	9	8	2
6	565E-615N	9296	10	10	6	2
7	565E-620N	7202	8	6	9	1
8						
9	570E-590N	7000	7	7	9	2
10	570E-595N	8980	10	9	5	2
11	570E-600N	8456	9	8	5	1
12	570E-605N	7722	8	8	5	1
13	570E-610N	6772	7	7	4	1
14	570E-615N	6250	5	7	ROCK	ROCK
15	570E-620N	9608	10	9	7	2
16						
17						
18						

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL 19 - S/N 11129

μR/hr

9

2

LUDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

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

pCi/g

Total U

4

10

Th(Nat)

1.5

0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. A. Rogers

DATE: 7-21-99

FILE: AGAASURF

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	575E-590N	7482	8	8	6	1
2	575E-595N	9118	10	9	8	1
3	575E-600N	8874	9	8	8	2
4	575E-605N	8352	9	8	7	2
5	575E-610N	8844	9	9	4	1
6	575E-615N	9250	10	9	9	2
7	575E-620N	8744	9	8	6	2
8						
9	580E-590N	7780	8	8	10	1
10	580E-595N	8678	9	8	12	1
11	580E-600N	9014	10	10	8	2
12	580E-605N	9214	9	9	9	2
13	580E-610N	8320	9	8	8	2
14	580E-615N	8162	9	8	7	2
15	580E-620N	7998	9	8	6	1
16						
17						
18						

INSTRUMENTS:	RESULTS IN:	BACKGROUND	MDA
UDLUM MICRO 'R' METER - MODEL 19 - S/N 11129	µR/hr	9	2
UDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264	CPM	8288	N/A
		Total U	4
		Th(Nat)	10
CIMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR	pCi/g	1.5	0.25

BACKGROUND NOT SUBTRACTED
REVIEWED BY: *W.A. Royer* DATE: 7-21-99
FILE: AGAASURF

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	585E-590N	8052	8	9	6	1
2	585E-595N	7492	7	8	5	2
3	585E-600N	9258	10	8	8	2
4	585E-605N	9122	10	9	7	2
5	585E-610N	9008	8	8	9	2
6	585E-615N	8916	9	8	6	2
7	585E-620N	8872	9	9	7	1
8						
9	590E-590N	9038	9	9	8	2
10	590E-595N	8166	7	9	8	2
11	590E-600N	9518	10	9	8	2
12	590E-605N	9378	9	10	7	2
13	590E-610N	8974	9	9	7	2
14	590E-615N	9186	9	9	6	2
15	590E-620N	8980	9	8	5	2
16						
17						
18						

INSTRUMENTS:	RESULTS IN:	BACKGROUND	MDA
UDLUM MICRO 'R' METER - MODEL 19 - S/N 11129	µR/hr	9	2
UDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264	CPM	8288	N/A
		Total U	4
CIMMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR	pCi/g	Th(Nat)	1.5
			0.25

BACKGROUND NOT SUBTRACTED
REVIEWED BY: *W.A. Rogers* DATE: 7-21-99
FILE: AGAASURF

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	595E-590N	8440	9	9	8	2
2	595E-595N	7970	8	9	7	1
3	595E-600N	7630	9	8	7	1
4	595E-605N	9156	10	9	9	2
5	595E-610N	9368	10	10	7	1
6	595E-615N	9346	9	9	5	2
7	595E-620N	8942	9	8	8	1
8						
9	600E-590N	8140	8	8	8	1
10	600E-595N	8288	9	8	8	2
11	600E-600N	7932	9	8	11	2
12	600E-605N	8130	8	8	11	2
	600E-610N	9042	10	9	10	2
14	600E-615N	8976	10	9	7	1
15	600E-620N	8640	10	8	9	2
16						
17						
18						

INSTRUMENTS:	RESULTS IN:	BACKGROUND	MDA
UDLUM MICRO 'R' METER - MODEL 19 - S/N 11129	µR/hr	9	2
UDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264	CPM	8288	N/A
		Total U	4
		Th(Nat)	10
IMMARRON SOIL COUNTER 4" X 4" X 16" NaI DETECTOR	pCi/g	1.5	0.25

ACKGROUND NOT SUBTRACTED
REVIEWED BY: *W-a. Rogers* DATE: 7-21-99
FILE: AGAASURF

Wednesday, July 21, 1999

**CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" SURFACE
AFFECTED ROADWAY
NORTH OF WP #2**

DATE: 02/18/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	605E-590N	8712	9	10	9	2
2	605E-595N	9084	9	8	4	1
3	605E-600N	8520	9	8	6	2
4	605E-605N	7954	8	8	7	1
5	605E-610N	8324	8	8	6	1
6	605E-615N	9222	10	9	6	1
7	605E-620N	9168	9	9	6	1
8						
9	610E-590N	8572	9	9	6	1
10	610E-595N	9262	9	9	4	2
11	610E-600N	9526	11	9	9	2
12	610E-605N	9484	9	8	7	2
13	610E-610N	8592	8	8	5	2
14	610E-615N	8008	7	7	6	1
15	610E-620N	9300	9	8	6	2
16						
17						
18						

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDDLUM MICRO 'R' METER - MODEL 19 - S/N 11129

μR/hr

9

2

LUDDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

8288

N/A

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

pCi/g

Total U

4

10

Th(Nat)

1.5

0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

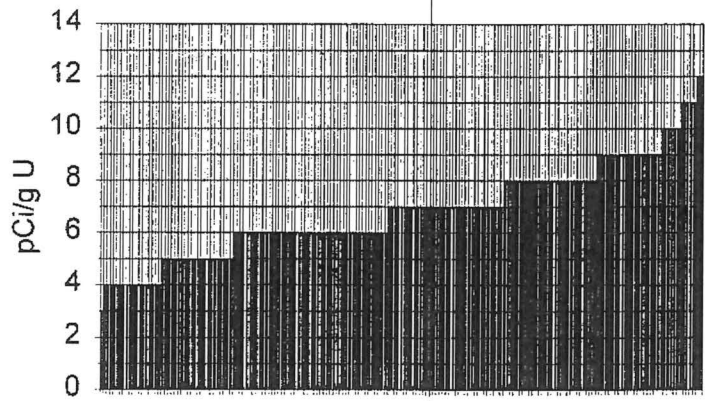
W. A. Rogers

DATE: 7-21-99

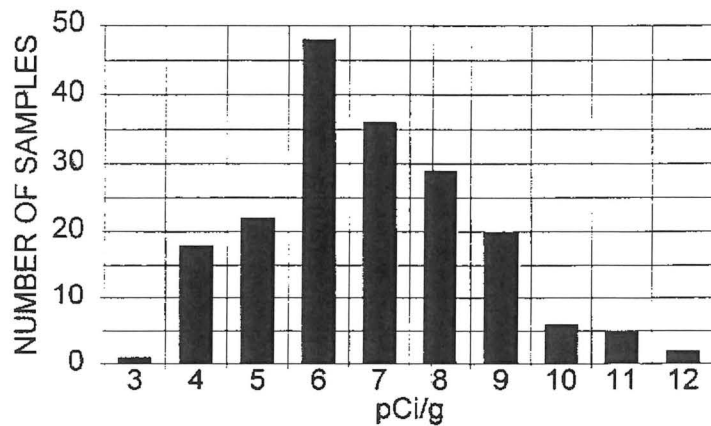
FILE: AGAASURF

**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - NORTH OF WP #2
CIMARRON SOIL COUNTER
TOTAL URANIUM SOIL SAMPLE RESULTS
SITE BACKGROUND OF 4 pCi/g NOT SUBTRACTED
MARCH 1997**

**TOTAL URANIUM SAMPLE RESULTS
SURVEY DATA**



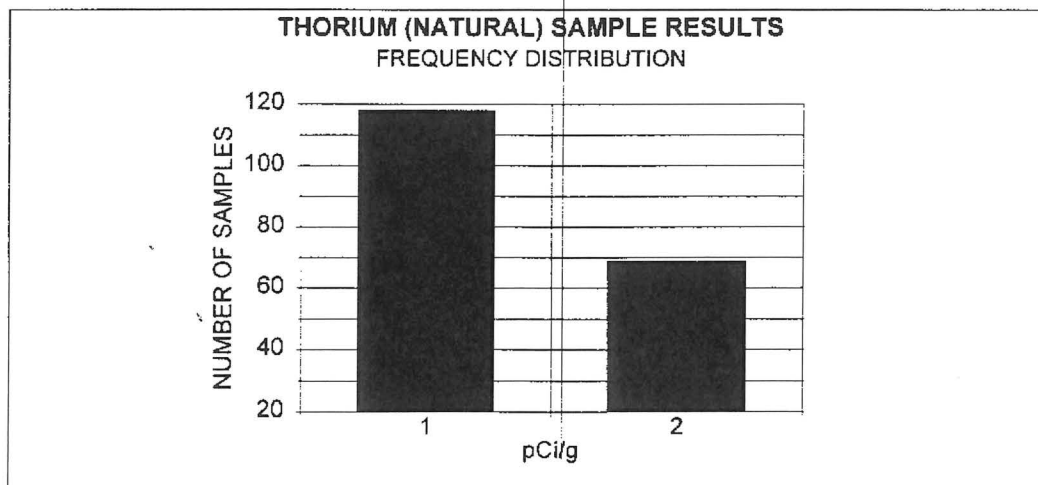
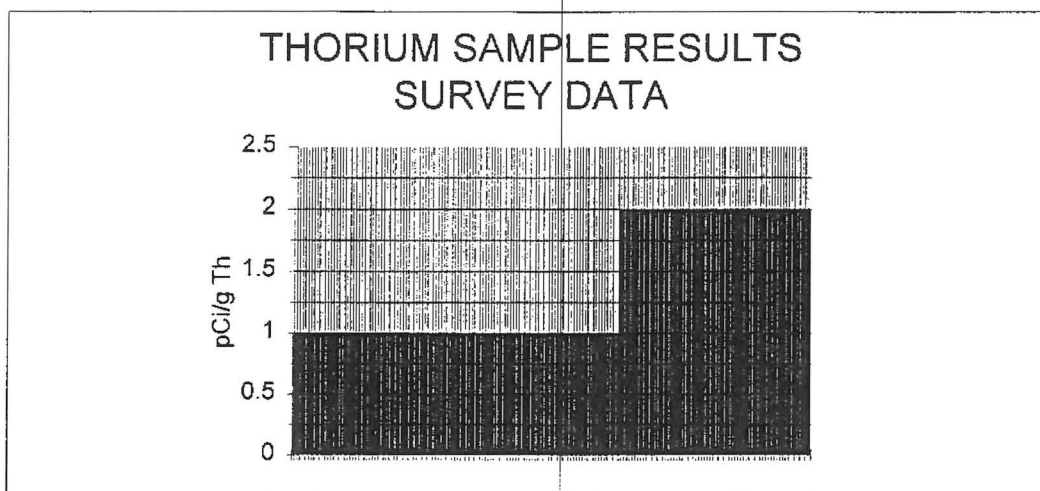
**URANIUM SAMPLE RESULTS
FREQUENCY DISTRIBUTION**



NUMBER OF SAMPLES	187
AVERAGE SAMPLE	7
MINIMUM SAMPLE	3
MAXIMUM SAMPLE	12
STANDARD DEVIATION	2

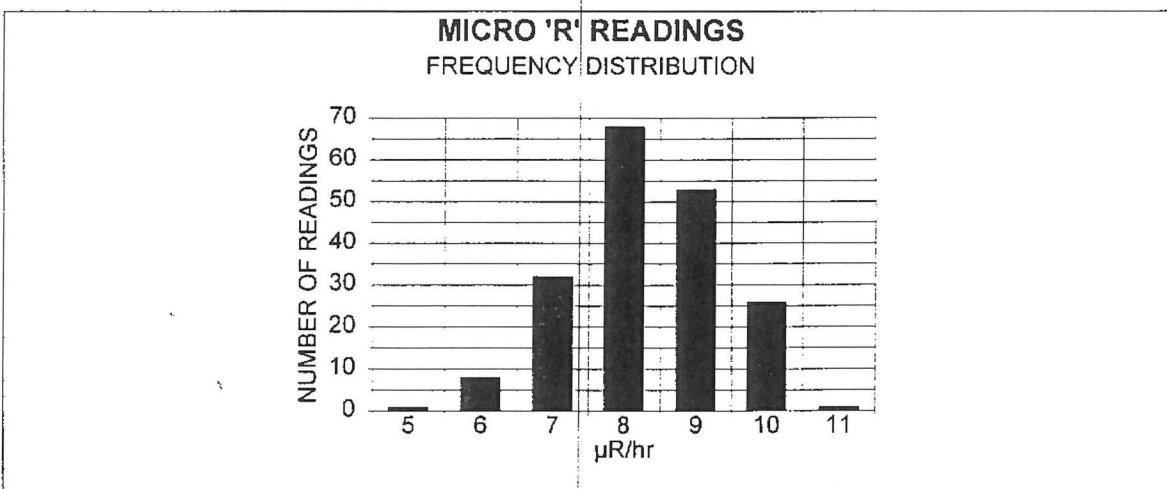
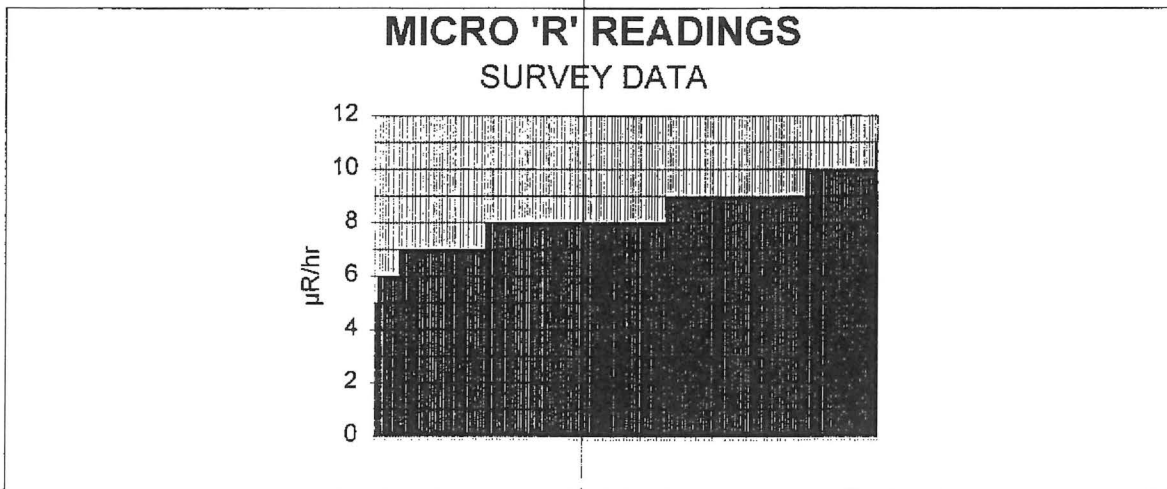
Wednesday, July 21, 1999

**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - NORTH OF WP #2
CIMARRON SOIL COUNTER
THORIUM (NATURAL) SOIL SAMPLE RESULTS
SITE BACKGROUND OF 1.5 pCi/g NOT SUBTRACTED
RESULTS IN μ R/hr
MARCH 1997**



NUMBER OF SAMPLES	187
AVERAGE SAMPLE	1
MINIMUM SAMPLE	1
MAXIMUM SAMPLE	2
STANDARD DEVIATION	0

**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - NORTH OF WP #2
MICRO-R METER READINGS AT SURFACE
LUDLUM MODEL 19, S/N 111299
RESULTS IN $\mu\text{R/hr}$
MARCH 1997**



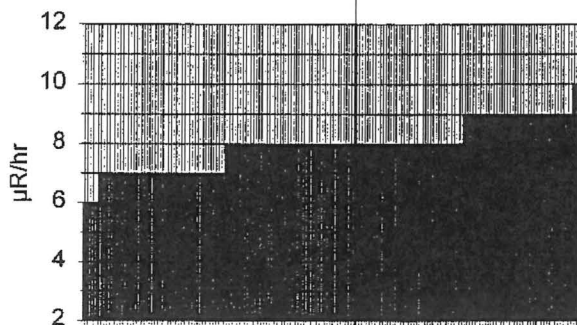
NUMBER OF READINGS	189
AVERAGE READING	8
MINIMUM READING	5
MAXIMUM READING	11
STANDARD DEVIATION	1

Wednesday, July 21, 1999

**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - NORTH OF WP #2
MICRO-R METER READINGS AT 1 METER ABOVE SURFACE
LUDLUM MODEL 19, S/N 111299
RESULTS IN $\mu\text{R/hr}$
MARCH 1997**

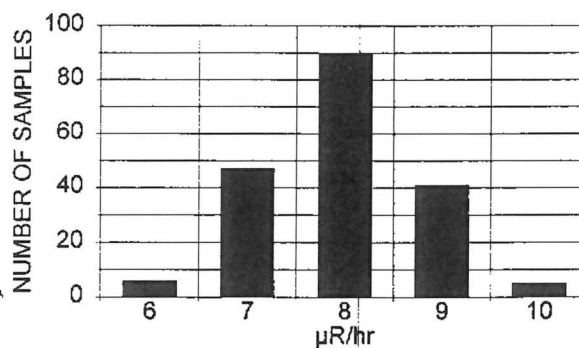
MICRO 'R' READINGS

SURVEY DATA



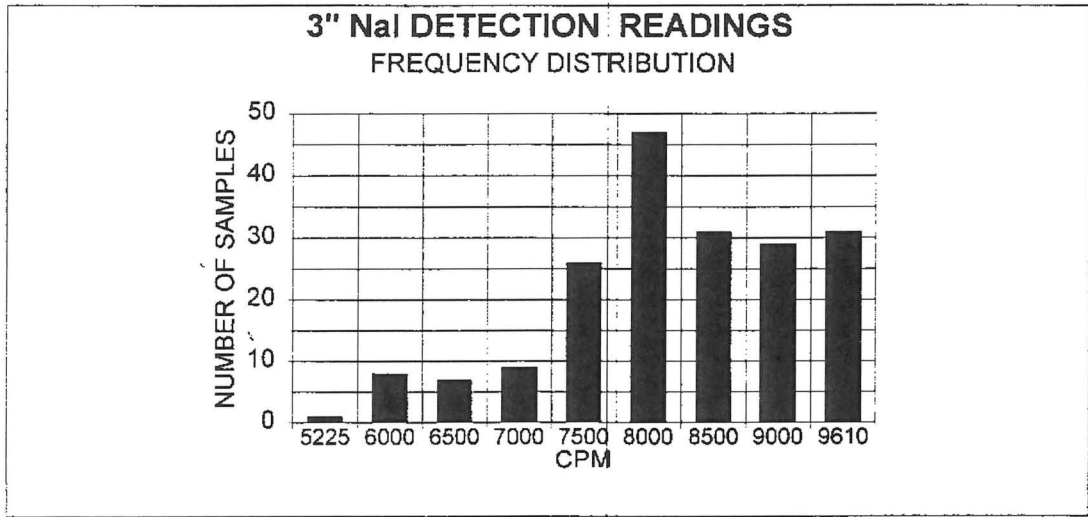
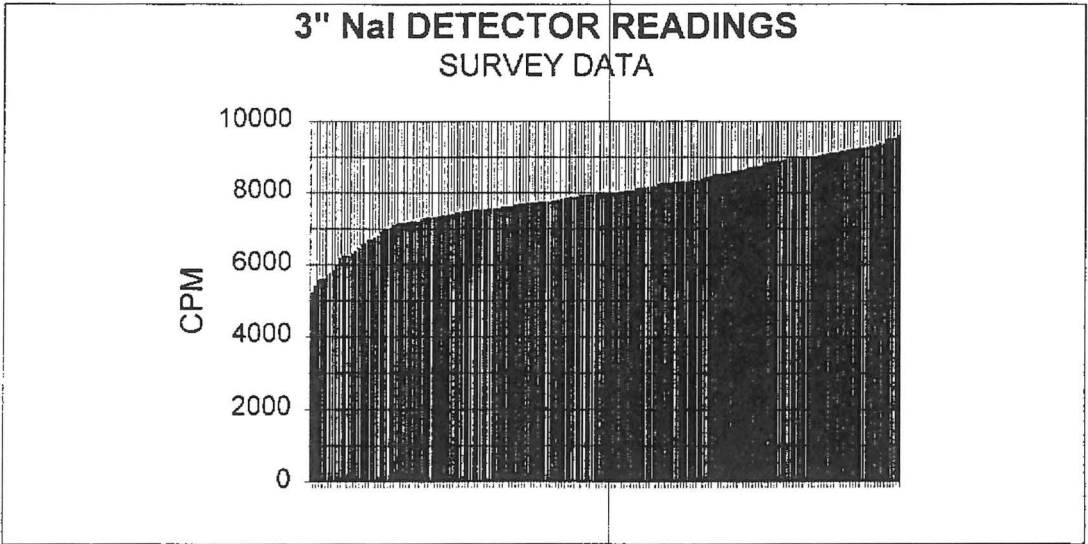
MICRO 'R' READINGS

FREQUENCY DISTRIBUTION



NUMBER OF READINGS	189
AVERAGE READING	8
MINIMUM READING	6
MAXIMUM READING	10
STANDARD DEVIATION	1

**PHASE II - SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - NORTH OF WP #2
GROSS GAMMA READINGS IN CPM
LUDLUM MODEL 2221, S/N 97264
BACKGROUND AVERAGE :8288
MARCH 1997**



NUMBER OF SAMPLES	189
AVERAGE SAMPLE	7968
MINIMUM SAMPLE	5224
MAXIMUM SAMPLE	9608
STANDARD DEVIATION	946

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
AFFECTED AREA 'G' - SURFACE - AFFECTED ROADWAY - NORTH OF WP#2

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
1	3	-3.8	14.6
2	4	-2.8	8.0
3	4	-2.8	8.0
4	4	-2.8	8.0
5	4	-2.8	8.0
6	4	-2.8	8.0
7	4	-2.8	8.0
8	4	-2.8	8.0
9	4	-2.8	8.0
10	4	-2.8	8.0
11	4	-2.8	8.0
12	4	-2.8	8.0
13	4	-2.8	8.0
14	4	-2.8	8.0
15	4	-2.8	8.0
16	4	-2.8	8.0
17	4	-2.8	8.0
18	4	-2.8	8.0
19	4	-2.8	8.0
20	5	-1.8	3.3
21	5	-1.8	3.3
22	5	-1.8	3.3
23	5	-1.8	3.3
24	5	-1.8	3.3
25	5	-1.8	3.3
26	5	-1.8	3.3
27	5	-1.8	3.3
28	5	-1.8	3.3
29	5	-1.8	3.3
30	5	-1.8	3.3
31	5	-1.8	3.3
32	5	-1.8	3.3
33	5	-1.8	3.3
34	5	-1.8	3.3
35	5	-1.8	3.3
36	5	-1.8	3.3
37	5	-1.8	3.3
38	5	-1.8	3.3
39	5	-1.8	3.3
40	5	-1.8	3.3
41	5	-1.8	3.3
42	6	-0.8	0.7
43	6	-0.8	0.7
44	6	-0.8	0.7
45	6	-0.8	0.7
46	6	-0.8	0.7
47	6	-0.8	0.7
48	6	-0.8	0.7
49	6	-0.8	0.7
50	6	-0.8	0.7
	311.0		26.8
	375.0		35.4
	351.0		301.6
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	1276		601.2
	Sum(n)		Sum(n-N) ²

No. of Samples (x) : **187**

COUNT TIME: 5 MINUTES

Sample Mean (N) = Sum(n) ÷ (x)

Sample Mean (N) : **6.82**

Standard Deviation (Sd) = SQRT [(n-N)² ÷ (x - 1)]

Standard Deviation: **1.80**

2 Std Deviations: **3.60**

Degree of Freedom(df) = (x) - 1 Data listed on Table B-1

(df) = **1.656**

Area's Average Level (Ap) = (N) + (df) x [(Sd)/SQRT(x)]

(Ap) =	7.04	pCi/gU TOTAL U
GUIDELINE VALUE:	30	pCi/gU TOTAL U
Acceptable Level:	34.0	pCi/gU TOTAL U

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			

For values of Degrees of Freedom not listed:

Interpolate between the listed values.

(df) high value(Z)	400	is (B)	1.649	95%
(df) low value(Y)	120	is (A)	1.658	95%

Desired value(df) (X) **186** is calculated as follow:

EXP[(Ln(B)-Ln(A)) ÷ (Z-Y) (X-Y) + Ln(A)]

The (df) value for (X) **186** **1.656** **95%**

PERFORMED BY: Susan H. Keiser

DATE: 7-21-99

REVIEWED BY: W. C. Rogers

DATE: 7-21-99

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
AFFECTED AREA 'G' - SURFACE - AFFECTED ROADWAY - NORTH OF WP#2

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
51	6	-0.82	0.68
52	6	-0.82	0.68
53	6	-0.82	0.68
54	6	-0.82	0.68
55	6	-0.82	0.68
56	6	-0.82	0.68
57	6	-0.82	0.68
58	6	-0.82	0.68
59	6	-0.82	0.68
60	6	-0.82	0.68
61	6	-0.82	0.68
62	6	-0.82	0.68
63	6	-0.82	0.68
64	6	-0.82	0.68
65	6	-0.82	0.68
66	6	-0.82	0.68
67	6	-0.82	0.68
68	6	-0.82	0.68
69	6	-0.82	0.68
70	6	-0.82	0.68
71	6	-0.82	0.68
72	6	-0.82	0.68
73	6	-0.82	0.68
74	6	-0.82	0.68
75	6	-0.82	0.68
76	6	-0.82	0.68
77	6	-0.82	0.68
78	6	-0.82	0.68
79	6	-0.82	0.68
80	6	-0.82	0.68
81	6	-0.82	0.68
82	6	-0.82	0.68
83	6	-0.82	0.68
84	6	-0.82	0.68
85	6	-0.82	0.68
86	6	-0.82	0.68
87	6	-0.82	0.68
88	6	-0.82	0.68
89	6	-0.82	0.68
90	7	0.18	0.03
91	7	0.18	0.03
92	7	0.18	0.03
93	7	0.18	0.03
94	7	0.18	0.03
95	7	0.18	0.03
96	7	0.18	0.03
97	7	0.18	0.03
98	7	0.18	0.03
99	7	0.18	0.03
100	7	0.18	0.03
	311.0		26.8
	Sum(n)		Sum(n-N) ²

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
101	7	0.18	0.03
102	7	0.18	0.03
103	7	0.18	0.03
104	7	0.18	0.03
105	7	0.18	0.03
106	7	0.18	0.03
107	7	0.18	0.03
108	7	0.18	0.03
109	7	0.18	0.03
110	7	0.18	0.03
111	7	0.18	0.03
112	7	0.18	0.03
113	7	0.18	0.03
114	7	0.18	0.03
115	7	0.18	0.03
116	7	0.18	0.03
117	7	0.18	0.03
118	7	0.18	0.03
119	7	0.18	0.03
120	7	0.18	0.03
121	7	0.18	0.03
122	7	0.18	0.03
123	7	0.18	0.03
124	7	0.18	0.03
125	7	0.18	0.03
126	8	1.18	1.38
127	8	1.18	1.38
128	8	1.18	1.38
129	8	1.18	1.38
130	8	1.18	1.38
131	8	1.18	1.38
132	8	1.18	1.38
133	8	1.18	1.38
134	8	1.18	1.38
135	8	1.18	1.38
136	8	1.18	1.38
137	8	1.18	1.38
138	8	1.18	1.38
139	8	1.18	1.38
140	8	1.18	1.38
141	8	1.18	1.38
142	8	1.18	1.38
143	8	1.18	1.38
144	8	1.18	1.38
145	8	1.18	1.38
146	8	1.18	1.38
147	8	1.18	1.38
148	8	1.18	1.38
149	8	1.18	1.38
150	8	1.18	1.38
	375.0		35.4
	Sum(n)		Sum(n-N) ²

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
AFFECTED AREA 'G' - SURFACE - AFFECTED ROADWAY - NORTH OF WP#2

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
151	8	1.18	1.38
152	8	1.18	1.38
153	8	1.18	1.38
154	8	1.18	1.38
155	9	2.18	4.74
156	9	2.18	4.74
157	9	2.18	4.74
158	9	2.18	4.74
159	9	2.18	4.74
160	9	2.18	4.74
161	9	2.18	4.74
162	9	2.18	4.74
163	9	2.18	4.74
164	9	2.18	4.74
165	9	2.18	4.74
166	9	2.18	4.74
167	9	2.18	4.74
168	9	2.18	4.74
169	9	2.18	4.74
170	9	2.18	4.74
171	9	2.18	4.74
172	9	2.18	4.74
173	9	2.18	4.74
174	9	2.18	4.74
175	10	3.18	10.09
176	10	3.18	10.09
177	10	3.18	10.09
178	10	3.18	10.09
179	10	3.18	10.09
180	10	3.18	10.09
181	11	4.18	17.44
182	11	4.18	17.44
183	11	4.18	17.44
184	11	4.18	17.44
185	11	4.18	17.44
186	12	5.18	26.80
187	12	5.18	26.80
188		0.00	0.00
189		0.00	0.00
190		0.00	0.00
191		0.00	0.00
192		0.00	0.00
193		0.00	0.00
194		0.00	0.00
195		0.00	0.00
196		0.00	0.00
197		0.00	0.00
198		0.00	0.00
199		0.00	0.00
200		0.00	0.00
	351.0		301.6
	Sum(n)		Sum(n-N) ²

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
201		0.00	0.00
202		0.00	0.00
203		0.00	0.00
204		0.00	0.00
205		0.00	0.00
206		0.00	0.00
207		0.00	0.00
208		0.00	0.00
209		0.00	0.00
210		0.00	0.00
211		0.00	0.00
212		0.00	0.00
213		0.00	0.00
214		0.00	0.00
215		0.00	0.00
216		0.00	0.00
217		0.00	0.00
218		0.00	0.00
219		0.00	0.00
220		0.00	0.00
221		0.00	0.00
222		0.00	0.00
223		0.00	0.00
224		0.00	0.00
225		0.00	0.00
226		0.00	0.00
227		0.00	0.00
228		0.00	0.00
229		0.00	0.00
230		0.00	0.00
231		0.00	0.00
232		0.00	0.00
233		0.00	0.00
234		0.00	0.00
235		0.00	0.00
236		0.00	0.00
237		0.00	0.00
238		0.00	0.00
239		0.00	0.00
240		0.00	0.00
241		0.00	0.00
242		0.00	0.00
243		0.00	0.00
244		0.00	0.00
245		0.00	0.00
246		0.00	0.00
247		0.00	0.00
248		0.00	0.00
249		0.00	0.00
250		0.00	0.00
	0.0		0.0
	Sum(n)		Sum(n-N) ²

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
AFFECTED AREA 'G' - SURFACE - AFFECTED ROADWAY - NORTH OF WP#2

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
1	1	-0.4	0.1
2	1	-0.4	0.1
3	1	-0.4	0.1
4	1	-0.4	0.1
5	1	-0.4	0.1
6	1	-0.4	0.1
7	1	-0.4	0.1
8	1	-0.4	0.1
9	1	-0.4	0.1
10	1	-0.4	0.1
11	1	-0.4	0.1
12	1	-0.4	0.1
13	1	-0.4	0.1
14	1	-0.4	0.1
15	1	-0.4	0.1
16	1	-0.4	0.1
17	1	-0.4	0.1
18	1	-0.4	0.1
19	1	-0.4	0.1
20	1	-0.4	0.1
21	1	-0.4	0.1
22	1	-0.4	0.1
23	1	-0.4	0.1
24	1	-0.4	0.1
25	1	-0.4	0.1
26	1	-0.4	0.1
27	1	-0.4	0.1
28	1	-0.4	0.1
29	1	-0.4	0.1
30	1	-0.4	0.1
31	1	-0.4	0.1
32	1	-0.4	0.1
33	1	-0.4	0.1
34	1	-0.4	0.1
35	1	-0.4	0.1
36	1	-0.4	0.1
37	1	-0.4	0.1
38	1	-0.4	0.1
39	1	-0.4	0.1
40	1	-0.4	0.1
41	1	-0.4	0.1
42	1	-0.4	0.1
43	1	-0.4	0.1
44	1	-0.4	0.1
45	1	-0.4	0.1
46	1	-0.4	0.1
47	1	-0.4	0.1
48	1	-0.4	0.1
49	1	-0.4	0.1
50	1	-0.4	0.1
	50.0		6.8
	82.0		15.2
	74.0		14.7
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	256		43.5
	Sum(n)		Sum(n-N) ²

No. of Samples (x) : **187**

COUNT TIME: 5 MINUTES

Sample Mean (N) = Sum(n) ÷ (x)

Sample Mean (N) : **1.37**

Standard Deviation (Sd) = SQRT [(n-N)² ÷ (x - 1)]

Standard Deviation: **0.48**

2 Std Deviations: **0.97**

Degree of Freedom(df) = (x) - 1 Data listed on Table B-1

(df) = **186**

Area's Average Level (A_μ) = (N) + (df) x [(Sd)/SQRT(x)]

(A_μ) = **1.43** pCi/gTh (NAT)

GUIDELINE VALUE: **10** pCi/gTh (NAT)

Acceptable Level: **4.0** pCi/gTh (NAT)

TABLE B - 1

Factors for Comparision 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			

For values of Degrees of Freedom not listed:

Interpolate between the listed values.

(df) high value(Z) **400** is (B) **1.649** 95%

(df) low value(Y) **120** is (A) **1.658** 95%

Desired value(df) (X) **186** is calculated as follow:

EXP[(Ln(B)-Ln(A)) + (Z-Y) / (X-Y) + Ln(A)]

The (df) value for (X) **186** **1.656** 95%

PERFORMED BY: Sumet Keri

DATE: 7-21-99

REVIEWED BY: W.C. Rogers

DATE: 7-21-99

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
AFFECTED AREA 'G' - SURFACE - AFFECTED ROADWAY - NORTH OF WP#2

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
51	1	-0.37	0.14
52	1	-0.37	0.14
53	1	-0.37	0.14
54	1	-0.37	0.14
55	1	-0.37	0.14
56	1	-0.37	0.14
57	1	-0.37	0.14
58	1	-0.37	0.14
59	1	-0.37	0.14
60	1	-0.37	0.14
61	1	-0.37	0.14
62	1	-0.37	0.14
63	1	-0.37	0.14
64	1	-0.37	0.14
65	1	-0.37	0.14
66	1	-0.37	0.14
67	1	-0.37	0.14
68	1	-0.37	0.14
69	1	-0.37	0.14
70	1	-0.37	0.14
71	1	-0.37	0.14
72	1	-0.37	0.14
73	1	-0.37	0.14
74	1	-0.37	0.14
75	1	-0.37	0.14
76	1	-0.37	0.14
77	1	-0.37	0.14
78	1	-0.37	0.14
79	1	-0.37	0.14
80	1	-0.37	0.14
81	1	-0.37	0.14
82	1	-0.37	0.14
83	1	-0.37	0.14
84	1	-0.37	0.14
85	1	-0.37	0.14
86	1	-0.37	0.14
87	1	-0.37	0.14
88	1	-0.37	0.14
89	1	-0.37	0.14
90	1	-0.37	0.14
91	1	-0.37	0.14
92	1	-0.37	0.14
93	1	-0.37	0.14
94	1	-0.37	0.14
95	1	-0.37	0.14
96	1	-0.37	0.14
97	1	-0.37	0.14
98	1	-0.37	0.14
99	1	-0.37	0.14
100	1	-0.37	0.14
	50.0		6.8
	Sum(n)		Sum(n-N) ²

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
101	1	-0.37	0.14
102	1	-0.37	0.14
103	1	-0.37	0.14
104	1	-0.37	0.14
105	1	-0.37	0.14
106	1	-0.37	0.14
107	1	-0.37	0.14
108	1	-0.37	0.14
109	1	-0.37	0.14
110	1	-0.37	0.14
111	1	-0.37	0.14
112	1	-0.37	0.14
113	1	-0.37	0.14
114	1	-0.37	0.14
115	1	-0.37	0.14
116	1	-0.37	0.14
117	1	-0.37	0.14
118	1	-0.37	0.14
119	2	0.63	0.40
120	2	0.63	0.40
121	2	0.63	0.40
122	2	0.63	0.40
123	2	0.63	0.40
124	2	0.63	0.40
125	2	0.63	0.40
126	2	0.63	0.40
127	2	0.63	0.40
128	2	0.63	0.40
129	2	0.63	0.40
130	2	0.63	0.40
131	2	0.63	0.40
132	2	0.63	0.40
133	2	0.63	0.40
134	2	0.63	0.40
135	2	0.63	0.40
136	2	0.63	0.40
137	2	0.63	0.40
138	2	0.63	0.40
139	2	0.63	0.40
140	2	0.63	0.40
141	2	0.63	0.40
142	2	0.63	0.40
143	2	0.63	0.40
144	2	0.63	0.40
145	2	0.63	0.40
146	2	0.63	0.40
147	2	0.63	0.40
148	2	0.63	0.40
149	2	0.63	0.40
150	2	0.63	0.40
	82.0		15.2
	Sum(n)		Sum(n-N) ²

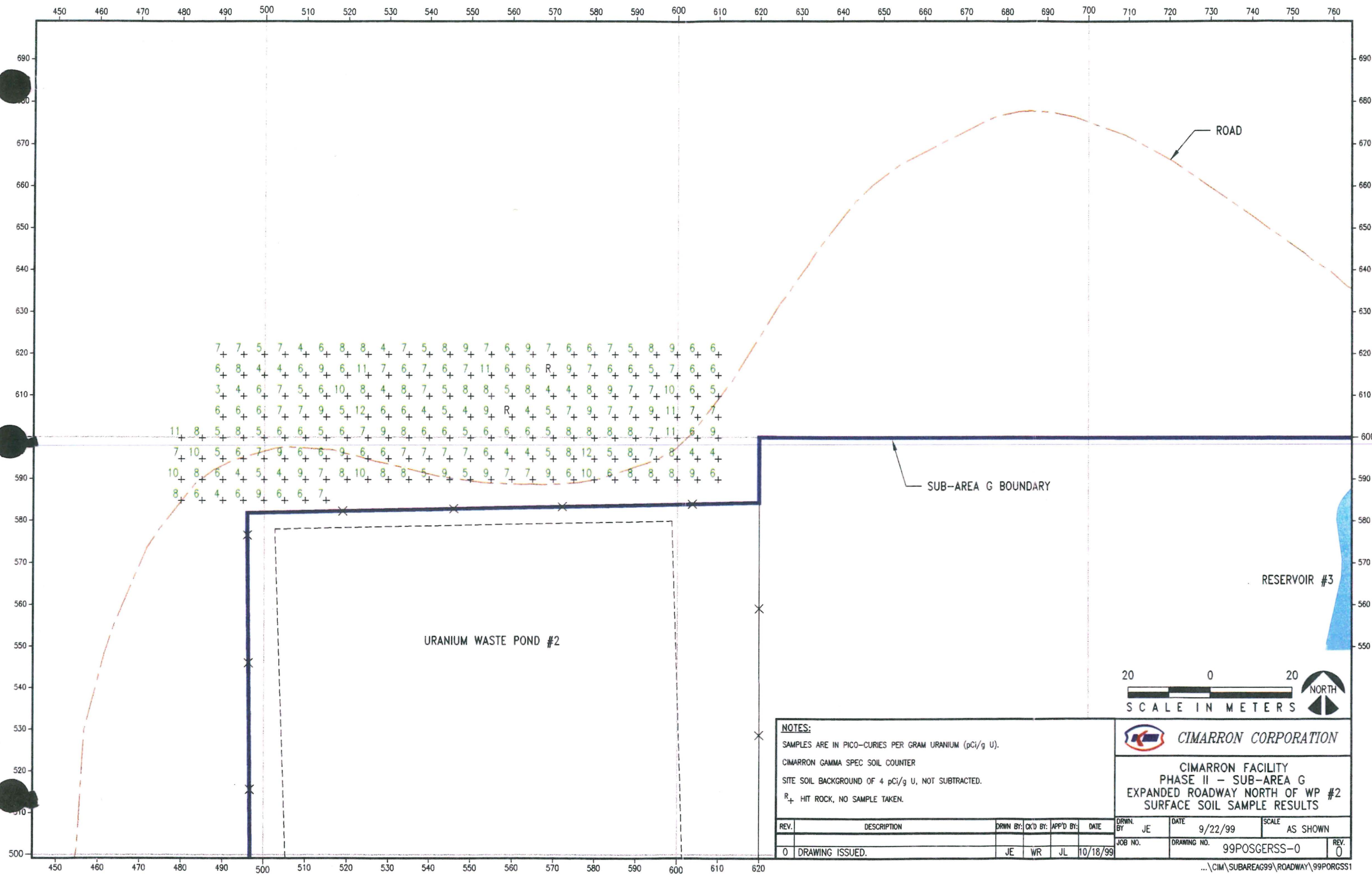
CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
AFFECTED AREA 'G' - SURFACE - AFFECTED ROADWAY - NORTH OF WP#2

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
151	2	0.63	0.40
152	2	0.63	0.40
153	2	0.63	0.40
154	2	0.63	0.40
155	2	0.63	0.40
156	2	0.63	0.40
157	2	0.63	0.40
158	2	0.63	0.40
159	2	0.63	0.40
160	2	0.63	0.40
161	2	0.63	0.40
162	2	0.63	0.40
163	2	0.63	0.40
164	2	0.63	0.40
165	2	0.63	0.40
166	2	0.63	0.40
167	2	0.63	0.40
168	2	0.63	0.40
169	2	0.63	0.40
170	2	0.63	0.40
171	2	0.63	0.40
172	2	0.63	0.40
173	2	0.63	0.40
174	2	0.63	0.40
175	2	0.63	0.40
176	2	0.63	0.40
177	2	0.63	0.40
178	2	0.63	0.40
179	2	0.63	0.40
180	2	0.63	0.40
181	2	0.63	0.40
182	2	0.63	0.40
183	2	0.63	0.40
184	2	0.63	0.40
185	2	0.63	0.40
186	2	0.63	0.40
187	2	0.63	0.40
188		0.00	0.00
189		0.00	0.00
190		0.00	0.00
191		0.00	0.00
192		0.00	0.00
193		0.00	0.00
194		0.00	0.00
195		0.00	0.00
196		0.00	0.00
197		0.00	0.00
198		0.00	0.00
199		0.00	0.00
200		0.00	0.00
	74.0		14.7
	Sum(n)		Sum(n-N) ²

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
201		0.00	0.00
202		0.00	0.00
203		0.00	0.00
204		0.00	0.00
205		0.00	0.00
206		0.00	0.00
207		0.00	0.00
208		0.00	0.00
209		0.00	0.00
210		0.00	0.00
211		0.00	0.00
212		0.00	0.00
213		0.00	0.00
214		0.00	0.00
215		0.00	0.00
216		0.00	0.00
217		0.00	0.00
218		0.00	0.00
219		0.00	0.00
220		0.00	0.00
221		0.00	0.00
222		0.00	0.00
223		0.00	0.00
224		0.00	0.00
225		0.00	0.00
226		0.00	0.00
227		0.00	0.00
228		0.00	0.00
229		0.00	0.00
230		0.00	0.00
231		0.00	0.00
232		0.00	0.00
233		0.00	0.00
234		0.00	0.00
235		0.00	0.00
236		0.00	0.00
237		0.00	0.00
238		0.00	0.00
239		0.00	0.00
240		0.00	0.00
241		0.00	0.00
242		0.00	0.00
243		0.00	0.00
244		0.00	0.00
245		0.00	0.00
246		0.00	0.00
247		0.00	0.00
248		0.00	0.00
249		0.00	0.00
250		0.00	0.00
	0.0		0.0
	Sum(n)		Sum(n-N) ²



NOTES:


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

CIMARRON GAMMA SPEC SOIL COUNTER

SITE SOIL BACKGROUND OF 4 pCi/g U, NOT SUBTRACTED.

R+ HIT ROCK, NO SAMPLE TAKEN.

REV.	DESCRIPTION	DRWN BY:	CK'D BY:	APP'D BY:	DATE
0	DRAWING ISSUED.	JE	WR	JL	10/18/99

**CIMARRON CORPORATION**

**CIMARRON FACILITY
PHASE II - SUB-AREA G
EXPANDED ROADWAY NORTH OF WP #2
SURFACE SOIL SAMPLE RESULTS**

DRWN. BY: JE	DATE: 9/22/99	SCALE: AS SHOWN
JOB NO.	DRAWING NO. 99POSGERSS-0	REV. 0

Thursday, July 22, 1999

**CIMARRON CORPORATE
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - DEPTH
AFFECTED EXPANDED ROADWAY**

QAQC-158
REV.1

DATE: 2-18-97

LN #	GRID NUMBER					3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	pCi/g									
									0 - 6"		6" - 1'		1' - 2'		2' - 3'		3' - 4'	
									Total-U	Th (Nat)	Total-U	Th (Nat)	Total-U	Th (Nat)	Total-U	Th (Nat)	Total-U	Th (Nat)
1	460	E	-	549	N	6334	7	6	6	1	7	1	7	1	8	1	10	1
2	500	E	-	602	N	7584	8	8	6	1	8	1	5	1	12	1	7	1
3	520	E	-	602	N	7208	9	8	6	1	12	1	6	1	9	1	ROCK	ROCK
4	533	E	-	593	N	6330	7	7	7	2	11	1	8	1	8	1	6	1
5	540	E	-	602	N	7470	7	8	5	1	4	2	10	1	6	1	6	1
6	560	E	-	602	N	7670	7	7	8	1	6	1	10	2	4	1	4	1
7	580	E	-	602	N	8374	9	9	5	1	9	1	8	2	7	2	5	1
8	600	E	-	602	N	6746	8	7	5	1	12	1	10	2	8	2	7	2
9	620	E	-	622	N	6540	7	6	6	2	10	1	9	1	5	1	7	1
10	695	E	-	678	N	5574	6	6	5	1	8	1	7	1	9	1	6	1
11	782	E	-	630	N	5580	6	5	6	1	7	1	5	1	5	1	10	1
12	879	E	-	607	N	STANDING	WATER	---	6	1	ROCK	ROCK	ROCK	ROCK	ROCK	ROCK	ROCK	ROCK
13																		
14																		
15																		
16																		
17																		
18																		

INSTRUMENTS:RESULTS INBACKGROUNDMDALUDLUM MICRO 'R' METER - 19 - S/N 11129µr/hr92LUDLUM 2221, UNSHIELDED 3" X 1/2" NaI DETECTOR - S/N 97264CPM7208N/ACIMMARON SOIL COUNTER X" X 4" X 16" NaI DETECTORpCi/GTotal U 410Th (Nat) 1.50.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. A. Rogers

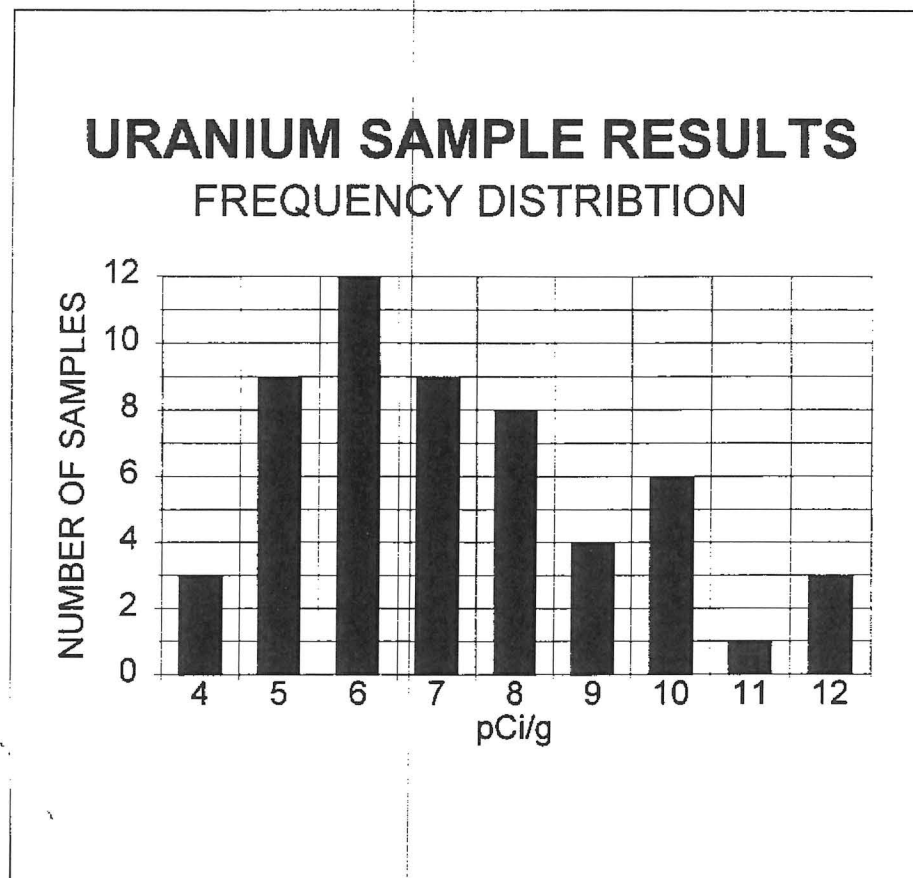
DATE:

7-26-99

Thursday, July 22, 1999

**PHASE II, SUB-AREA "G" - DEPTH
AFFECTED EXPANDED ROADWAY
CIMARRON SOIL COUNTER
TOTAL URANIUM SOIL SAMPLE RESULTS
SITE BACKGROUND OF 4 pCi/g NOT SUBTRACTED**

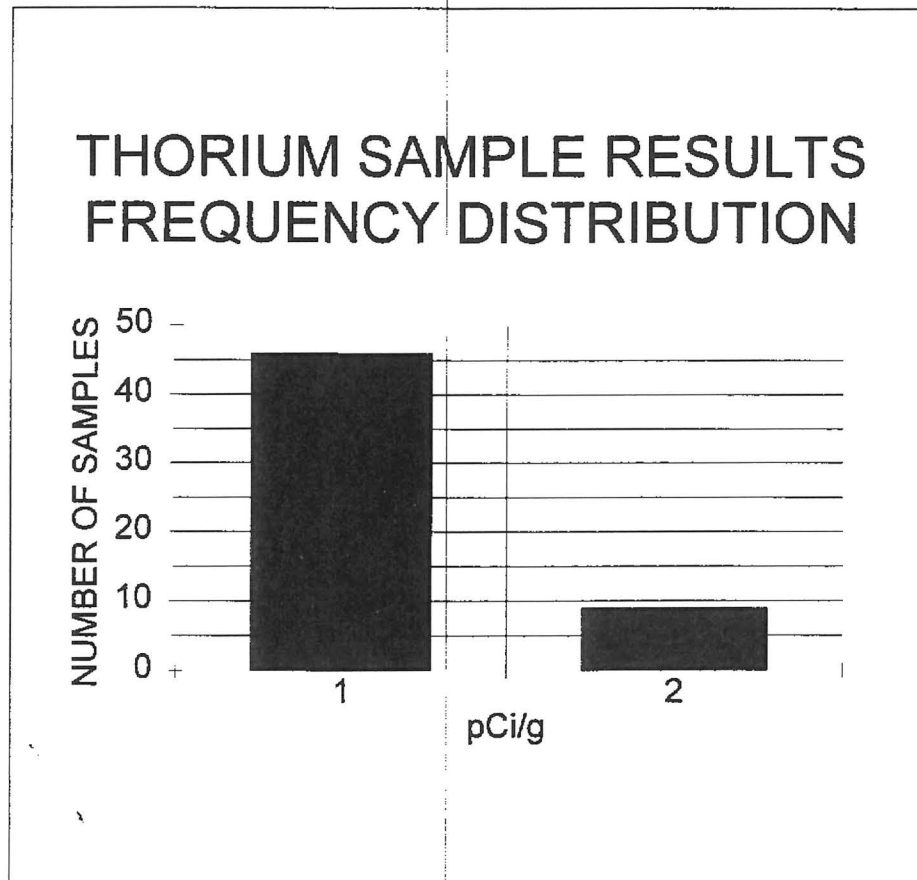
JULY 22, 1999



NUMBER OF SAMPLES	55
AVERAGE SAMPLE	7
MINIMUM SAMPLE	4
MAXIMUM SAMPLE	12
STANDARD DEVIATION	2

**PHASE II, SUB-AREA "G" - DEPTH
AFFECTED EXPANDED ROADWAY
CIMARRON SOIL COUNTER
TOTAL THORIUM SOIL SAMPLE RESULTS
SITE BACKGROUND OF 1.5 pCi/g NOT SUBTRACTED**

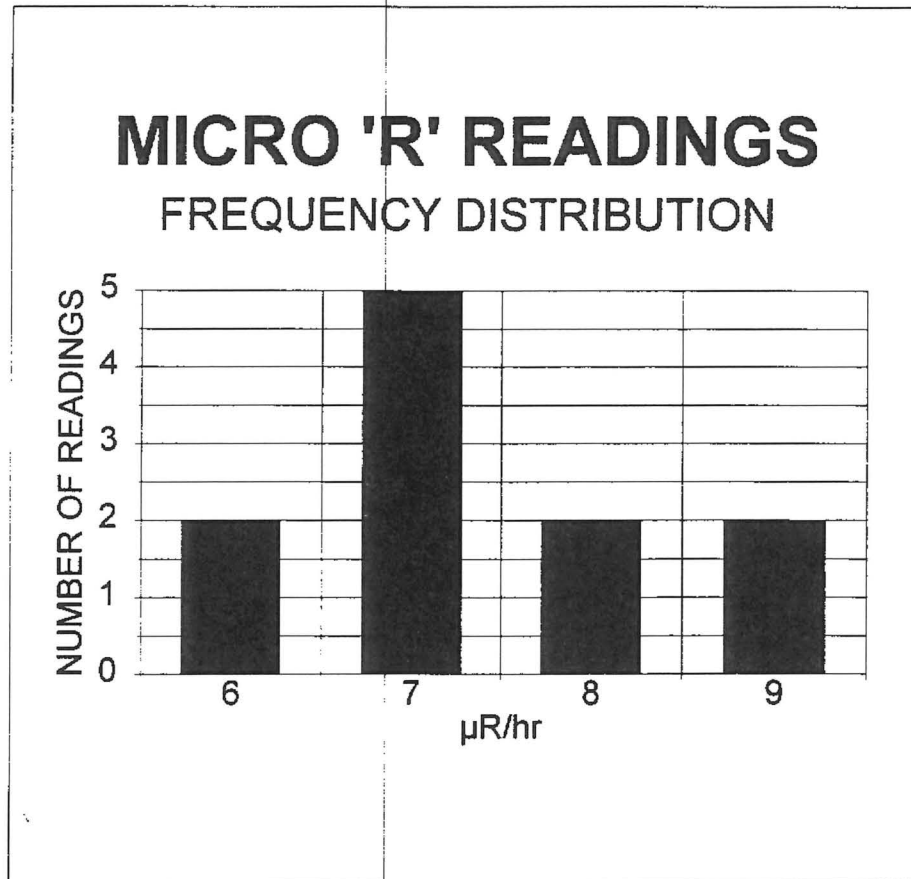
JULY 22, 1999



NUMBER OF SAMPLES	55
AVERAGE SAMPLE	1
MINIMUM SAMPLE	1
MAXIMUM SAMPLE	2
STANDARD DEVIATION	0.4

**PHASE II, SUB-AREA "G" - DEPTH
AFFECTED EXPANDED ROADWAY
MICRO-R METER READINGS AT SURFACE
LUDLUM MODEL 19, S/N 111299
RESULTS IN $\mu\text{R/hr}$**

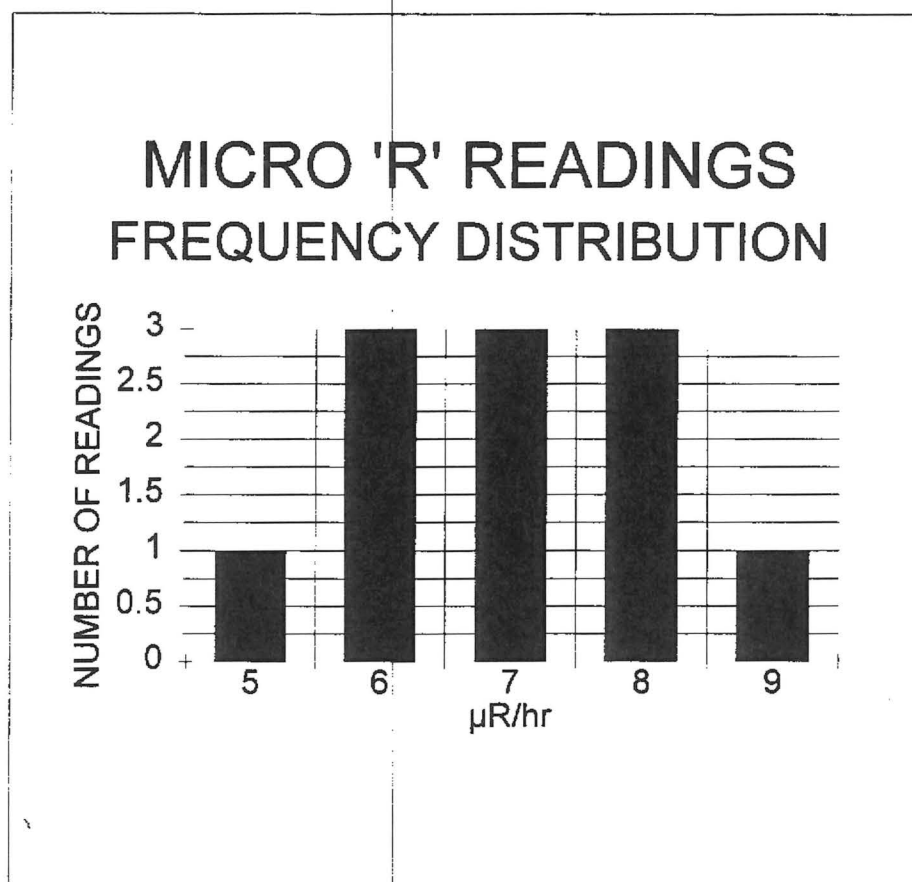
JULY 22, 1999



NUMBER OF SAMPLES	11
AVERAGE SAMPLE	7
MINIMUM SAMPLE	6
MAXIMUM SAMPLE	9
STANDARD DEVIATION	1

**PHASE II, SUB-AREA "G" - DEPTH
AFFECTED EXPANDED ROADWAY
MICRO-R METER READINGS AT 1 METER ABOVE SURFACE
LUDLUM MODEL 19, S/N 111299
RESULTS IN $\mu\text{R/hr}$**

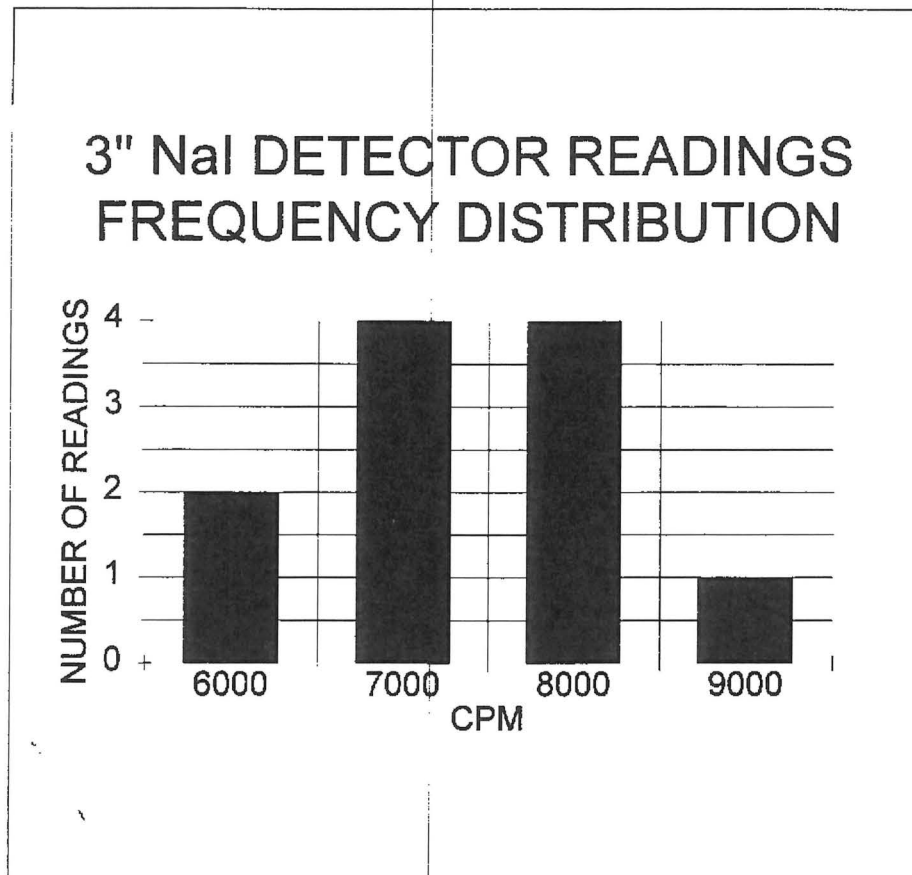
JULY 22, 1999



NUMBER OF SAMPLES	11
AVERAGE SAMPLE	7
MINIMUM SAMPLE	5
MAXIMUM SAMPLE	9
STANDARD DEVIATION	1

**PHASE II, SUB-AREA "G" - DEPTH
AFFECTED EXPANDED ROADWAY
GROSS GAMMA READINGS IN CPM
LUDLUM MODEL 2221, S/N 97264
BACKGROUND AVERAGES: 7208**

JULY 22, 1999



NUMBER OF SAMPLES	11
AVERAGE SAMPLE	6855
MINIMUM SAMPLE	5574
MAXIMUM SAMPLE	8374
STANDARD DEVIATION	849

**CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED EXPANDED ROADWAY - DEPTH**

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
1	4	-3.3	10.6
2	4	-3.3	10.6
3	4	-3.3	10.6
4	5	-2.3	5.1
5	5	-2.3	5.1
6	5	-2.3	5.1
7	5	-2.3	5.1
8	5	-2.3	5.1
9	5	-2.3	5.1
10	5	-2.3	5.1
11	5	-2.3	5.1
12	5	-2.3	5.1
13	6	-1.3	1.6
14	6	-1.3	1.6
15	6	-1.3	1.6
16	6	-1.3	1.6
17	6	-1.3	1.6
18	6	-1.3	1.6
19	6	-1.3	1.6
20	6	-1.3	1.6
21	6	-1.3	1.6
22	6	-1.3	1.6
23	6	-1.3	1.6
24	6	-1.3	1.6
25	7	-0.3	0.1
26	7	-0.3	0.1
27	7	-0.3	0.1
28	7	-0.3	0.1
29	7	-0.3	0.1
30	7	-0.3	0.1
31	7	-0.3	0.1
32	7	-0.3	0.1
33	7	-0.3	0.1
34	8	0.7	0.6
35	8	0.7	0.6
36	8	0.7	0.6
37	8	0.7	0.6
38	8	0.7	0.6
39	8	0.7	0.6
40	8	0.7	0.6
41	8	0.7	0.6
42	9	1.7	3.0
43	9	1.7	3.0
44	9	1.7	3.0
45	9	1.7	3.0
46	10	2.7	7.5
47	10	2.7	7.5
48	10	2.7	7.5
49	10	2.7	7.5
50	10	2.7	7.5
	57.0		89.1
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	399		240.4
	Sum(n)		Sum(n-N) ²

No. of Samples (x) : **55**

COUNT TIME: 5 MINUTES

Sample Mean (N) = Sum(n) ÷ (x)

Sample Mean (N) : **7.25**

Standard Deviation (Sd) = SQRT [(n-N)² ÷ (x - 1)]

Standard Deviation: **2.11**

2 Std Deviations: **4.22**

Degree of Freedom(df) = (x) - 1 Data listed on Table B-1

(df) = **1.675**

Area's Average Level (Aμ) = (N) + (df) x [(Sd)/SQRT(x)]

(Aμ) = **7.73**

GUIDELINE VALUE: **30**

Acceptable Level: **34.0**

pCi/gU TOTAL U

pCi/gU TOTAL U

pCi/gU TOTAL U

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			

For values of Degrees of Freedom not listed:

Interpolate between the listed values.

(df) high value(Z)	60	is (B)	1.671	95%
(df) low value(Y)	40	is (A)	1.684	95%

Desired value(df) (X) **54** is calculated as follow:

EXP[(Ln(B)-Ln(A)) ÷ (Z-Y)] (X-Y) + Ln(A)]

The (df) value for (X) **54** **1.675** **95%**

PERFORMED BY: *Susan H. Kegan*

DATE: 7-26-99

REVIEWED BY: *W. A. Rogers*

DATE: 7-26-99

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED EXPANDED ROADWAY - DEPTH

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
51	10	2.75	7.54
52	11	3.75	14.03
53	12	4.75	22.52
54	12	4.75	22.52
55	12	4.75	22.52
56		0.00	0.00
57		0.00	0.00
58		0.00	0.00
59		0.00	0.00
60		0.00	0.00
61		0.00	0.00
62		0.00	0.00
63		0.00	0.00
64		0.00	0.00
65		0.00	0.00
66		0.00	0.00
67		0.00	0.00
68		0.00	0.00
69		0.00	0.00
70		0.00	0.00
71		0.00	0.00
72		0.00	0.00
73		0.00	0.00
74		0.00	0.00
75		0.00	0.00
76		0.00	0.00
77		0.00	0.00
78		0.00	0.00
79		0.00	0.00
80		0.00	0.00
81		0.00	0.00
82		0.00	0.00
83		0.00	0.00
84		0.00	0.00
85		0.00	0.00
86		0.00	0.00
87		0.00	0.00
88		0.00	0.00
89		0.00	0.00
90		0.00	0.00
91		0.00	0.00
92		0.00	0.00
93		0.00	0.00
94		0.00	0.00
95		0.00	0.00
96		0.00	0.00
97		0.00	0.00
98		0.00	0.00
99		0.00	0.00
100		0.00	0.00
	57.0		89.1
	Sum(n)		Sum(n-N) ²

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
101		0.00	0.00
102		0.00	0.00
103		0.00	0.00
104		0.00	0.00
105		0.00	0.00
106		0.00	0.00
107		0.00	0.00
108		0.00	0.00
109		0.00	0.00
110		0.00	0.00
111		0.00	0.00
112		0.00	0.00
113		0.00	0.00
114		0.00	0.00
115		0.00	0.00
116		0.00	0.00
117		0.00	0.00
118		0.00	0.00
119		0.00	0.00
120		0.00	0.00
121		0.00	0.00
122		0.00	0.00
123		0.00	0.00
124		0.00	0.00
125		0.00	0.00
126		0.00	0.00
127		0.00	0.00
128		0.00	0.00
129		0.00	0.00
130		0.00	0.00
131		0.00	0.00
132		0.00	0.00
133		0.00	0.00
134		0.00	0.00
135		0.00	0.00
136		0.00	0.00
137		0.00	0.00
138		0.00	0.00
139		0.00	0.00
140		0.00	0.00
141		0.00	0.00
142		0.00	0.00
143		0.00	0.00
144		0.00	0.00
145		0.00	0.00
146		0.00	0.00
147		0.00	0.00
148		0.00	0.00
149		0.00	0.00
150		0.00	0.00
	0.0		0.0
	Sum(n)		Sum(n-N) ²

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED EXPANDED ROADWAY - DEPTH

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
1	1	-0.2	0.0
2	1	-0.2	0.0
3	1	-0.2	0.0
4	1	-0.2	0.0
5	1	-0.2	0.0
6	1	-0.2	0.0
7	1	-0.2	0.0
8	1	-0.2	0.0
9	1	-0.2	0.0
10	1	-0.2	0.0
11	1	-0.2	0.0
12	1	-0.2	0.0
13	1	-0.2	0.0
14	1	-0.2	0.0
15	1	-0.2	0.0
16	1	-0.2	0.0
17	1	-0.2	0.0
18	1	-0.2	0.0
19	1	-0.2	0.0
20	1	-0.2	0.0
21	1	-0.2	0.0
22	1	-0.2	0.0
23	1	-0.2	0.0
24	1	-0.2	0.0
25	1	-0.2	0.0
26	1	-0.2	0.0
27	1	-0.2	0.0
28	1	-0.2	0.0
29	1	-0.2	0.0
30	1	-0.2	0.0
31	1	-0.2	0.0
32	1	-0.2	0.0
33	1	-0.2	0.0
34	1	-0.2	0.0
35	1	-0.2	0.0
36	1	-0.2	0.0
37	1	-0.2	0.0
38	1	-0.2	0.0
39	1	-0.2	0.0
40	1	-0.2	0.0
41	1	-0.2	0.0
42	1	-0.2	0.0
43	1	-0.2	0.0
44	1	-0.2	0.0
45	1	-0.2	0.0
46	1	-0.2	0.0
47	2	0.8	0.7
48	2	0.8	0.7
49	2	0.8	0.7
50	2	0.8	0.7
	10.0		3.5
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	64		7.5
	Sum(n)		Sum(n-N) ²

No. of Samples (x) : **55**

COUNT TIME: 5 MINUTES

Sample Mean (N) = Sum(n) ÷ (x)

Sample Mean (N) : **1.16**

Standard Deviation (Sd) = SQRT [(n-N)² + (x - 1)]

Standard Deviation: **0.37**

2 Std Deviations: **0.75**

Degree of Freedom(df) = (x) - 1 Data listed on Table B-1

(df) = **1.688**

Area's Average Level (Aμ) = (N) + (df) x [(Sd)/SQRT(x)]

(Aμ) = **1.25** pCi/gTh (NAT)

GUIDELINE VALUE: **10** pCi/gTh (NAT)

Acceptable Level: **4.0** pCi/gTh (NAT)

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			

For values of Degrees of Freedom not listed:

Interpolate between the listed values.

(df) high value(Z)	60	is (B)	1.684	95%
(df) low value(Y)	40	is (A)	1.697	95%

Desired value(df) (X) **54** is calculated as follow:

EXP[(Ln(B)-Ln(A)) + (Z-Y) / (X-Y) + Ln(A)]

The (df) value for (X) **54** **1.688** **95%**

PERFORMED BY: Susan Thejin

DATE: 7-26-99

REVIEWED BY: W.A. Pope

DATE: 7-26-99

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED EXPANDED ROADWAY - DEPTH

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
51	2	0.84	0.70
52	2	0.84	0.70
53	2	0.84	0.70
54	2	0.84	0.70
55	2	0.84	0.70
56		0.00	0.00
57		0.00	0.00
58		0.00	0.00
59		0.00	0.00
60		0.00	0.00
61		0.00	0.00
62		0.00	0.00
63		0.00	0.00
64		0.00	0.00
65		0.00	0.00
66		0.00	0.00
67		0.00	0.00
68		0.00	0.00
69		0.00	0.00
70		0.00	0.00
71		0.00	0.00
72		0.00	0.00
73		0.00	0.00
74		0.00	0.00
75		0.00	0.00
76		0.00	0.00
77		0.00	0.00
78		0.00	0.00
79		0.00	0.00
80		0.00	0.00
81		0.00	0.00
82		0.00	0.00
83		0.00	0.00
84		0.00	0.00
85		0.00	0.00
86		0.00	0.00
87		0.00	0.00
88		0.00	0.00
89		0.00	0.00
90		0.00	0.00
91		0.00	0.00
92		0.00	0.00
93		0.00	0.00
94		0.00	0.00
95		0.00	0.00
96		0.00	0.00
97		0.00	0.00
98		0.00	0.00
99		0.00	0.00
100		0.00	0.00
	10.0		3.5
	Sum(n)		Sum(n-N) ²

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
101		0.00	0.00
102		0.00	0.00
103		0.00	0.00
104		0.00	0.00
105		0.00	0.00
106		0.00	0.00
107		0.00	0.00
108		0.00	0.00
109		0.00	0.00
110		0.00	0.00
111		0.00	0.00
112		0.00	0.00
113		0.00	0.00
114		0.00	0.00
115		0.00	0.00
116		0.00	0.00
117		0.00	0.00
118		0.00	0.00
119		0.00	0.00
120		0.00	0.00
121		0.00	0.00
122		0.00	0.00
123		0.00	0.00
124		0.00	0.00
125		0.00	0.00
126		0.00	0.00
127		0.00	0.00
128		0.00	0.00
129		0.00	0.00
130		0.00	0.00
131		0.00	0.00
132		0.00	0.00
133		0.00	0.00
134		0.00	0.00
135		0.00	0.00
136		0.00	0.00
137		0.00	0.00
138		0.00	0.00
139		0.00	0.00
140		0.00	0.00
141		0.00	0.00
142		0.00	0.00
143		0.00	0.00
144		0.00	0.00
145		0.00	0.00
146		0.00	0.00
147		0.00	0.00
148		0.00	0.00
149		0.00	0.00
150		0.00	0.00
	0.0		0.0
	Sum(n)		Sum(n-N) ²

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	445E-458N	7560	7	7	6	2
2	446E-463N	7278	6	7	4	2
3	446E-466N	8116	8	6	7	1
4	448E-471N	7196	9	7	4	1
5	448E-475N	7261	7	8	6	2
6	449E-480N	7129	6	7	4	2
7	451E-485N	5748	6	7	9	2
8	452E-490N	5145	5	7	6	1
9	453E-495N	5392	6	6	6	1
10	454E-500N	5472	4	7	6	1
11	455E-504N	6979	6	6	6	1
12	455E-509N	6929	7	7	8	1
13	456E-514N	7112	8	7	6	2
14	457E-519N	8055	7	8	10	1
15	457E-524N	8701	9	8	10	2
16	458E-529N	8049	7	8	8	2
17	458E-534N	8140	6	8	7	2
18	458E-539N	7181	7	7	7	1

INSTRUMENTS:

RESULTS IN: BACKGROUND MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

μ R/hr 9 2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM 6150 N/A

Total U 4 10

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

pCi/g Th(Nat) 1.5 0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. A. Rogers

DATE: 7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	459E-544N	7350	7	7	9	1
2	460E-549N	7425	7	7	6	1
3	461E-554N	6330	7	8	3	1
4	463E-559N	6397	6	7	4	1
5	465E-563N	6945	7	8	5	1
6	467E-567N	6078	7	5	7	1
7	470E-572N	6011	5	6	6	2
8	472E-576N	5564	6	5	8	1
9	475E-580N	5590	5	4	5	1
10	479E-584N	6012	6	7	7	1
11	482E-587N	5682	5	6	5	1
12	486E-591N	5162	6	5	9	1
13	490E-594N	5756	7	7	5	1
14	495E-596N	5578	7	7	8	1
15	499E-597N	5676	5	6	8	1
16	504E-598N	6810	6	7	5	2
17	509E-599N	7868	8	7	11	1
18	514E-598N	7542	9	8	7	2

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

µR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U 4
Th(Nat) 1.5

10
0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. a. Rogers

DATE:

7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	519E-598N	7328	8	7	7	1
2	524E-596N	6474	7	7	9	2
3	528E-594N	6828	7	7	4	1
4	533E-593N	6656	7	8	7	2
5	538E-591N	7320	9	7	6	1
6	542E-590N	7414	7	6	7	1
7	548E-589N	7526	7	7	4	2
8	552E-589N	8120	9	7	10	2
9	557E-588N	7568	7	7	8	2
10	562E-588N	7926	8	7	5	1
11	567E-589N	6522	7	6	10	1
12	572E-589N	7158	7	7	9	1
13	578E-590N	7556	8	7	6	1
14	581E-591N	7614	8	8	5	1
	586E-592N	7776	8	8	5	1
16	591E-594N	8076	8	8	10	2
17	595E-597N	7582	7	7	6	1
18	599E-600N	8042	8	9	6	1

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

µR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. a. Rogers

DATE:

7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	603E-604N	6688	7	8	8	1
2	607E-607N	8336	9	7	7	2
3	611E-611N	7866	8	8	8	1
4	614E-614N	7890	7	7	4	1
5	617E-618N	8356	9	8	5	2
6	620E-622N	8192	9	7	6	2
7	623E-627N	8180	8	8	7	2
8	626E-631N	7220	8	8	5	1
9	628E-635N	7400	7	7	8	1
10	631E-639N	7610	8	8	6	1
11	634E-643N	7760	9	8	7	1
12	636E-648N	8010	7	7	10	1
13	639E-651N	6774	7	8	10	1
14	642E-655N	7266	7	7	4	1
15	646E-659N	7780	8	8	6	1
16	649E-662N	7014	6	6	6	1
17	651E-665N	6726	7	7	6	1
18	657E-668N	7420	7	6	5	1

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

μR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. A. Rogers

DATE:

7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	662E-671N	6792	7	6	5	1
2	666E-673N	6390	7	7	8	1
3	671E-675N	7946	7	7	8	1
4	676E-677N	7588	8	8	6	2
5	681E-678N	6984	8	7	6	2
6	686E-678N	7432	7	8	8	1
7	690E-678N	7262	6	7	6	2
8	695E-678N	6824	7	7	5	1
9	700E-676N	6616	7	7	7	1
10	705E-675N	5970	7	6	6	1
11	710E-673N	7082	7	7	10	1
12	714E-670N	6156	6	7	5	1
13	718E-668N	6454	7	7	6	1
14	722E-665N	6844	7	7	6	1
15	726E-662N	6414	7	7	6	1
16	730E-659N	5824	5	5	5	1
17	734E-656N	5642	6	7	6	1
18	738E-654N	5324	6	5	7	1

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

μR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U 4
Th(Nat) 1.5

10
0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. A. Rogers

DATE:

7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	742E-651N	5760	5	7	8	1
2	746E-648N	6010	5	7	6	1
3	750E-645N	5930	5	7	6	1
4	754E-642N	6268	7	6	7	1
5	759E-640N	6884	8	7	8	2
6	763E-638N	5410	5	6	10	1
7	768E-635N	5588	7	7	8	1
8	772E-633N	4802	5	5	6	1
9	777E-632N	5820	6	6	10	1
10	782E-630N	6418	6	5	6	1
11	787E-629N	6146	7	7	9	1
12	791E-628N	6142	7	6	11	1
13	796E-628N	6080	7	6	9	1
14	802E-627N	6614	6	6	7	2
15	807E-627N	6374	6	6	6	1
16	812E-625N	6030	6	5	7	1
17	816E-624N	5966	6	6	8	1
18	821E-622N	6266	6	6	6	1

INSTRUMENTS:

RESULTS IN:

BACKGROUND MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

µR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U	4	10
Th(Nat)	1.5	0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. C. Rogers

DATE:

7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	826E-621N	6372	7	6	4	1
2	831E-620N	6328	7	6	6	1
3	835E-619N	6492	6	7	8	1
4	840E-618N	5932	7	6	8	1
5	845E-617N	6232	7	6	11	1
6	850E-615N	6240	7	8	12	1
7	855E-614N	5786	7	6	4	1
8	860E-613N	5560	7	7	7	1
9	865E-612N	5288	6	6	10	1
10	870E-610N	5212	6	5	8	1
11	874E-608N	5640	5	6	4	2
12	879E-607N	5078	5	5	6	1
13	883E-606N	5394	6	6	3	1
14	888E-604N	4834	5	6	10	1
15	893E-602N	5142	5	6	10	1
16	897E-600N	5436	5	5	8	2
17	902E-599N	5848	6	5	5	1
18	907E-596N	7978	7	7	9	1

INSTRUMENTS:

RESULTS IN:

BACKGROUND MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

μR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U 4

10

Th(Nat) 1.5

0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W.A. Rogers

DATE:

7-22-99

FILE: AGRWSURF

Wednesday, July 21, 1999

CIMARRON CORPORATION
CIMARRON FACILITY
PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY
CENTERLINE

DATE: 2/12/97

LN #	GRID NUMBER	3" DETECT C.P.M.	MICRO R' SURF	MICRO R' 1 METER	0-6" Sample	
					Total-U	Th (Nat)
1	911E-595N	7714	8	7	7	2
2	916E-593N	7160	7	7	9	1
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

INSTRUMENTS:

RESULTS IN:

BACKGROUND

MDA

LUDLUM MICRO 'R' METER - MODEL - 19 S/N 111299

µR/hr

9

2

LUDLUM 2221, UNSHEILDED 3" X 1/2" NaI DETECTOR S/N 97264

CPM

6150

N/A

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

pCi/g

Total U 4
Th(Nat) 1.5

10
0.25

BACKGROUND NOT SUBTRACTED

REVIEWED BY:

W. G. Rogers

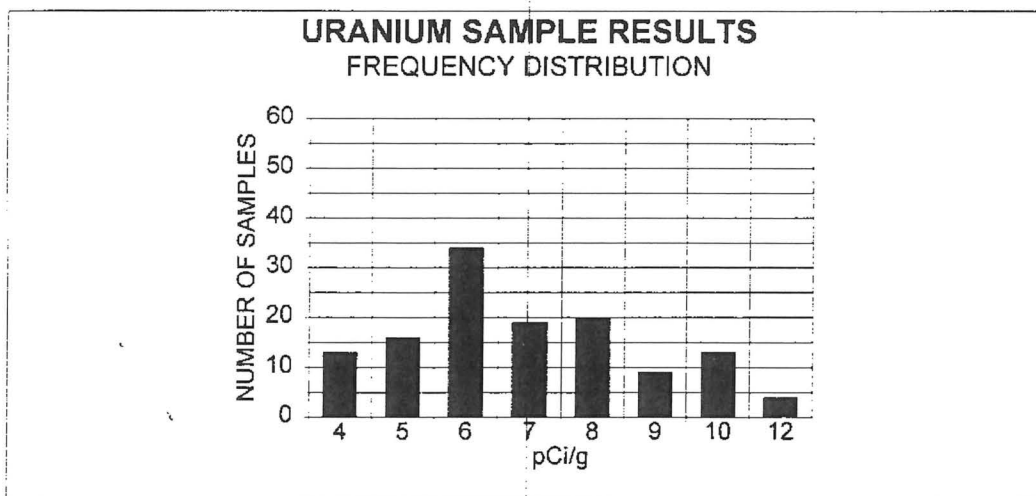
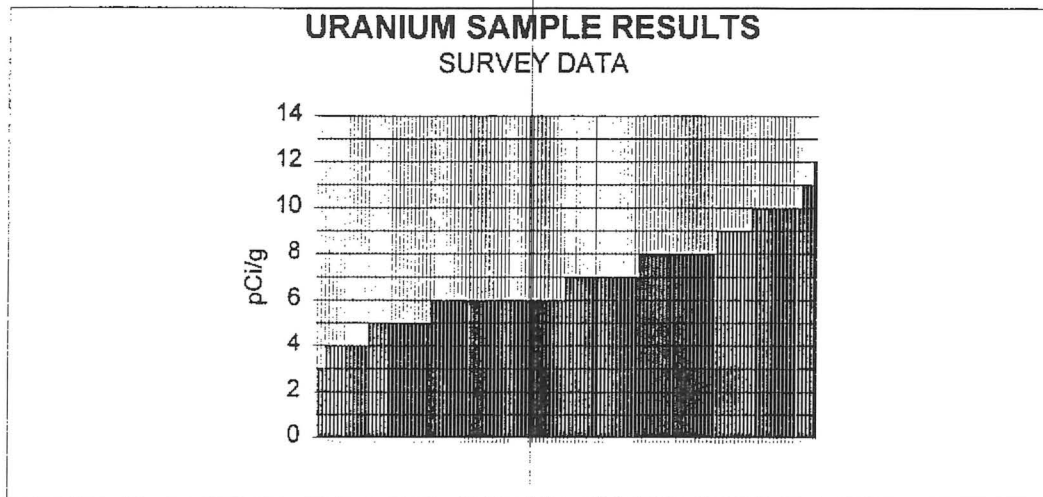
DATE:

7-22-99

FILE: AGRWSURF

Thursday, July 22, 1999

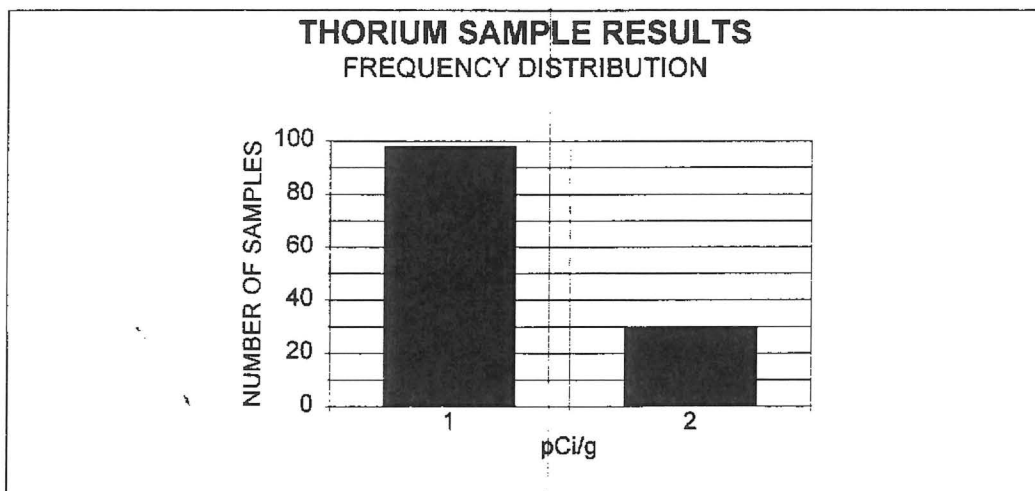
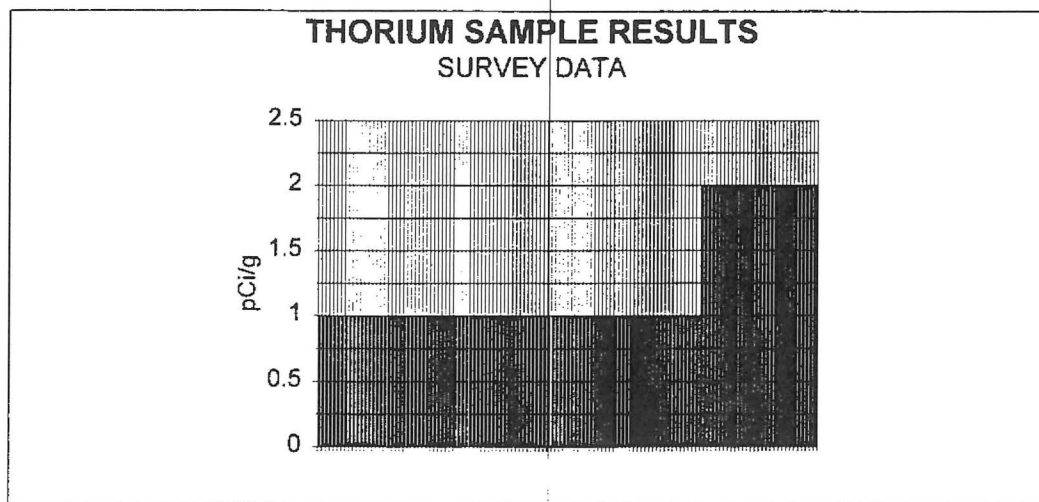
**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - CENTERLINE
CIMARRON SOIL COUNTER
URANIUM SAMPLE RESULTS
SITE BACKGROUND OF 4 pCi/g NOT SUBTRACTED
MARCH 1997**



NUMBER OF SAMPLES	128
AVERAGE SAMPLE	7
MINIMUM SAMPLE	3
MAXIMUM SAMPLE	12
STANDARD DEVIATION	2

Thursday, July 22, 1999

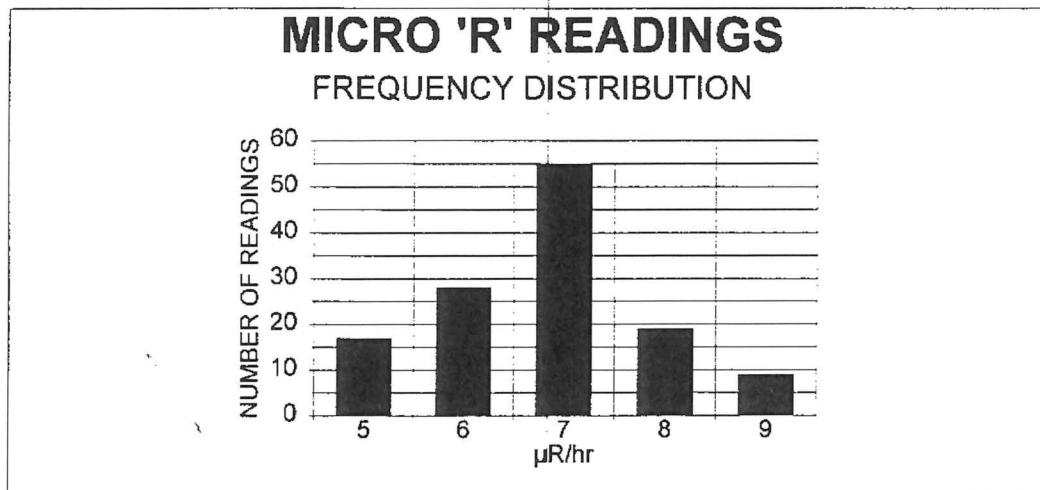
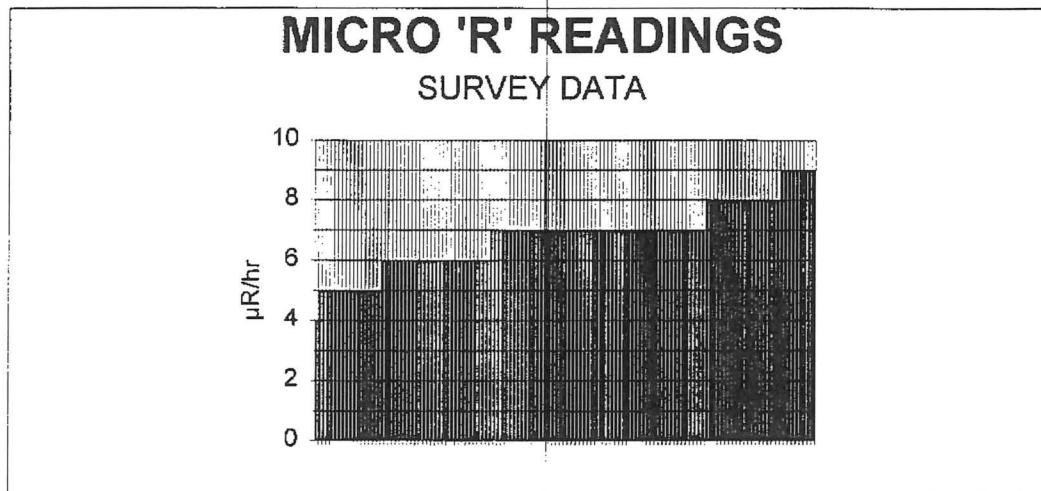
**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - CENTERLINE
CIMARRON SOIL COUNTER
THORIUM SAMPLE RESULTS
SITE BACKGROUND OF 1.5 pCi/g NOT SUBTRACTED
MARCH 1997**



NUMBER OF SAMPLES	128
AVERAGE SAMPLE	1
MINIMUM SAMPLE	1
MAXIMUM SAMPLE	2
STANDARD DEVIATION	0

Thursday, July 22, 1999

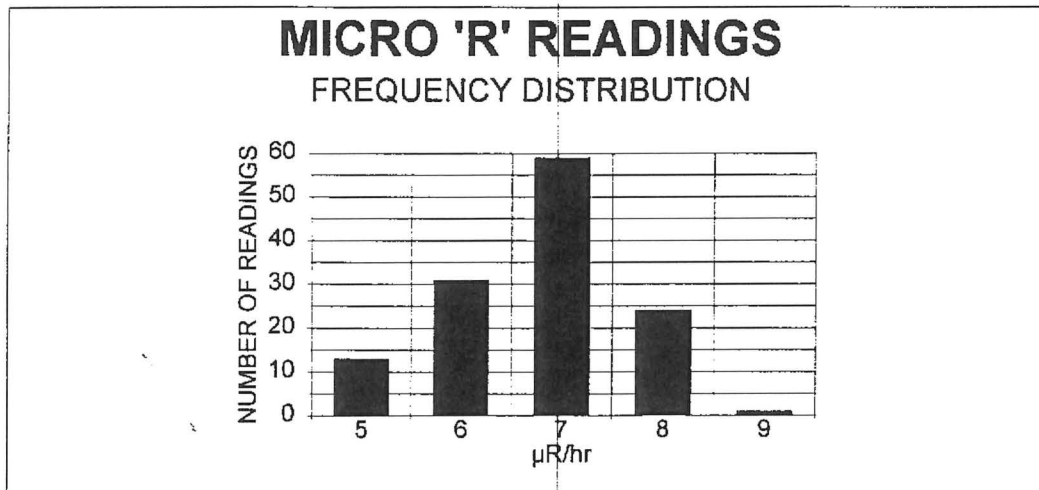
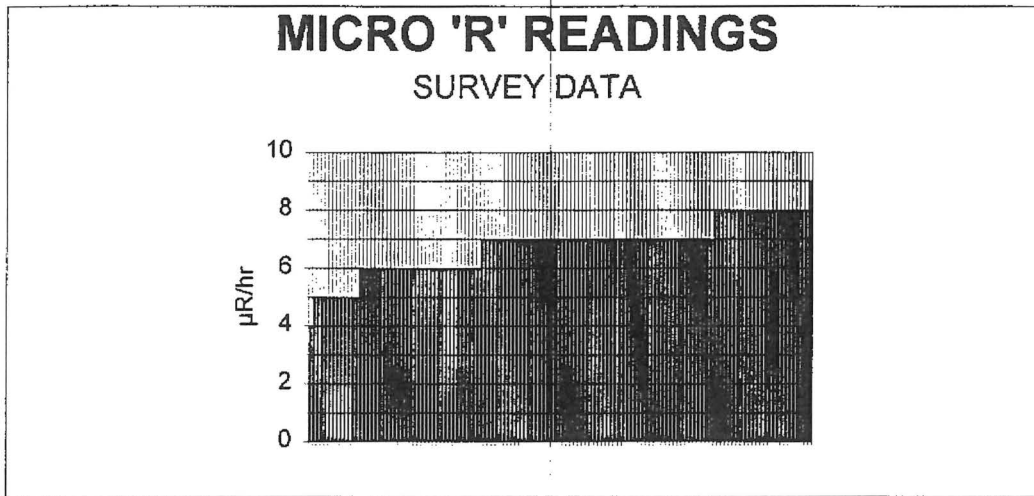
**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - CENTERLINE
MICRO-R METER READINGS AT SURFACE
LUDLUM MODEL 19, S/N 111299
RESULTS IN $\mu\text{R/hr}$
MARCH 1997**



NUMBER OF READINGS	128
AVERAGE READING	7
MINIMUM READING	4
MAXIMUM READING	9
STANDARD DEVIATION	1

Thursday, July 22, 1999

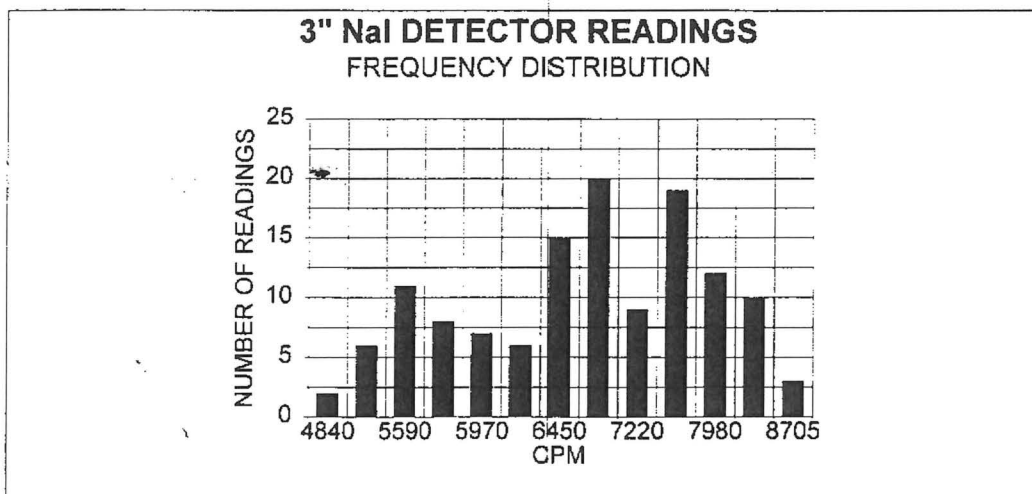
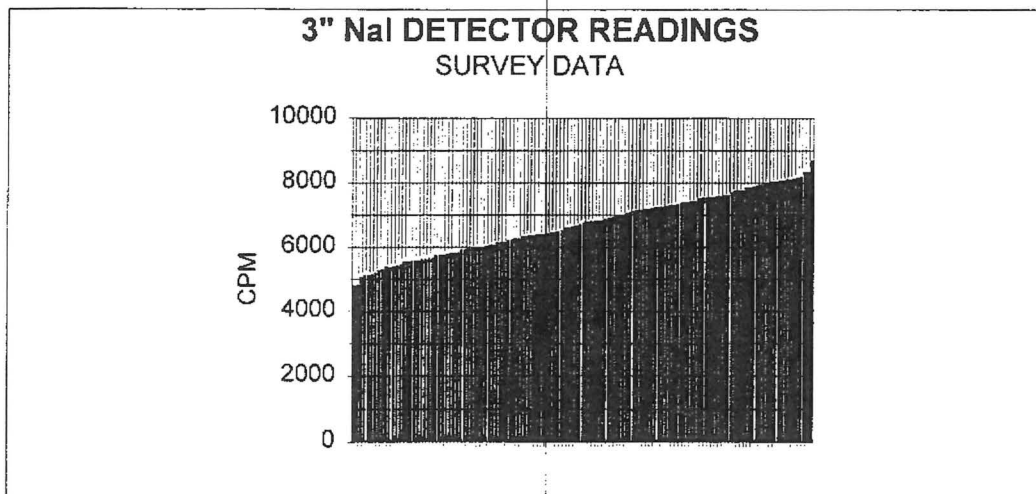
**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - CENTERLINE
MICRO-R READINGS 1 METER ABOVE SURFACE
LUDLUM MODEL 19, S/N 111299
RESULTS IN $\mu\text{R/hr}$
MARCH 1997**



NUMBER OF READINGS	128
AVERAGE READING	7
MINIMUM READING	4
MAXIMUM READING	9
STANDARD DEVIATION	1

Thursday, July 22, 1999

**PHASE II, SUB-AREA "G" - SURFACE
AFFECTED ROADWAY - CENTERLINE
GROSS GAMMA READINGS IN CPM
LUDLUM MODEL 2221, S/N 97264
BACKGROUND AVERAGE: 6150
MARCH 1997**



NUMBER OF READINGS	128
AVERAGE READING	6710
MINIMUM READING	4802
MAXIMUM READING	8701
STANDARD DEVIATION	934

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED ROADWAY - CENTERLINE - SURFACE

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
1	3	-3.9	15.2
2	3	-3.9	15.2
3	4	-2.9	8.4
4	4	-2.9	8.4
5	4	-2.9	8.4
6	4	-2.9	8.4
7	4	-2.9	8.4
8	4	-2.9	8.4
9	4	-2.9	8.4
10	4	-2.9	8.4
11	4	-2.9	8.4
12	4	-2.9	8.4
13	4	-2.9	8.4
14	5	-1.9	3.6
15	5	-1.9	3.6
16	5	-1.9	3.6
17	5	-1.9	3.6
18	5	-1.9	3.6
19	5	-1.9	3.6
20	5	-1.9	3.6
21	5	-1.9	3.6
22	5	-1.9	3.6
23	5	-1.9	3.6
24	5	-1.9	3.6
25	5	-1.9	3.6
26	5	-1.9	3.6
27	5	-1.9	3.6
28	5	-1.9	3.6
29	5	-1.9	3.6
30	6	-0.9	0.8
31	6	-0.9	0.8
32	6	-0.9	0.8
33	6	-0.9	0.8
34	6	-0.9	0.8
35	6	-0.9	0.8
36	6	-0.9	0.8
37	6	-0.9	0.8
38	6	-0.9	0.8
39	6	-0.9	0.8
40	6	-0.9	0.8
41	6	-0.9	0.8
42	6	-0.9	0.8
43	6	-0.9	0.8
44	6	-0.9	0.8
45	6	-0.9	0.8
46	6	-0.9	0.8
47	6	-0.9	0.8
48	6	-0.9	0.8
49	6	-0.9	0.8
50	6	-0.9	0.8
	355.0		32.5
	272.0		243.7
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	883		473.7
	Sum(n)		Sum(n-N) ²

No. of Samples (x) : **128**

COUNT TIME: 5 MINUTES

Sample Mean (N) = Sum(n) ÷ (x)

Sample Mean (N) : **6.90**

Standard Deviation (Sd) = SQRT [(n-N)² ÷ (x - 1)]

Standard Deviation: **1.93**

2 Std Deviations: **3.86**

Degree of Freedom(df) = (x) - 1 Data listed on Table B-1

(df) = **1.658**

Area's Average Level (Ap) = (N) + (df) x [(Sd)/SQRT(x)]

(Ap) = **7.18** pCi/gU TOTAL U

GUIDELINE VALUE: **30** pCi/gU TOTAL U

Acceptable Level: **34.0** pCi/gU TOTAL U

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			

For values of Degrees of Freedom not listed:

Interpolate between the listed values.

(df) high value(Z) **400** is (B) **1.649** 95%

(df) low value(Y) **120** is (A) **1.658** 95%

Desired value(df) (X) **127** is calculated as follow:

EXP[(Ln(B)-Ln(A)) ÷ (Z-Y) (X-Y) + Ln(A)]

The (df) value for (X) **127** **1.658** 95%

PERFORMED BY: Susan Kegan

DATE: 7-22-99

REVIEWED BY: W. A. Ayer

DATE: 7-22-99

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED ROADWAY - CENTERLINE - SURFACE

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
51	6	-0.90	0.81
52	6	-0.90	0.81
53	6	-0.90	0.81
54	6	-0.90	0.81
55	6	-0.90	0.81
56	6	-0.90	0.81
57	6	-0.90	0.81
58	6	-0.90	0.81
59	6	-0.90	0.81
60	6	-0.90	0.81
61	6	-0.90	0.81
62	6	-0.90	0.81
63	6	-0.90	0.81
64	7	0.10	0.01
65	7	0.10	0.01
66	7	0.10	0.01
67	7	0.10	0.01
68	7	0.10	0.01
69	7	0.10	0.01
70	7	0.10	0.01
71	7	0.10	0.01
72	7	0.10	0.01
73	7	0.10	0.01
74	7	0.10	0.01
75	7	0.10	0.01
76	7	0.10	0.01
77	7	0.10	0.01
78	7	0.10	0.01
79	7	0.10	0.01
80	7	0.10	0.01
81	7	0.10	0.01
82	7	0.10	0.01
83	8	1.10	1.21
84	8	1.10	1.21
85	8	1.10	1.21
86	8	1.10	1.21
87	8	1.10	1.21
88	8	1.10	1.21
89	8	1.10	1.21
90	8	1.10	1.21
91	8	1.10	1.21
92	8	1.10	1.21
93	8	1.10	1.21
94	8	1.10	1.21
95	8	1.10	1.21
96	8	1.10	1.21
97	8	1.10	1.21
98	8	1.10	1.21
99	8	1.10	1.21
100	8	1.10	1.21
	355.0		32.5
	Sum(n)		Sum(n-N) ²

n = pCi/g TOTAL U

Number	n	(n-N)	(n-N) ²
101	8	1.10	1.21
102	8	1.10	1.21
103	9	2.10	4.42
104	9	2.10	4.42
105	9	2.10	4.42
106	9	2.10	4.42
107	9	2.10	4.42
108	9	2.10	4.42
109	9	2.10	4.42
110	9	2.10	4.42
111	9	2.10	4.42
112	10	3.10	9.62
113	10	3.10	9.62
114	10	3.10	9.62
115	10	3.10	9.62
116	10	3.10	9.62
117	10	3.10	9.62
118	10	3.10	9.62
119	10	3.10	9.62
120	10	3.10	9.62
121	10	3.10	9.62
122	10	3.10	9.62
123	10	3.10	9.62
124	10	3.10	9.62
125	11	4.10	16.82
126	11	4.10	16.82
127	11	4.10	16.82
128	12	5.10	26.03
129		0.00	0.00
130		0.00	0.00
131		0.00	0.00
132		0.00	0.00
133		0.00	0.00
134		0.00	0.00
135		0.00	0.00
136		0.00	0.00
137		0.00	0.00
138		0.00	0.00
139		0.00	0.00
140		0.00	0.00
141		0.00	0.00
142		0.00	0.00
143		0.00	0.00
144		0.00	0.00
145		0.00	0.00
146		0.00	0.00
147		0.00	0.00
148		0.00	0.00
149		0.00	0.00
150		0.00	0.00
	272.0		243.7
	Sum(n)		Sum(n-N) ²

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED ROADWAY - CENTERLINE - SURFACE

$n = \text{pCi/g Th (NAT)}$

Number	n	(n-N)	(n-N) ²
1	1	-0.2	0.1
2	1	-0.2	0.1
3	1	-0.2	0.1
4	1	-0.2	0.1
5	1	-0.2	0.1
6	1	-0.2	0.1
7	1	-0.2	0.1
8	1	-0.2	0.1
9	1	-0.2	0.1
10	1	-0.2	0.1
11	1	-0.2	0.1
12	1	-0.2	0.1
13	1	-0.2	0.1
14	1	-0.2	0.1
15	1	-0.2	0.1
16	1	-0.2	0.1
17	1	-0.2	0.1
18	1	-0.2	0.1
19	1	-0.2	0.1
20	1	-0.2	0.1
21	1	-0.2	0.1
22	1	-0.2	0.1
23	1	-0.2	0.1
24	1	-0.2	0.1
25	1	-0.2	0.1
26	1	-0.2	0.1
27	1	-0.2	0.1
28	1	-0.2	0.1
29	1	-0.2	0.1
30	1	-0.2	0.1
31	1	-0.2	0.1
32	1	-0.2	0.1
33	1	-0.2	0.1
34	1	-0.2	0.1
35	1	-0.2	0.1
36	1	-0.2	0.1
37	1	-0.2	0.1
38	1	-0.2	0.1
39	1	-0.2	0.1
40	1	-0.2	0.1
41	1	-0.2	0.1
42	1	-0.2	0.1
43	1	-0.2	0.1
44	1	-0.2	0.1
45	1	-0.2	0.1
46	1	-0.2	0.1
47	1	-0.2	0.1
48	1	-0.2	0.1
49	1	-0.2	0.1
50	1	-0.2	0.1
	52.0		3.8
	56.0		16.4
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	158		23.0
	Sum(n)		Sum(n-N) ²

No. of Samples (x) : **128**

COUNT TIME: 5 MINUTES

Sample Mean (N) = Sum(n) ÷ (x)

Sample Mean (N) : **1.23**

Standard Deviation (Sd) = SQRT [(n-N)² ÷ (x - 1)]

Standard Deviation: **0.43**

2 Std Deviations: **0.85**

Degree of Freedom(df) = (x) - 1 Data listed on Table B-1

(df) = **1.658**

Area's Average Level (Aμ) = (N) ÷ (df) x [(Sd)/SQRT(x)]

(Aμ) = **1.30** pCi/gTh (NAT)

GUIDELINE VALUE: **10** pCi/gTh (NAT)

Acceptable Level: **4.0** pCi/gTh (NAT)

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			

For values of Degrees of Freedom not listed:

Interpolate between the listed values.

(df) high value(Z) **400** is (B) **1.649** 95%

(df) low value(Y) **120** is (A) **1.658** 95%

Desired value(df) (X) **127** is calculated as follow:

EXP[(Ln(B)-Ln(A)) ÷ (Z-Y) × (X-Y) + Ln(A)]

The (df) value for (X) **127** **1.658** 95%

PERFORMED BY: Susan A. Kegan

DATE: 7-22-99

REVIEWED BY: W. C. Rogers

DATE: 7-22-99

CIMARRON CORPORATION - CIMARRON FACILITY
TRUE MEAN ACTIVITY VS. GUIDELINE VALUE AT 95% CONFIDENCE
PHASE II, SUB-AREA 'G' - AFFECTED ROADWAY - CENTERLINE - SURFACE

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
51	1	-0.23	0.05
52	1	-0.23	0.05
53	1	-0.23	0.05
54	1	-0.23	0.05
55	1	-0.23	0.05
56	1	-0.23	0.05
57	1	-0.23	0.05
58	1	-0.23	0.05
59	1	-0.23	0.05
60	1	-0.23	0.05
61	1	-0.23	0.05
62	1	-0.23	0.05
63	1	-0.23	0.05
64	1	-0.23	0.05
65	1	-0.23	0.05
66	1	-0.23	0.05
67	1	-0.23	0.05
68	1	-0.23	0.05
69	1	-0.23	0.05
70	1	-0.23	0.05
71	1	-0.23	0.05
72	1	-0.23	0.05
73	1	-0.23	0.05
74	1	-0.23	0.05
75	1	-0.23	0.05
76	1	-0.23	0.05
77	1	-0.23	0.05
78	1	-0.23	0.05
79	1	-0.23	0.05
80	1	-0.23	0.05
81	1	-0.23	0.05
82	1	-0.23	0.05
83	1	-0.23	0.05
84	1	-0.23	0.05
85	1	-0.23	0.05
86	1	-0.23	0.05
87	1	-0.23	0.05
88	1	-0.23	0.05
89	1	-0.23	0.05
90	1	-0.23	0.05
91	1	-0.23	0.05
92	1	-0.23	0.05
93	1	-0.23	0.05
94	1	-0.23	0.05
95	1	-0.23	0.05
96	1	-0.23	0.05
97	1	-0.23	0.05
98	1	-0.23	0.05
99	2	0.77	0.59
100	2	0.77	0.59
	52.0		3.8
	Sum(n)		Sum(n-N) ²

n = pCi/g Th (NAT)

Number	n	(n-N)	(n-N) ²
101	2	0.77	0.59
102	2	0.77	0.59
103	2	0.77	0.59
104	2	0.77	0.59
105	2	0.77	0.59
106	2	0.77	0.59
107	2	0.77	0.59
108	2	0.77	0.59
109	2	0.77	0.59
110	2	0.77	0.59
111	2	0.77	0.59
112	2	0.77	0.59
113	2	0.77	0.59
114	2	0.77	0.59
115	2	0.77	0.59
116	2	0.77	0.59
117	2	0.77	0.59
118	2	0.77	0.59
119	2	0.77	0.59
120	2	0.77	0.59
121	2	0.77	0.59
122	2	0.77	0.59
123	2	0.77	0.59
124	2	0.77	0.59
125	2	0.77	0.59
126	2	0.77	0.59
127	2	0.77	0.59
128	2	0.77	0.59
129		0.00	0.00
130		0.00	0.00
131		0.00	0.00
132		0.00	0.00
133		0.00	0.00
134		0.00	0.00
135		0.00	0.00
136		0.00	0.00
137		0.00	0.00
138		0.00	0.00
139		0.00	0.00
140		0.00	0.00
141		0.00	0.00
142		0.00	0.00
143		0.00	0.00
144		0.00	0.00
145		0.00	0.00
146		0.00	0.00
147		0.00	0.00
148		0.00	0.00
149		0.00	0.00
150		0.00	0.00
	56.0		16.4
	Sum(n)		Sum(n-N) ²

