


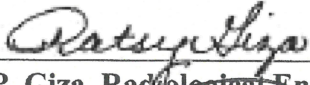


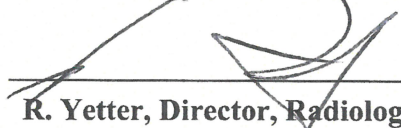
**LA CROSSE BOILING WATER REACTOR
FINAL STATUS SURVEY RELEASE RECORD**


**LACBWR CRIB HOUSE
SURVEY UNIT B2-010-101**



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LIST OF ACRONYMS AND ABBREVIATIONS

ALARA	As Low As Reasonably Achievable
ASP	Alarm Set Point
DQA	Data Quality Assessment
DQO	Data Quality Objective
DCGL	Derived Concentration Guideline Level
DCGL _{AGB}	Above Grade Building Derived Concentration Guideline Level
FSS	Final Status Survey
GPS	Global Positioning System
G-1	Genoa 1
HSA	Historical Site Assessment
IC	Insignificant Contributors
LACBWR	La Crosse Boiling Water Reactor
LBGR	Lower Bound of the Gray Region
LTP	License Termination Plan
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDC	Minimum Detectable Concentration
MDCR	Minimal Detectable Count Rate
OpDCGL _{AGB}	Above Grade Building Operational Derived Concentration Guideline Level
QAPP	Quality Assurance Project Plan
QC	Quality Control
ROC	Radionuclides of Concern
SOF	Sum-of-Fraction
TEDE	Total Effective Dose Equivalent
UBGR	Upper Bound of the Gray Region
UCL	Upper Confidence Limit
URS	Unconditional Release Survey
USNRC	United States Nuclear Regulatory Commission

1. EXECUTIVE SUMMARY

This Final Status Survey (FSS) Release Record for survey unit B2-010-101, LACBWR Crib House, has been generated in accordance with LaCrosseSolutions procedure LC-FS-PR-009, *Final Status Survey Data Reporting* (Reference 1) and satisfies the requirements of Section 5.11 of the *La Crosse Boiling Water Reactor License Termination Plan* (LACBWR LTP) (Reference 2).

An FSS sample plan for this survey unit was developed in accordance with LaCrosseSolutions procedures LC-FS-PR-015, *Final Status Surveys for Structures* (Reference 3) and LC-FS-PR-002, *Final Status Survey Package Development* (Reference 4), the LACBWR LTP, and with guidance from NUREG-1575, Revision 1, *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM) (Reference 5).

This above grade building survey unit has a MARSSIM classification of 2. A survey plan was designed based upon use of the Sign Test as the nonparametric statistical test for compliance. Both the Type I (α) and Type II (β) decision error rates were set at 0.05. As a systematic measurement population, twenty-eight (28) static beta measurements were acquired from the survey unit. In addition, surface scanning was performed on approximately 30% of the total surface area in the survey unit. The data assessment results for survey unit B2-010-101 indicate that the maximum gross activity among systematic measurements is equal to 1,732 dpm/100 cm², which is 54.79% of the Adjusted Gross Operational Derived Concentration Guideline Level (DCGL) for above grade buildings (see Section 5 of this release record for the calculations of adjusted gross DCGLs). Therefore, the null hypothesis of the Sign test is rejected, and survey unit B2-010-101 is acceptable for unrestricted release. The mean gross activity among systematic measurements is equal to 401 dpm/100 cm², which is 2.03% of the Adjusted Gross Base Case DCGL. Multiplying this fraction by 25 mrem/yr results in a dose for the survey unit of 0.5081 mrem/yr.

2. SURVEY UNIT DESCRIPTION

Survey Unit B2-010-101 is an impacted Class 2 above grade building survey unit. The survey unit consists of the interior and exterior surfaces of the LACBWR Crib House. The LACBWR Crib House provided circulating water for the condenser and service water systems. The LACBWR Crib House measures 14.5 m long by 11 m wide by 6 m high, which equates to a total surface area of 1,060 m². Refer to Attachment 1 of this report for figures and maps depicting survey unit B2-010-101.

3. CLASSIFICATION BASIS

Based on the *La Crosse Boiling Water Reactor Historical Site Assessment* (HSA) (Reference 6), survey unit B2-010-101 was identified as a Class 2 structure survey unit. The following summarizes the results of the characterization surveys for seven (7) of the above grade buildings to be left on-site upon termination of the license.

The characterization surveys for the above grade buildings were conducted between November 8, 2016, and November 18, 2016. In total, fifty-six (56) static beta measurements were collected in the buildings (eight [8] in each of seven [7] buildings). No measurements exceeded their respective action levels. A summary of the static measurements are presented in Table 3-1. The summary statistics for the characterization data are provided in Table 3-2.

Table 3-1 – Static Measurements for Characterization of Above Grade Buildings

Static Beta Measurements (dpm/100 cm ²)						
LACBWR Crib House	G-3 Crib House	Back-Up Control Center	Transmission Sub-Station Switch House	Barge Wash Break Room	G-1 Crib House	Security Station
313	1,264	588	213	0	751	0
13	13	363	226	38	0	150
0	38	0	0	0	0	0
1,702	26	88	889	0	1,514	0
138	0	0	376	0	0	38
0	450	0	238	0	551	100
0	100	0	0	163	438	225
0	2,203	651	0	0	1,089	13

Table 3-2 – Summary Statistics for Characterization of Above Grade Buildings

Mean (dpm/100 cm ²)	Median (dpm/100 cm ²)	Minimum (dpm/100 cm ²)	Maximum (dpm/100 cm ²)	Standard Deviation (dpm/100 cm ²)
267	32	0	2,203	473

Based upon review of the historical information, the results of the characterization survey data, and completion of a final Survey Unit Classification Worksheet, the correct final classification of survey unit B2-010-101 was determined to be Class 2.

4. DATA QUALITY OBJECTIVES

FSS planning and design relies on a properly executed Data Quality Objective (DQO) process to ensure, through compliance with explicitly defined inputs and boundaries, that the primary objective of the survey is satisfied. The DQO process, utilized in accordance with MARSSIM, is described in the LACBWR LTP. The appropriate design for a given survey was developed using the DQO process as outlined in Appendix D of MARSSIM.

The DQO process incorporated hypothesis testing and probabilistic sampling distributions to control decision errors during data analysis. Hypothesis testing is a process based on the scientific method that compares a baseline condition to an alternate condition. The baseline condition is technically known as the null hypothesis. Hypothesis testing rests on the premise that the null hypothesis is true and that sufficient evidence must be provided for rejection. In designing the survey plan, the underlying assumption, or null hypothesis was that residual activity in the survey unit exceeded the release criteria. Rejection of the null hypothesis would indicate that residual activity within the survey unit does not exceed the release criteria. Therefore, the survey unit would satisfy the primary objective of the FSS sample plan.

The primary objective of the FSS sample plan is to demonstrate that the level of residual radioactivity in survey unit B2-010-101 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

LaCrosseSolutions TSD RS-TD-313196-001, *Radionuclides of Concern during LACBWR Decommissioning* (Reference 7) established the basis for an initial suite of potential ROC for decommissioning. Insignificant contributors (IC) were determined consistent with the guidance contained in Section 3.3 of NUREG-1757, Volume 2, Revision 1, *Consolidated Decommissioning Guidance – Characterization, Survey, and Determination of Radiological Criteria, Final Report* (Reference 8). In all soil and concrete scenarios, Cs-137, Co-60, Sr-90, Eu-152 and Eu-154 contribute nearly 100% of the total dose. The remaining radionuclides were designated as IC and were eliminated from further detailed evaluation. Therefore, the final ROCs for LACBWR above grade buildings, soil, basement concrete, and buried piping are Cs-137, Co-60, Sr-90, Eu-152 and Eu-154.

The LTP, Section 6.14.1 discusses the process used to derive the ROC for the decommissioning of LACBWR, including the elimination of IC from the initial suite. Table 4-1 presents the ROC for the decommissioning of above grade buildings at LACBWR and the normalized mixture fractions based on the radionuclide mixture.

Table 4-1 - Dose Significant Radionuclides and Mixture for Above Grade Buildings

Radionuclide	Fraction of Total Activity (normalized) ⁽¹⁾
Co-60	0.0644
Sr-90	0.0981
Cs-137	0.829
Eu-152	0.00549
Eu-154	0.00281

(1) Based on maximum percent of total activity from Table 22 of RS-TD-313196-001, normalized to one for the dose significant radionuclides.

The LTP, Section 5.2 states that each radionuclide-specific Base Case DCGL is equivalent to the level of residual radioactivity (above background levels) that could, when considered independently, result in a Total Effective Dose Equivalent (TEDE) of 25 mrem/yr to an Average Member of the Critical Group. To ensure that the summation of dose from each source term is 25 mrem/yr or less after all FSS is completed, the Base Case DCGLs are reduced based on an expected, or *a priori*, fraction of the 25 mrem/yr dose limit from each source term. The reduced DCGLs, or “Operational” DCGLs, can be related to the Base Case DCGLs as an expected fraction of dose based on an *a priori* assessment of what the expected dose should be based on the results of site characterization, process knowledge, and the extent of planned remediation. The Operational DCGL is then used as the DCGL for the FSS design of the survey unit (calculation of surrogate DCGLs, investigations levels, etc.). Details of the Operational DCGLs derived for each dose component and the basis for the applied *a priori* dose fractions are provided in LC-FS-TSD-002, *Operational Derived Concentration Guideline Levels for Final Status Survey* (Reference 9).

At LACBWR, compliance is demonstrated through the summation of dose from five (5) distinct source terms (i.e., basements, soils, buried pipe, above grade buildings, and groundwater) for the end-state. When applied to above grade buildings, the DCGLs are expressed in units of activity per surface area (dpm/100 cm²).

The Screening Values in NUREG-1757, Volume 2, Revision 1, *Consolidated Decommissioning Guidance – Characterization, Survey, and Determination of Radiological Criteria, Final Report*, Table H-1, are applied to the FSS of above grade buildings. The Table H-1 Screening Values are presented as Base Case DCGLs (equivalent to 25 mrem/yr) and are reproduced in Table 4-2 below.

Table 4-2 - Base Case DCGLs for Above Grade Buildings (DCGL_{AGB})

Radionuclide	DCGL_{AGB} (dpm/100cm²)
Co-60	7,100
Sr-90	8,700
Cs-137	28,000
Eu-152	12,700
Eu-154	11,500

The Operational DCGLs are then used as the DCGL for the FSS design of the survey unit (calculation of surrogate DCGLs, investigation levels, etc.). The Operational DCGLs for the unrestricted release of above grade buildings are provided in Table 4-3.

Table 4-3 - Operational DCGLs for Above Grade Buildings (OpDCGL_{AGB})

Radionuclide	OpDCGL_{AGB} (dpm/100cm²)
Co-60	1,136
Sr-90	1,392
Cs-137	4,480
Eu-152	2,032
Eu-154	1,840

Instrument DQOs included a verification of the ability of the survey instrument to detect the radiation(s) of interest relative to the Operational DCGL. Survey instrument response checks were required prior to issuance and after the instrument had been used. Control and accountability of survey instruments was required to assure the quality and prevent the loss of data. The minimum acceptable MDC for measurements obtained using field instruments was 50% of the applicable Operational DCGL.

5. SURVEY DESIGN

The level of effort associated with planning a survey is based on the complexity of the survey unit and nature of the hazards. Guidance for preparing FSS plans is provided in procedures LC-FS-PR-015, *Final Status Surveys for Structures* and LC-FS-PR-002, *Final Status Survey Package Development*.

For the FSS of above grade buildings, Adjusted Gross DCGLs are calculated. This is done

because radionuclide-specific data is not acquired with static measurements. The equation for calculating the Adjusted Gross DCGL is as follows:

Equation 1

$$DCGL_{AG} = \frac{1}{\left[\left(\frac{f_1}{DCGL_1} \right) + \left(\frac{f_2}{DCGL_2} \right) + \dots \left(\frac{f_i}{DCGL_i} \right) \right]}$$

Where: $DCGL_{AG}$ = Adjusted Gross DCGL in units of dpm/100 cm²
 $DCGL_i$ = Gross DCGL for detectable radionuclide in units of dpm/100 cm²
 f_i = Mixture fraction of detectable radionuclides

Using Equation 1, and values within Tables 4-1 and 4-3, the Adjusted Gross Operational DCGL was calculated as follows:

Equation 2

$$\begin{aligned} OpDCGL_{AG} &= \frac{1}{\left[\left(\frac{0.0644}{1136_{(Co-60)}} \right) + \left(\frac{0.0981}{1392_{(Sr-90)}} \right) + \left(\frac{0.829}{4480_{(Cs-137)}} \right) + \left(\frac{0.00549}{2032_{(Eu-152)}} \right) + \left(\frac{0.00281}{1840_{(Eu-154)}} \right) \right]} \\ &= 3160 \text{ dpm/100 cm}^2 \end{aligned}$$

The Adjusted Gross Operational DCGL was calculated as 3,160 dpm/100 cm², which was the action level for survey unit B2-010-101.

Using Equation 1, and values within Tables 4-1 and 4-2, the Adjusted Gross Base Case DCGL was calculated as follows:

Equation 3

$$\begin{aligned} BcDCGL_{AG} &= \frac{1}{\left[\left(\frac{0.0644}{7100_{(Co-60)}} \right) + \left(\frac{0.0981}{8700_{(Sr-90)}} \right) + \left(\frac{0.829}{28000_{(Cs-137)}} \right) + \left(\frac{0.00549}{12700_{(Eu-152)}} \right) + \left(\frac{0.00281}{11500_{(Eu-154)}} \right) \right]} \\ &= 19751 \text{ dpm/100 cm}^2 \end{aligned}$$

The Adjusted Gross Base Case DCGL was calculated as 19,751 dpm/100 cm². The mean activity from the FSS systematic measurements is compared to the Adjusted Gross Base Case DCGL, and the dose contribution from the survey unit is calculated.

The Sign test was selected as the nonparametric statistical test for compliance with the release criteria. The number of measurements for use with the Sign test was determined in accordance with procedures LC-FS-PR-002 and LC-FS-PR-015. The relative shift (Δ/σ) for the survey unit data set is defined as shift (Δ), which is the Upper Boundary of the Gray Region (UBGR), or the DCGL, minus the Lower Bound of the Gray Region (LBGR), divided by sigma (σ), which is the standard deviation of the data set used for survey design. The optimal value for Δ/σ should range between one (1) and three (3). The largest value the Δ/σ can have is three (3). If the calculated value of Δ/σ exceeds three (3), an adjusted value of three (3) will be used for Δ/σ . The Δ/σ for survey unit B2-010-101, based on the amalgamated gross measurement data from characterization of the LACBWR above grade buildings to remain at license termination, was calculated as follows:

Equation 4

$$\Delta/\sigma = 1580/473 = 3.34$$

As the calculated relative shift was greater than three (3), a value of three (3) was used as the adjusted Δ/σ . Both the Type I error (i.e., α value) and the Type II error (i.e., β value) was set at 0.05. The sample size from Table 5.5 of MARSSIM that equates to the Type I and Type II error of 0.05 for use with the Sign test is an N value of fourteen (14). Twenty-eight (28) total systematic measurements (14 interior and 14 exterior) were included in the survey design for survey unit B2-010-101. This was done because the total surface area of the survey unit surpasses the recommended Class 2 structure survey unit size from Table 1 in MARSSIM. The survey unit consisted of both interior and exterior measurements, with 14 required compliance measurements each, to accommodate the MARSSIM recommended survey unit size restrictions.

A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10CFR20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design.

As the survey unit was designated Class 2, measurement locations were selected based on a systematic grid with a random starting point. The systematic locations of the static measurements were selected using Visual Sample Plan (VSP). Input parameters included the use of survey unit drawings and the systematic sampling tool set with a predetermined number of measurement locations. The systematic measurement locations were identified in the field using dimension parameters provided on the survey unit map (see Attachment 1). Table 5-1 lists the systematic, judgmental, and QC measurements collected for FSS of survey unit B2-010-101.

Table 5-1 – Survey Unit B2-010-101 Measurement Designations

Measurement ID	
B2-010-101-FSWM-A01-BD	B2-010-101-FSWM-B01-BD
B2-010-101-FSWM-A02-BD	B2-010-101-FSWM-B02-BD
B2-010-101-FSRC-A03-BD	B2-010-101-FSCM-B03-BD
B2-010-101-FSWM-A04-BD	B2-010-101-FSWM-B04-BD
B2-010-101-FSWM-A05-BD	B2-010-101-FSCM-B05-BD
B2-010-101-FSRC-A06-BD	B2-010-101-FSWM-B06-BD
B2-010-101-FSRC-A07-BD	B2-010-101-FSFM-B07-BD
B2-010-101-FSWM-A08-BD	B2-010-101-FSCM-B08-BD
B2-010-101-FSWM-A09-BD	B2-010-101-FSFM-B09-BD
B2-010-101-FSRC-A10-BD	B2-010-101-FSWM-B10-BD
B2-010-101-FSRC-A11-BD	B2-010-101-FSCM-B11-BD
B2-010-101-FSWM-A12-BD	B2-010-101-FSWM-B12-BD
B2-010-101-FSWM-A13-BD	B2-010-101-FSFM-B13-BD
B2-010-101-FSWM-A14-BD	B2-010-101-FSWM-B14-BD
B2-010-101-FJWM-A15-BD	B2-010-101-FJFM-B15-BD
B2-010-101-FQWM-A01-BD	B2-010-101-FQCM-B05-BD

The implementation of quality control measures as referenced in LTP, Section 5.9 and LaCrosseSolutions LC-QA-PN-001, *Final Status Survey Quality Assurance Project Plan* (QAPP) (Reference 10) includes the collection of a replicate measurement on 5% of the measurements collected in a survey unit, with the locations selected at random. Two (2) replicate measurements, B2-010-101-FQWM-A01-BD and B2-010-101-FQCM-B05-BD, were selected at random for the QC replicate measurement analysis for the FSS of this survey unit.

The LTP, Section 5.6.4.4 and Table 5-15 specifies that for Class 2 structure survey units, systematic and judgmental surface scans will be performed on 10% to 100% of the surface area in the survey unit. For survey unit B2-010-101, 25% scan coverage was selected; this equates to 265 m². Thirty (30) scan areas (one [1] scan area at each systematic measurement location and two [2] judgmental scan areas), covering 322.13 m² of the survey unit (more than the required minimum), were established. Refer to Attachment 1 for figures and maps depicting the measurement and scan locations in survey unit B2-010-101.

For this Class 2 structure survey unit, the “Investigation Levels” for area scanning and direct measurement results are those levels specified in the LTP, Table 5-16, and reproduced below in Table 5-2.

Table 5-2 – Investigation Levels

Classification	Scan Investigation Levels	Direct Investigation Levels
Class 2	>Operational DCGL or >MDC _{scan} if MDC _{scan} is greater than Operational DCGL	>Operational DCGL

Table 5-3 provides a synopsis of the survey design for survey unit B2-010-101.

Table 5-3 – Synopsis of Survey Design

Feature	Design Criteria	Basis
Survey Unit Surface Area	1,060 m ²	Building Dimensions
Number of Systematic Measurements (N)	28 (14 interior and 14 exterior)	<ul style="list-style-type: none"> • $\sigma = 473$ • UBGR = 3,160 • LBGR = 1,580 • Type I & II error = 0.05 • $\Delta/\sigma = 3$ (adjusted) • MARSSIM Table 5.5
DCGL/Action Level	3,160 dpm/100 cm ²	Adjusted Gross Operational DCGL (Equation 2)
Direct Investigation Level	>Operational DCGL	LTP, Table 5-16
Scan Investigation Level	>Operational DCGL or >MDC _{scan}	LTP, Table 5-16
Scan Areal Coverage	322.13 m ² (with 2 judgmental scan areas) or ~30%	LTP, Table 5-15 Actual Scan Coverage
Judgmental Measurements	2	Per Survey Design
QC	2 replicate measurements selected at random locations	LTP, Section 5.9

6. SURVEY IMPLEMENTATION

For survey unit B2-010-101, compliance with the unrestricted release criteria was demonstrated through a combination of surface scanning and surface static measurements with a Ludlum Model 44-116 beta/gamma detector.

An FSS Supervisor performed a visual inspection and walk-down of the survey unit during the Unconditional Release Survey (URS) that was performed prior to FSS. The purpose of the walk-down was to assess the physical condition of the survey unit, evaluate access points and travel paths, and identify potentially hazardous conditions. At the time of FSS, the

interior and exterior of the building was dry and reasonably free of debris. No conditions prohibited the proper collection of static and scan measurements.

FSS field activities were conducted under the FSS Sample Plan, which included DQOs, survey design, detailed FSS instructions, job safety analysis, and related procedures for reference. FSS field activities were projected to take four (4) working days to complete. Daily briefings were conducted to discuss the expectations for job performance and to review safety aspects of the job. A “Field Log” was used to document field activities and other information pertaining to the performance of the FSS. FSS field activities commenced on April 18, 2019, and were concluded on April 19, 2019.

A total of thirty (30) different scan areas (twenty-eight [28] systematic and two [2] judgmental), constituting an areal coverage of 322.13 m², were scanned using a Ludlum 2350-1 paired with a Ludlum Model 44-116 detector (125 cm² detector area). The background was established as the average of five (5) 1-minute static measurements, while maintaining the detector waist high. In survey unit B2-010-101, background ranged from 157 cpm up to 234 cpm.

All designated scan areas were scanned using a Ludlum 2350-1 paired with a Model 44-116 beta/gamma detector operated in the rate-meter mode and using audio response. The probe was positioned as close to the surface as possible and was moved at a scan speed of approximately one (1) detector width per second. Scan MDC was sufficient to detect residual radioactivity at the action level of 3,160 dpm/100cm² (Adjusted Gross Operational DCGL). Complete scan results are provided in Attachment 2.

The twenty-eight (28) systematic static measurement locations were marked based on the dimensions provided on the survey map. Two (2) judgmental measurement locations were selected and marked as per the sample plan. Using the Ludlum 2350-1 paired with a Model 44-116 detector, a 1-minute static measurement was acquired at the location of highest scan indication within each systematic and judgmental scan area.

The implementation of survey specific QC measures included the collection of two (2) replicate static measurements (B2-010-101-FQWM-A01-BD and B2-010-101-FQCM-B05-BD) for QC analysis.

7. SURVEY RESULTS

All areas identified in the FSS plan were scanned for elevated activity levels. Three (3) alarms were produced during the scanning of survey unit B2-010-101. Static measurements collected at the locations of scan alarms were below the action level. Table 7-1 provides an overview of the scan results. Complete scan results are provided in Attachment 2.

Table 7-1 – Synopsis of Scan Results

Scan Area	Highest Logged Reading (cpm)	Action Level⁽¹⁾ (cpm)	# of Scan Alarms	Investigation Measurements
A1	241	514	0	0
A2	225	541	0	0
A3	449	514	0	0
A4	231	514	0	0
A5	290	541	0	0
A6	499	514	0	0
A7	521	514	1	0
A8	315	541	0	0
A9	288	541	0	0
A10	517	514	1	0
A11	488	514	0	0
A12	256	541	0	0
A13	322	541	0	0
A14	253	514	0	0
A15 J	247	514	0	0
A1 QC	322	489	0	0
B1	712	469	1	0
B2	453	469	0	0
B3	452	538	0	0
B4	418	469	0	0
B5	256	541	0	0
B6	420	469	0	0
B7	404	538	0	0
B8	428	538	0	0
B9	452	538	0	0
B10	405	469	0	0
B11	463	538	0	0
B12	407	469	0	0
B13	513	538	0	0
B14	429	469	0	0
B15 J	530	538	0	0
B5 QC	443	489	0	0

(1) Action Level for scanning was conservatively based on the average background plus 50% of the Operational DCGL converted to cpm using the detector efficiency.

Background radiation was subtracted from all measurements, then were converted from cpm to dpm/100 cm² (net cpm divided by detector efficiency) for direct comparison to the Adjusted Gross DCGLs. Table 7-2 below presents the detector efficiencies used for conversions. A summary of the results for the twenty-eight (28) systematic static measurements, two (2) judgmental static measurements, and two (2) QC static measurements is provided in Table 7-3. The basic statistics for the systematic measurement population are summarized in Table 7-4.

Table 7-2 – Detector Efficiencies

44-116 Detector #	Efficiency (c/d)
PR 318218	0.149
PR 357009	0.2104
PR 357439	0.2169

Table 7-3 - Summary of Systematic, Judgmental, and QC Static Measurements

Measurement ID	Gross Activity (dpm/100 cm²)	Fraction of Adjusted Gross OpDCGL
B2-010-101-FSWM-B01-BD	1732	0.5479
B2-010-101-FSWM-B02-BD	1168	0.3695
B2-010-101-FSCM-B03-BD	0	0.0000
B2-010-101-FSWM-B04-BD	0	0.0000
B2-010-101-FSCM-B05-BD	0	0.0000
B2-010-101-FSWM-B06-BD	0	0.0000
B2-010-101-FSFM-B07-BD	0	0.0000
B2-010-101-FSCM-B08-BD	0	0.0000
B2-010-101-FSFM-B09-BD	566	0.1790
B2-010-101-FSWM-B10-BD	329	0.1041
B2-010-101-FSCM-B11-BD	0	0.0000
B2-010-101-FSWM-B12-BD	121	0.0382
B2-010-101-FSFM-B13-BD	124	0.0391
B2-010-101-FSWM-B14-BD	101	0.0319
B2-010-101-FSWM-A01-BD	23	0.0073

Measurement ID	Gross Activity (dpm/100 cm ²)	Fraction of Adjusted Gross OpDCGL
B2-010-101-FSWM-A02-BD	0	0.0000
B2-010-101-FSRC-A03-BD	1452	0.4596
B2-010-101-FSWM-A04-BD	0	0.0000
B2-010-101-FSWM-A05-BD	23	0.0073
B2-010-101-FSRC-A06-BD	1268	0.4012
B2-010-101-FSRC-A07-BD	1406	0.4450
B2-010-101-FSWM-A08-BD	0	0.0000
B2-010-101-FSWM-A09-BD	46	0.0146
B2-010-101-FSRC-A10-BD	1259	0.3983
B2-010-101-FSRC-A11-BD	1485	0.4698
B2-010-101-FSWM-A12-BD	28	0.0088
B2-010-101-FSWM-A13-BD	0	0.0000
B2-010-101-FSWM-A14-BD	111	0.0350
B2-010-101-FQCM-B05-BD	204	0.0647
B2-010-101-FQWM-A01-BD	304	0.0963
B2-010-101-FJFM-B15-BD	371	0.1173
B2-010-101-FJWM-A15-BD	0	0.0000

Table 7-4 - Basic Statistical Properties of Systematic Measurement Population

Mean (dpm/100cm ²)	Median (dpm/100cm ²)	Max (dpm/100cm ²)	Min (dpm/100cm ²)	Std. Dev. (dpm/100cm ²)	Adjusted Gross BcDCGL (dpm/100cm ²)	Mean Adjusted Gross BcDCGL Fraction	Dose (mrem/ yr)
401	37	1732	0	603	19751	0.0203	0.5081

The mean activity from systematic static measurements was divided by the Adjusted Gross Base Case DCGL to derive a mean fraction. The mean fraction was then multiplied by twenty-five (25) mrem/yr to derive the dose attributed to the survey unit. For survey unit B2-010-101, the calculated dose from residual activity is 0.5081 mrem/yr.

8. QUALITY CONTROL

The implementation of survey specific QC measures included the collection of two (2) replicate static measurements (B2-010-101-FQCM-B05-BD and B2-010-101-FQWM-A01-

BD) for QC analysis. The acceptance criteria for replicate static measurements is if the replicate measurement activity is within 20% of the standard measurement activity. The QC replicate measurements did not fall within the 20% criteria, but both the standard and replicate measurements were well below the Adjusted Gross Operational DCGL as well as the static MDC. Therefore, no further action was deemed necessary.

9. INVESTIGATIONS AND RESULTS

No investigations were performed during the performance or analyses of the survey.

10. REMEDIATION AND RESULTS

No radiological remedial action as described by MARSSIM Section 5.4 was performed in this survey unit prior to or as a result of the FSS. Chapter 4 of the LTP determined that remediation beyond that required to meet the release criteria is unnecessary and that the remaining residual radioactivity in above grade buildings was ALARA.

11. CHANGES FROM THE FINAL STATUS SURVEY PLAN

There were no addendums to the FSS plan.

12. DATA QUALITY ASSESSMENT (DQA)

The DQO sample design and data were reviewed in accordance with LC-FS-PR-008, *Final Status Survey Data Assessment* (Reference 11) for completeness and consistency. Documentation was complete and legible. Scan surveys and the collection of static measurements were consistent with the DQOs and were sufficient to ensure that the survey unit was properly designated as Class 2. The survey design had adequate power as indicated by the Retrospective Power Curve (see Attachment 5).

The measurement results indicated that all measurements, with the exception of one (1), were less than 50% of the Adjusted Gross Operational DCGL.

Although MARSSIM states that the Sign test need not be performed in the instance that no measurements exceed the DCGL, the test was conducted to demonstrate coherence to the statistical principles of the DQO process. The Sign test was performed on the data and compared to the original assumptions of the DQOs. The evaluation of the Sign test results clearly demonstrates that the survey unit passes the unrestricted release criteria, thus, the null hypothesis is rejected. The results of the Sign test are presented in Attachment 3.

The preliminary data review consisted of calculating basic statistical quantities (e.g., mean, median, standard deviation). The mean and median values of the data were well below the

Adjusted Gross Operational DCGL. Also, the retrospective power curve shows that a sufficient number of measurements were collected to achieve the desired power. Therefore, the survey unit meets the unrestricted release criteria with adequate power as required by the DQOs.

The survey unit data is presented graphically through a frequency plot and quantile plot. All graphical presentations are provided in Attachment 5.

13. ANOMALIES

No anomalies were observed during the performance or analyses of the survey.

14. CONCLUSION

Survey unit B2-010-101 has met the DQOs of the FSS plan. The ALARA criteria as specified in Chapter 4 of the LTP were achieved.

The sample data passed the Sign test. The null hypothesis was rejected. The Retrospective Power Curve showed that adequate power was achieved. The survey unit is properly classified as Class 2. Therefore, in accordance with the LTP, Section 5.11, the survey unit meets the release criteria.

The dose contribution from survey unit B2-010-101 is 0.5081 mrem/yr TEDE, based on the mean activity of measurements used for non-parametric statistical sampling.

Survey unit B2-010-101 is acceptable for unrestricted release.

15. REFERENCES

1. LC-FS-PR-009, Final Status Survey Data Reporting
2. *La Crosse Boiling Water Reactor License Termination Plan*
3. LC-FS-PR-015, *Final Status Surveys for Structures*
4. LC-FS-PR-002, *Final Status Survey Package Development*
5. NUREG-1575, Revision 1, *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*
6. *La Crosse Boiling Water Reactor Historical Site Assessment*
7. RS-TD-313196-001, *Radionuclides of Concern during LACBWR Decommissioning*
8. NUREG-1757, Volume 2, Revision 1, *Consolidated Decommissioning Guidance – Characterization, Survey, and Determination of Radiological Criteria, Final Report*
9. LC-FS-TSD-002, *Operational Derived Concentration Guideline Levels for Final Status Survey*
10. LC-QA-PN-001, *Final Status Survey Quality Assurance Project Plan*
11. LC-FS-PR-008, *Final Status Survey Data Assessment*

16. ATTACHMENTS

Attachment 1 – Figures and Maps

Attachment 2 – Scan Data

Attachment 3 – Sign Test

Attachment 4 – Quality Control Assessment

Attachment 5 – Graphical Presentations

Attachment 6 – Ludlum 2350-1 Download Reports

ATTACHMENT 1

FIGURES AND MAPS

Figure 16-1 – Survey Unit B2-010-101 Systematic and Judgmental Measurement Locations Map (Exterior)

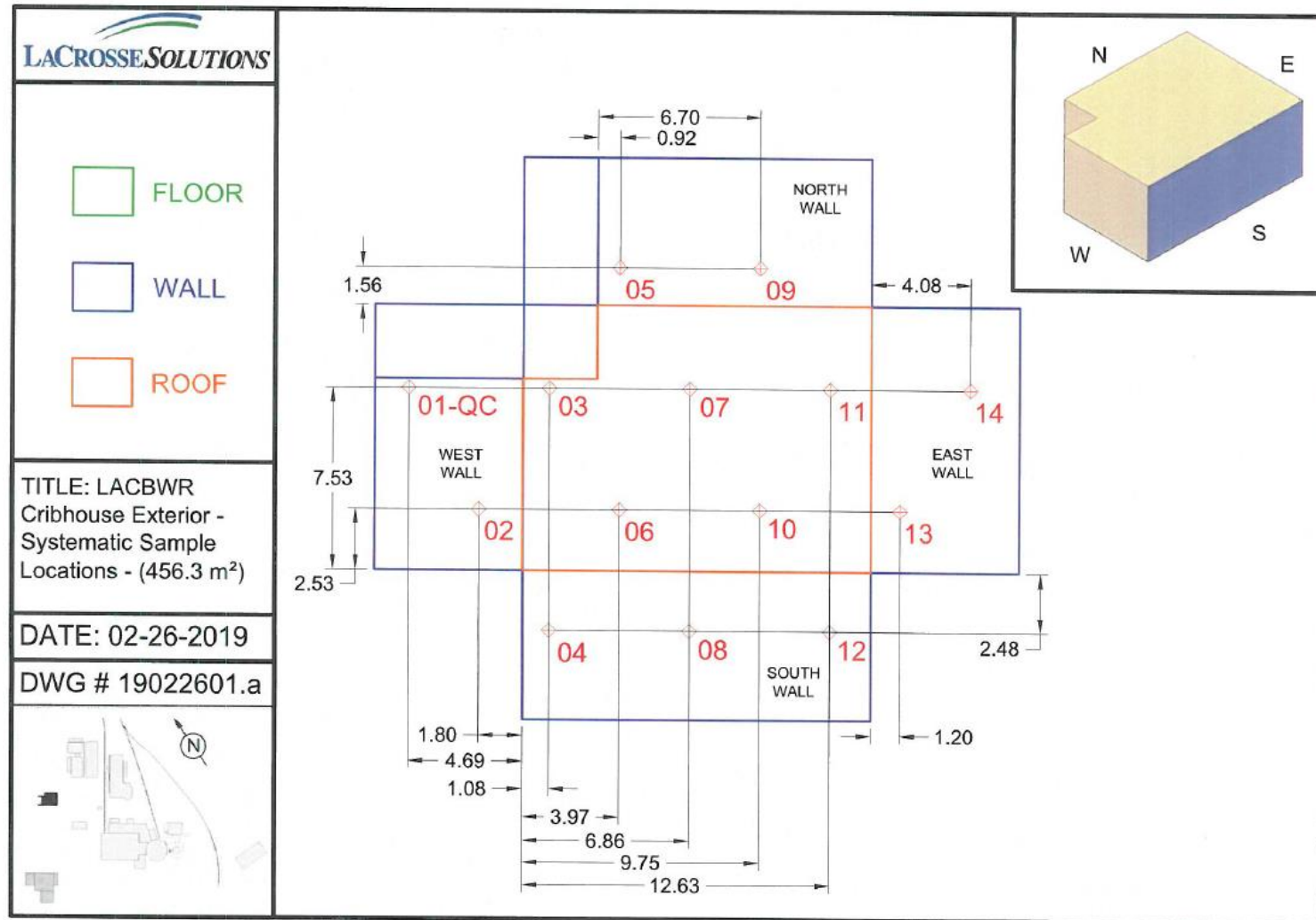
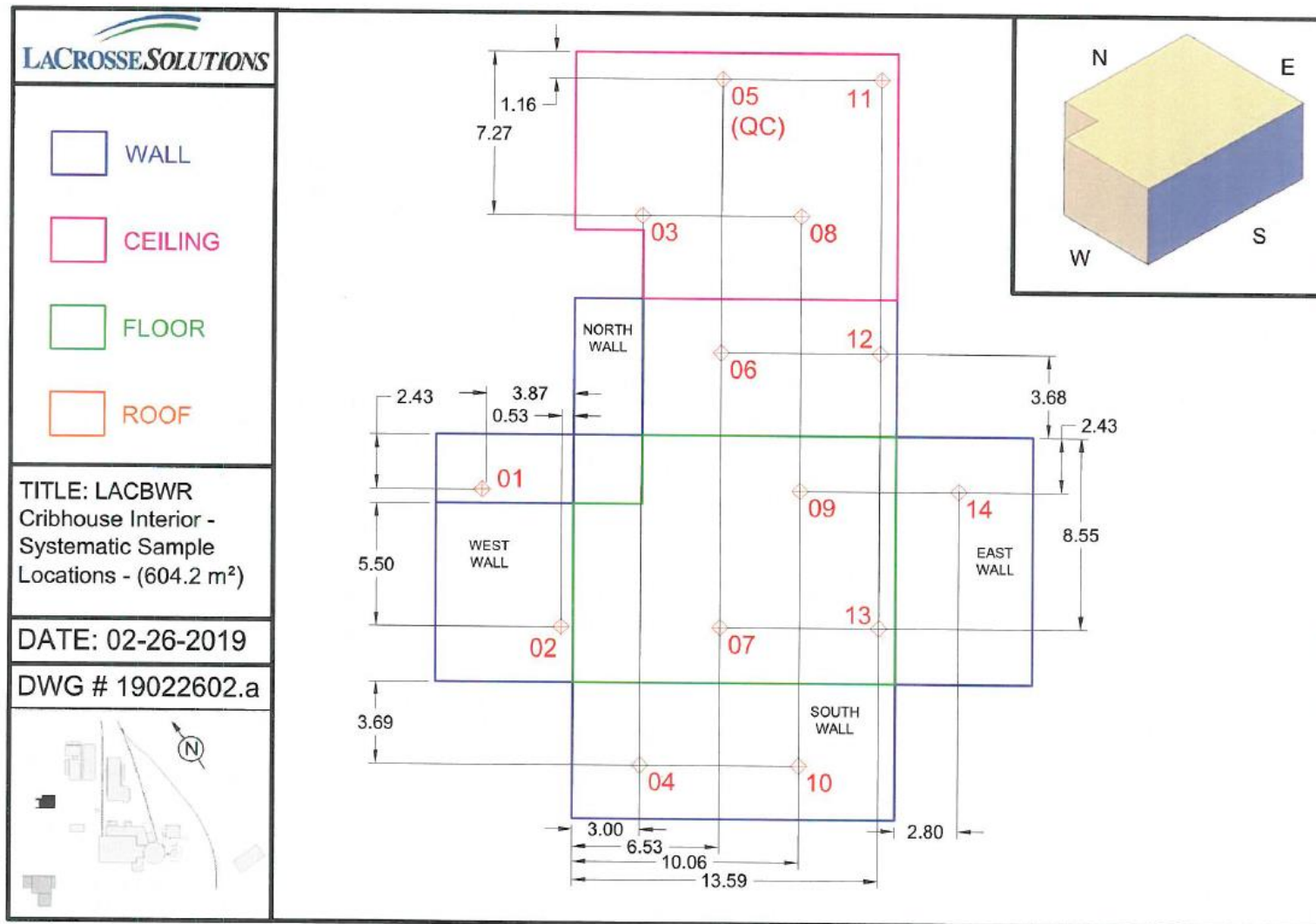


Figure 16-2 – Survey Unit B2-010-101 Systematic and Judgmental Measurement Locations Map (Interior)



ATTACHMENT 2

SCAN DATA

Table 16-1 – Survey Unit B2-010-101 Complete Scan Data

Detector Type	Detector ID	M2350-1 ID	Location	Scan Logged Result (cpm)	Avg Background (cpm)	Action Level ⁽¹⁾ (cpm)	Scan Alarms
44-116	357439	325261	A1	241	172	514	0
44-116	357439	325261	A2	225	199	541	0
44-116	357439	325261	A3	449	172	514	0
44-116	357439	325261	A4	231	172	514	0
44-116	357439	325261	A5	290	199	541	0
44-116	357439	325261	A6	499	172	514	0
44-116	357439	325261	A7	521	172	514	1
44-116	357439	325261	A8	315	199	541	0
44-116	357439	325261	A9	288	199	541	0
44-116	357439	325261	A10	517	172	514	1
44-116	357439	325261	A11	488	172	514	0
44-116	357439	325261	A12	256	199	541	0
44-116	357439	325261	A13	322	199	541	0
44-116	357439	325261	A14	253	172	514	0
44-116	357439	325261	A15 J	247	172	514	0
44-116	357009	325246	A1 QC	322	157	489	0
44-116	318218	120636	B1	340	234	469	0
44-116	318218	120636	B1	712	234	469	1
44-116	318218	120636	B2	453	234	469	0
44-116	357009	325246	B3	452	206	538	0
44-116	318218	120636	B4	418	234	469	0
44-116	357439	325261	B5	256	199	541	0
44-116	318218	120636	B6	420	234	469	0
44-116	357009	325246	B7	404	206	538	0
44-116	357009	325246	B8	428	206	538	0
44-116	357009	325246	B9	452	206	538	0
44-116	318218	120636	B10	405	234	469	0
44-116	357009	325246	B11	463	206	538	0
44-116	318218	120636	B12	407	234	469	0
44-116	357009	325246	B13	513	206	538	0
44-116	318218	120636	B14	429	234	469	0
44-116	357009	325246	B15 J	530	206	538	0
44-116	357009	325246	B5 QC	443	157	489	0

(1) Action Level for scanning was conservatively based on the average background plus 50% of the Operational DCGL converted to cpm using the detector efficiency.

ATTACHMENT 3

SIGN TEST

Table 16-2 – Survey Unit B2-010-101 Sign Test

#	SOF (W _s)	1-W _s	Sign
1	0.5479	0.45	+1
2	0.3695	0.63	+1
3	0.0000	1.00	+1
4	0.0000	1.00	+1
5	0.0000	1.00	+1
6	0.0000	1.00	+1
7	0.0000	1.00	+1
8	0.0000	1.00	+1
9	0.1790	0.82	+1
10	0.1041	0.90	+1
11	0.0000	1.00	+1
12	0.0382	0.96	+1
13	0.0391	0.96	+1
14	0.0319	0.97	+1
15	0.0073	0.99	+1
16	0.0000	1.00	+1
17	0.4596	0.54	+1
18	0.0000	1.00	+1
19	0.0073	0.99	+1
20	0.4012	0.60	+1
21	0.4450	0.56	+1
22	0.0000	1.00	+1
23	0.0146	0.99	+1
24	0.3983	0.60	+1
25	0.4698	0.53	+1
26	0.0088	0.99	+1
27	0.0000	1.00	+1
28	0.0350	0.96	+1

Number of positive differences (S+) 28

Critical Value 18

Survey Unit Meets
the Acceptance Criteria

ATTACHMENT 4

QUALITY CONTROL ASSESSMENT

Table 16-3 – Survey Unit B2-010-101 QC Assessment

Standard	Activity (dpm/100cm ²)	-20%	+20%	Comparison	Activity (dpm/100cm ²)	Within 20%
B2-010-101-FSCM-B05-BD	0	0	0	B2-010-101-FQCM-B05-BD	204	N
B2-010-101-FSWM-A01-BD	23	18	28	B2-010-101-FQWM-A01-BD	304	N

ATTACHMENT 5

GRAPHICAL PRESENTATIONS

Figure 16-3 – Quantile Plot for Gross Activity

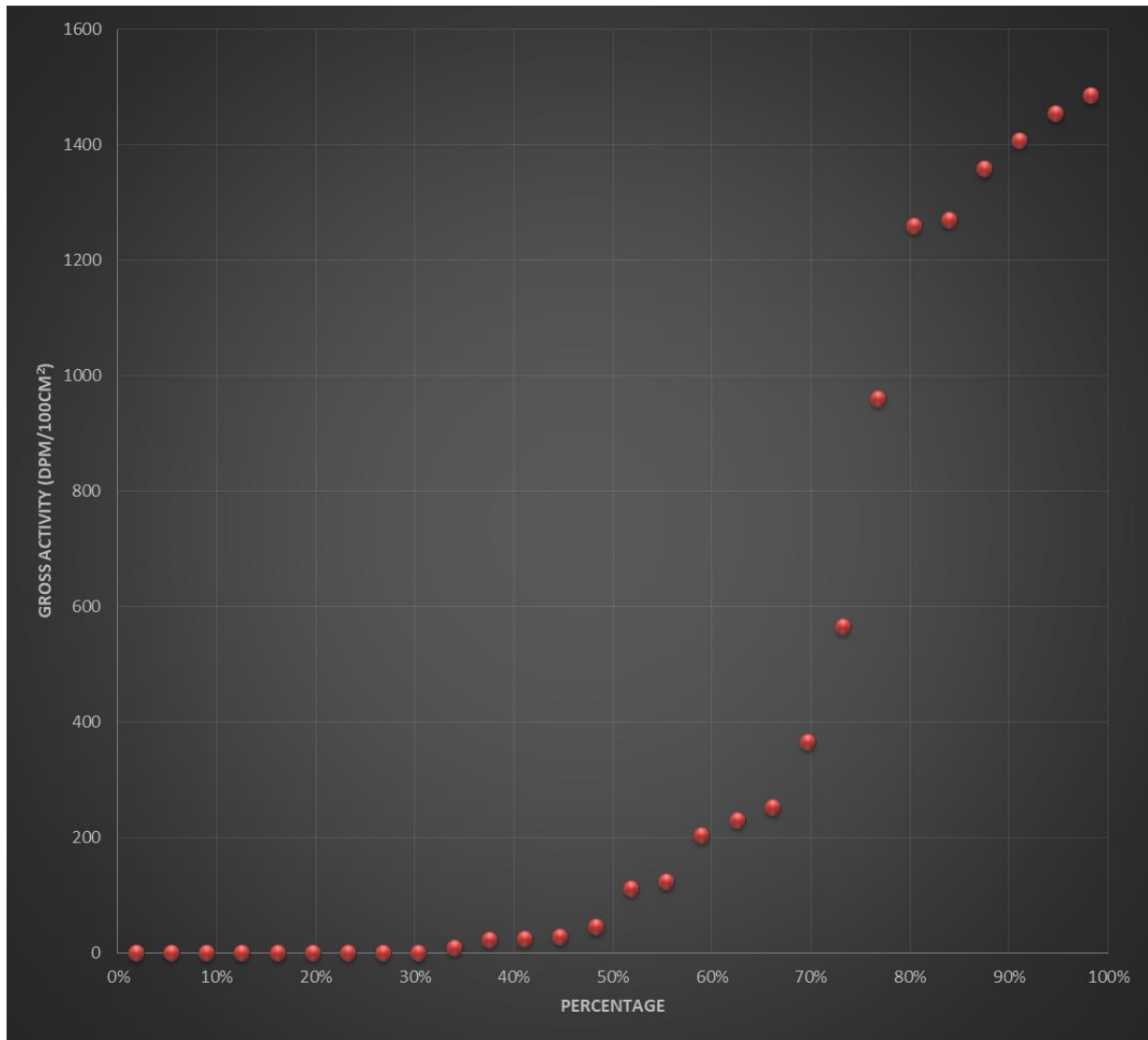


Figure 16-4 – Histogram for Gross Activity

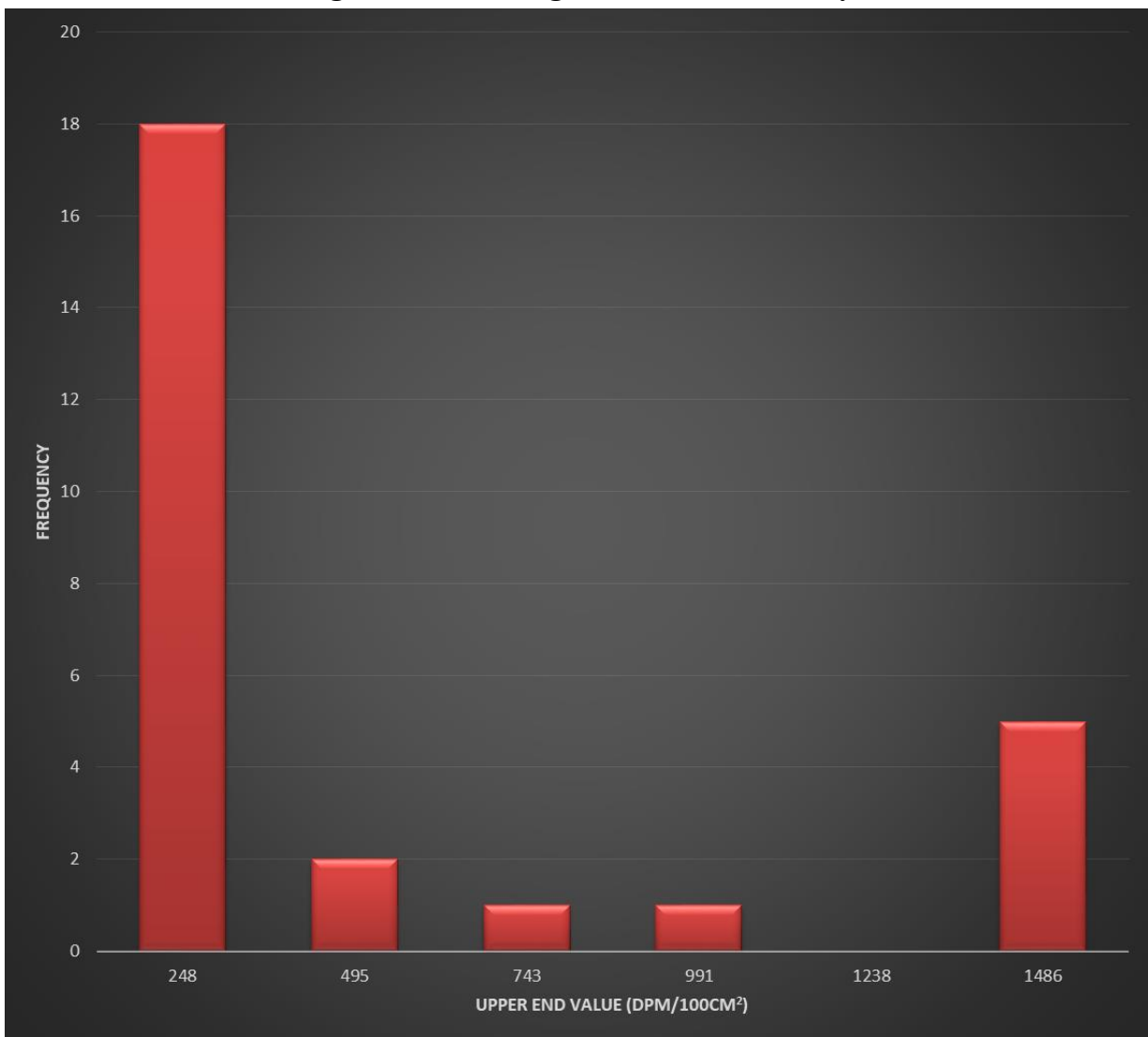
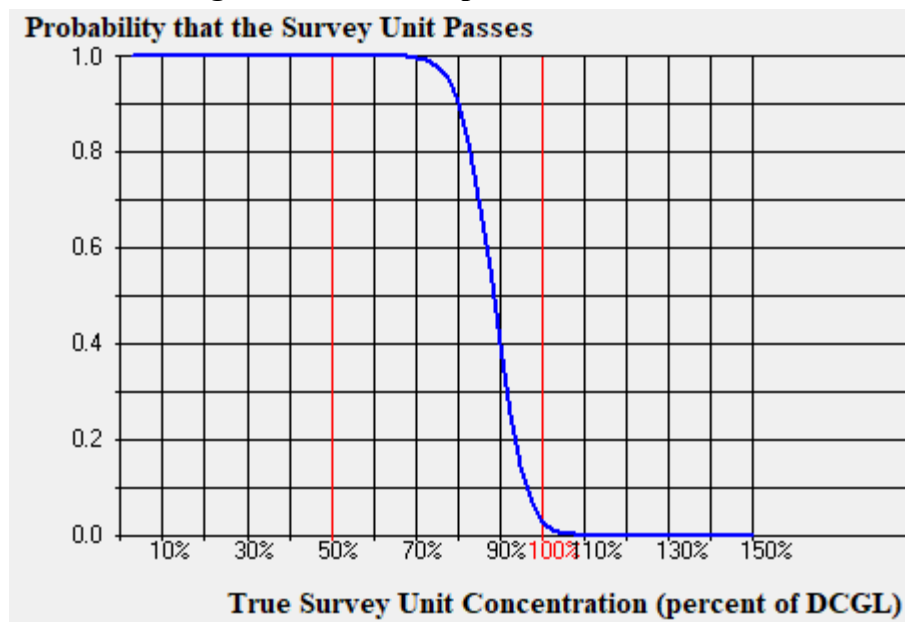


Figure 16-5 – Retrospective Power Curve



ATTACHMENT 6
LUDLUM 2350-1 DOWNLOAD
REPORTS

B2-010-101

Probe Model	Serial Number	Sample Number	Survey Unit - Grid	Location	D=Direct S=Scan	BKG	Source Check	Date / Time	Detector Setup	Logged Reading	Units (cpm)	Count Time	Logging Mode(min)	Alarm=1 No Alarm=0	Inst Serial Number	Tech Name
44-116	222979	0			BD	PRBKG		9/5/2008 6:25	3	230	c	60	1	0	120636	SB
44-116	222979	1			BD		PRCHK	4/18/2019 6:30	3	1977	c	60	1	1	120636	SB
44-116	222979	2	B2101	FLDBK	BD			4/18/2019 7:31	3	247	c	60	1	0	120636	SB
44-116	222979	3	B2101	FLDBK	BD			4/18/2019 7:32	3	257	c	60	1	0	120636	SB
44-116	222979	4	B2101	FLDBK	BD			4/18/2019 7:33	3	235	c	60	1	0	120636	SB
44-116	222979	5	B2101	FLDBK	BD			4/18/2019 7:35	3	211	c	60	1	0	120636	SB
44-116	222979	6	B2101	FLDBK	BD			4/18/2019 7:36	3	220	c	60	1	0	120636	SB
44-116	222979	7	B2101	B10	BS			4/18/2019 9:46	3	405	c	0	0	0	120636	SB
44-116	222979	8	B2101	B10	BD			4/18/2019 9:49	3	283	c	60	1	0	120636	SB
44-116	222979	9	B2101	B04	BS			4/18/2019 10:07	3	418	c	0	0	0	120636	SB
44-116	222979	10	B2101	B04	BD			4/18/2019 10:09	3	208	c	60	1	0	120636	SB
44-116	222979	11			BD	PRBKG		4/18/2019 11:56	3	250	c	60	1	0	120636	SB
44-116	222979	12			BD		PRCHK	4/18/2019 11:58	3	2012	c	60	1	1	120636	SB
44-116	222979	14	B2101	B01	BS			4/18/2019 13:11	3	712	c	0	0	1	120636	SB
44-116	222979	15	B2101	B01	BS			4/18/2019 13:14	3	340	c	0	0	0	120636	SB
44-116	222979	16	B2101	B01	BD			4/18/2019 13:20	3	492	c	60	1	0	120636	SB
44-116	222979	17	B2101	B14	BS			4/18/2019 13:44	3	429	c	0	0	0	120636	SB
44-116	222979	18	B2101	B14	BD			4/18/2019 13:47	3	249	c	60	1	0	120636	SB
44-116	222979	19	B2101	B02	BS			4/18/2019 14:01	3	453	c	0	0	0	120636	SB
44-116	222979	20	B2101	B02	BD			4/18/2019 14:09	3	408	c	60	0	0	120636	SB
44-116	222979	21	B2101	B12	BS			4/18/2019 14:45	3	407	c	0	1	0	120636	SB
44-116	222979	22	B2101	B12	BD			4/18/2019 14:56	3	252	c	60	1	0	120636	SB
44-116	222979	23	B2101	B06	BS			4/18/2019 15:18	3	420	c	0	0	0	120636	SB
44-116	222979	24	B2101	B06	BD			4/18/2019 15:20	3	230	c	60	1	0	120636	SB
44-116	222979	25			BD	PSBKG		4/18/2019 16:02	3	273	c	60	1	0	120636	SB
44-116	222979	26			BD		PSCHK	4/18/2019 16:07	3	2068	c	60	1	1	120636	SB

WJZ

2019-0222

B2-010-101

Probe Model	Serial Number	Sample Number	Survey Unit Grid	Location	D=Direct S=Scan	BKG	Source Check	Date / Time	Detector Setup	Logged Reading	Units (cpm)	Count Time	Logging Mode(min)	Alarm=1 No Alarm=0	Inst Serial Number	Tech Name
44-116	357439	0			BD	PRBKG		4/18/2019 6:25	1	193	c	60	1	0	325261	WDC
44-116	357439	1			BD		PRCHK	4/18/2019 6:37	1	2544	c	60	1	1	325261	WDC
44-116	357439	2	B2101	FLDBK	BD			4/18/2019 8:10	1	202	c	60	1	0	325261	WDC
44-116	357439	3	B2101	FLDBK	BD			4/18/2019 8:11	1	202	c	60	1	0	325261	WDC
44-116	357439	4	B2101	FLDBK	BD			4/18/2019 8:12	1	185	c	60	1	0	325261	WDC
44-116	357439	5	B2101	FLDBK	BD			4/18/2019 8:13	1	183	c	60	1	0	325261	WDC
44-116	357439	6	B2101	FLDBK	BD			4/18/2019 8:15	1	223	c	60	1	0	325261	WDC
44-116	357439	7	B2101	A12	BS			4/18/2019 8:51	1	256	c	0	0	0	325261	WDC
44-116	357439	8	B2101	A12	BD			4/18/2019 8:53	1	205	c	60	1	0	325261	WDC
44-116	357439	9	B2101	A09	BS			4/18/2019 9:42	1	288	c	0	0	0	325261	WDC
44-116	357439	10	B2101	A09	BD			4/18/2019 9:44	1	209	c	60	1	0	325261	WDC
44-116	357439	11	B2101	A05	BS			4/18/2019 10:06	1	290	c	0	0	0	325261	WDC
44-116	357439	12	B2101	A05	BD			4/18/2019 10:07	1	204	c	60	1	0	325261	WDC
44-116	357439	13	B2101	A13	BS			4/18/2019 10:29	1	322	c	0	0	0	325261	WDC
44-116	357439	14	B2101	A13	BD			4/18/2019 10:30	1	194	c	60	1	0	325261	WDC
44-116	357439	15	B2101	A08	BS			4/18/2019 12:55	1	315	c	0	0	0	325261	WDC
44-116	357439	16	B2101	A08	BD			4/18/2019 12:57	1	164	c	60	1	0	325261	WDC
44-116	357439	17	B2101	A02	BS			4/18/2019 13:57	1	225	c	0	0	0	325261	WDC
44-116	357439	18	B2101	A02	BD			4/18/2019 14:00	1	155	c	60	1	0	325261	WDC
44-116	357439	19	B2101	B05	BS			4/18/2019 14:53	1	256	c	0	0	0	325261	WDC
44-116	357439	20	B2101	B05	BD			4/18/2019 14:56	1	159	c	60	1	0	325261	WDC
44-116	357439	21			BD	PSBKG		4/18/2019 15:59	1	223	c	60	1	0	325261	WDC
44-116	357439	22			BD		PSCHK	4/18/2019 16:06	1	2681	c	60	1	1	325261	WDC



B2-010-101

Probe Model	Serial Number	Sample Number	Survey Unit Grid	Location	D=Direct S=Scan	BKG	Source Check	Date / Time	Detector Setup	Logged Reading	Units (cpm)	Count Time	Logging Mode(min)	Alarm=1 No Alarm=0	Inst Serial Number	Tech Name
44-116	357009	0			BD	PRBKG		4/19/2019 6:50	2	222	c	60	1	0	325246	SB
44-116	357009	1			BD		PRCHK	4/19/2019 7:04	2	2565	c	60	1	1	325246	SB
44-116	357009	2	B2101	FLDBK	BD			4/19/2019 7:45	2	198	c	60	1	0	325246	SB
44-116	357009	3	B2101	FLDBK	BD			4/19/2019 7:47	2	206	c	60	1	0	325246	SB
44-116	357009	4	B2101	FLDBK	BD			4/19/2019 7:49	2	184	c	60	1	0	325246	SB
44-116	357009	5	B2101	FLDBK	BD			4/19/2019 7:50	2	196	c	60	1	0	325246	SB
44-116	357009	6	B2101	FLDBK	BD			4/19/2019 7:53	2	246	c	60	1	0	325246	SB
44-116	357009	7	B2101	B03	BS			4/19/2019 8:44	2	452	c	0	0	0	325246	SB
44-116	357009	8	B2101	B03	BD			4/19/2019 8:47	2	203	c	60	1	0	325246	SB
44-116	357009	9	B2101	B07	BS			4/19/2019 9:30	2	404	c	0	0	0	325246	SB
44-116	357009	10	B2101	B07	BD			4/19/2019 9:34	2	168	c	60	1	0	325246	SB
44-116	357009	11	B2101	B09	BS			4/19/2019 9:57	2	452	c	0	0	0	325246	SB
44-116	357009	12	B2101	B09	BD			4/19/2019 10:00	2	325	c	60	1	0	325246	SB
44-116	357009	13	B2101	B13	BS			4/19/2019 10:09	2	513	c	0	0	0	325246	SB
44-116	357009	14	B2101	B13	BD			4/19/2019 10:15	2	232	c	60	1	0	325246	SB
44-116	357009	15	B2101	B15	BS			4/19/2019 12:46	2	530	c	0	0	0	325246	SB
44-116	357009	16	B2101	B15	BD			4/19/2019 12:51	2	284	c	60	1	0	325246	SB
44-116	357009	17	B2101	B11	BS			4/19/2019 13:27	2	463	c	0	0	0	325246	SB
44-116	357009	18	B2101	B11	BD			4/19/2019 13:29	2	154	c	60	1	0	325246	SB
44-116	357009	19	B2101	B08	BS			4/19/2019 14:08	2	428	c	0	0	0	325246	SB
44-116	357009	20	B2101	B08	BD			4/19/2019 14:11	2	205	c	60	1	0	325246	SB
44-116	357009	21			BD	PSBKG		4/19/2019 16:04	2	242	c	60	1	0	325246	SB
44-116	357009	22			BD		PSCHK	4/19/2019 16:14	2	2789	c	60	1	1	325246	SB

B2-010-101

Probe Model	Serial Number	Sample Number	Survey Unit Grid	Location	D=Direct S=Scan	BKG	Source Check	Date / Time	Detector Setup	Logged Reading	Units (cpm)	Count Time	Logging Mode(min)	Alarm=1 No Alarm=0	Inst Serial Number	Tech Name
44-116	357009	0			BD	PRBKG		4/19/2019 6:50	2	222	c	60	1	0	325246	MS
44-116	357009	1			BD		PRCHK	4/19/2019 7:04	2	2565	c	60	1	1	325246	MS
44-116	357009	2	B2101	FLDBK	BD			4/19/2019 14:55	2	146	c	60	1	0	325246	MS
44-116	357009	3	B2101	FLDBK	BD			4/19/2019 14:56	2	152	c	60	1	0	325246	MS
44-116	357009	4	B2101	FLDBK	BD			4/19/2019 14:57	2	167	c	60	1	0	325246	MS
44-116	357009	5	B2101	FLDBK	BD			4/19/2019 14:58	2	158	c	60	1	0	325246	MS
44-116	357009	6	B2101	FLDBK	BD			4/19/2019 14:59	2	161	c	60	1	0	325246	MS
44-116	357009	7	B2101	QCB05	BS			4/19/2019 15:22	2	443	c	0	0	0	325246	MS
44-116	357009	8	B2101	QCB05	BD			4/19/2019 15:24	2	190	c	60	1	0	325246	MS
44-116	357009	9	B2101	QCA01	BS			4/19/2019 15:50	2	322	c	0	0	0	325246	MS
44-116	357009	10	B2101	QCA01	BD			4/19/2019 15:52	2	211	c	60	1	0	325246	MS
44-116	357009	11			BD	PSBKG		4/19/2019 16:04	2	242	c	60	1	0	325246	MS
44-116	357009	12			BD		PSCHK	4/19/2019 16:14	2	2789	c	60	1	1	325246	MS

Reviewed By:

W.B.

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Probe Model	Serial Number	Sample Number	Survey Unit Grid	Location	D=Direct S=Scan	BKG	Source Check	Date / Time	Detector Setup	Logged Reading	Units (cpm)	Count Time	Logging Mode(min)	Alarm=1 No Alarm=0	Inst Serial Number	Tech Name
44-116	357439	0			BD	PRBKG		4/19/2019 6:42	1	204	c	60	1	0	325261	WDC
44-116	357439	1			BD		PRCHK	4/19/2019 7:01	1	2483	c	60	1	1	325261	WDC
44-116	357439	2	B2101	FLDBK	BD			4/19/2019 7:35	1	171	c	60	1	0	325261	WDC
44-116	357439	3	B2101	FLDBK	BD			4/19/2019 7:36	1	161	c	60	1	0	325261	WDC
44-116	357439	4	B2101	FLDBK	BD			4/19/2019 7:38	1	177	c	60	1	0	325261	WDC
44-116	357439	5	B2101	FLDBK	BD			4/19/2019 7:39	1	175	c	60	1	0	325261	WDC
44-116	357439	6	B2101	FLDBK	BD			4/19/2019 7:40	1	174	c	60	1	0	325261	WDC
44-116	357439	7	B2101	A04	BS			4/19/2019 8:43	1	231	c	0	0	0	325261	WDC
44-116	357439	8	B2101	A04	BD			4/19/2019 8:46	1	162	c	60	1	0	325261	WDC
44-116	357439	9	B2101	A14	BS			4/19/2019 9:17	1	253	c	0	0	0	325261	WDC
44-116	357439	10	B2101	A14	BD			4/19/2019 9:19	1	196	c	60	1	0	325261	WDC
44-116	357439	11	B2101	A01	BS			4/19/2019 10:19	1	241	c	0	0	0	325261	WDC
44-116	357439	12	B2101	A01	BD			4/19/2019 10:21	1	177	c	60	1	0	325261	WDC
44-116	357439	13	B2101	A10	BS			4/19/2019 12:58	1	517	c	0	0	1	325261	WDC
44-116	357439	14	B2101	A10	BD			4/19/2019 13:01	1	445	c	60	1	0	325261	WDC
44-116	357439	15	B2101	A11	BS			4/19/2019 13:17	1	488	c	0	0	0	325261	WDC
44-116	357439	16	B2101	A11	BD			4/19/2019 13:19	1	494	c	60	1	0	325261	WDC
44-116	357439	17	B2101	A06	BS			4/19/2019 13:35	1	499	c	0	0	0	325261	WDC
44-116	357439	18	B2101	A06	BD			4/19/2019 13:37	1	447	c	60	1	0	325261	WDC
44-116	357439	19	B2101	A03	BS			4/19/2019 14:32	1	449	c	0	0	0	325261	WDC
44-116	357439	20	B2101	A03	BD			4/19/2019 14:35	1	487	c	60	1	0	325261	WDC
44-116	357439	22	B2101	A07	BS			4/19/2019 14:50	1	521	c	0	0	1	325261	WDC
44-116	357439	23	B2101	A07	BD			4/19/2019 14:52	1	477	c	60	1	0	325261	WDC
44-116	357439	24	B2101	A15	BS			4/19/2019 15:17	1	247	c	0	0	0	325261	WDC
44-116	357439	25	B2101	A15	BD			4/19/2019 15:19	1	171	c	60	1	0	325261	WDC
44-116	357439	26			BD	PSCHK		4/19/2019 15:59	1	189	c	60	1	0	325261	WDC
44-116	357439	27			BD		PSCHK	4/19/2019 16:01	1	2581	c	60	1	1	325261	WDC

