Exhibit 3

Cleanup Status Report and Data Package for

Survey Unit 3

Winchester Engineering and Analytical Center

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Survey Unit 3

Winchester Engineering and Analytical Center
109 Holton Street
Winchester, MA 01890

DRAFT DOCUMENT (r0_a)

Prepared for
Winchester Engineering and Analytical Center
Food and Drug Administration

Contract Number
HHSF223201710022C

July 2018

North Wind Site Services
2800 Solway Road
Knoxville, TN 37931

Contents

Figures and Tables

List of Abbreviations

Abbreviation	Description
AF	Area Factor
ALARA	As Low as Reasonable Achievable
bgs	below ground surface
CG	Cleanup Goal [ALARA]
CG_{EMC}	Cleanup Goal, Elevated Measurement Criteria
CG_{W}	Cleanup Goal, unit wide or average concentration
DCGL	Derived Concentration Guideline Value
$DCGL_{EMC}$	DCGL, Elevated Measurement Criteria
$DCGL_{W}$	DCGL, unit wide or average value criteria
EPA	Environmental Protection Agency
FS	Final Status
FSSP	Final Status Survey Plan
HOG	High Outdoor Gamma
MARSSIM	Multi-Agency Radiation survey and site Investigation Manual
MEI	Maximally Exposed Individual
NaI	Sodium Iodide
NRC	Nuclear Regulatory Commission
Ra-226	Radium 226
ROC	Radionuclide of Concern
SOF	Sum of Fraction
SU3	Survey Unit 1
Th-230	Thorium 230
Tot-U	Total Uranium
UCL	Upper Confidence Level
U-Nat	Nature Uranium
U-Tot	Total Uranium
U-Total	Total Uranium
WEAC	Winchester Engineering and Analytical Center

List of Symbols

Δ	Unit Wide, Average Residual Activity
Σ	Sigma, standard error
A	Critical Value for Wilcox Rank Sum Test
B	False negative error parameter
μ	micro (1/1000)

List of Units

cm	centimeter
cm^2	centimeters square
cpm	counts per minute
dpm	disintegrations per minute
k	kilo, 1000
m/second	meter per second
m^2	Meter square
mrem/hr	millirem per hour
pCi/g	pico curie per gram
uR/h	micro roentgen per hour
urem/hr	micro rem per hour

Survey Unit 3 Assessment Summary

The radiological assessment of SU3 indicates that the unit meets the 25 mrem/year DCGLw remediation criterion. Additionally, the ALARA cleanup goal (CGw) criterion of 10.4 mrem/yr has also been achieved. The average residual total effective dose for the unit is calculated at 2.96 mrem/year to the maximal exposure individual (MEI). Some small, spotty, elevated areas remained following cleanup which are adequately accounted for within the systematic sample set. Extensive trenching, post remediation, performed across SU3 indicates that it unlikely that buried contamination remains within the unit.

SU3 Summary Statistics

- Unit Average Net Sum of Fraction (SOF) is < Unity for the DCGLw and is calculated as 0.12 resulting in a residual total effective dose estimate of 2.96 mrem/year.
- The Wilcox Rank Sum was not required since all samples were < the DCGLW, thus the Null Hypothesis is rejected and its alternative, that the unit average concentration value is < DCGLw, is accepted.
- All Systematic Samples are < Unity for the DCGLw (Maximum Net SOF found at systematic sample location WEAC-FS-SU3-09 at 0.46).
- All Systematic Samples are < the CGw ALARA values.
- All Judgmental samples are < the DCGLw and the CGw values.
- The one meter gamma dose rates are < the CGw value across the entire unit except at a few small areas where the dose rate ranged up to 20 µR/h. Thus the ALARA objective for the unit is achieved.
- A retrospective assessment of the relative shift (Δ/σ) based on the systematic sample results demonstrates that sample quantity is adequate to assess results with adequate statistical power.

All collected and assessed evidence indicates that the Null Hypothesis (that the unit does not meet the DCGLw criterion) should be rejected and its alternative (that the survey unit does meet criterion) is accepted. SU3 Systematic Sample Summary Data is provided in Table 1.

Table 1. SU3 Systematic Sample Summary Data

	Average	1 σ	$DCGL_W$	Fraction		
Ra-226	1.70	1.15	12	0.142		
Th-230	2.34	4.21	37	0.063		
Total-U	5.60	1.32	560	0.010		
			SOF Sum:	0.21		
			SOF Ref. Area:	0.10		
			Net SOF:	0.12		
SOF in Residual Dose Terms:				**2.96**	mrem/year	

Survey Unit 3 Remediation

Survey Unit 3 (SU3), **Figure 1**, is one of 3 Class I survey units found at the site. The survey unit contained a few small hot spots north of the asphalt that appeared to be surface spills that contaminated the ground down to a foot or two. Just prior to remediation the southern half of the unit was covered in asphalt, by two 60 x 30 foot concrete pads (former East and West Warehouse), and a few smaller concrete pads just outside the warehouses. All coverings were removed prior to remediation.

Two small (a few m^2 each) elevated areas were excavated just north of the form asphalt edge. No significant additional residual contamination was found in this unit.

The survey unit is assessed against derived concentration guideline levels (DCGLw) and, as an ALARA objective, to an additional Cleanup Goal (CGw). The DCGLw is comparable to the NRC 25 mrem/yr effective annual dose limit - the CGw is comparable to an effective annual dose limit of 10.4 mrem/yr.

The CGw is based upon guidance provided by the Environmental Protection Agency (EPA) in Directive No. 9200.4-35P, *Remediation Goals for Radioactively Contaminated CERCLA Site Using the benchmark Dose Cleanup Criteria in 10 CFR 40, Appendix A, I, Criterion 6(6)*: EPA 2000. This directive allows a site to set the dose benchmark remediation goal based on Ra-226 + Ra-228 at 5 pCi/g (surface) and 15 pCi/g (subsurface) for the cleanup of byproduct material. This approach requires licensees to calculate the potential peak effective dose equivalent (excluding radon) to an individual at the site within 1,000 years from exposure to the residual levels allowed under the radium soil standard. The radionuclides of concern being addressed by the Criterion 6(6) rule are thorium, natural uranium, and radium.

As the CGw is essentially equivalent to the State's remedial dose goal it may prove useful to WEAC to demonstrate performance against this objective when practical and thus it is adopted as an ALARA goal. However, survey design strategy and the ultimate determination of if remedial actions have been successful is assessed against the DCGLw values. The radionuclide specific DCGLw and CGw values are provided in **Table 2**.

Table 2. WEAC DCGLw Criteria and ALARA CGw Values (pCi/g)

Radionuclide	DCGLw	ALARA CGw
Ra-226	12	5
Th-230	37	15.6
Total-Uranium	560	233

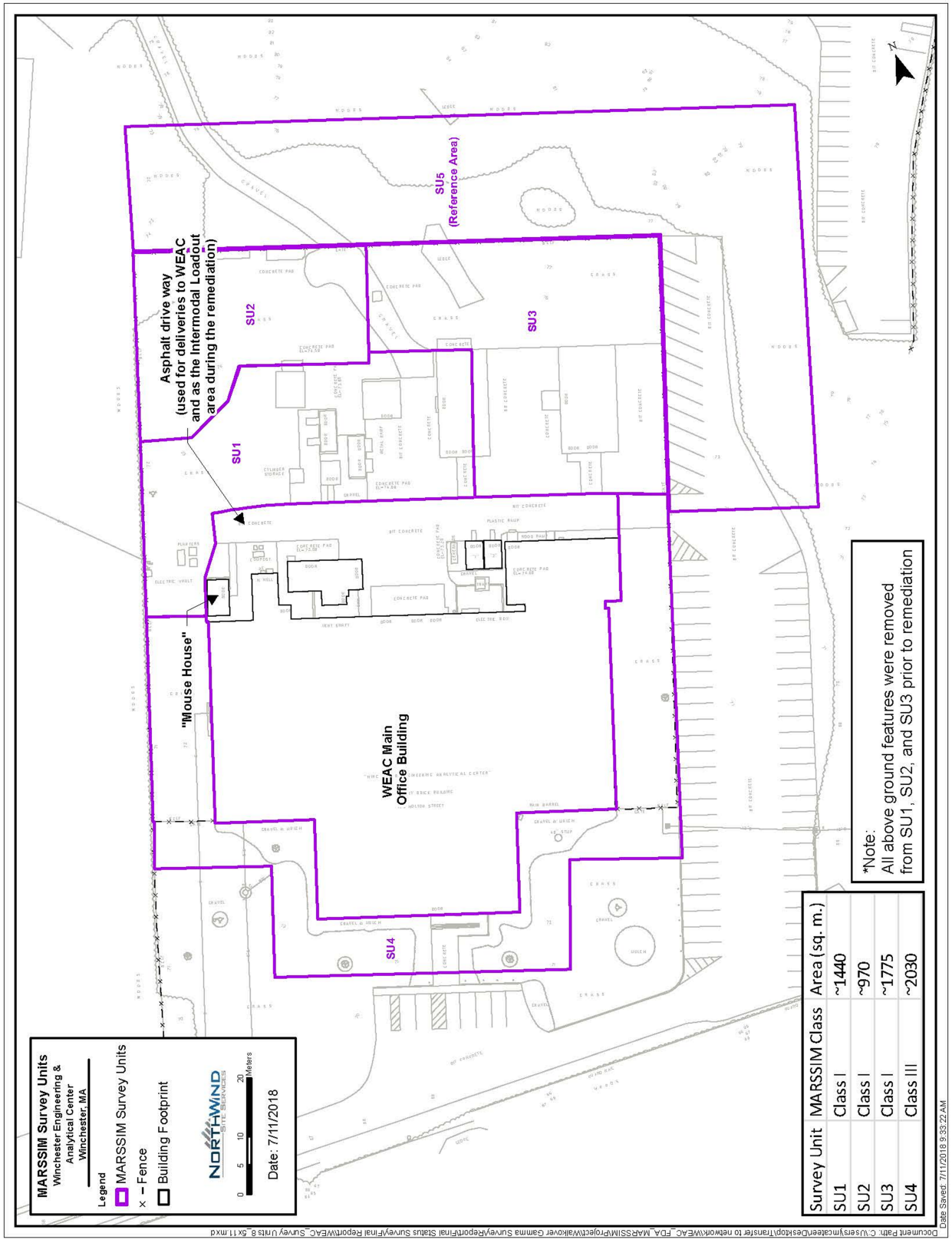

Figure 1. WEAC Survey Units

Survey Unit 3 Evaluation

SU3 is a 1775-m^2, MARSSIM Class I land area found north of the WEAC main office building. During remediation two small separate locations of contamination were found, both along the northern edge of the form asphalt area.

Trenching

All areas were remediated using real-time gamma scanning (2x2 inch NaI detectors) to lead soil removal efforts. Soil samples were collected and analyzed on-site to determine if the survey unit was nearing the site DCGLs. Once it appeared that SU3 was free of residual contamination trenches were dug down to about 1.2 meters (4 feet) bgs to ensure no additional buried material was located on site (see **Figure 2**). The trench spoils were placed next to each trench and gamma scanned for gamma anomalies. Soil samples were collected from each trench spoils pile based upon the highest outdoor gamma anomaly found – if no anomaly was found a composite sample was collected along the length of the trench spoils. The trench spoils samples were sent off site as judgmental samples for isotopic-uranium, isotopic-thorium, and Ra-226 analysis. Trench sample results are provided in **Table 3**. It should be noted the SU3-FS-SU3-049J was actually collected in what would become SU1. This spot was later remediated and a post remediation sample was collected as WEAC-FS-SU1-170.

Table 3. Trench Soil Sample Results

Sample_No	Ra-226	Th-228	Th-230	Th-232	U-234	U-235	U-238	Total-U	ALPHA	BETA
WEAC-FS-SU3-049J	2.12	0.842	2.37	0.753	3.61	0.501	3.13	7.24	23.7	36.4
WEAC-FS-SU3-053J	1.03	0.392	1.44	0.493	1.85	0.415	1.6	3.87		
Sample Descriptions										
049J, SU3, 5 point composite, North Trench Spoils HOG [Note this sample location ended up more in SU1]										
SU3, 5 point composite, South Trench Spoils HOG										

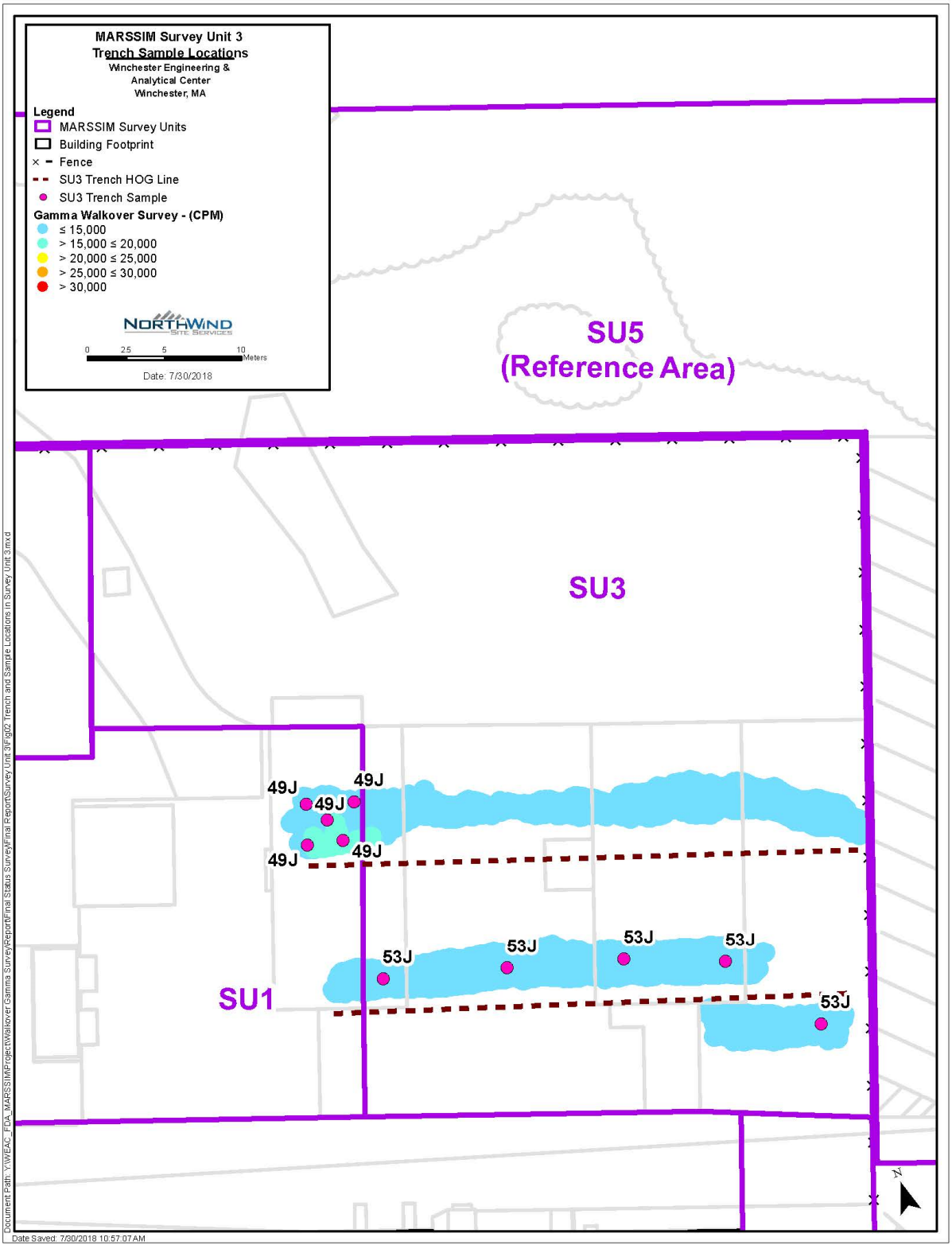

Figure 2. SU3 Trench lines and Trench Soil Sample Locations

Gamma Walkover Scanning

GPS-enabled gamma walkover scans were conducted across the survey unit as areas were cleaned and readied for final assessment. These were performed following the Final Status Survey Plan (FSSP) prepared for the site and consisted of slowly moving the NaI detector across the surface at about 0.5 m/second at a height of 15 cm. Scan paths were approximately 0.5 to 1.0 meters apart. All Class I units were additionally cross walked to ensure full coverage. Gamma walkover survey results are provided in **Figure 3**.

ALARA Dose Rate Assessment

Criteria dose modeling demonstrates that the primary exposure pathway is direct radiation contributing over 95% to dose under the most restrictive exposure scenario (used to set the $DCGL_W$ and CG_W values for each radionuclide). This includes Th-230 which reaches its maximum residual exposure at t=1000 years at which point Ra-226 has significantly ingrown which results in additional direct radiation exposure in 1000 years but is taken into account today.

At the WEAC site an ALARA residual dose rate goal is established at 5.2 uR/h as a unit average. This would equate to 10.4 mrem of residual exposure to an occupation outdoor worker spending 2000 hours in the survey unit. The Reference Area (SU5) average dose rate was measured at 10.8 ± 1.3 (1σ) µR/h. Thus the dose goal is 5.2 + 10.8, or 16 µR/h over the whole of the survey unit with no small area exceeding 25 µR/h.

Dose rates were collected across the whole of SU3 at a height of 1 meter above the surface or from side walls in excavations. These were collected using a NaI 2x2 inch detector which records penetrating radiation in cpm. The count rate data was converted into µR/h using the manufacture's reported nominal exposure rate response in µR/h per cpm; reported as 900 cpm/(µR/h) (Reference Ludlum Instrumentation User's Manual for the Ludlum 44-10 detector). The result of this assessment is provided in **Figure 4**. For SU3, the majority of dose rates were < 16 µR/h and a few small areas ranged up to < 20 µR/h, thus the direct radiation dose CG_W is achieved.

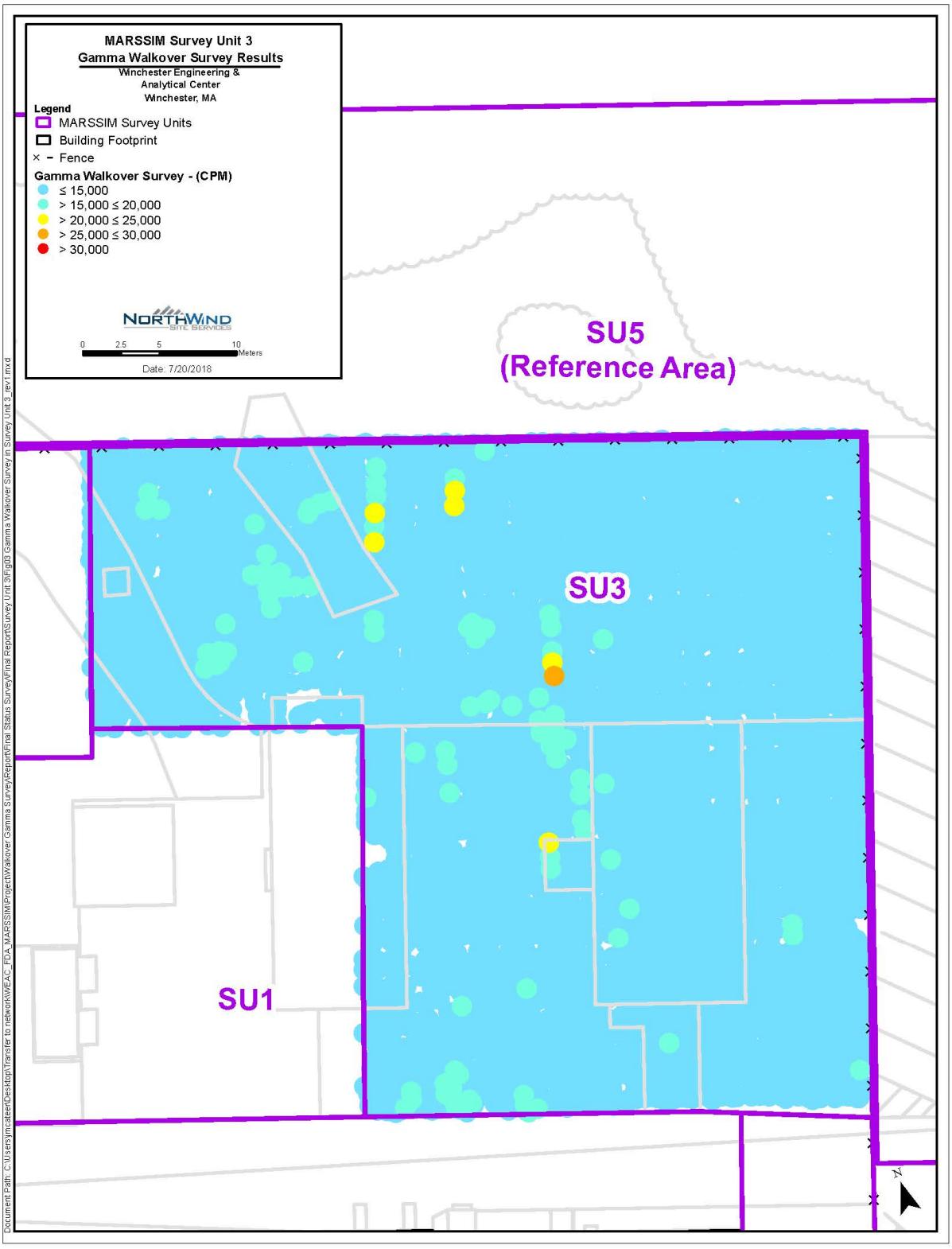

Figure 3. SU3, Gamma Detector (2x2 Inch, NaI) Walkover Survey Results

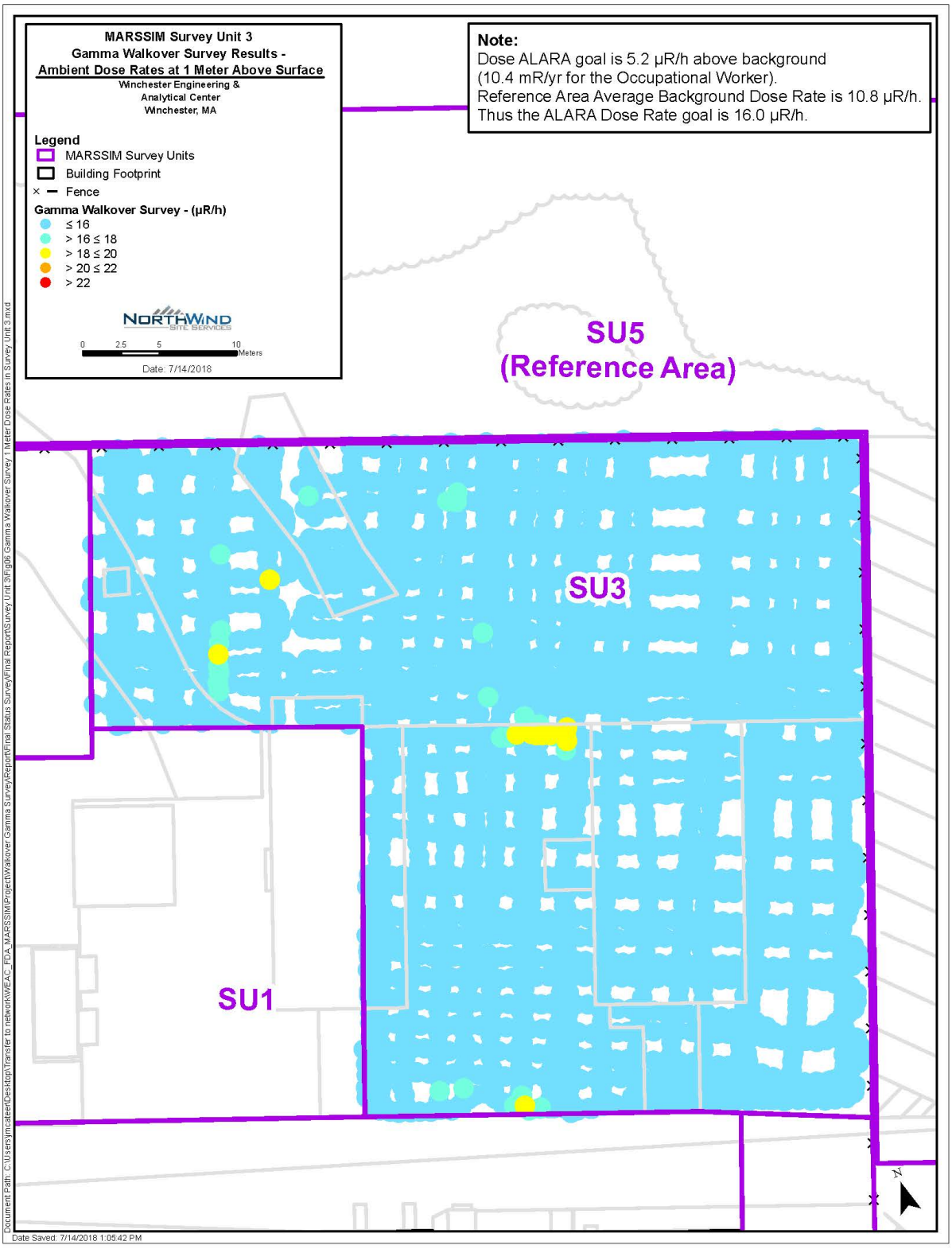

Figure 4. Dose Rate Survey Results for SU3

Reference Area

A Reference Area (the MARSSIM background area) was selected as the area north and east of the impacted area. The Historical Site Assessment (HSA) (WEAC 2017) determined that this area was unlikely to have been impacted by site radiological operations. The Reference Area was assessed as SU5 and found to be consistent with anticipated background conditions for the Boston, MA region; average dose rates were measured at 10.8 ± 1.3 (1 σ) µR/h. Soil sample results were within anticipated background concentration levels (~ 1 ± 1 pCi/g) for the naturally occurring radionuclides of concern (ROC). The Reference Area average SOF against the ROCs is 0.10 ± 0.02 (1 σ). The reference area differed somewhat from the impacted survey units in that the survey unit soil consisted of more backfill material which contained a significant fraction of large rocks (presumably relocated from an off-site backfill site).

The Reference Area is used to perform statistical tests and other comparisons to the survey unit under study when ROCs are found in natural background at significant levels in comparison to the site $DCGL_W$ values. Reference Area (SU5) sample data is provided in **Table 4**.

Table 4. Reference Area (SU5) Systematic Sample Results

Sample ID	Ra-226	Th-228	Th-230	Th-232	U-234	U-235	U-238	Total-U	SOF	ALPHA	BETA
WEAC-FS-SU5-1-105	1.04	1.61	0.82	0.705	0.898	0.204	1.05	2.15	0.11		
WEAC-FS-SU5-2-106	0.931	1.25	0.96	1.15	0.83	0.0584	0.965	1.85	0.11		
WEAC-FS-SU5-3-107	0.799	1.62	1.33	1.41	1.26	0.167	0.831	2.26	0.11	19.7	22.9
WEAC-FS-SU5-4-108	0.772	1.97	0.434	1.34	0.90	0.2	1.8	2.90	0.08	18.7	23.1
WEAC-FS-SU5-5-109	0.85	0.937	0.647	0.923	1.16	0.346	0.961	2.47	0.09		
WEAC-FS-SU5-6-110	0.678	1.5	0.738	0.447	0.807	0.0203	0.734	1.56	0.08		
WEAC-FS-SU5-7-111	0.768	1.3	0.928	0.821	1.04	0.0726	1.3	2.41	0.09		
WEAC-FS-SU5-8-113	0.796	1.42	0.964	0.946	1.02	0.0606	1.27	2.35	0.10	23.1	28.7
WEAC-FS-SU5-9-114	0.724	0.773	1.02	1.03	1.04	0.182	0.811	2.03	0.09		
WEAC-FS-SU5-10-115	0.721	1.49	0.613	0.598	0.507	0.335	0.736	1.58	0.08		
WEAC-FS-SU5-11-116	0.926	1.71	1.02	0.992	1.41	0.0555	1.17	2.64	0.11		
WEAC-FS-SU5-12-117	0.618	0.797	0.318	0.653	0.416	0.0782	0.879	1.37	0.06	19.8	25.6
WEAC-FS-SU5-13-118	1.22	1.14	0.895	0.998	0.935	0.24	0.664	1.84	0.13		
WEAC-FS-SU5-14-119	0.631	0.99	0.746	0.309	1.09	0.243	0.936	2.27	0.08	25.7	35.6
WEAC-FS-SU5-15-121	0.993	1.16	0.87	1.03	0.659	0.222	1.82	2.70	0.11		
WEAC-FS-SU5-16-122	1.02	1.33	0.788	0.546	0.856	0.0959	1.28	2.23	0.11	23.4	26.2
Reference Area Summary	**Ra-226**	**Th-228**	**Th-230**	**Th-232**	**U-234**	**U-235**	**U-238**	**Total-U**		**ALPHA**	**BETA**
Count	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	6.00	6.00
Average	0.84	1.31	0.82	0.87	0.93	0.16	1.08	2.16	0.10	21.73	27.02
SD,n-1	0.17	0.34	0.24	0.31	0.26	0.10	0.35	0.43	0.02	2.74	4.72
1.96SD,n-1	0.33	0.66	0.48	0.61	0.51	0.20	0.69	0.85	0.03	5.36	9.25
Ave + 1.96SD, n-1	1.17	1.97	1.30	1.47	1.43	0.36	1.76	3.01	0.13	27.10	36.27
Initial Assessment:	Reference Area									SOF	Net SOF
Net Residual Average Activity (pCi/g):	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
$DCGL_W$ (25 mrem/y):	12	N/A	37	N/A	N/A	N/A	N/A	560		1	1
Fraction (A/CG):	0.00		0.00					0.00		0.00	0.00
SOF (CGw):	0.00										
SOF ($DCGL_W$) in terms of Dose:	0.00	mrem/y, max dose over next 1000 years									

Systematic and Judgmental Soil Sampling

Systematic soil samples were collected, based upon a random start triangular grid, to provide a non-biased statistical sample set for the survey unit wide (DCGLw) evaluation. One judgmental samples were collected from a small elevated area located in the SW corner of the unit. A test pit was dug to bedrock (about 6 to 7-feet below ground surface) and a sample was collected in the South East (down water-gradient) portion of the unit. The test pit soil sample was collected from soils just above bedrock; the test pit soil was saturated with "perched" water found lying on the bedrock at this location. All systematic and judgmental samples were sent off site for isotopic-uranium, isotopic-thorium, and Ra-226 analysis. Additionally, 4 of these samples were selected for gross alpha/beta analysis. Systematic soil sample locations are provided in **Figure 6**. Judgmental soil sample locations are provided in **Figure 7**.

Systematic Soil Sample Results

Systematic samples were collected at 16 locations based upon a random start, triangular grid. A retrospective calculation of the relative shift (Δ/σ) results in a value of 3.51; since this is > the FSSP design parameter of 1.67 this confirms that the number of samples collected is adequate to demonstrate achievement of this data quality objective. This assessment is performed in **Figure 5**.

Post Sampling, Assessment of Sample Numbers $DCGL_W$								
	Ra-226	Th-228	Th-230	Th-232	U-234	U-235	U-238	U-Total
(1) $(SD/DCGL_W)^2$:	*0.01*		*0.00*					*0.01*
(2) SOF $(SD/DCGL_W)^2$:	*0.02*							
Sqrt of (2):	*0.14*	*Sigma for the Weighted Sum*						
$DCGL_W$ (25 mrem/y):	12		37					560
Post Sampling, Assessment of Sample Numbers against the $DCGL_W$								
Delta = DCGLw - LBGR	0.5	Set at 1/2 the DCGLw per MARSSIM Guidance						
Sigma	0.14	Sigma for the data set, propagated error against unity						
Delta/Sigma	3.51	Relative Shift						
Decision Error	0.05	for alpha and beta errors						
Number of Sample	9	From MARSSIM Table 5.3, Values of N/2 for Use with the WRS Test						
Samples per Unit	16	Number of Samples Actually Collected per WEAC Survey Unit.						
Initial Assessment:	The number of samples collected exceeds that required based on							
	the retrospective calculation, Delta/Sigma = 3.51 which is > 1.67.							

Figure 5. Retrospective Calculation of the Required Number of MARSSIM Samples

Systematic soil sample results are provided in **Table 4**.

Table 5. SU3 Systematic Survey Sample Data

Sample_No	Ra-226	Th-228	Th-230	Th-232	U-234	U-235	U-238	Total-U	ALPHA	BETA
WEAC-FS-SU3-1-054	0.95	1.21	0.79	1.24	1.06	0.24	1.14	2.44		
WEAC-FS-SU3-2-055	1.63	0.99	1.12	0.47	0.93	0.32	1.38	2.63		
WEAC-FS-SU3-3-056	1.22	1.17	1.92	1.12	2.90	0.34	2.68	5.92		
WEAC-FS-SU3-4-057	4.07	0.94	5.58	1.31	5.34	0.73	4.94	11.01	50	39.7
WEAC-FS-SU3-5-058	0.88	1.33	0.94	1.11	1.73	0.59	1.15	3.47		
WEAC-FS-SU3-6-059	4.21	0.74	6.10	1.45	9.99	1.32	8.78	20.09		
WEAC-FS-SU3-7-060	3.13	1.21	4.11	1.24	6.37	0.61	4.78	11.76		
WEAC-FS-SU3-8-062	0.97	1.54	1.76	1.32	1.44	0.49	1.75	3.68	19.9	32.8
WEAC-FS-SU3-9-063	1.21	0.56	1.14	0.71	1.28	0.49	1.72	3.49		
WEAC-FS-SU3-10-064	1.54	0.71	1.56	0.95	2.32	0.57	2.22	5.11		
WEAC-FS-SU3-11-065	1.02	0.71	1.26	0.82	1.56	0.35	1.51	3.42		
WEAC-FS-SU3-12-066	1.08	0.49	1.28	1.02	1.76	0.08	1.54	3.38	18.2	31.1
WEAC-FS-SU3-13-067	0.74	0.32	0.52	0.74	0.88	0.00	1.01	1.89		
WEAC-FS-SU3-14-068	0.91	1.60	2.83	1.51	3.15	0.70	2.27	6.12		
WEAC-FS-SU3-15-070	1.04	1.17	1.31	1.52	1.19	0.90	0.71	2.79		
WEAC-FS-SU3-16-071	2.57	0.84	5.17	1.11	1.34	0.08	0.93	2.35	23.1	24.2
	All results are in pCi/g									
Count	16	16	16	16	16	16	16	16	4	4
Average	1.70	0.97	2.34	1.10	2.70	0.49	2.41	5.60	27.80	31.95
Max	4.21	1.60	6.10	1.52	9.99	1.32	8.78	20.09	50	39.7
Min	0.74	0.32	0.52	0.47	0.88	0.00	0.71	1.89	18.2	24.2

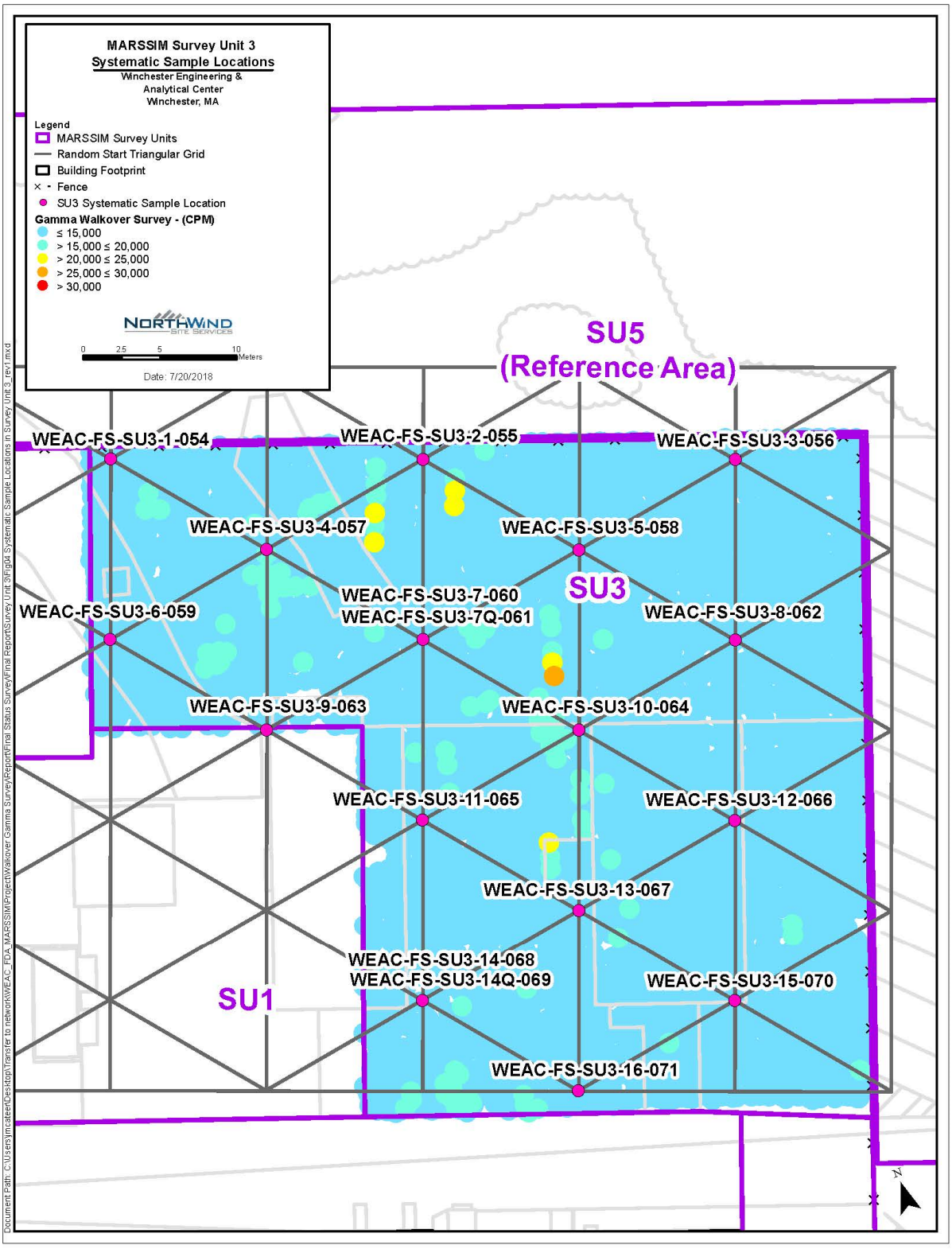

Figure 6. SU3 Systematic Soil Sample Locations

Judgmental Design Modifications

The gamma walkover survey indicated that spotty residual contamination, at just over background, was found sporadically through the western half of the unit. Several of these small locations of contamination were excavated. One location considered to be representative of this spotty, post remediation, residual contamination was samples as WEAC-FS-SU1-150J; see **Table 6**. Additionally two parallel trenches were dug the length of the unit from East to West to confirm that buried contamination would not be found at this location (see Figure 2). A test pit was dug at a select location based at what is believed to be the down gradient of ground water flow through the unit. Saturated soil was found at about 7 feet bgs in a location containing what is believed to be "perched" water (water trapped in a shallow indentation in the bed rock which was encountered at this location). This soil was sampled as WEAC-FS-SU3-079J; see table 6. Judgmental sample location area provided in Figure 7.

Table 6. Judgmental Samples from SU3

Sample_No	Ra-226	Th-228	Th-230	Th-232	U-234	U-235	U-238	U-Total
WEAC-FS-SU3-079J	0.934	1.5	0.718	0.987	0.932	0.185	0.843	1.96
WEAC-FS-SU3-150J	5.48	1.44	8.95	0.665	7.33	1.05	6.94	15.32
Sample Description								
079J, SU3, Test Pit at 7 foot below ground surface (saturated soil just above bedrock).								
150J, Grab Sample at small elevated area, post remediation								

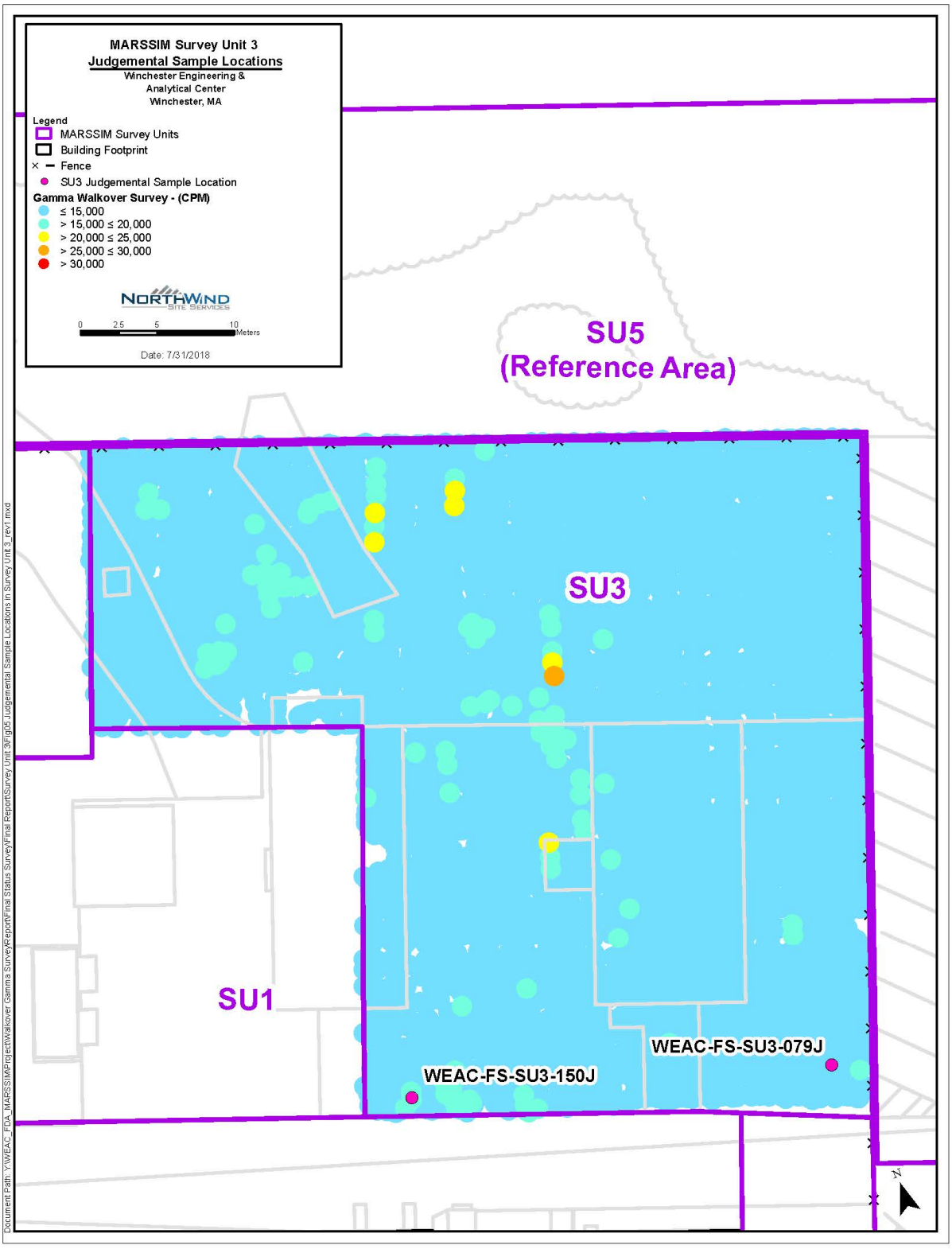

Figure 7. SU3 Judgmental Sample Locations

Assessment Results

The Reference Area average SOF (for the ROCs) in regards to the $DCGL_W$ is 0.10, this value is used to assess "net SOF" results for SU3. SU3 Th-232 and Th-228 results are compared to the Reference Area average 95% UCL to assess if these radionuclides are consistent with background; to be inconsistent with background both Th-232 and Th-228 would need exceed these values.

In SU3 all systematic sample results were below the $DCGL_W$ and the ALARA CG_W. Systematic Sample SU3-06 exhibited the greatest net SOF at 0.46. All sample results are provided in **Table 8**. The average net SOF for the SU3 was 0.12 (e.g., SU3 average SOF [0.21], less the Reference Area SOF [0.10], is 0.12 [apparent error is due to rounding performed in excel which is not accounted for at 2 decimal places as presented in Table 8]). This results in a derived residual dose of 3.23 mrem/yr for a person working within the survey unit. Since one sample exceeded unity for the SOF, the WRS test is performed to demonstrate rejection of the null hypothesis (**Table 9**).

Table 7. SU3 Systematic Sample Results (Activity in pCi/g) and CG_W Assessment

Sample_No	Ra-226	Th-228	Th-230	Th-232	U-234	U-235	U-238	U-Total	SOF	Net SOF
WEAC-FS-SU3-1-054	0.95	1.21	0.79	1.24	1.06	0.24	1.14	2.44	0.11	0.01
WEAC-FS-SU3-2-055	1.63	0.99	1.12	0.47	0.93	0.32	1.38	2.63	0.17	0.07
WEAC-FS-SU3-3-056	1.22	1.17	1.92	1.12	2.90	0.34	2.68	5.92	0.16	0.07
WEAC-FS-SU3-4-057	4.07	0.94	5.58	1.31	5.34	0.73	4.94	11.01	0.51	0.41
WEAC-FS-SU3-5-058	0.88	1.33	0.94	1.11	1.73	0.59	1.15	3.47	0.11	0.01
WEAC-FS-SU3-6-059	4.21	0.74	6.10	1.45	9.99	1.32	8.78	20.09	0.55	0.46
WEAC-FS-SU3-7-060	3.13	1.21	4.11	1.24	6.37	0.61	4.78	11.76	0.39	0.30
WEAC-FS-SU3-8-062	0.97	1.54	1.76	1.32	1.44	0.49	1.75	3.68	0.14	0.04
WEAC-FS-SU3-9-063	1.21	0.56	1.14	0.71	1.28	0.49	1.72	3.49	0.14	0.04
WEAC-FS-SU3-10-064	1.54	0.71	1.56	0.95	2.32	0.57	2.22	5.11	0.18	0.08
WEAC-FS-SU3-11-065	1.02	0.71	1.26	0.82	1.56	0.35	1.51	3.42	0.13	0.03
WEAC-FS-SU3-12-066	1.08	0.49	1.28	1.02	1.76	0.08	1.54	3.38	0.13	0.03
WEAC-FS-SU3-13-067	0.74	0.32	0.52	0.74	0.88	0.00	1.01	1.89	0.08	-0.02
WEAC-FS-SU3-14-068	0.91	1.60	2.83	*1.51*	3.15	0.70	2.27	6.12	0.16	0.07
WEAC-FS-SU3-15-070	1.04	1.17	1.31	*1.52*	1.19	0.90	0.71	2.79	0.13	0.03
WEAC-FS-SU3-16-071	2.57	0.84	5.17	1.11	1.34	0.08	0.93	2.35	0.36	0.26
Radionuclide Results are in pCi/g, SOF is unitless									SOF	Net SOF
Average:	1.70	0.97	2.34	1.10	2.70	0.49	2.41	5.60	0.21	0.12
Standard Deviation:	1.15	0.37	1.85	0.30	2.50	0.34	2.11	4.84	0.15	0.15
Maximum:	4.21	1.6	6.1	1.52	9.99	1.32	8.78	20.09	0.55	0.46
Any Samples > $DCGL_W$:	No		No					No		
Samples > CG_W?:	No		No					No		
Any Sample > Unity?:									No	No
Initial Assessment:	Since no samples exceeded the $DCGL_W$ the WRS test is not required.								SOF_{av}-SOF_b	Net SOF
SU3 Average Net Activity (δ) in pCi/g:	0.86	-0.34	1.52	0.23	1.78	0.33	1.33	3.43	0.12	0.12
$DCGL_W$ (25 mrem/y):	12	N/A	37	N/A	N/A	N/A	N/A	560	1	1
Fraction (δ/$DCGL_W$):	0.07		0.04					0.01	0.12	0.12
SOF ($DCGL_W$):	0.12									
SOF ($DCGL_W$) in terms of Dose:	2.96	mrem/y, max dose over next 1000 years								

No sample exceeded the Th-232/Th-228 combined background screening values for both Th-232 and Th-228 (results in red *italics*).

Wilcox Rank Sum Test

In SU3 the unit net average SOF is 0.12 and no sample is > the $DCGL_W$ thus the WRS test, if performed would obviously result in a rejection of the Null hypothesis, thus it is not performed, and the Null alternative hypothesis (that the $DCGL_W$ criterion is met), is accepted.

Elevated Measurement Assessment

No systematic or judgmental sample exceeded the $DCGL_W$. Four of the systematic samples exceeded 20% of the DCGLW as a net SOF. These four samples reasonably account for the remaining low level of spotty, above background, contamination which may remain within the unit and thus no individual EMC assessments are performed.

Surfaces within SU3

There are no surfaces within SU3