TETRA TECH EC, INC.

June 26, 2014
EMAC-RAD-14-0385

Ms. Lisa Young
Contracting Officer
BRAC PMO West
1455 Frazee Road, Suite 900
San Diego, CA 92108

SUBJECT: TECHNICAL PAPER DISCUSSING ALPHA SCAN SPEED AT HUNTERS POINT NAVAL SHIPYARD (HPNS) UNDER BASEWIDE RADIOLOGICAL REMOVAL ACTION

Ref: Contract N62473-10-D-0809, Task Orders (TOs) 0002, 0007, 0012, and 0015, Multiple Award Contract for Environmental Remediation Services of Radiological Contaminants at Various Locations

Dear Ms. Young:

As a follow-up to the May 27, 2014 meeting with the Navy to discuss multiple items related to work conducted at the Hunters Point Naval Shipyard (HPNS), the Navy sent a letter dated May 28, 2014 requesting that Tetra Tech EC, Inc. (TtEC) provide specific information regarding the performance and documentation of alpha scan survey activities. TtEC has prepared the attached Technical Paper to respond to and answer the Navy's specific questions.

Should you have any questions, please contact me at (757) 944-0921 or the Program Manager, Andy Bolt, at (619) 471-3511.

Sincerely,

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Technical Paper
Steps to Radiological Free Release of Buildings at HPNS

Tetra Tech EC, Inc. (TtEC) has completed radiological surveys of numerous buildings at the Hunters Point Naval Shipyard (HPNS) that have resulted in the California Department of Toxic Substances Control (DTSC) and the California Department of Public Health (CDPH) – Environmental Management Branch (EMB) approving radiological release for unrestricted use of the sites (i.e., free release). TtEC's work was completed in accordance with the Final Hunters Point Shipyard Radiological Removal Action, Action Memorandum – Revision 2005 (AM) and the contract Statements of Work awarded to TtEC. This Technical Paper describes the steps taken to obtain radiological free release and how the work performed complies with these key documents.

The AM is the regulator-approved document that establishes the radiological release criteria that must be met to achieve unrestricted radiological free release at HPNS. The AM establishes a release criterion that is based on a cumulative radiation exposure of 25 millirem per year (mrem/year) to an individual. This release criterion is achieved through surveys based on Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) guidance. Each of the Navy Statements of Work for HPNS reference the AM (and MARSSIM through reference in the AM) as the release criterion that must be achieved. TtEC has consistently applied MARSSIM guidance, which provides a logical step-by-step process whereby the release criterion can be statistically proven to have been achieved with a high degree of confidence. The step-by-step process from MARSSIM is summarized below:

1. **Identify Survey Units and Classification.** Based on a review of the Historical Radiological Assessment and previous radiological surveys, each individual survey unit is classified as a Class 1, 2, or 3 based on its likelihood of containing radiological contamination. This classification determines the potential surface area of the survey unit, the spacing of systematic measurement locations, and percentage of the survey unit surface area requiring scan surveys.
2. **Determine the number of systematic measurement locations to detect uniform surface contamination throughout each survey unit.** Using an understanding of the expected standard deviation of each radionuclide of concern (ROC) within each survey unit, MARSSIM formulas are used to calculate the minimum number of systematic measurement locations within each survey unit and the reference area to achieve an acceptable confidence level that statistical analyses of the measurements (static measurement for fixed contamination and wipe surveys for loose contamination) will render an appropriate decision of whether each survey unit meets the release criterion of 25 mrem/year.
3. **Determine the instrumentation to be used for the collection of systematic measurements.** The Derived Concentration Guideline Level Wilcoxon Rank Sum ($DCGL_W$) is calculated based on the release criterion of 25 mrem/year to determine the surface contamination limits that must be detectable by instrumentation used for static measurements. The type of instrumentation and static count times for measurements at the systematic measurement points are determined in accordance with MARSSIM guidance.
4. **Determine the instrumentation to be used for scan survey measurements.** The Derived Concentration Guideline Level Elevated Measurement Comparison ($DCGL_{EMC}$) is calculated based on the release criterion of 25 mrem/year and the surface area between systematic measurement locations to determine the surface contamination limits that must be detectable by instrumentation used for scan measurements. The type of instrumentation and scan rate required to meet the Minimum Detectable Concentration (MDC) for the $DCGL_{EMC}$ are determined using MARSSIM guidance. If the scan rate cannot achieve the required MDC, the number of systematic measurement

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locations is increased, the $DCGL_{EMC}$ is recalculated, and the process is repeated until the scan rate meets the MDC.

5. **Perform systematic measurement surveys to determine if uniform surface contamination throughout each survey unit exceeds the 25 mrem/year release criterion.** Static measurements for fixed contamination and wipe surveys for loose surface contamination are conducted at systematic measurement locations. The systematic measurement locations are determined based on a random start point and a triangular grid. The results are analyzed through a MARSSIM recommended statistical analysis to determine whether the release criterion has been exceeded over the entire survey unit.

6. **Perform scan surveys to determine if surface contamination between systematic measurement locations in each survey unit exceeds investigation levels.** A separate investigation level based on a correlation to the $DCGL_w$ is determined for alpha and beta emitting ROCs. If either the alpha or beta investigation levels are exceeded, the area(s) is marked for further investigation through the collection of static biased measurements for fixed and loose surface contamination.

7. **Perform biased measurement surveys to determine if surface contamination between systematic measurement locations exceeds the 25 mrem/year release criterion.** Static measurements for fixed contamination and wipe surveys for loose surface contamination are conducted at the biased measurement locations. The biased measurement locations are selected based on professional judgment following reviews of the scan, static, and wipe data collected from each survey unit. The cumulative results are further analyzed to determine whether the $DCGL_{EMC}$ has been exceeded in areas between systematic measurement locations.

8. **Decide if each survey unit demonstrates compliance with the 25 mrem/year release criterion based on results of the survey.** If statistical analysis results meet the required degree of confidence that a survey unit meets the release criterion and no areas exceed the $DCGL_{EMC}$, the respective survey units have achieved the AM release criterion. If not, the areas must be remediated and undergo the survey process iteratively, until compliance with the AM release criterion has been achieved.

Specifically, at HPNS, the MARSSIM guidance has been implemented in the following way:

1) ROCs are established.

2) The areas where there is a likelihood that radioactive materials have been used and/or stored are determined.

3) The MARSSIM survey class is designated and the number of required systematic samples (static/wipe measurements for building surveys) are calculated taking into account the variability of the ROCs within the survey unit.

4) The number of systematic static measurements is calculated based on the expected variability of radionuclide-specific surface activity concentration (typically 9 each in the reference area and survey unit; however, in the interest of conservatism the number of measurements is increased to 20). The locations of the systematic measurements are determined using Visual Sample Plan software based on a random start point and a triangular grid.

5) The required scan MDC is calculated to ascertain whether the minimum contiguous level of elevated activity between adjacent systematic static measurement locations will be detected with a certain degree of confidence at a calculated scan rate. According to MARSSIM, if the MDC at the calculated scan rate is not sufficient to detect contiguous areas of contamination, the number of systematic measurement locations is increased in the survey unit thereby decreasing the area between systematic measurement locations, and allowing for a faster scan rate. In other words, if

the initial calculated scan rate results in an MDC that exceeds the required scan MDC to detect the potential contamination concentration between systematic sampling points, the number of systematic sampling points may be increased, thereby increasing the level of allowable contamination between systematic sampling points while still meeting the release criterion, as well as increasing the allowable scan rate. However, at HPNS, TtEC has taken the extremely conservative approach of fixing the scan rate listed in TSPs at 1.37 centimeters per second (cm/s), regardless of the number of systematic measurement locations, to provide a high degree of confidence of identifying any 100 cm^2 surface area exceeding 100 dpm.

6) Finally, based on the investigation criterion for the specific scanning instrumentation, any exceedances are investigated by biased static/wipe measurements.

The estimated scan rates from the various building survey units surveyed by TtEC achieve the goal of identifying areas of contiguous contamination as described in MARSSIM. In fact, if the 25 mrem/year release criterion using MARSSIM guidance is applied, the $DCGL_w$ for radium-226 (Ra-226), the primary alpha emitting ROC at HPNS, would be on the order of 3,150 disintegrations per minute per 100 square centimeters (dpm/100 cm^2), as calculated using RESRAD-Build software, as opposed to 100 dpm/100 cm^2, as listed in the individual Task Specific Plans (TSPs). As in almost all building surveys at HPNS, a minimum of 20 systematic measurements were collected in Class 1 survey units of 100 square meters (m^2) of floor surface area or less. Based on MARSSIM guidance with 20 systematic sampling locations, the required scan speed would need to be able to detect a 5 m^2 contiguous area of 36,000 dpm/100 cm^2. With an instrument efficiency of 7 percent, which is conservatively low given typical instrument efficiencies from 7 to 10 percent, and typical background of 10 cpm found at HPNS, a scan rate of approximately 170 cm/s, or 1.7 meters per second, is effective at identifying an area with this level of contamination with greater than 90 percent confidence. However, using the surface scanning equipment at HPNS, a scan rate of 170 cm/s is physically unachievable. The fact that estimated scan rates are two orders of magnitude less than the rate necessary to achieve compliance with the release criterion of the AM and Statements of Work shows that the scan rate achieved was more than acceptable in conducting radiological scan surveys at HPNS.

The basis for unrestricted radiological free release per MARSSIM guidance is the statistical analysis of the static systematic measurements for fixed and removable contamination within a survey unit. The purpose of the scan survey is to identify areas of contamination that would not be identified by systematic static measurements. The final status survey (FSS) reports prepared for buildings that TtEC has radiologically surveyed demonstrate that all final systematic static measurements for fixed and loose surface contamination not only meet the $DCGL_w$ to achieve the AM release criterion, but these measurements also meet the more conservative radionuclide-specific release criteria of the AM. Additionally, a percentage of these measurements have been independently verified by regulatory authorities, thereby validating the FSS results. Based on this information, all building surveys conducted and documented by TtEC provide assurance that unrestricted radiological free release in accordance with the AM has been achieved and no significant risk to human health remains, as calculated using RESRAD-Build software, and explicitly documented within each individual FSS report.

Comment and Response Summary

Navy questions received have been duplicated in italic font, with the responses following to aid in review.

1. When and where did TtEC deviate from performing alpha scans at their approved scan rate? Please identify the date, site, and survey unit and also include all sites since July 2013.

Attachment 1 provides a list of each site, by building number and survey unit, in which the alpha scan surveys were performed. The scan rate estimate takes the survey unit area in m^2 and converts this to square centimeters (cm^2). This area is then divided by the probe length in centimeters (cm), the number of recorded measurements, and the 12-second scan interval identified in TSPs. This calculation is used to determine the "estimated" scan rate and is provided under the column titled "Average approx. speed (cm/s)." As seen in Attachment 1, the estimated scan rate for all previous surveys retroactively meets the current scan rate of 4 cm/s established in the Radiological Affairs Support Office (RASO) Guidance for Conducting Alpha Scans, with the exception of 62 of the 501 building surface survey units. This is an estimate since the Ludlum Model 2360 data logger instrumentation cannot record a specific "scan rate" or time stamp from which an accurate scan rate can be directly derived and does not adequately account for several variables: 1) some survey units included surface areas on walls that are not specifically tracked in the database, 2) the number of scan readings that were the result of pauses to further investigate two counts or more during a scan interval cannot be accurately verified, and 3) a portion of the scan interval of 12 seconds likely included periods in which the Ludlum 2360 data logger was not recording alpha and beta counts. In some cases, multiple types of instruments with different detector areas were used to conduct scan surveys and/or the survey data were collected prior to implementation of electronic data management.

The RASO Guidance for Conducting Alpha Scans for Radium was used in developing the scan rate for surveys conducted in Buildings 253 and 211, as well as concrete portions of North Pier, and Ships Berths 1 and 2. The scan data for Ship Berths 1 and 2 and Buildings 253 and 211 have not yet officially been submitted to the Navy, since the data are still undergoing internal quality control review. The scan rate in these areas was uniformly controlled at 4 cm/s through a detailed survey process.

2. What was the actual scan rate used at each of the locations identified under Item 1?

The estimated scan rate is listed in the "Average Approx. speed (cm/s)" column for each survey unit listed in Attachment 1.

3. Confirm TtEC followed the procedure, as written, for conducting investigation of elevated alpha counts during performance of the alpha scans.

TtEC instructed Radiation Control Technicians (RCTs) to follow the site-specific TSPs as written, for conducting alpha scan surveys. TtEC employed an on-site Quality Control (QC) Manager, as well as an on-site QC health physics professional, to perform periodic surveillances of the radiological survey process in accordance with the "Definable Features of Work" listed in each TSP. Additionally, the Radiation Safety Officer conducted periodic inspections to verify that radiological surveys were properly conducted. However, verification of whether an RCT is stopping to investigate two counts over a specified time interval (as listed in individual TSPs) is not easily identified during field surveillances, particularly if the circumstance of two counts over an interval does not occur during the observation period.

The alpha scan procedure performed in conjunction with beta scan surveys was based on the original FSS report format, including data collection, developed by TtEC and the Navy in 2008. At this time, all data collected for surface alpha and beta measurements was set up for direct comparison to the release criteria units. TtEC worked diligently with the Navy to develop a survey process that was more conservative than required per the AM. For instance, the scan rate of 1.37 cm/s, as listed in individual TSPs, was initially calculated to provide a 90 percent confidence that any 100 cm^2 area with an alpha activity at or exceeding 100 dpm would be detected. This extremely conservative calculation is above and beyond the MARSSIM process, as described above.

Because the release criteria for alpha and beta are in terms of dpm/100 cm^2, which needs to be derived from a count rate (as in counts per minute [cpm]), TtEC initially set up the Ludlum Model 2360 data loggers used for alpha and beta scan surveys to record in "rate meter" mode, which automatically records a count rate continuously averaged over each 0.5 second interval. The individual TSPs did not specify whether the Ludlum Model 2360 data loggers were to be set up in "rate meter" or "scalar" mode. Note that logging of scan survey results is not required by the SOW, MARSSIM, the Basewide Radiological Management Plan, or any of the individual TSPs; therefore, the data logging mode was not a requirement in any document.

Because alpha release criteria limits are comparatively small, and the overall detection efficiency is low (7 to 10 percent), MARSSIM prescribes a method of alpha scan surveying in which the RCT listens for 2 or more counts over a calculated time interval to determine whether a follow-up count is warranted. With the Ludlum 2360 data logger set up in "rate meter" mode, an RCT can still listen for the number of counts over a certain interval, but the data will not be recorded in "counts over an interval." Counts over an interval" can only be recorded with a Ludlum 2360 data logger in "scalar" mode. RCTs were instructed to pause and verify two or more counts over the calculated interval. Because the Ludlum 2360 data loggers were not set up in "scalar" mode for surveys prior to July 2013, no physical record of counts over a time interval exists for review or auditing purposes. The number of counts over an interval must be recorded and determined by the RCT using the detector, with no recorded backup by the Ludlum 2360 data logger. However, in reviewing the HPNS database, a number of investigation measurements are listed in Buildings 113, 130, 140, 146, 351, 351A, 364, 365, 366, 401, and 406, providing secondary evidence that the RCTs stopped when a threshold had been exceeded and conducted biased static measurements.

4. *Provide justifications that the increased alpha scan rates are sufficient to meet the requirement of the applicable TSP (probability of getting two or more counts during the time interval) and thus the requirements of the final status surveys (unrestricted free release without the use of the* $DCGL_{EMC}$*).*

As described above, the AM and the SOW require the use of MARSSIM, which would allow for a scan speed of 170 cm/s. In developing the TSPs, a very conservative approach was taken to help ensure the MARSSIM standards were not just met, but exceeded. Therefore, the TSPs were based on an ultra-conservative scan rate of 1.37 cm/s without any allowances for variation based on increased collection of systematic static measurements or any other measure. The scan rate listed in the TSP is not necessarily required to achieve unrestricted free release of a survey unit. As no criterion for free release is listed in California state regulations, TtEC used both federal and industry standards to determine that the surveys meet the requirements for free release. The Nuclear Regulatory Commission federal limits for radiological free release from 10CFR20.1402, states:

"A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking

water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal."

The AM states that MARSSIM guidance is to be used to apply cleanup goals. Additionally, Section 6.1 from the Basewide Radiological Management Plan allows the use of the $DCGL_{EMC}$ "under RASO direction." This regulator approved document demonstrates that regulatory authorities are aware that calculation of systematic sample points, and scan rate MDC are integral in developing a statistically appropriate survey plan. MARSSIM guidance states that the scan MDC should be calculated such that the $DCGL_{EMC}$ can be achieved. This does not mean that smaller concentrations of contamination will not be identified at a faster scan rate than that calculated for the $DCGL_{W}$.

Additionally, as stated previously, although "rate meter" mode does not provide a result in counts per interval, it does provide information through an averaging algorithm that is updated every 0.5 seconds. Therefore, two counts or more in a short interval should result in an increase in the "cpm" result logged in "rate meter" mode. The attached table shows that significant increases in cpm (subsequently converted to units of "dpm/100 cm^2") were not noted in survey units, unless otherwise associated with identified contamination. Although this does not provide definitive assurance of no release criterion exceedances, this does provide secondary information that no contiguous areas exist where alpha contamination exceeds 100 dpm between three adjacent systematic sampling points of contamination.

Furthermore, MARSSIM Wilcoxon Rank Sum statistical tests allow for some systematic static measurements to exceed the release criterion. None of the previous systematic static measurements from FSSs conducted at HPNS have exceeded any release criteria. A percentage of these measurements have been verified for every building by CDPH-EMB regulatory personnel conducting independent confirmatory measurements.

Alpha and beta scans, in and of themselves, are not sufficient to support unrestricted free release, but are tools to identify areas of elevated activity. A MARSSIM-based free release is contingent upon a statistical analysis of systematic static measurements, all of which are below the release criteria established in the AM for all buildings listed in Attachment 1. The scan rate, along with the static measurements and swipe analytical results, was sufficient to meet the release criterion using MARSSIM protocols.

Since initiating the recent discussions on scan rate, TtEC has worked diligently to continuously improve its alpha scan process, including an easily reviewable output detailing counts per interval, and an automatic highlighting of areas requiring further investigation, to further eliminate the potential for human error. TtEC also believes that the scan rates achieved are sufficient to meet the statements of work, the AM release criteria, and thus, unrestricted free release. TtEC is readily available to discuss the details of scan survey methodology with the Navy or regulators, as well as to demonstrate the alpha scan process, if the Navy believes that may alleviate any concerns.

ATTACHMENT 1

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
103	1	68.45	1	68.45	Y	20	3/6/2009	139	43-37-1	64.1	440	12	2.02	-4	-1	16	4	-297	-73	222	77
103	2	68.45	1	68.45	Y	20	3/6/2009	137	43-37-1	64.1	359	12	2.48	-5	-2	14	5	-247	-49	166	69
103	3	68.45	1	68.45	Y	20	3/6/2009	139	43-37-1	64.1	435	12	2.05	-4	-1	14	4	-322	-143	112	73
103	4	76.38	1	76.38	Y	20	3/9/2009	137	43-37-1	64.1	763	12	1.30	-5	-1	18	6	-233	-28	182	66
103	5	55.29	1	55.29	Y	20	3/10/2009	67	43-37-1	64.1	633	12	1.14	-5	0	15	5	-329	-132	104	64
103	6	70.32	1	70.32	Y	20	3/10/2009	137	43-37-1	64.1	805	12	1.14	-5	-2	18	5	-267	-90	118	64
103	7	12	1	12.00	Y	20	3/11/2009	137	43-37-1	64.1	206	12	0.76	-5	0	16	6	-172	24	243	93
103	8	79.58	1	79.58	Y	20	3/4/2009	139	43-37-1	64.1	718	12	1.44	-4	-1	16	4	-293	-115	157	70
103	9	62.36	1	62.36	Y	20	3/4/2009	139	43-37-1	64.1	405	12	2.00	-4	-2	20	4	-302	-129	88	73
103	10	62.35	1	62.35	Y	20	3/4/2009	67	43-37-1	64.1	502	12	1.61	-5	-1	15	5	-371	-112	108	72
103	11	205.36	2	102.68	Y	20	3/2/2009	147	43-37	46.4	520	12	3.55	-5	-2	22	7	-412	-200	-3	70
103	12	76.38	2	38.19	Y	20	3/3/2009	137	43-37-1	64.1	303	12	1.64	-5	-2	16	5	-180	-28	189	70
103	13	60.78	2	30.39	Y	20	3/3/2009	137	43-37-1	64.1	236	12	1.67	-5	3	14	5	-180	12	189	74
103	14	70.32	2	35.16	Y	20	3/3/2009	137	43-37-1	64.1	320	12	1.43	-5	1	16	6	-266	-24	230	89
103	16	23.53	2	11.77	Y	20	3/2/2009	137	43-37-1	64.1	160	12	0.96	-5	0	14	6	-122	29	256	72
103	17	204.21	2	102.11	Y	20	3/2/2009	137	43-37-1	64.1	551	12	2.41	-5	-1	16	6	-196	-2	250	82
103	18	68.45	1	68.45	Y	20	3/6/2009	67	43-37-1	64.1	326	12	2.73	-5	-2	15	5	-316	-120	110	74
103	19	68.45	1	68.45	Y	20	3/5/2009	67	43-37-1	64.1	424	12	2.10	-5	-1	16	5	-276	-60	195	80
103	20	68.45	1	68.45	Y	20	3/5/2009	137	43-37-1	64.1	495	12	1.80	-5	-2	16	5	-187	14	324	74
103	21	76.38	1	76.38	Y	20	3/9/2009	67	43-37-1	64.1	1000	12	0.99	-5	-1	18	5	-302	-106	275	66
103	22	55.29	1	55.29	Y	20	3/9/2009	139	43-37-1	64.1	620	12	1.16	-4	-1	14	5	-336	-145	76	66
103	23	70.32	1	70.32	Y	20	3/9/2009	193	43-37-1	64.1	775	12	1.18	-5	-1	16	5	-300	-62	190	88
103	24	79.58	1	79.58	Y	20	3/5/2009	139	43-37-1	64.1	588	12	1.76	-4	-1	14	4	-375	-195	8	69
103	25	62.36	1	62.36	Y	20	3/5/2009	137	43-37-1	64.1	393	12	2.06	-5	-2	18	5	-270	-50	206	78
103	26	62.35	1	62.35	Y	20	3/4/2009	67	43-37-1	64.1	499	12	1.62	-5	-2	15	5	-415	-125	135	119
103	27	205.36	2	102.68	Y	20	3/2/2009	137	43-37-1	64.1	560	12	2.38	-5	-2	18	5	-218	94	409	95
103	28	76.38	2	38.19	Y	20	3/3/2009	139	43-37-1	64.1	265	12	1.87	-4	-1	14	5	-298	-56	300	92
103	29	49.11	2	24.56	Y	20	3/3/2009	137	43-37-1	64.1	240	12	1.33	-5	-1	14	6	-340	-96	151	92
103	30	70.32	2	35.16	Y	20	3/3/2009	147	43-37	46.4	299	12	2.11	-5	1	24	8	-301	-37	433	99
103	31	204.21	2	102.11	Y	20	3/2/2009	139	43-37-1	64.1	549	12	2.42	-4	2	14	5	-249	-74	92	64
103	32	12.96	1	12.96	Y	20	3/14/2009	67	43-37-1	64.1	149	12	1.13	-5	0	25	6	61	319	604	86
103	33	12.96	2	6.48	Y	20	3/24/2009	134	43-68	19.8	99	12	2.75	-10	-1	60	16	-447	-28	396	177
113	1	16.68	1	16.68	Y	20	2/6/2009	70	43-37	46.4	179	12	1.67	-6	-2	30	7	-231	32	346	134
113	2	76.22	1	76.22	Y	20	2/10/2009	137	43-37-1	64.1	745	12	1.33	-9	-6	5	5	-614	-255	53	101
113	3	69.77	1	69.77	Y	20	2/11/2009	67	43-37-1	64.1	553	12	1.64	-9	-6	4	4	-563	-292	7	112
113	4	45.43	1	45.43	Y	20	2/20/2009	67	43-37-1	64.1	556	12	1.06	-9	-4	19	7	-475	-222	-8	75
113	5	49.72	1	49.72	Y	20	2/11/2009	67	43-37-1	64.1	425	12	1.52	-9	-6	4	4	-563	-280	5	121
113	6	39.38	1	39.38	Y	20	2/6/2009	70	43-37	46.4	413	12	1.71	-6	-3	22	5	-435	43	439	164
113	7	59.15	1	59.15	Y	20	4/15/2009	147	43-37	46.4	420	12	2.53	-5	3	14	4	-43	69	181	39
113	8	67.73	1	67.73	Y	20	2/18/2009	137	43-37-1	64.1	377	12	2.34	-5	-3	9	4	-140	30	256	75
113	9	67.94	1	67.94	Y	20	2/18/2009	67	43-37-1	64.1	453	12	1.95	-5	-1	26	5	-246	143	429	134
113	10	95.25	1	95.25	Y	20	2/18/2009	67	43-37-1	64.1	536	12	2.31	-5	-1	23	5	-106	133	389	86
113	11	85.31	1	85.31	Y	20	2/19/2009	137	43-37-1	64.1	477	12	2.33	-9	-6	20	6	-508	-166	323	97
113	12	75.92	1	75.92	Y	20	2/24/2009	147	43-37	46.4	535	12	2.55	-6	0	37	9	-241	77	366	100
113	13	60.3	1	60.30	Y	20	4/16/2009	139	43-37-1	64.1	432	12	1.81	-5	2	15	4	-88	70	230	48
113	14	46.13	1	46.13	Y	20	4/14/2009	67	43-37-1	64.1	255	12	2.35	-5	0	11	5	-275	-118	39	71
113	15	32.61	1	32.61	Y	20	4/14/2009	147	43-37	46.4	320	12	1.83	-4	2	27	6	-373	-191	91	81
113	16	99.31	1	99.31	Y	20	2/19/2009	67	43-37-1	64.1	621	12	2.08	-9	-6	19	5	-463	-188	52	89
113	17	99.54	1	99.54	Y	20	2/20/2009	137	43-37-1	64.1	543	12	2.38	-5	0	26	7	-58	202	480	94
113	18	99.67	1	99.67	Y	20	2/20/2009	147	43-37	46.4	564	12	3.17	-6	-1	41	8	-302	7	825	129
113	19	99.02	1	99.02	Y	20	2/26/2009	70	43-37	46.4	599	12	2.97	-4	-1	34	7	-199	75	428	102
113	20	55.43	1	55.43	Y	20	2/26/2009	139	43-37-1	64.1	754	12	0.96	-3	1	25	6	-68	153	372	85
113	21	73	1	73.00	Y	20	2/27/2009	67	43-37-1	64.1	504	12	1.88	-9	-5	42	6	-521	-233	121	101
113	22	59.76	1	59.76	Y	20	2/27/2009	137	43-37-1	64.1	450	12	1.73	-9	-5	10	6	-508	-238	29	77
113	23	63.38	1	63.38	Y	20	2/27/2009	67	43-37-1	64.1	388	12	2.12	-9	-5	13	5	-963	-138	129	90
113	24	41.27	1	41.27	Y	20	2/27/2009	137	43-37-1	64.1	428	12	1.25	-9	-6	12	5	-432	-210	86	87
113	25	42.23	1	42.23	Y	20	2/27/2009	139	43-37-1	64.1	430	12	1.28	-3	0	18	5	-64	146	403	84
113	26	164.41	2	82.21	Y	20	2/5/2009	198	43-68	19.8	650	12	5.32	-14	1	83	26	-371	80	824	212
113	27	143.2	2	71.60	Y	20	1/5/2009	134	43-68	19.8	710	12	4.24	-23	-8	72	25	-354	-48	582	209
113	28	185.87	2	92.94	Y	20	1/8/2009	134	43-68	19.8	829	12	4.72	-23	-8	81	26	-354	-53	425	200
113	29	538.09	2	269.05	Y	20	1/12/2009	134	43-68	19.8	2255	12	5.02	-16	-2	88	25	-196	114	705	200
113	30	102.62	2	51.31	Y	20	1/12/2009	8	43-68	19.8	420	12	5.14	-6	-1	81	16	-309	319	824	258
113	31	206.39	2	103.20	Y	20	2/4/2009	134	43-68	19.8	900	12	4.83	-16	-2	71	26	-311	82	683	189
113	32	127.48	2	63.74	Y	20	2/17/2009	147	43-37	46.4	298	12	3.84	-5	-2	13	5	-251	-50	886	96
113	33	289.4	2	144.70	Y	21	2/3/2009	134	43-68	19.8	1105	12	5.51	-14	-6	74	20	-395	38	2194	238
113A	1	52.68	1	52.68	Y	20	2/9/2009	137	43-37-1	64.1	500	12	1.37	-9	-5	5	5	-319	-9	341	108
113A	2	30	1	30.00	Y	20	2/9/2009	137	43-37-1	64.1	407	12	0.96	-9	-5	5	5	-396	-83	286	123
113A	3	35.84	1	35.84	Y	20	4/17/2009	193	43-37-1	64.1	652	12	0.71	-5	1	15	4	-70	114	356	70

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
113A	4	26.11	1	26.11	Y	20	4/20/2009	193	43-37-1	64.1	180	12	1.89	-5	1	12	4	-5	65	186	42
113A	5	80.66	1	80.66	Y	20	4/17/2009	139	43-37-1	64.1	461	12	2.27	-4	2	16	4	12	288	656	111
113A	6	68.94	1	68.94	Y	20	4/20/2009	193	43-37-1	64.1	281	12	3.19	-5	2	14	4	144	442	773	102
113A	7	22.09	1	22.09	Y	20	2/12/2009	67	43-37-1	64.1	300	12	0.96	-9	-5	4	5	-304	52	431	128
113A	8	38.03	1	38.03	Y	20	12/18/2008	24	43-37	46.4	421	12	1.62	-7	1	24	8	-142	140	499	115
113A	9	62.19	1	62.19	Y	20	2/12/2009	67	43-37-1	64.1	768	12	1.05	-9	-6	5	4	-726	-170	307	204
113A	10	32.63	1	32.63	Y	20	4/27/2009	193	43-37-1	64.1	254	12	1.67	-14	-10	8	6	-156	276	545	174
113A	11	9.57	1	9.57	Y	20	3/23/2009	67	43-37-1	64.1	136	12	0.91	-14	-8	13	7	-396	-220	-63	70
113A	12	349.51	2	174.76	Y	21	3/23/2009	222	43-37	46.4	800	12	3.92	-12	-6	16	7	-184	165	833	120
113A	13	38.07	2	19.04	Y	20	3/23/2009	67	43-37-1	64.1	110	12	2.25	-14	-8	1	5	0	192	805	99
113A	14	67.7	2	33.85	Y	20	3/24/2009	222	43-37	46.4	180	12	3.38	-12	-8	26	7	24	264	579	109
113A	15	32.99	2	16.50	Y	20	3/24/2009	222	43-37	46.4	152	12	1.95	-12	-7	20	7	-18	262	496	104
113A	16	6.11	1	6.11	Y	20	4/15/2009	139	43-37-1	64.1	171	12	0.46	-4	0	16	5	-489	-192	-23	84
130	1	61.26	1	61.26	Y	20	2/6/2009	141	43-37-1	64.1	348	12	2.29	-3	5	17	3	-82	116	424	76
130	2	31.76	1	31.76	Y	20	2/6/2009	141	43-37-1	64.1	157	12	2.63	-5	4	18	4	-51	161	409	74
130	3	62.63	1	62.63	Y	20	2/10/2009	141	43-37-1	64.1	269	12	3.03	-2	3	13	3	-24	68	202	42
130	4	81.55	1	81.55	Y	20	4/29/2009	193	43-37-1	64.1	463	12	2.29	-5	-1	20	5	-279	-57	186	98
130	5	93.59	1	93.59	Y	20	2/9/2009	141	43-37-1	64.1	542	12	2.24	-3	5	16	2	0	138	437	89
130	6	89.49	1	89.49	Y	20	4/30/2009	193	43-37-1	64.1	380	12	3.06	-5	-1	21	5	-400	-69	226	97
130	7	98.08	1	98.08	Y	20	3/16/2009	139	43-37-1	64.1	531	12	2.40	-3	0	16	5	-162	147	487	109
130	9	31.76	1	31.76	Y	20	2/5/2009	141	43-37-1	64.1	207	12	1.99	-5	5	17	4	0	162	417	95
130	10	62.52	1	62.52	Y	20	2/5/2009	141	43-37-1	64.1	274	12	2.97	-5	6	22	5	-79	160	488	102
130	11	62.55	1	62.55	Y	20	3/14/2009	139	43-37-1	64.1	293	12	2.78	-3	3	30	7	-695	12	1651	198
130	12	92.9	1	92.90	N	20	3/12/2009	193	43-37-1	64.1	335	12	3.61	-4	4	17	4	-207	130	464	113
130	13	78.97	1	78.97	N	20	3/12/2009	193	43-37-1	64.1	588	12	1.75	-4	2	15	4	-198	184	466	99
130	14	86.88	1	86.88	N	20	3/13/2009	139	43-37-1	64.1	351	12	3.22	-3	1	15	5	-154	98	246	79
130	15	89.41	1	89.41	N	20	2/12/2009	141	43-37-1	64.1	339	12	3.43	-3	3	16	3	-71	125	350	69
130	16	76.13	1	76.13	N	20	4/28/2009	193	43-37-1	64.1	264	12	3.75	-5	-1	21	6	-178	31	333	90
130	18	66.43	1	66.43	N	20	3/14/2009	67	43-37-1	64.1	270	12	3.20	-9	-5	17	5	-415	-176	152	101
130	19	78.83	1	78.83	Y	20	5/4/2009	193	43-37-1	64.1	403	12	2.54	-5	-1	20	6	-225	25	329	111
130	20	59.71	1	59.71	Y	20	2/24/2009	137	43-37-1	64.1	320	12	2.43	-5	2	14	3	-29	168	373	78
130	21	89.13	1	89.13	Y	20	3/12/2009	193	43-37-1	64.1	391	12	2.96	-4	2	17	5	-156	137	435	102
130	22	38.87	1	38.87	Y	20	2/10/2009	141	43-37-1	64.1	201	12	2.51	-3	2	10	2	-27	85	219	50
130	23	30.36	1	30.36	Y	20	2/3/2009	141	43-37-1	64.1	186	12	2.12	-5	0	19	6	-268	-69	194	76
130	24	29.46	1	29.46	Y	20	2/4/2009	137	43-37-1	64.1	223	12	1.72	-4	3	23	4	-78	98	243	62
130	25	92.67	1	92.67	Y	20	2/5/2009	141	43-37-1	64.1	451	12	2.67	-5	5	23	4	-114	187	624	106
130	26	87.18	1	87.18	Y	20	2/11/2009	141	43-37-1	64.1	392	12	2.89	-3	2	9	2	-59	78	193	44
130	27	87.18	1	87.18	Y	20	2/24/2009	137	43-37-1	64.1	370	12	3.06	-3	3	13	3	87	303	597	88
130	28	89.21	1	89.21	Y	20	2/25/2009	137	43-37-1	64.1	363	12	3.19	-2	3	14	3	28	229	472	78
130	29	62.4	1	62.40	Y	20	3/14/2009	193	43-37-1	64.1	395	12	2.05	-6	-2	11	5	-219	19	292	90
130	30	71.11	1	71.11	Y	20	2/9/2009	141	43-37-1	64.1	362	12	2.55	-3	5	17	3	-44	101	334	67
130	31	88.19	1	88.19	Y	20	2/4/2009	137	43-37-1	64.1	720	12	1.59	-7	2	20	5	-379	11	324	144
130	32	96.3	1	96.30	Y	20	4/28/2009	193	43-37-1	64.1	384	12	3.26	-4	-2	24	5	-64	246	495	91
130	33	58.93	1	58.93	Y	20	3/17/2009	139	43-37-1	64.1	465	12	1.65	-3	-1	15	5	-218	29	300	97
130	34	52.52	1	52.52	Y	20	2/3/2009	141	43-37-1	64.1	325	12	2.10	-5	2	29	7	-220	-36	147	68
130	35	449.69	2	224.85	Y	20	2/9/2009	134	43-68	19.8	1775	12	5.33	-16	24	88	20	-208	494	1130	303
130	36	900.38	2	450.19	Y	22	1/27/2009	134	43-68	19.8	3030	12	6.25	-16	-4	79	22	-598	27	900	238
130	37	216.81	2	108.41	Y	20	3/13/2009	67	43-37-1	64.1	460	12	3.06	-5	-1	16	5	-435	-193	462	111
130	38	575.61	2	287.81	Y	20	1/26/2009	11	43-68	19.8	2798	12	4.33	-8	-3	75	12	-728	184	1087	280
130	39	318.53	2	159.27	Y	20	1/23/2009	11	43-68	19.8	1476	12	4.54	-8	-2	71	16	-164	315	789	287
130	40	20.06	1	20.06	Y	20	3/25/2009	222	43-37	46.4	445	12	0.81	-4	0	24	6	-120	164	367	81
140	1	99.8	1	99.80	Y	18	3/20/2009	139	43-37-1	64.1	760	12	1.71	-13	-7	15	7	-953	-231	339	295
140	2	51.97	1	51.97	Y	18	3/20/2009	222	43-37	46.4	500	12	1.87	-12	-5	30	9	22	435	799	126
140	3	66.77	1	66.77	Y	19	3/20/2009	67	43-37-1	64.1	580	12	1.50	-14	-7	23	8	-120	234	975	126
146	1	63.46	1	63.46	Y	20	4/24/2009	139	43-37-1	64.1	508	12	1.62	-13	-7	26	7	-419	57	344	115
146	2	80.45	1	80.45	Y	20	4/24/2009	193	43-37-1	64.1	430	12	2.43	-14	-9	19	7	-209	51	288	80
146	3	91.76	1	91.76	Y	20	4/23/2009	193	43-37-1	64.1	519	12	2.30	-14	-9	17	7	-152	77	580	136
146	4	99.26	1	99.26	Y	20	4/23/2009	139	43-37-1	64.1	520	12	2.48	-13	-8	18	6	-148	184	485	107
146	5	99.93	1	99.93	Y	20	4/22/2009	193	43-37-1	64.1	561	12	2.32	-14	-8	19	7	-271	190	873	151
146	6	74.85	1	74.85	Y	20	4/22/2009	139	43-37-1	64.1	384	12	2.53	-13	-7	18	7	-432	45	388	202
146	7	67.7	1	67.70	Y	20	4/21/2009	139	43-37-1	64.1	400	12	2.20	-13	-6	18	7	-49	343	694	113
146	12	20.25	1	20.25	Y	20	12/3/2008	24	43-37	46.4	274	12	1.33	-14	-6	26	10	-248	83	586	142
146	13	25.44	1	25.44	Y	20	12/10/2008	8	43-68	19.8	430	12	2.49	-53	-43	54	24	-531	-116	707	268
146	14	16.95	1	16.95	Y	20	12/3/2008	24	43-37	46.4	249	12	1.22	-14	-8	28	10	-267	56	381	128
146	15	3.57	1	3.57	Y	20	12/2/2008	190	43-68	19.8	173	12	0.87	-21	-8	69	24	-344	81	569	227
146	16	7.16	1	7.16	Y	20	12/2/2008	190	43-68	19.8	310	12	0.97	-21	-11	77	21	-344	95	828	234
146	17	46.44	1	46.44	Y	20	12/5/2008	141	43-37-1	64.1	385	12	1.57	-10	-1	48	9	-100	107	401	83
146	18	9.78	1	9.78	Y	20	12/4/2008	141	43-37-1	64.1	173	12	0.73	-10	-3	29	8	-191	4	263	86
146	19	9.48	1	9.48	Y	20	12/4/2008	141	43-37-1	64.1	222	12	0.56	-10	-5	24	7	-231	-75	418	96

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
146	20	5.75	1	5.75	Y	20	12/4/2008	141	43-37-1	64.1	130	12	0.58	-10	-4	20	7	-214	-51	282	94
146	21	18.75	1	18.75	Y	20	12/3/2008	141	43-37-1	64.1	250	12	0.98	-4	1	28	8	-185	7	264	84
146	22	4.87	1	4.87	Y	20	12/5/2008	24	43-37	46.4	104	12	0.84	-14	-6	16	9	-288	-64	161	102
146	23	520	2	260.00	Y	20	12/5/2008	8	43-68	19.8	2037	12	5.37	-17	-7	80	23	-729	-38	816	267
146	24	169.65	2	84.83	Y	21	1/21/2009	198	43-68	19.8	601	12	5.94	-17	1	71	24	-423	-40	542	204
146	30	20.25	2	10.13	Y	20	11/14/2008	190	43-68	19.8	135	12	3.16	-21	-11	69	23	-627	-55	783	310
146	31	22.87	2	11.44	Y	20	12/8/2008	190	43-68	19.8	133	12	3.62	-17	-6	73	20	-655	-267	287	228
146	32	16.95	2	8.48	Y	20	11/24/2008	190	43-68	19.8	90	12	3.96	-21	0	77	32	-677	-168	581	284
146	33	3.57	2	1.79	Y	20	11/17/2008	190	43-68	19.8	30	12	2.50	-21	-17	53	14	-584	-2	531	274
146	34	7.16	2	3.58	Y	20	11/21/2008	4	43-68	19.8	40	12	3.77	-25	8	66	33	-559	-83	497	246
146	35	46.44	2	23.22	Y	20	11/22/2008	190	43-68	19.8	242	12	4.04	-21	-8	69	25	-301	205	771	225
146	36	9.78	2	4.89	Y	20	11/19/2008	190	43-68	19.8	64	12	3.22	-21	-14	52	16	-308	161	727	237
146	37	9.48	2	4.74	Y	20	11/21/2008	190	43-68	19.8	53	12	3.76	-21	-12	52	21	-308	99	720	230
146	38	5.75	2	2.88	Y	20	11/22/2008	8	43-68	19.8	34	12	3.56	-17	-13	71	16	-176	172	632	223
146	39	18.75	2	9.38	Y	20	11/20/2008	190	43-68	19.8	130	12	3.04	-21	-12	61	20	-337	116	720	228
146	40	4.87	2	2.44	Y	20	11/13/2008	146	43-68	19.8	32	12	3.20	-17	-11	54	15	-63	376	862	330
146	41	12.41	1	12.41	Y	20	2/26/2009	70	43-37	46.4	242	12	0.92	-4	2	20	5	-99	102	450	85
146	42	11.92	2	5.96	Y	20	12/8/2008	190	43-68	19.8	50	12	5.02	-17	-1	65	23	-662	-225	517	274
203	1	74.46	1	74.46	Y	20	7/13/2011	509	43-37-1	64.1	256	12	3.78	-6	6	26	8	-118	269	571	112
203	2	77.26	1	77.26	Y	20	7/13/2011	509	43-37-1	64.1	256	12	3.92	-6	2	26	8	-456	27	476	131
203	3	88.36	1	88.36	Y	20	7/15/2011	509	43-37-1	64.1	551	12	2.08	-6	-2	22	5	-321	109	777	191
203	4	92.49	1	92.49	Y	20	7/15/2011	509	43-37-1	64.1	300	12	4.01	-6	-2	23	6	-372	9	356	95
203	5	82.18	1	82.18	Y	20	7/14/2011	509	43-37-1	64.1	350	12	3.05	-6	-2	26	6	-340	9	653	98
203	6	86.76	1	86.76	Y	20	7/14/2011	509	43-37-1	64.1	453	12	2.49	-6	-1	22	6	-290	4	340	111
203	7	91.87	1	91.87	Y	20	7/14/2011	509	43-37-1	64.1	380	12	3.14	-6	-2	22	6	-256	24	259	106
203	8	83.32	1	83.32	Y	20	7/13/2011	509	43-37-1	64.1	509	12	2.13	-6	-1	24	7	-316	1	275	85
203	9	771.93	2	385.97	Y	20	7/18/2011	509	43-37-1	64.1	1399	12	3.59	-5	2	27	8	-635	-24	740	245
214	1	55.38	1	55.38	Y	20	3/8/2011	509	43-37-1	64.1	496	12	1.45	-4	-1	25	5	-444	-194	664	105
214	2	80.08	2	40.04	Y	20	3/7/2011	509	43-37-1	64.1	161	12	3.23	-4	0	16	5	-360	-120	129	105
241	1	95.39	1	95.39	Y	20	3/18/2011	509	43-37-1	64.1	440	12	2.82	-5	0	16	5	-409	69	613	202
241	2	61.59	1	61.59	Y	20	3/21/2011	509	43-37-1	64.1	323	12	2.48	-5	-1	16	5	-571	-9	445	227
241	3	95.68	1	95.68	Y	20	3/17/2011	509	43-37-1	64.1	408	12	3.05	-5	-1	16	5	-506	19	577	206
241	4	87.97	1	87.97	Y	20	3/21/2011	509	43-37-1	64.1	420	12	2.72	-5	0	16	5	-549	4	467	228
241	5	94.02	1	94.02	Y	20	3/17/2011	509	43-37-1	64.1	341	12	3.58	-5	0	16	6	-579	3	599	153
241	6	94.99	1	94.99	Y	20	3/15/2011	509	43-37-1	64.1	430	12	2.87	-5	1	17	6	-568	78	551	173
241	7	90.13	1	90.13	Y	20	3/15/2011	509	43-37-1	64.1	430	12	2.72	-5	1	16	6	-576	143	664	229
241	12	70.7	1	70.70	N	20	3/11/2011	509	43-37-1	64.1	290	12	3.17	-5	1	17	6	-419	63	691	177
241	13	105.86	1	105.86	N	20	3/11/2011	509	43-37-1	64.1	500	12	2.75	-3	0	20	5	-196	85	379	102
241	14	48.33	1	48.33	Y	20	3/14/2011	509	43-37-1	64.1	194	12	3.24	-5	-1	13	5	-274	74	360	126
241	15	158.31	2	79.16	N	20	3/11/2011	509	43-37-1	64.1	283	12	3.64	-3	1	17	6	-194	9	257	92
271	1	73.54	1	73.54	Y	20	2/11/2011	425	43-37-1	64.1	421	12	2.27	-8	-2	14	6	-391	64	445	180
271	2	73.55	1	73.55	Y	20	2/11/2011	425	43-37-1	64.1	422	12	2.27	-8	-2	14	6	-359	337	860	276
271	3	67.87	1	67.87	Y	20	2/17/2011	481	43-37-1	64.1	672	12	1.31	-5	1	17	6	-407	71	488	220
271	4	11.95	1	11.95	Y	20	2/16/2011	481	43-37-1	64.1	170	12	0.91	-3	1	20	5	28	213	372	80
271	5	72	1	72.00	Y	20	2/14/2011	425	43-37-1	64.1	440	12	2.13	-8	-2	14	6	-467	206	638	246
271	6	74.75	1	74.75	Y	20	2/14/2011	425	43-37-1	64.1	406	12	2.39	-8	-2	14	6	-403	386	820	256
271	7	71.9	1	71.90	Y	20	2/21/2011	481	43-37-1	64.1	496	12	1.88	-4	1	18	6	-109	290	707	222
271	8	83.83	1	83.83	Y	20	2/17/2011	481	43-37-1	64.1	571	12	1.91	-4	0	18	6	-150	233	706	177
271	9	62.15	1	62.15	Y	20	2/18/2011	481	43-37-1	64.1	416	12	1.94	-4	0	16	6	-173	220	688	219
271	10	88.73	1	88.73	Y	20	2/18/2011	481	43-37-1	64.1	478	12	2.41	-4	0	18	6	-144	137	660	162
271	11	74.31	1	74.31	Y	20	2/21/2011	481	43-37-1	64.1	375	12	2.58	-4	0	16	6	-218	63	302	78
271	12	343.1	2	171.55	N	20	2/10/2011	425	43-37-1	64.1	701	12	3.18	-7	0	15	6	-468	-84	338	149
272	1	99.57	1	99.57	Y	20	12/16/2010	425	43-37-1	64.1	430	12	3.01	-4	2	15	6	-251	348	721	246
272	2	99.57	1	99.57	Y	20	1/4/2011	425	43-37-1	64.1	410	12	3.16	-6	0	16	6	-795	-167	405	209
272	3	99.57	1	99.57	Y	20	1/5/2011	425	43-37-1	64.1	400	12	3.24	-6	0	16	6	-861	-103	1129	212
272	4	99.57	1	99.57	Y	20	2/4/2011	425	43-37-1	64.1	420	12	3.08	-8	-2	12	6	-569	-32	354	207
272	5	99.57	1	99.57	Y	20	2/4/2011	425	43-37-1	64.1	430	12	3.01	-8	-2	12	6	-583	-87	266	155
272	6	99.57	1	99.57	Y	20	12/14/2010	425	43-37-1	64.1	392	12	3.30	-6	-1	16	6	-595	-44	309	173
272	7	42.31	1	42.31	Y	20	12/14/2010	425	43-37-1	64.1	297	12	1.85	-4	1	15	6	-278	126	678	213
272	8	99.57	1	99.57	Y	20	12/16/2010	425	43-37-1	64.1	410	12	3.16	-4	1	15	6	-219	407	771	220
272	9	99.57	1	99.57	N	20	1/4/2011	425	43-37-1	64.1	338	12	3.83	-4	1	14	5	-143	217	517	117
272	10	99.57	1	99.57	Y	20	1/5/2011	425	43-37-1	64.1	540	12	2.40	-6	0	16	6	-798	-224	211	210
272	11	96.68	1	96.68	Y	20	12/15/2010	425	43-37-1	64.1	539	12	2.33	-4	1	14	5	-237	204	655	215
272	12	99.57	1	99.57	Y	20	1/4/2011	425	43-37-1	64.1	480	12	2.70	-6	0	15	6	-900	-327	173	268
272	13	80.15	1	80.15	Y	20	1/3/2011	425	43-37-1	64.1	431	12	2.42	-6	0	16	6	-764	-214	254	287
272	14	58.55	1	58.55	Y	20	2/7/2011	425	43-37-1	64.1	314	12	2.42	-8	-2	12	6	-667	34	714	322
272	15	50.29	1	50.29	N	20	12/15/2010	425	43-37-1	64.1	185	12	3.53	-6	-1	16	6	-356	-38	260	121
272	16	65.52	1	65.52	Y	20	12/13/2010	425	43-37-1	64.1	344	12	2.48	-6	0	16	6	-740	-175	274	260
272	17	91.15	1	91.15	Y	20	12/10/2010	425	43-37-1	64.1	384	12	3.09	-6	-1	16	6	-740	-114	241	230

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
272	18	99.57	1	99.57	Y	20	12/10/2010	425	43-37-1	64.1	411	12	3.15	-6	-1	16	6	-740	-200	188	205
272	19	99.57	1	99.57	Y	20	12/13/2010	425	43-37-1	64.1	395	12	3.28	-6	1	16	6	-767	-42	792	239
272	20	99.57	1	99.57	Y	20	13/13/10	425	43-37-1	64.1	395	12	3.28	-6	1	16	6	-719	-68	474	227
272	21	98.88	1	98.88	Y	20	12/14/2010	425	43-37-1	64.1	414	12	3.11	-6	0	16	6	-819	-71	299	299
272	22	999.63	2	499.82	Y	20	12/8/2010	425	43-37-1	64.1	2100	12	3.09	-4	0	22	6	-585	-121	254	139
351	1	13	1	13.00	Y	20	1/19/2009	70	43-37	46.4	135	12	1.73	3	9	31	7	-307	-184	20	72
351	2	12	1	12.00	Y	20	1/19/2009	24	43-37	46.4	182	12	1.18	-2	2	22	5	-366	-205	106	106
351	3	97	1	97.00	Y	20	1/17/2009	141	43-37-1	64.1	350	12	3.60	-5	9	26	4	-191	-35	194	80
351	4	60	1	60.00	Y	20	1/19/2009	24	43-37	46.4	442	12	2.44	-2	5	28	7	-635	-209	158	102
351	5	71	1	71.00	N	20	1/17/2009	141	43-37-1	64.1	574	12	1.61	3	7	28	4	-196	-57	188	78
351	6	97	1	97.00	N	20	1/20/2009	70	43-37	46.4	520	12	3.35	1	7	27	5	-317	-192	193	72
351	7	87	1	87.00	Y	20	1/20/2009	70	43-37	46.4	491	12	3.18	1	7	33	6	-317	-198	64	76
351	8	82	1	82.00	Y	20	1/20/2009	24	43-37	46.4	656	12	2.24	-4	2	24	6	-359	-229	92	91
351	9	53	1	53.00	Y	20	1/20/2009	24	43-37	46.4	420	12	2.27	-4	2	24	5	-359	-259	56	62
351	10	23	1	23.00	Y	21	1/19/2009	70	43-37	46.4	235	12	1.76	1	8	35	6	-405	-190	64	72
351	11	20	1	20.00	Y	20	1/22/2009	24	43-37	46.4	257	12	1.40	-4	3	24	7	-474	-217	-5	83
351	17	10	1	10.00	Y	20	7/23/2008	24	43-37	46.4	162	12	1.11	-11	-5	22	8	-480	-159	203	139
351	18	25	1	25.00	Y	21	7/23/2008	67	43-37/43-37-1	Different Probes	111	12	Unable to Calc	-14	-8	40	10	-412	65	494	194
351	19	22	1	22.00	Y	20	7/21/2008	141	43-37-1	64.1	252	12	1.13	-5	-2	27	6	-272	4	377	119
351	20	40	1	40.00	Y	20	7/21/2008	141	43-37-1	64.1	302	12	1.72	-12	-8	26	7	-285	1	323	101
351	21	90.72	1	90.72	Y	20	7/19/2008	141	43-37-1	64.1	339	12	3.48	-12	-8	25	6	-101	119	443	85
351	22	64	1	64.00	Y	20	7/19/2008	141	43-37-1	64.1	439	12	1.90	-12	-8	17	6	-272	88	494	151
351	23	4	1	4.00	Y	20	7/24/2008	141	43-37/43-37-1	Different Probes	88	12	Unable to Calc	-14	-9	12	7	-194	77	491	140
351	24	15	1	15.00	Y	20	10/14/2008	67	43-37-1	64.1	234	12	0.83	-11	-4	20	8	-353	-165	245	127
351	25	41	1	41.00	Y	47	7/19/2008	67	43-37/43-37-1	Different Probes	387	12	Unable to Calc	-14	-10	34	7	-539	-177	163	158
351	26	40	1	40.00	Y	46	7/19/2008	67	43-37/43-37-1	Different Probes	376	12	Unable to Calc	-14	-9	16	7	-554	-122	808	184
351	27	84	1	84.00	Y	20	7/21/2008	67	43-37-1	64.1	398	12	2.74	-13	-8	20	7	-539	-247	252	141
351	28	32	1	32.00	Y	20	7/19/2008	137	43-37-1	64.1	180	12	2.31	-6	-2	18	6	-452	-207	43	108
351	29	73	1	73.00	Y	20	7/21/2008	141	43-37-1	64.1	394	12	2.41	-12	-9	22	6	-230	86	365	103
351	30	58	1	58.00	Y	21	7/18/2008	137	43-37/43-37-1	Different Probes	314	12	Unable to Calc	-19	-6	35	9	-743	-226	240	141
351	31	39	1	39.00	Y	20	7/18/2008	137	43-37/43-37-1	Different Probes	212	12	Unable to Calc	-19	-6	24	8	-644	5	340	181
351	32	16	1	16.00	Y	20	7/18/2008	24	43-37	46.4	117	12	2.46	-19	-15	9	7	-681	-244	345	197
351	33	13	1	13.00	Y	20	7/18/2008	137	43-37/43-37-1	Different Probes	87	12	Unable to Calc	-19	-7	19	7	-413	-11	270	141
351	34	20	1	20.00	Y	20	7/18/2008	24	43-37	46.4	153	12	2.35	-19	-14	32	9	-558	-300	229	128
351	35	23.6	1	23.60	Y	26	7/18/2008	137	43-37/43-37-1	Different Probes	169	12	Unable to Calc	-19	-5	30	8	-545	-21	253	166
351	36	17	1	17.00	Y	20	7/18/2008	24	43-37	46.4	149	12	2.05	-19	-14	24	9	-542	-272	125	124
351	39	755	2	377.50	Y	20	8/11/2008	139	43-37/43-37-1	Different Probes	3414	12	Unable to Calc	-7	-3	32	6	-716	-240	371	159
351	40	756	2	378.00	N	20	8/14/2008	139	43-37-1	64.1	522	12	9.41	-11	-7	16	5	-186	221	515	108
351	42	73	1	73.00	Y	20	7/12/2008	67	43-37-1	64.1	514	12	1.85	-13	-6	26	7	-542	-142	302	148
351	43	71	1	71.00	Y	20	7/12/2008	67	43-37-1	64.1	399	12	2.31	-13	-6	24	7	-426	-179	126	96
351	44	70	1	70.00	Y	20	7/11/2008	24	43-37/43-37-1	Different Probes	554	12	Unable to Calc	-19	-7	32	11	-311	-13	518	140
351	45	65	1	65.00	Y	22	7/11/2008	67	43-37-1	64.1	506	12	1.67	-13	-4	36	8	-401	-138	148	91
351	46	71	1	71.00	Y	20	7/11/2008	24	43-37/43-37-1	Different Probes	529	12	Unable to Calc	-19	-6	26	8	-389	-128	136	98
351	47	70	1	70.00	Y	25	7/9/2008	24	43-37/43-37-1	Different Probes	470	12	Unable to Calc	-19	-1	50	12	-439	45	374	160
351	48	73	1	73.00	Y	20	7/10/2008	24	43-37	46.4	391	12	3.35	-19	-10	30	11	-436	-63	263	124
351	49	73	1	73.00	Y	20	7/10/2008	24	43-37/43-37-1	Different Probes	390	12	Unable to Calc	-19	-7	30	9	-376	425	812	215
351	50	73	1	73.00	Y	22	7/10/2008	24	43-37/43-37-1	Different Probes	393	12	Unable to Calc	-19	-8	33	8	-431	-95	170	102
351	51	70	1	70.00	Y	50	7/11/2008	24	43-37	46.4	483	12	2.60	-19	-11	30	10	-684	-70	6361	376
351	52	720	2	360.00	N	20	8/25/2008	139	43-37-1	64.1	772	12	6.06	-4	-1	24	5	-76	170	480	100
351	53	75	2	37.50	Y	20	10/21/2008	24	43-37	46.4	1928	12	0.35	-6	2	24	7	-467	-114	388	130
351	54	10	2	5.00	Y	20	8/19/2008	139	43-37-1	64.1	125	12	0.52	-3	0	15	5	-208	-53	192	84
351A	1	14.63	1	14.63	Y	20	8/18/2008	67	43-37-1	64.1	162	12	1.17	-15	-9	28	8	-283	13	403	140
351A	2	28.47	1	28.47	Y	20	8/19/2008	67	43-37-1	64.1	162	12	2.28	-15	-9	31	9	-293	26	383	112
351A	3	42.87	1	42.87	Y	20	8/23/2008	24	43-37	46.4	371	12	2.08	-16	-11	26	9	-366	-63	223	112
351A	5	57.86	1	57.86	Y	46	8/19/2008	67	43-37-1	64.1	295	12	2.55	-15	-9	34	8	-258	12	344	115
351A	6	12.6	1	12.60	Y	20	8/23/2008	67	43-37-1	64.1	126	12	1.30	-15	-9	25	8	-144	111	354	110
351A	7	75.22	1	75.22	Y	49	8/27/2008	67	43-37-1	64.1	969	12	1.01	-15	-7	38	9	-407	121	8801	968
351A	8	26.44	1	26.44	Y	20	8/6/2008	141	43-37-1	64.1	236	12	1.46	-5	0	23	6	-307	-65	242	97
351A	9	69.59	1	69.59	Y	20	8/6/2008	141	43-37-1	64.1	438	12	2.07	-5	-2	30	6	-302	-83	177	85
351A	10	69.65	1	69.65	Y	20	8/6/2008	142	43-37-1	64.1	452	12	2.00	-13	-8	19	7	-264	-36	214	91
351A	11	24	1	24.00	Y	20	8/6/2008	142	43-37-1	64.1	214	12	1.46	-13	-8	18	6	-330	-17	334	138
351A	12	67	1	67.00	Y	20	8/8/2008	70	43-37	46.4	445	12	2.70	-13	-9	45	8	-388	-31	296	114
351A	13	92.34	1	92.34	Y	20	8/28/2008	24	43-37	46.4	1069	12	1.55	-16	-8	45	10	-477	-71	425	116
351A	14	44	1	44.00	Y	20	8/13/2008	67	43-37-1	64.1	345	12	1.66	-15	-9	16	7	-403	-54	335	142
351A	16	22.01	1	22.01	Y	20	8/25/2008	67	43-37-1	64.1	319	12	0.90	-16	-11	22	8	-322	-13	349	127
351A	18	23.3	1	23.30	Y	20	8/25/2008	67	43-37-1	64.1	232	12	1.31	-15	-9	32	8	-345	37	684	197
351A	19	52.04	1	52.04	Y	46	8/7/2008	141	43-37-1	64.1	270	12	2.51	-5	-2	20	6	-521	-221	27	116
351A	20	56.35	1	56.35	Y	20	8/7/2008	142	43-37-1	64.1	319	12	2.30	-13	-9	14	6	-341	-3	286	108
351A	21	63.64	1	63.64	Y	20	8/27/2008	67	43-37-1	64.1	709	12	1.17	-16	-8	42	10	-438	-68	664	204

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
351A	22	54.85	1	54.85	Y	20	8/7/2008	67	43-37-1	64.1	355	12	2.01	-13	-7	29	7	-705	-352	28	160
351A	23	42.28	1	42.28	Y	20	8/8/2008	141	43-37-1	64.1	232	12	2.37	-5	-1	26	7	-416	-152	309	102
351A	24	31.38	1	31.38	Y	20	8/13/2008	67	43-37-1	64.1	271	12	1.51	-15	-9	31	8	-340	15	491	196
351A	25	49.56	1	49.56	Y	46	8/7/2008	67	43-37-1	64.1	330	12	1.95	-15	-8	17	7	-337	-8	335	136
351A	26	57.05	1	57.05	Y	66	8/8/2008	142	43-37-1	64.1	389	12	1.91	-5	-1	34	7	-1088	-175	7800	579
351A	27	60.7	1	60.70	Y	20	8/8/2008	141	43-37-1	64.1	323	12	2.44	-12	-9	20	6	-496	-116	304	104
351A	29	16.24	1	16.24	Y	20	8/14/2008	67	43-37-1	64.1	347	12	0.61	-16	-10	45	9	-371	-31	465	173
351A	30	54.39	1	54.39	Y	20	8/27/2008	24	43-37	46.4	630	12	1.55	-13	-7	31	8	-619	-53	1183	236
351A	31	30.13	1	30.13	Y	20	8/15/2008	24	43-37	46.4	471	12	1.15	-16	-11	28	8	-369	-64	323	133
351A	32	94.69	1	94.69	Y	46	8/12/2008	67	43-37-1	64.1	738	12	1.67	-15	-9	28	8	-340	56	422	119
351A	33	94.56	1	94.56	Y	20	8/18/2008	24	43-37	46.4	868	12	1.96	-16	-11	57	9	-375	-64	323	118
351A	34	14.46	1	14.46	Y	20	8/15/2008	24	43-37	46.4	148	12	1.75	-14	-8	26	9	-121	168	751	145
351A	35	22.6	1	22.60	Y	20	8/15/2008	24	43-37	46.4	316	12	1.28	-16	-9	26	9	-306	-5	353	125
351A	36	55.06	1	55.06	Y	74	8/13/2008	24	43-37	46.4	642	12	1.54	-16	-10	32	9	-396	-22	365	152
351A	37	12.52	1	12.52	Y	46	8/13/2008	67	43-37-1	64.1	129	12	1.26	-15	-9	18	8	-366	-15	323	176
351A	38	13.68	1	13.68	Y	20	8/13/2008	24	43-37	46.4	181	12	1.36	-14	-8	24	9	-230	100	388	138
351A	39	13.95	1	13.95	Y	20	8/18/2008	67	43-37-1	64.1	130	12	1.40	-15	-10	23	8	-361	-33	259	149
351A	40	95.61	1	95.61	Y	20	8/14/2008	67	43-37-1	64.1	606	12	2.05	-15	-9	37	8	-405	-5	390	156
351A	41	43.38	1	43.38	Y	20	8/14/2008	24	43-37	46.4	383	12	2.03	-16	-9	30	9	-352	-45	305	124
351A	42	89.64	1	89.64	Y	20	8/28/2008	67	43-37-1	64.1	978	12	1.19	-15	-6	25	9	-312	17	480	153
351A	43	14.93	1	14.93	Y	48	8/15/2008	67	43-37-1	64.1	176	12	1.10	-15	5	170	32	-290	92	886	286
351A	44	14.13	1	14.13	Y	20	8/15/2008	67	43-37-1	64.1	179	12	1.03	-15	-7	26	9	-335	-41	304	153
351A	45	990.41	2	495.21	Y	20	8/4/2009	336	43-37-1	64.1	1821	12	3.54	-8	-4	15	5	-308	-52	272	100
351A	46	871.58	2	435.79	Y	20	8/5/2009	336	43-37-1	64.1	1699	12	3.33	-8	-4	15	5	-330	-42	330	92
351A	47	826.14	2	413.07	Y	20	8/3/2009	336	43-37-1	64.1	1450	12	3.70	-8	-4	27	5	-722	-74	258	104
364	1	5	1	5.00	Y	20	4/22/2008	70	43-37	46.4	105	12	0.86	-7	-3	11	5	-433	-145	13	92
364	2	13	1	13.00	Y	20	5/3/2008	70	43-37	46.4	595	12	0.39	-7	33	496	78	-544	246	2175	528
364	3	22	1	22.00	Y	20	4/28/2008	70	43-37	46.4	573	12	0.69	-7	-3	15	5	-388	1207	13876	3075
364	4	23	1	23.00	Y	20	4/30/2008	70	43-37	46.4	288	12	1.43	-7	-3	11	5	-490	-128	127	121
364	5	9	1	9.00	Y	20	4/29/2008	70	43-37	46.4	144	12	1.12	-7	-3	11	5	-476	-206	129	145
364	6	27	1	27.00	Y	20	5/1/2008	70	43-37	46.4	129	12	3.76	-7	-4	11	5	-407	-105	143	126
364	7	95	1	95.00	Y	20	5/2/2008	70	43-37	46.4	468	12	3.65	-7	-3	11	5	-507	-179	124	101
364	8	52	1	52.00	Y	20	4/22/2008	70	43-37	46.4	259	12	3.61	-7	-4	11	5	-508	-237	20	97
364	9	34	1	34.00	Y	20	4/26/2008	70	43-37	46.4	224	12	2.73	-7	0	12	6	-508	-105	131	122
364	10	39	1	39.00	Y	20	4/23/2008	70	43-37	46.4	316	12	2.22	-7	-3	11	5	-401	-185	108	91
364	11	30	1	30.00	Y	20	5/8/2008	70	43-37	46.4	326	12	1.65	-7	-2	11	6	-466	-210	106	110
364	12	202	2	101.00	Y	20	5/9/2008	70	43-37	46.4	1199	12	1.51	-7	-3	11	5	-354	-85	196	111
365	13	8	1	8.00	Y	20	4/9/2008	70	43-37	46.4	168	12	0.86	-13	-8	13	6	-216	-10	222	89
365	14	13	1	13.00	Y	20	4/9/2008	70	43-37	46.4	250	12	0.93	-13	-7	15	7	-296	25	210	91
365	15	6	1	6.00	Y	20	4/9/2008	70	43-37	46.4	158	12	0.68	-13	-8	15	6	-159	62	305	82
365	16	0.9	1	0.90	Y	20	4/5/2008	6	43-68	19.8	313	12	0.12	-13	-11	57	7	-425	45	629	217
365	17	6	1	6.00	Y	20	4/9/2008	70	43-37	46.4	420	12	0.26	-13	-9	11	6	-322	-37	158	97
365	18	39	1	39.00	Y	20	4/9/2008	70	43-37	46.4	836	12	0.84	-13	-7	15	5	-322	-14	281	93
365	19	92	2	46.00	Y	20	4/15/2008	70	43-37	46.4	741	12	1.11	-13	-9	11	6	-182	6	170	73
366	1	26	1	26.00	Y	20	7/16/2008	25	43-68	19.8	444	12	2.46	-24	-14	62	16	-479	1	836	234
366	2	42.93	1	42.93	Y	20	7/23/2008	25	43-68	19.8	406	12	4.45	-15	-5	84	11	-555	-1	878	178
366	3	34.62	1	34.62	Y	20	7/23/2008	25	43-68	19.8	193	12	7.55	-24	-10	80	17	-472	77	592	183
366	4	40.17	1	40.17	Y	20	8/4/2008	25	43-68	19.8	227	12	7.45	-11	0	75	11	-354	44	518	132
366	5	63.94	1	63.94	Y	20	7/23/2008	25	43-68	19.8	449	12	5.99	-24	-4	80	12	-391	72	666	119
366	6	26.96	1	26.96	Y	20	8/2/2008	25	43-68	19.8	165	12	6.88	-21	-8	47	10	-421	116	739	202
366	7	93.08	1	93.08	Y	20	7/25/2008	70	43-37	46.4	465	12	3.60	-5	1	34	7	-313	66	356	93
366	8	94.76	1	94.76	N	20	7/25/2008	70	43-37	46.4	380	12	4.48	-3	2	41	8	-23	280	557	98
366	9	94.76	1	94.76	N	20	7/28/2008	142	43-37-1	64.1	392	12	3.14	-13	-8	22	7	-142	46	347	81
366	10	94.76	1	94.76	N	20	7/29/2008	142	43-37-1	64.1	379	12	3.25	-5	2	54	9	-330	31	395	124
366	11	97.62	1	97.62	N	20	4/12/2008	11	43-68	19.8	423	12	9.71	-14	0	65	10	-292	-25	534	108
366	12	84.21	1	84.21	Y	20	7/31/2008	142	43-37-1	64.1	318	12	3.44	-5	0	25	6	-265	-73	184	78
366	13	77.38	1	77.38	Y	22	8/1/2008	8	43-68/43-37	Different Probes	640	12	Unable to Calc	-17	-3	92	17	-655	-128	694	179
366	14	97.37	1	97.37	Y	20	8/1/2008	70	43-37	46.4	475	12	3.68	-5	-1	37	8	-428	-89	272	119
366	18	82.01	1	82.01	Y	20	4/12/2008	11	43-68	19.8	805	12	4.29	-24	-6	62	15	-513	-163	464	140
366	24	100	1	100.00	Y	20	7/16/2008	25	43-68	19.8	601	12	7.00	-24	-13	37	9	-502	15	636	140
366	25	84.52	1	84.52	Y	20	7/14/2008	69	43-37-1	64.1	412	12	2.67	-17	-12	27	8	-355	-60	220	94
366	26	84.52	1	84.52	Y	20	7/15/2008	70	43-37	46.4	444	12	3.42	-15	-2	35	7	-298	76	373	97
366	27	84.52	1	84.52	N	20	7/15/2008	142	43-37-1	64.1	389	12	2.82	-13	-8	29	7	-134	108	391	81
366	28	81.55	1	81.55	Y	20	7/18/2008	25	43-68	19.8	614	12	5.59	-24	-13	80	13	-509	24	710	157
366	31	84.52	1	84.52	N	20	7/14/2008	142	43-37-1	64.1	390	12	2.82	-13	-8	25	7	-34	171	417	79
366	32	84.52	1	84.52	N	20	4/15/2008	11	43-68	19.8	439	12	8.10	-14	-8	65	9	-262	185	508	140
366	33	87.32	1	87.32	N	20	7/31/2008	70	43-37	46.4	397	12	3.95	-5	-1	43	7	-445	-52	277	114
366	34	87.32	1	87.32	Y	20	7/31/2008	70	43-37	46.4	417	12	3.76	-13	-1	31	8	-328	37	381	113
366	35	87.32	1	87.32	Y	20	7/31/2008	70	43-37	46.4	459	12	3.42	-13	-9	36	8	-274	159	507	130

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
366	36	87.32	1	87.32	Y	20	7/31/2008	70	43-37	46.4	419	12	3.74	-13	-1	45	7	-346	53	335	92
366	37	86.58	1	86.58	Y	20	8/1/2008	70	43-37	46.4	412	12	3.77	-13	-1	27	7	-276	-36	305	87
366	38	81.56	1	81.56	Y	20	7/18/2008	25	43-68	19.8	464	12	7.40	-24	-4	97	11	-317	-25	474	119
366	43	89.6	1	89.60	Y	22	7/3/2008	25	43-68	19.8	661	12	5.71	-24	-11	148	17	-324	89	836	156
366	44	95	1	95.00	Y	20	7/2/2008	9	43-68	19.8	609	12	6.57	-21	-12	89	12	-613	-117	458	133
366	45	88.01	1	88.01	Y	20	7/2/2008	9	43-68	19.8	505	12	7.33	-17	-11	46	9	-703	-134	159	129
366	46	88.95	1	88.95	Y	20	7/2/2008	9	43-68	19.8	481	12	7.78	-13	-9	85	8	-520	69	326	107
366	47	90.08	1	90.08	Y	20	7/1/2008	25	43-68	19.8	662	12	5.73	-15	-6	88	12	-1044	-359	690	242
366	48	82.59	1	82.59	Y	20	5/29/2008	9	43-68	19.8	707	12	4.92	-17	-10	85	11	-560	-32	440	137
366	49	77.85	1	77.85	Y	20	5/29/2008	9	43-68	19.8	556	12	5.89	-17	-11	50	9	-415	-67	530	124
366	50	55.91	1	55.91	Y	20	5/28/2008	24	43-37	46.4	362	12	2.77	-17	-12	19	7	-371	-16	320	116
366	51	8.99	1	8.99	Y	20	6/11/2008	24	43-37	46.4	142	12	1.14	-9	-1	39	10	-386	-121	93	97
366	52	16.72	1	16.72	Y	20	6/11/2008	24	43-37	46.4	252	12	1.19	-17	1	28	8	-272	-21	313	92
366	53	61.86	1	61.86	Y	20	8/2/2008	25	43-68	19.8	433	12	6.01	-13	-3	64	12	-752	-50	762	211
366	54	74.7	1	74.70	Y	20	5/19/2008	9	43-68	19.8	679	12	4.63	-17	-7	79	16	-565	-39	591	185
366	55	55.91	1	55.91	Y	21	5/28/2008	9	43-68	19.8	381	12	6.18	-13	-2	85	11	-434	-60	1738	174
366	56	75.09	1	75.09	Y	20	6/5/2008	25	43-68	19.8	716	12	4.41	-24	-12	88	17	-487	116	821	177
366	57	4.08	1	4.08	N	20	5/6/2008	24	43-37	46.4	39	12	1.88	-4	1	48	11	-271	-60	166	108
366	58	78.59	1	78.59	Y	46	6/4/2008	25	43-68	19.8	744	12	4.45	-24	-15	88	16	-590	75	828	214
366	59	73.9	1	73.90	Y	20	6/6/2008	25	43-68	19.8	512	12	6.07	-24	-12	80	15	-376	121	732	158
366	60	757.03	2	378.52	Y	22	4/25/2008	11	43-68	19.8	2563	12	6.22	-20	-12	148	16	-703	-106	1359	233
366	61	934.17	2	467.09	Y	20	4/10/2008	11	43-68	19.8	2550	12	7.71	-25	-13	161	15	-1060	-245	783	275
366	62	919.12	2	459.56	Y	22	3/28/2008	6	43-68	19.8	2875	12	6.73	-20	-13	95	15	-1044	-256	3307	248
366	63	932.09	2	466.05	Y	22	4/7/2008	11	43-68	19.8	2550	12	7.69	-16	-9	79	12	-962	-245	1977	205
366	64	198.6	2	99.30	N	20	4/3/2008	11	43-68	19.8	680	12	6.15	-16	-9	178	15	-742	-223	432	199
366	65	188.05	2	94.03	N	20	5/2/2008	11	43-68	19.8	625	12	6.33	-16	-9	118	16	-690	-171	516	202
366	66	113	2	56.50	N	20	5/1/2008	16	43-68	19.8	277	12	8.58	-8	-2	96	19	-658	-125	712	237
366	67	113	2	56.50	N	20	5/5/2008	11	43-68	19.8	254	12	9.36	-21	-9	83	17	-732	-181	871	248
366	68	113	2	56.50	N	20	5/5/2008	11	43-68	19.8	286	12	8.31	-19	-10	140	18	-669	-190	286	188
366	69	766	3	191.50	Y	70	6/14/2008	9	43-68	19.8	5477	12	1.47	-24	-5	265	29	-804	-28	5098	310
366	70	24	1	24.00	N	20	2/5/2010	354	43-68	19.8	454	12	2.22	-7	-2	56	11	-217	188	611	239
401	1	91	1	91.00	Y	20	7/1/2008	147	43-37	46.4	702	12	2.33	-12	-4	41	9	-559	-145	498	196
401	2	79	1	79.00	Y	46	7/1/2008	147	43-37	46.4	1352	12	1.05	-9	-1	42	9	-320	44	729	217
401	3	85	1	85.00	Y	20	7/12/2008	70	43-37	46.4	534	12	2.86	-6	0	33	7	-232	130	465	150
401	4	85	1	85.00	Y	20	7/14/2008	147	43-37	46.4	464	12	3.29	-12	-3	39	9	-470	-187	187	128
401	5	18	1	18.00	Y	20	7/1/2008	147	43-37	46.4	243	12	1.33	-12	-5	32	7	-497	-142	254	174
401	6	4	1	4.00	Y	20	7/18/2008	70	43-37	46.4	131	12	0.55	-6	-3	20	6	-214	86	647	181
401	7	13	1	13.00	Y	19	6/30/2008	147	43-37	46.4	257	12	0.91	-12	-4	24	8	-453	-71	529	203
401	8	25	1	25.00	Y	20	7/12/2008	70	43-37	46.4	262	12	1.71	-6	-1	24	7	-273	88	443	162
401	9	12	1	12.00	Y	20	6/28/2008	70	43-37	46.4	196	12	1.10	-3	-1	25	5	-271	143	634	168
401	10	84	1	84.00	Y	20	7/11/2008	70	43-37	46.4	557	12	2.71	-4	1	41	7	-130	133	488	98
401	11	79	1	79.00	Y	20	7/11/2008	70	43-37	46.4	427	12	3.32	-4	1	35	7	-154	188	556	110
401	12	82	1	82.00	Y	20	7/10/2008	70	43-37	46.4	420	12	3.51	-4	1	53	7	-105	287	611	130
401	13	67	1	67.00	Y	20	7/10/2008	70	43-37/43-37-1	Different Probes	371	12	Unable to Calc	-4	2	46	8	-110	283	1128	169
401	14	9	1	9.00	Y	20	6/28/2008	24	43-37	46.4	132	12	1.22	-4	0	40	8	-216	49	486	114
401	15	26	1	26.00	Y	20	7/14/2008	147	43-37	46.4	318	12	1.47	-12	-2	39	9	-486	-52	387	208
401	16	76	1	76.00	Y	20	6/30/2008	147	43-37	46.4	584	12	2.34	-9	-2	41	9	-476	-93	437	196
401	17	79	1	79.00	Y	20	6/30/2008	147	43-37	46.4	803	12	1.77	-9	-3	38	7	-488	-128	292	175
401	18	16	1	16.00	Y	20	6/28/2008	70	43-37	46.4	192	12	1.50	-3	0	31	7	-76	174	485	108
401	19	19	1	19.00	Y	20	6/28/2008	24	43-37	46.4	230	12	1.48	-4	0	40	8	-125	182	586	130
401	20	17	1	17.00	Y	20	6/28/2008	24	43-37	46.4	265	12	1.15	-4	0	46	8	-211	64	431	126
401	21	25	1	25.00	Y	20	6/28/2008	9	43-68	19.8	442	12	2.38	-10	-3	114	14	-886	8	6694	400
401	22	18	1	18.00	Y	20	6/28/2008	9	43-68	19.8	418	12	1.81	-10	-3	96	11	-606	-39	645	219
401	24	74	1	74.00	Y	20	7/16/2008	70	43-37	46.4	571	12	2.33	-3	1	55	8	-228	54	372	89
401	25	74	1	74.00	Y	20	7/16/2008	70	43-37	46.4	411	12	3.23	-6	2	52	11	-515	20	870	125
401	26	74	1	74.00	Y	20	7/17/2008	70	43-37	46.4	381	12	3.49	-3	0	31	6	-367	-129	883	101
401	27	3	1	3.00	Y	20	7/17/2008	70	43-37	46.4	139	12	0.39	-3	0	39	7	-141	55	315	92
401	28	50	1	50.00	Y	20	7/17/2008	70	43-37	46.4	420	12	2.14	-3	0	41	7	-255	9	356	91
401	29	6	1	6.00	Y	20	7/17/2008	70	43-37	46.4	129	12	0.84	-3	1	27	7	-216	-18	214	91
401	30	507	2	253.50	N	20	6/23/2008	158	43-68	19.8	1694	12	6.30	-18	-1	98	10	-590	-17	598	121
401	31	616	2	308.00	N	20	6/18/2008	158	43-68	19.8	1818	12	7.13	-18	-10	90	14	-759	-78	994	225
401	32	86	1	86.00	Y	20	7/9/2008	70	43-37	46.4	649	12	2.38	-3	1	45	8	-78	321	753	169
401	33	2	1	2.00	Y	20	7/14/2008	147	43-37	46.4	71	12	0.51	-9	1	31	8	-159	51	317	103
401	34	3	1	3.00	Y	20	7/14/2008	147	43-37	46.4	55	12	0.98	-12	-3	27	8	-350	-97	175	125
401	35	13	1	13.00	Y	20	7/14/2008	70	43-37	46.4	188	12	1.24	-3	0	35	7	-84	160	502	128
401	36	3	1	3.00	Y	20	7/22/2008	70	43-37	46.4	70	12	0.77	-3	0	23	6	-164	49	260	95
406	1	97.13	1	97.13	Y	20	4/27/2010	425	43-37-1	64.1	495	12	2.55	-9	-4	16	6	-705	-140	535	210
406	2	97.13	1	97.13	Y	20	4/26/2010	425	43-37-1	64.1	370	12	3.41	-9	-5	12	5	-937	-176	320	213
406	3	56.61	1	56.61	Y	20	4/26/2010	425	43-37-1	64.1	294	12	2.50	-9	-5	12	6	-736	-114	542	280

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
406	4	97.13	1	97.13	Y	20	4/26/2010	425	43-37-1	64.1	401	12	3.15	-9	-5	12	6	-894	-134	271	193
406	5	97.13	1	97.13	Y	20	4/23/2010	425	43-37-1	64.1	422	12	2.99	-9	-4	19	7	-846	-147	336	237
406	6	97.13	1	97.13	Y	20	4/22/2010	425	43-37-1	64.1	422	12	2.99	-9	-4	14	6	-904	-35	549	290
406	7	78.02	1	78.02	Y	20	4/23/2010	425	43-37-1	64.1	380	12	2.67	-9	-4	16	6	-711	49	424	213
406	8	97.13	1	97.13	Y	20	4/30/2010	425	43-37-1	64.1	421	12	3.00	-9	-4	16	6	-671	-197	861	241
406	9	97.13	1	97.13	N	20	4/15/2010	425	43-37-1	64.1	309	12	4.09	-9	-5	13	6	-533	-149	249	126
406	10	99.59	1	99.59	N	20	4/16/2010	425	43-37-1	64.1	356	12	3.64	-9	-5	10	5	-639	-147	403	188
406	11	97.13	1	97.13	N	20	4/14/2010	425	43-37-1	64.1	336	12	3.76	-9	-5	12	5	-329	33	380	132
406	12	97.13	1	97.13	N	20	4/15/2010	425	43-37-1	64.1	339	12	3.72	-9	-2	14	6	-393	-56	254	124
406	13	97.13	1	97.13	N	20	4/15/2010	425	43-37-1	64.1	339	12	3.72	-9	-2	17	7	-350	9	397	130
406	14	94.54	1	94.54	Y	20	4/22/2010	425	43-37-1	64.1	405	12	3.03	-9	-3	14	6	-834	-37	368	222
406	15	97.13	1	97.13	Y	20	4/30/2010	425	43-37-1	64.1	409	12	3.09	-9	-4	14	6	-704	-255	246	156
406	16	97.13	1	97.13	N	20	4/14/2010	425	43-37-1	64.1	324	12	3.90	-9	-4	12	6	-530	-208	170	126
406	17	99.59	1	99.59	N	20	4/13/2010	425	43-37-1	64.1	359	12	3.61	-9	-4	16	6	-574	-81	300	164
406	18	97.13	1	97.13	N	20	4/9/2010	425	43-37-1	64.1	339	12	3.72	-9	-3	17	6	-344	-9	306	122
406	19	97.13	1	97.13	N	20	4/12/2010	425	43-37-1	64.1	330	12	3.83	-9	-4	16	6	-358	13	299	118
406	20	97.13	1	97.13	N	20	4/12/2010	425	43-37-1	64.1	326	12	3.87	-9	-4	14	6	-309	45	460	131
406	21	94.54	1	94.54	Y	20	4/22/2010	425	43-37-1	64.1	405	12	3.03	-9	0	256	24	-732	-12	1849	294
406	22	97.13	1	97.13	Y	20	5/3/2010	425	43-37-1	64.1	420	12	3.01	-9	-6	12	5	-585	-140	458	233
406	23	97.13	1	97.13	N	20	4/14/2010	425	43-37-1	64.1	319	12	3.96	-9	-6	12	5	-411	-109	321	136
406	24	99.59	1	99.59	N	20	4/13/2010	425	43-37-1	64.1	359	12	3.61	-9	-5	13	6	-425	-32	380	143
406	25	97.13	1	97.13	N	20	4/9/2010	425	43-37-1	64.1	339	12	3.72	-9	-3	14	6	-395	33	393	140
406	26	97.13	1	97.13	N	20	4/8/2010	425	43-37-1	64.1	346	12	3.65	-9	-5	17	6	-428	-44	349	143
406	27	97.13	1	97.13	N	20	4/8/2010	425	43-37-1	64.1	341	12	3.70	-9	-5	16	5	-393	-21	349	131
406	28	94.54	1	94.54	Y	20	4/21/2010	425	43-37-1	64.1	390	12	3.15	-9	-4	32	7	-715	-84	340	209
406	29	97.13	1	97.13	Y	20	4/27/2010	425	43-37-1	64.1	411	12	3.07	-9	-5	17	6	-725	-9	474	210
406	30	97.13	1	97.13	N	20	4/14/2010	425	43-37-1	64.1	319	12	3.96	-9	-5	10	5	-354	-31	291	118
406	31	99.59	1	99.59	N	20	4/13/2010	425	43-37-1	64.1	359	12	3.61	-9	-5	23	6	-690	-9	345	146
406	32	97.13	1	97.13	N	20	4/9/2010	425	43-37-1	64.1	339	12	3.72	-9	-4	27	7	-244	148	485	136
406	33	97.13	1	97.13	N	20	4/9/2010	425	43-37-1	64.1	338	12	3.74	-9	-3	13	6	-252	151	549	132
406	34	97.13	1	97.13	N	20	4/12/2010	425	43-37-1	64.1	335	12	3.77	-9	-5	26	6	-403	6	390	131
406	35	94.54	1	94.54	Y	20	4/21/2010	425	43-37-1	64.1	394	12	3.12	-9	-3	20	7	-789	-67	292	223
406	36	79.66	1	79.66	Y	20	4/21/2010	425	43-37-1	64.1	507	12	2.04	-9	-4	19	6	-795	-163	499	253
406	37	79.66	1	79.66	Y	20	4/20/2010	425	43-37-1	64.1	371	12	2.79	-9	-5	19	6	-786	-204	296	196
406	38	36.45	1	36.45	Y	20	4/20/2010	425	43-37-1	64.1	214	12	2.21	-9	-4	12	6	-678	-181	422	256
406	39	79.66	1	79.66	Y	20	4/19/2010	425	43-37-1	64.1	390	12	2.66	-9	-5	16	6	-409	-32	369	126
406	40	79.66	1	79.66	Y	20	4/19/2010	425	43-37-1	64.1	430	12	2.41	-9	-5	19	6	-449	-67	450	124
406	41	79.66	1	79.66	Y	20	4/16/2010	425	43-37-1	64.1	433	12	2.39	-9	-5	12	5	-520	1	467	137
406	42	94.54	1	94.54	Y	20	4/19/2010	425	43-37-1	64.1	473	12	2.60	-9	-4	17	6	-586	-97	331	138
406	43	590.26	2	295.13	Y	20	4/12/2010	427	43-37	46.4	1356	12	3.91	-6	-4	27	5	-234	14	341	88
408	1	322.38	1	322.38	N	18	7/8/2008	147	43-37	46.4	1041	12	5.56	-25	-5	86	20	-1021	-619	567	157
408	2	149.41	2	74.71	N	18	7/10/2008	147	43-37	46.4	412	12	3.26	-9	19	108	21	-353	-37	314	102
411	1	5630	3	1407.50	N	30	8/12/2008	142	43-37-1	64.1	1182	12	15.48	-9	-5	27	6	-460	-139	203	95
411	2	585.3	3	146.33	N	30	8/13/2008	142	43-37-1	64.1	690	12	2.76	-5	-1	40	6	-458	-54	487	125
411	3	3625	3	906.25	N	30	8/12/2008	70	43-37/43-37-1	Different Probes	9026	12	Unable to Calc	-6	-1	62	7	-929	-73	415	114
411	4	3625	3	906.25	N	30	8/18/2008	141	43-37-1	64.1	1653	12	7.13	-5	-2	34	6	-755	274	970	197
411	5	76.94	1	76.94	N	16	4/1/2010	425	43-37-1	64.1	290	12	3.45	-2	0	10	3	413	816	1219	144
411	6	73.56	1	73.56	N	16	4/1/2010	425	43-37-1	64.1	294	12	3.25	-2	2	33	6	260	760	1043	120
411	7	80.29	1	80.29	Y	16	4/1/2010	425	43-68/43-37-1	Different Probes	759	12	Unable to Calc	-12	-5	69	13	-498	373	1238	365
411	8	147.15	2	73.58	N	16	4/2/2010	425	43-37-1	64.1	280	12	3.42	-2	1	10	4	381	857	1307	165
411	9	56.56	1	56.56	N	16	4/2/2010	425	43-37-1	64.1	205	12	3.59	-2	0	11	3	212	519	853	110
411	10	56.56	1	56.56	N	16	4/1/2010	425	43-37-1	64.1	205	12	3.59	-2	0	15	4	116	429	728	114
411	11	100.1	2	50.05	N	16	4/2/2010	425	43-37-1	64.1	190	12	3.42	-2	2	22	5	248	509	988	115
414	14	89.57	1	89.57	N	20	5/4/2010	427	43-37	46.4	402	12	4.00	-3	2	30	8	-232	-62	270	78
414	15	78.96	1	78.96	N	20	5/6/2010	427	43-37	46.4	380	12	3.73	-3	5	67	10	-213	30	390	103
414	16	38.75	1	38.75	N	20	5/4/2010	427	43-37	46.4	166	12	4.19	-3	-1	26	6	-150	-38	92	57
414	17	89.57	1	89.57	N	20	5/4/2010	427	43-37	46.4	403	12	3.99	-3	-1	20	5	-257	-57	165	66
414	18	74.3	1	74.30	N	20	5/24/2010	427	43-37	46.4	350	12	3.81	-3	-2	11	3	-297	-60	88	89
414	19	49.97	1	49.97	N	20	5/6/2010	427	43-37	46.4	281	12	3.19	-3	5	57	9	-161	109	461	99
414	20	431.8	2	215.90	N	20	4/27/2010	427	43-37	46.4	1686	12	2.30	-3	-1	32	5	-610	-287	178	105
439	1	97.83	1	97.83	N	16	6/11/2008	70	43-68/43-37	Different Probes	3387	12	Unable to Calc	-9	-4	183		-640	-218	346	
439	2	97.83	1	97.83	N	16	1/22/2008	10	43-68/43-37	Different Probes	4046	12	Unable to Calc	-8	-3	45		-640	-197	487	
439	3	509	2	254.50	N	16	2/7/2008	10	43-68	19.8	2073	12	5.17	-8	-4	183		-318	238	1679	
439	4	36	1	36.00	N	9	6/14/2008	70	43-37	46.4	90	12	7.18	-3	-1	21	5	-375	-264	-123	61
439	6	88	2	44.00	N	16	6/27/2008	70	43-37	46.4	246	12	3.21	-4	0	28	7	178	479	732	99
500	1	66.92	1	66.92	Y	20	9/30/2011	589	43-37-1	64.1	499	12	1.74	-5	1	25	8	-235	15	287	97
500	2	66.06	1	66.06	Y	20	10/4/2011	589	43-37-1	64.1	613	12	1.40	-5	0	27	7	-316	-78	187	85
500	3	132.36	2	66.18	Y	20	9/30/2011	589	43-37-1	64.1	360	12	2.39	-5	2	21	7	-307	-39	224	86
509	1	499.28	1	499.28	N	32	6/23/2011	509	43-37-1	64.1	1800	12	3.61	-12	1	43	9	-751	-153	299	189

Building	Survey Unit	Area (m^2)	Class	Scan Area (m^2)	Wall Excluded	Systematic Total	Scan Date	Scan Instrument ID	Scan Probe Model Type	Probe Length (cm)	Scan Total	Scan Interval (s)	Approx. Speed (cm/s)	Alpha DPM/100 cm^2				Beta DPM/100 cm^2			
														Min	Average	Max	Standard Dev	Min	Average	Max	Standard Dev
517	1	249.86	1	249.86	N	20	6/22/2011	509	43-37-1	64.1	871	12	3.73	-12	4	25	9	-428	-7	219	131
521	1	86.4	1	86.40	Y	20	1/16/2012	589	43-37-1	64.1	334	12	3.36	-11	-1	17	9	-412	-81	574	175
521	2	91.72	1	91.72	Y	20	1/17/2012	589	43-37-1	64.1	320	12	3.73	-11	-6	15	6	-462	-17	673	224
521	3	98.46	1	98.46	Y	20	1/13/2012	589	43-37-1	64.1	430	12	2.98	-11	-4	17	7	-338	-11	656	216
521	4	218.9	2	109.45	N	20	1/5/2012	589	43-37-1	64.1	372	12	3.83	-10	-1	19	8	-484	100	694	339
521	5	64.54	1	64.54	N	20	1/3/2012	589	43-37-1	64.1	231	12	3.63	-10	1	21	9	-326	-18	310	88
521	6	57.97	1	57.97	Y	20	12/9/2011	589	43-37-1	64.1	390	12	1.93	-10	6	28	11	-299	1	333	98
521	7	62.7	1	62.70	N	20	12/9/2011	589	43-37-1	64.1	235	12	3.47	-10	1	28	10	-355	-56	266	102
810	1	98.36	1	98.36	N	20	5/20/2010	425	43-37-1	64.1	349	12	3.66	-9	-4	12	6	-470	-71	273	149
810	2	98.36	1	98.36	N	20	5/19/2010	425	43-37-1	64.1	352	12	3.63	-9	-3	13	6	-481	-26	376	157
810	3	98.36	1	98.36	N	20	5/18/2010	425	43-37-1	64.1	350	12	3.65	-9	-4	12	6	-314	57	432	140
810	4	98.36	1	98.36	N	20	5/21/2010	425	43-37-1	64.1	362	12	3.53	-9	-5	12	6	-534	-117	252	124
810	5	98.36	1	98.36	N	20	5/13/2010	425	43-37-1	64.1	346	12	3.70	-9	-3	12	6	-240	72	413	124
810	6	98.36	1	98.36	N	20	5/12/2010	425	43-37-1	64.1	345	12	3.71	-9	-5	10	6	-291	53	413	121
810	7	71.54	1	71.54	N	20	5/12/2010	425	43-37-1	64.1	270	12	3.44	-9	-5	12	5	-235	55	395	126
810	8	82.8	1	82.80	N	20	5/21/2010	425	43-37-1	64.1	360	12	2.99	-9	-5	14	5	-404	-83	260	134
810	9	98.36	1	98.36	N	20	5/20/2010	425	43-37-1	64.1	348	12	3.67	-9	-5	12	6	-359	-100	355	125
810	10	98.36	1	98.36	N	20	5/18/2010	425	43-37-1	64.1	346	12	3.70	-9	-4	13	6	-313	3	374	139
810	11	98.36	1	98.36	N	20	5/17/2010	425	43-37-1	64.1	352	12	3.63	-9	-5	12	6	-295	-23	272	112
810	12	98.36	1	98.36	N	20	5/13/2010	425	43-37-1	64.1	346	12	3.70	-9	-4	12	6	-471	-26	409	121
810	13	98.36	1	98.36	N	20	5/13/2010	425	43-37-1	64.1	345	12	3.71	-9	-5	12	6	-457	-113	183	118
810	14	20.27	1	20.27	N	20	5/21/2010	425	43-37-1	64.1	147	12	1.79	-9	-4	12	6	-312	102	470	132
810	15	94.84	1	94.84	N	20	5/20/2010	425	43-37-1	64.1	348	12	3.54	-9	-5	13	6	-324	-73	325	122
810	16	98.48	1	98.48	N	20	5/19/2010	425	43-37-1	64.1	367	12	3.49	-9	-3	12	6	-454	-127	206	116
810	17	98.48	1	98.48	N	20	5/17/2010	425	43-37-1	64.1	353	12	3.63	-9	-4	12	6	-340	35	459	123
810	18	98.48	1	98.48	N	20	5/14/2010	425	43-37-1	64.1	361	12	3.55	-9	-4	12	6	-331	-68	283	117
810	19	98.48	1	98.48	N	20	5/14/2010	425	43-37-1	64.1	361	12	3.55	-9	-5	12	6	-576	-101	203	109
810	20	69.97	1	69.97	N	20	5/12/2010	425	43-37-1	64.1	270	12	3.37	-9	-4	12	6	-383	40	481	129
810	21	82.35	1	82.35	N	20	5/10/2010	425	43-37-1	64.1	368	12	2.91	-10	-5	17	6	-190	307	740	183
810	22	82.36	1	82.36	N	20	5/11/2010	425	43-37-1	64.1	372	12	2.88	-10	-5	10	6	-233	105	508	158
810	23	82.94	1	82.94	N	20	5/11/2010	425	43-37-1	64.1	400	12	2.70	-10	-5	14	6	-371	72	440	110
810	24	85.32	1	85.32	N	20	5/11/2010	425	43-37-1	64.1	378	12	2.93	-10	-5	11	5	-251	10	441	133
810	25	81.17	1	81.17	N	20	6/4/2010	425	43-37-1	64.1	410	12	2.57	-9	-1	12	6	55	438	812	150
810	26	81.32	1	81.32	N	20	6/4/2010	425	43-37-1	64.1	339	12	3.12	-9	0	13	6	-424	217	815	326
810	27	64.26	1	64.26	N	20	6/7/2010	425	43-37-1	64.1	250	12	3.34	-9	-1	13	6	-149	279	724	191
810	28	64.26	1	64.26	Y	20	6/8/2010	425	43-37-1	64.1	254	12	3.29	-9	0	15	7	-252	223	599	173
810	29	361.28	2	180.64	N	20	5/6/2010	425	43-37-1	64.1	651	12	3.61	-10	-3	11	6	-138	202	656	173
NPR	12	217.72	1	217.72	N	621	1/16/2014	889	43-37-1	64.1	3707	4	2.29					-573	-128	542	168
NPR	13	169.11	1	169.11	N	714	1/17/2014	889	43-37-1	64.1	2869	4	2.30					-476	-16	607	159