COGEMA
Mining, Inc.

December 11, 2002

LICENSE SUA-1341
DOCKET NO. 40-8502

Mr. Dan Gillen, Chief
Fuel Cycle Licensing Branch, FCSS
c/o Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Preliminary Decommissioning Report

Dear Mr. Gillen:

The attached preliminary report summarizes the decommissioning activities to date at the 5I7 and USMT test sites. NRC's comments on this report are requested, particularly COGEMA's plan to conduct final reclamation of the pond area and the excavated pits.

This report will be updated and finalized upon completion of decommissioning at these test sites.

Sincerely,

John Vaselin

John Vaselin
Radiation Safety Officer

cc: Elaine Brummett - NRC
Donna Wichers - COGEMA

WORD\2002MEMO\NRC-USMT

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NMSS01

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Preliminary Decommissioning Report
For the 517 and USMT Test Sites

COGEMA Mining, Inc. -- Irigaray Project

NRC Source Material License SUA-1341
and
WDEQ PERMIT TO MINE No. 478, A-2

December 2002

Preliminary Decommissioning Report For the 517 and USMT Test Sites

1.0 Introduction

During 2002, COGEMA Mining, Inc. (COGEMA) began final decommissioning of the 5I7 and USMT test sites. These test sites are located in the northern tip of the WDEQ permit boundary at the Irigaray Project and are shown on the Irigaray General Location Map, included in the 2001 Annual Effluent and Monitoring Report. The total affected area is approximately 7. 4 acres, consisting of 4.0 acres of evaporation ponds, 1.4 acres at the USMT site and 2.0 acres at the 5I7 site.

This preliminary report summarizes the decommissioning activities to date, including the survey techniques and resulting data. NRC comments are requested concerning this report, particularly COGEMA's plan to conduct final reclamation of the pond area and the excavated pits.

This preliminary report will be updated and finalized upon completion of decommissioning at the USMT and 5I7 test sites.

2.0 Soil Cleanup Criteria and Verification Methods

The development of the cleanup criteria for radium-226 (Ra-226) and natural uranium (U-nat) is presented in the decommissioning plan (COGEMA, 2001). Characterization and process data indicated that Th-230 concentrations are near background and are not of concern at this site. Detailed procedures for verification are also presented in the plan. A summary of requirements is presented below for ease of reference.

2.1 Cleanup Criteria

The NRC-approved cleanup criteria for Ra-226 and natural uranium (U-nat) is 2 pCi/g, as presented in COGEMA, 2001. The Benchmark approach was used to develop cleanup limits for U-nat in surface soils. Considering the chemical toxicity, relative detection efficiencies, and ALARA, a limit of 150 pCi/g above natural background was proposed by COGEMA and approved by the NRC. The cleanup limit for Ra-226 in surface soils is 5 pCi/g above background (10 CFR 40, Appendix A). All concentrations are averaged over a 15-cm layer and a maximum 100-m^2 area. When both radionuclides are present, the sum-of- fractions rule applies.

Subsurface soil concentration ALARA goals for U-nat and Ra-226 are 400 pCi/g and 10 pCi/g, respectively. All concentrations are averaged over a 15-cm layer and a maximum 100-m^2 area. When both radionuclides are present, the sum-of-fractions rule will apply.

The fractions for each sample were calculated by subtracting the natural background concentration from the sample concentration and dividing by the cleanup limit. The sum-of-fractions rule limits the sum-of-fractions to a maximum of 1.

2.2 Verification Methods

Verification that a site meets the cleanup goals relies on a combination of gamma-ray surveys and soil samples. Standard Operating Procedures D-3, D-4, and D-5 include details of the soil cleanup verification surveys and sampling plans for surface and subsurface contaminated areas. These decommissioning Standard Operation Procedures are included as Appendix E of COGEMA, 2001.

2.2.1 Gamma Surveys

Two methods were proposed in the decommissioning plan for conducting verification gamma surveys. The GPS-based radiological survey system may be used or the equivalent conventional method using a Ludlum 2221 ratemeter/scaler and Model 44-10 detector. Since the methods differ only in data recording and management, there are no apparent differences in the accuracy of the results. Both methods were used for this work.

Gamma Surveys and Mapping Using Global Positioning System

A final gamma survey of the affected area is performed using the GPS-based equipment or conventional equipment as described above. For the GPS-based survey, a minimum of 7 data records in each 100-m^2 grid block is required and is used to obtain the average gamma count rate for the affected areas of the site. All grid blocks where the average count rate (bare Ludlum 44-10 detector) exceeds 25,000 cpm action level are required to be sampled to determine compliance with the soil cleanup criteria listed in Section 2.1. This may be done after further cleanup, if deemed necessary. The remaining grid blocks are then ranked according to their average gamma count rate. All grid blocks within an area that are in the top ten percent of the gamma count rate grouping will be sampled. Grid blocks failing the cleanup criteria will be cleaned and re-sampled until the grid block passes. If any grid blocks within the top ten percent ranking fail, the second ten percent of the rankings will be sampled. This method will be employed until all grid blocks within a 10 percent grouping pass.

Radiological Surveys and Mapping Using Conventional Methods

Gamma surveys may be conducted using the same type of radiological survey equipment described above, other than the data will be recorded manually. Grid blocks of 33.3-ft by 33.3-ft (approximately 100 m^2) are established over the affected area. In order to determine the average gamma count rate within a grid block, the Ludlum Model 2221/Model 44-10 combination will be used to integrate the count rate while a technician walks the area for one minute. The same soil-sampling scheme as presented for the GPS-based survey is employed.

2.2.2 Soil Sampling

Soil samples are prepared using a 5-point (minimum) composite method. Standard Operating Procedures D-3, D-4, and D-5 include details of the soil cleanup verification surveys and sampling plans for surface and subsurface contaminated areas.

These decommissioning Standard Operation Procedures are included as Appendix E of COGEMA, 2001.

3.0 Verification Surveys

3.1 Surface Soils

After removal of previously identified contaminated soil, a GPS-based gamma survey was conducted over the surface of the three areas. Due to the small total acreage of the survey areas, the data were grouped together for evaluation and verification purposes. The color-coded results of this initial survey are shown in Figure 3-1. The gamma surveys include a perimeter buffer zone around the areas of approximately 30-meters wide. The instrumentation used was identical to that in the site characterization work presented in the Decommissioning Plan (COGEMA, 2001), where an action level of 25,000 cpm was recommended. A computer-generated grid, containing 292 individual grid blocks of 33.33 ft by 33.33 ft., was developed for the site using the State Plane Coordinates as a baseline. These grids are reproducible and have been given identification nomenclature as shown in Figure 3-2. The gamma data for each grid block are presented in Attachment 1, where the coordinates, number of gamma records, average count rate, and minimum and maximum count rates are given. Ten grid blocks had an average gamma count rate of 25,000 cpm or higher and were sampled as required (see Figure 3-3). Nine of these ten passed the sum-of-fractions test (soil cleanup criteria listed in Section 2.1) and one passed by only a very small margin. Additional soil was removed from these two grid blocks (5I7 site D03C, 35,524 cpm, and ponds A18D, 25,282 cpm) and verified using the conventional method described in Section 2.2.1. The results are given in Table 3-1, which indicate that soil re-samples (V2) passed the cleanup criteria.

The Decommissioning Plan calls for an added level of assurance that the gamma action level conservatively predicts that a survey area meets the cleanup criteria. This is done by ranking the grid blocks which did not exceed the action level, according to gamma count rate, and sampling the highest ten percent. Twenty-nine grid blocks were sampled accordingly and submitted to Energy Laboratories for analysis. The sampling locations are shown in Figure 3-3. All passed the sum-of-fractions test with the exception of D04E at the 5I7 site, 21,191 cpm. An investigation of this grid block revealed a small area of white residue on the surface at one of the composite sampling locations, which apparently caused the sample to fail. The residue was removed and the grid block resurveyed using the conventional verification method, and then re-sampled. The results are given in Table 3-1, which indicate that soil re-sample (V2) passed the cleanup criteria. This isolated source of surface contamination was considered a unique event, and thus sampling of the second ten percent of the grid blocks (29 more) was felt to be unjustified.

3.2 USMT Site

The USMT plant building was removed from the site more than 20 years ago. The top surface of the concrete slab was surveyed on May 6-8, 2002 and met the unrestricted

release criteria, using standard operating procedures for release of equipment and materials. The concrete was broken into pieces and set aside for further monitoring. An initial gamma survey of the underlying soils showed several small areas near the gamma action level. These areas were cleaned up by removing a small amount of soil (< 1 cubic yard).

The underlying soil area was then divided into two 88-m^2 areas (USMT South Half and USMT North Half) and surveyed using conventional methods. A five point composite soil sample was then collected from each area. The results are presented in Table 3-2, which indicate that the soil samples met the cleanup criteria listed in Section 2.1 for surface soils.

Since a small amount of contaminated soil was removed from beneath the concrete slab, the accessible pieces of the concrete slab were surveyed on the bottom side. Standard operating procedures for unrestricted release of equipment and materials were followed. Total alpha surveys were conducted on 73 pieces with areas at least 1-ft^2, which represented approximately 70 percent of the total concrete slab area. Most measurements were at or near background levels with a maximum reading of only 258 cpm/100 cm^2. Smaller pieces were visually inspected to look for stains or other evidence of contamination but none was found. Surveys were not conducted on the remaining concrete pieces (< 30 percent of the total area) because the bottom sides were not easily accessible and because there was no reason to suspect contamination based on visual and gamma surveys of all the other pieces. All of the concrete pieces were released for unrestricted use and will be buried on site. Concrete survey data, along with all other survey data for equipment and materials are maintained in the site files.

Further surveys will be conducted when the concrete foundation walls and the buried piping are removed. No other decommissioning work is planned for this site.

3.3 5I7 Site

During the surveys and cleanup of surface soils at the 5I7 site, a burial site was located containing common and process trash. Gamma surveys indicated that contamination was present in much of the site and required removal. Approximately 360 cubic yards of contaminated soil were removed and shipped to the Shirley Basin disposal site. Four pits ranging in size from 756 to 888 cubic feet of surface area, were then surveyed and sampled. A ten point composite sample was collected from each pit, instead of the routine 5 point composite, to better locate potential hot spots. The 10 composites were evenly spread throughout each pit, with the number of side-wall and bottom samples determined by their proportion to the total surface area of the pit. The results are presented in Table 3-2, which indicate that the soil samples met the cleanup criteria listed in Section 2.1 for sub-surface soils.

Further surveys will be conducted when the buried piping to the wells is removed. No other decommissioning work is planned for this site.

3.4 Ponds

The leak detection piping from Ponds # 1, 2A, 2B and 3 was excavated, removed, surveyed and released for unrestricted use. The trenches were then surveyed using the conventional gamma method. Seven soil verification segments of less than 100 m^2 were identified by calculating the areas of the sidewalls and floor. Field notes and drawings with dimensions are kept on file. The average count rate was measured for each verification segment by taking a one-minute integrated count rate while walking the segment. All average count rates for the segments were below the 25,000 cpm action level. A 5-point composite sample was taken for laboratory analysis from the segment having the highest count rate. The results were near background levels and are given in Table 3-2. The soil sample met the cleanup criteria listed in Section 2.1 for surface soils.

4.0 Laboratory Quality Assurance

The decommissioning plan requires that 10 percent of the verification soil samples be split and sent to a second vendor laboratory for analysis. Forty-six verification sample results are presented in Table 3-1 and Table 3-2. Four samples were selected at random from those listed in Table 3-1 and split. These samples were submitted to Enviro.Test Laboratories in Casper, WY. Another split sample from the pond trenches was submitted to Jordan Laboratories, Inc. in Corpus Christi, TX for analysis. A change in laboratories was necessary since Enviro.Test Laboratories is no longer in business. The interlaboratory comparisons of soil samples are given in Table 3-3.

The results from the two vendor laboratories were evaluated by assuring that the error bars overlap at the three standard deviation levels for all samples having measured Ra-226 concentrations greater than 1 pCi/g. The standard deviation column in Table 3-3 for Ra-226 is actually the reported counting error and does not include systematic errors and perhaps other statistical errors. Therefore, we believe that this is underestimated considerably. However, four out of the five samples agreed within three standard deviations (as defined), which is considered very good agreement. The uranium method does not report an error. However, the maximum difference between reported sample results was less than 15 percent, with an average percent difference of only six percent. No bias is evident in the laboratory results since some are higher while others are lower when compared to the Energy Laboratory results. Therefore, COGEMA concludes that the quality of the data is acceptable.

5.0 Survey Statistical Test

In order to meet the cleanup criterion, each grid block must satisfy the inequality,

$$\Sigma C_i / C_c < 1$$

where C_i is the concentration of the constituent and C_c is the cleanup concentration goal.

An EPA-recommended statistical test has been performed on the soil verification data to determine whether the mean of the equality defined above for all grid blocks is 1 or less at the 95 per cent confidence level, using Equation 8-13 of draft NUREG/CR-5849.

The EPA recommends that μ_α be compared to the guideline value, where

$$\mu_\alpha = M + t_{1-\alpha,df} (s_x/\sqrt{n})$$

and M is the mean of the $\Sigma C_i / C_c$ values for each grid block, s_x is the standard deviation, $t_{1-\alpha,df}$ is the 95% confidence level obtained from Student t Distribution tables where α is the false positive probability, i.e. the probability that μ_α is less than the guideline value if the true mean activity is equal to the guideline value. In this case the guideline value is equal to unity (1). The symbol, df, represents the degrees of freedom (equal to n-1).

The sum-of-fractions data from Table 3-1 and Table 3-2 were used to calculate the mean and standard deviation. The negative values were first set equal to zero. For our data set, $n = 46$, $s_x = 0.25$, $M = 0.22$, and $t_{1-\alpha,df} = 1.68$. Therefore $\mu_\alpha = 0.28$. Since μ_α is less than 1, there is less than 5 percent probability that μ_α would be less than 1 when the true mean was greater than one. Since this represents the mean of a set of biased samples (selected from the grids that have the highest gamma count rate), passing this test provides assurance that the cleanup error rate is very low for the entire sample set made up of all the possible grids that could have been sampled.

6.0 Summary

COGEMA believes that the decommissioning activities and surveys conducted thus far have been in compliance with the decommissioning plan. Since, the soil samples analysis from the pond area and the 4 excavated pits meet the soil cleanup criteria listed in Section 2.1, COGEMA plans to conduct final reclamation of these areas by back-filling, grading and seeding.

Further decommissioning work is planned at the USMT and 5I7 test sites, consisting of removing buried piping and a concrete foundation wall. The underlying soils will then be surveyed, and sampled if necessary.

7.0 References

COGEMA, 2001 Decommissioning Plan for Irigaray and Christensen Ranch Projects, Revised June 2001. COGEMA Mining Inc., 935 Pendell Avenue, P.O. Box 730, Mills, WY 82644.

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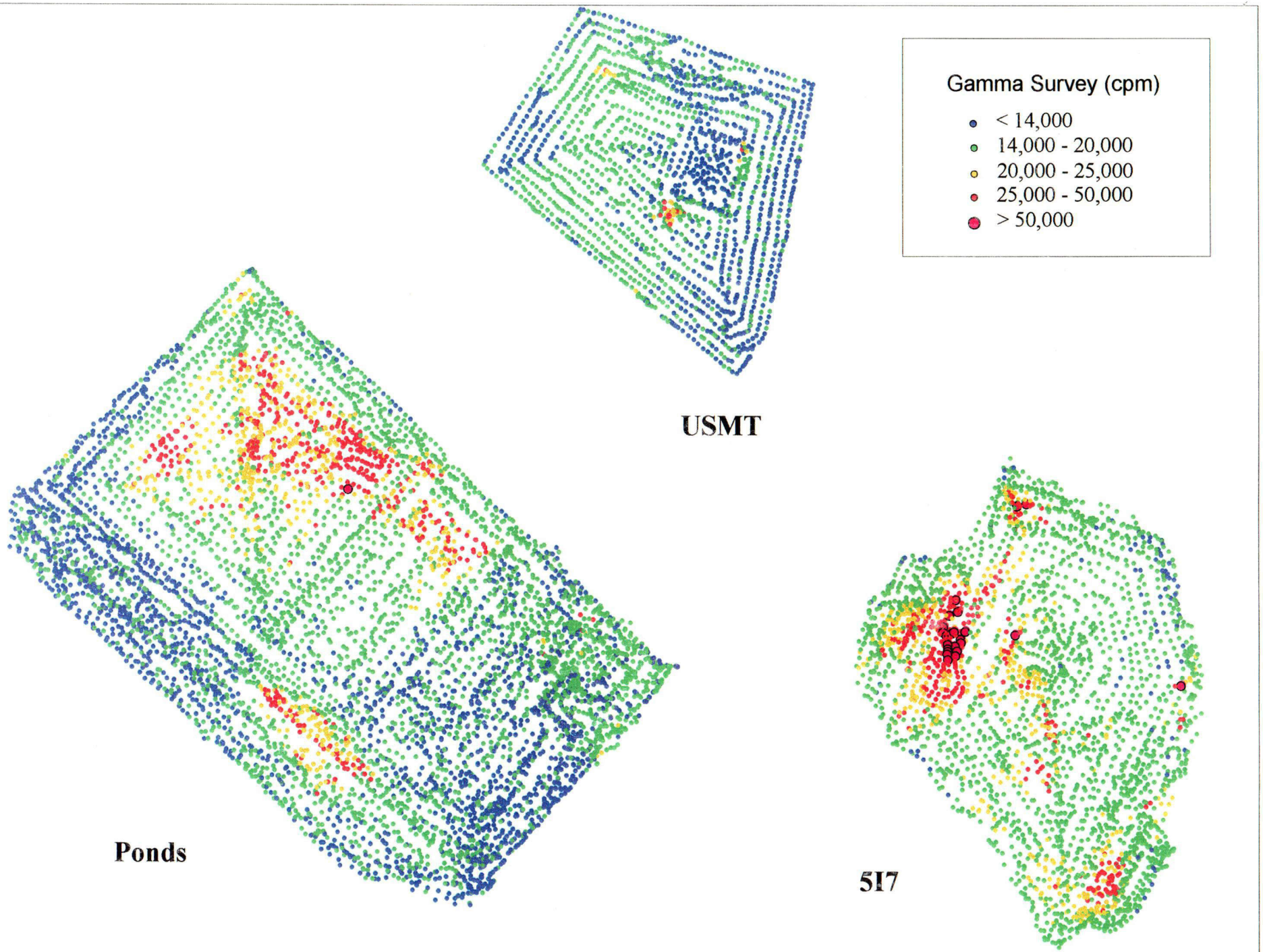

Figure 3-1 Initial GPS-Based Gamma Survey

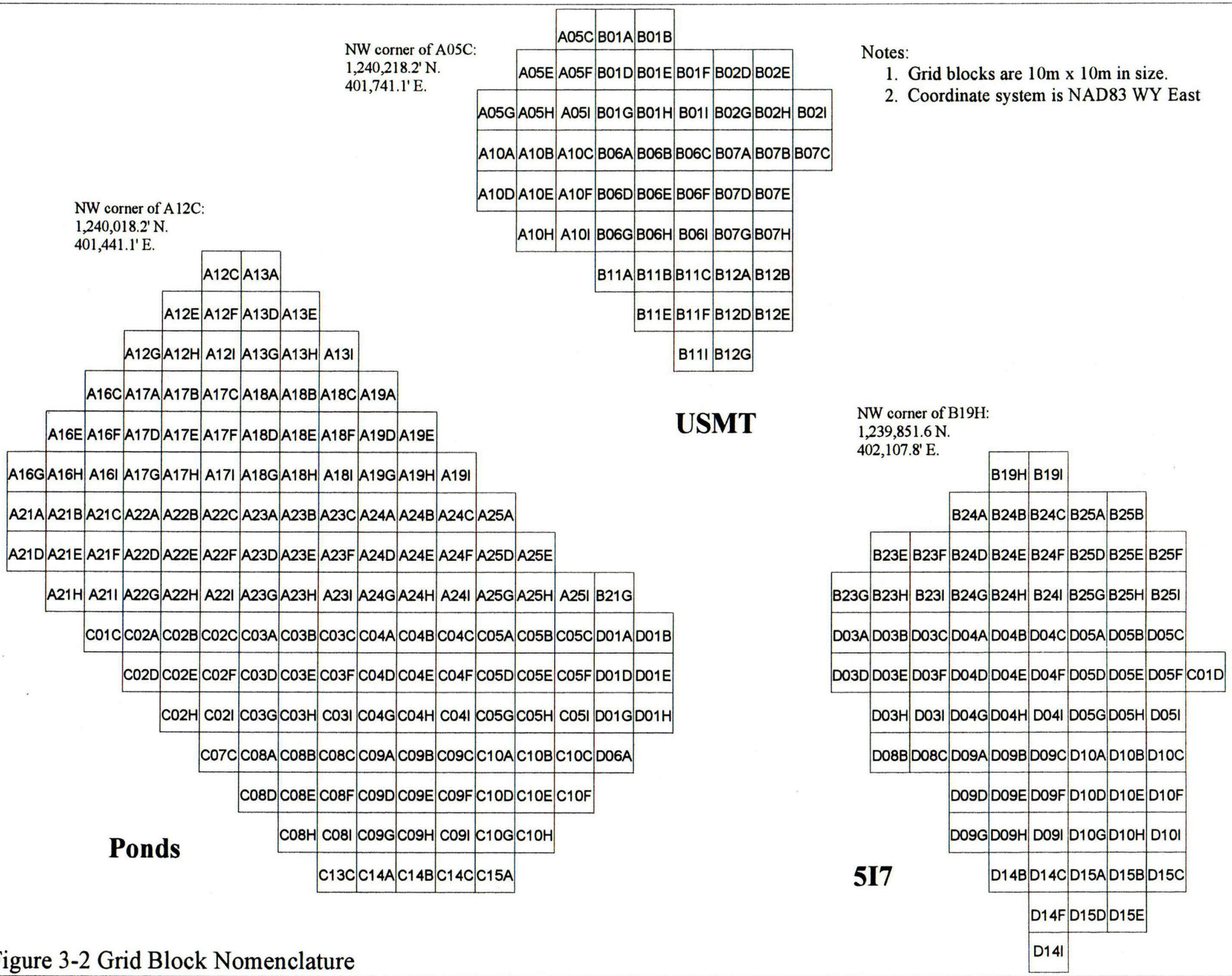

Figure 3-2 Grid Block Nomenclature

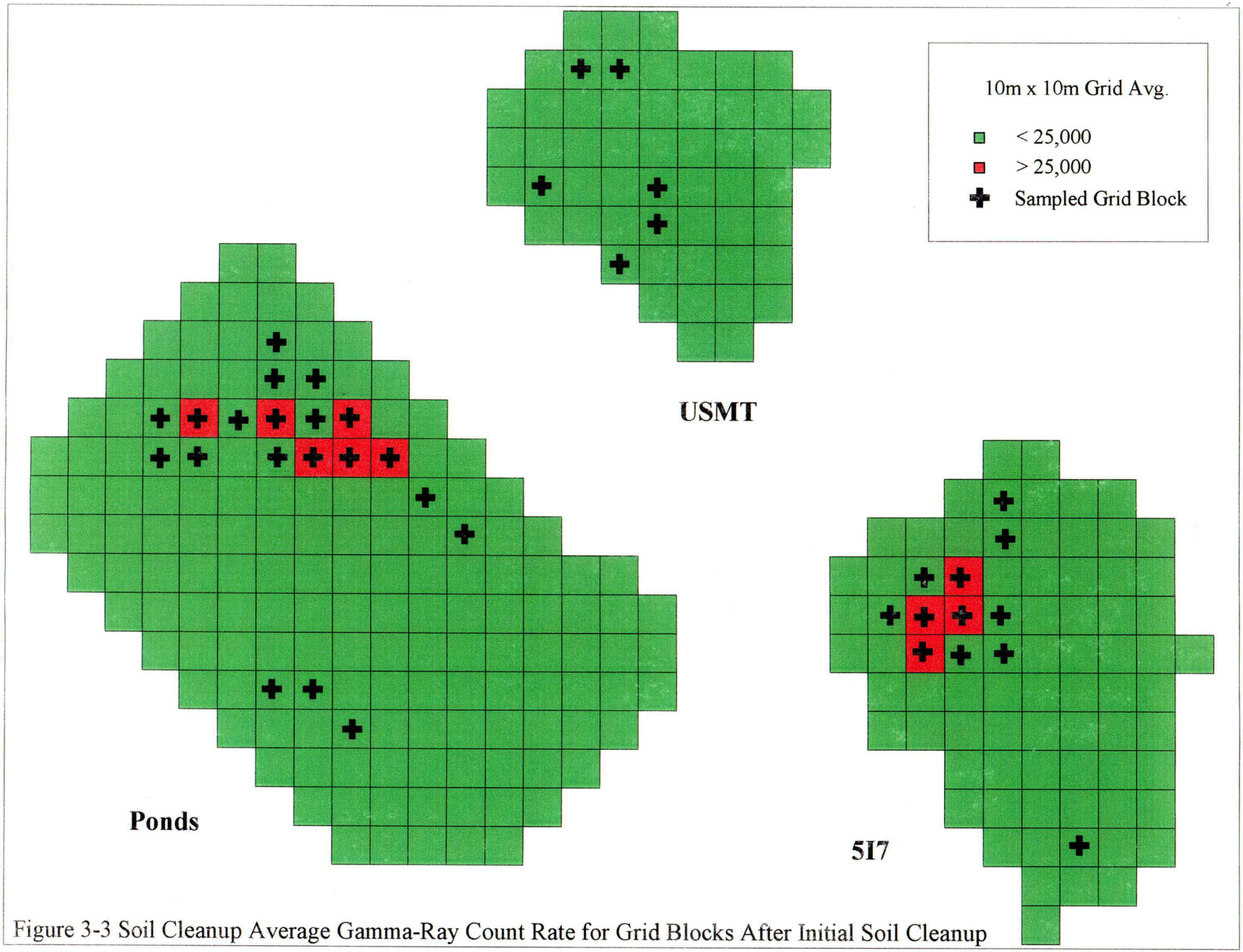

Figure 3-3 Soil Cleanup Average Gamma-Ray Count Rate for Grid Blocks After Initial Soil Cleanup

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Table 3-1 Final Soil Sample Verification Data for Grid Blocks

	Sample ID	U-nat Conc. (pCi/g)	Ra-226 Conc. (pCi/g)	10m x 10m Average Gamma Count Rate (cpm)	Range of Exposure Rates at Composite Sample Locations (μR/hr)		Sum of Fractions
USMT	B06H [1]	3.1	3.7	19,272	14	30	0.35
	B11A	10.9	4.9	15,996	16	20	0.64
	B06E	7.5	4.6	16,311	15	18	0.56
	B01D	6.9	6.1	17,098	17	22	0.85
	A05F	10.0	4.7	17,020	16	24	0.59
	A10E	3.3	1.7	15,971	14	20	-0.05
517	D03B	65.4	3	22,632	16	28	0.62
	B23I	7.9	2.2	23,331	16	21	0.08
	D03C-V2	53.1	1.3	21,563	22	45	0.20
	D03F	12.7	3.9	28,892	20	34	0.45
	D04D [2]	30.9	4.1	24,379	20	26	0.61
	D04E-V2	21.7	2.1	21,490	20	46	0.15
	D04A	21.0	2.5	37,460	20	28	0.23
	B24G	9.0	3.3	27,091	15	65	0.31
	D04B	17.1	3.1	24,741	18	32	0.32
	B24E	34.5	1.6	21,776	15	21	0.14
	B24B	10.0	1.6	22,631	15	25	-0.03
	D15A	6.2	4.7	24,316	16	24	0.57
PONDS	A13G	11.8	0.9	22,230	16	23	-0.15
	A18A	58.7	2	24,952	17	34	0.38
	A18B	14.8	1	21,736	14	30	-0.11
	A18E	44.0	1.2	23,973	18	32	0.12
	A18F	11.4	0.8	27,345	16	22	-0.18
	A18I	43.5	1.2	28,641	20	30	0.12
	A19G	7.2	1	31,019	16	23	-0.17
	A19H	17.3	1.6	21,646	17	28	0.02
	A24B	33.6	2.9	24,203	17	40	0.39
	A24F	10.8	1.5	24,771	19	28	-0.04
	A18H [3]	39.4	1.8	25,043	18	38	0.21
	A18G	24.0	1.4	22,616	15	32	0.03
	A18D-V2	25.7	1.1	20,190	18	180	-0.02
	A17F	59.0	1.4	21,924	15	120	0.26
	A17H	51.5	2.1	22,884	16	40	0.35
	A17E	28.4	1.1	26,072	18	25	0.00
	A17G	81.2	2.1	24,254	17	40	0.55
	A17D	33.2	1.2	21,682	14	42	0.05
	C08C	4.3	3	22,646	14	38	0.22
	C03H	4.2	2.2	23,156	14	21	0.05
	C03G [4]	5.6	4.9	22,692	13	50	0.60

Notes:

(1) Duplicate samples sent for analysis. Results were 4.6 & 4.1 mg/kg U-nat and 3.1 & 3.7 pCi/g Ra-226.

(2) Duplicate samples sent for analysis. Results were 39.5 & 45.6 mg/kg U-nat and 3.7 & 4.1 pCi/g Ra-226.

(3) Duplicate samples sent for analysis. Results were 58.2 & 55.8 mg/kg U-nat and 1.3 & 1.8 pCi/g Ra-226.

(4) Duplicate samples sent for analysis. Results were 7.8 & 8.2 mg/kg U-nat and 2.8 & 4.9 pCi/g Ra-226.

Table 3-2 Final Soil Verification Data

Area	Sample ID	U-nat Concentration (pCi/g)	Ra-226 Conc. (pCi/g)	Average Gamma Count Rate (cpm)	Range of Exposure Rates at Composite Sample Locations (cpm)		Sum of Fractions
Surface Soil Contamination							
USMT Foundation	South Half	19.9	1.7	15,968	13211	20602	0.06
USMT Foundation	North Half	1.2	1.2	15,721	15060	21432	-0.17
Surface Contamination							
517 Pond No. 1	E&S Trench	11.9	1.4	19,349	17262	26900	-0.05
	W&N Trench			19,287			
	2 Middle Trenches			18,932			
517 Pond No. 2	E&S Trench			17,070			
	W&N Trench			17,624			
	2 Middle Trenches			17,731			
517 Pond No. 3	Trench			15,343			
Subsurface Soil Contamination (subsurface cleanup criteria apply)							
Excavation Pits	5I7 Pit 1-A	9.3	2.5	22,253			0.07
	5I7 Pit 1-B	6.4	2.3	22,222			0.04
	Pit 2	2.3	2.4	20,900			0.04
	Pit 3	20.8	10	36,987			0.85

Table 3-3 Interlaboratory Comparison of Soil Sample Results

Sample Number	Energy Laboratories, Inc.				Jordan Laboratories, Inc.*			
	U-nat (pCi/g)		Ra-226 (pCi/g)		U-nat (pCi/g)		Ra-226 (pCi/g)	
	value	standard dev.	value	standard dev.	value	standard dev.	value	standard dev.
E&S Trench	11.9	NA	1.4	0.1	12	NA	2.3	0.1
C03G	8.2	NA	4.9	0.2	8.2	NA	4.9	0.3
A18H	58.2	NA	1.3	0.1	55.6	NA	1.8	0.2
B06H	4.57	NA	2.8	0.2	4.1	NA	3.7	0.3
D04D	39.5	NA	3.7	0.2	45.6	NA	4.1	0.3

* All but the first sample was analyzed by Enviro.Test Laboratories LLC (Casper, WY) which is no longer in business.

Attachment 1

Initial Post-Remediation Gamma Survey Data

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
A05C	1240218.2	401741.1	37	14099.3	11875	17378
A05E	1240184.9	401707.8	16	14468.6	12168	16632
A05F	1240184.9	401741.1	29	17020.2	13992	22148
A05G	1240151.6	401674.5	8	13198.5	12185	13852
A05H	1240151.6	401707.8	30	13506.8	11691	15017
A05I	1240151.6	401741.1	26	15857.4	14486	18392
A10A	1240118.2	401674.5	25	13189.1	11512	14678
A10B	1240118.2	401707.8	27	13713.1	12106	18520
A10C	1240118.2	401741.1	29	15533.7	13686	17161
A10D	1240084.9	401674.5	13	13790.5	12685	15146
A10E	1240084.9	401707.8	34	15971.4	14076	19348
A10F	1240084.9	401741.1	40	15186.6	13745	16651
A10H	1240051.6	401707.8	7	14723.1	13345	16080
A10I	1240051.6	401741.1	28	14941.3	13355	16786
A12C	1240018.2	401441.1	7	19530.3	17244	21795
A12E	1239984.9	401407.8	9	15486.9	14518	16630
A12F	1239984.9	401441.1	41	18018.5	13176	25617
A12G	1239951.6	401374.5	8	13710.1	12624	15273
A12H	1239951.6	401407.8	33	15011.6	13138	18289
A12I	1239951.6	401441.1	47	19242.0	14238	29040
A13A	1240018.2	401474.5	27	15335.6	13658	23226
A13D	1239984.9	401474.5	50	16940.5	13137	21717
A13E	1239984.9	401507.8	12	17884.5	14483	27654
A13G	1239951.6	401474.5	37	22230.5	15619	29458
A13H	1239951.6	401507.8	44	15431.6	13317	20291
A13I	1239951.6	401541.1	22	14528.8	12660	16151
A16C	1239918.2	401341.1	12	13078.7	11830	14205
A16E	1239884.9	401307.8	8	13978.9	12795	19446
A16F	1239884.9	401341.1	36	13662.4	11646	18094
A16G	1239851.6	401274.5	12	12967.9	11119	14561
A16H	1239851.6	401307.8	44	13861.0	11697	22546
A16I	1239851.6	401341.1	32	14745.3	12925	22632
A17A	1239918.2	401374.5	32	14253.2	11805	18501
A17B	1239918.2	401407.8	24	18001.6	14055	24706
A17C	1239918.2	401441.1	34	20442.2	16819	24366
A17D	1239884.9	401374.5	35	21681.5	12749	33492
A17E	1239884.9	401407.8	24	26072.0	18766	33331
A17F	1239884.9	401441.1	36	21923.6	17044	29759
A17G	1239851.6	401374.5	37	24253.5	15595	33871
A17H	1239851.6	401407.8	33	22883.8	17319	35141
A17I	1239851.6	401441.1	38	21505.3	17051	31385
A18A	1239918.2	401474.5	41	24951.9	18706	31731
A18B	1239918.2	401507.8	42	21736.3	13768	29230
A18C	1239918.2	401541.1	35	16496.7	13689	28506
A18D	1239884.9	401474.5	61	25282.4	19011	31614

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
A18E	1239884.9	401507.8	48	23972.5	17767	37234
A18F	1239884.9	401541.1	77	27345.2	15273	42158
A18G	1239851.6	401474.5	65	22615.7	16417	32331
A18H	1239851.6	401507.8	38	25043.4	19430	32349
A18I	1239851.6	401541.1	46	28641.3	19367	50025
A19A	1239918.2	401574.5	24	14644.3	12533	18671
A19D	1239884.9	401574.5	61	20315.2	14431	34383
A19E	1239884.9	401607.8	28	16050.7	13006	19455
A19G	1239851.6	401574.5	51	31019.0	15567	48507
A19H	1239851.6	401607.8	60	21645.9	14473	36131
A19I	1239851.6	401641.1	29	16257.3	14025	21323
A21A	1239818.2	401274.5	68	13445.9	12023	15160
A21B	1239818.2	401307.8	54	13571.9	12083	15020
A21C	1239818.2	401341.1	27	13845.0	11919	16053
A21D	1239784.9	401274.5	44	13829.1	12029	15448
A21E	1239784.9	401307.8	63	13543.7	11779	15697
A21F	1239784.9	401341.1	62	13696.5	11693	15744
A21H	1239751.6	401307.8	43	13566.3	11903	15390
A21I	1239751.6	401341.1	67	13720.2	11944	16098
A22A	1239818.2	401374.5	19	16125.5	13712	21450
A22B	1239818.2	401407.8	29	18886.2	13999	26389
A22C	1239818.2	401441.1	22	20502.1	15086	28552
A22D	1239784.9	401374.5	36	13575.9	11730	15650
A22E	1239784.9	401407.8	23	15067.0	12569	17414
A22F	1239784.9	401441.1	23	15737.3	13667	21737
A22G	1239751.6	401374.5	49	13528.6	11527	15317
A22H	1239751.6	401407.8	33	13623.4	12368	15552
A22I	1239751.6	401441.1	20	14307.4	12731	15997
A23A	1239818.2	401474.5	34	19039.3	15350	25355
A23B	1239818.2	401507.8	20	21015.3	16397	27990
A23C	1239818.2	401541.1	25	18499.5	14824	32046
A23D	1239784.9	401474.5	35	17726.7	14007	24060
A23E	1239784.9	401507.8	23	17531.6	13641	26854
A23F	1239784.9	401541.1	33	16430.8	14415	18982
A23G	1239751.6	401474.5	44	15266.3	13323	18761
A23H	1239751.6	401507.8	40	15510.7	13680	18497
A23I	1239751.6	401541.1	25	14878.0	13564	17086
A24A	1239818.2	401574.5	41	21293.4	15090	35036
A24B	1239818.2	401607.8	35	24202.7	14648	36470
A24C	1239818.2	401641.1	31	19866.0	15326	32179
A24D	1239784.9	401574.5	23	16413.6	14109	18976
A24E	1239784.9	401607.8	30	20286.9	15611	26789
A24F	1239784.9	401641.1	34	24770.6	15690	31888
A24G	1239751.6	401574.5	23	15958.9	14219	19816
A24H	1239751.6	401607.8	19	18828.4	15975	22690

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
A24I	1239751.6	401641.1	38	15704.9	12978	23356
A25A	1239818.2	401674.5	32	15561.0	13341	19190
A25D	1239784.9	401674.5	46	16649.5	12191	28958
A25E	1239784.9	401707.8	42	14544.0	13015	19235
A25G	1239751.6	401674.5	50	14235.2	12102	17555
A25H	1239751.6	401707.8	44	14358.8	12600	16038
A25I	1239751.6	401741.1	52	14754.7	13087	31869
B01A	1240218.2	401774.5	24	14494.6	12960	16608
B01B	1240218.2	401807.8	21	14558.3	13171	15765
B01D	1240184.9	401774.5	46	17098.0	14007	25833
B01E	1240184.9	401807.8	56	14759.3	12570	18150
B01F	1240184.9	401841.1	44	13695.3	11865	15275
B01G	1240151.6	401774.5	24	15559.3	14063	17365
B01H	1240151.6	401807.8	28	15195.5	13290	17145
B01I	1240151.6	401841.1	41	13590.0	11771	15708
B02D	1240184.9	401874.5	35	13908.0	12043	15189
B02E	1240184.9	401907.8	14	13803.8	12962	15304
B02G	1240151.6	401874.5	33	13769.7	12023	15643
B02H	1240151.6	401907.8	32	13512.4	12047	14961
B02I	1240151.6	401941.1	14	13080.6	11703	13972
B06A	1240118.2	401774.5	37	15252.7	13088	17350
B06B	1240118.2	401807.8	34	13991.8	11030	16579
B06C	1240118.2	401841.1	43	11835.9	9071	16452
B06D	1240084.9	401774.5	26	14645.3	13130	16855
B06E	1240084.9	401807.8	45	16310.6	10287	38655
B06F	1240084.9	401841.1	50	12705.7	8596	18114
B06G	1240051.6	401774.5	25	15499.5	12543	17262
B06H	1240051.6	401807.8	40	19271.6	12523	40170
B06I	1240051.6	401841.1	31	15152.8	12603	25975
B07A	1240118.2	401874.5	53	14343.8	9295	36696
B07B	1240118.2	401907.8	36	13736.3	12501	15732
B07C	1240118.2	401941.1	9	13170.6	11684	14721
B07D	1240084.9	401874.5	41	13149.2	9219	17733
B07E	1240084.9	401907.8	38	13528.9	12475	15217
B07G	1240051.6	401874.5	33	13660.9	12124	15425
B07H	1240051.6	401907.8	31	13635.8	11660	15251
B11A	1240018.2	401774.5	30	15996.1	13033	23859
B11B	1240018.2	401807.8	30	14527.4	12971	16590
B11C	1240018.2	401841.1	29	13718.9	12097	15053
B11E	1239984.9	401807.8	33	14196.0	11883	16149
B11F	1239984.9	401841.1	36	13523.2	11432	15272
B11I	1239951.6	401841.1	20	13480.7	11929	14504
B12A	1240018.2	401874.5	38	13162.1	11884	15009
B12B	1240018.2	401907.8	23	13420.0	11790	14786
B12D	1239984.9	401874.5	45	13300.1	11936	14970

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
B12E	1239984.9	401907.8	14	13455.2	12001	15360
B12G	1239951.6	401874.5	50	13244.0	11252	15144
B19H	1239851.6	402107.8	46	16765.2	13202	27401
B19I	1239851.6	402141.1	17	16542.2	14917	19869
B21G	1239751.6	401774.5	11	14746.1	13308	16225
B23E	1239784.9	402007.8	10	15015.2	13500	16715
B23F	1239784.9	402041.1	34	15855.6	13595	19279
B23G	1239751.6	401974.5	7	15028.0	13824	17912
B23H	1239751.6	402007.8	74	17398.4	13589	25108
B23I	1239751.6	402041.1	79	23331.0	14573	111123
B24A	1239818.2	402074.5	28	15516.9	13863	18948
B24B	1239818.2	402107.8	69	22631.4	14203	60017
B24C	1239818.2	402141.1	42	19223.1	14523	40285
B24D	1239784.9	402074.5	29	16526.9	14425	20379
B24E	1239784.9	402107.8	20	21775.6	15199	42534
B24F	1239784.9	402141.1	23	16878.7	15721	19084
B24G	1239751.6	402074.5	47	27091.1	15718	60335
B24H	1239751.6	402107.8	24	20559.6	16433	36987
B24I	1239751.6	402141.1	33	17576.8	14524	21879
B25A	1239818.2	402174.5	38	16448.8	13885	18897
B25B	1239818.2	402207.8	21	15016.4	13391	16662
B25D	1239784.9	402174.5	23	15975.1	13863	17646
B25E	1239784.9	402207.8	31	14726.3	12953	17261
B25F	1239784.9	402241.1	28	14360.0	12629	16225
B25G	1239751.6	402174.5	17	16161.0	14393	17416
B25H	1239751.6	402207.8	20	15321.5	13852	17046
B25I	1239751.6	402241.1	28	14281.5	13024	15697
C01C	1239718.2	401341.1	30	13389.3	12001	15397
C02A	1239718.2	401374.5	69	13713.3	12132	15649
C02B	1239718.2	401407.8	46	13527.7	12134	16137
C02C	1239718.2	401441.1	43	13948.6	12451	16133
C02D	1239684.9	401374.5	27	13539.3	12494	15376
C02E	1239684.9	401407.8	48	13730.5	12145	15608
C02F	1239684.9	401441.1	54	13887.6	11983	18030
C02H	1239651.6	401407.8	23	13799.5	12243	15335
C02I	1239651.6	401441.1	40	13877.9	12110	16111
C03A	1239718.2	401474.5	54	14842.7	12871	17856
C03B	1239718.2	401507.8	28	14903.6	12684	16805
C03C	1239718.2	401541.1	16	15230.1	13993	17093
C03D	1239684.9	401474.5	48	18146.9	13245	37591
C03E	1239684.9	401507.8	28	14853.8	12631	19190
C03F	1239684.9	401541.1	34	14469.7	12488	17753
C03G	1239651.6	401474.5	44	22692.4	13247	38339
C03H	1239651.6	401507.8	52	23156.0	14664	35127
C03I	1239651.6	401541.1	50	16648.0	12975	28165

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
C04A	1239718.2	401574.5	25	16558.6	13108	19178
C04B	1239718.2	401607.8	29	14018.8	12726	15564
C04C	1239718.2	401641.1	35	14182.4	12251	16720
C04D	1239684.9	401574.5	32	13909.1	12389	16060
C04E	1239684.9	401607.8	39	14020.7	12582	16924
C04F	1239684.9	401641.1	31	14083.8	12291	15833
C04G	1239651.6	401574.5	34	13799.8	12284	16809
C04H	1239651.6	401607.8	45	14134.7	12242	16275
C04I	1239651.6	401641.1	45	13828.5	12196	15595
C05A	1239718.2	401674.5	42	14453.1	12538	16323
C05B	1239718.2	401707.8	64	15402.3	12648	25072
C05C	1239718.2	401741.1	76	15732.8	12896	27762
C05D	1239684.9	401674.5	55	13934.7	12062	16086
C05E	1239684.9	401707.8	80	14491.4	11478	18975
C05F	1239684.9	401741.1	99	14900.0	12880	20859
C05G	1239651.6	401674.5	33	13755.1	12346	15404
C05H	1239651.6	401707.8	61	13775.4	11853	16875
C05I	1239651.6	401741.1	73	14002.9	12266	16185
C07C	1239618.2	401441.1	23	13761.3	12782	15580
C08A	1239618.2	401474.5	47	15131.6	12709	20073
C08B	1239618.2	401507.8	44	20017.8	13373	27510
C08C	1239618.2	401541.1	49	22645.7	14265	34345
C08D	1239584.9	401474.5	27	14534.7	12467	16597
C08E	1239584.9	401507.8	37	16105.4	12247	25186
C08F	1239584.9	401541.1	35	17320.5	13105	29088
C08H	1239551.6	401507.8	24	14664.4	12179	16923
C08I	1239551.6	401541.1	36	13898.6	12524	16091
C09A	1239618.2	401574.5	36	15536.0	12098	26272
C09B	1239618.2	401607.8	32	13794.5	11918	16236
C09C	1239618.2	401641.1	35	13775.7	12112	16069
C09D	1239584.9	401574.5	44	15055.0	12626	26008
C09E	1239584.9	401607.8	47	14122.9	12122	15791
C09F	1239584.9	401641.1	50	13731.4	11063	16152
C09G	1239551.6	401574.5	37	14702.5	12672	18053
C09H	1239551.6	401607.8	40	15280.1	12549	19487
C09I	1239551.6	401641.1	73	13964.2	11630	15840
C10A	1239618.2	401674.5	34	13975.6	12180	15581
C10B	1239618.2	401707.8	39	13446.5	11693	15244
C10C	1239618.2	401741.1	65	14178.8	11653	21888
C10D	1239584.9	401674.5	70	13471.3	11581	15959
C10E	1239584.9	401707.8	57	13254.6	11572	15191
C10F	1239584.9	401741.1	12	12867.1	12060	13638
C10G	1239551.6	401674.5	68	13381.3	11985	15649
C10H	1239551.6	401707.8	19	13040.5	11601	14476
C13C	1239518.2	401541.1	11	13954.9	12828	15802

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
C14A	1239518.2	401574.5	28	13872.3	12242	15501
C14B	1239518.2	401607.8	40	14108.0	12667	17577
C14C	1239518.2	401641.1	77	13712.5	12031	17963
C15A	1239518.2	401674.5	63	13240.0	11582	15071
D01A	1239718.2	401774.5	80	14759.2	12698	16711
D01B	1239718.2	401807.8	9	14503.6	12449	18766
D01D	1239684.9	401774.5	60	14776.4	12796	17951
D01E	1239684.9	401807.8	99	15206.5	12361	18952
D01G	1239651.6	401774.5	73	15050.9	12435	23429
D01H	1239651.6	401807.8	7	13964.9	12971	15753
D03A	1239718.2	401974.5	29	16876.9	14142	23992
D03B	1239718.2	402007.8	89	22632.5	15869	29148
D03C	1239718.2	402041.1	70	35524.1	17463	120116
D03D	1239684.9	401974.5	22	17442.5	14086	22013
D03E	1239684.9	402007.8	38	19225.4	13634	26772
D03F	1239684.9	402041.1	58	28892.8	20749	59795
D03H	1239651.6	402007.8	41	18716.3	14223	26695
D03I	1239651.6	402041.1	46	20525.5	15963	26457
D04A	1239718.2	402074.5	24	37460.2	16435	101676
D04B	1239718.2	402107.8	36	24740.6	16531	59579
D04C	1239718.2	402141.1	48	17605.1	15365	23508
D04D	1239684.9	402074.5	38	24378.7	17476	32249
D04E	1239684.9	402107.8	54	21191.2	16917	33682
D04F	1239684.9	402141.1	52	18218.8	13890	24380
D04G	1239651.6	402074.5	25	18895.8	15585	27874
D04H	1239651.6	402107.8	25	18863.2	16396	23288
D04I	1239651.6	402141.1	53	20823.5	15013	32976
D05A	1239718.2	402174.5	26	16207.4	14379	19093
D05B	1239718.2	402207.8	22	15278.0	12906	17255
D05C	1239718.2	402241.1	43	15569.2	13098	20900
D05D	1239684.9	402174.5	26	15870.0	14542	17443
D05E	1239684.9	402207.8	21	15393.1	13292	16931
D05F	1239684.9	402241.1	31	17972.6	13153	51191
D05G	1239651.6	402174.5	27	18110.1	14375	27016
D05H	1239651.6	402207.8	29	16306.3	13735	19177
D05I	1239651.6	402241.1	34	17848.3	14207	26059
D06A	1239618.2	401774.5	12	16700.0	13791	20219
D08B	1239618.2	402007.8	9	14677.9	12896	16547
D08C	1239618.2	402041.1	29	16575.8	13217	19820
D09A	1239618.2	402074.5	28	17374.0	14288	19086
D09B	1239618.2	402107.8	35	18787.3	14776	31796
D09C	1239618.2	402141.1	45	20452.9	16241	42299
D09D	1239584.9	402074.5	34	18771.4	15450	23145
D09E	1239584.9	402107.8	21	19355.0	16217	33418
D09F	1239584.9	402141.1	32	18283.2	15232	38938

Grid Block Data

Grid Block ID	NW Corner Coordinates NAD83 Wyoming East		Number of Readings	Average Count Rate (cpm)	Minimum Count Rate (cpm)	Maximum Count Rate (cpm)
	Northing (feet)	Easting (feet)				
D09G	1239551.6	402074.5	7	18405.9	14689	23355
D09H	1239551.6	402107.8	32	17613.4	14118	22167
D09I	1239551.6	402141.1	43	17321.4	14053	20184
D10A	1239618.2	402174.5	33	18283.5	15881	21804
D10B	1239618.2	402207.8	38	16129.0	14068	19858
D10C	1239618.2	402241.1	38	15223.3	13207	19933
D10D	1239584.9	402174.5	34	17574.3	15320	22916
D10E	1239584.9	402207.8	55	17476.2	14866	27908
D10F	1239584.9	402241.1	18	18674.2	14400	24790
D10G	1239551.6	402174.5	40	19063.1	15038	26830
D10H	1239551.6	402207.8	60	16895.4	13772	23301
D10I	1239551.6	402241.1	32	17162.9	14136	21603
D14B	1239518.2	402107.8	19	17268.1	14696	20992
D14C	1239518.2	402141.1	41	20216.4	16520	26344
D14F	1239484.9	402141.1	46	17616.0	14647	24777
D14I	1239451.6	402141.1	9	15552.4	14489	16499
D15A	1239518.2	402174.5	61	24316.5	16262	35361
D15B	1239518.2	402207.8	67	18619.9	13611	34033
D15C	1239518.2	402241.1	13	15242.9	13611	17057
D15D	1239484.9	402174.5	95	19564.1	14897	29158
D15E	1239484.9	402207.8	39	16795.6	13649	24722
C01D	1239684.9	402274.5	14	17137.1	14334	21608