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FINAL
RADIOLOGICAL SCOPING SURVEY REPORT
Installation Restoration Site 12 and Selected Transportation Routes
Former Naval Station Treasure Island
San Francisco, California

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TABLE OF CONTENTS

List of Figures iv
List of Tables iv
List of Appendices v
Abbreviations and Acronyms vi
Definitions vii
Executive Summary viii
1.0 Introduction 1
1.1 Site Description and Background 1
1.1.1 Historical Land Uses 1
1.1.2 USS Pandemonium Site I (NW) 2
1.1.3 Solid Waste Disposal Areas 2
1.1.4 Transportation Routes Between Site 12 and Site 6 3
1.2 Objective and Scope 3
1.3 Radiological Screening Criteria 4
1.4 Action Level 4
1.4.1 Basis 5
1.4.2 Application 5
1.4.3 Alarm Set Point/Response Threshold 5
1.4.4 Preliminary RS-700 Data Screening 6
1.5 Data Quality Objectives 7
1.5.1 Step 1 – Statement of the Problem 7
1.5.2 Step 2 – Decision Statement 7
1.5.3 Step 3 – Inputs to the Decision 8
1.5.4 Step 4 – Boundaries of the Study 8
1.5.5 Step 5 – Decision Rules 8
1.5.6 Step 6 - Limits on Decision Errors 9
1.5.7 Step 7 - Optimizing the Survey Design 9
1.6 Survey Design 9
2.0 Survey Methodology 10
2.1 Survey Instrumentation 10
2.1.1 Instrument Calibration and Maintenance 10
2.1.2 Instrument Response 11
2.1.3 Detection Sensitivity 11
2.2 Gross Gamma Scans 13
2.2.1 RS-700 Data 14
2.2.2 Ludlum Model 44-10 Data 16
2.3 Exposure Rate Measurements 17
2.4 Alpha/Beta Surface Measurements 17
2.5 Soil Samples 17
2.6 Reference Coordinate System 18
2.7 Investigation of Potential Low-Level Radiological Objects 18
2.8 Reference Areas 19
2.8.1 Gross Gamma Scans - Soil and Concrete Reference Area (Area 7) 19

2.8.2 Gross Gamma Scans - Asphalt Reference Area 19
2.8.3 Soil Samples – Site-Wide Reference Area 20
3.0 Data Collection 21
3.1 Site 12 Housing Areas 21
3.1.1 Gross Gamma Scans 22
3.1.2 Soil Samples 22
3.1.3 Radiation Anomalies 22
3.1.4 Supplemental Field Investigation: 1400 Housing Area 25
3.2 Transportation Routes Between Site 12 and Site 6 25
3.2.1 Gross Gamma Scan 27
3.2.2 Alpha/Beta Surface Measurements 27
3.2.3 Sediment Sample 27
4.0 Data Analysis 29
4.1 Descriptive Statistics 29
4.2 Reference Area ComparisonS 29
4.3 Graphical Data Review 31
4.3.1 Soil Matrix 31
4.3.2 Concrete Matrix 34
4.3.3 Asphalt Matrix 35
4.3.4 Transportation Routes Between Site 12 and Site 6 37
4.4 Z-Score Mapping 39
4.5 Field Observations 41
5.0 Data Gaps 43
5.1 Reference Areas 43
5.2 Site 12 Housing Areas 44
5.2.1 1100 Housing Area 44
5.2.2 1200 Housing Area 45
5.2.3 1300 Housing Area 45
5.2.4 1400 Housing Area 46
5.3 Transportation Routes Between Site 12 and Site 6 47
6.0 Summary, Conclusions, and Recommendations 48
6.1 Principal Objective 48
6.1.1 Reference Areas 48
6.1.2 Site 12 Housing Areas 49
6.1.3 Transportation Routes Between Site 12 and Site 6 49
6.2 Suppporting Objective 49
7.0 References 51

LIST OF FIGURES

Figure 1 Site 12 and Transportation Routes Between Site 12 and Site 6
Figure 2 RS-700 Data File Naming Convention
Figure 3 1100 Housing Area Annotated Z-Score Contour Map
Figure 4 1200 Housing Area Annotated Z-Score Contour Map
Figure 5 1300 Housing Area Annotated Z-Score Contour Map
Figure 6 1400 Housing Area Annotated Z-Score Map (Post-Supplemental Investigation)
Figure 7 Examples of Low-Level Radioactive Objects Recovered
Figure 8 Z-Scores Overlay Map – Asphalt Transportation Routes
Figure 9 Cumulative Frequency Diagrams: Soil Matrix
Figure 10 Frequency Plots: Soil Matrix
Figure 11 Cumulative Frequency Diagrams: Concrete Matrix
Figure 12 Frequency Plots: Concrete Matrix
Figure 13 Cumulative Frequency Diagrams: Asphalt Matrix
Figure 14 Frequency Plots: Asphalt Matrix
Figure 15 Plotted Transportation Routes Data: Gross Gamma Scan
Figure 16 Plotted Transportation Routes Data: Beta Statics
Figure 17 Plotted Transportation Routes Data: Alpha Statics

LIST OF TABLES

Table 1 Radiological Screening Criteria
Table 2 Decision Rules
Table 3 Survey Instrumentation
Table 4 Detection Sensitivities
Table 5 RSI Console/Detector Configurations Used to Collect RS-700 Data
Table 6 Summary of RS-700 Data Files by Housing Area and Matrix
Table 7 Summary of Data Collection Activities
Table 8 Summary of Radiation Anomalies Identified During Gross Gamma Scans
Table 9 Summary of 1400 Housing Area Supplemental Investigation Results
Table 10 RS-700 Data Statistics by Housing Area and Matrix

LIST OF APPENDICES

Appendix A Field Change Request No. 4
Appendix B Survey Instrumentation Data
Appendix C RSI RS-700 Gamma-Ray Detection System Specifications
Appendix D ITSI-NSTI-033, Operation of RS-700 Gamma-Ray Detection System
Appendix E RS-700 Master Survey Log
Appendix F Ludlum Model 44-10 Radiological Surveys
Appendix G ITSI-NSTI-064, Handling of Radioactive Commodities
Appendix H Soil Sample Laboratory Analysis Data
Appendix I Radiation Anomaly Investigations
Appendix J 1400 Housing Area Supplemental Field Investigation Data
Appendix K Transportation Routes Survey Data
Appendix L 1100 Housing Area Gross Gamma Data
Appendix M 1200 Housing Area Gross Gamma Data
Appendix N 1300 Housing Area Gross Gamma Data
Appendix O 1400 Housing Area Gross Gamma Data
Appendix P Response to Comments

ABBREVIATIONS AND ACRONYMS

µR/hr	microroentgens per hour
µrem/hr	microrem per hour
cm	centimeter(s)
cm^2	square centimeter(s)
cpm	counts per minute
cps	counts per second
CDPH	California Department of Public Health
Cs-137	cesium-137
DoD	U.S. Department of Defense
DQO	data quality objective
dpm	disintegrations per minute
EPA	U.S. Environmental Protection Agency
Gilbane	Gilbane Federal
GPS	global positioning system
HRA	Historical Radiological Assessment
IR	Installation Restoration
ISO	International Standards Organization
LLRO	low-level radioactive object
LLRW	low-level radioactive waste
m	meter(s)
m^2	square meter(s)
m/sec	meters per second
MDC	minimum detectable concentration
MeV	mega-electron volts
mg	milligram(s)
min	minute(s)
N/A	not applicable
NaI(Tl)	sodium iodide (thallium activated)
Navy	U.S. Department of the Navy
NORM	naturally occurring radioactive material
NRC	U.S. Nuclear Regulatory Commission
NSTI	former Naval Station Treasure Island
pCi/g	picocuries per gram
QC	quality control
Ra-226	radium-226
RMP	Radiological Management Plan
RSI	Radiation Solutions, Inc.
RWI	radiation work instruction
Shaw	Shaw Environmental, Incorporated
SWDA	solid waste disposal area
Tc-99	technicium-99
TSP	Task-Specific Plan
Weston	Weston Solutions, Incorporated

DEFINITIONS

The following terms are used consistently throughout this report to allay confusion that the reader may have for the multiple types of data evaluation that was done as part of the scoping survey:

Action Level	For the purposes of this report, the term 'action level' refers to an exposure rate of 10 microroentgens per hour (μR/hr) at 30 cm from the ground surface measured using a Ludlum Model 19 exposure rate meter.
Low-Level Radiological Object (LLRO)	For the purposes of this report, the term 'low-level radiological object' (also referred to as 'radioactive commodity' in project documentation) refers to a discarded object that may have been used during Naval operations at Treasure Island. These objects, which are handled and disposed as low-level radioactive waste (LLRW), include radioluminescent gauges, deck markers or small shards of metal.
Radiation Anomalies	For the purposes of this report, the term 'radiation anomalies' refers to areas of radiation identified by field personnel that approach or exceed the action level (defined above). The term should not be confused with radiological statistical outliers (defined below) identified by analyzing the gross gamma scan data after field work was completed.
Radiological Statistical Outliers	After the gross gamma scan data were collected, the data were compared against themselves to create z-score contour maps, which provide a visual representation of the data. For the purposes of this report, the term 'radiological statistical outliers' are areas on these maps with a z-score greater than 3. Radiological statistical outliers were only investigated in the 1400 series area. Radiological statistical outliers were derived independently from and are not related to those areas identified as radiation anomalies (defined above).

EXECUTIVE SUMMARY

This report presents the results of the radiological scoping survey performed of Installation Restoration (IR) Site 12 and selected transportation routes between IR Site 12 and IR Site 6 at the former Naval Station Treasure Island (NSTI), San Francisco, California. A radiological survey of accessible land areas, including common spaces, private fenced backyards, and paved roadways was completed from September 2013 to April 2014.

The principal survey objective was to determine if residual radioactivity requiring remediation is present, and to provide design input for subsequent surveys (either characterization or final status surveys) with the ultimate goal of obtaining radiological clearance of Site 12. Gross gamma scan data were the primary type of data collected. Site 12 was developed for military family housing sequentially in areas identified as the 1100, 1200, 1300, and 1400 housing areas (see Figure 1). Data were grouped by housing area and matrix (soil, concrete, and asphalt) for analysis. Data analysis included the calculation and comparison of statistical quantities, visual inspection of data distributions using cumulative frequency diagrams and frequency plots to identify data distribution trends and potential outliers, and spatial assessment using z-score mapping to identify radiological statistical outliers. Alpha/beta surface measurements and soil samples were collected as guided by the gross gamma scan data analyses and were compared to radiological screening criteria discussed in Section 1.3.

A supporting survey objective was to identify areas with radiation anomalies where public health and safety concerns requiring immediate response may exist. The Navy developed an action level of 10 microroentgens per hour (µR/hr) to identify areas with radiation anomalies that warranted immediate investigation. The action level was applied during the gamma survey as a tool to identify areas where radiation anomalies may exist. This differs from the radiological screening criteria which were used to determine if residual radioactivity requiring remediation is present. The radiological screening criteria and action level are discussed in Sections 1.3 and 1.4, respectively. Where radiation anomalies were identified, they were assessed regarding the potential impact on public health and safety. If the radiation anomaly was indicative of a potential low-level radiological object (LLRO), the area was investigated by excavating about a

cubic foot of soil, recovering radioactive material, analyzing the soil for radionuclides of concern, restoring the area, and measuring radiation levels of the restored area.

Radiation anomalies were identified in all four Site 12 housing areas. Investigations resulted in the recovery of LLROs from seven locations in the housing areas. Soil samples collected during investigation activities reported localized radium-226 (Ra-226) concentrations above the radiological screening criterion of 1.69 pCi/g (1 pCi/g above background) at one or more locations in each housing area. The highest reported sample concentration was 31 pCi/g. Following recovery of the LLROs, no areas remain with radiation levels above the action level. This excludes those areas with objects containing naturally occurring radioactive material (NORM) that are not associated with legacy Navy operations.

Radiation levels at Site 12 poses no health risk beyond that associated with routinely encountered background levels. Additional investigation is recommended to further characterize the site in order for the Navy and regulatory agencies to make decisions for future property use. Based on the statistical analysis of the gross gamma scan data, further investigation of Site 12 is recommended to address radiological statistical outliers and statistical dissimilarities shown in the data. Further analysis of the data supplemented by field investigations may lead to the identification of radioactive contamination, including possible LLROs that may be shielded by soil. Additional analyses of the gross gamma scan data are also recommended to fully extract the information available in the data to better inform subsequent Site 12 surveys.

The *Historical Radiological Assessment – Supplemental Technical Memorandum. Naval Station Treasure Island, San Francisco, California* (TriEco-Tt, 2014) identified all of Site 12 as radiologically impacted. The data presented in this report will be used in concert with other lines of evidence to determine the appropriate remedial action for radionuclides of concern at Site 12. This report makes specific recommendations regarding follow-on activities (see Section 6.0). These recommendations include developing reference areas of suitable size and material composition and further investigating and characterizing Site 12 housing areas in order for the Navy and regulatory agencies to make decisions for future property use.

1.0 INTRODUCTION

This report presents the results of the radiological scoping survey performed of Installation Restoration (IR) Site 12 and selected transportation routes between IR Site 12 and IR Site 6 at the former Naval Station Treasure Island (NSTI), San Francisco, California. The scoping survey was conducted for the United States Department of the Navy (Navy) Base Realignment and Closure Program Management Office West by Gilbane Federal (Gilbane) from September 2013 to April 2014. The work was performed as Contract Task Order 0006 under Radiological Environmental Multiple Award Contract N62473-10-D-0808 with the Naval Facilities Engineering Command Southwest.

1.1 SITE DESCRIPTION AND BACKGROUND

Site 12 consists of the northwestern area of the former NSTI, as shown on Figure 1. It occupies about 93 acres and currently contains two-story residential buildings (about 800 housing units, mostly occupied) that are constructed with slab-on-grade foundations. The residential buildings have four to eight residential units per building, with carports, fenced backyards, overhead power lines, and underground utilities. Site 12 is flat, with open grassy areas between buildings, paved roads, and parking areas.

1.1.1 Historical Land Uses

The *Final Treasure Island Naval Station Historical Radiological Assessment, Former Naval Station Treasure Island, California* (HRA; Weston Solutions, Incorporated [Weston], 2006) and the *Final Historical Radiological Assessment – Supplemental Technical Memorandum. Naval Station Treasure Island, San Francisco, California* (TriEco-Tt, 2014) provide a comprehensive history of the radiological operations conducted by the Navy and its contractors at the former NSTI. Historical land uses at Site 12 prior to housing construction depends both on the geographical location and time period. Uses included ammunition storage, debris disposal, open burning/incineration, radiological decontamination training (USS Pandemonium), recreation areas, and parking areas. Beginning in 1968 and continuing in four phases through 1989, the area was developed for military family housing sequentially identified as the 1100, 1200, 1300, and 1400 housing areas. Former disposal areas were identified during foundation excavations for the residential housing units. The excavation trench logs identified debris described as loose rubbish such as bottles, wire rope, paper, steel drums, and incinerator ash. The rubbish was

found from the ground surface to a depth of 0.6 meters (m). Four separate solid waste disposal areas (SWDAs) - Westside, Bayside, North Point, and Bigelow - as well as rubbish disposal areas have been identified.

Prior to the construction of the Navy housing, existing surface features were removed. This included removal of the bunkers and relocation of the USS Pandemonium. Grading and site preparation for construction of the housing units included mixing of the solid waste material with fill and surface soil and spreading this mixture both within and outside the known SWDAs. Radium-226 (Ra-226) contamination was identified in the soil in SWDAs located within Site 12. Ra-226 subsequently has been identified at various other locations within Site 12 outside the SWDAs.

1.1.2 USS Pandemonium Site I (NW)

The USS Pandemonium was a full-scale, above-the-waterline mock-up of a 173-foot patrol craft training ship that was opened in 1956. It was used for radiological decontamination training. Originally, it was located in the northwestern part of NSTI (referred to as USS Pandemonium Site I [NW]) within the Site 12 boundary as shown on Figure 1, but it was relocated to the eastern side of the island in 1969. Decontamination training initially used only sealed cesium-137 (Cs-137) sources to simulate radioactive fallout. Later, short-lived radionuclides were used to simulate radioactive fallout more realistically. Check sources, such as gauges containing Ra-226 also were used during training. The gravel-surfaced, fenced-off training area was approximately 120 m by 180 m. The area ultimately was re-graded and housing was constructed following the relocation of the USS Pandemonium to the northeast corner of the island.

1.1.3 Solid Waste Disposal Areas

Four discrete SWDAs are located in Site 12. They are identified on Figure 1 as Westside, Bayside, North Point, and Bigelow. At Bayside and North Point, soil was excavated to a depth of 1.2 m below ground surface and backfilled with clean soil, except beneath existing buildings. As of November 2014, excavation has been completed at Bigelow and is ongoing at Westside. Westside and Bigelow are controlled areas and are fenced off to prevent public access.

Radioactive contamination was not identified initially as a contaminant of concern for Site 12. However, screening and sampling of excavated soils for radioactive contamination was

conducted at Westside, Bayside, and North Point as recommended in the HRA (Weston, 2006), and revealed the presence of Ra-226 concentrations above background levels.

At present, the remedial process for the SWDAs is proceeding separately from the rest of Site 12.

1.1.4 Transportation Routes Between Site 12 and Site 6

Beginning in 2007, excavated soil and investigation-derived waste from prior restoration work in Site 12 was transported to Site 6 via dump trucks and front-end loaders. This practice continued through 2008 when empty low-level radioactive waste (LLRW) bins were brought to Site 12 and directly loaded there. Once the material was transported to Site 6, the material was stored, sampled, segregated based on sampling results, and packaged for transportation and disposal. During these operations, material that potentially was radioactively contaminated reportedly was transported from one or more of the SWDAs in Site 12 to Site 6 in an end-loader bucket. This manner of transport could have resulted in the contamination of the roadways used as transportation routes between the sites.

1.2 OBJECTIVE AND SCOPE

The principal objective of the radiological scoping survey was to determine if residual radioactivity requiring remediation is present, and to provide design input for subsequent surveys (either characterization or final status surveys), with the ultimate goal of obtaining radiological clearance for Site 12. A supporting objective of the radiological scoping survey was to identify areas with radiation anomalies where public health and safety concerns requiring immediate response may exist. Radiation anomalies were identified and investigated during field work and gross gamma scan data were further analyzed as described in this report. Data analysis included the calculation and comparison of statistical quantities; visual inspection of data distributions using cumulative frequency diagrams and frequency plots to identify data distribution trends and potential outliers; and spatial assessment using z-score mapping to identify radiological statistical outliers.

The radiological scoping survey included:

- Accessible open soil- and vegetation-covered land areas in Site 12, including private fenced backyard areas, up to the perimeter berm;

- Small concrete-paved areas in Site 12 such as sidewalks, patios, driveways, and sports courts; and
- Asphalt-paved roadways and parking areas within Site 12, and the transportation routes between Site 12 and Site 6 as shown on Figure 1.

SWDAs and surface obstructions (e.g., buildings, bushes, utility poles, fences) were excluded from the survey. Potentially impacted materials are primarily soil, concrete, and asphalt.

1.3 RADIOLOGICAL SCREENING CRITERIA

The principal objective of the radiological scoping survey - to determine if residual radioactivity requiring remediation is present - was based on comparing survey data to the radiological screening criteria listed in Table 1. The radionuclides of concern are Ra-226 and, for the USS Pandemonium Site I (NW) area only, Cs-137.

Table 1 - Radiological Screening Criteria[a]

Radionuclide of Concern	Total Surface Residual Radioactivity (dpm/100 cm^2)[b,c]	Soil (or Volumetric) Residual Radioactivity (pCi/g)[d]
Cs-137[e]	5,000	N/A
Ra-226	100	1.0

Notes:

[a] Source: Table 3.1, *Radiological Management Plan, Naval Station Treasure Island, San Francisco, California* (RMP; ITSI Gilbane, 2013a)

[b] Values are net (i.e., above background) concentrations, in disintegrations per minute per 100 square centimeters (dpm/100 cm^2); surfaces include asphalt and concrete

[c] an arbitrary value of 20% of the radiological screening criteria was used to compare smear sample results; for conservative simplicity in execution, beta activity was assumed to be Cs-137 and alpha activity was assumed to be Ra-226

[d] Screening criterion for Ra-226 of 1.0 pCi/g above background is the same as that previously used at NSTI; no screening criterion have been established at NSTI for Cs-137

[e.] Radionuclide of concern for USS Pandemonium Site I (NW) only

1.4 ACTION LEVEL

The supporting objective of the radiological scoping survey - to identify areas with radiation anomalies where public health and safety concerns requiring immediate response may exist - was based on measured radiation levels exceeding 10 microroentgens per hour (µR/hr) at 30 cm from the ground surface measured using a Ludlum Model 19 exposure rate meter. This was defined as the action level at which an assessment was made regarding the potential impact on public health and safety and whether immediate attention was required.

1.4.1 Basis

The action level was derived from Navy guidance that the radiation dose to individual members of the public from legacy Navy operations should not exceed 100 millirem in a year. This is equivalent to 11.4 microrem per hour (µrem/hr), assuming exposure 24 hours a day for 365 days a year. In other words, 1 µR/hr = 0.87 µrem/hr. Consequently, an action level of 10 µR/hr resulted in a conservative application of the Navy guidance.

1.4.2 Application

The action level was applied as a gross value without any attempt to subtract a background radiation contribution. Considering background radiation levels at NSTI generally range from 5 to 7 µR/hr, the action level of 10 µR/hr actually resulted in an effective action level of 3 to 5 µR/hr above background. It is noteworthy that measurements at these radiation levels can be due to naturally occurring radioactive material (NORM) and do not necessarily indicate legacy Navy operations as their source.

1.4.3 Alarm Set Point/Response Threshold

Alarm set points or a response threshold based on gross gamma measurements were established to alert surveyors to areas that approached or exceeded the action level. The alarm set point for the Radiation Solutions, Inc. (RSI) RS-700 self-contained mobile gamma ray detection system was 2,000 counts per second (cps). For the two-detector array, there was a secondary alarm set point at 4,000 cps for both detectors combined. Exceeding the alarm set point triggered an audible alarm alerting the surveyor. The response threshold for the Ludlum Model 44-10 gamma scintillation detector was 10,000 counts per minute (cpm), which was a value that was observed by the surveyor during the survey. See Section 2.2 for a description how the RSI RS-700 system and the Ludlum Model 44-10 detectors were used.

The single performance criterion for the alarm set points and response threshold was that they must trigger at or below the action level. The process of determining an alarm set point or response threshold is a balance between a desired high rate of true detection and a manageable number of false alarms. A true detection rate of 100% can be accompanied by an unmanageable number of false alarms and therefore may not be practical. Accordingly, the values selected were set to be as low as reasonably possible without generating an unmanageable number of false alarms.

The alarm set point and response threshold values were not theoretically derived. A gross gamma measurement in cps or cpm cannot be directly converted into an exposure rate reading in µR/hr (or vice versa) without either knowing or making assumptions regarding the radiation energies being measured. This, in turn, depends on the mix of radionuclides that are present, their relative concentrations, spatial distributions (e.g., point source vs. areal or distributed source), and attenuation characteristics of the materials that are present between the source and the detector.

In lieu of this information or making assumptions regarding it, the alarm set point and response threshold values were determined experimentally. Survey instruments were taken into the field and their response to various radiation levels was directly observed. The alarm set point and response threshold values were then set as far below the action level as possible to ensure a high probability of identifying radiation levels approaching or exceeding the action level (i.e., high rate of true detection), but high enough above the variability in background radiation levels so that the surveyor was not constantly responding to alarms (i.e., manageable number of false alarms).

For example, using a single RS-700 detector whose instrument set-up background was around 700 cps, an alarm set point of approximately twice its background, or 1,500 cps, was set. In the field when an alarm was received, the surveyor stopped surveying and investigated the area to determine if the action level was exceeded. The alarm set point of 1,500 cps was found to generate a high number of alarms, none of which exceeded the action level. Fewer alarms were generated by raising the alarm set point. Field experience demonstrated that an alarm set point of 2,000 cps consistently alarmed at radiation levels at or below the action level. About 80-90% of the alarms occurred at levels below the action level. A similar approach was used to determine the response threshold for the Ludlum Model 44-10 detector.

1.4.4 Preliminary RS-700 Data Screening

The bulk of the survey data collected was RS-700 data. Regardless of whether an alarm occurred during data collection, the RS-700 data underwent a preliminary screening. As a very simplistic data screening tool, the mean of the gross gamma total count rates for each collected data set was calculated and any value above two times the data set mean was graphed on a survey map as a purple dot. The purple dot, which may or may not have triggered an alarm or

response during surveying, was investigated independently by a surveyor to determine if it exceeded the action level. If so, project management was notified and response actions were initiated. If not, no further action was taken.

1.5 DATA QUALITY OBJECTIVES

The data quality objectives (DQOs) for the radiological clearance of buildings, structures, and land areas at the former NSTI are provided in the *Radiological Management Plan, Naval Station Treasure Island, San Francisco, California* (RMP; ITSI Gilbane, 2013a). Specific DQOs developed for achieving the principle objective of the radiological scoping survey of Site 12 and transportation routes between Site 12 and Site 6 are presented below.

1.5.1 Step 1 – Statement of the Problem

The Navy would like to obtain site-specific information for Site 12 based on a limited number of measurements. Specifically, information was sought on (1) the presence and extent of residual radioactivity that exceeds the radiological screening criteria and (2) in the absence of elevated residual radioactivity, the suitability for radiological clearance to unrestricted use.

Radiological data were needed to determine if residual radioactivity requiring remediation is present. If so, the Navy was consulted. If not, the data provide design input for subsequent surveys (either characterization or final status surveys), with the ultimate goal of obtaining radiological clearance.

1.5.2 Step 2 – Decision Statement

The principal study question was: “Is residual radioactivity requiring remediation present?” The following alternative actions result from resolution of the principal study question:

- If the levels of residual radioactivity meet the radiological screening criteria, then the area is suitable for subsequent surveys to be performed with the ultimate goal of obtaining radiological clearance.
- If the levels of residual radioactivity exceed the radiological screening criteria, then the area may require remediation or additional data collection based on consultation with the Navy.

Based on the principal study question and the alternative actions listed above, the decision statement was: “Determine whether the levels of residual radioactivity require remediation.”

1.5.3 Step 3 – Inputs to the Decision

The radionuclide of concern was Ra-226. For the USS Pandemonium Site I (NW), the radionuclides of concern included Cs-137.

For paved roadways, the impacted media are asphalt and concrete, and may include underlying soil. Alpha/beta static measurements were used as quantitative inputs. Gross gamma scans were used as qualitative inputs. A composite sample of run-off sediment analyzed by gamma spectroscopy, and samples of removable surface radioactivity (smears) analyzed for gross alpha/beta radioactivity, also were used as qualitative inputs. No samples of soil underlying paved roadways were collected (see Section 3.2.3).

For land areas, the impacted media is primarily soil, but may include sand, gravel, asphalt and concrete. Soil samples analyzed by gamma spectroscopy were used as quantitative inputs. See Section 3.1.2. Gross gamma scan measurements and bulk material samples analyzed by gamma spectroscopy were used as qualitative inputs.

Measurements above the radiological screening criteria triggered further evaluation to explore the possible presence of elevated residual radioactivity.

1.5.4 Step 4 – Boundaries of the Study

The target population was surface and volumetric concentrations on and/or in the impacted media. The spatial boundaries were accessible land areas, including private fenced backyard areas, and paved roadways in Site 12. Excluded were the SWDAs and vertical surface structures (e.g., buildings, utility poles, fences).

Decisions were made on two fundamental scales:

- Localized areas: The decision to collect additional data was made for discrete areas with measurement results that exceed the radiological screening criteria.
- Survey unit: Site 12 areas and transportation routes between Site 12 and Site 6 were divided into survey areas based on similar physical characteristics and similar potential for residual radioactivity. A decision was made for each survey area as to its need for remediation and/or additional data collection.

1.5.5 Step 5 – Decision Rules

The decision rules established in Table 2 were used to collect data.

Table 2 – Decision Rules

Parameter of Interest	IF	THEN	ELSE
Scan Measurements	Areas identified with measured radioactivity above mean + 3σ of reference (background) level (or other Navy-approved investigation level)	Collect biased measurements from each identified area; collect fixed point measurements (e.g., soil samples)	Collect fixed point measurements
Fixed Point Measurements	Measurements exceed radiological screening criteria	Investigate to determine area of elevated radioactivity, remediate, and resurvey (or consult the Navy)	Compare data to background

1.5.6 Step 6 - Limits on Decision Errors

To ensure data quality, data were reviewed, verified, and validated in accordance with the Sampling and Analysis Plan (found as Appendix B to the RMP). To ensure usability of laboratory data, appropriate laboratory methods were selected to provide the necessary laboratory detection limits. Decision error rates associated with the calculation of instrument minimum detectable concentrations (MDCs) were set at 0.05 (5%).

1.5.7 Step 7 - Optimizing the Survey Design

Steps 1 through 6 of the DQO process above and the Sampling and Analysis Plan describe the resource-effective design used for collecting data sufficient to fulfill study objectives.

1.6 SURVEY DESIGN

For survey design purposes, Site 12 was initially divided into six Class 2 survey units and four Class 3 survey units. See Figure 2 and Table 3 of the *Task-Specific Plan for the Radiological Survey of Site 12 and Selected Transportation Routes, Naval Station Treasure Island, San Francisco, California* (TSP; ITSI Gilbane, 2013b). Once data collection began, field conditions suggested a more effective approach would be to standardize data collection across the entire Site 12 and to assess the data by housing area, which is presently thought to be the most homogenous grouping of the data that best accommodates its analyses. A field change request (Field Change Request No. 04, dated 11 August 2014) was prepared to document this change in survey design and data assessment. The field change request is found in Appendix A.

2.0 SURVEY METHODOLOGY

Survey activities were performed in accordance with the procedures and methodologies detailed in the RMP (ITSI Gilbane, 2013a) and TSP (ITSI Gilbane, 2013b). Radiation work instructions (RWIs) were developed to supplement the guidance provided in the RMP and TSP.

2.1 SURVEY INSTRUMENTATION

Commercially available radiation detection and measurement instrumentation were selected based on reliable operation, detection sensitivity, operating characteristics, and expected performance in the field. Table 3 lists the types of survey instrumentation used. Survey instrumentation data, including calibration and maintenance records, are found in Appendix B.

Table 3 - Survey Instrumentation

Measurement Type	Detector Type	Effective Detector Area and Window Density	Instrument Model	Detector Model
Gross gamma scan	NaI(Tl) scintillation	10 x 10 x 40 cm (4x4x16-in); N/A	RSI RS-700	RSI RSX-1
		5.1 cm diameter/length (2x2-in); N/A	Ludlum 2221	Ludlum 44-10
Exposure rate	NaI(Tl) scintillation	2.5 cm diameter/length (1x1-in) N/A	Ludlum 19	N/A
Alpha/beta static	Gas flow proportional	584 cm^2; 3.4 mg/cm^2 aluminized Mylar	Ludlum 2360	Ludlum 43-37
Alpha/beta smears	Dual phosphor scintillation	5.1 cm diameter; 0.4 mg/cm^2	Ludlum 2929	Ludlum 43-10-1

Notes:
cm^2 = square centimeter(s)
cm = centimeter(s)
in = inch(es)
mg/cm^2 = milligrams per square centimeter
NaI(Tl) = sodium iodide (thallium activated)
N/A = not applicable

2.1.1 Instrument Calibration and Maintenance

Survey instrumentation was calibrated prior to use. Radioactive sources used for calibration purposes are traceable to the National Institute of Standards and Technology. Instruments were inspected prior to use to ensure proper working condition, and were properly protected against inclement weather conditions in the operation.

2.1.2 Instrument Response

Instrument response checks were conducted to assure constancy in instrument response, to verify the detector was operating properly, and to demonstrate that measurement results were not the result of detector contamination. Instrument response was checked before instrument use each day data were collected.

A check source was used that emits the same type of radiation (i.e., alpha, beta, and/or gamma) as the radiation being measured and that gives a similar instrument response. A radioactive source containing Cs-137 was used to check instrument response to gamma radiation. A source containing technicium-99 (Tc-99) was used to check instrument response to beta radiation. Tc-99 emits a 0.29 mega-electron volt (MeV) beta particle, which results in a conservative instrument response to the 0.66 MeV beta particle emitted by the radionuclide of concern Cs-137. A source containing thorium-230 was used to check instrument response to alpha radiation. Thorium-230 emits a 4.8 MeV alpha particle, which energy is similar to that of the alpha particle emitted by the radionuclide of concern Ra-226 (4.9 MeV).

The response check was performed at a set location at the Gilbane field trailer using a specified source-detector alignment that could be repeated easily. The source-detector alignment was designed to mimic field conditions as best as possible. For example, the RSI RS-700 system was set up in its operating configuration, and the check source was placed on a marked spot on the ground beneath the detector. For alpha/beta measurements, a jig was used to create a source-detector distance of 0.5 centimeter (cm) which corresponds to the height of the detector above the surface being measured.

Prior to initial instrument use, 20 measurements were made using a source representative of the radiation type. Twenty measurements also were made with the source removed to determine the instrument's expected response to ambient background. Background was monitored qualitatively to assess daily variations that may have impacted instrument MDCs.

2.1.3 Detection Sensitivity

Detection sensitivities of the survey instrumentation used for quantitative inputs to the principal study question are shown in Table 4. The results shown are based on representative count times, background counts, and total efficiencies. Instrument-specific values based on actual field

conditions were used to establish *a priori* MDCs before the instrument was used to ensure that the instrument was capable of detecting radiation at or below the radiological screening criteria. The MDC values were calculated in accordance with the RMP (ITSI Gilbane, 2013a).

The International Organization for Standardization (ISO) 7503, *Evaluation of surface contamination – Part 1: Beta-emitters (maximum beta energy greater than 0,15 MeV) and alpha-emitters* (ISO, 1988) defines the total efficiency (ε_T) as the product of two terms: the instrument efficiency (ε_i) and the surface efficiency (ε_s).

$$\varepsilon_T = \varepsilon_i \times \varepsilon_s$$

The instrument efficiency is based on the rate of particles detected by the instrument relative to the surface (2π) particle emission rate of the calibration source. The surface particle emission rate is a value measured and certified by the source manufacturer.

The surface efficiency is based on the rate of particles emerging from the surface of interest in the field relative to the rate of particles being generated from the total (4π) activity present on the surface. Optimally, the surface efficiency is an experimentally determined value specific to the field surface that accounts for its backscatter characteristics as well as geometry influences (e.g., a scabbled concrete surface). In the absence of experimentally determined values, however, ISO 7503-1 recommends surface efficiencies of 0.50 for beta emitters (with maximum beta energies above 0.40 MeV) and 0.25 for alpha emitters. These ISO recommended values were used.

Table 4 - Detection Sensitivities

Detector Model	Radiation of Interest	Count Time (min)	Background (cpm)	Total Efficiency[a] (cpm/dpm)	Static MDC[b] (dpm/100 cm^2)
Ludlum 43-37	alpha	2	1.8-2.4	0.037-0.048	23-30
Ludlum 43-37	beta	2	340-680	0.14-0.15	74-100
Ludlum 43-10-1	alpha	2	0.4-0.6	0.19-0.20[c]	15-17
Ludlum 43-10-1	beta	2	77-83	0.16-0.22[c]	101-140

Notes:
[a] Total efficiency equals instrument efficiency multiplied by surface efficiency; alpha = 0.25; beta = 0.5.
[b] Static MDC is calculated per Section 4.2.4 of the RMP (ITSI Gilbane, 2013a)
[c] 4π detection efficiency assumed
min = minute(s)
cpm = counts per minute
dpm = disintegrations per minute
cm^2 = square centimeter(s)

2.2 GROSS GAMMA SCANS

Gross gamma scans were performed using the RSI RS-700 system. System specifications are found in Appendix C. The RS-700 system consists of an integrated controller and data acquisition system, a digital gamma ray spectrometer/multi-channel analyzer (or console), and a data controller coupled to a NaI(Tl) gamma scintillation detector. Custom-built copper-lined lead shielding with a steel surround encases the top and sides of the detector. The shield focuses the detection capability on radiation coming from the ground, i.e., forcing the detector to "scan downward," to optimize the detection of gamma-rays at surface or near-surface locations.

Pre-set multiple independent regions of interest within the energy spectrum were programmed into the RS-700 to identify and track specific gamma radiation emissions from gamma-emitting Ra-226 progeny and other radionuclides of interest.

An RWI, ITSI-NSTI-033, *Operation of RS-700 Gamma-Ray Detection System* (ITSI Gilbane, 2013c; Appendix D), was prepared and issued to provide guidance on set-up, daily quality control (QC) checks, operation, and shutdown of the RS-700 system.

The RS-700 system was used in two configurations. The survey of large, open areas was performed using the RS-700 system with two detectors mounted end-to-end on a cart pulled behind a small tractor equipped with an adjustable throttle to allow for speed control. Small or obstructed areas were surveyed using a single RSI detector mounted on a hand pushcart. Areas which could not be surveyed by the larger RSI detector configurations, such as around buildings, fences, and obstructions, were surveyed using a hand-held Ludlum Model 44-10 2-inch by 2-inch (5.1 cm) NaI(Tl) gamma scintillation detector with a Ludlum 2221 rate meter/scaler.

Both the RS-700 system and Ludlum Model 44-10 detector were maintained at a height of approximately 0.1 m above the ground and moved over the surface at a speed of 0.5 meters per second (m/sec), with each pass spaced 0.5 m (more or less, based on detector field of view) from the previous pass to achieve 100-percent coverage of the area being surveyed. The tractor speed was initially verified using field tests performed daily after instrument use. In addition, surveyors were trained to walk no faster than 0.5 m/sec when using hand pushcarts or handheld instrumentation.

The detector height of 0.1 m above the ground was selected for two reasons. First, to maximize sensitivity, the detector was maintained as close to the ground as possible, with the distance of 0.1 m above the ground considered the smallest distance at which the detector can travel above the ground without being damaged. Second, the surface-to-detector geometry mimics that used in the modeling analysis documented in Section 6.8.2 of NUREG-1507, *Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions* (NRC, 1998), for the calculation of scan MDCs for land areas assuming the use of a NaI(Tl) scintillation detector. Similarly, the scan rate of 0.5 m/sec was selected as the slowest reasonable scan rate achievable, yet also consistent with the referenced NUREG-1507 modeling analysis.

The RS-700 data were position-correlated by means of a global positioning system (GPS) rover mounted on the detector in conjunction with a fixed base station. Both the GPS rover and the base station pulled position data both from U.S. NAVSTAR and from Russian GLONASS satellites to increase positional accuracy. The base station used several fixed monuments on NSTI as QC points and transmitted via radio to the GPS rover mounted on the detector, correcting positional data where the GPS rover signal was interrupted or distorted by obstructions encountered in the field. Software customized by RSI for this project allowed real-time positional data correction. This enhanced GPS capability allowed outstanding precision and reliable position correlation of data collected next to buildings, beneath car ports, or next to tall fences and trees that otherwise hinder or block satellite reception.

The Ludlum Model 44-10 data also were electronically captured and position-correlated using a Trimble Geo 7 series (or equivalent) handheld GPS unit.

2.2.1 RS-700 Data

RS-700 data were collected using four consoles and four detectors paired together in six different configurations. Table 5 lists the consoles by serial number, identifies the period of use, and specifies the detector configurations used with each console. The four detectors are numbered 1 through 4. Detector configuration 12 indicates detectors 1 and 2 were paired together. Similarly detector configuration 34 indicates detectors 3 and 4 were paired together.

The RS-700 data are organized by console and date of collection. Both the raw data from the detectors themselves and the data compiled using RSI's proprietary software RadAssist are found in the daily folder for each console. A folder entitled "GIS Mapping" contains preliminary data processing information organized by date based on the RadAssist-compiled data. It does not contain any original data. Due to the size and number of the data files, the RS-700 data are transmitted separate from this report.

Table 5 – RSI Console/Detector Configurations Used to Collect RS-700 Data

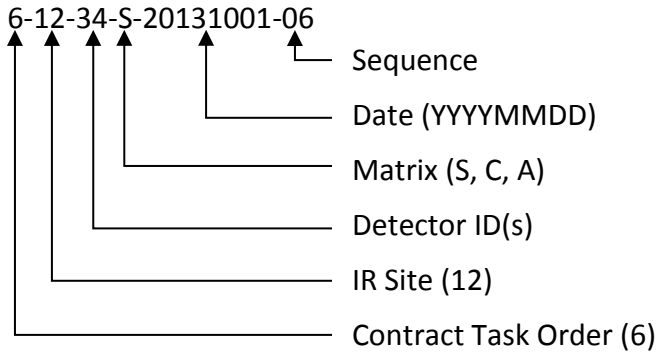
Console Serial Number	Time Period Used		Detector Configurations
	Start	End	
7070	19 Sep 2013	20 Dec 2013	3, 34
7071	19 Sep 2013	20 Dec 2013	1, 12
7159	26 Sep 2013	20 Dec 2013	2
7228	29 Oct 2013	7 Nov 2013	1

Appendix E contains a master survey log that serves as an index to the RS-700 data. The master survey log lists each data file collected and provides the following information:

- Detector configuration used to collect the data.
- Matrix (soil, asphalt, concrete).
- Date collected.
- Daily sequence in which data file was collected.
- Surveyor.
- Start and end times.
- Housing area.
- Associated building.
- Brief description.
- Surveyor/data processor notes/comments.

Each data file is identified with a unique name based on the naming scheme shown on Figure 2 below. The example identifies, reading the numbering scheme from right to left, the 6th data file collected on October 1, 2013, which was a soil matrix, using detector configuration 34 (detectors 3 and 4 paired together) in Site 12 under Contract Task Order 0006.

Figure 2 – RS-700 Data File Naming Convention



In addition to the information embedded in the data file name, the surveyor, start and end times, and a short description of the location surveyed were entered into the survey log.

The data files, organized by housing area and matrix (soil, concrete, asphalt), are summarized in Table 6.

Table 6 – Summary of RS-700 Data Files by Housing Area and Matrix

Housing Area	Number of Files			
	Matrix			Total
	Soil	Concrete	Asphalt	
1100	192	168	28	388
1200	416	310	130	856
1300	157	122	31	310
1400	152	114	32	298
Total	917	714	221	1,852

2.2.2 Ludlum Model 44-10 Data

Since the Ludlum Model 44-10 was used primarily to collect data around buildings, fences, bushes, and trees, and from other obstructed areas, a good deal of GPS signal distortion was experienced and significant data collection gaps were created in the electronic data files. Consequently, the utility of the electronic data files in positional data assessment is very limited. Therefore, hand-documented surveys were prepared to document the survey work performed using the Ludlum Model 44-10 around building perimeters, bushes, trees, fences, etc. The Ludlum Model 44-10 surveys are found in Appendix F.

2.3 EXPOSURE RATE MEASUREMENTS

Exposure rate measurements were performed using a Ludlum Model 19 exposure rate meter which uses a 1-inch by 1-inch NaI(Tl) gamma scintillation detector. Measurements were taken at 30 cm above the ground surface using the "slow" response time constant setting. Measurements of recovered (LLROs were also taken on contact and at 10 cm. The instrument was positioned and allowed to stabilize prior to observing the instrument response and recording the reading.

2.4 ALPHA/BETA SURFACE MEASUREMENTS

Alpha/beta surface measurements were performed using a Ludlum Model 43-37 584 cm^2 large-area gas-flow proportional detector with a Ludlum Model 2360 alpha/beta data logger. Static measurements were performed by placing the detector on or near the surface to be measured, taking a two-minute scaler count, and recording the reading.

Alpha/beta smear samples were collected at static measurement locations to detect removable surface radioactivity. Samples were collected over approximately 100 cm^2 and analyzed for alpha/beta radioactivity using a Ludlum Model 43-10-1 alpha/beta scintillation detector with a Ludlum Model 2929 alpha/beta scaler. The samples were counted for two minutes.

2.5 SOIL SAMPLES

Thirty-one soil samples were collected as part of field investigations of radiation anomalies. Samples were approximately 1,000 grams in size. Visually identifiable foreign objects and debris were separated manually in the field. Sampling equipment (e.g., hand and power tools, mixing utensils, and homogenizing bowls) was decontaminated (e.g. wiped down and smeared) between samples to prevent cross-contamination of sample media.

Samples were double bagged in one-gallon resealable plastic bags, numbered, logged, and sent for laboratory analysis. Each sample was labeled and assigned a unique sample identification number. When custody was transferred (e.g., when samples were sent for laboratory analysis), a chain-of-custody record accompanied the samples for tracking purposes. Any special handling requirements were communicated to the laboratory performing the analysis using the sample chain-of-custody record. The samples were packed properly to ensure their safe arrival at the laboratory.

Soil samples were prepared and analyzed by TestAmerica Laboratories, Inc., St. Louis, Missouri. TestAmerica St. Louis is accredited under the U.S. Department of Defense (DoD) Environmental Laboratory Accreditation Program. Sample analyses were performed using gamma spectroscopy based on U.S. Environmental Protection Agency (EPA) Method 901.1 in accordance with the laboratory's approved procedures. The activity concentration of Ra-226 was inferred from bismuth-214 after a sufficient in-growth period to achieve secular equilibrium. Samples were packaged in hermetically sealed containers prior to initiating the in-growth period to avoid radon-222 losses.

2.6 REFERENCE COORDINATE SYSTEM

A reference coordinate system was used for referencing a measurement geospatially to a specific location. Scale drawings, maps, or photographs of the survey area were prepared and oriented according to the state plane coordinates for the California State Plane Zone 3, North American Datum of 1927.

2.7 INVESTIGATION OF POTENTIAL LOW-LEVEL RADIOLOGICAL OBJECTS

An RWI, ITSI-NSTI-064, *Handling of Radioactive Commodities* (ITSI Gilbane, 2013d; Appendix G), was prepared and issued to provide guidance on initial response, notification, investigation/retrieval, and transport of LLROs discovered in shallow soil during survey activities. The RWI was used in conjunction with a radiation work permit detailing protective measures and controls to ensure that RWI tasks were performed in a radiologically safe manner.

One of the purposes of the action level was to identify areas where LLROs may be located so that they could be investigated and removed in a timely manner. When an alarm was received or a response threshold exceeded, the surveyor stopped surveying and investigated the area using a Ludlum Model 19 exposure rate meter to determine if the action level was exceeded. If so, project management was notified. If the action level was not exceeded, the surveyor resumed surveying. No further investigation was performed in the field by the surveyor.

Where radiation levels were found to exceed the action level, representatives of the Navy and the California Department of Public Health (CDPH) were notified and an assessment was made regarding the potential impact on public health and safety and the response actions to be taken. Factors that were considered included the potential presence of NORM and the distribution of

the exceedance. For example, a very localized area suggested the presence of an LLRO while an area of several square meters suggested the presence of NORM. The response generally entailed hand-digging up to 30 cm in depth to locate an LLRO, which, if encountered, was removed and properly disposed of as LLRW. In some instances, a discrete radioactive source such as an LLRO was not identified. The investigation of radiation anomalies is further discussed further in Section 3.1.3.

It should be noted that, by design, radiation anomalies determined to be below the action level do not warrant immediate attention. In other words, although an LLRO may remain buried in the soil, the level of radiation emitted by the object is so low that the small risk it presents to the public health and safety does not require immediate action to mitigate.

2.8 REFERENCE AREAS

Reference measurements were collected from non-impacted areas outside of Site 12, but that have similar physical characteristics to Site 12. The reference areas are identified in Figure 1. The measurements were collected for comparison to gross gamma scan and soil sample data collected from Site 12.

2.8.1 Gross Gamma Scans - Soil and Concrete Reference Area (Area 7)

Reference measurements for gross gamma scans on soil and concrete were collected from an area immediately adjacent to the south side of Building 453 (see Figure 1). The grassy area was used to collect reference data for gross gamma scans on soil. It was previously used by Shaw Environmental, Inc. (Shaw) as a reference area for Ra-226 soil concentrations and identified as Area 7 (Shaw, 2012). Concrete surrounding the grassy area was used to collect reference data for gross gamma scans on concrete.

2.8.2 Gross Gamma Scans - Asphalt Reference Area

Reference measurements for gross gamma scans on asphalt were collected from a small section of asphalt east of Building 570 (see Figure 1). An area previously used by Shaw to collect reference data for gross gamma scans on asphalt, referred to as Area 9 and located in the parking area east of Building 3, was not available at the time of field data collection activities.

2.8.3 Soil Samples – Site-Wide Reference Area

The concentrations of naturally occurring radionuclides at the former NSTI are highly variable because the island is man-made with materials brought in from multiple and not always known areas (Weston, 2006). A reference area data set for Ra-226 in soil at the former NSTI is documented in a technical memorandum entitled, *Analysis of Gamma Survey and Radium-226 Soil Concentration Data at the Treasure Island Site-Wide Background Areas and the Area 7 Background Reference Area* (Shaw, 2012). Twenty surface soil samples were collected from randomly chosen NSTI site-wide background locations selected for this purpose. The mean Ra-226 concentration in these 20 surface soil samples is 0.69 picocuries per gram (pCi/g), with a standard deviation of 0.16 pCi/g. Based on the observed variability in the reference area data population, Ra-226 concentrations less than the mean plus 1.0 pCi/g, or 1.69 pCi/g, are considered less than the radiological screening criterion for Ra-226. No equivalent concentration has been established as a radiological screening criterion for Cs-137.

3.0 DATA COLLECTION

Three primary types of data were collected: gross gamma scans, alpha/beta surface measurements, and soil samples. Gross gamma scans were performed and soil samples collected at Site 12 housing areas and transportation routes between Site 12 and Site 6. Alpha/beta measurements were only taken in the roadways within and around Site 6 in order to support the follow-on final status survey that is currently underway. Table 7 provides a summary of data collection activities.

Table 7 – Summary of Data Collection Activities

Item/Activity	Site 12 Housing Areas				Transportation Routes
	1100	1200	1300	1400	
Site 12 Scoping Survey[a]					
Matrices (S:soil, C:concrete, A:asphalt)	S,C,A	S,C,A	S,C,A	S,C,A	A
% Gross Gamma Scans Coverage	100	100	100	100	100
Number of Radiation Anomalies Identified	3[b]	5	5	2	0
Number of Soil Samples Collected	2[c]	5	5	18	1
Number of LLROs Recovered	0	5	1	3[d]	0
Supplemental Field Investigation: 1400 Housing Area					
Number of Radiological Statistical Outliers Identified	---	---	---	29	---
Number of Soil Samples Collected	---	---	---	16	---
Transportation Routes Between Sites 12 and 6					
Number of Alpha/Beta Surface Measurements	---	---	---	---	30
Number of Sediment Samples Collected	---	---	---	---	1

Notes:
[a] Does not include results from supplemental field investigation (see Section 3.1.4)
[b] Above ground objects containing naturally occurring radioactivity not associated with legacy Navy operations identified at two of the three locations
[c] Both samples collected at a single location
[d] Three LLROs recovered at a single location

3.1 SITE 12 HOUSING AREAS

Two primary types of data were collected from Site 12 housing areas: gross gamma scans and soil samples.

3.1.1 Gross Gamma Scans

Gross gamma scans were performed using a three-step process. First, the survey of large, open areas was performed using the RS-700 system with two detectors mounted end-to-end on a cart pulled behind a small tractor. Second, small or obstructed areas were surveyed using a single RSI detector mounted on a hand pushcart. Last, areas which could not be surveyed by the larger RSI detector configurations, such as around buildings, fences, and obstructions, were surveyed using a hand-held Ludlum Model 44-10 gamma scintillation detector.

Scan coverage achieved for each housing area using the RS-700 system is shown in Figures 3 through 6. Scan coverage is indicated by the green, yellow, and magenta-colored areas on the map. Scan coverage achieved using the Ludlum Model 44-10 detector is not shown on the maps.

3.1.2 Soil Samples

Thirty soil samples were collected. Fourteen soil samples were collected at locations of radiation anomalies identified during the performance of gross gamma scans in Site 12 (see Table 8). Nine samples reported Ra-226 concentrations above the radiological screening criterion of 1.69 pCi/g. None reported Cs-137 concentrations above the sample MDC.

Sixteen soil samples were collected from locations identified during a supplemental field investigation of the 1400 housing area discussed in Section 3.1.4. None of the samples reported Ra-226 concentrations above background concentrations. Two samples reported Cs-137 concentrations slightly above the sample MDC, but neither was collected in the vicinity of the former site of the USS Pandemonium.

Soil sample results are found in Appendix H and summarized in Tables 8 and 9.

3.1.3 Radiation Anomalies

Radiation anomalies were identified in all four housing areas during the performance of gross gamma scans. Investigations resulted in the recovery of LLROs in the 1200, 1300, and 1400 housing areas. Soil samples were collected during investigation activities. One or more soil samples in each housing area reported Ra-226 concentrations above the radiological screening criterion of 1.69 pCi/g (1.0 pCi/g above background), with elevated results ranging up to 31 pCi/g. The radiation anomalies identified, the LLROs recovered, and the elevated soil sample

results in the 1400 series housing area were all from an open area east of Site 20, not near the residences.

Fifteen locations were identified as radiation anomalies and were investigated. The date of identification, a location description, and investigation results are summarized in Table 8. Two locations, initially identified as radiation anomaly locations 09 and 15, were found to be objects containing NORM not associated with legacy Navy operations, specifically a sandbox concrete play structure and refractory bricks in a walkway. They are not included in Table 8. Radiation anomaly locations are shown on Figure 1.

Table 8 – Summary of Radiation Anomalies Identified During Gross Gamma Scans

Radiation Anomaly Location[a]	Date Identified	Investigation Notes	LLROs Recovered	Sample Results[b]	
				ID	Ra-226 (pCi/g)
1100 Housing Area					
08[c]	06 Nov 2013	3-4 m^2 area in fenced backyard	---	S12SS006	1.89
				S12SS007	2.03
1200 Housing Area					
07	22 Oct 2013	Front yard grassy area	✓	S12SS002	3.45
10	08 Nov 2013	Front yard grassy area	✓	S12SS008	25.8
11	11 Nov 2013	Beneath sidewalk to carport	✓	S12SS014	31.2
12	12 Nov 2013	Front yard grassy area	✓	S12SS013	0.775
13	25 Nov 2013	Grassy area next to sidewalk	✓	S12SS012	1.25
1300 Housing Area					
01	25 Sep 2013	Approx. 140 m^2 soil/gravel area	---	S12SS009	1.15
				S12SS010	0.389
02	27 Sep 2013	Approx. 8 m^2 asphalt street area	---	---	---
03	10 Oct 2013	Front yard grassy area	✓	S12SS003	2.2
04	10 Oct 2013	Front yard grassy area	---	S12SS004	7.08
05	10 Oct 2013	Front yard grassy area	---	S12SS005	2.74
1400 Housing Area					
06	18 Oct 2013	Approx. 6 m^2 soil/gravel area	---	S12SS001	0.976
14[d]	02 Dec 2013	Dirt/gravel area next to street	✓[d]	S12SS011	5.29

Notes:

a. Two objects containing NORM not associated with legacy Navy operations, specifically a sandbox concrete play structure and refractory bricks in a walkway, were found at locations identified as radiation anomaly locations 09 and 15

b Sample results are of soil collected from the bottom of the hole once an LLRO was recovered or it was determined that a discrete item could not be readily located

c. Second sample (sample ID S12SS007) requested by CDPH was collected approximately 0.5 m from initial sample location

d. Three LLROs were recovered at the single location

Once a utility clearance was performed and/or permission to dig was obtained from the site superintendent, a radiologically controlled area was established around the elevated location. The sod was removed and small portions of soil were scooped out from the elevated location and moved to a laydown/sorting area. The soil was spread out and scanned. Exposure rates both in the hole being dug and of the soil being removed were monitored. The process of scooping, spreading out, and scanning the soil continued until an LLRO was recovered or it was determined that a discrete item could not be readily located.

Using this process, nine LLROs were recovered in shallow soil (between 10 and 30 cm in depth) from seven locations. No discrete radioactive sources were found at the remaining locations. The LLROs are described as small (< 5 cm in diameter or length) metal objects, a glass dial, and metal fragments in soil. Radiation levels ranged from 10 to 1,600 µR/hr measured on contact, and 6 to 30 µR/hr measured at 30 cm. Examples of the LLROs recovered are shown on Figure 7.

Figure 7 – Examples of Low Level Radiological Objects Recovered

Once an LLRO was recovered or it was determined that a discrete item could not be readily located, radiation readings were taken in and above the hole. A soil sample was collected from the bottom of the hole and the hole was filled with commercially available potting soil. Once the hole was filled, as-left radiation readings were then also taken and recorded to verify remaining radiation levels were below the action level. This included radiation anomaly locations where the soil sample reported Ra-226 concentrations above the radiological screening criterion. The

removed soil, contained in a single 55-gallon drum, and the nine recovered LLROs were disposed as LLRW.

A complete set of information on the LLROs and soil disposed as LLRW is found in Appendix I.

3.1.4 Supplemental Field Investigation: 1400 Housing Area

An additional activity not described in the TSP that was performed was a supplemental field investigation of radiological statistical outliers identified in the 1400 housing area by z-score contour mapping (see Section 4.3). Twenty-nine areas were identified for investigation (see Figure 6). These areas were not indicative of a threat to public health and safety; rather they were identified for investigation to provide additional information on radiological statistical outliers observed in the 1400 housing area data population. Similar sampling efforts may be completed at other Site 12 housing areas to determine if anomalous gamma counts are indicative of elevated concentrations of radionuclides of concern.

Using a Ludlum Model 44-10 gamma scintillation detector and a Ludlum Model 19 exposure rate meter, surveyors attempted to locate discrete areas (less than 0.5 square meters [m^2]) in the field with distinctly higher radiation levels than surrounding areas corresponding to the 29 locations shown on Figure 6. Surveyors were unable to locate any discrete areas at 13 of the locations, meaning the field instrumentation could not distinguish any area with distinctly higher radiation levels than its surrounding area. However, discrete areas were identified at 16 locations and investigated. A summary of the investigation results is provided in Table 9.

None of the 16 discrete areas had radiation levels above the action level. Hand digging was performed at each of the areas in an attempt to locate a discrete source of radiation, such as an LLRO. No LLROs were identified. A soil sample was collected from each area. Soil sample results reported Ra-226 concentrations ranging from 0.42 to 0.88 pCi/g, which are consistent with background concentrations at NSTI (see Section 2.8.3).

Supplemental field investigation data are found in Appendix J summarized in Table 9.

3.2 TRANSPORTATION ROUTES BETWEEN SITE 12 AND SITE 6

Three primary types of data were collected from the selected transportation routes between Site 12 and Site 6: gross gamma scans, alpha/beta surface measurements, and soil samples.

Table 9 – Summary of 1400 Housing Area Supplemental Investigation Results

Radiological Statistical Outlier Location[a]	Discrete Location Identified[b]	Location	Survey No.	Exposure Rate[c] (µR/hr)	Sample Results	
					Sample ID	Ra-226 (pCi/g)
16	✓	E of Bldg 1437	06-12-357	6	S12SS023	0.492
17	---					
18	---					
19	---					
20	✓	Bldg 1447 NE corner	06-12-349	8	S12SS015	0.739
21	✓	SE of Bldg 1445	06-12-358	7	S12SS024	0.883
22	---					
23	✓	N of Bldg 1432	06-12-359	7	S12SS025	0.664
24	✓	E of Bldg 1405	06-12-356	7	S12SS022	0.515
25	✓	N of Bldg 1405	06-12-355	7	S12SS021	0.599
26	---					
27	---					
28	---					
29	✓	Bldg 1412 SE corner	06-12-352	7	S12SS017	0.484
	✓	Bldg 1412 S center	06-12-353	7	S12SS018	0.511
30	✓	Bldg 1406 NE corner	06-12-350	8	S12SS016	0.437
31	---					
32	✓	Bldg 1412 SE corner	06-12-351	7	S12SS019	0.42
33	---					
34	✓	Bldg 1411 E center	06-12-354	7	S12SS020	0.507
35	---					
36	---					
37	---					
38	---					
39	✓	E of IR Site 20	06-12-360	8	S12SS026	0.603
40	✓	E of IR Site 20	06-12-361	8	S12SS027	0.419
41	✓	NE corner/IR Site 20	06-12-362	7	S12SS029	0.756
42	✓	NE of IR Site 20	06-12-363	8	S12SS028	0.669
43	✓	E of IR Site 20	06-12-364	8	S12SS030	0.576
44	---					

Notes:
[a] Location numbering corresponds that given on the z-score contour map found in Appendix J
[b] Radiological survey no. 06-12-348 (see Appendix J) used as roadmap to guide overall location identification
[c] As-left measurement taken at 30 cm above ground surface

3.2.1 Gross Gamma Scan

Gross gamma scans were performed using the RS-700 system with two detectors mounted end-to-end on a cart pulled behind a small tractor. Scan coverage achieved using the RS-700 system is shown in Figure 8. Scan coverage is indicated by the green, yellow, and magenta-colored areas on the map. No scanning was performed using the Ludlum Model 44-10 detector.

3.2.2 Alpha/Beta Surface Measurements

Measurements of alpha- and beta-emitting surface radioactivity were collected from paved surfaces. Alpha/beta surface measurements were collected at a total of 30 locations (see Figure 8). Twenty-seven measurements were distributed uniformly along the routes, with three additional measurements located along Avenue M and the access road to Building 462 where gross gamma scan data indicated relatively higher readings (see Section 4.3.4). Measurement results are found in Appendix K.

Total surface radioactivity measurements reported less than 50 disintegrations per minute per 100 square centimeters (dpm/100 cm^2) alpha and 3,000 dpm/100 cm^2 beta. Removable surface radioactivity measurements reported results less than 10 dpm/100 cm^2 alpha and 100 dpm/100 cm^2 beta.

3.2.3 Sediment Sample

A composite sample of run-off sediment along the south side of Avenue M was also collected based on relatively elevated gross gamma readings encountered there (see Appendix K, Survey No. 06-12-366). The sample results (sample ID S12S6SS001) reported a Cs-137 concentration of 0.48 pCi/g and a Ra-226 concentration of 0.25 pCi/g. The Ra-226 concentration is below the radiological screening criterion and is consistent with background concentrations. See Section 2.8.3. This single sediment sample has higher Cs-137 concentrations than found in soil samples at Treasure Island.

Sediment samples typically have higher Cs-137 concentrations than soil samples. Soil samples are normally collected by removing the sod or vegetation from the surface of the soil to be sampled and using a trowel to dig the sample from a hole approximately 8 to 10 cm in diameter by up to 15 cm deep. The amount of surface area included in any given sample would be limited to an area of approximately 50 to 80 cm^2. In contrast, the composite sample of run-off sediment

was collected by scraping the thin layer of sediment that had accumulated on top of the asphalt along the side of the roadway. The surface area represented by the sample may have been as much as 0.5 m^2. It would be expected that a sample consisting purely of surface material contains a much higher level than a sample consisting of soil collected at any depth from an area covered by vegetation. It should also be noted that the location where the sample was collected is a low spot along the roadway and thus a natural collection area where surface runoff from a much larger surface area is collected in a small localized area. This also may have been a contributor to the higher Cs-137 concentration.

The roadway area where this sample was collected is presently (as of November 2014) undergoing a final status survey.

4.0 DATA ANALYSIS

To facilitate data processing as well as to provide a meaningful data population on which to perform statistical analyses, the RS-700 data collected from Site 12 were divided into four data sets based on the 1100, 1200, 1300, and 1400 housing areas. Each housing area data population was further separated into three matrices: soil, concrete, and asphalt. Data collected from the selected transportation routes from Site 12 to Site 6 consist of a single matrix (asphalt) and were analyzed as a single data set.

The RS-700 data were analyzed to identify data distribution trends and potential outliers. Data analysis included the calculation and comparison of statistical quantities, visual inspection of data distributions using cumulative frequency diagrams and frequency plots, and spatial assessment using z-score mapping.

4.1 DESCRIPTIVE STATISTICS

Statistical quantities are shown in Table 10. The count represents the number of data points (1-second counts) in the data population. The total of approximately 1.65 million data points represents nearly 500 hours of data collection. The statistical values are given in units of cps. Table 10 includes reference area data collected for gross gamma scans on soil, concrete, and asphalt (see Section 2.8).

4.2 REFERENCE AREA COMPARISONS

The housing area soil, concrete, and asphalt matrix data sets were compared to the corresponding reference area population developed for each matrix (see Section 2.8). The size of the individual reference area populations relative to the housing area data sets, as indicated by the number of data points, is very small. While the reference area population should be large enough to make a statistically valid comparison, the extremely large disparity in population sizes, as evidenced by the number of counts, limits the robustness, and consequently the utility, of any statistical comparisons.

The range of the reference area populations is much smaller than those of the housing area populations. This is expected due to the relatively small size of the reference area population. The small difference between of the mean and median values of each data set indicates very little

skew in the populations. Relative to perfect symmetry found in a normal distribution (i.e., skewness = 0), the skew in the 1200 housing area soil and asphalt matrices is the most pronounced. Relative to the sharpness of a normal distribution peak (kurtosis = 0), the peakedness of those same two data populations is extremely severe. There is relatively good alignment among the mean values of the housing area soil matrix data sets, as well as between them and the reference area soil data set. This applies for the concrete matrix data sets also. The alignment among the mean values of the housing area asphalt matrix data sets is poor, as well as between them and the reference area asphalt matrix data set.

Table 10 – RS-700 Data Statistics by Housing Area and Matrix

Statistical Parameter	Housing Area				Reference Area
	1100	1200	1300	1400	
Soil Matrix					
Number of Data Points	168,088	426,089	175,454	185,404	658
Minimum (cps)	328	385	444	339	951
Maximum (cps)	2,770	3,511	1,883	3,361	1,174
Range (cps)	2,442	3,126	1,439	3,022	223
Median (cps)	857	876	859	926	1,039
Mean (cps)	858	885	871	942	1,039
Standard Dev (cps)	119	96	102	134	31
Skewness	0.54	5.29	1.93	0.33	0.26
Kurtosis	11.08	114.21	10.35	2.14	0.79
Concrete Matrix					
Number of Data Points	54,329	113,778	90,137	81,434	614
Minimum (cps)	399	549	447	631	585
Maximum (cps)	1,322	4,339	1,869	1,297	1,026
Range (cps)	923	3,790	1,422	666	441
Median (cps)	796	768	747	833	649
Mean (cps)	801	781	754	842	678
Standard Dev (cps)	72	93	67	65	79
Skewness	0.81	14.58	2.46	1.20	1.89
Kurtosis	5.84	473.09	20.42	3.32	3.25
Asphalt Matrix					
Number of Data Points	53,390	156,197	61,327	64,133	303
Minimum (cps)	474	393	457	487	613
Maximum (cps)	1,557	1,504	1,802	1,592	727
Range (cps)	1,083	1,112	1,345	1,282	114
Median (cps)	1,068	758	1,354	1,070	672
Mean (cps)	1,040	768	1,241	1,121	673
Standard Dev (cps)	138	99	301	157	18
Skewness	-0.39	1.21	-0.54	0.32	0.10

Statistical Parameter	Housing Area				Reference Area
	1100	1200	1300	1400	
Kurtosis	-0.66	4.03	-1.09	-0.80	0.08

Assuming the reference area data sets to be ideal normally distributed populations, a statistical probability greater than 99% exists that data points with values greater than the mean plus three times the standard deviation (equivalent to a z-score of 3, which is the number of standard deviations the result lies above the mean) may not belong to the same population as the rest of the data set (i.e., potentially represents radioactive contamination or NORM rather than background radioactivity). From 1 to 30% of the housing area soil matrix data set values exceed a z-score of 3 when compared to the reference area soil matrix data set. From 3 to 30% of the housing area concrete matrix data set values exceed a z-score of 3 when compared to the reference area concrete matrix data set. Finally, 50 to 90% of the housing area asphalt matrix data set values exceed a z-score of 3 when compared to the reference area asphalt matrix data set.

The large number of housing area data set values that exceed the upper bound (z-score = 3) of the respective reference area data sets suggests dissimilarity of populations rather than widespread radioactive contamination. While the presence of radioactive contamination has been identified in Site 12 (see Section 3.1.3), the influence of these relatively small areas on the overall housing area data populations is likely limited. The larger contributor of dissimilarity is more likely the reference areas themselves not being truly representative of material backgrounds (i.e., NORM concentrations) found in Site 12.

4.3 GRAPHICAL DATA REVIEW

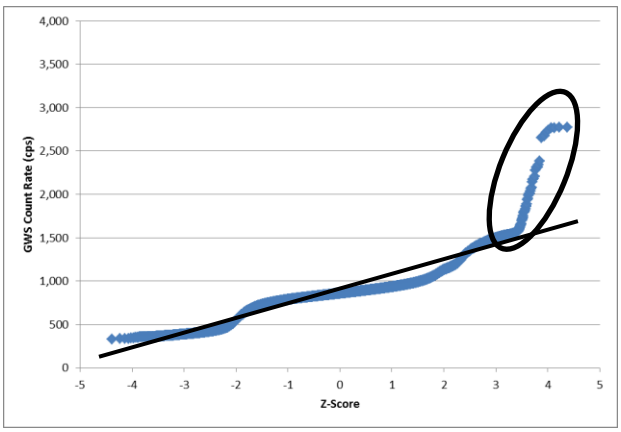
Due to the limitations of the reference areas, as described in the previous section, as well as to better understand the housing area data themselves, the RS-700 data were graphed to identify patterns, relationships, or potential anomalies in the data that might go unnoticed using purely numerical methods. A cumulative frequency diagram and a frequency plot were used to examine the general shape of the data distribution for each housing area and matrix. Each method reveals characteristics of the data distribution that may not be apparent with other methods.

4.3.1 Soil Matrix

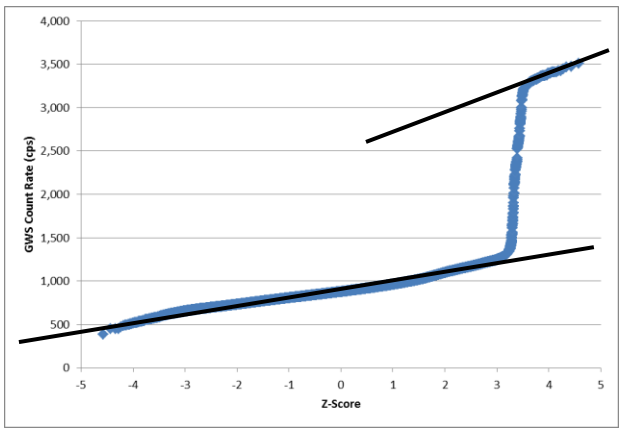
The cumulative frequency diagrams and frequency plots for the soil matrix data sets are displayed by housing area on Figures 9 and 10. Data appearing on a cumulative frequency

diagram as a straight line indicate a normally distributed data population. The 1100 and 1300 housing area data sets are largely linear, suggesting normally distributed populations. Both populations, however, have non-linear regions which suggest smaller dissimilar populations included within the larger population. The data for the 1200 housing area clearly suggest the presence of two separate populations, as evidenced by the two straight lines with a near vertical connection. The 1400 housing area data appear to be a single normally distributed population with two outliers at the upper end of the distribution. The outliers are located near radiation anomaly location 14 (see Figure 6), which is one of the two radiation anomaly locations identified in the 1400 housing area.

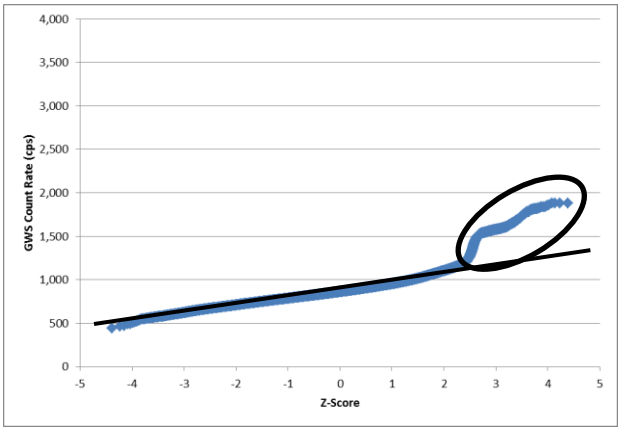
Figure 9 – Cumulative Frequency Diagrams: Soil Matrix



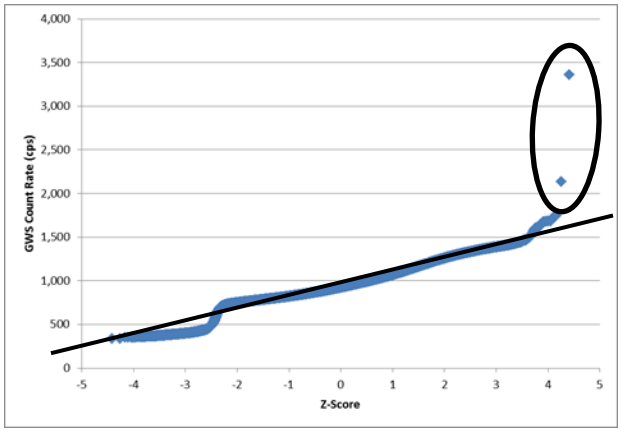
1100 Housing Area



1200 Housing Area



1300 Housing Area



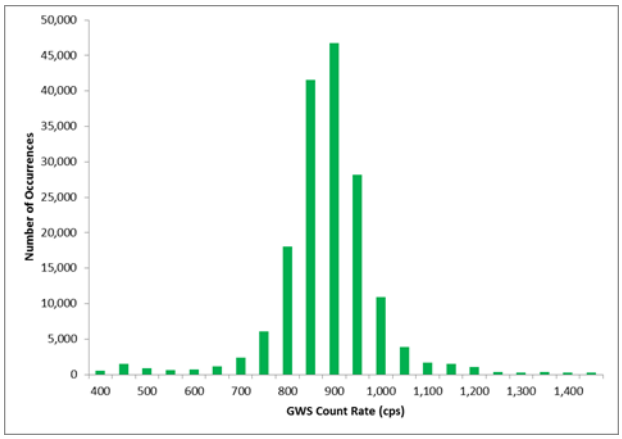
1400 Housing Area

In summary, the cumulative frequency diagrams suggest the need for further investigation to understand the non-normality of the 1100 and 1300 housing areas, the dissimilar populations in the 1200 housing area, and the outliers showing in the 1400 housing area soil matrix data sets.

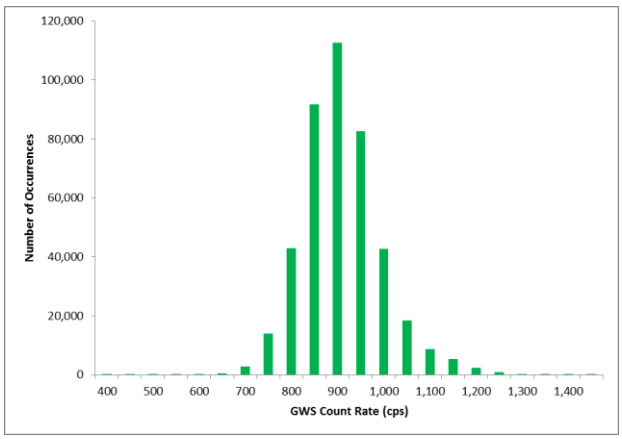
The frequency plots for the 1100, 1200, and 1300 housing areas show relatively peaked data populations with little visually identifiable skew in the data. The 1400 housing area data set shows a broader distribution with a clearly visible positive skew. The uniformity and single peaks of the frequency plots suggest that the dissimilar population elements illustrated in the cumulative frequency diagrams above are relatively small components of the population that do not create bimodal or dual-peak distributions when graphed on a frequency plot.

In summary, the frequency plots by themselves do not suggest the need for further investigation of any of the housing areas based on the soil matrix data sets.

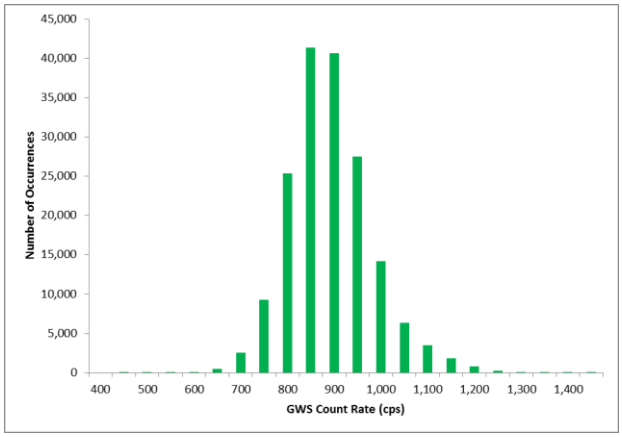
Figure 10 – Frequency Plots: Soil Matrix



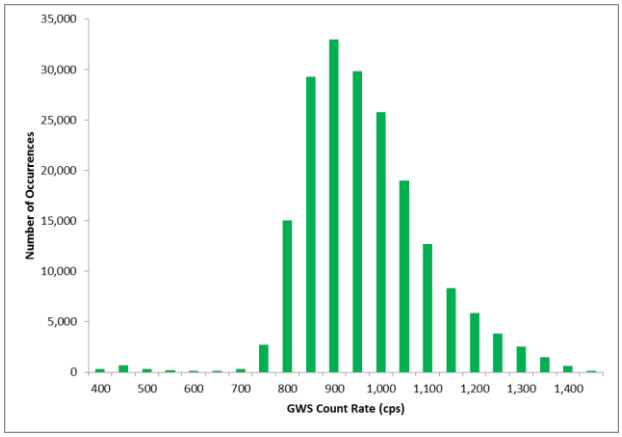
1100 Housing Area



1200 Housing Area



1300 Housing Area



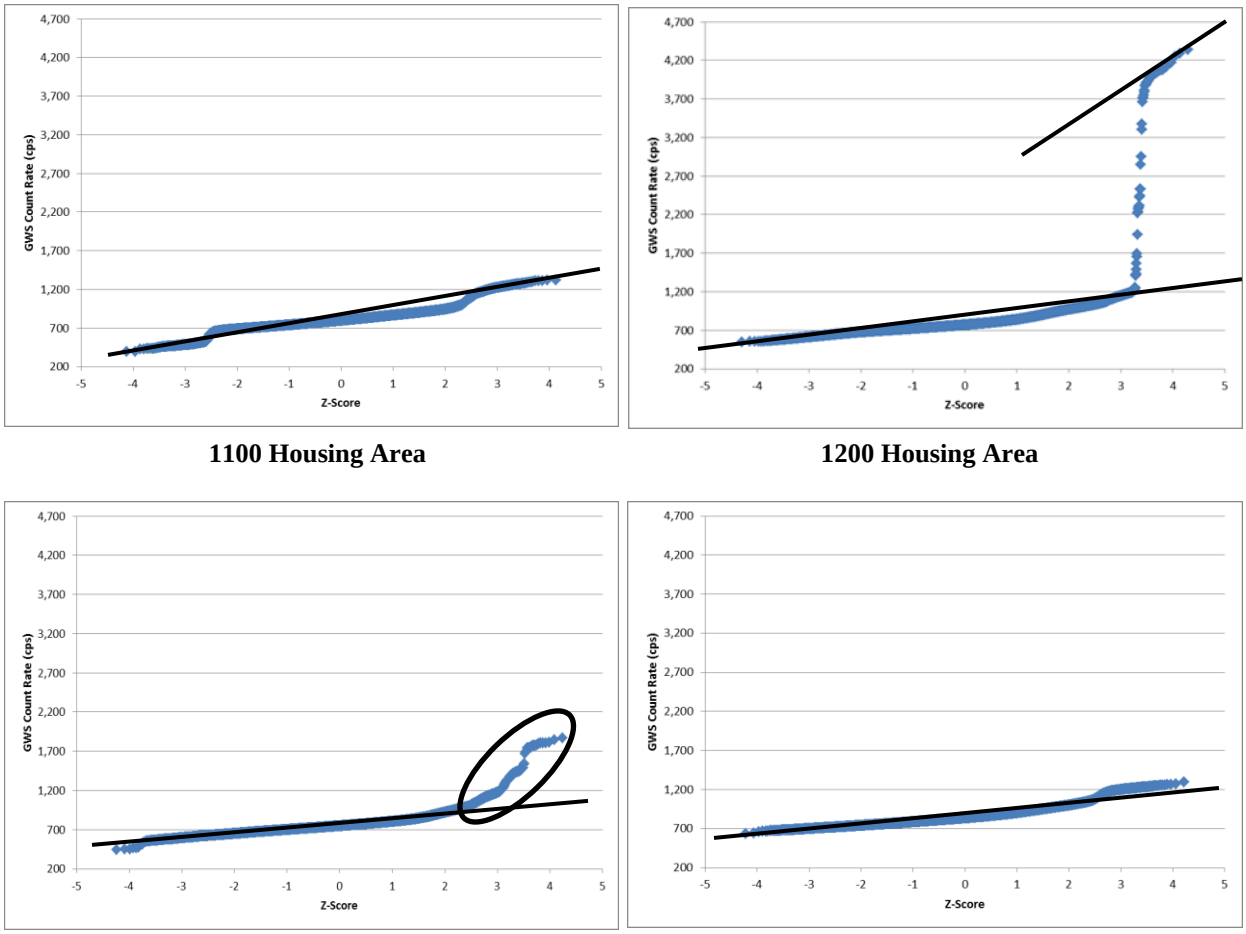
1400 Housing Area

4.3.2 Concrete Matrix

The cumulative frequency diagrams and frequency plots for the concrete matrix data sets are displayed by housing area on Figures 11 and 12. The 1100, 1300, and 1400 housing area data sets are largely linear, suggesting single normally distributed populations. The 1300 housing area does have a non-linear region, suggesting a smaller dissimilar population included within the larger population. The data for the 1200 housing area clearly suggest the presence of two separate populations, as evidenced by the two straight lines with a near vertical connection.

In summary, the cumulative frequency diagrams suggest the need for further investigation to understand the dissimilar populations in the 1200 housing area and the non-normality in the 1300 housing area concrete matrix data sets.

Figure 11: Cumulative Frequency Diagrams: Concrete Matrix



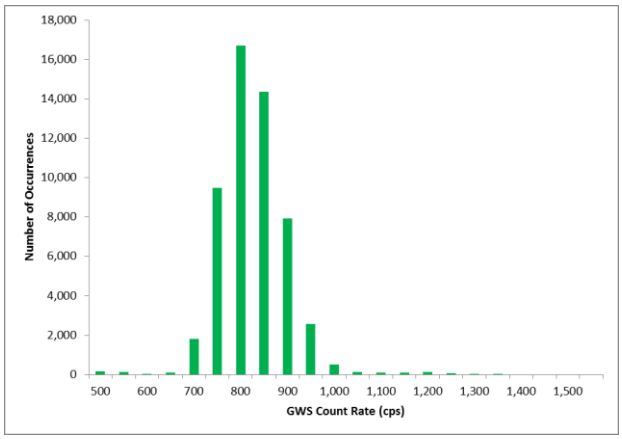
1100 Housing Area **1200 Housing Area**

1300 Housing Area **1400 Housing Area**

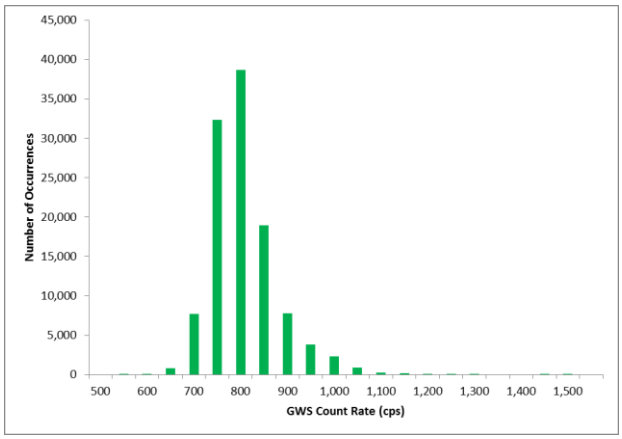
The frequency plots for the 1100, 1300, and 1400 housing areas show relatively peaked data populations with little visually identifiable skew in the data. The 1200 housing area data set shows a broader distribution with a positive skew. The uniformity and single peaks of the frequency plots suggest that the dissimilar population elements illustrated in the cumulative frequency diagrams are relatively small components of the population that do not create bimodal or dual-peak distributions when graphed on a frequency plot.

In summary, the frequency plots by themselves do not suggest the need for further investigation of any of the housing areas based on the concrete matrix data sets.

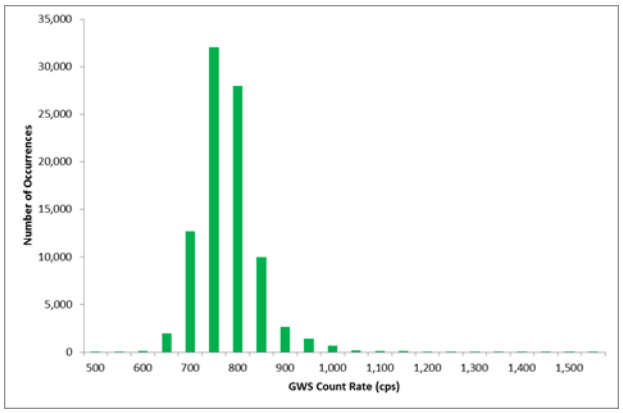
Figure 12 – Frequency Plots: Concrete Matrix



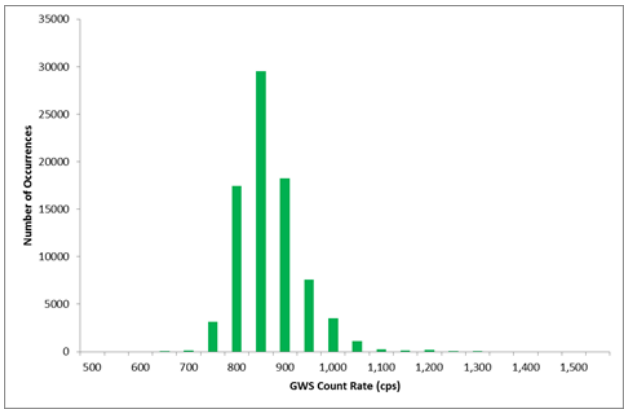
1100 Housing Area



1200 Housing Area



1300 Housing Area



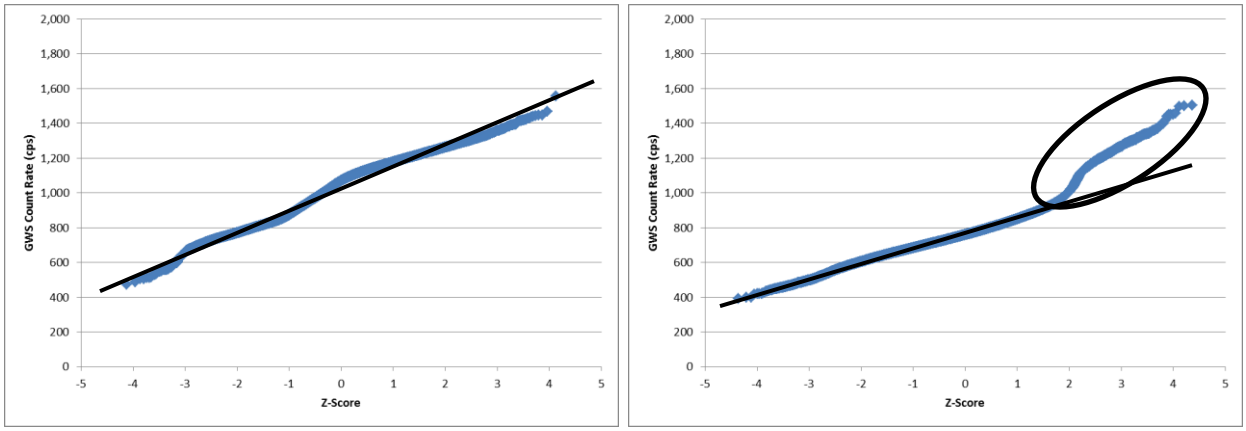
1400 Housing Area

4.3.3 Asphalt Matrix

The cumulative frequency diagrams and frequency plots for the asphalt matrix data sets are displayed by housing area on figures 13 and 14. The 1100, 1200, and 1400 housing area data

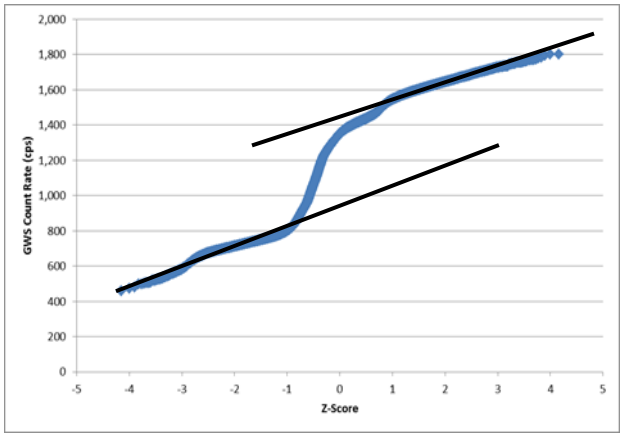
sets are largely linear, suggesting single normally distributed populations. The 1200 housing area does have a non-linear region, suggesting a smaller dissimilar population included within the larger population. The data for the 1300 housing area clearly suggest the presence of two separate populations, as evidenced by the two straight lines with a near-vertical connection.

Figure 13 – Cumulative Frequency Diagrams: Asphalt Matrix

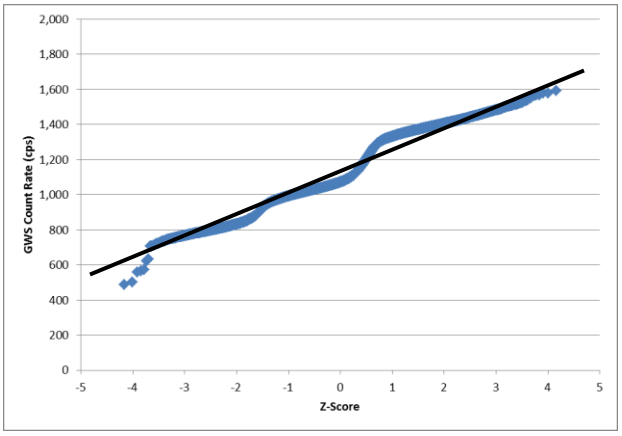


1100 Housing Area

1200 Housing Area



1300 Housing Area



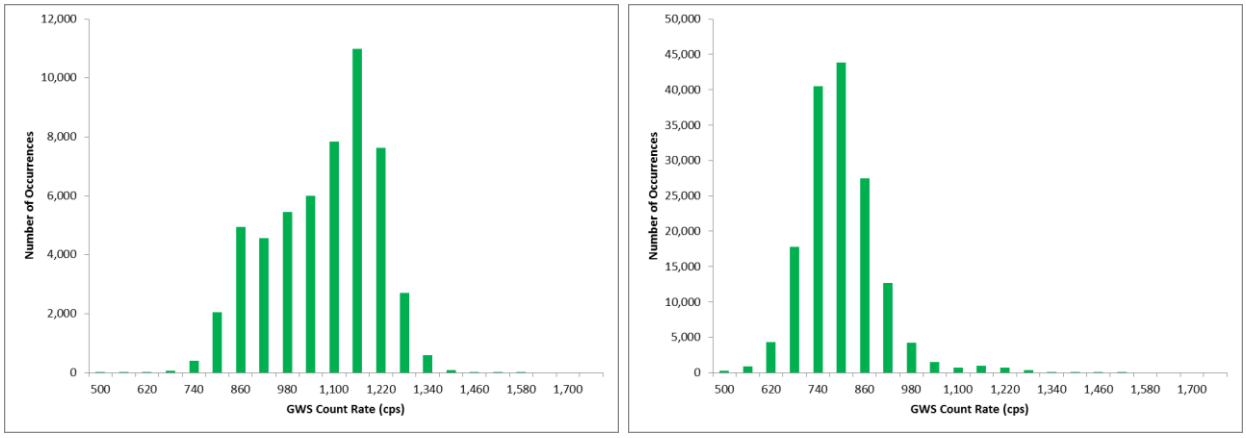
1400 Housing Area

In summary, the cumulative frequency diagrams suggest the need for further investigation to understand the non-normality in the 1200 housing area and the dissimilar populations in the 1300 housing area asphalt matrix data sets.

The frequency plots for the 1100 housing area show a relatively broader data distribution with a negative skew, which is somewhat unusual. Environmental data distributions routinely show a positive skew, but rarely a negative skew. The 1200 housing area shows a relatively peaked data population with little visually identifiable skew in the data. The 1200 housing area data show a

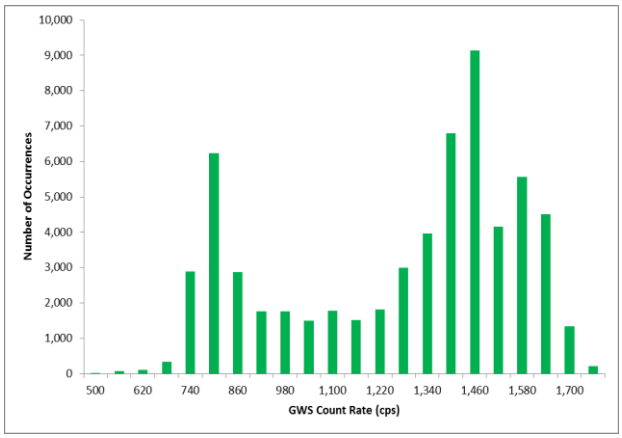
broader distribution with a positive skew. The 1300 and 1400 housing area data show bimodal or dual-peak distributions, which are evidence of two separate data populations. The distinct bimodality of the 1300 housing area data is clearly consistent with the cumulative frequency diagram, which shows two nearly evenly divided data sets.

Figure 14 – Frequency Plots: Asphalt Matrix

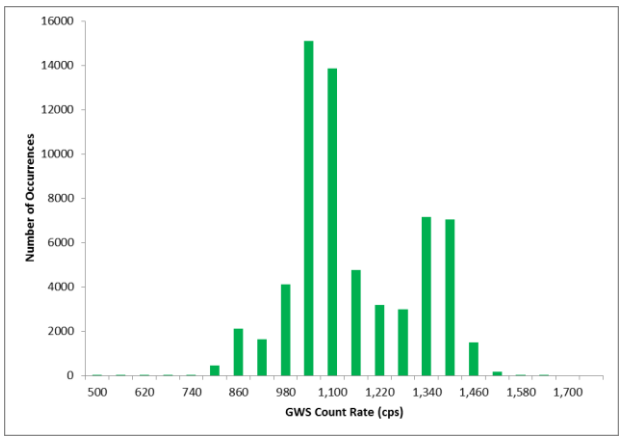


1100 Housing Area

1200 Housing Area



1300 Housing Area



1400 Housing Area

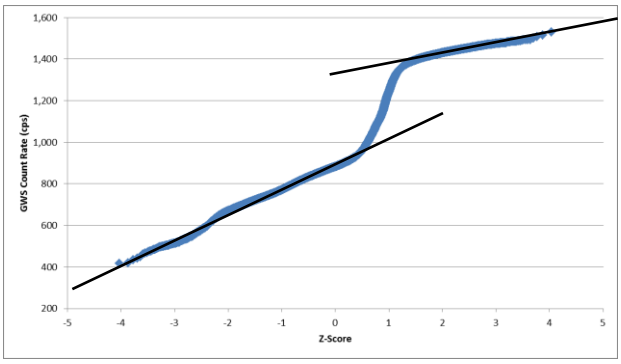
In summary, the frequency plots suggest the need for further investigation to understand the negative skew present in the 1100 housing area, and the bimodality in the 1300 and 1400 housing area asphalt matrix data sets.

4.3.4 Transportation Routes Between Site 12 and Site 6

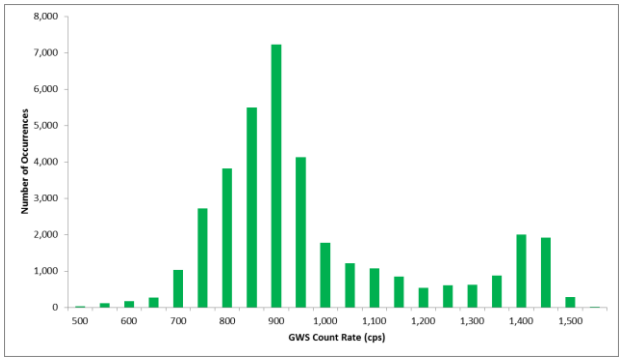
The RS-700 data collected along the selected transportation routes between Sites 12 and Site 6 were plotted (see Figure 15), along with the alpha/beta static measurements (see Figures 16 and 17). Both the RS-700 and beta static measurement data plotted on cumulative frequency

diagrams clearly suggest the presence of two separate populations, as evidenced by the two straight lines with a near vertical connection. The frequency plots for both data sets show a bimodal or dual-peak distribution, which is evidence of two separate data populations.

Figure 15 – Plotted Transportation Routes Data: Gross Gamma Scan

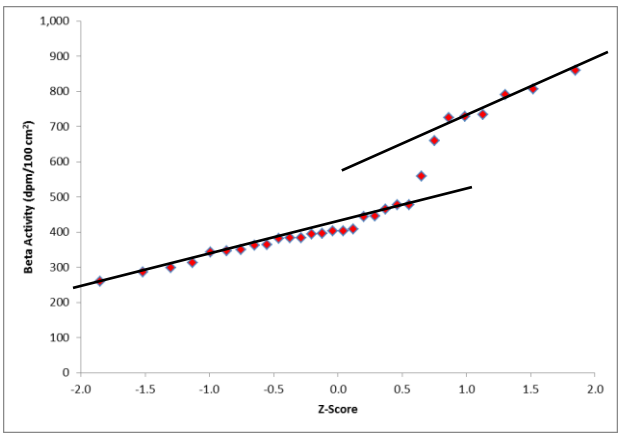


Cumulative Frequency Diagram

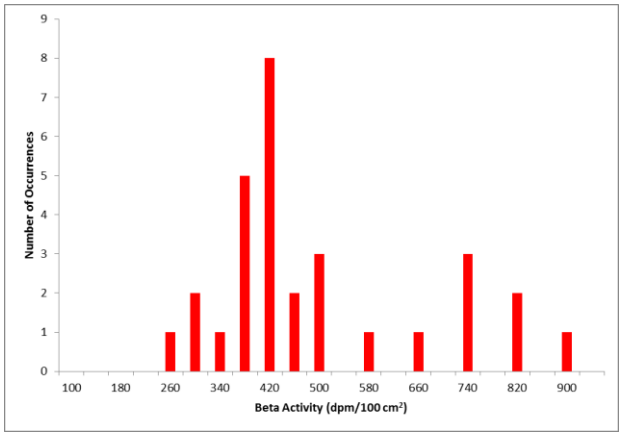


Frequency Plot

Figure 16 – Plotted Transportation Routes Data: Beta Statics

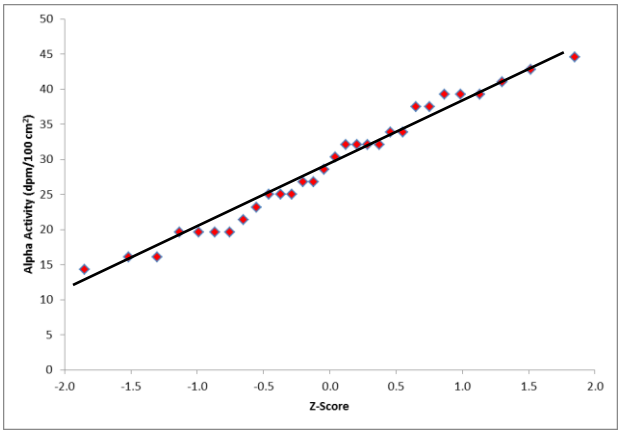


Cumulative Frequency Diagram

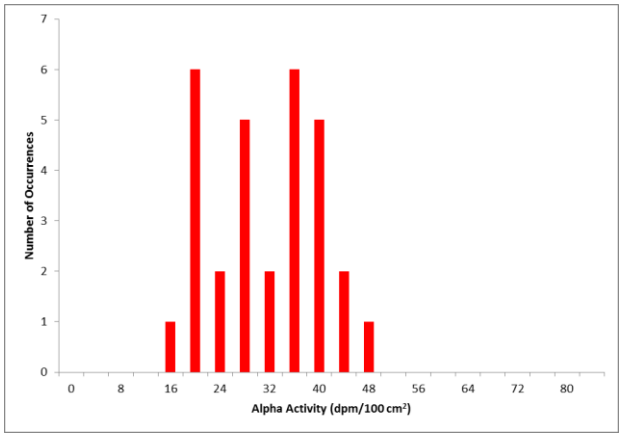


Frequency Plot

Figure 17 – Plotted Transportation Routes Data: Alpha Statics



Cumulative Frequency Diagram



Frequency Plot

A review of the data (see Appendix K) revealed the elevated areas of both data sets spatially overlap along the south side of Avenue M near Building 461. Given the Ludlum Model 43-37 GFP detector is slightly sensitive to gamma-rays, elevated gross gamma radioactivity reflected in the RS-700 data may also be a contributor to the elevated beta static measurements. An investigation of this area was performed. The results are discussed in Section 3.2.3.

The alpha static measurement data set graphed in Figure 17 does not show evidence of multiple populations. The data plotted on a cumulative frequency diagram is largely linear, suggesting a single normally distributed population. Further, the frequency plot shows a relatively peaked data population with little visually identifiable skew in the data.

In summary, plots for both the gross gamma scan and beta static measurement data sets suggest the need for further investigation to understand the dissimilar populations that appear to be present in the data set. The plots for the alpha static measurement data do not suggest the need for further investigation.

4.4 Z-SCORE MAPPING

The RS-700 data were used to develop z-score maps to identify spatial patterns in the data and areas that may represent elevated radioactivity. The Ludlum Model 44-10 survey data were not included in the z-score mapping.

The mean and standard deviation of each matrix data set for each housing area were calculated, z-scores were computed, and color-coded maps were created. Three color divisions were used to represent various ranges of z-score values. Areas with z-score values less than 2 (i.e., the value of the scan data point at that location is less than the population mean plus two standard deviations) are colored green. For the purposes of this survey, these areas are of no interest statistically. Areas with z-scores between 2 and 3 are colored yellow, and areas with z-scores greater than 3 are colored magenta. A magenta-colored area indicates a statistical probability greater than 99% that the data point(s) may not belong to the same population as the rest of the data set (i.e., potentially represents radioactive contamination or NORM rather than background radioactivity). Further data analysis and field investigation usually are focused on areas with a z-score greater than 3, which are radiological statistical outliers.

The data were mapped using two different processes. Referred to as point mapping, each data point was essentially mapped as a color dot approximately 0.8 m in diameter representing the z-score value as a point in space. Referred to as contour mapping, the data also were mapped using an inverse distance weighting process. The process involves creating a regularly spaced grid and assigning values to every spot on the grid. The grid spacing and the values assigned at the grid nodes determine what the contour plot looks like. Grid node values are assigned using a weighted average based on the inverse square law, which generally is used to describe how radiation levels drop off with distance from a source. Once the grid is complete, color-coded contours are created from grid node values within the specified ranges of values. (See the three-color z-score contour maps shown on Figures 3 through 6, and 8.)

For each housing area, a color-coded map was created for each matrix using both the point and contour mapping processes. The three matrix maps developed using each mapping process were overlain to create a combined map for the housing area. The three matrix maps and the combined map for each of the two mapping processes (8 maps total) prepared for each housing area are found in Appendices L through O.

Each color-coded map is an amalgamation of “dots” spatially representing readings collected by an instrument approximately 0.15 m by either 0.45 or 0.9 m wide, depending on the detector configuration, and position-correlated based on GPS precision (generally ±0.25 m, but may be more depending on the satellites available to the GPS). Therefore, small uncolored areas on the color-coded map are expected. They appear to be areas where data were not collected; i.e., data gaps. In some instances, they represent obstructions where RS-700 data were not collected. In other instances, they are artifacts of the mapping process and are displayed to preserve authenticity in the presentation of the data.

With point mapping, the actual travel path of the RS-700 system, whether in the single or dual detector configuration, is apparent. With contour mapping, the uncolored areas may represent fence lines, transformers, trees, bushes, buildings, etc., where RS-700 data were not collected. These areas were surveyed using the Ludlum Model 44-10 detector and are documented separately by hand-written radiological surveys (Appendix F).

4.5 FIELD OBSERVATIONS

Each housing area was walked down and field observations of site features (e.g., structures, obstructions, materials) were recorded relative to apparent data gaps (uncolored areas) and radiological statistical outliers on the z-score maps. A z-score map for each housing area annotated with the field observations is found in Figures 3 through 6. The annotated maps provide possible explanations of data gaps and radiological statistical outliers that may assist in interpreting the mapped data.

Notations were made regarding possible explanations based on site features, matrices, and obstructions. Trees, bushes, sheds, and other similar obstructions may or may not appear as data gaps depending on a variety of factors including distorted GPS satellite signals causing a scattered plot of data points and inadvertently obscuring the obstruction. In other instances, the obstruction is clearly visible and evident from the walk-down of the area.

Site features appearing as data gaps include buildings, trees, bushes, sheds, mail box cluster units, bus stops, and transformers. Other data gaps that can be explained include obstructions such as parked cars on the day of the survey, playhouses, and debris-filled or overgrown backyard areas. Where field observations did not provide useful information to explain data gaps, field notes and photographs were researched.

In some instances “seams” appear in the data. For example, RS-700 data collected from two different matrices side-by-side on different days, such as from a sidewalk next to a grassy area, may result in a seam. The seam simply represents GPS signal distortion that may occur based on the number of satellite signals being received by the GPS or the position of the satellites relative to each other, both of which vary over time. Seams often appear along a fence line or other fixed boundary where the distortion appears as a thin, straight-line data gap. Where the signal distortion results in data overlap, there is no seam. Consequently, the fence line around one building is clearly evident while the fence line around another building does not appear as a data gap at all.

Field observations readily explain some radiological statistical outliers based on their location, size, and shape (e.g., asphalt patches in the street, sandboxes, and replacement concrete). In some cases during data collection, the detector passes over dissimilar matrices, resulting in what

appears to be a radiological statistical outlier, but actually is just the manifestation of the dissimilar matrices plotted on the z-score map. As an example, a rectangular-shaped area with a z-score greater than 3 on the z-score map that corresponds to the location of a sandbox suggests the sand versus soil matrix contributed to the radiological statistical outlier observed by mapping the data.

5.0 DATA GAPS

The following data gaps were identified as a result of data collection and analysis activities performed as part of the radiological scoping survey.

5.1 REFERENCE AREAS

Two specific constraints were revealed when comparing the housing area matrix data sets to the corresponding reference area data sets. First, the extremely large disparity in population sizes between the reference area and the housing area data sets, as evidenced by the number of data points, limits the robustness, and consequently the utility, of any statistical comparisons. Second, the large number of housing area data set values that exceed the upper bound (z-score = 3) of the respective reference area data sets suggests dissimilarity of populations rather than widespread radioactive contamination.

The housing area data sets represent areas that are tens of acres in size with populations of hundreds of thousands of data points. Meaningful comparisons are dependent on reference areas that include the full potential spatial variability in background concentrations. Due to the fact that NSTI is an artificial island constructed using dredge spoils and other fill material, the radioactivity levels of the native constituents vary across the island. Rather than (or in addition to) comparing levels of measured radioactivity to a reference area population collected from other parts of the island, the RS-700 data themselves can be used to provide a context for the measured radioactivity relative to the local spatial variations in radionuclide concentrations. The gamma spectral data embedded in the RS-700 data are equivalent in their information to tens of thousands of soil samples.

While Cs-137 is a radionuclide of concern for portions of Site 12, a radiological screening criterion for Cs-137 in soil has not been developed. Consequently, no specific conclusion could be made regarding the relatively elevated concentration of Cs-137 reported in the composite sample of run-off sediment collected along Avenue M near Building 461. The roadways and surroundings are presently (as of November 2014) undergoing a comprehensive final status survey.

5.2 SITE 12 HOUSING AREAS

Data analysis identified data gaps in the Site 12 housing area data sets. The data gaps exist due to the lack of information for specific geographical areas and/or of specific types of information needed to support a decision. The supplemental field investigation performed for the 1400 housing area is a model that could be used for the other housing areas to:

- Determine whether the radiological statistical outlier locations are environmentally significant, i.e., are readily detectable (or distinguishable from background) using portable survey instrumentation such as a Ludlum Model 44-10 gamma scintillation detector or a Ludlum Model 19 exposure rate meter; and
- Where readily detectable using portable survey instrumentation and isolatable as discrete areas, investigate the radiological statistical outlier location to confirm the presence (or absence) of:
  - Discrete radioactivity (e.g., LLRO, radioactively contaminated soil); and
  - Ra-226 concentrations in soil above the radiological screening criterion.

Where field observations (see Section 4.5) do not provide a reasonable explanation or confirmation is needed, an investigation involving additional graphical data review and data collection, i.e., localized gross gamma scans, exposure rate measurements, and soil sampling, can be performed to determine whether graphical or statistical anomalies represents Navy legacy material or are radiological artifacts of the island unrelated to Navy operations. For example, observed non-normality, skew or outliers in the data population, or indications of multiple populations can be isolated and mapped to identify the location(s) of their origin, followed up by field observations and additional data collection, as necessary. Small, discrete areas may represent buried LLROs or something as simple as a buried fire brick or other naturally occurring radioactive source. Larger areas may simply represent dissimilar fill material or, possibly, non-discrete sources of radioactive contamination.

5.2.1 1100 Housing Area

A data gap exists for radiation anomaly location 08 (see Figure 3). No LLRO was recovered; however, the soil sample collected reported a Ra-226 concentration of 2.0 pCi/g, which is above the radiological screening criterion. Further investigation is needed to define the extent of the elevated radioactivity.

Data analysis suggests the need for further investigation of the soil and concrete matrices in the 1100 housing area. Graphical review of the data reveals a non-normality in the soil matrix data set which is evident when the data are plotted on a cumulative frequency diagram (see Figure 9), as well as a negative skew in the data which is evident when the data are plotted on a frequency plot (see Figure 10). In addition, z-score mapping of the data reveals several radiological statistical outlier locations in both the soil and concrete matrices (see Figure 3).

5.2.2 1200 Housing Area

Data gaps exist for radiation anomaly locations 07, 10, and 11 (see Figure 4). An LLRO was recovered at each of the locations. Soil samples reported Ra-226 concentrations above the radiological screening criterion, ranging from 3.5 to 31 pCi/g. Further investigation is needed to define the extent of the elevated radioactivity.

Data analysis suggests the need for further investigation of the soil, concrete, and asphalt matrices in the 1200 housing area. Graphical review of the data suggests dissimilar populations in the soil matrix and concrete matrix data sets and non-normality in the asphalt matrix data set, which are evident when the data are plotted on a cumulative frequency diagram (see Figures 9, 11, and 13). In addition, z-score mapping of the data revealed several statistically outlying areas (see Figure 4).

Regarding the statistical quantities computed for the three matrix data sets for each housing area, the maximum value for the concrete matrix data set stands out as over twice as high as the maximum value for any other data set (see Table 10). The larger standard deviation indicates more variability in that data population than in those of the other housing areas, and may indicate areas of elevated radioactivity. The mean and median values for the asphalt matrix data set are unusually low relative to those for the other three housing areas, and are more consistent with concrete than asphalt. The relatively small standard deviation for the 1200 housing area data set indicates a narrow peaked distribution. Further investigation of this dissimilarity among the housing area data sets may be warranted.

5.2.3 1300 Housing Area

Data gaps exist for radiation anomaly locations 01, 02, and 03 (see Figure 5). An LLRO was recovered at one location. Soil samples from all three locations reported Ra-226 concentrations

above the radiological screening criterion, ranging from 2.2 to 7.1 pCi/g. Further investigation is needed to define the extent of the elevated radioactivity.

Data analysis suggests the need for further investigation of the soil, concrete, and asphalt matrices in the 1300 housing area. Graphical review of the data suggests non-normality in the soil matrix and concrete matrix data sets and dissimilar populations in the asphalt matrix data set, which are evident when the data are plotted on a cumulative frequency diagram (see Figures 9, 11, and 13). A bimodality appears in the asphalt matrix data set when the data are graphed on a frequency plot (see Figure 14). In addition, z-score mapping of the data revealed several statistically outlying areas in both the soil and concrete matrices (see Figure 5).

Regarding the statistical quantities computed for the three matrix data sets for each housing area, the mean and median values for the asphalt matrix data set are unusually high relative to the other three housing areas (see Table 10). The relatively large standard deviation of the data set indicates a relatively flat distribution with a large amount of variability within the population, which may indicate areas of elevated radioactivity. Further investigation of this dissimilarity among the housing area data sets may be warranted.

5.2.4 1400 Housing Area

A data gap exists for radiation anomaly location 14 (see Figure 6). An LLRO was recovered at the location and the soil sample reported a Ra-226 concentration of 5.3 pCi/g, which is above the radiological screening criterion. Further investigation is needed to define the extent of the elevated radioactivity.

Data analysis suggests the need for further investigation of the soil and asphalt matrices in the 1400 housing area. Graphical review of the data suggests the presence of outliers in the soil matrix data set when the data are plotted on a cumulative frequency diagram (see Figure 9). A bimodality appears in the asphalt matrix data set when the data are graphed on a frequency plot (see Figure 14).

The mean and median values for the 1100, 1200, and 1300 housing area soil matrix and concrete matrix data sets indicate general uniformity in measured radiation levels across the three housing areas (see Table 10). The mean and median values for the 1400 housing area are slightly higher

for both matrices. This departure does not appear to have a ready explanation. Further investigation of this dissimilarity among the housing area data sets may be warranted.

5.3 TRANSPORTATION ROUTES BETWEEN SITE 12 AND SITE 6

Data collection and analysis did not reveal the presence of radioactive contamination on the street surfaces of the selected transportation routes between Site 12 and Site 6 from the former practice of transporting excavated soil from Site 12 to Site 6 via dump trucks and front-end loaders. However, other data gaps were identified.

The composite sample of run-off sediment collected along the south side of Avenue M reported a Cs-137 concentration of 0.48 pCi/g. For comparison purposes, the other 30 samples collected around Site 12 reported Cs-137 concentrations as non-detect or less than 0.05 pCi/g. Further assessment of the reported Cs-137 concentration is needed.

Graphical and statistical anomalies are present in the gross gamma scan and beta static measurement data sets. While z-score mapping of the gross gamma scan data did not reveal statistically outlying areas (i.e., areas with a z-score greater than 3), graphical review of the data suggests the presence of two separate populations, which are evident in the data plotted on both a cumulative frequency diagram and a frequency plot (see Figure 15). This is the same for the beta static measurements (see Figure 16). These dissimilarities may be due to asphalt constituent materials and/or underlying soil composition, including subsurface contamination.

6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Guidance from the *Multi-Agency Radiation Survey and Site Investigation Manual* (DoD, 2000) was used to develop a radiological scoping survey to obtain site-specific information for Site 12 based on a limited number of measurements, with the ultimate goal of obtaining radiological clearance of Site 12.

6.1 PRINCIPAL OBJECTIVE

The principal objective of the radiological scoping survey was to determine if residual radioactivity requiring remediation is present, and to provide design input for subsequent surveys (either characterization or final status surveys). In accordance with the DQOs, the principal study question for this radiological scoping survey was: "Is residual radioactivity requiring remediation present?" The resolution of the principal study question allows one of two conclusions to be drawn. The first conclusion is that the levels of residual radioactivity meet the radiological screening criteria and the area is suitable for subsequent surveys to be performed with the ultimate goal of obtaining radiological clearance of Site 12. The collected data do not support that conclusion. The second conclusion, which the data do support, is that levels of residual radioactivity exist that exceed the radiological screening criteria and may require remediation or additional data collection based on consultation with the Navy.

Residual radioactivity requiring remediation (i.e., exceeding the radiological screening criteria) was identified in several areas of Site 12. The principal objective is considered to have been met. Seven specific recommendations for follow-on activities are presented.

6.1.1 Reference Areas

The existing reference areas for the former NSTI lack valuable characteristics that limit their utility in assessing gross gamma scan and soil sample data collected as part of the radiological scoping survey. The following specific recommendation is made.

1. Develop and qualify reference areas of suitable size and material composition (i.e., soil, concrete, and asphalt) for use with gross gamma scan data collected from the Site 12 housing areas.

6.1.2 Site 12 Housing Areas

Data analysis suggests the need for further investigation and characterization of Site 12 housing areas in order for the Navy and regulatory agencies to make decisions for future property use. The following recommendations are made specific to the Site 12 housing areas.

1. Investigate radiation anomaly locations 03, 04, 05, 07, 08, 10, 11 and 14 to define the extent of the area with Ra-226 concentrations above the radiological screening criterion.
2. Investigate the graphical and statistical anomalies observed within the housing area matrix data sets to determine whether they represent Navy legacy material or are radiological artifacts of the island unrelated to Navy operations.
3. Investigate the dissimilarities among the housing area matrix data sets using exploratory data analytical methods, followed up by field observations and additional data collection, as necessary, to validate conclusions.

6.1.3 Transportation Routes Between Site 12 and Site 6

Data collection and analysis activities do not suggest the need for further investigation regarding the presence of radioactive contamination on the street surfaces of the transportation routes between Site 12 and Site 6 from the former practice of transporting excavated soil from Site 12 to Site 6 via dump trucks and front-end loaders. Further investigation specific to the relatively elevated concentration of Cs-137 reported in the composite sample of run-off sediment collected along Avenue M near Building 46, and the graphical and statistical anomalies observed in the gross gamma scan and beta static measurement data sets is currently underway as part of the final status survey of IR Site 6.

6.2 SUPPPORTING OBJECTIVE

A supporting objective of the radiological scoping survey was to identify areas with elevated radiation levels where public health and safety concerns requiring immediate response may exist. The process, using alarm set points and a response threshold, was effective in identifying areas exceeding the action level. Areas exceeding the action level were investigated, including discrete locations where LLROs were recovered and Ra-226 soil concentrations were found to exceed the radiological screening criterion. Elevated radiation levels were reduced below the action level, excluding those due to objects containing NORM not associated with legacy Navy operations.

Radiation levels at Site 12 pose no health risk beyond that associated with routinely encountered background levels. The supporting objective is considered to have been met and there are no follow-up recommendations.

7.0 REFERENCES

DoD, 2000. Department of Energy, Nuclear Regulatory Commission, and U.S. Environmental Protection Agency. *Multi-Agency Radiation Survey and Site Investigation Manual*, NUREG-1575, Revision 1. August.

International Organization for Standardization (ISO), 1988. *Evaluation of surface contamination – Part 1: Beta-emitters (maximum beta energy greater than 0,15 MeV) and alpha-emitters*. ISO 7503-1.

ITSI Gilbane, 2013a. *Radiological Management Plan, Naval Station Treasure Island, San Francisco, California.* Final. July.

ITSI Gilbane, 2013b. *Task-Specific Plan for the Radiological Survey of Site 12 and Selected Transportation Routes, Naval Station Treasure Island, San Francisco, California.* Revised Final. August.

ITSI Gilbane, 2013c. *Operation of RS-700 Gamma-Ray Detection System*, ITSI-NSTI-033. October.

ITSI Gilbane, 2013d. *Handling of Radioactive Commodities*, ITSI-NSTI-064. October.

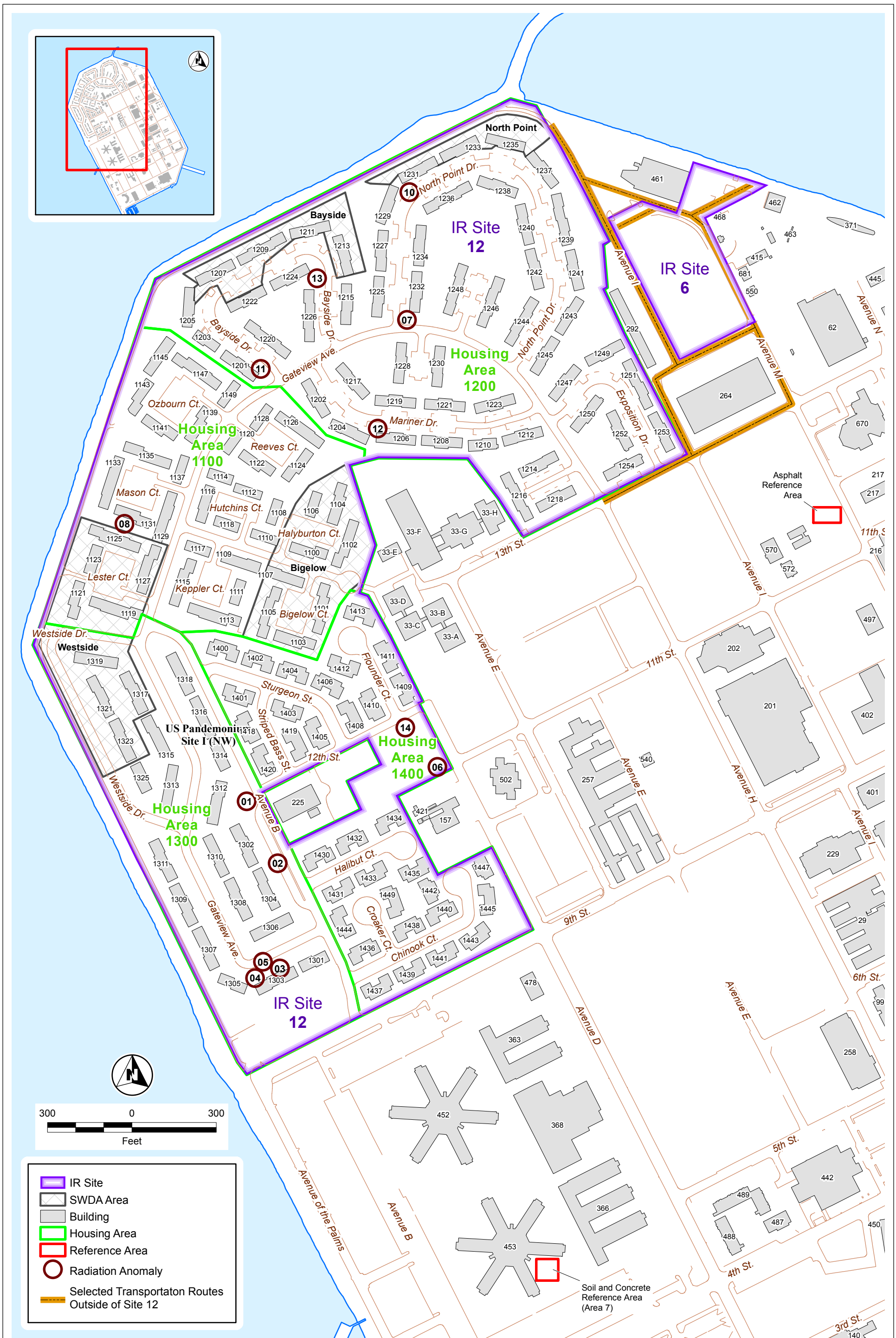
U.S. Nuclear Regulatory Commission (NRC), 1998. *Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions*, NUREG-1507. January.

Shaw Environmental, Inc. (Shaw), 2012. *Analysis of Gamma Survey and Radium-226 Soil Concentration Data at the Treasure Island Site-Wide Background Areas and the Area 7 Background Reference Area*. Memorandum dated April 23, 2012.

TriEco-Tt, 2014. *Historical Radiological Assessment – Supplemental Technical Memorandum. Naval Station Treasure Island, San Francisco, California*. Final. July.

Weston Solutions, Inc. (Weston), 2006. *Treasure Island Naval Station Historical Radiological Assessment, Former Naval Station Treasure Island, San Francisco, California*. Final. February.

FIGURES



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Radiological Scoping Surveys
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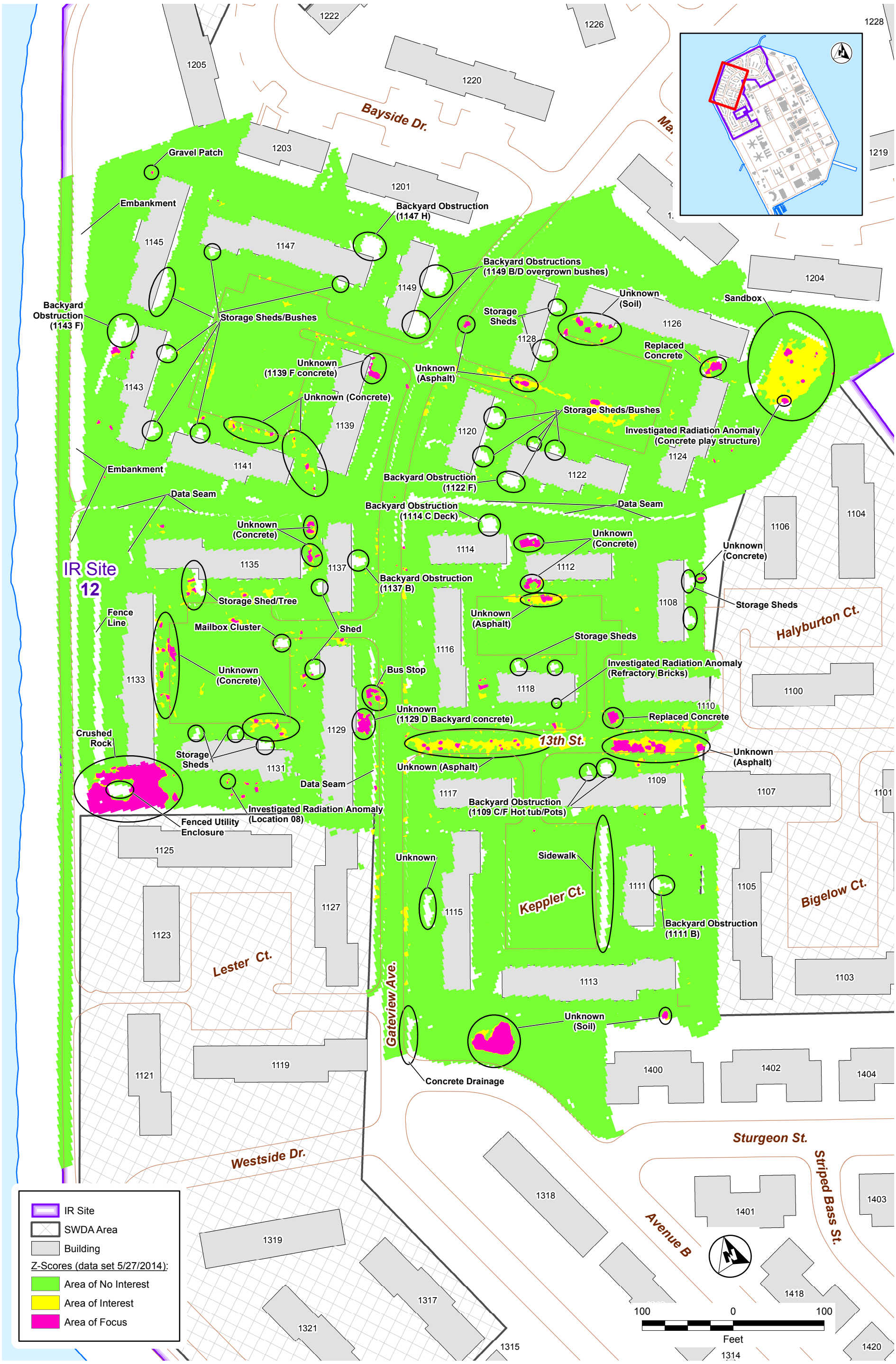
Naval Station Treasure Island
San Francisco, California

Figure 1
Site 12 and Transportation Routes
Between Site 12 and Site 6



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Naval Station Treasure Island
San Francisco, California

Figure 3
1100 Housing Area
Annotated Z-Score Contour Map

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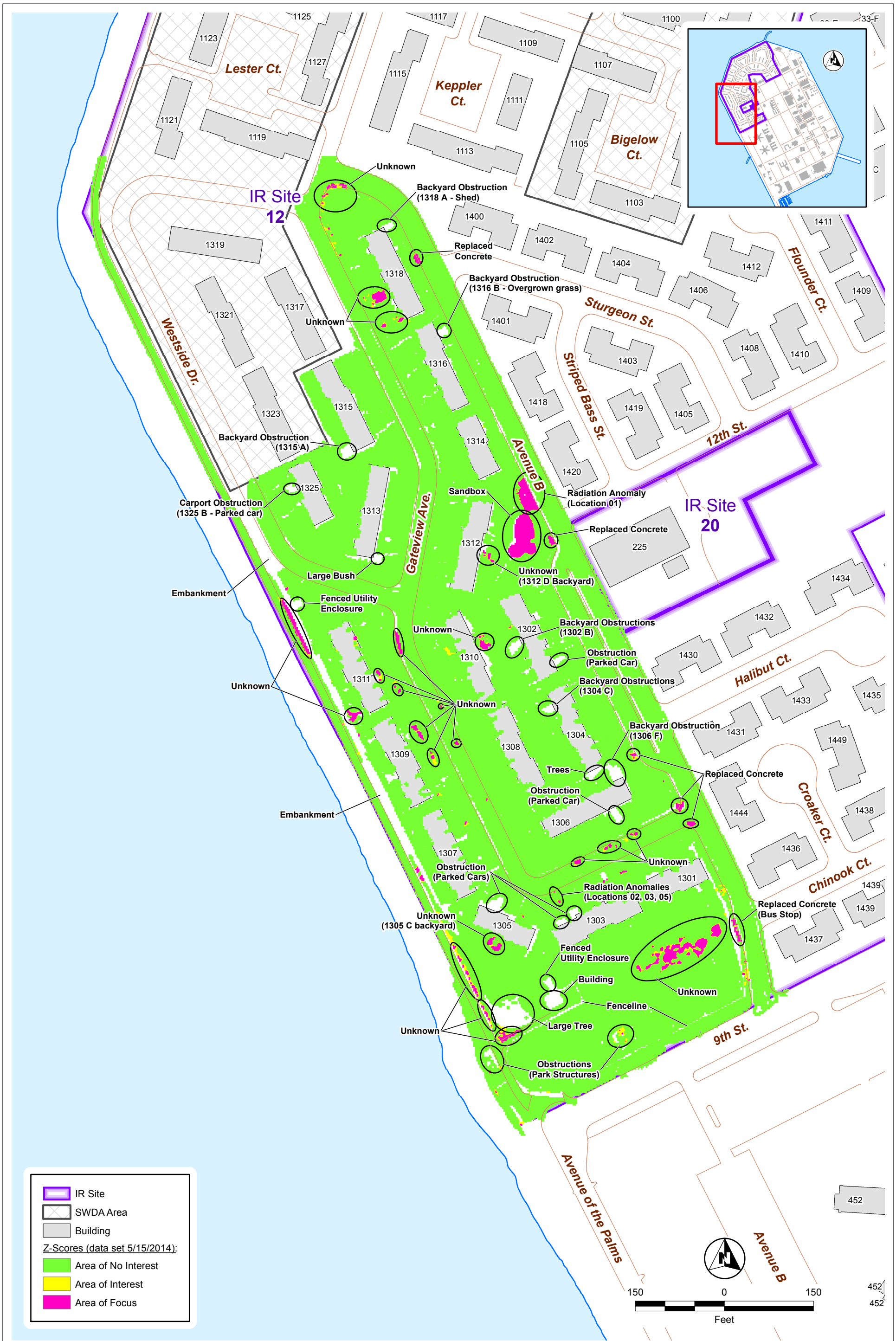
Department of the Navy
Naval Station Treasure Island
San Francisco, California

Figure 4
1200 Housing Area
Annotated Z-Score Contour Map



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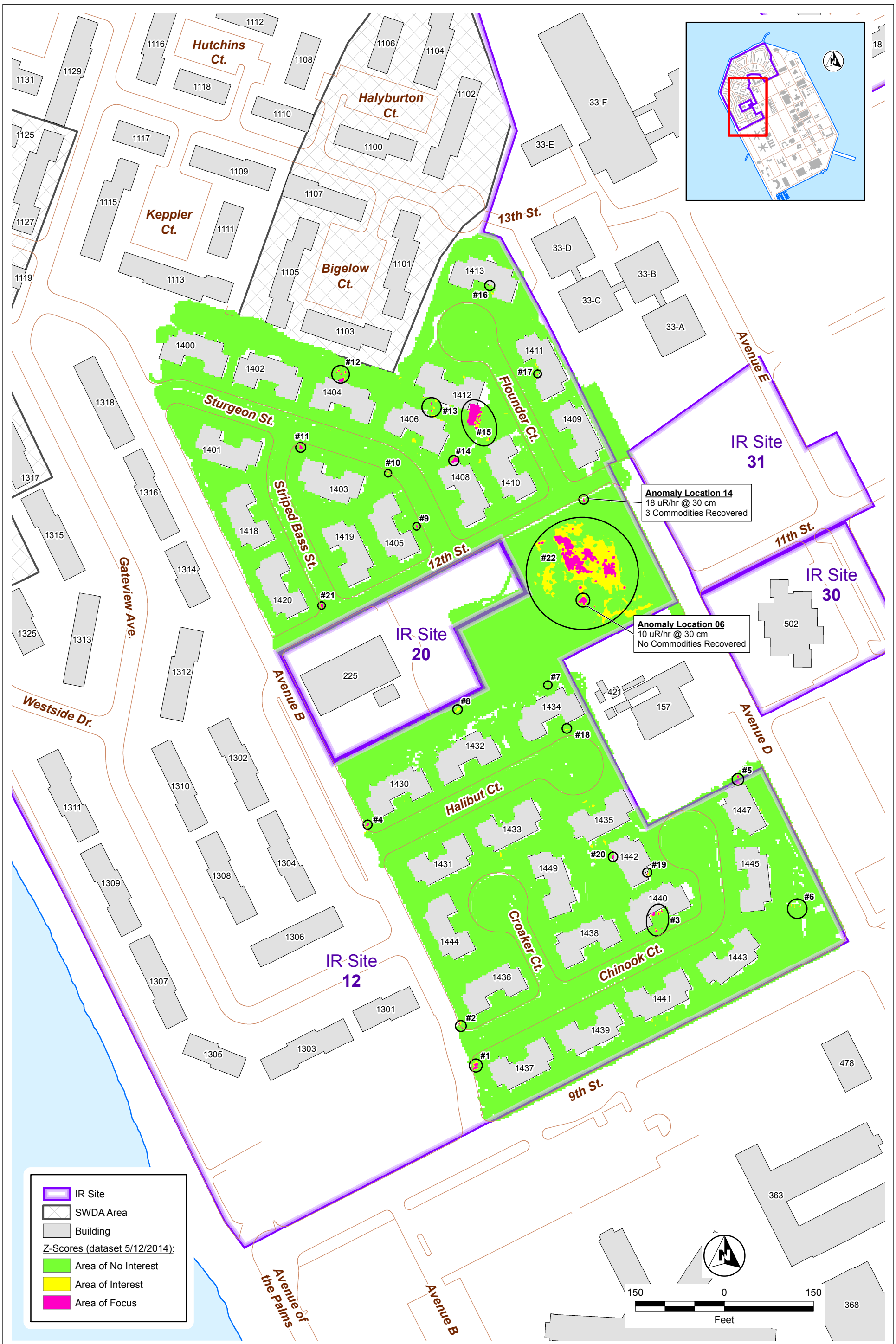
Naval Station Treasure Island
San Francisco, California

Figure 5
1300 Housing Area
Annotated Z-Score Contour Map



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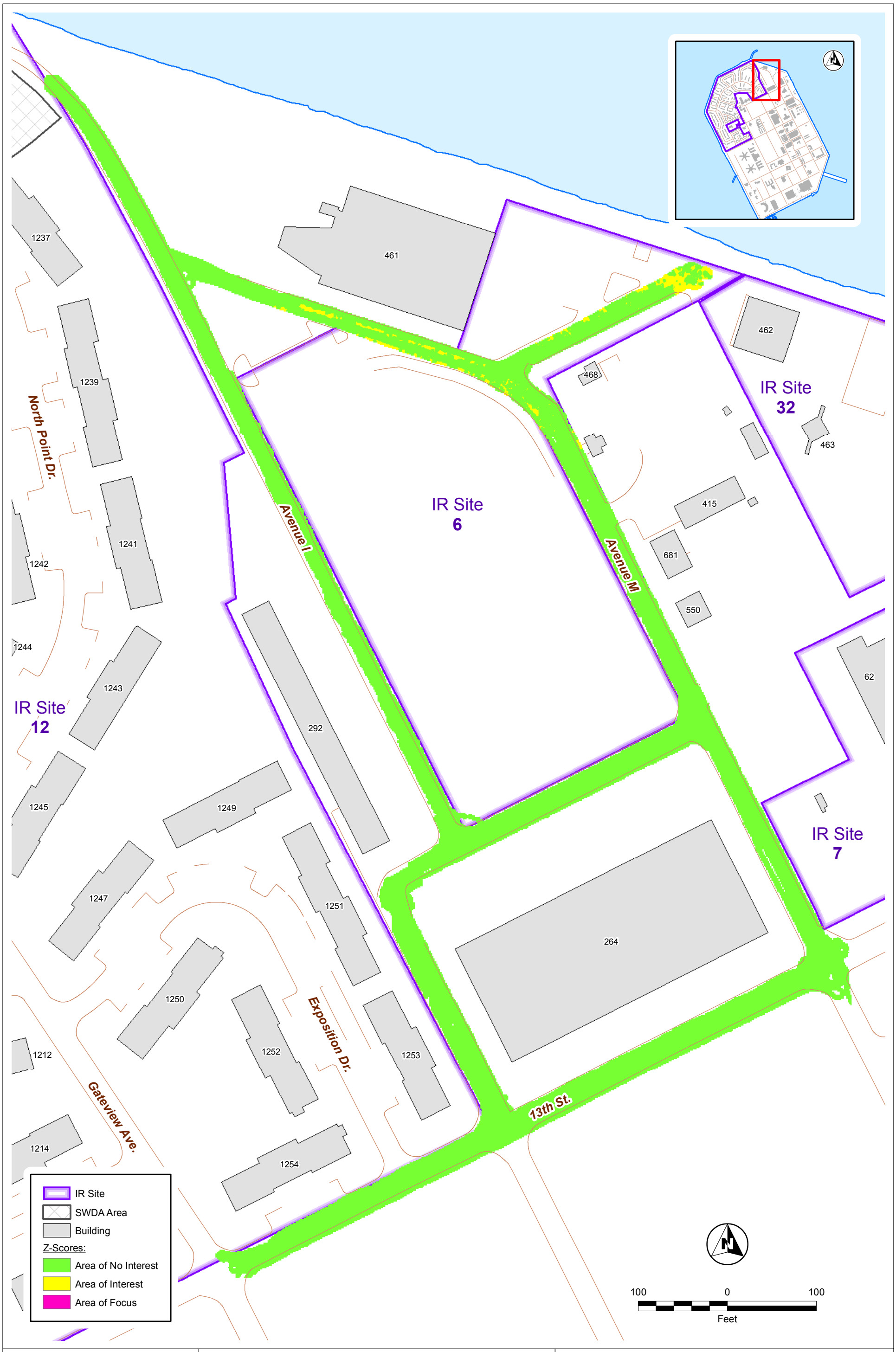
Department of the Navy
Naval Station Treasure Island
San Francisco, California

Figure 6
1400 Housing Area
Annotated Z-Score Map
(Post-Supplemental Investigation)



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Naval Station Treasure Island
San Francisco, California

Figure 8
Z-Scores Overlay Map - Asphalt
Transportation Routes

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APPENDIX A
FIELD CHANGE REQUEST NO.4

Field Change Request

Gilbane

Project Name: Radiological Scoping Surveys	Page 1 of 2
Project No./Task Code: 07204.0006	Field Change No.: 04

Part 1 – Proposed Change

Applicable Document(s):	Document Date:
Revised Final Task-Specific Plan, Radiological Survey of Site 12 and Selected Transportation Routes, Naval Station Treasure Island, San Francisco, California (TSP)	August 2013

Problem Description:

TSP Section 2.2 divides Site 12 into six Class 2 survey units and four Class 3 survey units based on available information on areas where radioactive material was known to have been handled, i.e., the USS Pandemonium Site I (NW), and where radioactive material has been found to exist above background concentrations, i.e., SWDAs. In addition, TSP Section 2.2 calls for data analysis to be performed and a separate decision made for each survey unit as to its need for remediation and/or additional data collection.

Once data collection began, field conditions were identified that suggested the information used to initially classify and divide Site 12 into survey units does not represent the radiological condition of the site and is incomplete at best. Radiation anomalies and radioactive objects were found in locations across the survey unit divisions and classifications. Soil sampling results also identified elevated concentrations of Ra-226 across Site 12. Therefore, the survey units presented in TSP Section 2.2 may not be consistent with the conceptual site model. Their utility for analyzing the data and assessing the need for remediation and/or additional data collection should be reassessed.

Recommended Solution:

The information used to initially classify and divide Site 12 into survey units was based on the HRA and various surveys that have been performed over different portions of Site 12, including the SWDAs where radioactive contamination has been found. The SWDAs were assumed to be the source of the radioactive contamination, which contamination was assumed to be limited in proximity to the SWDA. Field conditions have shown this assumption to be faulty and to not reflect the manner in which the radioactive material may have been dispersed across Site 12. Therefore, it is an inadequate basis upon which to classify and divide Site 12 into survey units.

Grading and site preparation for construction of the housing units included mixing of the solid waste material with fill and surface soil and spreading this mixture both within and outside the known SWDAs. Recognizing that these activities where performed by housing area as each area was developed, it is proposed the data be assessed housing area (vs. survey unit). This is presently thought to be the most homogenous grouping of the data and best accommodate its analyses.

Clarification: ☐ Minor Change: ☐ Major Change: ☑

Impact on Present and Completed Work:

The recommended change requires the data be grouped by housing area instead of survey unit. The collected data will be assessed in the same manner as prescribed in the TSP. The analyses to be performed and the decisions to be made regarding the need for remediation and/or additional data collection remain the same. This does not change the field effort.

Requested by:	Title:	Date:
Jerry Cooper	Project RSO	11 Aug 2014

Field Change Request

Gilbane

Project Name: Radiological Scoping Surveys	Page 2 of 2
Project No./Task Code: 07204.0006	Field Change No.: 04

Part 2 – Technical and Management Review/Approval

Gilbane Technical Reviewer

Approved: ☑ Rejected: ☐

Comments:

Name (print) and Signature: John Baur	Date: 8/11/14

Gilbane Project Manager

Approved: ☑ Rejected: ☐

Is **client** approval required? Yes ☑ No ☐ If yes, Part 3 should be completed

Is this a change to **field efforts**? Yes ☐ No ☑ If yes, Part 5 should be completed.

Comments:

Name (print) and Signature:	Date:

Part 3 – Client Approval (required if marked above)

Approved: ☑ Rejected: ☐

Comments:

Name (print) and Signature: Danielle Janda	Date: 12-08-14

Part 4 – Final Resolution (completed by requestor)

Description of Implemented Solution:

Name (print) and Signature:	Date:

Part 5 – Verification That Approved Changes Have Been Implemented (for field efforts only)

Gilbane Field Team Lead or Project QC Manager

Comments:

Name (print) and Signature:	Date:

APPENDIX B
SURVEY INSTRUMENTATION DATA

ITSI Gilbane DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Bicron	S/N:	B074T	Cal. Date:	8/21/2013	Cal. Due:	8/21/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
9/5/2013	1000	14	7	5	OK	OK	OK	OK	OK	OK	JCC
9/9/2013	1000	15	6	5	OK	OK	OK	OK	OK	OK	P.W.
9/10/2013	1000	15	6	5	OK	OK	OK	OK	OK	OK	P.W.
9/11/2013	1000	15	6	5	OK	OK	OK	OK	OK	OK	P.W.
9/12/2013	1000	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
9/16/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/17/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/18/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/19/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/23/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/24/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/25/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/26/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/27/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/30/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
					N	A					

± 20% of Contact Value (µR/hr)	1000	+ Value	800	- Value	1,200
± 20% of 6" Value (µR/hr)	14	+ Value	12	- Value	16
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: Jay Cooper Date: 10 Oct 2013

ITSI Gilbane DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Bicron	S/N:	B074T	Cal. Date:	8/21/2013	Cal. Due:	8/21/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
10/1/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/2/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/3/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/7/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/8/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/9/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/10/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/15/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/16/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/17/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/18/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/21/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/22/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/23/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/24/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/28/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/29/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/30/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/31/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
					N	A					

± 20% of Contact Value (µR/hr)	1000	+ Value	800	- Value	1,200
± 20% of 6" Value (µR/hr)	14	+ Value	12	- Value	16
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Reviewed by: [signature] Date: 11/5/13

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument: Bicron S/N: B074T Cal. Date: 8/21/2013 Cal. Due: 8/21/2014

Source: Cs-137 S/N: 808131 Activity: 9.46E-08 Ci.

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
11/4/2013	1000	15	7	5	OK	OK	OK	OK	OK	OK	PW
11/5/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/6/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/7/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/8/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/11/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/12/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/13/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/14/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/15/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/18/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/19/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/20/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/21/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/22/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/23/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/25/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/25/2013	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
					N/A						

± 20% of Contact Value (µR/hr)	1000	+ Value	800	- Value	1,200
± 20% of 6" Value (µR/hr)	14	+ Value	12	- Value	16
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Reviewed by: [signature] Date: 12/10/13

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Bicron	S/N:	B074T	Cal. Date:	8/21/2013	Cal. Due:	8/21/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
12/2/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
12/3/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
12/4/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
12/5/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/9/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/10/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/11/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/12/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/13/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/16/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/17/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/18/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/19/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/19/13	1000	15	7	5	ok	ok	ok	ok	ok	ok	PW

N A

± 20% of Contact Value (µR/hr)	1000	+ Value	800	- Value	1,200
± 20% of 6" Value (µR/hr)	14	+ Value	12	- Value	16
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Remarks:
Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 1/19/14

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER **ENVIRACHEM, INC.** ORDER NO. 20228596/395727

Mfg. Bicron Model MICROREM Serial No. B0 4 T

Mfg. Model Serial No.

Cal. Date 21-Aug-13 Cal Due Date 21-Aug-14 Cal. Interval 1 Year Meterface 0-200

Check mark ✓ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 34 % Alt 703.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

✓ Mechanical ck. ✓ Meter Zeroed ☐ Background Subtract ✓ Input Sens. Linearity
☐ F/S Resp. ck ☐ Reset ck. ☐ Window Operation ☐ Geotropism
☐ Audio ck ☐ Alarm Setting ck. ☐ Batt. ck. (Min. Volt) VDC

☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set V Input Sens. mV Det. Oper. V at mV Threshold Dial Ratio = mV

☐ HV Readout (2 points) Ref./Inst. / V Ref./Inst. / V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
1000	150mR/hr	160	150
1000	50mR/hr	55	50
100	15mR/hr	160	150
100	5mR/hr	55	50
10	1500µR/hr	145	150
10	500µR/hr	50	50
1	150µR/hr	150	150
1	100µR/hr	100	100
0.1	15µR/hr	160	150
0.1			

*Uncertainty within ± 10% C.F. within ± 20%

Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1896 ☐ 5105 ☐ 5717CO ☐ 5719CO
☐ 60646 ☐ 70897 ☐ 73410 ☑ E551 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ✓ Other Cs137 201µCi

✓ m 500 S/N 63893 ☐ Oscilloscope S/N ✓ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 21-Aug-13

Reviewed By: Phil H Date 21 Aug 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Gilbane DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	23048	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
9/5/2013	430	14	7	4	OK	OK	OK	OK	OK	OK	JCC
9/9/2013	430	13	8	4	OK	OK	OK	OK	OK	OK	P.W.
9/10/2013	430	15	7	4	OK	OK	OK	OK	OK	OK	P.W.
9/11/2013	430	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/12/2013	430	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/16/2013	430	15	7	4	OK	OK	OK	OK	OK	OK	P.W.
9/17/2013	430	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
9/18/2013	450	13	8	5	ok	ok	ok	ok	ok	ok	JC
9/19/2013	450	15	7	4	ok	ok	ok	ok	ok	ok	P.W.
9/23/2013	450	15	7	4	ok	ok	ok	ok	ok	ok	P.W.
9/24/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/25/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/26/2013	480	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
9/27/2013	450	15	7	5	OK	ok	ok	ok	ok	ok	P.W.
9/30/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
					N	A					

± 20% of Contact Value (430 µR/hr)	+ Value	350	- Value	510
± 20% of 6" Value (14 µR/hr)	+ Value	12	- Value	16
± 20% of 1' Value (7 µR/hr)	+ Value	6	- Value	8

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: Jay Cooper Date: 1 Oct 2013

ITSI Gilbane DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	23048	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
10/1/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/2/13	460	15	7	5	OK	OK	OK	OK	OK	OK	DAW
10/3/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/7/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/8/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/9/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/10/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/15/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/16/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/17/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/18/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/21/13	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W.
10/22/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/23/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/24/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/28/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/29/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/30/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
10/31/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
					N	A					

± 20% of Contact Value (430 µR/hr)	+ Value	350	- Value	510
± 20% of 6" Value (14 µR/hr)	+ Value	12	- Value	16
± 20% of 1' Value (7 µR/hr)	+ Value	6	- Value	8

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 11/5/13

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument: Model 19 S/N: 23048 Cal. Date: 7/27/2013 Cal. Due: 7/27/2014

Source: Cs-137 S/N: 808131 Activity: 9.46E-08 Ci.

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
11/1/2013	450	15	7	5	OK	OK	OK	OK	OK	OK	TC
11/4/2013	450	15	7	5	OK	OK	OK	OK	OK	OK	PW
11/5/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/6/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/7/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/8/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/11/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/12/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/13/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/14/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/15/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/18/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/19/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/20/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/21/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/22/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/23/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/25/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
11/26/2013	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
					N	A					

± 20% of Contact Value (430 µR/hr)	+ Value 350	- Value 510	Remarks:
± 20% of 6" Value (14 µR/hr)	+ Value 12	- Value 16	Source check values and acceptable ranges established by J. Cooper on 9/5/13.
± 20% of 1' Value (7 µR/hr)	+ Value 6	- Value 8	

Reviewed by: [signature] Date: 12/10/13

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

Gilbane

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	23048	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
12/2/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/3/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/4/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/5/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/9/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/10/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/11/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/12/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/13/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/16/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/17/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/18/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/19/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/20/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/23/13	450	15	7	5	ok	ok	ok	ok	ok	ok	PW

± 20% of Contact Value (430 µR/hr)	+ Value	350	- Value	510
± 20% of 6" Value (14 µR/hr)	+ Value	12	- Value	16
± 20% of 1' Value (7 µR/hr)	+ Value	6	- Value	8

Remarks:
Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 1/19/14

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

Gilbane

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument: Model 19 S/N: 23048 Cal. Date: 7/27/2013 Cal. Due: 7/27/2014

Source: Cs-137 S/N: 808131 Activity: 9.46E-08 Ci.

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
1/2/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
1/14/2014	450	15	7	5	ok	ok	ok	ok	ok	ok	P.W
1/16/2014	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
1/21/2014	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
1/29/2014	450	15	7	5	ok	ok	ok	ok	ok	ok	PW
						N	A				

± 20% of Contact Value (430 µR/hr)	+ Value 350	- Value 510	Remarks:
± 20% of 6" Value (14 µR/hr)	+ Value 12	- Value 16	Source check values and acceptable ranges established by J. Cooper on 9/5/13.
± 20% of 1' Value (7 µR/hr)	+ Value 6	- Value 8	

Reviewed by: Jim Cooper Date: 24 Mar 2014

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	23048	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
2/18/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
2/19/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
2/20/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
2/21/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W
					W		A				

± 20% of Contact Value (430 µR/hr)	+ Value	350	- Value	510
± 20% of 6" Value (14 µR/hr)	+ Value	12	- Value	16
± 20% of 1' Value (7 µR/hr)	+ Value	6	- Value	8

Reviewed by: Jim Cooper Date: 24 Mar 2014

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	23048	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
3/24/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
3/25/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
3/26/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
3/27/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
3/31/2014	450	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
					N		A				

± 20% of Contact Value (430 µR/hr)	+ Value 350	- Value 510	Remarks:
± 20% of 6" Value (14 µR/hr)	+ Value 12	- Value 16	Source check values and acceptable ranges established by J. Cooper on 9/5/13.
± 20% of 1' Value (7 µR/hr)	+ Value 6	- Value 8	

Reviewed by: [signature] Date: 4/2/14

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.
☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER **ENVIRACHEM, INC.** ORDER NO. 20226876/394640

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 230478

Mfg. Model Serial No.

Cal. Date 27-Jul-13 Cal Due Date 27-Jul-14 Cal. Interval 1 Year Meterface 202-016

Check mark ✓ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 33 % Alt 699.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC

☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 725 V Input Sens. 23 mV Det. Oper. V at mV Threshold Dial Ratio = mV

☐ HV Readout (2 points) Ref./Inst. 500 / V Ref./Inst. 1500 / V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
5000	4000µR/hr	4000	4000
5000	1000µR/hr	1000	1000
500	400µR/hr= ~~[illegible]~~ 37 cpm	400	400
500	100µR/hr	100	100
250	200µR/hr= 3440,00 cpm	200	200
250	100µR/hr	100	100
50	6360 cpm	40	40
50	1590 cpm	10	10
25	3440 cpm	20	20
25	860 cpm	5	5

*Uncertainty within ± 10% C.F. within ± 20%

50,25 **Range(s) Calibrated Electronically**

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO
☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 63893 ☐ Oscilloscope S/N ☑ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 27-July-13

Reviewed By: [illegible] Date 29 Jul 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Gilbane DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	36519	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response Contact	Source Response 6"	Source Response 1'	Bkg. µR/hr	Acceptability Contact	Acceptability 6"	Acceptability 1'	Batt.	Spkr.	Disp.	By
9/5/2013	435	15	8	5	OK	OK	OK	OK	OK	OK	JCC
9/9/2013	500	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/10/2013	500	15	8	6	OK	OK	OK	OK	OK	OK	P.W.
9/11/2013	500	15	9	5	OK	OK	OK	OK	OK	OK	P.W.
9/12/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/16/2013	490	15	8	4	OK	OK	OK	OK	OK	OK	P.W.
9/17/2013	490	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/18/2013	500	15	8	5	OK	OK	OK	OK	OK	OK	TC
9/19/2013	480	15	8	4	OK	OK	OK	OK	OK	OK	P.W.
9/23/2013	480	15	8	4	OK	OK	OK	OK	OK	OK	P.W.
9/24/2013	490	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/25/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/26/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/27/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
9/30/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	P.W.

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	520
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	7	+ Value	7	- Value	9

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: Jay C Cooper Date: 10 Oct 2013

ITSI Gilbane DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	36519	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
10/1/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/2/13	480	15	8	5	OK	OK	Ok	OK	OK	Ok	DAQ
10/3/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/7/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/8/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/9/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/10/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/15/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/16/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/17/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/18/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/21/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/22/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/23/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/24/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/28/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/29/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
10/30/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
10/31/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
					N	A					

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	520
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	7	+ Value	7	- Value	9

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 11/5/13

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

Gilbane

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	9/5/2013

Instrument:	Model 19	S/N:	36519	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
11/1/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	TC
11/4/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	PW
11/5/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/6/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/7/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/8/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/11/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/12/2013	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
← OUT			OF		SERVICE						→
					N	A					

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	520
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	8	+ Value	7	- Value	9

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: _____ Date: 12/10/13

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street, 325-235-5494, Sweetwater, TX 79556, U.S.A.
☐ 10744 Dutchtown Road, 865-392-4601, Knoxville, TN 37932, U.S.A.

CUSTOMER **ENVIRACHEM, INC.** ORDER NO. 20226876/394640

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 36519

Mfg. Model Serial No.

Cal. Date 27-Jul-13 Cal Due Date 27-Jul-14 Cal. Interval 1 Year Meterface 202-016

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 33 % Alt 699.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 800 V Input Sens. 49 mV Det. Oper. V at mV Threshold Dial Ratio = mV

☐ HV Readout (2 points) Ref./Inst. 500 / V Ref./Inst. 1500 / V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
5000	4000µR/hr	4000	4000
5000	1000µR/hr	1000	1000
500	400µR/hr= 69460 cpm	380	400
500	100µR/hr	90	100
250	200µR/hr= 37800 cpm	200	200
250	100µR/hr	100	100
50	6940 cpm	38	40
50	1730 ~~3480~~ cpm	9	10
25	3780 cpm	20	20
25	940 cpm	5	5

*Uncertainty within ± 10% C.F. within ± 20%

50,25 Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO
☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 63893 ☐ Oscilloscope S/N ☑ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 27-July-13

Reviewed By: [signature] Date 29 Jul 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.
FORM C22A 02/26/2013 Page 1 of 1

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

Gilbane

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	12/2/2013

Instrument:	Model 19	S/N:	115816	Cal. Date:	11/12/2013	Cal. Due:	11/12/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-08	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
12/2/2013	480	15	7	5	OK	OK	OK	OK	OK	OK	P.W.
12/3/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/4/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/5/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/6/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/9/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/10/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/11/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/12/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/13/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/16/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/17/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/18/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/19/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW
12/20/13	480	15	7	5	ok	ok	ok	ok	ok	ok	PW

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	520
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	7	+ Value	7	- Value	9

Remarks:
Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 1/19/14

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.
☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER ENVIRACHEM INC ORDER NO. 20233745/398882

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 115 816

Mfg. Model Serial No.

Cal. Date 12-Nov-13 Cal Due Date 12-Nov-14 Cal. Interval 1 Year Meterface 202-016

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 33 % Alt 712.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC

☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 750 V Input Sens. 35 mV Det. Oper. V at mV Threshold Dial Ratio = mV

☐ HV Readout (2 points) Ref./Inst. / V Ref./Inst. / V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
5000	4000 uR/hr	4300	4000
5000	1000 uR/hr	1100	1000
500	400 uR/hr = 76,000 cpm	420	400
500	100 uR/hr	110	100
250	200 uR/hr = 38,000 cpm	210	200
250	100 uR/hr	105	100
50	7600 cpm	42	40
50	1900 cpm	11	10
25	3800 cpm	22	20
25	950 cpm	5.5	5

*Uncertainty within ± 10% C.F. within ± 20% 50, 25 **Range(s) Calibrated Electronically**

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

m 500 S/N 130362 ☐ Oscilloscope S/N ☑ Multimeter S/N 78401031

Calibrated By: Date 12-NOV-13

Reviewed By: Date 12 Nov 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	10/15/2013

Instrument:	Model 19	S/N:	286213	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-07	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
10/15/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	P.W.
10/16/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/17/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/18/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/21/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/22/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/23/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/24/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/28/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
10/29/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
10/30/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
10/31/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
					N	A					

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	530
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Reviewed by: [signature] Date: 11/5/13

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	10/15/2013

Instrument: Model 19 S/N: 286213 Cal. Date: 7/27/2013 Cal. Due: 7/27/2014

Source: Cs-137 S/N: 808131 Activity: 9.46E-07 Ci.

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
11/4/2013	480	15	8	5	OK	OK	OK	OK	OK	OK	PW
11/5/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/6/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/7/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/8/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/11/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/12/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/13/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/14/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/15/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/18/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/19/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/20/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/21/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/22/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/23/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/25/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/25/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
11/26/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
					N	A					

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	530
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 12/10/13

Gilbane

DAILY SOURCE CHECK / EXPOSURE RATE INSTRUMENTS

CONTRACT NO / TO NO	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:	SET-UP DATE:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island	7204.0006	10/15/2013

Instrument:	Model 19	S/N:	286213	Cal. Date:	7/27/2013	Cal. Due:	7/27/2014
Source:	Cs-137	S/N:	808131	Activity:	9.46E-07	Ci.	

Date	Source Response			Bkg.	Acceptability			Batt.	Spkr.	Disp.	By
	Contact	6"	1'	µR/hr	Contact	6"	1'				
12/2/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/3/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/4/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/5/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/9/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/10/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
12/11/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
12/12/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/13/13	480	15	8	5	ok	ok	ok	ok	ok	ok	P.W.
12/16/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
12/17/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
12/18/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
12/19/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
12/20/13	480	15	8	5	ok	ok	ok	ok	ok	ok	PW
					N	A					

± 20% of Contact Value (µR/hr)	435	+ Value	350	- Value	530
± 20% of 6" Value (µR/hr)	15	+ Value	12	- Value	18
± 20% of 1' Value (µR/hr)	7	+ Value	6	- Value	8

Remarks: Source check values and acceptable ranges established by J. Cooper on 9/5/13.

Reviewed by: [signature] Date: 1/19/14

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER ENVIRACHEM, INC. ORDER NO. 20226876/394640

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 286213

Mfg. Model Serial No.

Cal. Date 27-Jul-13 Cal Due Date 27-Jul-14 Cal. Interval 1 Year Meterface 202-1070

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 33 % Alt 699.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 650 V Input Sens. 27 mV Det. Oper. V at mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 500 / 500 V Ref./Inst. 1500 / 1500 V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
5000	4000µR/hr	4000	4000
5000	1000µR/hr	1000	1000
500	400µR/hr = 76900 cpm	400	400
500	100µR/hr	100	100
250	200µR/hr = 38300 cpm	200	200
250	100µR/hr	100	100
50	7690 cpm	40	40
50	1920 cpm	10	10
25	3830 cpm	20	20
25	950 cpm	5	5

*Uncertainty within ± 10% C.F. within ± 20% X 50, 25 Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO
☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☑ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 63893 ☐ Oscilloscope S/N ☑ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 27-July-13

Reviewed By: [signature] Date 29 Jul 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.
FORM C22A 02/26/2013 Page 1 of 1

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Gamma (Coiled Cord)** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2221 / 127231	**Cal. Due:**	27-Jul-14
Probe Type / SN:	44-10 / RN19765	**Cal. Due:**	27-Jul-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	28-Aug-13	
Source Cert. Date:	08-Aug-13	
Source SN:	808131	
Surface Emission Rate:	2,100,120	particles/min
Source Type:	Cs-137	
HV Check/Setting:	900	
Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes

1. Total Background Counts observed:
Chi-squared Calculations

1	5,089
2	4,966
3	4,836
4	5,172
5	4,883
6	5,070
7	5,118
8	4,943
9	4,925
10	5,022
11	5,061
12	5,071
13	4,960
14	5,092
15	5,052
16	5,034
17	5,140
18	4,648
19	5,245
20	5,177

Average Counts = 5,025.2 counts

Average Count Rate = 5,025.2 cpm

2. Total Source Counts observed:
Chi-squared Calculations

1	269,728
2	269,097
3	270,087
4	272,218
5	272,806
6	271,474
7	272,891
8	272,035
9	272,337
10	273,309
11	271,886
12	272,384
13	272,395
14	272,664
15	272,825
16	272,532
17	271,834
18	272,223
19	273,397
20	273,124

Average Counts = 272,062 counts

Average Count Rate = 272,062 cpm

Bkg count range	4,020	to	6,030	(± 20%)
Source count range	217,650	to	326,475	(± 20%)

Jim C Cooper 4 Sep 2013

Technical Reviewer Date

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER **ENVIRACHEM, INC.** ORDER NO. 20226876/394640

Mfg. Ludlum Measurements, Inc. Model 2221 Serial No. 127231

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. RN 44765

Cal. Date 27-Jul-13 Cal Due Date 27-Jul-14 Cal. Interval 1 Year Meterface 202-159

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 33 % Alt 699.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☑ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 4.4 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at Comments mV Threshold Dial Ratio 100 = 10 mV

☑ HV Readout (2 points) Ref./Inst. 500 / 504 V Ref./Inst. 2000 / 2003 V

COMMENTS:

	Peak settings	Gross(Coiled)	Gross(20')
High Voltage:	674 V	900 V	1050 V
Threshold dial:	642	100(10mv)	100(10mV)
Window dial:	40	n/a	n/a
Window Position:	"IN"	"OUT"	"OUT"
Resolution for Cs137:	≈8.91%	n/a	n/a

Model 2221 currently set for gross counts with coiled cable. High voltage set with detector connected.

Firmware: 261027

OL checked but not set. Calibrated with coiled cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1K	400kcpm	400	400
x1K	100kcpm	100	100
x100	40kcpm	400	400
x100	10kcpm	100	100
x10	4kcpm	400	400
x10	1kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400kcpm	400K cpm	400K cpm
	40kcpm	400K	400K
	4kcpm	400	400
	400cpm	40	40
	40cpm	4	4

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Log Scale	500kcpm	500K cpm	500K cpm
	50kcpm	50	50
	5kcpm	5	5
	500cpm	500	500
	50cpm	50	50

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☐ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 63893 ☐ Oscilloscope S/N ☑ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 27-July-13

Reviewed By: [illegible] Date 29 Jul 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

FORM C22A 02/26/2013 Page 1 of 3

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. BN19765

Customer **ENVIRACHEM, INC.** Order #. 20226876/394640

Counter 2221 Serial No. 127231 Counter Input Sensitivity 10 mV

Count Time 6 Seconds Distance Source to Detector Surface

Other

High Voltage	Background	Isotope Am241 Size ≈0.1 Mrad	Isotope Size	Isotope Size	Isotope Size
800	931	10453			
850	933	11499			
* 900	881	11795			
950	879	12339			
1000	898	11956			
1050	762	12007			
1100	811	11467			
1150	827	11585			
1200	773	11945			
1250	1164	11829			

Signature Jeremy Thompson Date 27-July-13

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
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☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. BN19765

Customer **ENVIRACHEM, INC.** Order #. 20226876/394640

Counter 2221 Serial No. 127231 Counter Input Sensitivity 10 mV

Count Time 6 seconds Distance Source to Detector Surface

Other Plateau performed with 20' cable

High Voltage	Background	Isotope Am241 Size 20.77mCi	Isotope ____ Size ____	Isotope ____ Size ____	Isotope ____ Size ____
950	683	11458			
1000	716	11705			
~~1050~~	702	11618			
1100	761	11473			
1150	1138	12151			

Signature Jeremy Thompson Date 27-July-13

• *Serving The Nuclear Industry Since 1962* •

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Gamma (20' Cord)** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2221 / 127231	**Cal. Due:**	27-Jul-14
Probe Type / SN:	44-10 / RN19765	**Cal. Due:**	27-Jul-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	28-Aug-13	
Source Cert. Date:	08-Aug-13	
Source SN:	808131	
Surface Emission Rate:	2,100,120	particles/min
Source Type:	Cs-137	
HV Check/Setting:	1050	

1. Total Background Counts observed:
Chi-squared Calculations

1	4,318
2	4,275
3	4,309
4	4,436
5	4,248
6	4,374
7	4,327
8	4,265
9	4,324
10	4,331
11	4,228
12	4,223
13	4,329
14	4,292
15	4,214
16	4,279
17	4,431
18	4,248
19	4,251
20	4,319

Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes

Average Counts = 4301.1 counts

Average Count Rate = 4301.1 cpm

2. Total Source Counts observed:
Chi-squared Calculations

1	263,853
2	264,158
3	264,049
4	263,939
5	264,008
6	263,305
7	264,708
8	264,101
9	264,730
10	264,532
11	263,851
12	263,642
13	264,274
14	264,736
15	264,504
16	263,759
17	264,163
18	264,569
19	265,460
20	263,562

Average Counts = 264,195 counts

Average Count Rate = 264,195 cpm

Bkg count range	3,441	to	5,161	(± 20%)
Source count range	211,356	to	317,034	(± 20%)

Jim C Chapman — 4 Sep 2013

Technical Reviewer — Date

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX. 79556, U.S.A.
☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER **ENVIRACHEM, INC.** ORDER NO. 20226876/394640

Mfg. Ludlum Measurements, Inc. Model 2221 Serial No. 127231

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. RN 44765

Cal. Date 27-Jul-13 Cal Due Date 27-Jul-14 Cal. Interval 1 Year Meterface 202-159

Check mark ✓ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 33 % Alt 699.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☑ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 4.4 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at Comments mV Threshold Dial Ratio 100 = 10 mV

☑ HV Readout (2 points) Ref./Inst. 500 / 504 V Ref./Inst. 2000 / 2003 V

COMMENTS:

	Peak settings	Gross(Coiled)	Gross(20')
High Voltage:	674 V	900 V	1050 V
Threshold dial:	642	100(10mv)	100(10mV)
Window dial:	40	n/a	n/a
Window Position:	"IN"	"OUT"	"OUT"
Resolution for Cs137:	≈8.91%	n/a	n/a

Model 2221 currently set for gross counts with coiled cable. High voltage set with detector connected.

Firmware: 261027

OL checked but not set. Calibrated with coiled cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1K	400kcpm	400	400
x1K	100kcpm	100	100
x100	40kcpm	400	400
x100	10kcpm	100	100
x10	4kcpm	400	400
x10	1kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400kcpm	400.13 cpm	400.13 cpm
	40kcpm	40.01	40.01
	4kcpm	400	400
	400cpm	40	40
	40cpm	4	4

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Log Scale	500kcpm	500.11 cpm	500.11 cpm
	50kcpm	50	50
	5kcpm	5	5
	500cpm	500	500
	50cpm	50	50

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☐ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 63893 ☐ Oscilloscope S/N ☑ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 27 July 13

Reviewed By: [illegible] Date 29 Jul 13

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AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
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Scientific and Industrial
Instruments

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325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. BN19765

Customer **ENVIRACHEM, INC.** Order #. 20226876/394640

Counter 2221 Serial No. 127231 Counter Input Sensitivity 10 mV

Count Time 6 Seconds Distance Source to Detector Surface

Other

High Voltage	Background	Isotope Am241 Size 20 Mrad	Isotope ____ Size ____	Isotope ____ Size ____	Isotope ____ Size ____
800	931	10453			
850	933	11499			
* 900	881	11795			
950	879	12339			
1000	898	11956			
1050	762	12007			
1100	811	11467			
1150	827	11585			
1200	773	11945			
1250	1164	11829			

Signature Jeremy Thompson Date 27-July-13

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. RN19765

Customer **ENVIRACHEM, INC.** Order #. 20226876/394640

Counter 2221 Serial No. 127231 Counter Input Sensitivity 10 mV

Count Time 6 seconds Distance Source to Detector Surface

Other Plateau performed with 20' cable

High Voltage	Background	Isotope Am241 Size 20.77mCi	Isotope ____ Size ____	Isotope ____ Size ____	Isotope ____ Size ____
950	683	11458			
1000	716	11705			
1050	702	11618			
1100	761	11473			
1150	1138	12151			

Signature Jeremy Thompson Date 27-July-13

• *Serving The Nuclear Industry Since 1962* •

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Gamma

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 127231 Setup Date: 28-Aug-13
Cal. Date: July 27, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19765 Source SN: 808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
9/9/2013	263,042	5,811	900	5.9	Sat	Sat	N/A	P.W.	
9/10/2013	264,977	5,292	899	5.8	↓	Sat	↓	P.W.	
9/11/2013	269,321	4,730	899	5.8	↓	Sat	↓	P.W.	
9/12/2013	264,504	5,045	899	5.8	↓	Sat	↓	P.W.	
9/16/2013	267442	4472	899	5.8	↓	Sat	↓	P.W.	
9/17/2013	266474	4854	900	5.8	↓	Sat	↓	P.W.	
9/18/2013	264719	5133	899	5.8	↓	Sat	↓	P.W.	
9/19/2013	264943	5126	899	5.7	↓	Sat	↓	P.W.	
9/23/2013	261167	4525	900	5.7	↓	Sat	↓	P.W.	
9/24/2013	264409	4762	900	5.8	↓	Sat	↓	P.W.	
9/25/2013	263849	4713	900	5.7	↓	Sat	↓	P.W.	
9/26/2013	261243	4955	900	5.7	↓	Sat	↓	P.W.	
9/27/2013	271583	5195	900	5.6	↓	Sat	↓	P.W.	
9/30/2013	263010	4317	898	5.6	↓	Sat	↓	P.W.	
				N/A					N/A

Completed By: Pam Webb Date: Oct 1, 2013
Reviewed By: Jerry Chapman Date: 1 Oct 2013

ITSI Cabane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #:	2221 / 127231	Setup Date:	28-Aug-13
Cal. Date:	July 27, 2014	Source Type:	Cs-137
Probe #:	44-10 / RN19765	Source SN:	808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
10/1/2013	2607592	4775	899	5.5	Sat	Sat	N/A	P.W.	
10/2/13	2625/3	4723	900	5.5	Sat	Sat	NA	DAO	
10/3/13	2604039	5079	900	5.5.	✓	✓	✓	P.W.	
10/7/13	2620168	5391	900	5.5.	✓	✓	✓	P.W.	
10/8/13	2604310	4787	900	5.5.	✓	✓	✓	P.W.	
10/9/13	2624416	4300	901	6.2	✓	✓	✓	P.W.	
10/10/13	2603005	4796	901	6.0	✓	✓	✓	P.W.	
10/15/13	2607845	5373	901	5.9	✓	✓	✓	P.W.	
10/16/13	2616336	5191	901	5.8	✓	✓	✓	P.W.	
10/17/13	2604807	4933	901	5.7	✓	✓	✓	P.W.	
10/18/13	273453	5036	901	5.7	✓	✓	✓	P.W.	
10/21/13	2603114	4815	902	5.6	✓	✓	✓	P.W.	
10/22/13	2616887	5031	903	5.6	✓	✓	✓	P.W.	
10/23/13	2608233	4963	901	5.5	✓	✓	✓	P.W.	
10/24/13	2604751	5211	902	5.5	✓	✓	✓	P.W.	
10/28/13	2605768	5331	902	5.9	✓	✓	✓	PW	N/A
10/29/13	2621162	5381	902	6.0	✓	✓	✓	P.W.	
10/30/13	2605585	5279	902	5.8	✓	✓	✓	P.W.	
10/31/13	252594	5428	901	5.7	✓	✓	✓	P.W.	
				N	A				

Completed By: [signature] Date: 10/31/13
Reviewed By: [signature] Date: 11/5/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 127231 Setup Date: 28-Aug-13
Cal. Date: July 27, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19765 Source SN: 808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/4/2013	268,225	4,833	901	5.7	SAT	Sat	N / A	PW	
11/5/13	270334	5339	902	5.6	✓	✓	✓	P.W.	
11/6/13	261708	5160	901	5.6	✓	✓	✓	P.W.	
11/7/13	266339	5066	901	5.5	✓	✓	✓	P.W.	
11/8/13	264511	4781	901	6.0	✓	✓	✓	P.W.	
11/11/13	265168	4672	902	5.9	✓	✓	✓	P.W.	
11/12/13	269274	5321	901	6.2	✓	✓	✓	P.W.	
11/13/13	260312	4940	901	5.9	✓	✓	✓	P.W.	
11/14/13	265011	5013	901	5.8	✓	✓	✓	PW	
11/15/13	254021	4788	901	5.7	✓	✓	✓	PW	
11/18/13	264556	4677	901	5.7	✓	✓	✓	P.W	
11/19/13	261551	4611	901	5.6	✓	✓	✓	P.W	
11/20/13	265172	5052	901	6.2	✓	✓	✓	P.W.	
11/21/13	263471	4754	901	6.1	✓	✓	✓	P.W.	
11/22/13	267522	4897	901	5.9	✓	✓	✓	P.W.	
11/23/13	264070	5123	901	5.9	✓	✓	✓	P.W.	
11/25/13	258216	5002	900	5.8	✓	✓	✓	P.W.	
11/26/13	267116	5178	902	5.7	✓	✓	✓	PW	N/A
				N	A				

Completed By: Pam Wells Date: 11/26/13
Reviewed By: [signature] Date: 12/18/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 127231 Setup Date: 28-Aug-13
Cal. Date: July 27, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19765 Source SN: 808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
12/2/13	2601313	4934	900	5.7	Sat	Sat	N/A	P.W.	
12/3/13	2603398	4257	900	5.7	✓	✓	✓	P.W.	
12/4/13	2601061	4698	900	5.7	✓	✓	✓	P.W.	
12/5/13	2632160	5302	902	5.7	✓	✓	✓	P.W.	
12/9/13	270091	4789	900	5.7	✓	✓	✓	P.W.	
12/10/13	2851085	4909	901	5.7	✓	✓	✓	P.W.	
12/11/13	2638992	5095	901	5.7	✓	✓	✓	P.W.	
12/12/13	2665887	5579	900	5.7	✓	✓	✓	P.W.	
12/13/13	2601592	4863	900	5.7	✓	✓	✓	P.W.	
12/16/13	2602037	5053	902	6.3	✓	✓	✓	P.W.	
12/17/13	2489520	5560	903	6.1	✓	✓	✓	P.W.	
				N/A					N/A

Completed By: [signature] Date: 1/2/14
Reviewed By: [signature] Date: 1/19/14

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 127231 Setup Date: 28-Aug-13
Cal. Date: July 27, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19765 Source SN: 808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
2/18/2014	253,986	4,530	Sat	Sat	Sat	Sat	N / A	JEW	
2/19/2014	261,548	4,240	✓	✓	✓	Sat	✓	P.W.	
2/20/2014	254098	4643	902	Lo. 1	✓	✓	✓	P.W	
2/21/2014	255207	4034	901	Lo. 1	✓	✓	✓	P.W.	
				N	A				N A

Completed By: Pam Wells Date: 3/24/14
Reviewed By: Jerry Cooperman Date: 24 Mar 2014

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 127231 Setup Date: 28-Aug-13
Cal. Date: July 27, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19765 Source SN: 808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/24/2014	250,340	4,933	900	6	Sat	Sat	N / A	P.W.	
3/25/2014	250032	4223	901	6	√	√	√	P.W.	
3/26/2014	254254	4352	901	5.9	√	√	√	P.W.	
3/27/2014	250090	4177	901	5.9	√	√	√	P.W.	
3/31/2014	246828	4259	900	6	√	√	√	P.W.	
					N	A			N A

Completed By: Pamela Wells Date: 4/1/2014
Reviewed By: [illegible] Date: 4/3/14

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 127231 Setup Date: 28-Aug-13
Cal. Date: July 27, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19765 Source SN: 808131

Ranges Background: 4,020 cpm to 6,030 cpm using ± 20%
Source: 217,650 cpm to 326,475 cpm using ± 20% High Voltage (if applicable): 900

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
4/1/2014	257712	4290	898	5.9	Sat	Sat	N/A	P.W.	
4/2/2014	262815	4150	898	5.9	✓	✓	✓	P.W.	
4/3/2014	248306	4273	899	5.9	✓	✓	✓	P.W.	
4/7/2014	248747	4267	900	5.9	✓	✓	✓	P.W.	
4/8/2014	253964	4440	900	5.9	✓	✓	✓	P.W.	
					N	A			N A

Completed By: Pam Wells Date: 4/22/2014
Reviewed By: Jay Cooper Date: 4/22/14

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Gamma (50' Cord)** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2221 / 147502	**Cal. Due:**	29-Aug-14
Probe Type / SN:	44-10 / PR150787	**Cal. Due:**	29-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	11-Sep-13	
Source Cert. Date:	08-Aug-13	
Source SN:	808131	
Surface Emission Rate:	2,100,120	particles/min
Source Type:	Cs-137	
HV Check/Setting:	1150	

1. Total Background Counts observed:
Chi-squared Calculations

1	4,440
2	4,478
3	4,500
4	4,483
5	4,470
6	4,419
7	4,522
8	4,254
9	4,303
10	4,437
11	4,450
12	4,244
13	4,443
14	4,356
15	4,446
16	4,335
17	4,282
18	4,278
19	4,230
20	4,382

Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes

Average Counts = 4387.6 counts

Average Count Rate = 4387.6 cpm

2. Total Source Counts observed:
Chi-squared Calculations

1	290,674
2	290,459
3	291,451
4	291,085
5	290,972
6	285,201
7	285,553
8	285,953
9	285,785
10	285,444
11	286,250
12	285,921
13	286,360
14	286,703
15	286,956
16	287,015
17	287,859
18	289,246
19	289,217
20	288,249

Average Counts = 287,818 counts

Average Count Rate = 287,818 cpm

Bkg count range	3,510	to	5,265	(± 20%)
Source count range	230,254	to	345,381	(± 20%)

Jan C Cooper — 12 Sep 2013

Technical Reviewer — Date

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.
☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER ENVIRACHEM INC. ORDER NO. 20229075/396000

Ludlum Measurements, Inc. Model 2221 Serial No. 147502

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. PR 150787

Cal. Date 29-Aug-13 Cal Due Date 29-Aug-14 Cal. Interval 1 Year Meterface 202-159

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 45 % Alt 702.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☑ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☑ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 5.0 VDC

☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at Comments mV Threshold Dial Ratio 100 = 10 mV

☑ HV Readout (2 points) Ref./Inst. 500 / 505 V Ref./Inst. 2000 / 1992 V

COMMENTS:

	Peak settings	Gross Counts
High Voltage:	1337v	1500v
Threshold dial:	642	100(10mv)
Window dial:	40	n/a
Window Position:	"IN"	"OUT"
Resolution for Cs137:	≈1uCi 12%	

Cal with a 50ft. cable

Model 2221 currently set for gross counts
High voltage set with detector connected.

Firmware:26-10-27

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
X 1000	400 Kcpm	400	400
X 1000	100 Kcpm	100	100
X 100	40 Kcpm	400	400
X 100	10 Kcpm	100	100
X 10	4 Kcpm	400	400
X 10	1 Kcpm	100	100
X 1	400 cpm	400	400
X 1	100 cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400 K cpm	400.33 (0)	400.33 (0)	Log Scale	500 K cpm	500k	500k
	40 K cpm	400.4	400.4		50 K cpm	50	50
	4 K cpm	400	400		5 K cpm	5	5
	400 cpm	40	40		500 cpm	500 cpm	500 cpm
	40 cpm	4	4		50 cpm	50	50

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☐ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 238275 ☐ Oscilloscope S/N ☑ Multimeter S/N 70602489

Calibrated By: Duane Acton Date 29-Aug-13

Reviewed By: [illegible] Date 30 Aug 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. ☐ Passed Dielectric (Hi-Pot) and Continuity Test

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. PR 150787

Customer ENVIRACHEM INC. Order #. 20229075/396000

Counter 2221 Serial No. 147502 Counter Input Sensitivity 10 mV

Count Time 60sec. Distance Source to Detector Surface

Other

High Voltage	Background	Isotope Am-241 Size 0.69 Uci	Isotope ____ Size ____	Isotope ____ Size ____	Isotope ____ Size ____
1400	636	4078			
1450	710	8534			
* 1500	727	9285			
1550	773	9934			
1600	918	10522			
1650	998	10952			

Signature Duane Ackom Date 29-Aug-13

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SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	85.1	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Cubane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147502 Setup Date: 11-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR150787 Source SN: 808131

Ranges Background: 3,510 cpm to 5,265 cpm using ± 20%
Source: 230,254 cpm to 345,381 cpm using ± 20% High Voltage (if applicable): 1150

Date / Time	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
9/17/2013	295751	4426	1500	5.9	Sat	Sat	N/A	P.W.	
9/18/2013	290150	4357	1502	5.9	Sat	Sat	N/A	P.W.	
9/19/2013	289384	4359	1502	5.7	Sat	Sat	✓	P.W.	
9/23/2013	252327	4336	1503	5.8	Sat	Sat	✓	P.W.	
9/24/2013	289361	4294	1503	5.8	Sat	Sat	✓	P.W.	
9/25/2013	291957	4282	1504	5.8	Sat	Sat	✓	P.W.	
9/26/2013	284394	4414	1504	5.8	Sat	Sat	✓	P.W.	
9/27/2013	294218	4060	1506	5.8	Sat	Sat	✓	P.W.	
9/30/2013	288580	4425	1503	5.8	✓	Sat	✓	P.W.	
				N/A					N/A

Completed By: Pam Wells Date: Sept 1, 2013
Reviewed By: Jay Cooper Date: 1 Oct 2013

ITSI Cabane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147502 Setup Date: 11-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR150787 Source SN: 808131

Ranges Background: 3,510 cpm to 5,265 cpm using ± 20%
Source: 230,254 cpm to 345,381 cpm using ± 20% High Voltage (if applicable): 1150

Date / Time	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
10/1/2013	291670	4315	1503	5.7	Sat	Sat	N/A	P.W.	
10/2/13	287867	4120	1506	5.8	Sat	Sat	N/A	DAO	
10/3/13	288061	4269	1504	5.4	✓	✓	✓	P.W.	
10/7/13	287276	4403	1504	5.6	✓	✓	✓	P.W.	
10/8/13	286786	4438	1506	5.6	✓	✓	✓	P.W.	
10/9/13	287266	4378	1506	5.6	✓	✓	✓	P.W.	
10/10/13	287268	4605	1505	5.6	✓	✓	✓	P.W.	
10/15/13	292915	4809	1505	5.6	✓	✓	✓	P.W.	
10/16/13	290816	4633	1506	5.6	✓	✓	✓	P.W.	
10/17/13	298509	5199	1506	5.6	✓	✓	✓	P.W.	
10/18/13	296592	4634	1506	5.6	✓	✓	✓	P.W.	
10/21/13	286250	4443	1507	5.6	✓	✓	✓	P.W.	
10/22/13	290862	4625	1507	5.6	✓	✓	✓	P.W.	
10/23/13	285963	4881	1507	5.6	✓	✓	✓	P.W.	
10/24/13	287984	4630	1508	5.6	✓	✓	✓	P.W.	N/A
10/28/13	284623	4436	1509	5.6	✓	✓	✓	P.W.	
10/29/13	289592	4594	1507	5.6	✓	✓	✓	P.W.	
10/30/13	288556	4741	1505	5.6	✓	✓	✓	P.W.	
10/31/13	287096	4739	1505	5.6	✓	✓	✓	P.W.	
				N	A				

Completed By: [signature] Date: 10/31/13
Reviewed By: [signature] Date: 11/5/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147502 Setup Date: 11-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR150787 Source SN: 808131

Ranges Background: 3,510 cpm to 5,265 cpm using ± 20%
Source: 230,254 cpm to 345,381 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/4/2013	287,182	4,514	1505	5.6	SAT	Sat	N / A	PW	
11/5/13	290983	4339	1507	5.6	✓	✓	✓	P.W.	
11/6/13	285399	4987	1507	5.6	✓	✓	✓	P.W.	
11/7/13	283457	4723	1506	5.6	✓	✓	✓	P.W.	
11/8/13	2860576	41516	1507	5.6	✓	✓	✓	P.W.	
11/11/13	281525	4348	1507	5.5	✓	✓	✓	P.W.	
11/12/13	287265	4317	1506	6.1	✓	✓	✓	P.W.	
11/13/13	2816314	4669	1506	6.1	✓	✓	✓	P.W	
11/14/13	290141	4333	1506	6.1	✓	✓	✓	P.W.	
11/15/13	272481	4093	1507	6.1	✓	✓	✓	P.W	
11/18/13	2816293	4350	1507	6.1	✓	✓	✓	P.W.	
11/19/13	279495	4076	1506	6.1	✓	✓	✓	P.W.	
11/20/13	288950	4139	1506	6.1	✓	✓	✓	P.W.	
11/21/13	276578	43606	1506	6.1	✓	✓	✓	P.W.	
11/22/13	290980	42360	1506	6.0	✓	✓	✓	P.W	
11/23/13	284750	4395	1506	6.0	✓	✓	✓	P.W.	
11/25/13	271450	46038	1506	6.0	✓	✓	✓	P.W.	
11/26/13	285596	4762	1508	6.0	✓	✓	✓	P.W.	N/A
				N/A					

Completed By: Pam Wells Date: 11/26/13
Reviewed By: [signature] Date: 12/19/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147502 Setup Date: 11-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR150787 Source SN: 808131

Ranges Background: 3,510 cpm to 5,265 cpm using ± 20%
Source: 230,254 cpm to 345,381 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
12/2/13	282353	4614	1505	6.0	Sat	Sat	N/A	P.W.	
12/3/13	282576	4309	1506	6.0	✓	✓	✓	P.W.	
12/4/13	280844	4212	1505	6.0	✓	✓	✓	P.W.	
12/5/13	289822	4820	1505	6.0	✓	✓	✓	P.W.	
12/9/13	294054	4578	1505	6.0	✓	✓	✓	P.W.	
12/10/13	276242	4746	1505	5.9	✓	✓	✓	P.W.	
12/11/13	285981	4656	1505	5.9	✓	✓	✓	P.W.	
12/12/13	277971	5106	1505	5.9	✓	✓	✓	P.W.	
12/13/13	280848	4916	1505	5.9	✓	✓	✓	P.W.	
12/16/13	283014	4697	1505	5.9	✓	✓	✓	P.W.	
12/17/13	263458	5248	1505	5.9	✓	✓	✓	P.W	
12/18/13	285961	5343	1505	5.9	✓	✓	✓	PW	
12/19/13	290205	4566	1505	5.9	✓	✓	✓	PW	
12/20/13	279668	4620	1506	5.9	✓	✓	✓	PW	
				N/A					N/A

Completed By: Pam Wells Date: 1/2/14
Reviewed By: Date:

Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147502 Setup Date: 11-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR150787 Source SN: 808131

Ranges Background: 3,510 cpm to 5,265 cpm using ± 20%
Source: 230,254 cpm to 345,381 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/2/2014	285,601	5,222	1507	5.9	Sat	Sat	N / A	P.W.	
					N	A			N A

Completed By: Pam Wells Date: 2/21/14
Reviewed By: Jerry Cooper Date: 24 Mar 2014

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Gamma (50' Cord)** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2221 / 147504	**Cal. Due:**	29-Aug-14
Probe Type / SN:	44-10 / PR125434	**Cal. Due:**	29-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	12-Sep-13	
Source Cert. Date:	08-Aug-13	
Source SN:	808131	
Surface Emission Rate:	2,100,120	particles/min
Source Type:	Cs-137	
HV Check/Setting:	1150	
Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes

1. Total Background Counts observed:
Chi-squared Calculations

1	4,786
2	4,793
3	4,813
4	4,848
5	4,789
6	4,907
7	5,060
8	4,759
9	4,787
10	4,723
11	4,756
12	4,642
13	4,800
14	4,663
15	4,665
16	4,813
17	4,710
18	4,755
19	4,751
20	4,726

Average Counts = 4777.3 counts

Average Count Rate = 4777.3 cpm

2. Total Source Counts observed:
Chi-squared Calculations

1	237,411
2	238,975
3	240,660
4	240,704
5	240,914
6	242,057
7	242,174
8	242,335
9	241,913
10	241,910
11	242,795
12	242,990
13	239,804
14	242,060
15	241,215
16	241,523
17	242,083
18	241,193
19	242,295
20	242,553

Average Counts = 241,378 counts

Average Count Rate = 241,378 cpm

Bkg count range	3,822	to	5,733	(± 20%)
Source count range	193,103	to	289,654	(± 20%)

Ann C Cooper 12 Sep 2013

Technical Reviewer Date

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.
☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER ENVIRACHEM INC. ORDER NO. 20229075/396000

Mfg. Ludlum Measurements, Inc. Model 2221 Serial No. 147504

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. PR 125434

Cal. Date 29-Aug-13 Cal Due Date 29-Aug-14 Cal. Interval 1 Year Meterface 202-159

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 45 % Alt 702.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☑ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 5.0 VDC

☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at comments mV Threshold Dial Ratio 100 = 10 mV

☑ HV Readout (2 points) Ref./Inst. 500 / 497 V Ref./Inst. 2000 / 2010 V

COMMENTS:

	Peak settings	Gross Counts
High Voltage:	1080v	1350v
Threshold dial:	642	100(10mv)
Window dial:	40	n/a
Window Position:	"IN"	"OUT"
Resolution for Cs137:	≈1uCi 9.9%	

Cal with a 50ft. cable

Model 2221 currently set for gross counts
High voltage set with detector connected.

Firmware:26-10-27

modifications done.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
X 1000	400 Kcpm	400	400
X 1000	100 Kcpm	100	100
X 100	40 Kcpm	400	400
X 100	10 Kcpm	100	100
X 10	4 Kcpm	400	400
X 10	1 Kcpm	100	100
X 1	400 cpm	400	400
X 1	100 cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400 K cpm	40020 (c)	40020 (c)
	40 K cpm	4002	4002
	4 K cpm	400	400
	400 cpm	40	40
	40 cpm	4	4

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Log Scale	500 K cpm	500k	500k
	50 K cpm	50	50
	5 K cpm	5	5
	500 cpm	500 cpm	500 cpm
	50 cpm	50	50

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☐ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 238275 ☐ Oscilloscope S/N ☑ Multimeter S/N 70602489

Calibrated By: Date 29-Aug-13

Reviewed By: Date 30 Aug 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

☐ AC Inst. ☐ Passed Dielectric (Hi Pot) and Continuity Test

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. PR125434

Customer ENVIRACHEM INC. Order #. 20229075/396000

Counter 2221 Serial No. 147504 Counter Input Sensitivity 10 mV

Count Time 6 sec Distance Source to Detector Surface

Other

High Voltage	Background	Isotope Am-241 Size =0.69μci	Isotope Size	Isotope Size	Isotope Size
1200	662	8571			
1250	702	8833			
1300	704	9679			
* 1350	726	10165			
1400	746	10186			
1450	757	10354			
1500	1010	12170			

Signature Duane Jackson Date 29-Aug 13

Serving The Nuclear Industry Since 1962

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147504 Setup Date: 12-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR125434 Source SN: 808131

Ranges Background: 3,822 cpm to 5,733 cpm using ± 20%
Source: 193,103 cpm to 289,654 cpm using ± 20% High Voltage (if applicable): 1150

Date / Time	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
9/17/2013	242715	5639	1355	5.9	Sat	Sat	N/A	P.W.	
9/18/2013	239481	5059	1353	5.9	Sat	Sat	N/A	P.W.	
9/19/2013	239794	5047	1352	5.7	Sat	Sat	↓	P.W.	
9/23/2013	237710	5194	1355	5.8	Sat	Sat	↓	P.W.	
9/24/2013	239587	4456	1355	5.8	Sat	Sat	↓	P.W.	
9/25/2013	244126	4376	1356	5.8	Sat	Sat	↓	P.W.	
9/26/2013	234199	4679	1356	5.8	Sat	Sat	↓	P.W.	
9/27/2013	242552	4621	1357	5.8	Sat	Sat	↓	P.W.	
9/30/2013	236913	4398	1354	5.8	↓	Sat	↓	P.W.	
				N/A					N/A

Completed By: Pam Wells Date: Oct 1, 2013
Reviewed By: Jay Campos Date: 1 Oct 2013

ITSI Cabane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147504 Setup Date: 12-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR125434 Source SN: 808131

Ranges Background: 3,822 cpm to 5,733 cpm using ± 20%
Source: 193,103 cpm to 289,654 cpm using ± 20% High Voltage (if applicable): 1150

Date / Time	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
10/1/2013	243905	4556	1354	5.7	Sat	Sat	N/A	P.W.	
10/2/13	239023	4760	1357	5.8	Sat	Sat	NA	NAU	
10/3/13	238173	4497	1357	5.7	↓	↓	↓	P.W.	
10/7/13	242347	4532	1356	5.8	↓	↓	↓	P.W.	
10/8/13	240748	4561	1357	5.7	↓	↓	↓	P.W.	
10/9/13	238078	4315	1357	5.7	↓	↓	↓	P.W.	
10/10/13	240667	4588	1356	5.7	↓	↓	↓	P.W.	
10/15/13	240323	5061	1357	5.7	↓	↓	↓	P.W.	
10/16/13	239581	5017	1357	5.7	↓	↓	↓	P.W.	
10/17/13	240104	5173	1357	5.7	↓	↓	↓	P.W.	
10/18/13	244739	4577	1357	5.7	↓	↓	↓	P.W.	
10/21/13	237051	4727	1357	5.7	↓	↓	↓	P.W.	
10/22/13	242023	4847	1358	5.7	↓	↓	↓	P.W.	
10/23/13	242453	4842	1358	5.7	↓	↓	↓	P.W.	
10/24/13	239706	4816	1358	5.7	↓	↓	↓	P.W.	
10/28/13	239628	4367	1360	5.7	↓	↓	↓	P.W.	
10/29/13	239354	4813	1358	5.7	↓	↓	↓	P.W.	N A
10/30/13	240273	4922	1358	5.7	↓	↓	↓	P.W.	
10/31/13	239551	5005	1358	5.7	↓	↓	↓	P.W.	
				N	A				

Completed By: [signature] Date: 10/31/13
Reviewed By: [signature] Date: 11/5/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147504 Setup Date: 12-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR125434 Source SN: 808131

Ranges Background: 3,822 cpm to 5,733 cpm using ± 20%
Source: 193,103 cpm to 289,654 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/4/2013	239,907	4,569	1358	5.7	SAT	Sat	N / A	PW	
11/5/13	243583	4931	1358	5.7	↓	↓	↓	PW	
11/6/13	238865	5053	1358	5.7	↓	↓	↓	P.W.	
11/7/13	241311	4749	1358	5.7	↓	↓	↓	P.W.	
11/8/13	239851	4433	1358	5.7	↓	↓	↓	P.W.	
11/11/13	237899	4842	1359	5.6	↓	↓	↓	P.W.	
11/12/13	240978	4488	1357	6.1	↓	↓	↓	P.W.	
11/13/13	240608	4814	1358	6.1	↓	↓	↓	P.W.	
11/14/13	241346	4744	1358	6.1	↓	↓	↓	P.W.	
11/15/13	236975	4467	1360	6.1	↓	↓	↓	P.W.	
11/18/13	241124	4448	1360	6.1	↓	↓	↓	P.W.	
11/19/13	239449	4324	1359	6.1	↓	↓	↓	P.W.	
11/20/13	245710	4823	1358	6.1	↓	↓	↓	P.W.	
11/21/13	242111	4400	1358	6.1	↓	↓	↓	P.W.	
11/22/13	245494	4472	1358	6.0	↓	↓	↓	PW	
11/23/13	240928	4849	1358	6.0	↓	↓	↓	PW	
11/25/13	242387	5040	1358	6.0	↓	↓	↓	P.W.	N A
11/26/13	240635	5219	1359	6.0	↓	↓	↓	P.W.	
				N A					

Completed By: [signature] Date: 11/26/13
Reviewed By: [signature] Date: 12/19/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147504 Setup Date: 12-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR125434 Source SN: 808131

Ranges Background: 3,822 cpm to 5,733 cpm using ± 20%
Source: 193,103 cpm to 289,654 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
12/2/13	242081	4695	1357	6.0	Sat	Sat	N/A	P.W.	
12/3/13	238831	4567	1357	6.0	✓	✓	✓	P.W.	
12/4/13	235333	4150	1357	6.0	✓	✓	✓	P.W.	
12/5/13	243687	4839	1360	6.0	✓	✓	✓	P.W.	
12/9/13	244448	4670	1360	5.9	✓	✓	✓	P.W.	
12/10/13	237063	4698	1359	5.9	✓	✓	✓	P.W.	
12/11/13	237553	5079	1359	5.9	✓	✓	✓	P.W.	
12/12/13	236556	5498	1358	5.9	✓	✓	✓	P.W.	
12/13/13	236450	4940	1358	5.9	✓	✓	✓	P.W.	
12/16/13	232094	5023	1358	5.9	✓	✓	✓	P.W.	
12/17/13	235744	5541	1360	5.9	✓	✓	✓	P.W.	
12/18/13	237263	5428	1360	5.8	✓	✓	✓	P.W.	
12/19/13	239202	4629	1361	5.8	✓	✓	✓	PW	
12/20/13	236303	4727	1362	5.8	✓	✓	✓	PW	
				N	A				N A

Completed By: Pam Lewellen Date: 1/21/14
Reviewed By: [signature] Date: 1/29/14

Gilbane

Instrument Daily Source Check **Type:** Gamma (50' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147504 Setup Date: 12-Sep-13
Cal. Date: August 29, 2014 Source Type: Cs-137
Probe #: 44-10 / PR125434 Source SN: 808131

Ranges Background: 3,822 cpm to 5,733 cpm using ± 20%
Source: 193,103 cpm to 289,654 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/2/2014	238,777	5,527	1358	5.8	Sat	Sat	N / A	P.W.	
				N	A				N A

Completed By: Pam Wells Date: 2/21/14
Reviewed By: Jay Cooper Date: 24 Mar 2014

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Gamma (Coiled Cord)** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2221 / 147512	**Cal. Due:**	21-Aug-14
Probe Type / SN:	44-10 / RN19768	**Cal. Due:**	21-Aug-14
Technician:	J. Wells		
Location:	Trailer		

Setup Date:	28-Aug-13	
Source Cert. Date:	08-Aug-13	
Source SN:	808131	
Surface Emission Rate:	2,100,120	particles/min
Source Type:	Cs-137	
HV Check/Setting:	1150	

1. Total Background Counts observed:
Chi-squared Calculations

1	4,540
2	4,553
3	4,668
4	4,889
5	4,741
6	4,734
7	4,730
8	4,686
9	4,569
10	4,488
11	4,257
12	4,204
13	4,619
14	4,323
15	4,478
16	4,405
17	4,464
18	4,464
19	4,500
20	4,323

Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes

Average Counts = 4531.8 counts

Average Count Rate = 4531.8 cpm

2. Total Source Counts observed:
Chi-squared Calculations

1	297,912
2	298,444
3	298,437
4	298,614
5	298,776
6	297,881
7	298,383
8	298,929
9	299,102
10	298,604
11	299,073
12	298,416
13	298,360
14	298,638
15	298,828
16	299,405
17	298,662
18	299,001
19	298,323
20	299,058

Average Counts = 298,642 counts

Average Count Rate = 298,642 cpm

Bkg count range	3,625	to	5,438	(± 20%)
Source count range	238,914	to	358,371	(± 20%)

Jan C Cooper

Technical Reviewer

4 Sep 2013

Date

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Gamma (20' Cord)** | ***(Blue cells for Input)***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2221 / 147512	**Cal. Due:**	21-Aug-14
Probe Type / SN:	44-10 / RN19768	**Cal. Due:**	21-Aug-14
Technician:	J. Wells		
Location:	Trailer		

Setup Date:	28-Aug-13	
Source Cert. Date:	08-Aug-13	
Source SN:	808131	
Surface Emission Rate:	2,100,120	particles/min
Source Type:	Cs-137	
HV Check/Setting:	1150	

1. Total Background Counts observed:
Chi-squared Calculations

1	4,527
2	4,700
3	4,790
4	4,651
5	4,669
6	4,857
7	4,827
8	4,805
9	4,822
10	4,929
11	5,042
12	4,940
13	5,079
14	4,994
15	4,998
16	5,260
17	5,507
18	5,011
19	5,204
20	5,185

Background Count Time: 1 minutes
Source/Sample Count Time: 1 minutes

Average Counts = 4939.9 counts

Average Count Rate = 4939.9 cpm

2. Total Source Counts observed:
Chi-squared Calculations

1	298,265
2	299,943
3	299,920
4	301,333
5	299,187
6	300,808
7	300,526
8	300,556
9	301,474
10	300,214
11	301,433
12	300,407
13	300,938
14	300,552
15	301,034
16	300,894
17	300,573
18	301,493
19	300,359
20	301,430

Average Counts = 300,567 counts

Average Count Rate = 300,567 cpm

Bkg count range	3,952	to	5,928	(± 20%)
Source count range	240,454	to	360,680	(± 20%)

Jay C Cooper 4 Sep 2013

Technical Reviewer Date

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.
☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER ENVIRACHEM, INC. ORDER NO. 20228596/395727

Mfg. Ludlum Measurements, Inc. Model 2221 Serial No. 147512

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. RN19768

Cal. Date 21-Aug-13 Cal Due Date 21-Aug-14 Cal. Interval 1 Year Meterface 202-159

Check mark ✓ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 34 % Alt 703.8 mm Hg

☐ New Instrument Instrument Received ✓ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

✓ Mechanical ck. ✓ Meter Zeroed ☐ Background Subtract ✓ Input Sens. Linearity
✓ F/S Resp. ck ✓ Reset ck. ✓ Window Operation ✓ Geotropism
✓ Audio ck. ☐ Alarm Setting ck. ✓ Batt. ck. (Min. Volt) 4.4 VDC

✓ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at Comments mV Threshold Dial Ratio 100 = 10 mV

✓ HV Readout (2 points) Ref./Inst. 500 / 499 V Ref./Inst. 2000 / 1998 V

COMMENTS:

	Peak(Coiled)	Gross(Coiled)	Peak(20')	Gross(20')
High Voltage:	870 V	1150 V	980 V	1350 V
Threshold dial:	642	100(10mv)	642	100(13mV)
Window dial:	40	n/a	40	n/a
Window Position:	"IN"	"OUT"	"IN"	"OUT"
Resolution for Cs137:	≈10.57%	n/a	≈11.17%	n/a

Firmware: 261027

OL checked but not set. Threshold dial 100 = 13 mV with 20' cable.High voltage set with detector connected.Model 2221 currently set for gross counts using coiled cable.Calibrated with coiled cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1K	400kcpm	400	400
x1K	100kcpm	100	100
x100	40kcpm	400	400
x100	10kcpm	100	100
x10	4kcpm	400	400
x10	1kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400kcpm	400027 cpm	400027 cpm	Log Scale	500kcpm	500K cpm	500K cpm
	40kcpm	40027	40027		50kcpm	50	50
	4kcpm	400	400		5kcpm	5	5
	400cpm	40	40		500cpm	500	500
	40cpm	4	4		50cpm	50	50

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: ☐ 059 ☐ 280 ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 5105 ☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E551 ☐ E552 ☐ G112 ☐ M565 ☐ S-394 ☐ S-1054 ☐ T-304 ☐ T879 ☐ T10081 ☐ T10082 ☐ Y982

☐ Alpha S/N ☐ Beta S/N ☐ Other

✓ m 500 S/N 63893 ☐ Oscilloscope S/N ✓ Multimeter S/N 93870637

Calibrated By: Jeremy Thompson Date 21-Aug-13

Reviewed By: [illegible] Date 21 Aug 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

☐ 10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. BN19768

Customer **ENVIRACHEM, INC.** Order #. 20228596/395727

Counter 2221 Serial No. 147512 Counter Input Sensitivity 10 mV

Count Time 6 Seconds Distance Source to Detector Surface

Other Plateau performed with coiled cable.

High Voltage	Background	Isotope Am241 Size 20.Mpki	Isotope Size	Isotope Size	Isotope Size
1000	666	8142			
1050	705	9484			
1100	729	10015			
*1150	792	10058			
1200	730	9956			
1250	833	10076			
1300	954	10367			
1350	2046	11580			

Signature Jeremy Thompson Date 21-Aug-13

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865-392-4601
Knoxville, TN 37932, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. RN19768

Customer **ENVIRACHEM, INC.** Order #. 20228596/395727

Counter 2221 Serial No. 141512 Counter Input Sensitivity 10 mV

Count Time 6 Seconds Distance Source to Detector Surface

Other Platean performed with 20' cable.

High Voltage	Background	Isotope Am241 Size ~0.1 μCi.	Isotope ____ Size ____	Isotope ____ Size ____	Isotope ____ Size ____
1250	707	10081			
1300	742	10085			
* 1350	670	9993			
1400	945	10460			
1450	2654	12247			

Signature Jeremy Thompson Date 21. Aug. 13

SPECTECH

SPECTRUM TECHNIQUES, L.L.C.
106 Union Valley Road
Oak Ridge, TN 37830
Tel: (865) 482-9937 Fax: (865) 483-0473
Email: sales@spectrumtechniques.com
Web: www.spectrumtechniques.com

Certificate of Calibration

Radioactive material, Limited Quantity NOS UN2910,
Exempt Quantity 10CFR30.18, BS 5288/C11111

This source has been calibrated using a HPGe detector whose efficiency was established with the NIST traceable mixed nuclide standard SRS: 80899-854. The stated activity is the weighted average of the measured gamma lines with an estimated uncertainty of 5%. The source is of sealed construction and wipe tested.

Radionuclide: Cs-137

Half-Life: 30.07 years

Decay Constant: 0.02305

Serial Number: 808131

Calibration Date: August 8, 2013 **Activity:** 0.946 **uCi.** 35,002 **Bq.**

Photon Energy (keV)	Intensity (%)	Emission Rate (sec-1)
661.66	**85.1**	29,787

Certified by: *Roger K. Stevens* **Date:** August 8, 2013

ITSI Cubane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,625 cpm to 5,438 cpm using ± 20%
Source: 238,914 cpm to 358,371 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
9/9/2013	301,758	5,430	1150	6	Sat	Sat	N/A	P.W.	
9/10/2013	295,769	5,047	1148	6	↓	Sat	↓	P.W.	
9/11/2013	300,630	4,736	1149	6	↓	Sat	↓	P.W.	
9/12/2013	298,837	4,896	1150	6	↓	Sat	↓	P.W.	
9/16/2013	301980	4866	1149	5.9	↓	Sat	↓	P.W.	
9/17/2013	297676	4533	1150	5.9	↓	Sat	↓	P.W.	
9/18/2013	297579	4786	1148	5.9	↓	Sat	↓	P.W.	
9/19/2013	299935	4717	1150	5.8	↓	Sat	↓	P.W.	
9/23/2013	295804	4524	1150	5.9	↓	Sat	↓	P.W.	
9/24/2013	298607	4034	1150	5.9	↓	Sat	↓	P.W.	
9/25/2013	297701	4127	1150	59	↓	Sat	↓	P.W.	
9/26/2013	296084	4725	1150	5.8	↓	Sat	↓	P.W.	
9/27/2013	307942	4705	1150	5.7	↓	Sat	↓	P.W.	
9/30/2013	294910	4541	1152	5.7	↓	Sat	↓	P.W.	
				N	A				N A

Completed By: Pam Wells Date: Oct 1, 2013
Reviewed By: Jay Cooper Date: 1 Oct 2013

ITSI Crane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,625 cpm to 5,438 cpm using ± 20%
Source: 238,914 cpm to 358,371 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
10/1/2013	300104	4732	1150	5.7	Sat	Sat	N/A	P.W.	
10/2/13	295296	4730	1152	5.7	Sat	Sat	N/A	DAO	
10/3/13	294967	4655	1153	5.7	✓	✓	✓	P.W.	
10/7/13	298083	4736	1151	5.7	✓	✓	✓	P.W.	
10/8/13	297057	4949	1150	5.6	✓	✓	✓	P.W.	
10/9/13	292798	4178	1151	6.2	✓	✓	✓	P.W.	
10/10/13	293640	4876	1152	6.0	✓	✓	✓	P.W.	
10/15/13	296538	4927	1152	5.9	✓	✓	✓	P.W.	
10/16/13	299319	5131	1149	5.7	✓	✓	✓	P.W.	
10/17/13	294807	4823	1153	5.7	✓	✓	✓	P.W.	
10/18/13	303316	4681	1153	5.6	✓	✓	✓	P.W.	
10/21/13	298887	4804	1153	5.7	✓	✓	✓	P.W.	
10/22/13	303658	4185	1155	5.7	✓	✓	✓	P.W.	
10/23/13	300381	5203	1157	5.7	✓	✓	✓	P.W.	
10/24/13	299904	4850	1158	5.7	✓	✓	✓	P.W.	
10/28/13	299536	4326	1161	6.2	✓	✓	✓	P.W.	N/A
10/29/13	298495	4724	1157	6.0	✓	✓	✓	P.W.	
10/30/13	295718	4913	1161	5.9	✓	✓	✓	P.W.	
10/31/13	294730	4827	1157	5.8	✓	✓	✓	P.W.	
				N/A					

Completed By: Pam Wells Date: 10/31/13
Reviewed By: [signature] Date: 11/5/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,625 cpm to 5,438 cpm using ± 20%
Source: 238,914 cpm to 358,371 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/1/2013	299,315	5,193	1161	5.8	SAT	Sat	N / A	TC	
11/4/2013	295,978	4,834	1153	5.8	✓	Sat	✓	PW	
11/5/13	299812	5024	1158	5.7	✓	✓	✓	P.W.	
11/6/13	295363	5285	1157	5.6	✓	✓	✓	P.W.	
11/7/13	298827	5162	1155	5.6	✓	✓	✓	P.W.	
11/8/13	297143	4689	1155	5.9	✓	✓	✓	P.W.	
11/11/13	296017	5247	1150	5.8	✓	✓	✓	P.W.	
11/12/13	298601	4693	1150	5.8	✓	✓	✓	P.W	
11/13/13	294749	4651	1150	5.8	✓	✓	✓	P.W.	
11/14/13	299356	4868	1149	5.8	✓	✓	✓	P.W.	
11/15/13	282782	4820	1150	5.8	✓	✓	✓	P.W.	
11/18/13	293017	4543	1151	5.8	✓	✓	✓	P.W.	
11/19/13	288055	4227	1152	5.7	✓	✓	✓	P.W.	
11/20/13	299972	4828	1152	5.6	✓	✓	✓	P.W.	
11/21/13	294855	4315	1152	5.6	✓	✓	✓	P.W.	
11/22/13	283318	4837	1151	5.6	✓	✓	✓	P.W.	N/A
11/23/13	296756	4693	1151	5.6	✓	✓	✓	P.W.	
11/25/13	291714	4802	1150	5.7	✓	✓	✓	P.W.	
11/26/13	295768	4926	1150	5.7	✓	✓	✓	P.W.	
			N	A					

Completed By: Pam Wells Date: 11/26/13
Reviewed By: [signature] Date: 12/10/13

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,625 cpm to 5,438 cpm using ± 20%
Source: 238,914 cpm to 358,371 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
12/2/13	298598	4840	1152	5.6	Sat	Sat	N/A	P.W.	
12/3/13	292743	4822	1151	5.6	✓	✓	✓	P.W.	
12/4/13	297357	4521	1151	5.6	✓	✓	✓	P.W.	
12/5/13	299649	5043	1155	5.6	✓	✓	✓	P.W.	
12/9/13	303650	4633	1155	5.6	✓	✓	✓	P.W.	
12/10/13	294821	4826	1153	5.6	✓	✓	✓	P.W.	
12/11/13	293444	4851	1155	5.6	✓	✓	✓	P.W.	
12/12/13	292694	5265	1152	5.6	✓	✓	✓	P.W.	
12/13/13	294284	5007	1151	5.6	✓	✓	✓	P.W.	
12/16/13	293737	4918	1151	5.9	✓	✓	✓	P.W.	
12/17/13	296584	5074	1157	5.8	✓	✓	✓	P.W.	
12/18/13	292263	5253	1152	5.4	✓	✓	✓	P.W.	
12/19/13	298107	4834	1153	5.5	✓	✓	✓	PW	
12/20/13	294611	4787	1155	6.0	✓	✓	✓	PW	
				N/A					N/A

Completed By: [signature] Date: 12/24/14
Reviewed By: [signature] Date: 1/19/14

Gilbane

Instrument Daily Source Check **Type:** Gamma (20' Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,952 cpm to 5,928 cpm using ± 20%
Source: 240,454 cpm to 360,680 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/2/2014	5,487	294,499	1156	6	Sat	Sat/	N / A	P.W.	
				N	A				N A

Completed By: Pam Wells Date: 3/24/14
Reviewed By: Jay Cooper Date: 24 Mar 2014

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,625 cpm to 5,438 cpm using ± 20%
Source: 238,914 cpm to 358,371 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
2/18/2014	292,865	4,575	Sat	Sat	Sat	Sat	N / A	JEW	
2/19/2014	297,179	4,212	✓	✓	✓	Sat	✓	P.W.	
2/20/2014	292348	4736	✓	✓	✓	✓	✓	P.W.	
2/21/2014	292261	4753	✓	✓	✓	✓	✓	P.W.	
				N	A				N A

Completed By: Pam Wells Date: 3/24/14
Reviewed By: Jerry Cooper Date: 24 Mar 2014

Gilbane

Instrument Daily Source Check **Type:** Gamma (Coiled Cord) **Project/#:** Rad Scoping Surveys, Treasure Island / 07204.0006

Instrument #: 2221 / 147512 Setup Date: 28-Aug-13
Cal. Date: August 21, 2014 Source Type: Cs-137
Probe #: 44-10 / RN19768 Source SN: 808131

Ranges Background: 3,625 cpm to 5,438 cpm using ± 20%
Source: 238,914 cpm to 358,371 cpm using ± 20% High Voltage (if applicable): 1150

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/24/2014	291,154	4,668	1153	5.8	Sat	Sat	N / A	P.W.	
3/25/2014	290348	4869	1155	5.7	✓	✓	✓	P.W.	
3/26/2014	280000	4620	1155	5.7	✓	✓	✓	P.W.	
3/27/2014	290111	4569	1155	5.7	✓	✓	✓	P.W.	
3/31/2014	289693	4895	1154	5.7	✓	✓	✓	P.W.	
					N	A			N A

Completed By: [signature] Date: 4/1/2014
Reviewed By: [signature] Date: 4/2/14

NOTES REGARDING THE LUDLUM MODEL 2360/43-37 INSTRUMENT/DETECTOR COMBINATIONS

1. The scalar initial setup sheets include calculated values for the MDCR, scan MDC, and static MDC. Since data collection did not include alpha/beta scan measurements, the MDCR and scan MDC and the values used to calculate them are immaterial to this report. Only the static MDC values are relevent to this report.

2. The static MDC values for the Model 2360/43-37 instrument/detector combinations were calculated using the equation noted on the 2nd page of setup sheet, which is also shown below with the definition of the variables used in the equation .

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

R_b = background count rate (cpm)
t_s = sample count time interval (min)
t_b = background count time interval (min)
E = total (instrument + surface) efficiency (cnts/dis)
A = area correction factor (i.e., detector active area divided by 100) (cm^2)

3. The static MDCs for the Model 2360/43-37 instrument/detector combinations were verified to have been calculated correctly. See below. Any variation in values is due to rounding.

Instrument	2360	2360	2360	2360	
Instrument SN	227431	227434	227434	253289	
Detector	43-37	43-37	43-37	43-37	
Detector SN	PR278381	PR161367	PR161367	PR137088	
Setup Date	2-Apr-14	23-Nov-13	24-Mar-14	25-Mar-14	
ALPHA					
Rb	1.8	2.5	2.4	2.1	(cpm)
Ts	2	1	2	2	(min)
Tb	2	1	2	2	(min)
E_t	0.043	0.051	0.037	0.048	(cnts/dis)
A	5.84	5.84	5.84	5.84	(unitless)
Static MDC	23	34	30	22	(dpm/100 cm^2)
BETA					
Rb	335.7	405.0	677.7	562.0	(cpm)
Ts	2	1	2	2	(min)
Tb	2	1	2	2	(min)
E_t	0.142	0.135	0.147	0.147	(cnts/dis)
A	5.84	5.84	5.84	5.84	(unitless)
Static MDC	74	123	102	92	(dpm/100 cm^2)

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 227431	**Cal. Due:**	26-Mar-15
Probe Type / SN:	43-37 / PR278381	**Cal. Due:**	26-Mar-15
Technician:	M. Cushman		
Location:	Trailer		

Setup Date:	02-Apr-14	
Source Cert. Date:	01-Sep-02	
Source SN:	K7-324	
Surface Emission Rate:	23,790	particles/min
Source Type:	Th-230	11895.00
HV Check/Setting:	1700 v	

1. Total Background Counts observed:
Chi-squared Calculations

1	5	1.5	2.1
2	8	4.5	19.8
3	3	-0.6	0.3
4	6	2.5	6.0
5	2	-1.6	2.4
6	3	-0.6	0.3
7	0	-3.6	12.6
8	2	-1.6	2.4
9	2	-1.6	2.4
10	4	0.5	0.2
11	1	-2.6	6.5
12	3	-0.6	0.3
13	4	0.5	0.2
14	6	2.5	6.0
15	3	-0.6	0.3
16	6	2.5	6.0
17	2	-1.6	2.4
18	5	1.5	2.1
19	2	-1.6	2.4
20	4	0.5	0.2
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	3.6	counts
Average Count Rate =	1.8	cpm
Standard Deviation =	2.0	counts
Sum of Squares =	75	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	8,081	-163	26,406
2	8,309	66	4,290
3	8,109	-135	18,090
4	8,117	-127	16,002
5	8,088	-156	24,180
6	8,339	96	9,120
7	8,248	5	20
8	8,386	143	20,306
9	8,221	-23	506
10	8,198	-46	2,070
11	8,046	-198	39,006
12	8,295	52	2,652
13	8,293	50	2,450
14	8,448	205	41,820
15	8,245	2	2
16	8,206	-38	1,406
17	8,407	164	26,732
18	8,269	26	650
19	8,356	113	12,656
20	8,209	-35	1,190
		0.0	

Average Counts =	8,244	counts
Average Count Rate =	4,122	cpm
Standard Deviation =	115	counts
Sum of the Squares =	249,559	
Chi-Squared Statistic =	30.27	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.173	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.043	cpm/dpm

Net source cts =	8,240	counts
Std. Dev. Net =	115	counts
Net Ct. Rate =	4,120	cpm

MDCR = 11 cpm (@ 95% confidence level)

MDA Scan=	59	dpm/100 cm^2
MDA Static=	23	dpm/100 cm^2

Bkg count range	0	to	11	(2 sigma)
Source count range	7,785	to	8,702	(2 sigma)

Technical Reviewer — Date: 02 Apr 2014

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	$Activity(Act)_t = Act_o \times e^{-((.693/t)T)}$
ID #	K7-324		
Initial Activity (Act_0) (dpm)	23,790		
Ref. Date	1-Sep-02		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	2-Apr-14	4231.00 days (t)	

Corrected Surface Emission Rate = 23,787 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 0.32 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Jim Cooperman 02 Apr 2014

Technical Reviewer Date

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	RES, LLC
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	10557
Catalog No.:	EAB-230-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-324	**Contained Radioactivity:**	21.22 nCi 785.1 Bq

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded oxide
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.4 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 23790 α/min in 2π on 28-Aug-13.

Daniel James Van Delsen
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Safety and Ecology Corporation

2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-418 Rev 2

3/26/2014

Calibration Certificate for 2360,Serial # 227431, Bar Code # ,Property # PFL-082

Date: 03/26/14 Date Last Cal. Expires: 11/06/14 Technician: Carl Hall

Location: 9999, Reason For Calibration: Short Cycled

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 SERIAL #: 132896 CAL DUE: 06/23/14

MODEL: SERIAL #: CAL DUE:

AS FOUND DATA Geotropism: SAT AS FOUND Instrument Condition: SAT AS LEFT Instrument Condition: SAT

☑ New Batteries? Battery Check: SAT AS FOUND Mechanical Zero: 0 AS LEFT Mechanical Zero: 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	502 V	AF V
1000 V:	1000 V	AF V
1500 V:	1504 V	AF V
AF HV Setting:	1700 V	AL HV Setting: 1700 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.0 mV	AF mV
BW (40 mV +/- 4 mV):	40.0 mV	AF mV
AT (120 mV +/- 10 mV):	120 mV	AF mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	400	0.00%	AF	0.00%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	4000	0.00%	AF	0.00%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	40	0.00%	AF	0.00%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	400	0.00%	AF	0.00%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2502	% ERR: 0.08%	AL 2500:	AF	% ERR: 0.08%
AF 25K:	25.02 K	% ERR: 0.08%	AL 25K:	AF K	% ERR: 0.08%
AF 250K:	250.2 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: Married as a set with: Model: 43-37 Serial #: PR278381 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/26/15

Performed by: Reviewed by: Date: 3-26-14

Printed Name: Carl Hall

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-417 Rev 4

3/26/2014

Calibration Certificate for 43-37,Serial # PR278381, Bar Code # ,Property # SEC-6911

Date: 03/26/14 **Date Last Cal. Expires:** 01/15/14 **Technician:** Carl Hall

Location: 9999, **Reason For Calibration:** Due for Calibration

EQUIPMENT USED DURING CALIBRATION **MODEL:** 2360 **SERIAL #:** 227431 **CAL DUE** 03/26/15

NIST TRACEABLE SOURCES USED

SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
5744-06	Sr-90	18100 dpm	12,700 cpm	12/27/2012
5746-06	Tc-99	31900 dpm	20,000 cpm	12/27/2012
5747-06	Pu-239	25800 dpm	13,100 cpm	12/27/2012
5748-06	Th-230	34900 dpm	17,700 cpm	12/27/2012

Efficiencies from last calibration

Pu:	14.95	%
Tc:	15.27	%
Th:	11.52	%
SrY:	28.14	%

AS FOUND DATA

AS-FOUND Instrument Condition: SAT

Calibration Setpoints

HV : 1700 V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

	Alpha		Beta		AF Efficiences	A-B XTLK
Back ground:	5	CPM	544	CPM		7.75%
Pu-239:	4638	CPM	903	CPM	17.96%	
Tc-99:	148	CPM	5871	CPM	16.70%	
Th-230:	5263	CPM	N/A		15.07%	
SrY-90:	N/A		5627	CPM	28.08%	

☑ Is the As Found Data within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair, HV adjust or Plateau

HV : 1700 V

	Alpha		Beta		AL Efficiencies	A-B XTLK
Back ground:	5	CPM	544	CPM		7.75%
Pu-239:	4638	CPM	903	CPM	17.96%	
Tc-99:	148	CPM	5871	CPM	16.70%	
Th-230:	5263	CPM	N/A		15.07%	
SrY-90:	N/A		5627	CPM	28.08%	

"AF" in the AL Efficiency fields means to refer to the AF Efficiencies in the AS FOUND DATA Section

Reproducibility : Isotope: Sr-90 5614 5667 5590 Average: 5623.7 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified.

PLATEAU DATA

High Voltage	Source 1: Tc-99 Response (CPM) A ch.	B ch.	Net Eff.	Source 2: Th-230 Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
N/A									N/A
									N/A
									N/A
									N/A
									N/A
									N/A

2 Pi Efficiencies:	Pu-239	Tc-99	Th-230	SrY-90
	35.37%	26.64%	29.71%	40.02%

Comments: Married as a set with: Model: 2360 Serial #: 227431 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/26/15

Performed by: _____ Reviewed by: _____ Date: 3-26-14

Printed Name: Carl Hall

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 227431	**Cal. Due:**	26-Mar-15
Probe Type / SN:	43-37 / PR278381	**Cal. Due:**	26-Mar-15
Technician:	M. Cushman		
Location:	Trailer		

Setup Date:	02-Apr-14	
Source Cert. Date:	01-Sep-02	
Source SN:	K7-322	
Surface Emission Rate:	28,170	particles/min
Source Type:	Tc-99	
HV Check/Setting:	1700 v	

1. Total Background Counts observed:
Chi-squared Calculations

1	677	5.5	30.8
2	698	26.6	704.9
3	692	20.6	422.3
4	697	25.6	652.8
5	678	6.5	42.9
6	688	16.6	273.9
7	664	-7.5	55.5
8	670	-1.5	2.1
9	670	-1.5	2.1
10	673	1.5	2.4
11	668	-3.5	11.9
12	674	2.5	6.5
13	637	-34.5	1186.8
14	625	-46.5	2157.6
15	663	-8.5	71.4
16	667	-4.5	19.8
17	650	-21.5	460.1
18	653	-18.5	340.4
19	685	13.6	183.6
20	700	28.6	815.1
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	671.5	counts
Average Count Rate =	335.7	cpm
Standard Deviation =	19.8	counts
Sum of Squares =	7,443	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	16,671	-25	600
2	16,335	-361	129,960
3	16,856	161	25,760
4	16,726	31	930
5	16,332	-364	132,132
6	16,737	42	1,722
7	16,809	114	12,882
8	16,706	11	110
9	16,735	40	1,560
10	16,536	-160	25,440
11	16,806	111	12,210
12	16,789	94	8,742
13	16,854	159	25,122
14	16,541	-155	23,870
15	16,767	72	5,112
16	16,705	10	90
17	16,643	-53	2,756
18	16,764	69	4,692
19	16,811	116	13,340
20	16,787	92	8,372
		0.0	

Average Counts =	16,696	counts
Average Count Rate =	8,348	cpm
Standard Deviation =	151	counts
Sum of the Squares =	435,407	
Chi-Squared Statistic =	26.08	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.284	cpm/dpm
Surface Efficiency (E_s) =	0.500	cpm/dpm
Total Efficiency (E_T) =	0.142	cpm/dpm
MDCR =	146	cpm (@ 95% confidence level)

Net source cts =	16,024	counts
Std. Dev. Net =	153	counts
Net Ct. Rate =	8,012	cpm

MDA Scan=	249	dpm/100 cm^2
MDA Static=	74	dpm/100 cm^2

Bkg count range	592	to	751	(2 sigma)
Source count range	16,090	to	17,301	(2 sigma)

Jay Cooper — 02 Apr 2014

Technical Reviewer — Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	Activity(Act)$_r$ = Act$_o$ x e-((.693/t)T)
ID #	K7-322		
Initial Activity (Act$_0$) (dpm)	28,170		
Ref. Date	15-Sep-13		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	2-Apr-14	199.00 days (t)	

Corrected Surface Emission Rate = 28,170 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2=\Sigma(X_i-\mu)^2 / \sigma$

s_i = 4.38 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Jim Cooperman 02 Apr 2014

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	RES, LLC
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	10557
Catalog No.:	EAB-099-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-322	**Contained Radioactivity:**	23.07 nCi 853.6 Bq

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded Technetium metal
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.5 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 28170 β/min in 2π on 28-Aug-13.

Daniel James Van Dalsem
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Safety and Ecology Corporation

2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-418 Rev 2

3/26/2014

Calibration Certificate for 2360,Serial # 227431, Bar Code # ,Property # PFL-082

Date: 03/26/14 **Date Last Cal. Expires:** 11/06/14 **Technician:** Carl Hall

Location: 9999, **Reason For Calibration:** Short Cycled

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 **SERIAL #:** 132896 **CAL DUE:** 06/23/14

MODEL: **SERIAL #:** **CAL DUE:**

AS FOUND DATA **Geotropism:** SAT **AS FOUND Instrument Condition:** SAT **AS LEFT Instrument Condition:** SAT

☑ **New Batteries?** **Battery Check:** SAT **AS FOUND Mechanical Zero:** 0 **AS LEFT Mechanical Zero:** 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	502 V	AF V
1000 V:	1000 V	AF V
1500 V:	1504 V	AF V
AF HV Setting:	1700 V	AL HV Setting: 1700 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.0 mV	AF mV
BW (40 mV +/- 4 mV):	40.0 mV	AF mV
AT (120 mV +/- 10 mV):	120 mV	AF mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	400	0.00%	AF	0.00%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	4000	0.00%	AF	0.00%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	40	0.00%	AF	0.00%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	400	0.00%	AF	0.00%

☑ **Is the As Found Data Within 20% of the Set Point?**

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2502	% ERR: 0.08%	AL 2500:	AF	% ERR: 0.08%
AF 25K:	25.02 K	% ERR: 0.08%	AL 25K:	AF K	% ERR: 0.08%
AF 250K:	250.2 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ **Is the As Found Data Within 20% of the Set Point?**

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ **Are the Individual Counts Within 10% of the Average?**

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: **Married as a set with:** **Model:** 43-37 **Serial #:** PR278381 **Bar Code #:**

☑ **Does Instrument Meet Final Acceptance Criteria?** ☑ **Calibration Sticker Attached?**

Date Instrument is Due For Next Calibration: 03/26/15

Performed by: _____ **Reviewed by:** _____ **Date:** 3-26-14

Printed Name: Carl Hall

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-417 Rev 4

3/26/2014

Calibration Certificate for 43-37,Serial # PR278381, Bar Code # ,Property # SEC-6911

Date: 03/26/14 **Date Last Cal. Expires:** 01/15/14 **Technician:** Carl Hall

Location: 9999, **Reason For Calibration:** Due for Calibration

EQUIPMENT USED DURING CALIBRATION **MODEL:** 2360 **SERIAL #:** 227431 **CAL DUE** 03/26/15

NIST TRACEABLE SOURCES USED

SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
5744-06	Sr-90	18100 dpm	12,700 cpm	12/27/2012
5746-06	Tc-99	31900 dpm	20,000 cpm	12/27/2012
5747-06	Pu-239	25800 dpm	13,100 cpm	12/27/2012
5748-06	Th-230	34900 dpm	17,700 cpm	12/27/2012

Efficiencies from last calibration

Pu:	14.95	%
Tc:	15.27	%
Th:	11.52	%
SrY:	28.14	%

AS FOUND DATA

AS-FOUND Instrument Condition: SAT

Calibration Setpoints

HV : 1700 V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

	Alpha		Beta		AF Efficiences	A-B XTLK
Back ground:	5	CPM	544	CPM		7.75%
Pu-239:	4638	CPM	903	CPM	17.96%	
Tc-99:	148	CPM	5871	CPM	16.70%	
Th-230:	5263	CPM	N/A		15.07%	
SrY-90:	N/A		5627	CPM	28.08%	

☑ Is the As Found Data within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair, HV adjust or Plateau

HV : 1700 V

	Alpha		Beta		AL Efficiencies	A-B XTLK
Back ground:	5	CPM	544	CPM		7.75%
Pu-239:	4638	CPM	903	CPM	17.96%	
Tc-99:	148	CPM	5871	CPM	16.70%	
Th-230:	5263	CPM	N/A		15.07%	
SrY-90:	N/A		5627	CPM	28.08%	

"AF" in the AL Efficiency fields means to refer to the AF Efficiencies in the AS FOUND DATA Section

Reproducibility : Isotope: Sr-90 5614 5667 5590 Average: 5623.7 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified.

PLATEAU DATA

Source 1: Tc-99 Source 2: Th-230

High Voltage	Response (CPM) A ch.	B ch.	Net Eff.	Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
N/A									N/A
									N/A
									N/A
									N/A
									N/A
									N/A

2 Pi Efficiencies:	Pu-239	Tc-99	Th-230	SrY-90
	35.37%	26.64%	29.71%	40.02%

Comments: Married as a set with: Model: 2360 Serial #: 227431 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/26/15

Performed by: _____ Reviewed by: _____ Date: 3-26-14

Printed Name: Carl Hall

Gilbane

Instrument Daily **Th-230** **Source Check** 23,787 Corrected Activity (in dpm)

Instrument #: 2360 / 227431 Setup Date: 2-Apr-14 High Voltage: 1700 v
Cal. Date: March 26, 2015 Source ID: K7-324 Total Efficiency: 4.33%
Probe #: 43-37 / PR278381 Project/#: :oping Surveys, Treasure Island / 0720 MDA (in dpm): 23.27

Ranges Background: 0 counts to 11 counts using ± 2 Sigma Count Time (min): 2
Source: 7,785 counts to 8,702 counts using ± 2 Sigma

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
4/3/2014	8337	2	Sat	Sat	Sat	Sat	N/A	P.W.	
4/7/2014	8361	2	↓	↓	↓	↓	↓	P.W.	
4/8/2014	8627	6	↓	↓	↓	↓	↓	P.W.	
4/9/2014	8560	PW 4-8-14 2 3	↓	↓	↓	↓	↓	P.W.	
4/10/2014	8680	4	↓	↓	↓	↓	↓	P.W.	
4/11/2014	8700	4	↓	↓	↓	↓	↓	ML	
4/14/2014	7898	2	↓	↓	↓	↓	↓	P.W.	
4/15/2014	7874	5	↓	↓	↓	↓	↓	P.W.	
4/16/2014	8250	7	↓	↓	↓	↓	↓	PW	
4/17/2014	8311	6	↓	↓	↓	↓	↓	PW	
						N/A			N/A

Completed By: Pam Wields Date: 4/22/2014
Reviewed By: Jerry Carpenter Date: 4/22/14

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2360 / 227431
Cal. Date: March 26, 2015
Probe #: 43-37 / PR278381

Setup Date: 2-Apr-14
Source ID: K7-322
Project/#: :oping Surveys, Treasure Island / 0720

High Voltage: 1700 v
Total Efficiency: 14.22%
MDA (in dpm): 74.39

Ranges Background: 592 counts to 751 counts using ± 2 Sigma
Source: 16,090 counts to 17,301 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
4/3/2014	16436	634	Sat	Sat	Sat	Sat	N/A	P.W.	
4/7/2014	16475	613	↓	↓	↓	↓	↓	P.W.	
4/8/2014	16746	722	↓	↓	↓	↓	↓	P.W.	
4/9/2014	16435	641	↓	↓	↓	↓	↓	P.W.	
4/10/2014	16352	638	↓	↓	↓	↓	↓	P.W.	
4/11/2014	16801	683	↓	↓	↓	↓	↓	ML	
4/14/2014	16095	592	↓	↓	↓	↓	↓	P.W.	
4/15/2014	17208	661	↓	↓	↓	↓	↓	P.W.	
4/16/2014	17101	730	↓	↓	↓	↓	↓	PW	
4/17/2014	17128	692	↓	↓	↓	↓	↓	PW	
						N	A		N A

Completed By: Pam Wells
Reviewed By: Jamy Cooper

Date: 4/22/2014
Date: 4/22/14

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 227434	**Cal. Due:**	30-Aug-14
Probe Type / SN:	43-37 / PR161367	**Cal. Due:**	30-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	23-Nov-13	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-270	
Surface Emission Rate:	54,750	particles/min
Source Type:	Th-230	
HV Check/Setting:	1750 v	

1. Total Background Counts observed:

Chi-squared Calculations

1	3	0.6	0.3
2	2	-0.5	0.2
3	5	2.6	6.5
4	2	-0.5	0.2
5	4	1.6	2.4
6	3	0.6	0.3
7	3	0.6	0.3
8	1	-1.5	2.1
9	1	-1.5	2.1
10	6	3.6	12.6
11	1	-1.5	2.1
12	1	-1.5	2.1
13	5	2.6	6.5
14	3	0.6	0.3
15	2	-0.5	0.2
16	1	-1.5	2.1
17	1	-1.5	2.1
18	1	-1.5	2.1
19	3	0.6	0.3
20	1	-1.5	2.1
		0.0	

Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes
Average Counts =	2.5	counts
Average Count Rate =	2.5	cpm
Standard Deviation =	1.6	counts
Sum of Squares =	47	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	11,205	9	74
2	11,199	3	7
3	11,084	-112	12,634
4	11,196	0	0
5	11,201	5	21
6	10,906	-290	84,332
7	11,289	93	8,575
8	11,259	63	3,919
9	11,289	93	8,575
10	11,320	124	15,277
11	11,252	56	3,091
12	11,391	195	37,869
13	11,128	-68	4,679
14	11,395	199	39,442
15	11,169	-27	751
16	11,183	-13	180
17	11,254	58	3,318
18	11,021	-175	30,765
19	11,288	92	8,391
20	10,899	-297	88,447
		0.0	

Average Counts =	11,196	counts
Average Count Rate =	11,196	cpm
Standard Deviation =	136	counts
Sum of the Squares =	350,345	
Chi-Squared Statistic =	31.29	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.204	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.051	cpm/dpm
MDCR =	12	cpm (@ 95% confidence level)

Net source cts =	11,194	counts
Std. Dev. Net =	136	counts
Net Ct. Rate =	11,194	cpm

MDA Scan= 59 dpm/100 cm^2
MDA Static= 34 dpm/100 cm^2

Bkg count range	0	to	6	(2 sigma)
Source count range	10,925	to	11,468	(2 sigma)

Technical Reviewer — Date 11/25/13

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	$Activity(Act)_f = Act_o \times e^{-((.693/t)T)}$
ID #	A7-270		
Initial Activity (Act_0) (dpm)	54,750		
Ref. Date	1-Sep-02		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	23-Nov-13	4101.00 days (t)	

Corrected Surface Emission Rate = 54,744 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 0.37 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

11/25/13

Technical Reviewer Date

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 227434	**Cal. Due:**	30-Aug-14
Probe Type / SN:	43-37 / PR161367	**Cal. Due:**	30-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	23-Nov-13	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-273	
Surface Emission Rate:	56,390	particles/min
Source Type:	Tc-99	
HV Check/Setting:	1750 v	

1. Total Background Counts observed:

Chi-squared Calculations

1	347	-58.0	3358.2
2	354	-51.0	2595.9
3	356	-49.0	2396.1
4	363	-42.0	1759.8
5	382	-23.0	526.7
6	388	-17.0	287.3
7	439	34.1	1159.4
8	435	30.1	903.0
9	413	8.1	64.8
10	429	24.1	578.4
11	441	36.1	1299.6
12	441	36.1	1299.6
13	422	17.1	290.7
14	424	19.1	362.9
15	364	-41.0	1676.9
16	429	24.1	578.4
17	433	28.1	786.8
18	413	8.1	64.8
19	418	13.1	170.3
20	408	3.1	9.3
		0.0	

Background Count Time:	1	minutes
Source/Sample Count Time:	1	minutes

Average Counts =	405.0	counts
Average Count Rate =	405.0	cpm
Standard Deviation =	32.6	counts
Sum of Squares =	20,169	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	15,527	-91	8,236
2	15,503	-115	13,168
3	15,688	70	4,935
4	15,434	-184	33,764
5	15,475	-143	20,378
6	15,505	-113	12,713
7	15,623	5	28
8	15,560	-58	3,335
9	15,406	-212	44,838
10	15,840	222	49,395
11	15,631	13	176
12	15,515	-103	10,558
13	15,418	-200	39,900
14	15,746	128	16,448
15	15,910	292	85,410
16	15,735	117	13,748
17	15,786	168	28,308
18	15,624	6	39
19	15,923	305	93,178
20	15,506	-112	12,488
		0.0	

Average Counts =	15,618	counts
Average Count Rate =	15,618	cpm
Standard Deviation =	161	counts
Sum of the Squares =	491,040	
Chi-Squared Statistic =	31.44	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_i) =	0.270	cpm/dpm
Surface Efficiency (E_s) =	0.500	cpm/dpm
Total Efficiency (E_T) =	0.135	cpm/dpm

Net source cts =	15,213	counts
Std. Dev. Net =	164	counts
Net Ct. Rate =	15,213	cpm

MDCR = 160 cpm (@ 95% confidence level)

MDA Scan=	288	dpm/100 cm^2
MDA Static=	123	dpm/100 cm^2

Bkg count range	340	to	470	(2 sigma)
Source count range	15,296	to	15,939	(2 sigma)

Technical Reviewer — Date 11/25/13

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	$Activity(Act)_f = Act_o \times e^{-((.693/t)T)}$
ID #	A7-273		
Initial Activity (Act_0) (dpm)	56,390		
Ref. Date	1-Sep-02		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	23-Nov-13	4101.00 days (t)	

Corrected Surface Emission Rate = 56,388 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 4.81 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

11/25/13

Technical Reviewer Date

Gilbane

Instrument Daily **Tc-99** **Source Check** 56,388 Corrected Activity (in dpm)

Instrument #: 2360 / 227434
Cal. Date: August 30, 2014
Probe #: 43-37 / PR161367

Setup Date: 23-Nov-13
Source ID: A7-273
Project/#: d Scoping Surveys, Treasure Island / 07204.0(

High Voltage: 1750 v
Total Efficiency: 13.49%
MDA (in dpm): 122.66

Ranges
Background: 340 counts to 470 counts using ± 2 Sigma
Source: 15,296 counts to 15,939 counts using ± 2 Sigma

Count Time (min): 1

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/23/2013	15,355	407	SAT	SAT	SAT	Sat	N/A	P.W.	
11/25/2013	15857	449	✓	✓	✓	✓	✓	P.W.	
				N	A				N/A

Completed By: Pam Wells
Reviewed By: [illegible]

Date: 11/26/13
Date: 12/10/13

Gilbane

Instrument Daily **Th-230** **Source Check** 54,744 Corrected Activity (in dpm)

Instrument #: 2360 / 227434
Cal. Date: August 30, 2014
Probe #: 43-37 / PR161367

Setup Date: 23-Nov-13
Source ID: A7-270
Project/#: 1 Scoping Surveys, Treasure Island / 07204.0

High Voltage: 1750 v
Total Efficiency: 5.11%
MDA (in dpm): 34.44

Ranges Background: 0 counts to 6 counts using ± 2 Sigma
Source: 10,925 counts to 11,468 counts using ± 2 Sigma

Count Time (min): 1

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/23/2013	10,936	3	SAT	SAT	SAT	Sat	N/A	P.W.	
11/25/2013	11459	5	✓	✓	✓	✓	✓	P.W.	
				N/A					N/A

Completed By: Pam Wells Date: 11/26/13
Reviewed By: [illegible] Date: 12/10/13

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | *{Blue cells for input}*

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 227434	**Cal. Due:**	19-Mar-15
Probe Type / SN:	43-37 / PR161367	**Cal. Due:**	19-Mar-15
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	24-Mar-14	
Source Cert. Date:	15-Sep-13	
Source SN:	K7-324	
Surface Emission Rate:	23,790	particles/min
Source Type:	Th-230	
HV Check/Setting:	1750 v	

1. Total Background Counts observed:

Chi-squared Calculations

1	5	0.2	0.0
2	9	4.2	17.2
3	7	2.2	4.6
4	7	2.2	4.6
5	6	1.2	1.3
6	5	0.2	0.0
7	5	0.2	0.0
8	5	0.2	0.0
9	8	3.2	9.9
10	3	-1.9	3.4
11	4	-0.9	0.7
12	4	-0.9	0.7
13	5	0.2	0.0
14	4	-0.9	0.7
15	7	2.2	4.6
16	2	-2.9	8.1
17	3	-1.9	3.4
18	4	-0.9	0.7
19	0	-4.9	23.5
20	4	-0.9	0.7
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	4.9	counts
Average Count Rate =	2.4	cpm
Standard Deviation =	2.1	counts
Sum of Squares =	85	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	7,139	25	618
2	7,131	17	284
3	6,962	-152	23,150
4	7,011	-103	10,640
5	7,128	14	192
6	7,043	-71	5,062
7	6,934	-180	32,454
8	7,041	-73	5,351
9	7,028	-86	7,422
10	7,236	122	14,847
11	7,204	90	8,073
12	7,160	46	2,102
13	7,113	-1	1
14	7,125	11	118
15	7,047	-67	4,509
16	7,082	-32	1,034
17	7,359	245	59,952
18	7,228	114	12,962
19	7,275	161	25,873
20	7,037	-77	5,952
		0.0	

Average Counts =	7,114	counts
Average Count Rate =	3,557	cpm
Standard Deviation =	108	counts
Sum of the Squares =	220,595	
Chi-Squared Statistic =	31.01	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Net source cts =	7,109	counts
Std. Dev. Net =	108	counts
Net Ct. Rate =	3,555	cpm

Instrument Efficiency (E_I) =	0.149	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.037	cpm/dpm
MDCR =	12	cpm (@ 95% confidence level)

MDA Scan=	80	dpm/100 cm^2
MDA Static=	30	dpm/100 cm^2

Bkg count range	0	to	13	(2 sigma)
Source count range	6,683	to	7,545	(2 sigma)

Jim Cooper 25 Mar 2014

Technical Reviewer — Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	$Activity(Act)_t = Act_o \times e^{-((.693/t)T)}$
ID #	K7-324		
Initial Activity (Act_0) (dpm)	23,790		
Ref. Date	15-Sep-13		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	24-Mar-14	190.00 days (t)	

Corrected Surface Emission Rate = 23,790 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 0.37 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Technical Reviewer 25 Mar 2014 Date

RSOP-03.01 Rev 19Aug2013

Eckert & Ziegler
Isotope Products

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Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	RES, LLC
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	10557
Catalog No.:	EAB-230-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-324	**Contained Radioactivity:**	21.22 **nCi** 785.1 **Bq**

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded oxide
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.4 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 23790 α/min in 2π on 28-Aug-13.

Daniel James Van Delsen
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Safety and Ecology Corporation
2800 Solway Road
Knoxville, TN 37931

SEC PROCEDURE # SEC-IS-418 Rev 2

Calibration Certificate

3/19/2014

Calibration Certificate for 2360,Serial # 227434, Bar Code # ,Property # SEC-6211

Date: 03/19/14 **Date Last Cal. Expires:** 08/30/14 **Technician:** Carl Hall

Location: 9999, **Reason For Calibration:** Married Inst Needed Repair

EQUIPMENT USED DURING CALIBRATION

MODEL:	500-2	SERIAL #:	132896	CAL DUE:	06/23/14
MODEL:		SERIAL #:		CAL DUE:	

AS FOUND DATA

Geotropism: SAT

AS FOUND Instrument Condition: SAT

AS LEFT Instrument Condition: SAT

☑ New Batteries?

Battery Check: SAT

AS FOUND Mechanical Zero: 0

AS LEFT Mechanical Zero: 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	502 V	AF V
1000 V:	1002 V	AF V
1500 V:	1501 V	AF V
AF HV Setting:	1750 V	AL HV Setting: 1750 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.0 mV	AF mV
BW (40 mV +/- 4 mV):	40.0 mV	AF mV
AT (120 mV +/- 10 mV):	120 mV	AF mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	400	0.00%	AF	0.00%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	4000	0.00%	AF	0.00%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	40	0.00%	AF	0.00%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	400	0.00%	AF	0.00%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2502	% ERR: 0.08%	AL 2500:	AF	% ERR: 0.08%
AF 25K:	25.02 K	% ERR: 0.08%	AL 25K:	AF K	% ERR: 0.08%
AF 250K:	250.2 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: Married as a set with: **Model:** 43-37 **Serial #:** PR161367 **Bar Code #:**

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: _____ Reviewed by: _____ Date: 3-19-14

Printed Name: Carl Hall

Safety and Ecology Corporation SEC PROCEDURE # SEC-IS-417 Rev 4

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

3/19/2014

Calibration Certificate for 43-37,Serial # PR161367, Bar Code # ,Property # SEC-5220

Date: 03/19/14 Date Last Cal. Expires: 08/30/14 Technician: Carl Hall

Location: 9999. Reason For Calibration: Repair

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 227434 CAL DUE 03/19/15

NIST TRACEABLE SOURCES USED

SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
5744-06	Sr-90	18100 dpm	12,700 cpm	12/27/2012
5746-06	Tc-99	31900 dpm	20,000 cpm	12/27/2012
5747-06	Pu-239	25800 dpm	13,100 cpm	12/27/2012
5748-06	Th-230	34900 dpm	17,700 cpm	12/27/2012

Efficiencies from last calibration

Pu:	17.81	%
Tc:	21.33	%
Th:	15.35	%
SrY:	31.60	%

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : 1750 V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

	Alpha		Beta		AF Efficiences	A-B XTLK
Back ground:	0	CPM	0	CPM		#Div/0!
Pu-239:	0	CPM	0	CPM	0.00%	
Tc-99:	0	CPM	0	CPM	0.00%	
Th-230:	0	CPM	N/A		0.00%	
SrY-90:	N/A		0	CPM	0.00%	

☐ Is the As Found Data within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair, HV adjust or Plateau

HV : 1750 V

	Alpha		Beta		AL Efficiencies	A-B XTLK
Back ground:	3	CPM	610	CPM		7.79%
Pu-239:	5011	CPM	1000	CPM	19.41%	
Tc-99:	15	CPM	7286	CPM	20.93%	
Th-230:	5989	CPM	N/A		17.15%	
SrY-90:	N/A		6376	CPM	31.86%	

"AF" in the AL Efficiency fields means to refer to the AF Efficiencies in the AS FOUND DATA Section

Reproducibility : Isotope: Sr-90 6394 6332 6357 Average: 6361.0 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified..

PLATEAU DATA

Source 1: Tc-99 Source 2: Th-230

High Voltage	Response (CPM) A ch.	Response (CPM) B ch.	Response (CPM) Net Eff.	Response (CPM) A ch.	Response (CPM) B ch.	Response (CPM) Net Eff.	Background (CPM) A ch.	Background (CPM) B ch.	Net A to B Xtalk: <10%
N/A									N/A
									N/A
									N/A
									N/A
									N/A
									N/A

2 Pi Efficiencies:	Pu-239	Tc-99	Th-230	SrY-90
	38.23%	33.38%	33.82%	45.40%

Comments: Married as a set with: Model: 2360 Serial #: 227434 Bar Code #:

Replaced damaged mylar.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: Reviewed by: Date: 3-19-14

Printed Name: Carl Hall

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | *{Blue cells for input}*

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 227434	**Cal. Due:**	19-Mar-15
Probe Type / SN:	43-37 / PR161367	**Cal. Due:**	19-Mar-15
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	24-Mar-14	
Source Cert. Date:	15-Sep-13	
Source SN:	K7-322	
Surface Emission Rate:	28,170	particles/min
Source Type:	Tc-99	
HV Check/Setting:	1750 v	

1. Total Background Counts observed:

Chi-squared Calculations

1	1315	-40.3	1624.1
2	1394	38.7	1497.7
3	1296	-59.3	3516.5
4	1361	5.7	32.5
5	1382	26.7	712.9
6	1353	-2.3	5.3
7	1332	-23.3	542.9
8	1296	-59.3	3516.5
9	1407	51.7	2672.9
10	1298	-57.3	3283.3
11	1348	-7.3	53.3
12	1338	-17.3	299.3
13	1389	33.7	1135.7
14	1363	7.7	59.3
15	1333	-22.3	497.3
16	1372	16.7	278.9
17	1398	42.7	1823.3
18	1439	83.7	7005.7
19	1312	-43.3	1874.9
20	1380	24.7	610.1
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	1355.3	counts
Average Count Rate =	677.7	cpm
Standard Deviation =	40.4	counts
Sum of Squares =	31,042	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	18,106	228	51,779
2	17,807	-71	5,105
3	17,851	-27	754
4	17,831	-47	2,252
5	17,770	-108	11,761
6	17,861	-17	305
7	17,886	8	57
8	17,664	-214	45,989
9	17,957	79	6,170
10	17,697	-181	32,924
11	17,843	-35	1,257
12	17,862	-16	271
13	18,119	241	57,864
14	17,725	-153	23,547
15	17,725	-153	23,547
16	17,996	118	13,818
17	18,007	129	16,525
18	17,708	-170	29,053
19	18,001	123	15,019
20	18,153	275	75,378
		0.0	

Average Counts =	17,878	counts
Average Count Rate =	8,939	cpm
Standard Deviation =	148	counts
Sum of the Squares =	413,373	
Chi-Squared Statistic =	23.12	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.293	cpm/dpm
Surface Efficiency (E_s) =	0.500	cpm/dpm
Total Efficiency (E_T) =	0.147	cpm/dpm

Net source cts =	16,523	counts
Std. Dev. Net =	153	counts
Net Ct. Rate =	8,262	cpm

MDCR = 207 cpm (@ 95% confidence level)

MDA Scan=	343	dpm/100 cm^2
MDA Static=	102	dpm/100 cm^2

Bkg count range	1,194	to	1,517	(2 sigma)
Source count range	17,288	to	18,468	(2 sigma)

Sam Cooper 25 Mar 2014

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	$Activity(Act)_t = Act_o \times e\text{-}((.693/t)T)$
ID #	K7-322		
Initial Activity (Act_0) (dpm)	28,170		
Ref. Date	15-Sep-13		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	24-Mar-14	190.00 days (t)	

Corrected Surface Emission Rate = 28,170 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 6.22 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Jim Compman 25 Mar 2013

Technical Reviewer Date

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	RES, LLC
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	10557
Catalog No.:	EAB-099-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-322	**Contained Radioactivity:**	23.07 **nCi** 853.6 **Bq**

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded Technetium metal
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.5 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 28170 β/min in 2π on 28-Aug-13.

Daniel James Van Dalsem
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Safety and Ecology Corporation
2800 Solway Road
Knoxville, TN 37931
Calibration Certificate

SEC PROCEDURE # SEC-IS-418 Rev 2

3/19/2014

Calibration Certificate for 2360,Serial # 227434, Bar Code # ,Property # SEC-6211

Date: 03/19/14 **Date Last Cal. Expires:** 08/30/14 **Technician:** Carl Hall

Location: 9999, **Reason For Calibration:** Married Inst Needed Repair

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 **SERIAL #:** 132896 **CAL DUE:** 06/23/14

MODEL: **SERIAL #:** **CAL DUE:**

AS FOUND DATA

Geotropism: SAT **AS FOUND Instrument Condition:** SAT **AS LEFT Instrument Condition:** SAT

☑ **New Batteries?** **Battery Check:** SAT **AS FOUND Mechanical Zero:** 0 **AS LEFT Mechanical Zero:** 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	502 V	AF V
1000 V:	1002 V	AF V
1500 V:	1501 V	AF V
AF HV Setting:	1750 V	AL HV Setting: 1750 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.0 mV	AF mV
BW (40 mV +/- 4 mV):	40.0 mV	AF mV
AT (120 mV +/- 10 mV):	120 mV	AF mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	400	0.00%	AF	0.00%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	4000	0.00%	AF	0.00%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	40	0.00%	AF	0.00%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	400	0.00%	AF	0.00%

☑ **Is the As Found Data Within 20% of the Set Point?**

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2502	% ERR: 0.08%	AL 2500:	AF	% ERR: 0.08%
AF 25K:	25.02 K	% ERR: 0.08%	AL 25K:	AF K	% ERR: 0.08%
AF 250K:	250.2 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ **Is the As Found Data Within 20% of the Set Point?**

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ **Are the Individual Counts Within 10% of the Average?**

Audio Response: SAT
Overload Light: SAT
Low Battery (2.2V): SAT

Comments: **Married as a set with:** **Model:** 43-37 **Serial #:** PR161367 **Bar Code #:**

☑ **Does Instrument Meet Final Acceptance Criteria?** ☑ **Calibration Sticker Attached?**

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: _____ **Reviewed by:** _____ **Date:** 3-19-14

Printed Name: Carl Hall

Safety and Ecology Corporation SEC PROCEDURE # SEC-IS-417 Rev 4

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

3/19/2014

Calibration Certificate for 43-37,Serial # PR161367, Bar Code # ,Property # SEC-5220

Date: 03/19/14 Date Last Cal. Expires: 08/30/14 Technician: Carl Hall

Location: 9999, Reason For Calibration: Repair

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 227434 CAL DUE 03/19/15

NIST TRACEABLE SOURCES USED

Efficiencies from last calibration		
Pu:	17.81	%
Tc:	21.33	%
Th:	15.35	%
SrY:	31.60	%

SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
5744-06	Sr-90	18100 dpm	12,700 cpm	12/27/2012
5746-06	Tc-99	31900 dpm	20,000 cpm	12/27/2012
5747-06	Pu-239	25800 dpm	13,100 cpm	12/27/2012
5748-06	Th-230	34900 dpm	17,700 cpm	12/27/2012

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : 1750 V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

	Alpha		Beta		AF Efficiencies	A-B XTLK
Back ground:	0	CPM	0	CPM		#Div/0!
Pu-239:	0	CPM	0	CPM	0.00%	
Tc-99:	0	CPM	0	CPM	0.00%	
Th-230:	0	CPM	N/A		0.00%	
SrY-90:	N/A		0	CPM	0.00%	

☐ Is the As Found Data within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair, HV adjust or Plateau

HV : 1750 V

	Alpha		Beta		AL Efficiencies	A-B XTLK
Back ground:	3	CPM	610	CPM		
Pu-239:	5011	CPM	1000	CPM	19.41%	7.79%
Tc-99:	15	CPM	7286	CPM	20.93%	
Th-230:	5989	CPM	N/A		17.15%	
SrY-90:	N/A		6376	CPM	31.86%	

"AF" in the AL Efficiency fields means to refer to the AF Efficiencies in the AS FOUND DATA Section

Reproducibility : Isotope: Sr-90 6394 6332 6357 Average: 6361.0 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified.

PLATEAU DATA

High Voltage	Source 1: Tc-99 Response (CPM) A ch.	B ch.	Net Eff.	Source 2: Th-230 Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk. <10%
N/A									N/A
									N/A
									N/A
									N/A
									N/A
									N/A

2 Pi Efficiencies:	Pu-239	Tc-99	Th-230	SrY-90
	38.23%	33.38%	33.82%	45.40%

Comments: Married as a set with: Model: 2360 Serial #: 227434 Bar Code #:

Replaced damaged mylar.

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: _____ Reviewed by: _____ Date: 3-19-14

Printed Name: Carl Hall

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2360 / 227434
Cal. Date: March 19, 2015
Probe #: 43-37 / PR161367

Setup Date: 24-Mar-14
Source ID: K7-322
Project/#: d Scoping Surveys, Treasure Island / 07204.0(

High Voltage: 1750 v
Total Efficiency: 14.66%
MDA (in dpm): 101.76

Ranges
Background: 1,194 counts to 1,517 counts using ± 2 Sigma
Source: 17,288 counts to 18,468 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/25/2014	17,507	1,325	Sat	Sat	Sat	Sat/	N / A	P.W.	
3/26/2014	17955	1257	√	√	√	√	√	P.W.	
3/27/2014	17877	1434	√	√	√	√	√	P.W	
3/31/2014	18090	1370	√	√	√	√	√	P.W.	
						N/A			N/A

Completed By: Pam Wells
Reviewed By: [signature]

Date: 4/1/2014
Date: 4/2/14

Gilbane

Instrument Daily **Th-230** **Source Check** 23,790 Corrected Activity (in dpm)

Instrument #: 2360 / 227434 Setup Date: 24-Mar-14 High Voltage: 1750 v
Cal. Date: March 19, 2015 Source ID: K7-324 Total Efficiency: 3.74%
Probe #: 43-37 / PR161367 Project/#: 1 Scoping Surveys, Treasure Island / 07204.0 MDA (in dpm): 30.36

Ranges Background: 0 counts to 13 counts using ± 2 Sigma Count Time (min): 2
Source: 6,683 counts to 7,545 counts using ± 2 Sigma

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/25/2014	6,819	5	Sat	Sat	Sat	Sat/	N / A	P.W.	
3/26/2014	7348	4	✓	✓	✓	✓	✓	P.W.	
3/27/2014	7457	1	✓	✓	✓	✓	✓	P.W.	
3/31/2014	6698	6	✓	✓	✓	✓	✓	P.W.	
					N	A			N A

Completed By: [signature] Date: 4/1/2014
Reviewed By: [signature] Date: 4/2/14

Gilbane

Instrument Daily **Th-230** **Source Check** 23,790 Corrected Activity (in dpm)

Instrument #: 2360 / 227434 Setup Date: 24-Mar-14 High Voltage: 1750 v
Cal. Date: March 19, 2015 Source ID: K7-324 Total Efficiency: 3.74%
Probe #: 43-37 / PR161367 Project/#: 1 Scoping Surveys, Treasure Island / 07204.0 MDA (in dpm): 30.36

Ranges Background: 0 counts to 13 counts using ± 2 Sigma Count Time (min): 2
Source: 6,683 counts to 7,545 counts using ± 2 Sigma

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
4/1/2014	7410	9	Sat	Sat	Sat	Sat	N/A	P.W.	N/A
4/1/2014	6830	7	✓	✓	✓	✓	✓	P.W.	POST Mylar Repair.
4/2/2014	7245	6	✓	✓	✓	✓	✓	P.W.	N/A
4/3/2014	7399	8	✓	✓	✓	✓	✓	P.W.	
4/7/2014	7141	7	✓	✓	✓	✓	✓	P.W.	
4/8/2014	6692	7	✓	✓	✓	✓	✓	P.W.	
4/9/2014	6936	6	✓	✓	✓	✓	✓	P.W.	
4/10/2014	7425	4	✓	✓	✓	✓	✓	P.W.	
4/14/2014	6949	10	✓	✓	✓	✓	✓	PW	
4/15/2014	7250	3	✓	✓	✓	✓	✓	PW	
4/15/2014	6791	9	✓	✓	✓	✓	✓	PW	POST MYLAR Repair
4/16/2014	7414	3	✓	✓	✓	✓	✓	P.W.	
4/17/2014	6727	5	✓	✓	✓	✓	✓	P.W.	
4/21/2014	6883	6	✓	✓	✓	✓	✓	PW	
					N	A			N A

Completed By: Paul Wells Date: 4/22/2014
Reviewed By: Jerry Compeins Date: 4/22/14

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2360 / 227434
Cal. Date: March 19, 2015
Probe #: 43-37 / PR161367

Setup Date: 24-Mar-14
Source ID: K7-322
Project/#: d Scoping Surveys, Treasure Island / 07204.0(

High Voltage: 1750 v
Total Efficiency: 14.66%
MDA (in dpm): 101.76

Ranges Background: 1,194 counts to 1,517 counts using ± 2 Sigma
Source: 17,288 counts to 18,468 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
4/1/2014	17907	1317	Sat	Sat	Sat	Sat	N/A	P.W.	N/A
4/1/2014	18165	1256	✓	✓	✓	✓	✓	P.W.	Post Mylar Repair.
4/2/2014	18216	1354	✓	✓	✓	✓	✓	P.W.	N/A
4/3/2014	18439	1502	✓	✓	✓	✓	✓	P.W.	
4/7/2014	17603	1502	✓	✓	✓	✓	✓	P.W.	
4/8/2014	17649	1502	✓	✓	✓	✓	✓	P.W.	
4/9/2014	18389	1504	✓	✓	✓	✓	✓	P.W.	
4/10/2014	18080	1379	✓	✓	✓	✓	✓	P.W.	
4/14/2014	18168	1512	✓	✓	✓	✓	✓	P.W	
4/15/2014	18215	1311	✓	✓	✓	✓	✓	P.W.	
4/15/2014	17847	1241	✓	✓	✓	✓	✓	PW	Post Mylar Repair
4/16/2014	17802	1222	✓	✓	✓	✓	✓	PW	
4/17/2014	17580	1293	✓	✓	✓	✓	✓	PW	
4/21/2014	18150	1198	✓	✓	✓	✓	✓	PW	
					N	A			N A

Completed By: Pam Wells Date: 4/22/2014
Reviewed By: Jay Compere Date: 4/22/14

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 253289	**Cal. Due:**	19-Mar-15
Probe Type / SN:	43-37 / PR137088	**Cal. Due:**	19-Mar-15
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	25-Mar-14	
Source Cert. Date:	15-Sep-13	
Source SN:	K7-324	
Surface Emission Rate:	23,790	particles/min
Source Type:	Th-230	
HV Check/Setting:	1750 v	

1. Total Background Counts observed:

Chi-squared Calculations

1	1	-3.2	9.9
2	4	-0.2	0.0
3	5	0.9	0.7
4	3	-1.2	1.3
5	3	-1.2	1.3
6	2	-2.2	4.6
7	5	0.9	0.7
8	3	-1.2	1.3
9	6	1.9	3.4
10	3	-1.2	1.3
11	6	1.9	3.4
12	6	1.9	3.4
13	4	-0.2	0.0
14	6	1.9	3.4
15	4	-0.2	0.0
16	5	0.9	0.7
17	4	-0.2	0.0
18	3	-1.2	1.3
19	5	0.9	0.7
20	5	0.9	0.7
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	4.2	counts
Average Count Rate =	2.1	cpm
Standard Deviation =	1.4	counts
Sum of Squares =	39	
Area Correction Factor (ACF) =	5.84	$100cm^2$
Scan Observation Interval (i) =	1.80	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	9,090	9	83
2	9,227	146	21,345
3	9,279	198	39,244
4	8,909	-172	29,550
5	9,175	94	8,855
6	8,989	-92	8,446
7	8,991	-90	8,082
8	9,152	71	5,055
9	8,999	-82	6,708
10	9,063	-18	320
11	9,165	84	7,073
12	8,897	-184	33,819
13	9,134	53	2,820
14	9,093	12	146
15	9,222	141	19,909
16	9,136	55	3,036
17	9,012	-69	4,747
18	9,219	138	19,072
19	8,890	-191	36,443
20	8,976	-105	11,004
		0.0	

Average Counts =	9,081	counts
Average Count Rate =	4,540	cpm
Standard Deviation =	118	counts
Sum of the Squares =	265,756	
Chi-Squared Statistic =	29.27	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.191	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.048	cpm/dpm

Net source cts =	9,077	counts
Std. Dev. Net =	118	counts
Net Ct. Rate =	4,538	cpm

MDCR = 11 cpm (@ 95% confidence level)

MDA Scan=	58	dpm/100 cm^2
MDA Static=	22	dpm/100 cm^2

Bkg count range	0	to	10	(2 sigma)
Source count range	8,608	to	9,554	(2 sigma)

Jim Cooper 25 Mar 2014

Technical Reviewer — Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	Activity(Act)$_t$ = Act$_o$ x e-((.693/t)T)
ID #	K7-324		
Initial Activity (Act$_0$) (dpm)	23,790		
Ref. Date	15-Sep-13		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	25-Mar-14	191.00 days (t)	

Corrected Surface Emission Rate = 23,790 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 0.34 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Amy Campana 25 Mar 2014

Technical Reviewer Date

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	RES, LLC
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	10557
Catalog No.:	EAB-230-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-324	**Contained Radioactivity:**	21.22 **nCi** 785.1 **Bq**

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded oxide
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.4 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 23790 α/min in 2π on 28-Aug-13.

Daniel James Van Delsen
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Safety and Ecology Corporation

2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-418 Rev 2

3/19/2014

Calibration Certificate for 2360,Serial # 253289, Bar Code # ,Property # SEC-6832

Date: 03/19/14 Date Last Cal. Expires: 09/16/14 Technician: Carl Hall

Location: 9999, Reason For Calibration: Short Cycled

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 SERIAL #: 132896 CAL DUE: 06/23/14

MODEL: SERIAL #: CAL DUE:

AS FOUND DATA Geotropism: SAT AS FOUND Instrument Condition: SAT AS LEFT Instrument Condition: SAT

☐ New Batteries? Battery Check: SAT AS FOUND Mechanical Zero: 0 AS LEFT Mechanical Zero: 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	501 V	AF V
1000 V:	999 V	AF V
1500 V:	1489 V	AF V
AF HV Setting:	1750 V	AL HV Setting: 1750 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.0 mV	AF mV
BW (40 mV +/- 4 mV):	40.0 mV	AF mV
AT (120 mV +/- 10 mV):	120 mV	AF mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	395	1.25%	AF	1.25%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	3950	1.25%	AF	1.25%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	39.5	1.25%	AF	1.25%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	395	1.25%	AF	1.25%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2502	% ERR: 0.08%	AL 2500:	AF	% ERR: 0.08%
AF 25K:	25.02 K	% ERR: 0.08%	AL 25K:	AF K	% ERR: 0.08%
AF 250K:	250.2 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: Married as a set with: Model: 43-37 Serial #: PR137088 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: _____ Reviewed by: _____ Date: 3-19-14

Printed Name: Carl Hall

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

SEC PROCEDURE # SEC-IS-417 Rev 4

3/19/2014

Calibration Certificate

Calibration Certificate for 43-37,Serial # PR137088, Bar Code # ,Property # SEC-6597

Date: 03/19/14 Date Last Cal. Expires: 09/16/14 Technician: Carl Hall

Location: 9999, Reason For Calibration: Short Cycled

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 253289 CAL DUE 03/19/15

NIST TRACEABLE SOURCES USED	SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
Efficiencies from last calibration	5744-06	Sr-90	18100 dpm	12,700 cpm	12/27/2012
Pu: 14.91 %	5746-06	Tc-99	31900 dpm	20,000 cpm	12/27/2012
Tc: 22.51 %	5747-06	Pu-239	25800 dpm	13,100 cpm	12/27/2012
Th: 12.11 %	5748-06	Th-230	34900 dpm	17,700 cpm	12/27/2012
SrY: 27.06 %					

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : 1750 V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

	Alpha		Beta		AF Efficiences	A-B XTLK
Back ground:	4	CPM	547	CPM		
Pu-239:	4207	CPM	955	CPM	16.29%	9.71%
Tc-99:	9	CPM	7936	CPM	23.16%	
Th-230:	5081	CPM	N/A		14.55%	
SrY-90:	N/A		5968	CPM	29.95%	

☑ Is the As Found Data within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair, HV adjust or Plateau

HV : 1750 V

	Alpha		Beta		AL Efficiencies	A-B XTLK
Back ground:	4	CPM	547	CPM		
Pu-239:	4207	CPM	955	CPM	16.29%	9.71%
Tc-99:	9	CPM	7936	CPM	23.16%	
Th-230:	5081	CPM	N/A		14.55%	
SrY-90:	N/A		5968	CPM	29.95%	

"AF" in the AL Efficiency fields means to refer to the AF Efficiencies in the AS FOUND DATA Section

Reproducibility : Isotope: Sr-90 5876 5944 5992 Average: 5937.3 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified.

PLATEAU DATA

High Voltage	Source 1: Tc-99 Response (CPM) A ch.	B ch.	Net Eff.	Source 2: Th-230 Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
N/A									N/A
									N/A
									N/A
									N/A
									N/A
									N/A

2 Pi Efficiencies:	Pu-239	Tc-99	Th-230	SrY-90
	32.08%	36.95%	28.68%	42.69%

Comments: Married as a set with: Model: 2360 Serial #: 253289 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: [signature] Reviewed by: [signature] Date: 3-19-14

Printed Name: Carl Hall

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2360 / 253289	**Cal. Due:**	19-Mar-15
Probe Type / SN:	43-37 / PR137088	**Cal. Due:**	19-Mar-15
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	25-Mar-14	
Source Cert. Date:	15-Sep-13	
Source SN:	K7-322	
Surface Emission Rate:	28,170	particles/min
Source Type:	Tc-99	
HV Check/Setting:	1750 v	

Background Count Time: 2 minutes
Source/Sample Count Time: 2 minutes

1. Total Background Counts observed:
Chi-squared Calculations

1	1154	30.1	906.0
2	1128	4.1	16.8
3	1052	-71.9	5169.6
4	1145	21.1	445.2
5	1100	-23.9	571.2
6	1097	-26.9	723.6
7	1213	89.1	7938.8
8	1138	14.1	198.8
9	1059	-64.9	4212.0
10	1167	43.1	1857.6
11	1108	-15.9	252.8
12	1060	-63.9	4083.2
13	1142	18.1	327.6
14	1081	-42.9	1840.4
15	1153	29.1	846.8
16	1161	37.1	1376.4
17	1133	9.1	82.8
18	1086	-37.9	1436.4
19	1149	25.1	630.0
20	1152	28.1	789.6
		0.0	

Average Counts = 1123.9 counts
Average Count Rate = 562.0 cpm
Standard Deviation = 42.1 counts
Sum of Squares = 33,706
Area Correction Factor (ACF) = 5.84 $100cm^2$
Scan Observation Interval (i) = 1.80 seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	17,789	47	2,195
2	17,597	-145	21,069
3	17,617	-125	15,663
4	17,992	250	62,425
5	17,711	-31	970
6	17,406	-336	112,997
7	17,797	55	3,009
8	17,613	-129	16,680
9	17,914	172	29,532
10	17,865	123	15,092
11	17,774	32	1,014
12	17,914	172	29,532
13	17,883	141	19,839
14	17,928	186	34,540
15	17,560	-182	33,179
16	18,002	260	67,522
17	17,610	-132	17,464
18	17,561	-181	32,815
19	17,745	3	8
20	17,565	-177	31,382
		0.0	

Average Counts = 17,742 counts
Average Count Rate = 8,871 cpm
Standard Deviation = 170 counts
Sum of the Squares = 546,927
Chi-Squared Statistic = 30.83

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) = 0.295 cpm/dpm
Surface Efficiency (E_s) = 0.500 cpm/dpm
Total Efficiency (E_T) = 0.147 cpm/dpm

Net source cts = 16,618 counts
Std. Dev. Net = 175 counts
Net Ct. Rate = 8,309 cpm

MDCR = 189 cpm (@ 95% confidence level)

MDA Scan= 310 dpm/100 cm^2
MDA Static= 92 dpm/100 cm^2

Bkg count range	955	to	1,292	(2 sigma)
Source count range	17,063	to	18,421	(2 sigma)

Jay Cooper 25 Mar 2014
Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	$Activity(Act)_t = Act_o \times e^{-((.693/t)T)}$
ID #	K7-322		
Initial Activity (Act_0) (dpm)	28,170		
Ref. Date	15-Sep-13		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	25-Mar-14	191.00 days (t)	

Corrected Surface Emission Rate = 28,170 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = 5.67 counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Jim Cooper 26 Mar 2014

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	RES, LLC
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	10557
Catalog No.:	EAB-099-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-322	**Contained Radioactivity:**	23.07 **nCi** 853.6 **Bq**

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded Technetium metal
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.5 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 28170 β/min in 2π on 28-Aug-13.

Daniel James Van Dalsem
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Safety and Ecology Corporation

2800 Solway Road
Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-418 Rev 2

3/19/2014

Calibration Certificate for 2360,Serial # 253289, Bar Code # ,Property # SEC-6832

Date: 03/19/14 Date Last Cal. Expires: 09/16/14 Technician: Carl Hall

Location: 9999, Reason For Calibration: Short Cycled

EQUIPMENT USED DURING CALIBRATION

MODEL: 500-2 SERIAL #: 132896 CAL DUE: 06/23/14

MODEL: SERIAL #: CAL DUE:

AS FOUND DATA Geotropism: SAT AS FOUND Instrument Condition: SAT AS LEFT Instrument Condition: SAT

☐ New Batteries? Battery Check: SAT AS FOUND Mechanical Zero: 0 AS LEFT Mechanical Zero: 0

HIGH VOLTAGE (+/- 10% tolerance)	AS FOUND HV	AS LEFT HV
500 V:	501 V	AF V
1000 V:	999 V	AF V
1500 V:	1489 V	AF V
AF HV Setting:	1750 V	AL HV Setting: 1750 V

WINDOW SETTINGS	AS FOUND	AS LEFT
BT (4 mV +/- .4 mV):	4.0 mV	AF mV
BW (40 mV +/- 4 mV):	40.0 mV	AF mV
AT (120 mV +/- 10 mV):	120 mV	AF mV

RATE METER

SCALE	RATE CPM	AS FOUND	% ERROR	AS LEFT	% ERROR
x.1 or x1	100	100	0.00%	AF	0.00%
	250	250	0.00%	AF	0.00%
	400	395	1.25%	AF	1.25%
x1 or x10	1000	1000	0.00%	AF	0.00%
	2500	2500	0.00%	AF	0.00%
	4000	3950	1.25%	AF	1.25%
x10 or x100	10K	10	0.00%	AF	0.00%
	25K	25	0.00%	AF	0.00%
	40K	39.5	1.25%	AF	1.25%
x100 or x1000	100K	100	0.00%	AF	0.00%
	250K	250	0.00%	AF	0.00%
	400K	395	1.25%	AF	1.25%

☑ Is the As Found Data Within 20% of the Set Point?

DIGITAL SCALER

AF 250:	250	% ERR: 0.00%	AL 250:	AF	% ERR: 0.00%
AF 2500:	2502	% ERR: 0.08%	AL 2500:	AF	% ERR: 0.08%
AF 25K:	25.02 K	% ERR: 0.08%	AL 25K:	AF K	% ERR: 0.08%
AF 250K:	250.2 K	% ERR: 0.08%	AL 250K:	AF K	% ERR: 0.08%

☑ Is the As Found Data Within 20% of the Set Point?

REPRODUCIBILITY

x.1 or x1 Scale:	250	250	250
x1 or x10 Scale:	2500	2500	2500
x10 or x100 Scale:	25 K	25 K	25 K
x100 or x1000 Scale:	250 K	250 K	250 K

☑ Are the Individual Counts Within 10% of the Average?

Audio Response: SAT

Overload Light: SAT

Low Battery (2.2V): SAT

Comments: Married as a set with: Model: 43-37 Serial #: PR137088 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: _____ Reviewed by: _____ Date: 3-19-14

Printed Name: Carl Hall

Safety and Ecology Corporation

2800 Solway Road, Knoxville, TN 37931

Calibration Certificate

SEC PROCEDURE # SEC-IS-417 Rev 4

3/19/2014

Calibration Certificate for 43-37,Serial # PR137088, Bar Code # ,Property # SEC-6597

Date: 03/19/14 Date Last Cal. Expires: 09/16/14 Technician: Carl Hall

Location: 9999, Reason For Calibration: Short Cycled

EQUIPMENT USED DURING CALIBRATION MODEL: 2360 SERIAL #: 253289 CAL DUE 03/19/15

NIST TRACEABLE SOURCES USED	SOURCE	ISOTOPE	ACTIVITY	2π	ASSAY DATE
Efficiencies from last calibration					
Pu: 14.91 %	5744-06	Sr-90	18100 dpm	12,700 cpm	12/27/2012
Tc: 22.51 %	5746-06	Tc-99	31900 dpm	20,000 cpm	12/27/2012
Th: 12.11 %	5747-06	Pu-239	25800 dpm	13,100 cpm	12/27/2012
SrY: 27.06 %	5748-06	Th-230	34900 dpm	17,700 cpm	12/27/2012

AS FOUND DATA

AS FOUND Instrument Condition: SAT

Calibration Setpoints

HV : 1750 V

Threshold Beta: 4 - 40 mV Alpha: 120 mV

	Alpha		Beta		AF Efficiencies	A-B XTLK
Back ground:	4	CPM	547	CPM		9.71%
Pu-239:	4207	CPM	955	CPM	16.29%	
Tc-99:	9	CPM	7936	CPM	23.16%	
Th-230:	5081	CPM	N/A		14.55%	
SrY-90:	N/A		5968	CPM	29.95%	

☑ Is the As Found Data within 20% of the efficiency from the last cal.?

AS LEFT Instrument Condition: SAT

AS LEFT DATA after repair, HV adjust or Plateau

HV : 1750 V

	Alpha		Beta		AL Efficiencies	A-B XTLK
Back ground:	4	CPM	547	CPM		9.71%
Pu-239:	4207	CPM	955	CPM	16.29%	
Tc-99:	9	CPM	7936	CPM	23.16%	
Th-230:	5081	CPM	N/A		14.55%	
SrY-90:	N/A		5968	CPM	29.95%	

"AF" in the AL Efficiency fields means to refer to the AF Efficiencies in the AS FOUND DATA Section

Reproducibility : Isotope: Sr-90 5876 5944 5992 Average: 5937.3 ☑ Are the individual counts within 10% of the average?

If the As Found data (even after repair) is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the Plateau Data and go directly to Comments. Geometry of source = flush to surface, except gas proportional probes = 1/8" from surface unless otherwise specified.

PLATEAU DATA

High Voltage	Source 1: Tc-99 Response (CPM) A ch.	B ch.	Net Eff.	Source 2: Th-230 Response (CPM) A ch.	B ch.	Net Eff.	Background (CPM) A ch.	B ch.	Net A to B Xtalk: <10%
N/A									N/A
									N/A
									N/A
									N/A
									N/A
									N/A

2 Pi Efficiencies:	Pu-239	Tc-99	Th-230	SrY-90
	32.08%	36.95%	28.68%	42.69%

Comments: Married as a set with: Model: 2360 Serial #: 253289 Bar Code #:

☑ Does Instrument Meet Final Acceptance Criteria? ☑ Calibration Sticker Attached?

Date Instrument is Due For Next Calibration: 03/19/15

Performed by: _____ Reviewed by: _____ Date: 3-19-14

Printed Name: Carl Hall

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2360 / 253289
Cal. Date: March 19, 2015
Probe #: 43-37 / PR137088

Setup Date: 25-Mar-14
Source ID: K7-322
Project/#: d Scoping Surveys, Treasure Island / 07204.0(

High Voltage: 1750 v
Total Efficiency: 14.75%
MDA (in dpm): 92.29

Ranges Background: 955 counts to 1,292 counts using ± 2 Sigma
Source: 17,063 counts to 18,421 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/26/2014	17,943	1,003	Sat	Sat	Sat	Sat/	N / A	P.W.	N/A
3/27/2014	18,024	1093	↓	↓	↓	↓	↓	P.W.	↓
3/31/2014	18280	1098	↓	↓	↓	↓	↓	P.W.	↓
3/31/2014	17404	1258	↓	↓	↓	↓	↓	P.W.	AFTER MYLAR Repair
						N/A			N/A

Completed By: Pam Wells
Reviewed By: [signature]

Date: 4/1/2014
Date: 4/2/14

Gilbane

Instrument Daily **Th-230** **Source Check** 23,790 Corrected Activity (in dpm)

Instrument #: 2360 / 253289 Setup Date: 25-Mar-14 High Voltage: 1750 v
Cal. Date: March 19, 2015 Source ID: K7-324 Total Efficiency: 4.77%
Probe #: 43-37 / PR137088 Project/#: 1 Scoping Surveys, Treasure Island / 07204.0 MDA (in dpm): 22.40

Ranges Background: 0 counts to 10 counts using ± 2 Sigma Count Time (min): 2
Source: 8,608 counts to 9,554 counts using ± 2 Sigma

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/26/2014	8,720	4	Sat	Sat	Sat	Sat/	N / A	P.W.	N/A
3/27/2014	89265	1	↓	↓	↓	↓	↓	P.W.	↓
3/31/2014	9088	6	↓	↓	↓	↓	↓	P.W.	
3/31/2014	8880	5	↓	↓	↓	↓	↓	PW	After Mylar Repair
						N/A			
									N/A

Completed By: Pam Wells Date: 4/11/2014
Reviewed By: [signature] Date: 4/2/14

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	06-Sep-13	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-270	
Surface Emission Rate:	54,750	particles/min
Source Type:	Th-230	
HV Check/Setting:	500	

1. Total Background Counts observed:
Chi-squared Calculations

1	1	0.4	0.2
2	1	0.4	0.2
3	1	0.4	0.2
4	1	0.4	0.2
5	1	0.4	0.2
6	1	0.4	0.2
7	1	0.4	0.2
8	0	-0.6	0.4
9	1	0.4	0.2
10	1	0.4	0.2
11	0	-0.6	0.4
12	0	-0.6	0.4
13	0	-0.6	0.4
14	1	0.4	0.2
15	0	-0.6	0.4
16	0	-0.6	0.4
17	0	-0.6	0.4
18	1	0.4	0.2
19	1	0.4	0.2
20	0	-0.6	0.4
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes
Average Counts =	0.6	counts
Average Count Rate =	0.3	cpm
Standard Deviation =	0.5	counts
Sum of Squares =	5	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	84,787	157	24,712
2	84,196	-434	188,182
3	84,116	-514	263,990
4	84,524	-106	11,194
5	85,114	484	234,450
6	84,700	70	4,928
7	84,316	-314	98,470
8	84,779	149	22,261
9	83,949	-681	463,489
10	84,306	-324	104,846
11	84,589	-41	1,665
12	85,011	381	145,313
13	84,734	104	10,858
14	85,238	608	369,907
15	84,461	-169	28,493
16	84,924	294	86,554
17	85,340	710	504,384
18	84,567	-63	3,944
19	84,499	-131	17,109
20	84,446	-184	33,782
		0.0	

Average Counts =	84,630	counts
Average Count Rate =	42,315	cpm
Standard Deviation =	371	counts
Sum of the Squares =	2,618,531	
Chi-Squared Statistic =	30.94	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.773	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.193	cpm/dpm

Net source cts =	84,629	counts
Std. Dev. Net =	371	counts
Net Ct. Rate =	42,315	cpm

MDCR = #VALUE! cpm (@ 95% confidence level)

MDA Scan=	#VALUE!	dpm/100 cm^2
MDA Static=	17	dpm/100 cm^2

Bkg count range	0	to	3	(2 sigma)
Source count range	83,145	to	86,115	(2 sigma)

Jerry C Cooper 6 Sep 2013

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	$Activity(Act)_t = Act_o \times e\text{-}((.693/t)T)$
ID #	A7-270		
Initial Activity (Act_0) (dpm)	54,750		
Ref. Date	1-Sep-02		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	6-Sep-13	4023.00 days (t)	

Corrected Surface Emission Rate = 54,744 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Jan C Cooper 6 Sep 2013

Technical Reviewer Date

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	20400			
Catalog No.:	EAB-230-47LB	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-270	**Contained Radioactivity:**	49.32	**nCi**	1825	**Bq**
		Contained Radioactivity: (Total Alpha)	109500	**dpm**		

Physical description:

A. Capsule type:	EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Electrodeposited and diffusion bonded oxide
C. Active Diameter:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

Ra-226 = 0.400% and Am-241 = 0.110% on 1 Sep 02.

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.4 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a total alpha surface emission rate of 54750 α/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

ITSI Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | ***(Blue cells for input)***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	J. Wells		
Location:	Trailer		

Setup Date:	06-Sep-13	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-273	
Surface Emission Rate:	56,390	particles/min
Source Type:	Tc-99	
HV Check/Setting:	500	

1. Total Background Counts observed:

Chi-squared Calculations

1	89	12.0	142.8
2	88	11.0	119.9
3	76	-1.1	1.1
4	72	-5.1	25.5
5	75	-2.1	4.2
6	68	-9.1	81.9
7	65	-12.1	145.2
8	75	-2.1	4.2
9	83	6.0	35.4
10	69	-8.1	64.8
11	64	-13.1	170.3
12	77	0.0	0.0
13	87	10.0	99.0
14	74	-3.1	9.3
15	78	1.0	0.9
16	75	-2.1	4.2
17	82	5.0	24.5
18	79	2.0	3.8
19	83	6.0	35.4
20	82	5.0	24.5
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes
Average Counts =	77.1	counts
Average Count Rate =	38.5	cpm
Standard Deviation =	7.2	counts
Sum of Squares =	997	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	41,462	119	14,125
2	41,165	-178	31,737
3	41,395	52	2,688
4	41,483	140	19,558
5	41,432	89	7,894
6	41,092	-251	63,076
7	41,398	55	3,009
8	41,073	-270	72,981
9	41,617	274	74,994
10	41,319	-24	583
11	41,239	-104	10,847
12	41,458	115	13,191
13	41,614	271	73,360
14	41,533	190	36,043
15	41,179	-164	26,945
16	41,427	84	7,031
17	41,179	-164	26,945
18	41,015	-328	107,682
19	41,460	117	13,654
20	41,323	-20	406
		0.0	

Average Counts =	41,343	counts
Average Count Rate =	20,672	cpm
Standard Deviation =	179	counts
Sum of the Squares =	606,751	
Chi-Squared Statistic =	14.68	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_i) =	0.366	cpm/dpm
Surface Efficiency (E_s) =	0.500	cpm/dpm
Total Efficiency (E_T) =	0.183	cpm/dpm

Net source cts =	41,266	counts
Std. Dev. Net =	179	counts
Net Ct. Rate =	20,633	cpm

MDCR = N/A cpm (@ 95% confidence level)

MDA Scan=	N / A	dpm/100 cm^2
MDA Static=	120	dpm/100 cm^2

Bkg count range	48	to	106	(2 sigma)
Source count range	40,628	to	42,058	(2 sigma)

Technical Reviewer — Date: 6 Sep 2013

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	Activity(Act)$_f$ = Act$_o$ x e-((.693/t)T)
ID #	A7-273		
Initial Activity (Act$_0$) (dpm)	56,390		
Ref. Date	1-Sep-02		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	6-Sep-13	4023.00 days (t)	

Corrected Surface Emission Rate = 56,388 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Amy C Compton 6 Sep 2013

Technical Reviewer Date

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.
10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932, U.S.A.

CUSTOMER **ENVIRACHEM, INC.**

ORDER NO. 20228594/395728

Mfg. Ludlum Measurements, Inc. Model 2929 Serial No. 265724

Mfg. Ludlum Measurements, Inc. Model 43-10-1 Serial No. PR 298585

Cal. Date 24-Aug-13 Cal Due Date 24-Aug-14 Cal. Interval 1 Year Meterface 202-014

Check mark ✓ applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 34 % Alt 708.8 mm Hg

New Instrument Instrument Received ✓ Within Toler. +-10% 10-20% Out of Tol. Requiring Repair Other-See comments

✓ Mechanical ck. ✓ Window Operation

✓ Audio ck.

✓ Meter Zeroed Alpha Sensitivity 175 mV Beta Sensitivity 4 mV Beta Window 50 mV

✓ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. Calibrated in accordance with LMI SOP 14.9 rev 02/07/97

Instrument Volt Set 500 V = 2.08 on High Voltage dial. High Voltage set with detector connected.

✓ HV Readout (2 points) Ref./Inst 500 / 502 V Ref./Inst 2000 / 1994 V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

Alpha Channel Digital Readout	REFERENCE CAL POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	400K cpm	40022 (0)	40022 (0)
	40K cpm	4002	4002
	4K cpm	400	400
	400 cpm	40	40
	40 cpm	4	4

Beta/Gamma Channel Digital Readout	REFERENCE CAL POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	400K cpm	40020 (0)	40020 (0)
	40K cpm	4002	4002
	4K cpm	400	400
	400 cpm	40	40
	40 cpm	4	4

*Uncertainty within ± 10% C.F. within ± 20%

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: 059 280 720 734 781 1131 1616 1696 5105 5717CO 5719CO 60646 70897 73410 E551 E552 G112 M565 S-394 S-1054 T-304 T879 T10081 T10082 Y882

✓ Alpha S/N Pu239 SN:7053 ✓ Beta S/N Tc99SN:5280 SrY90SN:5281 Other

✓ m 500 S/N 190566 Oscilloscope S/N ✓ Multimeter S/N 86250390

Calibrated By: [signature] Date 24-Aug-13

Reviewed By: [signature] Date 26 Aug 13

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst Only: Passed Dielectric (Hi-Pot) and Continuity Test Failed: AC adaptor

Designer and Manufacturer of Scientific and Industrial Instruments

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556 U.S.A.

10744 Dutchtown Road
865-392-4601
Knoxville, TN 37932 U.S.A.

Bench Test Data For Detector

Detector 43-10-1 Serial No. PR298585

Order #: 20228594/395728

Customer **ENVIRACHEM, INC.**

Alpha Input Sensitivity 175 mV

Counter 2929 Serial No. 265724

Beta Input Sensitivity 4 mV

Count Time 1Minute

Beta Window 50 mV

Other

Distance Source to Detector TRAY

High Voltage	Background Alpha	Background Beta	Isotope Pu239 Size 24400dpm Alpha	Beta	Isotope Tc99 Size 93200dpm Alpha	Beta	Isotope Sr90 Size 97293dpm Alpha	Beta
450	0	45	10092	247	24	23123	0	41442
475	0	59	10157	232	35	27649	1	46693
500	0	64	10446	291	46	31282	6	45663
525	0	76	10643	294	38	33471	27	43477
550	1	134	10509	479	37	32990	296	37299

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter

Signature [signature] Date 24-Aug-13

• Serving The Nuclear Industry Since 1962 •

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	20400			
Catalog No.:	EAB-099-47LB	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-273	**Contained Radioactivity:**	47.93	nCi	1773	Bq
		Contained Radioactivity:	106400	dpm		

Physical description:

A. Capsule type:	EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Electroplated and diffusion bonded oxide
C. Active Diameter:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

None detected

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.4 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had surface emission rate of 56390 β/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

ITSI Gamma

Instrument Daily **Tc-99** **Source Check** 56,388 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 6-Sep-13
Source ID: A7-273
Project/#: :oping Surveys, Treasure Island / 0720

High Voltage: 500
Total Efficiency: 18.30%
MDA (in dpm): 119.81

Ranges
Background: 48 counts to 106 counts using ± 2 Sigma
Source: 40,628 counts to 42,058 counts using ± 2 Sigma

Count Time (min): 2

Date / Time	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
9/7/2013	41,323	85	500	N/A	N/A	Sat	N/A	J.C.C.	
9/9/2013	41,497	84				Sat		P.W.	
9/10/2013	40,763	72				Sat		P.W	
9/11/2013	40,771	76				Sat		P.W.	
9/12/2013	40,767	69				Sat		P.W	
9/16/13	41148	76				Sat		P.W	
9/17/13	41377	68				Sat		P.W.	
9/18/13	41537	81				Sat		TC	
9/19/13	41253	84				Sat		P.W.	
9/23/13	41515	74				Sat		P.W.	
9/24/13	40867	99				Sat		P.W.	
9/25/13	41234	69				Sat		P.W.	
9/26/13	41165	86				Sat		P.W.	
9/27/13	40807	78				Sat		P.W.	
9/30/13	40894	75				Sat		P.W.	
						N/A		N/A	
	N	A							N/A

Completed By: Pam Wylds
Reviewed By: Jim Chapman

Date: Oct 1, 2013
Date: 1 Oct 2013

ITSI Gilbane

Instrument Daily **Th-230** **Source Check** 54,744 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 6-Sep-13
Source ID: A7-270
Project/#: :oping Surveys, Treasure Island / 0720

High Voltage: 500
Total Efficiency: 19.32%
MDA (in dpm): 17.09

Ranges Background: 0 counts to 3 counts using ± 2 Sigma
Source: 83,145 counts to 86,115 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
9/7/2013	84,281	0	500	N/A	N/A	Sat	N/A	J.C.C.	
9/9/2013	85,140	0				Sat		P.W.	
9/10/2013	85,160	0				Sat		P.W.	
9/11/2013	84,791	1				Sat		P.W.	
9/12/2013	85,449	0				Sat		P.W.	
9/16/13	85023	0				Sat		P.W.	
9/17/13	85970	0				Sat		P.W.	
9/18/13	85910	0				Sat		TC	
9/19/13	85915	0				Sat		P.W.	
9/23/13	85851	1				Sat		P.W.	
9/24/13	86104	1				Sat		P.W.	
9/25/13	85264	0				Sat		P.W.	
9/26/13	86030	1				Sat		P.W.	
9/27/13	85336	0				Sat		P.W.	
9/30/13	84981	2				Sat		P.W.	
N/A	N/A	N/A				N/A		N/A	

Completed By: Pam Webb Date: Oct 1, 2013
Reviewed By: Jay Chapman Date: 1 Oct 2013

ITSI Crane

Instrument Daily **Tc-99** **Source Check** 56,388 Corrected Activity (in dpm)

Instrument #:	2929 / 265724	Setup Date:	6-Sep-13	High Voltage:	500
Cal. Date:	August 24, 2014	Source ID:	A7-273	Total Efficiency:	18.30%
Probe #:	43-10-1 / PR298585	Project/#:	:oping Surveys, Treasure Island / 0720	MDA (in dpm):	119.81

Ranges Background: 48 counts to 106 counts using ± 2 Sigma Count Time (min): 2
Source: 40,628 counts to 42,058 counts using ± 2 Sigma

Date / Time	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
10/1/2013	40860	81	Sat	Sat	Sat	Sat	N/A	P.W.	
10/2/13	40018	89	✓	✓	✓	✓		P.W.	
10/3/13	40719	77	✓	✓	✓	✓		P.W.	
10/7/13	41065	83	✓	✓	✓	✓		P.W.	
10/8/13	40687	69	✓	✓	✓	✓		P.W.	
10/9/13	41680	64	✓	✓	✓	✓		P.W.	
10/10/13	41546	71	✓	✓	✓	✓		P.W.	
10/15/13	40885	78	✓	✓	✓	✓		P.W	
10/16/13	40803	97	✓	✓	✓	✓		P.W.	
10/17/13	40823	97	✓	✓	✓	✓		P.W.	
10/18/13	40862	69	✓	✓	✓	✓		P.W.	
10/21/13	40805	90	✓	✓	✓	✓		P.W	
10/22/13	40955	82	✓	✓	✓	✓		P.W.	
10/23/13	40876	77	✓	✓	✓	✓		P.W.	
10/24/13	40791	69	✓	✓	✓	✓		P.W.	
10/28/13	40839	74	✓	✓	✓	✓		P.W.	N A
10/29/13	40721	79	✓	✓	✓	✓		P.W.	
10/30/13	40641	74	✓	✓	✓	✓		P.W.	
10/31/13	40637	65	✓	✓	✓	✓		P.W.	
				N	A				

Completed By: [signature] Date: 10/31/13
Reviewed By: [signature] Date: 11/5/13

ITSI Cabane

Instrument Daily **Th-230** **Source Check** 54,744 Corrected Activity (in dpm)

Instrument #: 2929 / 265724 Setup Date: 6-Sep-13 High Voltage: 500
Cal. Date: August 24, 2014 Source ID: A7-270 Total Efficiency: 19.32%
Probe #: 43-10-1 / PR298585 Project/#: :oping Surveys, Treasure Island / 0720 MDA (in dpm): 17.09

Ranges Background: 0 counts to 3 counts using ± 2 Sigma Count Time (min): 2
Source: 83,145 counts to 86,115 counts using ± 2 Sigma

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
10/1/2013	85239	1	Sat	Sat	Sat	Sat	N/A	P.W.	
10/2/13	84716	0	Sat	Sat	Sat	Sat		P.W.	
10/3/13	84821	1	✓	✓	✓	✓		P.W.	
10/7/13	84907	0	✓	✓	✓	✓		P.W.	
10/8/13	84804	0	✓	✓	✓	✓		P.W.	
10/9/13	85011	0	✓	✓	✓	✓		P.W.	
10/10/13	85135	0	✓	✓	✓	✓		P.W.	
10/15/13	84741	0	✓	✓	✓	✓		P.W.	
10/16/13	84837	1	✓	✓	✓	✓		P.W.	
10/17/13	84918	1	✓	✓	✓	✓		P.W.	
10/18/13	84861	0	✓	✓	✓	✓		P.W.	
10/21/13	85178	0	✓	✓	✓	✓		P.W.	
10/22/13	84683	0	✓	✓	✓	✓		P.W.	
10/23/13	84322	0	✓	✓	✓	✓		P.W.	
10/24/13	84954	0	✓	✓	✓	✓		P.W.	
10/28/13	85288	0	✓	✓	✓	✓		P.W	N/A
10/29/13	84866	0	✓	✓	✓	✓		P.W.	
10/30/13	85557	0	✓	✓	✓	✓		P.W	
10/31/13	85896	0	✓	✓	✓	✓		P.W.	
			N	A					

Completed By: [signature] Date: 10/31/13
Reviewed By: [signature] Date: 11/5/13

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	31-Oct-13	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-270	
Surface Emission Rate:	54,750	particles/min
Source Type:	Th-230	
HV Check/Setting:	500	

1. Total Background Counts observed:

Chi-squared Calculations

1	0	-0.6	0.4
2	0	-0.6	0.4
3	0	-0.6	0.4
4	0	-0.6	0.4
5	1	0.4	0.2
6	1	0.4	0.2
7	0	-0.6	0.4
8	0	-0.6	0.4
9	0	-0.6	0.4
10	2	1.4	2.0
11	0	-0.6	0.4
12	0	-0.6	0.4
13	3	2.4	5.8
14	0	-0.6	0.4
15	0	-0.6	0.4
16	1	0.4	0.2
17	2	1.4	2.0
18	1	0.4	0.2
19	0	-0.6	0.4
20	1	0.4	0.2
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	0.6	counts
Average Count Rate =	0.3	cpm
Standard Deviation =	0.9	counts
Sum of Squares =	15	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	85,288	-103	10,640
2	85,558	167	27,839
3	85,400	9	78
4	85,365	-26	684
5	84,888	-503	253,160
6	85,299	-92	8,492
7	85,248	-143	20,492
8	85,327	-64	4,115
9	85,335	-56	3,153
10	84,783	-608	369,846
11	85,695	304	92,325
12	85,455	64	4,077
13	85,277	-114	13,030
14	85,543	152	23,058
15	85,186	-205	42,087
16	85,507	116	13,421
17	85,688	297	88,120
18	85,403	12	140
19	85,996	605	365,844
20	85,582	191	36,424
		0.0	

Average Counts =	85,391	counts
Average Count Rate =	42,696	cpm
Standard Deviation =	269	counts
Sum of the Squares =	1,377,025	
Chi-Squared Statistic =	16.13	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.780	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.195	cpm/dpm

Net source cts =	85,391	counts
Std. Dev. Net =	269	counts
Net Ct. Rate =	42,695	cpm

MDCR = #VALUE! cpm (@ 95% confidence level)

MDA Scan=	#VALUE!	dpm/100 cm^2
MDA Static=	17	dpm/100 cm^2

Bkg count range	0	to	4	(2 sigma)
Source count range	84,314	to	86,468	(2 sigma)

Technical Reviewer

10/31/13
Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	$Activity(Act)_t = Act_0 \times e\text{-}((.693/t)T)$
ID #	A7-270		
Initial Activity (Act_0) (dpm)	54,750		
Ref. Date	1-Sep-02		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	31-Oct-13	4078.00 days (t)	

Corrected Surface Emission Rate = 54,744 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2=\Sigma(X_i-\mu)^2 / \sigma$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Technical Reviewer Date 10/31/13

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	31-Oct-13	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-273	
Surface Emission Rate:	56,390	particles/min
Source Type:	Tc-99	
HV Check/Setting:	500	

1. Total Background Counts observed:
Chi-squared Calculations

1	75	-3.8	14.1
2	89	10.3	105.1
3	77	-1.8	3.1
4	72	-6.8	45.6
5	82	3.3	10.6
6	72	-6.8	45.6
7	65	-13.8	189.1
8	89	10.3	105.1
9	77	-1.8	3.1
10	71	-7.8	60.1
11	81	2.3	5.1
12	77	-1.8	3.1
13	78	-0.8	0.6
14	89	10.3	105.1
15	83	4.3	18.1
16	73	-5.8	33.1
17	76	-2.8	7.6
18	88	9.3	85.6
19	92	13.3	175.6
20	69	-9.8	95.1
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	78.8	counts
Average Count Rate =	39.4	cpm
Standard Deviation =	7.6	counts
Sum of Squares =	1,110	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	38,972	267	71,423
2	38,778	73	5,366
3	38,568	-137	18,701
4	38,736	31	977
5	39,121	416	173,264
6	38,578	-127	16,066
7	38,563	-142	20,093
8	38,656	-49	2,377
9	38,916	211	44,627
10	38,675	-30	885
11	38,715	10	105
12	38,564	-141	19,811
13	38,405	-300	89,850
14	38,954	249	62,126
15	38,556	-149	22,127
16	38,421	-284	80,514
17	38,882	177	31,418
18	38,675	-30	885
19	38,662	-43	1,828
20	38,698	-7	46
		0.0	

Average Counts =	38,705	counts
Average Count Rate =	19,352	cpm
Standard Deviation =	187	counts
Sum of the Squares =	662,484	
Chi-Squared Statistic =	17.12	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.343	cpm/dpm
Surface Efficiency (E_s) =	0.500	cpm/dpm
Total Efficiency (E_T) =	0.171	cpm/dpm

Net source cts =	38,626	counts
Std. Dev. Net =	187	counts
Net Ct. Rate =	19,313	cpm

MDCR = N/A cpm (@ 95% confidence level)

MDA Scan=	N / A	dpm/100 cm^2
MDA Static=	129	dpm/100 cm^2

Bkg count range	48	to	109	(2 sigma)
Source count range	37,958	to	39,452	(2 sigma)

Technical Reviewer — Date 10/31/13

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	Activity(Act)$_t$ = Act$_o$ x e-((.693/t)T)
ID #	A7-273		
Initial Activity (Act$_0$) (dpm)	56,390		
Ref. Date	1-Sep-02		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	31-Oct-13	4078.00 days (t)	

Corrected Surface Emission Rate = 56,388 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Technical Reviewer Date 10/31/13

Gilbane

Instrument Daily **Tc-99** **Source Check** 56,388 Corrected Activity (in dpm)

Instrument #:	2929 / 265724	Setup Date:	31-Oct-13	High Voltage:	500
Cal. Date:	August 24, 2014	Source ID:	A7-273	Total Efficiency:	17.13%
Probe #:	43-10-1 / PR298585	Project/#:	Rad Scoping Surveys, Treasure Island / 07204.0006	MDA (in dpm):	129.31

Ranges Background: 48 counts to 109 counts using ± 2 Sigma Count Time (min): 2
Source: 37,958 counts to 39,452 counts using ± 2 Sigma

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/4/2013	39,269	85	SAT	SAT	SAT	Sat	N / A	PW	
11/5/13	38736	77	✓	✓	✓	✓	✓	P.W.	
11/6/13	38652	85	✓	✓	✓	✓	✓	P.W.	
11/7/13	38559	91	✓	✓	✓	✓	✓	P.W.	
11/8/13	38571	74	✓	✓	✓	✓	✓	P.W.	
11/11/13	38442	83	✓	✓	✓	✓	✓	P.W.	
11/12/13	38478	92	✓	✓	✓	✓	✓	P.W.	
11/13/13	38474	80	✓	✓	✓	✓	✓	P.W.	
11/14/13	38434	80	✓	✓	✓	✓	✓	P.W.	
11/15/13	38682	77	✓	✓	✓	✓	✓	P.W.	
11/18/13	38738	73	✓	✓	✓	✓	✓	P.W.	
11/19/13	38657	69	✓	✓	✓	✓	✓	P.W.	
11/20/13	38576	80	✓	✓	✓	✓	✓	P.W.	
11/21/13	38466	90	✓	✓	✓	✓	✓	P.W.	
11/22/13	38352	87	✓	✓	✓	✓	✓	P.W.	
11/23/13	38213	85	✓	✓	✓	✓	✓	P.W.	
11/25/13	38008	79	✓	✓	✓	✓	✓	P.W.	N A
11/26/13	37905	83	✓	✓	✓	✓	✓	P.W.	
				N	A				

Completed By: Pam Wells Date: 11/26/13
Reviewed By: [illegible] Date: 12/10/13

11/26/13 SOURCE AT 2.14 σ, NEXT CHECKIN AT 1.52 σ FROM MEAN. ACCEPTED [illegible] 12/10/13

Gilbane

Instrument Daily **Th-230** **Source Check** 54,744 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 31-Oct-13
Source ID: A7-270
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 19.50%
MDA (in dpm): 16.94

Ranges Background: 0 counts to 4 counts using ± 2 Sigma
Source: 84,314 counts to 86,468 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
11/4/2013	85,137	0	SAT	SAT	SAT	Sat	N / A	PW	
11/5/13	85035	0	✓	✓	✓	✓	✓	P.W.	
11/6/13	85331	0	✓	✓	✓	✓	✓	P.W.	
11/7/13	85142	0	✓	✓	✓	✓	✓	P.W.	
11/8/13	85672	0	✓	✓	✓	✓	✓	P.W.	
11/11/13	84707	0	✓	✓	✓	✓	✓	P.W.	
11/12/13	84497	0	✓	✓	✓	✓	✓	P.W.	
11/13/13	84553	0	✓	✓	✓	✓	✓	P.W.	
11/14/13	85541	0	✓	✓	✓	✓	✓	P.W.	
11/15/13	84494	0	✓	✓	✓	✓	✓	P.W.	
11/18/13	85462	0	✓	✓	✓	✓	✓	P.W.	
11/19/13	85073	0	✓	✓	✓	✓	✓	P.W.	
11/20/13	85334	0	✓	✓	✓	✓	✓	P.W.	
11/21/13	84829	0	✓	✓	✓	✓	✓	P.W.	
11/22/13	85385	0	✓	✓	✓	✓	✓	P.W.	
11/23/13	84568	0	✓	✓	✓	✓	✓	P.W.	
11/25/13	84912	0	✓	✓	✓	✓	✓	P.W.	
11/26/13	84474	0	✓	✓	✓	✓	✓	P.W.	N/A
				N/A					

Completed By: Dana Wells Date: 11/26/13
Reviewed By: [illegible] Date: 12/10/13

Gilbane

Instrument Daily **Th-230** **Source Check** 54,744 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 31-Oct-13
Source ID: A7-270
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 19.50%
MDA (in dpm): 16.94

Ranges Background: 0 counts to 4 counts using ± 2 Sigma
Source: 84,314 counts to 86,468 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
12/2/13	84335	0	Sat	Sat	Sat	Sat	N/A	P.W.	
12/3/13	85400	0	✓	✓	✓	✓	✓	P.W.	
12/4/13	84487	0	✓	✓	✓	✓	✓	P.W.	
12/5/13	85451	0	✓	✓	✓	✓	✓	P.W.	
12/9/13	85090	0	✓	✓	✓	✓	✓	P.W.	
12/10/13	84940	0	✓	✓	✓	✓	✓	P.W.	
12/11/13	85796	0	✓	✓	✓	✓	✓	P.W.	
12/12/13	84852	0	✓	✓	✓	✓	✓	P.W.	
12/13/13	84871	0	✓	✓	✓	✓	✓	P.W.	
12/16/13	84873	0	✓	✓	✓	✓	✓	P.W.	
12/17/13	84472	0	✓	✓	✓	✓	✓	P.W.	
12/18/13	85151	0	✓	✓	✓	✓	✓	PW	
12/19/13	84685	0	✓	✓	✓	✓	✓	PW	
12/20/13	84961	0	✓	✓	✓	✓	✓	PW	
12/23/13	84828	0	✓	✓	✓	✓	✓	P.W.	
				N	A				N/A

Completed By: [signature] Date: 1/2/14
Reviewed By: [signature] Date: 1/19/14

Gilbane

Instrument Daily **Tc-99** **Source Check** 56,388 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 31-Oct-13
Source ID: A7-273
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 17.13%
MDA (in dpm): 129.31

Ranges Background: 48 counts to 109 counts using ± 2 Sigma
Source: 37,958 counts to 39,452 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
12/2/13	38139	89	Sat	Sat	Sat	Sat	N/A	P.W.	
12/3/13	37971	78	✓	✓	✓	✓	✓	P.W.	
12/4/13	38105	67	✓	✓	✓	✓	✓	P.W.	
12/5/13	37963	88	✓	✓	✓	✓	✓	P.W.	
12/9/13	38104	83	✓	✓	✓	✓	✓	P.W.	
12/10/13	38041	61	✓	✓	✓	✓	✓	P.W.	
12/11/13	37988	94	✓	✓	✓	✓	✓	P.W.	
12/12/13	38130	80	✓	✓	✓	✓	✓	P.W.	
12/13/13	38158	85	✓	✓	✓	✓	✓	P.W.	
12/16/13	37995	82	✓	✓	✓	✓	✓	P.W.	
12/17/13	38020	101	✓	✓	✓	✓	✓	P.W.	
12/18/13	38057	74	✓	✓	✓	✓	✓	P.W.	
12/19/13	38050	66	✓	✓	✓	✓	✓	PW	
12/20/13	37989	76	✓	✓	✓	✓	✓	PW	
12/23/13	38170	80	✓	✓	✓	✓	✓	PW	
				N/A					N/A

Completed By: [signature]
Reviewed By:

Date: 1/21/14
Date: 1/21/14

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | ***{Blue cells for input}***

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	02-Jan-14	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-270	
Surface Emission Rate:	54,750	particles/min
Source Type:	Th-230	
HV Check/Setting:	500	

1. Total Background Counts observed:
Chi-squared Calculations

1	0	-0.4	0.2
2	0	-0.4	0.2
3	0	-0.4	0.2
4	0	-0.4	0.2
5	1	0.6	0.4
6	0	-0.4	0.2
7	0	-0.4	0.2
8	0	-0.4	0.2
9	1	0.6	0.4
10	2	1.6	2.6
11	0	-0.4	0.2
12	0	-0.4	0.2
13	0	-0.4	0.2
14	0	-0.4	0.2
15	1	0.6	0.4
16	1	0.6	0.4
17	1	0.6	0.4
18	0	-0.4	0.2
19	0	-0.4	0.2
20	1	0.6	0.4
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

Average Counts =	0.4	counts
Average Count Rate =	0.2	cpm
Standard Deviation =	0.6	counts
Sum of Squares =	7	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	84,743	-48	2,338
2	85,022	231	53,199
3	84,902	111	12,243
4	85,407	616	379,025
5	84,543	-248	61,678
6	84,882	91	8,217
7	84,824	33	1,066
8	85,268	477	227,195
9	84,358	-433	187,792
10	84,271	-520	270,764
11	84,741	-50	2,535
12	85,277	486	235,856
13	84,556	-235	55,390
14	84,197	-594	353,252
15	85,025	234	54,592
16	84,843	52	2,668
17	84,188	-603	364,031
18	85,104	313	97,750
19	84,423	-368	135,682
20	85,253	462	213,121
		0.0	

Average Counts =	84,791	counts
Average Count Rate =	42,396	cpm
Standard Deviation =	378	counts
Sum of the Squares =	2,718,395	
Chi-Squared Statistic =	32.06	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.774	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.194	cpm/dpm

Net source cts =	84,791	counts
Std. Dev. Net =	378	counts
Net Ct. Rate =	42,395	cpm

MDCR = ~~#VALUE!~~ N/A cpm (@ 95% confidence level)

MDA Scan= ~~#VALUE! dpm/100 cm²~~ N/A
MDA Static= 15 dpm/100 cm^2

Bkg count range	0	to	3	(2 sigma)
Source count range	83,278	to	86,304	(2 sigma)

Technical Reviewer — Date 1/19/14

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	$Activity(Act)_f = Act_o \times e^{-((.693/t)T)}$
ID #	A7-270		
Initial Activity (Act_0) (dpm)	54,750		
Ref. Date	1-Sep-02		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	2-Jan-14	4141.00 days (t)	

Corrected Surface Emission Rate = 54,744 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) $MDCR = s_i \times 60/i$

$s_i = d' \times SQRT(b_i)$

Scan Minimum Detectable Concentration (Scan MDC) $Scan\ MDC = MDCR/(SQRT(p) \times E_T \times ACF)$

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval *i*

s_i = minimum detectable number of net source counts in scan observation interval *i*

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

Technical Reviewer Date 1/19/14

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | *{Blue cells for input}*

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	02-Jan-14	
Source Cert. Date:	01-Sep-02	
Source SN:	A7-273	
Surface Emission Rate:	56,390	particles/min
Source Type:	Tc-99	
HV Check/Setting:	500	

1. Total Background Counts observed:

Chi-squared Calculations

1	89	6.2	37.8
2	67	-15.9	251.2
3	79	-3.8	14.8
4	84	1.2	1.3
5	85	2.2	4.6
6	75	-7.8	61.6
7	78	-4.8	23.5
8	84	1.2	1.3
9	70	-12.9	165.1
10	83	0.2	0.0
11	84	1.2	1.3
12	79	-3.8	14.8
13	94	11.2	124.3
14	78	-4.8	23.5
15	95	12.2	147.6
16	85	2.2	4.6
17	84	1.2	1.3
18	85	2.2	4.6
19	90	7.2	51.1
20	89	6.2	37.8
		0.0	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes
Average Counts =	82.9	counts
Average Count Rate =	41.4	cpm
Standard Deviation =	7.2	counts
Sum of Squares =	973	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	36,595	169	28,595
2	36,119	-307	94,188
3	36,553	127	16,154
4	36,119	-307	94,188
5	36,596	170	28,934
6	36,085	-341	116,213
7	36,585	159	25,313
8	36,257	-169	28,527
9	36,714	288	83,002
10	36,199	-227	51,484
11	36,348	-78	6,068
12	36,355	-71	5,027
13	36,671	245	60,074
14	36,748	322	103,748
15	36,636	210	44,142
16	36,099	-327	106,864
17	36,360	-66	4,343
18	36,820	394	155,315
19	36,530	104	10,837
20	36,129	-297	88,150
		0.0	

Average Counts =	36,426	counts
Average Count Rate =	18,213	cpm
Standard Deviation =	246	counts
Sum of the Squares =	1,151,164	
Chi-Squared Statistic =	31.60	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.322	cpm/dpm
Surface Efficiency (E_s) =	0.500	cpm/dpm
Total Efficiency (E_T) =	0.161	cpm/dpm

Net source cts =	36,343	counts
Std. Dev. Net =	246	counts
Net Ct. Rate =	18,172	cpm

MDCR = N/A cpm (@ 95% confidence level)

MDA Scan=	~~N/A~~ N/A	dpm/100 cm^2
MDA Static=	141	dpm/100 cm^2

Bkg count range	54	to	111	(2 sigma)
Source count range	35,441	to	37,410	(2 sigma)

Technical Reviewer — Date 1/19/14

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	Activity(Act)$_T$ = Act$_o$ x e-((.693/t)T)
ID #	A7-273		
Initial Activity (Act$_0$) (dpm)	56,390		
Ref. Date	1-Sep-02		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	2-Jan-14	4141.00 days (t)	

Corrected Surface Emission Rate = 56,388 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review:

1/19/14

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Gilbane

Instrument Daily **Th-230** **Source Check** 54,744 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 2-Jan-14
Source ID: A7-270
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 19.36%
MDA (in dpm): 15.35

Ranges Background: 0 counts to 3 counts using ± 2 Sigma
Source: 83,278 counts to 86,304 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/2/2014	84,953	0	Sat	Sat	Sat	Sat	N / A	P.W.	
1/11/2014	84819	0	↓	↓	↓	↓	↓	PW	
									N/A
					N/A				

Completed By: Pam Wells
Reviewed By:

Date: 1/21/14
Date: 7 Feb 2014

Gilbane

Instrument Daily **Tc-99** **Source Check** 56,388 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 2-Jan-14
Source ID: A7-273
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 16.11%
MDA (in dpm): 140.73

Ranges Background: 54 counts to 111 counts using ± 2 Sigma
Source: 35,441 counts to 37,410 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/2/2014	36,429	84	Sat	Sat	Sat	Sat	N / A	P.W.	
1/11/2014	36,583	92	↓	↓	↓	↓	↓	P.W.	
						N/A			N/A

Completed By: Pam Wells
Reviewed By:

Date: 1/21/14
Date: 7 Feb 2014

Gilbane

SCALER INITIAL SETUP SHEET | **Alpha** | *(Blue cells for input)*

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	Cal. Due:	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	Cal. Due:	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	21-Jan-14	
Source Cert. Date:	15-Sep-13	
Source SN:	K7-324	
Surface Emission Rate:	23,790	particles/min
Source Type:	Th-230	
HV Check/Setting:	500	

Background Count Time:	2	minutes
Source/Sample Count Time:	2	minutes

1. Total Background Counts observed:

Chi-squared Calculations

1	0	-0.4	0.2
2	0	-0.4	0.2
3	1	0.6	0.4
4	0	-0.4	0.2
5	0	-0.4	0.2
6	0	-0.4	0.2
7	1	0.6	0.4
8	1	0.6	0.4
9	1	0.6	0.4
10	0	-0.4	0.2
11	1	0.6	0.4
12	0	-0.4	0.2
13	1	0.6	0.4
14	1	0.6	0.4
15	0	-0.4	0.2
16	0	-0.4	0.2
17	0	-0.4	0.2
18	0	-0.4	0.2
19	1	0.6	0.4
20	0	-0.4	0.2
		0.0	

Average Counts =	0.4	counts
Average Count Rate =	0.2	cpm
Standard Deviation =	0.5	counts
Sum of Squares =	5	
Area Correction Factor (ACF) =	1.00	$100cm^2$
Scan Observation Interval (i) =	N/A	seconds

2. Total Source Counts observed:

Chi-squared Calculations

1	37,934	-16	246
2	38,139	189	35,834
3	37,960	10	106
4	38,133	183	33,599
5	37,655	-295	86,848
6	38,232	282	79,693
7	38,168	218	47,655
8	38,135	185	34,336
9	38,134	184	33,966
10	37,816	-134	17,876
11	37,503	-447	199,541
12	38,028	78	6,131
13	38,473	523	273,843
14	37,786	-164	26,798
15	37,834	-116	13,386
16	37,605	-345	118,818
17	38,078	128	16,461
18	37,977	27	745
19	37,492	-458	209,489
20	37,912	-38	1,421
		0.0	

Average Counts =	37,950	counts
Average Count Rate =	18,975	cpm
Standard Deviation =	255	counts
Sum of the Squares =	1,236,794	
Chi-Squared Statistic =	32.59	

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) =	0.798	cpm/dpm
Surface Efficiency (E_s) =	0.250	cpm/dpm
Total Efficiency (E_T) =	0.199	cpm/dpm

Net source cts =	37,949	counts
Std. Dev. Net =	255	counts
Net Ct. Rate =	18,975	cpm

MDCR = #VALUE! cpm (@ 95% confidence level)

MDA Scan=	#VALUE!	dpm/100 cm^2
MDA Static=	15	dpm/100 cm^2

Bkg count range	0	to	2	(2 sigma)
Source count range	36,929	to	38,970	(2 sigma)

Technical Reviewer

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.02.07 09:44:30 -08'00'

Date

Source Activity Correction Worksheet

Isotope	Th-230	Equation:	Activity(Act)$_t$ = Act$_o$ x e-((.693/t)T)
ID #	K7-324		
Initial Activity (Act$_0$) (dpm)	23,790		
Ref. Date	15-Sep-13		
Half-life (years)	7.54E+04	2.75E+07 days (Half-life)	
Current Date	21-Jan-14	128.00 days (t)	

Corrected Surface Emission Rate = 23,790 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review: Jerry Cooper

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.02.07 09:44:54 -08'00'

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	RES, LLC
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	10557
Catalog No.:	EAB-230-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-324	**Contained Radioactivity:**	21.22 **nCi** 785.1 **Bq**

Physical Description:

A. Capsule type: Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded oxide
C. Active diameter/volume: 41 mm
D. Backing: Stainless steel
E. Cover: None

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	±	0.4	%
B. Type B (systematic) uncertainty:	±	3.0	%
C. Uncertainty in aliquot weighing:	±	0.0	%
D. Total uncertainty at the 99% confidence level:	±	3.0	%

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 23790 α/min in 2π on 28-Aug-13.

Daniel James Van Delsen
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Gilbane

SCALER INITIAL SETUP SHEET | **Beta** | *(Blue cells for input)*

Project Name / No:	Rad Scoping Surveys, Treasure Island / 07204.0006		
Instrument / SN:	2929 / 265724	**Cal. Due:**	24-Aug-14
Probe Type / SN:	43-10-1 / PR298585	**Cal. Due:**	24-Aug-14
Technician:	P. Wells		
Location:	Trailer		

Setup Date:	21-Jan-14	
Source Cert. Date:	15-Sep-13	
Source SN:	K7-322	
Surface Emission Rate:	28,170	particles/min
Source Type:	Tc-99	
HV Check/Setting:	500	

Background Count Time: 2 minutes
Source/Sample Count Time: 2 minutes

1. Total Background Counts observed:
Chi-squared Calculations

1	66	-16.6	273.9
2	75	-7.6	57.0
3	74	-8.6	73.1
4	74	-8.6	73.1
5	96	13.5	180.9
6	88	5.5	29.7
7	86	3.5	11.9
8	83	0.5	0.2
9	98	15.5	238.7
10	102	19.5	378.3
11	78	-4.6	20.7
12	83	0.5	0.2
13	74	-8.6	73.1
14	84	1.5	2.1
15	81	-1.6	2.4
16	80	-2.6	6.5
17	79	-3.6	12.6
18	88	5.5	29.7
19	73	-9.6	91.2
20	89	6.5	41.6
		0.0	

Average Counts = 82.6 counts
Average Count Rate = 41.3 cpm
Standard Deviation = 9.2 counts
Sum of Squares = 1,597
Area Correction Factor (ACF) = 1.00 $100cm^2$
Scan Observation Interval (i) = N/A seconds

2. Total Source Counts observed:
Chi-squared Calculations

1	25,502	147	21,683
2	25,411	56	3,164
3	25,691	336	113,064
4	25,352	-3	8
5	25,447	92	8,510
6	24,998	-357	127,271
7	25,394	39	1,541
8	25,526	171	29,327
9	25,342	-13	163
10	25,201	-154	23,639
11	24,889	-466	216,923
12	25,251	-104	10,764
13	25,269	-86	7,353
14	25,182	-173	29,843
15	25,330	-25	613
16	25,683	328	107,748
17	25,292	-63	3,938
18	25,347	-8	60
19	25,583	228	52,098
20	25,405	50	2,525
		0.0	

Average Counts = 25,355 counts
Average Count Rate = 12,677 cpm
Standard Deviation = 200 counts
Sum of the Squares = 760,232
Chi-Squared Statistic = 29.98

Acceptable Ranges for Chi-x^2
8.91 to 32.85
(assumes n-1 degrees of freedom; two-tailed distribution @ 95% confidence level)

Instrument Efficiency (E_I) = 0.449 cpm/dpm
Surface Efficiency (E_s) = 0.500 cpm/dpm
Total Efficiency (E_T) = 0.224 cpm/dpm

Net source cts = 25,272 counts
Std. Dev. Net = 200 counts
Net Ct. Rate = 12,636 cpm

MDCR = N/A cpm (@ 95% confidence level)

MDA Scan= N / A dpm/100 cm^2
MDA Static= 101 dpm/100 cm^2

Bkg count range	46	to	119	(2 sigma)
Source count range	24,555	to	26,155	(2 sigma)

Technical Reviewer

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.02.07 09:42:51 -08'00'

Date

RSOP-03.01 Rev 19Aug2013

Source Activity Correction Worksheet

Isotope	Tc-99	Equation:	Activity(Act)$_t$ = Act$_o$ x e-((.693/t)T)
ID #	K7-322		
Initial Activity (Act$_0$) (dpm)	28,170		
Ref. Date	15-Sep-13		
Half-life (years)	2.13E+05	7.77E+07 days (Half-life)	
Current Date	21-Jan-14	128.00 days (t)	

Corrected Surface Emission Rate = 28,170 particles/min

Equations

Chi (χ)-squared Calculations $\chi^2 = \frac{\Sigma(X_i - \mu)^2}{\sigma}$

s_i = #VALUE! counts

x = count

μ = mean

σ =standard deviation

Minimum Detectable Count Rate (MDCR) MDCR = s_i x 60/i

s_i = d' x SQRT(b_i)

Scan Minimum Detectable Concentration (Scan MDC) Scan MDC = MDCR/(SQRT(p) x E_T x ACF)

Static MDC

$$MDC = \frac{3 + 3.29(R_b t_s[1 + t_s/t_b])^{1/2}}{(t_s)(E)(A)}$$

d' = 1.38 (source: MARSSIM Table 6.5, pg. 6-40; assumes correct decision rate of 95%)

i = scan observation interval (sec)

b_i = number of background counts in scan observation interval i

s_i = minimum detectable number of net source counts in scan observation interval i

p = surveyor efficiency (source: MARSSIM Section 6.7.2.1, pg. 6-42)

Review: Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.02.07 09:43:15 -08'00'

Technical Reviewer Date

RSOP-03.01 Rev 19Aug2013

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	RES, LLC
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	10557
Catalog No.:	EAB-099-47LB	**Reference Date:**	15-Sep-13 12:00 PST
Source No.:	K7-322	**Contained Radioactivity:**	23.07 **nCi** 853.6 **Bq**

Physical Description:

A. Capsule type:	Disk (47 mm OD x 0.76 mm THK)
B. Nature of active deposit:	Electrodeposited and diffusion bonded Technetium metal
C. Active diameter/volume:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

**CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA**

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	±	0.5	%
B. Type B (systematic) uncertainty:	±	3.0	%
C. Uncertainty in aliquot weighing:	±	0.0	%
D. Total uncertainty at the 99% confidence level:	±	3.0	%

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 28170 β/min in 2π on 28-Aug-13.

Daniel James Van Dalsem
Quality Control

29-Aug-13
Date

EZIP Ref. No.: 1684-91

Gilbane

Instrument Daily **Th-230** **Source Check** 23,790 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 21-Jan-14
Source ID: K7-324
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 19.94%
MDA (in dpm): 14.90

Ranges Background: 0 counts to 2 counts using ± 2 Sigma
Source: 36,929 counts to 38,970 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/21/2014	37,784	0	Sat	Sat	Sat	Sat	N / A	P.W.	
1/29/2014	37582	0	√	√	√	√	√	P.W.	
						N A			N A

Completed By: Pam Wells
Reviewed By: Jerry Cosgrove

Date: 2/21/14
Date: 24 Mar 2014

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 21-Jan-14
Source ID: K7-322
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 22.43%
MDA (in dpm): 100.93

Ranges Background: 46 counts to 119 counts using ± 2 Sigma
Source: 24,555 counts to 26,155 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
1/21/2014	25,391	81	Sat	Sat	Sat	Sat/	N / A	P.W.	
1/29/2014	25724	77	✓	✓	✓	✓	✓	P.W.	
						N	A		N A

Completed By: Pam Wells
Reviewed By: Jay Cooper

Date: 2/21/14
Date: 24 Mar 2014

Gilbane

Instrument Daily **Th-230** **Source Check** 23,790 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 21-Jan-14
Source ID: K7-324
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 19.94%
MDA (in dpm): 14.90

Ranges Background: 0 counts to 2 counts using ± 2 Sigma
Source: 36,929 counts to 38,970 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
2/18/2014	37,958	0	Sat	Sat	Sat	Sat	N / A	P.W.	
2/19/2014	38,379	0	√	√	√	Sat	√	P.W.	
2/20/2014	37846	0	√	√	√	√	√	PW	
2/21/2014	38057	0	√	√	√	√	√	P.W.	
						N	A		N A

Completed By: Pam Swells Date: 3/24/14
Reviewed By: Jim Cooper Date: 24 Mar 2014

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 21-Jan-14
Source ID: K7-322
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 22.43%
MDA (in dpm): 100.93

Ranges Background: 46 counts to 119 counts using ± 2 Sigma
Source: 24,555 counts to 26,155 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
2/18/2014	25,710	76	Sat	Sat	Sat	Sat/	N / A	P.W.	
2/19/2014	25,674	76	✓	✓	✓	✓	✓	P.W.	
2/20/2014	25811	75	✓	✓	✓	✓	✓	P.W.	
2/21/2014	26063	82	✓	✓	✓	✓	✓	P.W.	
						N	A		N A

Completed By: Pam Wells Date: 3/24/14
Reviewed By: Jim Cooper Date: 24 Mar 2014

Gilbane

Instrument Daily **Tc-99** **Source Check** 28,170 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 21-Jan-14
Source ID: K7-322
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 22.43%
MDA (in dpm): 100.93

Ranges
Background: 46 counts to 119 counts using ± 2 Sigma
Source: 24,555 counts to 26,155 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/24/2014	25,516	82	Sat	Sat	Sat	Sat/	N / A	P.W.	
3/25/2014	25569	93	√	√	√	√	√	P.W.	
3/26/2014	25740	96	√	√	√	√	√	P.W.	
3/27/2014	25759	78	√	√	√	√	√	P.W.	
3/31/2014	25442	96	√	√	√	√	√	P.W.	
						N	A		N A

Completed By: Pam Wells
Reviewed By: [signature]

Date: 4/1/2014
Date: 4/2/14

Gilbane

Instrument Daily **Th-230** **Source Check** 23,790 Corrected Activity (in dpm)

Instrument #: 2929 / 265724
Cal. Date: August 24, 2014
Probe #: 43-10-1 / PR298585

Setup Date: 21-Jan-14
Source ID: K7-324
Project/#: Rad Scoping Surveys, Treasure Island / 07204.0006

High Voltage: 500
Total Efficiency: 19.94%
MDA (in dpm): 14.90

Ranges Background: 0 counts to 2 counts using ± 2 Sigma
Source: 36,929 counts to 38,970 counts using ± 2 Sigma

Count Time (min): 2

Date	Source Counts	Background Counts	HV	BAT	SPKR	Sat/ Unsat	Pre and Post checks	Technician Initials	Additional Comments
3/24/2014	38,030	0	Sat	Sat	Sat	Sat	N / A	P.W.	
3/25/2014	37875	0	✓	✓	✓	✓	✓	P.W.	
3/26/2014	37918	0	✓	✓	✓	✓	✓	P.W.	
3/27/2014	37815	0	✓	✓	✓	✓	✓	P.W.	
3/31/2014	37905	0	✓	✓	✓	✓	✓	P.W.	
						N	A		N A

Completed By: Pam Wells
Reviewed By: [illegible]

Date: 4/1/2014
Date: 4/2/14

MCA SN:	7070
Detector ID:	3
Detector SN:	5201
Detector SN:	N/A
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Setup Date:	9/20/2013
Cs-137 BKGD:	53
Cs-137 Counts:	1365
Cs-137 Net:	1312
Standard Dev:	37
+ 3 σ	1421
- 3 σ	1202

Reviewed:

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.05.13 13:16:16 -07'00'

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
11/11/2013	55	1388	1333	PASS
11/12/2013	54	1332	1278	PASS
11/13/2013	55	1358	1303	PASS
11/14/2013	53	1400	1347	PASS
11/18/2013	54	1313	1259	PASS
11/19/2013	54	1313	1259	PASS
11/20/2013	58	1412	1355	PASS
11/21/2013	53	1326	1273	PASS
11/22/2013	55	1375	1321	PASS
11/23/2013	55	1364	1310	PASS
11/25/2013	63	1399	1336	PASS
11/26/2013	62	1419	1357	PASS

Note: all units in cps

MCA SN:	7070
Detector ID:	34
Detector SN:	5201
Detector SN:	5214
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Setup Date:	9/18/2013
Cs-137 BKGD:	106
Cs-137 Counts:	1259
Cs-137 Net:	1153
Standard Dev:	38
+ 3 σ	1267
- 3 σ	1039

Reviewed:

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.05.13 13:13:52 -07'00'

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
9/19/2013	105	1260	1155	PASS
9/23/2013	105	1260	1155	PASS
9/24/2013	106	1207	1101	PASS
9/25/2013	105	1266	1160	PASS
9/26/2013	107	1151	1044	PASS
9/27/2013	108	1224	1116	PASS
10/1/2013	105	1265	1160	PASS
10/2/2013	106	1147	1041	PASS
10/3/2013	107	1249	1142	PASS
10/7/2013	113	1256	1143	PASS
10/8/2013	105	1153	1048	PASS
10/9/2013	108	1245	1138	PASS
10/10/2013	108	1172	1064	PASS
10/15/2013	111	1265	1154	PASS
10/16/2013	110	1290	1179	PASS
10/17/2013	119	1296	1177	PASS
10/18/2013	109	1313	1204	PASS
10/21/2013	107	1245	1138	PASS
10/22/2013	110	1312	1202	PASS
10/23/2013	110	1299	1189	PASS
10/24/2013	109	1311	1202	PASS
10/28/2013	105	1207	1102	PASS
10/29/2013	105	1257	1152	PASS
10/30/2013	111	1243	1132	PASS
10/31/2013	112	1230	1118	PASS
11/4/2013	107	1178	1071	PASS
11/5/2013	104	1272	1167	PASS
11/6/2013	117	1270	1153	PASS
11/7/2013	121	1206	1085	PASS
12/3/2013	106	1269	1163	PASS
12/4/2013	110	1261	1151	PASS
12/5/2013	115	1297	1181	PASS
12/9/2013	113	1269	1157	PASS
12/10/2013	112	1280	1168	PASS
12/11/2013	116	1292	1176	PASS
12/12/2013	122	1278	1157	PASS
12/13/2013	117	1268	1151	PASS
12/14/2013	118	1193	1075	PASS
12/16/2013	117	1277	1160	PASS

Note: all units in cps

MCA SN:	7070
Detector ID:	34
Detector SN:	5201
Detector SN:	5214
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Reviewed:

Setup Date:	9/18/2013
Cs-137 BKGD:	106
Cs-137 Counts:	1259
Cs-137 Net:	1153
Standard Dev:	38
+ 3 σ	1267
- 3 σ	1039

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
12/17/2013	115	1277	1161	PASS
12/18/2013	127	1306	1179	PASS
12/19/2013	117	1269	1152	PASS

MCA SN:	7071
Detector ID:	1
Detector SN:	5198
Detector SN:	N/A
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Setup Date:	9/20/2013
Cs-137 BKGD:	53
Cs-137 Counts:	1344
Cs-137 Net:	1291
Standard Dev:	34
+ 3 σ	1392
- 3 σ	1190

Reviewed:

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.05.13 13:10:20 -07'00'

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
9/24/2013	54	1375	1321	PASS
9/25/2013	54	1360	1306	PASS
9/26/2013	57	1339	1282	PASS
9/27/2013	53	1378	1325	PASS
9/30/2013	53	1365	1311	PASS
10/1/2013	56	1373	1317	PASS
10/2/2013	54	1340	1286	PASS
10/3/2013	51	1373	1322	PASS
10/7/2013	59	1421	1363	PASS
10/8/2013	53	1422	1368	PASS
10/9/2013	55	1434	1379	PASS
10/10/2013	53	1439	1386	PASS
10/15/2013	57	1423	1366	PASS
10/16/2013	57	1415	1358	PASS
10/17/2013	60	1373	1313	PASS
10/18/2013	54	1321	1267	PASS
10/21/2013	55	1385	1330	PASS
10/22/2013	56	1407	1351	PASS
10/23/2013	55	1346	1290	PASS
10/24/2013	53	1348	1295	PASS
10/28/2013	51	1361	1310	PASS
11/11/2013	55	1341	1286	PASS
11/12/2013	55	1360	1306	PASS
11/13/2013	56	1407	1352	PASS
11/14/2013	53	1407	1354	PASS
11/15/2013	54	1382	1328	PASS
11/18/2013	52	1391	1339	PASS
11/19/2013	54	1370	1317	PASS
11/20/2013	57	1314	1257	PASS
11/21/2013	54	1305	1252	PASS
11/22/2013	54	1378	1325	PASS
11/23/2013	54	1317	1263	PASS
11/25/2013	64	1388	1325	PASS
11/26/2013	62	1444	1381	PASS
12/2/2013	57	1406	1349	PASS
12/12/2013	66	1405	1339	PASS
12/13/2013	63	1414	1352	PASS
12/14/2013	61	1393	1331	PASS
12/16/2013	61	1398	1336	PASS

Note: all units in cps

MCA SN:	7071
Detector ID:	1
Detector SN:	5198
Detector SN:	N/A
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Reviewed:

Setup Date:	9/20/2013
Cs-137 BKGD:	53
Cs-137 Counts:	1344
Cs-137 Net:	1291
Standard Dev:	34
+ 3 σ	1392
- 3 σ	1190

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
12/17/2013	68	1328	1259	PASS
12/18/2013	67	1398	1331	PASS
12/19/2013	55	1389	1334	PASS

MCA SN:	7071
Detector ID:	12
Detector SN:	5198
Detector SN:	5200
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Setup Date:	9/18/2013
Cs-137 BKGD:	109
Cs-137 Counts:	1200
Cs-137 Net:	1092
Standard Dev:	36
+ 3 σ	1199
- 3 σ	985

Reviewed:

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.05.13 13:07:58 -07'00'

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
9/19/2013	106	1268	1162	PASS
9/23/2013	103	1172	1069	PASS
12/3/2013	106	1288	1182	PASS
12/4/2013	110	1288	1178	PASS
12/5/2013	114	1310	1197	PASS
12/9/2013	111	1269	1159	PASS
12/10/2013	114	1310	1197	PASS
12/11/2013	115	1288	1174	PASS

Note: all units in cps

MCA SN:	7159
Detector ID:	2
Detector SN:	5200
Detector SN:	N/A
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Setup Date:	9/30/2013
Cs-137 BKGD:	54
Cs-137 Counts:	1427
Cs-137 Net:	1374
Standard Dev:	38
+ 3 σ	1487
- 3 σ	1260

Reviewed:

Digitally signed by Jerry Cooper, CHP
DN: cn=Jerry Cooper, CHP, o, ou, email=jerryccooper@comcast.net, c=US
Date: 2014.05.13 13:04:12 -07'00'

Note: all units in cps

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
10/1/2013	54	1436	1382	PASS
10/2/2013	54	1392	1338	PASS
10/3/2013	56	1437	1381	PASS
10/7/2013	59	1489	1430	PASS
10/8/2013	54	1356	1303	PASS
10/9/2013	54	1444	1390	PASS
10/10/2013	56	1424	1368	PASS
10/15/2013	55	1384	1329	PASS
10/16/2013	56	1416	1360	PASS
10/17/2013	59	1386	1328	PASS
10/18/2013	53	1424	1371	PASS
10/21/2013	56	1442	1386	PASS
10/22/2013	56	1455	1399	PASS
10/23/2013	54	1322	1268	PASS
10/24/2013	52	1386	1333	PASS
10/28/2013	51	1321	1270	PASS
10/29/2013	52	1360	1308	PASS
10/30/2013	53	1333	1279	PASS
10/31/2013	52	1380	1327	PASS
11/4/2013	53	1353	1299	PASS
11/5/2013	51	1445	1394	PASS
11/6/2013	56	1414	1358	PASS
11/7/2013	58	1363	1305	PASS
11/11/2012	55	1374	1320	PASS
11/12/2013	55	1444	1389	PASS
11/13/2013	56	1376	1320	PASS
11/14/2013	54	1369	1315	PASS
11/15/2013	55	1325	1270	PASS
11/18/2013	55	1349	1294	PASS
11/19/2013	55	1336	1281	PASS
11/20/2013	57	1398	1341	PASS
11/21/2013	55	1398	1343	PASS
11/22/2013	53	1444	1391	PASS
11/23/2013	55	1434	1379	PASS
11/25/2013	63	1422	1359	PASS
11/26/2013	61	1441	1379	PASS
12/2/2013	55	1407	1351	PASS
12/12/2013	63	1427	1364	PASS
12/13/2013	61	1440	1379	PASS

MCA SN:	7159
Detector ID:	2
Detector SN:	5200
Detector SN:	N/A
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Reviewed:

Setup Date:	9/30/2013
Cs-137 BKGD:	54
Cs-137 Counts:	1427
Cs-137 Net:	1374
Standard Dev:	38
+ 3 σ	1487
- 3 σ	1260

Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
12/14/2013	59	1383	1325	PASS
12/16/2013	61	1415	1354	PASS
12/17/2013	66	1415	1349	PASS
12/18/2013	66	1436	1370	PASS
12/19/2013	56	1430	1374	PASS

MCA SN:	7228
Detector ID:	1
Detector SN:	5198
Detector SN:	N/A
Detector SN:	N/A
Detector SN:	N/A

Cs-137 SN:	808131
Activity:	0.946 µCi

Setup Date:	10/29/2013
Cs-137 BKGD:	56
Cs-137 Counts:	1334
Cs-137 Net:	1278
Standard Dev:	34
+ 3 σ	1379
- 3 σ	1177

Reviewed:

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Date	Cs-137 BKGD	Cs-137 Counts	Cs-137 Net	Pass or Fail
10/30/2013	53	1409	1357	PASS
10/31/2013	53	1339	1285	PASS
11/4/2013	53	1304	1251	PASS
11/5/2013	50	1427	1377	PASS
11/6/2013	61	1385	1324	PASS
11/7/2103	64	1423	1359	PASS

Note: all units in cps

APPENDIX C

RSI RS-700 GAMMA-RAY DETECTION SYSTEM SPECIFICATIONS

RSI RS-700 Gamma-Ray Detection System Specifications

System Overview

Gamma survey measurements are performed using the Radiation Solutions, Inc. (RSI) RS-700 self-contained mobile gamma-ray detection system. The RS-700 consists of an integrated controller and data acquisition system, a digital gamma-ray spectrometer/multi-channel analyzer, and a data controller coupled to a 4L (4-inch by 4-inch by 16-inch) NaI gamma scintillation detector. The large NaI detector offers the most sensitive and reliable method available to perform radiological surveys of relatively large land areas. Its high sensitivity to gamma-rays is directly proportional to its large volume which increases the likelihood of interaction between a gamma-ray and the detector. Pre-set multiple independent regions of interest within the energy spectrum are programmed into the RS-700 to identify and track specific gamma-ray emissions from radionuclides of concern. This allows their more precise detection in the field. While the traditionally used Ludlum Model 44-10 (2x2) and Model 44-20 (3x3) hand-held NaI detectors offer better access and maneuverability, they lack the sensitivity and the gamma spectroscopy capabilities of the larger NaI detector. Custom-built copper-lined lead shielding with a steel surround encases the top and sides of the detector. This focuses its detection capability on radiation coming from the ground, i.e., forcing it to "scan downward", optimizing the detection of gamma radiation anomalies at surface or near surface locations.

The RS-700 is used in two configurations: (1) mounted on a cart pulled behind a small tractor for survey of large, open areas; and (2) mounted on a hand pushcart to allow access to and survey of small or obstructed areas, such as around telephone poles, between bushes, etc. where the pull-behind detector cannot go. The pull-behind cart is configured with two end-to-end mounted NaI detectors, which provides a 0.9 m wide field of view. The tractor is equipped with a direct gear drive transmission with an adjustable throttle for precise speed control. A low-glare computer display attached to the tractor allows the operator to monitor in real time the scanning path, survey coverage, gamma data, GPS, and other information. The pull-behind cart is configured with two end-to-end mounted NaI detectors, which provides a 0.9 m wide field of view. A single NaI detector is mounted on the hand pushcart.

Detectors are mounted at a height of approximately 0.1 m above the ground and moved over the surface at a speed of 0.5 m/sec (i.e., 100 ft/min or approximately 1 mile per hour), with each pass slightly overlapping the previous pass based on the detector field of view to achieve 100% coverage of the area being surveyed. The detector height of 0.1 m above the ground was selected for two reasons. First, to maximize sensitivity, the detector is mounted as close to the ground as possible, with the distance of 0.1 m above the ground considered the smallest distance at which the detector can travel above the ground without damaging it. Second, the surface-to-detector geometry mimics that used in

the modeling analysis documented in Section 6.8.2 of NUREG-1507, *Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions* (NRC, 1998), for the calculation of scan MDCs for land areas assuming the use of a NaI scintillation detector. Similarly, the scan rate of 0.5 m/sec was selected as the slowest reasonable scan rate achievable, yet also consistent with the referenced NUREG-1507 modeling analysis.

The gamma-ray data are position-correlated by means of a GPS rover mounted on the detector in conjunction with a fixed base station. Both the GPS rover and the base station pull position data from U.S. NAVSTAR as well as Russian GLONASS satellites, which increases positional accuracy to the sub-centimeter level. The base station uses several fixed monuments on Treasure Island as QC points and transmits via radio to the GPS rover mounted on the detector, correcting positional data where the GPS rover signal is interrupted or distorted by obstructions encountered in the field. Software customized by RSI for this project allows real-time positional data correction. This feature is not found in off-the-shelf GPS software, which has relatively poor precision. This enhanced GPS capability allows outstanding precision and reliable position correlation of data collected next to buildings, beneath car ports, next to tall fences and trees that otherwise hinder or block satellite reception.

The RS-700 gamma-ray detection system has been approved and recognized by Navy RASO and CDPH as a proven and reliable method to detect gamma radiation anomalies at surface or near surface locations. The CDPH has employed the RS-700 gamma-ray detection system for data verification for several years and endorses the Navy's use of this technology. Consistent with Navy direction, CDPH technical input on system configuration and use has been integrated into planned operations.

Basic System Components:

- Gamma Detector
- Console
- Laptop
- Wireless Router
- GPS Antenna
- Tractor (for pull-behind configuration)

<u>Gamma Detector</u> – high sensitivity gamma-ray detector coupled to a photo-multiplier tube to produce high quality analog signals for digital analysis

Model: RSX-1

Type: Scintillator, 4L NaI(Tl) crystal (10 cm W x 10 cm H x 40 cm L)

Energy Resolution: <8.5%

Shielding: Custom-built copper-lined lead with stainless steel surround

<u>Console</u> - integrated controller and data acquisition system, digital gamma-ray spectrometer/multi-channel analyzer, and data controller

Model: RS-701 (or RS-705)

Energy Channels: 1024 channels, 3 keV/channel

Energy Range: 410 keV to 2810 keV

RS-700 System Software: RadAssist Version 5.3.0.0

Sample Rate: 1 sec^{-1}

Gain Stabilization: Automatic multi-peak (normal fit is done from below K-40 1464 keV peak to above Tl-208 2614 keV peak; start channel 440 to end channel 1014)

Calibration Parameters: Selected based on IAEA gamma spectrometry standards (reference: IAEA Technical Report 323, Airborne Gamma-Ray Spectrometer Surveying [IAEA, 1991]) and consistent with CDPH's Radiation Solution RS-700 operation procedure.

Regions of Interest

Region of Interest	*ROI Name*	*Start Channel*	*End Channel*	*Start Energy (keV)*	*End Energy (keV)*	*Basis/ Discussion*
01	Range (45 – 1980)	15	660	45	1980	broad range total counts (CDPH compatible)
02	Potassium	457	523	1371	1569	based on K-40 1.461 keV peak (IAEA setting)
03	Ra-226 (1764)	553	620	1659	1860	based on progeny Bi-214 1764 keV peak (IAEA setting)
04	Thorium	803	937	2409	2811	based on progeny Tl-208 2614 keV peak (IAEA setting)
05	Annihilation	152	190	456	570	based on annihilation 511 keV peak
06	Ra-226 (609)	182	222	546	666	based on progeny Bi-214 609 keV peak
07	Cs-137	183	247	549	741	based on Cs/Ba-137 662 keV peak
08	I-131	109	133	327	399	(CDPH reference use only)
09	GdCo	30	45	90	135	(CDPH reference use only)
10	Gross	1	1024	3	3072	based on full channel spectrum

Calibration Coefficients Matrix

	Range (45-1980)	*Potassium*	*Ra-226 (1764)*	*Thorium*	*Annihilation*	*Ra-226 (609)*	*Cs-137*	*I-131*	*GdCo*	*Gross*
Range (45-1980)	1	0	0	0	0	0	0	0	0	0
Potassium	0	1	0.7575	0.4155	0	0	0	0	0	0
Ra-226 (1764)	0	0	1	0.2715	0	0	0	0	0	0
Thorium	0	0	0	1	0	0	0	0	0	0
Annihilation	0	0	0	0	1	0	0	0	0	0
Ra-226 (609)	0	0	0	0	0	1	0	0	0	0
Cs-137	0	0	0	0	0	0	1	0	0	0
I-131	0	0	0	0	0	0	0	1	0	0
GdCo	0	0	0	0	0	0	0	0	1	0
Gross	0	0	0	0	0	0	0	0	0	1

<u>Laptop</u> – computer and display for real-time monitoring by operator of system and data being collected

Model: Panasonic Toughbook CF-19

CPU: Intel® Core™ 2.6 GHz i5-3320M vPro processor

Memory: 4 GB, DDR3 SDRAM

Storage: 500GB HDD

Display: 10.1" sunlight-viewable transflective plus XGA Active Matrix (TFT) color LCD

WLAN: Intel® Centrino® Advanced-N 6235 802.11a/b/g/n

Software: Windows® XP Professional

Power Supply: Battery pack with 115V AC power inverter back-up (in tractor pull-behind cart configuration)

<u>Wireless Router</u> – router providing wireless connectivity between the RS-701 console and the laptop

Model: Linksys WRT54G

Technology: 802.11 b/g

Bands: 2.4 GHz

Speed: up to 54 Mbps

Antennas: External (2)

GPS Receiver and Base Station – integrated global navigation satellite system (GNSS) receiver and radio with external antennas (used as a rover with pole antenna and as a base station with Geodetic antenna) providing positional data, time, as well as system synchronization for detectors

Model: Trimble SPS852 GNSS Modular Receiver

Satellite Signals: Uses all currently available satellite signals including L1, L2, L5, and GLONASS (Russian-operated satellite system)

Fixed Monuments: USGS Treasure Island (5)

Tractor – provides mobility for detection system in pull-behind cart configuration

Model: Troy-Bilt Pony

Engine: 17.5 HP 500 cc Briggs & Stratton®

Engine Torque: 17.5 ft/lbs

Transmission: Manual clutch-engaged 7-gear transmission with direct drive and adjustable throttle for speed control

Turning Radius (inches): 18.0

APPENDIX D
ITSI-NSTI-033, OPERATION OF RS-700 GAMMA-RAY DETECTION SYSTEM

RADIATION WORK INSTRUCTION
Former Naval Station Treasure Island

Title: Operation of RS-700 Gamma-Ray Detection System
Identifier: ITSI-NSTI-033

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Jerry Cooper, Radiation Safety Officer Representative (RSOR) — October 1, 2013 Date

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Laura Tryboski, Radiological Quality Control (QC) Manager — October 1, 2013 Date

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Jay Pride, Radiation Safety Officer (RSO) — October 1, 2013 Date

Review / Revision History:

Version	Changes	Affects Section/Pages	Effective Date
1.0	Initial issue	NA	12 Sep 2013
2.0	Incorporate lessons learned in set-up, QC, operation, shutdown activities.	all	1 Oct 2013

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1.0 PURPOSE

This radiation work instruction (RWI) provides guidance on set-up, daily quality control (QC) check, operation, and shutdown of the Radiation Solutions, Inc. (RSI) RS-700 gamma-ray detection system for work at the former Naval Station Treasure Island (NSTI).

This RWI supplements ITSI Gilbane's Radiation Safety Operating Procedure (RSOP) CO-ITSI-03.01, *Radiation Safety Instrumentation*. Any repeated information from RSOP 03.01 has been provided in this RWI for convenience only, and is not intended to provide any information that is in conflict with RSOP 03.01.

2.0 APPLICABILITY AND SCOPE

This RWI applies to the set-up and operation of the RS-700 gamma-ray detection system at NSTI. The RS-700 system will be used in two configurations: (1) mounted on a cart pulled behind a small tractor for survey of large, open areas; and (2) mounted on a hand pushcart to allow access to and survey of small or obstructed areas, such as around telephone poles, between bushes, etc. where the pull-behind detector cannot go.

This RWI is for use only by properly trained individuals under the direction of the radiation safety officer representative (RSOR) or designee. Deviation from this RWI may be required by project-specific requirements. Questions or conflicts regarding implementation are to be resolved by the RSOR or designee.

3.0 TERMS AND DEFINITIONS

COM Port - Name of a serial port connection on a computer.

Data Gap – As used in this RWI, refers to an area where data was not collected as identified by blank area on RadAssist map display.

GPS – Global Positioning System

4.0 PRECAUTIONS AND LIMITATIONS

1. An operational inspection of gamma-ray detection system and transport equipment is performed prior to and after use (reference equipment inspection sheet). Visually inspect system for damage. Inspect condition of cables and connectors. Look for excessive wear and solid connections. Tighten or adjust as necessary.
2. A tractor speed test should be performed prior to and after use.
3. A Ludlum Model 19 (or equivalent) will be available to the operator during gamma surveys in areas where radioactive commodities may be identified.

5.0 PROCEDURE

5.1 SYSTEM SET-UP

System set-up, other than for daily QC check, is performed in field at or near survey location wherever possible.

1. Remove gamma-ray detection system and transport equipment from storage.
2. Retrieve charged GPS Rover unit and laptop battery from charging station. Turn off charger for RSI battery and retrieve RSI battery.
3. Connect GPS Rover unit and power on. Plug in COM port cable (black) and antenna cable (yellow) to unit. Hang unit on mounting bracket and tighten holding screw. Press and hold power button until green light appears.
4. Connect RSI battery to RS-700 multi-channel analyzer (MCA) and power on. Attach battery cables (black and red) to the MCA. Press and hold power button until all four LED lights on MCA turn violet. MCA will take a few minutes to cycle thru start-up during which it checks GPS, itself, and the detector(s).
5. Once all four indicator lights on MCA are green, put battery in laptop and power laptop on. MCA must be powered on before laptop is powered on.
6. Once laptop has run through self-diagnostics and desktop appears, click on RSI Survey Log to create a survey file name in following format: TO-ST-AB-M-YYYYMMDD-##
    a. TO = task order number (auto assigned)
    b. ST = site (e.g., 12, 32, 33)
    c. AB = detector or detector combination (01 – 04, 12, 34, QC)
    d. M = matrix (e.g., S = soil [default], A = asphalt, C = concrete; Bkgd and Cs-137 are QC matrix identifiers)
    e. YYYYMMDD = year, month, and day of survey
    f. ## = sequential number (starting with 03; 01 and 02 are QC file numbers)
7. Enter surveyor initials (3-characters). Add notes to Note field as needed throughout survey process. Save file and minimize.
8. Double-click on RadAssist icon on desktop. Select “File” and “Connect to device...” from drop down menu. Under Direct Connection tab, select “RS-701 Console” from list and select “Connect” to activate system. System is now ready to collect data.
9. Verify the identification number(s) on the detector(s) and the laptop match and are highlighted in green box on upper right corner of screen and “Device Connected” is highlighted on upper left corner of screen.
10. Select Device Parameter tab on bottom of screen. Select “File Index” on left side. Click on “Configuration.” Verify device internal clock is correct. If not, click on “Synchronize clock now.”
11. Select GIS Data View tab on bottom of screen. Using magnification icon, zoom in on current position (for example, 10 to 50 m).

5.2 INITIAL QC SET-UP

QC set-up is performed prior to initial use of detection system and after system maintenance activities which may have impacted system performance.

1. Move detection system to designated QC check point location.
2. Verify radioactive sources are a minimum of 20 ft away prior to collecting data.
3. Note start time and stop time.

4. Allow system to collect a minimum of 300 seconds of data without sources present.
5. Calculate average background count rate in counts per second (cps) using 300 seconds of data from Cs-137 region of interest (ROI).
6. Calculate standard deviation value using 300 seconds of data from Cs-137 ROI.
7. Retrieve Cs-137 check source and place on ground at marked location at designated QC check point.
8. Note start and stop time.
9. Allow system to collect a minimum of 300 seconds of source data.
10. Calculate average source count rate value using 300 seconds of data from Cs-137 ROI.
11. Subtract average background count rate from average source count rate to obtain net average source count rate.
12. Calculate one, two, and three standard deviations (σ) using 300 seconds of new data from Cs-137 ROI.

5.3 DAILY QC CHECK

QC check is performed daily prior to detection system use.

1. Move detection system to designated QC check point.
2. Verify radioactive sources are a minimum of 20 ft away.
3. In RSI survey log, create a daily background QC file using file name convention described in previous section. Select "Bkgd" as matrix and "01" as the sequential file number. Enter start time on RSI survey log. Save file and minimize.
4. Allow system to collect a minimum of 180 seconds of data.
5. Enter stop time on RSI survey log. Save file.
6. Retrieve Cs-137 check source and place on cart at location noted on frame.
7. In RSI survey log, create a daily background QC file using file name convention described in previous section. Select "Cs-137" as matrix and "02" as the sequential file number. Enter start time in RSI survey log. Save file and minimize.
8. Allow system to collect a minimum of 180 seconds of source data.
9. Enter stop time in RSI survey log. Save file.
10. Individually sum background and source count rate data sets and divide by respective count time. Subtract average background count rate from average source count rate. System performance is acceptable within ± 2σ of set-up net average source count rate.
11. Notify RSOR if detection system response falls outside ± 2σ.

5.4 OPERATION

1. In RadAssist, select "File" and "Start Data Recording" from drop down menu. Survey File dialog opens to allow user to create a file name and location. Cut and paste file name created

earlier in RSI survey log. Click "OK." System is now collecting data. Enter start time in RSI survey log. Save file and minimize.

2. Start tractor. Put tractor into first gear and adjust throttle to indicated speed setting, which results in a scan rate of approximately 0.5 m/sec.
3. Drive in a pattern that achieves target coverage of 120%. This is performed, where possible, by keeping front wheel of tractor in middle of tire marks from previous pass. Based on detector 0.9 m wide detector field of view, target coverage results in a 0.7 m wide pass. Traffic cones or other methods may be used to enable effective scan coverage.

NOTE:

At a scan rate of 0.5 m/sec, a 0.7 m wide pass (for target coverage of 120%), and a data collection rate of 1 measurement per second, approximately 2.9 measurements per square meter will be collected.

4. Periodically monitor laptop display. If a red dot appears on display and/or audible alarm sounds, immediately stop and investigate area using Ludlum Model 19 or equivalent. See RWI NSTI-064, *Handling of Radioactive Commodities*.
5. As a general rule, collect a data file over a 1-hour period. This results in a survey rate of 1,200 to 1,300 m^2/hr (approximately 36 m by 36 m).
6. For extended data collection periods or when battery icon on laptop warns of low battery power, turn on power inverter located behind tractor seat to backup laptop battery.
7. When gamma survey is complete, use "Zoom In" on RadAssist main map display to enlarge posting plot to a level where data gaps become apparent. Fill any gaps by going to location and collecting extra data.
8. Once desired data are collected, go to RadAssist, select "File," and "Stop Data Recording" on drop down menu. System is no longer collecting data. Enter stop time in RSI survey log. Save file and minimize.

5.5 SHUTDOWN

1. When ready for shutdown, go to RadAssist, select "File," and click on "Disconnect." Close RadAssist. GPS Rover will continue to track but no data are being collected by the detection system.
2. Retrieve raw data from RS-701. Insert memory stick into RS-701 USB port, the status indicator light will flash between red and blue representing data being transferred. Once the indicator light has turned blue, all data has been downloaded to the memory stick.
3. Insert memory stick into laptop USB port. Open memory stick and rename raw data file using the following format: NNNN_RAW_YYYYMMDD
    a. NNNN = MCA serial number
    b. RAW = raw data file
    c. YYYYMMDD = year, month, and day of back-up

4. Retrieve data from laptop. With memory stick in laptop USB port, copy data file to memory stick. Rename data file using the following format: NNNN_COMP_YYYYMMDD
    a. NNNN = MCA serial number
    b. COMP = computer data file
    c. YYYYMMDD = year, month, and day of back-up
5. Power down laptop and remove battery.
6. Power off MCA. Press and hold power button until lights turn off. Disconnect battery cables (black and red) from MCA and remove battery.
7. Power off GPS Rover unit. Press and hold power button until a "3-2-1" countdown appears in LED read-out and green light turns off. Disconnect COM port and antenna cables (black and yellow) from unit. Remove unit from cart by loosening mounting bracket.
8. Return GPS Rover unit, RSI battery, and laptop battery to charging station.
9. Stow gamma-ray detection system and transport equipment.

6.0 RECORDS

Initial QC set-up and daily QC check forms generated as a result of implementation of this RWI will be maintained as quality records.

7.0 REFERENCES

ITSI Gilbane. *Radiation Safety Instrumentation*, CO-ITSI-RSOP 03.01.

ITSI Gilbane. *Handling of Radioactive Commodities*, ITSI-NSTI-064.

8.0 ATTACHMENTS

Attachment 1, RSI Gamma-Ray Detection System Daily Response Check Sheet.

Attachment 1
RSI Gamma-Ray Detection System Daily Response Check Sheet

ITSI Gilbane

DAILY RESPONSE CHECK SHEET

Contract Number/Task Order Number:	Project Title / Location:	ITSI Gilbane Project Number:
N62473-10-D-0808 / 0006	Radiological Scoping Surveys / Treasure Island	7204.0006

Instrument #: _____ Setup Date: _____
Cal. Date: _____ Source ID: 808131
Probe #: _____ Source Type: Cs-137

Ranges Background: _____ cps to _____ cps using ± 2 Sigma
Net Source: _____ cps to _____ cps using ± 2 Sigma

Date	Background (total cnts)	Source (total cnts)	Count Time (sec)	Net Source (cps)	Instrument Check	Sat/ Unsat	Technician Initials	Additional Comments

Completed By: _____ Date _____
Reviewed By: _____ Date _____

APPENDIX E
RS-700 MASTER SURVEY LOG

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-12-s-20130919-03	6	12	12	s	20130919	03	jp	9:00	10:25	13	1300
6-12-12-s-20130919-04	6	12	12	s	20130919	04	jp	10:30	11:20	13	1300
6-12-12-s-20130919-05	6	12	12	s	20130919	05	tc	11:25	11:05	13	1300
6-12-12-a-20130919-06	6	12	12	a	20130919	06	tc	14:02	14:15	TR	TR
6-32-12-a-20130919-12	6	32	12	a	20130919	12	jp	5:17	5:28	TR	TR
6-12-34-s-20130919-03	6	12	34	s	20130919	03	jew	8:42	9:42	13	1300
6-12-34-s-20130919-04	6	12	34	s	20130919	04	jew	9:51	12:00	13	1300
6-32-34-a-20130919-05	6	32	34	a	20130919	05	jew	1:55	2:17	TR	TR
6-12-1-C-20130924-03	6	12	1	C	20130924	03	jp	2:11	2:52	13	1300
6-12-1-S-20130924-04	6	12	1	S	20130924	04	jp	2:55	3:16	13	1300
6-12-1-S-20130924-05	6	12	1	S	20130924	05	jp	3:21	4:34	13	1300
6-12-1-A-20130924-06	6	12	1	A	20130924	06	jp	4:41	4:56	13	1300
6-12-34-a-20130924-03	6	12	34	a	20130924	03	jew	10:05	11:20	13	1300
6-12-34-a-20130924-04	6	12	34	a	20130924	04	jew	11:35	11:55	13	1300
6-12-34-s-20130924-05	6	12	34	s	20130924	05	jew	2:05	3:15	13	1300
6-12-34-s-20130924-06	6	12	34	s	20130924	06	jew	3:49	4:40	13	1300
6-12-1-S-20130925-03	6	12	1	S	20130925	03	jew	8:48	10:01	13	1301
6-12-1-S-20130925-04	6	12	1	S	20130925	04	jew	10:05	11:00	13	1303
6-12-1-s-20130925-05	6	12	1	s	20130925	05	jew	11:05	12:10	13	1303
6-12-1-S-20130925-06	6	12	1	S	20130925	06	jew	12:15	12:28	13	1305
6-12-1-s-20130925-07	6	12	1	s	20130925	07	jew	2:45	3:11	13	1305
6-12-1-C-20130925-08	6	12	1	C	20130925	08	jew	3:15	3:26	13	1305
6-12-1-s-20130925-09	6	12	1	s	20130925	09	jew	3:40	3:49	13	1306
6-12-1-c-20130925-10	6	12	1	c	20130925	10	jew	3:50	3:54	13	1306
6-12-1-s-20130925-11	6	12	1	s	20130925	11	jew	4:02	4:10	13	1306
6-12-1-c-20130925-12	6	12	1	c	20130925	12	jew	4:13	4:17	13	1306
6-12-1-S-20130925-13	6	12	1	S	20130925	13	jew	4:22	4:30	13	1306
6-12-1-c-20130925-14	6	12	1	c	20130925	14	jew	4:31	4:37	13	1306
6-12-34-s-20130925-04	6	12	34	s	20130925	04	jew	9:35	10:35	13	1306
6-12-34-s-20130925-05	6	12	34	s	20130925	05	jew	10:45	11:30	13	1306
6-12-34-s-20130925-06	6	12	34	s	20130925	06	jew	11:41	12:15	13	1300
6-12-34-s-20130925-07	6	12	34	s	20130925	07	jew	2:35	3:38	13	1300
6-12-1-S-20130926-03	6	12	1	S	20130926	03	jew	8:55	9:00	13	1304

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-c-20130926-04	6	12	1	c	20130926	04	jew	9:04	9:07	13	1304
6-12-1-s-20130926-05	6	12	1	s	20130926	05	jew	9:18	9:25	13	1304
6-12-1-c-20130926-06	6	12	1	c	20130926	06	jew	9:29	9:32	13	1304
6-12-1-s-20130926-07	6	12	1	s	20130926	07	jew	9:38	9:42	13	1304
6-12-1-C-20130926-08	6	12	1	C	20130926	08	jew	9:47	9:50	13	1304
6-12-1-S-20130926-09	6	12	1	S	20130926	09	jew	10:00	10:05	13	1304
6-12-1-C-20130926-10	6	12	1	C	20130926	10	jew	10:39	10:43	13	1304
6-12-1-C-20130926-11	6	12	1	C	20130926	11	jew	10:54	10:57	13	1304
6-12-1-S-20130926-12	6	12	1	S	20130926	12	jew	11:05	11:09	13	1304
6-12-1-S-20130926-13	6	12	1	S	20130926	13	jew	11:12	11:17	13	1304
6-12-1-S-20130926-14	6	12	1	S	20130926	14	jew	12:04	12:09	13	1302
6-12-1-C-20130926-15	6	12	1	C	20130926	15	jew	12:14	12:17	13	1302
6-12-1-S-20130926-16	6	12	1	S	20130926	16	jew	1:15	1:33	13	1302
6-12-1-C-20130926-17	6	12	1	C	20130926	17	jew	1:34	1:42	13	1302
6-12-1-S-20130926-18	6	12	1	S	20130926	18	jew	1:52	2:02	13	1302
6-12-1-C-20130926-19	6	12	1	C	20130926	19	jew	2:05	2:13	13	1302
6-12-1-S-20130926-20	6	12	1	S	20130926	20	jew	2:20	2:28	13	1302
6-12-1-C-20130926-21	6	12	1	C	20130926	21	jew	2:30	2:40	13	1302
6-12-1-C-20130926-22	6	12	1	C	20130926	22	jew	2:56	3:03	13	1310
6-12-1-S-20130926-23	6	12	1	S	20130926	23	jew	3:12	3:19	13	1310
6-12-1-C-20130926-24	6	12	1	C	20130926	24	jew	3:23	3:30	13	1310
6-12-1-S-20130926-25	6	12	1	S	20130926	25	jew	3:52	4:00	13	1310
6-12-1-C-20130926-26	6	12	1	C	20130926	26	jew	4:01	4:07	13	1310
6-12-34-s-20130926-04	6	12	34	s	20130926	04	jew	10:45	11:30	13	1300
6-12-34-s-20130926-05	6	12	34	s	20130926	05	jew	11:55	12:35	13	1300
6-12-34-s-20130926-06	6	12	34	s	20130926	06	jew	1:15	2:30	13	1300
6-12-34-s-20130926-07	6	12	34	s	20130926	07	jew	2:45	4:10	13	1310
6-12-1-S-20130927-03	6	12	1	S	20130927	03	jew	9:30	9:40	13	1302
6-12-1-S-20130927-04	6	12	1	S	20130927	04	jew	9:50	10:01	13	1302
6-12-1-C-20130927-05	6	12	1	C	20130927	05	jew	10:02	10:06	13	1302
6-12-1-s-20130927-06	6	12	1	s	20130927	06	jew	10:20	10:29	13	1306
6-12-1-C-20130927-07	6	12	1	C	20130927	07	jew	10:31	10:35	13	1306
6-12-1-S-20130927-08	6	12	1	S	20130927	08	jew	10:50	11:02	13	1307

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20130927-09	6	12	1	C	20130927	09	jew	11:06	11:08	13	1307
6-12-1-S-20130927-10	6	12	1	S	20130927	10	jew	11:23	11:30	13	1307
6-12-1-C-20130927-11	6	12	1	C	20130927	11	jew	11:38	11:48	13	1307
6-12-1-S-20130927-12	6	12	1	S	20130927	12	jew	12:07	12:15	13	1309
6-12-1-C-20130927-13	6	12	1	C	20130927	13	jew	1:15	1:23	13	1309
6-12-1-S-20130927-14	6	12	1	S	20130927	14	jew	1:30	1:40	13	1309
6-12-1-C-20130927-15	6	12	1	C	20130927	15	jew	1:43	1:49	13	1309
6-12-1-S-20130927-16	6	12	1	S	20130927	16	jew	2:00	2:07	13	1309
6-12-1-C-20130927-17	6	12	1	C	20130927	17	jew	2:15	2:22	13	1309
6-12-1-S-20130930-03	6	12	1	S	20130930	03	jew	8:45	8:52	13	1308
6-12-1-C-20130930-04	6	12	1	C	20130930	04	jew	8:56	9:00	13	1308
6-12-1-S-20130930-05	6	12	1	S	20130930	05	jew	9:10	9:21	13	1308
6-12-1-C-20130930-06	6	12	1	C	20130930	06	jew	9:23	9:27	13	1308
6-12-1-S-20130930-07	6	12	1	S	20130930	07	jew	9:37	9:41	13	1308
6-12-1-C-20130930-08	6	12	1	C	20130930	08	jew	9:43	9:45	13	1308
6-12-1-S-20130930-09	6	12	1	S	20130930	09	jew	9:50	9:57	13	1308
6-12-1-C-20130930-10	6	12	1	C	20130930	10	jew	9:58	10:02	13	1308
6-12-1-S-20130930-11	6	12	1	S	20130930	11	jew	10:05	10:12	13	1308
6-12-1-C-20130930-12	6	12	1	C	20130930	12	jew	10:13	10:18	13	1308
6-12-1-S-20130930-13	6	12	1	S	20130930	13	jew	10:22	10:29	13	1308
6-12-1-C-20130930-14	6	12	1	C	20130930	14	jew	10:30	10:33	13	1308
6-12-1-S-20130930-15	6	12	1	S	20130930	15	jew	11:21	11:29	12	1250
6-12-1-C-20130930-16	6	12	1	C	20130930	16	jew	11:30	11:33	12	1250
6-12-1-S-20130930-17	6	12	1	S	20130930	17	jew	11:39	11:47	12	1250
6-12-1-C-20130930-18	6	12	1	C	20130930	18	jew	11:47	11:50	12	1250
6-12-1-C-20130930-19	6	12	1	C	20130930	19	jew	11:57	12:00	12	1250
6-12-1-S-20130930-20	6	12	1	S	20130930	20	jew	12:10	12:17	12	1250
6-12-1-C-20130930-21	6	12	1	C	20130930	21	jew	12:17	12:21	12	1250
6-12-1-S-20130930-22	6	12	1	S	20130930	22	jew	1:36	1:46	12	1250
6-12-1-C-20130930-23	6	12	1	C	20130930	23	jew	1:47	1:52	12	1250
6-12-1-S-20130930-24	6	12	1	S	20130930	24	jew	1:56	2:03	12	1250
6-12-1-C-20130930-25	6	12	1	C	20130930	25	jew	2:07	2:11	12	1250
6-12-1-S-20130930-26	6	12	1	S	20130930	26	jew	2:25	2:32	12	1253

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20130930-27	6	12	1	C	20130930	27	jew	2:33	2:39	12	1253
6-12-1-S-20130930-28	6	12	1	S	20130930	28	jew	2:44	2:51	12	1253
6-12-1-C-20130930-29	6	12	1	C	20130930	29	jew	2:53	2:57	12	1253
6-12-1-S-20130930-30	6	12	1	S	20130930	30	jew	3:02	3:06	12	1253
6-12-1-C-20130930-31	6	12	1	C	20130930	31	jew	3:11	3:15	12	1253
6-12-1-C-20130930-32	6	12	1	C	20130930	32	jew	3:25	3:32	12	1253
6-12-1-C-20130930-33	6	12	1	C	20130930	33	jew	3:35	3:39	12	1253
6-12-1-S-20130930-34	6	12	1	S	20130930	34	jew	3:51	3:57	12	1253
6-12-1-C-20130930-35	6	12	1	C	20130930	35	jew	4:00	4:07	12	1253
6-12-1-S-20130930-36	6	12	1	S	20130930	36	jew	4:10	4:18	12	1253
6-12-1-C-20130930-37	6	12	1	C	20130930	37	jew	4:20	4:24	12	1253
6-12-2-c-20130930-03	6	12	2	c	20130930	03				13	1308
6-12-2-c-20130930-04	6	12	2	c	20130930	04				12	1250
6-12-2-a-20130930-05	6	12	2	a	20130930	05				12	1250
6-12-2-a-20130930-06	6	12	2	a	20130930	06				12	1250
6-12-2-c-20130930-07	6	12	2	c	20130930	07				13	1308
6-12-2-c-20130930-08	6	12	2	c	20130930	08				13	1308
6-12-1-S-20131001-03	6	12	1	S	20131001	03	jp	8:57	9:05	12	1249
6-12-1-C-20131001-04	6	12	1	C	20131001	04	jp	9:07	9:12	12	1249
6-12-1-S-20131001-05	6	12	1	S	20131001	05	jp	9:17	9:22	12	1249
6-12-1-C-20131001-06	6	12	1	C	20131001	06	jp	9:25	9:28	12	1249
6-12-1-S-20131001-07	6	12	1	S	20131001	07	jp	9:34	9:42	12	1249
6-12-1-C-20131001-08	6	12	1	C	20131001	08	jp	9:44	9:49	12	1249
6-12-1-S-20131001-09	6	12	1	S	20131001	09	JP	9:55	9:59	12	1249
6-12-1-C-20131001-10	6	12	1	C	20131001	10	JP	10:02	10:06	12	1249
6-12-1-S-20131001-11	6	12	1	S	20131001	11	JP	10:11	10:18	12	1249
6-12-1-C-20131001-12	6	12	1	C	20131001	12	jp	10:21	10:25	12	1249
6-12-1-S-20131001-13	6	12	1	S	20131001	13	JP	1o:30	10:36	12	1249
6-12-1-C-20131001-14	6	12	1	C	20131001	14	JP	10:43	10:46	12	1249
6-12-1-S-20131001-15	6	12	1	S	20131001	15	JP	11:06	11:11	12	1247
6-12-1-C-20131001-16	6	12	1	C	20131001	16	jp	11:15	11:20	12	1247
6-12-1-S-20131001-17	6	12	1	S	20131001	17	JP	11:32	11:40	12	1247
6-12-1-C-20131001-18	6	12	1	C	20131001	18	jp	11:42	11:48	12	1247

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131001-19	6	12	1	S	20131001	19	JP	11:19	1:21	12	1247
6-12-1-C-20131001-20	6	12	1	C	20131001	20	jp	1:22	1:26	12	1247
6-12-1-S-20131001-21	6	12	1	S	20131001	21	JP	1:32	1:37	12	1247
6-12-1-C-20131001-22	6	12	1	C	20131001	22	jp	1:38	1:42	12	1247
6-12-1-S-20131001-23	6	12	1	S	20131001	23	JP	1:48	1:52	12	1247
6-12-1-C-20131001-24	6	12	1	C	20131001	24	jp	1:53	1:58	12	1247
6-12-1-S-20131001-25	6	12	1	S	20131001	25	JP	2:02	2:07	12	1247
6-12-1-C-20131001-26	6	12	1	C	20131001	26	jp	2:09	2:14	12	1247
6-12-1-S-20131001-27	6	12	1	S	20131001	27	JP	2:20	2:28	12	1245
6-12-1-C-20131001-28	6	12	1	C	20131001	28	jp	2:31	2:36	12	1245
6-12-1-S-20131001-29	6	12	1	S	20131001	29	JP	2:42	2:49	12	1245
6-12-1-C-20131001-30	6	12	1	C	20131001	30	jp	2:51	2:56	12	1245
6-12-1-S-20131001-31	6	12	1	S	20131001	31	JP	3:02	3:16	12	1245
6-12-1-C-20131001-32	6	12	1	C	20131001	32	jp	3:18	3:23	12	1245
6-12-1-S-20131001-33	6	12	1	S	20131001	33	JP	3:30	3:35	12	1245
6-12-1-C-20131001-34	6	12	1	C	20131001	34	JP	3:40	3:42	12	1245
6-12-1-S-20131001-35	6	12	1	S	20131001	35	JP	3:47	4:00	12	1245
6-12-1-C-20131001-36	6	12	1	C	20131001	36	jp	4:01		12	1245
6-12-2-a-20131001-03	6	12	2	a	20131001	03	jew	2:39	2:55	12	1249
6-12-2-a-20131001-04	6	12	2	a	20131001	04	jew	3:15	3:30	12	1251
6-12-2-a-20131001-05	6	12	2	a	20131001	05	jew	3:35	3:50	12	1247
6-12-2-a-20131001-06	6	12	2	a	20131001	06	jew	4:00	4:15	12	1245
6-12-2-a-20131001-07	6	12	2	a	20131001	07	jew	4:20	4:30	12	1244
6-12-34-s-20131001-03	6	12	34	s	20131001	03	jew	9:10	10:25	12	1250
6-12-34-s-20131001-04	6	12	34	s	20131001	04	jew	10:30	11:15	12	1254
6-12-34-s-20131001-05	6	12	34	s	20131001	05	jew	11:35	12:00	12	1250
6-12-34-s-20131001-06	6	12	34	s	20131001	06	jew	1:20	1:32	12	1200
6-12-1-C-20131002-03	6	12	1	C	20131002	03	jp	8:55	8:59	12	1245
6-12-1-S-20131002-04	6	12	1	S	20131002	04	jp	9:05	9:16	12	1245
6-12-1-C-20131002-05	6	12	1	C	20131002	05	jp	9:18	9:22	12	1245
6-12-1-S-20131002-06	6	12	1	S	20131002	06	jp	9:35	9:38	12	1241
6-12-1-C-20131002-07	6	12	1	C	20131002	07	jp	9:40	9:44	12	1241
6-12-1-S-20131002-08	6	12	1	S	20131002	08	jp	9:47	9:54	12	1241

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131002-09	6	12	1	C	20131002	09	jp	9:56	10:00	12	1241
6-12-1-S-20131002-10	6	12	1	S	20131002	10	jp	10:08	10:16	12	1241
6-12-1-C-20131002-11	6	12	1	C	20131002	11	jp	10:18	10:22	12	1241
6-12-1-S-20131002-12	6	12	1	S	20131002	12	jp	10:29	10:35	12	1241
6-12-1-C-20131002-13	6	12	1	C	20131002	13	jp	10:37	10:41	12	1241
6-12-1-S-20131002-14	6	12	1	S	20131002	14	jp	10:59	11:04	12	1241
6-12-1-C-20131002-15	6	12	1	C	20131002	15	jp	11:05	11:09	12	1241
6-12-1-S-20131002-16	6	12	1	S	20131002	16	jp	11:14	11:19	12	1241
6-12-1-C-20131002-17	6	12	1	C	20131002	17	jp	11:21	11:26	12	1241
6-12-1-S-20131002-18	6	12	1	S	20131002	18	jp	11:32	11:41	12	1239
6-12-1-C-20131002-19	6	12	1	C	20131002	19	jp	11:43	11:48	12	1239
6-12-1-C-20131002-20	6	12	1	C	20131002	20	jp	11:55	12:03	12	1239
6-12-1-C-20131002-21	6	12	1	C	20131002	21	jp	12:04	12:10	12	1239
6-12-1-S-20131002-22	6	12	1	S	20131002	22	jp	12:30	12:36	12	1239
6-12-1-C-20131002-23	6	12	1	C	20131002	23	jp	12:37	12:43	12	1239
6-12-1-C-20131002-24	6	12	1	C	20131002	24	jp	1:38	1:49	12	1237
6-12-1-S-20131002-25	6	12	1	S	20131002	25	jp	2:02	2:07	12	1239
6-12-1-C-20131002-26	6	12	1	C	20131002	26	jp	2:11	2:17	12	1239
6-12-1-S-20131002-27	6	12	1	S	20131002	27	jp	2:30	2:38	12	1239
6-12-1-C-20131002-28	6	12	1	C	20131002	28	jp	2:40	2:44	12	1239
6-12-1-S-20131002-29	6	12	1	S	20131002	29	jp	2:51	2:57	12	1239
6-12-1-C-20131002-30	6	12	1	C	20131002	30	jp	2:58	3:03	12	1239
6-12-1-S-20131002-31	6	12	1	S	20131002	31	jp	3:08	3:13	12	1239
6-12-1-C-20131002-32	6	12	1	C	20131002	32	jp	3:15	3:20	12	1239
6-12-1-S-20131002-33	6	12	1	S	20131002	33	jp	3:33	3:36	12	1239
6-12-1-C-20131002-34	6	12	1	C	20131002	34	jp	3:44	3:48	12	1239
6-12-1-S-20131002-35	6	12	1	S	20131002	35	jp	4:11	4:18	12	1237
6-12-1-C-20131002-36	6	12	1	C	20131002	36	jp	4:21	4:25	12	1237
6-12-1-S-20131002-37	6	12	1	S	20131002	37	jp	4:02	4:09	12	1238
6-12-2-s-20131002-03	6	12	2	s	20131002	03	dad	8:45	9:05	12	1250
6-12-2-s-20131002-04	6	12	2	s	20131002	04	jew	9:10	9:45	12	1252
6-12-2-s-20131002-05	6	12	2	s	20131002	05	dad	9:50	0:00	12	1254
6-12-2-a-20131002-06	6	12	2	a	20131002	06	jew	2:00	2:15	12	1241

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-a-20131002-07	6	12	2	a	20131002	07	jew	2:30	3:00	12	1239
6-12-2-a-20131002-08	6	12	2	a	20131002	08	jew	3:05	3:30	12	1237
6-12-34-s-20131002-03	6	12	34	s	20131002	03	jew	11:00	12:30	12	1249
6-12-1-S-20131003-03	6	12	1	S	20131003	03	jp	8:45	8:52	12	1242
6-12-1-C-20131003-04	6	12	1	C	20131003	04	jp	8:54	8:59	12	1242
6-12-1-S-20131003-05	6	12	1	S	20131003	05	jp	9:04	9:09	12	1242
6-12-1-C-20131003-06	6	12	1	C	20131003	06	jp	9:11	9:16	12	1242
6-12-1-S-20131003-07	6	12	1	S	20131003	07	jp	9:20	9:25	12	1242
6-12-1-C-20131003-08	6	12	1	C	20131003	08	jp	9:28	9:31	12	1242
6-12-1-S-20131003-09	6	12	1	S	20131003	09	jp	9:36	9:42	12	1242
6-12-1-C-20131003-10	6	12	1	C	20131003	10	jp	9:44	9:48	12	1242
6-12-1-S-20131003-11	6	12	1	S	20131003	11	jp	9:53	9:59	12	1242
6-12-1-C-20131003-12	6	12	1	C	20131003	12	jp	10:00	10:06	12	1242
6-12-1-C-20131003-13	6	12	1	C	20131003	13	jp	10:23	10:32	12	1240
6-12-1-C-20131003-14	6	12	1	C	20131003	14	jp	10:34	10:41	12	1240
6-12-1-S-20131003-15	6	12	1	S	20131003	15	jp	10:47	10:55	12	1240
6-12-1-C-20131003-16	6	12	1	C	20131003	16	jp	10:57	11:02	12	1240
6-12-1-C-20131003-17	6	12	1	C	20131003	17	jp	11:12	11:18	12	1240
6-12-1-C-20131003-18	6	12	1	C	20131003	18	jp	11:22	11:27	12	1240
6-12-1-S-20131003-19	6	12	1	S	20131003	19	jp	11:30	11:35	12	1240
6-12-1-C-20131003-20	6	12	1	C	20131003	20	jp	11:37	11:43	12	1240
6-12-1-S-20131003-21	6	12	1	S	20131003	21	jp	11:48	11:56	12	1240
6-12-1-C-20131003-22	6	12	1	C	20131003	22	jp	11:57	12:05	12	1240
6-12-1-S-20131003-23	6	12	1	S	20131003	23	jp	1:27	1:37	12	1240
6-12-1-C-20131003-24	6	12	1	C	20131003	24	jp	1:39	1:50	12	1240
6-12-1-S-20131003-25	6	12	1	S	20131003	25	jp	1:56	2:02	12	1238
6-12-1-C-20131003-26	6	12	1	C	20131003	26	jp	2:06	2:11	12	1238
6-12-1-S-20131003-27	6	12	1	S	20131003	27	jp	2:16	2:21	12	1238
6-12-1-C-20131003-28	6	12	1	C	20131003	28	jp	2:26	2:30	12	1238
6-12-1-S-20131003-29	6	12	1	S	20131003	29	jp	2:36	2:43	12	1242
6-12-1-C-20131003-30	6	12	1	C	20131003	30	jp	2:44	2:48	12	1242
6-12-1-S-20131003-31	6	12	1	S	20131003	31	jp	2:56	3:05	12	1238
6-12-1-C-20131003-32	6	12	1	C	20131003	32	jp	3:06	3:15	12	1238

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131003-33	6	12	1	S	20131003	33	jp	3:22	3:33	12	1238
6-12-1-C-20131003-34	6	12	1	C	20131003	34	jp	3:34	3:40	12	1238
6-12-1-S-20131003-35	6	12	1	S	20131003	35	jp	3:44	3:51	12	1238
6-12-1-C-20131003-36	6	12	1	C	20131003	36	jp	3:54	3:58	12	1238
6-12-1-C-20131003-38	6	12	1	C	20131003	38	jp	4:11	4:14	12	1238
6-12-2-s-20131003-04	6	12	2	s	20131003	04	jew	9:10	10:00	12	1241
6-12-2-s-20131003-05	6	12	2	s	20131003	05	jew	10:10	10:41	12	1239
6-12-2-s-20131003-06	6	12	2	s	20131003	06	jew	10:50	11:55	12	1237
6-12-2-S-20131003-07	6	12	2	S	20131003	07	MEC	12:59	1:15	12	1240
6-12-2-a-20131003-08	6	12	2	a	20131003	08	jew	1:50	2:10	12	1242
6-12-2-a-20131003-09	6	12	2	a	20131003	09	jew	2:15	2:40	12	1240
6-12-2-a-20131003-10	6	12	2	a	20131003	10	jew	3:05	3:30	12	1238
6-12-1-S-20131007-03	6	12	1	S	20131007	03	jp	9:00	9:11	13	1311
6-12-1-S-20131007-04	6	12	1	S	20131007	04	jp	9:13	9:17	13	1311
6-12-1-S-20131007-05	6	12	1	S	20131007	05	jp	9:22	9:28	13	1311
6-12-1-C-20131007-06	6	12	1	C	20131007	06	jp	9:34	9:37	13	1311
6-12-1-S-20131007-07	6	12	1	S	20131007	07	jp	9:42	9:52	13	1311
6-12-1-C-20131007-08	6	12	1	C	20131007	08	jp	9:54	9:58	13	1311
6-12-1-C-20131007-09	6	12	1	C	20131007	09	jp	9:59	10:03	13	1311
6-12-1-S-20131007-10	6	12	1	S	20131007	10	jp	10:07	10:13	13	1311
6-12-1-C-20131007-11	6	12	1	C	20131007	11	jp	10:16	10:20	13	1311
6-12-1-C-20131007-12	6	12	1	C	20131007	12	jp	10:26	10:31	13	1311
6-12-1-S-20131007-13	6	12	1	S	20131007	13	jp	10:39	10:48	13	1309
6-12-1-C-20131007-14	6	12	1	C	20131007	14	jp	10:59	11:04	13	1309
6-12-1-S-20131007-15	6	12	1	S	20131007	15	jp	11:09	11:18	13	1309
6-12-1-C-20131007-16	6	12	1	C	20131007	16	jp	11:19	11:22	13	1309
6-12-1-S-20131007-17	6	12	1	S	20131007	17	jp	11:36	11:47	13	1307
6-12-1-C-20131007-18	6	12	1	C	20131007	18	jp	11:48	11:52	13	1307
6-12-1-S-20131007-19	6	12	1	S	20131007	19	jp	11:55	12:08	13	1307
6-12-1-C-20131007-20	6	12	1	C	20131007	20	jp	12:09	12:12	13	1307
6-12-1-S-20131007-21	6	12	1	S	20131007	21	jp	1:12	1:22	13	1307
6-12-1-C-20131007-22	6	12	1	C	20131007	22	jp	1:23	1:28	13	1307
6-12-1-S-20131007-23	6	12	1	S	20131007	23	jp	1:32	1:40	13	1307

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131007-24	6	12	1	C	20131007	24	jp	1:43	1:45	13	1307
6-12-1-S-20131007-25	6	12	1	S	20131007	25	jp	1:59	2:06	13	1310
6-12-1-C-20131007-26	6	12	1	C	20131007	26	jp	2:09	2:12	13	1310
6-12-1-S-20131007-27	6	12	1	S	20131007	27	jp	2:17	2:26	13	1310
6-12-1-C-20131007-28	6	12	1	C	20131007	28	jp	2:28	2:31	13	1310
6-12-1-S-20131007-29	6	12	1	S	20131007	29	jp	2:39	2:50	13	1310
6-12-1-C-20131007-30	6	12	1	C	20131007	30	jp	2:52	2:56	13	1310
6-12-1-C-20131007-31	6	12	1	C	20131007	31	jp	3:03	3:11	13	1306
6-12-1-S-20131007-32	6	12	1	S	20131007	32	jp	3:12	3:19	13	1306
6-12-1-C-20131007-33	6	12	1	C	20131007	33	jp	3:27	3:46	13	1300
6-12-1-S-20131007-34	6	12	1	S	20131007	34	jp	3:50	4:05	13	1307
6-12-1-S-20131007-35	6	12	1	S	20131007	35	jp	4:09	4:19	13	1307
6-12-2-c-20131007-03	6	12	2	c	20131007	03	jew2	9:25	9:48	13	1311
6-12-2-c-20131007-04	6	12	2	c	20131007	04	jew2	9:55	10:09	13	1309
6-12-2-c-20131007-05	6	12	2	c	20131007	05	jew2	10:15	10:36	13	1307
6-12-2-c-20131007-06	6	12	2	c	20131007	06	jew2	11:09	11:36	13	1308
6-12-2-c-20131007-07	6	12	2	c	20131007	07	jew2	11:43	12:05	13	1310
6-12-2-c-20131007-08	6	12	2	c	20131007	08	jew2	1:30	1:50	13	1304
6-12-2-c-20131007-09	6	12	2	c	20131007	09	jew2	2:06	2:25	13	1304
6-12-2-c-20131007-10	6	12	2	c	20131007	10	jew2	2:33	2:48	13	1302
6-12-2-c-20131007-11	6	12	2	c	20131007	11	jew	3:25	4:32	13	1307
6-12-1-S-20131008-03	6	12	1	S	20131008	03	jp	8:59	9:07	12	1218
6-12-1-S-20131008-03	6	12	1	S	20131008	03	jp	8:48	8:48	Ot	Other
6-12-1-C-20131008-04	6	12	1	C	20131008	04	jp	9:08	9:12	12	1218
6-12-1-S-20131008-05	6	12	1	S	20131008	05	jp	9:16	9:22	12	1218
6-12-1-C-20131008-06	6	12	1	C	20131008	06	jp	9:23	9:29	12	1218
6-12-1-S-20131008-07	6	12	1	S	20131008	07	jp	9:32	9:42	12	1218
6-12-1-C-20131008-08	6	12	1	C	20131008	08	jp	9:55	10:04	12	1218
6-12-1-S-20131008-08	6	12	1	S	20131008	08	jp	9:48	9:53	12	1218
6-12-1-S-20131008-09	6	12	1	S	20131008	09	jp	10:09	10:14	12	1218
6-12-1-C-20131008-10	6	12	1	C	20131008	10	jp	10:20	10:25	12	1218
6-12-1-S-20131008-11	6	12	1	S	20131008	11	jp	10:35	10:42	12	1214
6-12-1-C-20131008-12	6	12	1	C	20131008	12	jp	10:44	10:48	12	1214

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131008-13	6	12	1	S	20131008	13	jp	10:53	11:00	12	1214
6-12-1-C-20131008-14	6	12	1	C	20131008	14	jp	11:01	11:05	12	1214
6-12-1-S-20131008-15	6	12	1	S	20131008	15	jp	11:10	11:19	12	1214
6-12-1-C-20131008-16	6	12	1	C	20131008	16	jp	11:24	11:28	12	1214
6-12-1-S-20131008-17	6	12	1	S	20131008	17	jp	11:33	1:40	12	1214
6-12-1-C-20131008-18	6	12	1	C	20131008	18	jp	11:43	11:46	12	1214
6-12-1-S-20131008-19	6	12	1	S	20131008	19	jp	11:54	12:00	12	1214
6-12-1-C-20131008-20	6	12	1	C	20131008	20	jp	12:03	12:06	12	1214
6-12-1-S-20131008-21	6	12	1	S	20131008	21	jp	12:10	12:16	12	1214
6-12-1-C-20131008-22	6	12	1	C	20131008	22	jp	12:17	12:21	12	1214
6-12-1-S-20131008-23	6	12	1	S	20131008	23	jp	2:17	3:22	12	1218
6-12-1-C-20131008-24	6	12	1	C	20131008	24	jp	3:32	4:03	12	1218
6-12-1-S-20131008-25	6	12	1	S	20131008	25	jp	4:17	4:23	12	1254
6-12-2-c-20131008-03	6	12	2	c	20131008	03	jew2	9:06	9:53	12	1218
6-12-2-c-20131008-04	6	12	2	c	20131008	04	jew2	10:00		12	1218
6-12-2-a-20131008-05	6	12	2	a	20131008	05	jew2	10:47	12:00	12	1218
6-12-2-c-20131008-06	6	12	2	c	20131008	06	jew2	2:45	3:00	13	1301
6-12-2-c-20131008-07	6	12	2	c	20131008	07	jew2	3:10	3:18	13	1301
6-12-2-c-20131008-08	6	12	2	c	20131008	08	jew2	3:27	3:43	13	1303
6-12-2-c-20131008-09	6	12	2	c	20131008	09	jew2	3:50	3:56	13	1301
6-12-2-c-20131008-10	6	12	2	c	20131008	10	jew2	4:00	4:20	13	1303
6-12-34-s-20131008-03	6	12	34	s	20131008	03	jew			Ot	Other
6-12-34-s-20131008-04	6	12	34	s	20131008	04	jew			12	1239
6-12-34-s-20131008-05	6	12	34	s	20131008	05	jew	2:00	2:42	12	1239
6-12-34-s-20131008-06	6	12	34	s	20131008	06	jew	2:45	3:05	12	1239
6-12-34-s-20131008-07	6	12	34	s	20131008	07	jew	3:10	4:15	12	1237
6-12-1-S-20131009-03	6	12	1	S	20131009	03	jp			Ot	Other
6-12-1-S-20131009-04	6	12	1	S	20131009	04	jp	8:53	9:00	12	1210
6-12-1-C-20131009-05	6	12	1	C	20131009	05	jp	9:02	9:07	12	1210
6-12-1-S-20131009-06	6	12	1	S	20131009	06	jp	9:18	9:24	12	1210
6-12-1-C-20131009-07	6	12	1	C	20131009	07	jp	9:27	9:31	12	1210
6-12-1-S-20131009-08	6	12	1	S	20131009	08	jp	9:36	9:44	12	1210
6-12-1-C-20131009-09	6	12	1	C	20131009	09	jp	9:48	9:51	12	1210

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131009-10	6	12	1	S	20131009	10	jp	9:58	10:07	12	1210
6-12-1-C-20131009-11	6	12	1	C	20131009	11	jp	10:09	10:14	12	1210
6-12-1-S-20131009-12	6	12	1	S	20131009	12	jp	10:18	10:25	12	1212
6-12-1-C-20131009-13	6	12	1	C	20131009	13	jp	10:28	10:33	12	1212
6-12-1-S-20131009-14	6	12	1	S	20131009	14	jp	10:44	10:49	12	1212
6-12-1-C-20131009-15	6	12	1	C	20131009	15	jp	10:52	10:56	12	1212
6-12-1-C-20131009-16	6	12	1	C	20131009	16	jp	11:08	11:15	12	1212
6-12-1-C-20131009-17	6	12	1	C	20131009	17	jp	11:16	11:22	12	1212
6-12-1-S-20131009-18	6	12	1	S	20131009	18	jp	1:48	1:58	12	1212
6-12-1-S-20131009-19	6	12	1	S	20131009	19	jp	2:07	2:13	12	1212
6-12-1-C-20131009-20	6	12	1	C	20131009	20	jp	2:16	2:22	12	1212
6-12-1-S-20131009-21	6	12	1	S	20131009	21	jp	2:29	2:35	12	1212
6-12-1-C-20131009-22	6	12	1	C	20131009	22	jp	2:38	2:42	12	1212
6-12-1-S-20131009-23	6	12	1	S	20131009	23	jp	2:53	3:00	12	1208
6-12-1-C-20131009-24	6	12	1	C	20131009	24	jp	3:01	3:07	12	1208
6-12-1-S-20131009-25	6	12	1	S	20131009	25	jp	3:11	3:20	12	1208
6-12-1-C-20131009-26	6	12	1	C	20131009	26	jp	3:22	3:25	12	1208
6-12-1-S-20131009-27	6	12	1	S	20131009	27	jp	3:30	3:36	12	1208
6-12-1-C-20131009-28	6	12	1	C	20131009	28	jp	3:39	3:43	12	1208
6-12-1-S-20131009-29	6	12	1	S	20131009	29	jp	3:48	3:59	12	1208
6-12-1-C-20131009-30	6	12	1	C	20131009	30	jp	4:00	4:05	12	1208
6-12-2-a-20131009-04	6	12	2	a	20131009	04	jew2	9:07	9:38	12	1212
6-12-2-a-20131009-05	6	12	2	a	20131009	05	jew2	9:53	10:15	12	1210
6-12-2-a-20131009-06	6	12	2	a	20131009	06	jew2	10:20	10:50	12	1208
6-12-2-c-20131009-07	6	12	2	c	20131009	07	jew2	11:10	11:31	12	1212
6-12-2-c-20131009-08	6	12	2	c	20131009	08	jew2	1:35	1:55	12	1210
6-12-2-c-20131009-09	6	12	2	c	20131009	09	jew2	2:15	2:41	12	1208
6-12-2-s-20131009-10	6	12	2	s	20131009	10	jew2	2:50	3:07	12	1208
6-12-2-s-20131009-11	6	12	2	s	20131009	11	jew2	3:30	4:12	12	1210
6-12-34-s-20131009-04	6	12	34	s	20131009	04	jew	8:55	10:20	12	1212
6-12-34-s-20131009-05	6	12	34	s	20131009	05	jew	10:30	11:10	12	1210
6-12-34-s-20131009-06	6	12	34	s	20131009	06	jew	1:50	2:43	12	1223
6-12-34-s-20131009-07	6	12	34	s	20131009	07	tad	3:10	4:40	12	1223

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131010-03	6	12	1	S	20131010	03	jp	8:37	8:46	12	1221
6-12-1-C-20131010-04	6	12	1	C	20131010	04	jp	8:50	8:55	12	1221
6-12-1-S-20131010-05	6	12	1	S	20131010	05	jp	9:02	9:07	12	1221
6-12-1-C-20131010-06	6	12	1	C	20131010	06	jp	9:08	9:12	12	1221
6-12-1-S-20131010-07	6	12	1	S	20131010	07	jp	9:17	9:22	12	1221
6-12-1-C-20131010-08	6	12	1	C	20131010	08	jp	9:24	9:30	12	1221
6-12-1-S-20131010-09	6	12	1	S	20131010	09	jp	9:36	9:46	12	1221
6-12-1-C-20131010-10	6	12	1	C	20131010	10	jp	9:48	9:53	12	1221
6-12-1-S-20131010-11	6	12	1	S	20131010	11	jp	10:08	10:12	12	1221
6-12-1-C-20131010-12	6	12	1	C	20131010	12	jp	10:15	10:17	12	1221
6-12-1-S-20131010-13	6	12	1	S	20131010	13	jp	10:26	10:34	12	1221
6-12-1-C-20131010-14	6	12	1	C	20131010	14	jp	10:38	10:41	12	1221
6-12-1-s-20131010-15	6	12	1	s	20131010	15	jp	10:50	11:04	12	1219
6-12-1-C-20131010-16	6	12	1	C	20131010	16	jp	11:07	11:13	12	1219
6-12-1-S-20131010-17	6	12	1	S	20131010	17	jp	11:20	11:25	12	1219
6-12-1-C-20131010-18	6	12	1	C	20131010	18	jp	11:28	11:39	12	1219
6-12-1-S-20131010-19	6	12	1	S	20131010	19	jp	11:41	11:55	12	1219
6-12-1-c-20131010-20	6	12	1	c	20131010	20	jp	11:57	12:01	12	1219
6-12-1-s-20131010-21	6	12	1	s	20131010	21	dad	13:40	13:50	12	1217
6-12-1-c-20131010-22	6	12	1	c	20131010	22	dad	13:52	13:59	12	1217
6-12-1-s-20131010-23	6	12	1	s	20131010	23	dad	14:02	14:10	12	1217
6-12-1-c-20131010-24	6	12	1	c	20131010	24	dad	14:12	14:20	12	1217
6-12-1-s-20131010-25	6	12	1	s	20131010	25	dad	14:25	14:36	12	1217
6-12-1-c-20131010-26	6	12	1	c	20131010	26	dad	14:38	14:44	12	1217
6-12-1-s-20131010-27	6	12	1	s	20131010	27	dad	14:45	2:59	12	1217
6-12-1-C-20131010-28	6	12	1	C	20131010	28	dad	15:00	15:12	12	1217
6-12-1-S-20131010-30	6	12	1	S	20131010	30	jp	15:18	15:38	12	1219
6-12-1-C-20131010-31	6	12	1	C	20131010	31	jp	15:39	15:44	12	1219
6-12-1-S-20131010-32	6	12	1	S	20131010	32	jp	15:48	15:56	12	1219
6-12-1-C-20131010-33	6	12	1	C	20131010	33	jp	16:04	16:08	12	1219
6-12-2-c-20131010-03	6	12	2	c	20131010	03	jew2	8:30	9:04	12	1217
6-12-2-c-20131010-04	6	12	2	c	20131010	04	jew2	9:07	9:23	12	1219
6-12-2-c-20131010-05	6	12	2	c	20131010	05	jew2	9:40	10:04	12	1221

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-C-20131010-06	6	12	2	C	20131010	06	JEW2	10:18	10:22	12	1221
6-12-2-c-20131010-07	6	12	2	c	20131010	07	jew2	10:26	10:31	12	1219
6-12-2-a-20131010-08	6	12	2	a	20131010	08	jew2	10:42	11:00	12	1221
6-12-2-a-20131010-09	6	12	2	a	20131010	09	jew2	11:07	11:21	12	1219
6-12-2-a-20131010-10	6	12	2	a	20131010	10	jew2	11:33	11:50	12	1217
6-12-2-c-20131010-11	6	12	2	c	20131010	11	jew2	2:00	2:11	13	1303
6-12-2-s-20131010-12	6	12	2	s	20131010	12	jew2	2:23	2:39	12	1210
6-12-2-s-20131010-13	6	12	2	s	20131010	13	jew2	2:54	3:04	12	1210
6-12-2-S-20131010-14	6	12	2	S	20131010	14	MEC	3:09	3:39	13	1301
6-12-2-s-20131010-15	6	12	2	s	20131010	15	jew2	4:26	4:35	13	1301
6-12-34-s-20131010-03	6	12	34	s	20131010	03	jew	8:25	9:54	12	1223
6-12-34-s-20131010-04	6	12	34	s	20131010	04	jew	10:10	11:13	13	1337
6-12-34-s-20131010-05	6	12	34	s	20131010	05	jew	11:15	11:15	12	1244
6-12-34-S-20131010-06	6	12	34	S	20131010	06	jew	11:50	12:10	12	1244
6-12-34-s-20131010-07	6	12	34	s	20131010	07	jew	1:55	2:30	12	1244
6-12-34-s-20131010-08	6	12	34	s	20131010	08	jew	2:35	3:40	13	1397
6-12-34-s-20131010-09	6	12	34	s	20131010	09	jew	3:45	4:35	13	1395
6-12-1-C-20131015-03	6	12	1	C	20131015	03	jp	8:45	8:51	14	1443
6-12-1-C-20131015-04	6	12	1	C	20131015	04	jp	8:58	9:00	14	1443
6-12-1-C-20131015-05	6	12	1	C	20131015	05	jp	9:07	9:10	14	1441
6-12-1-C-20131015-06	6	12	1	C	20131015	06	jp	9:13	9:16	14	1441
6-12-1-C-20131015-07	6	12	1	C	20131015	07	jp	9:26	9:30	14	1439
6-12-1-S-20131015-08	6	12	1	S	20131015	08	jp	9:53	10:00	14	1443
6-12-1-S-20131015-09	6	12	1	S	20131015	09	jp	10:04	10:10	14	1443
6-12-1-S-20131015-10	6	12	1	S	20131015	10	jp	10:18	10:22	14	1441
6-12-1-S-20131015-11	6	12	1	S	20131015	11	jp	10:28	10:35	14	1441
6-12-1-S-20131015-12	6	12	1	S	20131015	12	jp	10:37	10:43	14	1439
6-12-1-C-20131015-13	6	12	1	C	20131015	13	jp	10:49	10:52	14	1439
6-12-1-S-20131015-14	6	12	1	S	20131015	14	jp	10:58	11:03	14	1439
6-12-1-S-20131015-15	6	12	1	S	20131015	15	jp	11:11	11:17	14	1437
6-12-1-C-20131015-16	6	12	1	C	20131015	16	jp	11:21	11:24	14	1437
6-12-1-C-20131015-17	6	12	1	C	20131015	17	jp	11:26	11:30	14	1437
6-12-1-S-20131015-18	6	12	1	S	20131015	18	jp	11:33	11:36	14	1437

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131015-19	6	12	1	C	20131015	19	jp	11:47	11:50	14	1438
6-12-1-C-20131015-20	6	12	1	C	20131015	20	jp	11:54	11:58	14	1438
6-12-1-S-20131015-21	6	12	1	S	20131015	21	jp	12:01	12:06	14	1438
6-12-1-S-20131015-22	6	12	1	S	20131015	22	jp	1:42	2:09	14	1443
6-12-1-S-20131015-23	6	12	1	S	20131015	23	jp	2:18	2:37	14	1443
6-12-1-S-20131015-24	6	12	1	S	20131015	24	jp	2:47	3:23	13	1301
6-12-1-C-20131015-25	6	12	1	C	20131015	25	jp	3:33	4:06	13	1306
6-12-1-S-20131015-26	6	12	1	S	20131015	26	jp	4:32	:50	13	1306
6-12-2-c-20131015-03	6	12	2	c	20131015	03	jew2	8:46	9:09	14	1400
6-12-2-c-20131015-04	6	12	2	c	20131015	04	jew2	9:32	9:50	14	1439
6-12-2-c-20131015-05	6	12	2	c	20131015	05	jew2	9:53	10:14	14	1441
6-12-2-c-20131015-06	6	12	2	c	20131015	06	jew2	10:18	10:31	14	1443
6-12-2-c-20131015-07	6	12	2	c	20131015	07	jew2	10:45	10:58	14	1443
6-12-2-s-20131015-08	6	12	2	s	20131015	08	jew2	11:05	11:20	14	1443
6-12-2-s-20131015-09	6	12	2	s	20131015	09	jew2	11:32	11:45	14	1441
6-12-2-s-20131015-10	6	12	2	s	20131015	10	jew2	11:47	12:03	14	1439
6-12-2-s-20131015-11	6	12	2	s	20131015	11	jew2	1:43	2:00	14	1437
6-12-2-c-20131015-12	6	12	2	c	20131015	12	jew2	2:05	2:31	14	1438
6-12-2-s-20131015-13	6	12	2	s	20131015	13	jew2	2:40	3:04	14	1438
6-12-2-s-20131015-14	6	12	2	s	20131015	14	jew2	3:55	4:06	12	1212
6-12-34-s-20131015-04	6	12	34	s	20131015	04	jew	8:50	9:52	14	1400
6-12-34-s-20131015-05	6	12	34	s	20131015	05	jew	10:00	10:24	14	1437
6-12-34-s-20131015-06	6	12	34	s	20131015	06	jew	10:50	12:02	14	1443
6-12-34-s-20131015-07	6	12	34	s	20131015	07	TAD	2:02	2:47	14	1445
6-12-34-s-20131015-08	6	12	34	s	20131015	08	jew	3:03	4:00	14	1440
6-12-1-C-20131016-03	6	12	1	C	20131016	03	jp	8:58	9:03	14	1435
6-12-1-S-20131016-04	6	12	1	S	20131016	04	jp	9:07	9:16	14	1435
6-12-1-C-20131016-05	6	12	1	C	20131016	05	jp	9:19	9:22	14	1435
6-12-1-S-20131016-06	6	12	1	S	20131016	06	jp	9:25	9:29	14	1435
6-12-1-S-20131016-07	6	12	1	S	20131016	07	jp	9:33	9:39	14	1433
6-12-1-C-20131016-08	6	12	1	C	20131016	08	jp	9:42	9:46	14	1433
6-12-1-C-20131016-09	6	12	1	C	20131016	09	jp	9:49	9:52	14	1433
6-12-1-S-20131016-10	6	12	1	S	20131016	10	jp	9:55	10:02	14	1433

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131016-11	6	12	1	S	20131016	11	jp	10:14	10:21	14	1431
6-12-1-C-20131016-12	6	12	1	C	20131016	12	jp	10:23	10:27	14	1431
6-12-1-C-20131016-13	6	12	1	C	20131016	13	jp	10:29	10:32	14	1431
6-12-1-S-20131016-14	6	12	1	S	20131016	14	jp	10:35	10:40	14	1431
6-12-1-S-20131016-15	6	12	1	S	20131016	15	jp	10:44	10:51	14	1430
6-12-1-c-20131016-16	6	12	1	c	20131016	16	jp	10:58	11:06	14	1430
6-12-1-C-20131016-17	6	12	1	C	20131016	17	jp	11:10	11:18	14	1430
6-12-1-S-20131016-18	6	12	1	S	20131016	18	jp	11:22	11:28	14	1430
6-12-1-S-20131016-19	6	12	1	S	20131016	19	jp	11:32	11:38	14	1432
6-12-1-S-20131016-20	6	12	1	S	20131016	20	jp	11:39	11:43	14	1432
6-12-1-C-20131016-21	6	12	1	C	20131016	21	jp	11:46	11:52	14	1432
6-12-1-s-20131016-22	6	12	1	s	20131016	22	jp	11:55	12:09	14	1432
6-12-1-S-20131016-23	6	12	1	S	20131016	23	jp	1:33	1:41	14	1434
6-12-1-C-20131016-24	6	12	1	C	20131016	24	jp	1:45	1:49	14	1434
6-12-1-C-20131016-25	6	12	1	C	20131016	25	jp	1:52	1:55	14	1434
6-12-1-S-20131016-26	6	12	1	S	20131016	26	jp	1:58	2:05	14	1434
6-12-1-C-20131016-27	6	12	1	C	20131016	27	jp	2:15	2:38	13	1300
6-12-1-C-20131016-28	6	12	1	C	20131016	28	jp	2:40	3:25	13	1300
6-12-1-C-20131016-29	6	12	1	C	20131016	29	jp	3:32	4:12	13	1300
6-12-2-c-20131016-03	6	12	2	c	20131016	03	jew2	8:55	9:26	14	1434
6-12-2-c-20131016-04	6	12	2	c	20131016	04	jew2	9:32	9:55	14	1432
6-12-2-c-20131016-05	6	12	2	c	20131016	05	jew2	10:01	10:54	14	1430
6-12-2-c-20131016-06	6	12	2	c	20131016	06	jew2	11:00	11:29	14	1433
6-12-2-c-20131016-07	6	12	2	c	20131016	07	jew2	11:45	12:13	14	1435
6-12-2-C-20131016-08	6	12	2	C	20131016	08	MEC	12:49	7:02	14	1435
6-12-2-s-20131016-09	6	12	2	s	20131016	09	jew2	1:22	1:37	14	1435
6-12-2-s-20131016-10	6	12	2	s	20131016	10	jew2	1:55	2:24	14	1434
6-12-2-s-20131016-11	6	12	2	s	20131016	11	jew2	2:25	2:41	14	1432
6-12-2-s-20131016-12	6	12	2	s	20131016	12	jew2	2:45	3:03	14	1430
6-12-2-s-20131016-13	6	12	2	s	20131016	13	jew2	3:14	3:32	14	1433
6-12-2-s-20131016-14	6	12	2	s	20131016	14	jew2	3:35	3:45	14	1435
6-12-34-s-20131016-04	6	12	34	s	20131016	04	jew	8:50	9:55	14	1435
6-12-34-s-20131016-05	6	12	34	s	20131016	05	jew	9:55	10:32	14	1449

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-34-s-20131016-06	6	12	34	s	20131016	06	tad	10:48	11:28	14	1431
6-12-34-s-20131016-07	6	12	34	s	20131016	07	jew	11:34	12:17	14	1400
6-12-34-S-20131016-08	6	12	34	S	20131016	08	jew	1:30	2:09	14	1438
6-12-34-s-20131016-09	6	12	34	s	20131016	09	tad	2:15	2:50	14	1400
6-12-34-s-20131016-10	6	12	34	s	20131016	10	jew	3:05	3:55	14	1400
6-12-1-S-20131017-03	6	12	1	S	20131017	03	jp	9:00	9:24	13	1318
6-12-1-S-20131017-04	6	12	1	S	20131017	04	jp	10:00	10:25	13	1318
6-12-1-C-20131017-05	6	12	1	C	20131017	05	jp	10:26	11:05	13	1318
6-12-1-S-20131017-06	6	12	1	S	20131017	06	jp	11:12	11:26	13	1318
6-12-1-S-20131017-07	6	12	1	S	20131017	07	jp	11:34	11:46	13	1318
6-12-1-S-20131017-08	6	12	1	S	20131017	08	jp	1:42	2:08	12	1225
6-12-1-C-20131017-09	6	12	1	C	20131017	09	jp	2:13	2:17	12	1225
6-12-1-C-20131017-10	6	12	1	C	20131017	10	jp	2:22	2:29	12	1225
6-12-1-C-20131017-11	6	12	1	C	20131017	11	jp	2:32		12	1225
6-12-2-c-20131017-03	6	12	2	c	20131017	03	jew2	8:35	9:33	13	1318
6-12-2-c-20131017-04	6	12	2	c	20131017	04	jew2	10:22	10:37	13	1318
6-12-2-c-20131017-05	6	12	2	c	20131017	05	jew2	10:40	10:44	13	1318
6-12-2-c-20131017-06	6	12	2	c	20131017	06	jew2	10:46	10:52	13	1318
6-12-2-s-20131017-07	6	12	2	s	20131017	07	jew2	11:05	10:38	13	1318
6-12-2-c-20131017-08	6	12	2	c	20131017	08	jew2	1:02	1:26	12	1225
6-12-2-a-20131017-09	6	12	2	a	20131017	09	jew2	1:30	1:47	12	1225
6-12-2-s-20131017-10	6	12	2	s	20131017	10	jew2	1:57	2:21	12	1225
6-12-2-c-20131017-11	6	12	2	c	20131017	11	jew2	3:04	3:12	13	1318
6-12-2-C-20131017-12	6	12	2	C	20131017	12	jp	3:45	3:49	12	1225
6-12-2-C-20131017-13	6	12	2	C	20131017	13	jp	3:51	3:57	12	1225
6-12-2-C-20131017-14	6	12	2	C	20131017	14	jp	3:58	4:03	12	1225
6-12-2-C-20131017-15	6	12	2	C	20131017	15	jp	4:37	5:09	12	1254
6-12-2-S-20131017-16	6	12	2	S	20131017	16	jp	5:11	5:28	12	1254
6-12-2-a-20131017-17	6	12	2	a	20131017	17	jew2	5:55	6:15	12	1254
6-12-34-s-20131017-03	6	12	34	s	20131017	03	tad	8:25	9:10	13	1318
6-12-34-s-20131017-04	6	12	34	s	20131017	04	tad	9:16	11:11	14	1400
6-12-34-s-20131017-05	6	12	34	s	20131017	05	jew	11:45	12:24	12	1225
6-12-34-s-20131017-06	6	12	34	s	20131017	06	tad	1:33	2:41	12	1225

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-34-s-20131017-07	6	12	34	s	20131017	07	jew	2:50	4:25	12	1227
6-12-1-S-20131018-03	6	12	1	S	20131018	03	jp	8:45	8:51	14	1445
6-12-1-C-20131018-04	6	12	1	C	20131018	04	jp	8:53	8:58	14	1445
6-12-1-C-20131018-05	6	12	1	C	20131018	05	jp	9:00	9:05	14	1445
6-12-1-S-20131018-06	6	12	1	S	20131018	06	jp	9:08	9:19	14	1445
6-12-1-C-20131018-07	6	12	1	C	20131018	07	jp	9:23	9:44	14	1447
6-12-1-S-20131018-08	6	12	1	S	20131018	08	jp	9:50	9:59	14	1440
6-12-1-C-20131018-09	6	12	1	C	20131018	09	jp	10:04	10:07	14	1440
6-12-1-C-20131018-10	6	12	1	C	20131018	10	jp	10:10	10:13	14	1440
6-12-1-S-20131018-11	6	12	1	S	20131018	11	jp	10:16	10:24	14	1440
6-12-1-C-20131018-12	6	12	1	C	20131018	12	jp	10:40	10:45	14	1442
6-12-1-C-20131018-13	6	12	1	C	20131018	13	jp	10:47	10:51	14	1442
6-12-1-S-20131018-14	6	12	1	S	20131018	14	jp	11:22	11:38	13	1306
6-12-1-S-20131018-15	6	12	1	S	20131018	15	jp	11:41	11:46	13	1305
6-12-1-S-20131018-16	6	12	1	S	20131018	16	jp	11:52	12:05	13	1305
6-12-1-S-20131018-17	6	12	1	S	20131018	17	jp	12:11	12:18	13	1305
6-12-1-S-20131018-18	6	12	1	S	20131018	18	jp	2:31	2:45	13	1305
6-12-1-S-20131018-19	6	12	1	S	20131018	19	jp	2:49	3:27	13	1307
6-12-2-c-20131018-03	6	12	2	c	20131018	03	jew2	8:30	9:03	14	1400
6-12-2-c-20131018-04	6	12	2	c	20131018	04	jew2	9:05	9:21	14	1447
6-12-2-c-20131018-05	6	12	2	c	20131018	05	jew2	9:30	10:03	14	1442
6-12-2-c-20131018-06	6	12	2	c	20131018	06	jew2	10:10	10:11	14	1440
6-12-2-c-20131018-07	6	12	2	c	20131018	07	jew2	10:37	11:07	14	1440
6-12-2-s-20131018-08	6	12	2	s	20131018	08	jew2	11:10	10:46	14	1440
6-12-2-s-20131018-09	6	12	2	s	20131018	09	jew2	12:03	12:17	14	1442
6-12-2-s-20131018-10	6	12	2	s	20131018	10	jew2	1:45	2:10	14	1400
6-12-2-s-20131018-11	6	12	2	s	20131018	11	jew2	2:13	2:44	14	1445
6-12-2-c-20131018-12	6	12	2	c	20131018	12	jew2	2:50	3:04	14	1445
6-12-2-c-20131018-13	6	12	2	c	20131018	13	jew2	3:10	3:37	14	1443
6-12-34-s-20131018-03	6	12	34	s	20131018	03	jew	8:30	9:46	14	1400
6-12-34-s-20131018-04	6	12	34	s	20131018	04	jew	9:48	10:48	14	1400
6-12-34-s-20131018-05	6	12	34	s	20131018	05	jew	10:50	11:46	14	1400
6-12-34-s-20131018-06	6	12	34	s	20131018	06	jew	1:55	3:18	14	1400

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131021-03	6	12	1	S	20131021	03	tad	8:29	8:48	13	1309
6-12-1-S-20131021-04	6	12	1	S	20131021	04	jp	8:52	9:10	13	1309
6-12-1-S-20131021-05	6	12	1	S	20131021	05	tad	9:13	9:36	13	1309
6-12-1-S-20131021-06	6	12	1	S	20131021	06	jp	9:40	10:08	13	1311
6-12-1-s-20131021-07	6	12	1	s	20131021	07	tad	10:11	10:27	13	1311
6-12-1-S-20131021-08	6	12	1	S	20131021	08	jp	10:29	10:47	13	1311
6-12-1-s-20131021-09	6	12	1	s	20131021	09	tad	10:52	11:30	13	1311
6-12-1-C-20131021-10	6	12	1	C	20131021	10	jp	11:45		Ot	Other
6-12-1-C-20131021-11	6	12	1	C	20131021	11	jp	1:21	1:49	13	1300
6-12-1-c-20131021-12	6	12	1	c	20131021	12	tad	1:52	2:30	13	1304
6-12-1-C-20131021-13	6	12	1	C	20131021	13	jp	2:33	3:05	13	1302
6-12-1-s-20131021-14	6	12	1	s	20131021	14	tad	3:22	3:59	13	1300
6-12-1-A-20131021-15	6	12	1	A	20131021	15	jp	4:00	4:28	13	1300
6-12-2-s-20131021-03	6	12	2	s	20131021	03	jew2	8:30	9:13	14	1400
6-12-2-s-20131021-04	6	12	2	s	20131021	04	jew2	9:32	9:53	14	1400
6-12-2-s-20131021-05	6	12	2	s	20131021	05	jew2	10:03	10:16	14	1400
6-12-2-s-20131021-06	6	12	2	s	20131021	06	jew2	10:40	12:06	14	1400
6-12-2-s-20131021-07	6	12	2	s	20131021	07	jew2	2:10	2:45	12	1218
6-12-2-s-20131021-08	6	12	2	s	20131021	08	jew2	3:00	3:29	12	1218
6-12-2-s-20131021-09	6	12	2	s	20131021	09	jew2	3:45	4:29	12	1254
6-12-34-s-20131021-03	6	12	34	s	20131021	03	jew	8:38	10:15	14	1400
6-12-34-s-20131021-04	6	12	34	s	20131021	04	jew	10:20	11:20	14	1400
6-12-34-s-20131021-05	6	12	34	s	20131021	05	jew	11:25	12:00	14	1400
6-12-34-s-20131021-06	6	12	34	s	20131021	06	jew	2:00	3:05	12	1236
6-12-34-s-20131021-07	6	12	34	s	20131021	07	jew	3:08	3:45	12	1236
6-12-34-s-20131021-08	6	12	34	s	20131021	08	dad	3:50	4:45	12	1236
6-12-1-S-20131022-03	6	12	1	S	20131022	03	jp	8:44	8:53	14	1449
6-12-1-C-20131022-04	6	12	1	C	20131022	04	jp	8:57	9:00	14	1449
6-12-1-C-20131022-05	6	12	1	C	20131022	05	jp	9:08	9:11	14	1449
6-12-1-S-20131022-06	6	12	1	S	20131022	06	jp	9:15	9:21	14	1449
6-12-1-S-20131022-07	6	12	1	S	20131022	07	jp	10:11	10:19	14	1444
6-12-1-C-20131022-08	6	12	1	C	20131022	08	jp	10:22	10:24	14	1444
6-12-1-C-20131022-09	6	12	1	C	20131022	09	jp	10:26	10:30	14	1444

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131022-10	6	12	1	S	20131022	10	jp	10:31	10:36	14	1444
6-12-1-S-20131022-11	6	12	1	S	20131022	11	jp	10:39	10:45	14	1436
6-12-1-C-20131022-12	6	12	1	C	20131022	12	jp	10:47	10:52	14	1436
6-12-1-C-20131022-13	6	12	1	C	20131022	13	jp	10:53	10:57	14	1436
6-12-1-S-20131022-14	6	12	1	S	20131022	14	jp	10:59	11:03	14	1436
6-12-1-C-20131022-15	6	12	1	C	20131022	15	jp	11:17	11:22	14	1447
6-12-1-C-20131022-16	6	12	1	C	20131022	16	jp	11:26	11:50	14	1447
6-12-1-s-20131022-17	6	12	1	s	20131022	17	tad	1:16	1:30	13	1307
6-12-1-S-20131022-18	6	12	1	S	20131022	18	jp	1:33	1:49	13	1309
6-12-1-s-20131022-19	6	12	1	s	20131022	19	tad	1:54	2:21	13	1311
6-12-1-s-20131022-20	6	12	1	s	20131022	20	jp	2:22	2:58	13	1311
6-12-1-A-20131022-21	6	12	1	A	20131022	21	tad	3:10	3:34	13	1300
6-12-1-S-20131022-22	6	12	1	S	20131022	22	jp	3:44	4:10	13	1300
6-12-2-c-20131022-03	6	12	2	c	20131022	03	jew2	8:45	9:41	14	1436
6-12-2-c-20131022-04	6	12	2	c	20131022	04	jew2	10:05	11:04	14	1444
6-12-2-c-20131022-05	6	12	2	c	20131022	05	jew2	11:14	11:43	14	1449
6-12-2-s-20131022-06	6	12	2	s	20131022	06	jew2	1:10	1:20	14	1449
6-12-2-s-20131022-07	6	12	2	s	20131022	07	jew2	1:35	1:45	14	1444
6-12-2-s-20131022-08	6	12	2	s	20131022	08	jew2	1:50	2:56	14	1436
6-12-2-s-20131022-09	6	12	2	s	20131022	09	jew2	3:00	3:10	14	1436
6-12-2-s-20131022-10	6	12	2	s	20131022	10	jew2	3:20	3:52	14	1431
6-12-2-s-20131022-11	6	12	2	s	20131022	11	jew2	4:31	4:36	14	1431
6-12-34-s-20131022-03	6	12	34	s	20131022	03	jew	8:30	9:45	12	1236
6-12-34-s-20131022-04	6	12	34	s	20131022	04	jew	10:17	11:46	12	1236
6-12-34-s-20131022-05	6	12	34	s	20131022	05	jew	1:00	2:00	12	1248
6-12-34-s-20131022-06	6	12	34	s	20131022	06	jew	2:33	3:03	12	1230
6-12-34-s-20131022-07	6	12	34	s	20131022	07	jew	3:10	3:30	12	1228
6-12-34-s-20131022-08	6	12	34	s	20131022	08	jew	3:50	4:27	12	1228
6-12-1-S-20131023-03	6	12	1	S	20131023	03	jp	8:33	8:39	14	1400
6-12-1-C-20131023-04	6	12	1	C	20131023	04	jp	8:42	8:45	14	1400
6-12-1-C-20131023-05	6	12	1	C	20131023	05	jp	8:52	8:57	14	1400
6-12-1-S-20131023-06	6	12	1	S	20131023	06	jp	9:02	9:07	14	1400
6-12-1-C-20131023-07	6	12	1	C	20131023	07	jp	9:10	9:14	14	1402

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131023-08	6	12	1	C	20131023	08	jp	9:16	9:20	14	1402
6-12-1-S-20131023-09	6	12	1	S	20131023	09	jp	9:22	9:28	14	1402
6-12-1-S-20131023-10	6	12	1	S	20131023	10	jp	9:47	9:51	14	1404
6-12-1-C-20131023-11	6	12	1	C	20131023	11	jp	9:55	9:59	14	1404
6-12-1-C-20131023-12	6	12	1	C	20131023	12	jp	10:12	10:17	14	1404
6-12-1-S-20131023-13	6	12	1	S	20131023	13	jp	10:30	10:38	14	1404
6-12-1-C-20131023-14	6	12	1	C	20131023	14	jp	10:50	10:54	14	1420
6-12-1-C-20131023-15	6	12	1	C	20131023	15	jp	11:00	11:04	14	1420
6-12-1-S-20131023-16	6	12	1	S	20131023	16	jp	11:07	11:18	14	1420
6-12-1-S-20131023-17	6	12	1	S	20131023	17	jp	11:28	11:34	14	1418
6-12-1-S-20131023-18	6	12	1	S	20131023	18	jp	11:44	11:49	14	1418
6-12-1-S-20131023-19	6	12	1	S	20131023	19	jp	1:45	2:01	14	1400
6-12-1-S-20131023-20	6	12	1	S	20131023	20	jp	2:06	2:17	14	1400
6-12-1-S-20131023-21	6	12	1	S	20131023	21	jp	2:28	2:51	14	1402
6-12-1-S-20131023-22	6	12	1	S	20131023	22	jp	2:56	3;20	14	1402
6-12-1-S-20131023-23	6	12	1	S	20131023	23	jp	3:53	4:11	13	1300
6-12-2-c-20131023-03	6	12	2	c	20131023	03	jew2	8:28	9:04	14	1400
6-12-2-c-20131023-04	6	12	2	c	20131023	04	jew2	9:06	9:28	14	1402
6-12-2-c-20131023-05	6	12	2	c	20131023	05	jew2	9:40	10:11	14	1404
6-12-2-c-20131023-06	6	12	2	c	20131023	06	jew2	10:21	11:06	14	1418
6-12-2-c-20131023-07	6	12	2	c	20131023	07	jew2	11:09	11:29	14	1420
6-12-2-s-20131023-08	6	12	2	s	20131023	08	jew2	11:31		Ot	Other
6-12-2-s-20131023-09	6	12	2	s	20131023	09	jew2	2:12	2:39	14	1420
6-12-2-s-20131023-10	6	12	2	s	20131023	10	jew2	2:43	2:57	14	1418
6-12-2-s-20131023-11	6	12	2	s	20131023	11	jew2	3:01	3:20	14	1404
6-12-2-s-20131023-12	6	12	2	s	20131023	12	tad	3:40	3:58	14	1404
6-12-2-c-20131023-13	6	12	2	c	20131023	13	jew2	4:20	4:29	14	1444
6-12-34-s-20131023-03	6	12	34	s	20131023	03	jew	8:20	9:15	12	1200
6-12-34-s-20131023-04	6	12	34	s	20131023	04	jew	9:15	10:28	12	1241
6-12-34-s-20131023-05	6	12	34	s	20131023	05	jew	10:45	11:33	12	1200
6-12-34-s-20131023-06	6	12	34	s	20131023	06	jew	1:22	2:32	12	1228
6-12-34-s-20131023-07	6	12	34	s	20131023	07	dad	2:35	3:20	12	1228
6-12-34-s-20131023-08	6	12	34	s	20131023	08	jew	3:30	4:15	12	1200

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131024-03	6	12	1	C	20131024	03	jp	8:54	9:03	13	1316
6-12-1-S-20131024-04	6	12	1	S	20131024	04	jp	9:14	9:21	13	1316
6-12-1-C-20131024-05	6	12	1	C	20131024	05	jp	9:24	9:30	13	1316
6-12-1-S-20131024-06	6	12	1	S	20131024	06	jp	9:44	9:58	13	1316
6-12-1-C-20131024-07	6	12	1	C	20131024	07	jp	10:00	10:04	13	1316
6-12-1-S-20131024-08	6	12	1	S	20131024	08	jp	10:10	10:23	13	1316
6-12-1-C-20131024-09	6	12	1	C	20131024	09	jp	10:25	10:29	13	1316
6-12-1-S-20131024-10	6	12	1	S	20131024	10	jp	10:31	10:49	13	1316
6-12-1-C-20131024-11	6	12	1	C	20131024	11	jp	10:50	10:54	13	1316
6-12-1-S-20131024-12	6	12	1	S	20131024	12	jp	10:58	11:05	13	1316
6-12-1-C-20131024-13	6	12	1	C	20131024	13	jp	11:11	11:22	13	1316
6-12-1-S-20131024-14	6	12	1	S	20131024	14	jp	11:30	11:38	13	1314
6-12-1-C-20131024-15	6	12	1	C	20131024	15	jp	11:41	11:50	13	1314
6-12-1-S-20131024-16	6	12	1	S	20131024	16	jp	3:25	3:39	13	1312
6-12-1-C-20131024-17	6	12	1	C	20131024	17	jp	3:42	3:52	13	1312
6-12-1-S-20131024-18	6	12	1	S	20131024	18	jp	3:55	4:36	Ot	Other
6-12-1-S-20131024-19	6	12	1	S	20131024	19	jp	4:37	4:47	13	1312
6-12-1-C-20131024-20	6	12	1	C	20131024	20	jp	4:49	4:53	13	1312
6-12-1-S-20131024-21	6	12	1	S	20131024	21	jp	4:56	5:05	13	1312
6-12-1-S-20131024-22	6	12	1	S	20131024	22	jp	5:06	5:08	13	1312
6-12-1-C-20131024-23	6	12	1	C	20131024	23	jp	5:10	5:14	13	1312
6-12-2-c-20131024-03	6	12	2	c	20131024	03	jew2	8:48	9:44	13	1316
6-12-2-c-20131024-04	6	12	2	c	20131024	04	jew2	9:46	11:03	13	1314
6-12-2-c-20131024-05	6	12	2	c	20131024	05	jew2	11:06	12:02	13	1312
6-12-2-C-20131024-06	6	12	2	C	20131024	06	jp	1:35	1:44	13	1314
6-12-2-S-20131024-07	6	12	2	S	20131024	07	jp	1:47	1:55	13	1314
6-12-2-S-20131024-08	6	12	2	S	20131024	08	jew2	2:00	2:16	13	1314
6-12-2-c-20131024-09	6	12	2	c	20131024	09	jew2	2:18	2:22	13	1314
6-12-2-s-20131024-10	6	12	2	s	20131024	10	jew2	2:40	2:51	13	1314
6-12-2-C-20131024-11	6	12	2	C	20131024	11	jp	2:55	2:59	13	1314
6-12-2-c-20131024-12	6	12	2	c	20131024	12	jew2	3:42	3:46	13	1301
6-12-2-c-20131024-13	6	12	2	c	20131024	13	jew2	3:52		Ot	Other
6-12-2-c-20131024-14	6	12	2	c	20131024	14	jew2	4:22	4:28	13	1312

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-S-20131024-15	6	12	2	S	20131024	15	jew2	4:29	4:35	13	1312
6-12-2-S-20131024-16	6	12	2	S	20131024	16	jew2	4:50	5:00	13	1312
6-12-2-c-20131024-17	6	12	2	c	20131024	17	jes	5:02	5:11	13	1312
6-12-34-s-20131024-03	6	12	34	s	20131024	03	dad	8:25	9:12	12	1226
6-12-34-s-20131024-04	6	12	34	s	20131024	04	jew	9:14	10:18	12	1220
6-12-34-s-20131024-05	6	12	34	s	20131024	05	dad	10:20	11:30	12	1220
6-12-34-s-20131024-06	6	12	34	s	20131024	06	jew	1:10	2:24	12	1220
6-12-34-s-20131024-07	6	12	34	s	20131024	07	dad	2:30	3:46	12	1201
6-12-34-s-20131024-08	6	12	34	s	20131024	08	jew	3:48	4:13	12	1201
6-12-34-s-20131024-09	6	12	34	s	20131024	09	jew	4:15	4:34	12	1201
6-12-1-S-20131028-04	6	12	1	S	20131028	04	jp	10:47	11:46	13	1325
6-12-1-C-20131028-05	6	12	1	C	20131028	05	jp	11:53	12:04	13	1325
6-12-1-S-20131028-06	6	12	1	S	20131028	06	jp	1:12	1:42	13	1325
6-12-1-S-20131028-07	6	12	1	S	20131028	07	jp	1:42	1:55	13	1325
6-12-1-C-20131028-08	6	12	1	C	20131028	08	jp	2:04	2:11	13	1325
6-12-1-S-20131028-09	6	12	1	S	20131028	09	jp	2:18		13	1313
6-12-2-c-20131028-03	6	12	2	c	20131028	03	jew2	8:33	8:35	Ot	Other
6-12-2-c-20131028-04	6	12	2	c	20131028	04	jew2	8:49	8:53	Ot	Other
6-12-2-c-20131028-05	6	12	2	c	20131028	05	jew2	10:40	11:24	13	1315
6-12-2-c-20131028-06	6	12	2	c	20131028	06	jew2	11:30	12:14	13	1313
6-12-2-C-20131028-07	6	12	2	C	20131028	07	MEC	12:59AM	1:34	13	1313
6-12-2-c-20131028-08	6	12	2	c	20131028	08	jew2	1:50	2:26	13	1325
6-12-2-s-20131028-09	6	12	2	s	20131028	09	jew2	2:37	2:47	13	1313
6-12-2-c-20131028-10	6	12	2	c	20131028	10	jes	2:50		Ot	Other
6-12-2-c-20131028-11	6	12	2	c	20131028	11	jes	3:27	3:30	13	1313
6-12-2-s-20131028-12	6	12	2	s	20131028	12	jes	3:37	3:43	13	1313
6-12-2-s-20131028-13	6	12	2	s	20131028	13	tad	3;48	3:57	13	1313
6-12-2-c-20131028-14	6	12	2	c	20131028	14	tad	3:59	4:04	13	1313
6-12-2-s-20131028-15	6	12	2	s	20131028	15	tad	4:09	4:13	13	1313
6-12-2-c-20131028-16	6	12	2	c	20131028	16	tad	4:14	4:18	13	1313
6-12-2-s-20131028-17	6	12	2	s	20131028	17	jew2	4:24	4:27	13	1313
6-12-34-s-20131028-03	6	12	34	s	20131028	03	jew	8:20	8:35	12	1205
6-12-34-s-20131028-04	6	12	34	s	20131028	04	jew	8:50	8:50	12	1205

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-34-s-20131028-05	6	12	34	s	20131028	05	jew	11:48	12:10	12	1205
6-12-34-s-20131028-06	6	12	34	s	20131028	06	dad	1:35	2:35	12	1205
6-12-34-s-20131028-07	6	12	34	s	20131028	07	jew	2:40	3:15	12	1205
6-12-34-s-20131028-08	6	12	34	s	20131028	08	jew	3:18	4:07	11	1145
6-12-34-s-20131028-09	6	12	34	s	20131028	09	dad	4:18	4:30	12	1201
6-12-1-S-20131029-03	6	12	1	S	20131029	03	jp	2:01	2:08	11	1111
6-12-1-C-20131029-04	6	12	1	C	20131029	04	jp	2:09	2:13	11	1111
6-12-1-S-20131029-05	6	12	1	S	20131029	05	JS	2:17	2:25	11	1111
6-12-1-c-20131029-06	6	12	1	c	20131029	06	js	2:28	2:33	11	1111
6-12-1-S-20131029-07	6	12	1	S	20131029	07	jp	2:39	2:45	11	1109
6-12-1-C-20131029-08	6	12	1	C	20131029	08	jp	2:47	2:50	11	1109
6-12-1-S-20131029-09	6	12	1	S	20131029	09	jp	2:55	3:00	11	1109
6-12-1-C-20131029-10	6	12	1	C	20131029	10	jp	3:02	3:05	11	1109
6-12-1-S-20131029-11	6	12	1	S	20131029	11	jp	3:13	3:16	11	1109
6-12-1-C-20131029-12	6	12	1	C	20131029	12	jp	3:20	3:22	11	1109
6-12-1-S-20131029-13	6	12	1	S	20131029	13	jp	3:27	3:34	11	1109
6-12-1-C-20131029-14	6	12	1	C	20131029	14	jp	3:35	3:36	11	1109
6-12-1-C-20131029-15	6	12	1	C	20131029	15	jp	3:48	3:53	11	1109
6-12-1-S-20131029-16	6	12	1	S	20131029	16	jp	3:54	3:57	11	1109
6-12-1-S-20131029-17	6	12	1	S	20131029	17	jp	4:06	4:12	11	1109
6-12-1-C-20131029-18	6	12	1	C	20131029	18	jp	4:15	4:19	11	1109
6-12-1-S-20131029-19	6	12	1	S	20131029	19	jp	4:24	4:30	11	1111
6-12-1-C-20131029-20	6	12	1	C	20131029	20	jp	4:31	4:34	11	1111
6-12-2-S-20131029-03	6	12	2	S	20131029	03	jp	8:43	8:49	11	1113
6-12-2-C-20131029-04	6	12	2	C	20131029	04	jp	8:50	8:55	11	1113
6-12-2-S-20131029-05	6	12	2	S	20131029	05	jp	9:10	9:16	11	1113
6-12-2-C-20131029-06	6	12	2	C	20131029	06	jp	9:17	9:01	11	1113
6-12-2-S-20131029-07	6	12	2	S	20131029	07	jp	9:39	9:47	11	1113
6-12-2-C-20131029-08	6	12	2	C	20131029	08	jp	9:50	9:53	11	1113
6-12-2-S-20131029-09	6	12	2	S	20131029	09	jp	10:02	10:10	11	1113
6-12-2-C-20131029-10	6	12	2	C	20131029	10	jp	10:12	10:15	11	1113
6-12-2-C-20131029-11	6	12	2	C	20131029	11	jp	10:35	10:37	11	1113
6-12-2-S-20131029-12	6	12	2	S	20131029	12	jp	10:39	10:43	11	1113

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-C-20131029-13	6	12	2	C	20131029	13	jp	10;54	10:58	11	1113
6-12-2-S-20131029-14	6	12	2	S	20131029	14	jp	11:02	11:08	11	1113
6-12-2-S-20131029-15	6	12	2	S	20131029	15	jp	11:17	11:21	Ot	Other
6-12-2-C-20131029-16	6	12	2	C	20131029	16	jp	11:24	11:26	11	1113
6-12-2-S-20131029-17	6	12	2	S	20131029	17	jp	11:27	11:31	11	1113
6-12-2-S-20131029-18	6	12	2	S	20131029	18	jp	11:41	11:49	11	1113
6-12-2-C-20131029-19	6	12	2	C	20131029	19	jp	11:51	11:55	11	1113
6-12-2-S-20131029-20	6	12	2	S	20131029	20	jp	1:37	1:42	11	1111
6-12-2-C-20131029-21	6	12	2	C	20131029	21	jp	1:46	1:49	11	1111
6-12-34-s-20131029-03	6	12	34	s	20131029	03	dad	8:15	9:56	11	1143
6-12-34-s-20131029-04	6	12	34	s	20131029	04	dad	10:15	11:16	11	1100
6-12-34-s-20131029-05	6	12	34	s	20131029	05	dad	1:36	2:33	11	1139
6-12-34-c-20131029-06	6	12	34	c	20131029	06	dad	2:38	2:54	11	1139
6-12-34-s-20131029-07	6	12	34	s	20131029	07	dad	3:05	3:51	11	1133
6-12-34-c-20131029-08	6	12	34	c	20131029	08	dad	4:20	4:45	11	1122
6-12-1-C-20131030-03	6	12	1	C	20131030	03	jp	8:34	8:41	12	1248
6-12-1-S-20131030-04	6	12	1	S	20131030	04	jp	8:42	8:56	12	1248
6-12-1-S-20131030-05	6	12	1	S	20131030	05	jp	9:02	9:07	12	1248
6-12-1-C-20131030-06	6	12	1	C	20131030	06	jp	9:13	9:17	12	1248
6-12-1-S-20131030-07	6	12	1	S	20131030	07	jp	9:24	9:32	12	1248
6-12-1-C-20131030-08	6	12	1	C	20131030	08	jp	9:35	9:39	12	1248
6-12-1-S-20131030-09	6	12	1	S	20131030	09	jp	9:52	9:59	12	1248
6-12-1-C-20131030-10	6	12	1	C	20131030	10	jp	10:02	10:07	12	1248
6-12-1-S-20131030-11	6	12	1	S	20131030	11	jp	10:10	10:17	12	1248
6-12-1-C-20131030-12	6	12	1	C	20131030	12	jp	10:20	10:25	12	1248
6-12-1-S-20131030-13	6	12	1	S	20131030	13	jp	10:38	10:44	12	1248
6-12-1-C-20131030-14	6	12	1	C	20131030	14	jp	10:49	10:53	12	1248
6-12-1-S-20131030-15	6	12	1	S	20131030	15	jp	11:26	11:31	12	1248
6-12-1-C-20131030-16	6	12	1	C	20131030	16	jp	11:32	11:37	12	1248
6-12-1-S-20131030-17	6	12	1	S	20131030	17	jp	11:42	11:49	12	1248
6-12-1-C-20131030-18	6	12	1	C	20131030	18	jp	11:50	11:58	12	1248
6-12-1-S-20131030-19	6	12	1	S	20131030	19	jp	1:25	1:35	12	1246
6-12-1-C-20131030-20	6	12	1	C	20131030	20	jp	1:39	1:44	12	1246

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131030-21	6	12	1	S	20131030	21	jp	1:49	1:59	12	1246
6-12-1-C-20131030-22	6	12	1	C	20131030	22	jp	1:59	2:04	12	1246
6-12-1-S-20131030-23	6	12	1	S	20131030	23	jp	2:11	2:14	12	1246
6-12-1-C-20131030-24	6	12	1	C	20131030	24	jp	2:16	2:20	12	1246
6-12-1-S-20131030-25	6	12	1	S	20131030	25	jp	3:04	3:14	12	1252
6-12-1-C-20131030-26	6	12	1	C	20131030	26	jp	3:20	3:24	12	1252
6-12-1-S-20131030-27	6	12	1	S	20131030	27	jp	3:40	3:55	12	1252
6-12-1-C-20131030-28	6	12	1	C	20131030	28	jp	4:00	4:05	12	1252
6-12-1-C-20131030-29	6	12	1	C	20131030	29	jp	4:12	4:18	12	1252
6-12-1-S-20131030-30	6	12	1	S	20131030	30	jp	4:20	4:27	12	1252
6-12-2-c-20131030-03	6	12	2	c	20131030	03	jew2	8:24	8:54	12	1246
6-12-2-c-20131030-04	6	12	2	c	20131030	04	jew2	9:13	9:35	12	1248
6-12-2-a-20131030-05	6	12	2	a	20131030	05	jew2	9:38	10:09	12	1248
6-12-2-a-20131030-06	6	12	2	a	20131030	06	jew2	10:25	10:47	12	1246
6-12-2-s-20131030-07	6	12	2	s	20131030	07	jew2	11:22	11:30	12	1246
6-12-2-c-20131030-08	6	12	2	c	20131030	08	jew2	11:32	11:36	12	1246
6-12-2-s-20131030-09	6	12	2	s	20131030	09	jew2	11:53	11:59	12	1246
6-12-2-s-20131030-10	6	12	2	s	20131030	10	jew2	1:23	1:34	12	1246
6-12-2-c-20131030-11	6	12	2	c	20131030	11	jew2	1:37	1:41	12	1246
6-12-2-s-20131030-12	6	12	2	s	20131030	12	jew2	1:50	1:59	12	1246
6-12-2-c-20131030-13	6	12	2	c	20131030	13	jew2	2:02	2:09	12	1246
6-12-2-s-20131030-14	6	12	2	s	20131030	14	jew2	2:20	2:25	12	1246
6-12-2-c-20131030-15	6	12	2	c	20131030	15	jew2	2:28	2:32	12	1246
6-12-2-s-20131030-16	6	12	2	s	20131030	16	jew2	3:16	3:22	12	1252
6-12-2-c-20131030-17	6	12	2	c	20131030	17	jew2	3:24	3:28	12	1252
6-12-2-s-20131030-18	6	12	2	s	20131030	18	jew2	4:00	4:10	12	1252
6-12-2-c-20131030-19	6	12	2	c	20131030	19	jew2	4:13	4:16	12	1252
6-12-34-s-20131030-03	6	12	34	s	20131030	03	dad	8:15	9:02	12	1206
6-12-34-s-20131030-04	6	12	34	s	20131030	04	jew	9:10	11:01	12	1204
6-12-34-s-20131030-05	6	12	34	s	20131030	05	dad	11:05	11:23	12	1204
6-12-34-s-20131030-06	6	12	34	s	20131030	06	dad	1:54	3:20	12	1204
6-12-34-s-20131030-07	6	12	34	s	20131030	07	jew	3:23	4:13	12	1202
6-12-1-S-20131031-03	6	12	1	S	20131031	03	jp	8:38	8:46	Ot	Other

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131031-04	6	12	1	S	20131031	04	jp	8:46	8:52	14	1410
6-12-1-C-20131031-05	6	12	1	C	20131031	05	jp	8:56	9:03	14	1410
6-12-1-C-20131031-06	6	12	1	C	20131031	06	jp	9:07	9:11	14	1410
6-12-1-S-20131031-07	6	12	1	S	20131031	07	jp	9:14	9:18	14	1410
6-12-1-S-20131031-08	6	12	1	S	20131031	08	jp	9:25	9:31	14	1408
6-12-1-C-20131031-09	6	12	1	C	20131031	09	jp	9:39	9:43	14	1408
6-12-1-C-20131031-10	6	12	1	C	20131031	10	jp	9:48	9:51	14	1408
6-12-1-S-20131031-11	6	12	1	S	20131031	11	jp	9:58	10:04	14	1408
6-12-1-C-20131031-12	6	12	1	C	20131031	12	jp	10:14	10:19	14	1412
6-12-1-C-20131031-13	6	12	1	C	20131031	13	jp	10:21	10:26	14	1412
6-12-1-C-20131031-14	6	12	1	C	20131031	14	jp	10:30	10:33	14	1412
6-12-1-S-20131031-15	6	12	1	S	20131031	15	jp	10:36	10:42	14	1412
6-12-1-S-20131031-16	6	12	1	S	20131031	16	jp	11:00	11:04	14	1410
6-12-1-S-20131031-17	6	12	1	S	20131031	17	jp	11:07	11:27	14	1410
6-12-1-S-20131031-18	6	12	1	S	20131031	18	jp	11:31	11:57	14	1412
6-12-1-C-20131031-19	6	12	1	C	20131031	19	jp	2:17	2:22	11	1117
6-12-1-S-20131031-20	6	12	1	S	20131031	20	jp	2:23	2:27	11	1117
6-12-1-S-20131031-21	6	12	1	S	20131031	21	jp	2:37	2:45	11	1117
6-12-1-C-20131031-22	6	12	1	C	20131031	22	jp	2:46	2:50	11	1117
6-12-1-S-20131031-23	6	12	1	S	20131031	23	jp	3:00	3:04	11	1117
6-12-1-C-20131031-24	6	12	1	C	20131031	24	jp	3:07	3:12	11	1117
6-12-1-C-20131031-25	6	12	1	C	20131031	25	jp	3:20	3:25	11	1117
6-12-1-S-20131031-26	6	12	1	S	20131031	26	jp	3:37	4:07	11	1111
6-12-2-c-20131031-03	6	12	2	c	20131031	03	jew2	8:40	9:14	14	1408
6-12-2-c-20131031-04	6	12	2	c	20131031	04	jew2	9:53	9:45	14	1410
6-12-2-c-20131031-05	6	12	2	c	20131031	05	jew2	9:50	10:20	14	1412
6-12-2-c-20131031-06	6	12	2	c	20131031	06	jew2	10:43	11:00	14	1410
6-12-2-s-20131031-07	6	12	2	s	20131031	07	jes	11:11	11:31	14	1408
6-12-2-c-20131031-08	6	12	2	c	20131031	08	jes	11:44	12:05	14	1400
6-12-2-c-20131031-09	6	12	2	c	20131031	09	jew2	2:13	2:20	11	1117
6-12-2-s-20131031-10	6	12	2	s	20131031	10	jew2	2:21	2:44	11	1117
6-12-2-s-20131031-11	6	12	2	s	20131031	11	jew2	2:47	3:10	11	1109
6-12-2-s-20131031-12	6	12	2	s	20131031	12	jew2	3:30	3:44	11	1109

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-c-20131031-13	6	12	2	c	20131031	13	jew2	3:46	4:14	11	1109
6-12-2-s-20131031-14	6	12	2	s	20131031	14	jew2	4:25	4:35	11	1117
6-12-34-s-20131031-03	6	12	34	s	20131031	03	jew	8:15	9:33	11	1128
6-12-34-s-20131031-04	6	12	34	s	20131031	04	dad	9:40	10:07	12	1206
6-12-34-s-20131031-05	6	12	34	s	20131031	05	dad	10:23	11:45	11	1120
6-12-34-s-20131031-06	6	12	34	s	20131031	06	jew	2:08	2:52	11	1117
6-12-34-s-20131031-07	6	12	34	s	20131031	07	dad	3:03	4:24	11	1111
6-12-1-S-20131104-03	6	12	1	S	20131104	03	jp	8:30	8:39	12	1232
6-12-1-C-20131104-04	6	12	1	C	20131104	04	jp	8:40	8:44	12	1232
6-12-1-S-20131104-05	6	12	1	S	20131104	05	jp	8:54	8:59	12	1234
6-12-1-C-20131104-06	6	12	1	C	20131104	06	jp	9:06	9:10	12	1234
6-12-1-S-20131104-07	6	12	1	S	20131104	07	jp	9:14	9:22	12	1232
6-12-1-C-20131104-08	6	12	1	C	20131104	08	jp	9:24	9:28	12	1232
6-12-1-S-20131104-09	6	12	1	S	20131104	09	jp	9:33	9:39	12	1232
6-12-1-C-20131104-10	6	12	1	C	20131104	10	jp	9:42	9:47	12	1232
6-12-1-S-20131104-11	6	12	1	S	20131104	11	jp	9:54	10:03	12	1232
6-12-1-C-20131104-12	6	12	1	C	20131104	12	jp	10:08	10:12	12	1232
6-12-1-S-20131104-13	6	12	1	S	20131104	13	jp	10:22	10:31	12	1232
6-12-1-C-20131104-14	6	12	1	C	20131104	14	jp	10:35	10:39	12	1232
6-12-1-S-20131104-15	6	12	1	S	20131104	15	jp	10:47	10:54	12	1232
6-12-1-C-20131104-16	6	12	1	C	20131104	16	jp	11:01	11:05	12	1232
6-12-1-S-20131104-17	6	12	1	S	20131104	17	jp	11:23	11:29	12	1234
6-12-1-C-20131104-18	6	12	1	C	20131104	18	jp	11:32	11:36	12	1234
6-12-1-S-20131104-19	6	12	1	S	20131104	19	jp	11:45	11:50	12	1234
6-12-1-C-20131104-20	6	12	1	C	20131104	20	jp	11:51	11:59	12	1234
6-12-1-C-20131104-21	6	12	1	C	20131104	21	jp	1:40	1:45	12	1234
6-12-1-S-20131104-22	6	12	1	S	20131104	22	jp	1:46	1:49	12	1234
6-12-1-S-20131104-23	6	12	1	S	20131104	23	jp	1:56	2:02	12	1234
6-12-1-C-20131104-24	6	12	1	C	20131104	24	jp	2:04	2:15	12	1234
6-12-1-S-20131104-25	6	12	1	S	20131104	25	jp	2:23	2:29	12	1227
6-12-1-C-20131104-26	6	12	1	C	20131104	26	jp	2:30	2:35	12	1227
6-12-1-S-20131104-27	6	12	1	S	20131104	27	jp	2:44	2:51	12	1227
6-12-1-C-20131104-28	6	12	1	C	20131104	28	jp	2:52	3:00	12	1227

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131104-29	6	12	1	S	20131104	29	jp	3:15	3:19	12	1227
6-12-1-C-20131104-30	6	12	1	C	20131104	30	jp	3:20	3:24	12	1227
6-12-1-S-20131104-31	6	12	1	S	20131104	31	jp	3:26	3:41	12	1227
6-12-1-C-20131104-32	6	12	1	C	20131104	32	jp	3:46	3:48	12	1227
6-12-1-S-20131104-33	6	12	1	S	20131104	33	jp	3:57	4:04	12	1227
6-12-1-c-20131104-34	6	12	1	c	20131104	34	jes	4:08	4:15	12	1227
6-12-1-S-20131104-35	6	12	1	S	20131104	35	jp	4:18	4:26	12	1227
6-12-1-C-20131104-36	6	12	1	C	20131104	36	jp	4:27	4:31	12	1227
6-12-2-c-20131104-03	6	12	2	c	20131104	03	jew2	8:25	8:53	12	1227
6-12-2-s-20131104-04	6	12	2	s	20131104	04	jew2	8:57	9:54	12	1227
6-12-2-a-20131104-05	6	12	2	a	20131104	05	jew2	9:58	10:14	12	1232
6-12-2-c-20131104-06	6	12	2	c	20131104	06	jew2	10:20	10:55	12	1232
6-12-2-s-20131104-07	6	12	2	s	20131104	07	jew2	10:59	11:25	12	1232
6-12-2-c-20131104-08	6	12	2	c	20131104	08	jew2	11:33	11:52	12	1234
6-12-2-a-20131104-09	6	12	2	a	20131104	09	jew2	1:40	2:00	12	1227
6-12-2-a-20131104-10	6	12	2	a	20131104	10	jew2	2:01	2:25	12	1234
6-12-2-s-20131104-11	6	12	2	s	20131104	11	jew2	2:50	3:50	12	1234
6-12-2-a-20131104-12	6	12	2	a	20131104	12	jew2	3:56	4:02	12	1234
6-12-2-s-20131104-13	6	12	2	s	20131104	13	jew2	4:16	4:30	12	1200
6-12-34-s-20131104-03	6	12	34	s	20131104	03	dad	8:15	9:37	12	1249
6-12-34-s-20131104-04	6	12	34	s	20131104	04	jew	9:44	9:55	12	1247
6-12-34-s-20131104-05	6	12	34	s	20131104	05	jew	10:04	10:25	12	1254
6-12-34-s-20131104-06	6	12	34	s	20131104	06	jew	10:35	11:08	12	1253
6-12-34-s-20131104-07	6	12	34	s	20131104	07	dad	11:15	12:00	12	1218
6-12-34-s-20131104-08	6	12	34	s	20131104	08	dad	1:33	2:08	12	1216
6-12-34-s-20131104-09	6	12	34	s	20131104	09	jew	2:20	2:20	12	1242
6-12-34-s-20131104-10	6	12	34	s	20131104	10	jew	2:35	3:10	12	1200
6-12-34-s-20131104-11	6	12	34	s	20131104	11	jew	3:21	0:00	12	1245
6-12-34-s-20131104-12	6	12	34	s	20131104	12	jew	3:48	4:16	12	1235
6-12-1-S-20131105-03	6	12	1	S	20131105	03	jp	8:32	8:38	12	1224
6-12-1-C-20131105-04	6	12	1	C	20131105	04	jp	8:42	8:45	12	1224
6-12-1-S-20131105-05	6	12	1	S	20131105	05	jp	8:51	9:08	12	1224
6-12-1-C-20131105-06	6	12	1	C	20131105	06	jp	9:10	9:15	12	1224

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131105-07	6	12	1	S	20131105	07	jp	9:19	9:25	12	1224
6-12-1-C-20131105-08	6	12	1	C	20131105	08	jp	9:25	9:31	12	1224
6-12-1-S-20131105-09	6	12	1	S	20131105	09	jp	9:37	9:44	12	1224
6-12-1-C-20131105-10	6	12	1	C	20131105	10	jp	9:47	9:51	12	1224
6-12-1-S-20131105-11	6	12	1	S	20131105	11	jp	9:59	10:06	12	1224
6-12-1-C-20131105-12	6	12	1	C	20131105	12	jp	10:08	10:11	12	1224
6-12-1-S-20131105-13	6	12	1	S	20131105	13	jp	10:15	10:24	12	1224
6-12-1-C-20131105-14	6	12	1	C	20131105	14	jp	10:28	10:32	12	1224
6-12-1-S-20131105-15	6	12	1	S	20131105	15	jp	10:50	10:58	12	1215
6-12-1-C-20131105-16	6	12	1	C	20131105	16	jp	10:58	11:04	12	1215
6-12-1-S-20131105-17	6	12	1	S	20131105	17	jp	11:12	11:19	12	1215
6-12-1-C-20131105-18	6	12	1	C	20131105	18	jp	11:23	11:28	12	1215
6-12-1-S-20131105-19	6	12	1	S	20131105	19	jp	11:33	11:37	12	1215
6-12-1-C-20131105-20	6	12	1	C	20131105	20	jp	11:40	11:45	12	1215
6-12-1-S-20131105-21	6	12	1	S	20131105	21	jp	11:48	11:55	12	1215
6-12-1-C-20131105-22	6	12	1	C	20131105	22	jp	11:55	12:00	12	1215
6-12-1-S-20131105-23	6	12	1	S	20131105	23	jp	1:46	1:53	12	1215
6-12-1-C-20131105-24	6	12	1	C	20131105	24	jp	1:55	1:58	12	1215
6-12-1-S-20131105-25	6	12	1	S	20131105	25	jp	2:02	2:07	12	1215
6-12-1-C-20131105-26	6	12	1	C	20131105	26	jp	2:07	2:12	12	1215
6-12-1-S-20131105-27	6	12	1	S	20131105	27	jp	2:22	2:29	12	1228
6-12-1-C-20131105-28	6	12	1	C	20131105	28	jp	2:30	2:35	12	1228
6-12-1-S-20131105-29	6	12	1	S	20131105	29	jp	2:40	2:46	12	1228
6-12-1-S-20131105-30	6	12	1	S	20131105	30	jp	2:49	2:53	12	1228
6-12-1-S-20131105-31	6	12	1	S	20131105	31	jp	2:57	3:03	12	1228
6-12-1-C-20131105-32	6	12	1	C	20131105	32	jp	3:07	3:10	12	1228
6-12-1-S-20131105-32	6	12	1	S	20131105	32	jp	3:17	3:22	12	1228
6-12-1-C-20131105-33	6	12	1	C	20131105	33	jp	3:24	3:29	12	1228
6-12-1-S-20131105-34	6	12	1	S	20131105	34	jp	3:33	3:40	12	1228
6-12-1-C-20131105-35	6	12	1	C	20131105	35	jp	3:41	3:46	12	1228
6-12-1-S-20131105-36	6	12	1	S	20131105	36	jp	3:53	3:57	12	1228
6-12-1-C-20131105-37	6	12	1	C	20131105	37	jp	4:01	4:04	12	1228
6-12-2-c-20131105-03	6	12	2	c	20131105	03	jew2	8:47	9:22	12	1224

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-A-20131105-04	6	12	2	A	20131105	04	jew2	9:30	9:54	12	1224
6-12-2-S-20131105-05	6	12	2	S	20131105	05	jew2	10:02	10:39	12	1224
6-12-2-C-20131105-06	6	12	2	C	20131105	06	jew2	10:54	11:25	12	1215
6-12-2-A-20131105-07	6	12	2	A	20131105	07	jew2	11:30	11:55	12	1215
6-12-2-C-20131105-08	6	12	2	C	20131105	08	jew2	1:50	2:13	12	1228
6-12-2-A-20131105-09	6	12	2	A	20131105	09	jew2	2:16	2:34	12	1228
6-12-2-S-20131105-10	6	12	2	S	20131105	10	jew2	2:37	2:56	12	1228
6-12-2-S-20131105-11	6	12	2	S	20131105	11	jew2	3:10	3:52	12	1215
6-12-34-s-20131105-03	6	12	34	s	20131105	03	dad	8:15	9:50	12	1200
6-12-34-s-20131105-04	6	12	34	s	20131105	04	jew	9:58	10:11	12	1200
6-12-34-s-20131105-05	6	12	34	s	20131105	05	jew	10:15	11:15	12	1200
6-12-34-s-20131105-06	6	12	34	s	20131105	06	dad	1:32	2:50	12	1236
6-12-34-s-20131105-07	6	12	34	s	20131105	07	jew	2:52	3:36	12	1200
6-12-34-s-20131105-08	6	12	34	s	20131105	08	jew	3:44	4:27	12	1223
6-12-1-S-20131106-03	6	12	1	S	20131106	03	jp	8:45	8:55	11	1131
6-12-1-C-20131106-04	6	12	1	C	20131106	04	jp	8:56	9:01	11	1131
6-12-1-S-20131106-05	6	12	1	S	20131106	05	jp	9:05	9:11	11	1131
6-12-1-C-20131106-06	6	12	1	C	20131106	06	jp	9:15	9:19	11	1131
6-12-1-S-20131106-07	6	12	1	S	20131106	07	jp	9:22	9:34	11	1131
6-12-1-C-20131106-08	6	12	1	C	20131106	08	jp	9:45	9:48	11	1131
6-12-1-S-20131106-09	6	12	1	S	20131106	09	jp	9:59	10:16	11	1131
6-12-1-C-20131106-10	6	12	1	C	20131106	10	jp	10:17	10:20	11	1131
6-12-1-S-20131106-11	6	12	1	S	20131106	11	jp	10:25	10:34	11	1131
6-12-1-C-20131106-12	6	12	1	C	20131106	12	jp	10:37	10:40	11	1131
6-12-1-S-20131106-12	6	12	1	S	20131106	12	jp	10:57	11:01	11	1129
6-12-1-C-20131106-13	6	12	1	C	20131106	13	jp	11:02	11:05	11	1129
6-12-1-S-20131106-14	6	12	1	S	20131106	14	jp	11:16	11:20	11	1129
6-12-1-C-20131106-15	6	12	1	C	20131106	15	jp	11:21	11:25	11	1129
6-12-1-S-20131106-16	6	12	1	S	20131106	16	jp	11:30	11:37	11	1129
6-12-1-C-20131106-17	6	12	1	C	20131106	17	jp	11:38	11:41	11	1129
6-12-1-S-20131106-18	6	12	1	S	20131106	18	jp	11:46	11:50	11	1129
6-12-1-C-20131106-19	6	12	1	C	20131106	19	jp	11:52	11:56	11	1129
6-12-1-S-20131106-20	6	12	1	S	20131106	20	jp	1:33	1:41	11	1129

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131106-21	6	12	1	C	20131106	21	jp	1:41	1:45	11	1129
6-12-1-C-20131106-22	6	12	1	C	20131106	22	jp	2:07	2:16	11	1129
6-12-1-C-20131106-23	6	12	1	C	20131106	23	jp	2:34	2:37	11	1129
6-12-1-S-20131106-24	6	12	1	S	20131106	24	jp	2:39	2:42	11	1129
6-12-1-S-20131106-25	6	12	1	S	20131106	25	jp	2:48	2:53	11	1129
6-12-1-C-20131106-26	6	12	1	C	20131106	26	jp	2:54	2:07	11	1129
6-12-1-S-20131106-27	6	12	1	S	20131106	27	jp	3:11	3:15	11	1137
6-12-1-C-20131106-28	6	12	1	C	20131106	28	jp	3:17	3:21	11	1137
6-12-1-S-20131106-29	6	12	1	S	20131106	29	jp	3:37	3:46	11	1137
6-12-1-C-20131106-30	6	12	1	C	20131106	30	jp	3:48	3:50	11	1137
6-12-1-C-20131106-31	6	12	1	C	20131106	31	jp	4:05	4:09	11	1137
6-12-1-S-20131106-31	6	12	1	S	20131106	31	jp	3:54	4:02	11	1137
6-12-1-C-20131106-32	6	12	1	C	20131106	32	jp	4:41	5:28	11	1133
6-12-2-c-20131106-03	6	12	2	c	20131106	03	jew2	9:17	9:34	11	1137
6-12-2-s-20131106-04	6	12	2	s	20131106	04	jew2	9:36	10:05	11	1137
6-12-2-c-20131106-05	6	12	2	c	20131106	05	jew2	10:33	11:08	11	1129
6-12-2-s-20131106-06	6	12	2	s	20131106	06	jew2	11:20	12:00	11	1129
6-12-2-c-20131106-07	6	12	2	c	20131106	07	jew2	1:32	1:46	11	1131
6-12-2-s-20131106-08	6	12	2	s	20131106	08	jew2	2:03	2:14	11	1133
6-12-2-c-20131106-09	6	12	2	c	20131106	09	jew2	2:17	2:20	11	1133
6-12-2-s-20131106-10	6	12	2	s	20131106	10	jew2	2:47	3:18	11	1131
6-12-2-c-20131106-11	6	12	2	c	20131106	11	jew2	4:41	5:07	11	1135
6-12-2-s-20131106-12	6	12	2	s	20131106	12	jew2	5:10	5:25	11	1135
6-12-34-s-20131106-03	6	12	34	s	20131106	03	jew	8:17	8:47	14	1400
6-12-34-s-20131106-04	6	12	34	s	20131106	04	dad	9:05	10:22	14	1411
6-12-34-s-20131106-05	6	12	34	s	20131106	05	jew	10:30	11:00	14	1412
6-12-34-s-20131106-06	6	12	34	s	20131106	06	jew	11:10	11:25	14	1412
6-12-34-s-20131106-07	6	12	34	s	20131106	07	dad	2:00	2:25	14	1400
6-12-34-s-20131106-08	6	12	34	s	20131106	08	dad	2:30	3:05	14	1412
6-12-34-s-20131106-09	6	12	34	s	20131106	09	dad	3:10	4:14	14	1401
6-12-34-a-20131106-10	6	12	34	a	20131106	10	jew	4:15	4:23	11	1107
6-12-34-s-20131106-11	6	12	34	s	20131106	11	jew	4:27	4:37	14	1418
6-12-34-s-20131106-12	6	12	34	s	20131106	12	dad	4:39	5:25	14	1418

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131107-03	6	12	1	S	20131107	03	jp	8:24	8:32	11	1133
6-12-1-S-20131107-04	6	12	1	S	20131107	04	jp	8:37	8:45	11	1133
6-12-1-C-20131107-05	6	12	1	C	20131107	05	jp	8:46	8:49	11	1133
6-12-1-S-20131107-06	6	12	1	S	20131107	06	jp	8:52	8:58	11	1133
6-12-1-C-20131107-07	6	12	1	C	20131107	07	jp	9:02	9:04	11	1133
6-12-1-C-20131107-08	6	12	1	C	20131107	08	jp	9:05	9:07	11	1133
6-12-1-S-20131107-09	6	12	1	S	20131107	09	jp	9:14	9:19	11	1137
6-12-1-C-20131107-10	6	12	1	C	20131107	10	jp	9:20	9:23	11	1137
6-12-1-S-20131107-11	6	12	1	S	20131107	11	jp	9:34	9:41	11	1133
6-12-1-S-20131107-12	6	12	1	S	20131107	12	jp	9:46	9:52	11	1133
6-12-1-C-20131107-13	6	12	1	C	20131107	13	jp	9:53	9:56	11	1133
6-12-1-S-20131107-14	6	12	1	S	20131107	14	jp	9:59	10:06	11	1133
6-12-1-C-20131107-15	6	12	1	C	20131107	15	jp	10:07	10:11	11	1133
6-12-1-S-20131107-16	6	12	1	S	20131107	16	jp	10:18	10:23	11	1133
6-12-1-C-20131107-17	6	12	1	C	20131107	17	jp	10:26	10:31	11	1133
6-12-1-S-20131107-18	6	12	1	S	20131107	18	jp	10:43	10:49	11	1135
6-12-1-C-20131107-19	6	12	1	C	20131107	19	jp	10:50	10:54	11	1135
6-12-1-S-20131107-20	6	12	1	S	20131107	20	jp	10:58	11:04	11	1135
6-12-1-C-20131107-21	6	12	1	C	20131107	21	jp	11:06	11:09	11	1135
6-12-1-C-20131107-22	6	12	1	C	20131107	22	jp	11:14	11:22	11	1135
6-12-1-S-20131107-23	6	12	1	S	20131107	23	jp	11:24	11:28	11	1135
6-12-1-S-20131107-24	6	12	1	S	20131107	24	jp	11:44	11:52	11	1135
6-12-1-C-20131107-25	6	12	1	C	20131107	25	jp	11:55	12:05	11	1135
6-12-1-S-20131107-26	6	12	1	S	20131107	26	jp	1:30	1:41	11	1135
6-12-1-C-20131107-27	6	12	1	C	20131107	27	jp	1:44	1:46	11	1135
6-12-1-S-20131107-28	6	12	1	S	20131107	28	jp	1:51	1:57	11	1135
6-12-1-C-20131107-29	6	12	1	C	20131107	29	jp	2:00	2:03	11	1135
6-12-1-S-20131107-30	6	12	1	S	20131107	30	jp	2:07	2:19	11	1135
6-12-1-C-20131107-31	6	12	1	C	20131107	31	jp	2:20	2:24	11	1135
6-12-1-S-20131107-32	6	12	1	S	20131107	32	jp	2:30	2:37	11	1135
6-12-1-C-20131107-33	6	12	1	C	20131107	33	jp	2:39	2:42	11	1135
6-12-1-S-20131107-34	6	12	1	S	20131107	34	jp	3:34	4:30	14	1400
6-12-1-S-20131107-35	6	12	1	S	20131107	35	jp	4:31	4:51	14	1400

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131107-36	6	12	1	S	20131107	36	jp	4:51	5:09	14	1402
6-12-2-s-20131107-03	6	12	2	s	20131107	03	jew2	8:24	8:55	11	1133
6-12-2-s-20131107-04	6	12	2	s	20131107	04	jew2	9:21	10:03	11	1135
6-12-2-a-20131107-05	6	12	2	a	20131107	05	jew2	10:10	10:23	11	1100
6-12-2-c-20131107-06	6	12	2	c	20131107	06	jew2	10:40	10:59	11	1141
6-12-2-S-20131107-07	6	12	2	S	20131107	07	jew2	10:24	12:01	11	1141
6-12-2-c-20131107-08	6	12	2	c	20131107	08	jew2	1:27	2:04	11	1139
6-12-2-s-20131107-09	6	12	2	s	20131107	09	jew2	2:13	2:44	11	1147
6-12-2-S-20131107-10	6	12	2	S	20131107	10	jew2	2:57	3:55	11	1147
6-12-2-c-20131107-11	6	12	2	c	20131107	11	jew2	4:00	4:15	11	1149
6-12-2-s-20131107-12	6	12	2	s	20131107	12	jew2	4:20	4:36	11	1149
6-12-2-S-20131107-13	6	12	2	S	20131107	13	jew2	5:05		11	1145
6-12-34-c-20131107-03	6	12	34	c	20131107	03	dad	8:10	8:23	14	1403
6-12-34-s-20131107-04	6	12	34	s	20131107	04	dad	8:24	9:28	14	1403
6-12-34-s-20131107-05	6	12	34	s	20131107	05	jew	9:30	10:05	14	1403
6-12-34-s-20131107-06	6	12	34	s	20131107	06	dad	10:15	10:40	14	1400
6-12-34-s-20131107-07	6	12	34	s	20131107	07	jew	2:08	3:13	13	1325
6-12-34-s-20131107-08	6	12	34	s	20131107	08	dad	3:22	4:16	13	1313
6-12-34-s-20131107-09	6	12	34	s	20131107	09	dad	4:29	4:55	13	1325
6-12-34-s-20131107-10	6	12	34	s	20131107	10	jew	5:05	5:26	14	1406
6-12-1-C-20131111-03	6	12	1	C	20131111	03	jp	8:40	8:47	12	1205
6-12-1-S-20131111-04	6	12	1	S	20131111	04	jp	8:52	9:00	12	1205
6-12-1-C-20131111-05	6	12	1	C	20131111	05	jp	9:02	9:06	12	1205
6-12-1-S-20131111-06	6	12	1	S	20131111	06	jp	9:10	9:16	12	1205
6-12-1-C-20131111-07	6	12	1	C	20131111	07	jp	9:21	9:25	12	1205
6-12-1-S-20131111-08	6	12	1	S	20131111	08	jp	9:35	9:39	12	1203
6-12-1-C-20131111-09	6	12	1	C	20131111	09	jp	9:44	9:49	12	1203
6-12-1-C-20131111-10	6	12	1	C	20131111	10	jp	9:56	10:01	12	1203
6-12-1-S-20131111-11	6	12	1	S	20131111	11	jp	10:01	10:07	12	1203
6-12-1-S-20131111-12	6	12	1	S	20131111	12	jp	10:13	10:16	12	1201
6-12-1-C-20131111-13	6	12	1	C	20131111	13	jp	10:17	10:22	12	1201
6-12-1-S-20131111-14	6	12	1	S	20131111	14	jp	10:29	10:36	12	1201
6-12-1-C-20131111-15	6	12	1	C	20131111	15	jp	10:38	10:43	12	1201

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131111-16	6	12	1	S	20131111	16	jp	10:50	10:55	12	1201
6-12-1-c-20131111-17	6	12	1	c	20131111	17	jew	10:56	11:01	12	1201
6-12-1-S-20131111-18	6	12	1	S	20131111	18	jp	11:30	11:40	11	1147
6-12-1-C-20131111-19	6	12	1	C	20131111	19	jew	11:41	11:46	11	1147
6-12-1-S-20131111-20	6	12	1	S	20131111	20	jew	1:27	1:35	11	1147
6-12-1-C-20131111-21	6	12	1	C	20131111	21	jew	1:36	1:40	11	1147
6-12-1-S-20131111-22	6	12	1	S	20131111	22	jp	1:50	1:58	11	1147
6-12-1-S-20131111-23	6	12	1	S	20131111	23	jp	2:07	2:14	11	1149
6-12-1-C-20131111-24	6	12	1	C	20131111	24	jp	2:15	2:25	11	1149
6-12-1-S-20131111-25	6	12	1	S	20131111	25	jp	2:55	2:59	12	1208
6-12-1-C-20131111-26	6	12	1	C	20131111	26	jp	3:01	3:06	12	1208
6-12-1-S-20131111-27	6	12	1	S	20131111	27	jp	3:23	4:07	12	1205
6-12-1-S-20131111-28	6	12	1	S	20131111	28	jp	4:20	5:06	12	1217
6-12-2-c-20131111-03	6	12	2	c	20131111	03	jew2	8:34	8:52	12	1205
6-12-2-a-20131111-04	6	12	2	a	20131111	04	jew2	8:54	9:11	12	1205
6-12-2-a-20131111-05	6	12	2	a	20131111	05	jew2	9:15	9:29	12	1203
6-12-2-c-20131111-06	6	12	2	c	20131111	06	jew2	10:20		12	1203
6-12-2-c-20131111-07	6	12	2	c	20131111	07	jew2	10:23	10:33	12	1203
6-12-2-c-20131111-08	6	12	2	c	20131111	08	jew2	10:35	11:16	12	1201
6-12-2-A-20131111-09	6	12	2	A	20131111	09	jew2	11:20	11:43	12	1201
6-12-2-S-20131111-10	6	12	2	S	20131111	10	jew2	2:22	3:00	12	1201
6-12-2-s-20131111-11	6	12	2	s	20131111	11	jew2	3:04	3:30	12	1203
6-12-2-s-20131111-12	6	12	2	s	20131111	12	jew2	4:25		12	1212
6-12-2-S-20131111-13	6	12	2	S	20131111	13	jew2	4:53	5:11	12	1212
6-12-3-s-20131111-04	6	12	3	s	20131111	04	dad	8:35	8:44	12	1205
6-12-3-c-20131111-05	6	12	3	c	20131111	05	dad	8:45	8:51	12	1205
6-12-3-c-20131111-06	6	12	3	c	20131111	06	dad	8:55	9:01	12	1205
6-12-3-s-20131111-07	6	12	3	s	20131111	07	dad	9:02	9:10	12	1205
6-12-3-s-20131111-08	6	12	3	s	20131111	08	dad	9:25	9:34	12	1205
6-12-3-c-20131111-09	6	12	3	c	20131111	09	dad	9:35	9:40	12	1205
6-12-3-s-20131111-10	6	12	3	s	20131111	10	dad	9:45	9:53	12	1203
6-12-3-c-20131111-11	6	12	3	c	20131111	11	dad	9:54	10:00	12	1203
6-12-3-s-20131111-12	6	12	3	s	20131111	12	dad	10:02	10:09	12	1203

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-c-20131111-13	6	12	3	c	20131111	13	dad	10:10	10:15	12	1203
6-12-3-s-20131111-14	6	12	3	s	20131111	14	dad	10:18	10:23	12	1201
6-12-3-c-20131111-15	6	12	3	c	20131111	15	dad	10:24	10:28	12	1201
6-12-3-s-20131111-16	6	12	3	s	20131111	16	dad	10:32	10:36	12	1201
6-12-3-c-20131111-17	6	12	3	c	20131111	17	dad	10:37	10:41	12	1201
6-12-3-s-20131111-18	6	12	3	s	20131111	18	dad	10:49	10:54	12	1201
6-12-3-c-20131111-19	6	12	3	c	20131111	19	dad	10:55	11:04	12	1201
6-12-3-s-20131111-20	6	12	3	s	20131111	20	dad	11:35	11:42	11	1147
6-12-3-c-20131111-21	6	12	3	c	20131111	21	dad	11:43	11:46	11	1147
6-12-3-s-20131111-22	6	12	3	s	20131111	22	dad	1:25	1:35	11	1147
6-12-3-c-20131111-23	6	12	3	c	20131111	23	dad	1:38	1:43	11	1147
6-12-3-s-20131111-29	6	12	3	s	20131111	29	dad	1:56	2:04	11	1147
6-12-3-c-20131111-30	6	12	3	c	20131111	30	dad	2:05	2:09	11	1147
6-12-3-s-20131111-31	6	12	3	s	20131111	31	dad	2:22	2:29	11	1149
6-12-3-c-20131111-32	6	12	3	c	20131111	32	dad	2:30	2:35	11	1149
6-12-3-s-20131111-33	6	12	3	s	20131111	33	dad	3:51	4:02	12	1222
6-12-3-s-20131111-34	6	12	3	s	20131111	34	jew	4:05	0:00	12	1222
6-12-3-s-20131111-35	6	12	3	s	20131111	35	jew	4:26	4:51	12	1202
6-12-3-s-20131111-36	6	12	3	s	20131111	36	jew	4:52	5:17	12	1204
6-12-1-C-20131112-04	6	12	1	C	20131112	04	jp	8:51	8:56	11	1143
6-12-1-S-20131112-05	6	12	1	S	20131112	05	jp	9:06	9:11	11	1143
6-12-1-C-20131112-06	6	12	1	C	20131112	06	jp	9:18	9:20	11	1143
6-12-1-S-20131112-07	6	12	1	S	20131112	07	jp	9:43	9:46	11	1141
6-12-1-C-20131112-08	6	12	1	C	20131112	08	jp	10:02	10:05	11	1141
6-12-1-S-20131112-09	6	12	1	S	20131112	09	jp	10:09	10:17	11	1141
6-12-1-C-20131112-10	6	12	1	C	20131112	10	jp	10:18	10:22	11	1141
6-12-1-S-20131112-11	6	12	1	S	20131112	11	jp	10:33	10:40	11	1141
6-12-1-C-20131112-12	6	12	1	C	20131112	12	jp	10:42	10:46	11	1141
6-12-1-S-20131112-13	6	12	1	S	20131112	13	jp	11:00	11:11	11	1145
6-12-1-C-20131112-14	6	12	1	C	20131112	14	jp	11:12	11:15	11	1145
6-12-1-S-20131112-15	6	12	1	S	20131112	15	jp	11:18	11:29	11	1145
6-12-1-C-20131112-16	6	12	1	C	20131112	16	jp	11:31	11:37	11	1145
6-12-1-S-20131112-17	6	12	1	S	20131112	17	jp	11:47	11:56	11	1145

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131112-18	6	12	1	C	20131112	18	jew	2:01	2:06	11	1120
6-12-1-S-20131112-19	6	12	1	S	20131112	19	JEW	2:07	2:13	11	1120
6-12-1-c-20131112-20	6	12	1	c	20131112	20	JEW	2:17	2:22	11	1120
6-12-1-s-20131112-21	6	12	1	s	20131112	21	EW	2:23	2:30	11	1120
6-12-1-s-20131112-22	6	12	1	s	20131112	22	JP	2:42	2:55	11	1128
6-12-1-C-20131112-23	6	12	1	C	20131112	23	jp	2:56	2:59	11	1128
6-12-1-C-20131112-24	6	12	1	C	20131112	24	jp	3:11	3:15	11	1128
6-12-1-S-20131112-25	6	12	1	S	20131112	25	jp	3:21	3:31	11	1128
6-12-1-S-20131112-26	6	12	1	S	20131112	26	jp	3:39	3:43	11	1120
6-12-1-C-20131112-27	6	12	1	C	20131112	27	jp	3:44	3:48	11	1120
6-12-1-S-20131112-28	6	12	1	S	20131112	28	jew	4:02	5:00	12	1200
6-12-2-c-20131112-03	6	12	2	c	20131112	03	jew2	9:23	9:41	11	1143
6-12-2-c-20131112-04	6	12	2	c	20131112	04	jew2	9:45	10:06	11	1145
6-12-2-S-20131112-05	6	12	2	S	20131112	05	jew2	10:11	10:21	11	1145
6-12-2-S-20131112-06	6	12	2	S	20131112	06	jew2	10:24	10:36	11	1143
6-12-2-c-20131112-07	6	12	2	c	20131112	07	jew2	11:00	11:13	11	1120
6-12-2-s-20131112-08	6	12	2	s	20131112	08	jew2	11:15	11:25	11	1120
6-12-2-c-20131112-09	6	12	2	c	20131112	09	jew2	11:33	11:40	11	1128
6-12-2-s-20131112-10	6	12	2	s	20131112	10	jew2	11:44	12:03	11	1128
6-12-2-s-20131112-11	6	12	2	s	20131112	11	jew2	1:54	2:23	12	1217
6-12-2-S-20131112-12	6	12	2	S	20131112	12	jew2	2:30	3:17	12	1219
6-12-2-c-20131112-13	6	12	2	c	20131112	13	jew2	3:24	3:35	12	1230
6-12-2-s-20131112-14	6	12	2	s	20131112	14	jew2	3:44	4:21	12	1230
6-12-2-s-20131112-15	6	12	2	s	20131112	15	jew2	4:33	5:10	12	1200
6-12-3-s-20131112-03	6	12	3	s	20131112	03	dad	8:45	8:54	11	1143
6-12-3-c-20131112-04	6	12	3	c	20131112	04	dad	8:55	8:59	11	1143
6-12-3-s-20131112-05	6	12	3	s	20131112	05	dad	9:08	9:13	11	1143
6-12-3-c-20131112-06	6	12	3	c	20131112	06	dad	9:16	9:19	11	1143
6-12-3-s-20131112-07	6	12	3	s	20131112	07	dad	9:27	9:34	11	1143
6-12-3-c-20131112-08	6	12	3	c	20131112	08	dad	9:36	9:40	11	1143
6-12-3-s-20131112-09	6	12	3	s	20131112	09	dad	9:49	9:58	11	1141
6-12-3-c-20131112-10	6	12	3	c	20131112	10	dad	10:00	10:04	11	1141
6-12-3-s-20131112-11	6	12	3	s	20131112	11	dad	10:13	10:22	11	1141

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-s-20131112-12	6	12	3	s	20131112	12	dad	10:30	10:36	11	1141
6-12-3-c-20131112-13	6	12	3	c	20131112	13	dad	10:38	10:41	11	1141
6-12-3-s-20131112-14	6	12	3	s	20131112	14	dad	10:52	11:00	11	1145
6-12-3-c-20131112-15	6	12	3	c	20131112	15	dad	11:00	11:03	11	1145
6-12-3-s-20131112-16	6	12	3	s	20131112	16	dad	11:09	11:17	11	1145
6-12-3-c-20131112-17	6	12	3	c	20131112	17	dad	11:18	11:22	11	1145
6-12-3-c-20131112-18	6	12	3	c	20131112	18	dad	11::27	11:30	11	1145
6-12-3-s-20131112-19	6	12	3	s	20131112	19	dad	2:17	2:25	11	1145
6-12-3-s-20131112-20	6	12	3	s	20131112	20	dad	2:40	2:49	11	1128
6-12-3-c-20131112-21	6	12	3	c	20131112	21	dad	2:50	2:54	11	1128
6-12-3-s-20131112-22	6	12	3	s	20131112	22	dad	3:25	3:33	11	1128
6-12-3-c-20131112-23	6	12	3	c	20131112	23	dad	3:34	3:36	11	1128
6-12-3-s-20131112-24	6	12	3	s	20131112	24	dad	4:30	4:46	12	1202
6-12-3-s-20131112-25	6	12	3	s	20131112	25	dad	4:55	5:08	12	1206
6-12-1-S-20131113-03	6	12	1	S	20131113	03	jp	8:33	8:40	11	1124
6-12-1-C-20131113-04	6	12	1	C	20131113	04	jp	8:43	8:47	11	1124
6-12-1-S-20131113-05	6	12	1	S	20131113	05	jp	8:51	8:58	11	1124
6-12-1-C-20131113-06	6	12	1	C	20131113	06	jp	8:59	9:03	11	1124
6-12-1-S-20131113-07	6	12	1	S	20131113	07	acm	9:08	9:19	11	1124
6-12-1-C-20131113-08	6	12	1	C	20131113	08	acm	9:20	9:25	11	1124
6-12-1-S-20131113-09	6	12	1	S	20131113	09	jp	9:33	9:42	11	1122
6-12-1-C-20131113-10	6	12	1	C	20131113	10	jp	9:43	9:48	11	1122
6-12-1-S-20131113-11	6	12	1	S	20131113	11	acm	9:52	9:58	11	1122
6-12-1-C-20131113-12	6	12	1	C	20131113	12	acm	9:59	10:04	11	1122
6-12-1-S-20131113-13	6	12	1	S	20131113	13	jp	10:12	10:15	11	1122
6-12-1-C-20131113-14	6	12	1	C	20131113	14	jp	10:18	10:22	11	1122
6-12-1-C-20131113-15	6	12	1	C	20131113	15	jp	10:28	10:33	11	1122
6-12-1-S-20131113-16	6	12	1	S	20131113	16	acm	10:49	10:58	11	1122
6-12-1-C-20131113-17	6	12	1	C	20131113	17	acm	10:59	11:03	11	1122
6-12-1-S-20131113-18	6	12	1	S	20131113	18	jp	11:11	11:24	11	1122
6-12-1-S-20131113-19	6	12	1	S	20131113	19	jp	1:55	2:05	11	1120
6-12-1-C-20131113-20	6	12	1	C	20131113	20	jp	2:09	2:17	11	1120
6-12-1-S-20131113-21	6	12	1	S	20131113	21	jp	2:24	2:30	11	1114

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131113-22	6	12	1	C	20131113	22	jp	2:31	2:35	11	1114
6-12-1-C-20131113-23	6	12	1	C	20131113	23	jp	2:51	2:57	11	1114
6-12-1-C-20131113-24	6	12	1	C	20131113	24	p	4:30		14	1419
6-12-2-c-20131113-03	6	12	2	c	20131113	03	jew2	9:31	9:40	11	1114
6-12-2-c-20131113-04	6	12	2	c	20131113	04	jew2	9:42	9:52	11	1112
6-12-2-C-20131113-05	6	12	2	C	20131113	05	jew2	9:57	10:16	11	1108
6-12-2-S-20131113-06	6	12	2	S	20131113	06	jew2	10:18	10:31	11	1108
6-12-2-S-20131113-07	6	12	2	S	20131113	07	jew2	10:34	10:58	11	1112
6-12-2-s-20131113-08	6	12	2	s	20131113	08	jew2	11:02	11:10	11	1114
6-12-2-C-20131113-09	6	12	2	C	20131113	09	jew2	11:23	11:47	11	1124
6-12-2-c-20131113-10	6	12	2	c	20131113	10	jew2	1:30	1:52	11	1122
6-12-2-s-20131113-11	6	12	2	s	20131113	11	jew2	1:54	2:17	11	1122
6-12-2-s-20131113-12	6	12	2	s	20131113	12	jew2	2:52	3:11	11	1124
6-12-2-C-20131113-13	6	12	2	C	20131113	13	jew2	4:20	5:03	14	1406
6-12-2-s-20131113-14	6	12	2	s	20131113	14	jew2	5:05	5:15	14	1406
6-12-3-s-20131113-03	6	12	3	s	20131113	03	dad	8:40	8:49	11	1124
6-12-3-c-20131113-04	6	12	3	c	20131113	04	jew	8:50	8:55	11	1124
6-12-3-s-20131113-05	6	12	3	s	20131113	05	jew	8:57	9:04	11	1124
6-12-3-C-20131113-06	6	12	3	C	20131113	06	jew	9:05	9:09	11	1124
6-12-3-S-20131113-07	6	12	3	S	20131113	07	jew	9:14	9:24	11	1108
6-12-3-C-20131113-08	6	12	3	C	20131113	08	jew	9:25	9:29	11	1108
6-12-3-S-20131113-09	6	12	3	S	20131113	09	jew	9:33	9:41	11	1108
6-12-3-C-20131113-10	6	12	3	C	20131113	10	jew	9:42	9:47	11	1108
6-12-3-S-20131113-11	6	12	3	S	20131113	11	jew	9:50	9:59	11	1108
6-12-3-C-20131113-12	6	12	3	C	20131113	12	jew	10:00	10:05	11	1108
6-12-3-C-20131113-13	6	12	3	C	20131113	13	jew	10:10	10:15	11	1108
6-12-3-S-20131113-14	6	12	3	S	20131113	14	jew	10:16	10:22	11	1108
6-12-3-s-20131113-15	6	12	3	s	20131113	15	jew	10:42	10:51	11	1112
6-12-3-C-20131113-16	6	12	3	C	20131113	16	jew	10:52	10:57	11	1112
6-12-3-S-20131113-17	6	12	3	S	20131113	17	jew	11:00	11:09	11	1112
6-12-3-C-20131113-18	6	12	3	C	20131113	18	jew	11:10	11:13	11	1112
6-12-3-c-20131113-19	6	12	3	c	20131113	19	dad	1:55	2:02	11	1112
6-12-3-s-20131113-20	6	12	3	s	20131113	20	dad	2:12	2:22	11	1112

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-c-20131113-21	6	12	3	c	20131113	21	dad	2:23	2:27	11	1112
6-12-3-s-20131113-22	6	12	3	s	20131113	22	dad	2:44	2:54	11	1114
6-12-3-c-20131113-23	6	12	3	c	20131113	23	dad	2:57	3:01	11	1114
6-12-3-c-20131113-24	6	12	3	c	20131113	24	dad	3:09	3:12	11	1114
6-12-3-s-20131113-25	6	12	3	s	20131113	25	dad	3:13	3:17	11	1114
6-12-3-C-20131113-26	6	12	3	C	20131113	26	jew	4:19	4:32	14	1401
6-12-3-S-20131113-27	6	12	3	S	20131113	27	jew	4:33	4:48	14	1401
6-12-3-C-20131113-28	6	12	3	C	20131113	28	jew	4:50	5:01	14	1403
6-12-3-S-20131113-29	6	12	3	S	20131113	29	jew	5:02	5:18	14	1403
6-12-1-S-20131114-03	6	12	1	S	20131114	03	jp	8:49	8:58	12	1237
6-12-1-C-20131114-04	6	12	1	C	20131114	04	jp	9:04	9:07	12	1237
6-12-1-S-20131114-05	6	12	1	S	20131114	05	jp	9:15	9:19	12	1237
6-12-1-C-20131114-06	6	12	1	C	20131114	06	jp	9:23	9:27	12	1237
6-12-1-S-20131114-07	6	12	1	S	20131114	07	jp	10:20	10:25	11	1124
6-12-1-C-20131114-08	6	12	1	C	20131114	08	jp	10:24	10:30	11	1124
6-12-1-S-20131114-09	6	12	1	S	20131114	09	jp	10:40	10:49	11	1118
6-12-1-C-20131114-10	6	12	1	C	20131114	10	jp	10:51	10:54	11	1118
6-12-1-S-20131114-11	6	12	1	S	20131114	11	jp	11:14	11:20	11	1115
6-12-1-C-20131114-12	6	12	1	C	20131114	12	jp	11:24	11:26	11	1115
6-12-1-S-20131114-13	6	12	1	S	20131114	13	jp	11:32	11:37	11	1115
6-12-1-C-20131114-14	6	12	1	C	20131114	14	jp	11:41	11:44	11	1115
6-12-1-S-20131114-15	6	12	1	S	20131114	15	jp	1:15	1:25	11	1115
6-12-1-C-20131114-16	6	12	1	C	20131114	16	jp	1:25	1:30	11	1115
6-12-1-S-20131114-17	6	12	1	S	20131114	17	jp	2:13	2:37	13	1315
6-12-1-C-20131114-18	6	12	1	C	20131114	18	jp	2:40	2:42	13	1315
6-12-1-S-20131114-19	6	12	1	S	20131114	19	jp	2:49	3:02	13	1315
6-12-1-C-20131114-20	6	12	1	C	20131114	20	jp	3:08	3:15	13	1315
6-12-1-S-20131114-21	6	12	1	S	20131114	21	jp	3:22	3:26	13	1315
6-12-1-C-20131114-22	6	12	1	C	20131114	22	jp	3:27	3:33	13	1315
6-12-1-S-20131114-23	6	12	1	S	20131114	23	jp	3:36	3:46	13	1315
6-12-1-C-20131114-24	6	12	1	C	20131114	24	jp	3:49	3:57	13	1315
6-12-1-S-20131114-25	6	12	1	S	20131114	25	jp	4:02	4:10	13	1315
6-12-1-C-20131114-26	6	12	1	C	20131114	26	jew	4:12	4:19	13	1315

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131114-27	6	12	1	C	20131114	27	jew	4:32	4:39	14	1419
6-12-1-S-20131114-28	6	12	1	S	20131114	28	jew	4:40	4:51	14	1419
6-12-1-C-20131114-29	6	12	1	C	20131114	29	jew	4:55	5:08	14	1405
6-12-2-a-20131114-03	6	12	2	a	20131114	03	jew2	8:39	8:42	12	1237
6-12-2-s-20131114-04	6	12	2	s	20131114	04	jew2	8:50	9:09	12	1237
6-12-2-s-20131114-05	6	12	2	s	20131114	05	jew2	9:15	9:33	12	1237
6-12-2-c-20131114-06	6	12	2	c	20131114	06	jew2	10:16	10:41	11	1118
6-12-2-s-20131114-07	6	12	2	s	20131114	07	jew2	10:43	11:13	11	1118
6-12-2-c-20131114-08	6	12	2	c	20131114	08	jew2	11:32	11:52	11	1115
6-12-2-s-20131114-09	6	12	2	s	20131114	09	jew2	1:16	1:57	11	1115
6-12-2-s-20131114-10	6	12	2	s	20131114	10	jew2	2:35	3:12	13	1315
6-12-2-s-20131114-11	6	12	2	s	20131114	11	jew2	3:16	3:39	13	1313
6-12-2-s-20131114-12	6	12	2	s	20131114	12	jew2	3:45	4:19	13	1312
6-12-2-s-20131114-13	6	12	2	s	20131114	13	jew2	4:28	5:02	13	1314
6-12-3-s-20131114-03	6	12	3	s	20131114	03	dad	8:37	8:45	12	1237
6-12-3-c-20131114-04	6	12	3	c	20131114	04	dad	8:46	8:50	12	1237
6-12-3-s-20131114-05	6	12	3	s	20131114	05	dad	9:00	9:08	12	1237
6-12-3-c-20131114-06	6	12	3	c	20131114	06	dad	9:21	9:26	12	1237
6-12-3-c-20131114-07	6	12	3	c	20131114	07	dad	10:07	10:13	11	1118
6-12-3-s-20131114-08	6	12	3	s	20131114	08	dad	10:17	10:25	11	1118
6-12-3-s-20131114-09	6	12	3	s	20131114	09	dad	10:28	10:36	11	1118
6-12-3-c-20131114-10	6	12	3	c	20131114	10	dad	10:38	10:41	11	1118
6-12-3-s-20131114-11	6	12	3	s	20131114	11	dad	10:47	10:56	11	1118
6-12-3-c-20131114-12	6	12	3	c	20131114	12	dad	10:58	11:04	11	1118
6-12-3-s-20131114-13	6	12	3	s	20131114	13	dad	11:20	11:28	11	1115
6-12-3-c-20131114-14	6	12	3	c	20131114	14	dad	11:29	11:35	11	1115
6-12-3-S-20131114-15	6	12	3	S	20131114	15	jew	1:05	1:18	11	1115
6-12-3-C-20131114-16	6	12	3	C	20131114	16	jew	1:19	1:23	11	1115
6-12-3-S-20131114-17	6	12	3	S	20131114	17	jew	1:27	1:42	11	1115
6-12-3-C-20131114-18	6	12	3	C	20131114	18	jew	1:43	1:47	11	1115
6-12-3-C-20131114-19	6	12	3	C	20131114	19	jew	2:03	2:42	13	1312
6-12-3-s-20131114-20	6	12	3	s	20131114	20	dad	2:44	2%!	13	1312
6-12-3-S-20131114-21	6	12	3	S	20131114	21	jew	2:58	3:08	13	1313

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-C-20131114-22	6	12	3	C	20131114	22	jew	3:09	3:15	13	1313
6-12-3-S-20131114-23	6	12	3	S	20131114	23	jew	3:23	3:32	13	1325
6-12-3-C-20131114-24	6	12	3	C	20131114	24	jew	3:38	3:42	13	1325
6-12-3-S-20131114-25	6	12	3	S	20131114	25	jew	3:46	3:57	13	1325
6-12-3-C-20131114-26	6	12	3	C	20131114	26	jew	3:58	4:02	13	1325
6-12-3-s-20131114-27	6	12	3	s	20131114	27	dad	4:26	4:52	13	1300
6-12-3-s-20131114-28	6	12	3	s	20131114	28	dad	4:55	5:16	13	1318
6-12-1-S-20131115-03	6	12	1	S	20131115	03	jp	8:34	8:40	14	1419
6-12-1-C-20131115-04	6	12	1	C	20131115	04	jp	8:46	8:49	14	1419
6-12-1-C-20131115-05	6	12	1	C	20131115	05	jp	8:54	8:57	14	1419
6-12-1-S-20131115-06	6	12	1	S	20131115	06	jp	9:00	9:05	14	1419
6-12-1-S-20131115-07	6	12	1	S	20131115	07	jp	9:09	9:16	14	1405
6-12-1-C-20131115-08	6	12	1	C	20131115	08	jp	9:20	9:24	14	1405
6-12-1-S-20131115-09	6	12	1	S	20131115	09	jp	9:31	9:37	14	1405
6-12-1-S-20131115-10	6	12	1	S	20131115	10	jp	9:44	9:48	14	1403
6-12-1-C-20131115-11	6	12	1	C	20131115	11	jp	9:52	9:56	14	1403
6-12-1-C-20131115-12	6	12	1	C	20131115	12	jp	10:00	10:07	14	1403
6-12-1-S-20131115-13	6	12	1	S	20131115	13	jp	10:19	10:24	14	1403
6-12-1-S-20131115-14	6	12	1	S	20131115	14	jp	10:31	10:39	14	1401
6-12-1-C-20131115-15	6	12	1	C	20131115	15	jp	10:42	10:47	14	1401
6-12-1-S-20131115-16	6	12	1	S	20131115	16	jp	10:51	10:55	14	1401
6-12-1-C-20131115-17	6	12	1	C	20131115	17	jp	10:59	11:04	14	1401
6-12-1-S-20131115-18	6	12	1	S	20131115	18	jew	11:14	11:20	14	1406
6-12-1-C-20131115-19	6	12	1	C	20131115	19	jew	11:22	11:26	14	1406
6-12-1-C-20131115-20	6	12	1	C	20131115	20	jew	11:26	11:31	14	1406
6-12-1-S-20131115-21	6	12	1	S	20131115	21	jew	11:34	11:40	14	1406
6-12-1-S-20131115-22	6	12	1	S	20131115	22	jew	11:44	11:54	14	1413
6-12-1-C-20131115-23	6	12	1	C	20131115	23	jew	1:38	1:41	14	1413
6-12-1-C-20131115-24	6	12	1	C	20131115	24	jew	1:47	1:51	14	1413
6-12-1-S-20131115-25	6	12	1	S	20131115	25	jew	1:53	1:59	14	1413
6-12-1-S-20131115-26	6	12	1	S	20131115	26	jew	2:01	2:07	14	1411
6-12-1-C-20131115-27	6	12	1	C	20131115	27	jew	2:11	2:19	14	1400
6-12-1-S-20131115-28	6	12	1	S	20131115	28	jew	2:21	3:33	14	1400

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131115-29	6	12	1	S	20131115	29	jew	3:40	4:02	14	1430
6-12-1-S-20131115-30	6	12	1	S	20131115	30	jew	4:04	5:05	14	1430
6-12-2-s-20131115-03	6	12	2	s	20131115	03	jew2	8:30	8:49	14	1400
6-12-2-c-20131115-04	6	12	2	c	20131115	04	pw	8:55	9:06	14	1404
6-12-2-c-20131115-05	6	12	2	c	20131115	05	jew2	9:11	9:22	14	1403
6-12-2-c-20131115-06	6	12	2	c	20131115	06	pw	9:26	9:39	14	1405
6-12-2-s-20131115-07	6	12	2	s	20131115	07	jew2	9:40	9:50	14	1405
6-12-2-s-20131115-08	6	12	2	s	20131115	08	jew2	10:14	10:37	14	1404
6-12-2-s-20131115-09	6	12	2	s	20131115	09	jew2	10:43	11:04	14	1404
6-12-2-c-20131115-10	6	12	2	c	20131115	10	jew2	11:35	11:56	14	1403
6-12-2-c-20131115-11	6	12	2	c	20131115	11	jew2	11:58	12:07	14	1401
6-12-2-s-20131115-12	6	12	2	s	20131115	12	jew2	1:55	3:02	14	1431
6-12-3-C-20131115-03	6	12	3	C	20131115	03	jew	8:25	9:07	14	1409
6-12-3-S-20131115-04	6	12	3	S	20131115	04	jew	9:08	9:29	14	1409
6-12-3-C-20131115-05	6	12	3	C	20131115	05	jew	9:31	10:09	14	1411
6-12-3-C-20131115-06	6	12	3	C	20131115	06	jew	10:10	11:08	14	1413
6-12-3-s-20131115-07	6	12	3	s	20131115	07	dad	1:36	1:50	14	1411
6-12-3-s-20131115-08	6	12	3	s	20131115	08	dad	2:09	2:21	14	1413
6-12-3-s-20131115-09	6	12	3	s	20131115	09	dad	2:45	3:20	13	1314
6-12-3-s-20131115-10	6	12	3	s	20131115	10	dad	3:20	3:44	13	1316
6-12-3-S-20131115-11	6	12	3	S	20131115	11	jp	3:55	4:04	14	1435
6-12-3-S-20131115-12	6	12	3	S	20131115	12	jp	4:06	4:08	14	1435
6-12-3-S-20131115-13	6	12	3	S	20131115	13	jp	4:12	4:22	14	1433
6-12-3-S-20131115-14	6	12	3	S	20131115	14	jp	4:29	4:37	14	1443
6-12-3-S-20131115-15	6	12	3	S	20131115	15	jp	4:46	4:55	14	1434
6-12-1-S-20131118-03	6	12	1	S	20131118	03	jp	8:41	8:47	12	1216
6-12-1-C-20131118-04	6	12	1	C	20131118	04	jp	8:49	8:53	12	1216
6-12-1-S-20131118-05	6	12	1	S	20131118	05	jp	9:19	9:26	12	1216
6-12-1-C-20131118-06	6	12	1	C	20131118	06	jp	9:27	9:32	12	1216
6-12-1-S-20131118-07	6	12	1	S	20131118	07	jp	10:02	10:09	12	1251
6-12-1-C-20131118-08	6	12	1	C	20131118	08	jp	10:09	10:13	12	1251
6-12-1-S-20131118-09	6	12	1	S	20131118	09	jp	10:23	10:27	12	1251
6-12-1-C-20131118-10	6	12	1	C	20131118	10	jp	10:30	10:34	12	1251

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131118-11	6	12	1	S	20131118	11	jp	10:56	11:03	12	1216
6-12-1-C-20131118-12	6	12	1	C	20131118	12	jp	11:04	11:08	12	1216
6-12-1-S-20131118-13	6	12	1	S	20131118	13	jp	11:12	11:20	12	1216
6-12-1-C-20131118-14	6	12	1	C	20131118	14	jp	11:24	11:30	12	1216
6-12-1-S-20131118-15	6	12	1	S	20131118	15	jp	12:03	12:09	12	1243
6-12-1-S-20131118-16	6	12	1	S	20131118	16	jp	2:00	2:06	12	1244
6-12-1-C-20131118-17	6	12	1	C	20131118	17	jp	2:10	2:19	12	1244
6-12-1-S-20131118-18	6	12	1	S	20131118	18	jp	2:20	2:28	12	1244
6-12-1-C-20131118-19	6	12	1	C	20131118	19	jp	2:30	2:33	12	1244
6-12-1-S-20131118-20	6	12	1	S	20131118	20	jp	2:58	3:04	12	1244
6-12-1-C-20131118-21	6	12	1	C	20131118	21	jp	3:08	3:10	12	1244
6-12-1-A-20131118-22	6	12	1	A	20131118	22	jp	3:26	3:45	12	1243
6-12-1-S-20131118-23	6	12	1	S	20131118	23	jp	4:33	4:39	12	1243
6-12-1-S-20131118-24	6	12	1	S	20131118	24	jp	5:00	5:04	12	1251
6-12-1-C-20131118-25	6	12	1	C	20131118	25	jp	5:07	5:08	12	1251
6-12-2-A-20131118-03	6	12	2	A	20131118	03	jew	9:17	10:08	12	1251
6-12-2-S-20131118-04	6	12	2	S	20131118	04	jew	10:12	10:38	12	1200
6-12-2-S-20131118-05	6	12	2	S	20131118	05	jew	2:15	2:31	12	1200
6-12-2-S-20131118-06	6	12	2	S	20131118	06	jew	2:33	2:36	12	1200
6-12-2-S-20131118-07	6	12	2	S	20131118	07	jew	3:02	3:42	12	1200
6-12-2-S-20131118-08	6	12	2	S	20131118	08	jew	3:45	4:04	12	1200
6-12-2-A-20131118-09	6	12	2	A	20131118	09	jew	4:34	4:56	12	1243
6-12-3-s-20131118-03	6	12	3	s	20131118	03	dad	8:32	8:40	12	1216
6-12-3-c-20131118-04	6	12	3	c	20131118	04	dad	8:44	8:53	12	1216
6-12-3-s-20131118-05	6	12	3	s	20131118	05	dad	9:11	9:16	12	1216
6-12-3-c-20131118-06	6	12	3	c	20131118	06	dad	9:20	9:24	12	1216
6-12-3-s-20131118-07	6	12	3	s	20131118	07	dad	10:00	10:08	12	1251
6-12-3-c-20131118-08	6	12	3	c	20131118	08	dad	10:19	10:23	12	1251
6-12-3-s-20131118-09	6	12	3	s	20131118	09	dad	10:30	10:37	12	1251
6-12-3-c-20131118-10	6	12	3	c	20131118	10	dad	10:38	10:43	12	1251
6-12-3-s-20131118-11	6	12	3	s	20131118	11	dad	10:49	10:57	12	1251
6-12-3-c-20131118-12	6	12	3	c	20131118	12	dad	11:09	11:19	12	1251
6-12-3-s-20131118-13	6	12	3	s	20131118	13	dad	11:20	11:26	12	1251

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-c-20131118-14	6	12	3	c	20131118	14	dad	11:27	11:33	12	1243
6-12-3-s-20131118-15	6	12	3	s	20131118	15	dad	12:05	12:09	12	1243
6-12-3-c-20131118-16	6	12	3	c	20131118	16	dad	12:09	12:16	12	1243
6-12-3-s-20131118-17	6	12	3	s	20131118	17	dad	1:51	1:56	12	1243
6-12-3-c-20131118-18	6	12	3	c	20131118	18	dad	2:04	2:08	12	1243
6-12-3-s-20131118-19	6	12	3	s	20131118	19	dad	2:14	2:19	12	1243
6-12-3-c-20131118-20	6	12	3	c	20131118	20	dad	2:20	2:27	12	1243
6-12-3-s-20131118-21	6	12	3	s	20131118	21	dad	2:42	2:49	12	1244
6-12-3-c-20131118-22	6	12	3	c	20131118	22	dad	2:50	2:56	12	1244
6-12-3-a-20131118-23	6	12	3	a	20131118	23	dad	3:26	3:31	12	1245
6-12-3-a-20131118-24	6	12	3	a	20131118	24	dad	3:33	3:37	12	1245
6-12-3-s-20131118-25	6	12	3	s	20131118	25	dad	4:09	4:16	12	1244
6-12-3-s-20131118-26	6	12	3	s	20131118	26	dad	4:17	4:27	12	1244
6-12-3-s-20131118-27	6	12	3	s	20131118	27	dad	4:31	4:45	12	1244
6-12-3-s-20131118-28	6	12	3	s	20131118	28	dad	4:50	5:08	12	1243
6-12-1-C-20131119-03	6	12	1	C	20131119	03	jp	9:00	9:04	12	1223
6-12-1-S-20131119-04	6	12	1	S	20131119	04	jp	9:05	9:10	12	1223
6-12-1-S-20131119-05	6	12	1	S	20131119	05	jp	9:15	9:19	12	1223
6-12-1-C-20131119-06	6	12	1	C	20131119	06	jp	9:20	9:23	12	1223
6-12-1-S-20131119-07	6	12	1	S	20131119	07	jp	9:28	9:33	12	1223
6-12-1-C-20131119-08	6	12	1	C	20131119	08	jp	9:34	9:37	12	1223
6-12-1-S-20131119-09	6	12	1	S	20131119	09	jp	9:57	10:02	12	1230
6-12-1-C-20131119-10	6	12	1	C	20131119	10	jp	10:03	10:06	12	1230
6-12-1-S-20131119-11	6	12	1	S	20131119	11	jp	10:11	10:16	12	1230
6-12-1-C-20131119-12	6	12	1	C	20131119	12	jp	10:18	10:23	12	1230
6-12-1-S-20131119-13	6	12	1	S	20131119	13	jp	10:31	10:35	12	1230
6-12-1-C-20131119-14	6	12	1	C	20131119	14	jp	10:38	10:42	12	1230
6-12-1-S-20131119-15	6	12	1	S	20131119	15	jp	11:07	11:12	12	1206
6-12-1-C-20131119-16	6	12	1	C	20131119	16	jp	11:16	11:19	12	1206
6-12-1-S-20131119-17	6	12	1	S	20131119	17	jp	11:23	11:30	12	1206
6-12-1-C-20131119-18	6	12	1	C	20131119	18	jp	11:31	11:35	12	1206
6-12-2-S-20131119-03	6	12	2	S	20131119	03	jew	8:57	9:36	12	1223
6-12-2-A-20131119-04	6	12	2	A	20131119	04	jew	9:40	10:04	12	1223

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-S-20131119-05	6	12	2	S	20131119	05	jew	10:18	10:49	12	1223
6-12-2-A-20131119-06	6	12	2	A	20131119	06	jew	10:59	11:24	12	1240
6-12-3-s-20131119-03	6	12	3	s	20131119	03	dad	8:53	9:02	12	1223
6-12-3-c-20131119-04	6	12	3	c	20131119	04	dad	9:02	9:08	12	1223
6-12-3-s-20131119-05	6	12	3	s	20131119	05	dad	9:10	9:20	12	1223
6-12-3-c-20131119-06	6	12	3	c	20131119	06	dad	9:21	9:27	12	1223
6-12-3-c-20131119-07	6	12	3	c	20131119	07	dad	9:42	9:48	12	1223
6-12-3-s-20131119-08	6	12	3	s	20131119	08	dad	9:57	10:05	12	1223
6-12-3-s-20131119-09	6	12	3	s	20131119	09	dad	10:08	10:14	12	1223
6-12-3-c-20131119-10	6	12	3	c	20131119	10	dad	10:15	10:19	12	1223
6-12-3-s-20131119-11	6	12	3	s	20131119	11	dad	10:29	10:36	12	1230
6-12-3-c-20131119-12	6	12	3	c	20131119	12	dad	10:36	1:44	12	1230
6-12-3-s-20131119-13	6	12	3	s	20131119	13	dad	11:05	11:11	12	1206
6-12-3-c-20131119-14	6	12	3	c	20131119	14	dad	11:12	11:16	12	1206
6-12-3-c-20131119-15	6	12	3	c	20131119	15	dad	11:27	11:31	12	1230
6-12-3-s-20131119-16	6	12	3	s	20131119	16	dad	11:32	11:37	12	1230
6-12-3-a-20131119-17	6	12	3	a	20131119	17	dad	11:42	11:48	12	1230
6-12-1-S-20131121-03	6	12	1	S	20131121	03	jp	8:41	8:51	12	1244
6-12-1-C-20131121-04	6	12	1	C	20131121	04	jp	8:52	8:59	12	1244
6-12-1-S-20131121-05	6	12	1	S	20131121	05	jp	10:03	10:12	12	1220
6-12-1-C-20131121-06	6	12	1	C	20131121	06	jp	10:14	10:19	12	1220
6-12-1-S-20131121-07	6	12	1	S	20131121	07	jp	10:30	10:34	12	1220
6-12-1-C-20131121-08	6	12	1	C	20131121	08	jp	10:35	10:39	12	1220
6-12-1-S-20131121-09	6	12	1	S	20131121	09	jp	10:47	10:55	12	1226
6-12-1-C-20131121-10	6	12	1	C	20131121	10	jp	15:07	11:11	12	1226
6-12-1-S-20131121-11	6	12	1	S	20131121	11	jp	11:18	11:31	12	1226
6-12-1-C-20131121-12	6	12	1	C	20131121	12	jp	11:32	11:36	12	1226
6-12-1-S-20131121-13	6	12	1	S	20131121	13	jp	11:53	12:04	12	1220
6-12-1-C-20131121-14	6	12	1	C	20131121	14	jp	12:05	12:10	12	1220
6-12-1-S-20131121-15	6	12	1	S	20131121	15	jp	12:21	12:26	12	1226
6-12-1-C-20131121-16	6	12	1	C	20131121	16	jp	12:27	12:32	12	1226
6-12-1-S-20131121-17	6	12	1	S	20131121	17	jp	2:17	2:27	11	1139
6-12-1-C-20131121-18	6	12	1	C	20131121	18	jp	2:29	2:33	11	1139

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-S-20131121-19	6	12	1	S	20131121	19	jp	2:36	2:48	11	1139
6-12-1-C-20131121-20	6	12	1	C	20131121	20	jp	2:48	2:54	11	1139
6-12-1-S-20131121-21	6	12	1	S	20131121	21	jp	3:05	3:13	11	1116
6-12-1-C-20131121-22	6	12	1	C	20131121	22	jp	3:14	3:18	11	1116
6-12-1-C-20131121-23	6	12	1	C	20131121	23	jp	3:33	3:37	11	1116
6-12-1-S-20131121-24	6	12	1	S	20131121	24	jp	3:38	3:40	11	1116
6-12-1-S-20131121-25	6	12	1	S	20131121	25	jp	3:55	3:59	11	1116
6-12-1-C-20131121-26	6	12	1	C	20131121	26	jp	4:00	4:04	11	1116
6-12-2-a-20131121-03	6	12	2	a	20131121	03	jew2	8:59	9:06	12	1244
6-12-2-c-20131121-04	6	12	2	c	20131121	04	jew2	9:40	10:43	12	1220
6-12-2-a-20131121-05	6	12	2	a	20131121	05	jew2	11:15	11:34	12	1209
6-12-2-a-20131121-06	6	12	2	a	20131121	06	jew2	11:48	12:19	12	1211
6-12-2-a-20131121-07	6	12	2	a	20131121	07	jew2	2:15	2:32	12	1226
6-12-2-a-20131121-08	6	12	2	a	20131121	08	jew2	2:40	3:16	12	1226
6-12-2-a-20131121-09	6	12	2	a	20131121	09	jew2	3:22	3:49	12	1220
6-12-2-s-20131121-10	6	12	2	s	20131121	10	jew2	3:51	4:28	12	1220
6-12-2-C-20131121-11	6	12	2	C	20131121	11	jew2	4:35	4:51	12	1226
6-12-3-s-20131121-03	6	12	3	s	20131121	03	dad	8:20	8:29	12	1244
6-12-3-c-20131121-04	6	12	3	c	20131121	04	dad	8:30	8:34	12	1244
6-12-3-a-20131121-05	6	12	3	a	20131121	05	dad	8:44	8:57	12	1244
6-12-3-s-20131121-06	6	12	3	s	20131121	06	dad	10:04	10:14	12	1220
6-12-3-c-20131121-07	6	12	3	c	20131121	07	dad	10:14	10:21	12	1220
6-12-3-s-20131121-08	6	12	3	s	20131121	08	dad	10:33	10:40	12	1220
6-12-3-c-20131121-09	6	12	3	c	20131121	09	dad	10:41	10:50	12	1220
6-12-3-s-20131121-10	6	12	3	s	20131121	10	dad	10:56	11:03	12	1226
6-12-3-c-20131121-11	6	12	3	c	20131121	11	dad	11:04	11:15	12	1226
6-12-3-s-20131121-12	6	12	3	s	20131121	12	dad	11:25	11:34	12	1226
6-12-3-c-20131121-13	6	12	3	c	20131121	13	dad	11:35	11:41	12	1226
6-12-3-s-20131121-14	6	12	3	s	20131121	14	dad	12:02	12:08	12	1220
6-12-3-c-20131121-15	6	12	3	c	20131121	15	dad	12:09	12:12	12	1220
6-12-3-s-20131121-16	6	12	3	s	20131121	16	dad	12:25	12:31	12	1226
6-12-3-c-20131121-17	6	12	3	c	20131121	17	dad	12:32	12:37	12	1226
6-12-3-s-20131121-18	6	12	3	s	20131121	18	dad	2:13	2:20	11	1139

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-c-20131121-19	6	12	3	c	20131121	19	dad	2:21	2:28	11	1139
6-12-3-s-20131121-20	6	12	3	s	20131121	20	dad	2:34	2:41	11	1139
6-12-3-c-20131121-21	6	12	3	c	20131121	21	dad	2:42	2:45	11	1139
6-12-3-s-20131121-22	6	12	3	s	20131121	22	dad	2:49	2:57	11	1139
6-12-3-c-20131121-23	6	12	3	c	20131121	23	dad	2:58	3:04	11	1139
6-12-3-s-20131121-24	6	12	3	s	20131121	24	dad	3:48	3:55	11	1116
6-12-3-c-20131121-25	6	12	3	c	20131121	25	dad	3:57	4:01	11	1116
6-12-1-C-20131122-03	6	12	1	C	20131122	03	jp	8:18	8:23	12	1236
6-12-1-C-20131122-04	6	12	1	C	20131122	04	jp	8:26	8:30	12	1236
6-12-1-C-20131122-05	6	12	1	C	20131122	05	jp	8:32	8:34	12	1236
6-12-1-S-20131122-06	6	12	1	S	20131122	06	jp	9:36	9:46	12	1204
6-12-1-C-20131122-07	6	12	1	C	20131122	07	jp	9:49	9:55	12	1204
6-12-1-S-20131122-08	6	12	1	S	20131122	08	jp	10:00	10:07	12	1204
6-12-1-C-20131122-09	6	12	1	C	20131122	09	jp	10:12	10:18	12	1204
6-12-1-S-20131122-10	6	12	1	S	20131122	10	jp	10:30	10:35	12	1204
6-12-1-C-20131122-11	6	12	1	C	20131122	11	jp	10:37	10:39	12	1204
6-12-1-S-20131122-12	6	12	1	S	20131122	12	jp	10:49	11:01	12	1202
6-12-1-C-20131122-13	6	12	1	C	20131122	13	jp	11:04	11:07	12	1202
6-12-1-S-20131122-14	6	12	1	S	20131122	14	jp	11:16	11:26	12	1202
6-12-1-C-20131122-15	6	12	1	C	20131122	15	jp	11:29	11:33	12	1202
6-12-1-S-20131122-16	6	12	1	S	20131122	16	jp	11:45	11:55	12	1202
6-12-1-C-20131122-17	6	12	1	C	20131122	17	jp	11:57	12:02	12	1202
6-12-1-S-20131122-18	6	12	1	S	20131122	18	jp	1:31	1:38	12	1204
6-12-1-C-20131122-19	6	12	1	C	20131122	19	jp	1:42	1:46	12	1204
6-12-1-S-20131122-20	6	12	1	S	20131122	20	jp	2:23	2:36	11	1147
6-12-1-C-20131122-21	6	12	1	C	20131122	21	jp	2:36	2:40	11	1147
6-12-1-S-20131122-22	6	12	1	S	20131122	22	jp	2:46	2:54	11	1147
6-12-1-C-20131122-23	6	12	1	C	20131122	23	jp	3:00	3:05	11	1147
6-12-1-S-20131122-24	6	12	1	S	20131122	24	jp	4:00	4:12	11	1110
6-12-2-s-20131122-03	6	12	2	s	20131122	03	jew2	8:21	8:31	12	1236
6-12-2-a-20131122-04	6	12	2	a	20131122	04	jew2	9:27	9:51	12	1231
6-12-2-a-20131122-05	6	12	2	a	20131122	05	jew2	10:01	10:28	12	1236
6-12-2-a-20131122-06	6	12	2	a	20131122	06	jew2	10:30	10:50	12	1233

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-a-20131122-07	6	12	2	a	20131122	07	jew2	10:58	11:16	12	1235
6-12-2-a-20131122-08	6	12	2	a	20131122	08	jew2	11:25	11:42	12	1238
6-12-2-a-20131122-09	6	12	2	a	20131122	09	jew2	1:24	2:07	12	1204
6-12-2-a-20131122-10	6	12	2	a	20131122	10	jew2	2:38	3:05	12	1202
6-12-2-A-20131122-11	6	12	2	A	20131122	11	jew	3:09	3:15	12	1202
6-12-2-S-20131122-12	6	12	2	S	20131122	12	jew	4:01	4:55	14	1409
6-12-3-c-20131122-03	6	12	3	c	20131122	03	dad	8:08	8:12	12	1236
6-12-3-c-20131122-04	6	12	3	c	20131122	04	dad	8:14	8:17	12	1236
6-12-3-c-20131122-05	6	12	3	c	20131122	05	dad	8:17	8:22	12	1236
6-12-3-c-20131122-06	6	12	3	c	20131122	06	dad	8:22	8:27	12	1236
6-12-3-c-20131122-07	6	12	3	c	20131122	07	dad	8:28	8:32	12	1236
6-12-3-s-20131122-08	6	12	3	s	20131122	08	dad	9:30	9:39	12	1204
6-12-3-c-20131122-09	6	12	3	c	20131122	09	dad	9:39	9:53	12	1204
6-12-3-s-20131122-10	6	12	3	s	20131122	10	dad	10:11	10:18	12	1204
6-12-3-c-20131122-11	6	12	3	c	20131122	11	dad	10:19	10:25	12	1204
6-12-3-s-20131122-12	6	12	3	s	20131122	12	dad	10:44	10:54	12	1202
6-12-3-c-20131122-13	6	12	3	c	20131122	13	dad	10:56	10:59	12	1202
6-12-3-s-20131122-14	6	12	3	s	20131122	14	dad	11:06	11:15	12	1202
6-12-3-c-20131122-15	6	12	3	c	20131122	15	dad	11:16	11:22	12	1202
6-12-3-s-20131122-16	6	12	3	s	20131122	16	dad	11:30	11:38	12	1202
6-12-3-c-20131122-17	6	12	3	c	20131122	17	dad	11:39	11:03	12	1202
6-12-3-s-20131122-18	6	12	3	s	20131122	18	dad	3:22	3:50	11	1110
6-12-3-c-20131122-19	6	12	3	c	20131122	19	dad	4:04	4:08	11	1110
6-12-3-s-20131122-20	6	12	3	s	20131122	20	dad	4:09	4:15	11	1110
6-12-2-s-20131123-06	6	12	2	s	20131123	06	jew2	8:30	9:08	12	1229
6-12-2-s-20131123-07	6	12	2	s	20131123	07	jew2	9:31	10:23	12	1215
6-12-2-s-20131123-08	6	12	2	s	20131123	08	jew2	10:42	11:04	12	1221
6-12-2-a-20131123-09	6	12	2	a	20131123	09	jew2	11:10	11:21	12	1204
6-12-2-s-20131123-10	6	12	2	s	20131123	10	jew2	2:15	2:49	13	1300
6-12-3-s-20131123-07	6	12	3	s	20131123	07	dad	8:25	8:43	12	1229
6-12-3-s-20131123-08	6	12	3	s	20131123	08	dad	8:49	9:00	12	1200
6-12-3-s-20131123-09	6	12	3	s	20131123	09	dad	9:06	9:42	12	1248
6-12-3-s-20131123-10	6	12	3	s	20131123	10	dad	9:51	10:11	12	1200

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-3-s-20131123-11	6	12	3	s	20131123	11	dad	10:13	10:19	12	1246
6-12-3-a-20131123-12	6	12	3	a	20131123	12	dad	11:00	11:28	12	1242
6-12-3-a-20131123-13	6	12	3	a	20131123	13	dad	11:35	11:41	12	1238
6-12-3-s-20131123-14	6	12	3	s	20131123	14	dad	2:10	2:25	13	1316
6-12-3-s-20131123-15	6	12	3	s	20131123	15	dad	2:32	2:38	13	1302
6-12-3-s-20131123-16	6	12	3	s	20131123	16	dad	2:54	2:59	13	1310
6-12-1-A-20131125-03	6	12	1	A	20131125	03	jp	8:44	9:11	12	1244
6-12-1-C-20131125-03	6	12	1	C	20131125	03	jp	8:45	9:01	Ot	Other
6-12-1-S-20131125-04	6	12	1	S	20131125	04	jp	9:42	9:51	11	1126
6-12-1-C-20131125-05	6	12	1	C	20131125	05	jp	9:52	9:56	11	1126
6-12-1-S-20131125-06	6	12	1	S	20131125	06	jp	10:03	10:12	11	1126
6-12-1-C-20131125-07	6	12	1	C	20131125	07	jp	10:16	10:20	11	1126
6-12-1-S-20131125-08	6	12	1	S	20131125	08	jp	10:26	10:33	11	1126
6-12-1-C-20131125-09	6	12	1	C	20131125	09	jp	10:37	10:40	11	1126
6-12-1-S-20131125-10	6	12	1	S	20131125	10	jp	10:48	10:55	11	1126
6-12-1-C-20131125-11	6	12	1	C	20131125	11	jp	10:57	11:04	11	1126
6-12-1-S-20131125-12	6	12	1	S	20131125	12	jp	11:08	11:16	11	1126
6-12-1-C-20131125-13	6	12	1	C	20131125	13	jp	11:19	11:21	11	1126
6-12-1-S-20131125-14	6	12	1	S	20131125	14	jp	11:28	11:33	11	1126
6-12-1-C-20131125-15	6	12	1	C	20131125	15	jp	11:37	11:41	11	1126
6-12-1-S-20131125-16	6	12	1	S	20131125	16	jp	11:47	11:55	11	1126
6-12-1-C-20131125-17	6	12	1	C	20131125	17	jp	11:59	12:04	11	1126
6-12-1-S-20131125-18	6	12	1	S	20131125	18	jp	2:17	2:24	12	1206
6-12-1-C-20131125-19	6	12	1	C	20131125	19	jp	2:26	2:29	12	1206
6-12-1-S-20131125-20	6	12	1	S	20131125	20	jp	2:37	2:43	12	1206
6-12-1-C-20131125-21	6	12	1	C	20131125	21	jp	2:45	2:51	12	1206
6-12-1-A-20131125-22	6	12	1	A	20131125	22	jp	3:02	3:23	12	1204
6-12-1-S-20131125-23	6	12	1	S	20131125	23	jp	3:35	3:42	12	1230
6-12-1-C-20131125-24	6	12	1	C	20131125	24	jp	3:45	3:48	12	1230
6-12-1-A-20131125-25	6	12	1	A	20131125	25	jp	4:19	4:29	12	1244
6-12-1-A-20131125-26	6	12	1	A	20131125	26	jp	4:34	4:39	12	1244
6-12-1-S-20131125-27	6	12	1	S	20131125	27	jp	5:03	5:15	11	1110
6-12-2-c-20131125-03	6	12	2	c	20131125	03	jew2	2:27	3:07	12	1226

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-S-20131125-04	6	12	2	S	20131125	04	jew2	3:14	4:16	12	1224
6-12-1-S-20131126-04	6	12	1	S	20131126	04	jp	9:06	9:17	11	1110
6-12-1-S-20131126-05	6	12	1	S	20131126	05	jp	9:17	9:45	11	1110
6-12-1-S-20131126-06	6	12	1	S	20131126	06	jp	9:50	10:15	11	1110
6-12-1-C-20131126-07	6	12	1	C	20131126	07	jp	10:30	10:38	11	1110
6-12-1-S-20131126-08	6	12	1	S	20131126	08	jp	10:51	11:11	11	1116
6-12-1-S-20131126-09	6	12	1	S	20131126	09	jp	11:14	11:35	11	1116
6-12-1-C-20131126-10	6	12	1	C	20131126	10	jp	11:37	11:48	11	1116
6-12-1-C-20131126-11	6	12	1	C	20131126	11	jp	1:46	2:18	11	1126
6-12-1-S-20131126-12	6	12	1	S	20131126	12	jp	2:22		11	1126
6-12-2-s-20131126-03	6	12	2	s	20131126	03	jew2	8:30	9:10	12	1218
6-12-2-S-20131126-04	6	12	2	S	20131126	04	jew2	9:25	9:48	12	1216
6-12-2-A-20131126-05	6	12	2	A	20131126	05	jew2	9:51	10:14	12	1214
6-12-2-s-20131126-06	6	12	2	s	20131126	06	jew2	10:41	11:10	12	1200
6-12-2-s-20131126-07	6	12	2	s	20131126	07	jew2	11:52	11:56	12	1200
6-12-2-s-20131126-08	6	12	2	s	20131126	08	jew2	1:40	2:06	12	1200
6-12-2-a-20131126-09	6	12	2	a	20131126	09	jew2	2:22	2:32	12	1242
6-12-2-A-20131126-10	6	12	2	A	20131126	10	jew2	2:38	2:46	12	1238
6-12-2-A-20131126-11	6	12	2	A	20131126	11	jew2	2:54	3:05	12	1233
6-12-2-A-20131126-12	6	12	2	A	20131126	12	jew2	3:38	3:45	12	1231
6-12-2-A-20131126-13	6	12	2	A	20131126	13	jew2	4:00	4:30	12	1240
6-12-3-s-20131126-03	6	12	3	s	20131126	03	dad	8:30	9:15	11	1113
6-12-1-S-20131202-03	6	12	1	S	20131202	03	jp	9:11	9:50	12	1242
6-12-1-S-20131202-04	6	12	1	S	20131202	04	jp	9:55	10:35	12	1200
6-12-1-A-20131202-05	6	12	1	A	20131202	05	jp	11:05	11:25	12	1233
6-12-1-A-20131202-06	6	12	1	A	20131202	06	jp	11:50	12:03	12	1229
6-12-1-S-20131202-07	6	12	1	S	20131202	07	jp	2:00	2:46	12	1211
6-12-1-C-20131202-08	6	12	1	C	20131202	08	jp	2:50	3:03	12	1211
6-12-1-S-20131202-09	6	12	1	S	20131202	09	jp	3:09	3:15	12	1205
6-12-1-S-20131202-10	6	12	1	S	20131202	10	jp	3:23	3:55	11	1126
6-12-1-S-20131202-11	6	12	1	S	20131202	11	jp	4:09	4:20	11	1112
6-12-2-c-20131202-03	6	12	2	c	20131202	03	pw	9:00	9:22	12	1245
6-12-2-s-20131202-04	6	12	2	s	20131202	04	pw	9:24	9:45	12	1245

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-s-20131202-05	6	12	2	s	20131202	05	jew2	11:49	12:07	12	1236
6-12-2-s-20131202-06	6	12	2	s	20131202	06	jew2	1:47	3:02	12	1236
6-12-2-s-20131202-07	6	12	2	s	20131202	07	jew2	3:25	4:17	12	1242
6-12-12-A-20131203-03	6	12	12	A	20131203	03	jp	10:29	10:59	12	1200
6-12-12-A-20131203-04	6	12	12	A	20131203	04	jp	11:02	11:14	12	1200
6-12-12-A-20131203-05	6	12	12	A	20131203	05	jp	11:25	12:35	12	1200
6-12-12-A-20131203-06	6	12	12	A	20131203	06	jp	2:20	2:39	12	1200
6-12-12-A-20131203-07	6	12	12	A	20131203	07	jp	2:42	2:55	12	1200
6-12-12-A-20131203-08	6	12	12	A	20131203	08	jp	3:00	3:43	12	1200
6-12-12-A-20131203-09	6	12	12	A	20131203	09	jp	3:57		12	1200
6-12-34-A-20131203-04	6	12	34	A	20131203	04	jew	10:23	10:57	12	1200
6-12-34-A-20131203-05	6	12	34	A	20131203	05	jew	11:01	11:15	12	1200
6-12-34-A-20131203-06	6	12	34	A	20131203	06	jew	11:23	12:35	12	1200
6-12-34-A-20131203-07	6	12	34	A	20131203	07	jew	2:20	2:39	12	1200
6-12-34-A-20131203-08	6	12	34	A	20131203	08	jew	2:41	2:55	12	1200
6-12-34-A-20131203-09	6	12	34	A	20131203	09	jew	2:59	3:52	12	1200
6-12-34-A-20131203-10	6	12	34	A	20131203	10	jew	3:56	4:07	12	1200
6-12-12-A-20131204-03	6	12	12	A	20131204	03	jp	9:13	10:16	14	1400
6-12-12-A-20131204-04	6	12	12	A	20131204	04	jp	10:17	10:45	14	1400
6-12-12-A-20131204-05	6	12	12	A	20131204	05	jp	11:11	12:19	11	1100
6-12-12-A-20131204-06	6	12	12	A	20131204	06	jp	2:11	3:26	11	1100
6-12-12-A-20131204-07	6	12	12	A	20131204	07	jp	3:45	4:43	14	1400
6-12-12-A-20131204-08	6	12	12	A	20131204	08	jp	4:50	4:59	14	1400
6-12-34-A-20131204-03	6	12	34	A	20131204	03	jew2	9:15	10:15	14	1400
6-12-34-A-20131204-04	6	12	34	A	20131204	04	jew2	10:17	10:46	14	1400
6-12-34-A-20131204-05	6	12	34	A	20131204	05	jew2	11:12	12:18	11	1100
6-12-34-A-20131204-06	6	12	34	A	20131204	06	jew	2:10	3:33	11	1100
6-12-34-A-20131204-07	6	12	34	A	20131204	07	jew	3:44	4:43	14	1400
6-12-12-A-20131205-04	6	12	12	A	20131205	04	jp	8:10	9:00	14	1400
6-12-12-A-20131205-05	6	12	12	A	20131205	05	jp	9:05	9:37	13	1300
6-12-12-A-20131205-06	6	12	12	A	20131205	06	jp	9:00	10:06	14	1400
6-12-12-A-20131205-07	6	12	12	A	20131205	07	jp	10:15	10:57	11	1100
6-12-12-A-20131205-08	6	12	12	A	20131205	08	jp	11:30	12:21	11	1100

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-12-A-20131205-09	6	12	12	A	20131205	09	jp	1:44	2:35	11	1100
6-12-12-A-20131205-10	6	12	12	A	20131205	10	jp	2:40	2:50	11	1100
6-12-12-A-20131205-11	6	12	12	A	20131205	11	jp	3:24	4:14	14	1400
6-12-12-A-20131205-12	6	12	12	A	20131205	12	jp	4:16	5:10	14	1400
6-12-34-A-20131205-03	6	12	34	A	20131205	03	jew2	8:20	9:00	14	1400
6-12-34-A-20131205-04	6	12	34	A	20131205	04	jew2	9:08	9:38	13	1300
6-12-34-A-20131205-05	6	12	34	A	20131205	05	jew2	10:15	11:10	11	1100
6-12-34-A-20131205-06	6	12	34	A	20131205	06	jew2	11:31	12:24	11	1100
6-12-34-A-20131205-07	6	12	34	A	20131205	07	jew2	1:53	2:44	11	1100
6-12-34-A-20131205-08	6	12	34	A	20131205	08	jew2	2:55	2:59	11	1100
6-12-34-A-20131205-09	6	12	34	A	20131205	09	jew2	3:27	4:15	14	1400
6-12-34-A-20131205-10	6	12	34	A	20131205	10	jew2	4:23		14	1400
6-12-34-A-20131205-11	6	12	34	A	20131205	11	jew2	4:54	5:09	14	1400
6-12-12-A-20131209-04	6	12	12	A	20131209	04	jp	8:17	10:11	13	1300
6-12-12-A-20131209-05	6	12	12	A	20131209	05	jp	10:45	11:13	13	1300
6-12-12-A-20131209-06	6	12	12	A	20131209	06	jp	11:21	11:41	13	1300
6-12-12-A-20131209-07	6	12	12	A	20131209	07	jp	1:35	2:18	12	1200
6-12-12-A-20131209-08	6	12	12	A	20131209	08	jp	2:47	3:13	12	1200
6-12-12-A-20131209-09	6	12	12	A	20131209	09	jp	3:19	3:49	11	1100
6-12-12-A-20131209-10	6	12	12	A	20131209	10	jp	4:14	4:40	11	1100
6-12-34-A-20131209-04	6	12	34	A	20131209	04	jew2	8:19	10:11	13	1300
6-12-34-A-20131209-05	6	12	34	A	20131209	05	jew2	10:15	11:08	13	1300
6-12-34-A-20131209-06	6	12	34	A	20131209	06	jew2	11:22	11:41	13	1300
6-12-34-A-20131209-07	6	12	34	A	20131209	07	jew2	1:38	2:21	11	1100
6-12-34-A-20131209-08	6	12	34	A	20131209	08	jew2	2:47	0:00	11	1100
6-12-34-A-20131209-09	6	12	34	A	20131209	09	jew2	3:21	3:53	11	1100
6-12-34-A-20131209-10	6	12	34	A	20131209	10	jew2	4:15	4:39	11	1100
6-12-12-A-20131210-03	6	12	12	A	20131210	03	jp	8:25	8:58	11	1100
6-12-12-A-20131210-04	6	12	12	A	20131210	04	jp	9:23	10:13	13	1300
6-12-12-A-20131210-05	6	12	12	A	20131210	05	jew	10:14	10:56	13	1300
6-12-12-A-20131210-06	6	12	12	A	20131210	06	jp	11:05	11:32	13	1300
6-12-12-A-20131210-07	6	12	12	A	20131210	07	jp	1:35	2:00	11	1100
6-12-12-A-20131210-08	6	12	12	A	20131210	08	jp	2:10	3:05	12	1200

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-12-A-20131210-09	6	12	12	A	20131210	09	jp	3:46	4:26	12	1200
6-12-34-A-20131210-03	6	12	34	A	20131210	03	jew2	8:24	9:10	11	1100
6-12-34-A-20131210-04	6	12	34	A	20131210	04	jew2	9:25	10:13	13	1300
6-12-34-A-20131210-05	6	12	34	A	20131210	05	jew2	10:20	10:57	13	1300
6-12-34-A-20131210-06	6	12	34	A	20131210	06	jew	11:04	11:37	13	1300
6-12-34-A-20131210-07	6	12	34	A	20131210	07	jew	1:35	2:00	11	1100
6-12-34-A-20131210-08	6	12	34	A	20131210	08	jew	2:10	3:35	12	1200
6-12-34-A-20131210-09	6	12	34	A	20131210	09	jew	3:45	4:26	12	1200
6-12-12-A-20131211-03	6	12	12	A	20131211	03	jp	8:02	8:07	Ot	Other
6-12-12-A-20131211-04	6	12	12	A	20131211	04	jp	8:18	9:19	12	1200
6-12-12-A-20131211-05	6	12	12	A	20131211	05	jp	9:34	10:26	TR	TR
6-12-12-A-20131211-06	6	12	12	A	20131211	06	jp	10:54	11:55	TR	TR
6-12-12-A-20131211-08	6	12	12	A	20131211	08	jp	2:00	2:38	TR	TR
6-12-12-A-20131211-09	6	12	12	A	20131211	09	jp	2:45	3:35	32	32
6-12-12-A-20131211-10	6	12	12	A	20131211	10	jp	4:15	4:42	TR	TR
6-12-34-A-20131211-03	6	12	34	A	20131211	03	jew2	8:03		TR	TR
6-12-34-A-20131211-04	6	12	34	A	20131211	04	jew2	8:28	9:17	TR	TR
6-12-34-A-20131211-05	6	12	34	A	20131211	05	jew2	9:35	10:29	TR	TR
6-12-34-A-20131211-06	6	12	34	A	20131211	06	jew2	10:55	11:14	TR	TR
6-12-34-A-20131211-07	6	12	34	A	20131211	07	jew2	11:24	12:04	TR	TR
6-12-34-A-20131211-08	6	12	34	A	20131211	08	jew2	1:34	2:00	TR	TR
6-12-34-A-20131211-09	6	12	34	A	20131211	09	jew2	2:09	2:38	TR	TR
6-12-34-A-20131211-10	6	12	34	A	20131211	10	jew2	2:46	3:34	TR	TR
6-12-34-A-20131211-11	6	12	34	A	20131211	11	jew2	4:16	4:42	TR	TR
6-12-1-A-20131212-05	6	12	1	A	20131212	05	jew	11:24	11:29	11	1128
6-12-1-A-20131212-06	6	12	1	A	20131212	06	jew	11:35	11:43	11	1114
6-12-1-A-20131212-07	6	12	1	A	20131212	07	jew	11:51	11:59	13	1304
6-12-1-c-20131212-08	6	12	1	c	20131212	08	jew	1:50	2:01	13	1308
6-12-1-C-20131212-09	6	12	1	C	20131212	09	jew	2:03	2:20	13	1309
6-12-1-C-20131212-10	6	12	1	C	20131212	10	jew	2:23	2:30	13	1310
6-12-1-C-20131212-11	6	12	1	C	20131212	11	jew	2:37	2:43	13	1308
6-12-1-C-20131212-12	6	12	1	C	20131212	12	jew	2:46	2:59	13	1306
6-12-1-C-20131212-13	6	12	1	C	20131212	13	jew	3:00	3:14	13	1306

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-1-C-20131212-14	6	12	1	C	20131212	14	jew	3:16	3:23	13	1306
6-12-1-C-20131212-15	6	12	1	C	20131212	15	jew	3:26	3:41	13	1303
6-12-1-C-20131212-16	6	12	1	C	20131212	16	jew	3:51	4:03	13	1303
6-12-1-C-20131212-17	6	12	1	C	20131212	17	jew	4:16		13	1302
6-12-2-A-20131212-03	6	12	2	A	20131212	03	jew2	8:45	9:13	12	1252
6-12-2-A-20131212-04	6	12	2	A	20131212	04	jew2	9:16	9:32	12	1253
6-12-2-A-20131212-05	6	12	2	A	20131212	05	jew2	9:42	9:53	12	1253
6-12-2-A-20131212-06	6	12	2	A	20131212	06	jew2	9:58	10:17	12	1216
6-12-2-A-20131212-07	6	12	2	A	20131212	07	jew2	11:17	11:30	12	1216
6-12-2-A-20131212-08	6	12	2	A	20131212	08	jew2	11:35	11:43	12	1253
6-12-2-A-20131212-09	6	12	2	A	20131212	09	jew2	12:04	12:16	12	1206
6-12-2-A-20131212-10	6	12	2	A	20131212	10	jew2	2:28	2:45	12	1206
6-12-2-A-20131212-11	6	12	2	A	20131212	11	jew2	3:10	3:38	14	1401
6-12-2-A-20131212-12	6	12	2	A	20131212	12	jew2	3:41	3:59	14	1419
6-12-1-A-20131213-03	6	12	1	A	20131213	03	jp	9:20	9:26	Ot	Other
6-12-1-A-20131213-04	6	12	1	A	20131213	04	jp	9:27	9:59	13	1300
6-12-1-A-20131213-05	6	12	1	A	20131213	05	jp	10:08	10:22	14	1400
6-12-1-A-20131213-06	6	12	1	A	20131213	06	jp	10:28	10:43	13	1300
6-12-1-A-20131213-07	6	12	1	A	20131213	07	jp	10:49	10:57	13	1300
6-12-1-A-20131213-08	6	12	1	A	20131213	08	jp	11:30	11:55	14	1400
6-12-1-A-20131213-09	6	12	1	A	20131213	09	jp	1:56	2:04	13	1318
6-12-1-A-20131213-10	6	12	1	A	20131213	10	jp	2:08	2:31	13	1300
6-12-1-A-20131213-11	6	12	1	A	20131213	11	jp	2:35	3:00	14	1400
6-12-1-A-20131213-12	6	12	1	A	20131213	12	jp	3:11	3:21	11	1100
6-12-1-A-20131213-13	6	12	1	A	20131213	13	jp	3:25	3:50	11	1100
6-12-2-S-20131213-03	6	12	2	S	20131213	03	jew2	10:08	11:07	12	1243
6-12-2-S-20131213-04	6	12	2	S	20131213	04	jew2	11:22	12:01	12	1243
6-12-2-S-20131213-05	6	12	2	S	20131213	05	jew2	1:55	2:11	12	1243
6-12-2-S-20131213-06	6	12	2	S	20131213	06	jew2	2:18	2:39	12	1252
6-12-2-S-20131213-07	6	12	2	S	20131213	07	jew2	2:48	2:51	12	1223
6-12-2-S-20131213-08	6	12	2	S	20131213	08	jew2	3:06	3:22	12	1223
6-12-2-S-20131213-09	6	12	2	S	20131213	09	jew2	3:29	3:43	12	1218
6-12-34-A-20131213-03	6	12	34	A	20131213	03	jew	9:11	10:08	14	1400

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-34-A-20131213-04	6	12	34	A	20131213	04	jew	10:09	12:09	14	1400
6-12-34-A-20131213-05	6	12	34	A	20131213	05	jew	1:30	2:30	14	1400
6-12-34-A-20131213-06	6	12	34	A	20131213	06	jew	2:41	3:12	TR	TR
6-12-1-S-20131216-04	6	12	1	S	20131216	04	jew	9:00	9:17	11	1128
6-12-1-C-20131216-05	6	12	1	C	20131216	05	jew	9:18	9:22	11	1128
6-12-1-S-20131216-06	6	12	1	S	20131216	06	jew	9:26	9:42	11	1128
6-12-1-C-20131216-07	6	12	1	C	20131216	07	jew	9:42	9:48	11	1128
6-12-1-S-20131216-08	6	12	1	S	20131216	08	jew	10:00	10:00	11	1126
6-12-1-S-20131216-09	6	12	1	S	20131216	09	jjew	10:35	10:50	11	1126
6-12-1-C-20131216-10	6	12	1	C	20131216	10	jew	10:50	10:55	11	1126
6-12-1-S-20131216-11	6	12	1	S	20131216	11	jew	11:12	11:26	11	1114
6-12-1-C-20131216-12	6	12	1	C	20131216	12	jew	11:27	11:33	11	1114
6-12-1-C-20131216-13	6	12	1	C	20131216	13	jew	11:38	11:45	11	1114
6-12-1-C-20131216-14	6	12	1	C	20131216	14	jew	11:53	11:57	11	1116
6-12-1-S-20131216-15	6	12	1	S	20131216	15	jew	1:57	2:07	11	1115
6-12-1-C-20131216-16	6	12	1	C	20131216	16	jew	2:08	2:12	11	1115
6-12-1-S-20131216-17	6	12	1	S	20131216	17	jew	2:14	2:27	11	1115
6-12-1-C-20131216-18	6	12	1	C	20131216	18	jew	2:27	2:33	11	1115
6-12-1-S-20131216-19	6	12	1	S	20131216	19	jew	3:12	3:32	12	1208
6-12-1-C-20131216-20	6	12	1	C	20131216	20	jew	3:33	3:39	12	1208
6-12-1-S-20131216-21	6	12	1	S	20131216	21	jew	3:50	4:12	12	1216
6-12-1-S-20131216-22	6	12	1	S	20131216	22	jew	4:21	4:34	12	1216
6-12-2-A-20131216-03	6	12	2	A	20131216	03	jp	8:54	9:00	14	1400
6-12-2-A-20131216-04	6	12	2	A	20131216	04	jp	9:02	9:33	13	1300
6-12-2-A-20131216-05	6	12	2	A	20131216	05	jp	9:37	9:43	14	1400
6-12-2-A-20131216-06	6	12	2	A	20131216	06	jp	10:03	10:24	13	1300
6-12-2-A-20131216-07	6	12	2	A	20131216	07	jp	10:32	10:37	14	1400
6-12-2-A-20131216-08	6	12	2	A	20131216	08	jp	10:40	10:44	14	1400
6-12-2-A-20131216-09	6	12	2	A	20131216	09	jp	10:47	10:54	14	1400
6-12-2-A-20131216-10	6	12	2	A	20131216	10	jp	11:01	11:11	14	1400
6-12-2-A-20131216-11	6	12	2	A	20131216	11	jp	11:32	11:39	TR	TR
6-12-2-A-20131216-12	6	12	2	A	20131216	12	jp	11:41	12:04	TR	TR
6-12-2-A-20131216-13	6	12	2	A	20131216	13	jp	2:00	2:39	11	1100

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-A-20131216-14	6	12	2	A	20131216	14	jp	3:35	3:46	TR	TR
6-12-2-A-20131216-15	6	12	2	A	20131216	15	jp	4:06	4:28	14	1400
6-12-1-S-20131217-05	6	12	1	S	20131217	05	jew	8:25	8:42	12	1244
6-12-1-C-20131217-06	6	12	1	C	20131217	06	jew	8:43	8:46	12	1244
6-12-1-S-20131217-07	6	12	1	S	20131217	07	jew	9:04	9:21	12	1217
6-12-1-C-20131217-08	6	12	1	C	20131217	08	jew	9:22	9:29	12	1217
6-12-1-S-20131217-09	6	12	1	S	20131217	09	jew	9:34	9:49	12	1219
6-12-1-C-20131217-10	6	12	1	C	20131217	10	jew	9:50	9:57	12	1219
6-12-1-C-20131217-11	6	12	1	C	20131217	11	jew	10:42	10:50	11	1139
6-12-1-S-20131217-12	6	12	1	S	20131217	12	jew	10:51	11:02	11	1139
6-12-1-C-20131217-13	6	12	1	C	20131217	13	jew	11:33	11:41	14	1405
6-12-1-C-20131217-14	6	12	1	C	20131217	14	jew	11:52	12:08	13	1305
6-12-1-C-20131217-15	6	12	1	C	20131217	15	jew	1:44	1:49	12	1216
6-12-1-S-20131217-16	6	12	1	S	20131217	16	jew	1:50	2:00	12	1216
6-12-1-C-20131217-17	6	12	1	C	20131217	17	jew	2:09	2:17	12	1216
6-12-1-S-20131217-18	6	12	1	S	20131217	18	jew	2:18	2:28	12	1216
6-12-1-C-20131217-19	6	12	1	C	20131217	19	jew	2:58	3:05	13	1306
6-12-1-C-20131217-20	6	12	1	C	20131217	20	jew	3:20	3:27	11	1116
6-12-1-S-20131217-21	6	12	1	S	20131217	21	jew	3:28	3:40	11	1116
6-12-1-S-20131217-22	6	12	1	S	20131217	22	jew	4:25	4:41	12	1226
6-12-1-C-20131217-23	6	12	1	C	20131217	23	jew	4:43	4:50	12	1226
6-12-2-A-20131217-03	6	12	2	A	20131217	03	jew2	8:48		TR	TR
6-12-2-A-20131217-04	6	12	2	A	20131217	04	jew2	8:50	8:58	TR	TR
6-12-2-A-20131217-05	6	12	2	A	20131217	05	jew2	9:16	9:23	12	1209
6-12-2-A-20131217-06	6	12	2	A	20131217	06	jp	9:24	9:34	12	1209
6-12-2-A-20131217-07	6	12	2	A	20131217	07	jp	9:38	9:49	12	1205
6-12-2-A-20131217-08	6	12	2	A	20131217	08	jp	9:55	10:05	12	1220
6-12-2-A-20131217-09	6	12	2	A	20131217	09	jp	10:13	10:21	12	1218
6-12-2-A-20131217-10	6	12	2	A	20131217	10	jp	10:27	10:33	12	1225
6-12-2-A-20131217-11	6	12	2	A	20131217	11	jp	10:37	10:47	12	1229
6-12-2-A-20131217-12	6	12	2	A	20131217	12	jp	10:57	11:02	12	1231
6-12-2-A-20131217-13	6	12	2	A	20131217	13	jew2	11:04	11:10	12	1236
6-12-2-A-20131217-14	6	12	2	A	20131217	14	jew2	11:13	11:22	12	1233

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-2-A-20131217-15	6	12	2	A	20131217	15	jew2	11:26	11:36	12	1235
6-12-2-A-20131217-16	6	12	2	A	20131217	16	jew2	1:42	1:49	12	1245
6-12-2-A-20131217-17	6	12	2	A	20131217	17	jew2	2:08	2:15	12	1244
6-12-2-A-20131217-18	6	12	2	A	20131217	18	jew2	2:20	2:30	12	1235
6-12-2-A-20131217-19	6	12	2	A	20131217	19	jew2	3:03	3:07	12	1216
6-12-2-A-20131217-20	6	12	2	A	20131217	20	jew2	3:44	3:48	12	1202
6-12-2-A-20131217-21	6	12	2	A	20131217	21	jew2	4:01	4:10	12	1213
6-12-2-C-20131217-22	6	12	2	C	20131217	22	jew2	4:27	4:32	14	1410
6-12-2-C-20131217-23	6	12	2	C	20131217	23	jew2	4:36	4:42	14	1413
6-12-1-S-20131218-03	6	12	1	S	20131218	03	jew	9:01	9:07	12	1229
6-12-1-S-20131218-04	6	12	1	S	20131218	04	jew	9:14	9:59	12	1229
6-12-1-C-20131218-05	6	12	1	C	20131218	05	jew	10:00	10:27	12	1229
6-12-1-S-20131218-06	6	12	1	S	20131218	06	jew	10:32	11:02	12	1200
6-12-1-C-20131218-07	6	12	1	C	20131218	07	jew	11:56	12:02	12	1226
6-12-1-S-20131218-08	6	12	1	S	20131218	08	jew	12:02	12:08	12	1226
6-12-1-S-20131218-09	6	12	1	S	20131218	09	jew	2:03	2:21	12	1226
6-12-1-S-20131218-10	6	12	1	S	20131218	10	jew	2:31	2:38	12	1220
6-12-1-C-20131218-11	6	12	1	C	20131218	11	jew	2:39	2:47	12	1220
6-12-1-S-20131218-12	6	12	1	S	20131218	12	jew	3:00	3:10	12	1220
6-12-1-C-20131218-13	6	12	1	C	20131218	13	jew	3:12	3:20	12	1220
6-12-1-S-20131218-14	6	12	1	S	20131218	14	jew	3:35	3:50	12	1213
6-12-1-S-20131218-15	6	12	1	S	20131218	15	jew	3:55	4:06	12	1200
6-12-1-S-20131218-16	6	12	1	S	20131218	16	jew	4:12	4:25	12	1200
6-12-1-S-20131218-17	6	12	1	S	20131218	17	jew	4:28	4:39	12	1200
6-12-2-S-20131218-11	6	12	2	S	20131218	11	jew2	3:50	4:01	12	1240
6-12-2-S-20131218-12	6	12	2	S	20131218	12	jew2	4:04	4:15	12	1234
6-12-2-S-20131218-13	6	12	2	S	20131218	13	jew2	4:23	4:31	12	1222
6-12-2-S-20131218-14	6	12	2	S	20131218	14	jew2	4:35	4:49	12	1229
6-12-34-A-20131218-03	6	12	34	A	20131218	03	jp	8:50	10:00	TR	TR
6-12-34-A-20131218-04	6	12	34	A	20131218	04	jp	10:00	11:04	TR	TR
6-12-34-A-20131218-05	6	12	34	A	20131218	05	jp	11:05	12:04	TR	TR
6-12-34-A-20131218-06	6	12	34	A	20131218	06	jp	2:14	3:18	TR	TR
6-12-34-A-20131218-07	6	12	34	A	20131218	07	jp	3:19	4:09	TR	TR

Survey Number	CTO	Site	Detector(s)	Matrix	Date	Sequence	Surveyor	Start Time	End Time	Area	Bldg
6-12-34-A-20131218-08	6	12	34	A	20131218	08	jp	4:25	4:57	TR	TR
6-12-1-S-20131219-18	6	12	1	S	20131219	18	jew	4:01	4:52	12	1222
6-12-2-A-20131219-03	6	12	2	A	20131219	03	jew2	8:43	8:47	12	1202
6-12-2-A-20131219-04	6	12	2	A	20131219	04	jew2	8:53	8:56	12	1211
6-12-2-A-20131219-05	6	12	2	A	20131219	05	jew2	9:04	9:08	12	1213
6-12-2-A-20131219-06	6	12	2	A	20131219	06	jew2	9:14	9:33	12	1220
6-12-2-A-20131219-07	6	12	2	A	20131219	07	jew2	9:42	9:45	12	1225
6-12-2-A-20131219-08	6	12	2	A	20131219	08	jew2	9:49	9:52	12	1229
6-12-2-A-20131219-09	6	12	2	A	20131219	09	jew2	10:00	10:04	12	1236
6-12-2-A-20131219-10	6	12	2	A	20131219	10	jew2	10:16	10:19	12	1247
6-12-2-A-20131219-11	6	12	2	A	20131219	11	jew2	10:22	10:30	12	1249
6-12-2-A-20131219-12	6	12	2	A	20131219	12	jew2	10:33	10:38	12	1252
6-12-2-A-20131219-13	6	12	2	A	20131219	13	jew2	10:44	10:49	12	1223

Original Notes
park area
park area
park area
Ave. M
avenue m
park soil
park soil
m street
site 12 park sidewalk, no clock synch
site 12 park cleanup, no clock synch
site 12 park cleanup, no clock synch
site 12 asphalt edge of water
park asphalt
park asphalt
park soil
site 12 soil
backyards 1301 A-D
backyards 1303 A-B
backyards 1303 C-F
Backyard 1305 A-
Backyard soil 1305 B-D
Backyard Concrete 1305B-D
Backyard soil 1306A
backyard concrete 1306A
backyard soil 1306 B
backyard concrete 1306 B
backyard soil 1306 D
backyard concrete 1306 D
1306 soil
1306 soil
905 park soil
park soil (elevated area)
backyard soil 1304 A

Original Notes
backyard concrete 1304A
backyard soil 1304B
backyard concrete 1304B
backyard soil 1304C
backyard concrete 1304C
backyard soil 1304D
backyard concrete 1304D
Backyard concrete 1304E
Backyard soil 1304F
Backyard concrete 1304F
Backyard soil 1302A
Backyard concrete 1302A
Backyard soil 1302D
concrete backyard 1302D
backyard soil 1302E
concrete backyard 1302E
Backyard soil 1302F
concrete backyard 1302F
1310A concrete backyard
1310B soil backyard
1310C concrete backyard
1310F soil backyard
1310F concrete backyard
site 12 park soil
site 12 soil
site 12 soil rear
site 12 soil 1310
backyard soil 1302B
backyard soil 1302B
backyard concrete 1302B
1306 C backyard soil
1306C backyard concrete
1307F backyard soil

Original Notes
1307F backyard concrete
1307A backyard soil
1307A backyard concrete
1309A backyard soil
1309A backyard concrete
1309B backyard soil
1309B backyard concrete
1309F backyard soil
1309F backyard concrete
1308F soil backyard
1308F concrete backyard
1308D soil backyard
1308D concrete backyard
1308C soil backyard
1308C concrete backyard
1308B soil backyard
1308B concrete backyard
1308A soil backyad
1308Aconcrete backyard
1308 E soil backyard
1308E concrete backyard
1250 A soil backyard
1250 A concrete backyard
1250 B soil concrete
1250 B concrete backyard
1250 C concrete backyard
1250 D soil backyard
1250 D concrete backyard
1250E soil backyard
1250 E concrete backyard
1250 F soil backyard
1250 F concrete backyard
1253 F soil backyard

Original Notes
1253 F concrete backyard
1253 E soil backyard
1253 E concrete backyard
1253 D soil backyard
1253 D concrete backyards
1253 B soil backyard
1253 B concrete backyard
1253 C soil backyard
1253 C concrete backyard
1253 A soil backyard
1253 A concrete backyard
1308/1310 sidewalks/carports
1250, 1252, 1254 sidewalks
1250 carports
1250 carports
1308 A/B carport
1308 A/B/C carport
1249 A soil backyard
1249 A concrete backyard
1249 B soil backyard
1249 B concrete backyard
1249 C soil backyard
1249 C concrete backyard
1249 D SOIL BACKYARD
1249 D concrete backyard
1249 E soil backyard
1249 E concrete backyard
1249 F soil backyard
1249 F concrete backyard
1247 A soil backyard
1247 A concrete backyard
1247 E soil backyard
1247 E concrete backyard

Original Notes
1247 C soil backyard
1247 C concrete backyard
1247 B soil backyard
1247 B concrete backyard
1247 D soil backyard
1247 D concrete backyard
1247 F soil backyard
1247 F concrete backyard
1245 C soil backyard
1245 C concrete backyard
1245 A soil backyard
1245 A concrete backyard
1245 B soil backyard
1245 B concrete backyard
1245 E soil backyard
1245 E concrete backyard
1245 D soil backyard
1245 D concrete backyard
carports for 1249
carports for 1251
carports for 1247
carports for 1245
carports for 1244
1250 yard &park area
yard area for 1254
yard area for 1250 a side
soil between1250 &1252
1245 D concrete backyard
1245 F soil backyard
1245 F concrete backyard
1241 F soil backyard
1241 F concrete backyard
1241 E soil backyard

Original Notes
1241 E concrete backyard
1241 D soil backyard
1241 D concrete backyard
1241 C soil backyard
1241 C concrete backyard
1241 B soil backyard
1241 B concrete backyard
1241 A soil backyard
1241 A concrete backyard
1239 H soil backyard
1239 H concrete backyard
1239 G soil backyard
1239 G concrete backyard
1239 F soil backyard
1239 F concretre backyard
1237 A concrete backyard (no soil)
1239 E soil backyard
1239 E concrete backyard
1239 D soil backyard
1239 D concrete backyard
1239 C soil backyard
1239 C concrete backyard
1239 B soil backyard
1239 B concrete backyard
1239 A soil backyard
1239 A concrete backyard
1237 D soil backyard
1237 D concrete backyard
1238 F soil backyard
frontyard for1250
frontyardsfor1252
sideyardfor 1254
carportsfor1241all

Original Notes
carportsfor1239all
carportsfor1237all
back yard for 1249
1242 A soil backyard
1242 A concrete backyard
1242 B soil backyard
1242 B concrete backyard
1242 C soil backyard
1242 C concrete backyard
1242 D soil backyard
1242 D concrete backyard
1242 E soil backyard
1242 E concrete backyard
1240 E soil backyard
1240 E concrete backyard
1240 F soil backyard
1240 F concrete backyard
1240 D soil backyard
1240 D Concrete backyard
1240 C soil backyard
1240 C concrete backyard
1240 B soil backyard
1240 B concrete backyard
1240 A soil backyard
1240 A concrete backyard
1238 A soil backyard
1238 A concrete backyard
1238 B soil backyard
1238 B concrete backyard
1242 F soil backyard
1242 F concrete backyard
1238 C soil backyard
1238 C concrete backyard

Original Notes
1238 D soil backyard
1238 D concrete backyard
1238 E soil backyard
1238 E concrete backyard
1238 F concrete backyard
frontyardfor1241
frontyardfor1239
frontyardfor1237
back yard and sandbox perimeter 1240
carportsfor1242without1242e
carportsfor1240without1240e
carportsfor1238
1311 F soil backyard
1311 F concrete backyard
1311 E soil backyard
1311 E concrete backyard
1311 C- D soil backyard
1311 D concrete backyard
1311 C concrete backyard
1311 B soil backyard
1311 B concrete backyard
1311 A concrete backyard
1309 E soil backyard
1309 E concrete backyard
1309 D soil backyard
1309 D concrete backyard
1307 E soil backyard
1307 E concrete backyard
1307 D soil backyard
1307 D concrete backyard
1307 C soil backyard
1307 C concrete backyard
1307 B soil background

Original Notes
1307 B concrete background
1310 B soil backyard
1310 B concrete backyard
1310 D soil backyard
1310 D concrete backyard
1310 E soil backyard
1310 E concrete backyard
1306 F concrete backyard
1306 F soil backyard
1307-1311 back walkway concrete
1307- 1311 backwalkway soil
1307-1311 backyard walkay soil
Carports for 1311
Carports for 1309
Carports for 1307
Carports for 1308
Carports for1310
Carports for 901 (1304)
Carports for 901 (1304) E,F
Carports for 905 (1302)
driveways & sidewalks starting at 1307
1218 C soil backyard
1210 D soil backyard (VOID)
1218 C concrete backyard
1218 B soil backyard
1218 B concrete backyard
1218 A CONCRETE backyard
1218 D concrete backyard
1218 D soil backyard
1218 F soil backyard
1218 F concrete backyard
1214 A soil backyard
1214 A concrete backyard

Original Notes
1214 B soil backyard
1214 B concrete backyard
1214 C soil backyard
1214 C concrete backyard
1214 D soil backyard
1214 D concrete backyard
1214 E soil backyard
1214 E concrete backyard
1214 F soil backyard
1214 F concrete backyard
1440-1430-1420 soil front yards
1440-1430-1420 soil front yards
1254 front yards soil
Sidewalks for 1440
Sidewalks for 1420
Carports for 1420,1430,1440
Carport and walkways 1301 A,B
Carport and walkways 1301 C,D
Carports and walyways 1303 E,F
Carport and walkway 1301D
Carport and walkway 1303A
Soil east of 1239
backyard for 1239
backyard for 1239
backyard for 1237
VOID
1210 D soil backyard
1210 D concrete backyard
1210 C soil backyard
1210 C concrete backyard
1210 B soil backyard
1210 B concrete backyard

Original Notes
1210 A soil backyard
1210 A concrete backyard
1212 F soil backyard
1212 F concrete backyard
1212 E soil backyard
1212 E concrete backyard
1212 D soil backyard
1212 D concrete backyard
1212 C soil+ concrete backyard
1212 B soil backyard
1212 B concrete backyard
1212 A soil backyard
1212 A concrete backyard
1208 A soil backyard
1208 A concrete backyard
1208 B soil backyard
1208 B concrete backyard
1208 C soil backyard
1208 C concrete backyard
1208 E soil backyard
1208 E concrete backyard
Carports and parking areas for 1212
Carports for 1210
Carports for 1208
Sidewalks for 1212
Sidewalks for 1210
Sidewalks for 1208
Front yards for 1208
Front Yards for 1210
yards for 1212
backyard for 1210
backyard for 1223
park area for 1223

Original Notes
1221 F soil backyard
1221 F concrete backyard
1221 E soil backyard
1221 E concrete backyard
1221 C soil backyard
1221 C concrete backyard
1221 B soil backyard
1221 B concrete backyard
1221 A soil backyard
1221 A concrete backyard
1221 D soil backyard
1221 D concrete backyard
1219-F soil backyard
1219 F concrete backyard
1219 C soil backyard
1219 C concrete backyard
1219 B soil backyard
1219 B concrete backyard
1217 F soil backyard
1217 F concrete backyard
1217 D soil backyard
1217 D concrete backyard
1217 C soil backyard
1217 C concrete backyard
1217 B soil backyard
1217 B concretee backyard
1219 A soil backyard
1219 A concrete backyard
1219 D soil backyard
1219 D concrete backyard
Sidewalks for 1217
Sidewalks for 1219
Sidewalks for 1221

Original Notes
Sidewalk for 1221
Sidewalk for1219
Carports for1221
Carports for 1219
Carports for 1217
Driveway for 1303 E,F
Front yard for D,E
Front yard for B,C
Front yard for 1301 D
Sidewalk 1301 A, Rescanning because of lost data
park area for 1223
yard for 1337
back yard for1244
backyards for 1244
backyards for 1244
yard and park area 1397
park area for 1395
1443 A concrete patio
1443 B concrete patio
1441 A concrete patio
1441 B concrete patio
1439 A concrete patio
1443 A corner soil
1443 B corner soil
1441 A corner soil
1441 B corner soil
1439 A corner soil
1439 B concrete patio
1439 B corner soil
1437 A corner soil
1437 A concrete patio
1437 B concrete patio
1437 A corner soil

Original Notes
1438 A concrete patio
1438 B concrete patio
1438 B corner soil
1443 backyard perimeter soil
1443 outer perimeter fence soil
1301 A-B front yard and corner soil
1306 sidewalks and drives concrete
1306 B front yard soil
12
Sidewalks and driveways for 1439
Sidewalks and driveways for 1441
Sidewalks and driveways for 1443 D,E,&F
Sidewalks and driveways for 1443 A,B,&C
Front yard 1443
Front yard 1441
Front yard 1439
Front yard 1437
Driveway and sidewalks for1438
Front yard 1438
Front yard 1212
backyards for 1437-1443
yards for 1437
yards for 1443
yards for 1445
yard for 1440
1435 A concrete patio
1435 A corner soil
1435 B concrete patio
1435 B corner soil
1433 A corner soil
1433 A concrete patio
1433 B concrete patio
1433 A corner soil

Original Notes
1431 A corner soil
1431 A concrete patio
1431 B concrete patio
1431 B corner soil
1430 A corner soil
1430 a concrete patio
1430 B concrete patio
1430 B soil corner NorthEast corner
1432 A corner soil NW corner soil
1432 A concrete patio
1432 B concrete patio
1432 corner soil east
1434 A corner soil
1434 A concrete patio
1434 B concrete patio
1434 B corner concrete
1301-1305 sidewalk and driveway
1305-1301 driveway concrete
1303-1301 driveways concrete
Driveways and sidewalks for 1434
Driveways and sidewalks for 1432
Driveways and sidewalks for 1430
Driveways and sidewalks for 1433
Driveways and sidewalks for 1435
Handicapped driveway for 1435
Front yard 1435
Front yard 1434
Front yard 1432
Front yard 1430
Front yard 1433
Front yard 1435
yards for 1435
yards for 1449

Original Notes
yards for 1431
front yards for 1430 1432 1434
side yard for 1438
side yard 1444 and 1436
back yards for 1430-1432-1434
1318 A-F soil backyard
1318 A-F soil backyard
1318 A-F concrete backyard
1318 B-C front yard soil
1318 A-B front yard soil
1225 A-F soil backyard
1225 A concrete patio backyard
1225 B-C concrete patio backyard
1225 D concrete patio backyard
Driveways and sidewalks for1318
Carport 1318 A,B
Carport 1318 D
Carport 1318 E,F
Front yard 1318
Sidewalks 1225
Carports for 1225
Front yard 1225
Carport 1318 C
1225 D concrete patio
1225 E concrete patio
1225 F concrete patio
1254 A-F concrete patio
1254 A-F soil backyards
Carports 1254
yqrd for 1318
yards for 1113-1115
yards for 1225
back yard for 1225

Original Notes
back yards for 1227
1445 SE corner soil
1445 B concrete patio
1445 D concrete patio
1445 NE corner soil
1447 B concrete patio
1440 B NE corner soil
1440 B patio concrete
1440 A patio concrete
1440 A NW corner
1442 A concrete patio
1442 B concrete patio
1306 D-E front yard soil
1305 A front yard soil
1305 A front yard soil
1305 C front yard soil
1305 C front yard soil
1307 B-D front yard soil
1
Driveways & sidewalks 1447
Driveways & sidewalks 1442
Driveways & sidewalks 1440
Driveways & sidewalks 1440
Front yard 1440
North side of 1442
Front yard 1447 & corner of 1442
Front yard & sides 1445
Handball court between 1445 & 1443
Handball court between 1445 & 1443
12th street park
12th street park
12th street park
12th street park

Original Notes
1309A-soil front yard
1309 B-C soil front yard
1309 D-E-soil front yard
1311 A soil front yard
1311 B- C soil front yard
1311 D soi front yard
1311 F- soil front yard
VOID survey
1302-1304 sidewaks concrete
1304 drve ways concrete
1302 driveways concrete
Soil south west of park
Asphalt SW of park
Yard between 1439 & 1437
Soil area East of handball court
Sidewalk median behind 1445 & 1447
Backyard & sidewalk median 1445 & 1447
Front yard 1218
East side of 1218
Front yards for 1254
12th street park
12th street park
12th street park
1236 field
1236 field
1236 field
1449 A corner soil
1449 A concrete patio
1449 B concrete patio
1449 B corner soil South
1444 A cornr soil South
1444 A concrete patio
1444 B concrete patio

Original Notes
1444 B South corner soil
1436 A corner soil West
1436 A concrete patio
1436 B concrete patio
1436 B soil corner East
1447 A concrete patio
1447 Driveway concrete
1307 north yard soil
1309 North yard soil
1311 north yard soil
1311 north west yard soil
Aspalt near benchs by park
Slope west of tree soil
Sidewalks & driveways 1436
Sidewalks & driveways 1444
Sidewalks & driveways 1449
Front yard 1449
Front yard 1444
East side & rear of 1436
Front yard 1436
Sidewalks & driveways 1431
Front yard 1431
1236 field
1236 field
yard for 1248
yard for 1230
back yard for 1228
back yard for 1228
1400 corner soil West side
1400 A concrete patio
1400 B concrete patio
1400 corner soil East side
1402 A concrete patio

Original Notes
1402 B concrete patio
1402 B corner soil East side
1404 corner soil West side
1404 A concrete patio
1404 B concrete patio
1404 corner soil East side
1420 B concrete patio
1420 A cocrete patio
1420 corner soil South
1418 corner soil South
1418 corner soil North
1400 A front lawn soil West side
1400 front lawn soil East side
1402 front lawn soil
1402 front lawn soil West side
walking path soil west side
Sidewalks & driveways 1400
Sidewalks & driveways 1402
Sidewalks & driveways 1404
Sidewalks & driveways 1418
Sidewalks & driveways 1420
Void file
Front yard 1420
Front yard 1418
Front yard 1404
East side yard of 1404
Driveway 1444B and sidewalk partial
common areas for 1241 &1243
commons for 1241
yards for 1247&1245
park for 1228
park for 1228
yard for 1390

Original Notes
1316 A back yard patio concrete
1316 B backyard soil
1316 B backyard patio concrete
1316 C backyard soil
1316 C backyard patio concrete
1316 D backyard soil
1316 D backyard patio concrete
1316 E backyard soil
1316 E backyard concrete
1316 F backyard soil
1316 F backyard concrete
1314 A backyard soil
1314 A backyard patio concrete
1312 B soil backyard
1312 B concrete backyard
VOID survey
1312 C backyard soil
1312 C backyard concrete
1312 F backyard soil
1312 F backyard soil
1312 F backyard concrete patio
Driveways & carports 1316
Driveways & carports 1314
Driveways & carports 1312
1314 B concrete patio backyard
1314 B backyard soil
1314D Backyard soil
1314D Concrete patio backyard
1314C Backyard soil
1314 C backyard concrete patio
Carport 1301B
Void file
1312D Backyard concrete patio

Original Notes
1312D Backyard soil
1312E Backyard soil
1312E Backyard concreate patio
yards for 1226
yard for 1220
yard for 1220
yard for 1220
yard for 1201
yard for 1201
yard for 1201
1325 C backyard soil
1325 C backyard patio concrete
1325 A soil backyard
1325 A soil backyard
1325 A concrete patio
1313 A soil backyard
Void File
Void file
1315 Sidewalks, driveways & carports
1313 Sidewalks, driveways & carports
1313 Sidewalks, driveways
1325 Sidewalks, driveways & carports
1313A Backyard soil
Void File
1313A Backyard concrete patio
1313 B BACKYARD soil
1313 c Backyard
131 C Backyard concret
1313D Backyard
1313D Backyard concret
1313E Backyard soil
yards for 1205
yards for 1205

Original Notes
yard for 1205
yard for 1205
sand box for 1205
backyard for 1145
backyard 1201
1111 B soil backyard
1111 B concrete backyard
1111 C SOIL BACKYARD
1111 c concrete patio
1109 E soil backyard
1109 E concrete backyard
1109 D soil backyard
1109 D concrete soil
1109 C soil backyard
1109 C concrete backyard
1109 B soil backyard
1109 B concrete patio
1109 A concrete patio
1109 A soil backyard
1109 F soil backyard
1109 F concrete backyard
1111 D soil backyard
1111 D concrete patio
1113 G soil backyard
1113 G concrete backyard patio
1113 H soil backyard
1113 H concrete backyard patio
1113 E backyard soil
1113 E backyard concrete
1113 B soil backyard
1113 B concrete backyard patio
1113 F concrete backyard patio
1113 F soil backyard

Original Notes
1113 D concrete patio
1113 D soil backyard
Void file
1113 c concrete patio
1113 C soil backyard
1113 A soil ackyard
1113 A concrete patio
1111 A soil backyard
1111 A concrete backyard
backyard 1143
backyard 1135+1133
back and front 1139
conc drive @ 1139
sideyard 1133
conc drive @1122
1248 H concrete patio
1248 H soil backyard
1248 G soil backyard
1248 G concrete patio
1248 F soil backyard
1248 F concrete patio
1248 E soil backyard
1248 E concrete backyard
1248 D soil backyard
1248 D concrete patio
1248 C soil backyard
1248 C concrete patio
1248 B soil backyard
1248 B concrete patio
1248 A soil backyard
1248 A concrete patio
1246 H soil backyard
1246 H concrete patio backyard

Original Notes
1246 G soil backyard
1246 G concrete patio
1246 F soil backyard
1246 F concrete patio
1252 B soil backyard
1252 B concrete backyard
1252 D soil backyard
1252 D concrete backyard patio
1252 F concrete patio
1252 F soil backyard
1246 Sidewalks
1248 Sidewalks
1248 Carports
1246 Carports
1246B Backyard soil
1246B Backyard concrete patio
1246A Backyard soil
1246C Backyard soil
1246C Backyard concrete patio
1246D Backyard soil
1246D Backyard concrete patio
1246E Backyard soil
1246E Backyard concrete patio
1252C Backyard soil
1252C Backyard concrete patio
1252E Backyard soil
1252E Backyard concrete patio
backyard 1206
back yards for 1204
back yards for 1204
backyards of 1204
back yards for 1202
VOID file

Original Notes
1410 A corner of bldg soil South
1410 A patio concrete
1410 B patio concrete
1410 B Corner of bldg soil North
1408 A Corner of bldg soil North
1408 A concrete patio
1408 B concrete patio
1408 B soil Corner of bldg South
1412 A soil Corner of bldg South East
1412 A concrete patio
1412 B concrete patio
1412 B soil Corner of bldg North West
1410 A Southside front lawn
1410 BLDG. front yard soil
1412 bldg Front yard soil, 10/31/2013
1117 D concrete backyard
1117 D soil backyard, obstructed
1117 C soil backyard
1117 C concrete backyard
1117 B soil backyard
1117 B concrete backyard
1117 A concrete backyard
1111 A -D front yard
1408 Sidewalks and diveways
1410 Sidewalks
1412 Sidewalks ad driveways
1410 Driveways ***
1408 front yard
Handball court between 1410 & 1412
1117 Sidewalks
1117 Front yards
1109 Front yards ***
1109 E lawn, btwn rear fences & 13th St.

Original Notes
1109 Sidewalks
1117 E lawn, btwn rear fences & 13th St.
yards for 1128
yards 1206
yards 1120
yards for 1117
backyard 1111
1232 A soil backyard
1232 A concrete patio
1234 F soil backyard
1234 F concrete patio
1232 B soil backyard
1232 B concrete patio backyard
1232 C soil backyard
1232 C concrete patio backyard
1232 D soil backyard
1232 D concrete patio
1232 E soil backyard
1232 E concrete patio
1232 F soil backyard
1232 concrete patio
1234 D soil backyard
1234 D concrete backyard
1234 C soil backyard
1234 C concrete backyard
1234 B concrete backyard
1234 B soil backyard
1234 A soil backyard
1234 A concrete patio
1227 E soil backyard
1227 E concrete backyard patio
1227 B soil backyard
1227 B concrete backyard

Original Notes
1227 D soil backyard
1227 D concrete patio
1227 F soil backyard
1227 F concrete patio
1227 A soil backyard
1227 A concrete backyard
1227 C soil backyard
1227 C concrete patio
1227 Sidewalks
1227 Front yards
1232 Carports
1232 Sidewalks
1232 Front yards
1234 Sidewalks
1227 Carports
1234 Carports
1234 Front Yards
1234 A Carport
Soil area between 1234 &1236
yards 1249
yards for 1247
yards for 1254
yards for 1253
yards for 1440
backyard1430
yards1242
yards for 1242&1244
yards for 1245
yards for 1235
1224 A soil backyard
1224 A concrete patio backyard
1224 B soil backyard
1224 B concrete patio

Original Notes
1224 C soil backyard
1224 C concrete patio
1224 D soil backyard
1224 D concrete backyard
1224 E soil backyard
1224 E concrete patio backyard
1224 F soil backyard
1224 F concrete patio backyard
1215 A soil backyard
1215 A concrete patio
1215 F soil backyard
1215 F concrete backyard
1215 E soil backyard
1215 E concrete backyard
1215 D soil backyard
1215 D concrete backyard
1215 B soil backyard
1215 B concrete backyard
1215 C soil backyard
1215 C concrete backyard
1228 E soil backyard
1228 E concrete backyard
1228 D soil backyard
1228 D concrete backyard
1228 C soil backyard
1228 C concrete backyard
1228 B soil backyard
1228 B concrete backyard
1228 A soil backyard
1228 A concrete backyard
1228 F soil backyard
1228 F concrete backyard
1224 Sidewalks

Original Notes
1224 carports
1224 front yards
1215 sidewalks
1215 Carports
1228 sidewalks
1228 Carports
1228 Front yards
1215 front yards
yards 1233, 1231
yard for 1225&1227
yards for 1232&1234
yards 1236
yards for 1240&1242
yards for 1223
1131 A soil backyard
1131 A concrete backyard patio
1131 B soil backyard
1131 B concrete backyard
1131 C soil backyard
1131 C concrete background
1131 D soil backyard
1131 D concrete backyard
1131 E soil backyard
1131 E concrete backyard
1129 A soil backyard
1129 A concrete backyard
1129 B soil backyard
1129 B concrete backyard
1129 C soil backyard
1129 C concrete backyard
1129 G soil backyard
1129 G concrete backyard
1129 H soil backyard

Original Notes
1129 H concrete backyard
1129 D concrete backyard (no soil)
1129 E concrete backyard
1129 E soil backyard
1129 F soil backyard
1129 F concrete
1137 C soil backyard
1137 C concrete backyard
1137 D soil backyard
1137 D concrete backyard
1137 A concrete backyard
1137 A soil backyard
1133 sidewalks concrete
1137 Sidewalks
1137 Front yards, sides & rear strip btwn backyards & Gateview Ave.
1129 Sidewalks
1129 Front yards and sides
1131 Sidewalks
1133 Backyard soil
1133 Backyard concrete patio
1131 Front yard
1135 Sidewalks
1135 Front yards
12th street park fill in
yards1411
yards1412
yards for 1412
12th st park
yards1412
yards1401
park for 1107
yards for 1418
yards for 1418

Original Notes
1133 A backyard soil only (20131107)
1133 B soil backyard
1133 B concrete backyard
1133 C soil backyard
1133 C concrete backyard
1133 concrete (partial)
1137 B soil backyard
1137 B concrete backyard
1133 H soil backyard (no concrete)
1133 G soil backyard
1133 G concrete backyard
1133 F soil backyard
1133 F concrete backyard
1133 E soil backyard
1133 E concrete backyard
1135 C soil backyard
1135 C concrete backyard
1135 B soil backyard
1135 B concrete backyard
1135 A soil backyard
1135 A concrete backyard
1135 D soil backyard
1135 D concrete
1135 E soil backyard
1135 E concrete backyard
1135 F soil backyard
1135 F concrete backyard
1135 G soil backyard
1135 G concrete backyard
1135 H soil backyard
1135 H concrete backyard
1400 grass area behind bldg
grass beween 1400-1402

Original Notes
grass behind 1402
1133 Front yards
1135 Front yards C to H
West end of Mason Ct.
1141 Sidewalks
1141 Front Yard
1139 Sidewalks
1147 Sidewalks
1147 Front Yards
1149 Sidewalks
1149 Front yards
1145 Front yards
yards1403
yards1403
yards for 1403
backyard 1406,1404
yards for 1325
yards 1313
yards1325
backyard1406
1205 F concrete and brick(no soil) backyard
1205 E soil backyard
1205 E concrete backyard patio
1205 D soil backyard
1205 D cncrete patio backyard
1203 D soil backyard
1203 D concrete backyard
1203 C concrete backyard patio
1203 C soil backyard
1201 F soil backyard
1201 F concrete patio backyard
1201 E soil backyard
1201 E concrete patio backyard

Original Notes
1201 D soil backyard
1201D concrete patio
1147 A soil backyard
1147 A concrete patio
1147 D soil backyard
1147 D concrete patio
1147 B soil backyard (no concrete)
1149 A soilbackyard
1149 A concrete backyard
1208 D soil backyard
1208 D concrete background
1205 Front yards soil
1217 front yards
1205 Sidewalks
1205 Carports
1203 Carports
1203 Sidewalks
1203 Sidewalks
1201 Sidewalks
1201 Carports
1201 Front Yards
1203 Front yards
1212 " Median" between sidewalk and road
1212 " Median" between sidewalk and road
backyard 1205B
backyard 1205B
backyard 1205C
backyard 1205C
backyard 1205A
backyard 1205A
backyard 1203A
backyard 1203A
backyard 1203B

Original Notes
backyard 1203B
backyard 1201A
backyard 1201A
backyard 1201B
backyard1201B
backyard 1201C
backyard 1201C
backyard 1147F
backyard 1147F
backyard 1147E
backyard 1147E
backyard 1147G
backyard 1147G
backyard 1149C
backyard 1149C
frontyard 1222
frontyard 1222
corner for 1202
yards for 1204
1143 E concrete, brick (no soil)
1143 D soil backyard
1143 D concrete patio backyard
1141 F soil backyard
1141 F concrete backyard
1141 E soil backyard
1141 E concrete backyard
1141 D soil backyard
1141 D concrete backyard
1145 F soil backyard
1145 F concrete backyard
1145 E soil backyard
1145 E concrete backyard
1145 D soil backyard

Original Notes
concrete paTIO FOR 1120 C
SOIL BACK YARD FOR 1120 C
CNCRETE PATIO FOR 1120 A
SOIL BACKYARD FOR 1120 A
SOIL backyard for 1128 A
1128 A concrete backyard
1128 B concrete patio
1128 B soil backyard
1120 B soil backyard
1120 B concrete
yards for 1204 &1206
1143 Sidewalks
1145 Sidewalks
1145 Front yards
1143 Front Yards
1120 Saidewalks
1120 Front yards
1128 Sidewalks
1128 Front yards
1217 "Median" between sidewalk and Mariner St.
1219 "Median" between sidewalk and Mariner St.
1230 Sidewalks
1230 Front yards
Soil between 1221 & 1223
backyard 1143B
backyard 1143B
backyard 1143A
backyard 1143A
backyard 1143C
backyard 1143C
backyard 1141C
backyard 1141C
backyard 1141B

Original Notes
backyard 1141A
backyard 1141A
backyard 1145A
backyard 1145A
backyard 1145B
backyard 1145B
bacyard1145C
backyard1145C
backyard 1128C
backyard 1128C
backyard 1128D
backyard 1128D
fronts 1202A
front 1206A
1124 E soil backyard
1124 E concrete backyard
1124 C soil backyard
1124 C concrete backyard
1124 A soil backyard
1124 A concrete patio
1122 A soil backyard
1122 A concrete backyard
1122 B yard soil
1122 B concrete patio
1122 C soil backyard
1122 C concrete backyard
1122 D concrete backyard (no soil)
1122 E soil yard
1122 E concrete patio
1122 soil greenbelt behind building
1120 D backyard soil
1120 D concrete backyard
1114 D soils backyard

Original Notes
1114 D concrete backyard
1114 C concrete backyard
bdg 1419 concrete sidewak/driveway
1114 Sidewalks
1112 Sidewalks
1108 Sidewalks
1108 Front Yards
1112 Front Yards
1114 Front yards
1124 Sidewalks
1122 Sidewalks
1122 Front yards
1124 Front yards
1406 Sidewalks
1406 Front yards
backyard 1124D
backyard 1124D
backyard 1124B
backyard for 1124 B
backyard for 1108 D
backyard for 1108D
backyard for 1108 C
backyard for 1108 C
backyard for 1108 B
backyard for 1108 B
backyard for 1108 A
backyards for 1108 A
backyard 1112D
backyard for 1112 D
backyard for 1112 B
backyard for 1112 B
backyard 1112A
backyard 1112C

Original Notes
backyard 1112C
backyard 1114A
backyard 1114A
backyard 1114B
backyard 1114B
sidewalks for 1401
front yard for 1401
sidewalks for 1403
front yard for 1403
1237 B soil backyard
1237 B concrete patio
1237 F soil backyard
1237 F concrete backyard
1124 F soil backyard
1124 F concrete patio
1118 C soil backyard
1118 C concrete backyard
1115 A soil backyard
1115 A concrete backyard
1115 B soil backyard
1115 B concrete backyard
1115 E soil backyard
1115 E concrete backyard
1315 C soil backyard
1315 C concrete backyard
1315 D soil backyard
1315 D concrete backyard
1315 B soil backyard
1315 B concrete backyard
1315 E soil backyard
1315 E concrete backyard
1315 F soil backyard
1315 F concrete patio

Original Notes
sidewalks for 1419
frontyard for 1419
sidewalks for 1405
1237 West end carport"parking area"
1237 East side soil median between sidewalk and North Point Dr.
1237 East side soil median between sidewalk and North Point Dr.
1118 Sidewalks
1118 Front yards
1115 Sidewalks
1115 Front yards
1315 Front yards
1313 Front yard
1312 Front yard
1314 South side soil
backyard 1237C
backyard 1237C
backyard 1237E
backyard 1237E
backyard 1118A
backyard 1118A
backyard 1118B
backyard 1118B
backyard 1118D
backyard 1118D
backyard 1115F
backyard 1115F
backyard for 1115 H
backyard for 1115 H
backyard for 1115 G
backyard for 1115 G
backyard for 1312 A
backyard 1312A
backyard for 1313 F

Original Notes
backyard for 1313 F
backyard for 1325 B
backyard for 1325 B
backyard for 1325D
backyard for 1325 D
yards 1316, 1318
backyard o/s fence 1318
1419 SE corner soil (water soaked)
1419 F concrete patio S side
1419 A concrete patio N side
1419 corner soil North Side
1405 North corner soil
1405 A concrete patio
1405 South side corner soil
1403 corner soil South Side
1403 A concrete patio
1403 F concrete patio
1403 Corner soil North Side
1401 A corner soil South Side
1401 F concrete patio
1401 corner soil North Side
1401 A concrete patio
1406 corner soil
1406 F concrete patio
1406 A concrete patio
1406 corner soil
1413 corner soil north
1413 A concrete patio
1413 F corcrete patio
1413 corner soil
1411 corner soil north
1410 &1408 sidewalks
1410 & 1408 soil corner &middle

Original Notes
westside soil 1430
backyard for 1430
Vacant lot West of site 31
1404 f carport
1403a-b-c-
1405 E & F Carports
1405 Front yard
1404 Back yard
1404 Back yard
1403 D &E Carports
1401 B Carport
1431 West side
sidewalks for 1409
frontyards for 1409
sidewalks for 1411
sidewalks for 1413
frontlawn 1411
frontlawn 1413
lawn 1314
lawn 1316
1435 front yard soil
1435 front yard soil
1433 front yard
1443 parking spot concrete driveway
1434 North side soil
1216 D soil backyard
1216 D concrete patio
1216 H soil backyard
1216 H concrete
1251 C soil backyard
1251 C concrete backyard
1251 B soil backyard
1251 B concrete backyard

Original Notes
1216 E soil backyard
1216 E concrete backyard
1216 D soil backyard
1216 D concrete patio
1243 B soil backyard
1244 E soil backyard
1244 E concrete backyard
1244 B soil backyard
1244 B concrete backyard
1244 C soil backyard
1244 C concrete backyard
1243 parking area asphalt(partial)
1243 E concrete backyard (no soil)
1251 A soil backyard
1251 A concrete backyard
carports for 1251
yard for 1251&1253
backyards for 1251&1253
backyards for 1251&1253
backyards for 1251&1253
yard between 1247&1249
1243 Carports
backyard 1216A
backyard 1216A
backyard 1216C
backyard 1216C
backyard 1251F
backyard 1251F
backyard 1251H
backyard 1251H
backyard 1251G
backyard 1251G
backyard 1251E

Original Notes
backyard 1251E
backyard 1243C
backyard 1243C
backyard 1243A
backyard 1243A
backyard 1243D
backyard 1243D
backyard 1244D
backyard 1244D
visitor spot 1245E
visitor spot 1245B
frontyard 1244E
frontyard 1244A
frontyard 1244
frontyard 1243
1223 A concrete backyard
1223 A soil backyard
1223 B soil backyard
1223 B concrete backyard
1223 C soil backyard
1223 C concrete backyard
1230 F soil backyard
1230 F concrete backyard
1230 E soil backyard
1230 E concete backyard
1230 C soil backyard
1230 C concrete backyard
1206 C soil backyard
1206 C concrete
1206 D soil backyard
1206 D concrete patio
backyards for1223
carports for 1223

Original Notes
front yards for 1223
carports for 1240
backyard 1223C
backyard 1223C
backyard 1223D
backyard 1223D
backyard 1223E
backyard 1223E
backyard 1223F
backyard 1223F
backyard 1230D
backyard 1230D
backyard 1206A
backyard 1206A
backyard 1230B
backyard 1230B
parking 1394B
1244 A soil backpage
1244 A concrete patio
1220 B soil backyard
1220 B concrete backyard
1220 D soil backyard
1220 D concrete
1226 C soil backyard
1226 C concrete patio
1226 E soil backyard
1226 E concrete backyard
1220 C soil backyard
1220 C concrete backyard
1226 G soil backyard
1226 G concrete patio
1139 B soil backyard
1139 B concrete patio

Original Notes
1139 A soil backyard
1139 A concrete backyard (RED BRICK)
1116 B soil backyard
1116 B concrete patio
1116 C concrete patio
1116 C soil backyard
1116 F sol backyard
1116 F concrete backyard
1244 Left side carport, Left visitors slot
1220 Sidewalks
1209 Carports
1211 Carports
1226 Carports
1226 Carports
1220 Carports
1220 Front Yards
1226 Sidewalks
backyard 1244G
backyard 1244G
carport 1244EFG
backyard 1220E
backyard 1220E
backyard 1220A
backyard 1220A
backyard 1226H
backyard 1226H
backyard 1226F
backyard 1226F
backyard 1220G
backyard 1220G
backyard 1226A
backyard 1226A
backyard 1139F

Original Notes
backyard 1139F
backyard 1139E
backyard 1139E
backyard 1139C
backyard 1139C
backyard 1116A
backyard 1116A
1236 A concrete patio East Side
1236 B concrete patio
1236 C concrete patio
1204 C soil backyard
1204 C concrete patio
1204 B soil backyard
1204 B concrete background
1204 F soil backyard
1204 F concrete backyard
1202 A sol backyard
1202 A concrete patio
1202 B soil backyard
1202 B concrete backyard
1202 F soil backyard
1202 F concrete backyard
1204 A soil backyard
1204 A concrete patio
1147Esoil backyard
1147E concrete patio
1147C soil backyard
1147 C concrete patio
1110 D Soil backyard
1236 Soil between carports
1231 Carports
1236 Carports
1233 Carports

Original Notes
1235 Carports
1238 Carports
1204 Carports
1202 Carports
1202 carports
1409 side yard
backyard 1236H
backyard1236G
backyard 12326F
backyard 1236E
backyard 1236D
backyard 1204E
backyard 1204E
backyard 1204D
backyard 1204D
backyard 1202C
backyard1202c
backyard 1202D
backyard 1202D
backyard 1202E
backyard 1202E
backyard 1110B
backyard 1110C
backyard 1110C
1229 Front yard
1215 South side
1221 Front median between sidewalk and Mariner Dr.
1204 "A" Carport
Between 1301 & 1303
rightyard 1229
between 1238,1240
yards 1248
yards 1246,1248

Original Notes
yard 1246
carport 1242
carport 1238B
O/S backyard fence 1316
frontyard 905 (1302) F
yards 1310
1244 building carport asphalt (partial)
VOID survey
1126 A soil backyard
1126 A concrete patio
1126 B soil backyard
1126 B concrerte patio
1126 C soil backyard
1126 C concrete patio
1126 D soil backyard
1126 D concrete bnacjkkyard
1126 F soilbackyard
1126 F concret backyard
1126 G soil backyard
1126 G concrete backyard
1126 H soil backyard
1126 H concrete backyard
1206 F soil backyard
1206 F concrete backyard
1206 B soil backyard
1206 B concrete backyard
1204 bldg. asphalt carport (partial)
1230 A backyard soil
1230 A concrete patio
1244 C&D parking space asphalt
1244 carport visitor S N spot asphalt
1110 A soil (no concrete)
1226 Front yards

Original Notes
Soil area East side of 1224
1110 front walkway concrete
1110 soil front yards and side
1110 back of bldg soil
1110 sidewalk back of bldg
1116 back soil common area
1116 soil front yards
1116 walkways concrete
1126 walkways concrete
1126 front ryards soil
1218 Back yard
1216 north of building
1214 Carports
Soil area between 1241 &1243
Backyard soil area between 1241 &1243
Backyard soil area between 1241 &1243
1242 Carports E & F
1238 Carports
1233 Carports A & Right Side Visitor
1231 Carports B & r-Vistors
1240 carports
yards 1113
1242 soil area behind building
1242 &1240 soil area behind bldg.
1233 parking lot asphalt
1229 parking area asphalt
1211 soil front yards
1211 sidewalk concrete
1205 soil front North
1126 front yards soil
1112 soil east side of bldg
1245 frontyard sidewalks
1245 front yards

Original Notes
1236 Backyard
1236 Backyard
1242 Backyard
exposition street
1440 road
northpoint
northpoint
gateview ave
mariner drive
gateview court
exposition street
street for 1440
northpoint street
northpoint street
gateview ave
mariner dr
gateview ct.
chinook street
croaker street
oszborne
reeves court
flounder
chinook street
Chinook St.
Croaker St.
Osborne St.
reeves ct.
flounder
halibut
avenue B inlet (20131205)
halibut
mason court
hutchinson court

Original Notes
keppler court
keppler court
sturgeon
striped bass
Halibut St.
Ave. B Inlet
Mason Ct.
Hutchins Ct.
Keppler Ct.
Hutchins Ct. 1116D Parking Area
Sturgeon St.
Striped Bass
Striped Bass
south gateview to ave. B
westside
gateview parking area
gateview
gateview
gateview
gateview
Gateview St.
Westside St.
Gateview St. missed parking areas
Gateview St.
Gateview St.
Gateview St.
Gateview St.
3rd street
avenue B
avenue B
avenue B
13th street
bayside

Original Notes
gateview
3rd Street
Ave. B
Ave. B
ave B
13th street
BAYSIDE
gateview st.
VOID survey
13th street
Avenue I and 14th street
avenue M
avenue M fenced area
area 32 road North to South
treasure island walking path
13th street
13th street
Ave I & 14th St.
Ave. M
Ave. M
Site 32 Road
Site 32 Road
Site 32 Road, North to South
T.I. Walking path
1128 D parking spot
1114 A&Bparking spots
1304 D
1308F carport
1309 A&C
1310 A carport
1308 E under tent
1306A&B
1306 C&D

Original Notes
1306 F
1303 A&B
1303 C&D
1302 E&F
1252 Carports
1253 Carports
1253 Carports A,C,& E
1216/1420 Carports
1216/1420 Carports Mid Right Visitor &Right Side Visitor
1253 L/S Visitor & R/S Visitor
1206 Carports
1206 Carports
1401 Carports
1419 Carports
void file
avenue B inlet Car spaces
Halibut parking spaces
gateview parking spaces
westside parking spaces
12th street parking
car parking Gateway at 1318
avenue B parking area
sturgeon parking area
keppler court parking space
hutchins court
1243 Back Common Area
1243 Back Common Area
Sandbox behind 1243
Sandbox behind 1252
Sandbox behind 1223
Sandbox behind 1223
Sandbox behind 1218
croaker st. makeup

Original Notes
chinook st makeup
halibut st. makeup
12th street makeup
1128D backyard soil
1128D backyard concrete
1128 B soil backyard
1128Bbackyard concrete
1126Ebackyard soil
1126 E backyard soil
1126 Ebackyard concrete
1114Abackyard soil
1114 A backyard concrete
1114 B backyard concrete
1116 E backyard concrete
1115 C backyard soil
1115 Cbackyard concrete
1115 B backyard soil
1115 B backyard concrete
1208 F backyard soil
1208 F backyard concrete
1216 G backyard soil
1216 B backyard soil
halibut parking
avenue B inlet parking
halibut parking
avenue B
sturgeon parking
striped bass parking
sturgeon parking
12th street
Avenue l
14th street
13th street

Original Notes
hutchison
12th street
1244 F backyard soil
1244 F backyard concrete
1217 E backyard soil
1217 E backyard concrete
1219 E backyard soil
1219 E backyard concrete
1139 D backyard concrete
1139 D backyard soil
1405 F patio
1305 B carport
1216 E backyard concrete
1216 E backyard wood over soil
1216 F backyard concrete
1216 F backyard soil
1306 E backyard concrete
1116 D backyard concrete
1116 D backyard soil
1226 B backyard soil
1226 B backyard concrete
Ave I Parking spaces
Ave I Parking spaces
1209 E Parking space
1209 G, H parking spaces
1205 Left visitor
1220 middle visitor parking and 1220E
1218 A parking space
1225 right side visitor parking
1229 C and 1229 F parking spaces
1231 B parking space
1236 Right side visitor parking space
1233 E & F Parking spaces

Original Notes
1235 B & E Parking spaces
1245 Right side visitor parking space
1244 Right carport/Left side visitor parking space
1235 A Parking space
1216 E Parking space
1202 Left side visitor parking space
1213 Carports
1410 A Carport
1413 A Carport
1229 backyards
1229 backyards
1229 backyards concrete
between 1227&1225 soil
1226D backyard concrete
1226D backyard soil
1226 front yard soil
1220 F backyard soil
1220 F backyard concrete
1220 H backyard soil
1220 H backyard concrete
front for 1213 soil
front yard for 1209&1211
front yard for 1209&1211
front yard makeup for 1209
Sandbox behind 1240
Sandbox behind 1234
Sandbox behind 1222
Sandbox behind 1229
treasure island berm wall
treasure island berm wall
treasure island berm wall
treasure island berm wall
treasure island berm wall

Original Notes
avenue M
1222 backyard soil
1202 Left side visitor & A parking space
1211 B Parking space
1213 D Parking space
1220 A, LV,MV,& RV Parking spaces
1225 LV Parking space
1229 A Parking space
1236 H Parking space
1247 RV Parking space
1249 LS & RS Visitors Parking spaces
1252 C Parking space
1223 LV Parking space

APPENDIX F
LUDLUM MODEL 44-10 RADIOLOGICAL SURVEYS

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
Survey #	**Reason For Document**	**Date**	**H.P. Tech.**
06-12-001	Back Yard 2x2 Walkover of Building 1301	9/25/2013	J.L.
06-12-002	Back Yard 2x2 Walkover of Building 1302	9/26/2013	J.L.
06-12-003	Back Yard 2x2 Walkover of Building 1303	9/25/2013	J.L.
06-12-004	Back Yard 2x2 Walkover of Building 1304	9/26/2013	J.L.
06-12-005	Back Yard 2x2 Walkover of Building 1305	9/25/2013	J.L.
06-12-006	Back Yard 2x2 Walkover of Building 1306	9/25/2013	J.L.
06-12-007	Back Yard 2x2 Walkover of Building 1310 A-C-F	9/26/2013	J.L.
06-12-008	Play Ground Area Walkover	9/24/2013	P.W.
06-12-009	Back Yard 2x2 Walkover of Building 1307	9/27/2013	J.L.
06-12-010	Back Yard 2x2 Walkover of Building 1309 A-B-C-F	9/27/2013	J.L.
06-12-011	Back Yard 2x2 Walkover of Building 1308	9/30/2013	J.S.
06-12-012	Back Yard 2x2 Walkover of Building 1250	9/30/2013	J.S.
06-12-013	Back Yard 2x2 Walkover of Building 1253	9/30/2013	J.S.
06-12-014	Investigative Survey of Elevated Dose Rate Area in Site 12	9/26/2013	J.W.
06-12-015	Back Yard 2x2 Walkover of Building 1249	10/1/2013	J.S.
06-12-016	Back Yard 2x2 Walkover of Building 1245	10/1/2013	J.S.
06-12-017	Back Yard 2x2 Walkover of Building 1247	10/1/2013	J.S.
06-12-018	Back Yard 2x2 Walkover of Building 1241	10/2/2013	J.S.
06-12-019	Back Yard 2x2 Walkover of Building 1239	10/2/2013	J.S.
06-12-020	Back Yard 2x2 Walkover of Building 1238	10/3/2013	J.S.
06-12-021	Back Yard 2x2 Walkover of Building 1240	10/3/2013	J.S.
06-12-022	Back Yard 2x2 Walkover of Building 1242	10/3/2013	J.S.
06-12-023	Back Yard 2x2 Walkover of Building 1237 A& D	10/2/2013	J.S.
06-12-024	Front Yard 2x2 Walkover of Building 1311	10/7/2013	T.C.
06-12-025	Front Yard 2x2 Walkover of Building 1309	10/7/2013	T.C.
06-12-026	Front Yard 2x2 Walkover of Building 1307	10/7/2013	T.C.
06-12-027	Front Yard 2x2 Walkover of Building 1310	10/7/2013	T.C.
06-12-028	Back Yard 2x2 Walkover of Building 1311	10/7/2013	J.S.
06-12-029	Building 1301, 1303 & 1305 Perimeter surveys	10/7/2013	J.S.
06-12-030	Back Yard 2x2 Walkover of Building 1306 F & Perimeter	10/7/2013	J.S.
06-12-031	Back Yard 2x2 Walkover of Building 1307 B-C-D-E & Perimeter	10/7/2013	J.S.
06-12-032	Back Yard 2x2 Walkover of Building 1309 D-E & Perimeter	10/7/2013	J.S.
06-12-033	Back Yard 2x2 Walkover of Building 1310 B-D-E & Perimeter	10/7/2013	J.S.
06-12-034	Front Yard 2x2 Walkover of Building 1250	9/30/2013	M.C.
06-12-035	Back Yard 2x2 Walkover of Building 1214	10/8/2013	J.S.
06-12-036	Back Yard 2x2 Walkover of Building 1218	10/8/2013	J.S.
06-12-037	Front Yard 2x2 Walkover of Building 1254	10/8/2013	J.S.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-038	Front Yard 2x2 Walkover of Building 1247	10/8/2013	J.S.
06-12-039	Front Yard 2x2 Walkover of Building 1252	10/8/2013	J.S.
06-12-040	Front Yard 2x2 Walkover of Building 1218	10/8/2013	T.C.
06-12-041	Front Yard 2x2 Walkover of Building 1216	10/8/2013	T.C.
06-12-042	Front Yard 2x2 Walkover of Building 1214	10/8/2013	T.C.
06-12-043	Front Yard 2x2 Walkover of Building 1212	10/9/2013	T.C.
06-12-044	Front Yard 2x2 Walkover of Building 1210	10/9/2013	T.C.
06-12-045	Front Yard 2x2 Walkover of Building 1208	10/9/2013	T.C.
06-12-046	Back Yard 2x2 Walkover of Building 1208 A-B-C-D-E & Perimeter	10/9/2013	J.S.
06-12-047	Back Yard 2x2 Walkover of Building 1212	10/9/2013	J.S.
06-12-048	Back Yard 2x2 Walkover of Building 1210	10/9/2013	J.S.
06-12-049	Front Yard 2x2 Walkover of Building 1223 Sand Box Area	10/9/2013	T.C.
06-12-050	Front Yard Characterization Survey - 1303 E Anomalies	10/10/2013	T.C.
06-12-051	Back Yard 2x2 Walkover of Building 1217 A-B-C-D-F & Perimeter	10/10/2013	J.S.
06-12-052	Back Yard 2x2 Walkover of Building 1221	10/10/2013	J.S.
06-12-053	Back Yard 2x2 Walkover of Building 1219 A-B-C-D-F & Perimeter	10/10/2013	J.S.
06-12-054	Front Yard 2x2 Walkover of Building 1217	10/10/2013	T.C.
06-12-055	Front Yard 2x2 Walkover of Building 1221	10/10/2013	T.C.
06-12-056	Front Yard 2x2 Walkover of Building 1219	10/10/2013	T.C.
06-12-057	Back Yard 2x2 Walkover of Building 1437	10/15/2013	J.S.
06-12-058	Back Yard 2x2 Walkover of Building 1439	10/15/2013	J.S.
06-12-059	Back Yard 2x2 Walkover of Building 1441	10/15/2013	J.S.
06-12-060	Back Yard 2x2 Walkover of Building 1443	10/15/2013	J.S.
06-12-061	Front Yard 2x2 Walkover of Building 1303	10/15/2013	J.S.
06-12-062	Back Yard 2x2 Walkover of Building 1438	10/15/2013	J.S.
06-12-063	Front Yard 2x2 Walkover of Building 1301	10/15/2013	T.C.
06-12-064	Front Yard 2x2 Walkover of Building 1441	10/15/2013	T.C.
06-12-065	Front Yard 2x2 Walkover of Building 1439	10/15/2013	T.C.
06-12-066	Front Yard 2x2 Walkover of Building 1437	10/15/2013	T.C.
06-12-067	Front Yard 2x2 Walkover of Building 1438	10/15/2013	T.C.
06-12-068	Front Yard 2x2 Walkover of Building 1443	10/15/2013	T.C.
06-12-069	2x2 Walkover of 9th Street Fenceline	10/15/2013	J.S.
06-12-070	Back Yard 2x2 Walkover of Building 1438	10/16/2013	J.S.
06-12-071	Back Yard 2x2 Walkover of Building 1431	10/16/2013	J.S.
06-12-072	Back Yard 2x2 Walkover of Building 1435	10/16/2013	J.S.
06-12-073	Back Yard 2x2 Walkover of Building 1433	10/16/2013	J.S.
06-12-074	Back Yard 2x2 Walkover of Building 1430	10/16/2013	J.S.
06-12-075	Back Yard 2x2 Walkover of Building 1432	10/16/2013	J.S.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-076	Front Yard 2x2 Walkover of Building 1302	10/16/2013	J.S.
06-12-077	Front Yard 2x2 Walkover of Building 1433	10/16/2013	T.C.
06-12-078	Front Yard 2x2 Walkover of Building 1435	10/16/2013	T.C.
06-12-079	Front Yard 2x2 Walkover of Building 1430	10/16/2013	T.C.
06-12-080	Front Yard 2x2 Walkover of Building 1432	10/16/2013	T.C.
06-12-081	Front Yard 2x2 Walkover of Building 1431	10/16/2013	T.C.
06-12-082	Front Yard 2x2 Walkover of Building 1434	10/16/2013	T.C.
06-12-083	Front Yard 2x2 Walkover of Building 1215	10/17/2013	T.C.
06-12-084	Front Yard 2x2 Walkover of Building 1318	10/17/2013	T.C.
06-12-085	Front Yard 2x2 Walkover of Building 1225	10/17/2013	T.C.
06-12-086	Back Yard 2x2 Walkover of Building 1318	10/17/2013	J.S.
06-12-087	Back Yard 2x2 Walkover of Building 1254 A-B-C-Perimeter	10/17/2013	J.S.
06-12-088	Back Yard 2x2 Walkover of Building 1225	10/17/2013	J.S.
06-12-089	Front Yard 2x2 Walkover of Building 1226	10/17/2013	J.S.
06-12-090	Characterization / Investigative Survey of Building 1113 Area	10/17/2013	T.C.
06-12-091	Building 1316 & 1227 Perimeter surveys	10/17/2013	J.S.
06-12-092	Characterization / Investigative Survey of Avenue 12 parking lot	10/18/2013	D.D.
06-12-093	Back Yard 2x2 Walkover of Building 1254 D-E-F	10/17/2013	T.C.
06-12-094	Front Yard 2x2 Walkover of Building 1447	10/18/2013	T.C.
06-12-095	Front Yard 2x2 Walkover of Building 1440	10/18/2013	T.C.
06-12-096	Front Yard 2x2 Walkover of Building 1442	10/18/2013	T.C.
06-12-097	Front Yard 2x2 Walkover of Building 1445	10/18/2013	T.C.
06-12-098	Front Yard 2x2 Walkover of Building 1306	10/18/2013	J.S.
06-12-099	Front Yard 2x2 Walkover of Building 1305	10/18/2013	J.S.
06-12-100	Front Yard 2x2 Walkover of Building 1308	10/18/2013	J.S.
06-12-101	Back Yard 2x2 Walkover of Building 1442	10/18/2013	J.S.
06-12-102	Back Yard 2x2 Walkover of Building 1440	10/18/2013	J.S.
06-12-103	Back Yard 2x2 Walkover of Building 1447	10/18/2013	J.S.
06-12-104	Back Yard 2x2 Walkover of Building 1445	10/18/2013	J.S.
06-12-105	Front Yard 2x2 Walkover of Building 1254	10/21/2013	T.C.
06-12-106	Front Yard 2x2 Walkover of Building 1304 (901)	10/21/2013	T.C.
06-12-107	Front Yard 2x2 Walkover of Building 1241	10/21/2013	T.C.
06-12-108	Front Yard 2x2 Walkover of Building 1242	10/21/2013	T.C.
06-12-109	Front Yard 2x2 Walkover of Building 1240	10/21/2013	T.C.
06-12-110	Front Yard 2x2 Walkover of Building 1238	10/21/2013	T.C.
06-12-111	Front Yard 2x2 Walkover of Building 1239	10/21/2013	T.C.
06-12-112	Front Yard 2x2 Walkover of Building 1237	10/21/2013	T.C.
06-12-113	Building 1232 Anomaly Characterization	10/22/2013	T.C.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-114	Back Yard 2x2 Walkover of Building 1449	10/22/2013	J.S.
06-12-115	Back Yard 2x2 Walkover of Building 1436	10/22/2013	J.S.
06-12-116	Back Yard 2x2 Walkover of Building 1431	10/22/2013	J.S.
06-12-117	Back Yard 2x2 Walkover of Building 1444	10/22/2013	J.S.
06-12-118	Front Yard 2x2 Walkover of Building 1436	10/22/2013	T.C.
06-12-119	Front Yard 2x2 Walkover of Building 1449	10/22/2013	T.C.
06-12-120	Avenue D Common Area 2x2 Walkover	10/22/2013	T.C.
06-12-121	Avenue B Common Area 2x2 Walkover	10/22/2013	T.C.
06-12-122	1440-1442-1435-1449 & 1438 Common Area 2x2 Walkover	10/22/2013	T.C.
06-12-123	Front Yard 2x2 Walkover of Building 1444	10/22/2013	T.C.
06-12-124	Back Yard 2x2 Walkover of Building 1418	10/23/2013	J.S.
06-12-125	Back Yard 2x2 Walkover of Building 1404	10/23/2013	J.S.
06-12-126	Back Yard 2x2 Walkover of Building 1402	10/23/2013	J.S.
06-12-127	Back Yard 2x2 Walkover of Building 1400	10/23/2013	J.S.
06-12-128	Back Yard 2x2 Walkover of Building 1420	10/23/2013	J.S.
06-12-129	Front Yard 2x2 Walkover of Building 1400	10/23/2013	T.C.
06-12-130	Front Yard 2x2 Walkover of Building 1402	10/23/2013	T.C.
06-12-131	Front Yard 2x2 Walkover of Building 1404	10/23/2013	T.C.
06-12-132	Front Yard 2x2 Walkover of Building 1418	10/23/2013	T.C.
06-12-133	Front Yard 2x2 Walkover of Building 1420	10/23/2013	T.C.
06-12-134	1400-1402 & 1404 Common Area 2x2 Walkover	10/23/2013	T.C.
06-12-135	1418 & 1420 Common Area 2x2 Walkover	10/23/2013	T.C.
06-12-136	Avenue B - Gateview & 1400 Common Area 2x2 Walkover	10/23/2013	T.C.
06-12-137	Front Yard 2x2 Walkover of Building 1314	10/24/2013	T.C.
06-12-138	Back Yard 2x2 Walkover of Building 1314	10/24/2013	J.S.
06-12-139	Front Yard 2x2 Walkover of Building 1316	10/24/2013	T.C.
06-12-140	Back Yard 2x2 Walkover of Building 1316	10/24/2013	J.S.
06-12-141	Front Yard 2x2 Walkover of Building 1312	10/24/2013	T.C.
06-12-142	Back Yard 2x2 Walkover of Building 1312	10/24/2013	J.S.
06-12-143	Back Yard 2x2 Walkover of Building 1310 A	10/24/2013	J.S.
06-12-144	1441-1443-1437 & 1439 Common Area 2x2 Walkover	10/24/2013	T.C.
06-12-145	1310-1308-1302 & 1304 Common Area 2x2 Walkover	10/24/2013	T.C.
06-12-146	Avenue B - 1302 & 1312 Common Area 2x2 Walkover	10/24/2013	T.C.
06-12-147	Front Yard 2x2 Walkover of Building 1313	10/28/2013	T.C.
06-12-148	Back Yard 2x2 Walkover of Building 1313	10/28/2013	J.S.
06-12-149	Front Yard 2x2 Walkover of Building 1325	10/28/2013	T.C.
06-12-150	Back Yard 2x2 Walkover of Building 1325	10/28/2013	J.S.
06-12-151	Anomaly Investigation of Open Area East of IR Site 20	10/29/2013	P.W.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-152	Anomaly Investigation of area SW of Bldg 1232 adj to Northpoint Dr	10/29/2013	P.W.
06-12-153	Anomaly Investigation of Area Bldg 1303 E Furtherest Away From Driveway	10/29/2013	P.W.
06-12-154	Anomaly Investigation of Area Bldg 1303 E Closest to Driveway	10/29/2013	P.W.
06-12-155	Anomaly Investigation of Area Bldg 1303 E Closest to Road	10/29/2013	P.W.
06-12-156	Front Yard 2x2 Walkover of Building 1315	10/28/2013	T.C.
06-12-157	Back Yard 2x2 Walkover of Building 1315 A-C-E-F & Perimeter	10/28/2013	J.S.
06-12-158	1325-1315 & 1313 Common Area 2x2 Walkover	10/28/2013	T.C.
06-12-159	Front Yard 2x2 Walkover of Building 1111	10/29/2013	T.C.
06-12-160	1111 Common Area 2x2 Walkover	10/29/2013	T.C.
06-12-161	Front Yard 2x2 Walkover of Building 1109	10/29/2013	T.C.
06-12-162	1109 Common Area 2x2 Walkover	10/29/2013	T.C.
06-12-163	Front Yard 2x2 Walkover of Building 1113	10/29/2013	T.C.
06-12-164	Back Yard 2x2 Walkover of Building 1109	10/29/2013	J.S.
06-12-165	Back Yard 2x2 Walkover of Building 1111	10/29/2013	J.S.
06-12-166	Back Yard 2x2 Walkover of Building 1113	10/29/2013	J.S.
06-12-167	Back Yard 2x2 Walkover of Building 1410	10/31/2013	J.S.
06-12-168	Front Yard 2x2 Walkover of Building 1408	10/31/2013	T.C.
06-12-169	Back Yard 2x2 Walkover of Building 1408	10/31/2013	J.S.
06-12-170	Front Yard 2x2 Walkover of Building 1410	10/31/2013	T.C.
06-12-171	Front Yard 2x2 Walkover of Building 1412	10/31/2013	T.C.
06-12-172	Back Yard 2x2 Walkover of Building 1412	10/31/2103	J.S.
06-12-173	Front Yard 2x2 Walkover of Building 1248	10/31/2013	T.C.
06-12-174	Back Yard 2x2 Walkover of Building 1248	10/31/2013	J.S.
06-12-175	Front Yard 2x2 Walkover of Building 1246	10/30/2013	T.C.
06-12-176	Back Yard 2x2 Walkover of Building 1246	10/30/2013	J.S.
06-12-177	Back Yard 2x2 Walkover of Building 1252	10/30/2013	J.S.
06-12-178	1250 & 1252 Common Area 2x2 Walkover	10/30/2013	T.C.
06-12-179	1236-1238-1240 & 1242 Common Area 2x2 Walkover	10/30/2013	T.C.
06-12-180	1129-1127-1119-1317-1325 & Gateview Common Area 2x2 Walkover	10/31/2013	T.C.
06-12-181	Front Yard 2x2 Walkover of Building 1117	10/31/2013	T.C.
06-12-182	Front Yard 2x2 Walkover of Building 1234	11/4/2013	T.C.
06-12-183	Back Yard 2x2 Walkover of Building 1234	11/4/2013	J.S.
06-12-184	Front Yard 2x2 Walkover of Building 1227	11/4/2013	T.C.
06-12-185	Back Yard 2x2 Walkover of Building 1227	11/4/2013	J.S.
06-12-186	Front Yard 2x2 Walkover of Building 1232	11/4/2013	T.C.
06-12-187	Back Yard 2x2 Walkover of Building 1232	11/4/2013	J.S.
06-12-188	1228-1219-1217 & Gateview Common Area 2x2 Walkover	11/4/2013	T.C.
06-12-189	1229 & 1227 Sandbox Common Area 2x2 Walkover	11/4/2013	T.C.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-190	Front Yard 2x2 Walkover of Building 1232	11/5/2013	(B) J.W.
06-12-191	Front Yard 2x2 Walkover of Building 1232	11/5/2013	(B) J.W.
06-12-192	Front Yard 2x2 Walkover of Building 1224	11/5/2013	T.C.
06-12-193	Back Yard 2x2 Walkover of Building 1224	11/5/2013	J.S.
06-12-194	Back Yard 2x2 Walkover of Building 1117	10/31/2013	J.S.
06-12-195	Back Yard 2x2 Walkover of Building 1228	11/5/2013	J.S.
06-12-196	Back Yard 2x2 Walkover of Building 1215	11/5/2013	J.S.
06-12-197	1222-1224-1226 & 1220 Common Area 2x2 Walkover	11/5/2013	(B) J.W.
06-12-198	1215 Common Area 2x2 Walkover	11/5/2013	(B) J.W.
06-12-199	Anomaly Investigation of Building 1131 Apt C Backyard	11/6/2013	P.W.
06-12-200	Pre Anomaly Investigation of Building 1131 Apt C & D Backyard	11/6/2013	J.S.
06-12-201	Pre Anomaly Investigation Play Structure Behind bldgs 1204 & 1126	11/8/2013	P.W.
06-12-202	Front Yard 2x2 Walkover of Building 1139	11/7/2013	T.C.
06-12-203	Front Yard 2x2 Walkover of Building 1141	11/7/2013	T.C.
06-12-204	Front Yard 2x2 Walkover of Building 1133	11/7/2013	T.C.
06-12-205	Front Yard 2x2 Walkover of Building 1135	11/7/2013	T.C.
06-12-206	Back Yard 2x2 Walkover of Building 1133	11/7/2013	J.S.
06-12-207	Back Yard 2x2 Walkover of Building 1135	11/7/2013	J.S.
06-12-208	Back Yard 2x2 Walkover of Building 1137	11/6/2013	J.S.
06-12-209	Back Yard 2x2 Walkover of Building 1129	11/6/2013	J.S.
06-12-210	Front Yard 2x2 Walkover of Building 1129	11/6/2013	T.C.
06-12-211	Front Yard 2x2 Walkover of Building 1137	11/6/2013	T.C.
06-12-212	Front Yard 2x2 Walkover of Building 1131	11/6/2013	T.C.
06-12-213	Back Yard 2x2 Walkover of Building 1131	11/6/2013	J.S.
06-12-214	Pre Anomaly Investigation of Building 1231	11/11/2013	M.C.
06-12-215	Pre Anomaly Investigation of Building 1201	11/11/2013	(B) J.W.
06-12-216	Front Yard 2x2 Walkover of Building 1126	11/8/2013	P.W.
06-12-217	Front Yard 2x2 Walkover of Building 1204	11/8/2013	P.W.
06-12-218	Front Yard 2x2 Walkover of Building 1244	11/8/2013	P.W.
06-12-219	Front Yard 2x2 Walkover of Building 1243	11/8/2013	P.W.
06-12-220	Front Yard 2x2 Walkover of Building 1108	11/8/2013	(B) J.W.
06-12-221	Front Yard 2x2 Walkover of Building 1110	11/8/2013	(B) J.W.
06-12-222	Front Yard 2x2 Walkover of Building 1112	11/8/2013	(B) J.W.
06-12-223	Front Yard 2x2 Walkover of Building 1114	11/8/2013	(B) J.W.
06-12-224	Front Yard 2x2 Walkover of Building 1116	11/8/2013	(B) J.W.
06-12-225	Front Yard 2x2 Walkover of Building 1118	11/8/2013	(B) J.W.
06-12-226	Front Yard 2x2 Walkover of Building 1120	11/8/2013	(B) J.W.
06-12-227	Front Yard 2x2 Walkover of Building 1245	11/8/2013	P.W.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-228	Front Yard 2x2 Walkover of Building 1128	11/8/2013	P.W.
06-12-229	Front Yard 2x2 Walkover of Building 1206	11/8/2013	P.W.
06-12-230	Front Yard 2x2 Walkover of Building 1202	11/8/2013	P.W.
06-12-231	Front Yard 2x2 Walkover of Building 1231	11/8/2013	J.W.
06-12-232	Front Yard 2x2 Walkover of Building 1203	11/8/2013	J.W.
06-12-233	Front Yard 2x2 Walkover of Building 1205	11/8/2013	J.W.
06-12-234	Front Yard 2x2 Walkover of Building 1229	11/8/2013	J.W.
06-12-235	Front Yard 2x2 Walkover of Building 1149	11/8/2013	J.W.
06-12-236	Front Yard 2x2 Walkover of Building 1247	11/8/2013	J.W.
06-12-237	Front Yard 2x2 Walkover of Building 1147	11/8/2013	J.W.
06-12-238	Front Yard 2x2 Walkover of Building 1236	11/8/2013	J.W.
06-12-239	Front Yard 2x2 Walkover of Building 1233	11/8/2013	J.W.
06-12-240	Front Yard 2x2 Walkover of Building 1220	11/8/2013	J.W.
06-12-241	Front Yard 2x2 Walkover of Building 1245	11/8/2013	J.W.
06-12-242	Front Yard 2x2 Walkover of Building 1235	11/8/2013	J.W.
06-12-243	Front Yard 2x2 Walkover of Building 1201	11/8/2013	J.W.
06-12-244	Front Yard 2x2 Walkover of Building 1249	11/8/2013	P.W.
06-12-245	Front Yard 2x2 Walkover of Building 1122	11/8/2013	(B) J.W.
06-12-246	Front Yard 2x2 Walkover of Building 1406	11/8/2013	J.S.
06-12-247	Anomaly Investigation / Commodity Retrevial at Building 1231 Front yard	11/12/2013	P.W.
06-12-248	Front Yard 2x2 Walkover of Building 1405	11/8/2013	J.S.
06-12-249	Front Yard 2x2 Walkover of Building 1419	11/8/2013	J.S.
06-12-250	Front Yard 2x2 Walkover of Building 1411	11/8/2013	J.S.
06-12-251	Front Yard 2x2 Walkover of Building 1401	11/8/2013	J.S.
06-12-252	Front Yard 2x2 Walkover of Building 1403	11/8/2013	J.S.
06-12-253	Front Yard 2x2 Walkover of Building 1409	11/8/2013	J.S.
06-12-254	Front Yard 2x2 Walkover of Building 1413	11/8/2013	J.S.
06-12-255	1434 Common Area 2x2 Walkover	11/8/2013	J.S.
06-12-256	1405 & 1403 Common Area 2x2 Walkover	11/8/2013	J.S.
06-12-257	Back Yard 2x2 Walkover of Building 1201	11/11/2013	J.S.
06-12-258	Back Yard 2x2 Walkover of Building 1203	11/11/2013	J.S.
06-12-259	Back Yard 2x2 Walkover of Building 1205	11/11/2013	J.S.
06-12-260	Pre Anomaly Investigation of Building 1206 F	11/12/2013	M.C.
06-12-261	Back Yard 2x2 Walkover of Building 1205 A-B-D-F-G-H-Perimeter	11/11/2013	J.S.
06-12-262	Back Yard 2x2 Walkover of Building 1208 D-Perimeter	11/11/2013	J.S.
06-12-263	Back Yard 2x2 Walkover of Building 1149 A-C- D-Perimeter	11/11/2013	J.S.
06-12-264	Back Yard 2x2 Walkover of Building 1143	11/12/2013	J.S.
06-12-265	Back Yard 2x2 Walkover of Building 1141	11/12/2013	J.S.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-266	Back Yard 2x2 Walkover of Building 1145	11/12/2013	J.S.
06-12-267	Back Yard 2x2 Walkover of Building 1120	11/12/2013	J.S.
06-12-268	Back Yard 2x2 Walkover of Building 1128	11/12/2013	J.S.
06-12-269	Back Yard 2x2 Walkover of Building 1128	11/13/2013	J.S.
06-12-270	Back Yard 2x2 Walkover of Building 1114	11/13/2013	J.S.
06-12-271	Back Yard 2x2 Walkover of Building 1108	11/13/2013	J.S.
06-12-272	Back Yard 2x2 Walkover of Building 1122	11/13/2013	J.S.
06-12-273	Front Yard 2x2 Walkover of Building 1253	11/13/2013	T.D.
06-12-274	Front Yard 2x2 Walkover of Building 1145	11/8/2013	T.D.
06-12-275	Anomaly Investigation at Building 1331Tot Lot	11/13/2013	M.C.
06-12-276	Back Yard 2x2 Walkover of Building 1124	11/13/2013	J.S.
06-12-277	Back Yard 2x2 Walkover of Building 1118	11/14/2013	J.S.
06-12-278	Back Yard 2x2 Walkover of Building 1315	11/14/2013	J.S.
06-12-279	Back Yard 2x2 Walkover of Building 1325 B & D	11/14/2013	J.S.
06-12-280	Back Yard 2x2 Walkover of Building 1313 F	11/14/2013	J.S.
06-12-281	Back Yard 2x2 Walkover of Building 1312 A	11/14/2013	J.S.
06-12-282	Back Yard 2x2 Walkover of Building 1419	11/15/2013	J.S.
06-12-283	Back Yard 2x2 Walkover of Building 1401	11/15/2013	J.S.
06-12-284	Back Yard 2x2 Walkover of Building 1403	11/15/2013	J.S.
06-12-285	Back Yard 2x2 Walkover of Building 1405	11/15/2013	J.S.
06-12-286	Back Yard 2x2 Walkover of Building 1406	11/15/2013	J.S.
06-12-287	Back Yard 2x2 Walkover of Building 1413	11/15/2013	J.S.
06-12-288	Back Yard 2x2 Walkover of Building 1409	11/15/2013	J.S.
06-12-289	Back Yard 2x2 Walkover of Building 1411	11/15/2013	J.S.
06-12-290	12th Street Road & Avenue D Common Area 2x2 Walkover	11/15/2013	J.S.
06-12-291	1430 & 1432 Common Area 2x2 Walkover	11/15/2013	J.S.
06-12-292	1430 Common Area 2x2 Walkover	11/15/2013	J.S.
06-12-293	1432 Common Area 2x2 Walkover	11/15/2013	J.S.
06-12-294	Front Yard 2x2 Walkover of Building 1143	11/7/2013	T.D.
06-12-295	Back Yard 2x2 Walkover of Building 1226 C-E-F-G-H-Perimeter	11/22/2013	T.D.
06-12-296	Back Yard 2x2 Walkover of Building 1139 A-B-C-E-F-Perimeter	11/22/2013	T.D.
06-12-297	Back Yard 2x2 Walkover of Building 1220 A-B-D-E-Perimeter	11/21/2013	T.D.
06-12-298	Back Yard 2x2 Walkover of Building 1244 A-G-Perimeter	11/21/2013	T.D.
06-12-299	Back Yard 2x2 Walkover of Building 1116 A-B-C-F-Perimeter	11/21/2013	T.D.
06-12-300	Back Yard 2x2 Walkover of Building 1230	11/19/2013	J.S.
06-12-301	Back Yard 2x2 Walkover of Building 1223	11/19/2013	J.S.
06-12-302	1243-1245-1247-1215 & 1249 Common Area 2x2 Walkover	11/18/2013	(B) J.W.
06-12-303	Front Yard 2x2 Walkover of Building 1251	11/18/2013	(B) J.W.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-304	Back Yard 2x2 Walkover of Building 1115 A-B-E-F-G-H-Perimeter	11/14/2013	J.S.
06-12-305	Back Yard 2x2 Walkover of Building 1237 B-C-E-F-Perimeter	11/14/2013	J.S.
06-12-306	Back Yard 2x2 Walkover of Building 1244 A-B-C-D-E-H-Perimeter	11/14/2013	J.S.
06-12-307	Back Yard 2x2 Walkover of Building 1216 A-C-D-H-Perimeter	11/18/2013	J.S.
06-12-308	Back Yard 2x2 Walkover of Building 1243	11/18/2013	J.S.
06-12-309	Back Yard 2x2 Walkover of Building 1251	11/18/2013	J.S.
06-12-310	Back Yard 2x2 Walkover of Building 1206 A-C-D-Perimeter	11/19/2013	T.D.
06-12-311	1124 Anomaly Initial Investigation Survey	11/25/2013	(B) J.W.
06-12-312	Back Yard 2x2 Walkover of Building 1110	11/22/2013	T.D.
06-12-313	Back Yard 2x2 Walkover of Building 1204	11/23/2013	T.D.
06-12-314	Back Yard 2x2 Walkover of Building 1202	11/22/2013	T.D.
06-12-315	Back Yard 2x2 Walkover of Building 1126 A-B-C-D-G-H-Perimeter	11/25/2013	T.D.
06-12-316	Back Yard 2x2 Walkover of Building 1147 C-E	11/22/2013	T.D.
06-12-317	Anomaly Survey (#14) East of 225 (south of 1409)	12/2/2013	M.C.
06-12-318	Anomaly Retrival Survey (#14) East of 225 (south of 1409)	12/2/2013	J.W.
06-12-319	Front Yard 2x2 Walkover of Building 1236 Perimeter	11/23/2013	T.D.
06-12-320	Back Yard 2x2 Walkover of Building 1230 A	11/25/2013	T.D.
06-12-321	Back Yard 2x2 Walkover of Building 1206 B-E-F	11/25/2013	T.D.
06-12-322	1108-1208-1206-1204 &1108 Common Area 2x2 Walkover	11/26/2013	T.D.
06-12-323	Front Yard 2x2 Walkover of Building 1124	11/26/2013	T.D.
06-12-324	Anomaly Investigation at Building 1118 A	11/26/2013	J.W.
06-12-325	Anomaly Investigation South East of 1224	12/5/2013	J.W.
06-12-326	Anomaly Investigation North of 1206 F	12/9/2013	J.W.
06-12-327	Back Yard 2x2 Walkover of Building 1116 E	12/16/2013	(B) J.W.
06-12-328	Back Yard 2x2 Walkover of Building 1126 E	12/16/2013	(B) J.W.
06-12-329	Back Yard 2x2 Walkover of Building 1131 F	12/16/2013	(B) J.W.
06-12-330	Back Yard 2x2 Walkover of Building 1149 B	12/16/2013	(B) J.W.
06-12-331	Back Yard 2x2 Walkover of Building 1208 F	12/16/2013	(B) J.W.
06-12-332	Back Yard 2x2 Walkover of Building 1216 B-G	12/16/2013	(B) J.W.
06-12-333	Back Yard 2x2 Walkover of Building 1128 B-D	12/16/2013	(B) J.W.
06-12-334	Back Yard 2x2 Walkover of Building 1115 C-D	12/16/2013	(B) J.W.
06-12-335	Back Yard 2x2 Walkover of Building 1126 F	11/25/2013	T.D.
06-12-336	Back Yard 2x2 Walkover of Building 1244 F	12/17/2013	P.W.
06-12-337	Back Yard 2x2 Walkover of Building 1217 E	12/17/2013	P.W.
06-12-338	Back Yard 2x2 Walkover of Building 1219 E	12/17/2013	P.W.
06-12-339	Back Yard 2x2 Walkover of Building 1405 F	12/17/2013	P.W.
06-12-340	Back Yard 2x2 Walkover of Building 1139 D	12/17/2013	P.W.
06-12-341	Back Yard 2x2 Walkover of Building 1220 F-H	12/18/2013	P.W.

Gilbane		SURVEY LOG SITE 12	
CONTRACT NO / TO NO: N62473-10-D0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
06-12-342	Back Yard 2x2 Walkover of Building 1226 D	12/18/2013	P.W.
06-12-343	Back Yard 2x2 Walkover of Building 1306 E	12/17/2013	J.P.
06-12-344	Back Yard 2x2 Walkover of Building 1226 A-B	12/17/2013	J.P.
06-12-345	Back Yard 2x2 Walkover of Building 1216 E-F	12/17/2013	J.P.
06-12-346	Back Yard 2x2 Walkover of Building 1116 D	12/17/2013	J.P.
06-12-347	Anomaly Retrival Survey	1/29/2014	J.W.
06-12-348	Areas of Interest Survey & Map	2/20/2014	P.W.
06-12-349	Anomaly Investigation North East Corner of Bldg 1447	2/20/2014	P.W.
06-12-350	Anomaly Investigation North East Back Corner of Bldg 1406	2/20/2014	P.W.
06-12-351	Anomaly Investigation East Back Wall of Bldg 1406	2/20/2014	P.W.
06-12-352	Anomaly Investigation South East Back Corner of Bldg 1412	2/20/2014	P.W.
06-12-353	Anomaly Investigation Back Wall 39" West of divider Wall of Bldg 1412	2/20/2014	P.W.
06-12-354	Anomaly Investigation Front Yard of Building 1411	2/20/2014	P.W.
06-12-355	Anomaly Investigation Between Bldg 1405 & 1403 Near Sidewalk	2/20/2014	P.W.
06-12-356	Anomaly Investigation Front Yard of 1405	2/20/2014	P.W.
06-12-357	Anomaly Investigation North West Side of 1437 Near Sidewalk	2/20/2014	P.W.
06-12-358	Anomaly Investigation Avenue D in front of Pump Station 12	2/20/2014	P.W.
06-12-359	Anomaly Investigation North East Corner Behind Bldg. 1432	2/21/2014	P.W.
06-12-360	Anomaly Investigation East of IR Site 20 Back Near Fence	2/21/2014	P.W.
06-12-361	Anomaly Investigation East of IR Site 20 Near Telephone Pole & Ave D	2/21/2014	P.W.
06-12-362	Anomaly Investigation East of IR Site 20 NW Corner Near 12th St.	2/21/2014	P.W.
06-12-363	Anomaly Investigation East of IR Site 20 NW of Anomaly 6 Location	2/21/2014	P.W.
06-12-364	Anomaly Investigation East of IR Site 20 Middle of Field	2/21/2014	P.W.
06-12-365	Scoping Survey of Transportation Route	4/15/2014	M.C.
06-12-366	Avenue M Southside 2x2 Walkover	4/22/2014	J.W.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

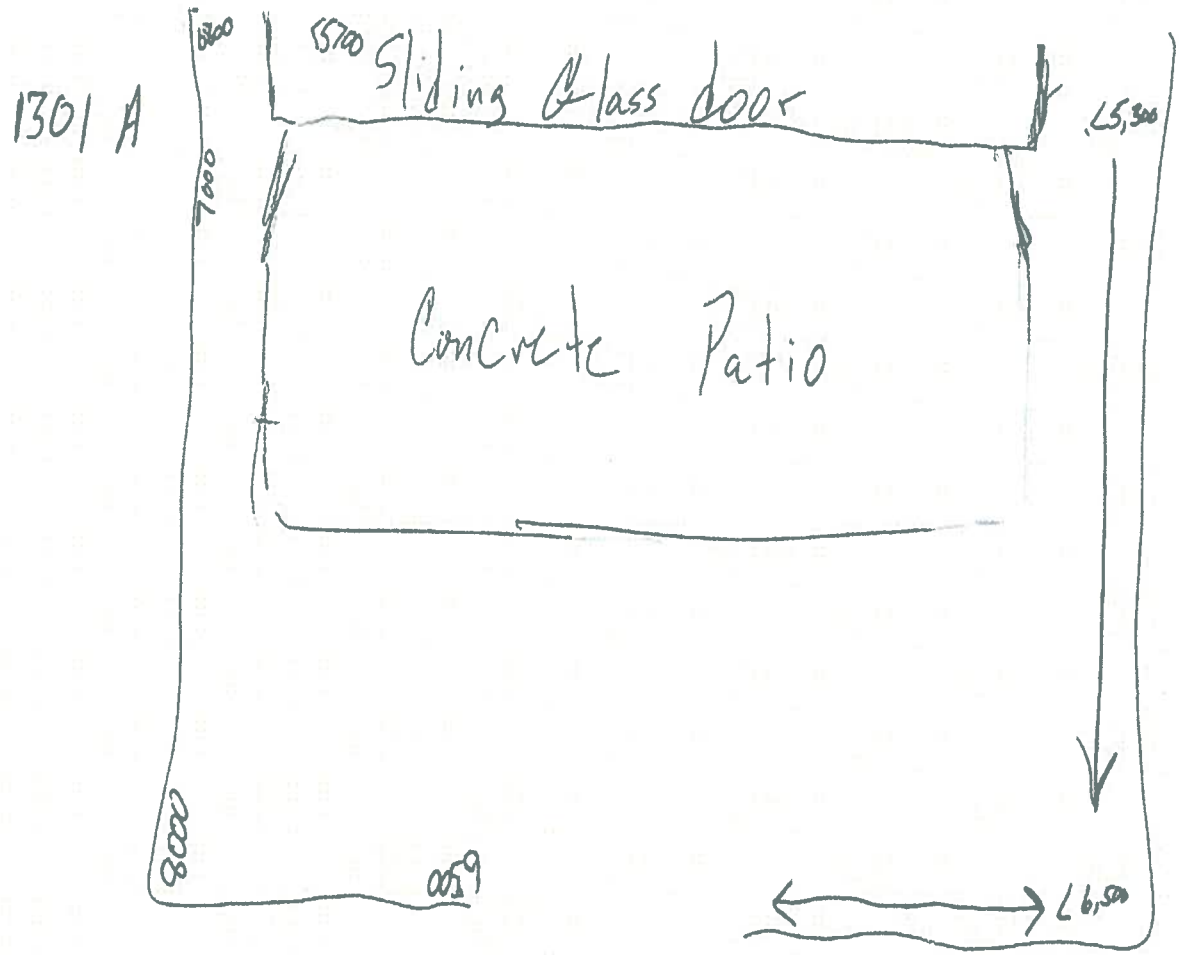
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-001	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature James Love	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6000	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1301 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

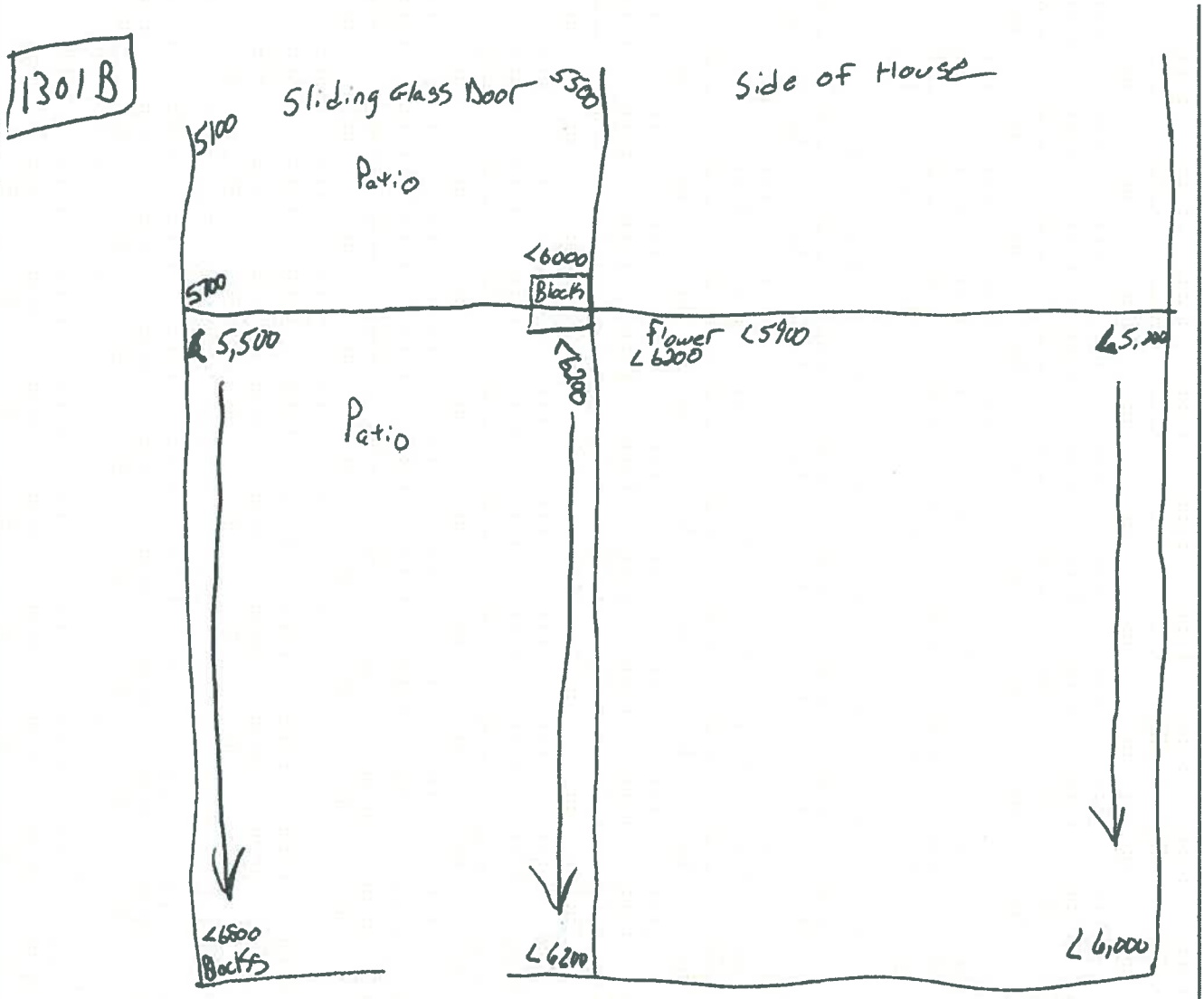
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-001	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1301 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

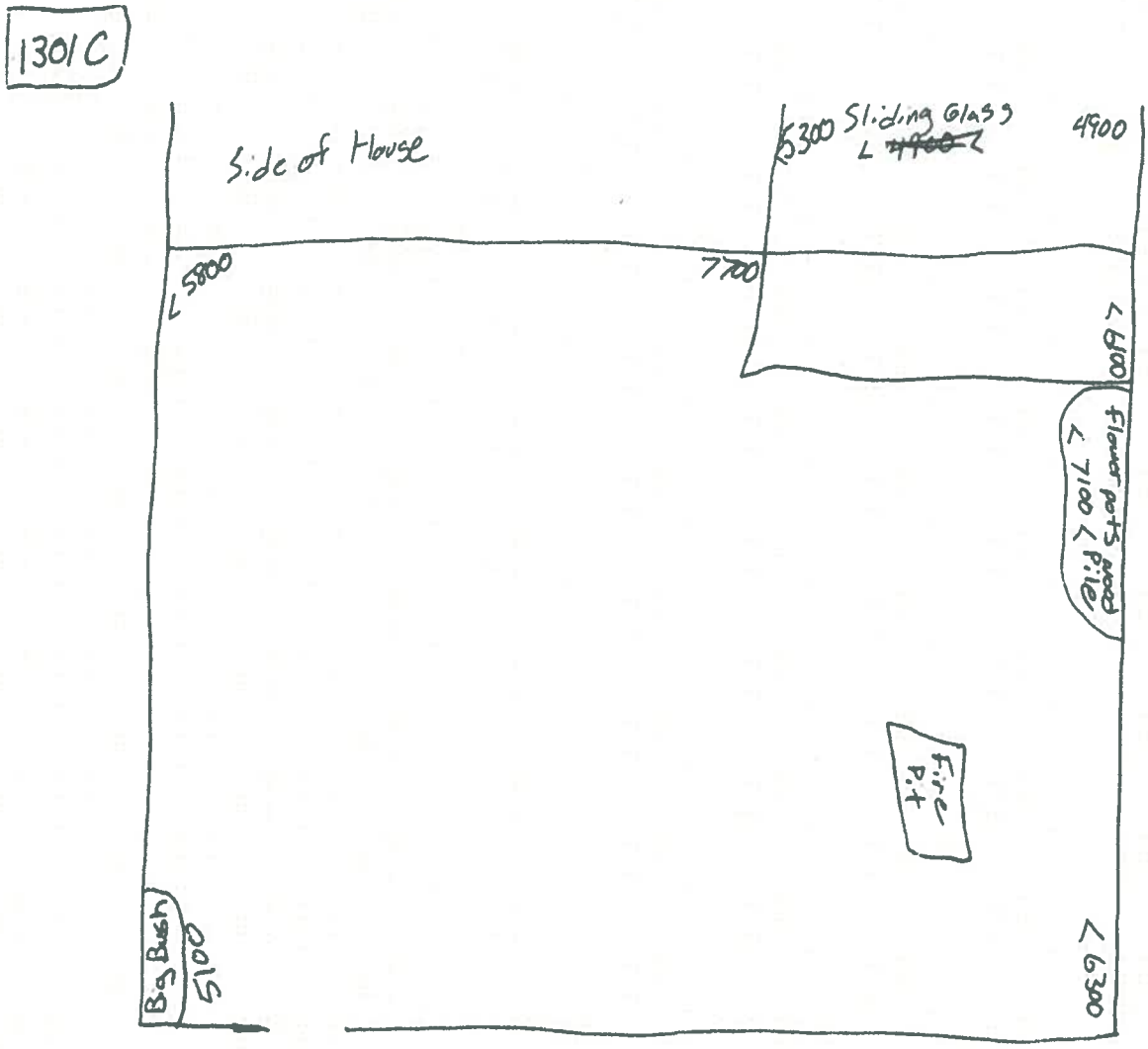
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-001	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1301 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

See Page 1 for Instrument Information

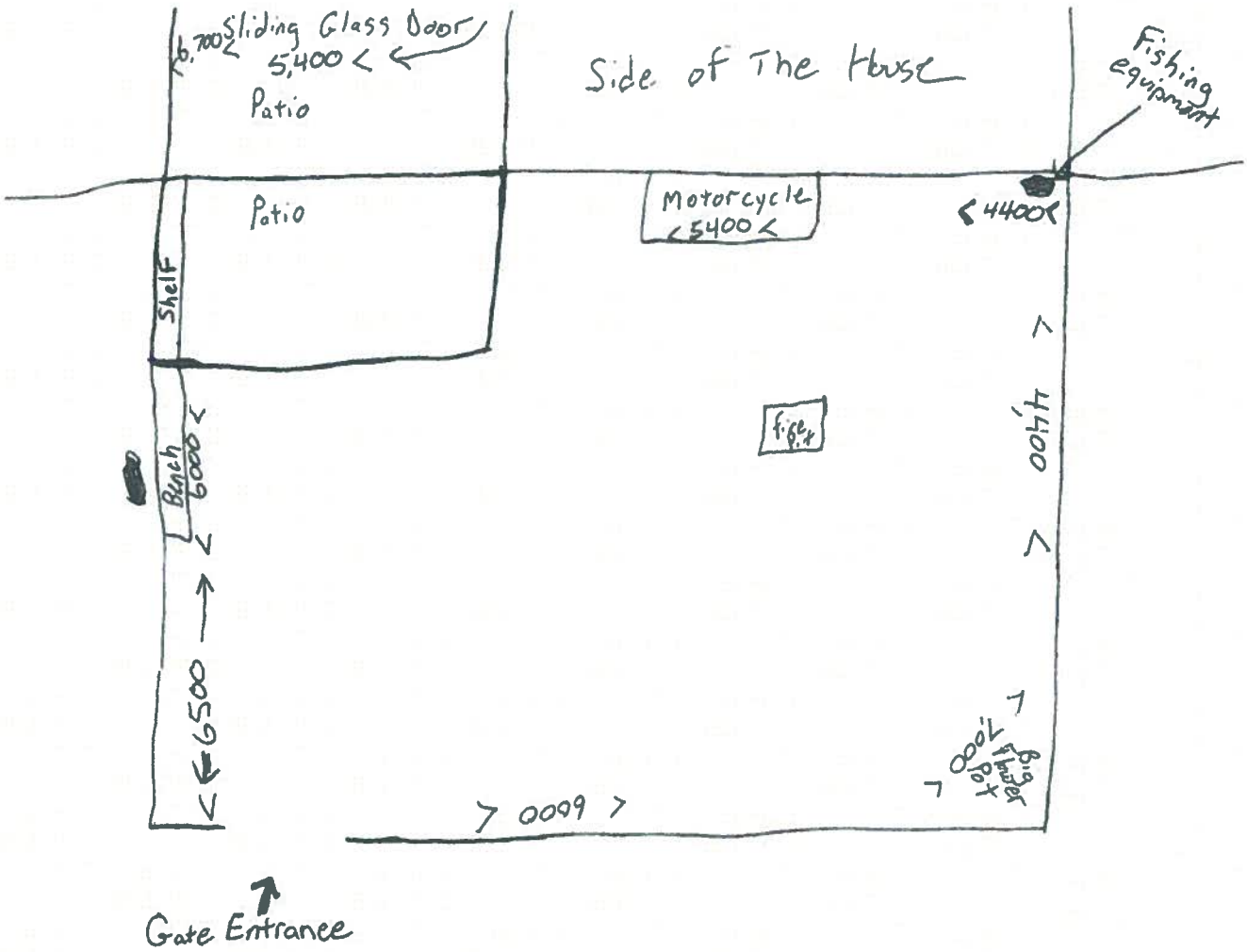
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-001	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

1301 D



Building 1301 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

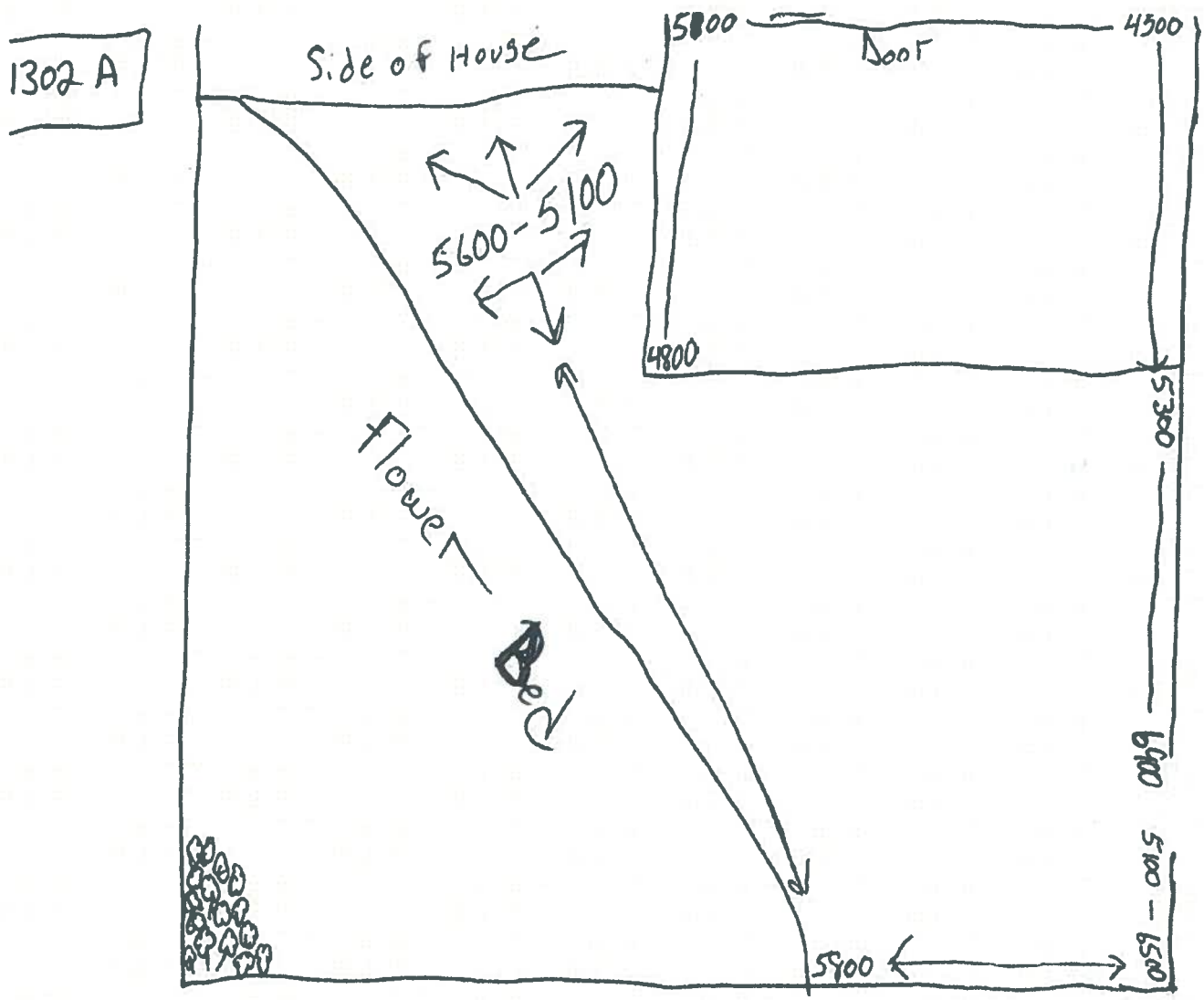
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-002	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature James Love	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5738	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1302 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

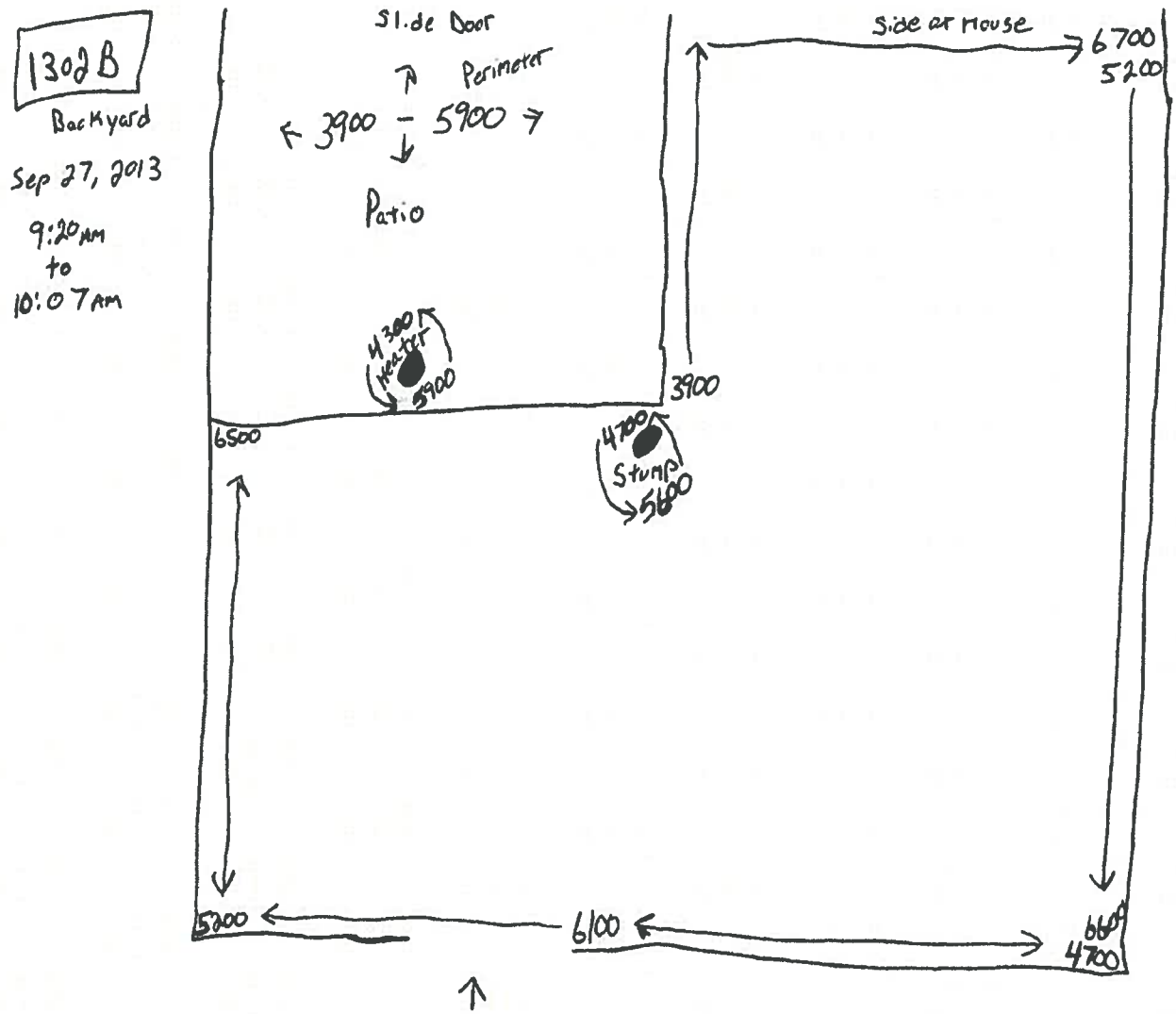
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-002	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1302 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

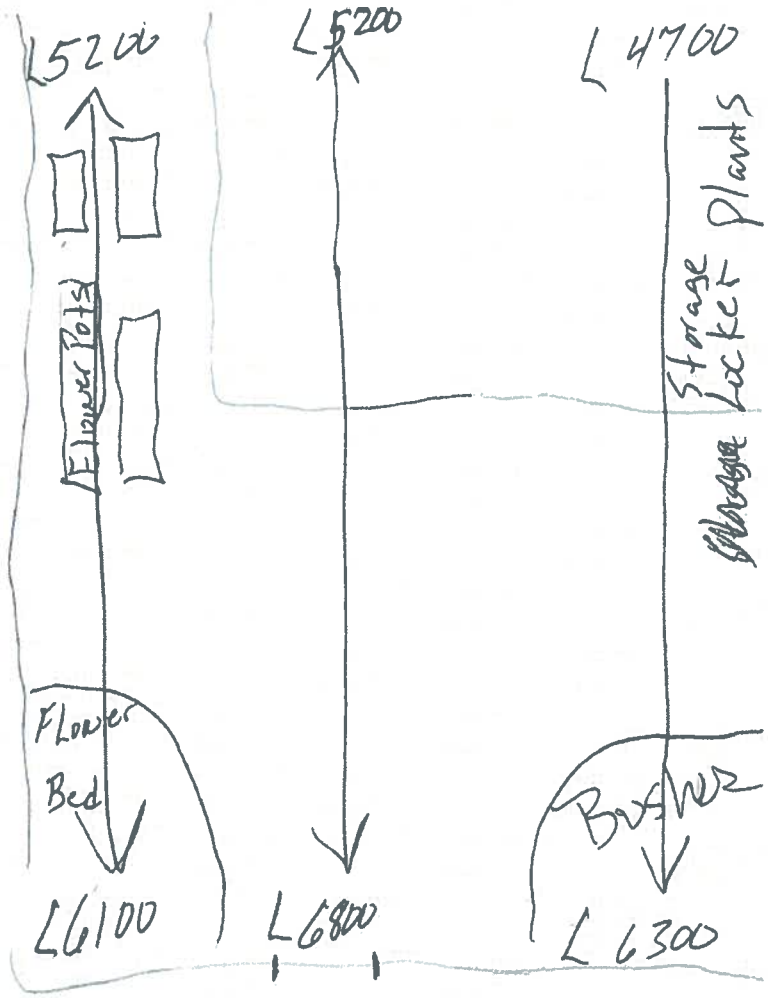
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-002	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

1302 C

Done By 2x2 Walkover



Building 1302 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

See Page 1 for Instrument Information

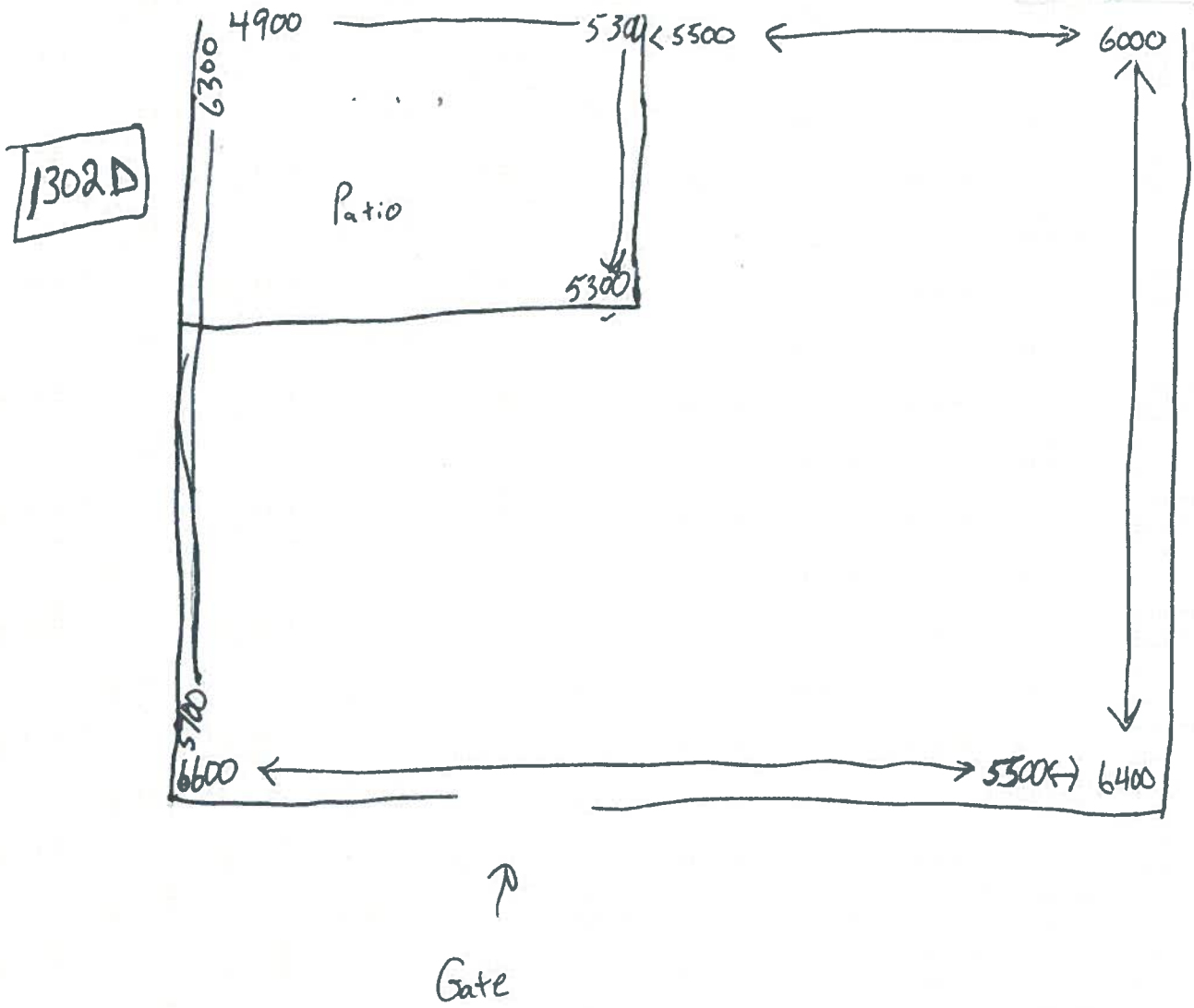
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-002	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1302 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

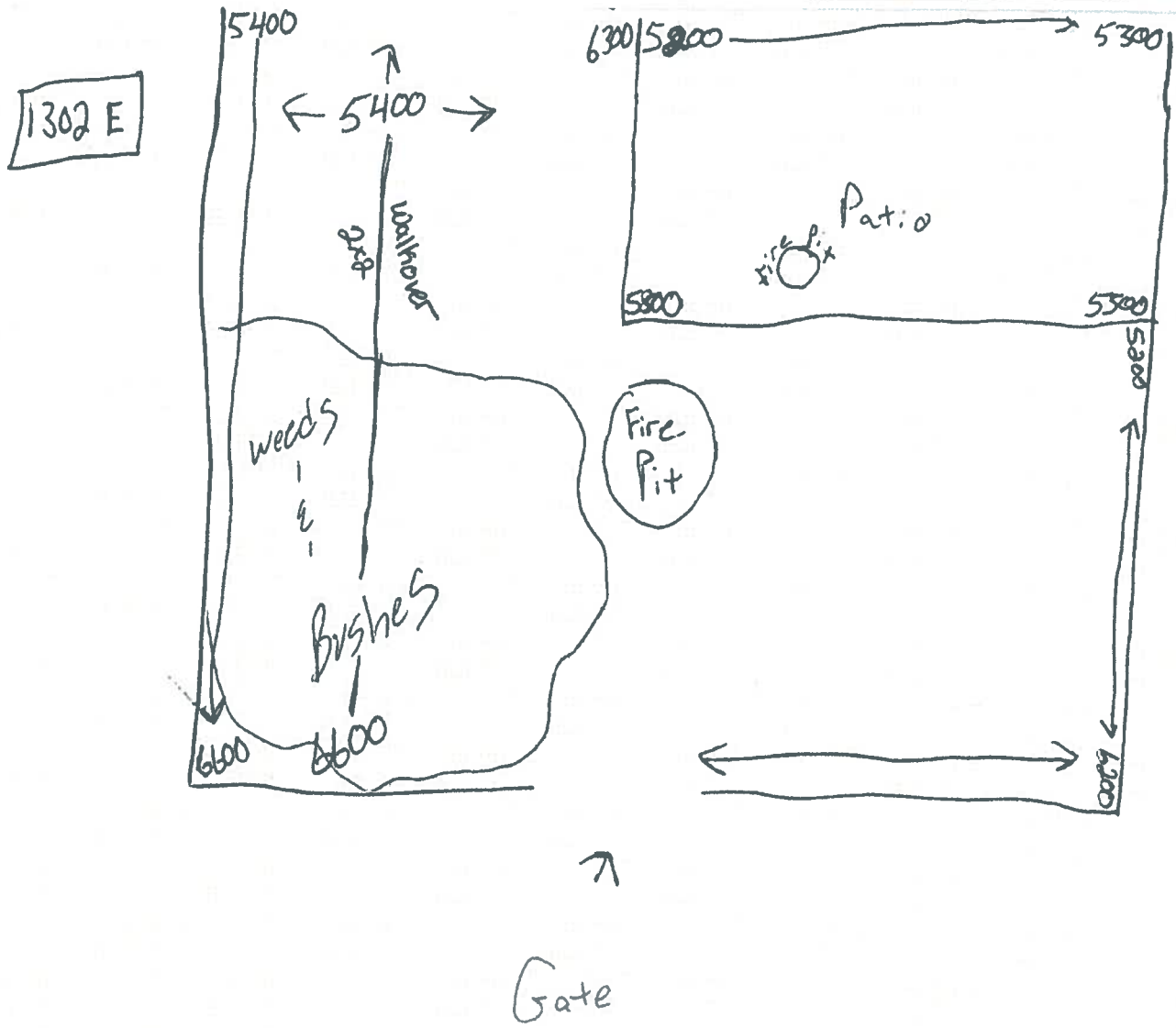
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-002	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1302 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

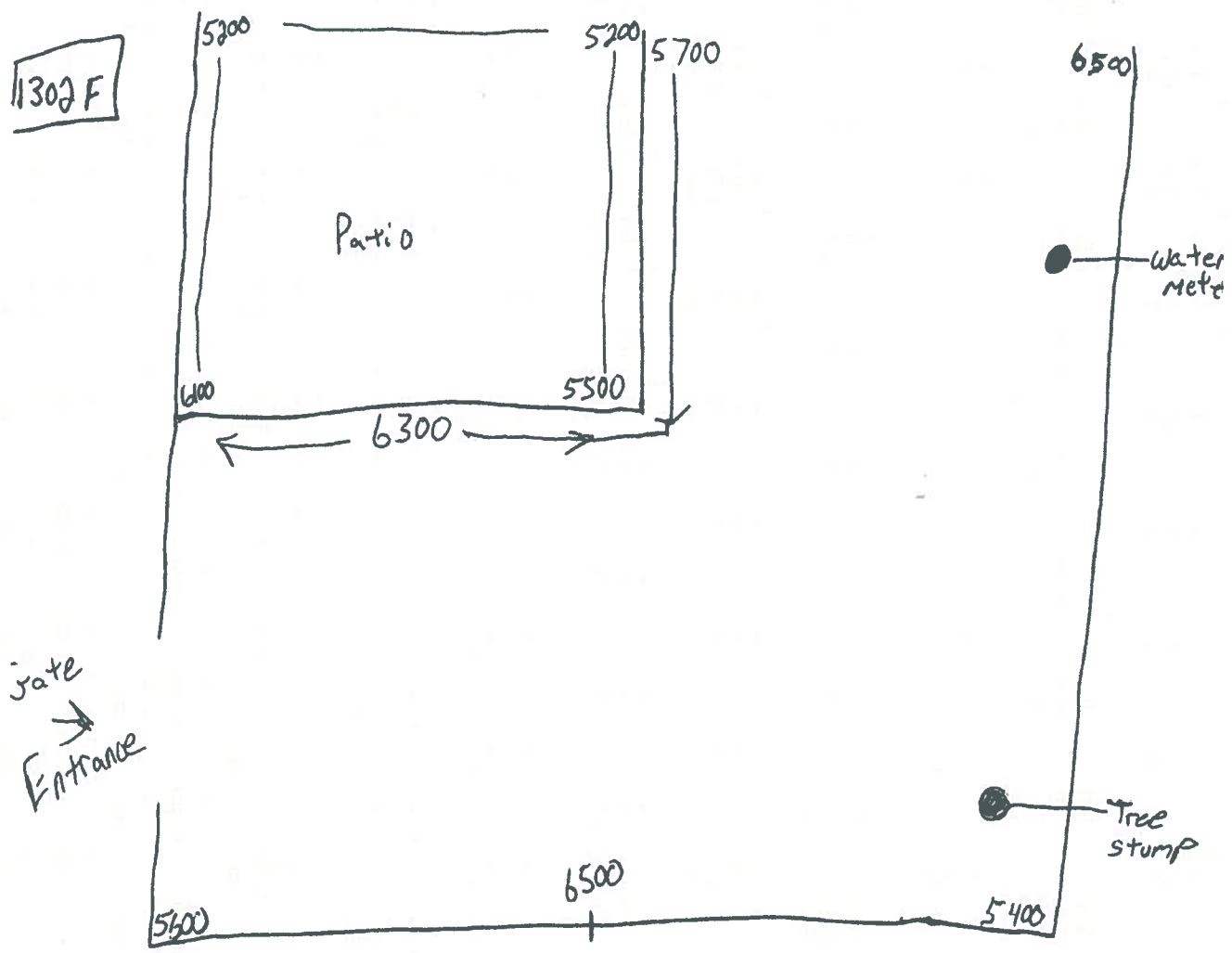
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-002	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1302 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

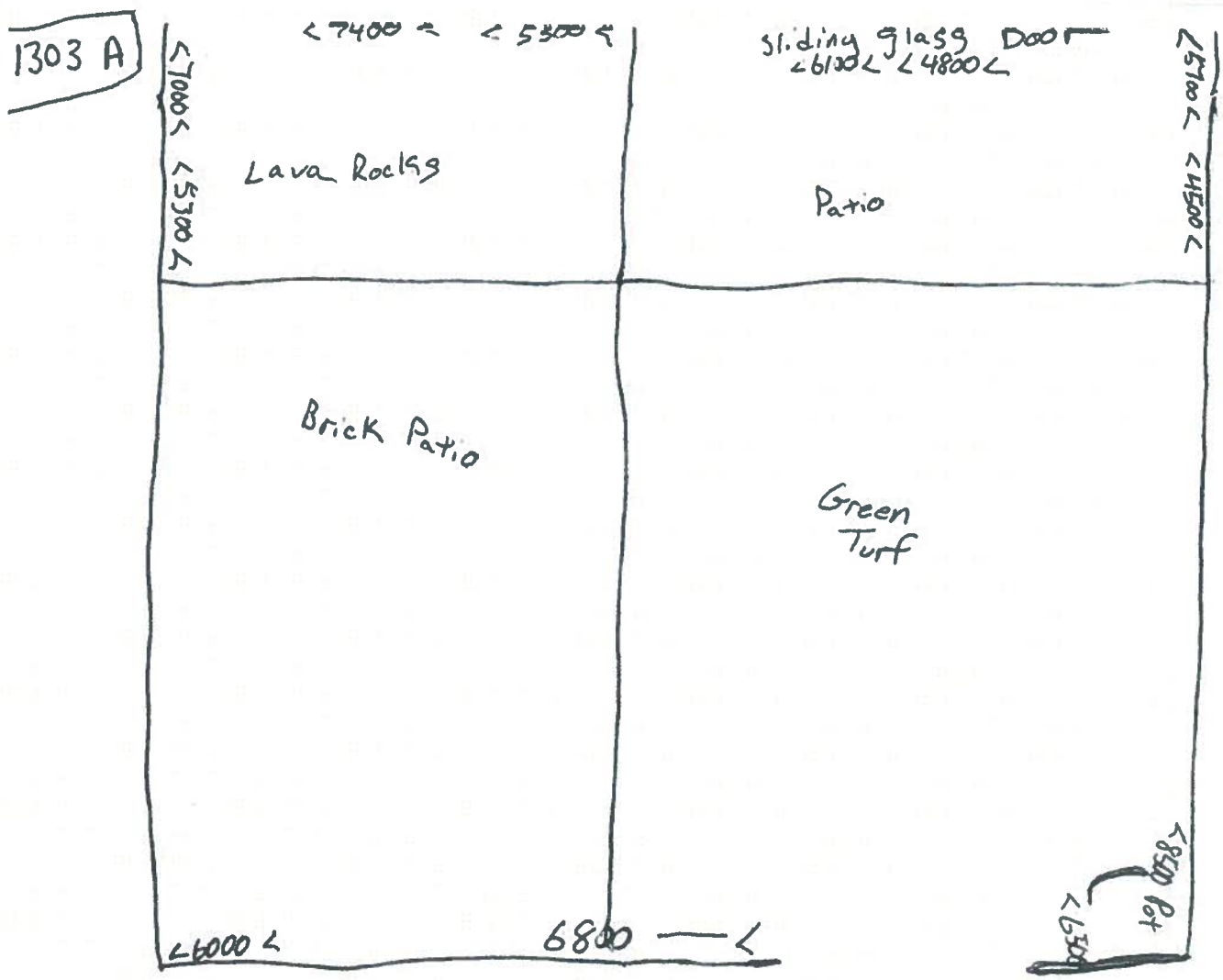
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-003	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6023	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1303 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

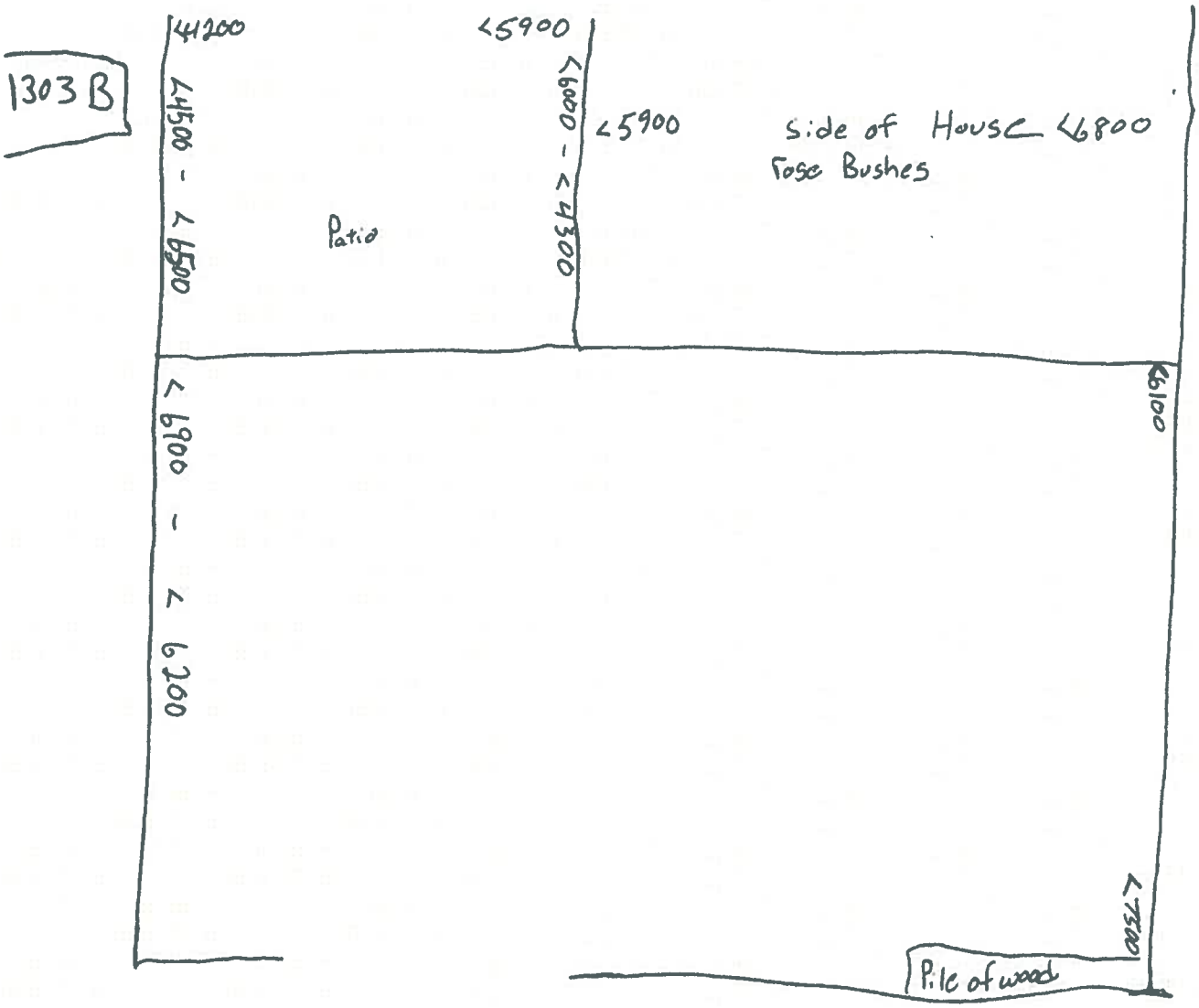
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-003	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1303 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

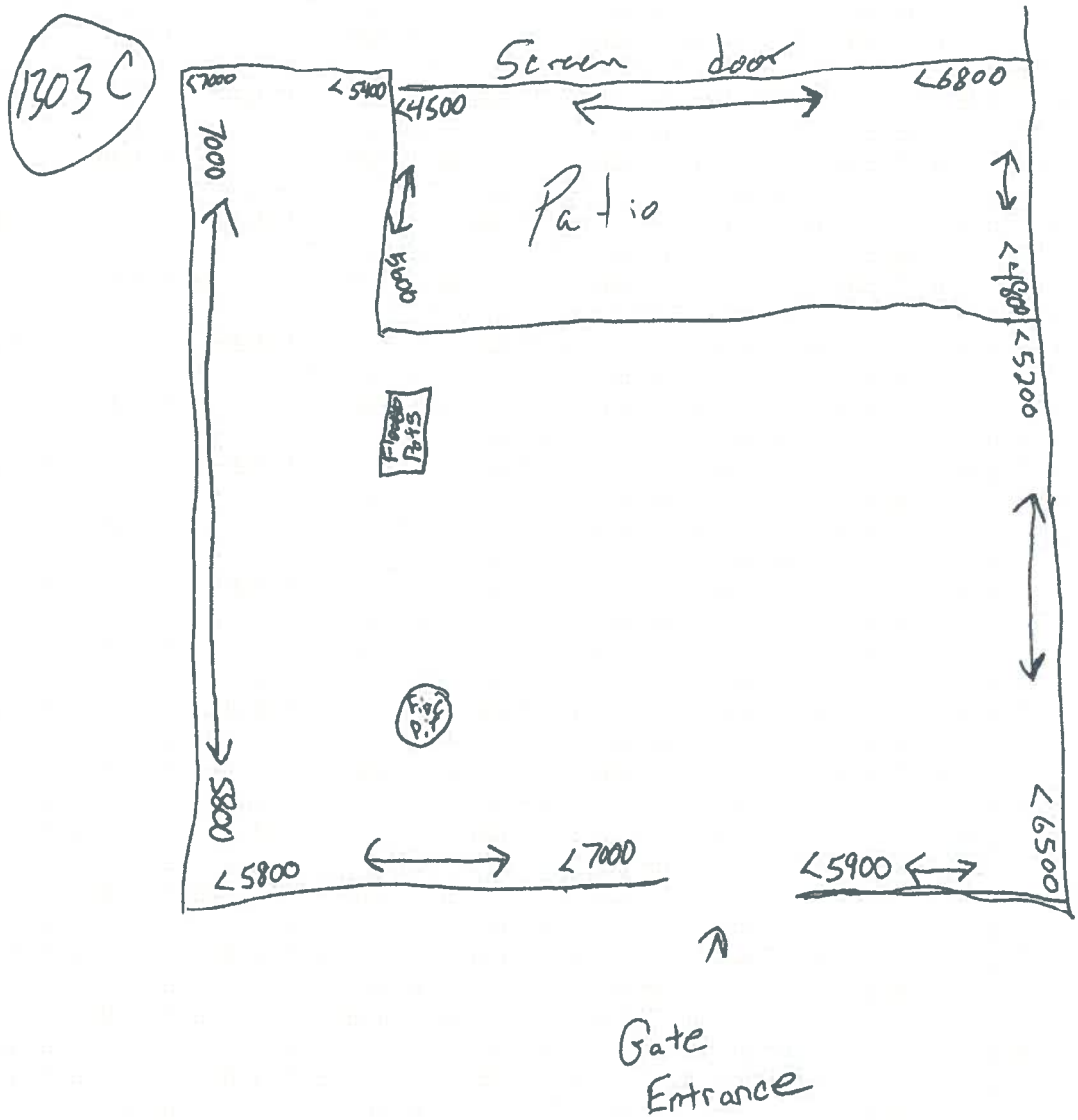
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-003	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1303 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

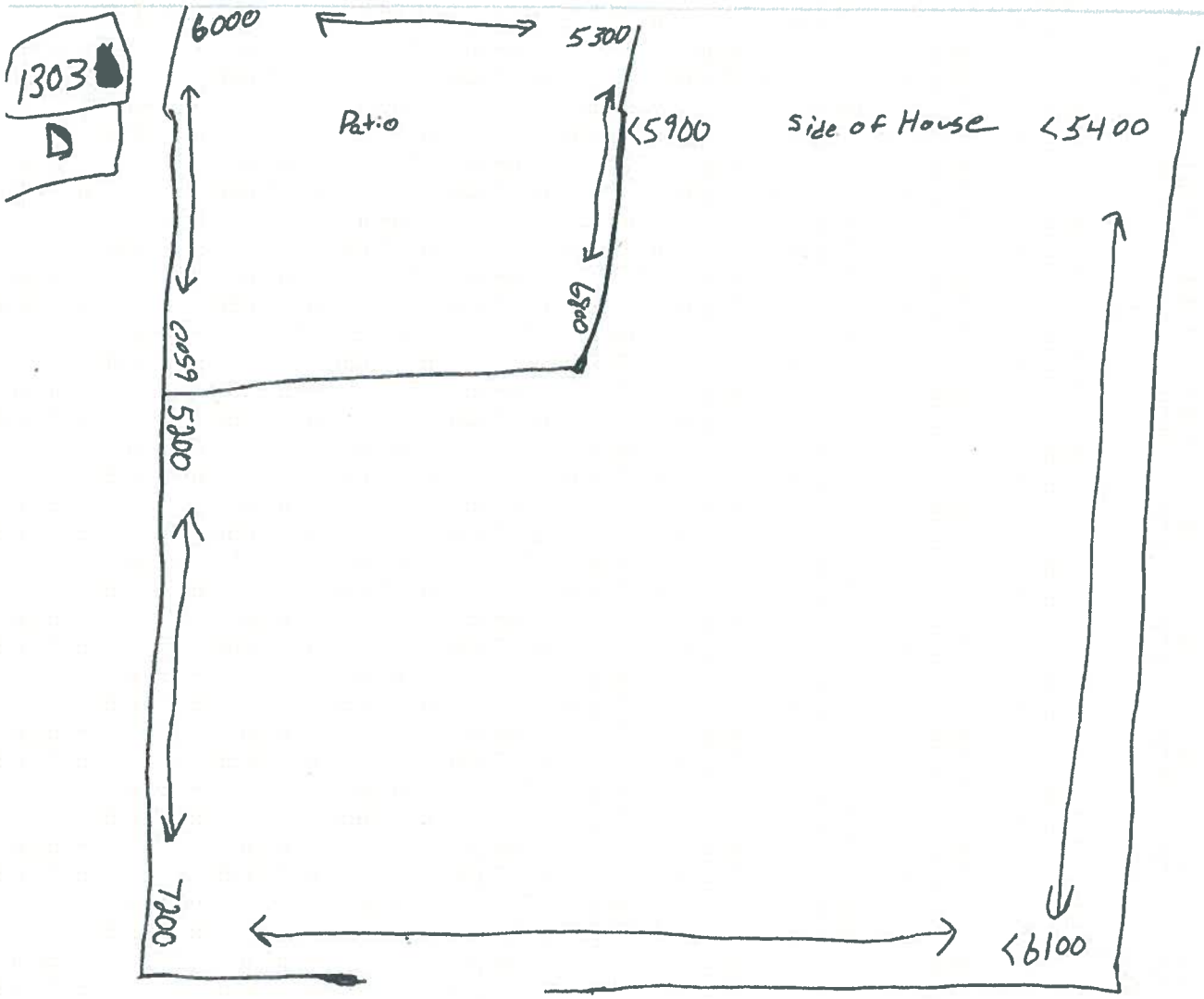
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-003	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1303 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

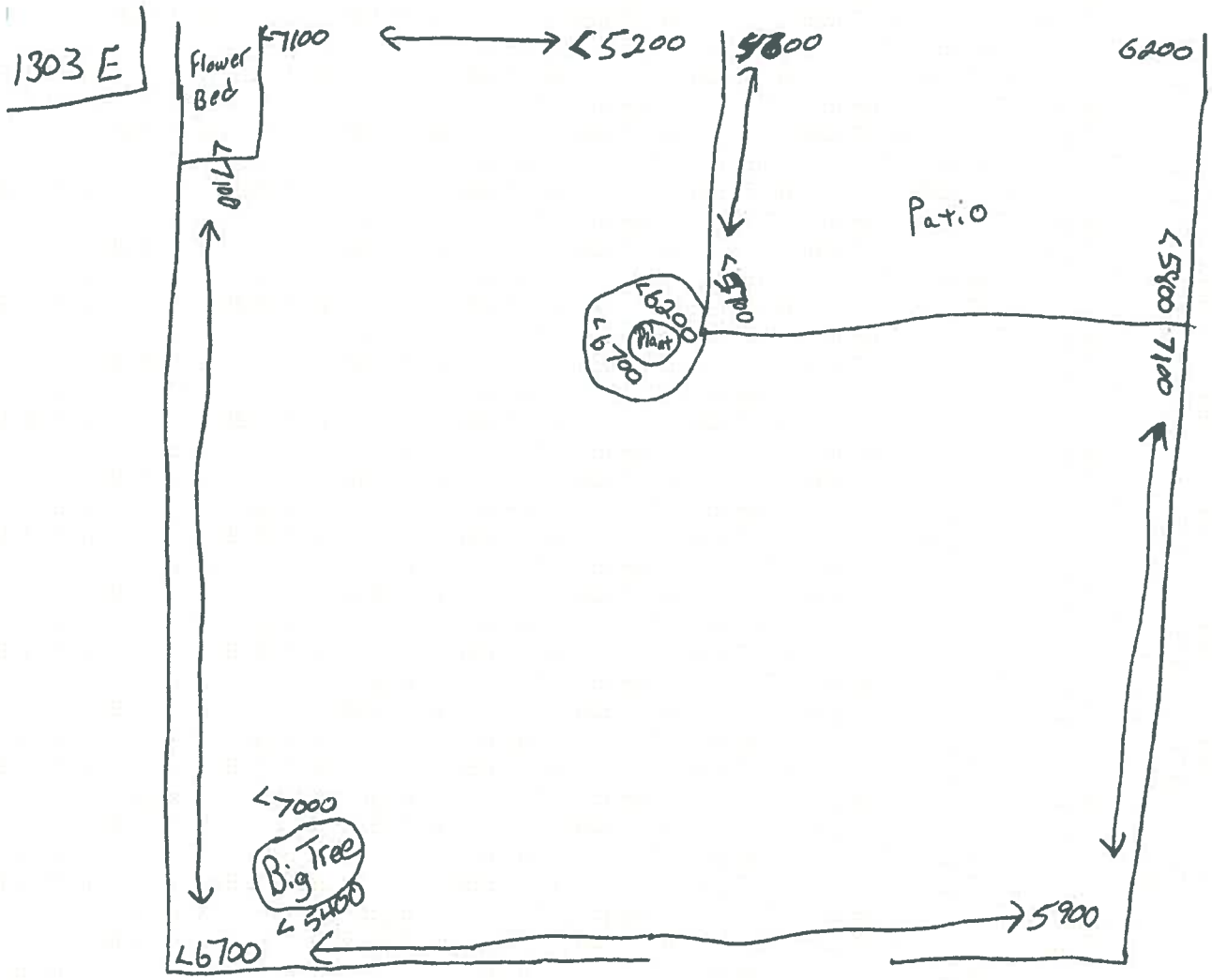
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-003	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1303 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

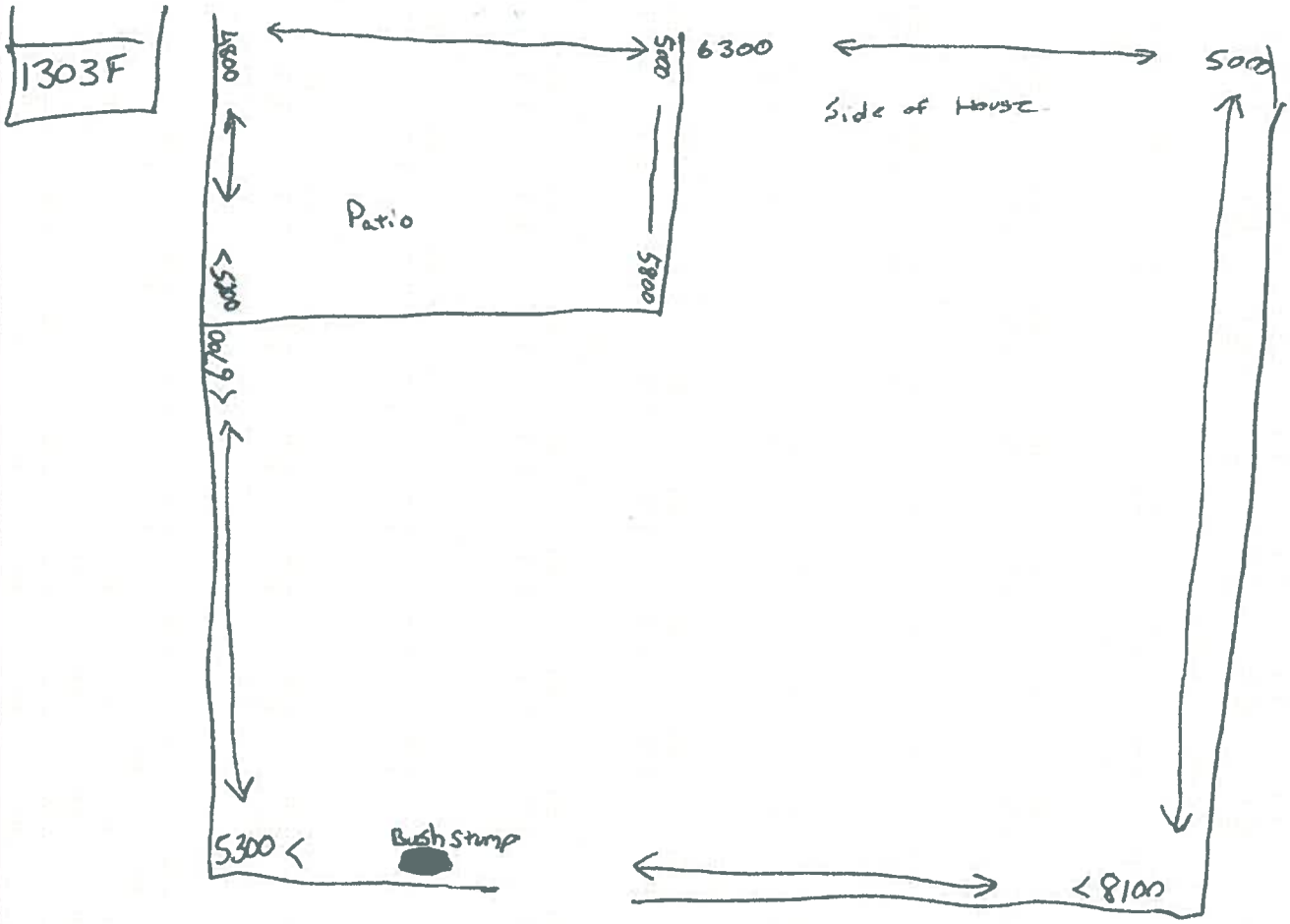
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-003	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1303 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

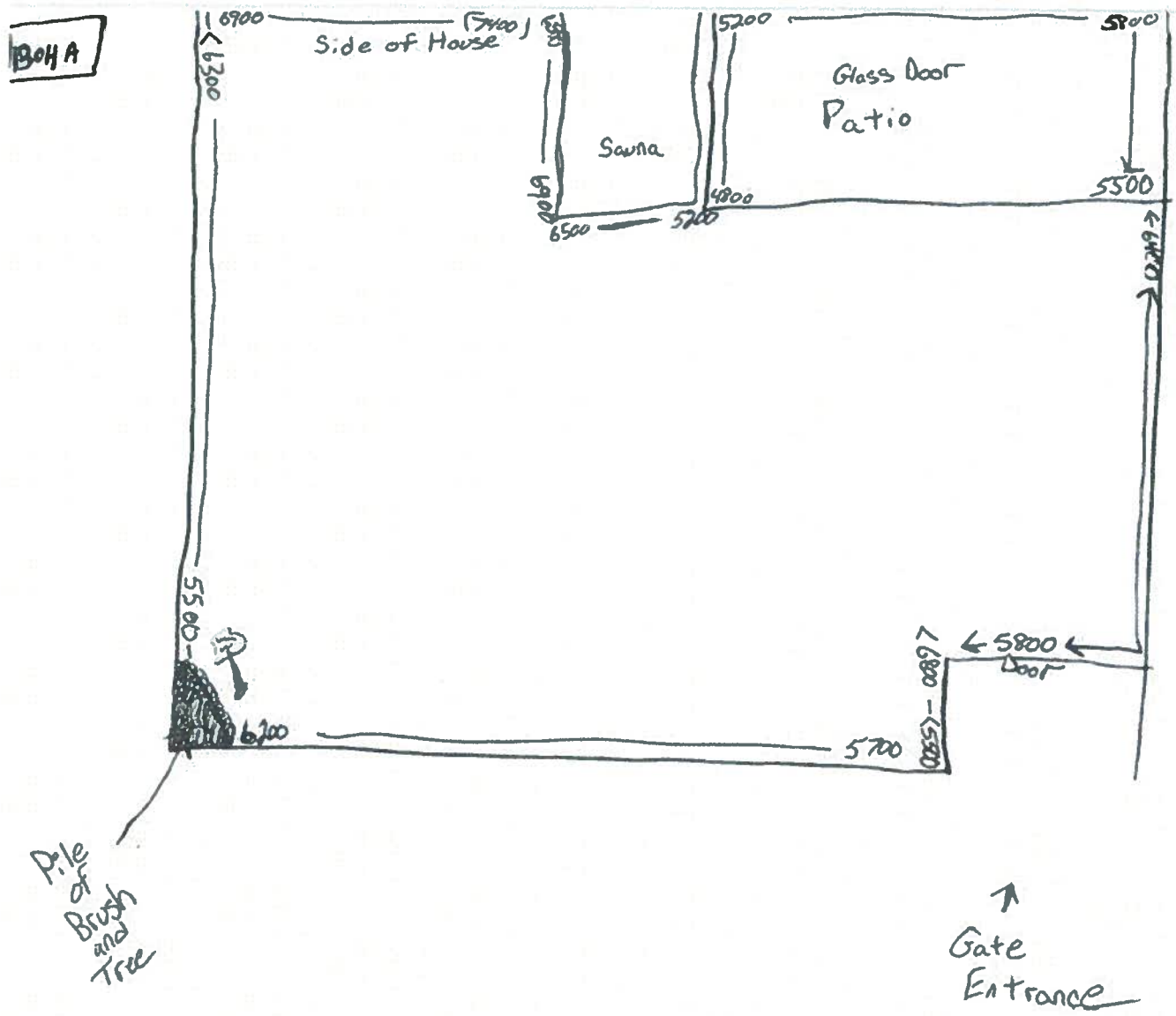
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-004	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6023	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1304 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

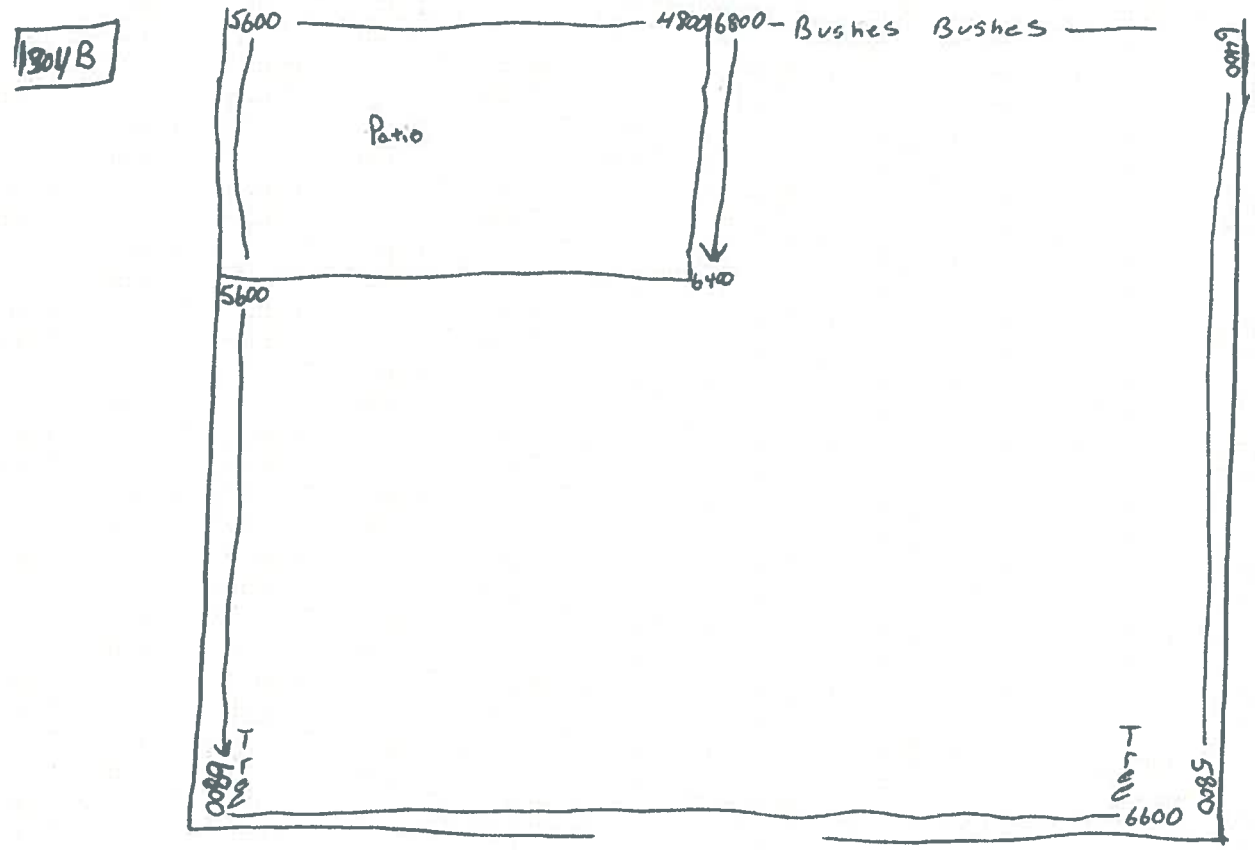
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-004	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1304 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

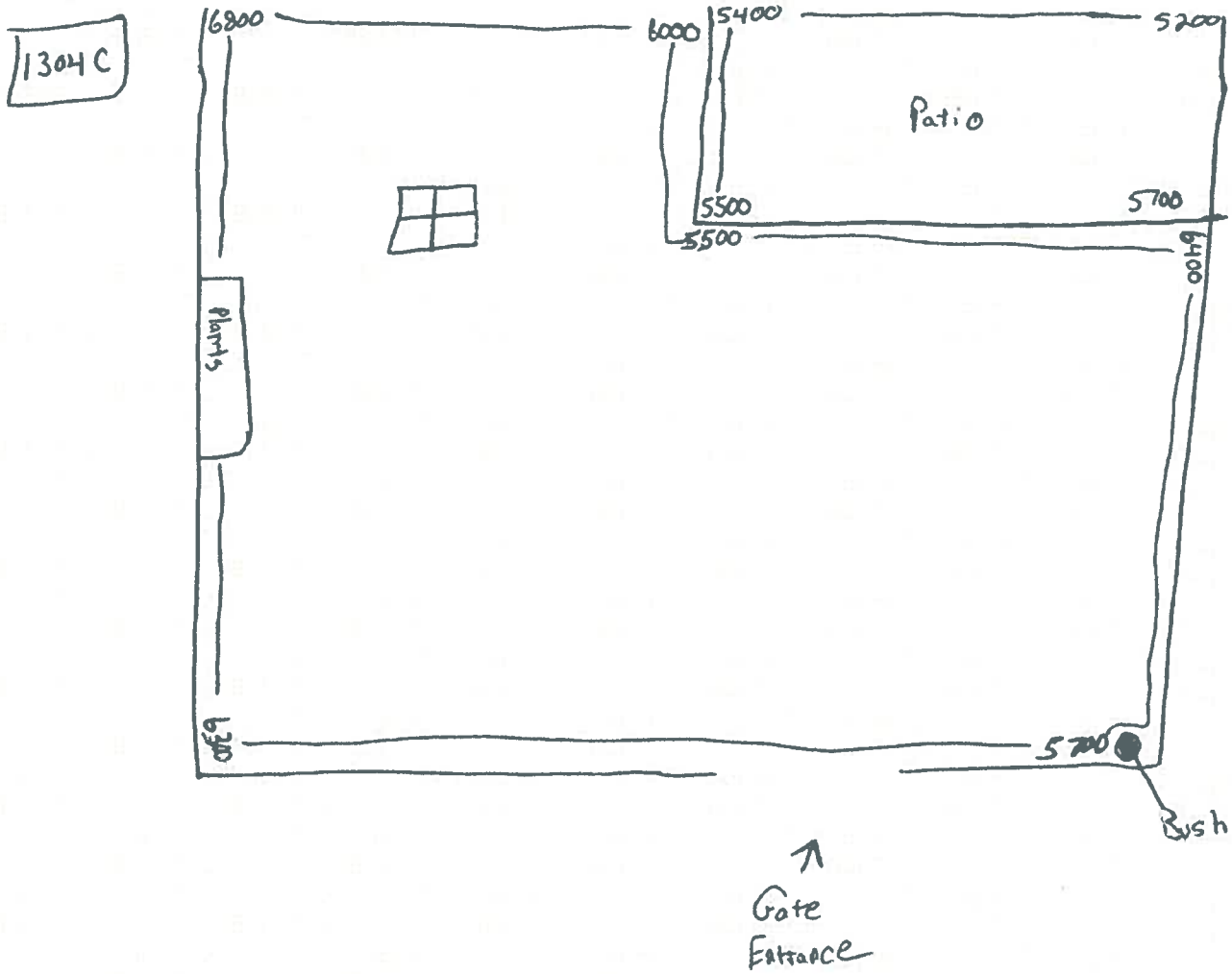
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-004	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1304 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

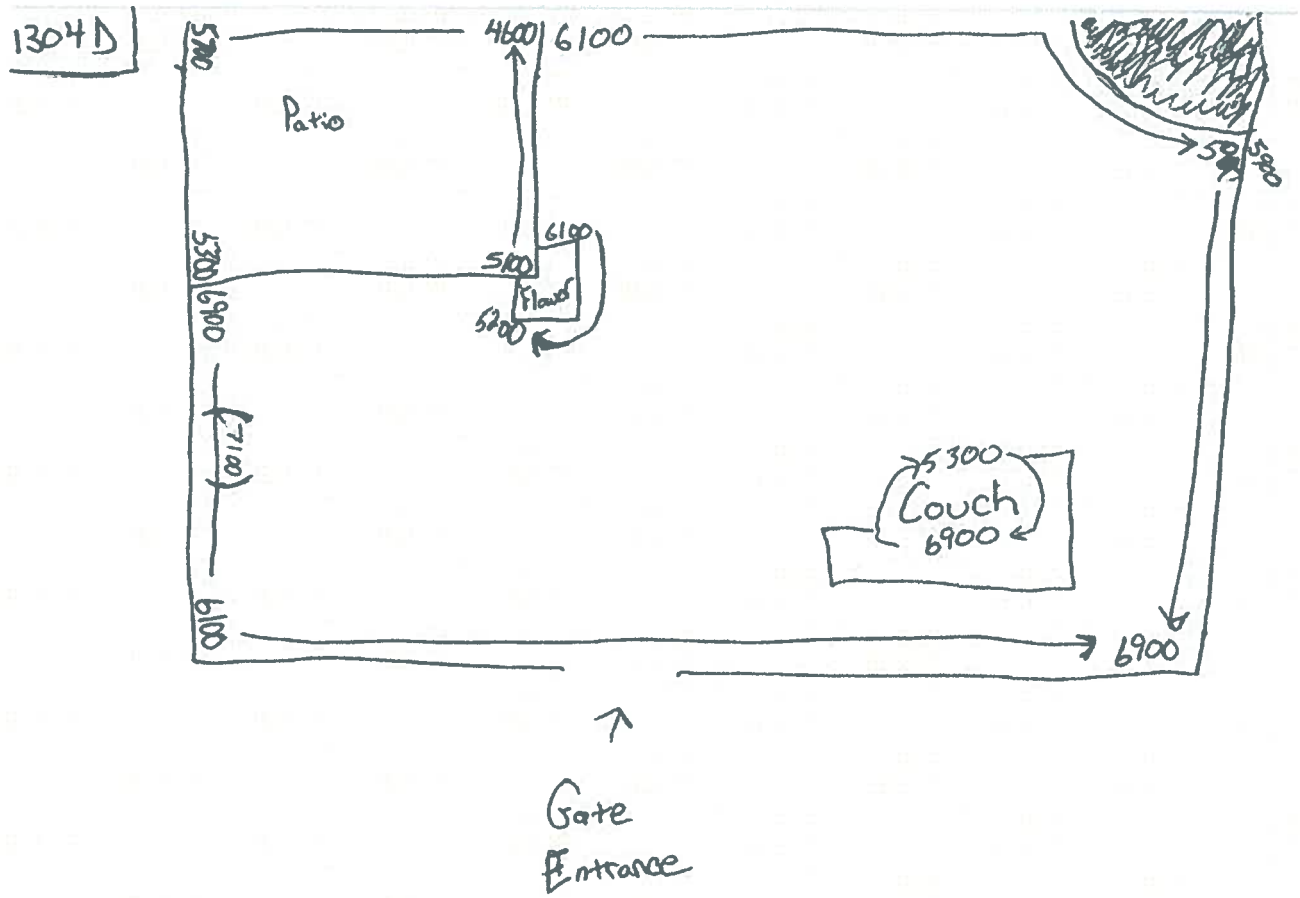
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-004	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1304 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

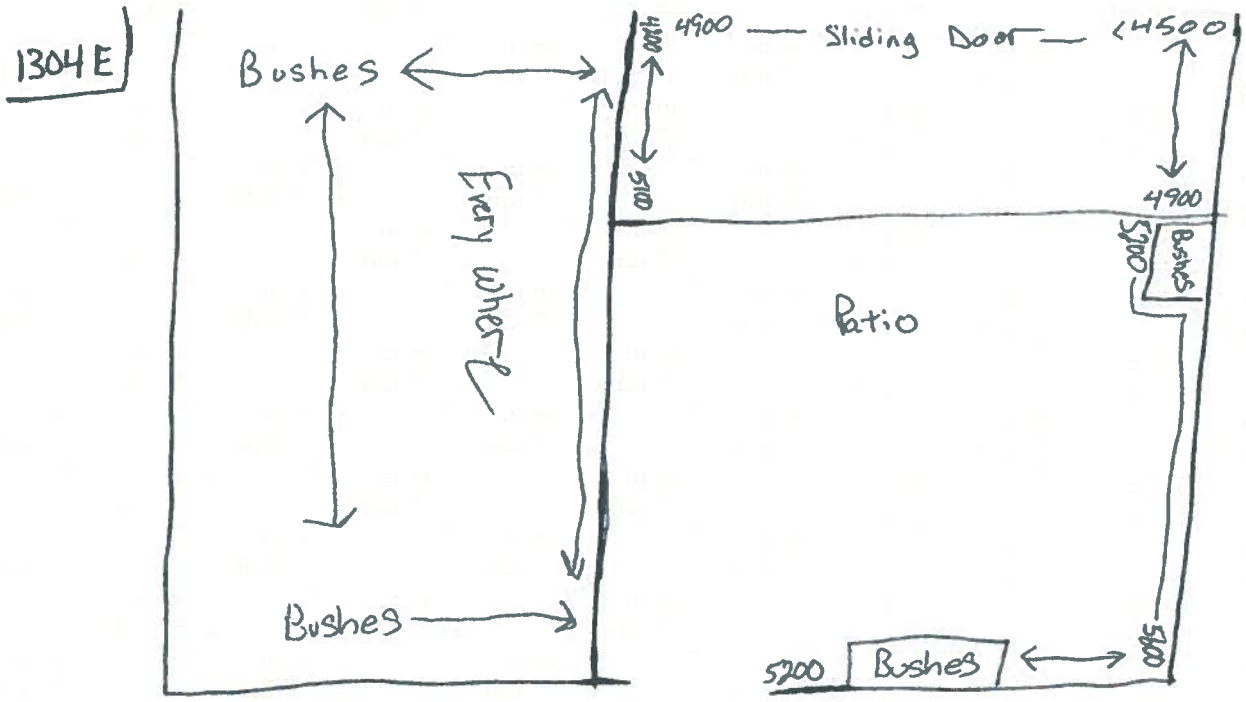
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-004	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1304 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

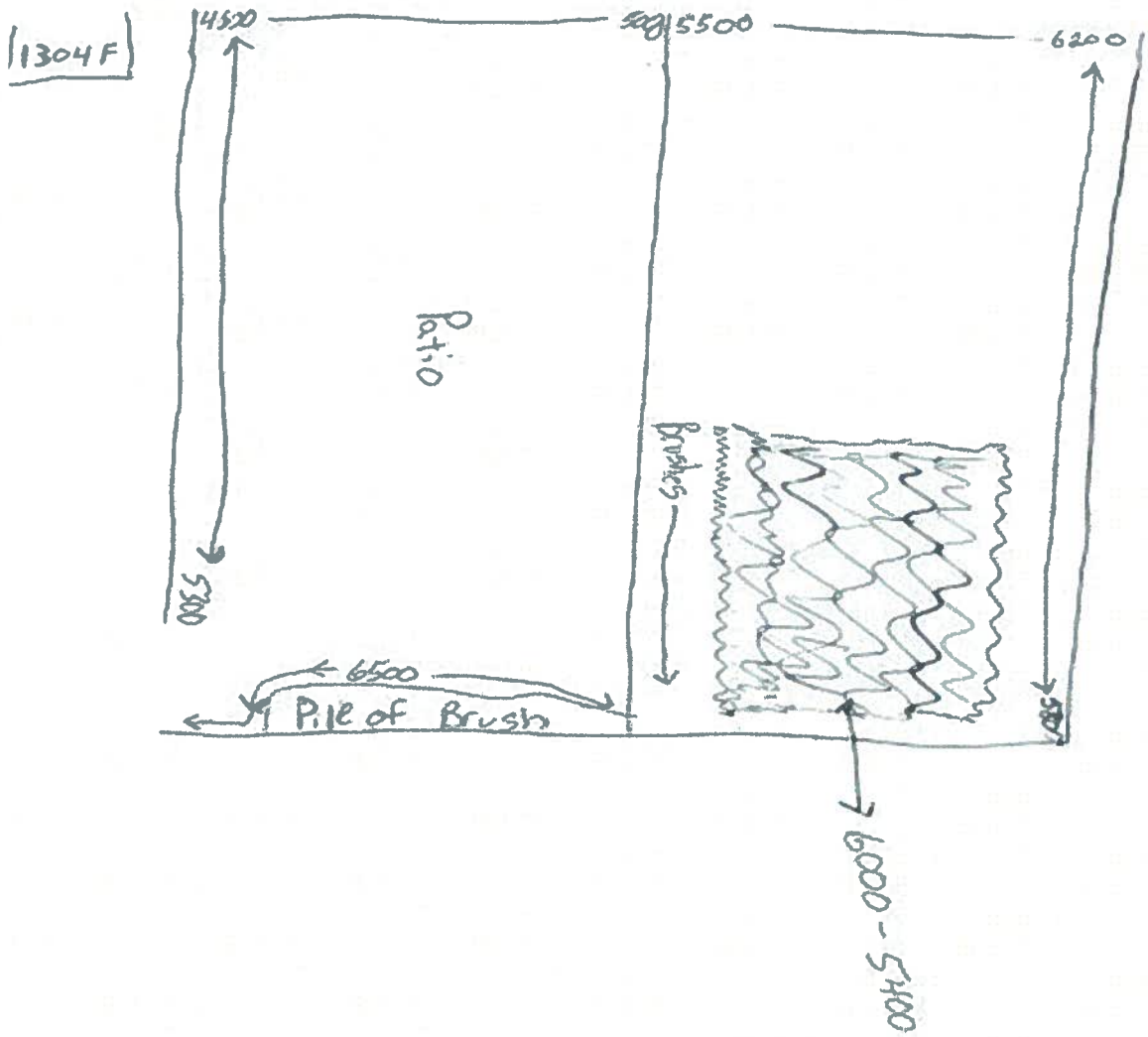
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-004	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1304 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

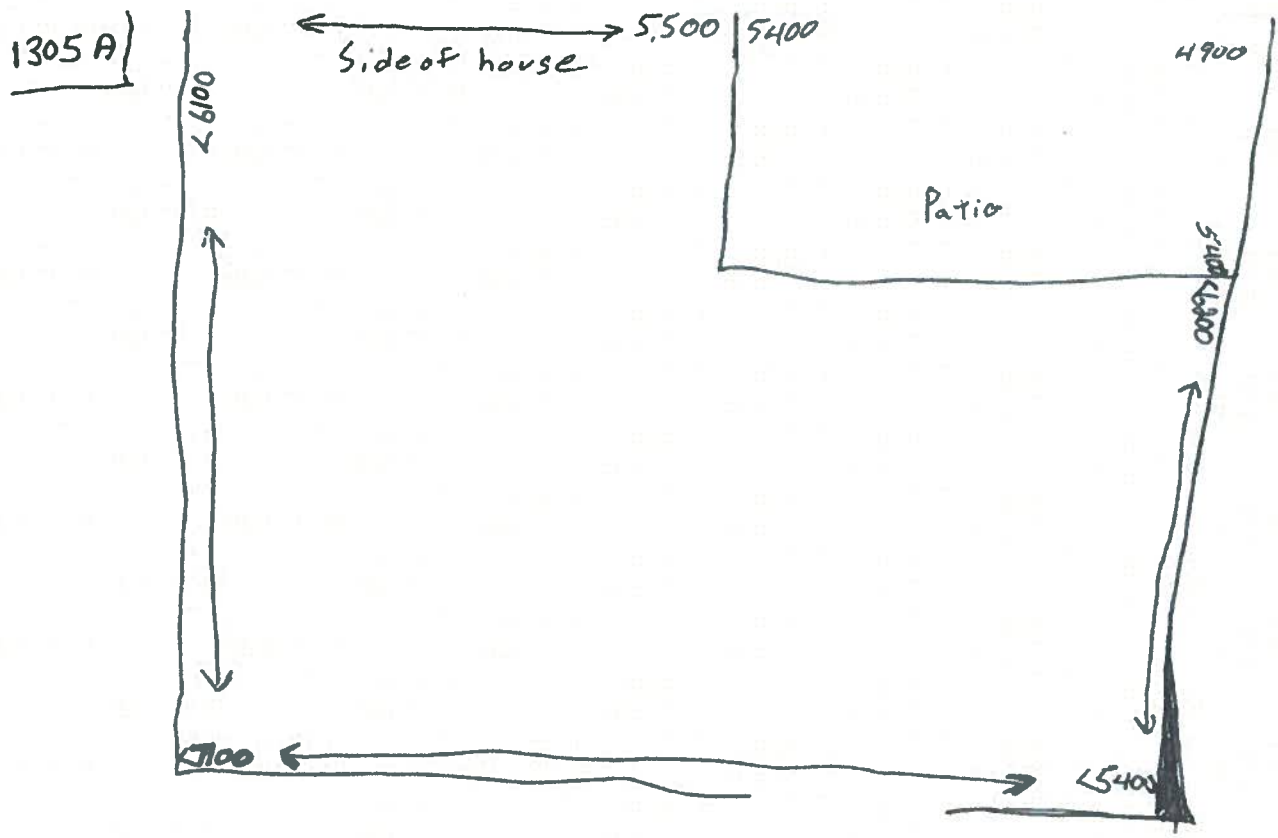
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-005	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5578	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1305 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

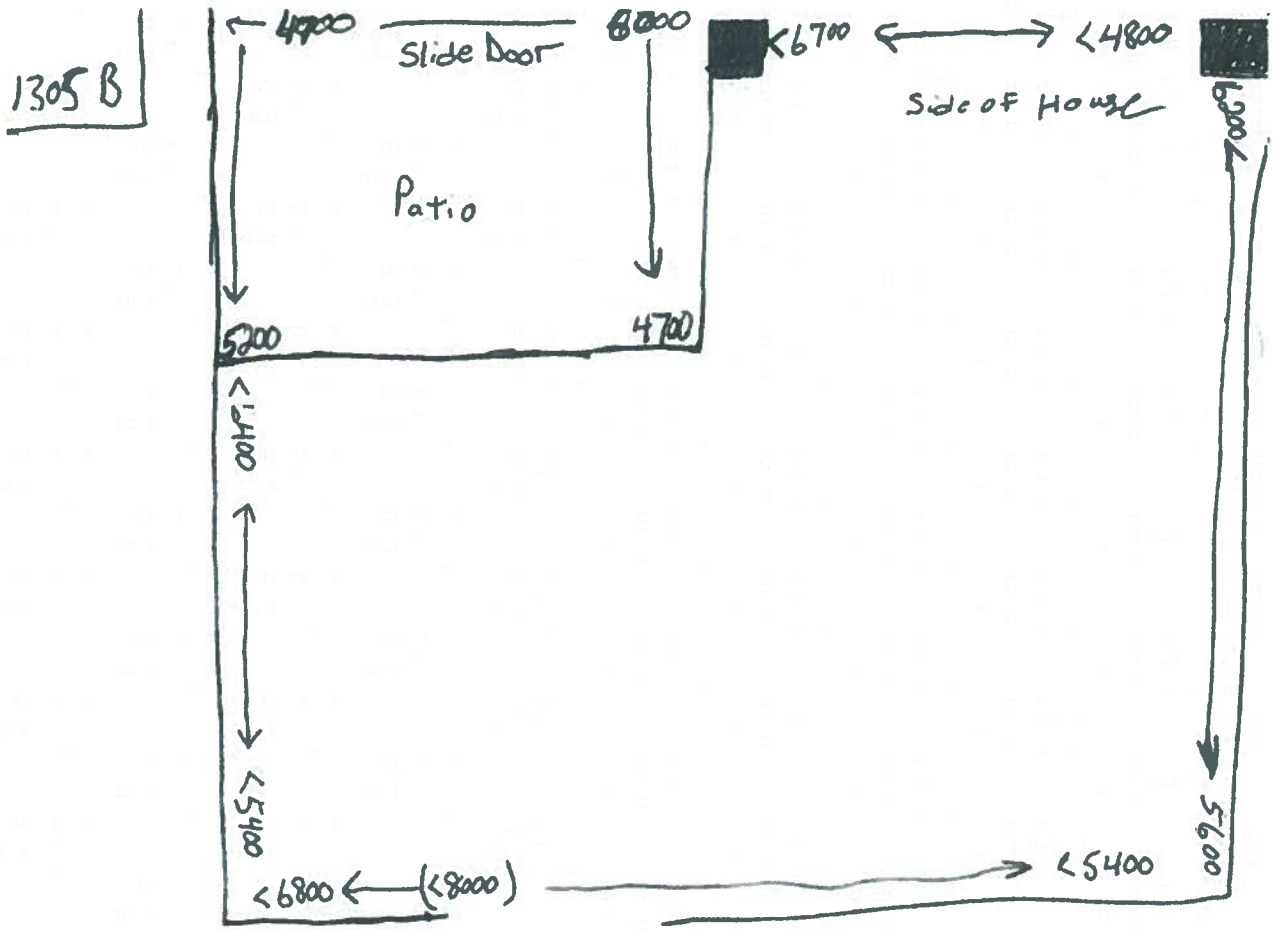
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-005	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1305 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

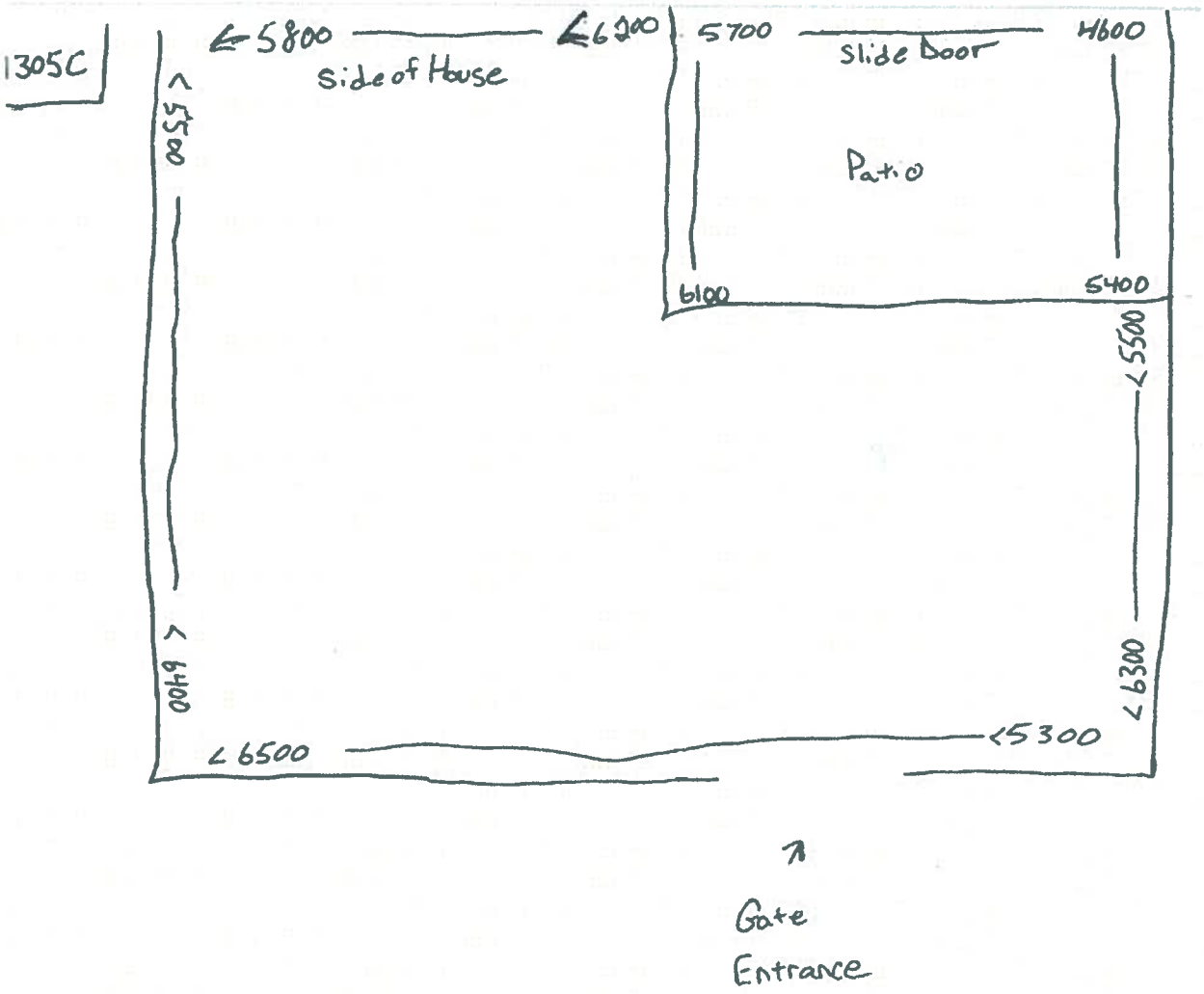
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-005	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1305 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

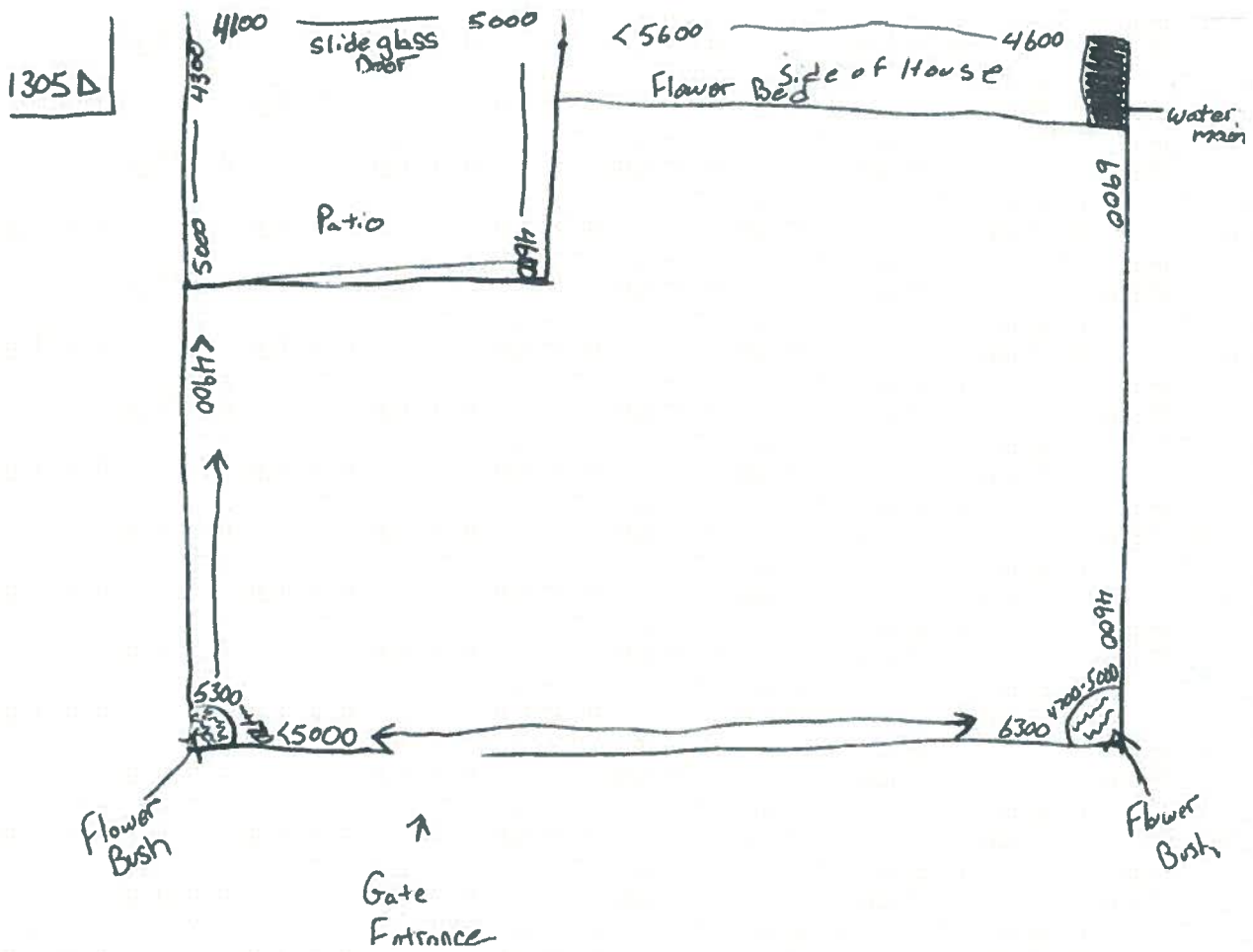
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-005	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1305 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

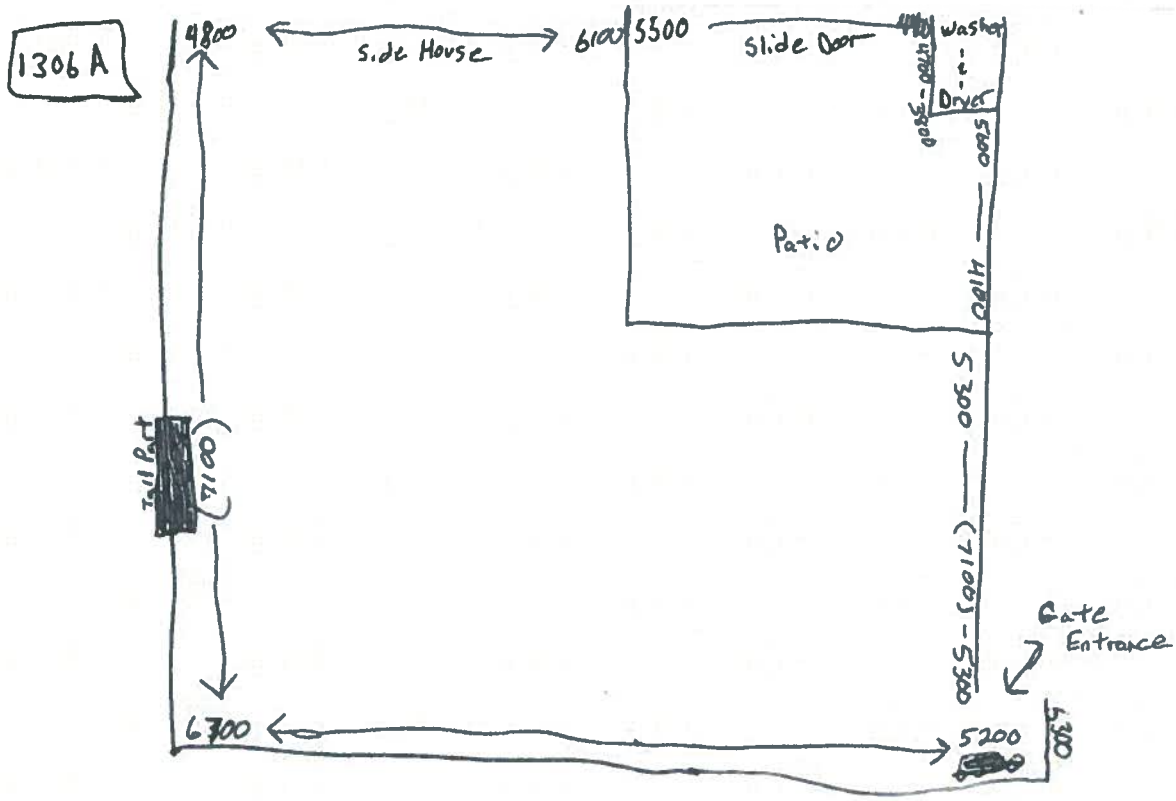
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-006	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5566	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1306 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

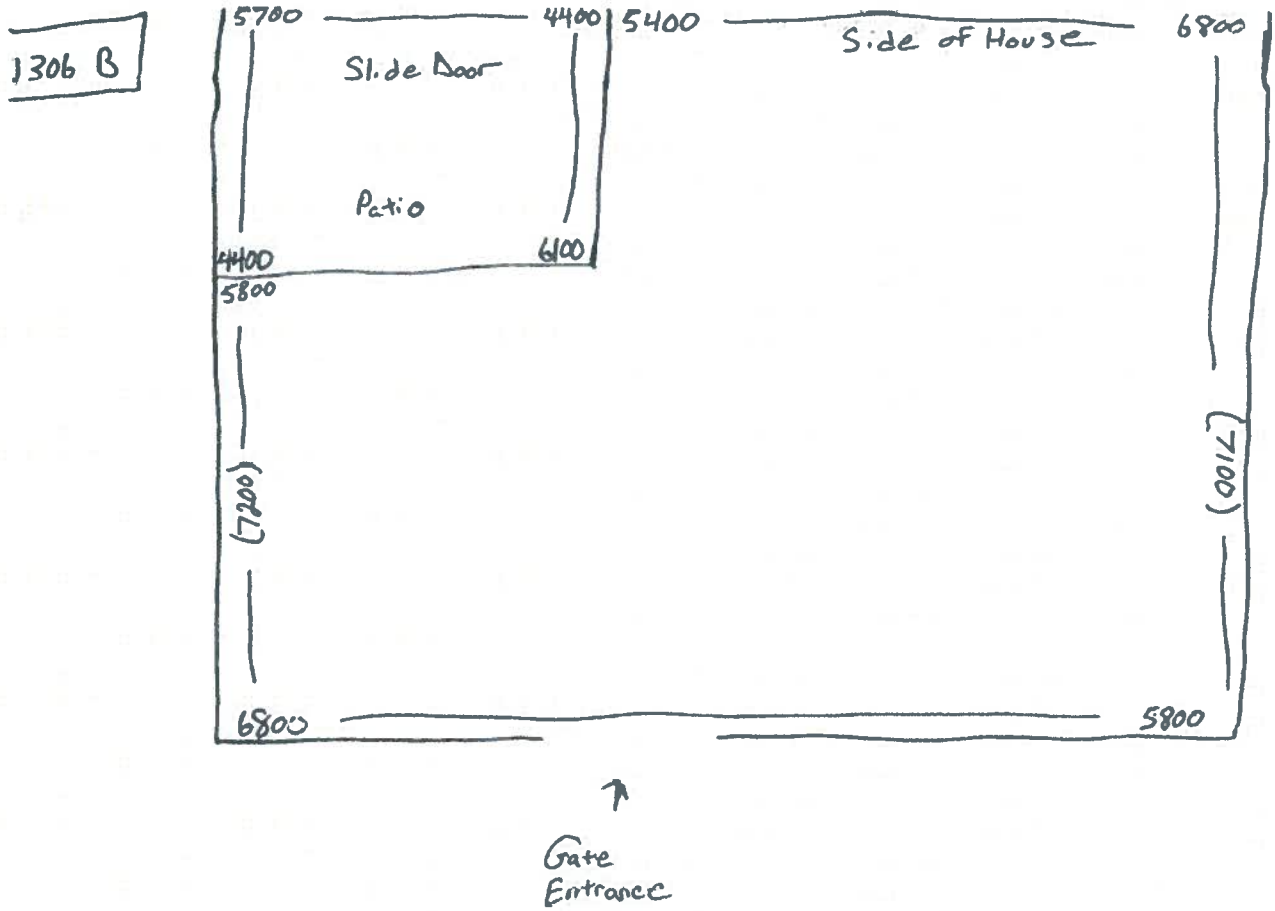
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-006	Date: 9/25/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1306 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

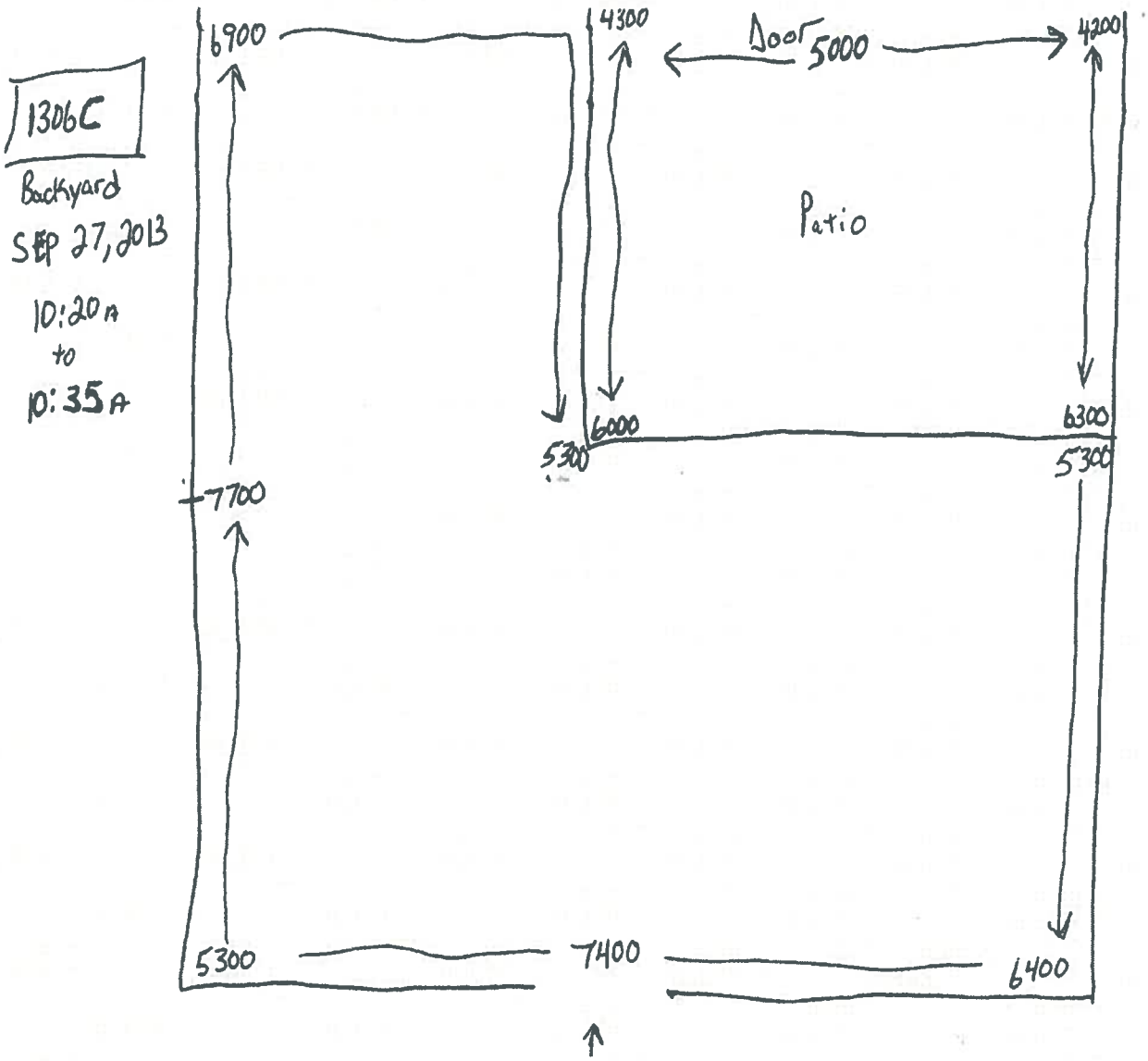
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-006	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

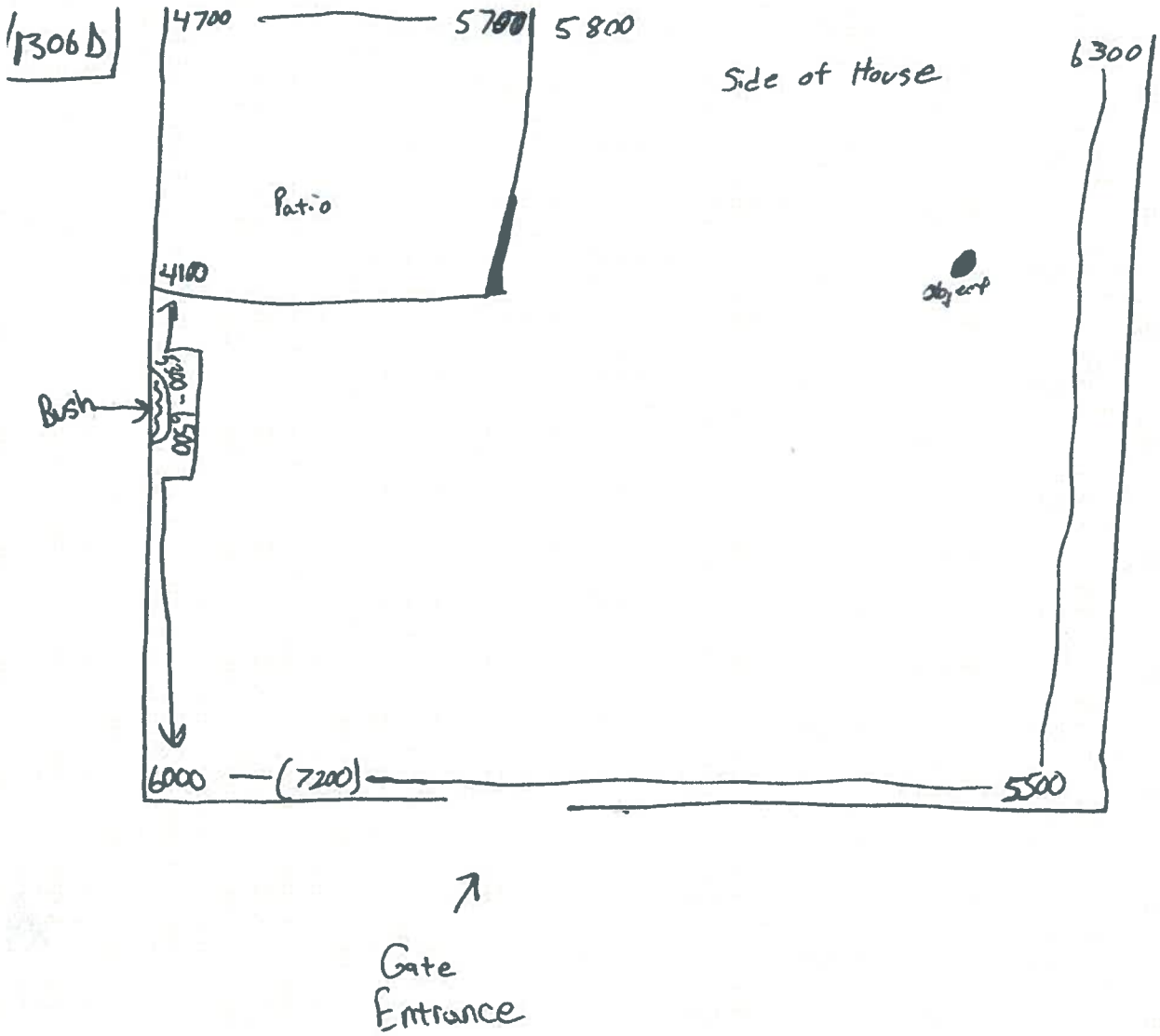
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-006	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1306 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

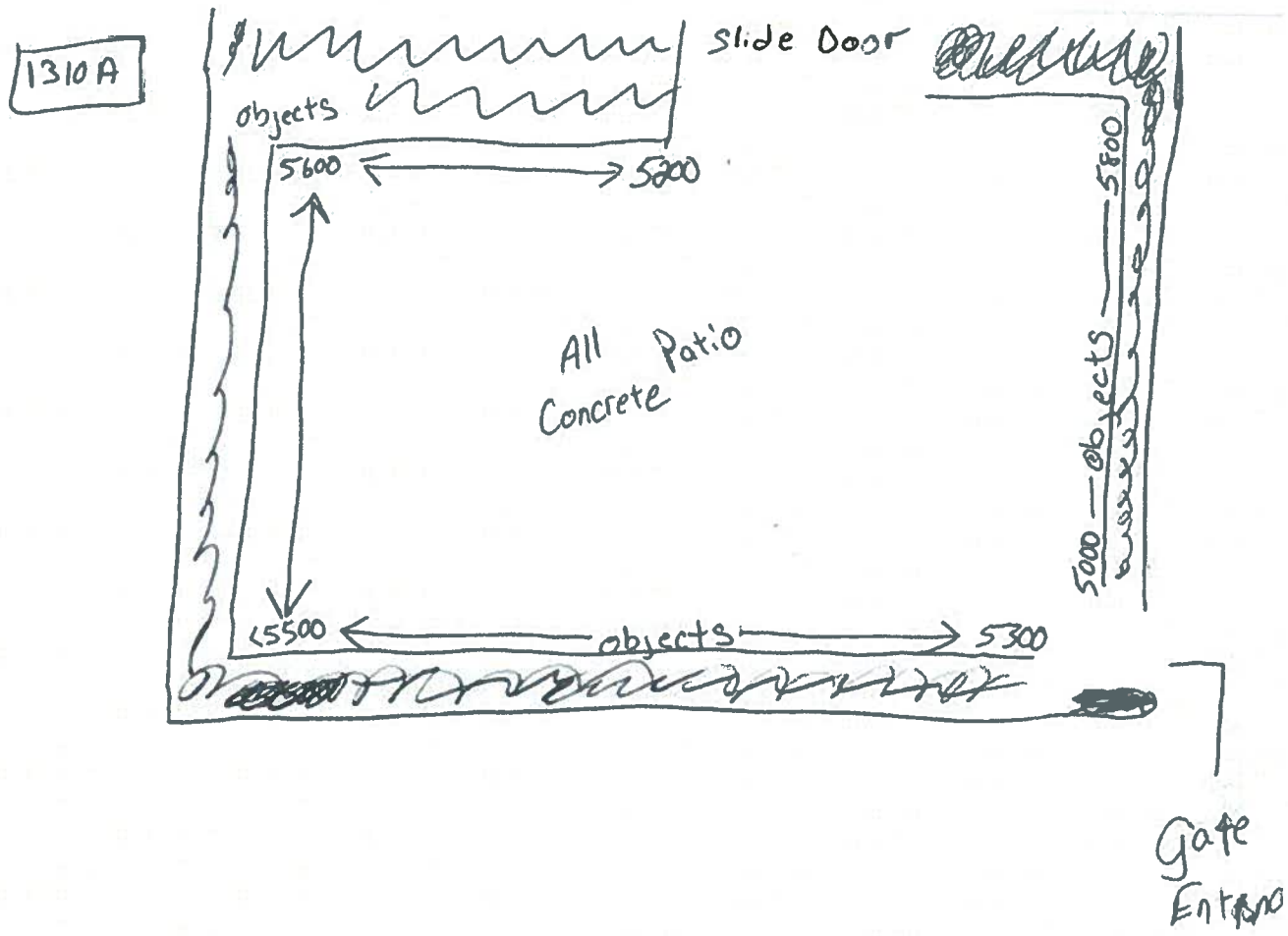
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-007	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5939	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1310 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

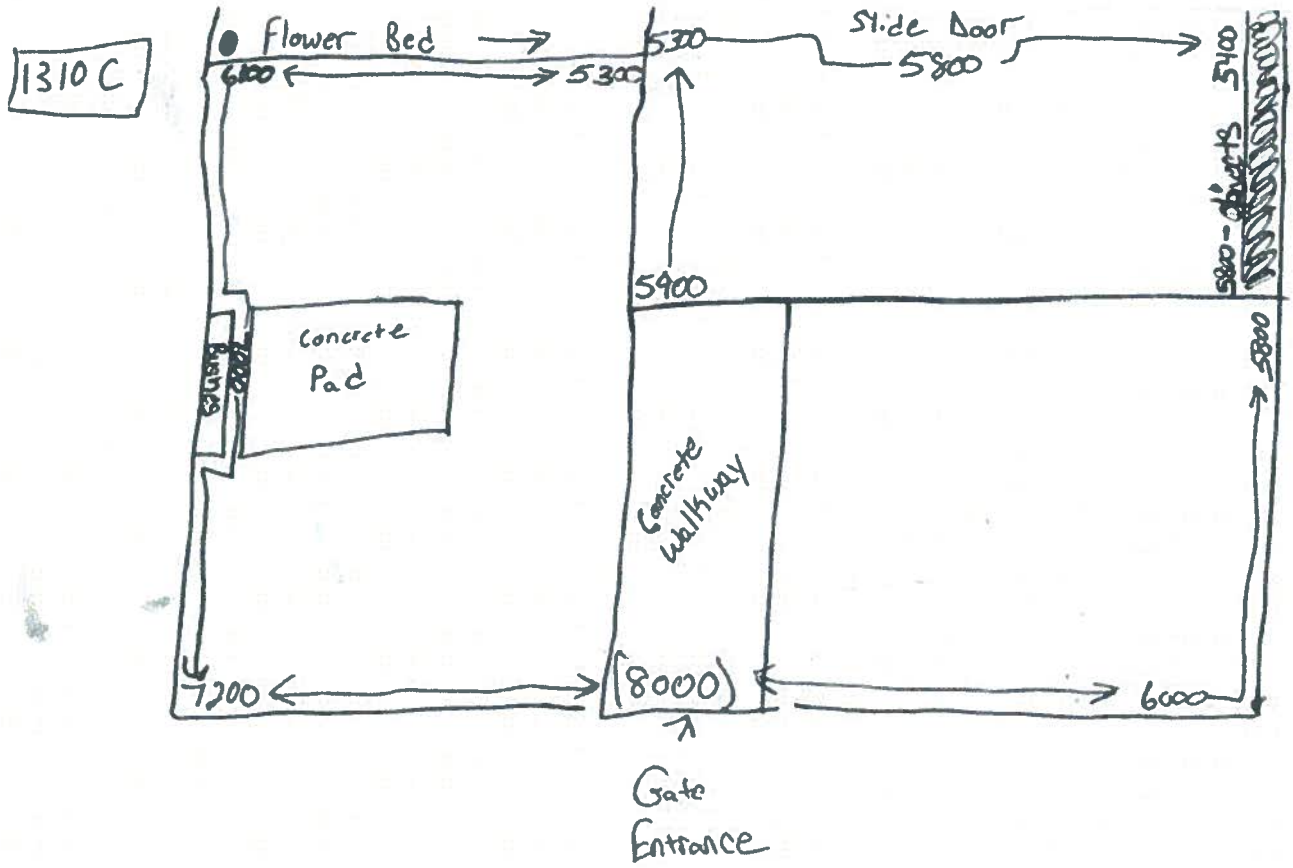
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-007	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1310 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

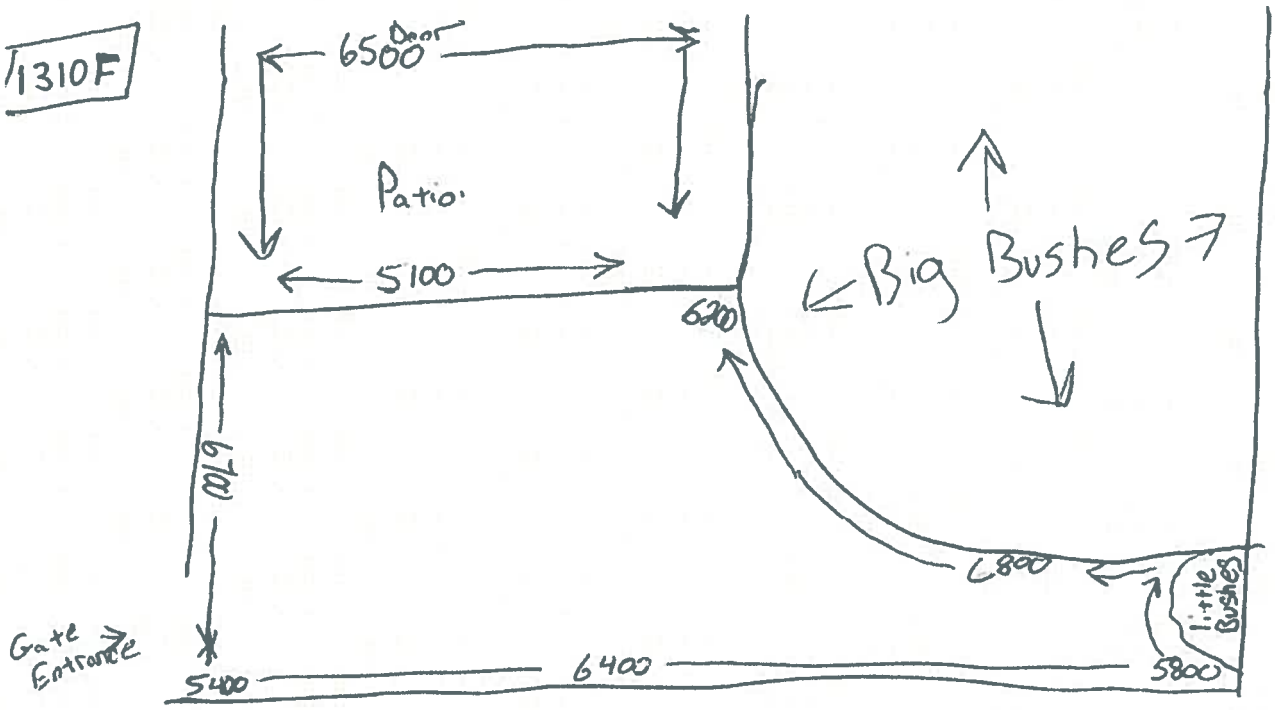
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-007	Date: 9/26/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1310 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover
Pam Wells	Pam Wells	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6265	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo

1	Play Fort Area	26	Pump House Fence Line
2	Concrete Park Bench	27	Bush Area By West Park Entrance
3	Broken Wooden Park Bench	28	Tree Beside Sidewalk # 1
4	Wooden Park Bench	29	Tree Beside Sidewalk # 2
5	Tree # 1	30	Tree Beside Sidewalk # 3
6	Tree # 2	31	Bus Stop Flower Beds
7	Sewer Drain	32	Bus Stop Flower Beds
8	Fire Hydrant	33	Bus Stop Flower Beds
9	Utility Pole & Wire Area	34	Bus Stop Flower Beds
10	Old Fire Hydrant	35	Bus Stop Flower Beds
11	Volley Ball Net Pole # 1	36	Bus Stop Flower Beds
12	Volley Ball Net Pole # 2	37	Bus Stop Flower Beds Triangular
13	Utility Pole # 2	38	Fence Line Down To West Entrance
14	Tree Stump	39	West Shore Line Rock Boundry
15	Fence line	40	West Shore Line Rock Boundry
16	Fence Line	41	West Shore Line Rock Boundry
17	Fence Line	42	West Shore Line Rock Boundry
18	Behind Pump House	43	West Shore Line Rock Boundry
19	Side Of Pumphouse	44	West Shore Line Rock Boundry
20	Light Pole	45	West Shore Line Rock Boundry
21	Side Of Pumphouse	46	West Shore Line Rock Boundry
22	Front of Pump House	47	West Shore Line Rock Boundry
23	Pump House Fence Line	48	West Shore Line Rock Boundry
24	Pump House Fence Line	49	West Shore Line Rock Boundry
25	Pump House Fence Line	50	Trees & Limbs By Playground

Comments: Highest readings of area recorded. All accessible areas surveyed.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground

Play Ground Shoreline Area. All Readings in Gross cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-008	Date: 9/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in Gross cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

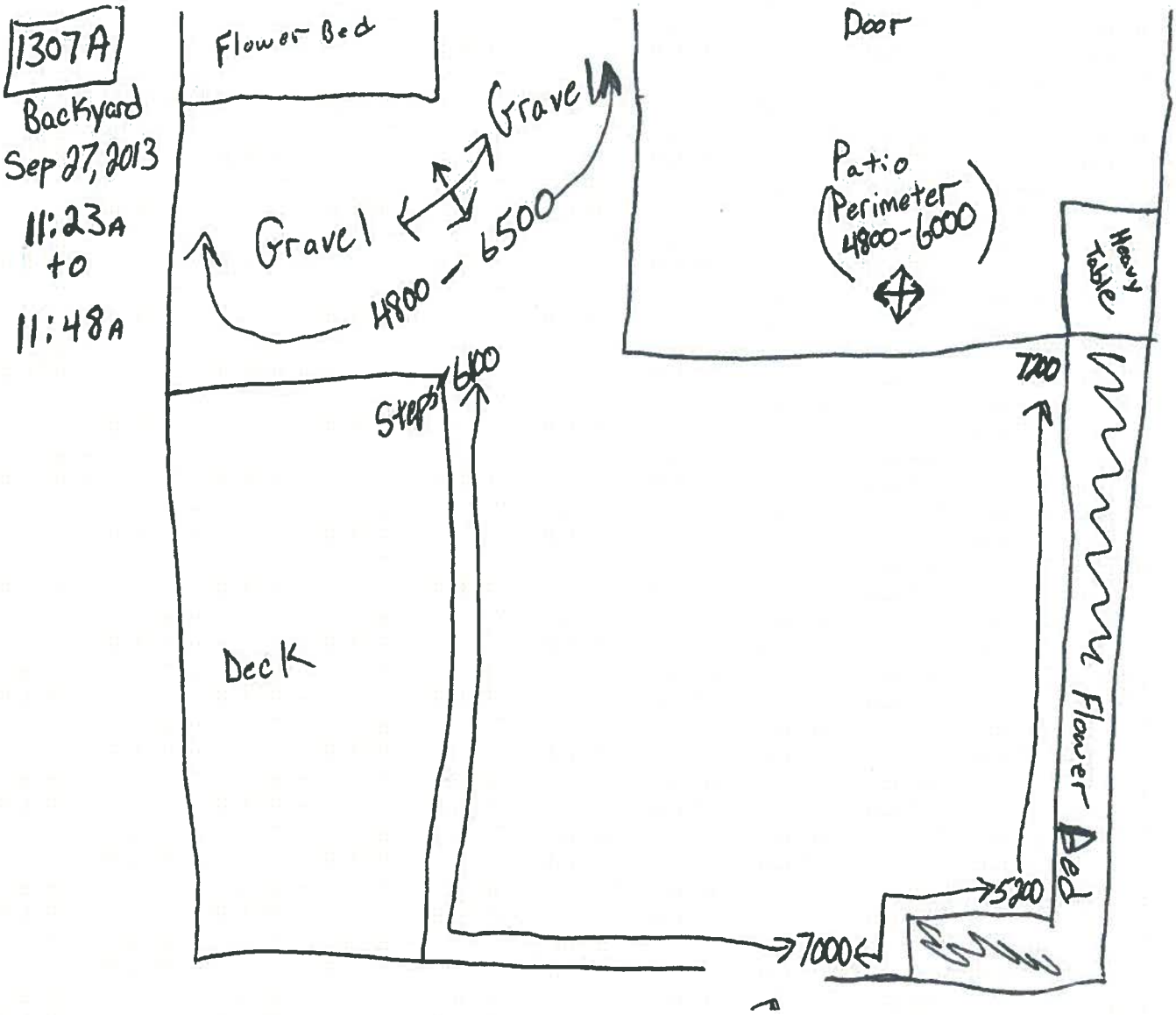
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-009	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	JAMES Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5262	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1307 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

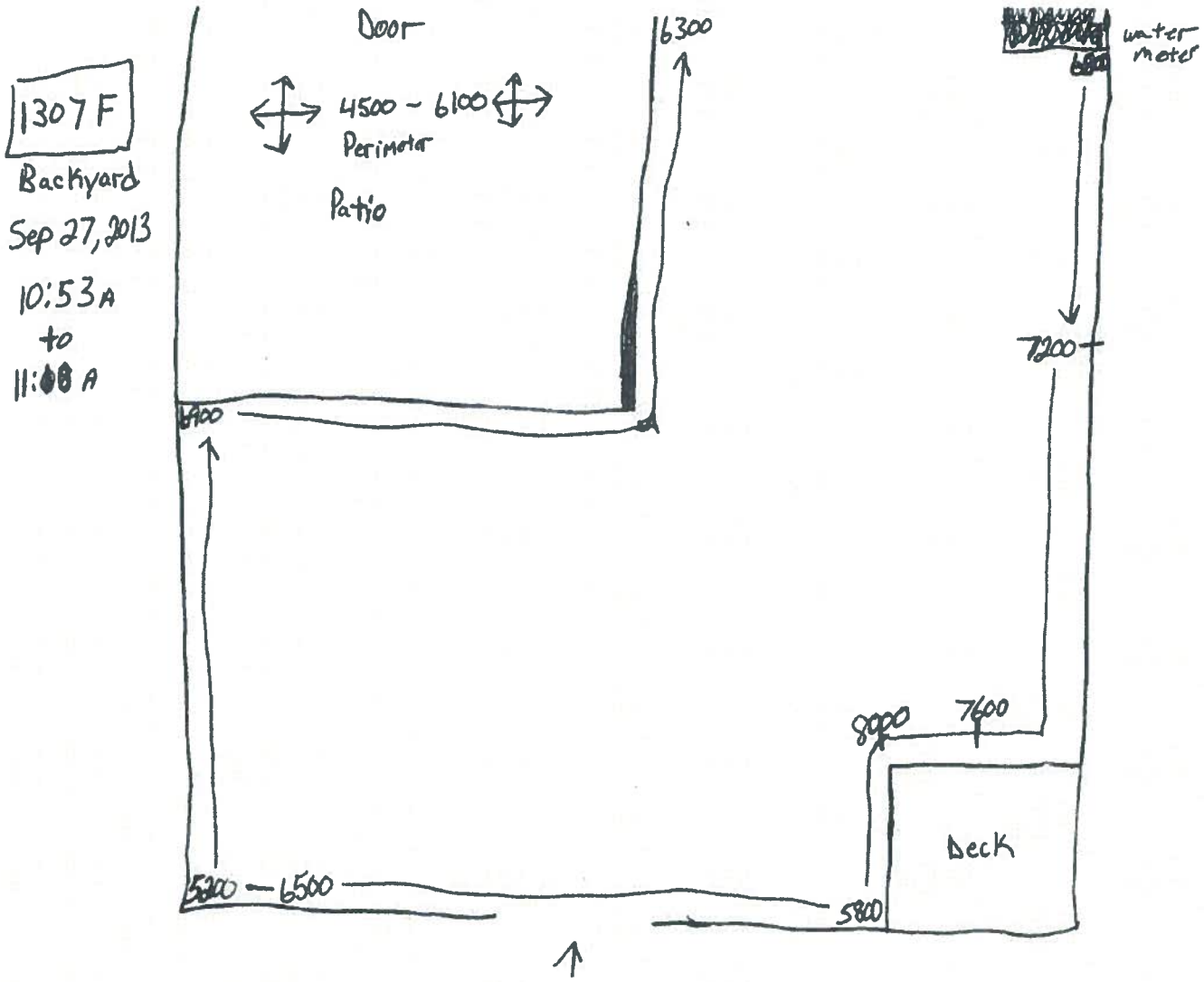
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-009	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1307 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

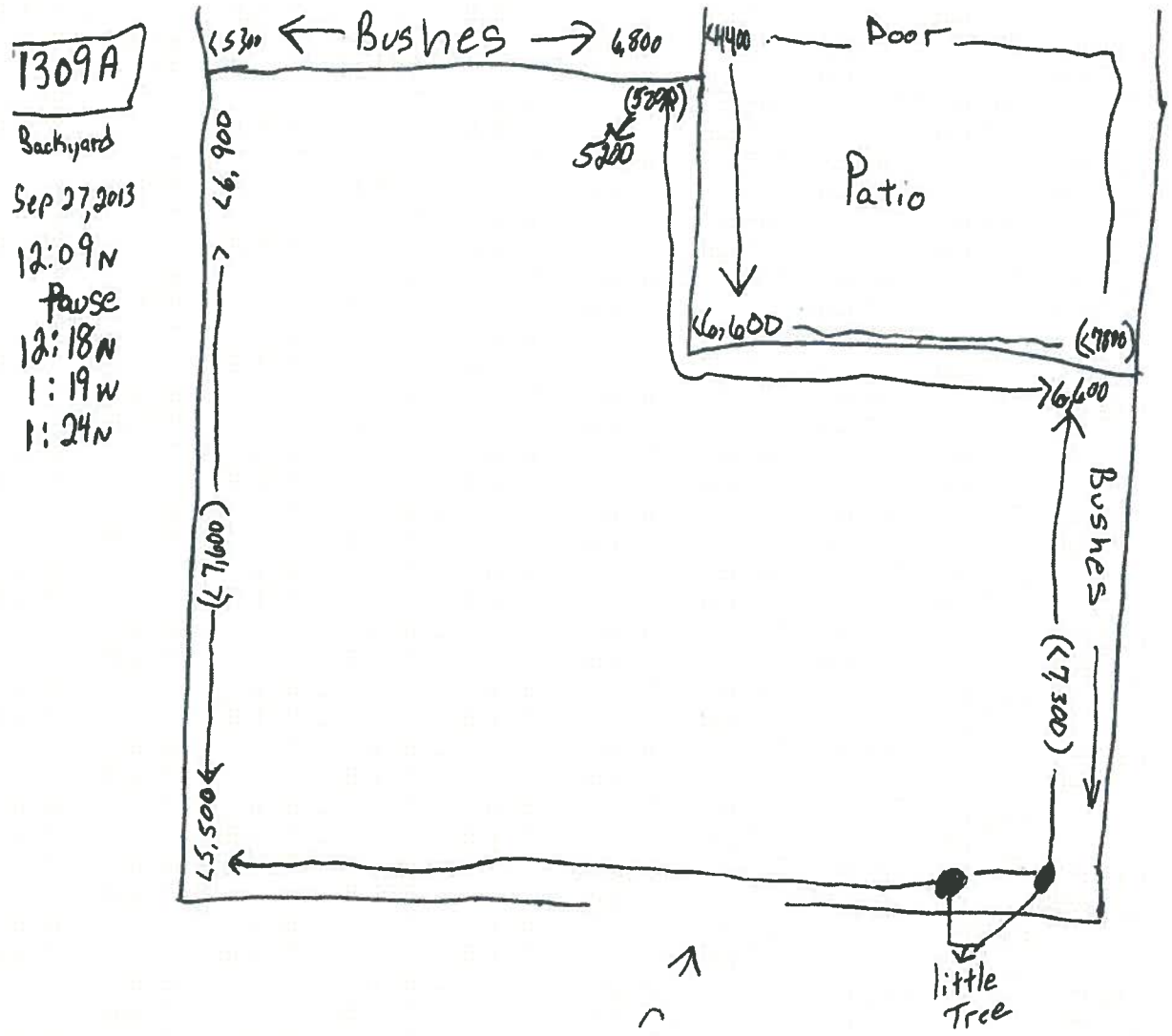
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-010	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Love	James Love	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5307	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1309 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm

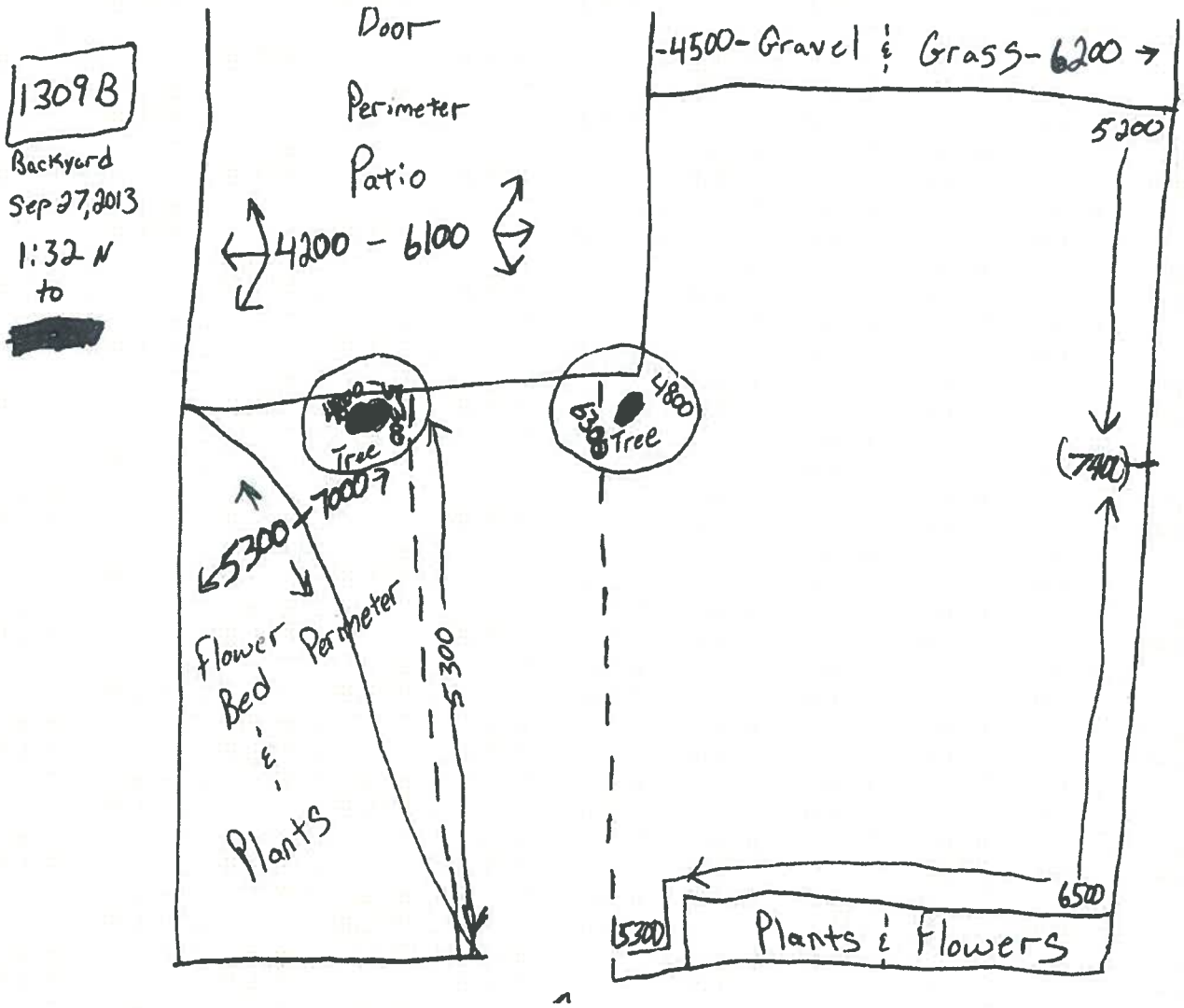
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-010	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

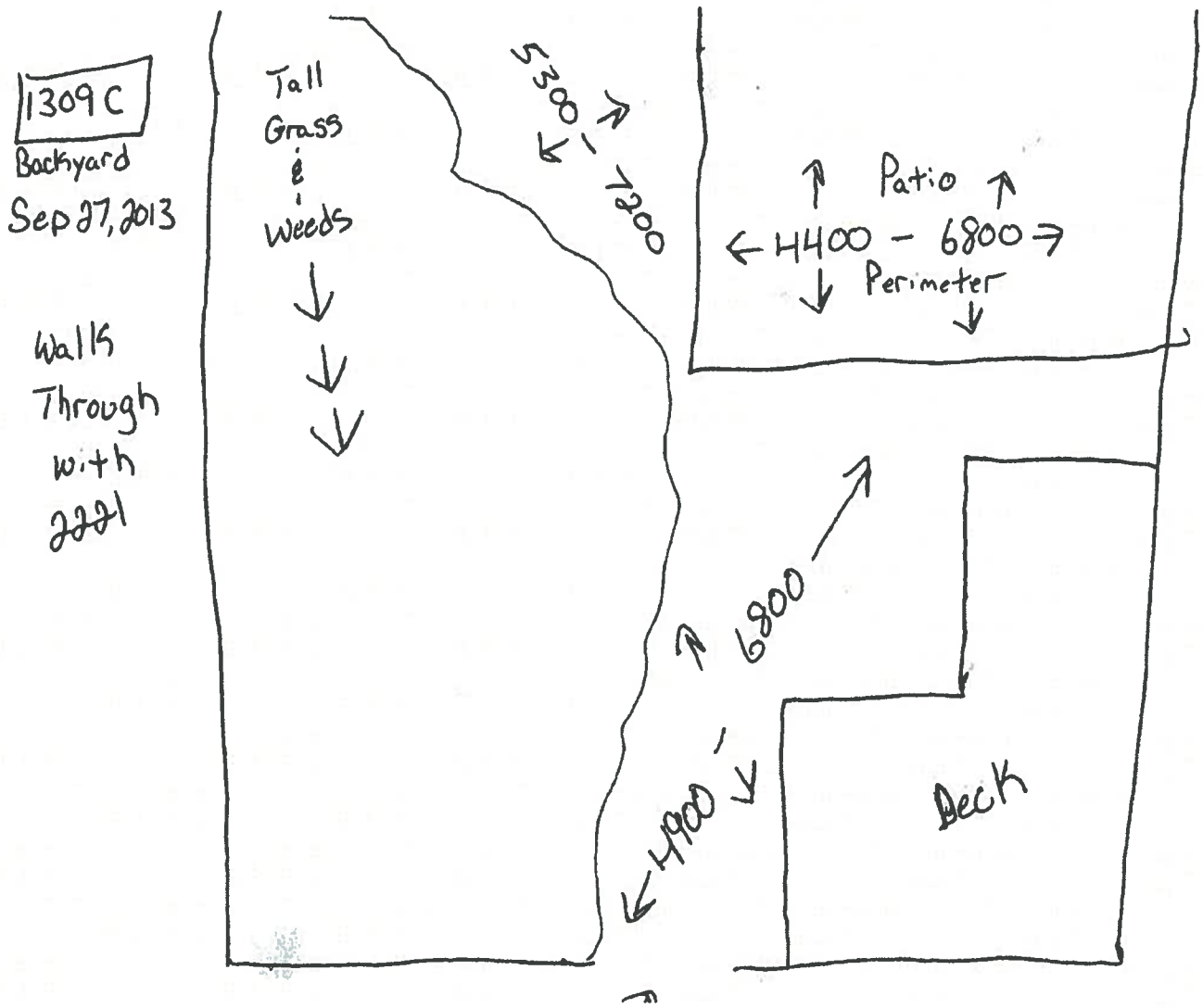
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-010	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

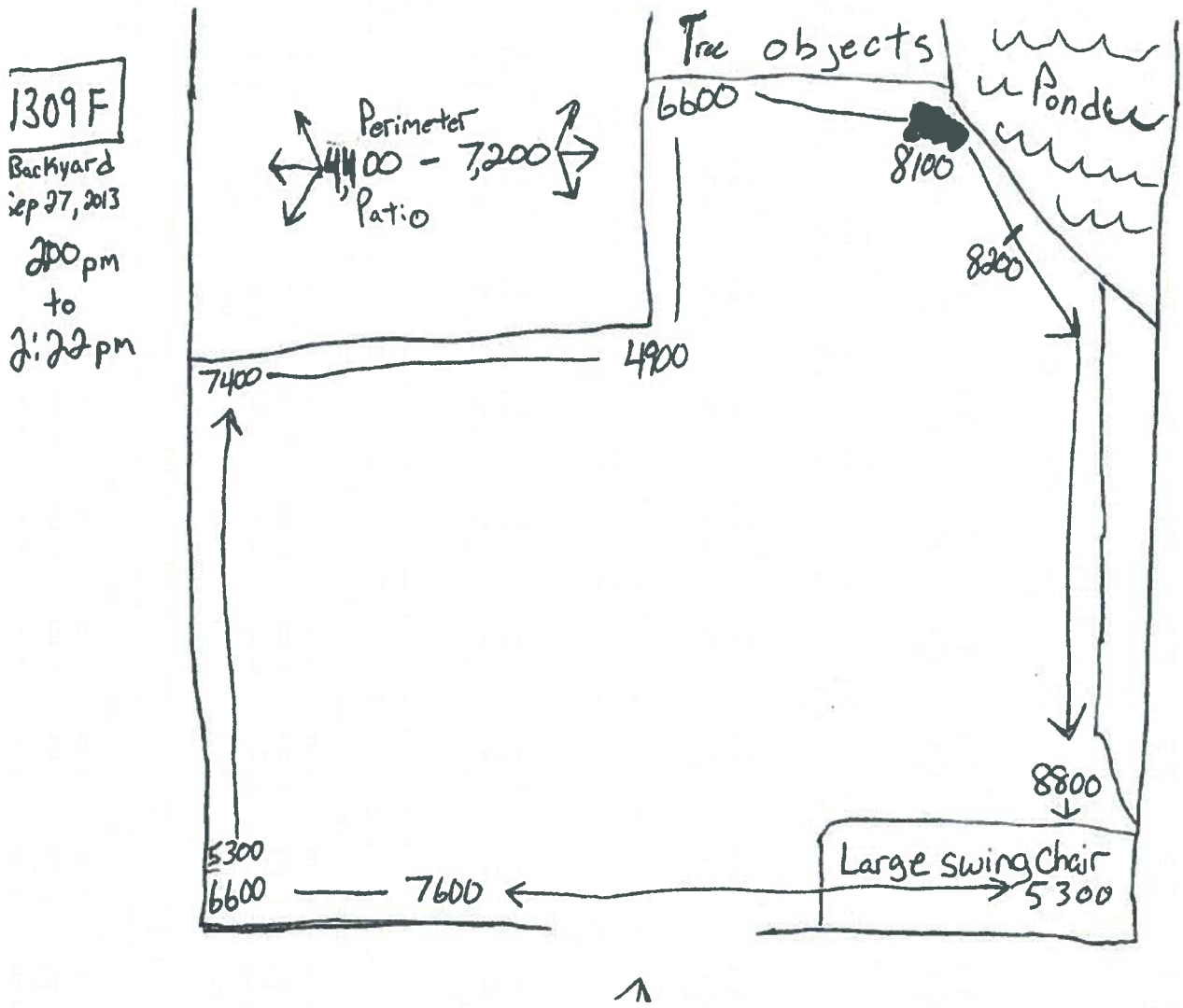
See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-010	Date: 9/27/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All readings in gross cpm.

See Page 1 for Instrument Information

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

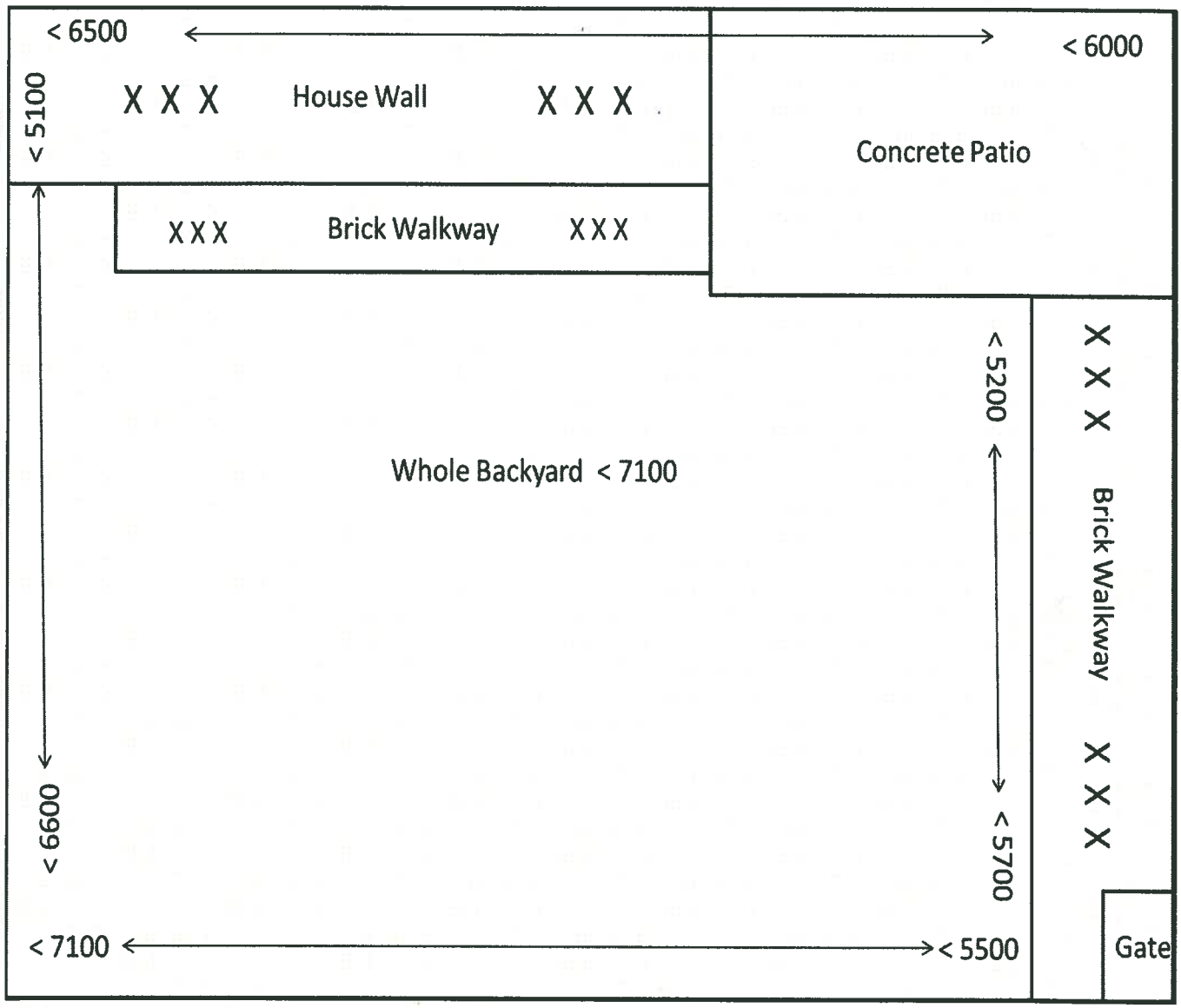
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-011	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5400	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1308 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

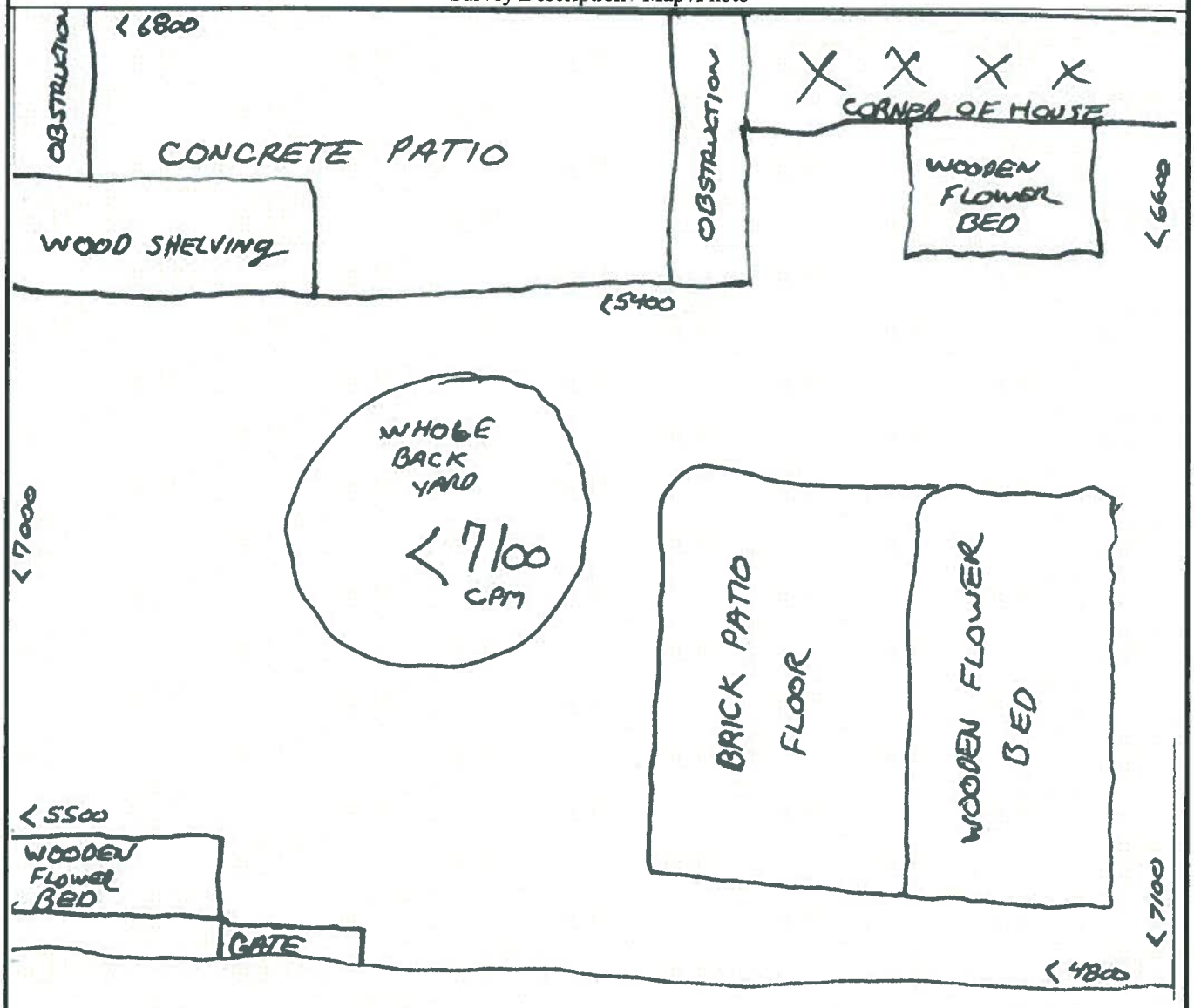
All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-011	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1308 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information

All Readings are in cpm.

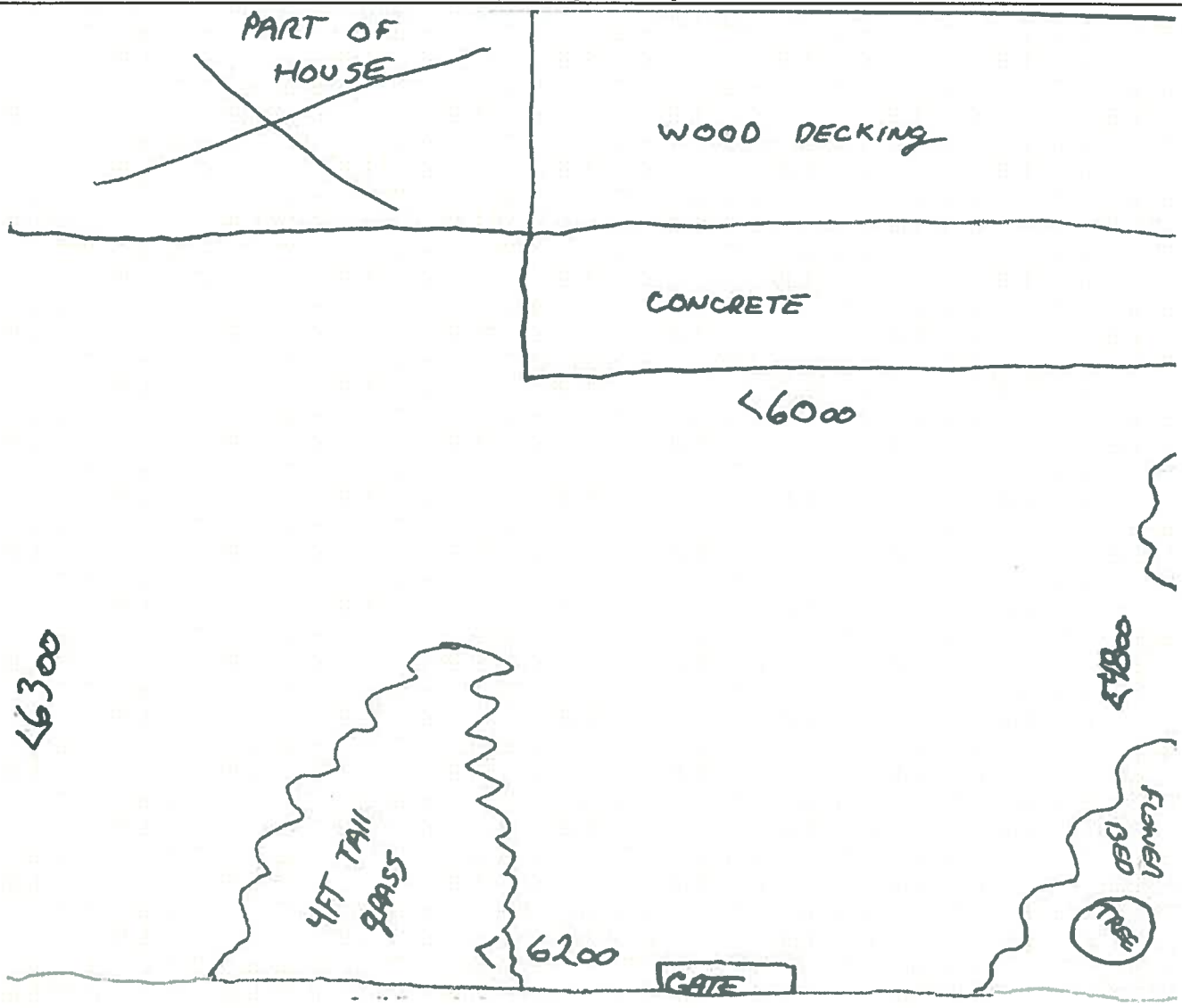
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-011	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1308 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information

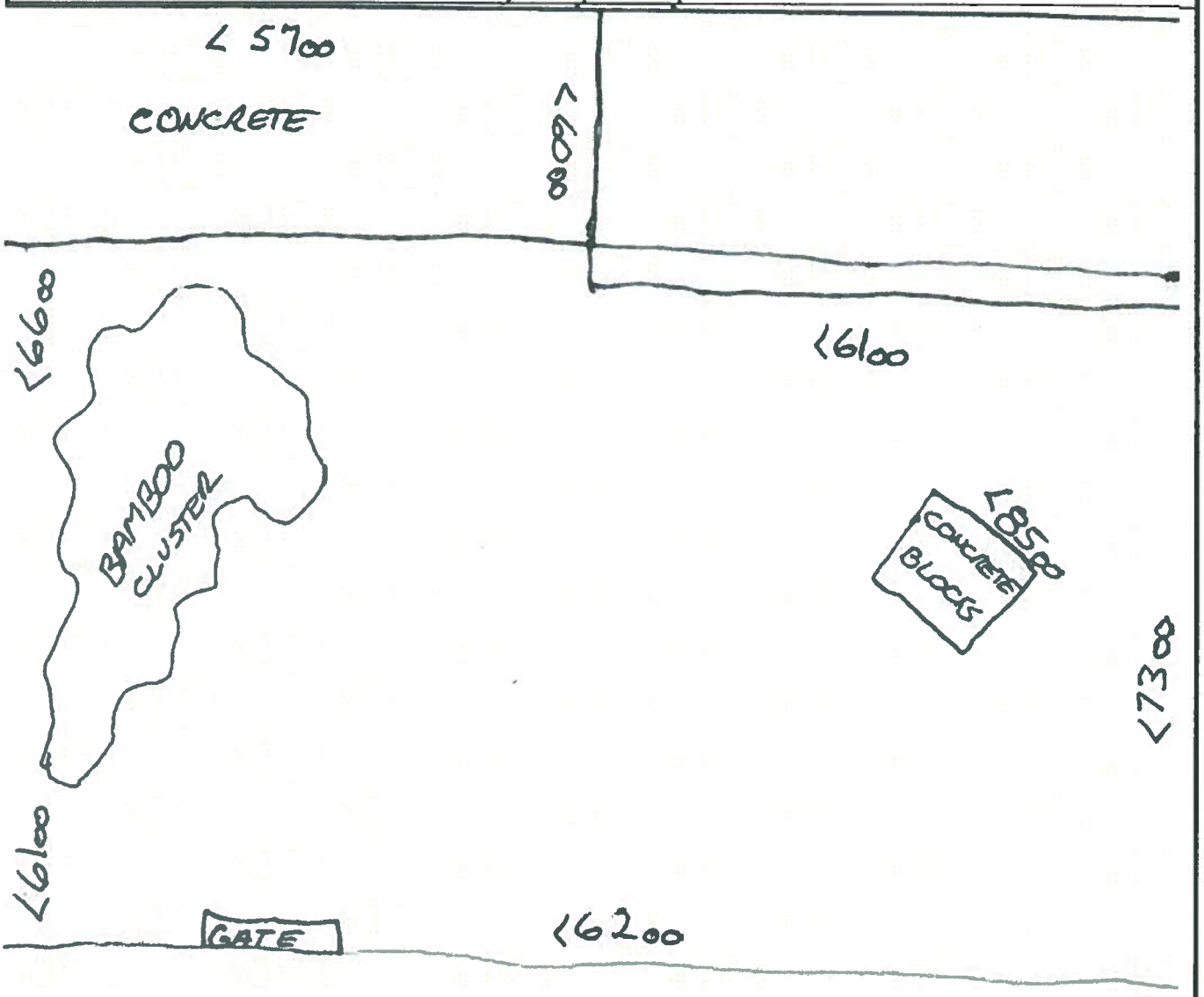
All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-011	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1308 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information

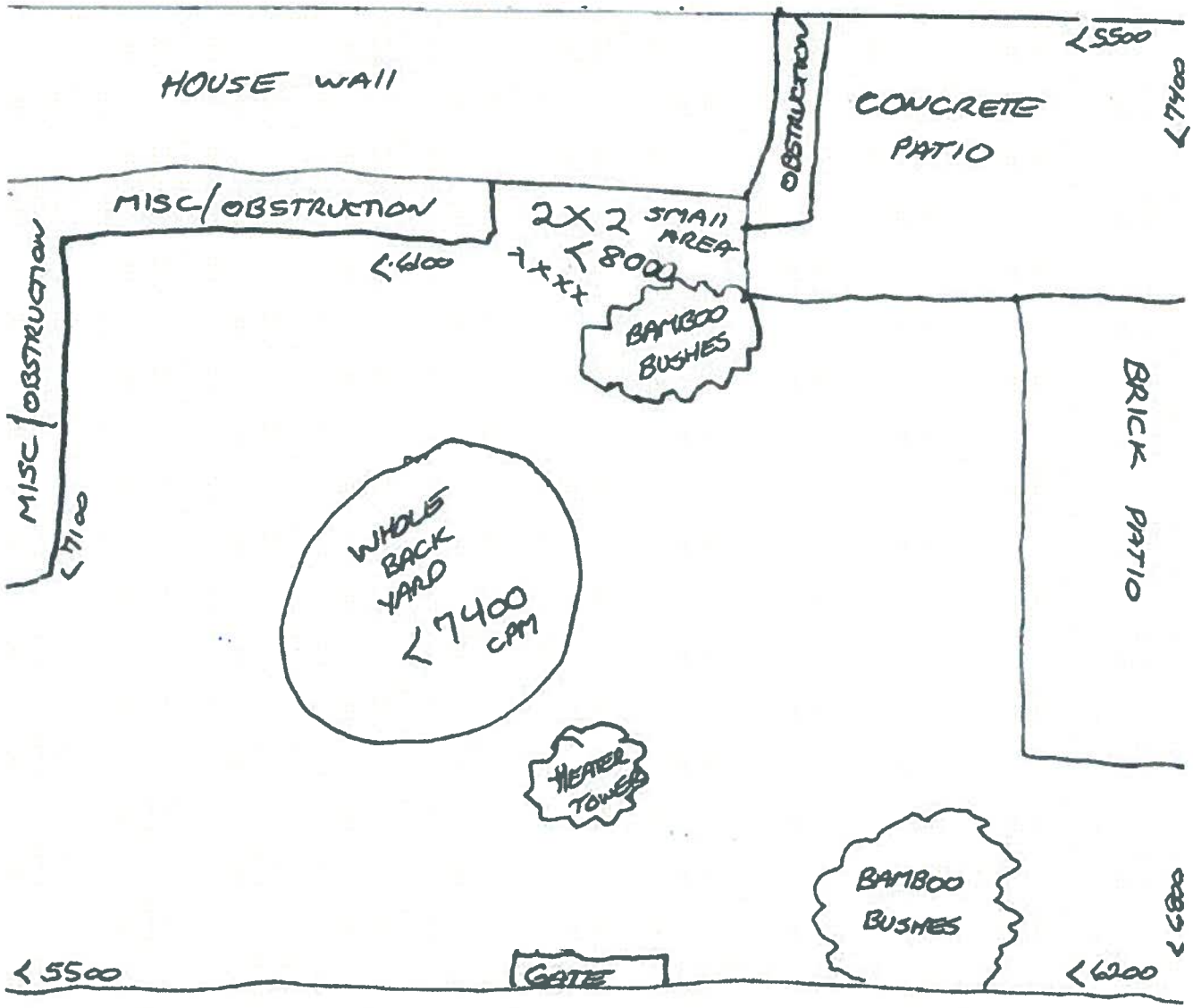
All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-011	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1308 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information

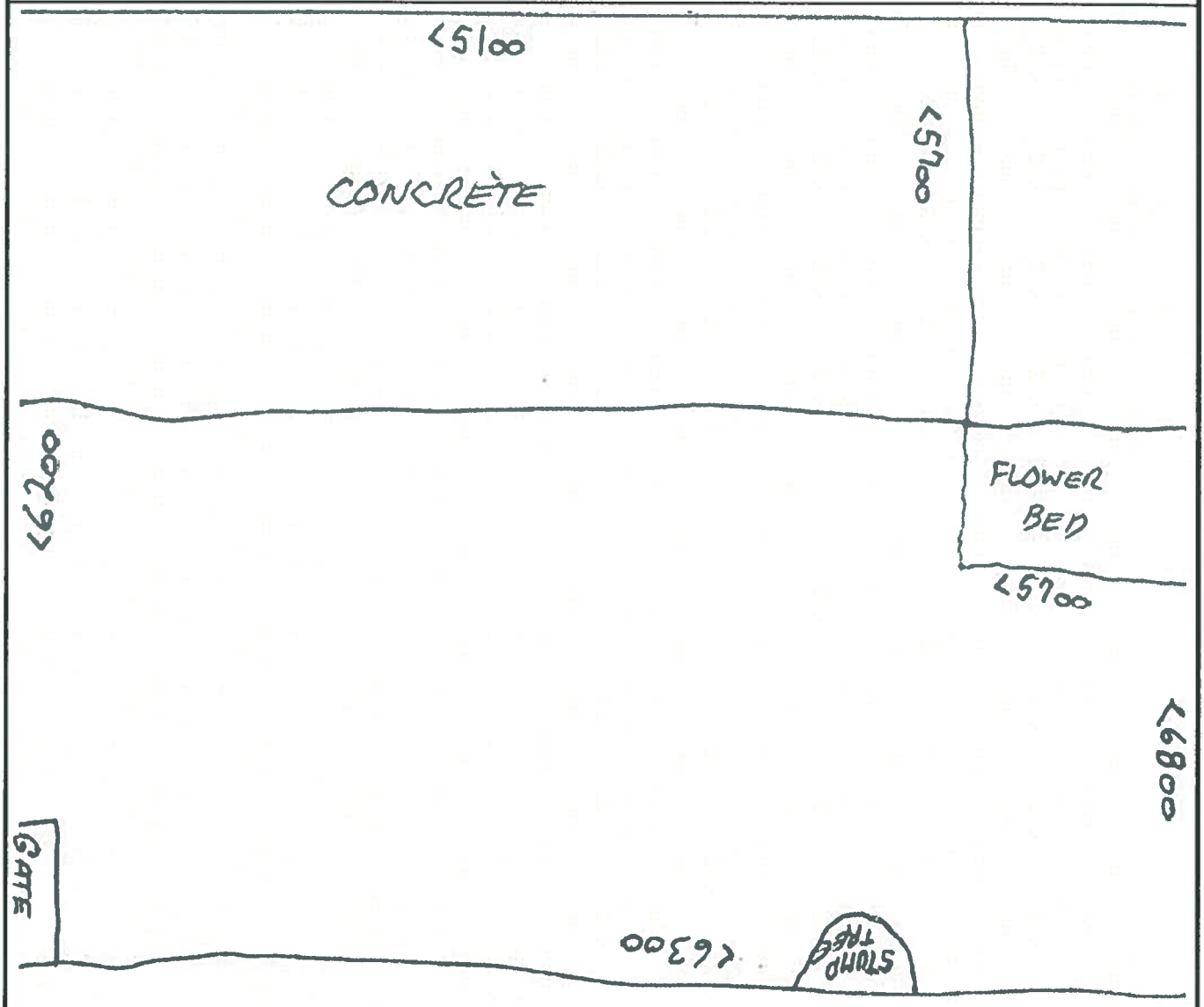
All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-011	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1308 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information

All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

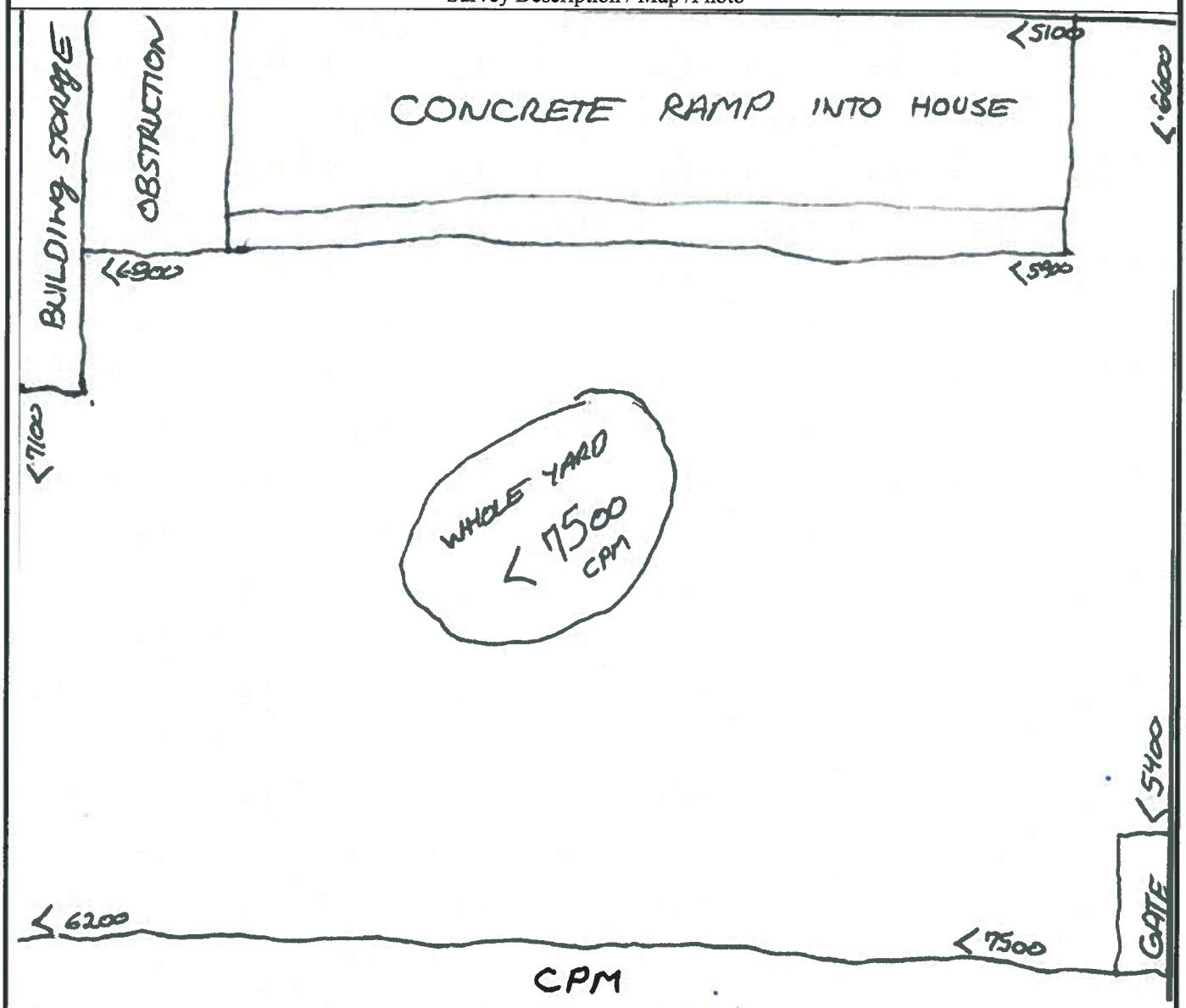
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-012	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5751	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1250 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

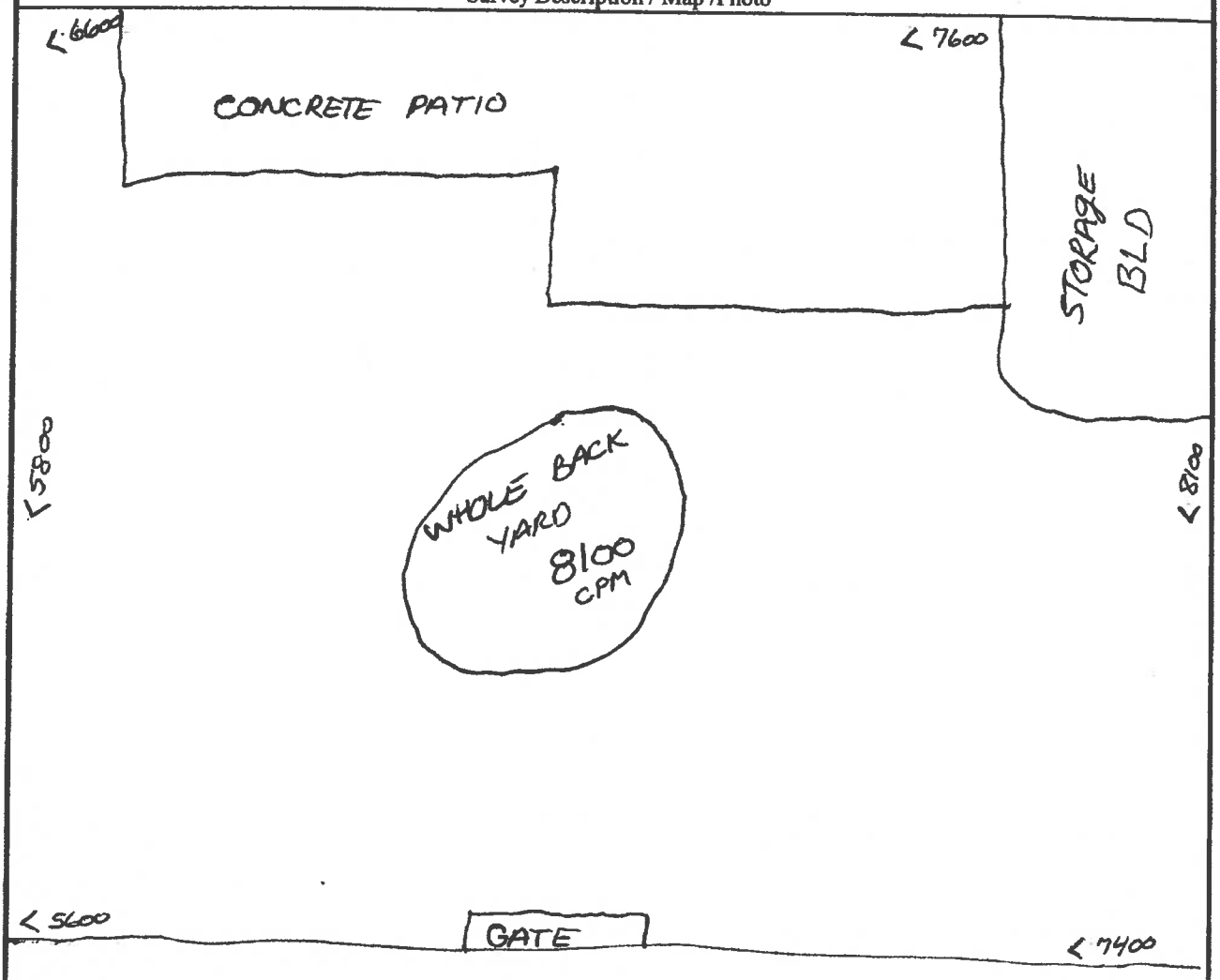
All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 012	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building 1250 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

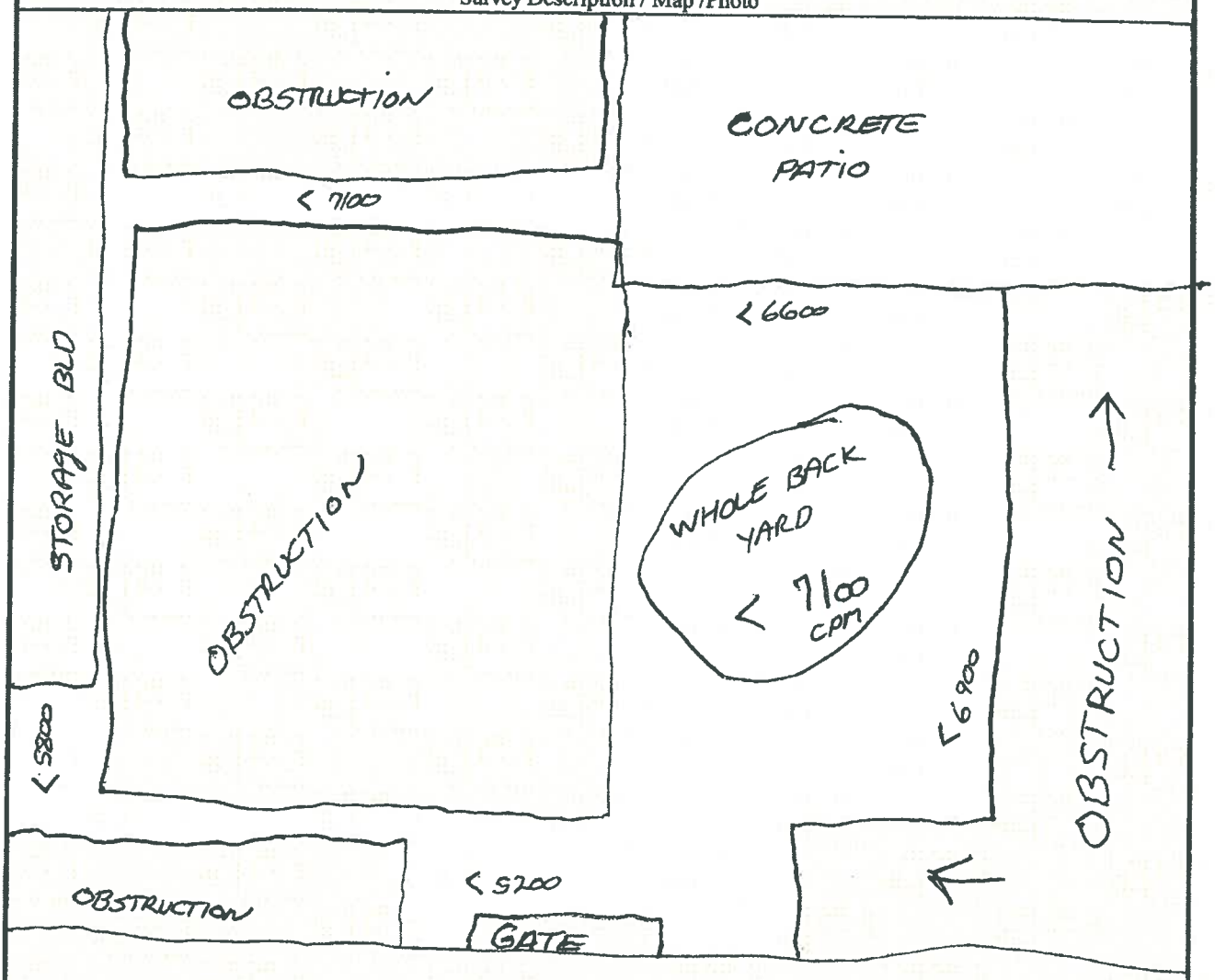
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 012	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building 250 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

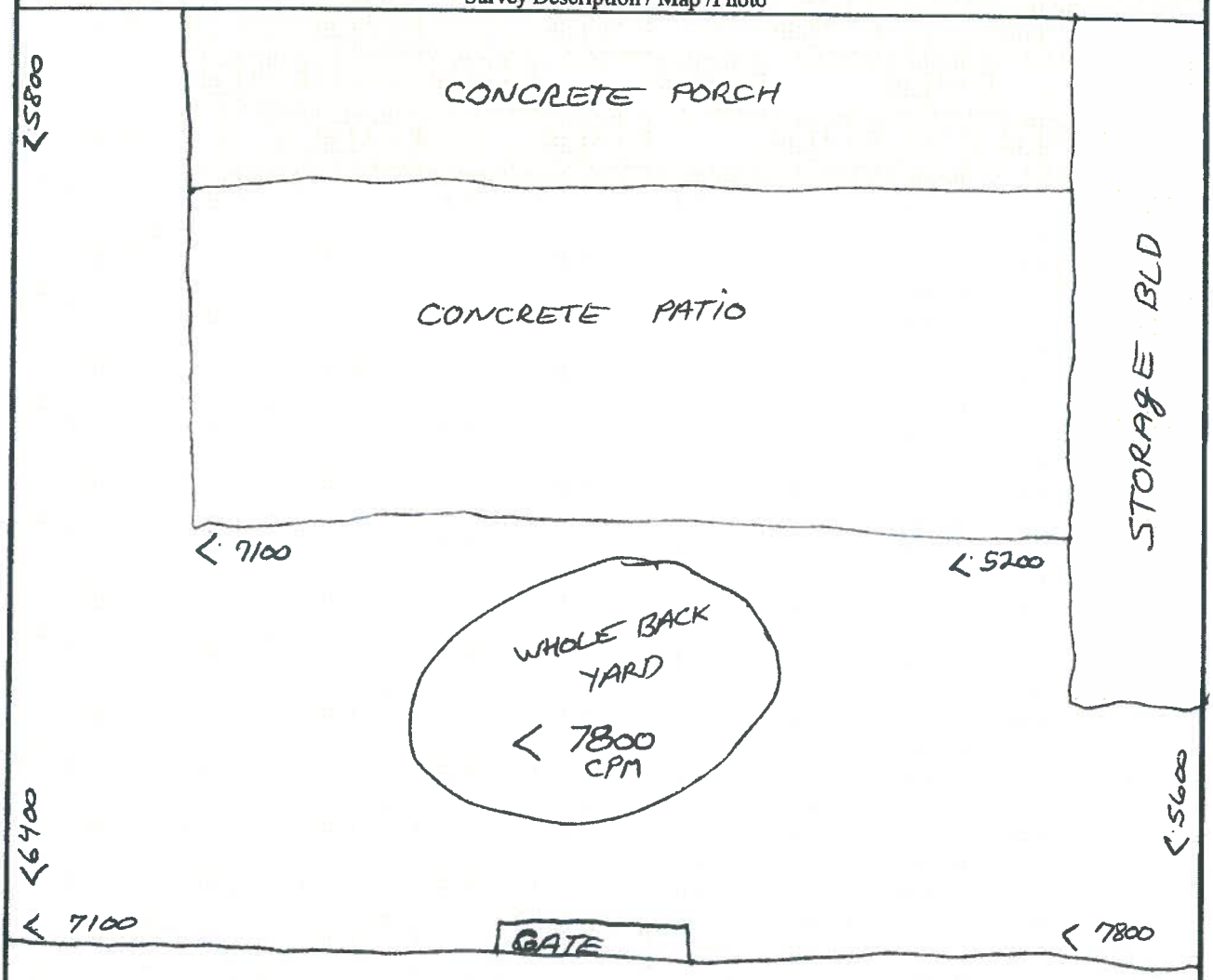
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-012	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building 1250 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

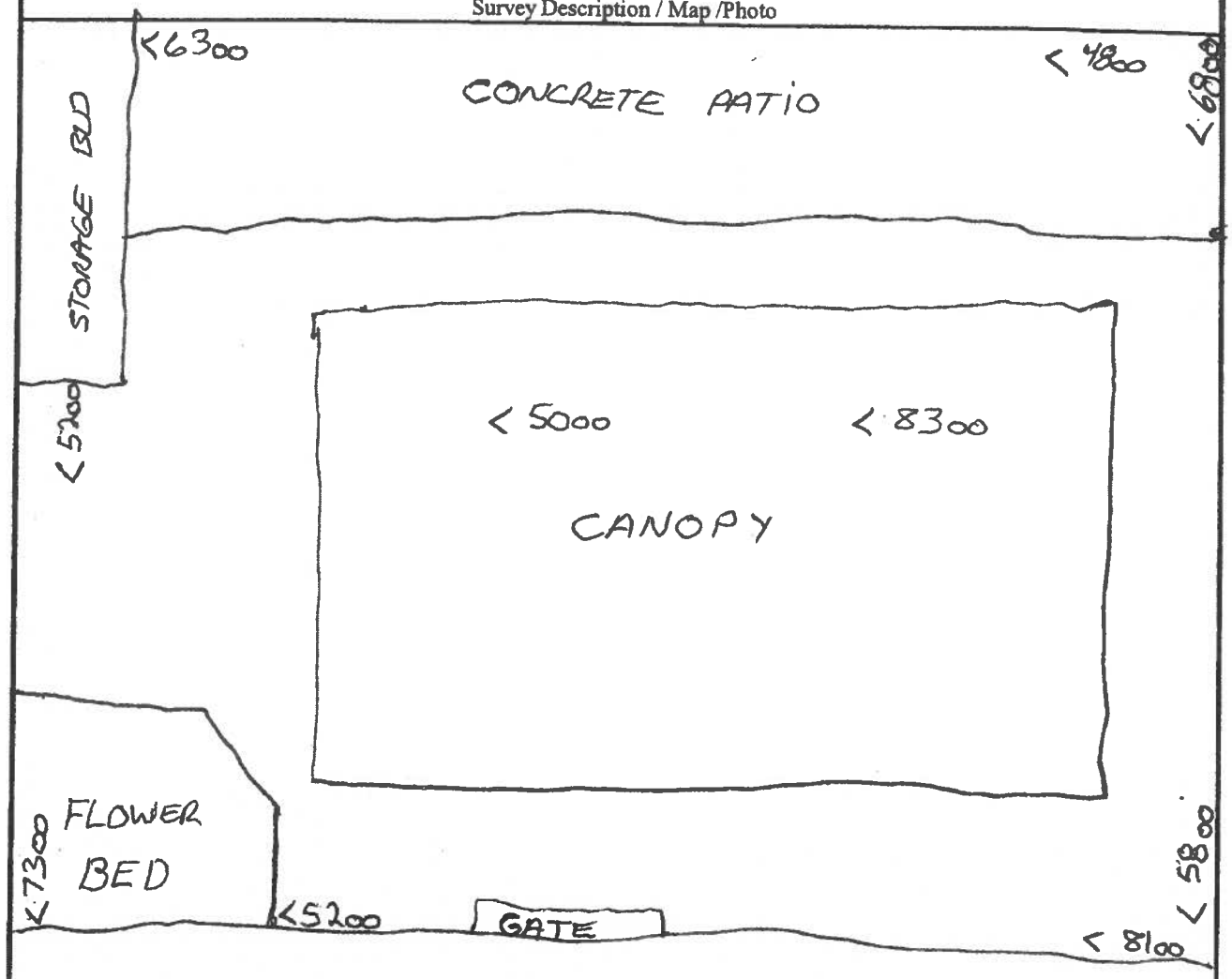
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-012	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building/250apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

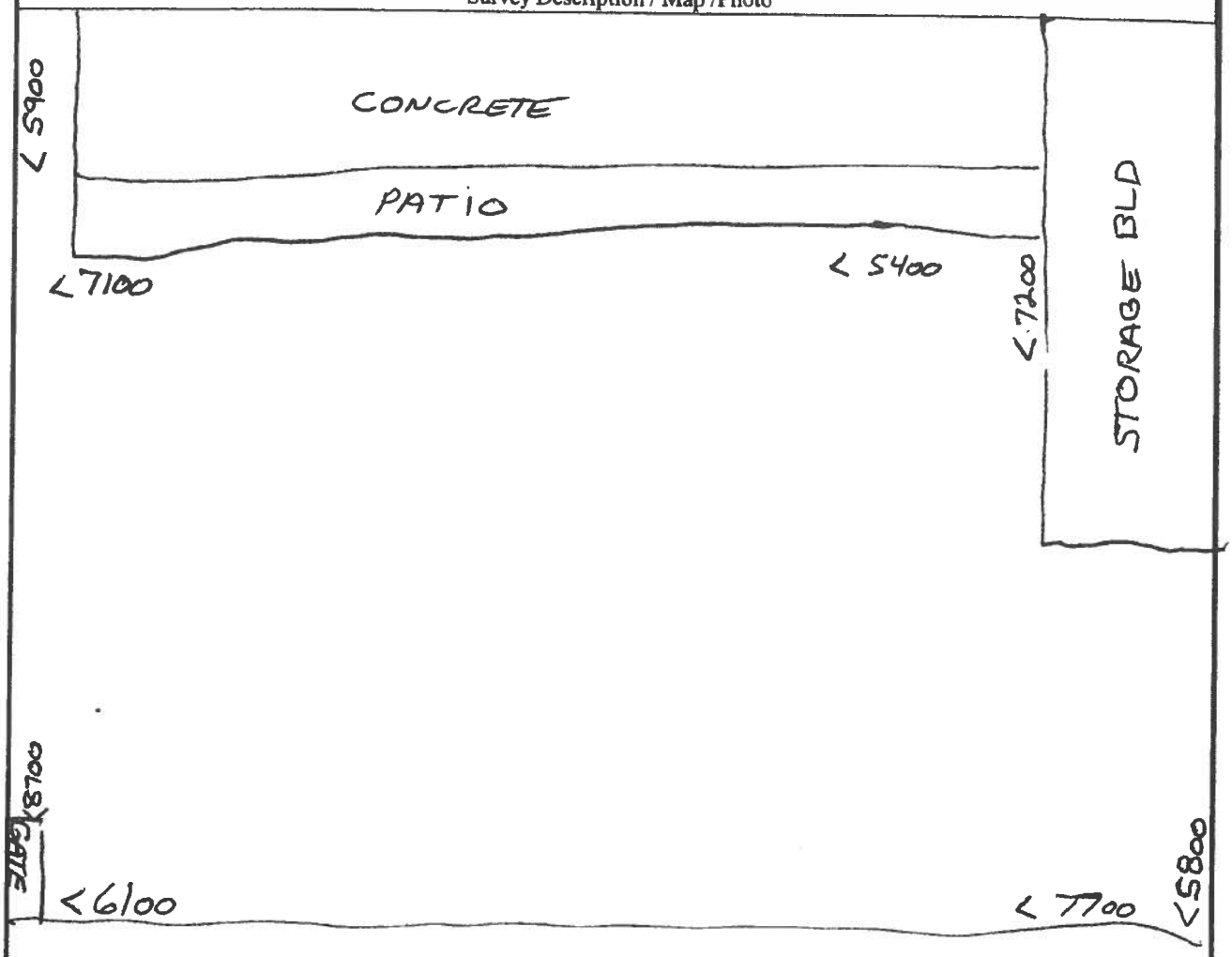
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-012	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building 1250 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

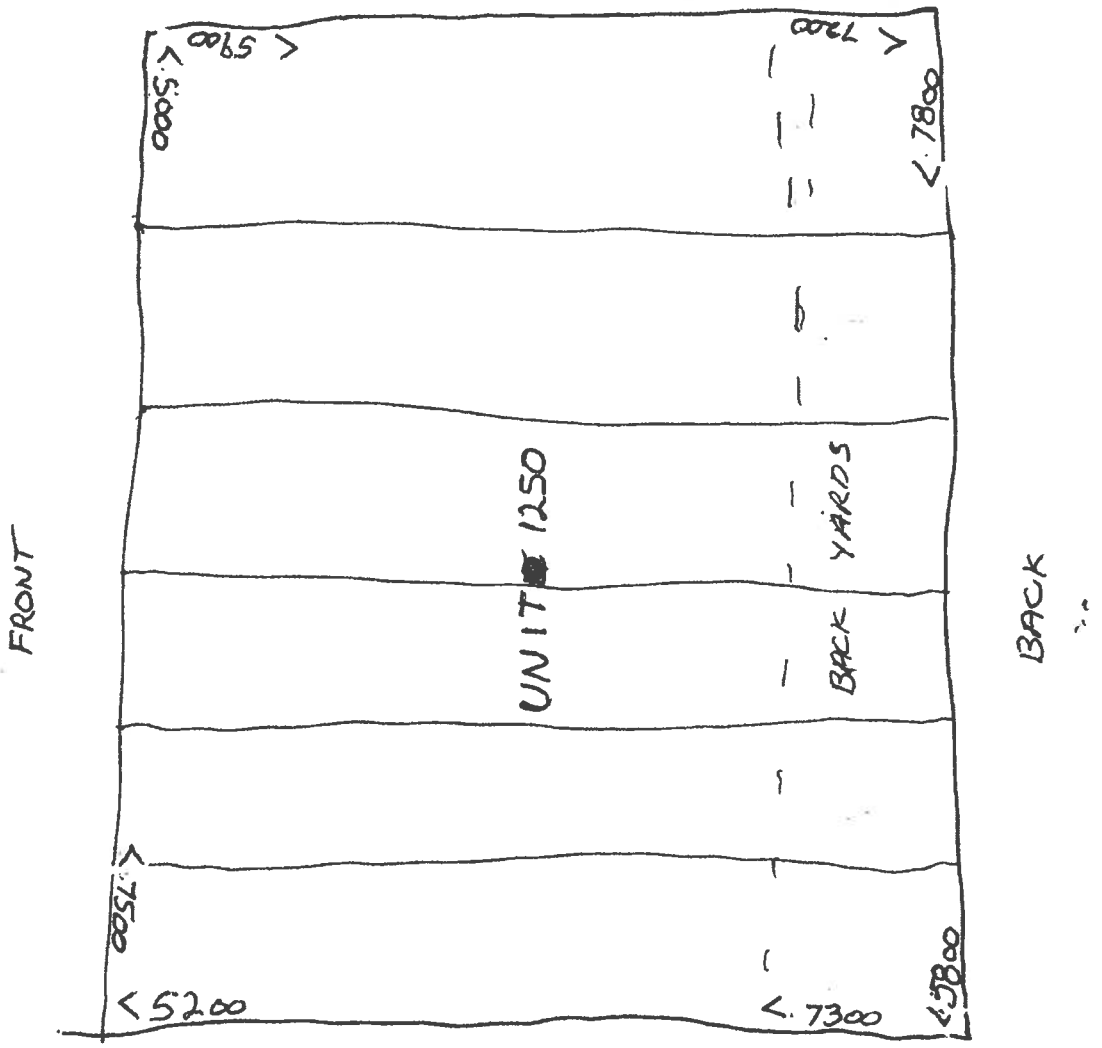
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 012	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building ____apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

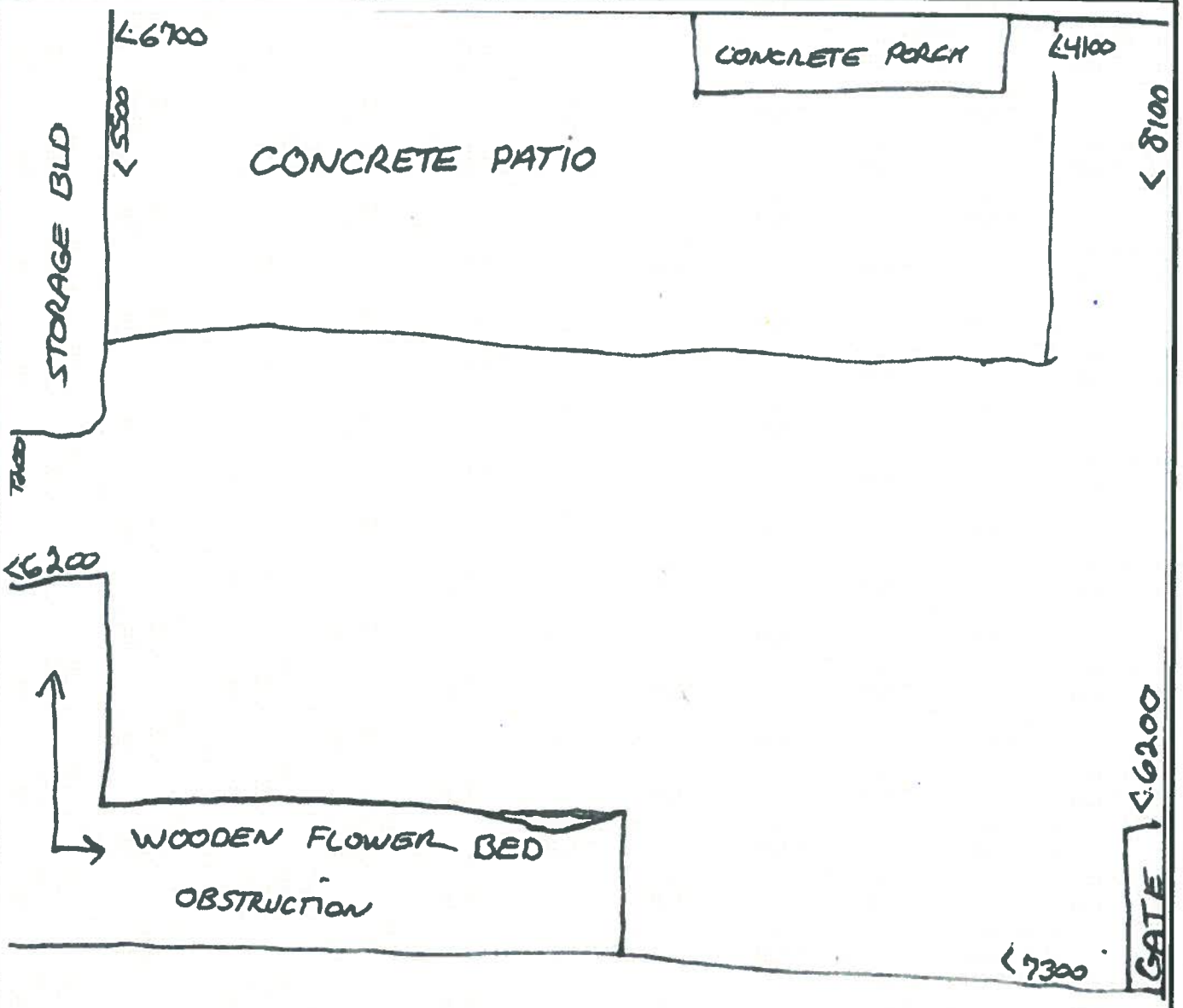
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-013	Date: 9/30/13	Location: Site 12	Survey Type: 2x2 Walkover
James Smith		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6158	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1253 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

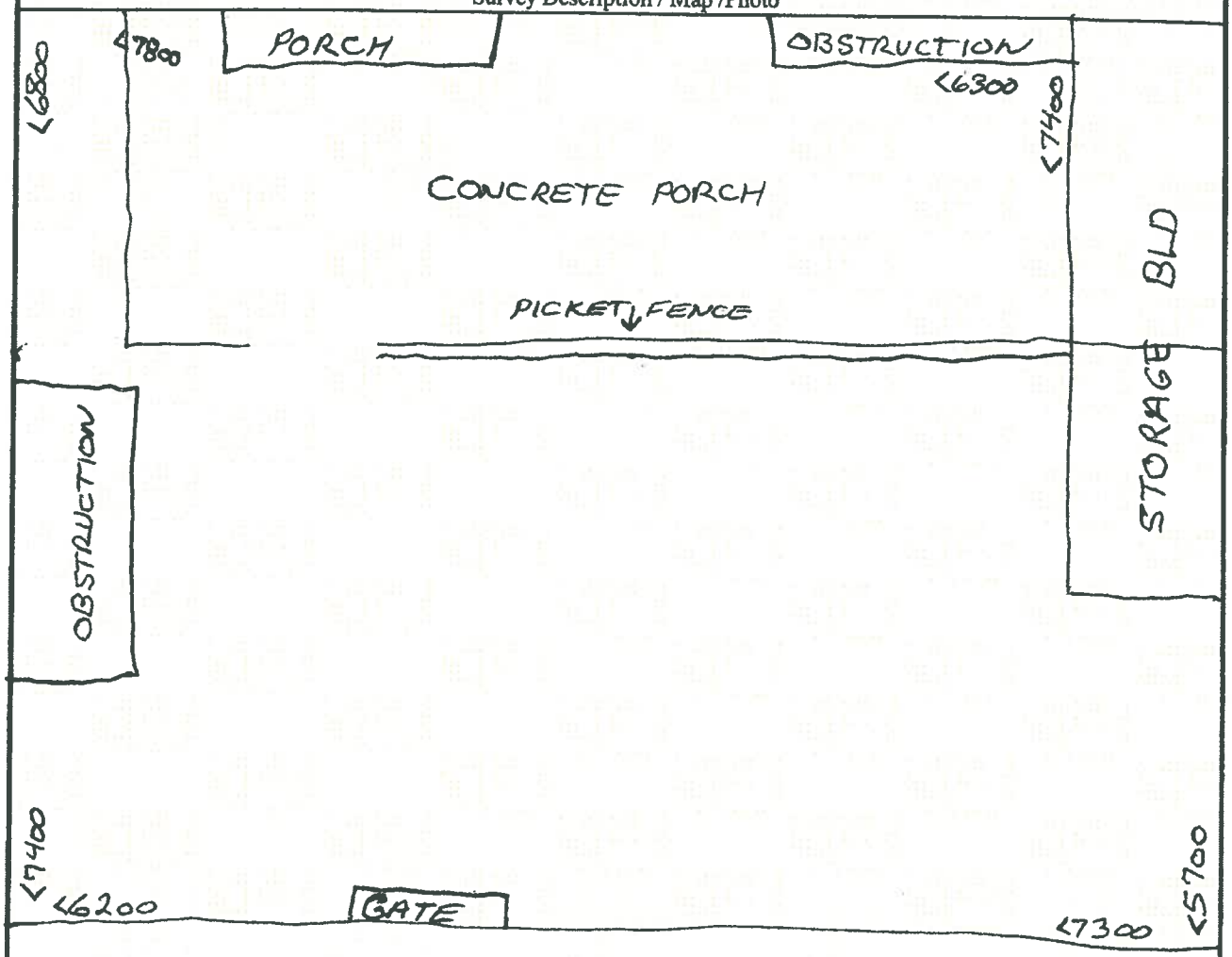
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-013	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 125 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

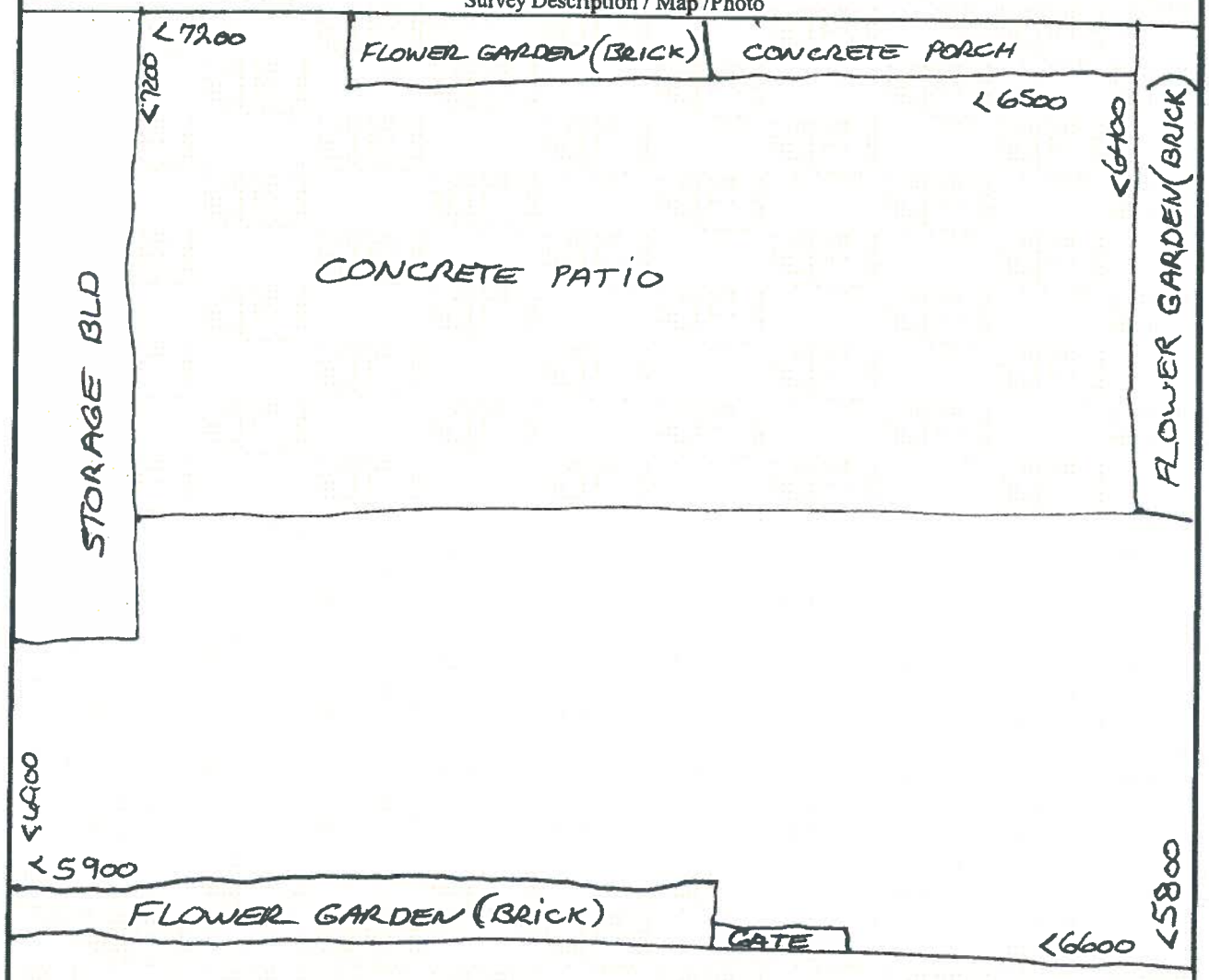
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-013	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1253 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

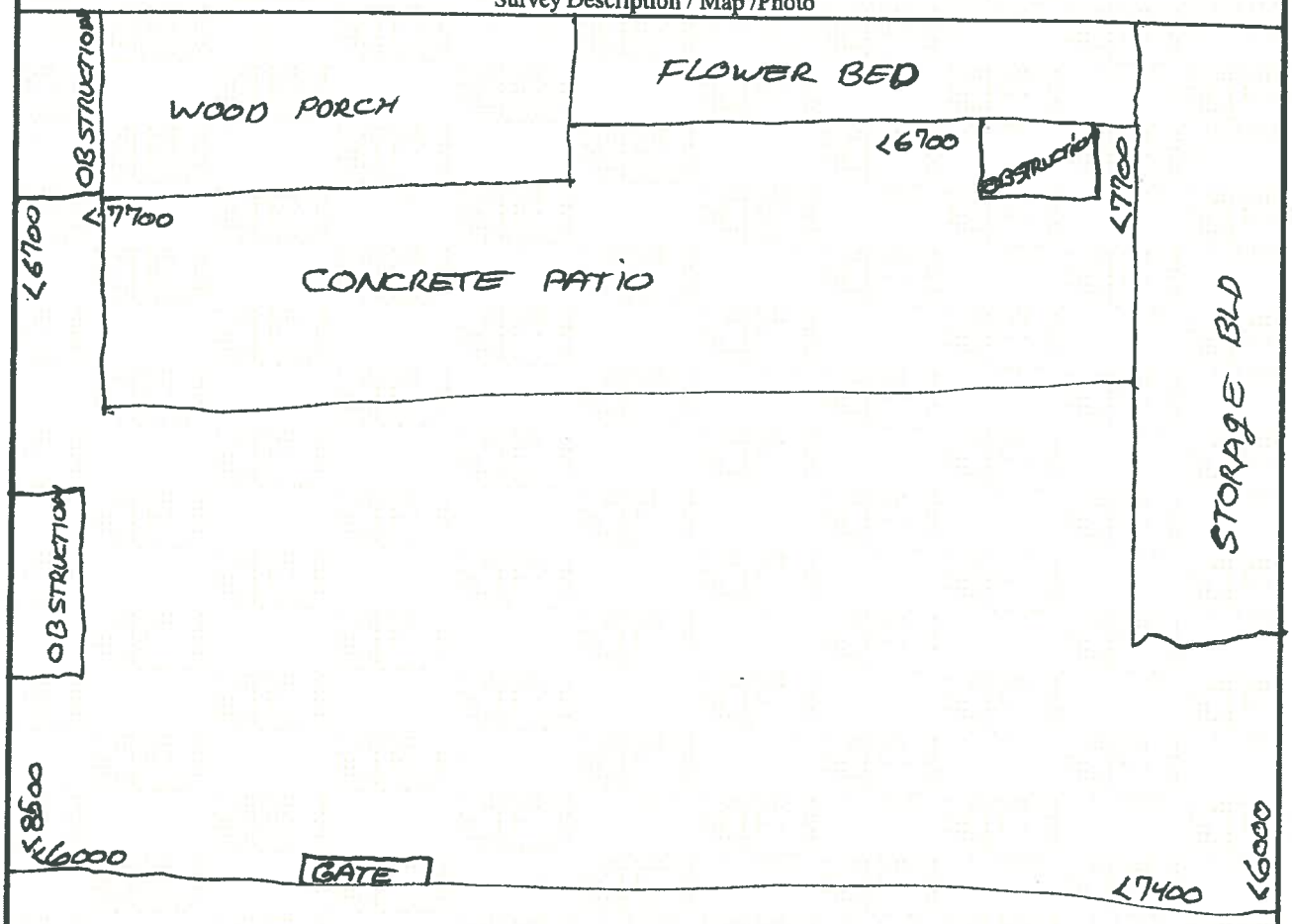
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-013	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1253 apartment "D" Backyard

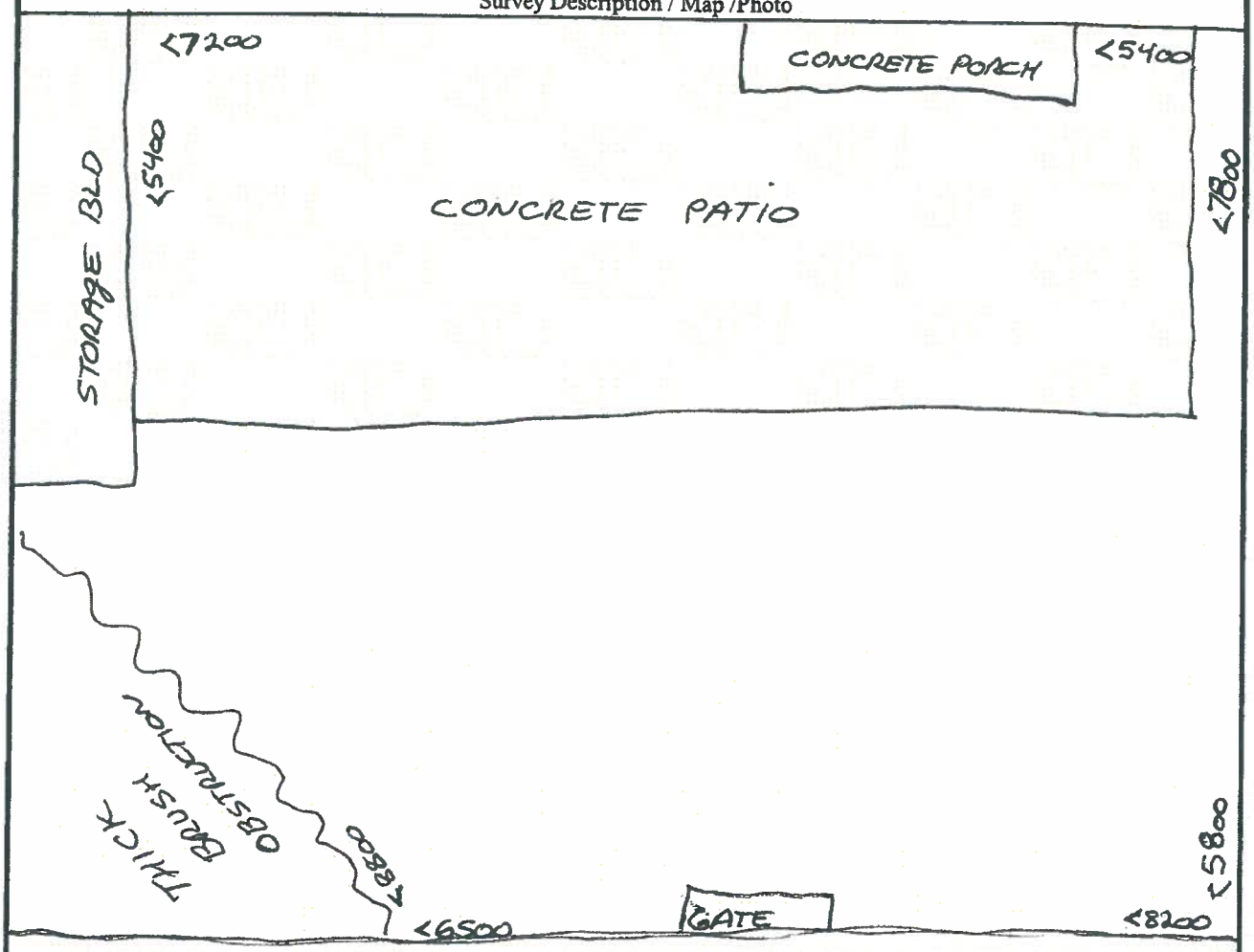
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-013	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1253 apartment "E" Backyard

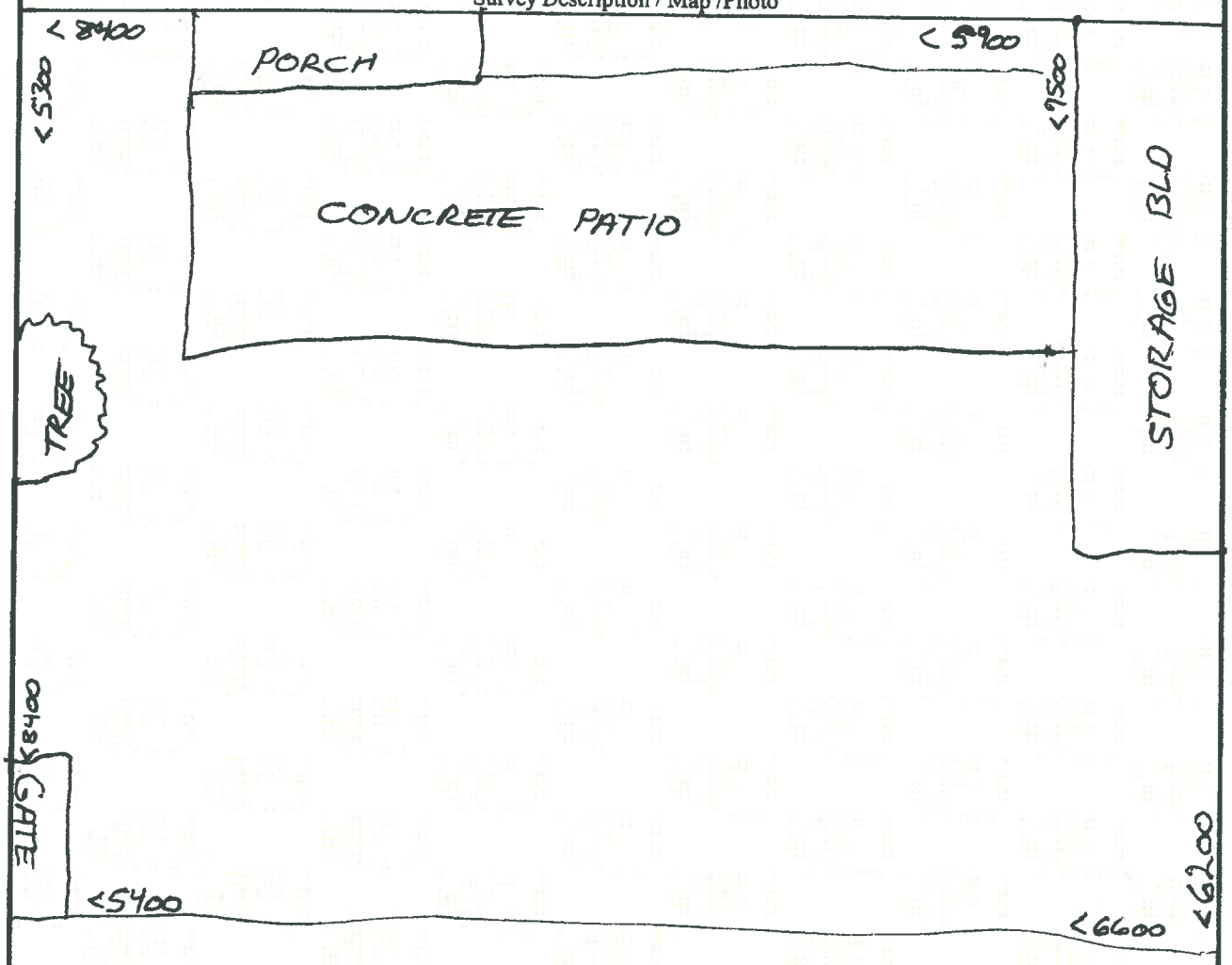
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-013	Date: 9-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1253 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

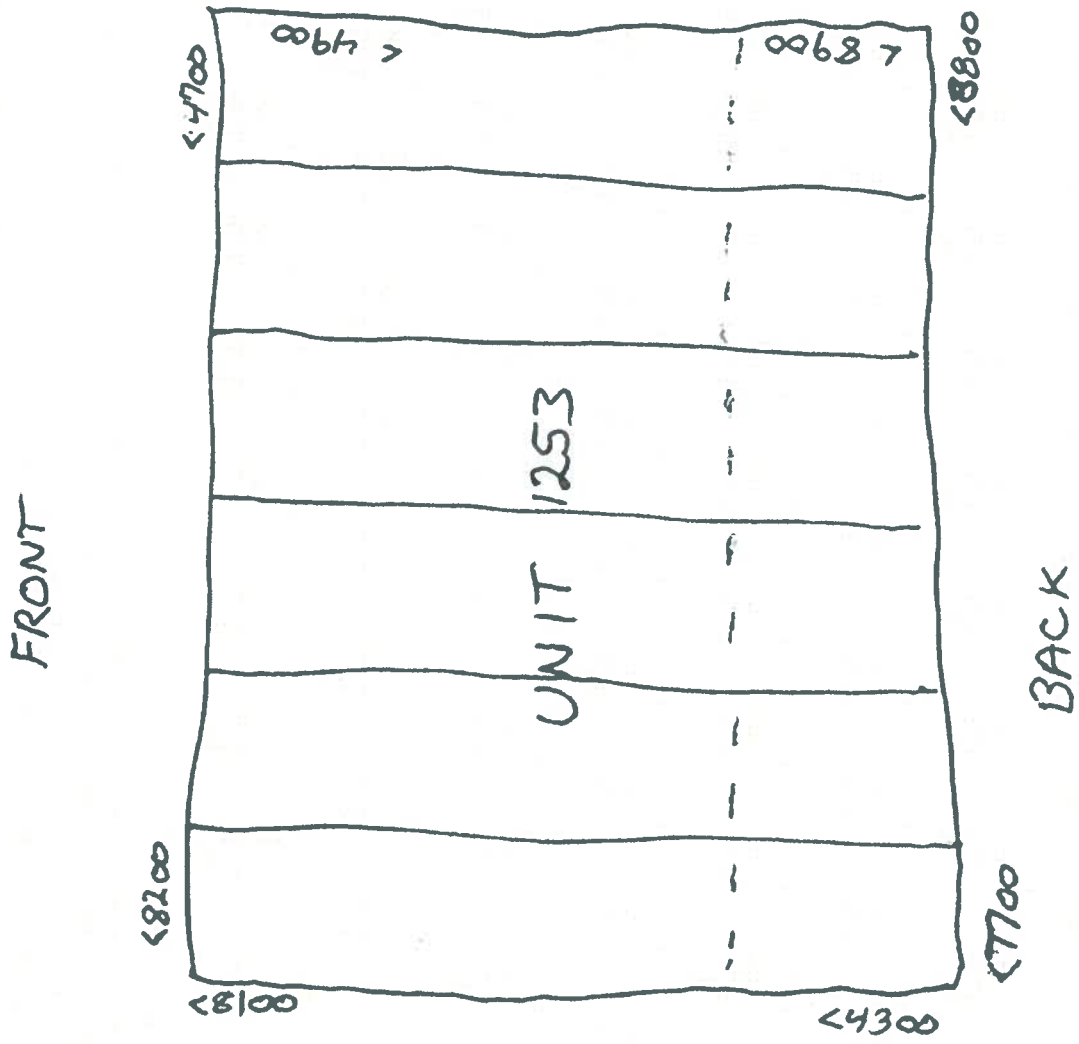
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-013	Date: 9/30/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1253 apartment " N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information

All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

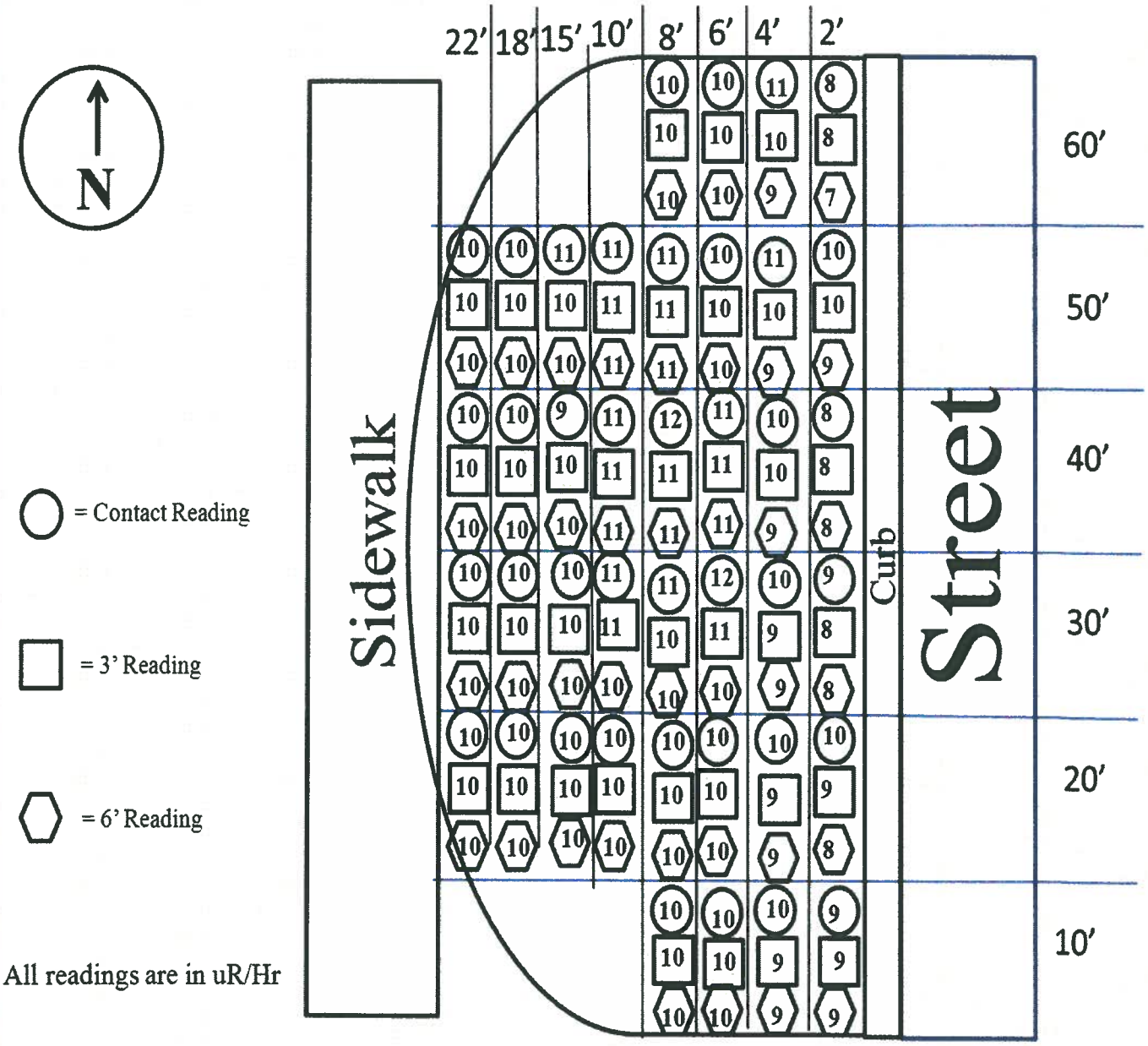
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-014	Date: 9/26/13	Location: Site 12	Survey Type: Investigative
James Wells	James Wells	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
19	23048	7/27/2014	N / A	N / A	N / A	N / A	N / A	N / A	6	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Comments: All Readings are uR/Hr . Single reading per grid at each height.

10' grid length x 2' (or more) width.. Maximum reading 12 uR/Hr near center of survey area.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

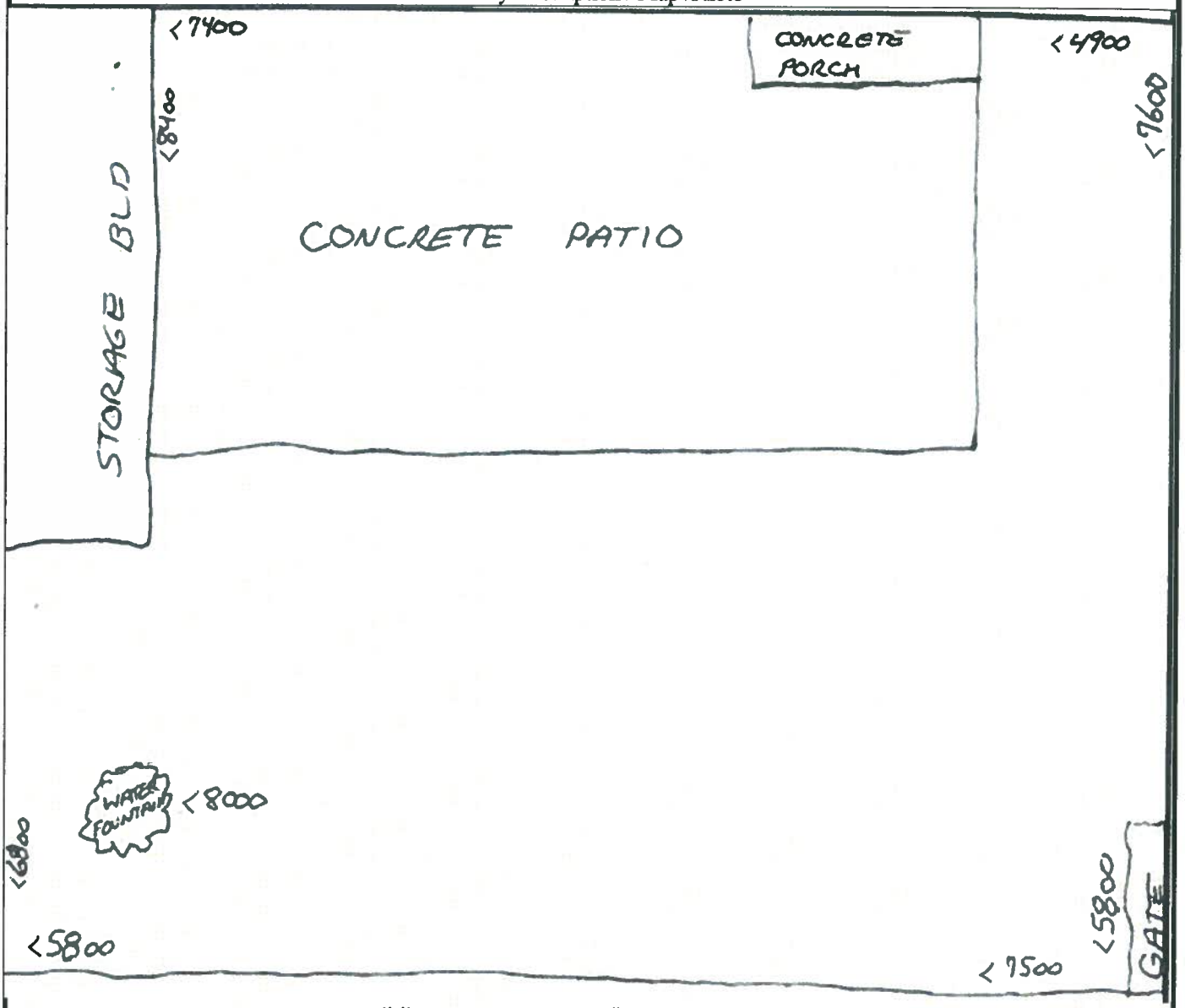
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-015	Date: 10/1/13	Location: Site 12	Survey Type: 2x2 Walkover
James Smith		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6252	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1249 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

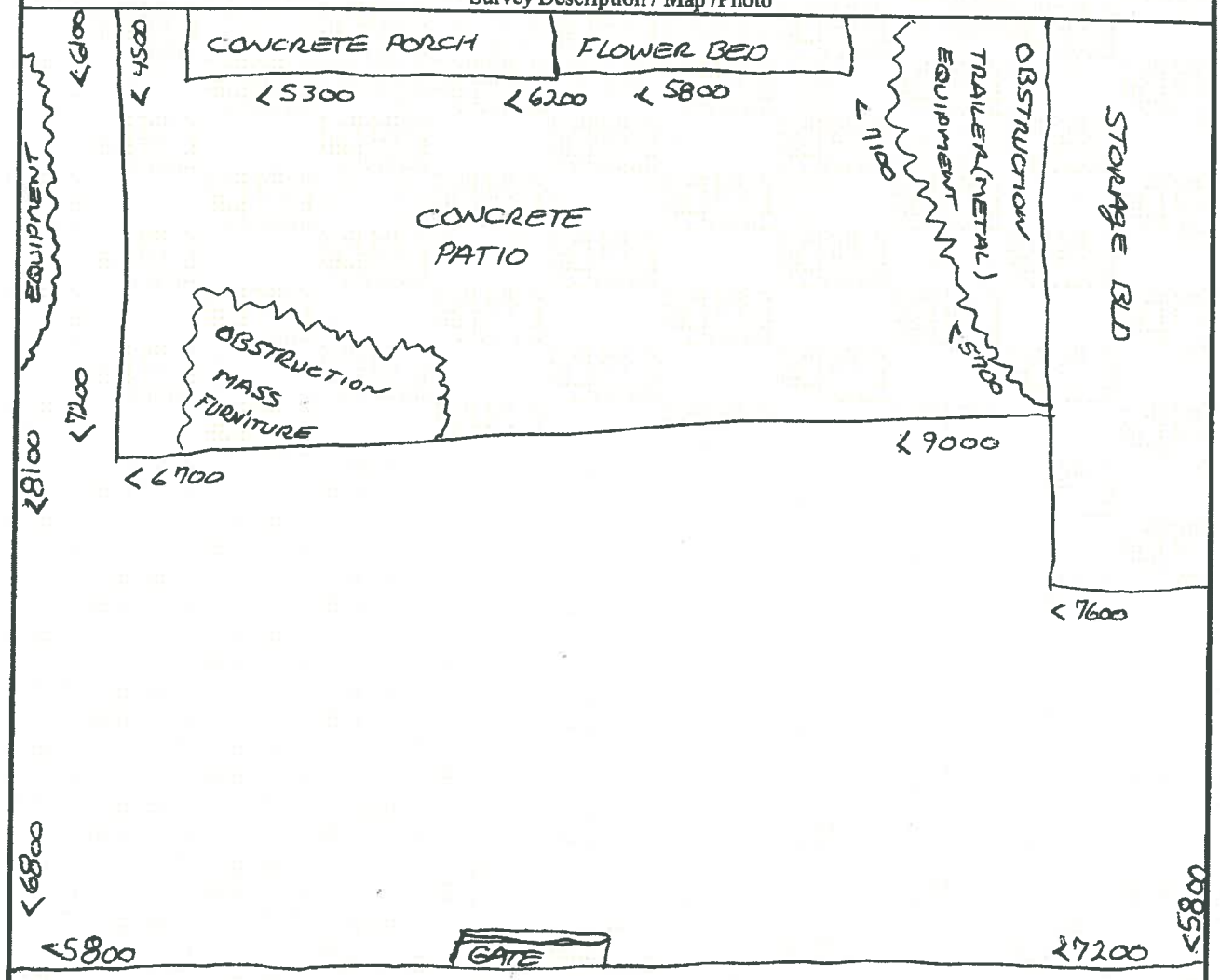
All Readings are in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-015	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1249 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

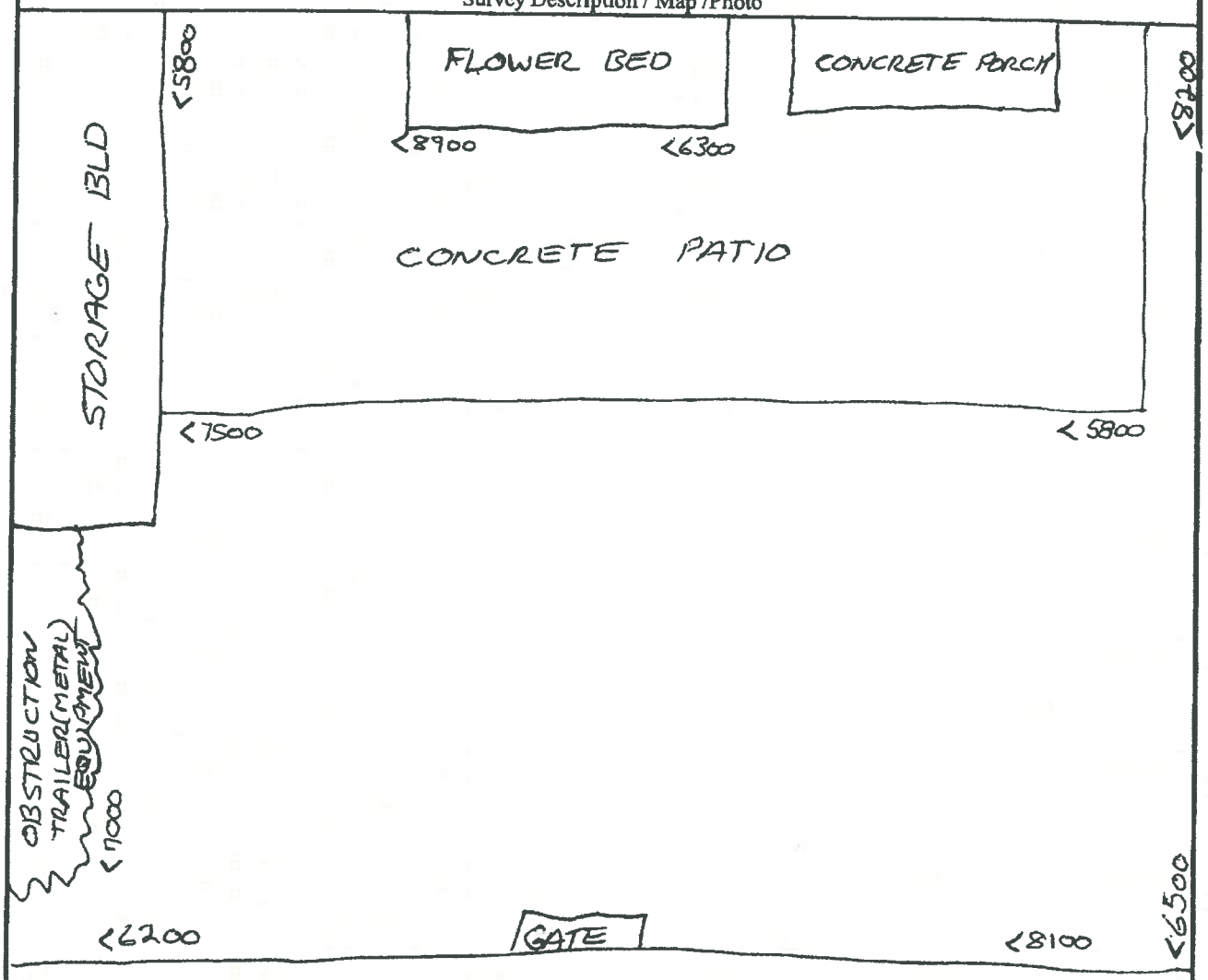
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-015	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1249 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

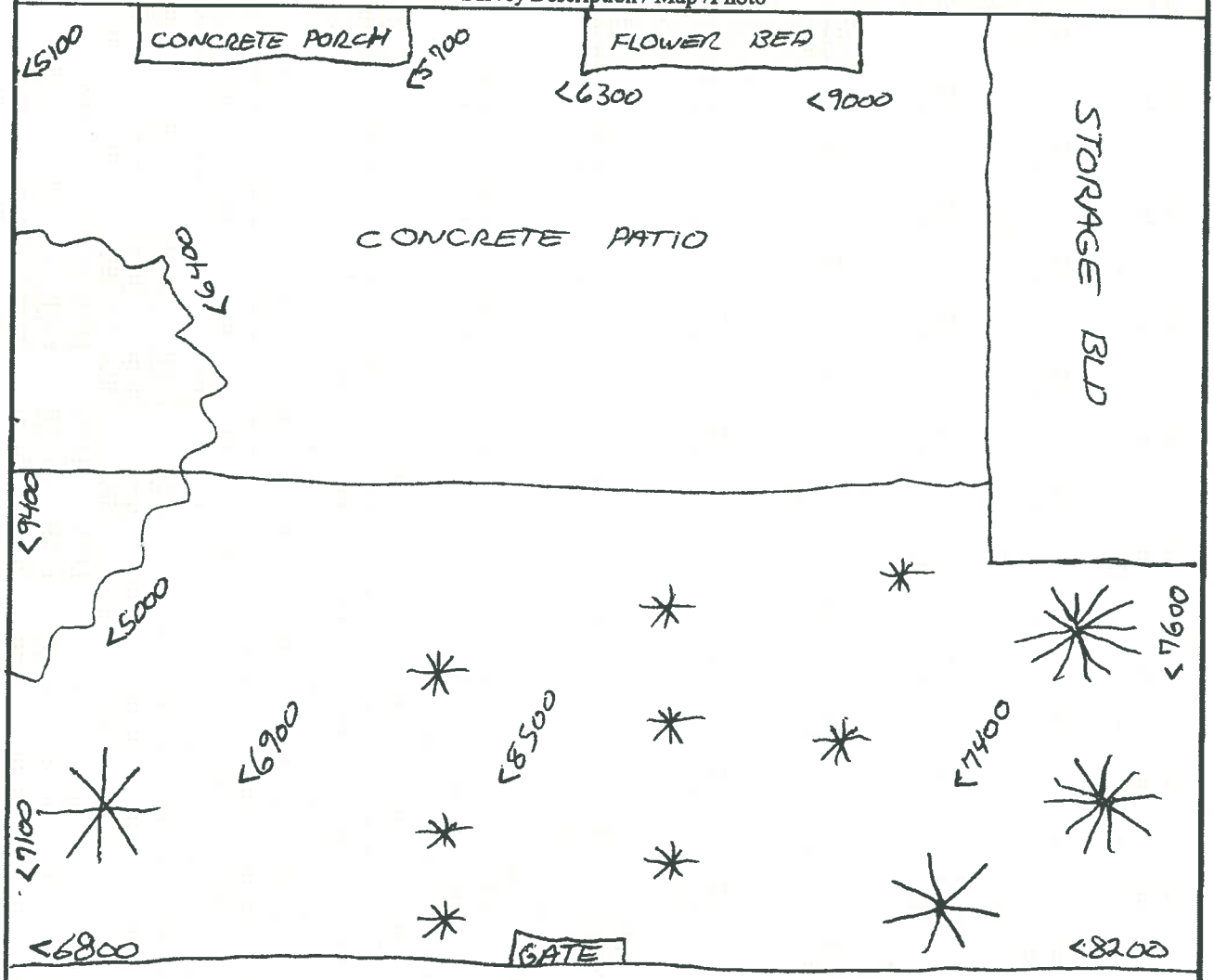
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 015	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

✳ = PLANT OBSTRUCTIONS

Survey Description / Map /Photo



Building 1249 apartment "D" Backyard

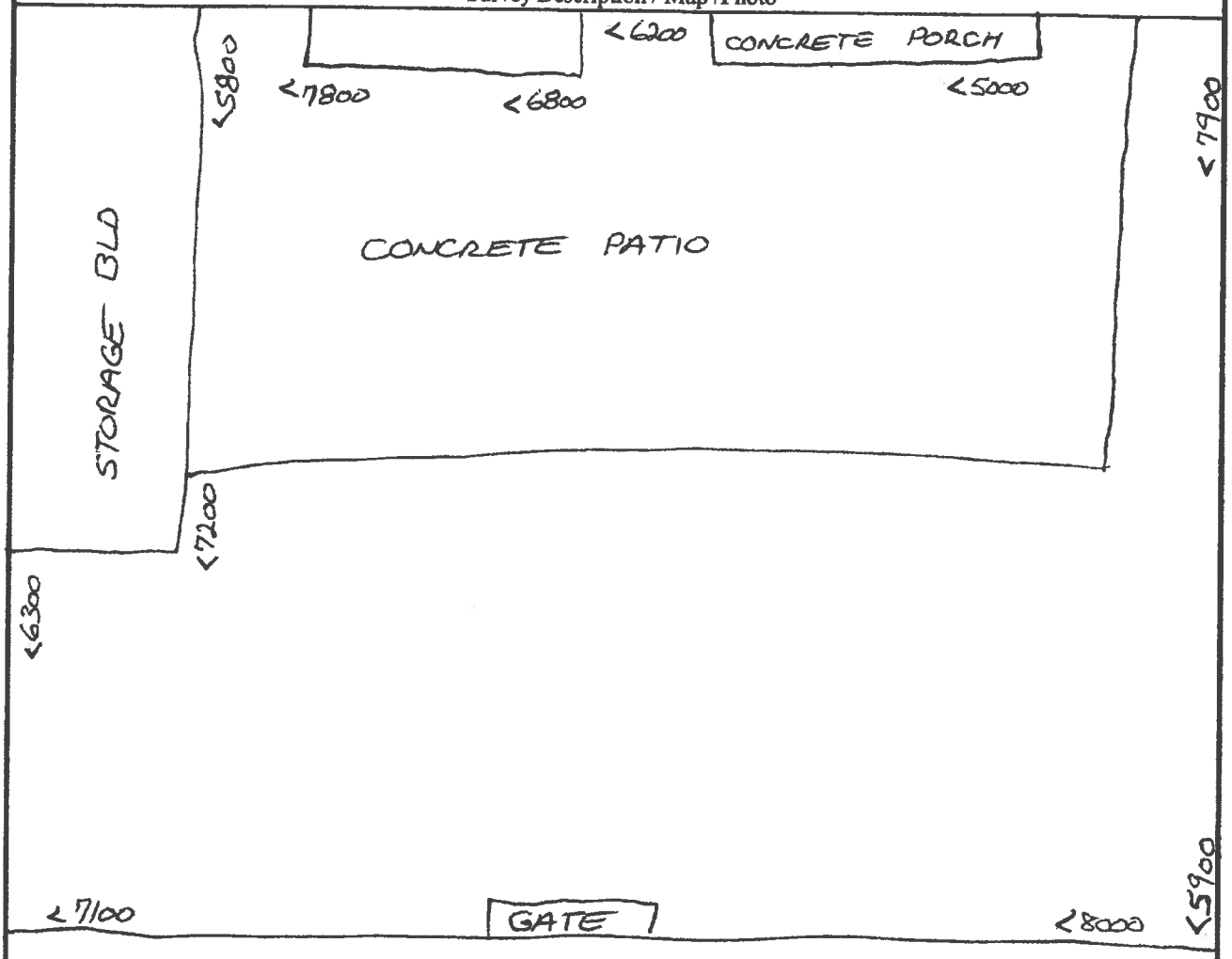
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 015	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1249 apartment "E" Backyard

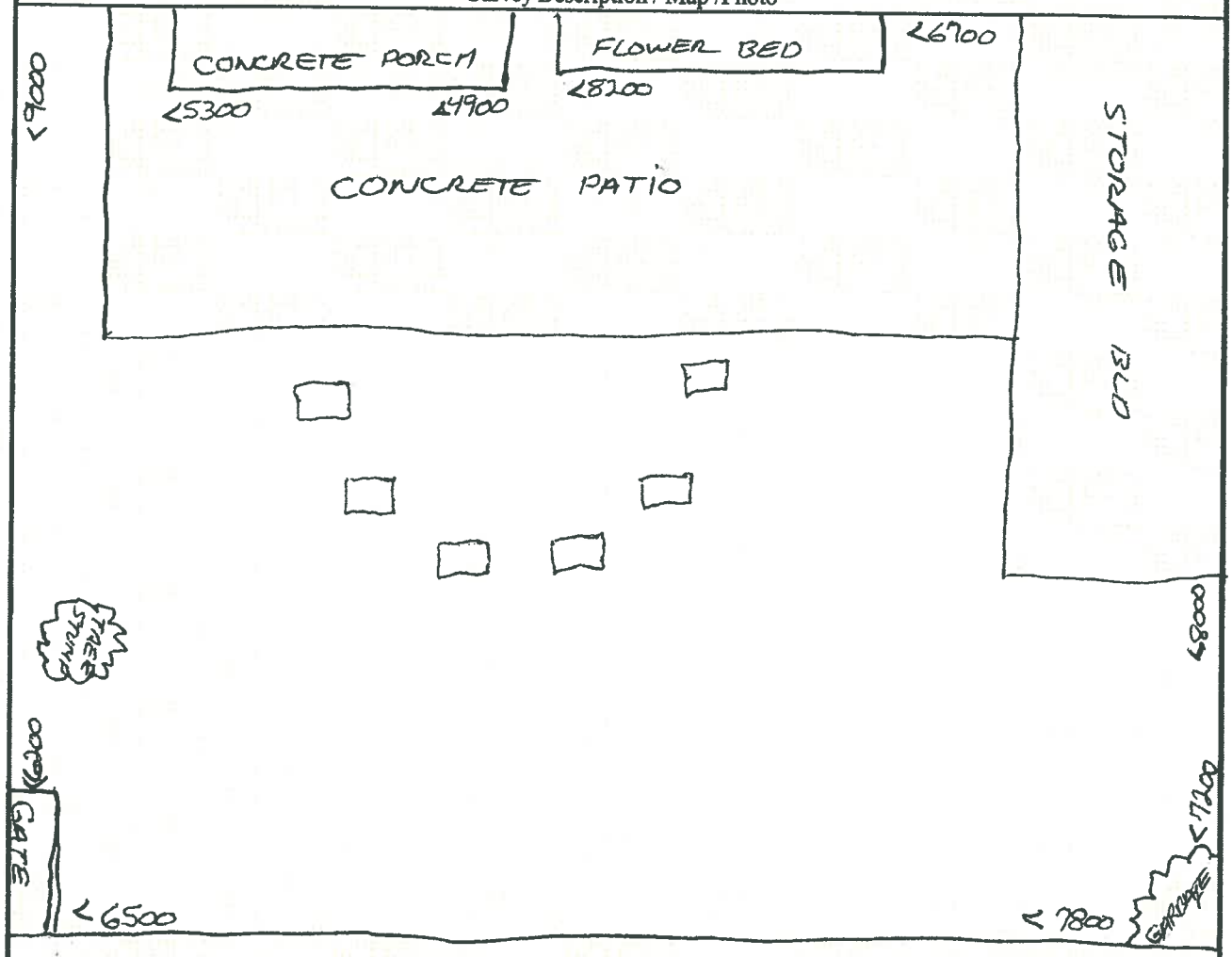
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 015	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1249 apartment "E" Backyard

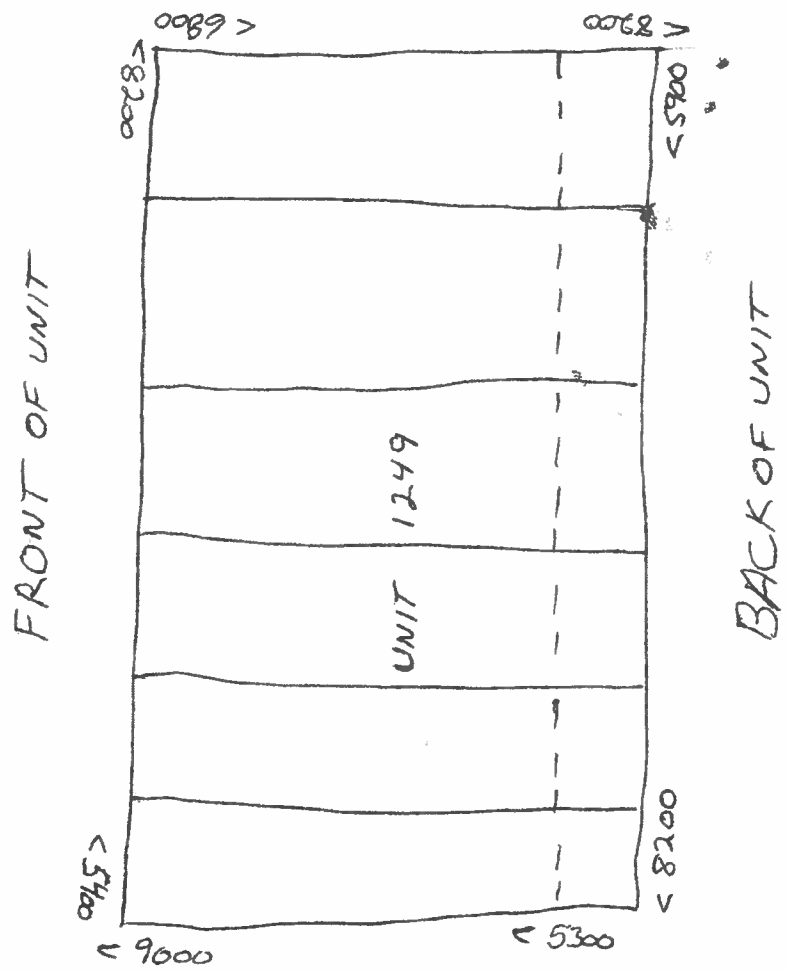
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-015	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1249 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

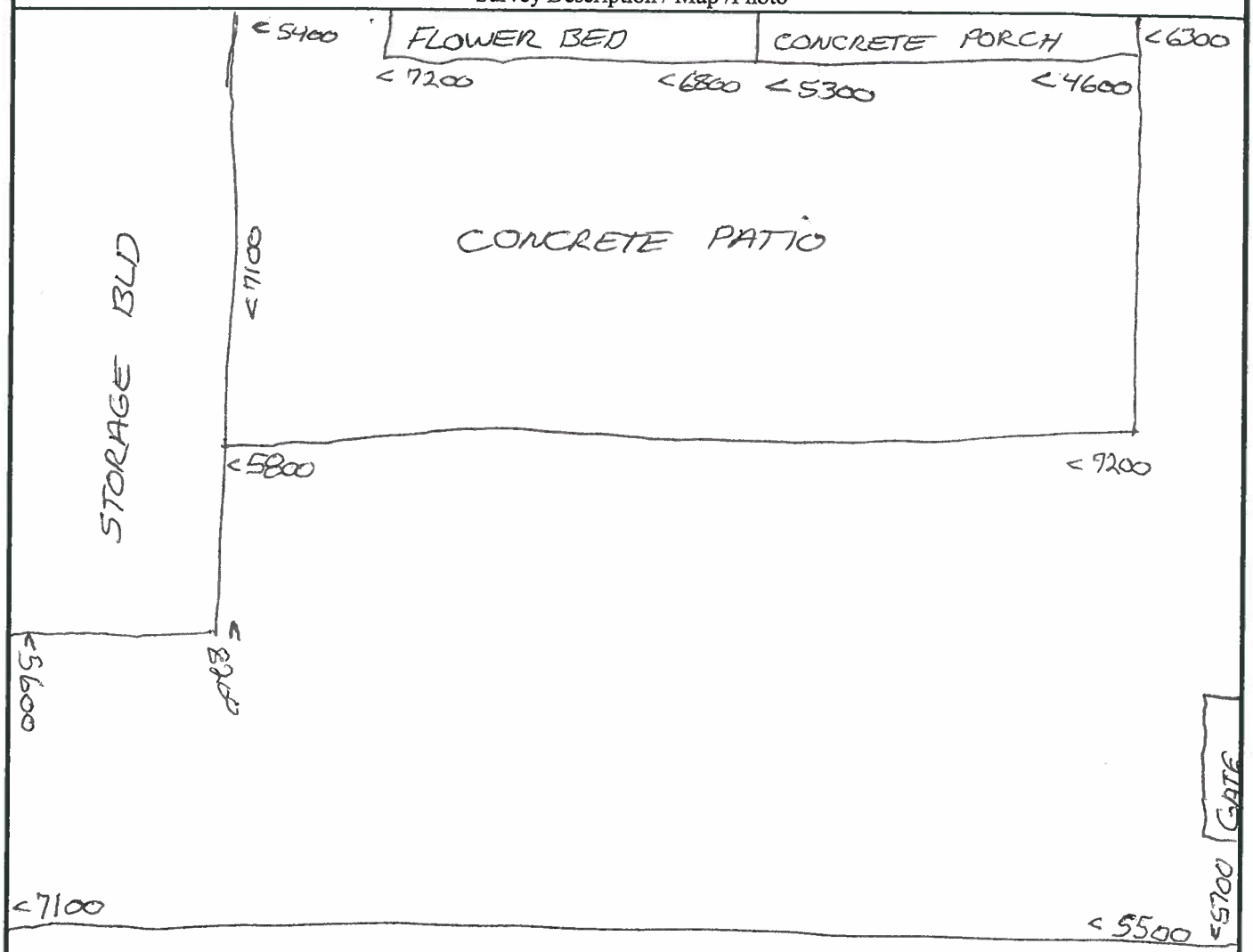
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 016	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	RN19765	27JUN14	N/A	N/A	5824	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1245 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

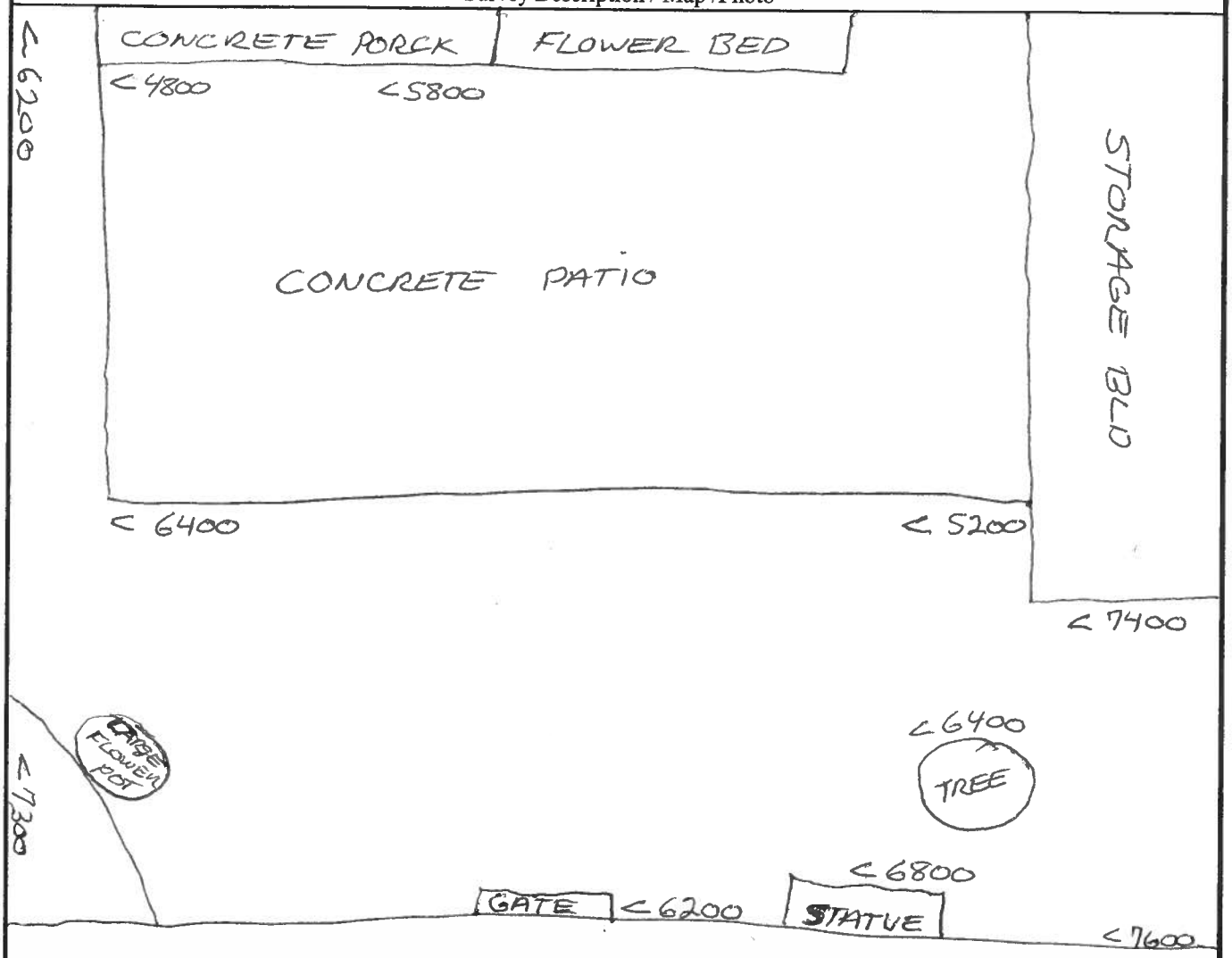
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-016	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1245 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

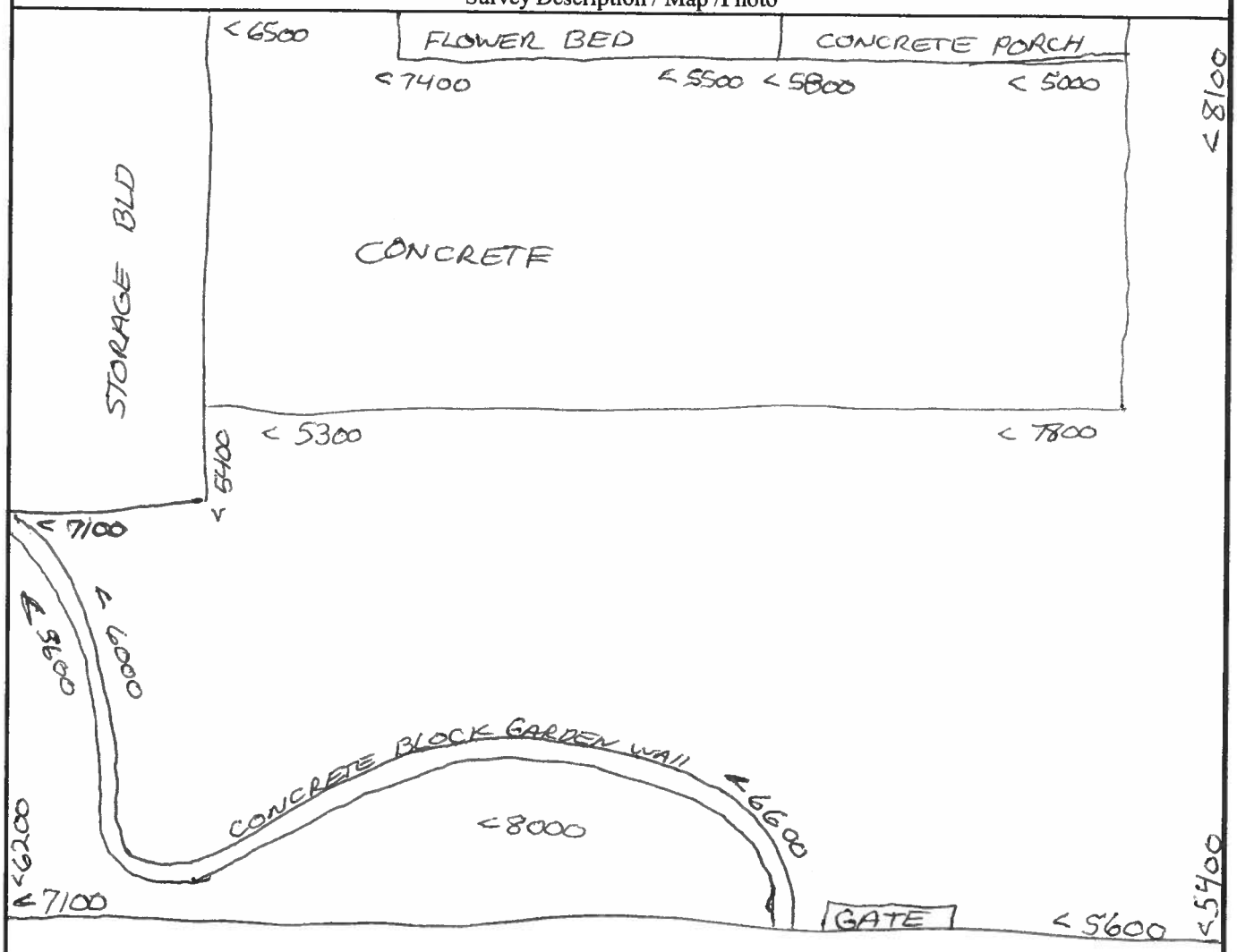
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 016	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 245 apartment "C" Backyard

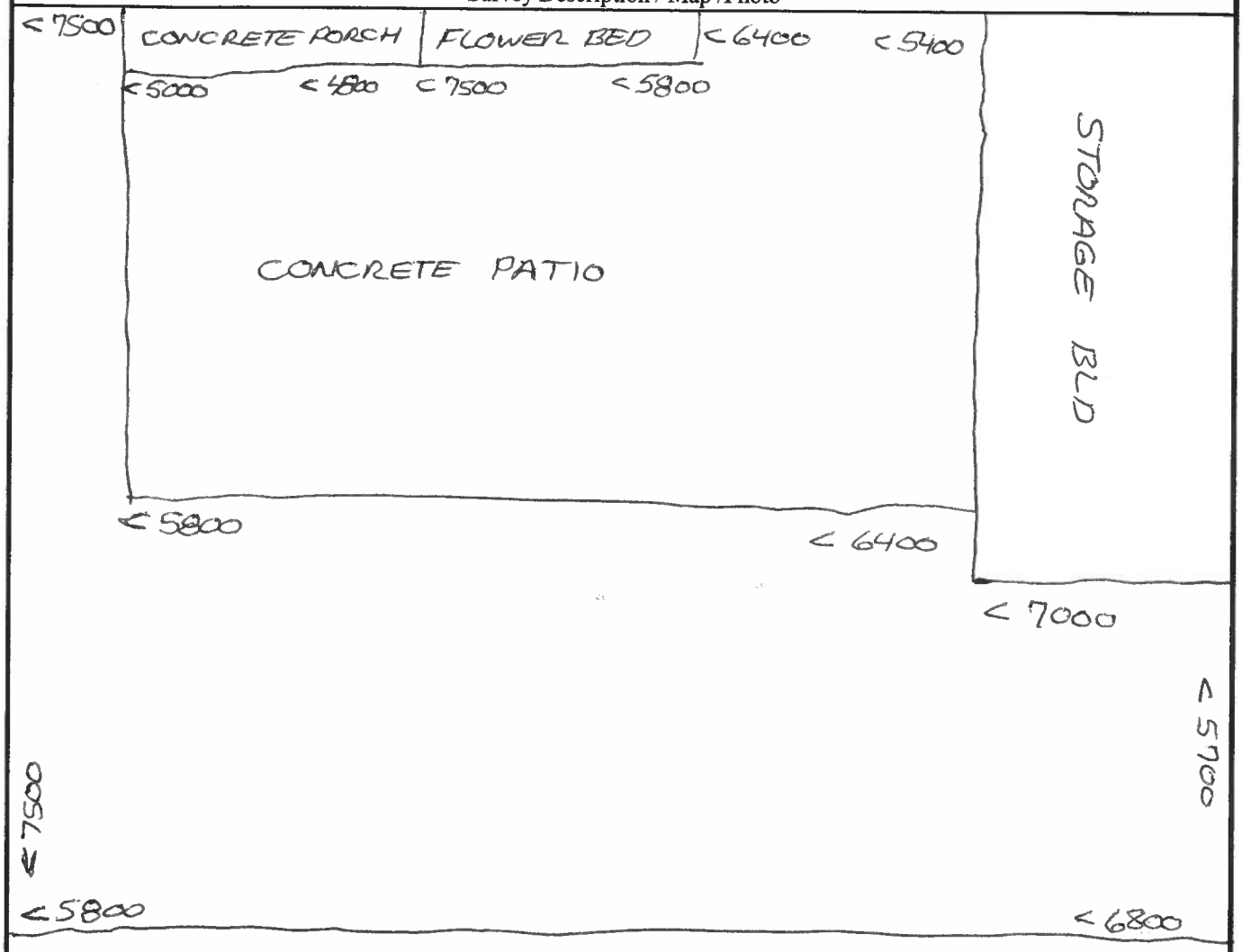
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 016	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1245 apartment "D" Backyard

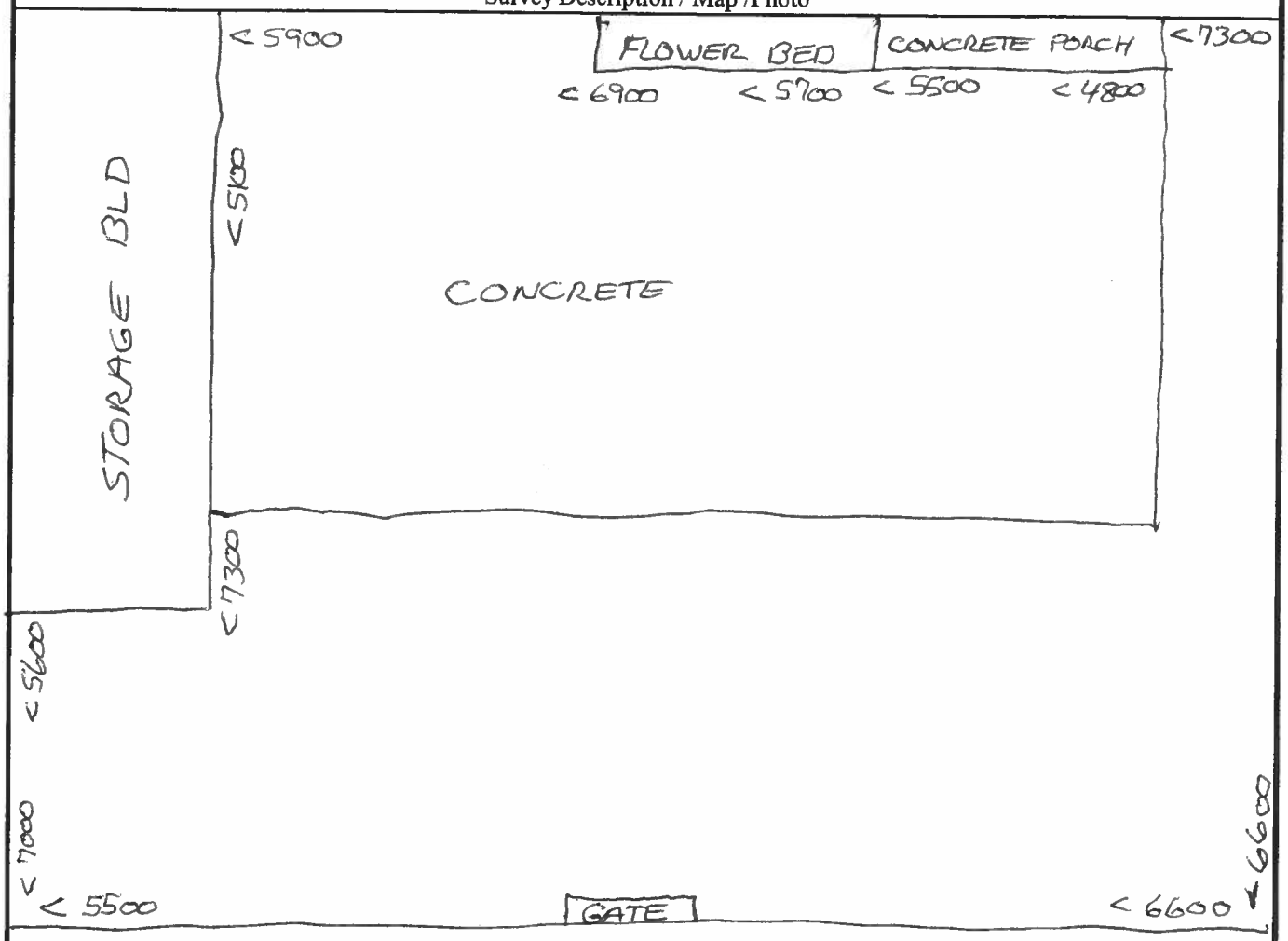
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- D1L	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1245 apartment "E" Backyard

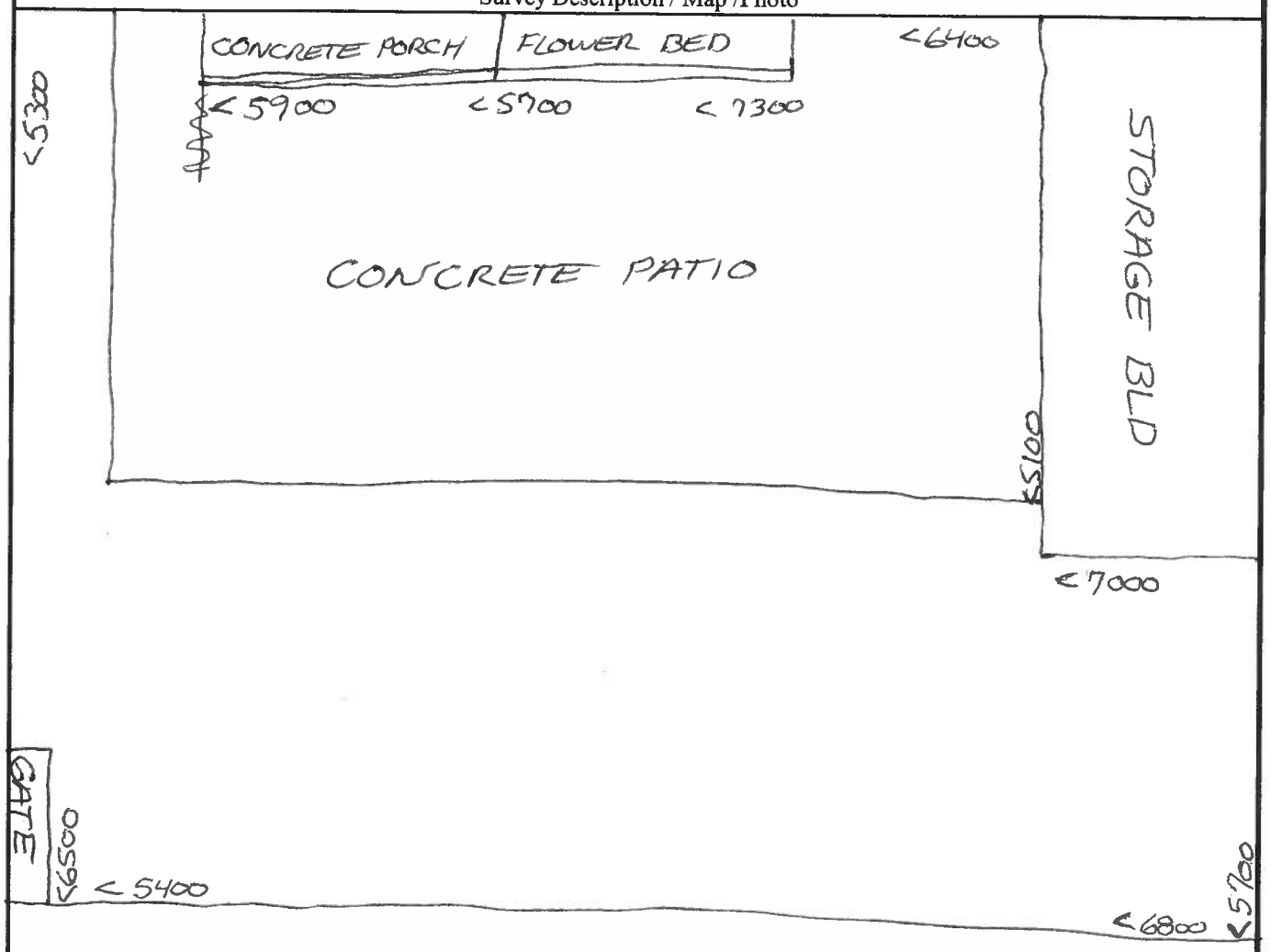
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 016	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 245 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

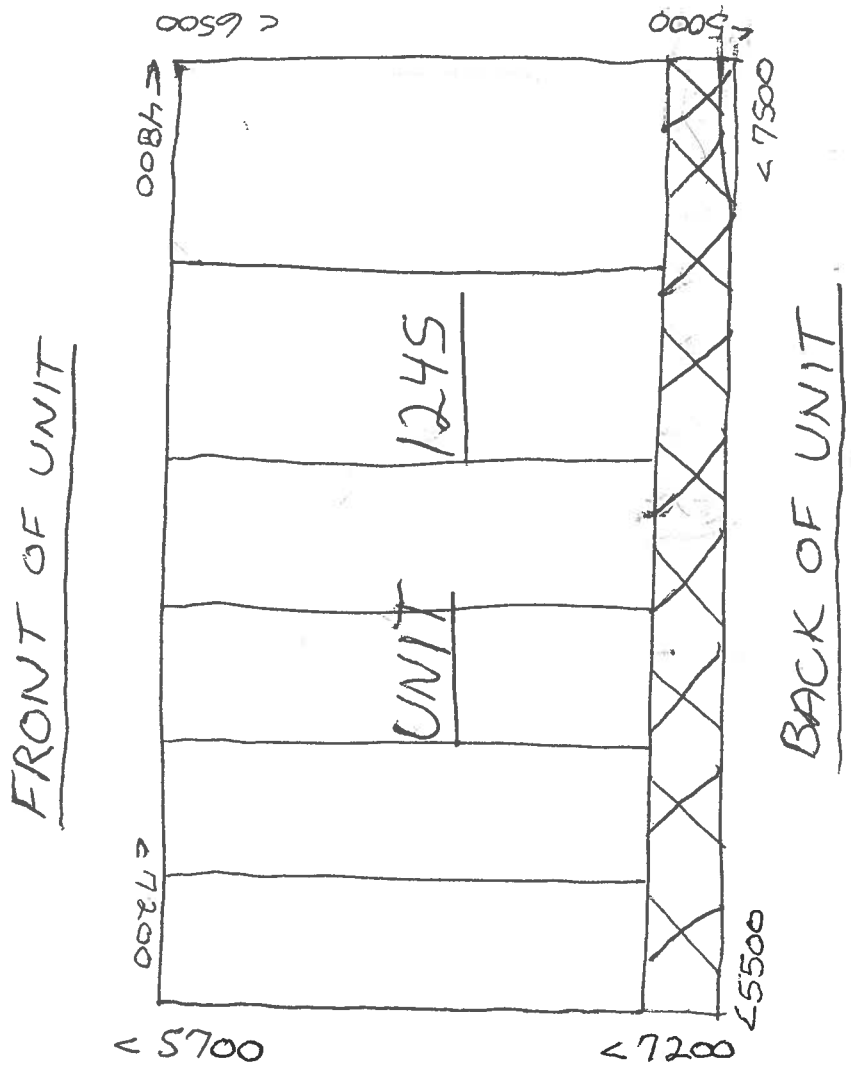
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 016	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1245 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

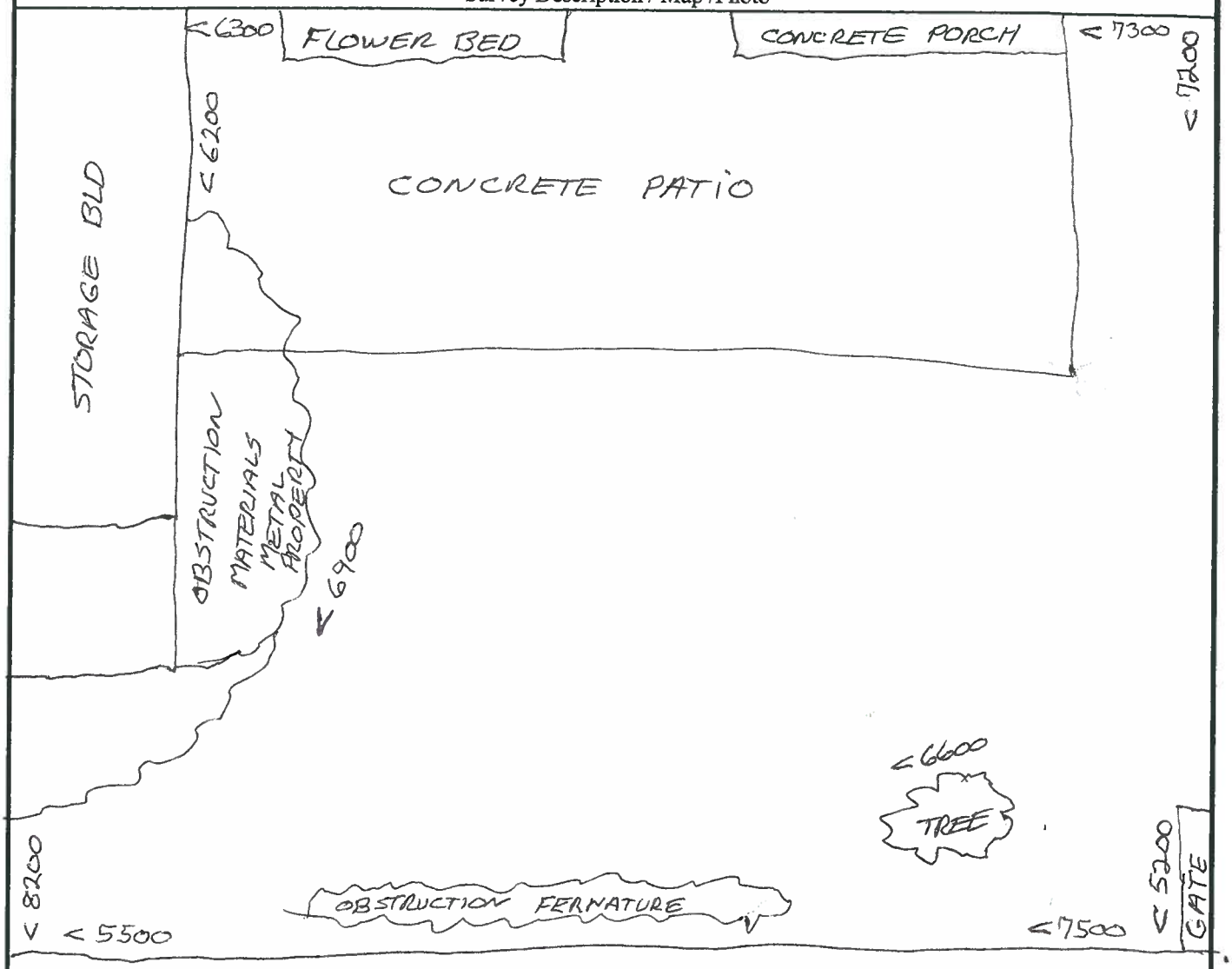
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-~~018~~ 017 RN 10-2-13	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	RN19765	27JUN14	N/A	N/A	5824	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1247 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

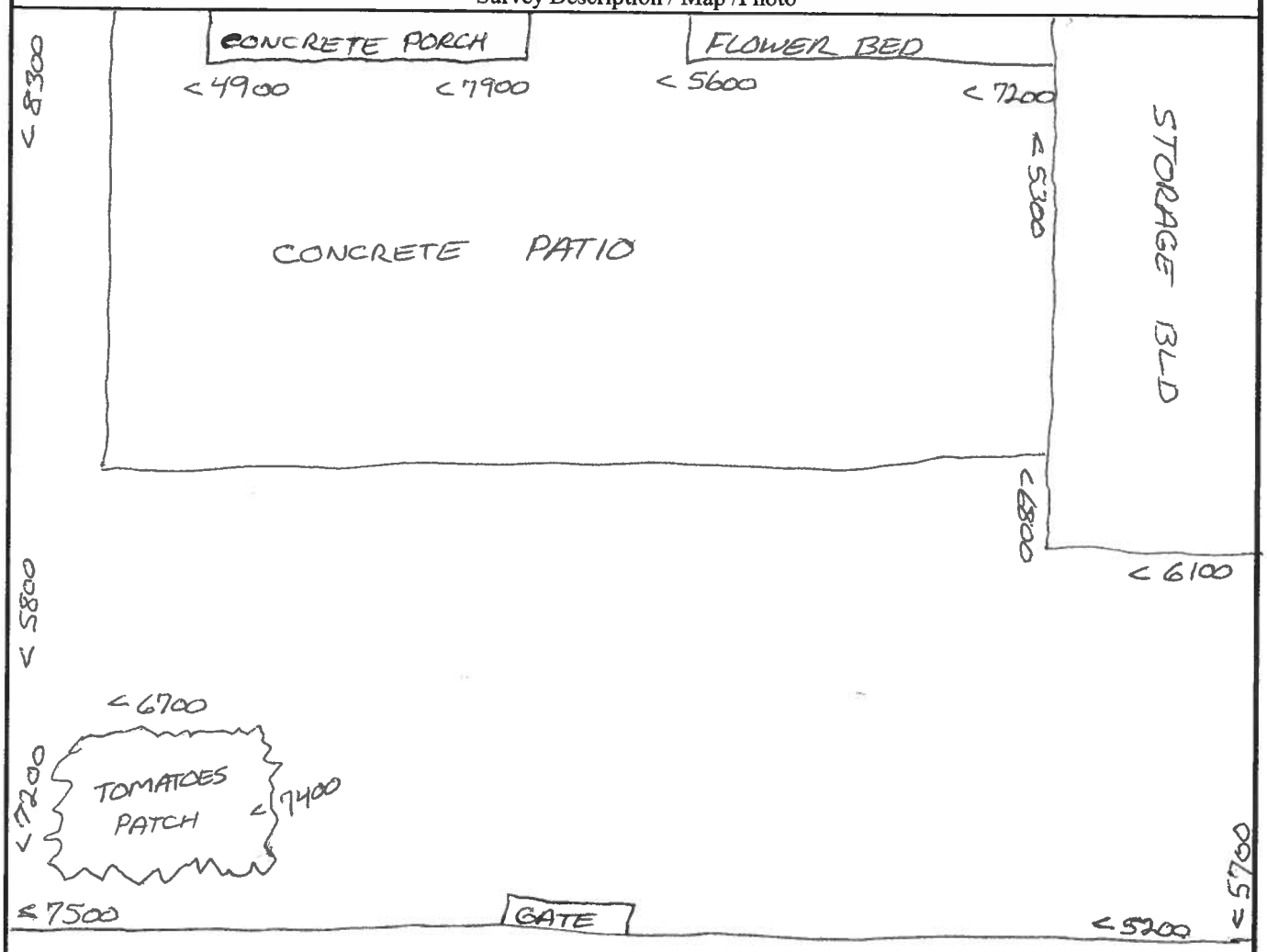
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-~~048~~ 047 Pw 10-2-13	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

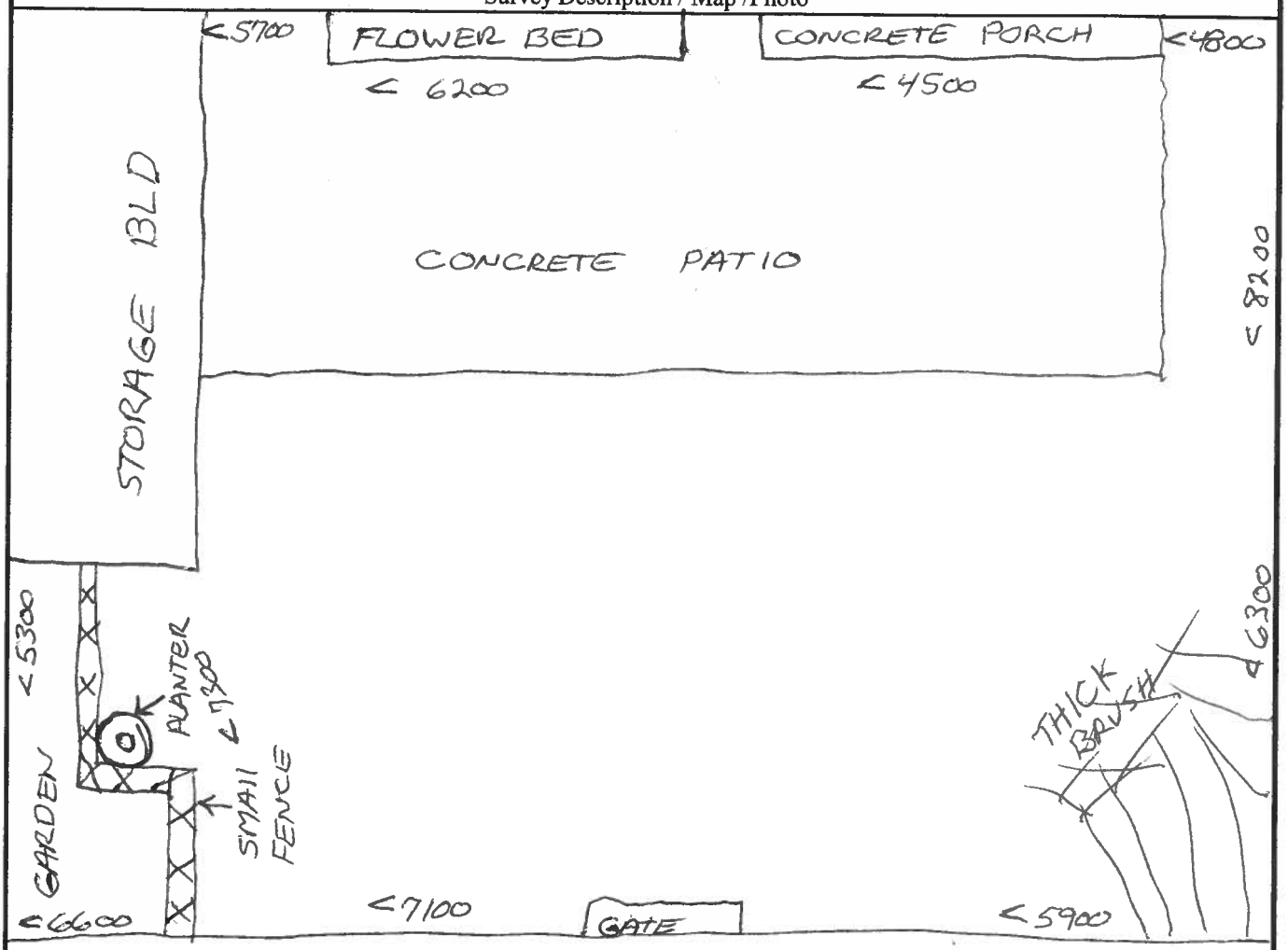
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 017	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment "C" Backyard

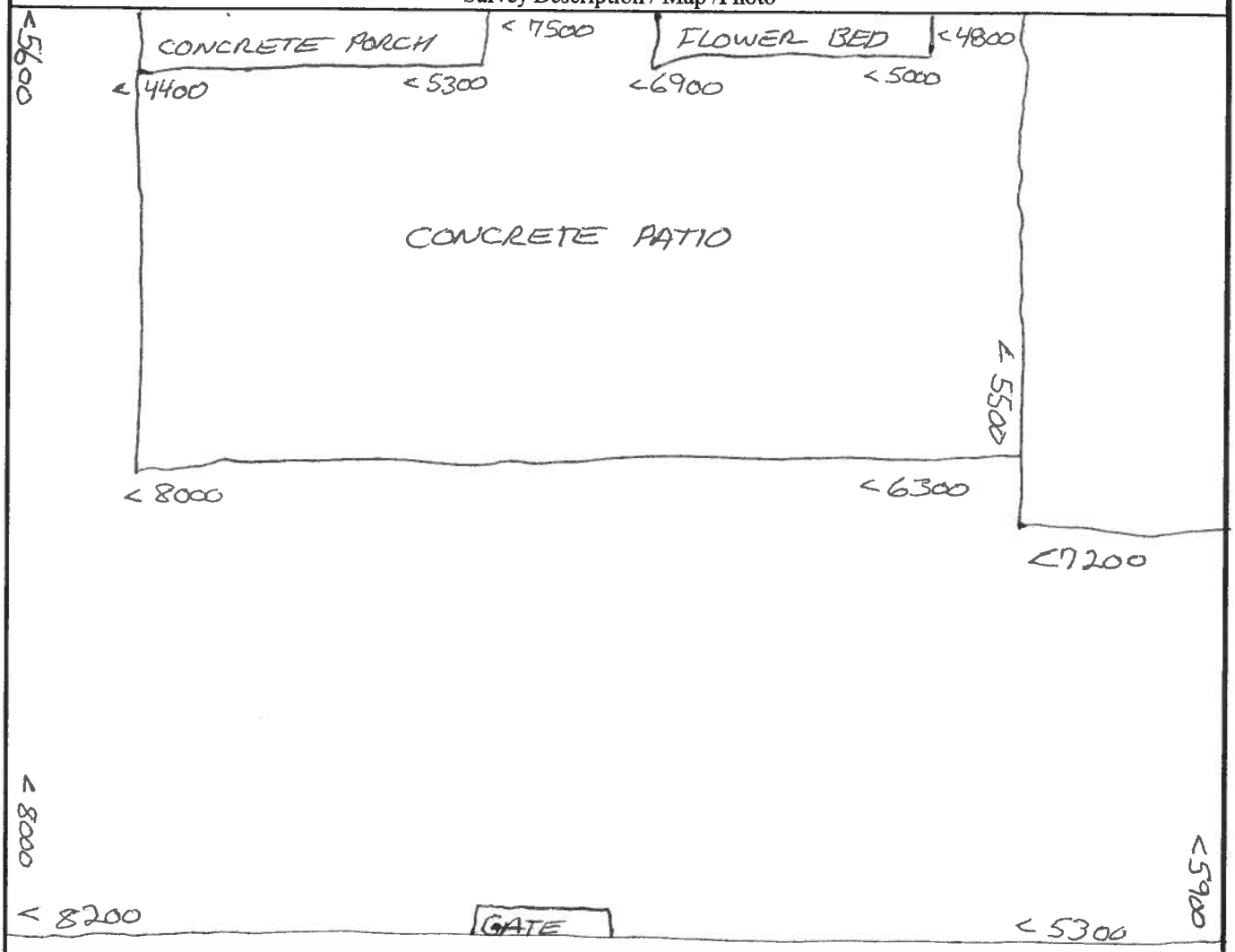
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 017	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment "D" Backyard

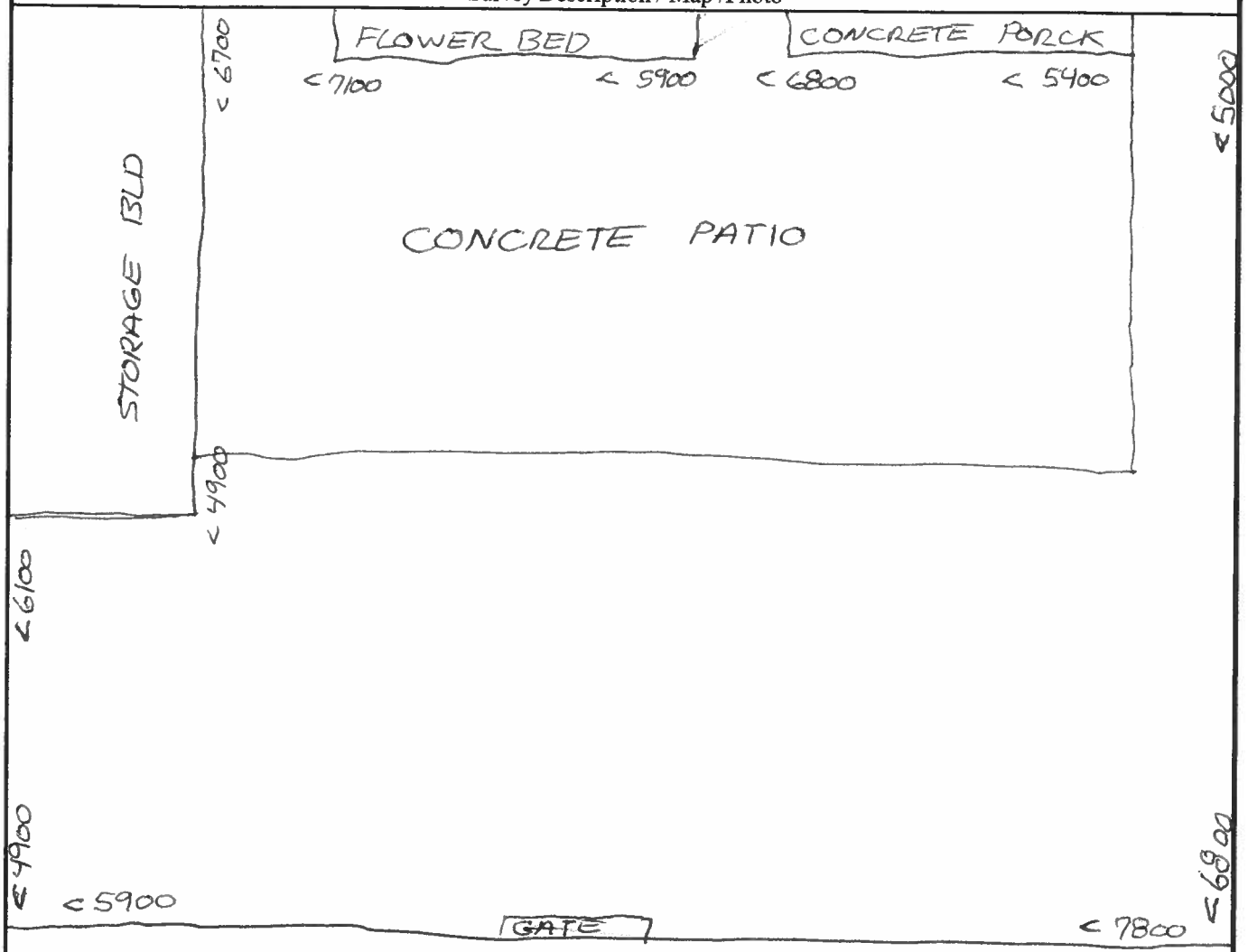
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12- 017	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

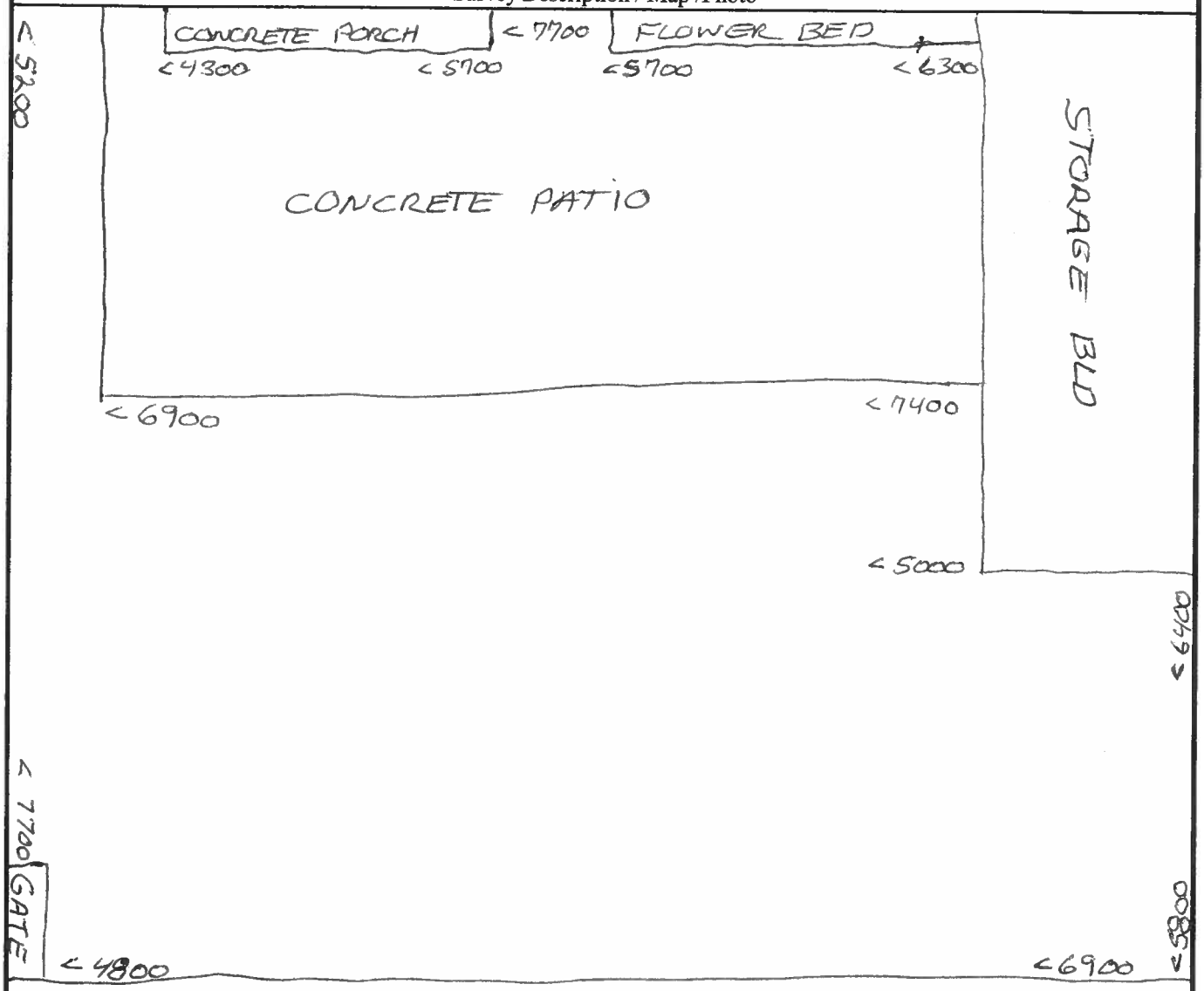
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-017	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment "F" Backyard

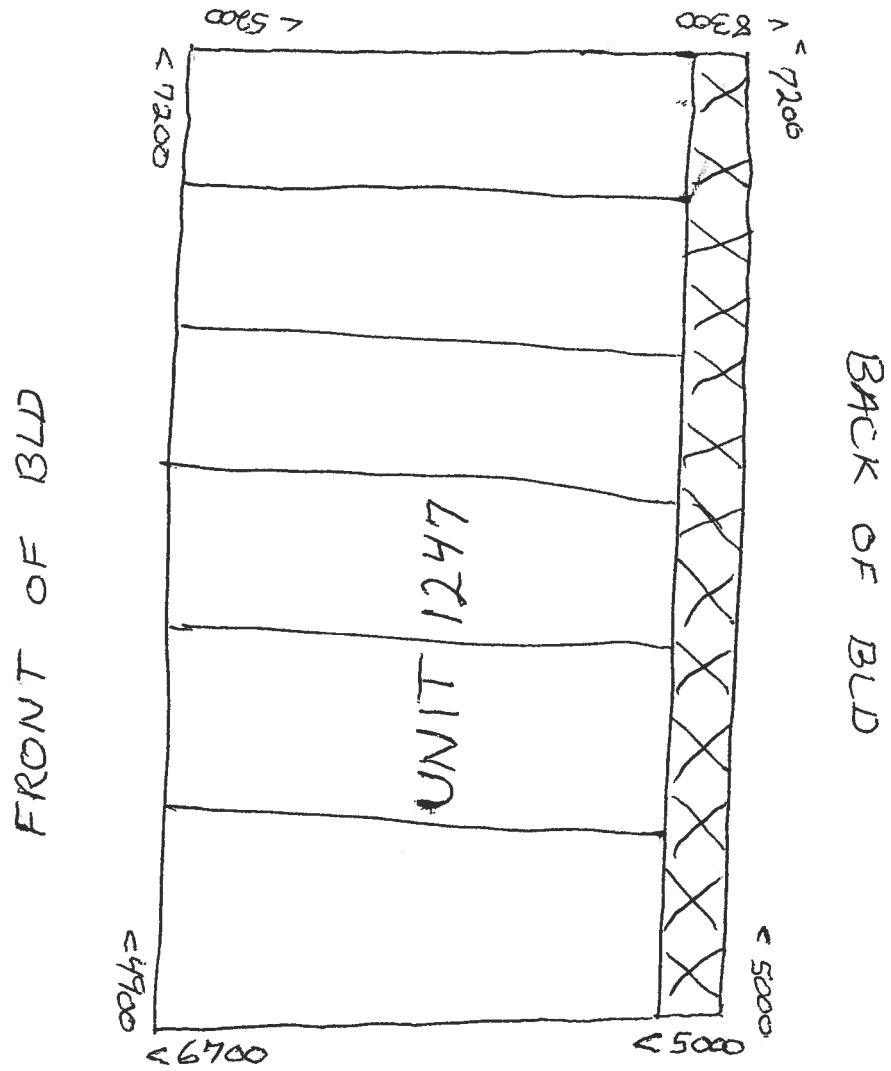
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 017	Date: 10-1-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment "4A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

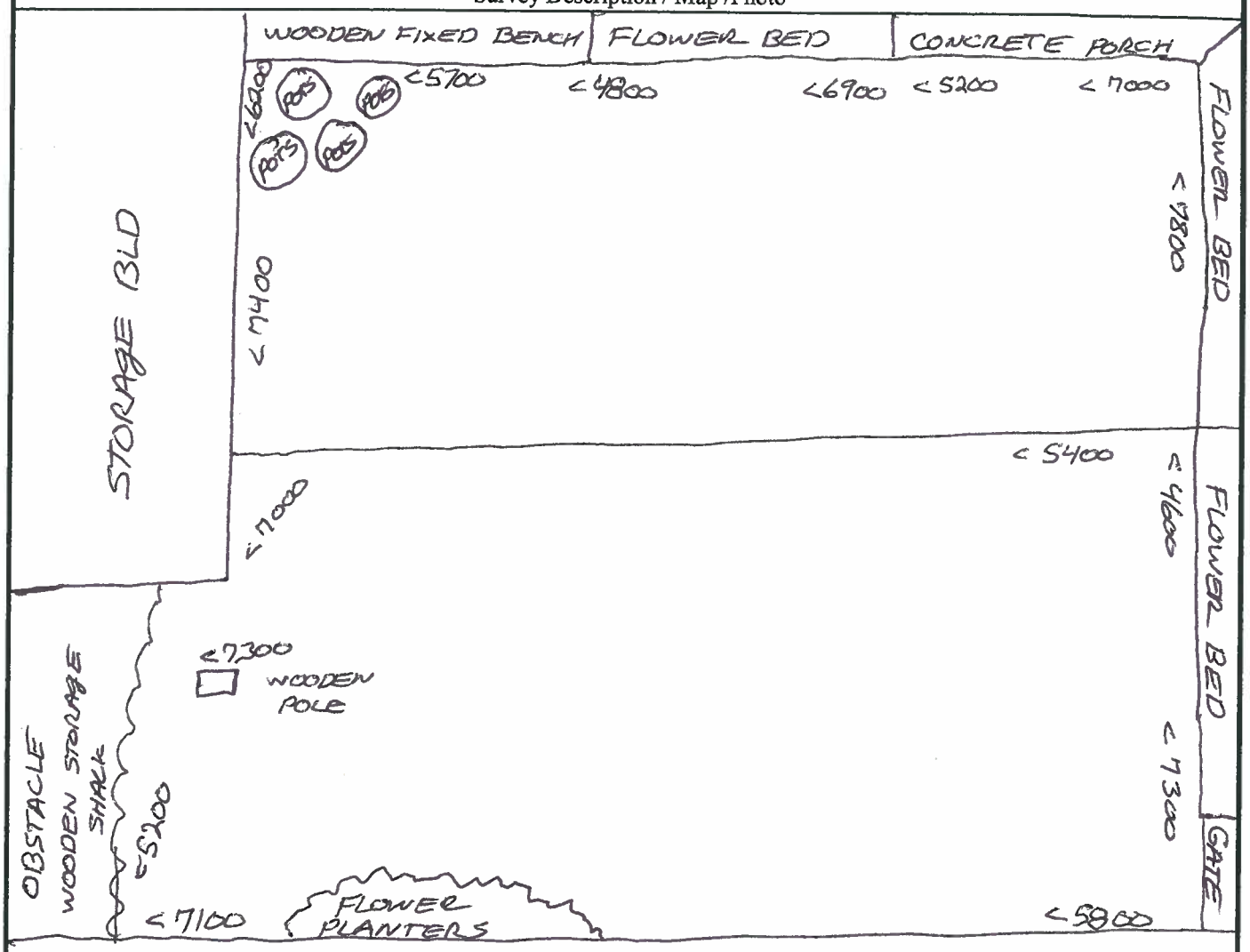
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JUL 14	44-10	RN19765	27 JUL 14	N/A	N/A	5542	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1241 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

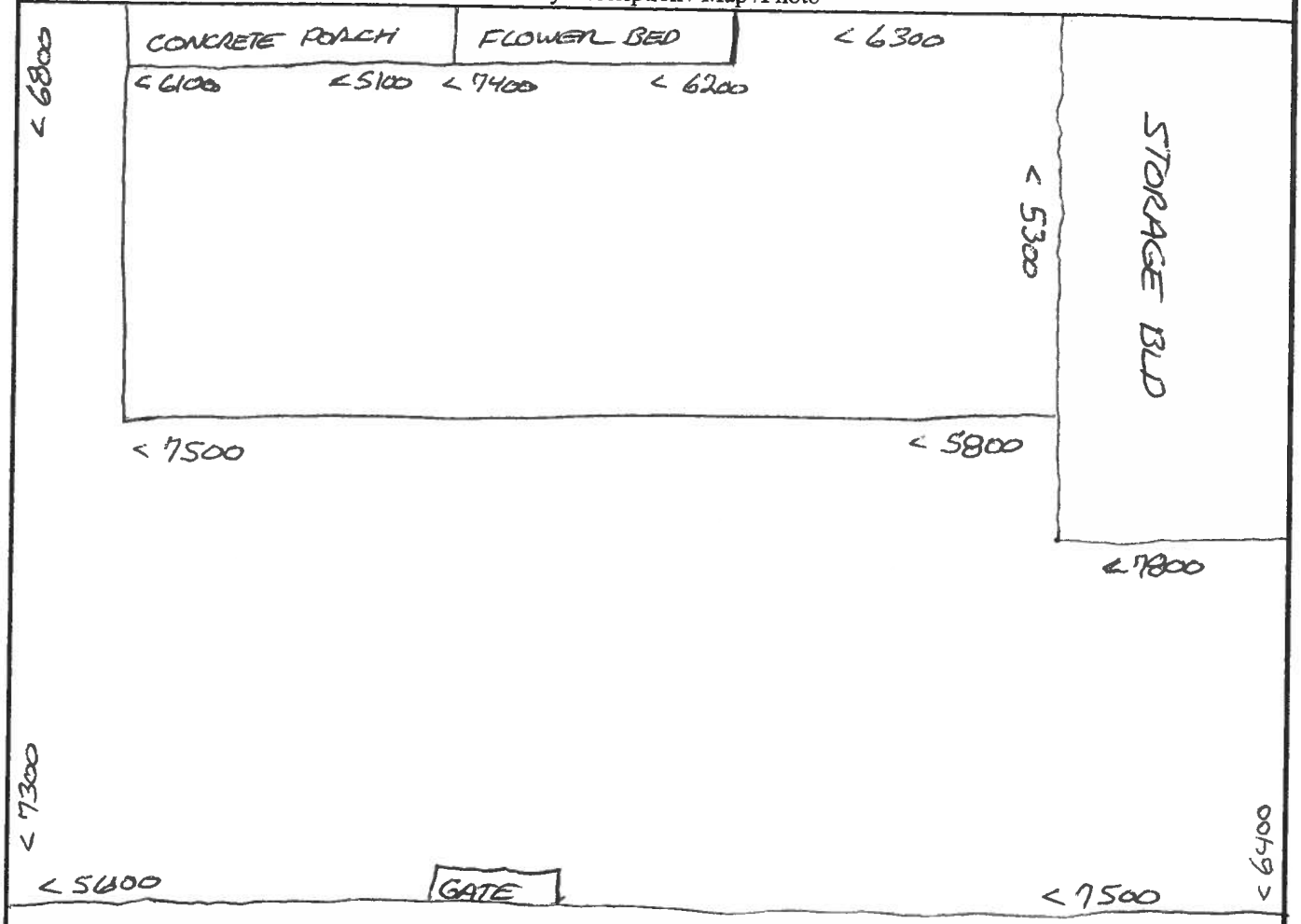
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1241 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

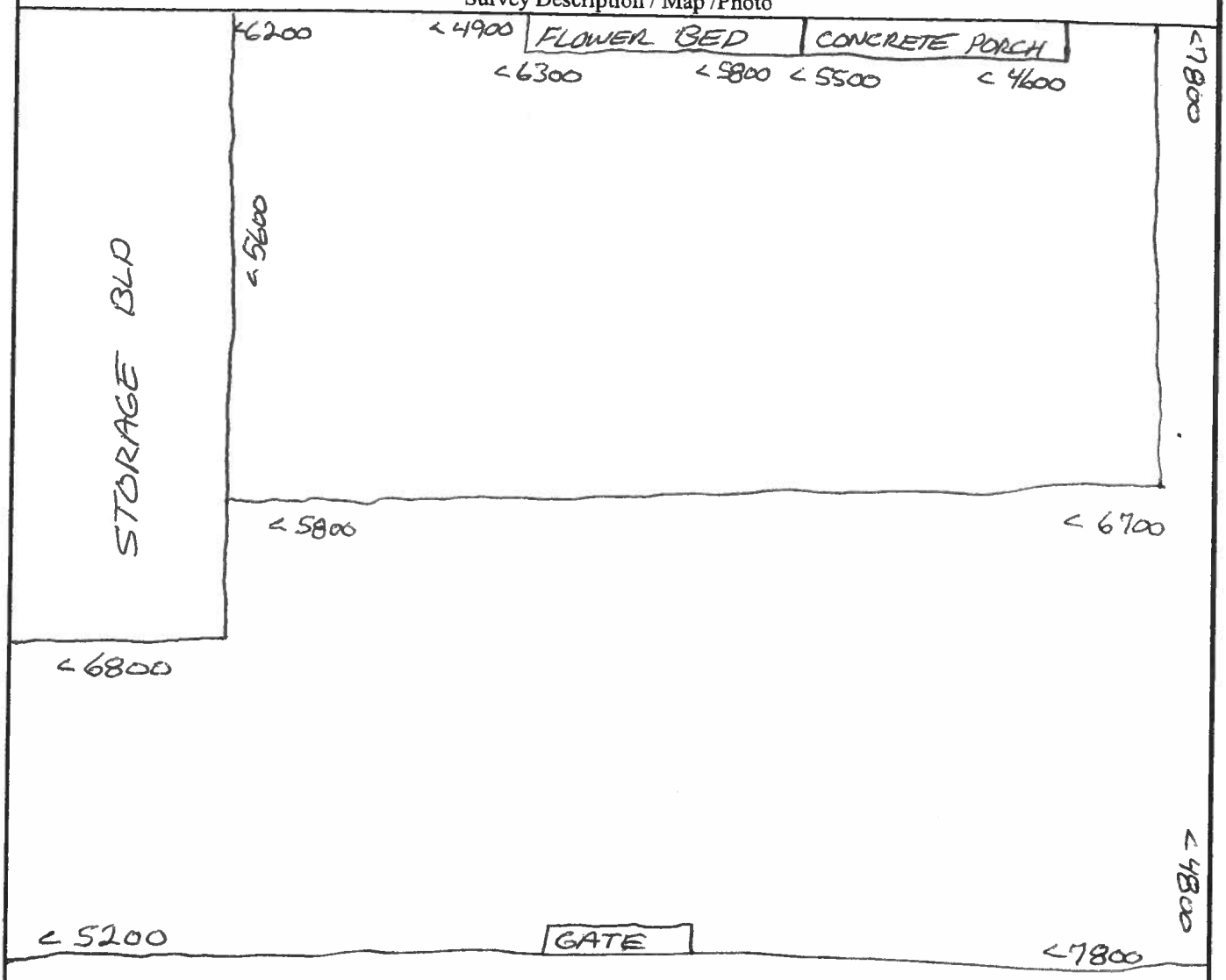
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1241 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

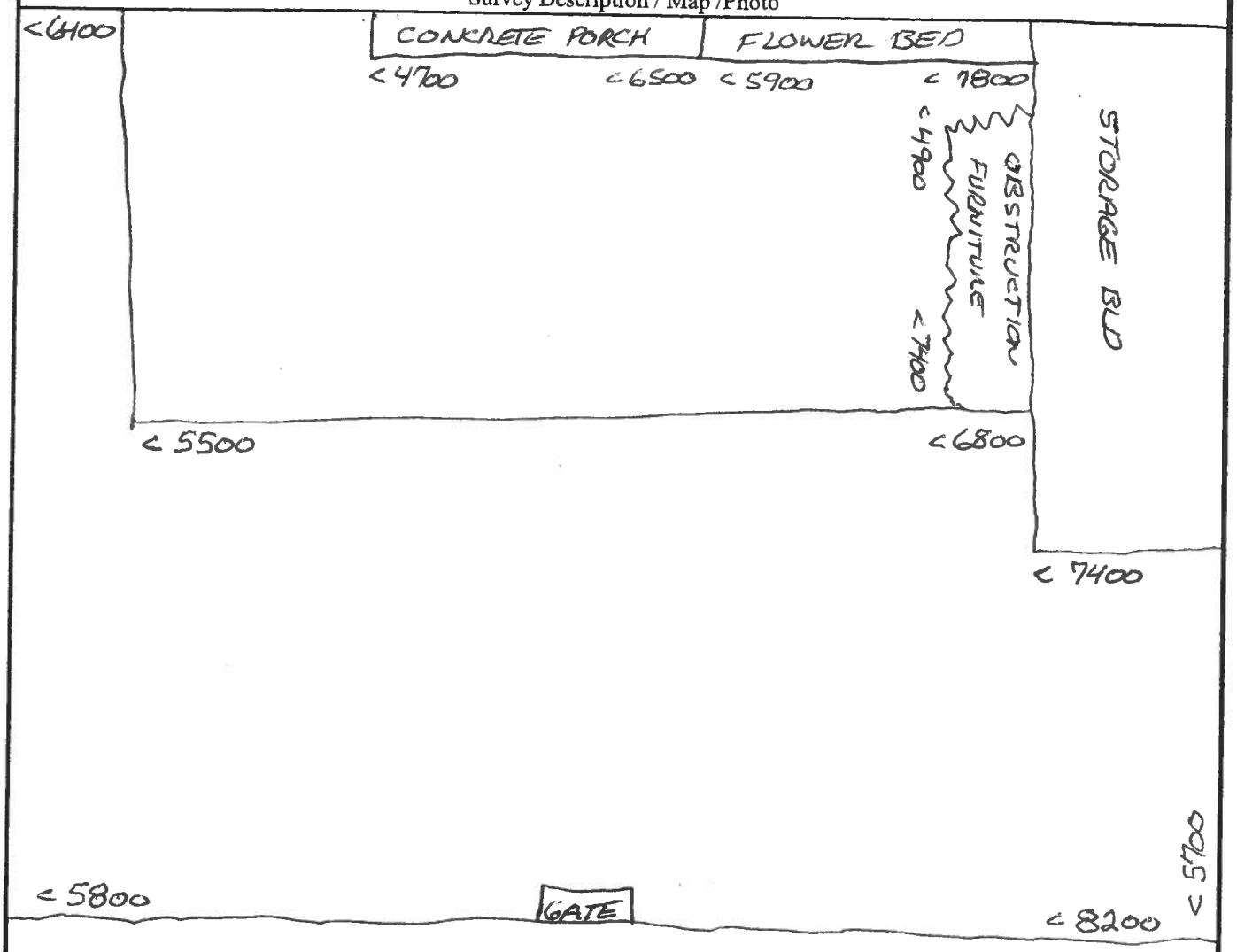
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1241 apartment "D" Backyard

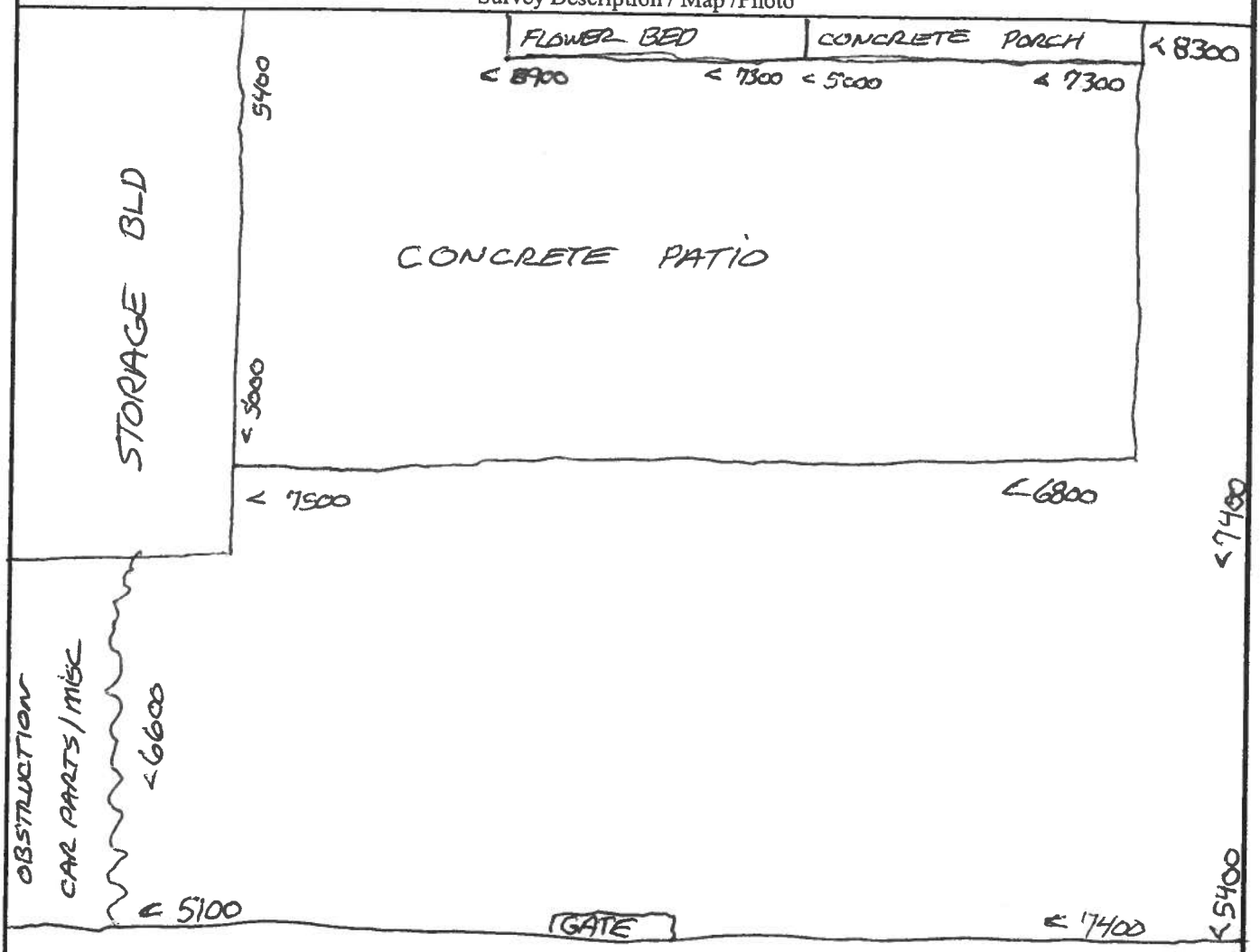
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1241 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

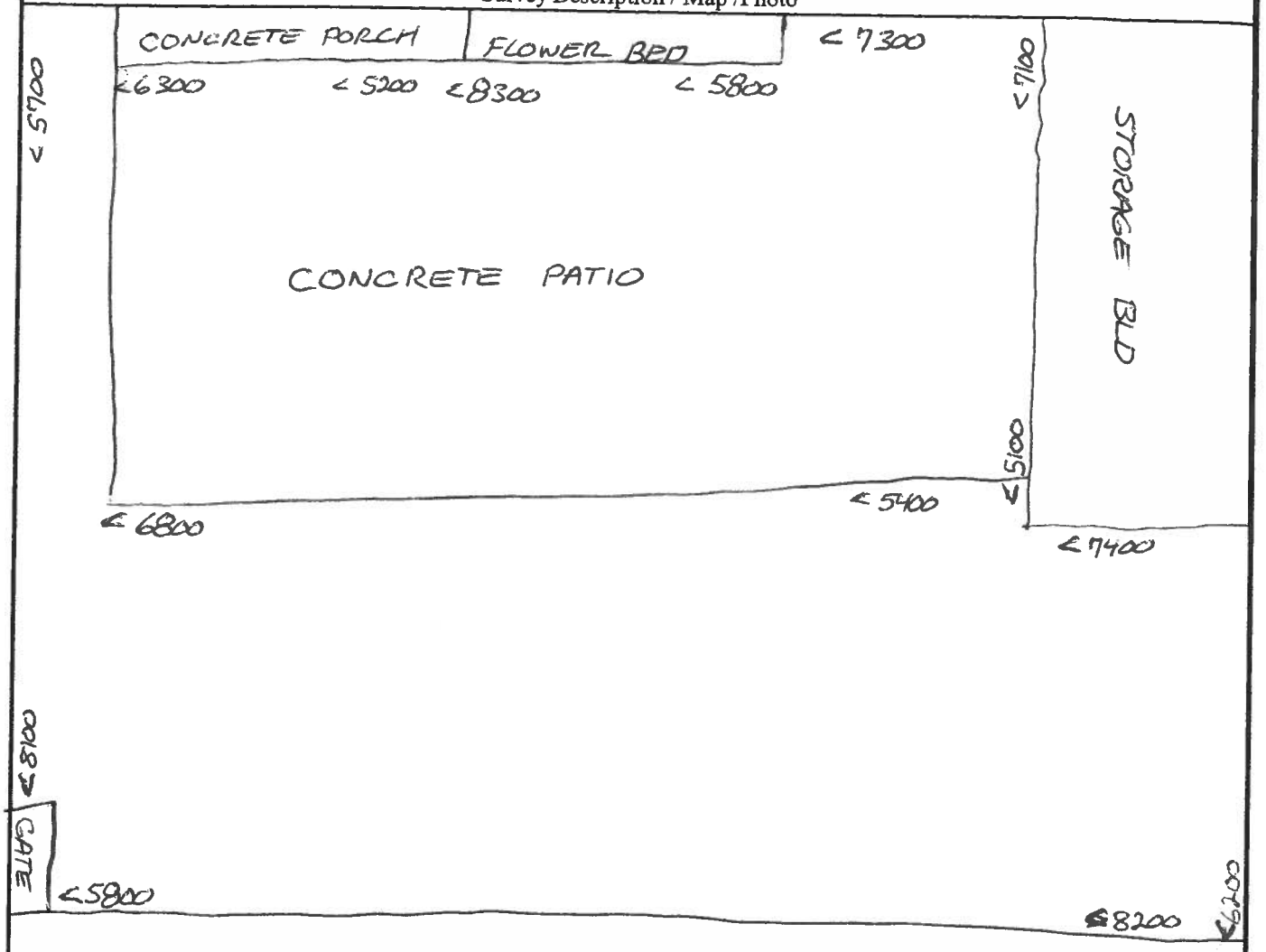
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 124/apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

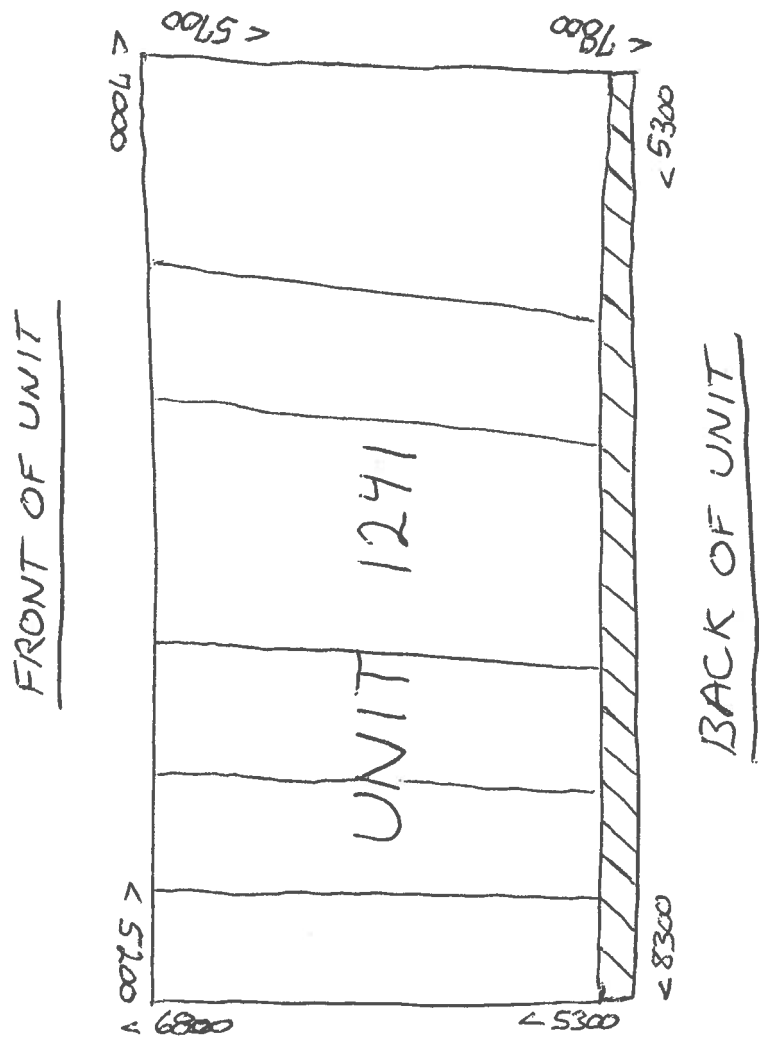
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-018	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

CPM

Survey Description / Map /Photo



Building 1241 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

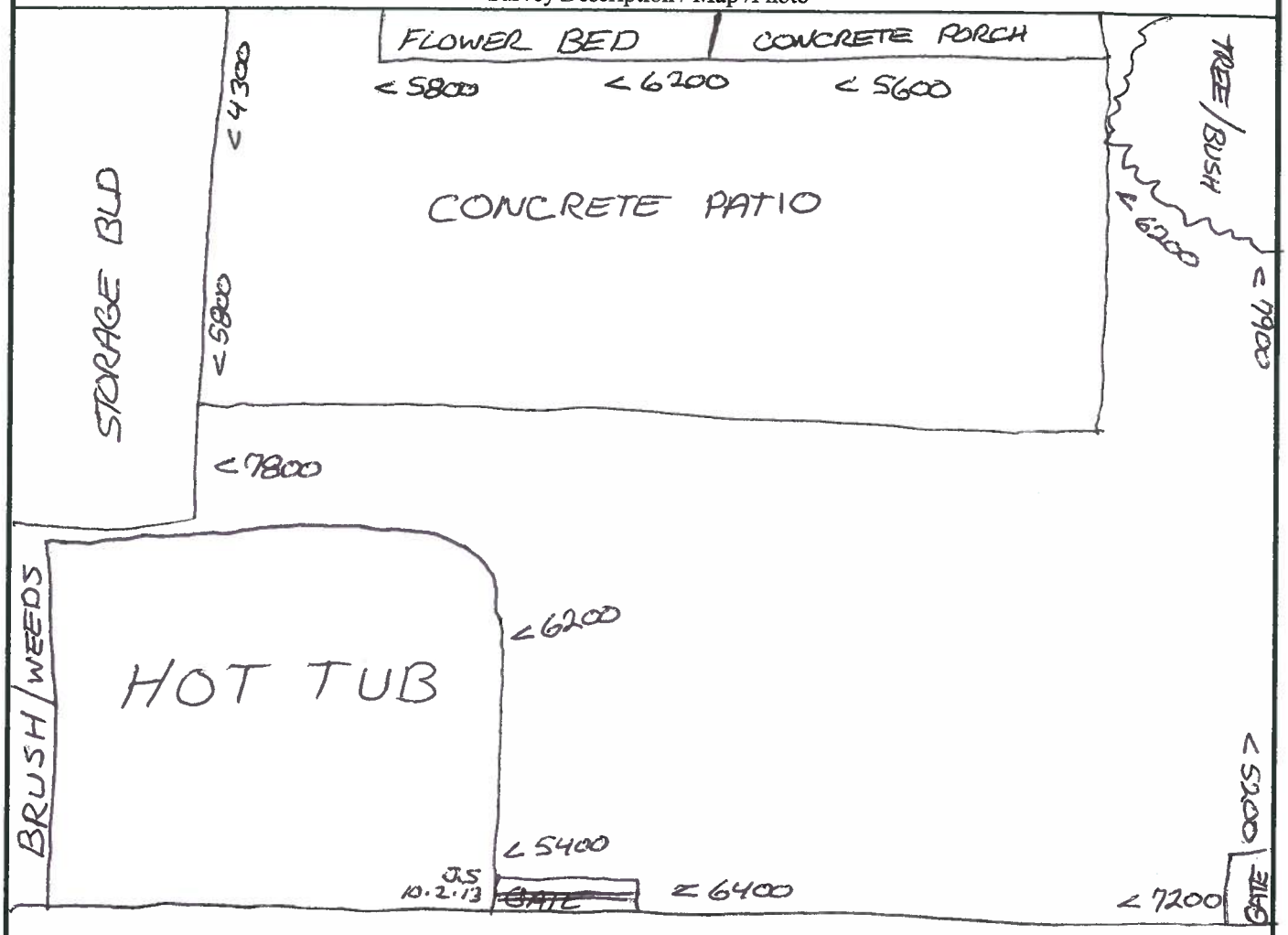
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	PN19765	27JUN14	N/A	N/A	5918	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1239 apartment " A " Backyard

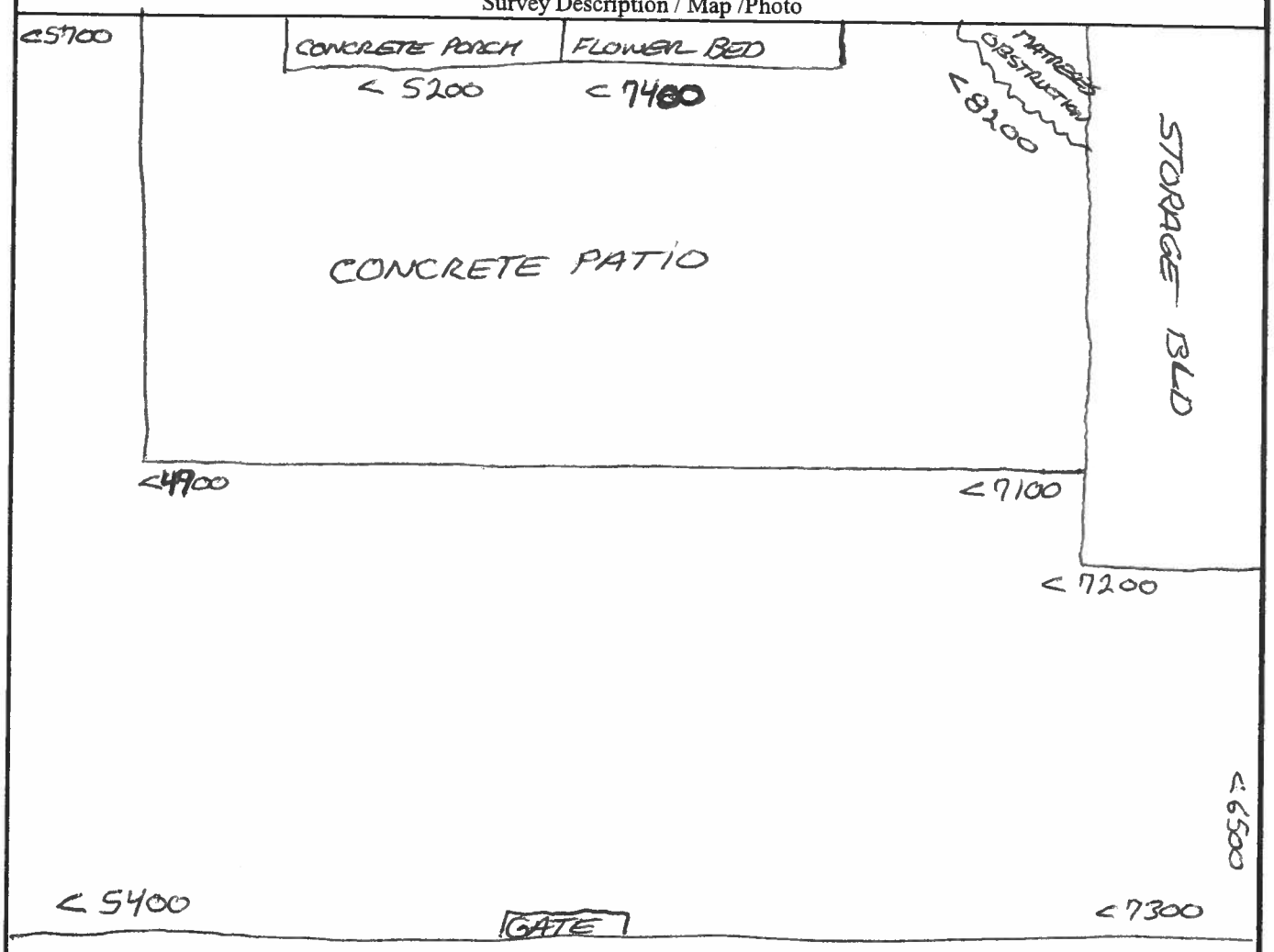
Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

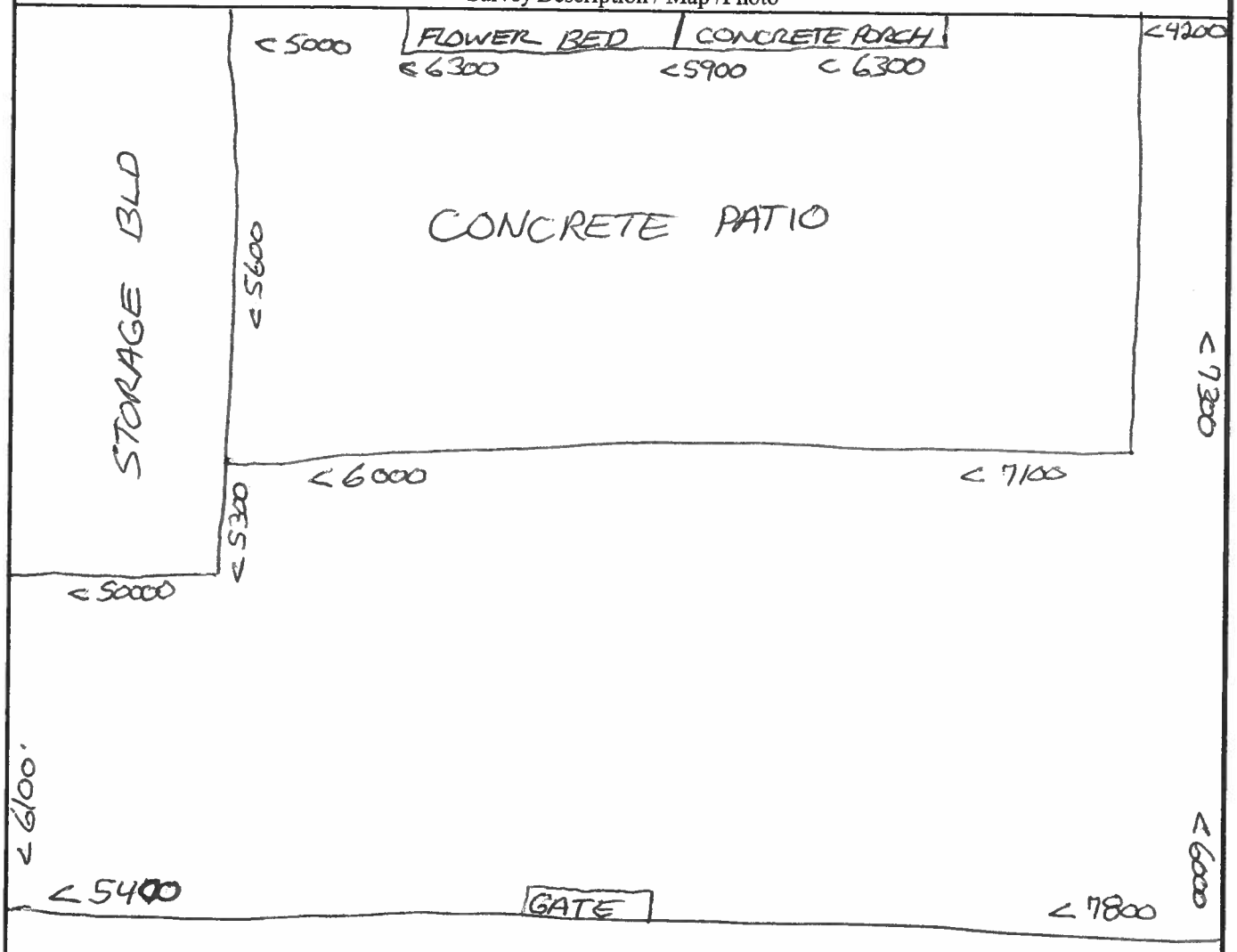
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

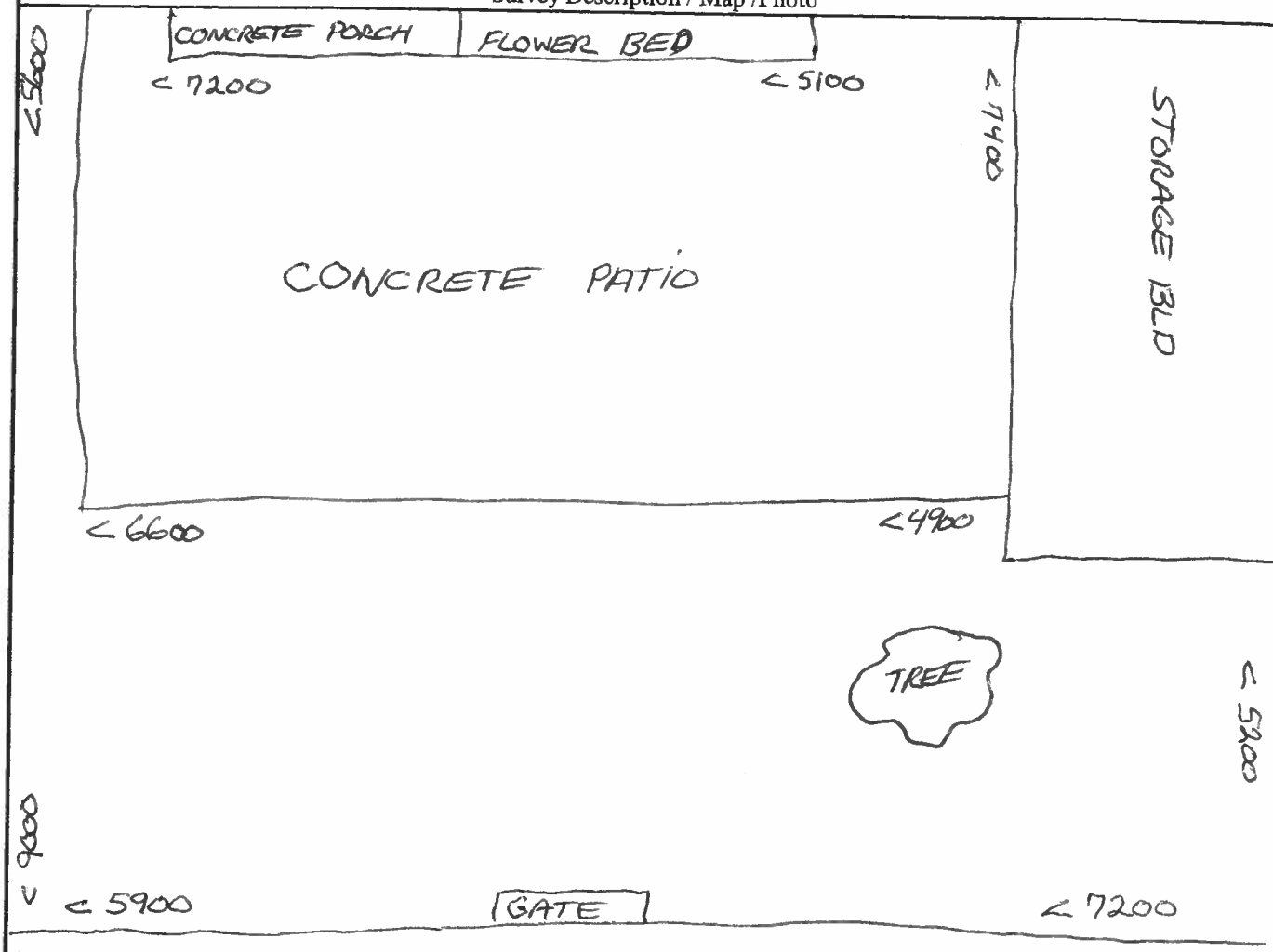
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "d" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

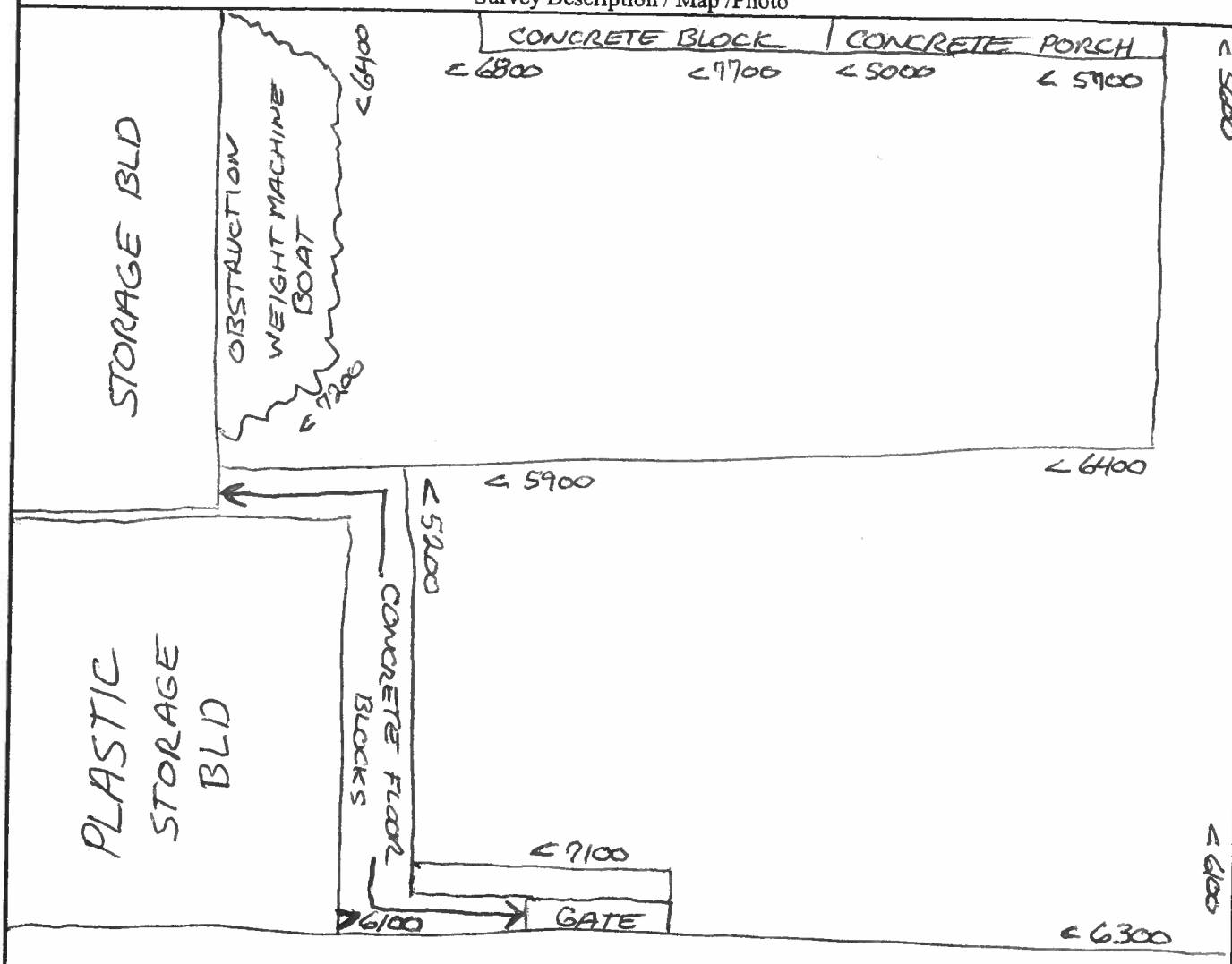
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

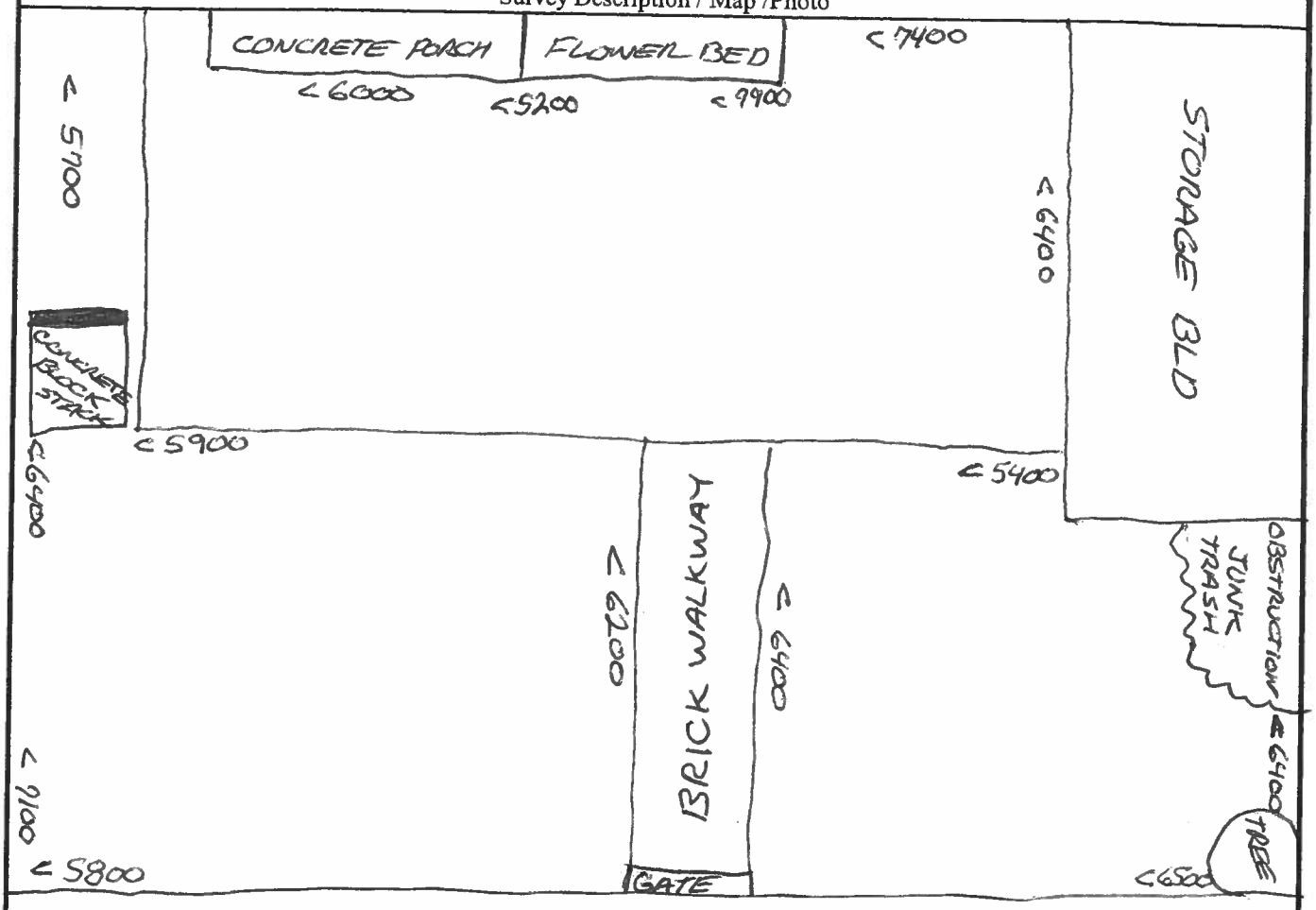
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

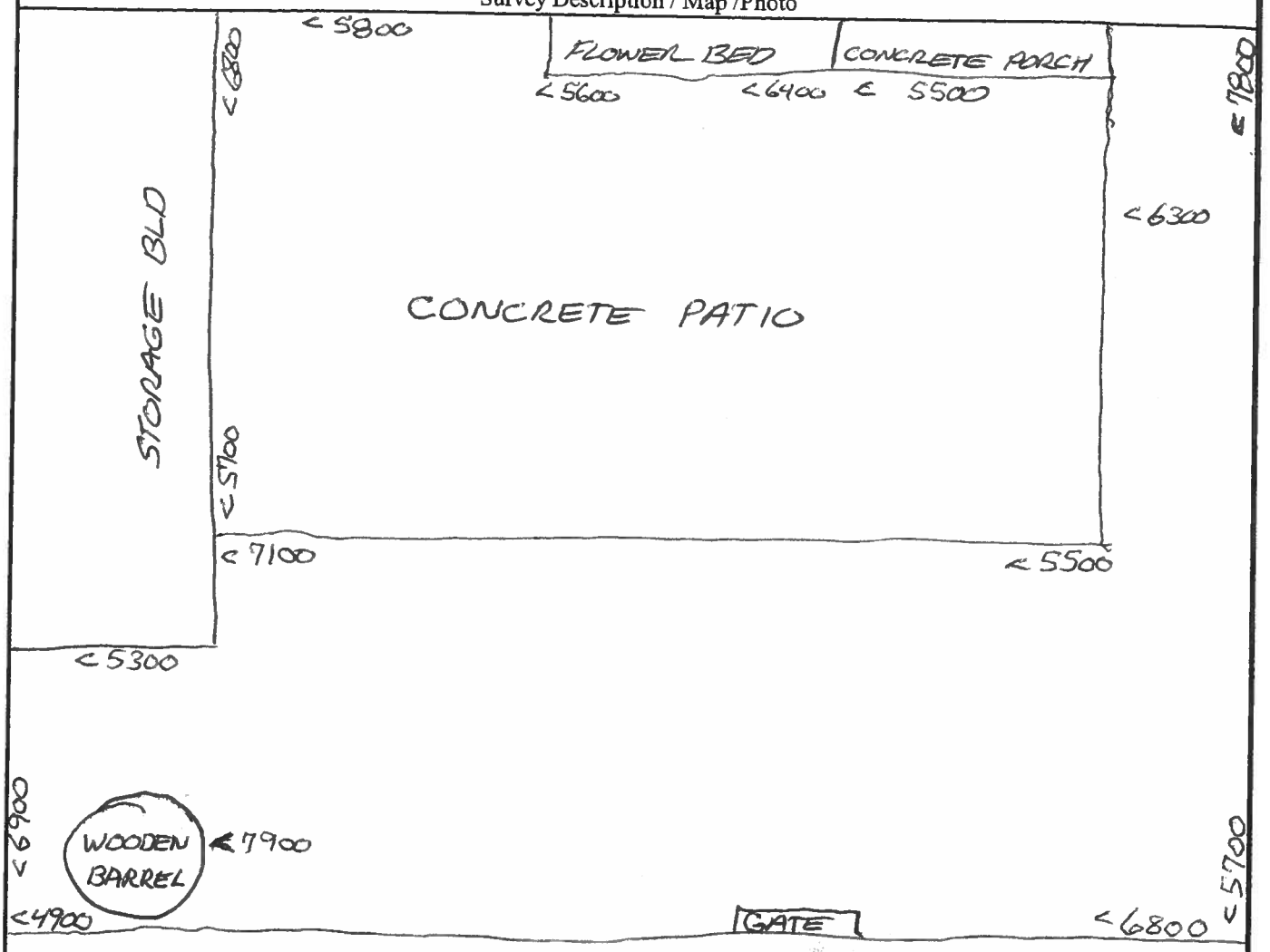
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "G" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

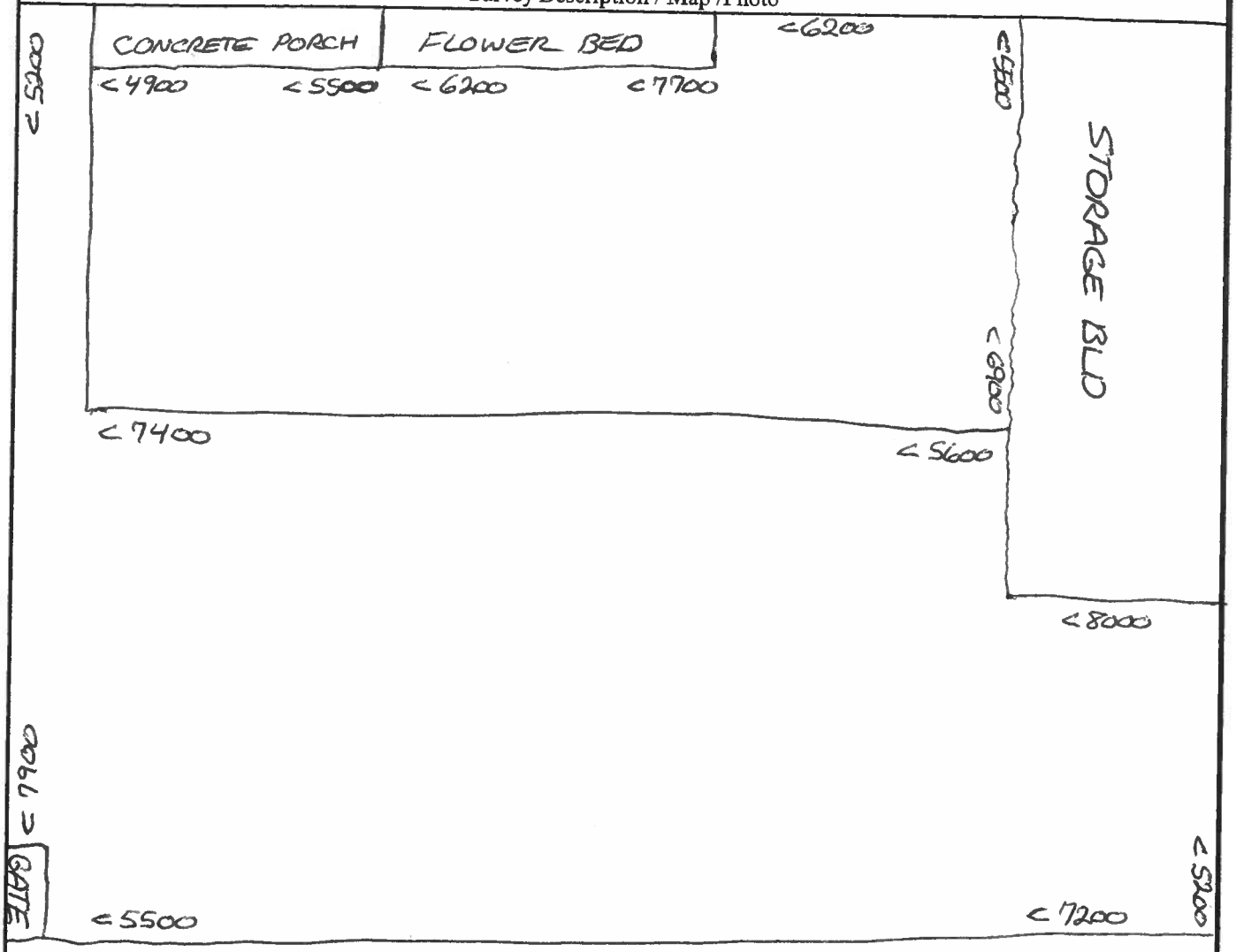
ITSI Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "H" Backyard

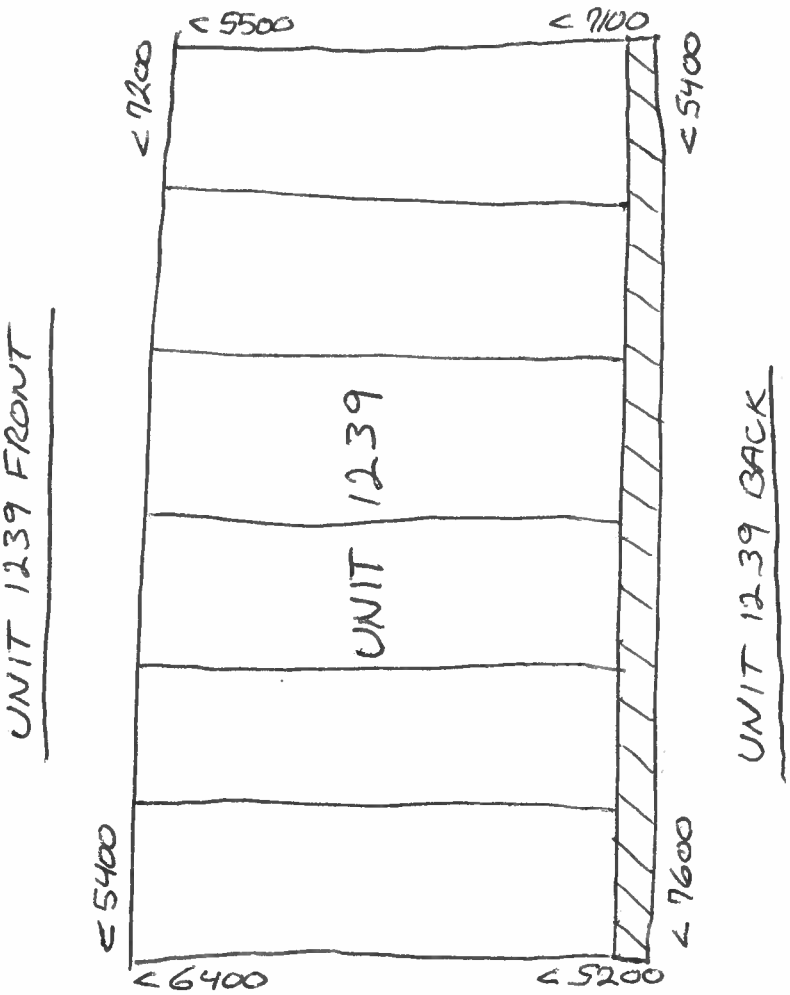
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 019	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1239 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

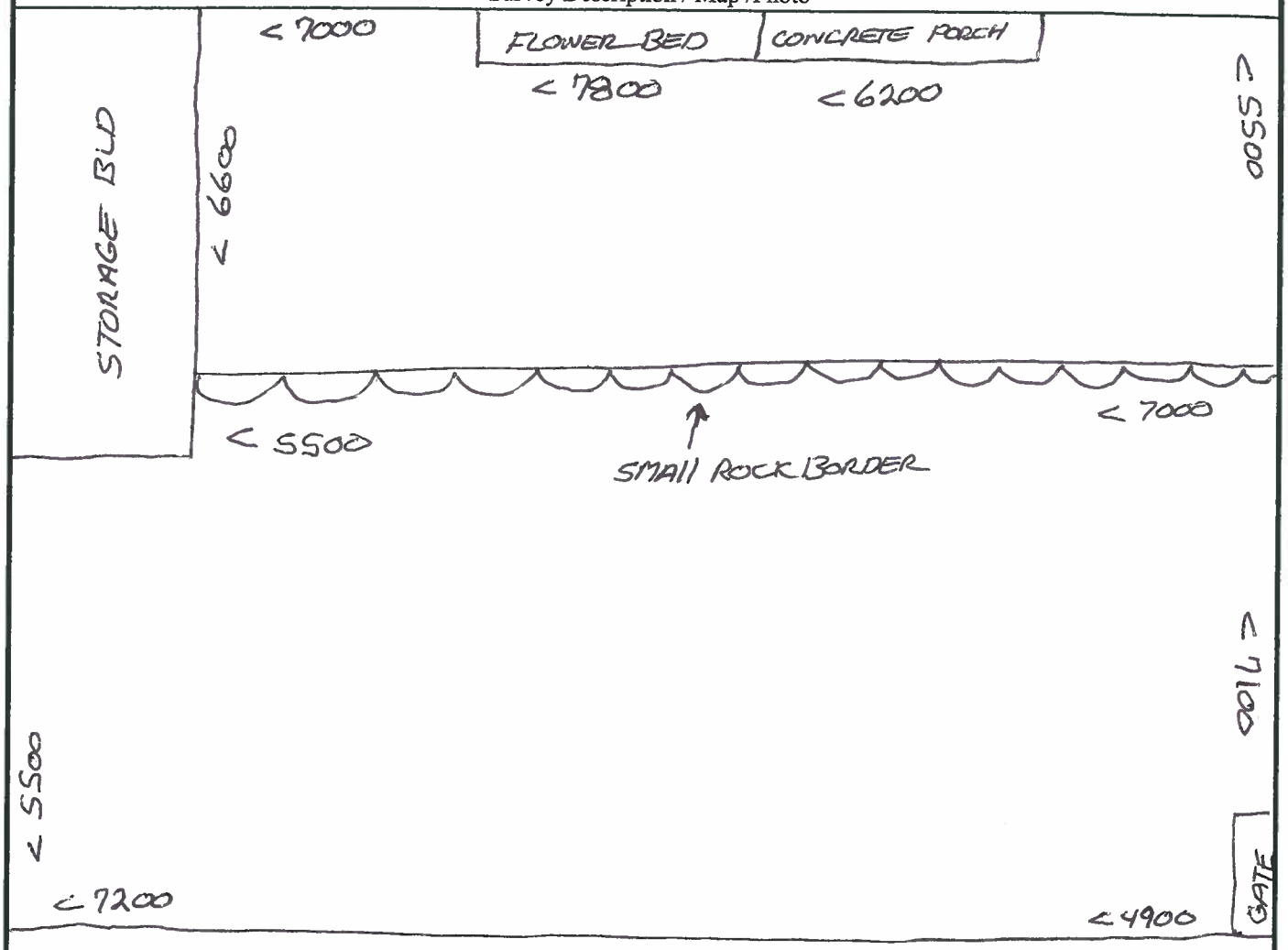
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-020	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JULY 14	44-10	RN19765	27 JULY 14	N / A	N / A	5861	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1238 apartment " A " Backyard

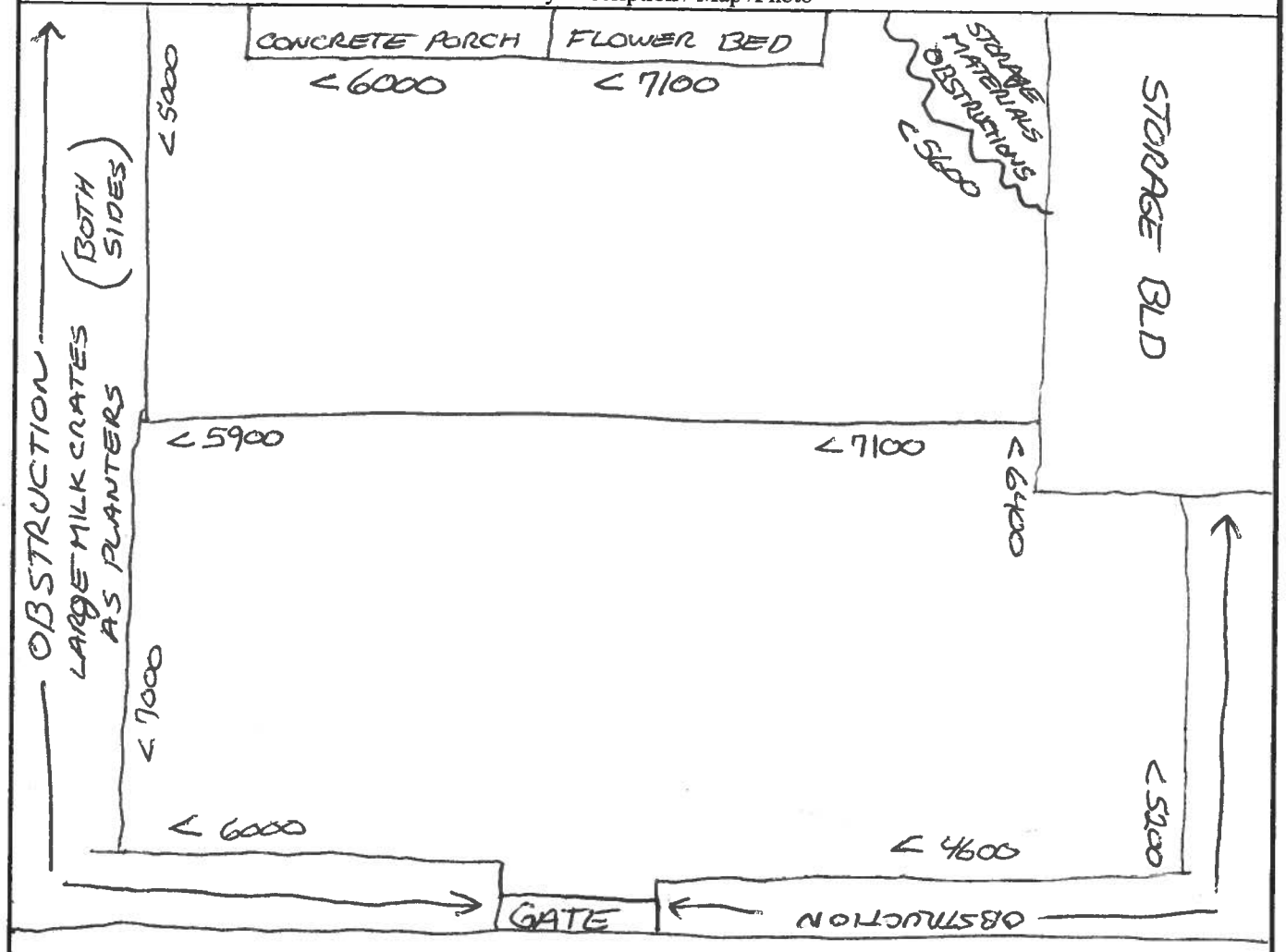
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-020	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1238 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

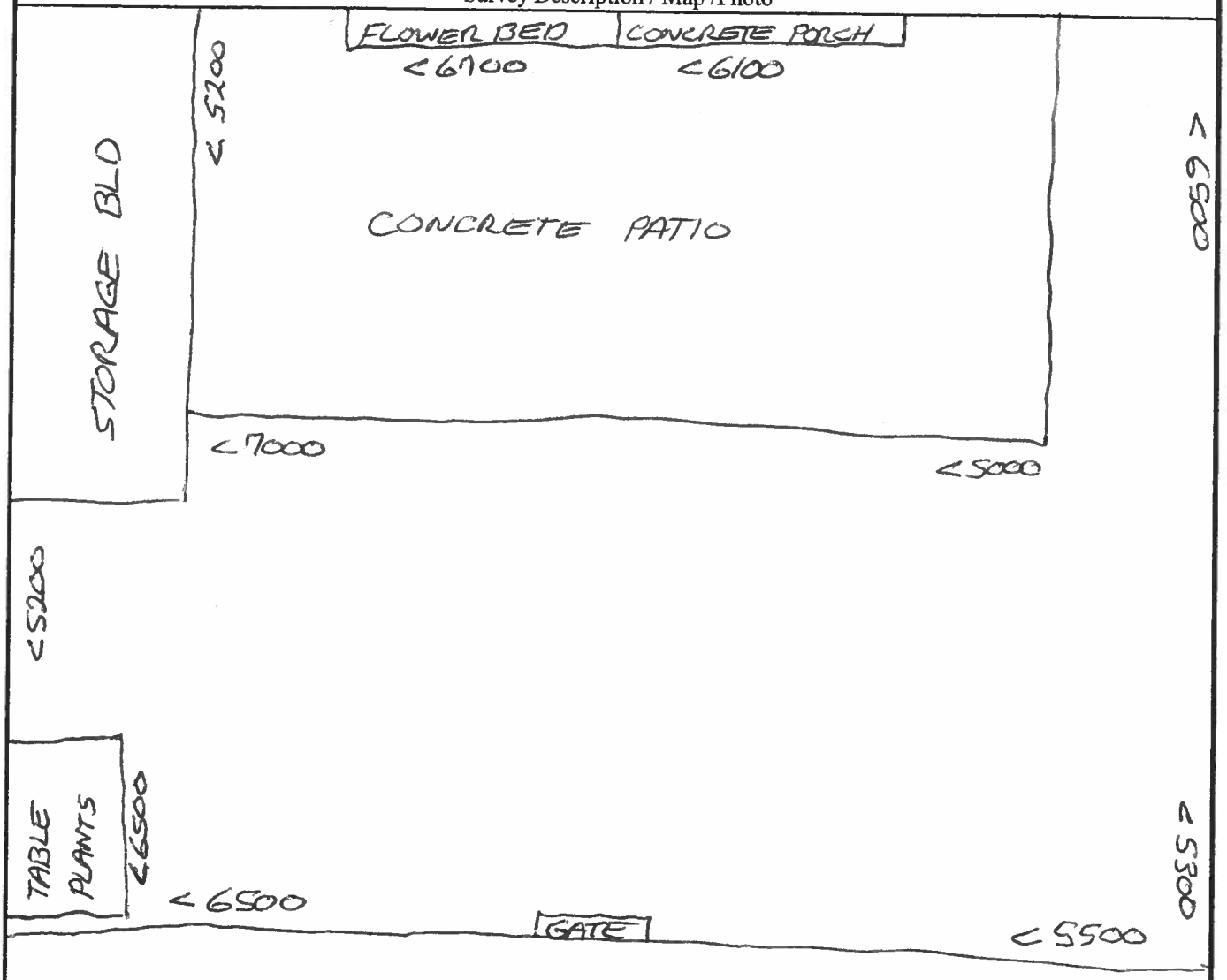
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-020	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1238 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

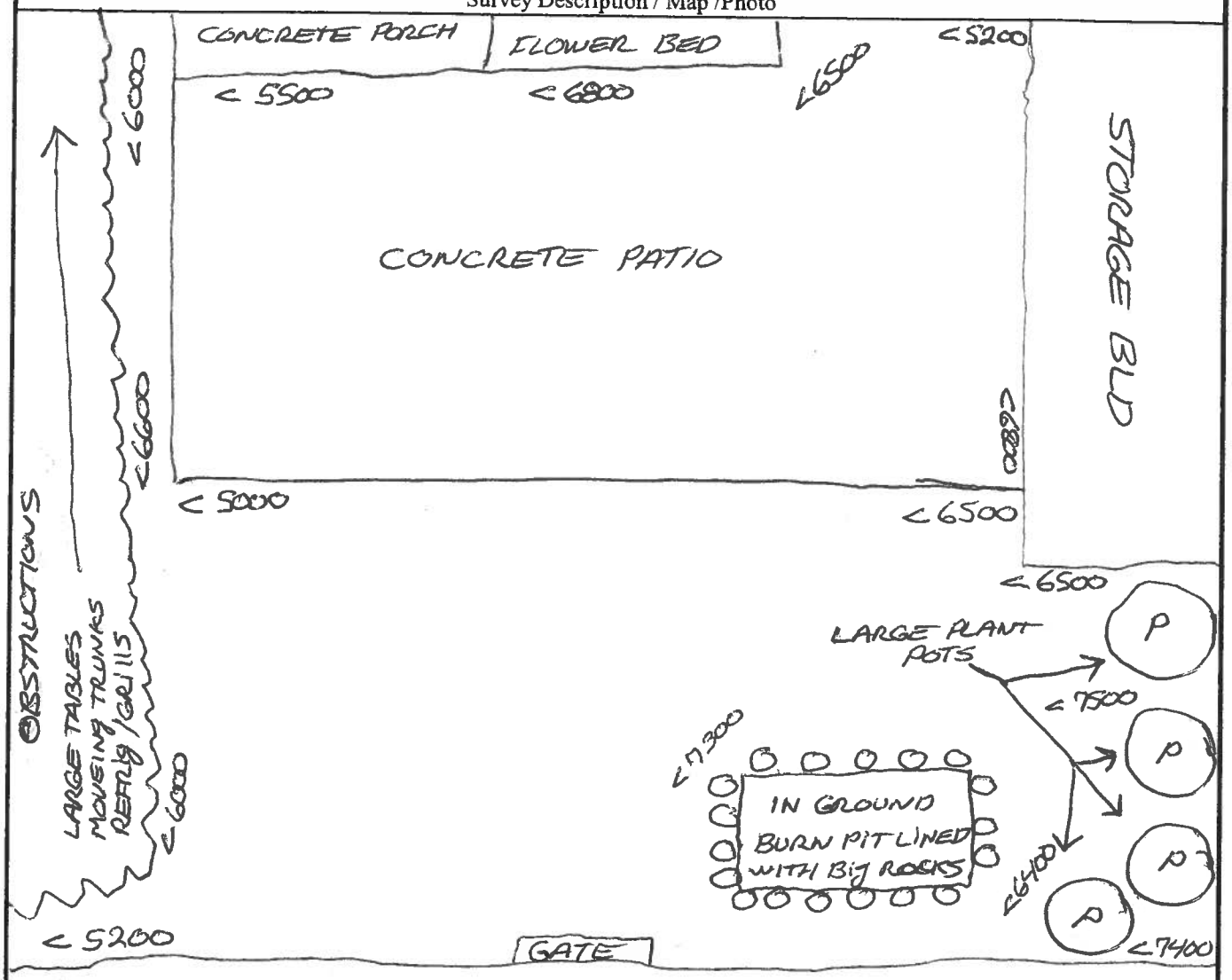
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-020	Date: 10.3.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building/230 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

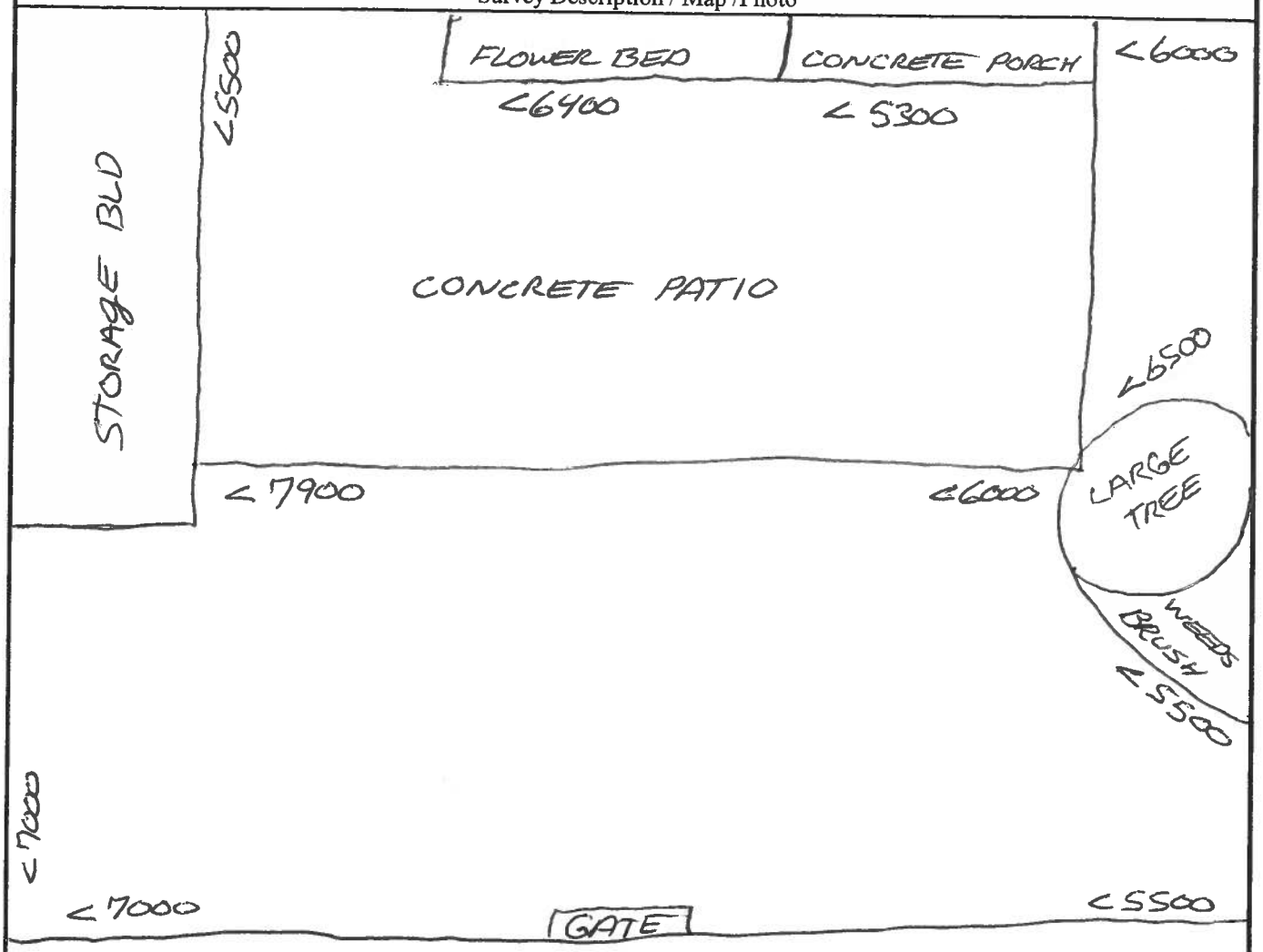
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 020	Date: 10·3·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 238 apartment "E" Backyard

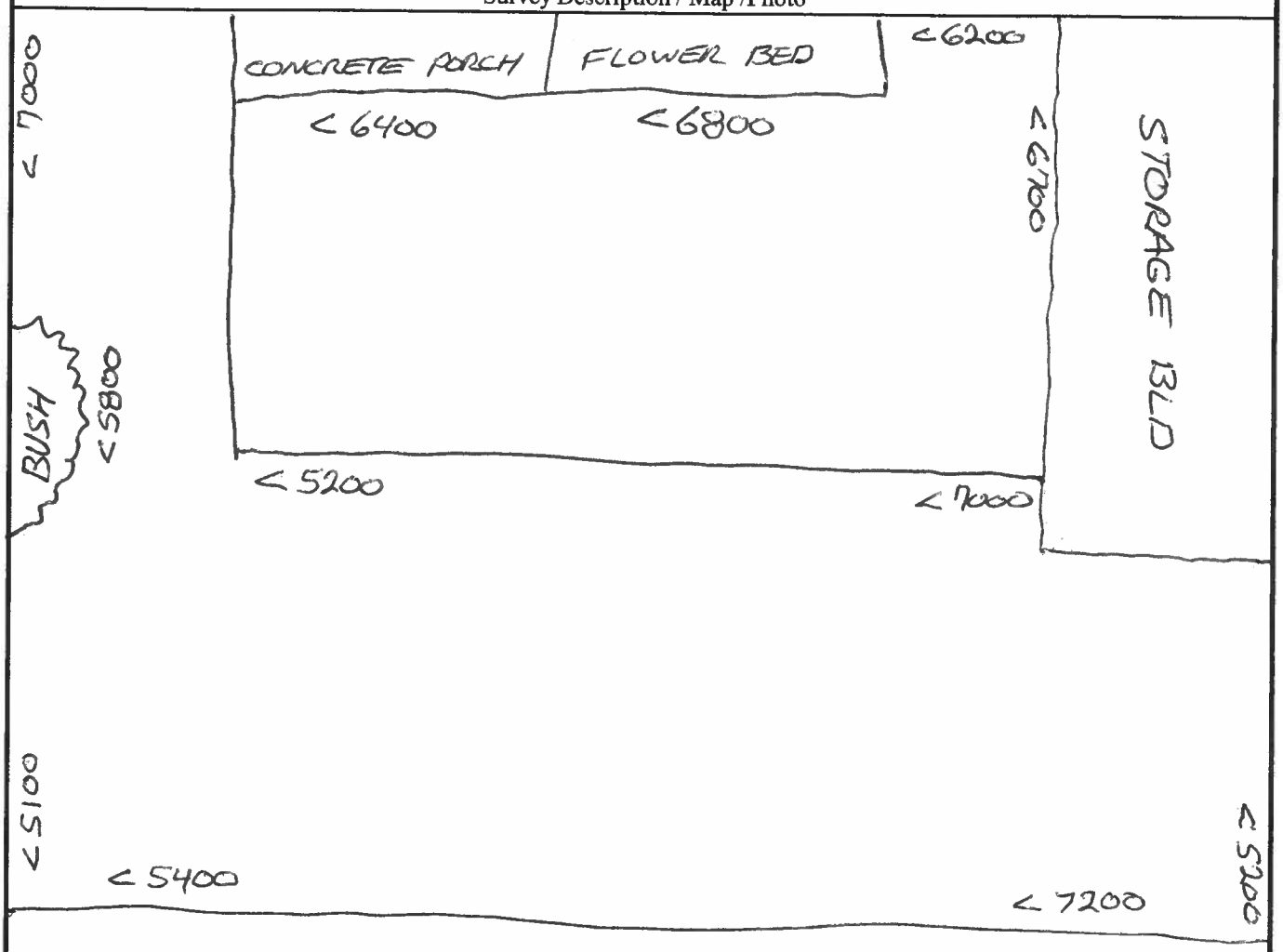
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-020	Date: 10.3.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1238 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

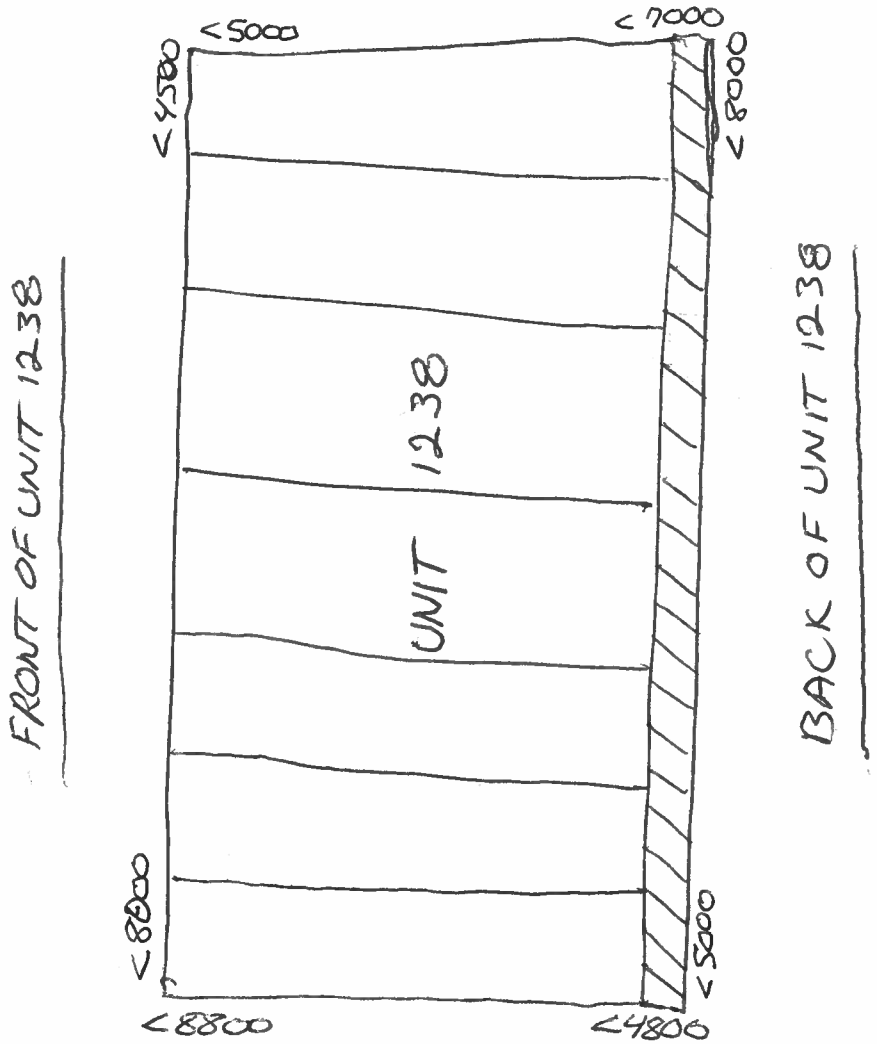
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-020	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1238 apartment "NA" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

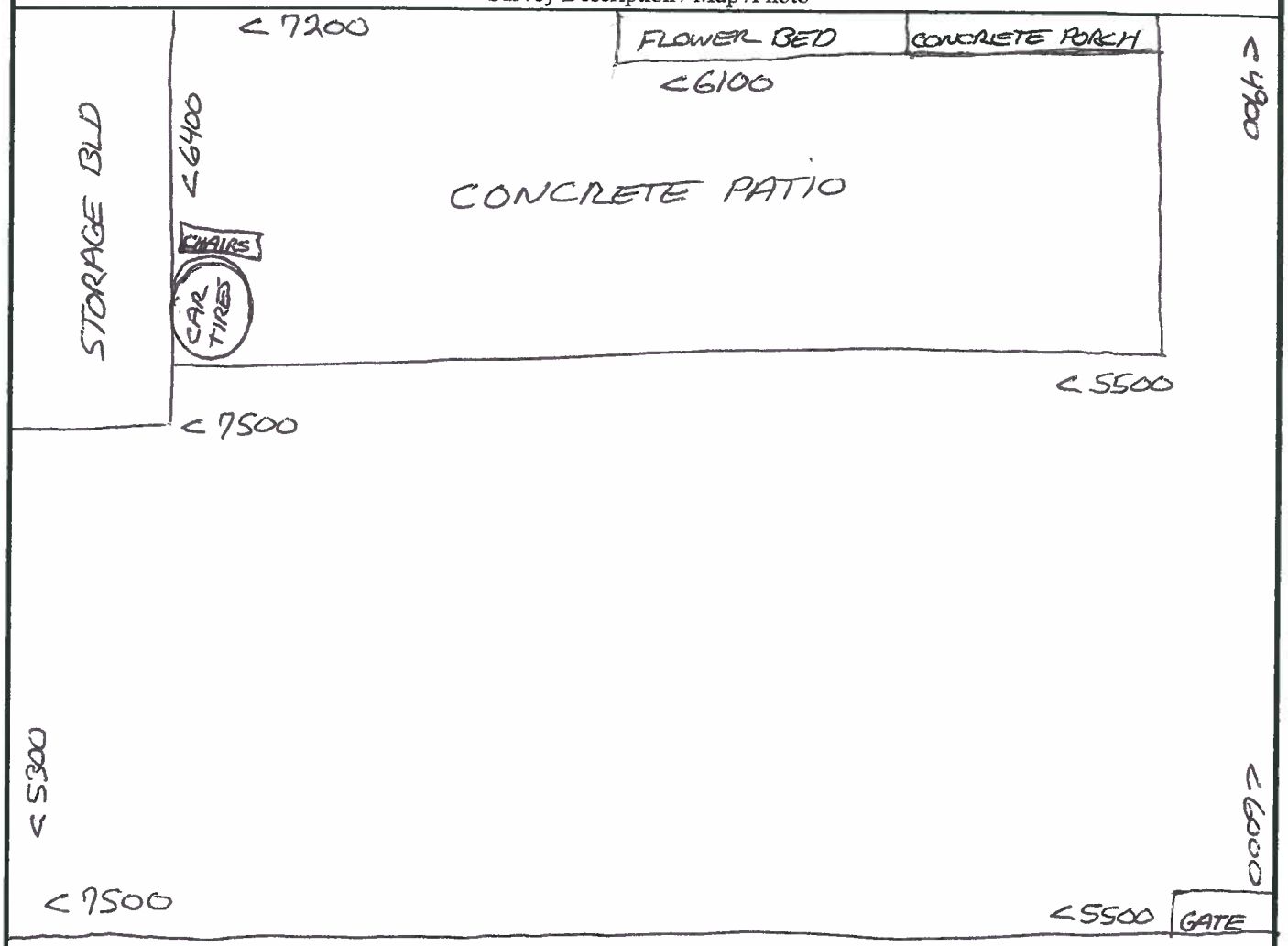
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-021	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	RN1975	27JUL14	N / A	N / A	5920	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1240 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

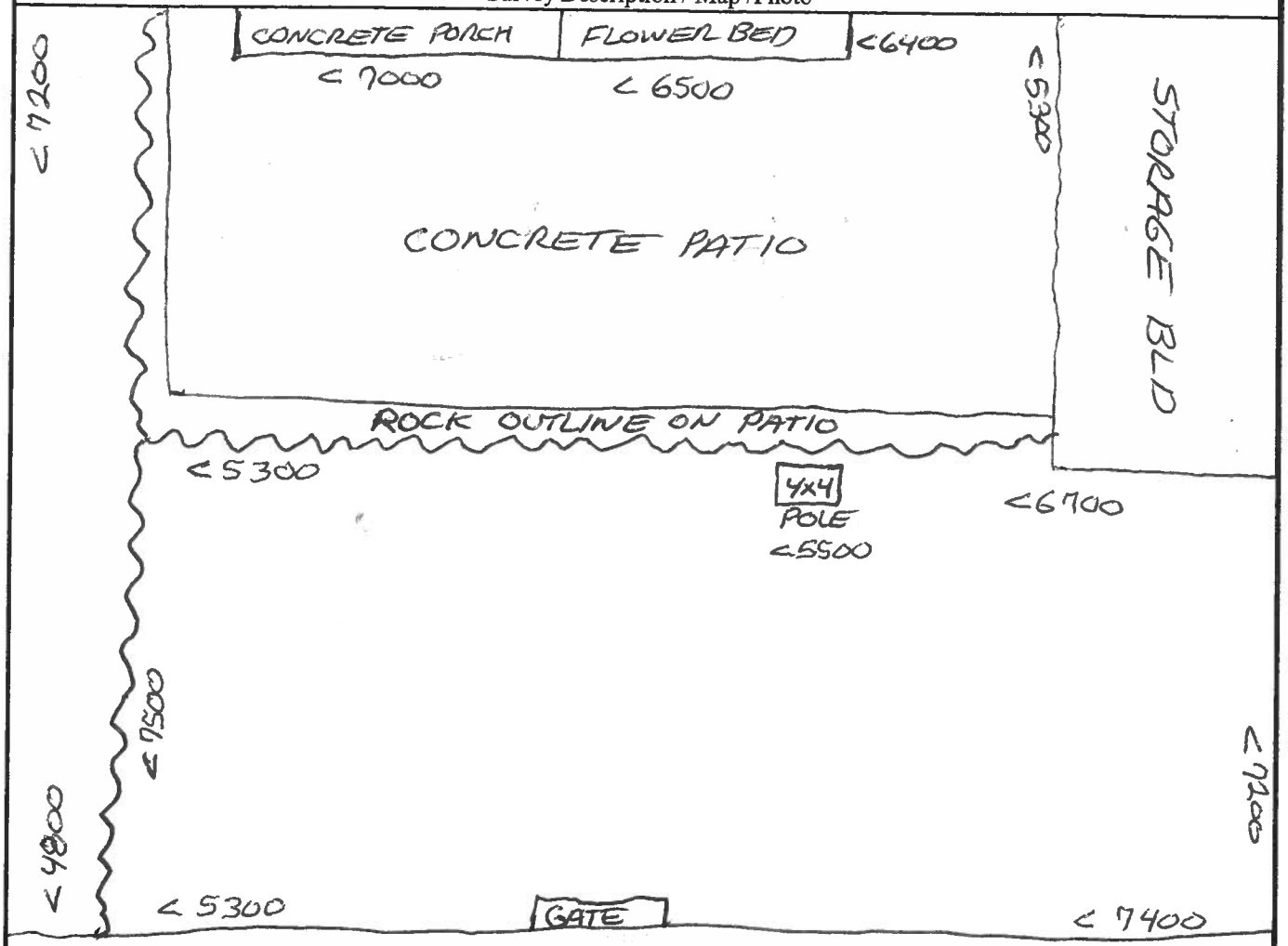
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-021	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1240 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

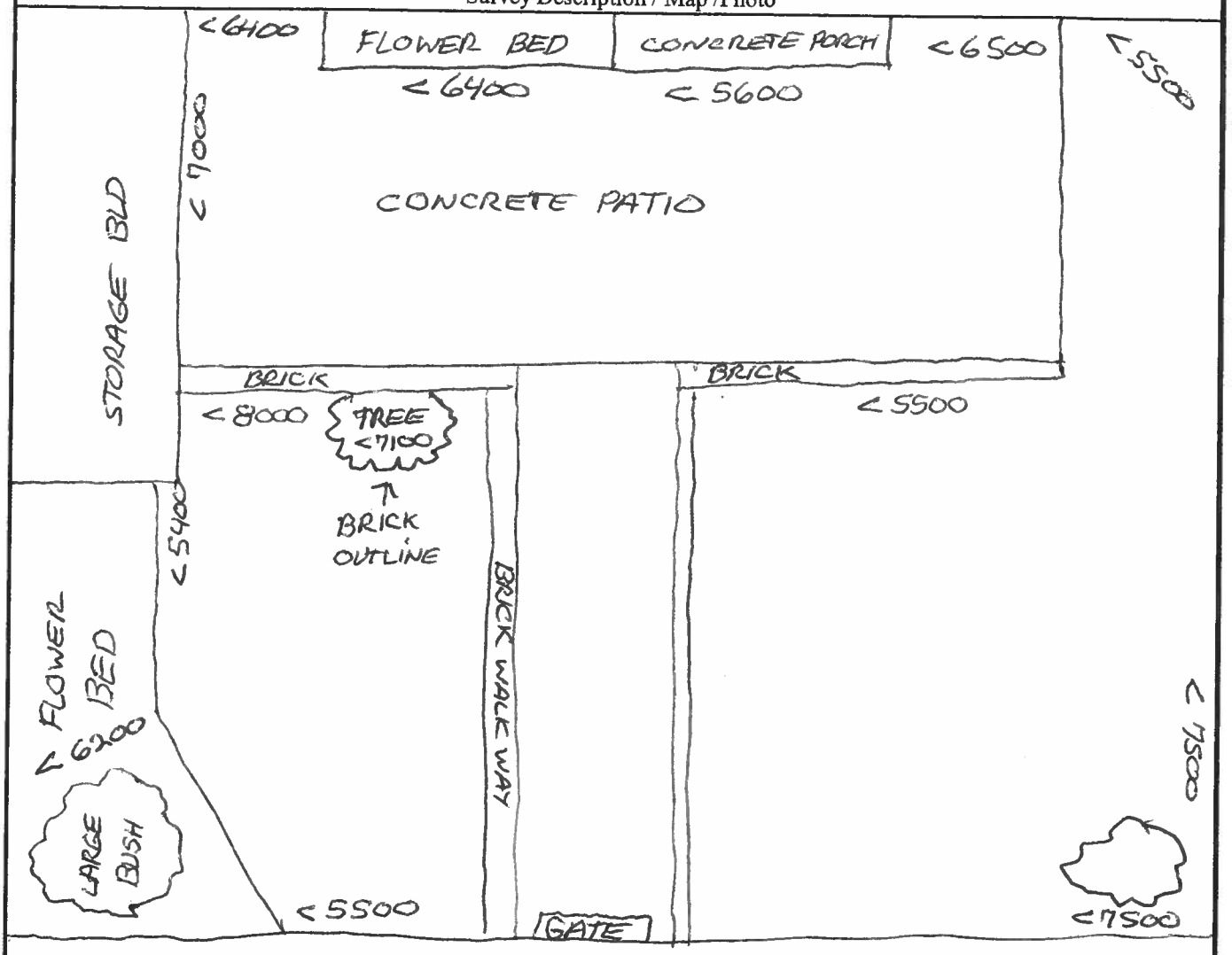
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-021	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1240 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

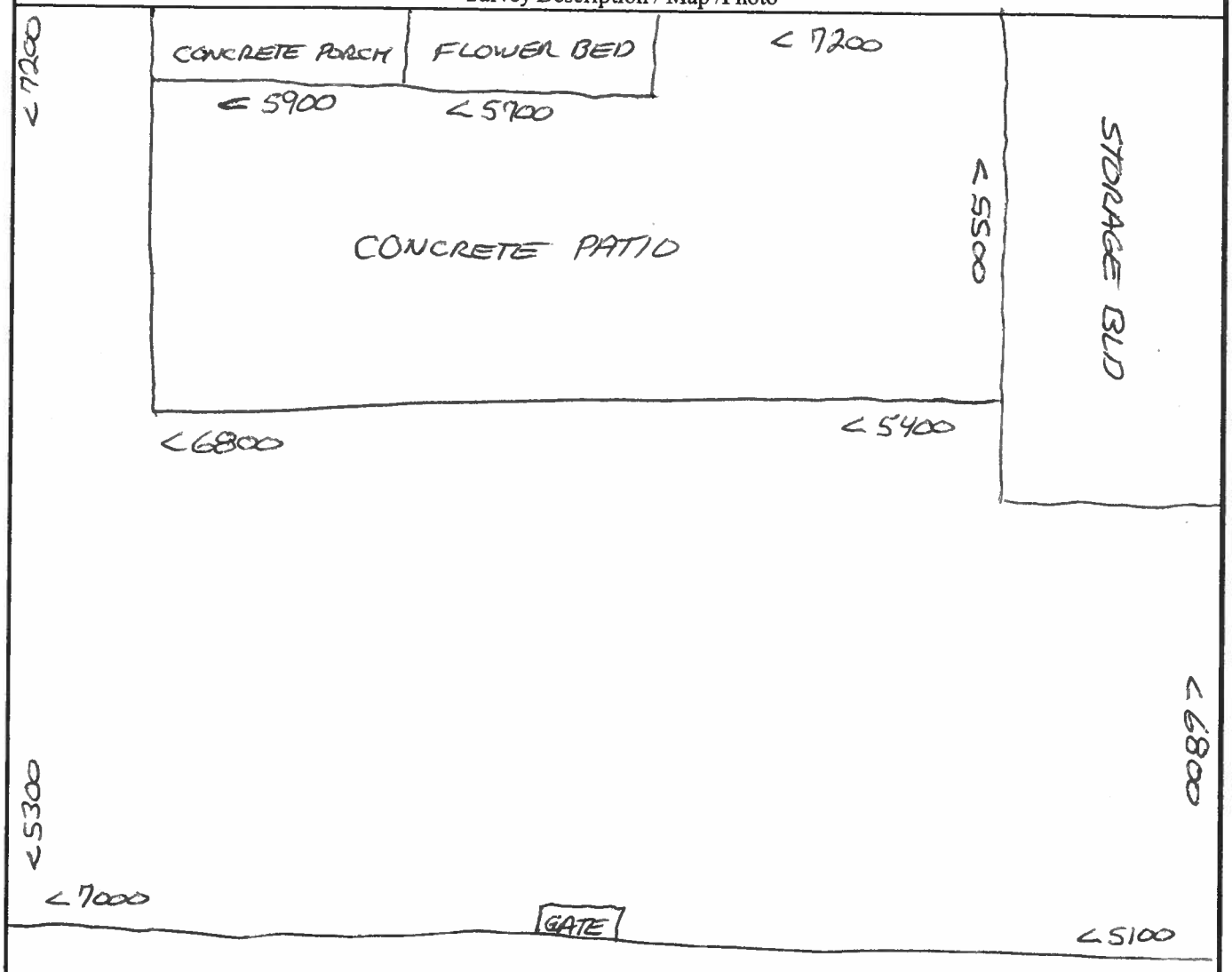
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-021	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1240 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

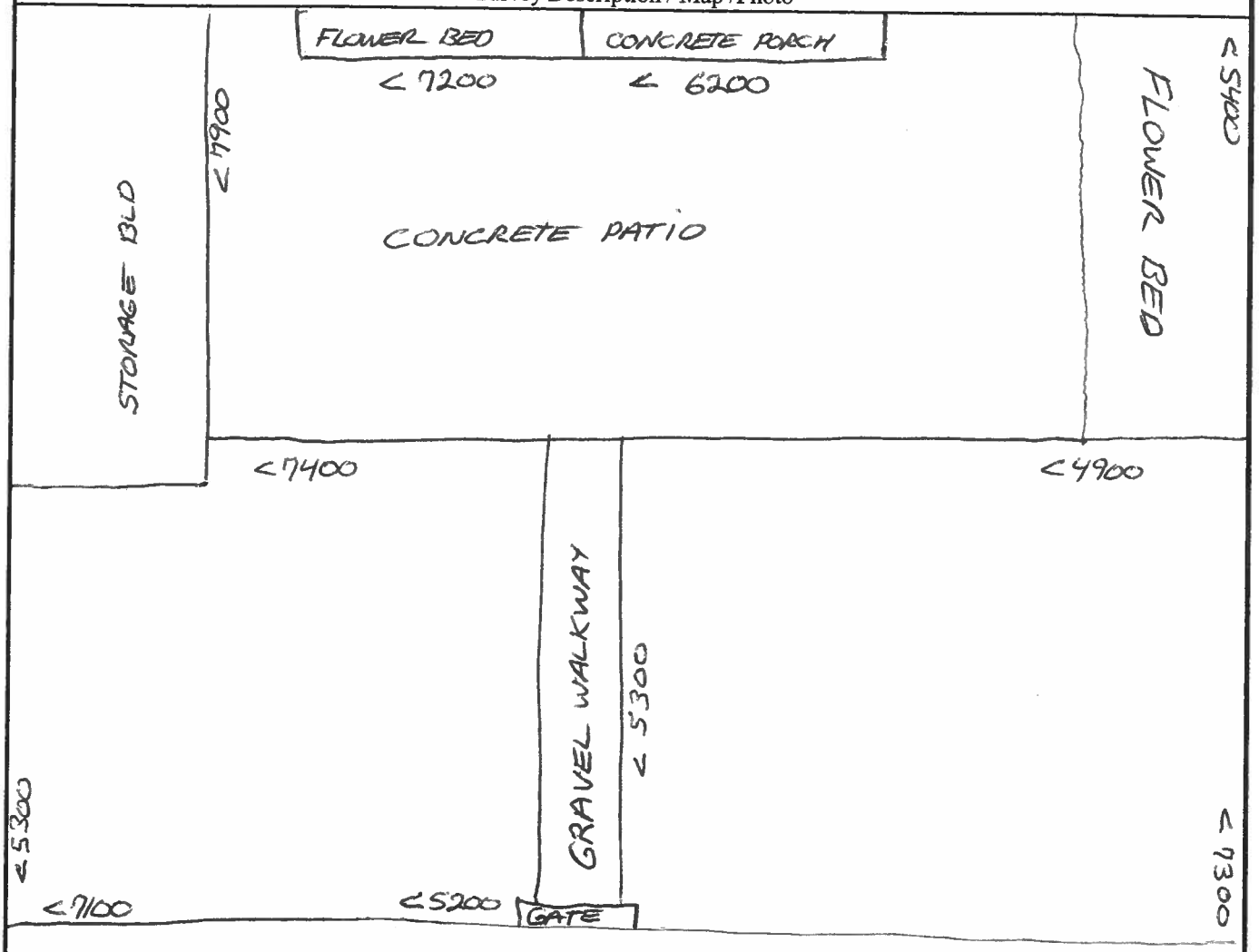
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-021	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1240 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

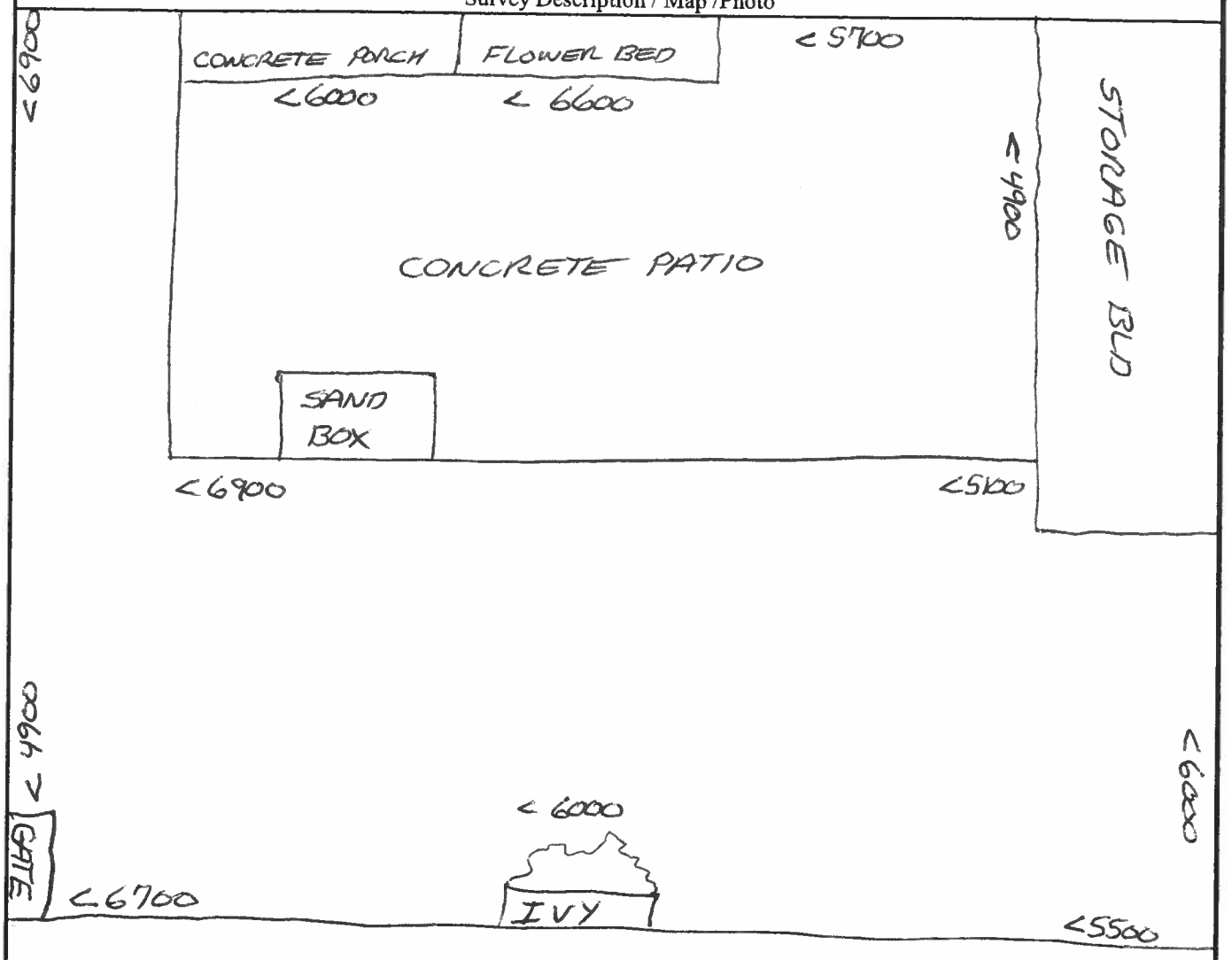
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-021	Date: 10 3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1240 apartment "F" Backyard

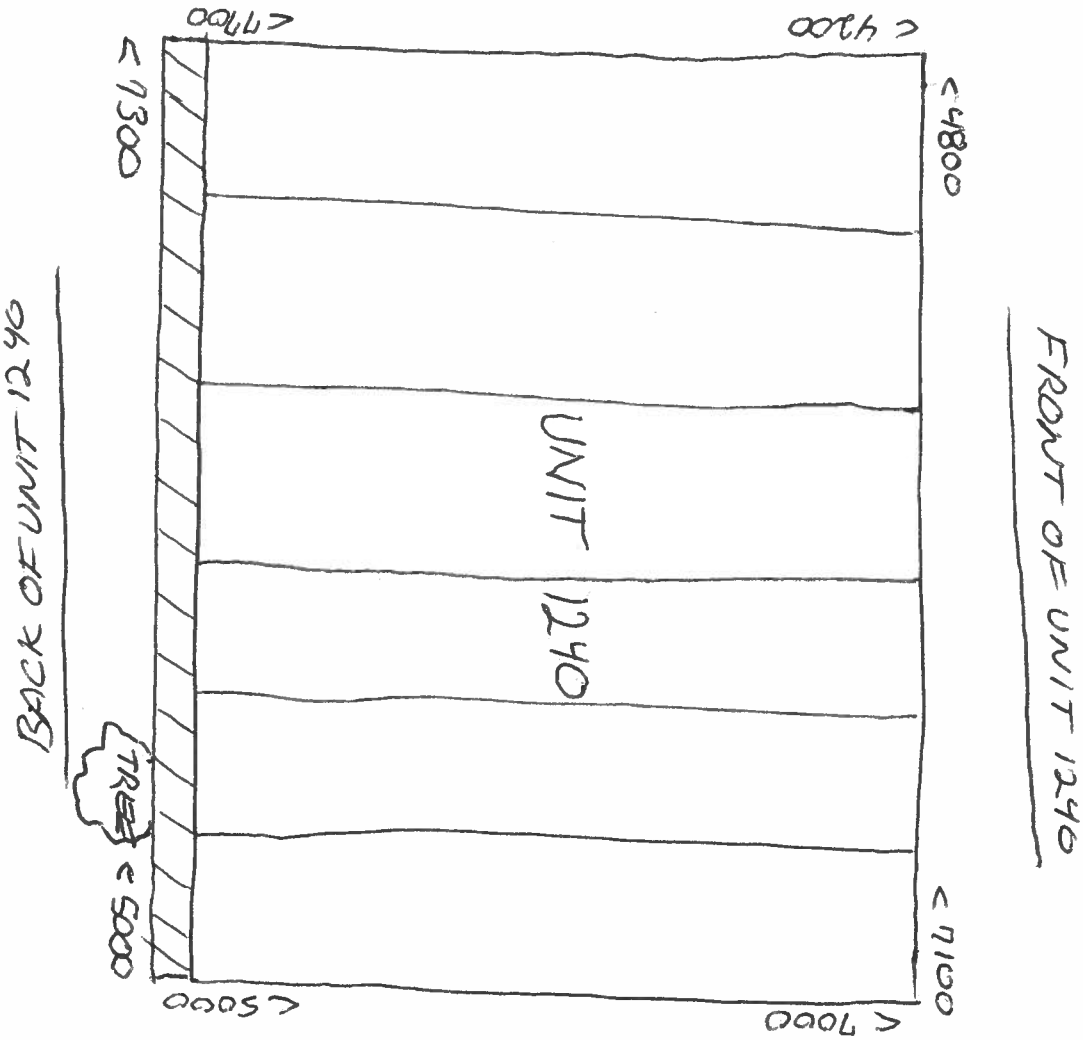
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-021	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1240 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

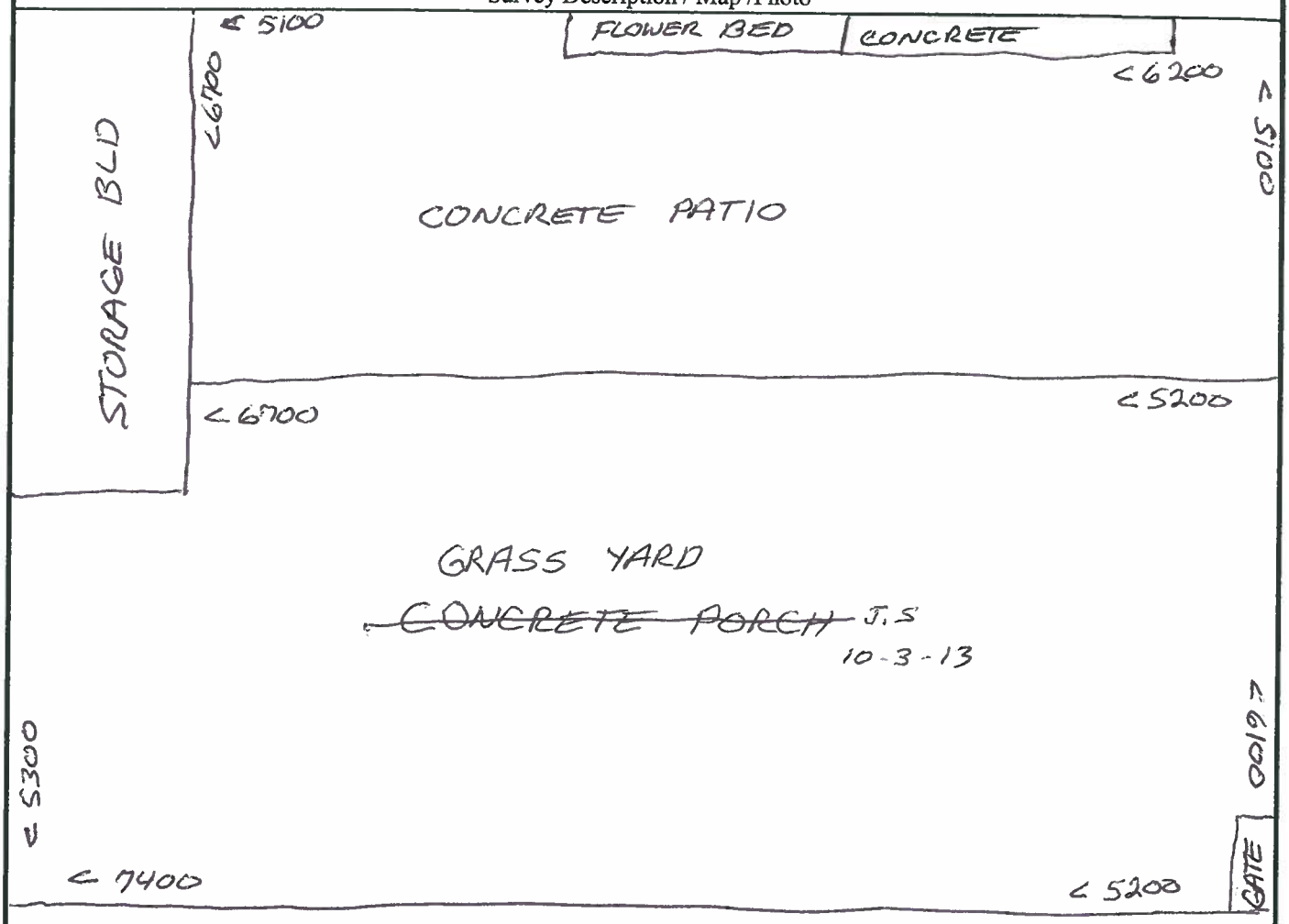
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-022	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JUL 14	44-10	RN 8765	27 JUL 14	N / A	N / A	5820	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1242 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

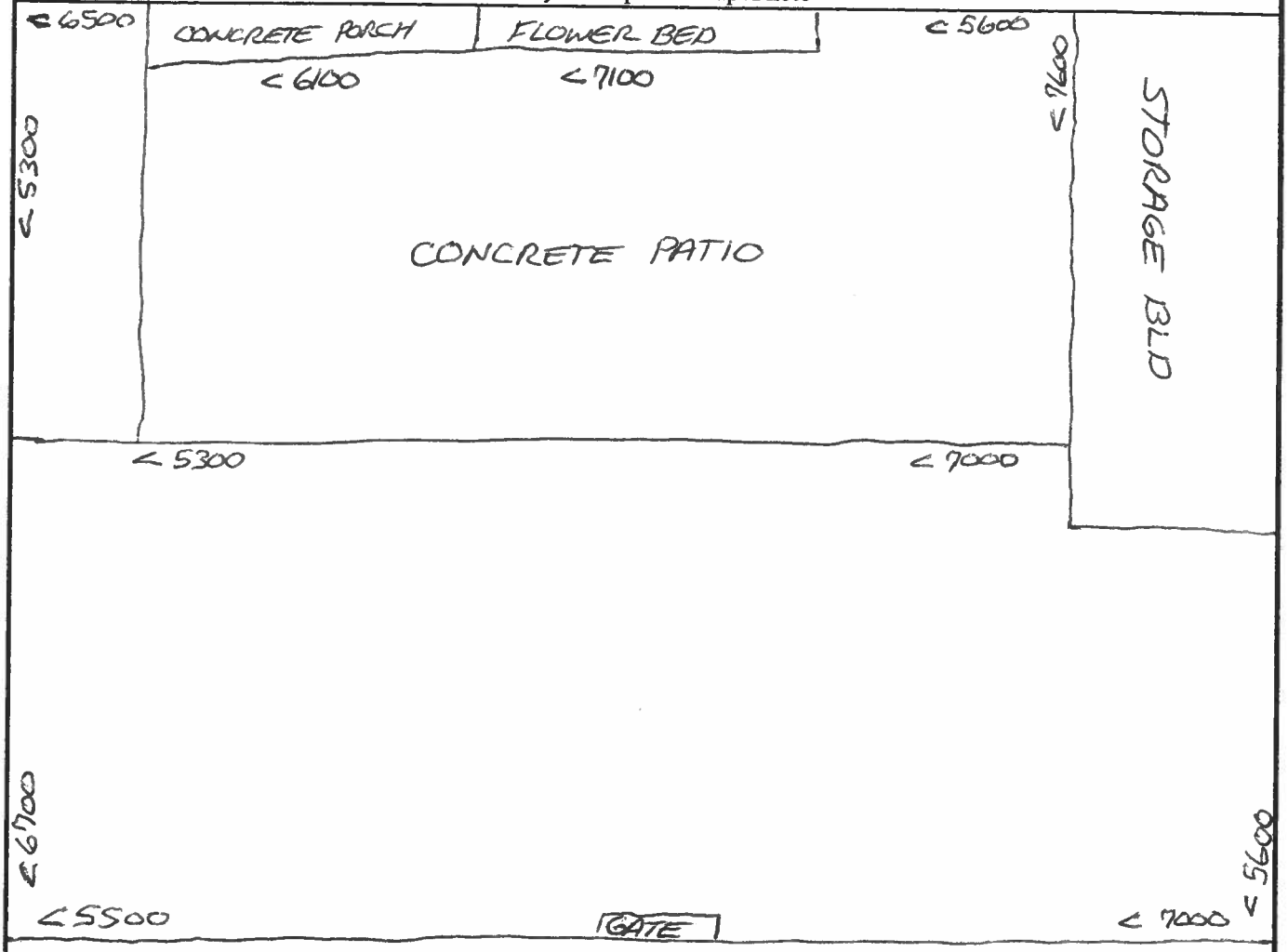
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-022	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1242 apartment "B" Backyard

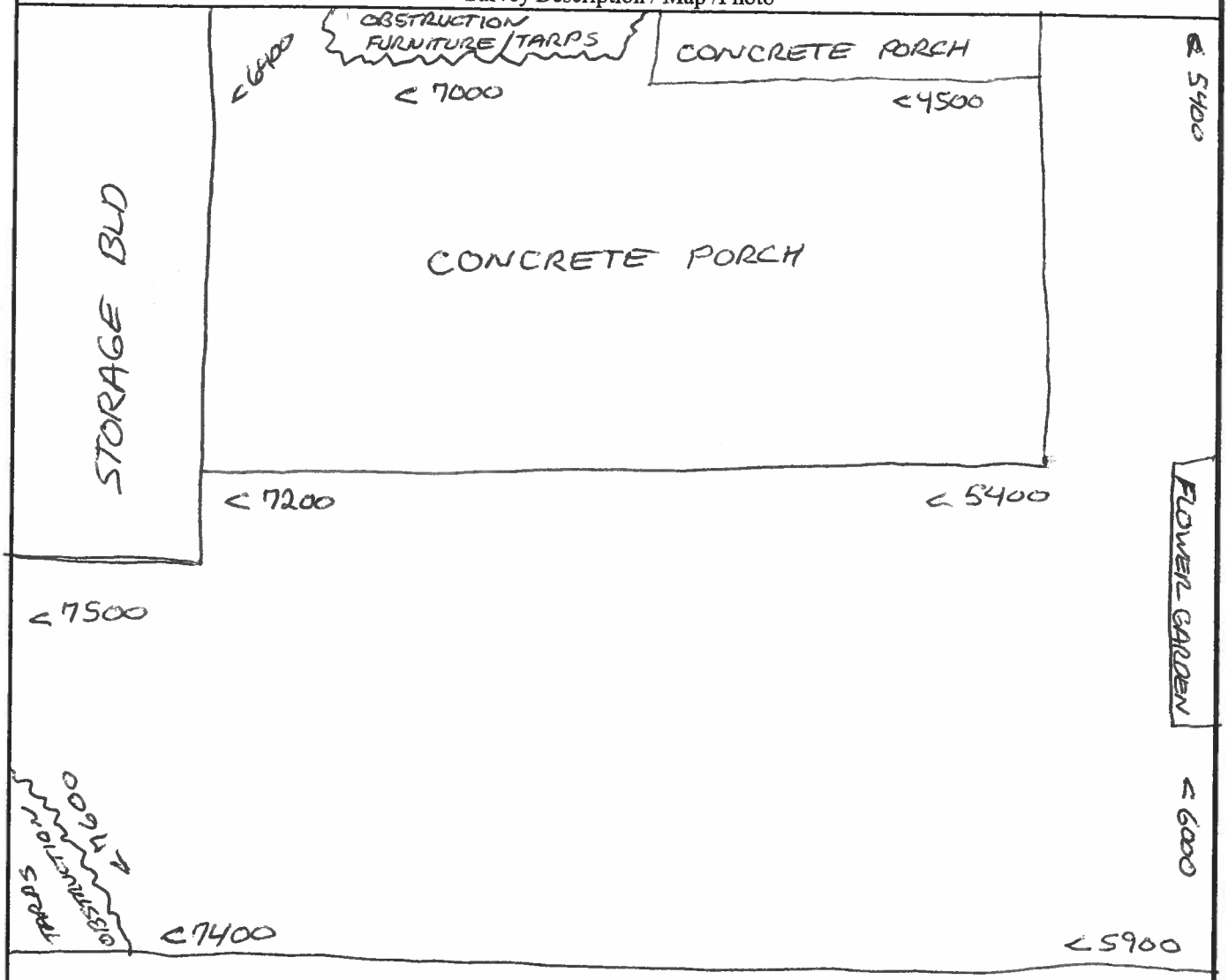
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-022	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1242 apartment "C" Backyard

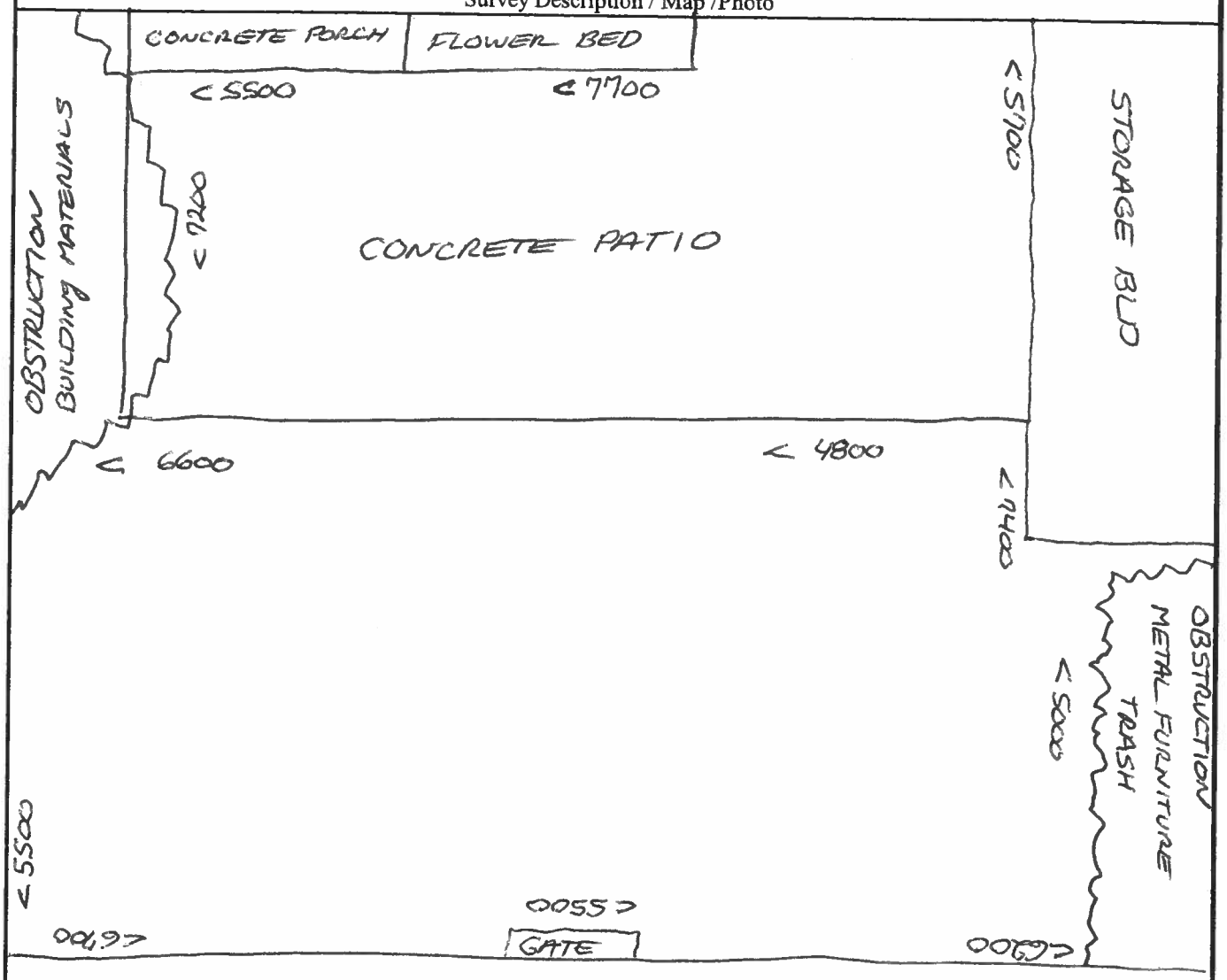
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-022	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1242 apartment "D" Backyard

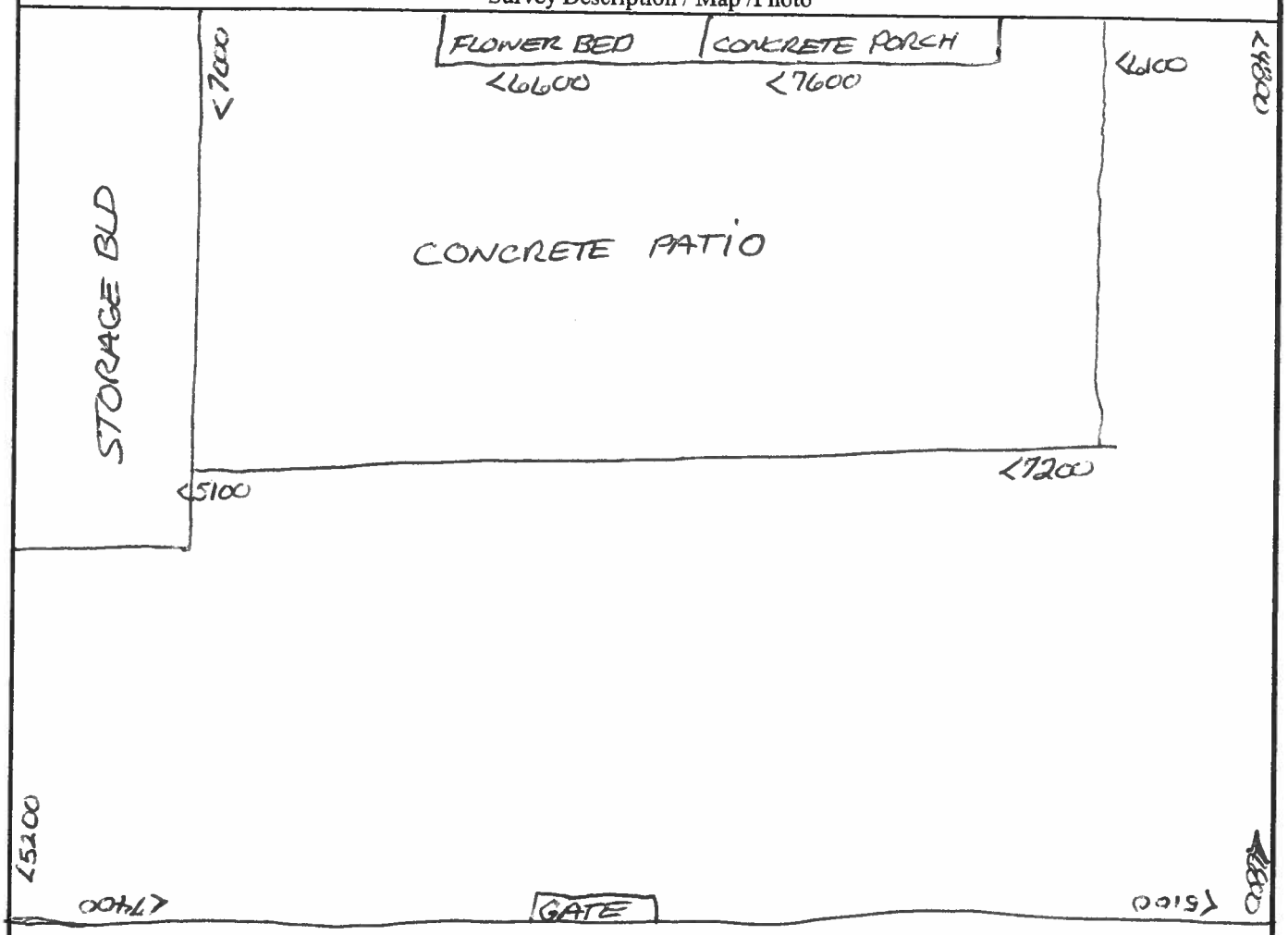
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-022	Date:	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1242 apartment "E" Backyard

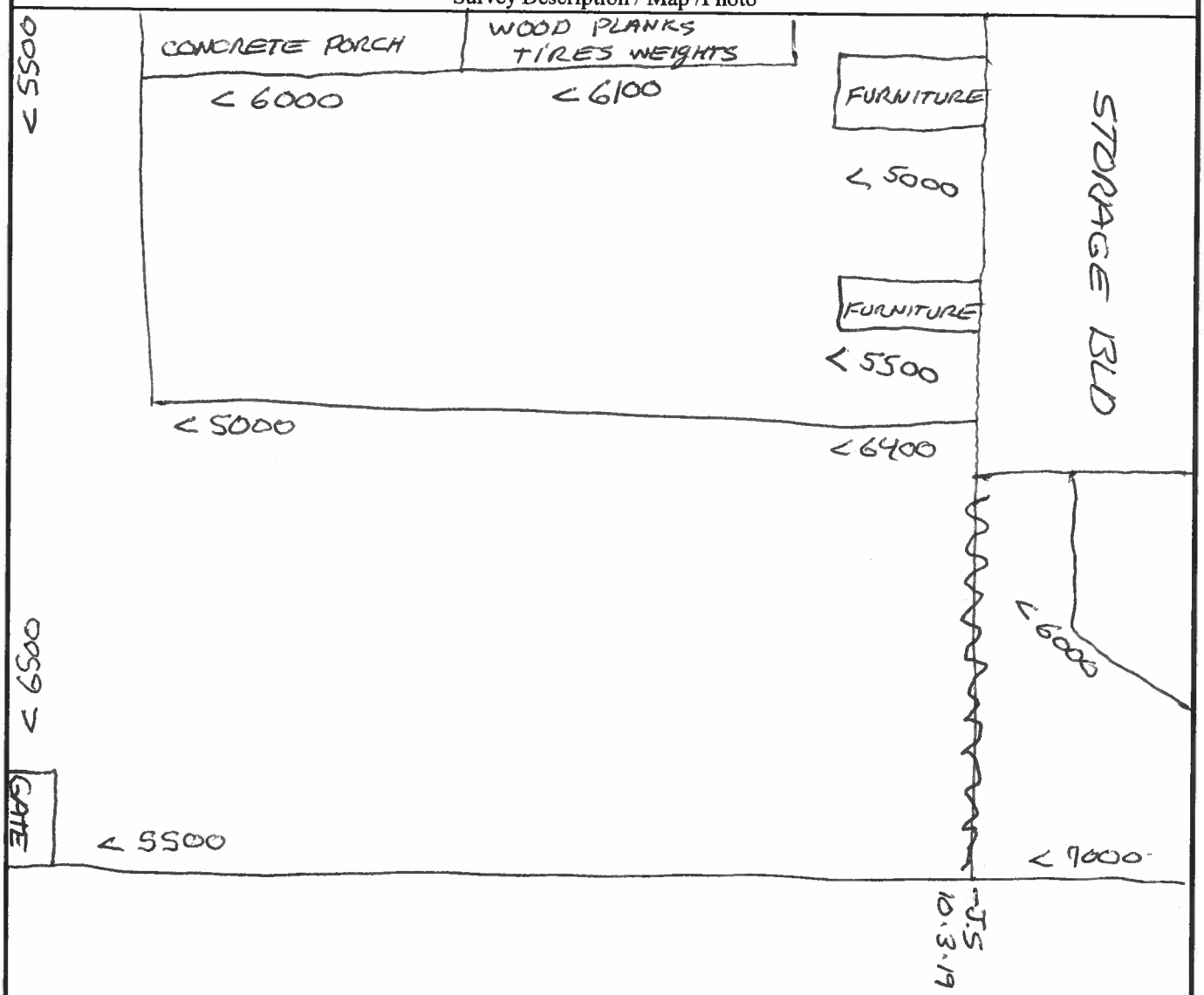
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-022	Date: 10-3-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 12A2 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

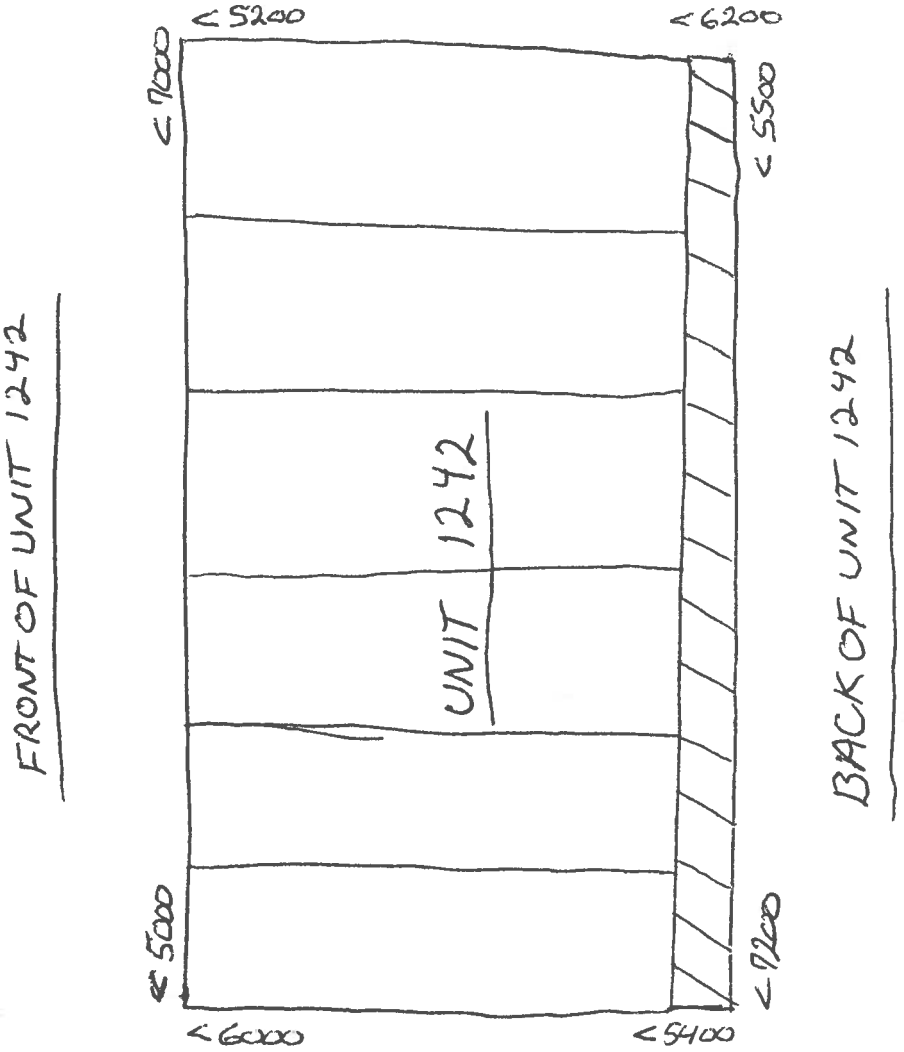
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-022	Date: 10.3.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1242 apartment "all" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

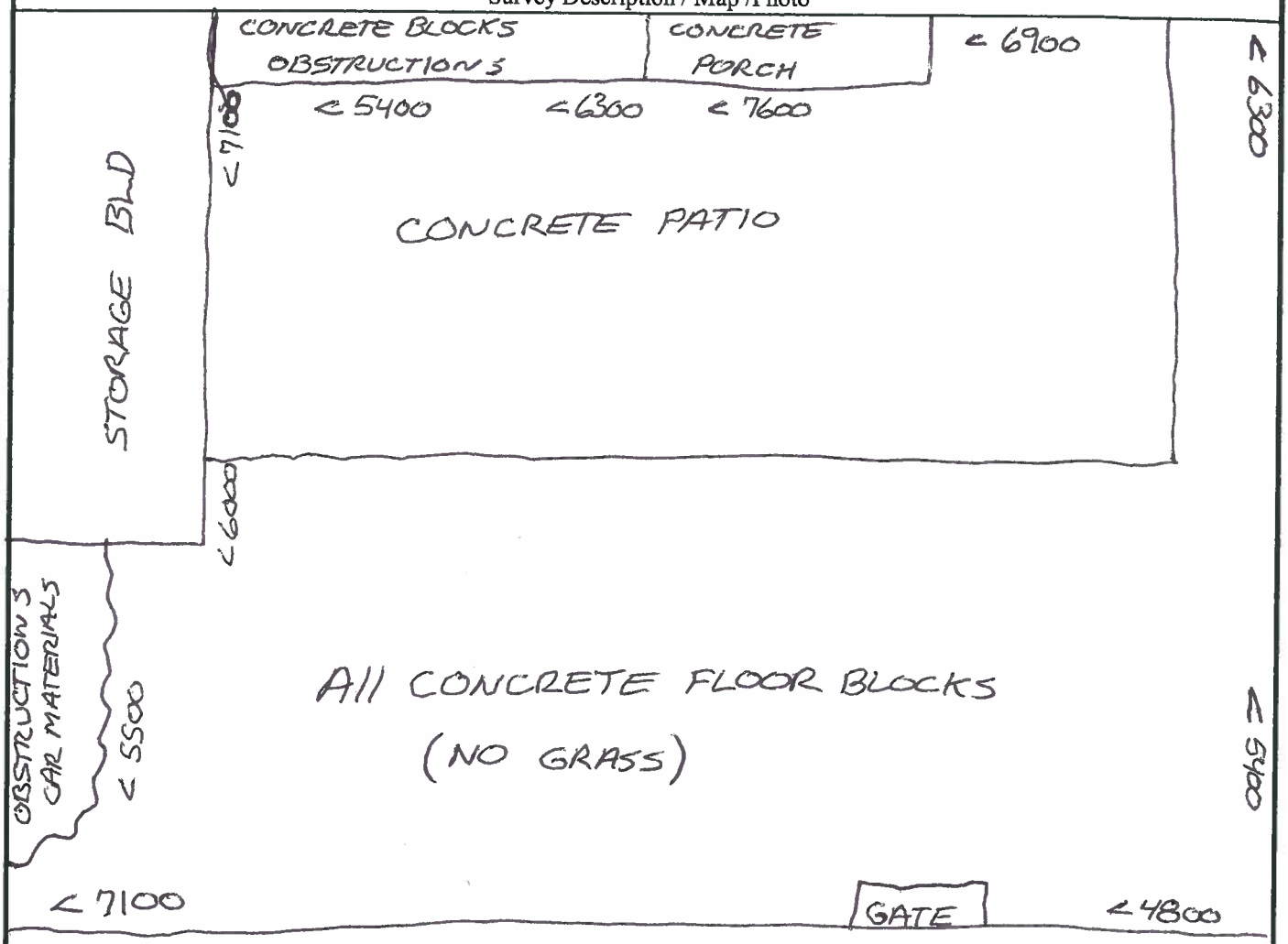
CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-023	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	RN19765	27JUN14	N/A	N/A	5701	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1237 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

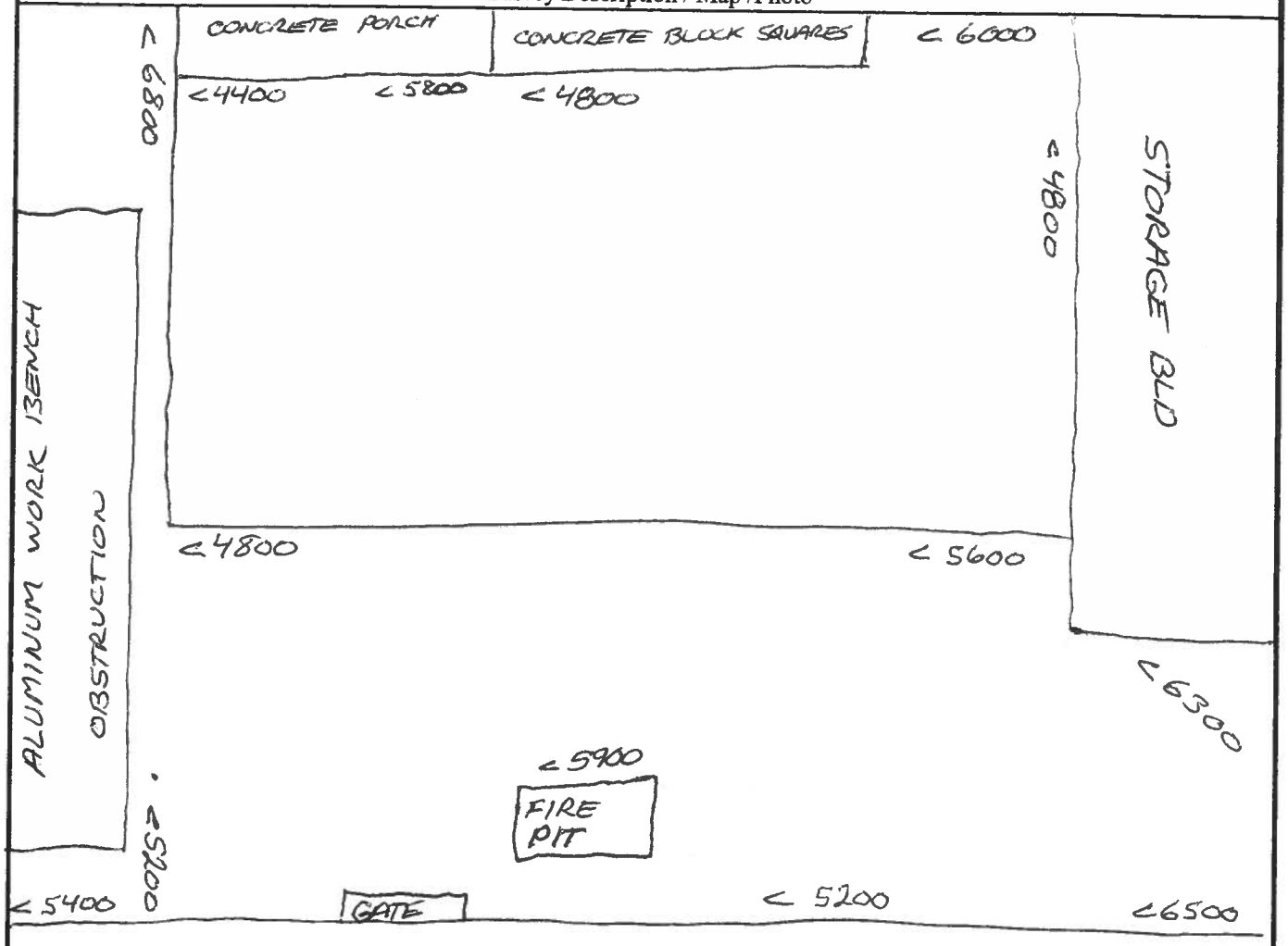
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-023	Date: 10-2-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1237 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

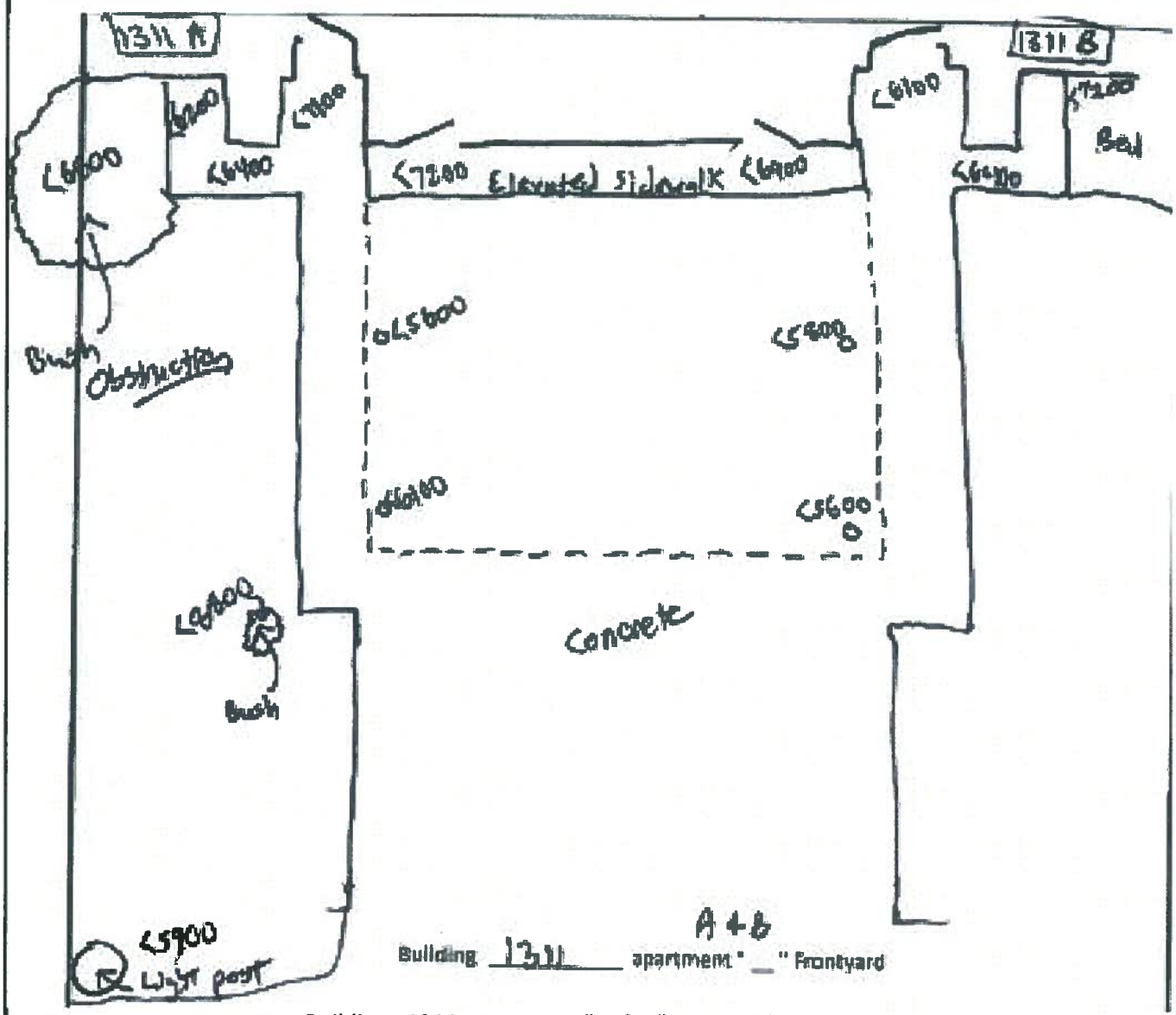
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-024	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	6151	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1311 apartment " A & B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

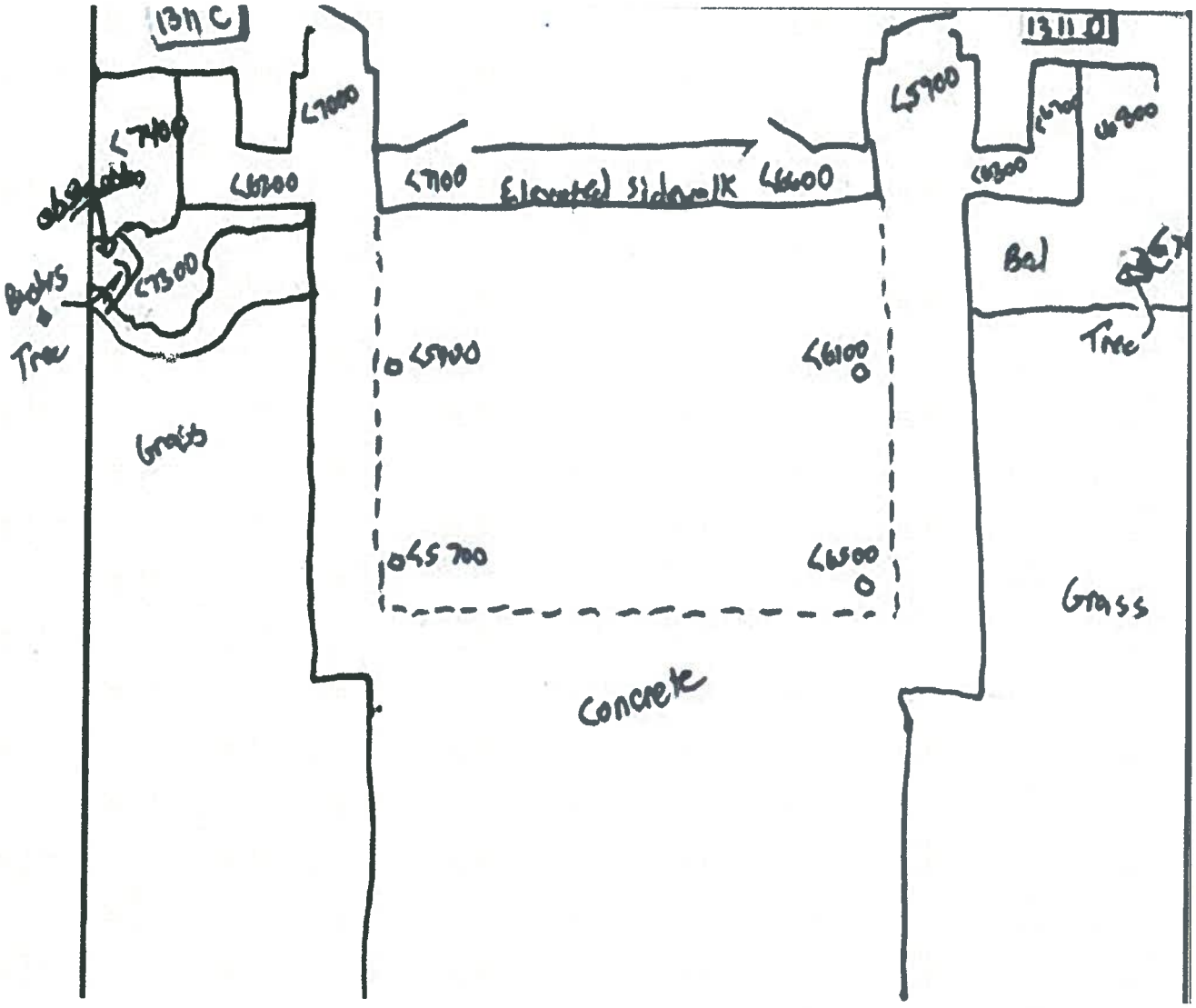
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-024	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1311 apartment " C & D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

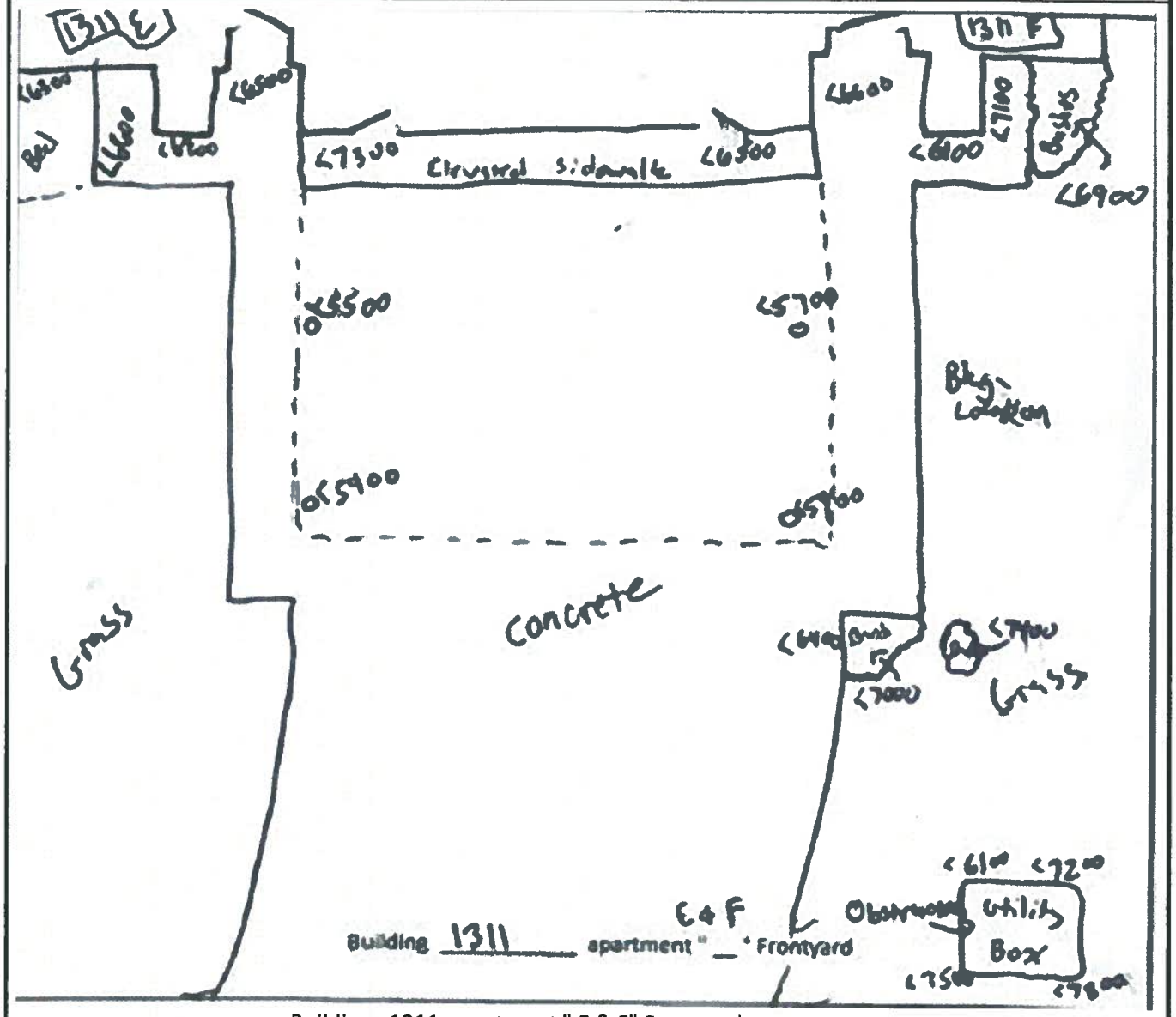
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-024	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1311 apartment " E & F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

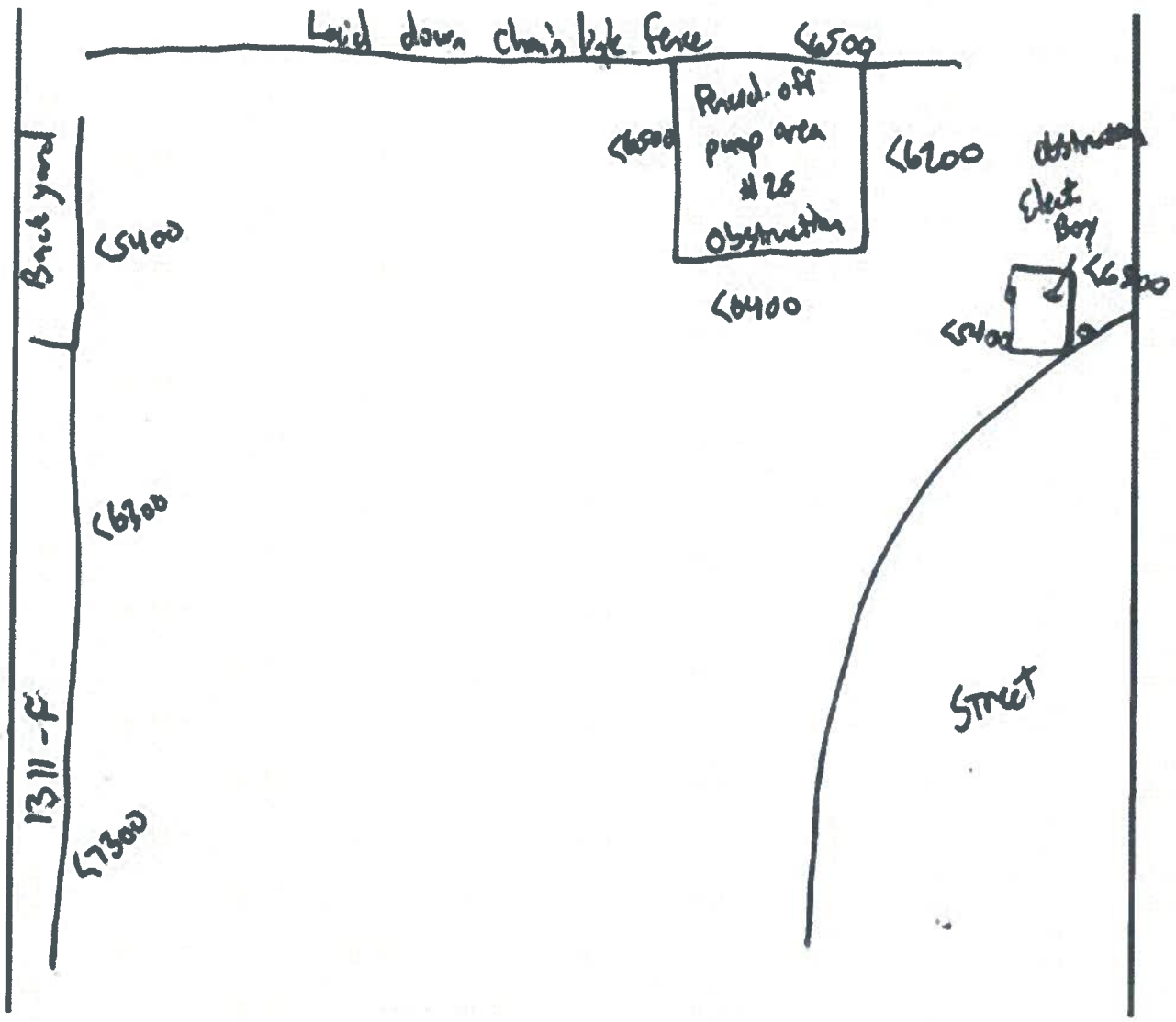
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-024	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1311 apartment " N/A" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

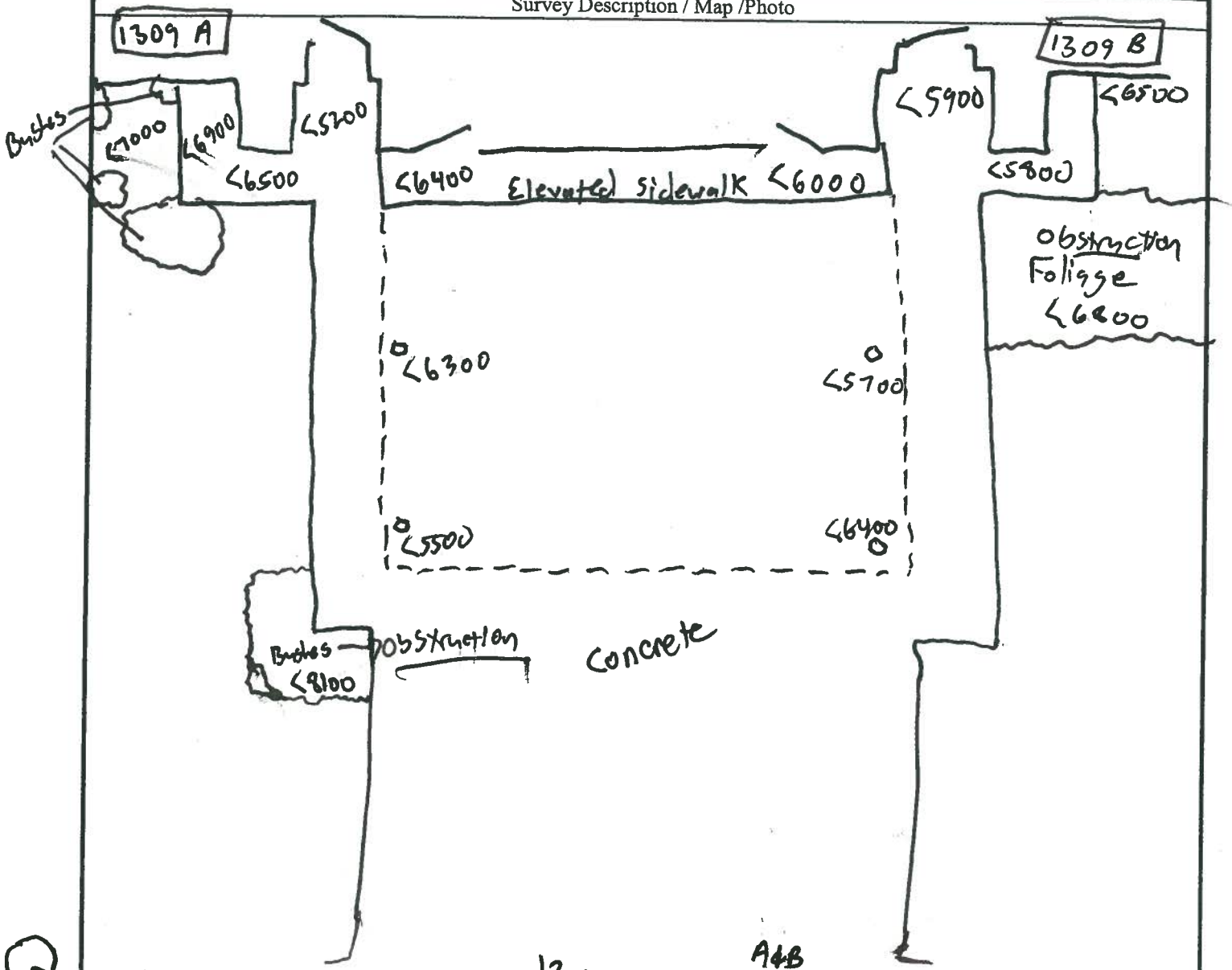
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-025	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 19768	8/21/14	N / A	N / A	5472	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1309 apartment "A&B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

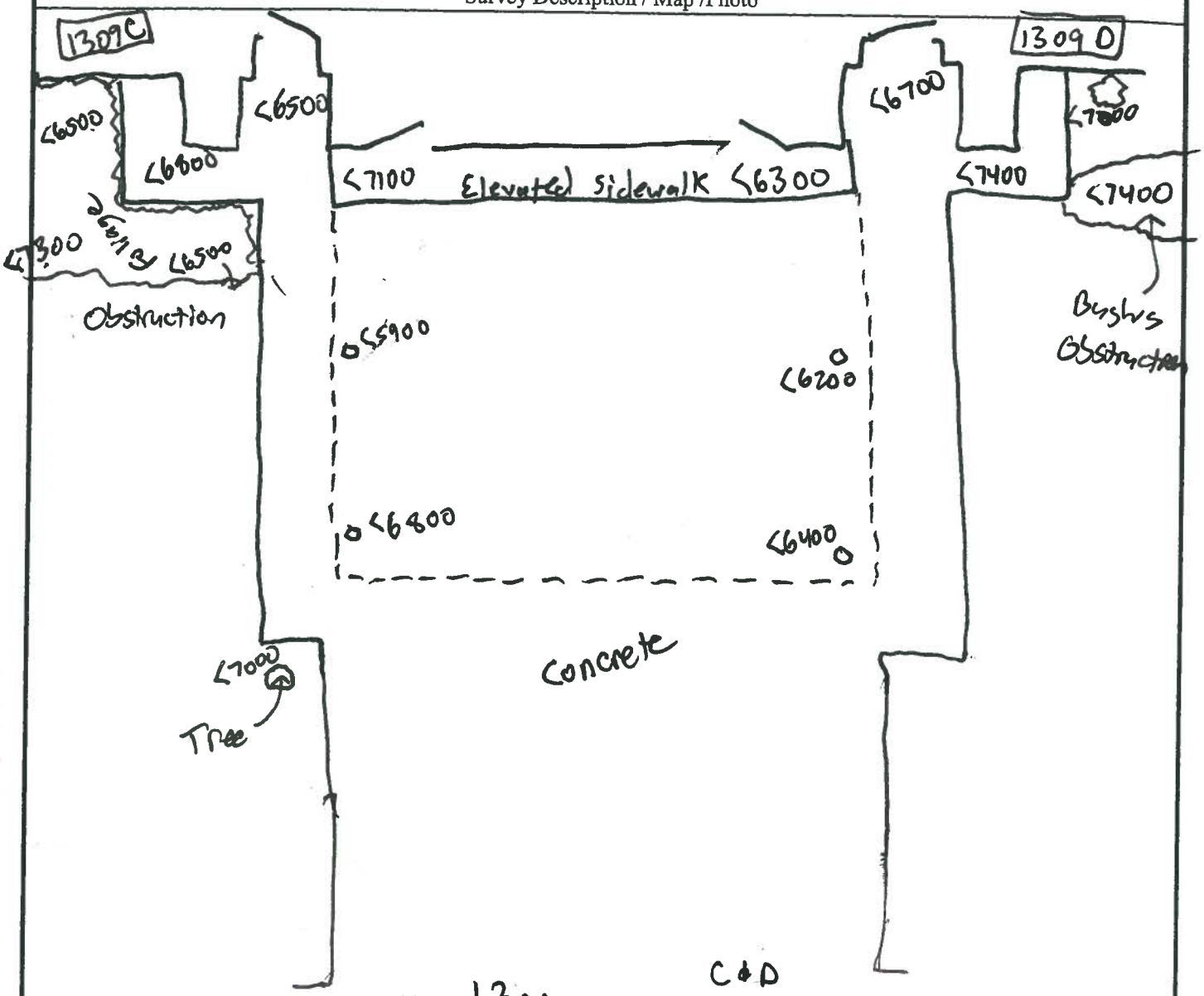
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-025	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		— see cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 15746	8/21/14	N/A	N/A	~~6157~~ 5472 (TC 10/7/13)	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1309 apartment " C & D " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

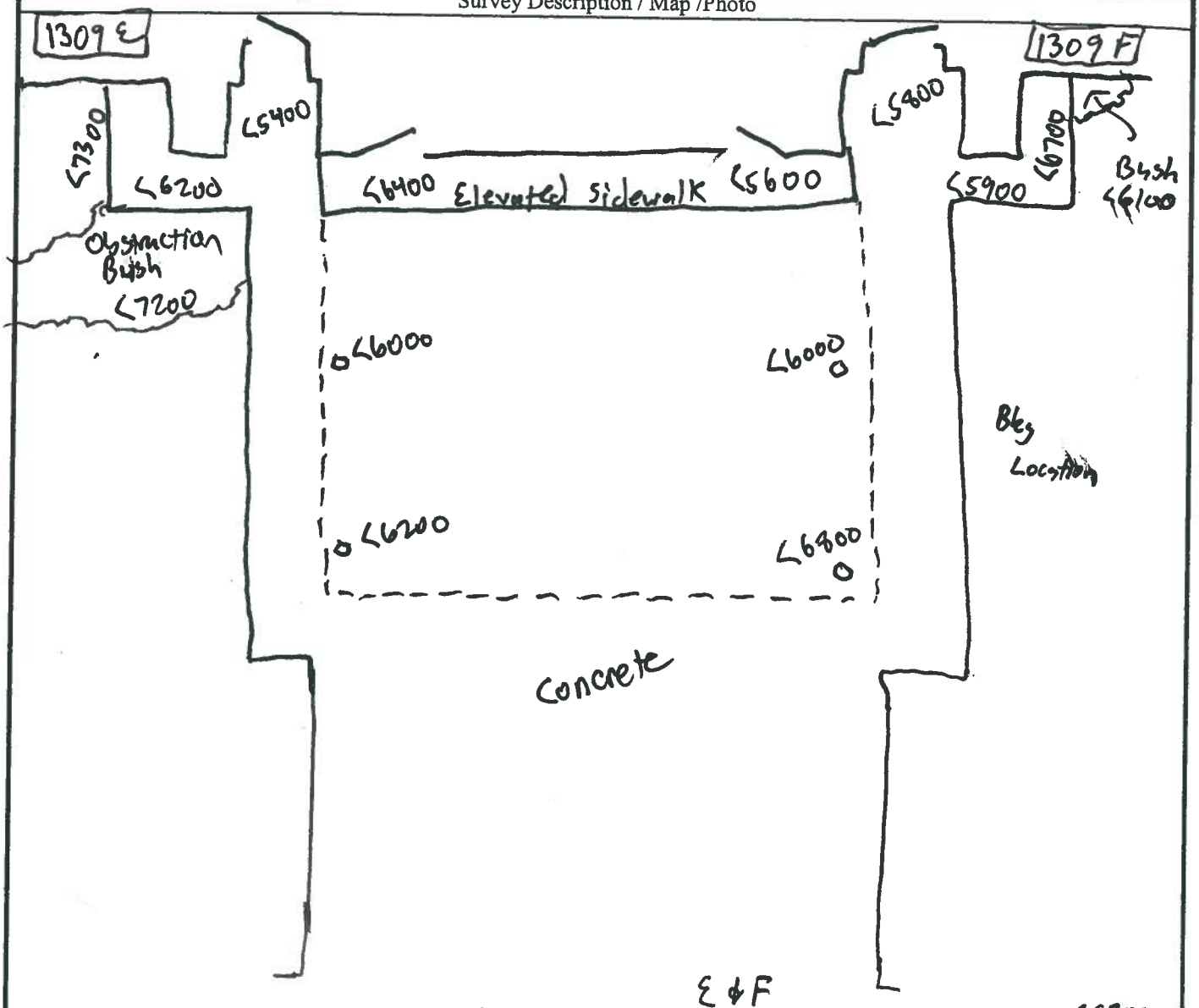
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-025	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		— See cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ TC 10/7/13	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RA197668	8/21/14	N / A	N / A	~~6157~~	N/A	N / A	N / A
N/A								5742			→
N/A											→

Survey Description / Map /Photo



Building 1309 apartment " __ " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

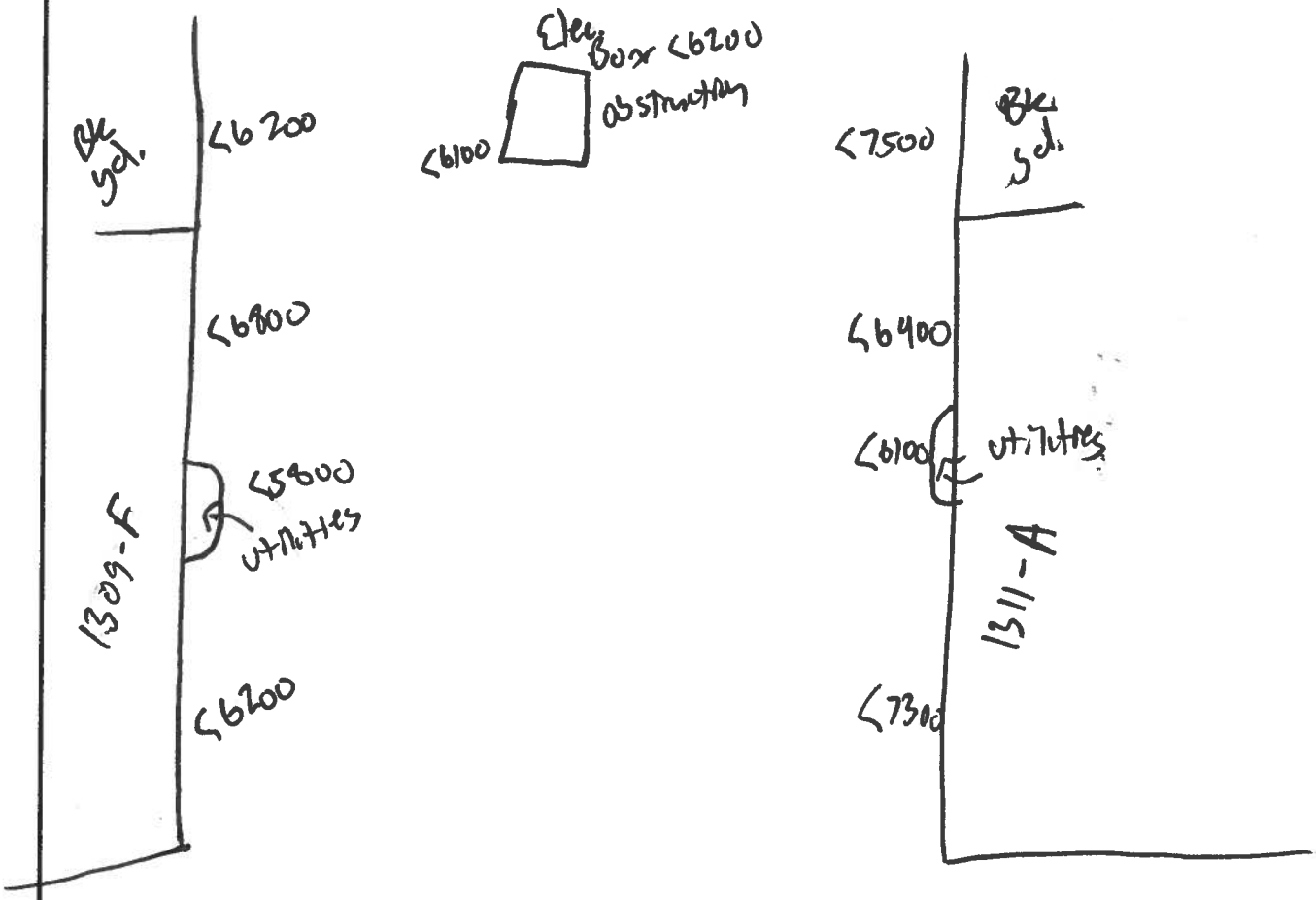
TC 10/7/13

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-025	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

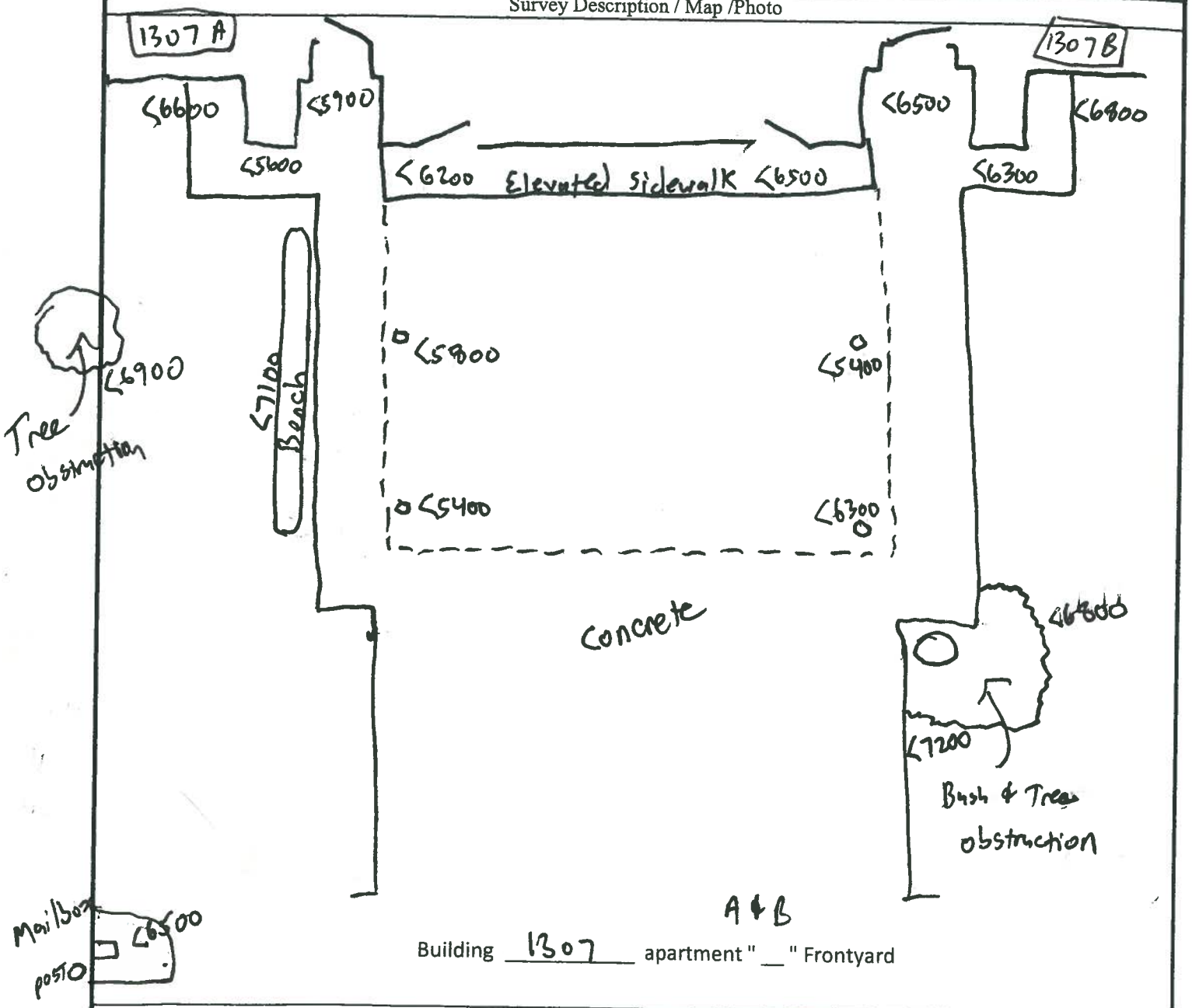
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-026	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RAD 19768	8/21/14	N / A	N / A	5749	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1307 apartment " A & B " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

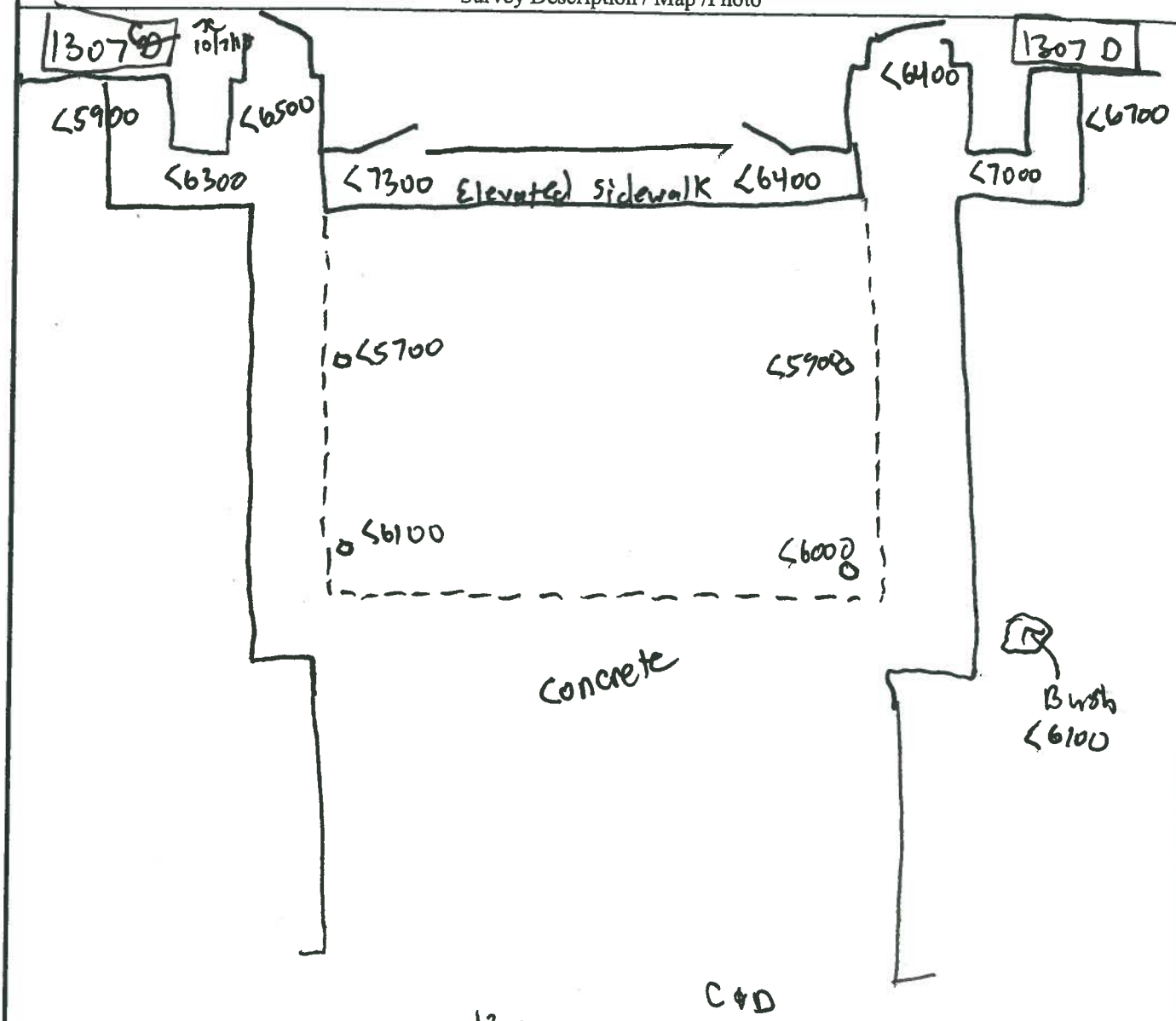
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-026	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		— See Cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 19769	8/20/14	N / A	N / A	5749	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1307 apartment " __ " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

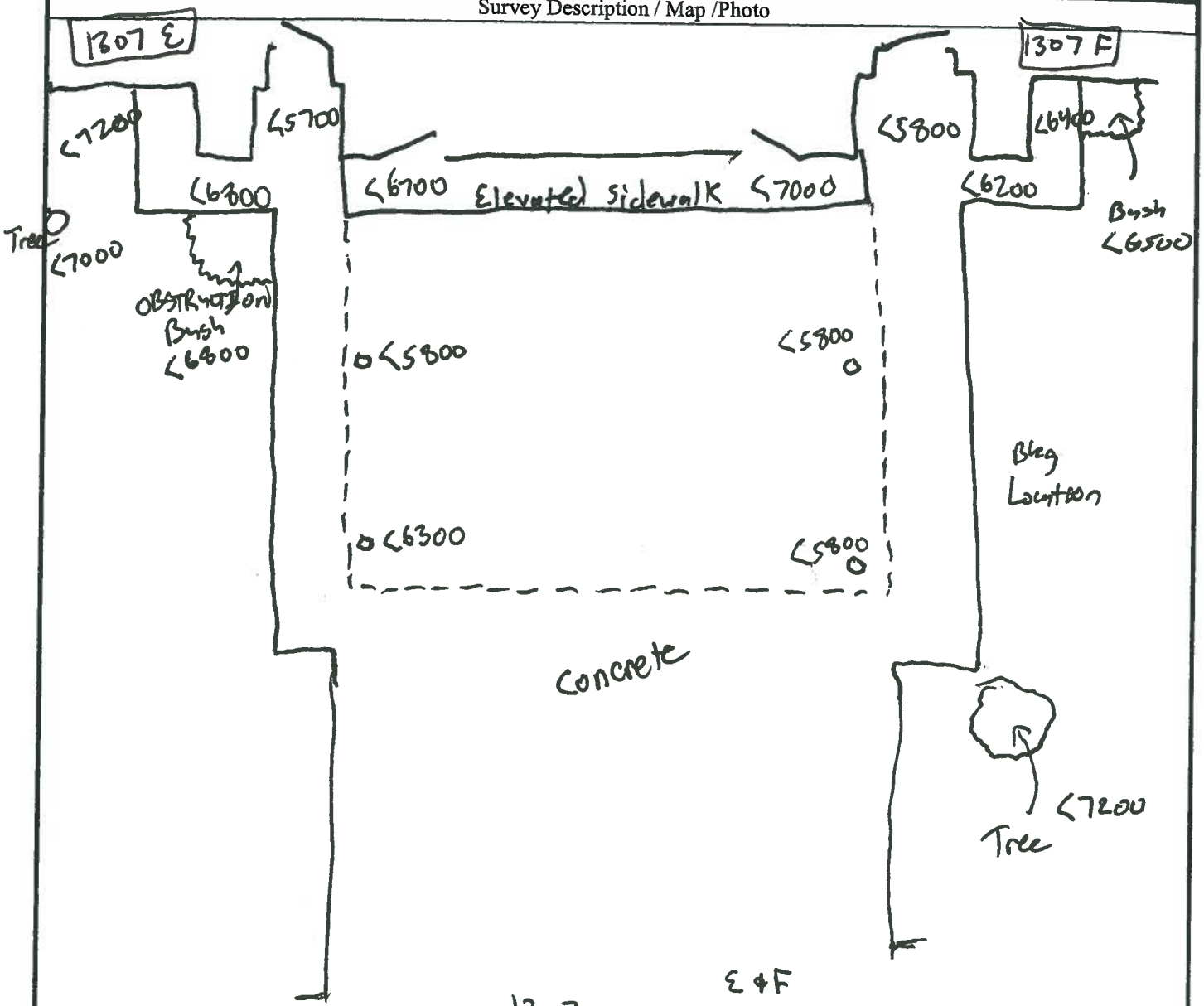
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-026	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		— see cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 19768	8/2014	N/A	N/A	5749	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1307 apartment " E + F " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

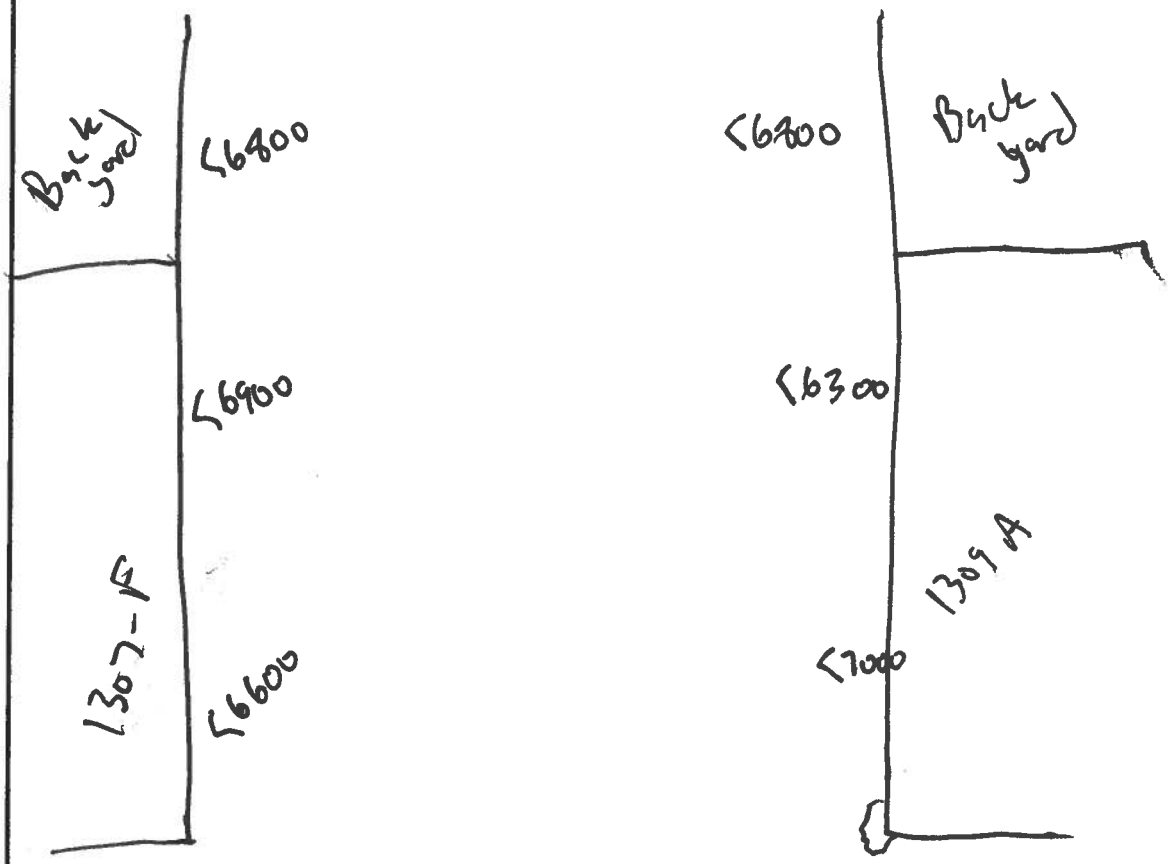
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-026	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "A" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

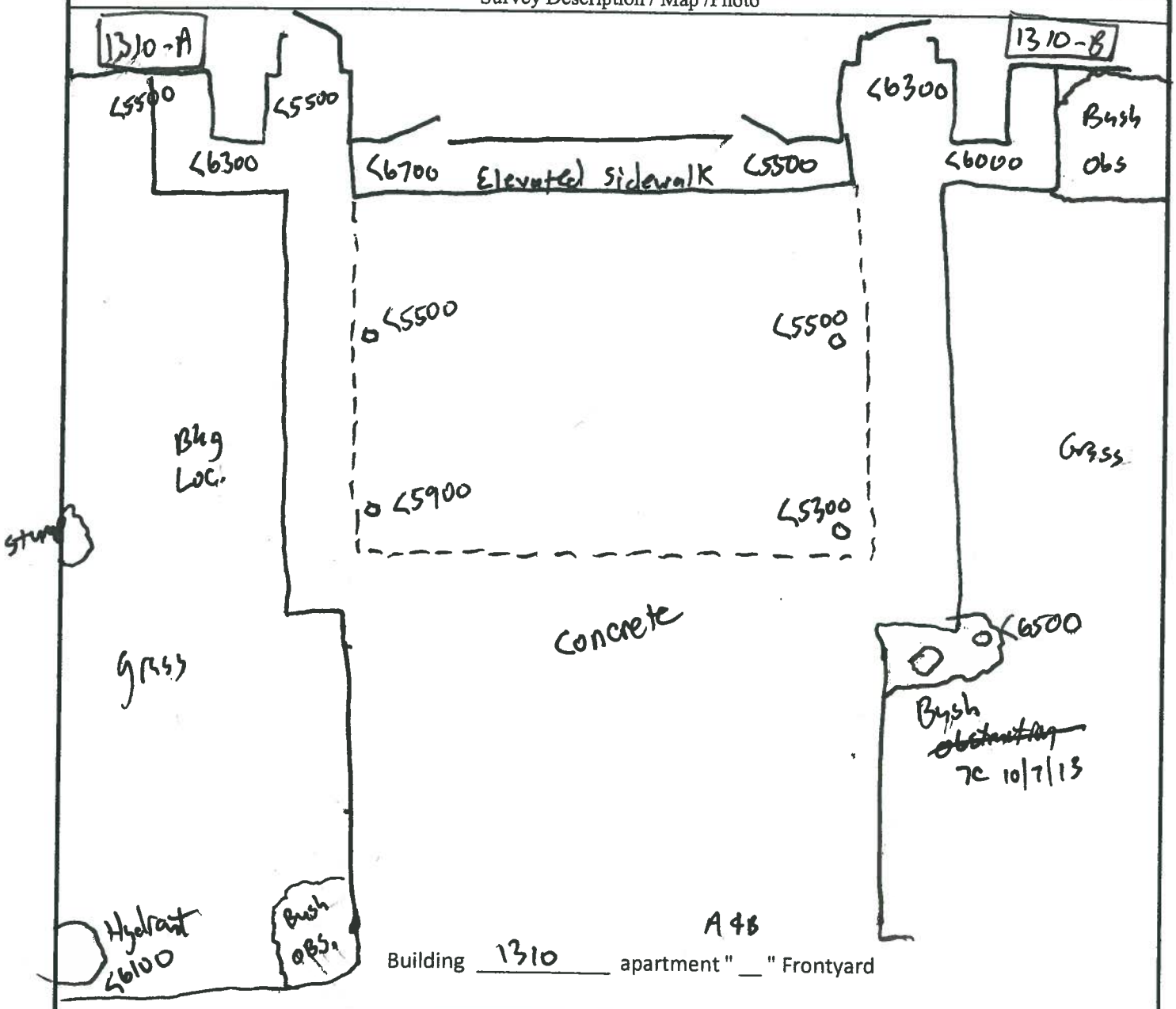
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-037	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Jim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW197/68	8/21/14	N/A	N/A	5535	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1310 apartment " __ " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

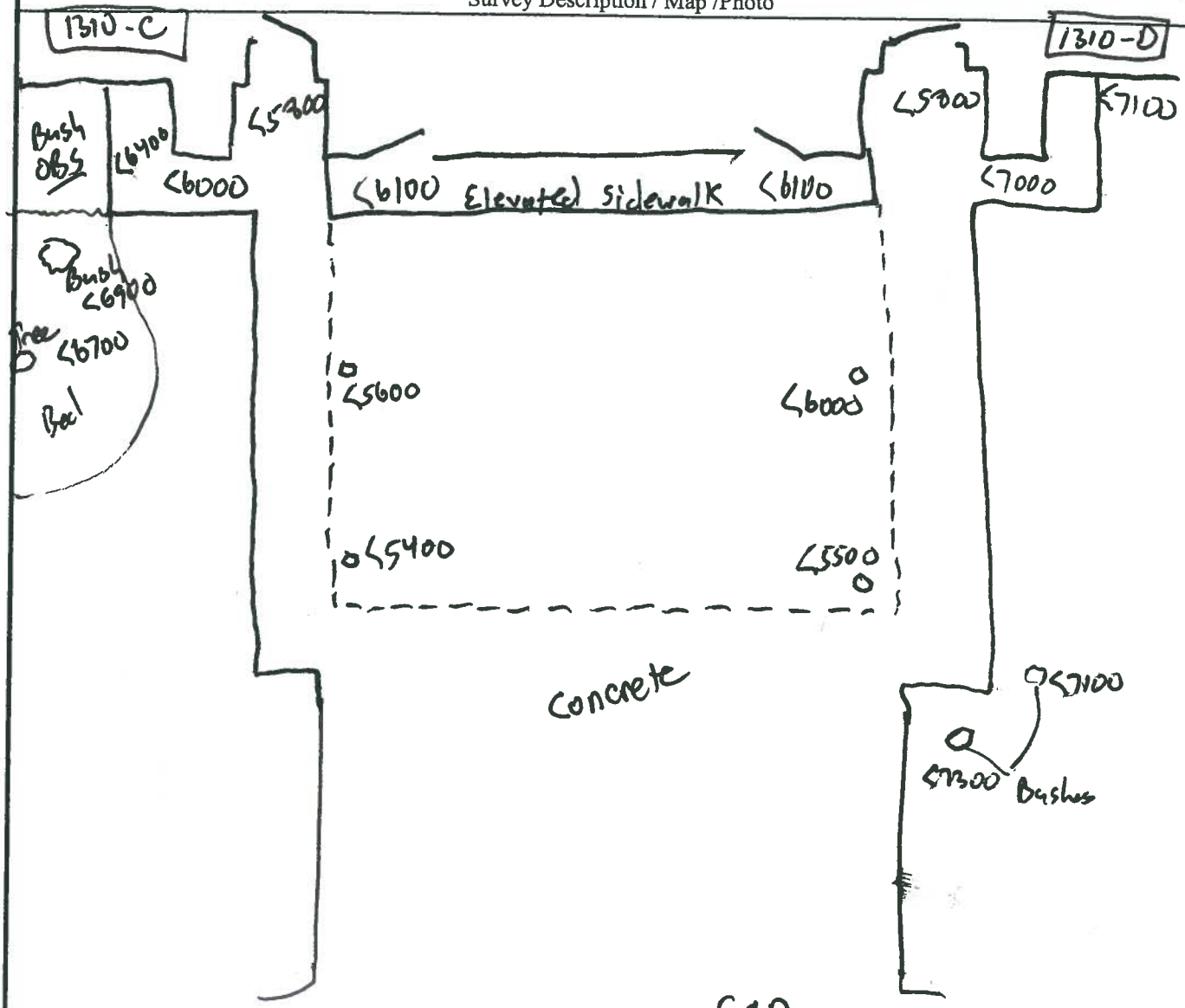
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-027	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		— See Cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN147168	8/21/14	N / A	N / A	5535	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1310 apartment " C&D " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

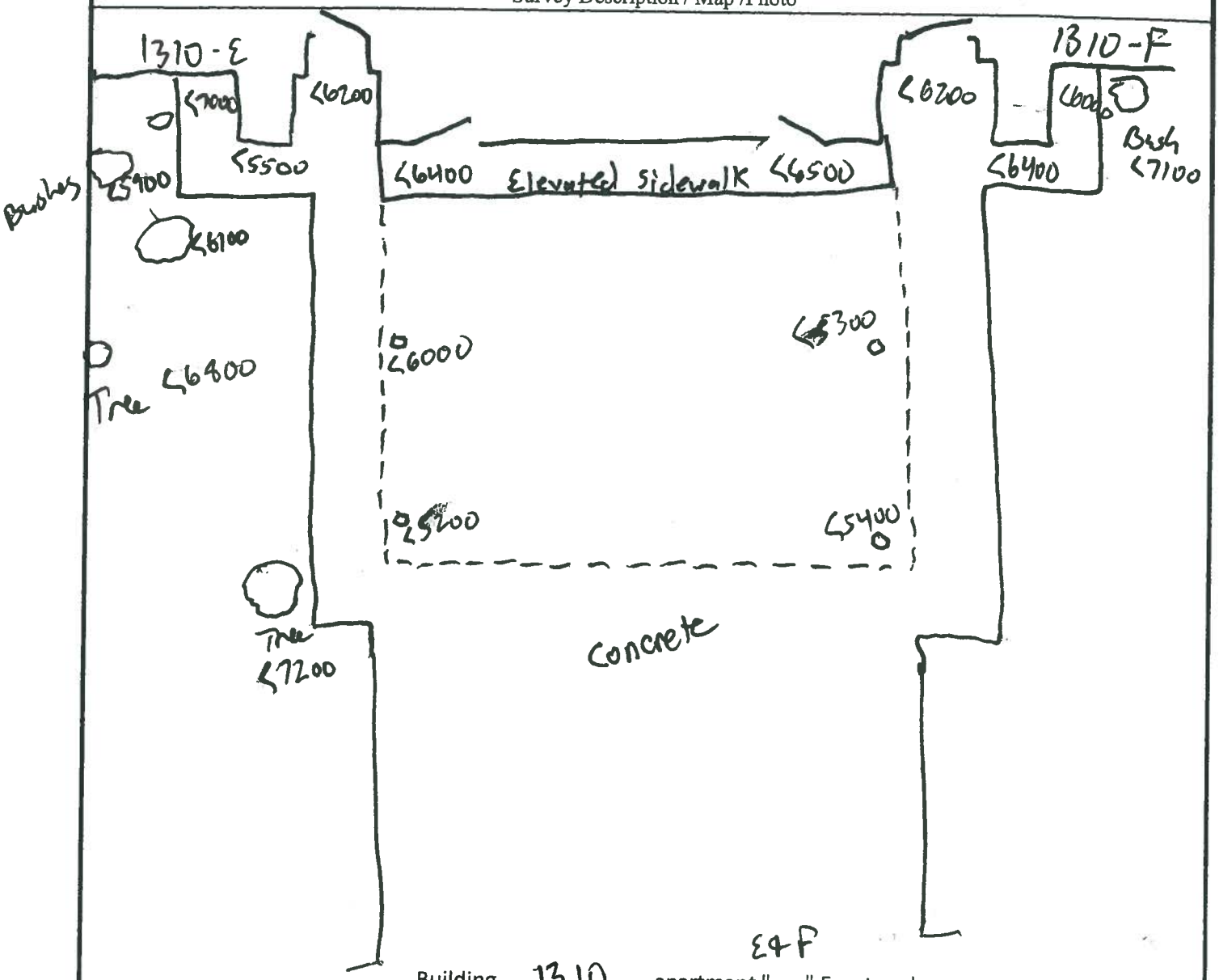
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-027	Date: 10/7/15	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		— See Cover Page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	BW 15768	8/21/14	N / A	N / A	5535	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1310 apartment " __ " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

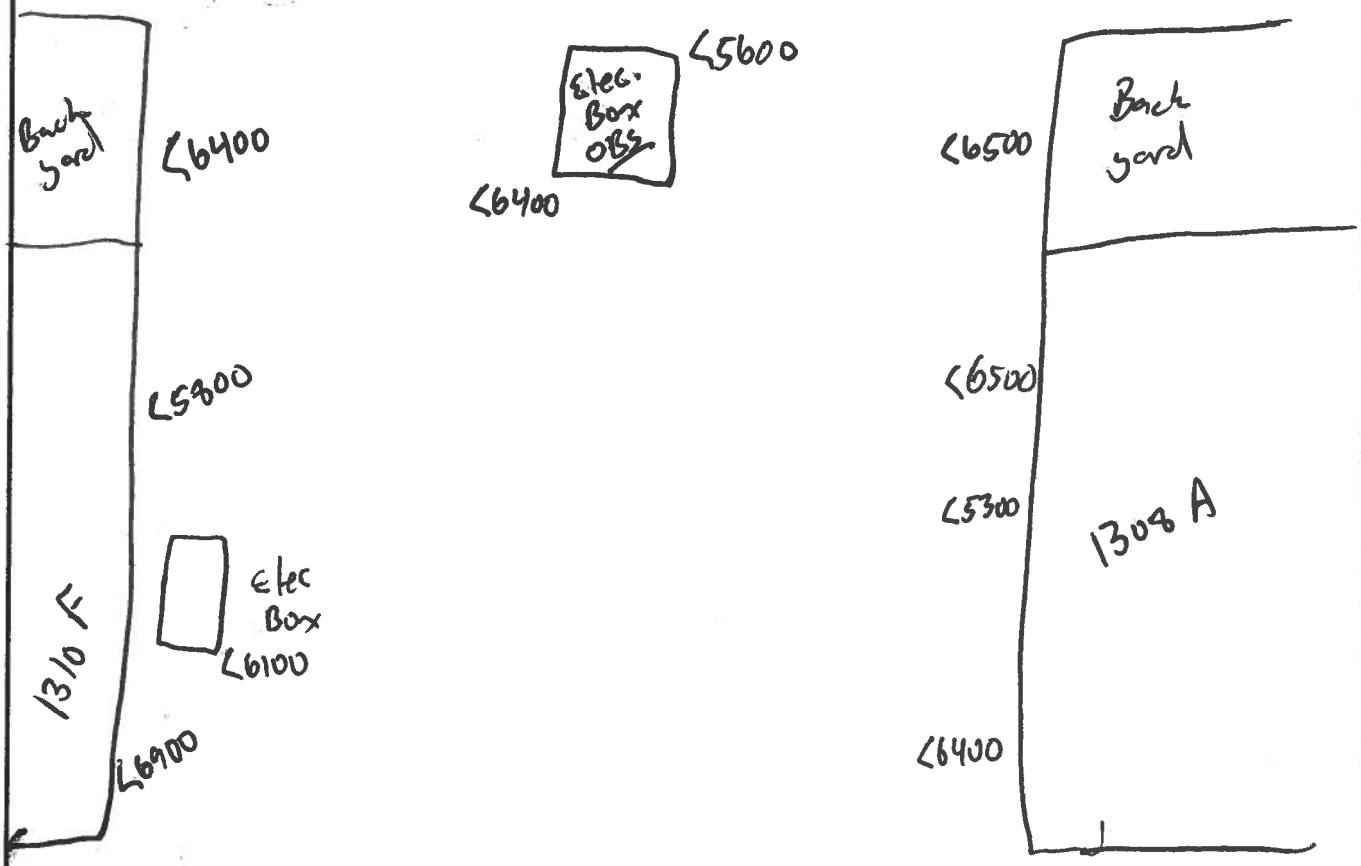
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-027	Date: 10/7/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1310 apartment "F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

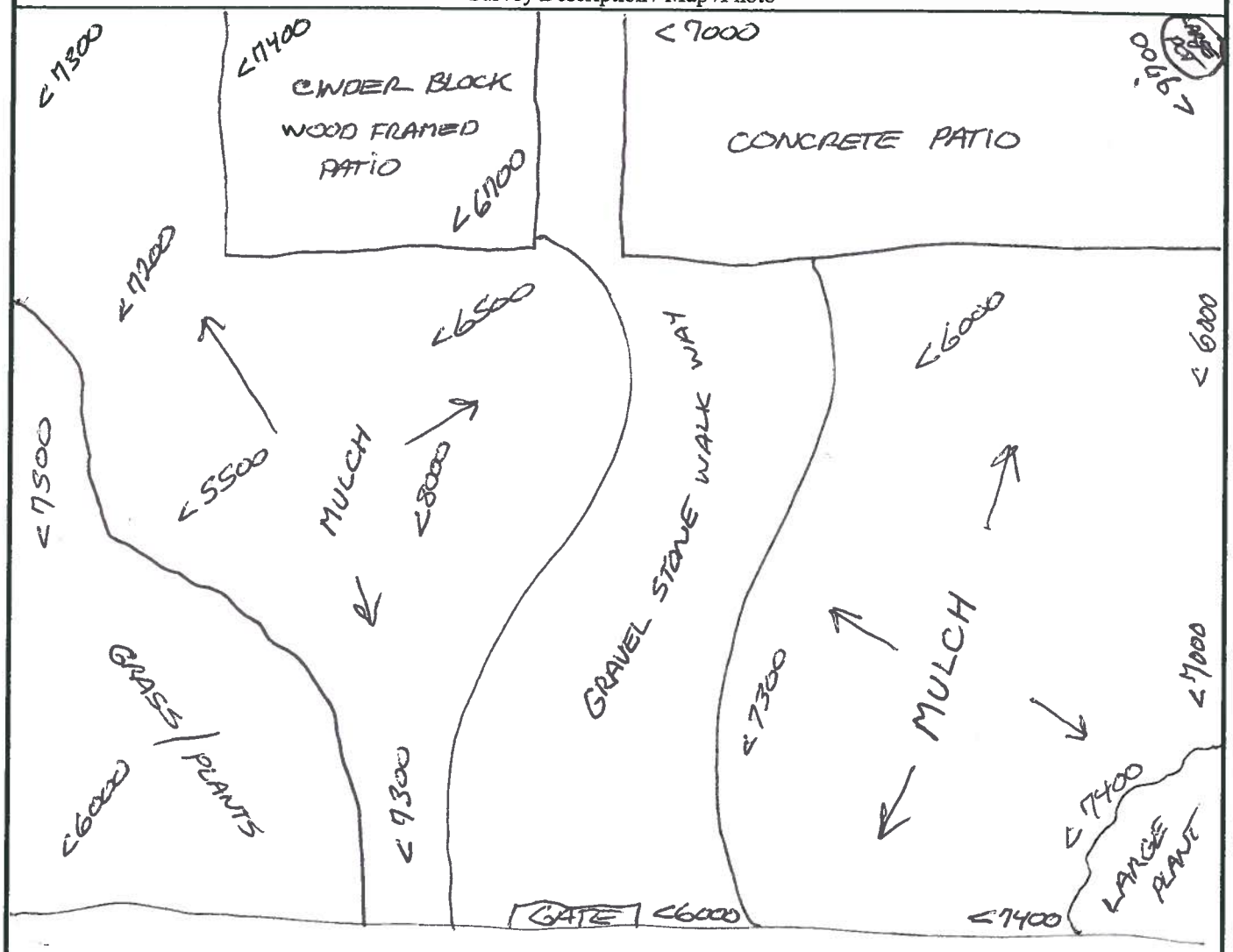
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 028	Date: 10-7-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James E Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	RU19765	27JUN14	N / A	N / A	5279	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1311 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

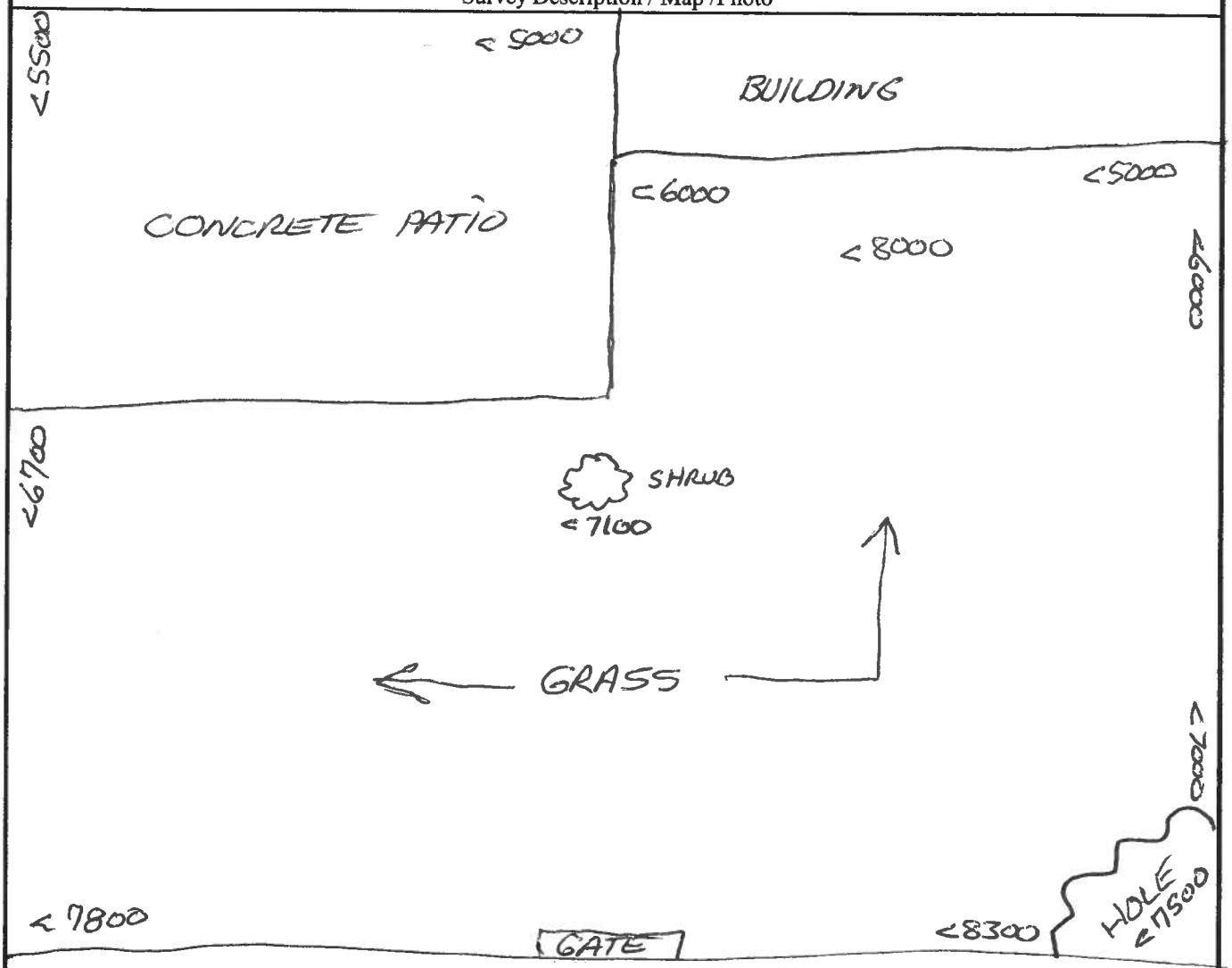
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-028	Date: 10-7-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1311 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

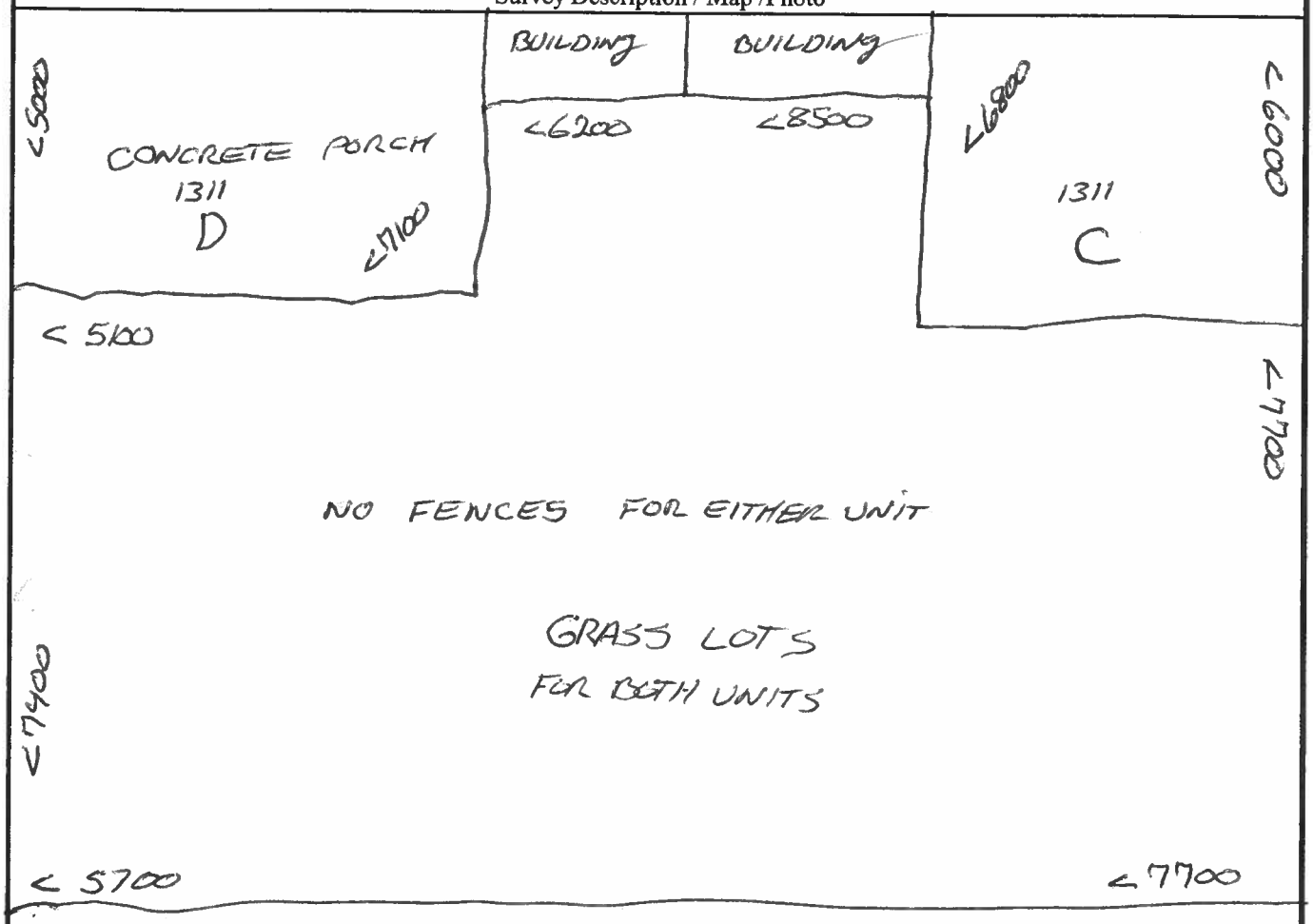
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-028	Date: 10-7-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



C AND D

Building 1311 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

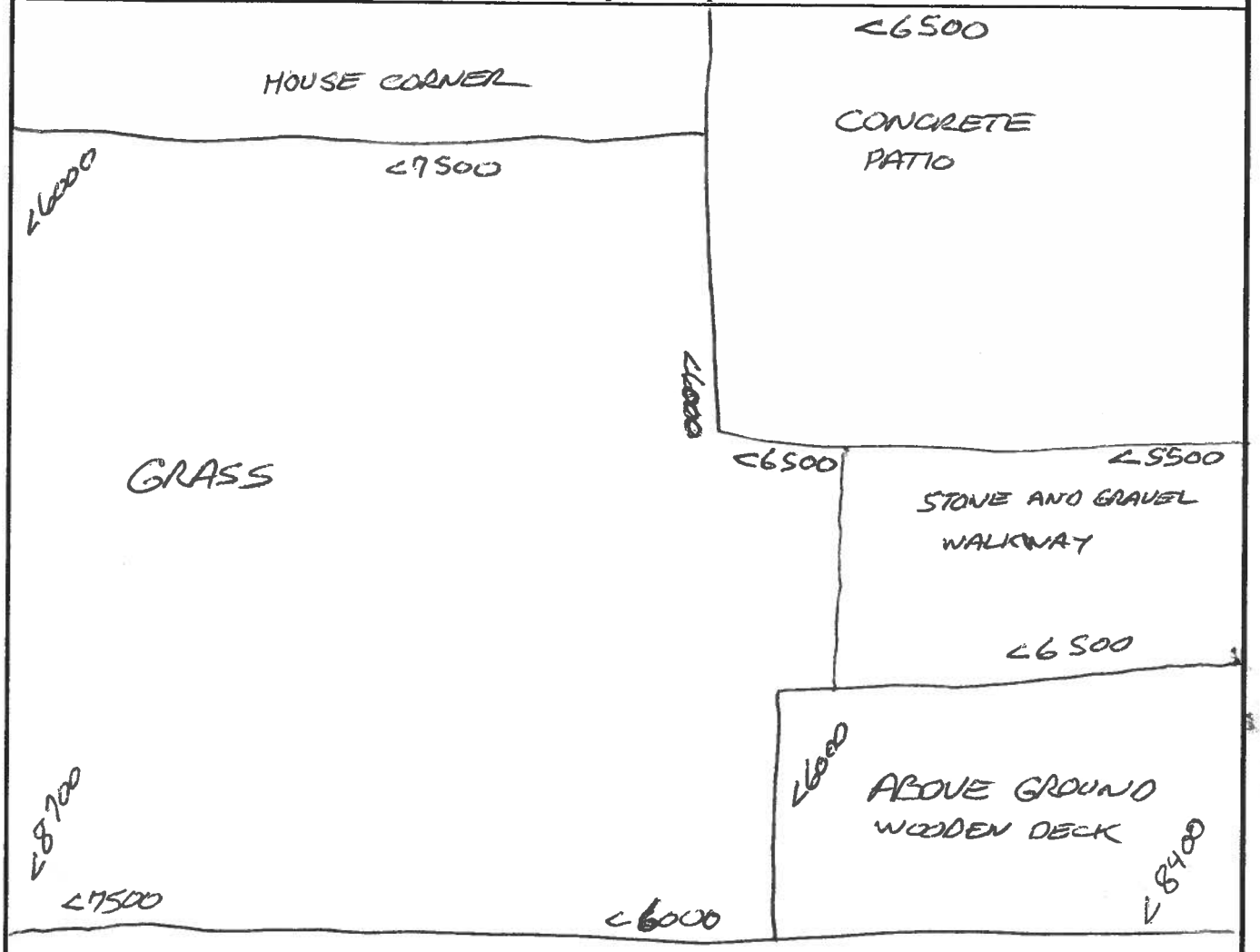
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-028	Date: 10-7-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1311 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

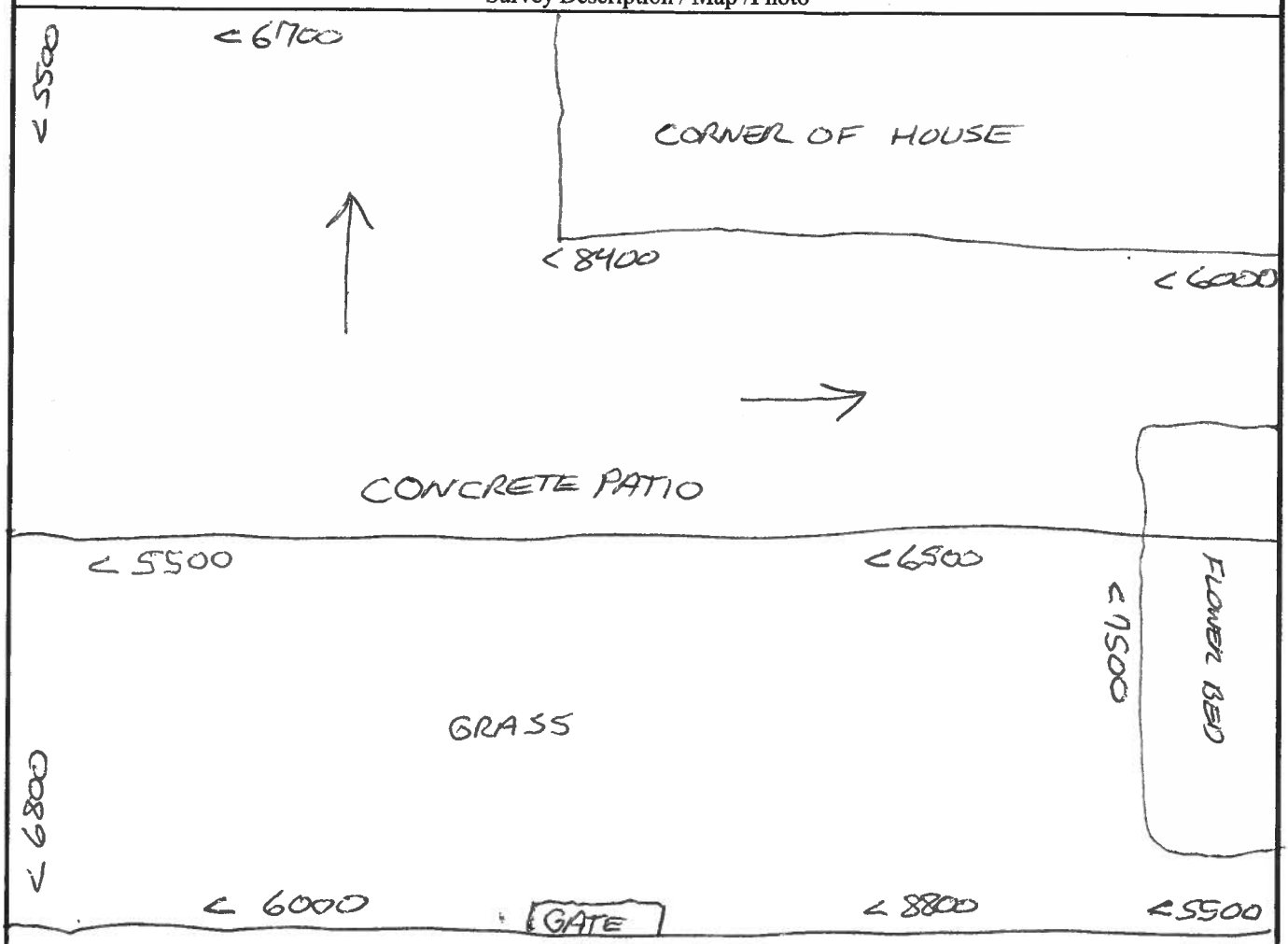
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-028	Date: 10.7.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 131 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

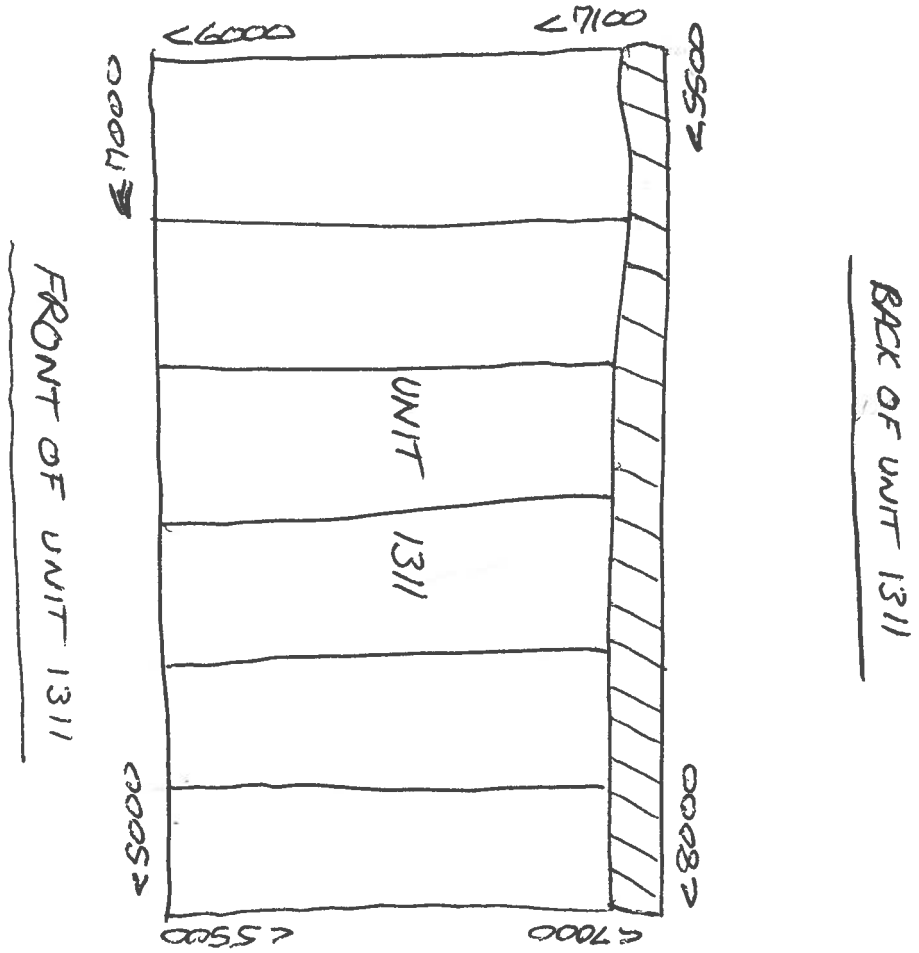
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-028	Date:	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1311 apartment "NA" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-029	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	See Below	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo

Perimeter surveys that were not acquired when initial building survey was performed.

Building 1301 Perimeter Survey BKG 6375 cpm

Building 1303 Perimeter Survey BKG 6625 cpm

Building 1305 Perimeter Survey BKG 6562 cpm

Maps are Attached

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

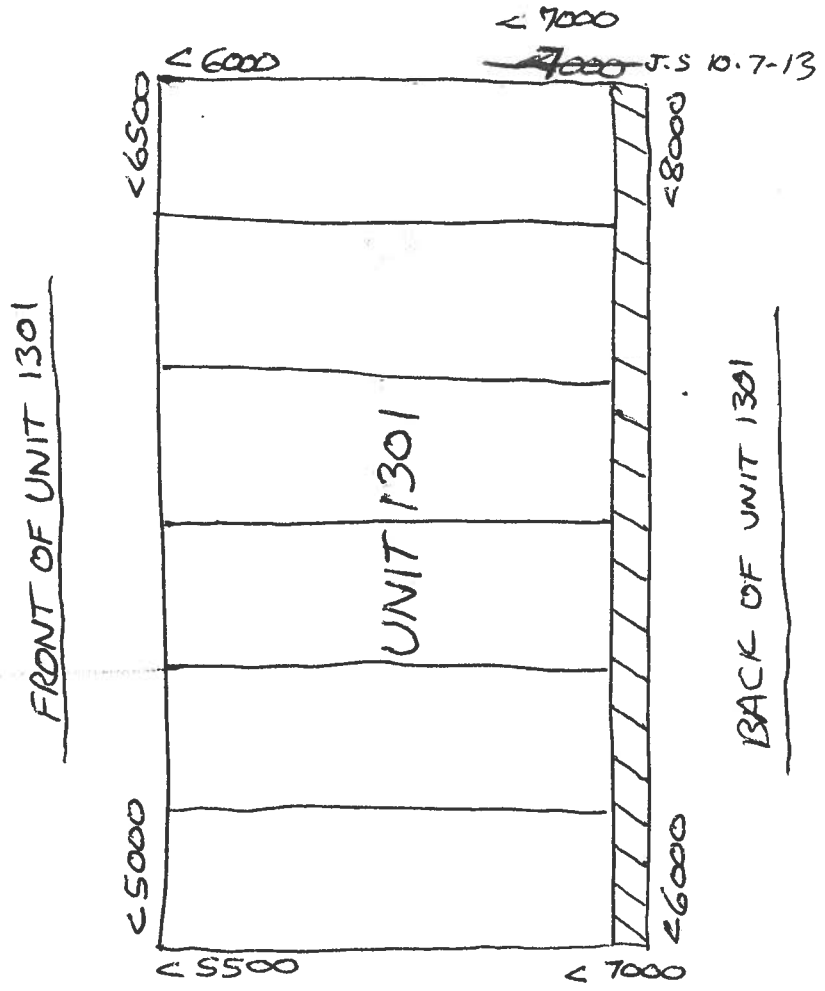
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 029	Date: 10.7-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1301 apartment "N/A" Frontyard

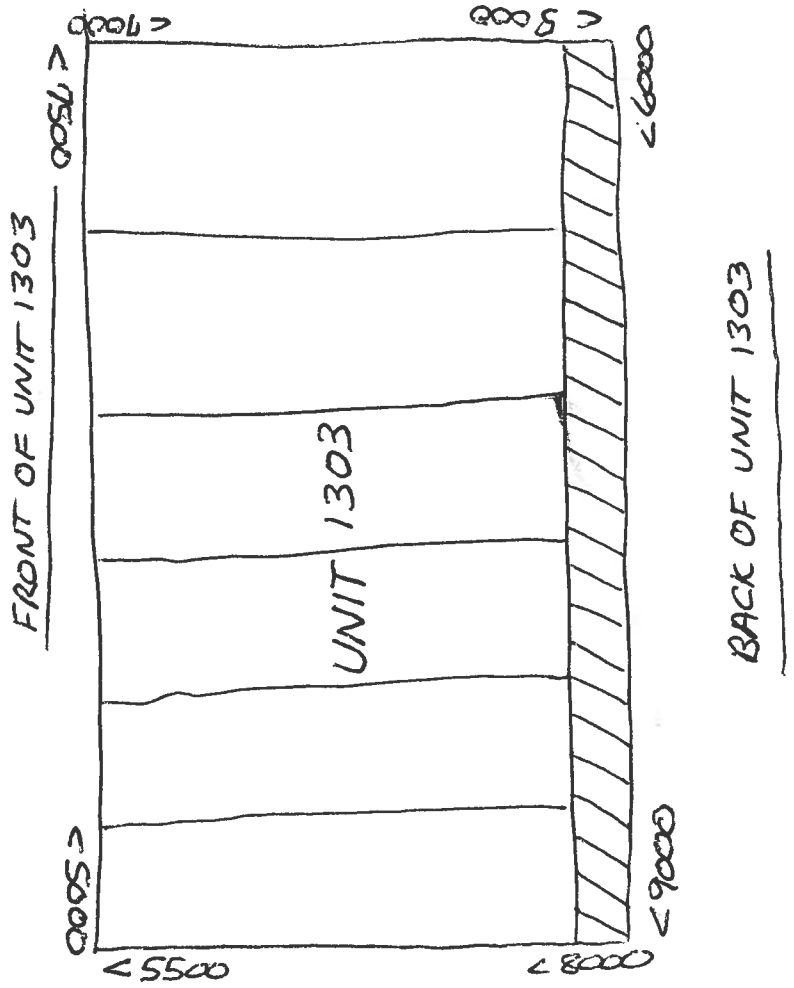
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 029	Date: 10.7.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1303 apartment "NE" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

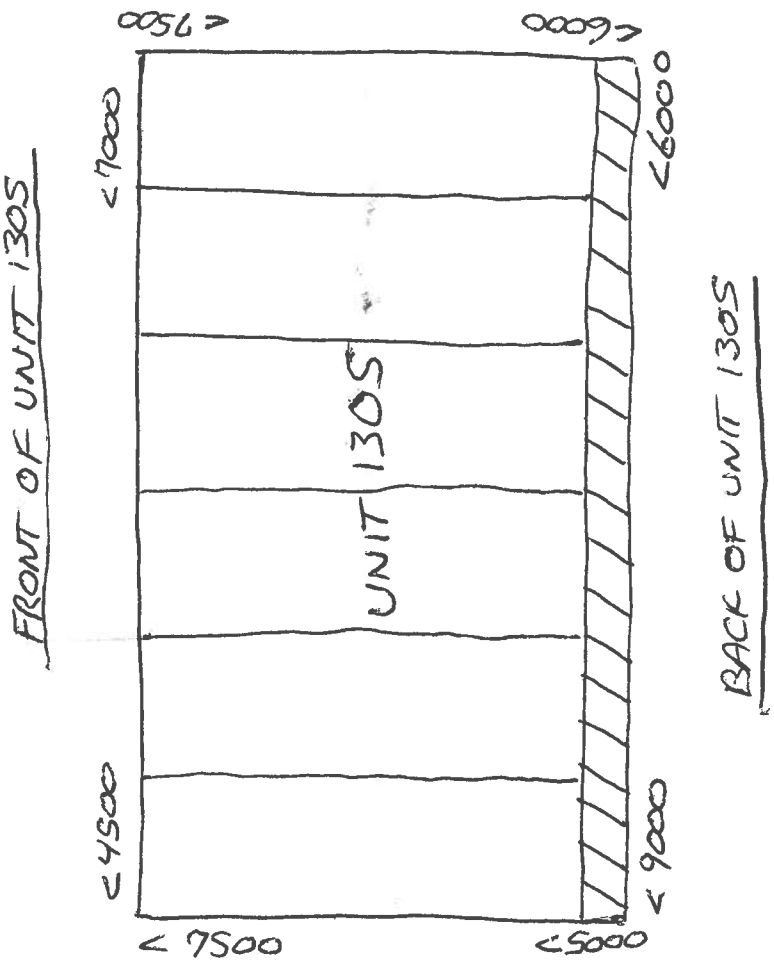
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-029	Date: 10-7-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building/305apartment "uie" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

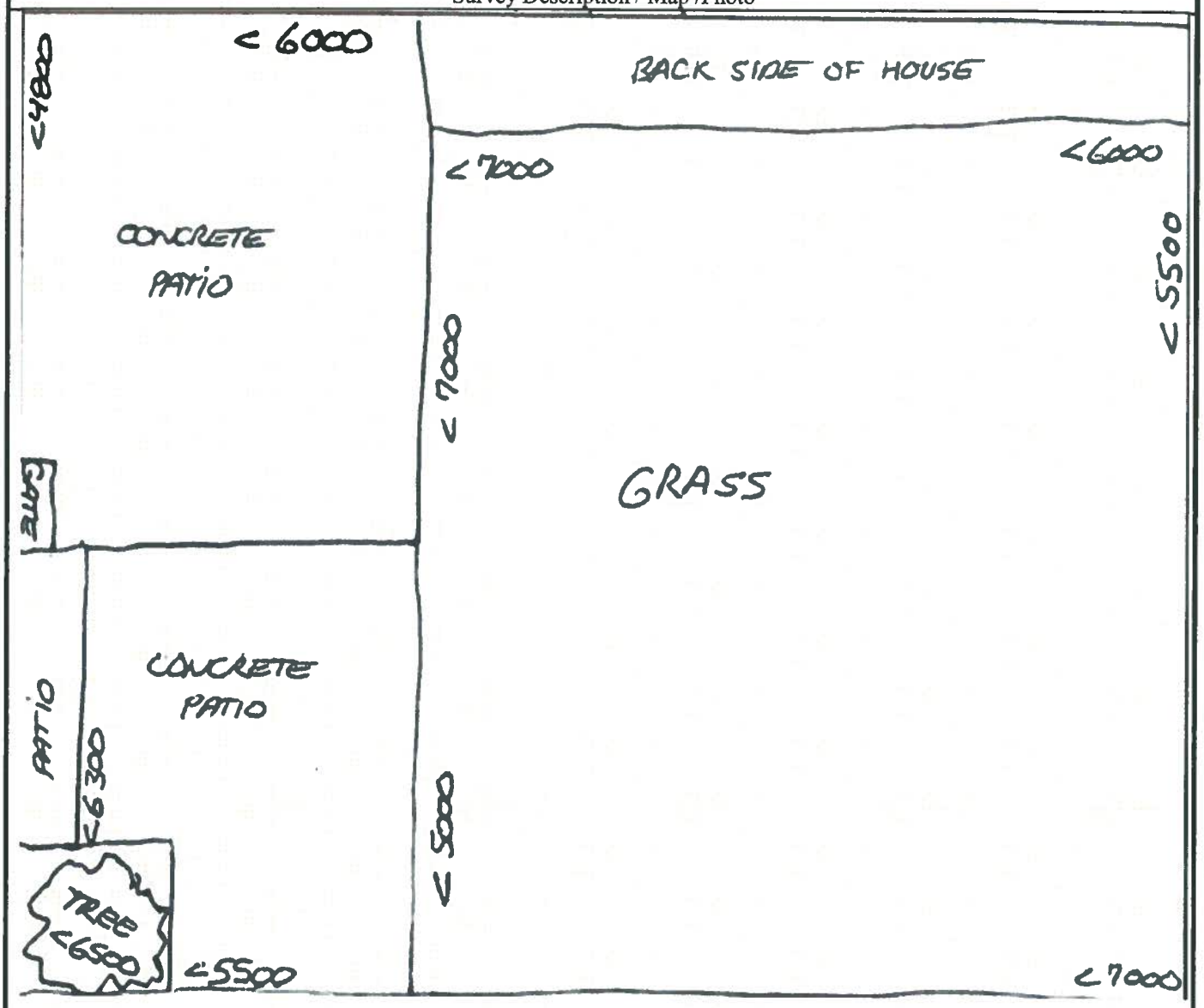
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-030	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5783	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1306 apartment " F " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

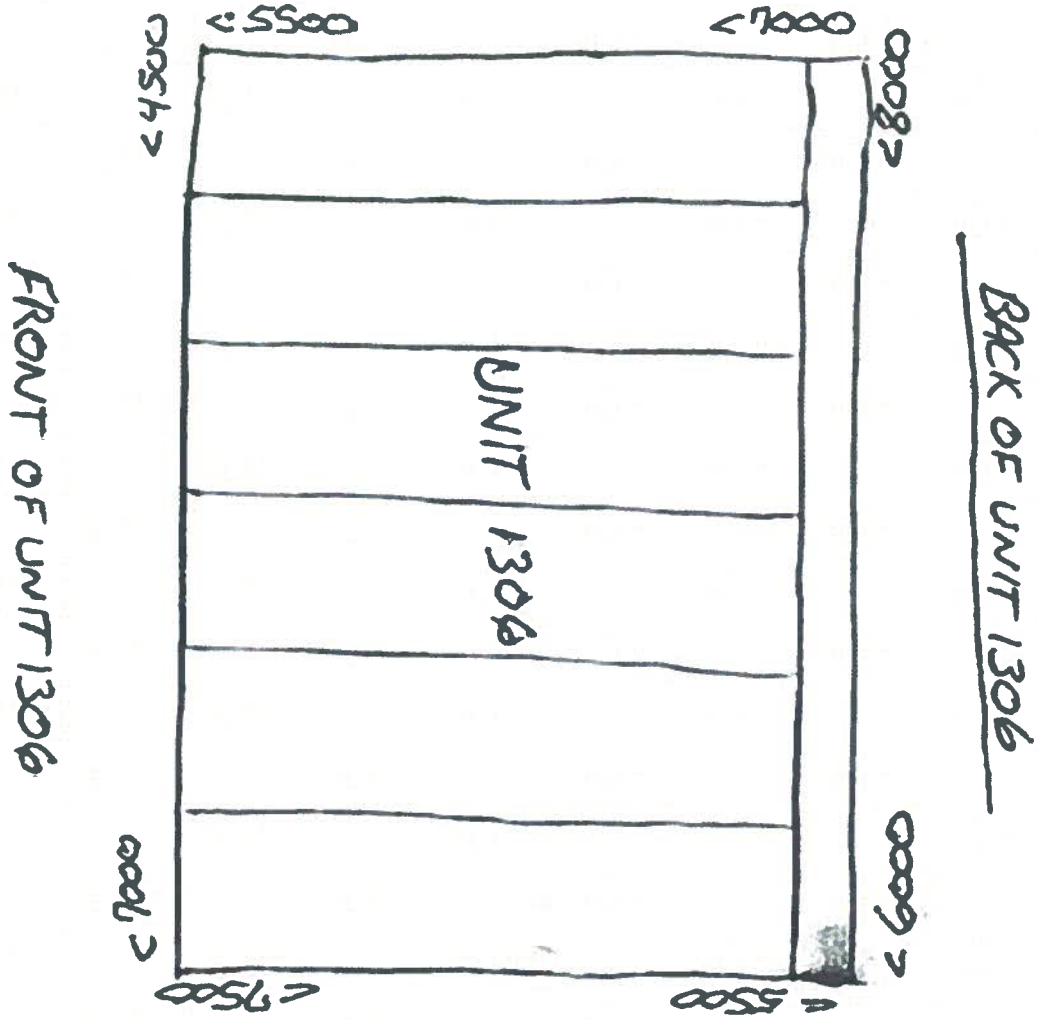
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-030	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1306 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

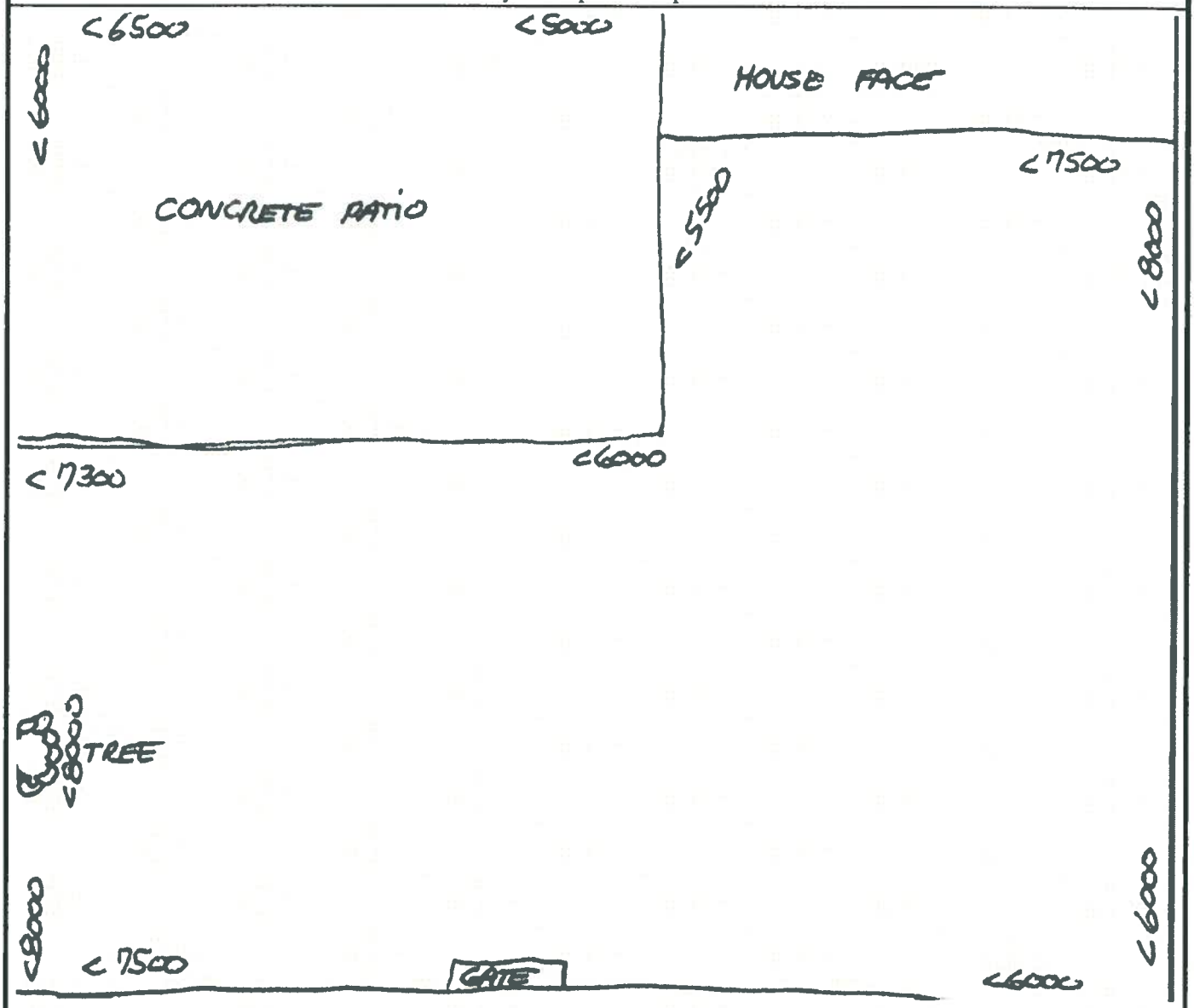
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-031	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Terry Cooper	Terry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5225	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1307 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

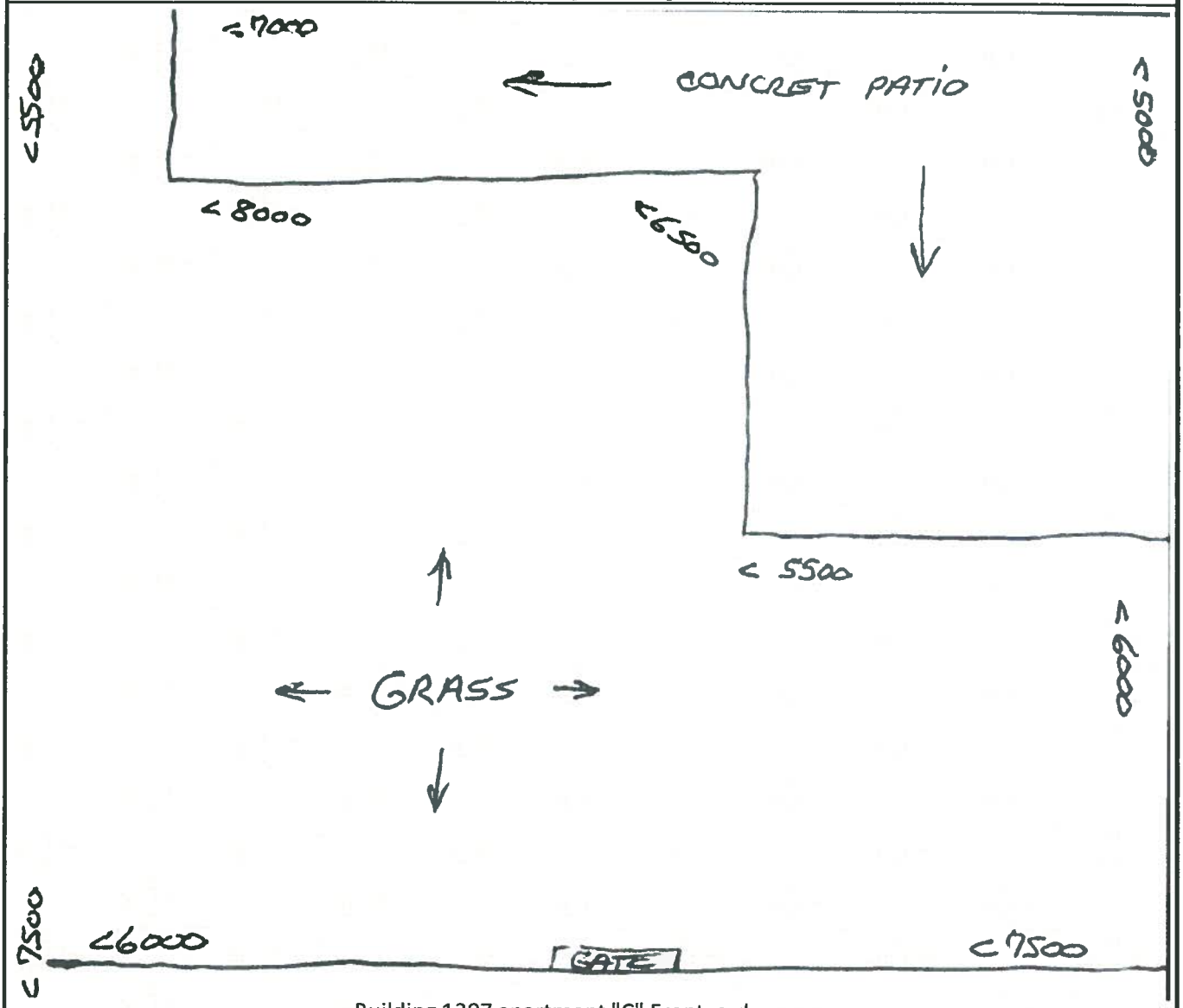
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-031	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1307 apartment "C" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

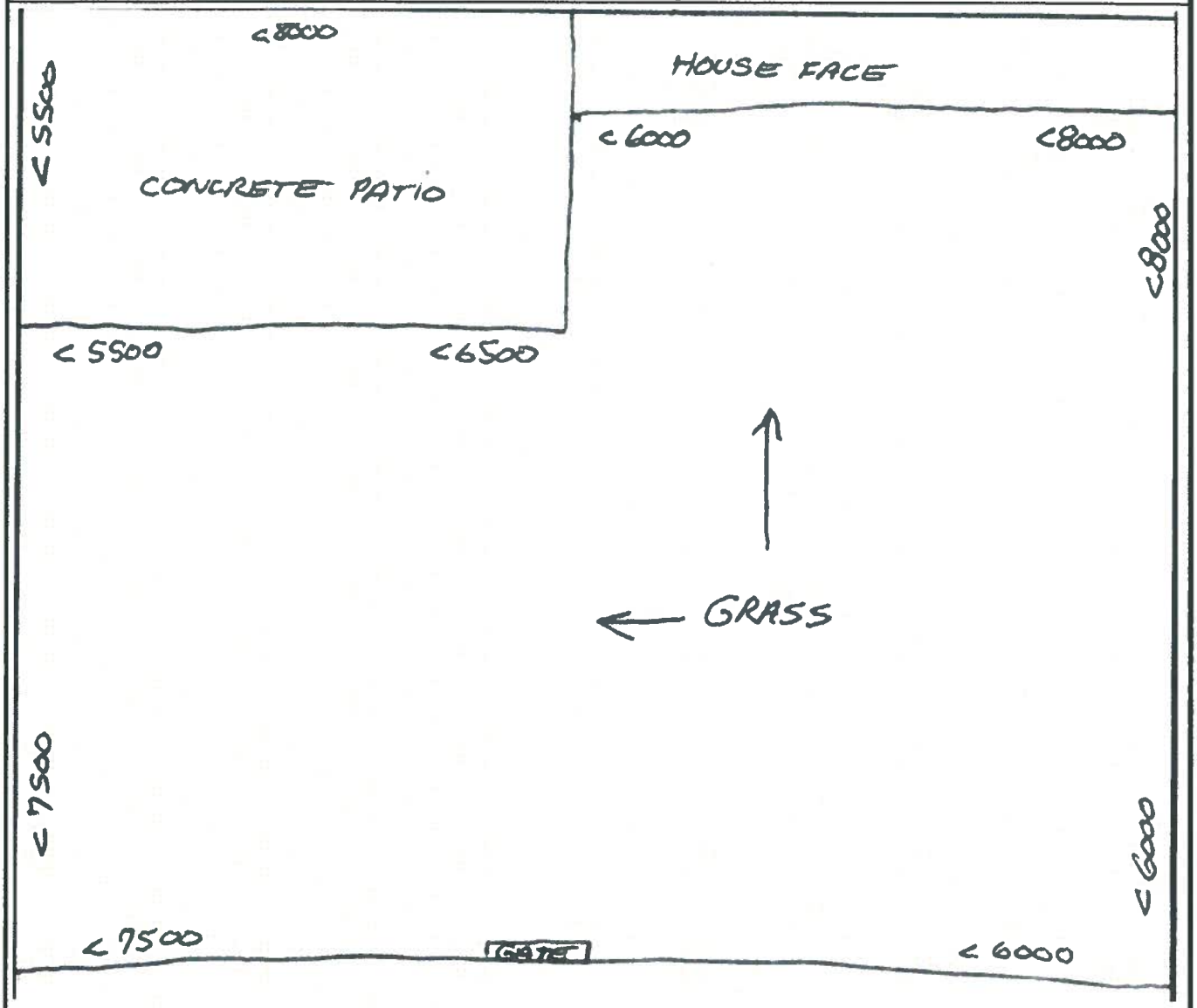
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-031	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1307 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

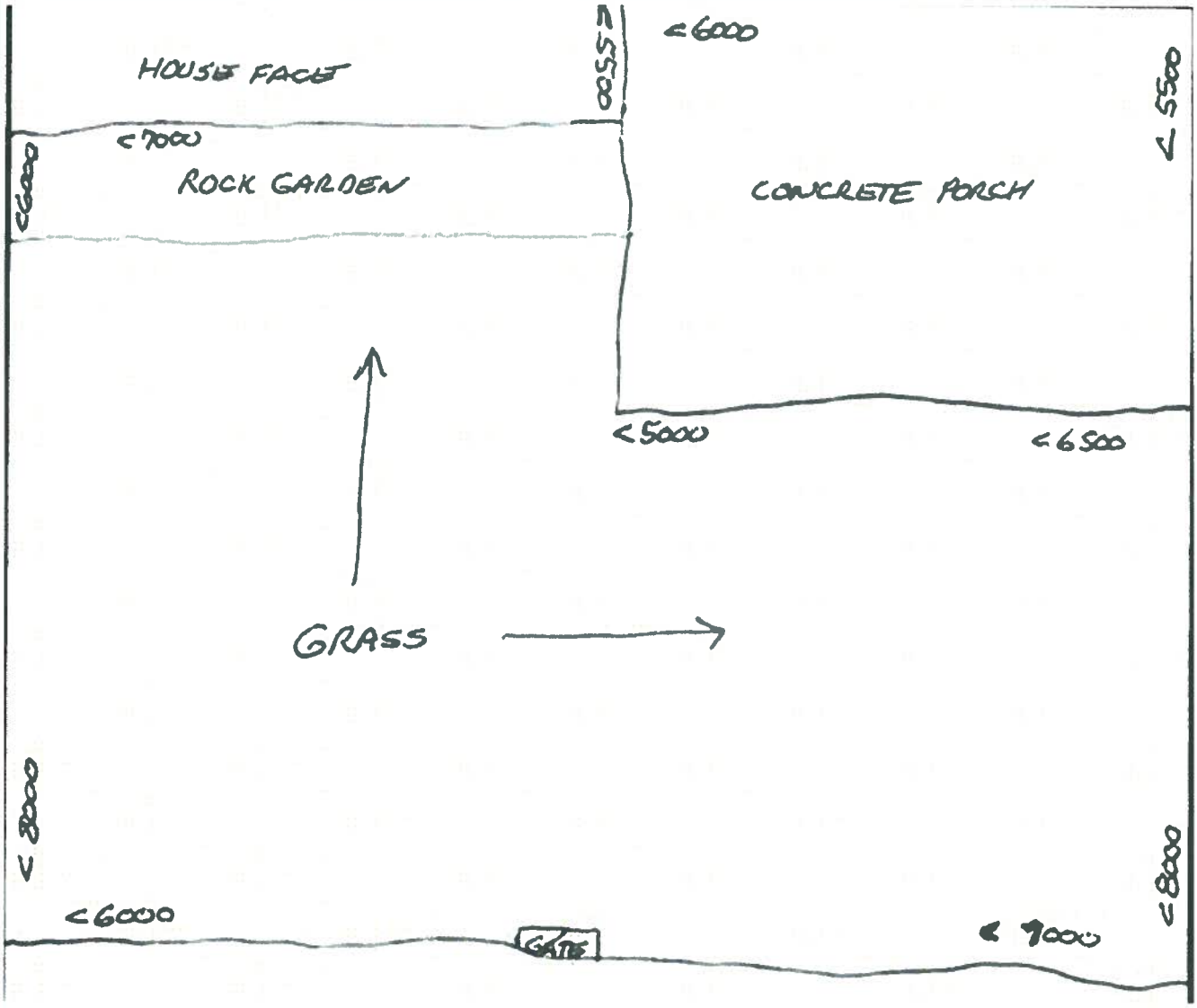
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-031	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1307 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

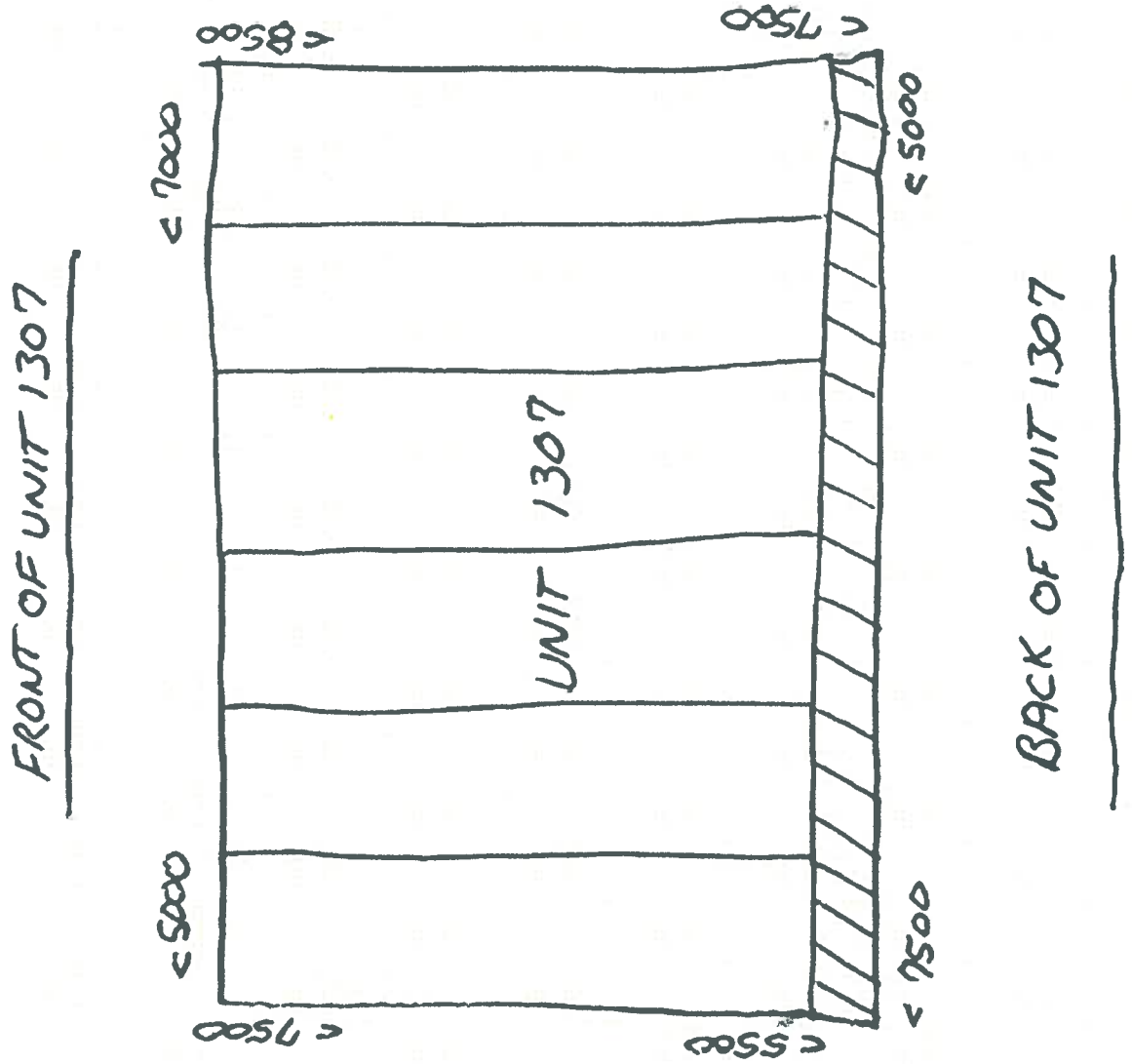
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-031	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1307 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

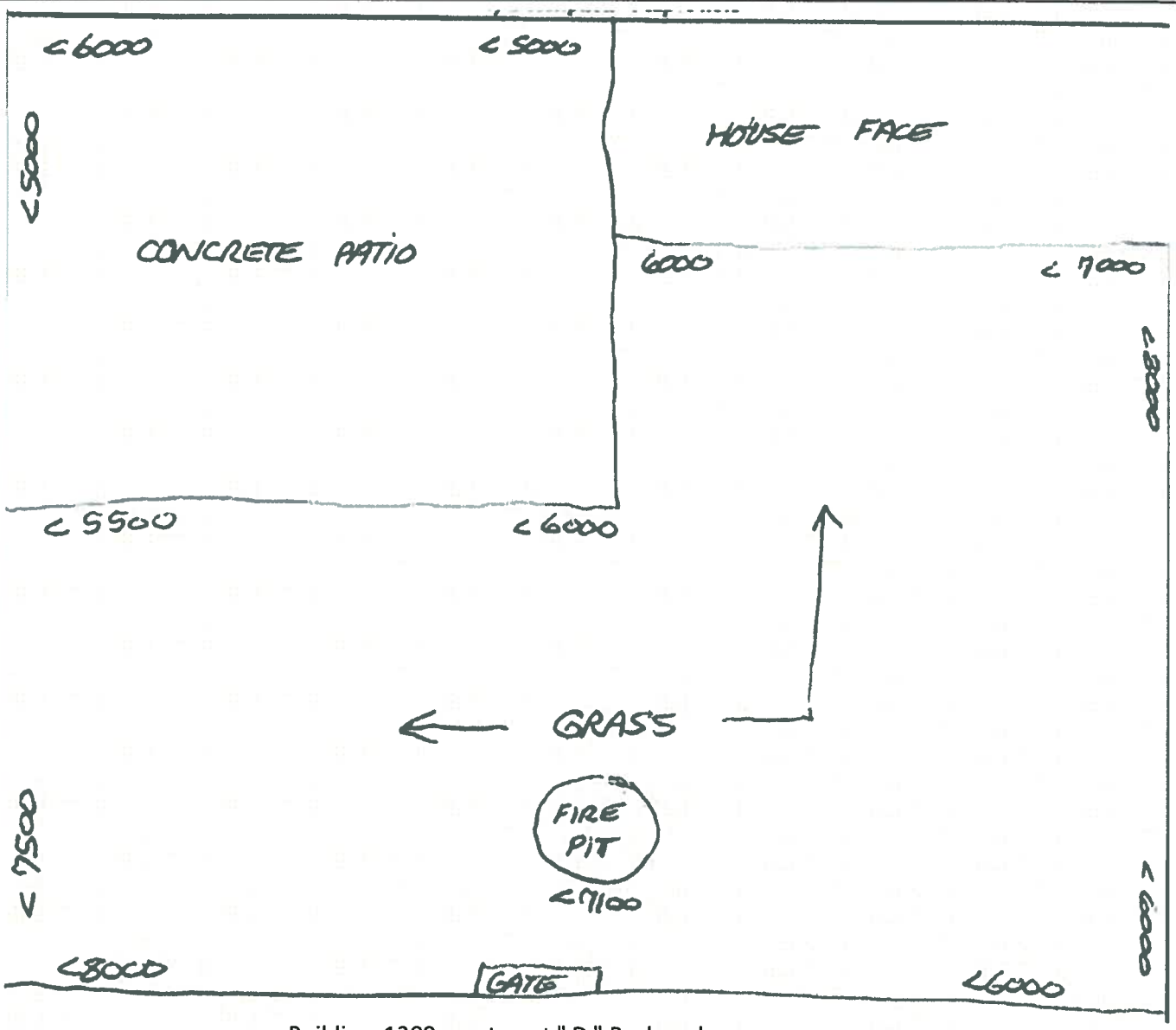
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-032	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5839	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1309 apartment " D " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

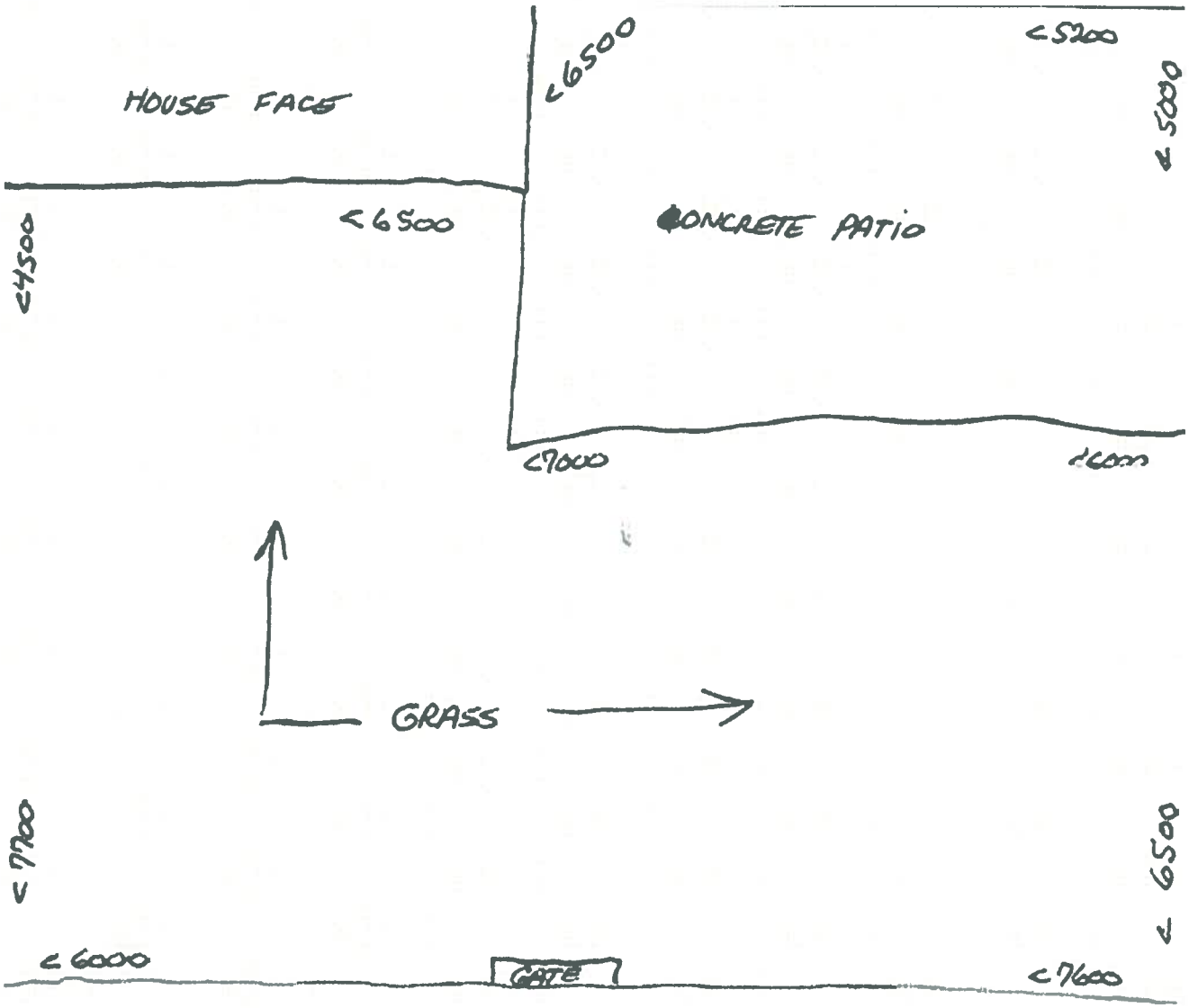
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-032	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

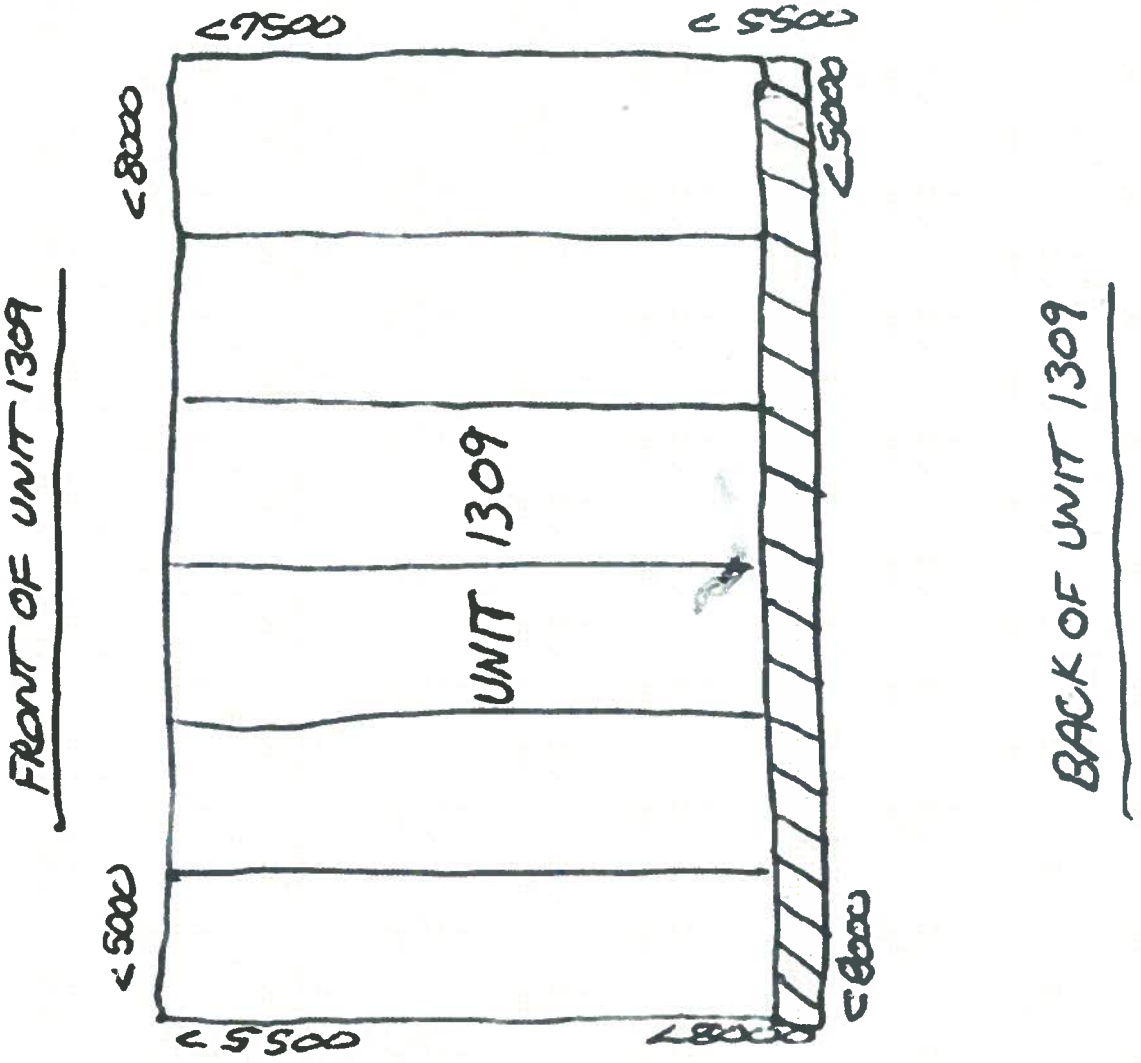
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-032	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1309 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

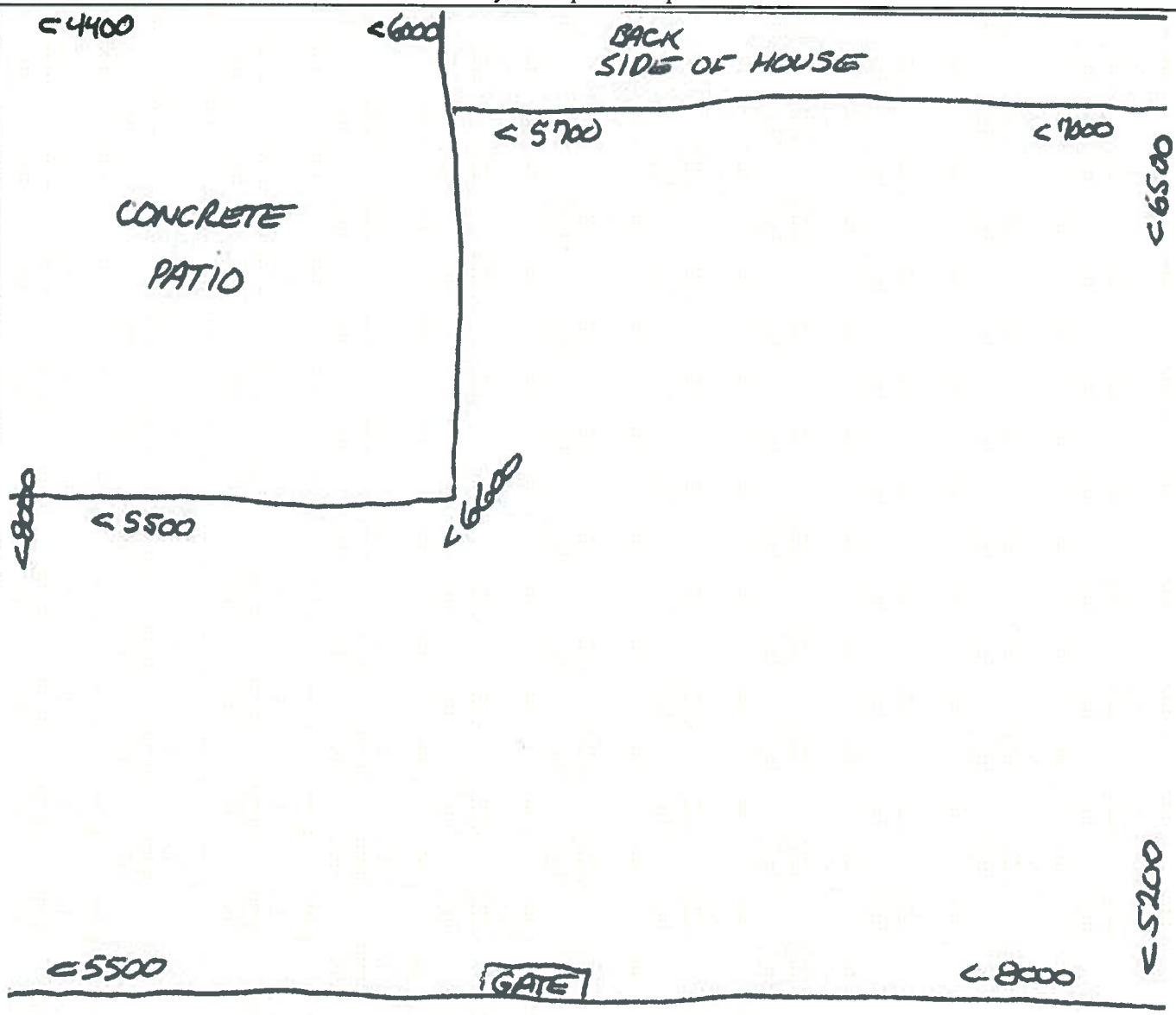
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-033	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5662	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1310 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

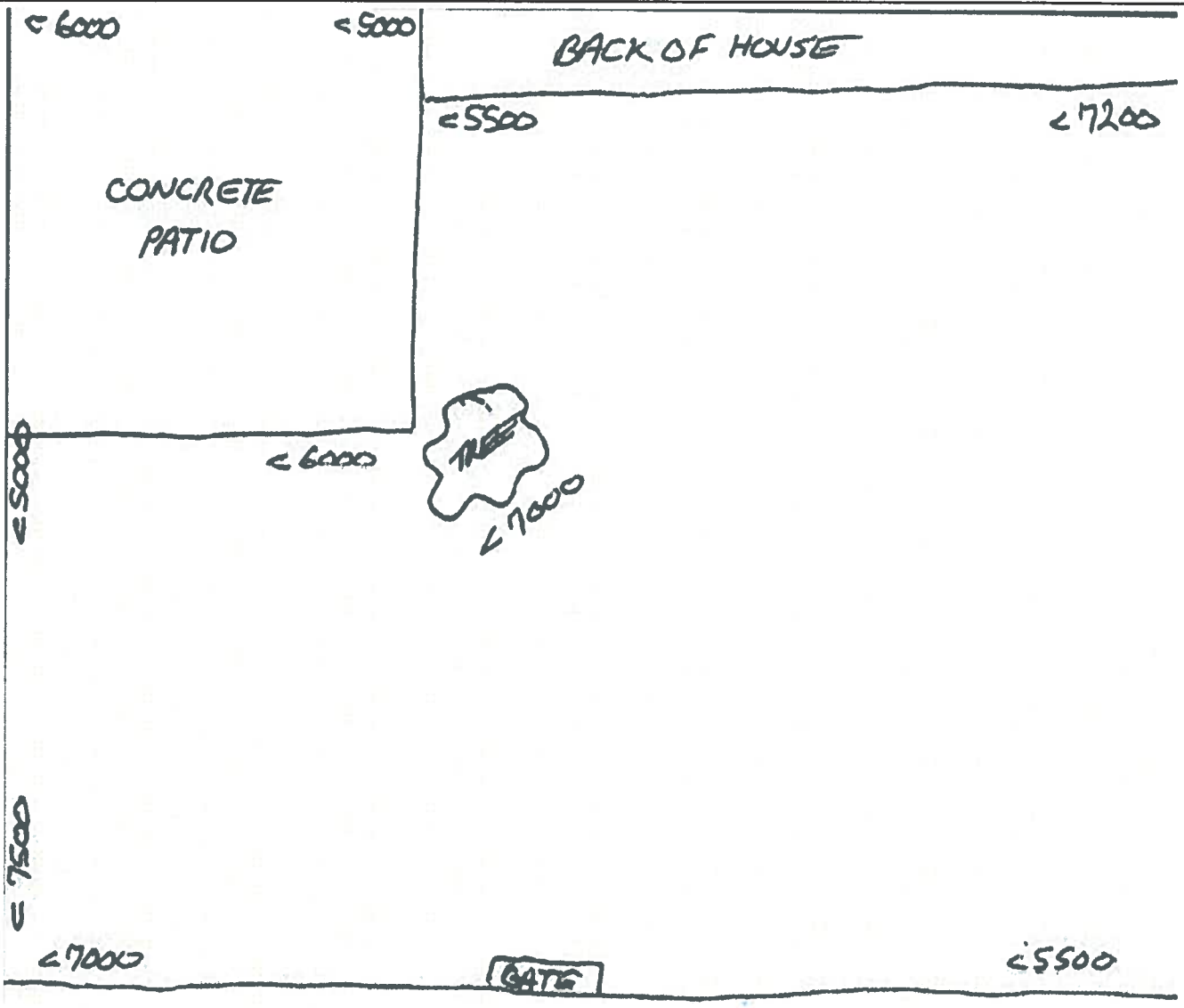
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-033	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1310 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

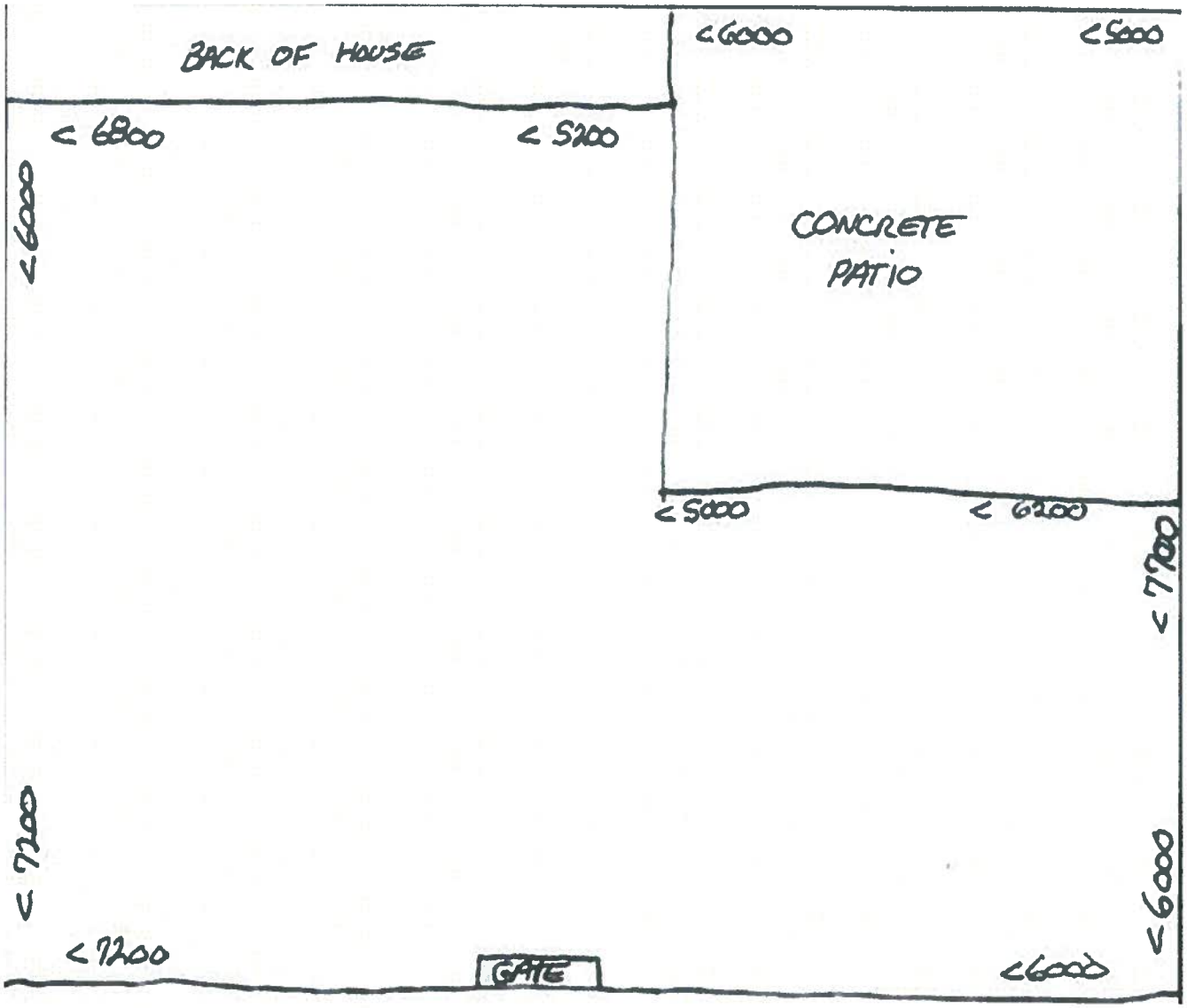
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-033	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1310 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

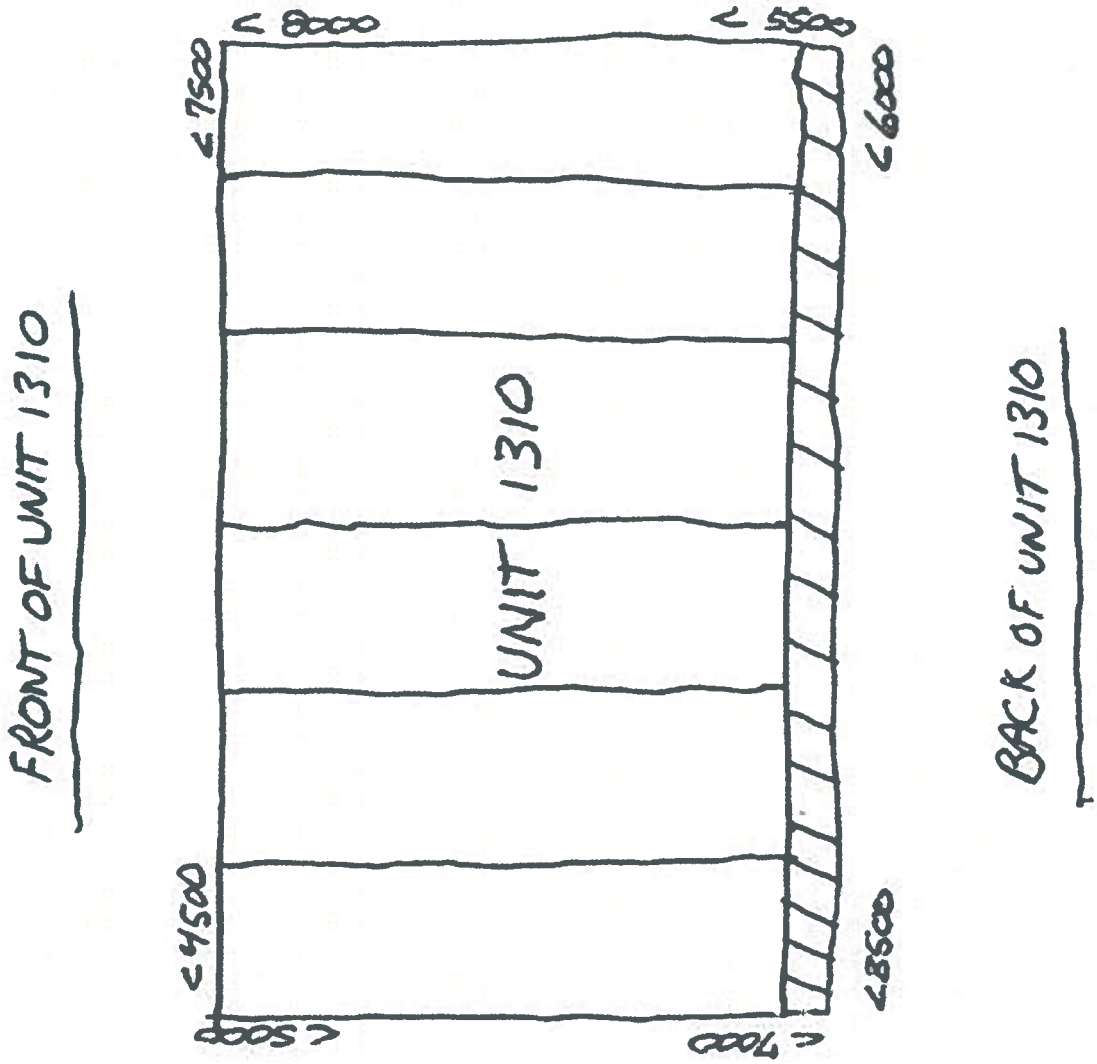
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-033	Date: 10/7/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1310 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

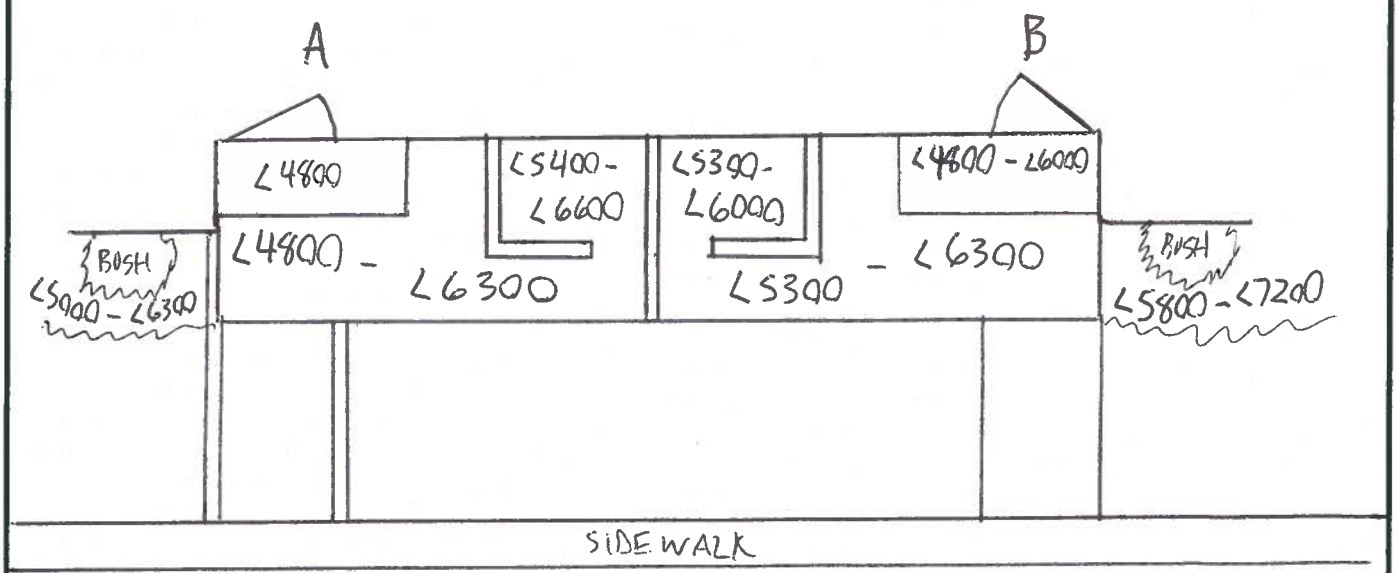
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 034	Date: 9/30/13	Location: Site 12	Survey Type: 2x2 Walkover
MATT CUSHMAN	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN 19765	7/27/14	N/A	N/A	6407	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



ALL READINGS IN GROSS CPM

Building 1250 apartment "A+B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

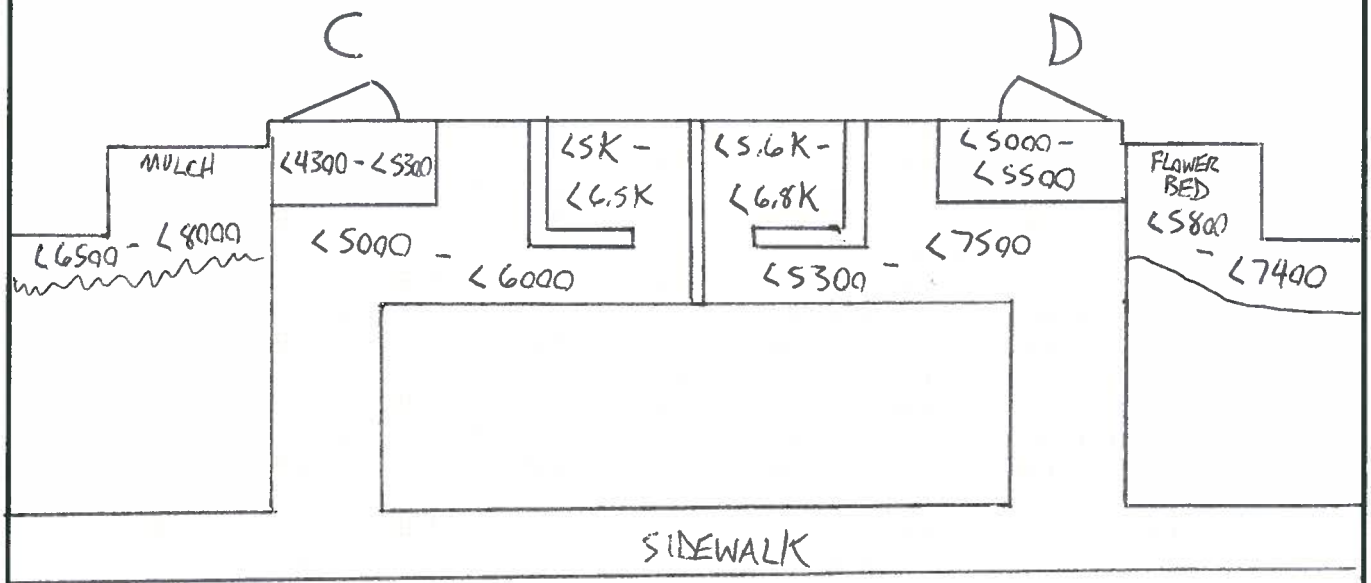
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 034	Date: 9/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1250 apartment "C+D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

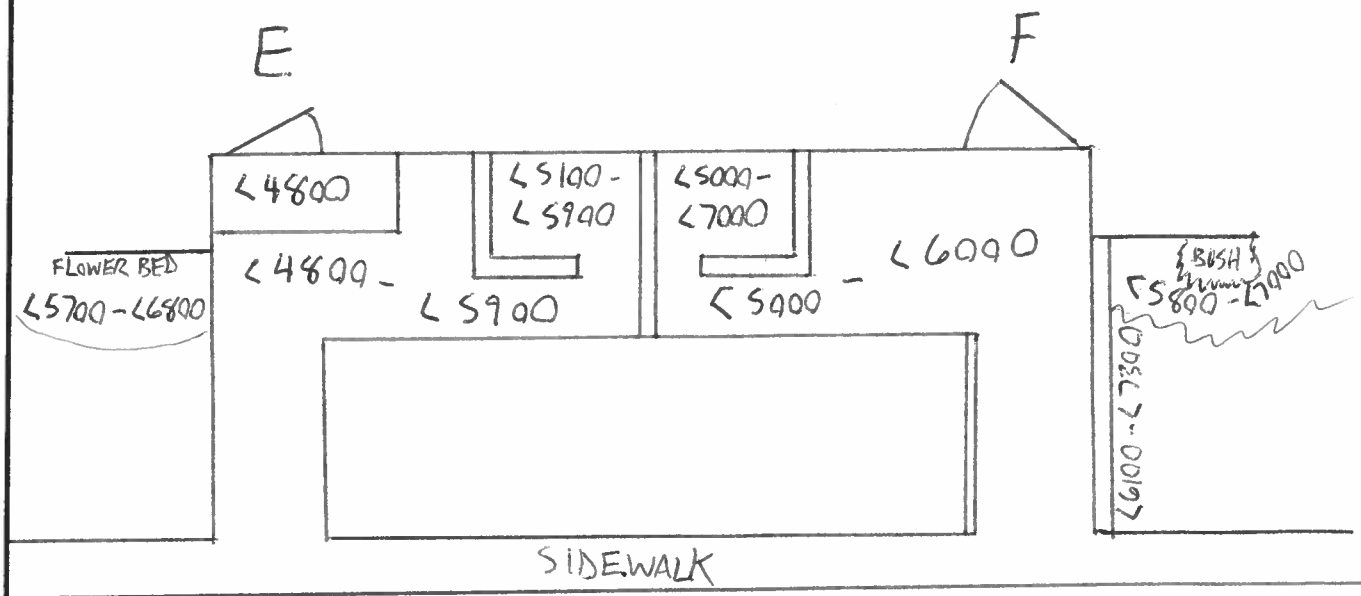
See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 034	Date: 9/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Ⓐ BACKGROUND LOCATION 3x1min
6410, 6528, 6282 AVERAGED
TO 6407 cpm

Building 1250 apartment "E+F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

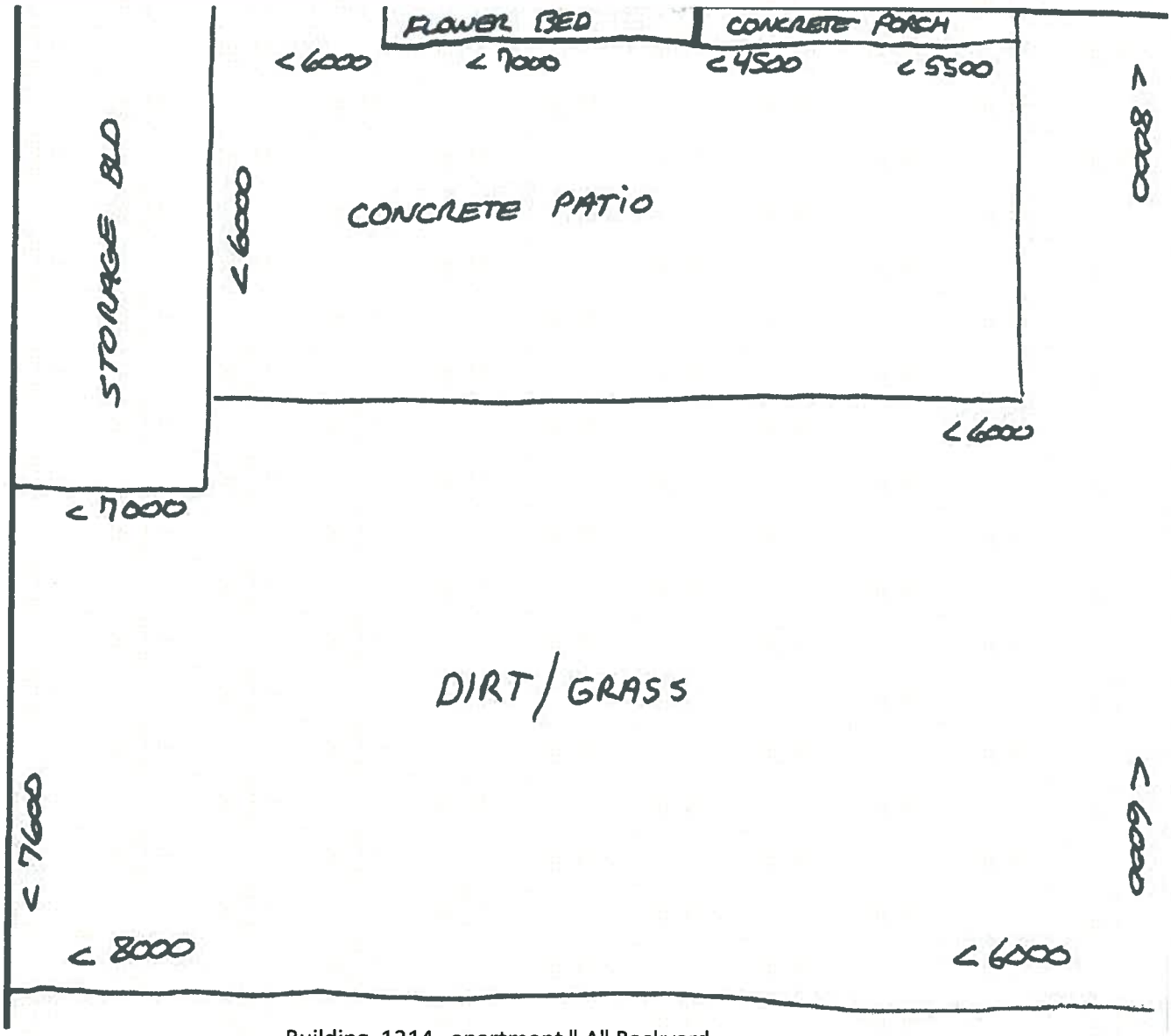
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6420	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1214 apartment " A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

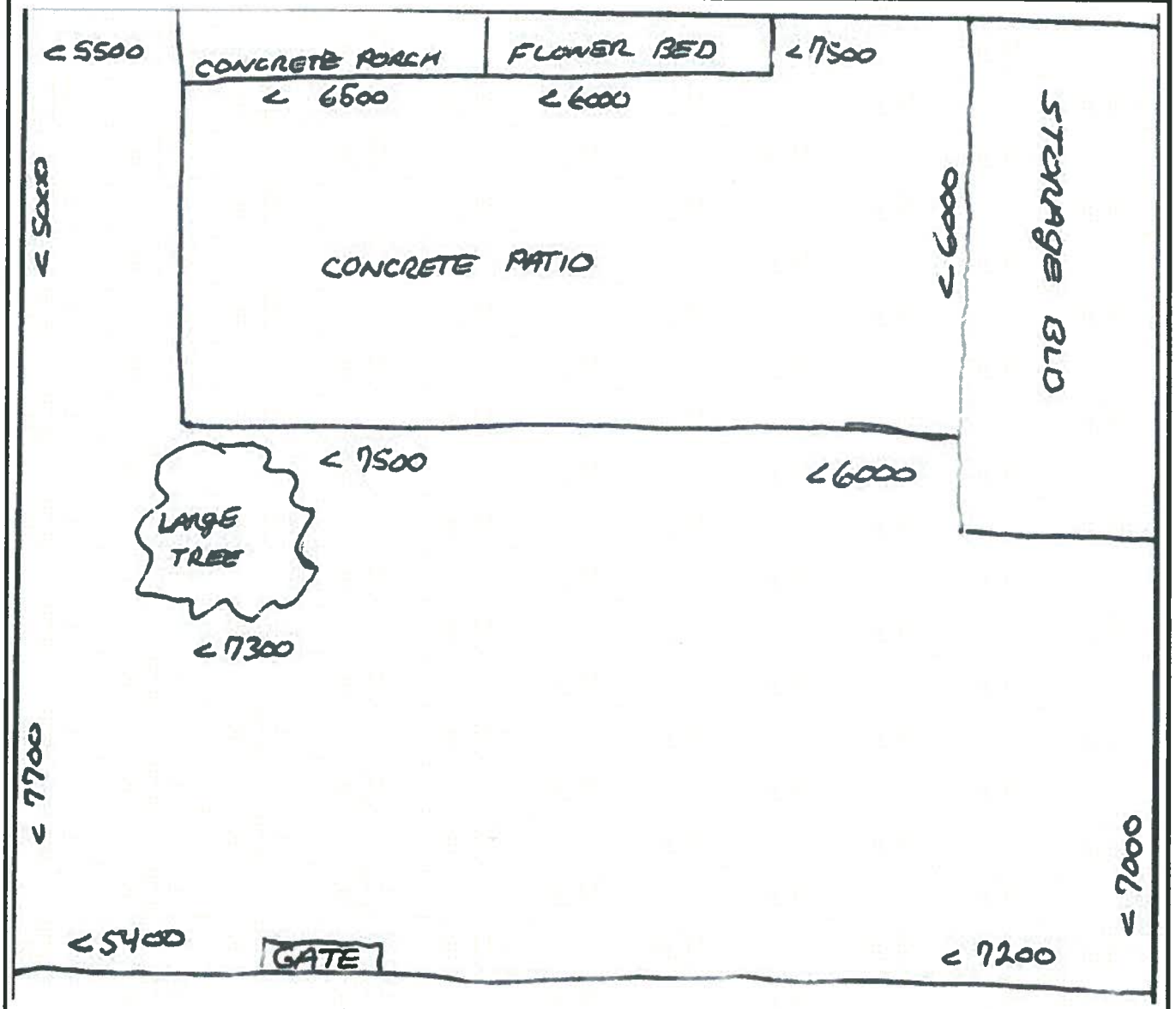
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1214 apartment " B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

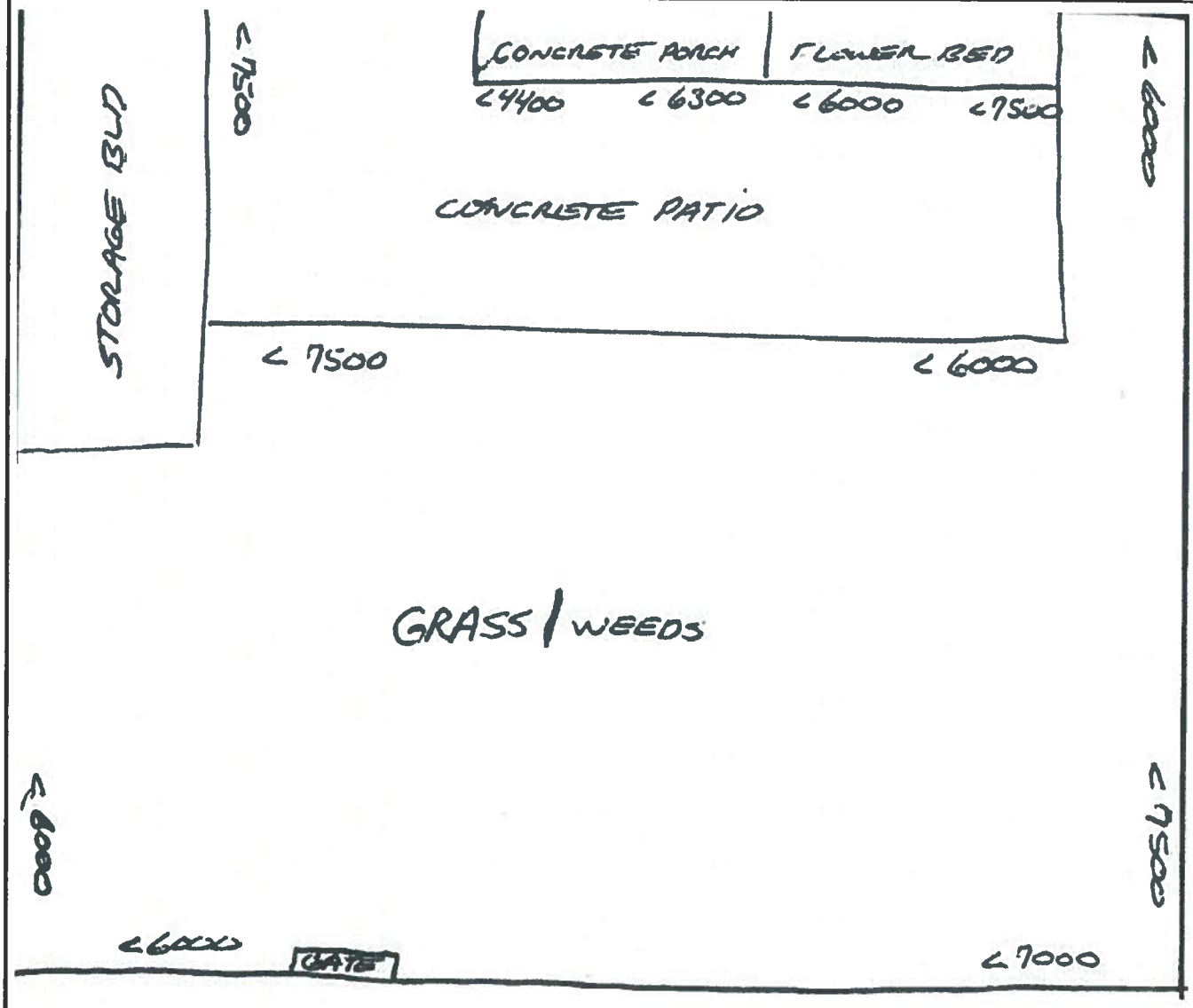
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1214 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

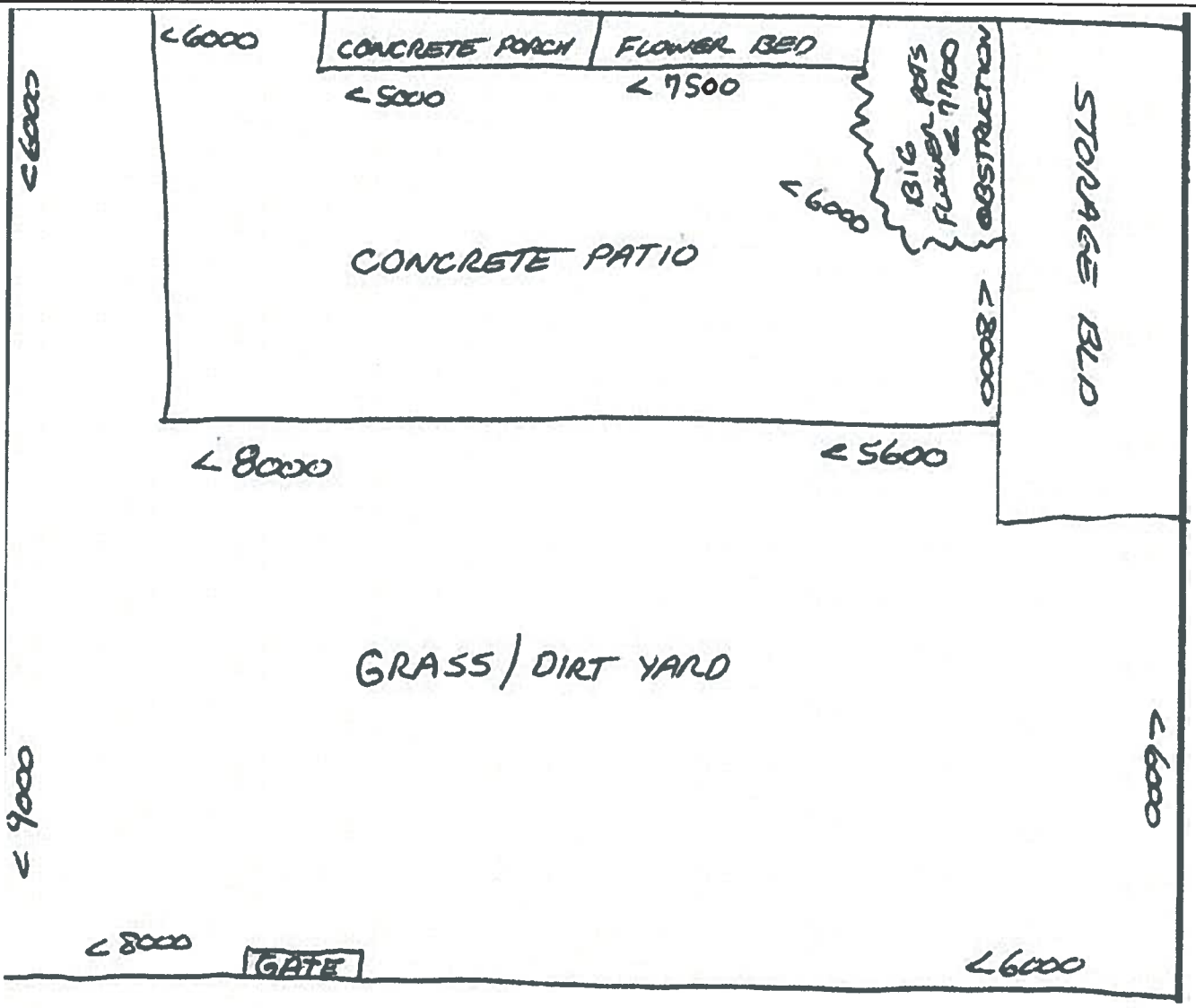
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1214 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

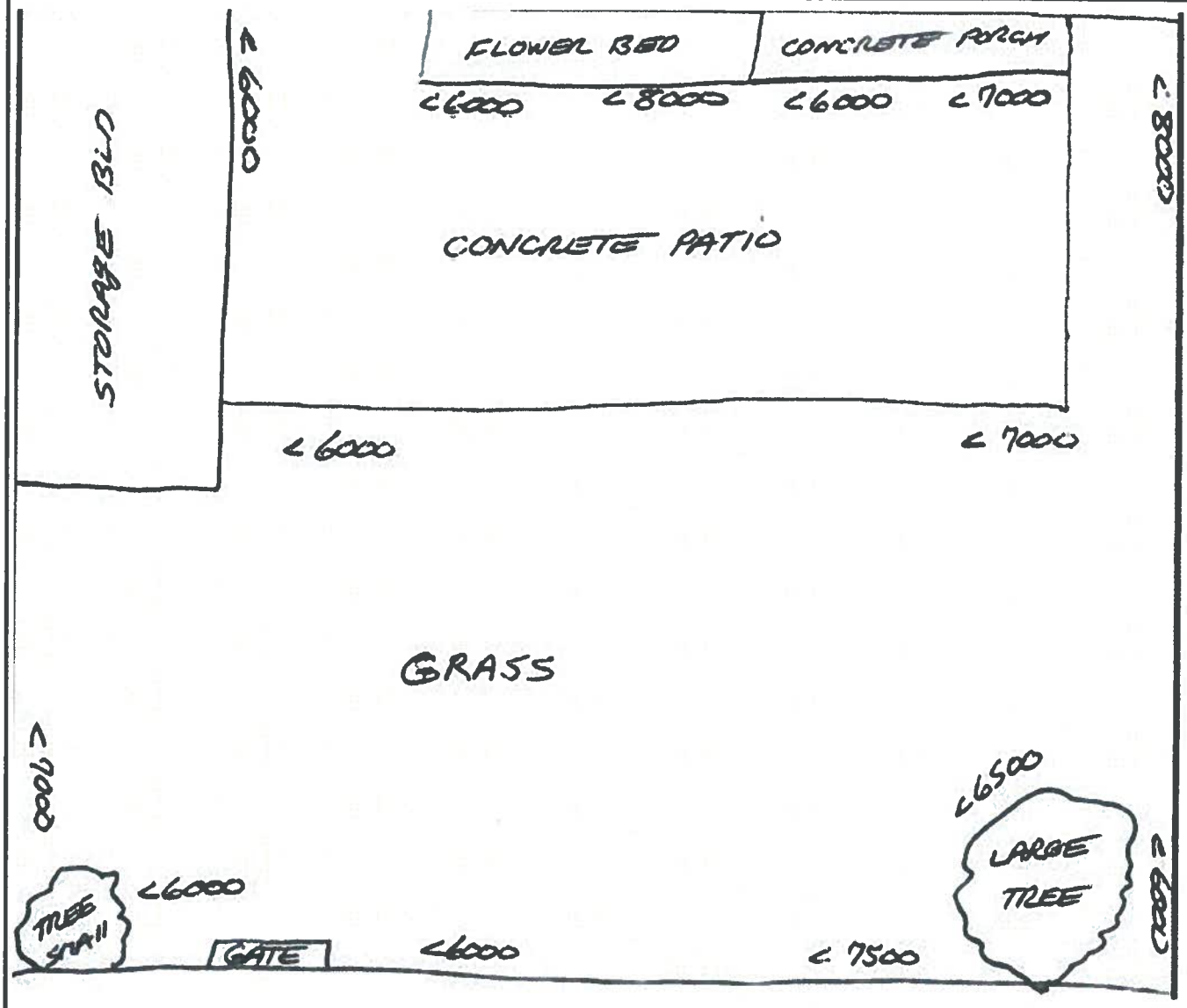
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1214 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

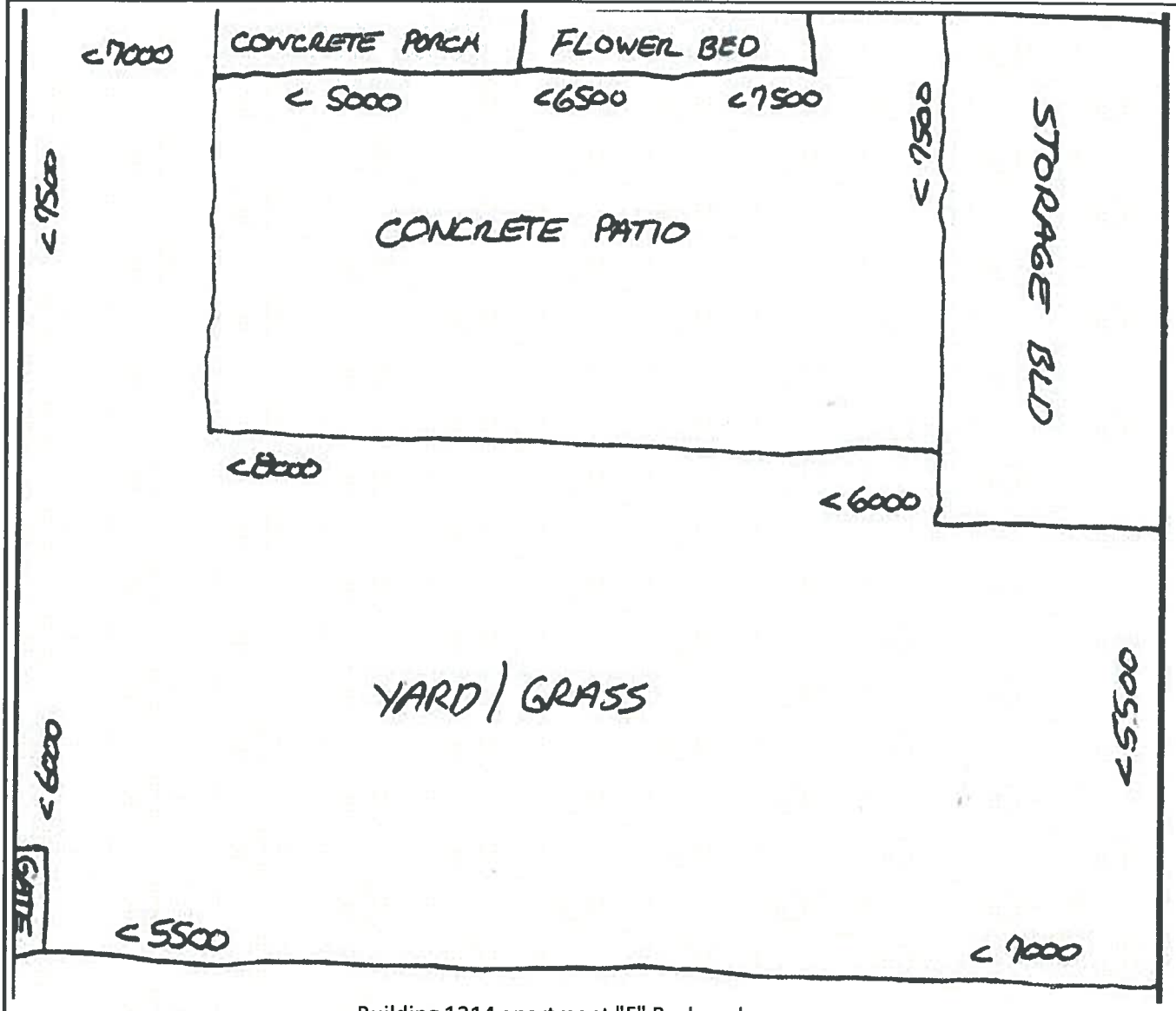
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1214 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

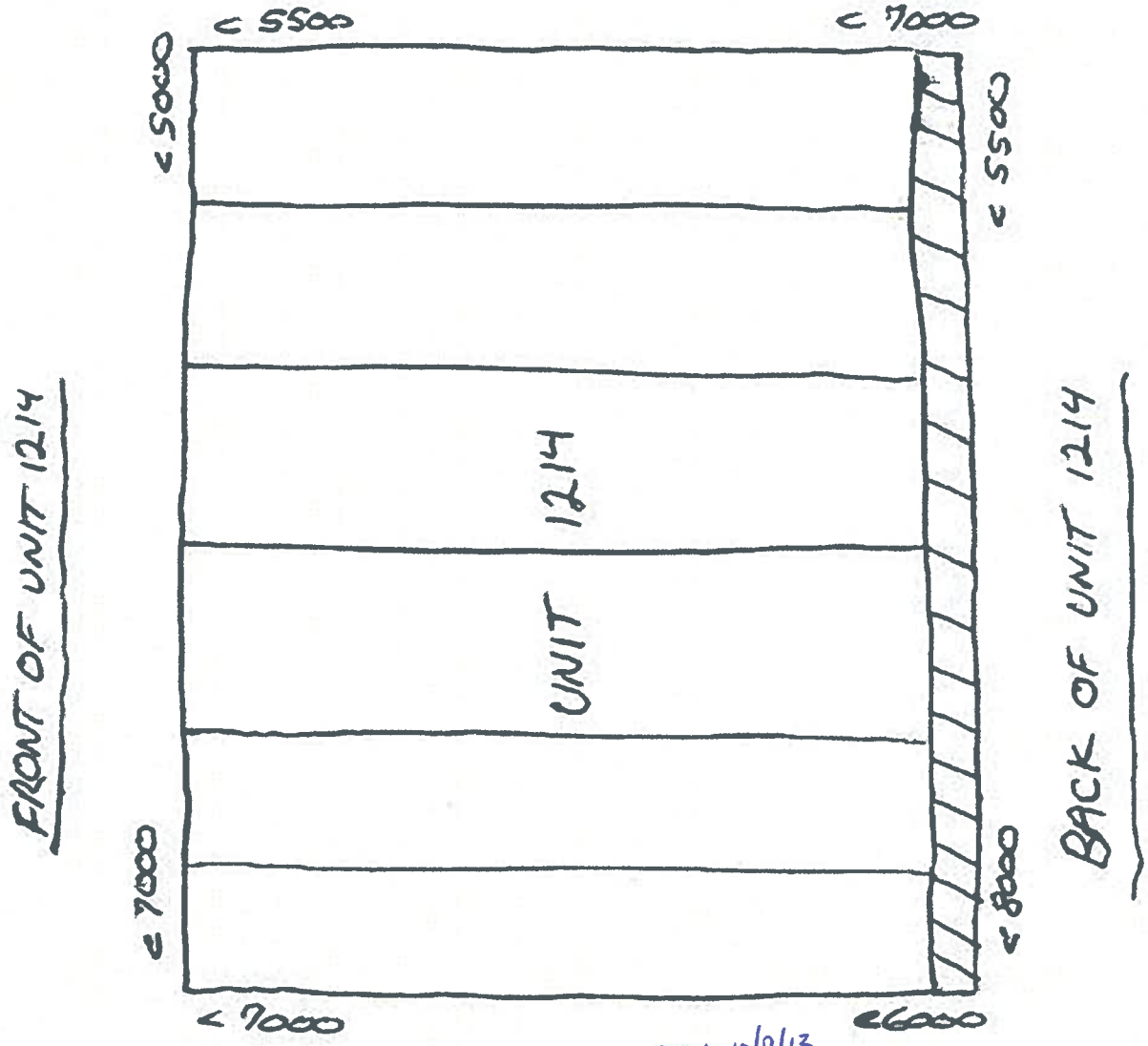
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-035	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



JCC 10/9/13

Building 1214 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

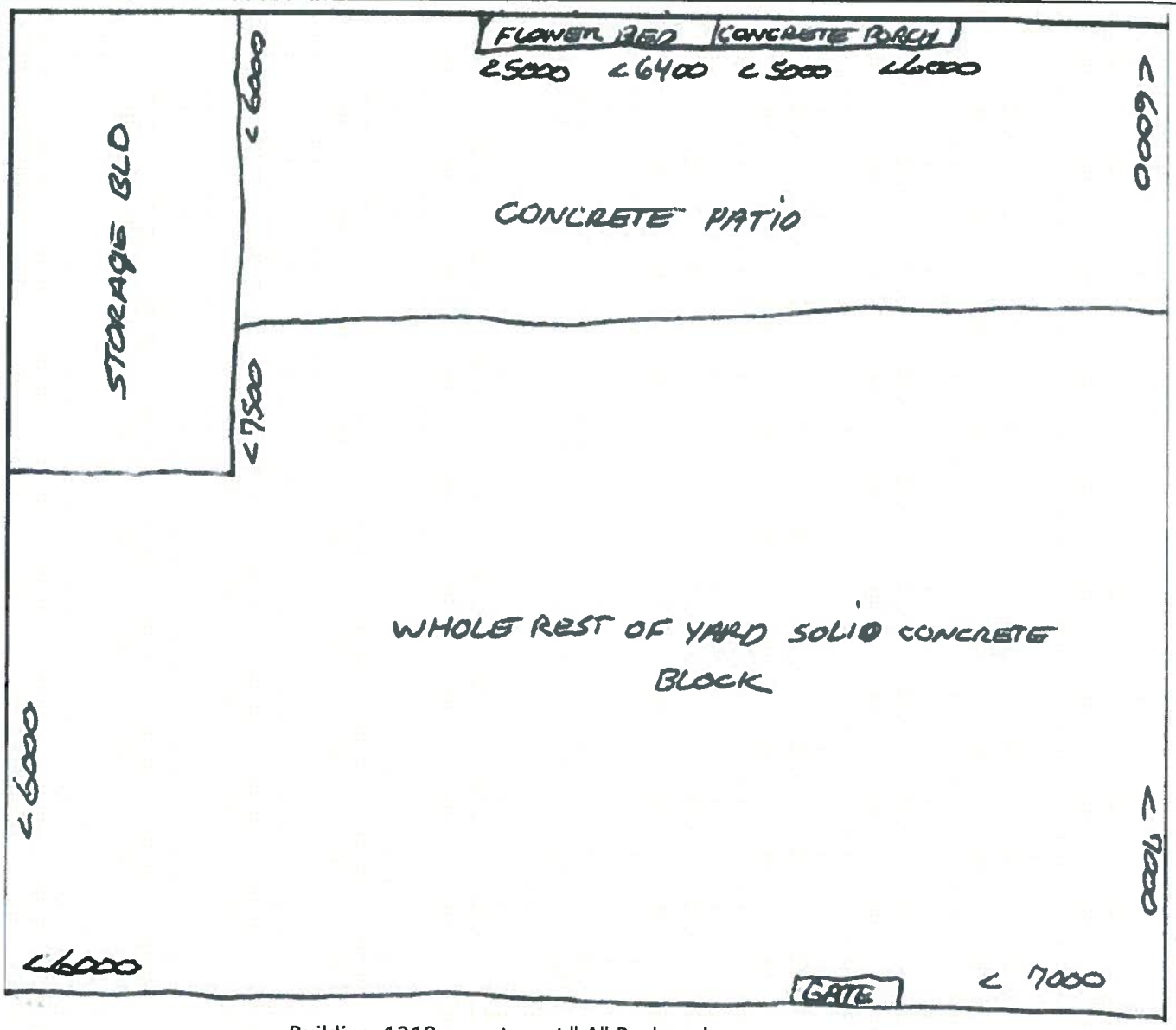
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5902	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1218 apartment " A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

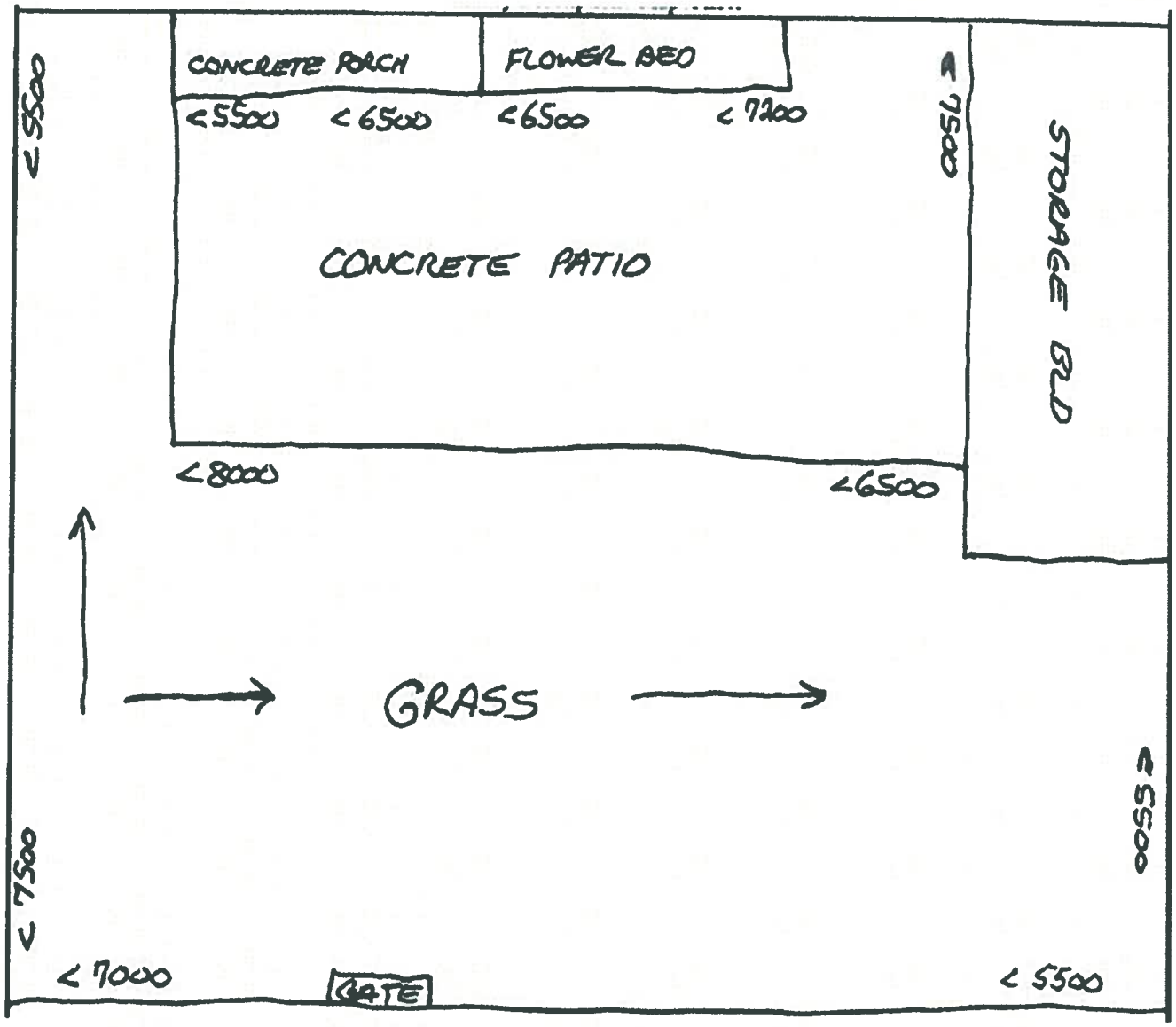
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1218 apartment " B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

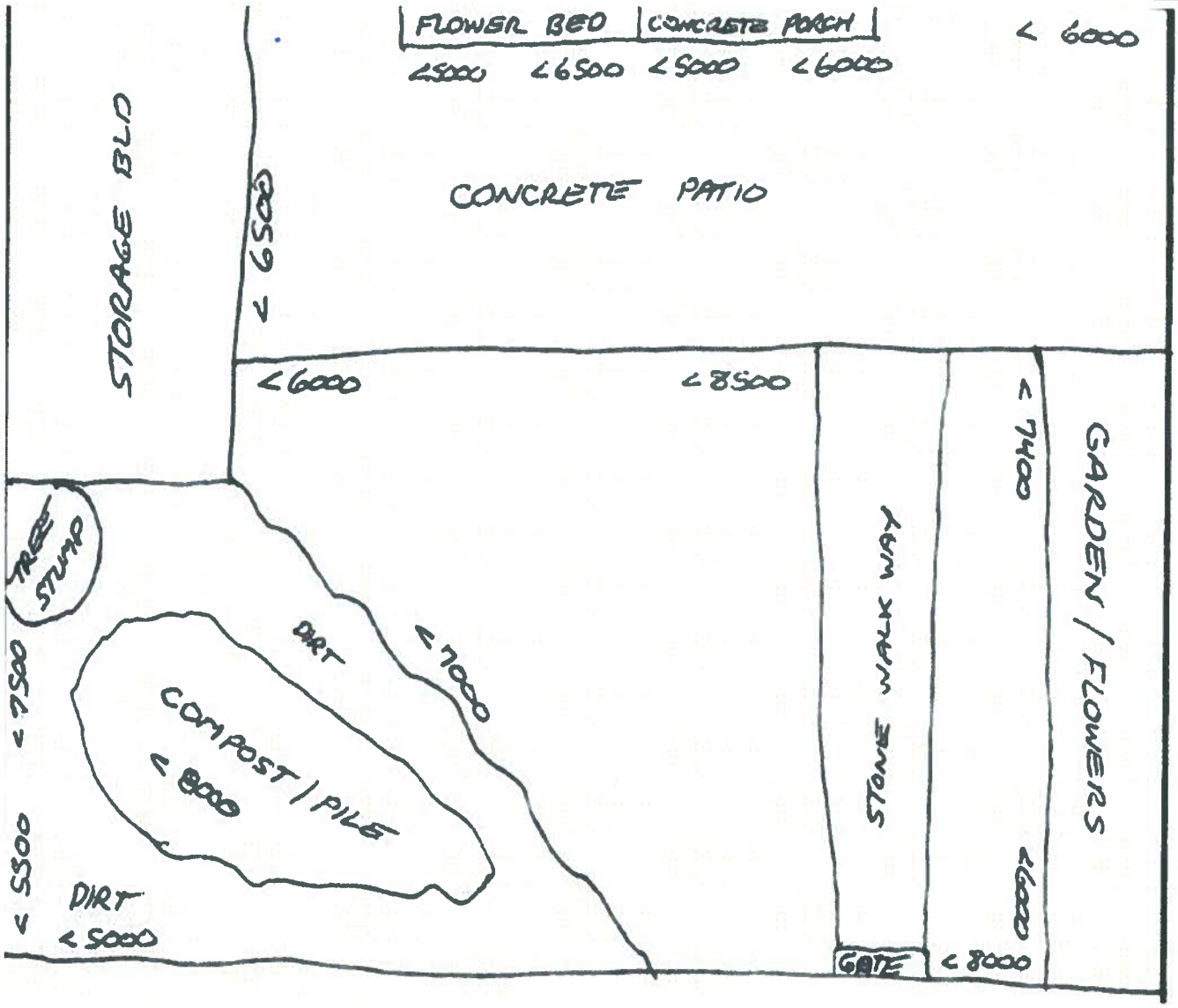
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1218 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

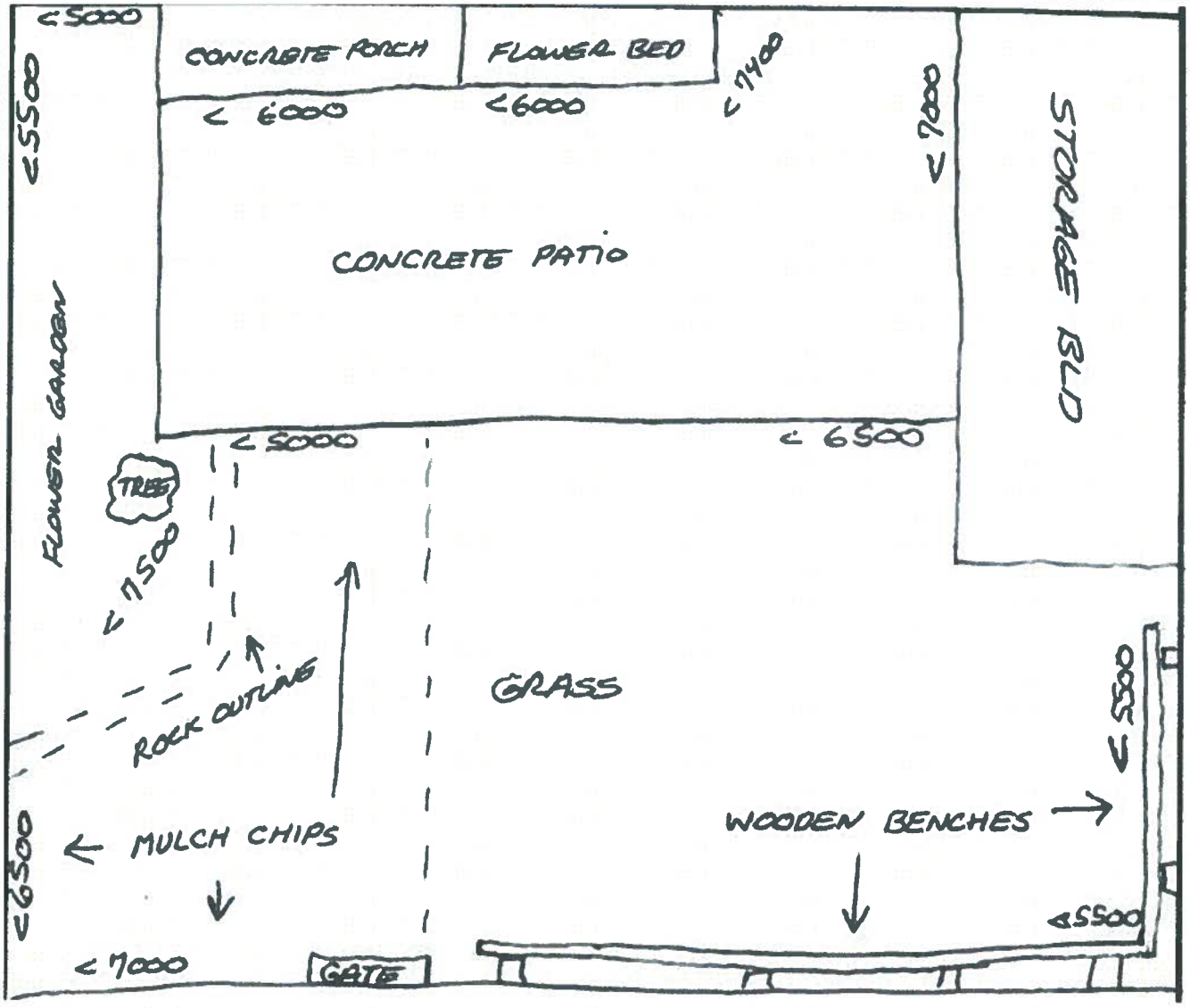
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1218 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

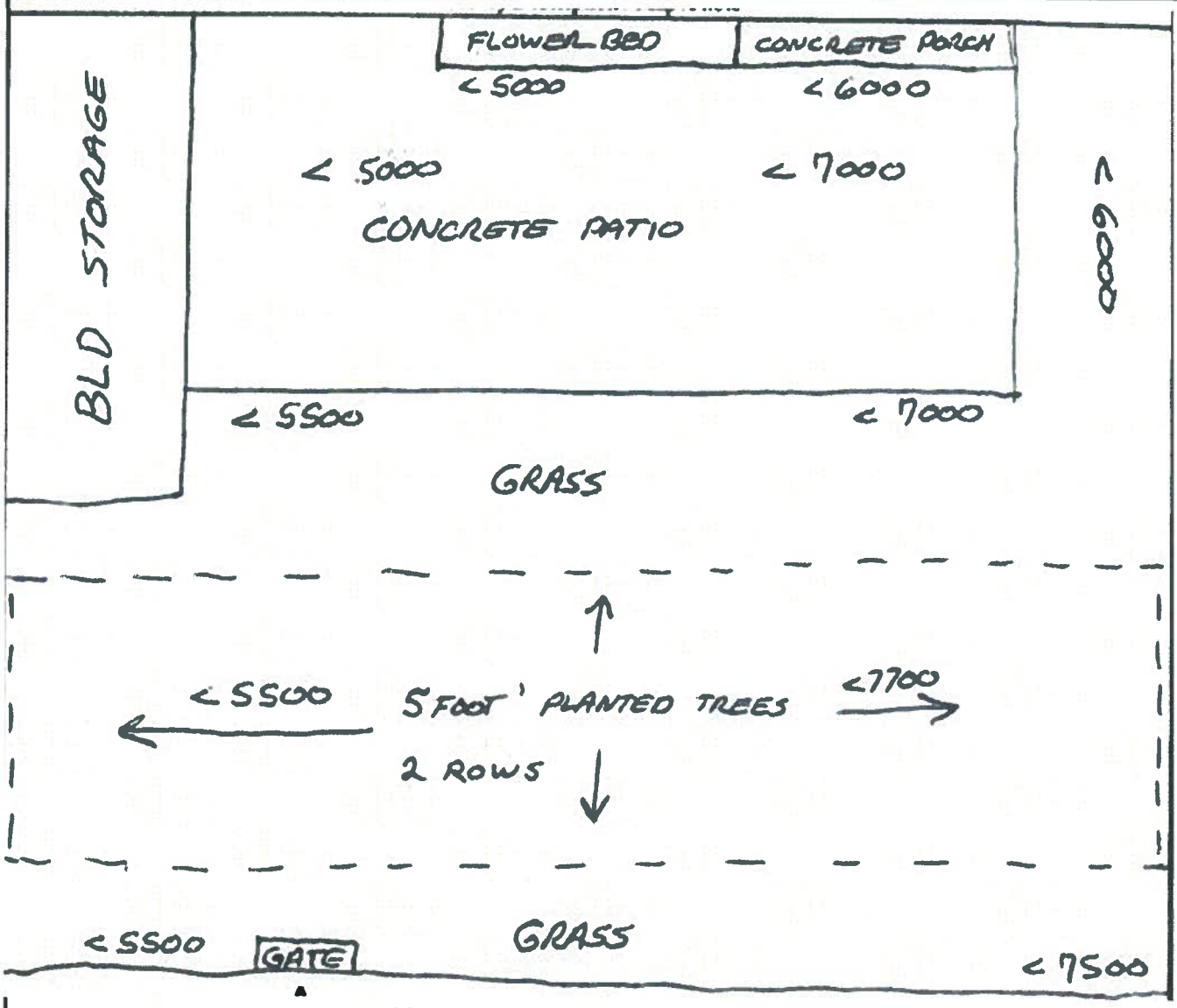
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1218 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

1218 E done completely by 2x2 walkover due to no access for push cart.

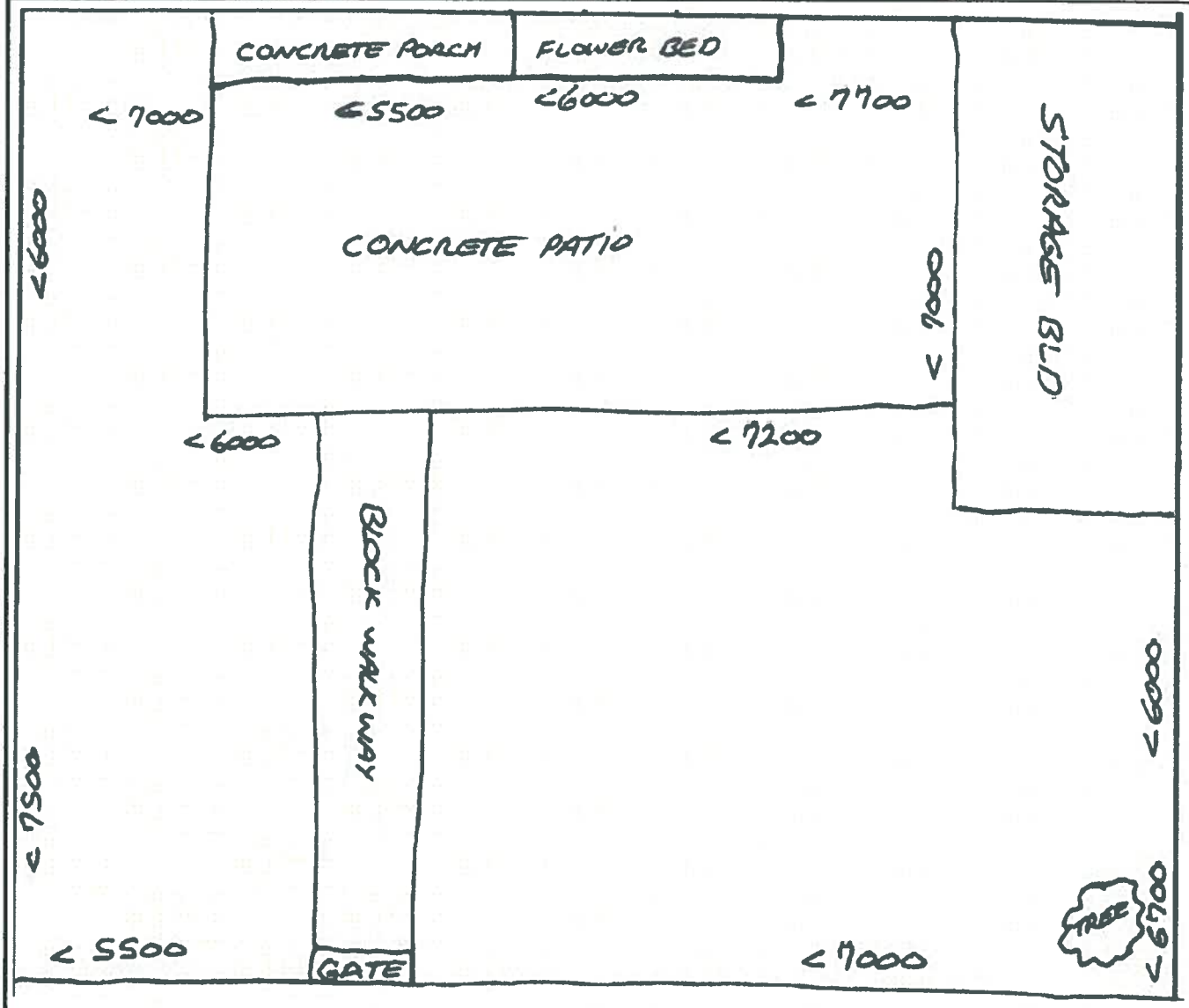
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1218 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

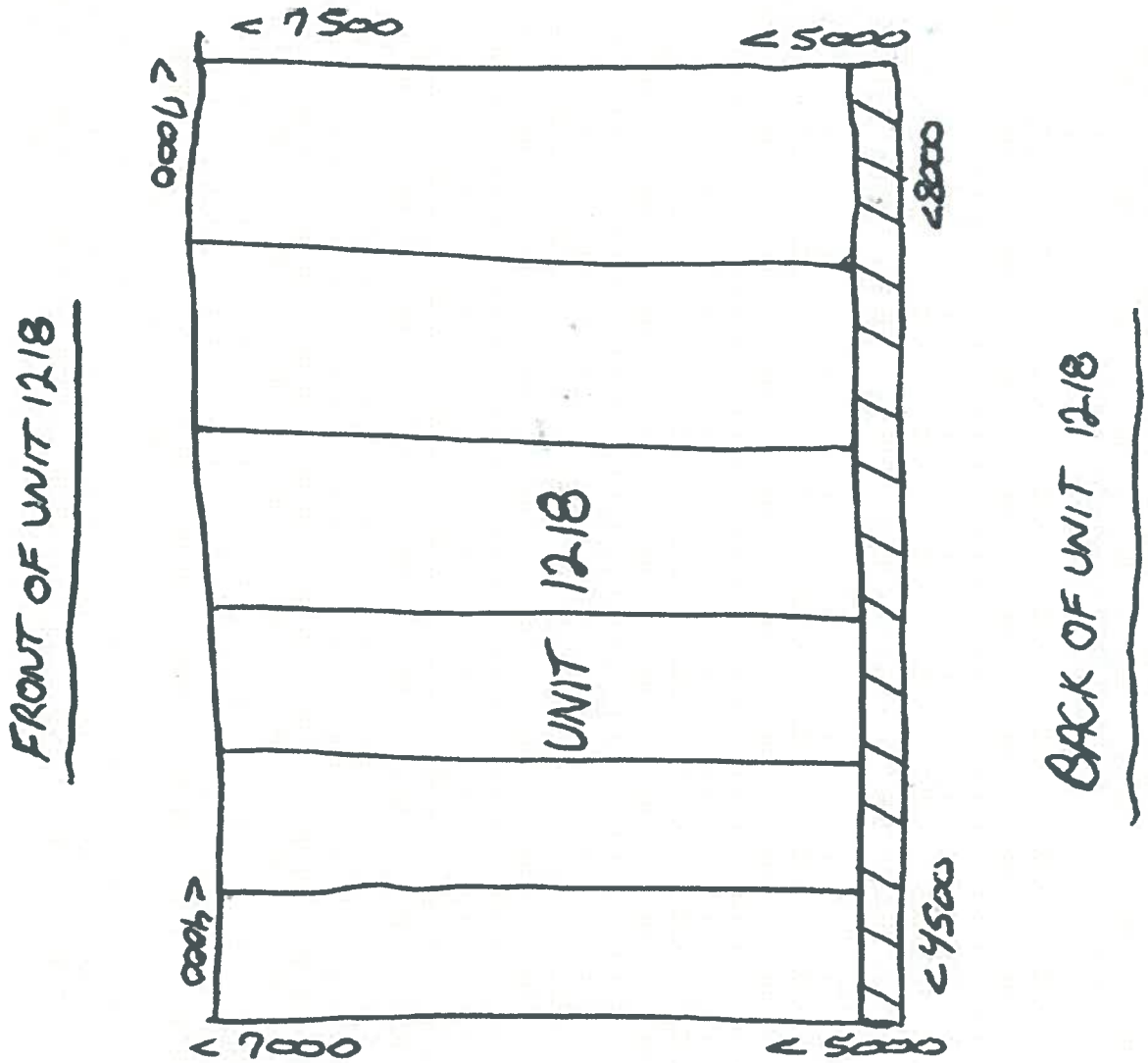
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-036	Date: 10/8/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1218 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

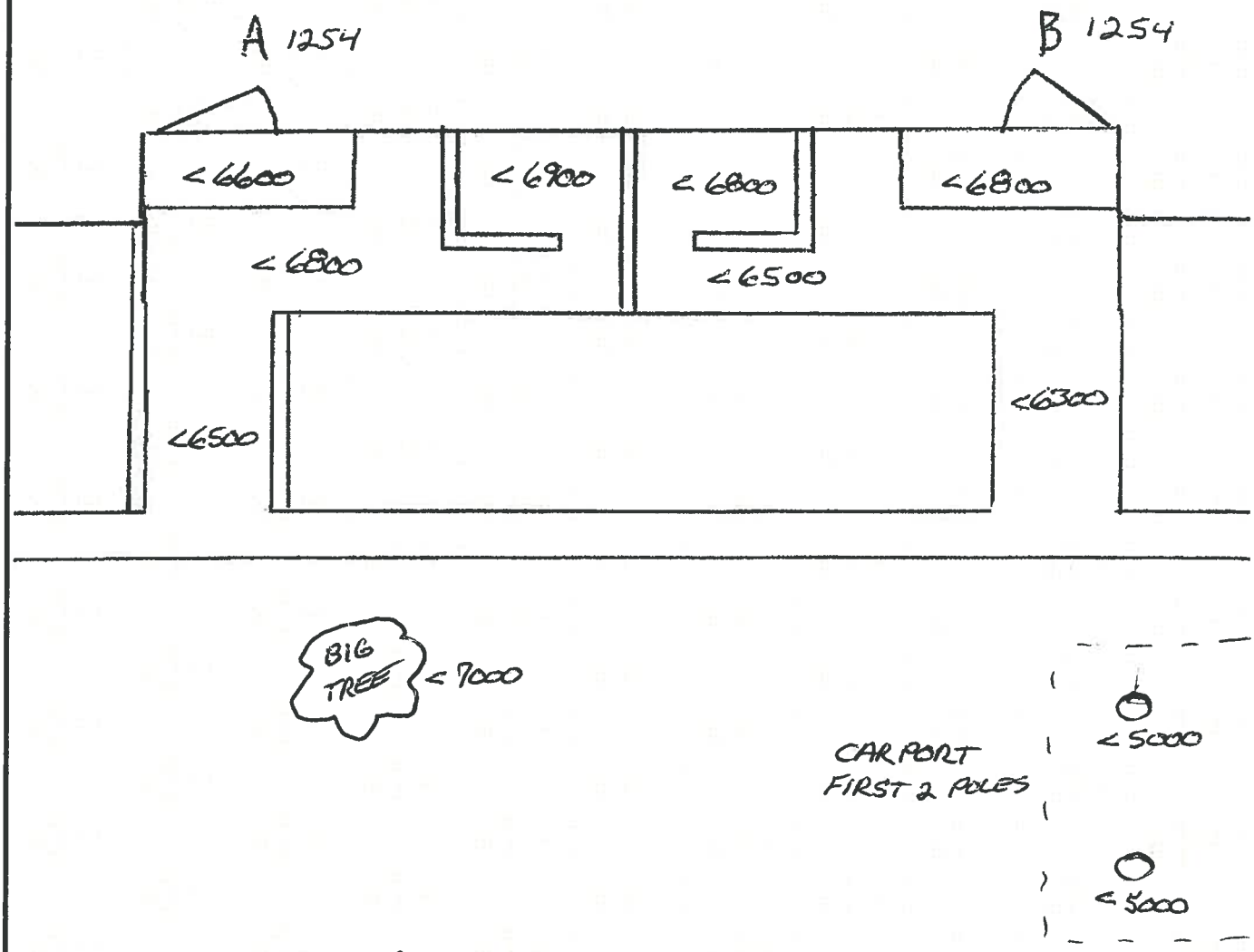
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-037	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N/A	N/A	5841	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1254 apartment " A+B " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

NOTE ✱ FRONT OF UNIT 1254 IS LABELED AS UNIT 625-A-B-C ECT

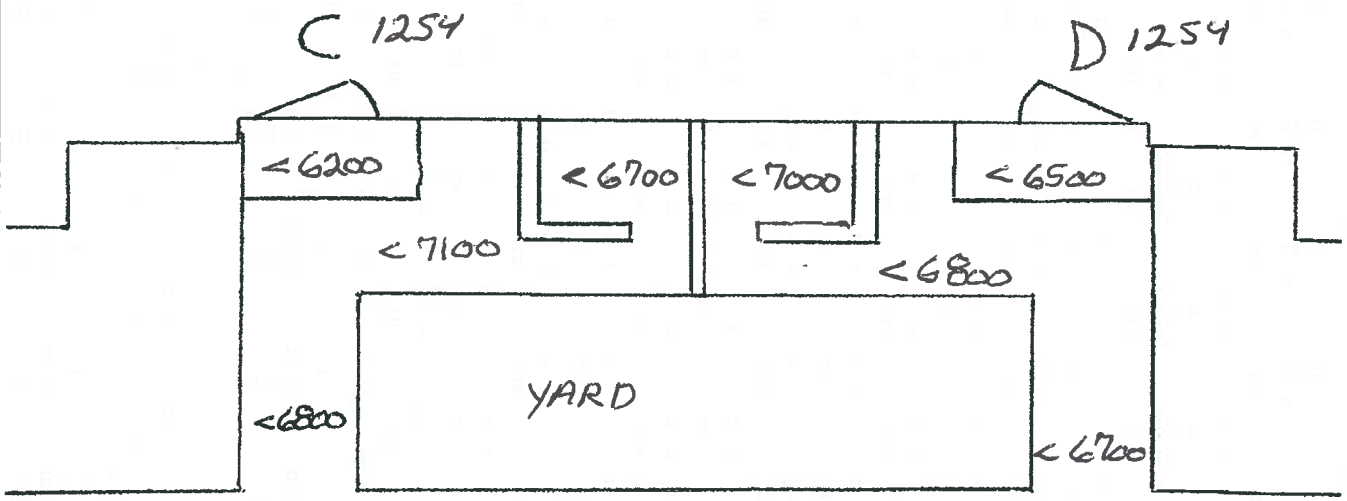
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-037	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



O <4800

O <5500

O <5300

O <4500

Building 1254 apartment " C + D " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

O ← REPRESENTS OVER HEAD PARKING POLES

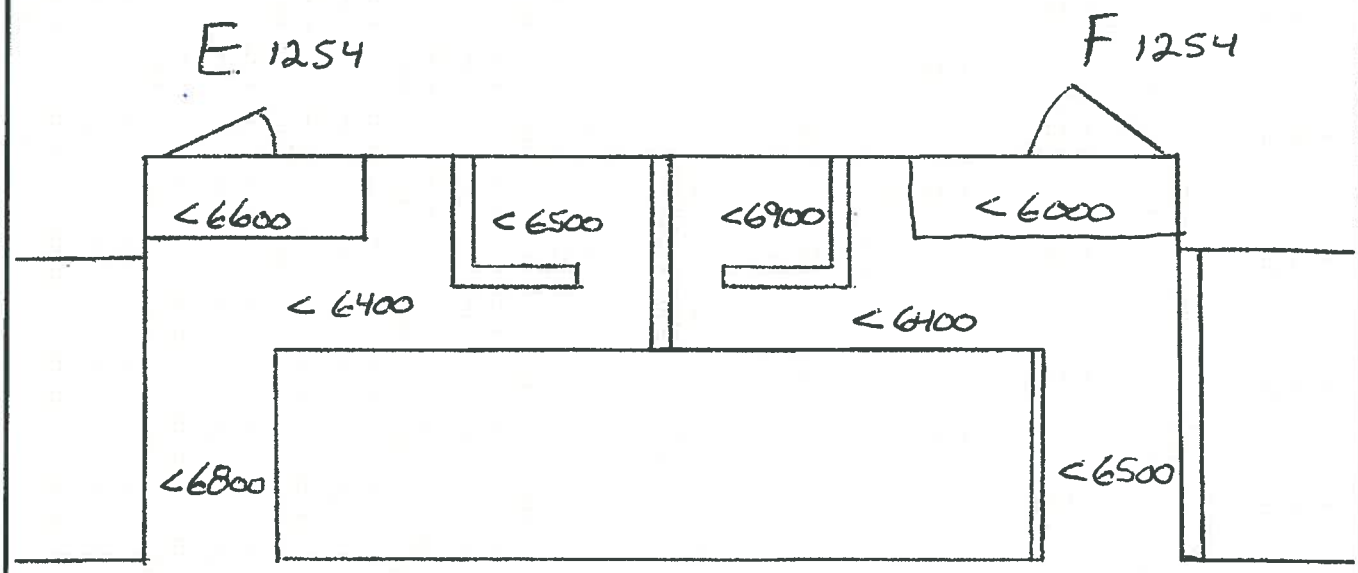
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-037	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



O < 5000

O < 4000

Building 1254 apartment "E + F" Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

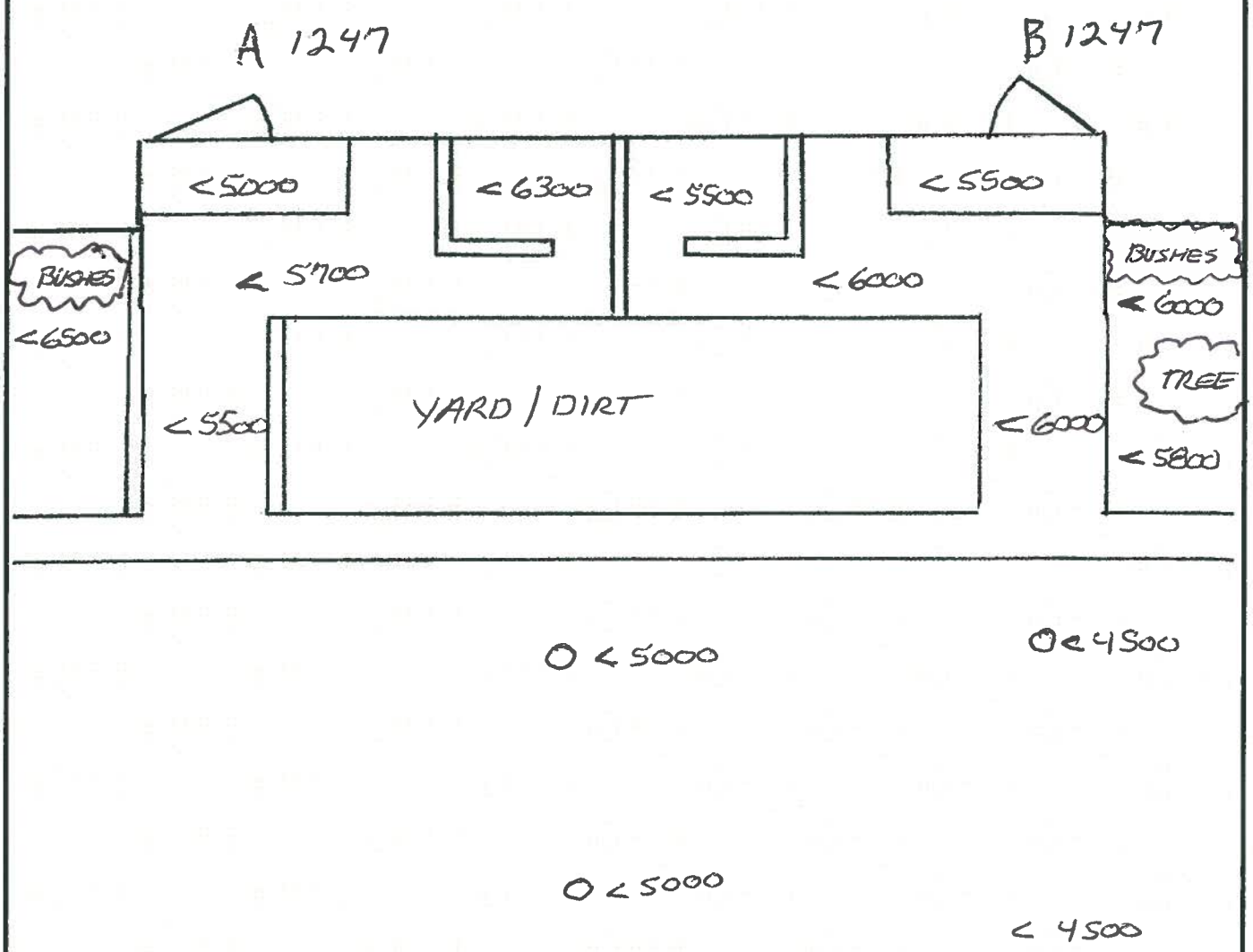
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-038	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover
AMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6320	N/A	N/A	N/A
N/A											→
N/A											→

Survey Description / Map /Photo



Building 1247 apartment " A+B " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

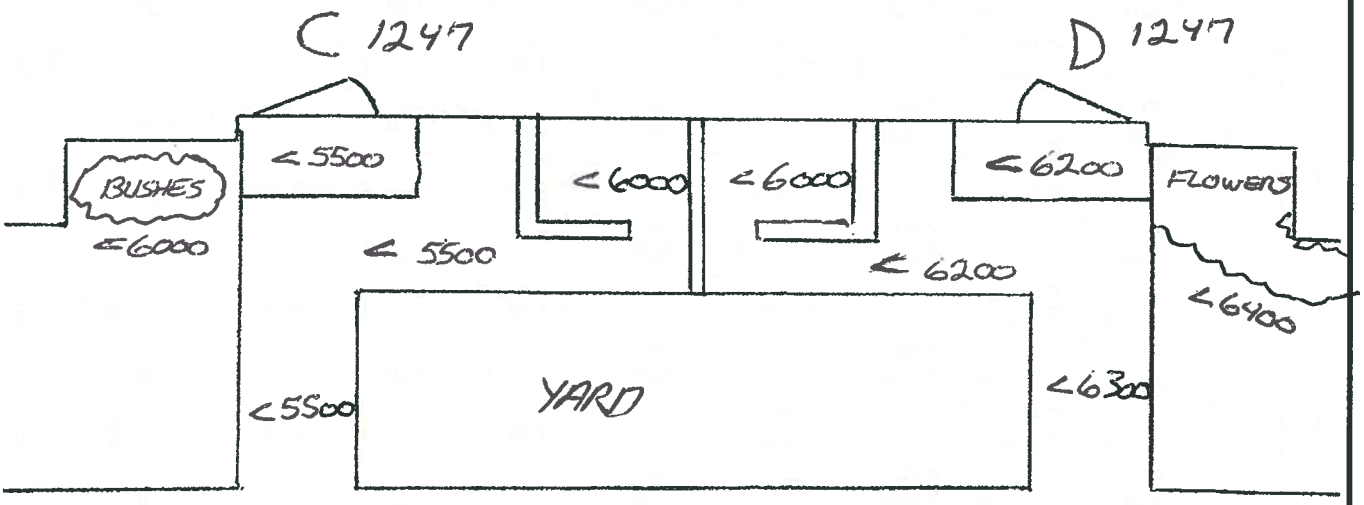
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-038	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



O < 5000

E < 5000

O < 5000

O < 5000

Building 1247 apartment " C + D " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

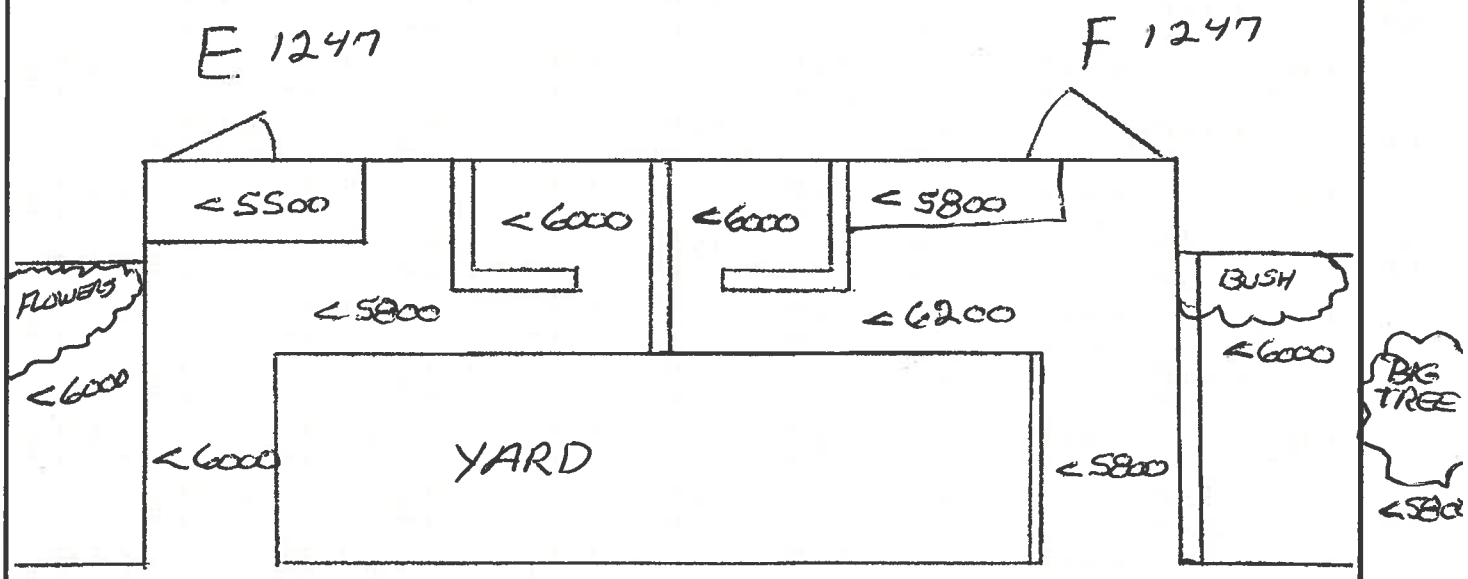
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-038	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1247 apartment " E+F " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

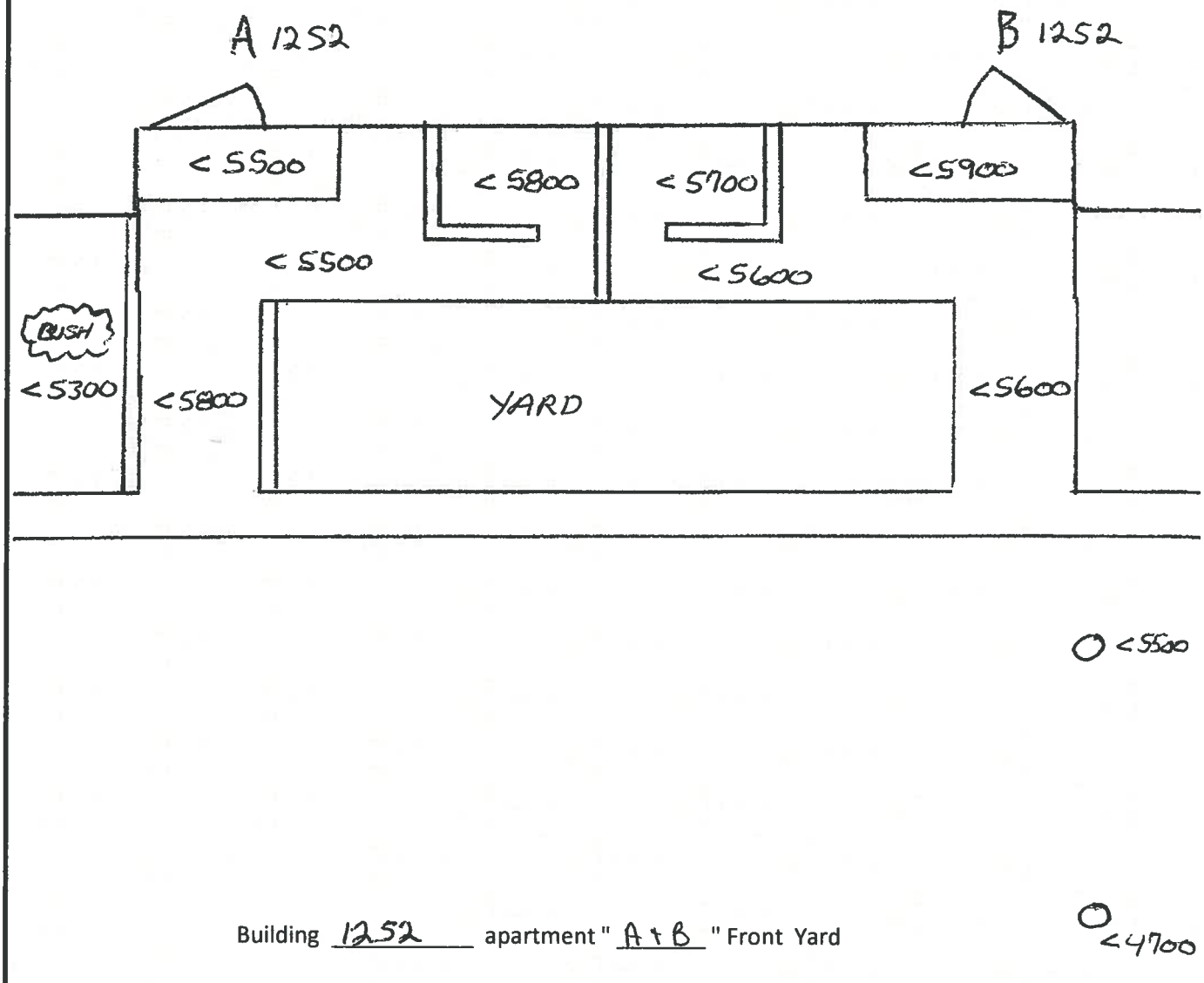
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 039	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JULY 14	44-10	19765	27 JULY 14	N / A	N / A	6058	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1252 apartment " A + B " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

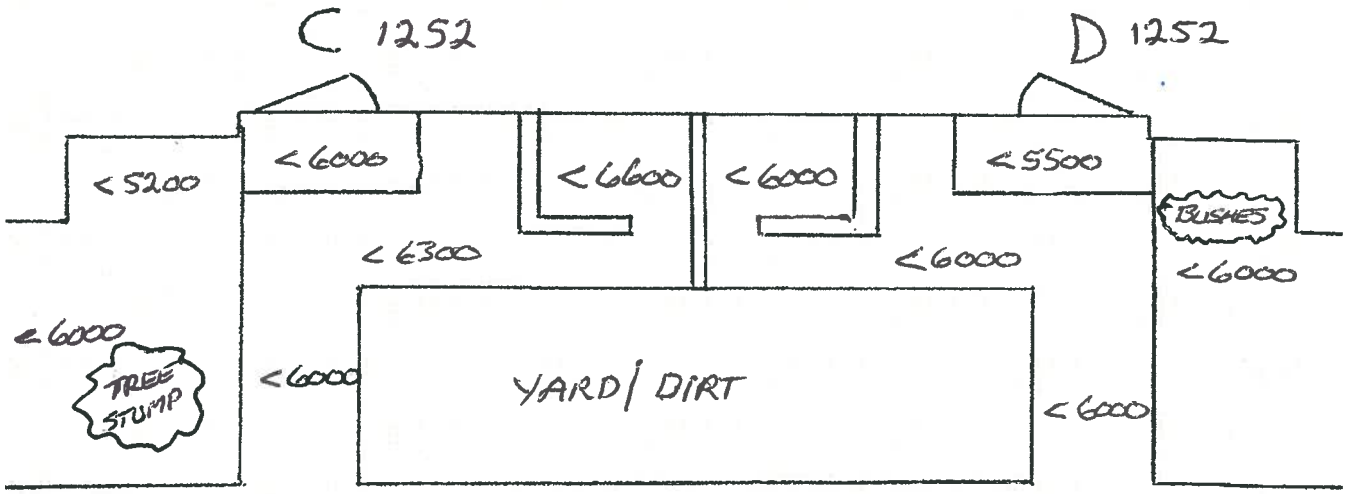
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 039	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



O < 4700

O < 5000

O < 5000

O < 4800

Building 1252 apartment " C + D " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

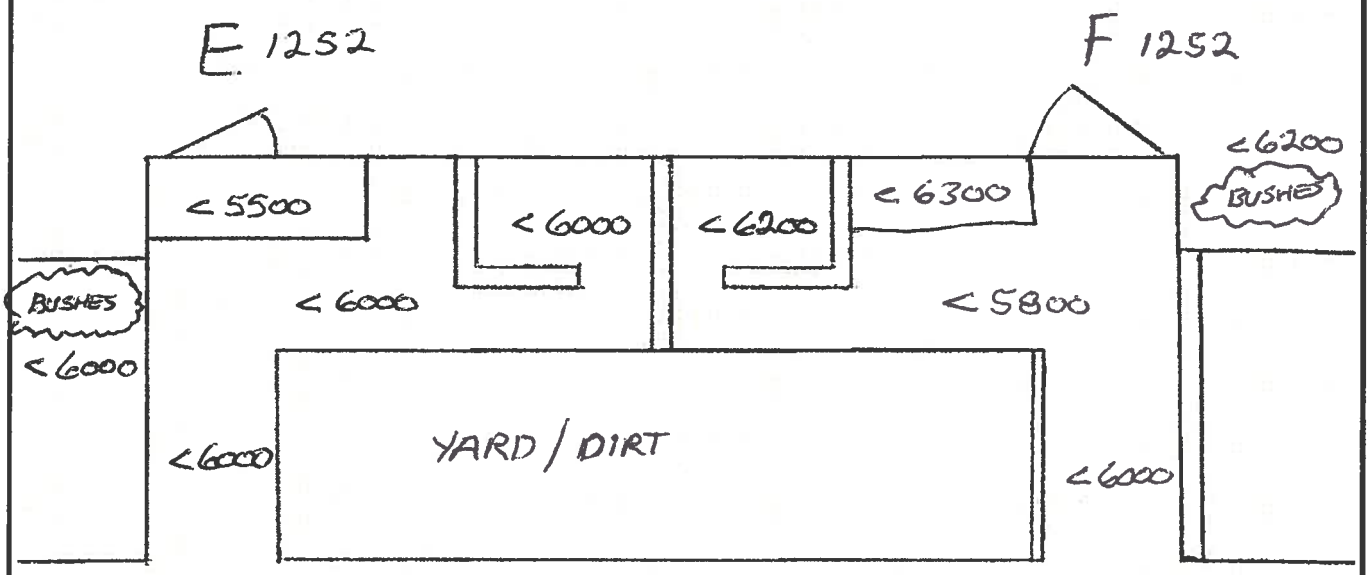
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 039	Date: 10-8-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



O < 5200

O < 4900

Building 1252 apartment " E + F " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

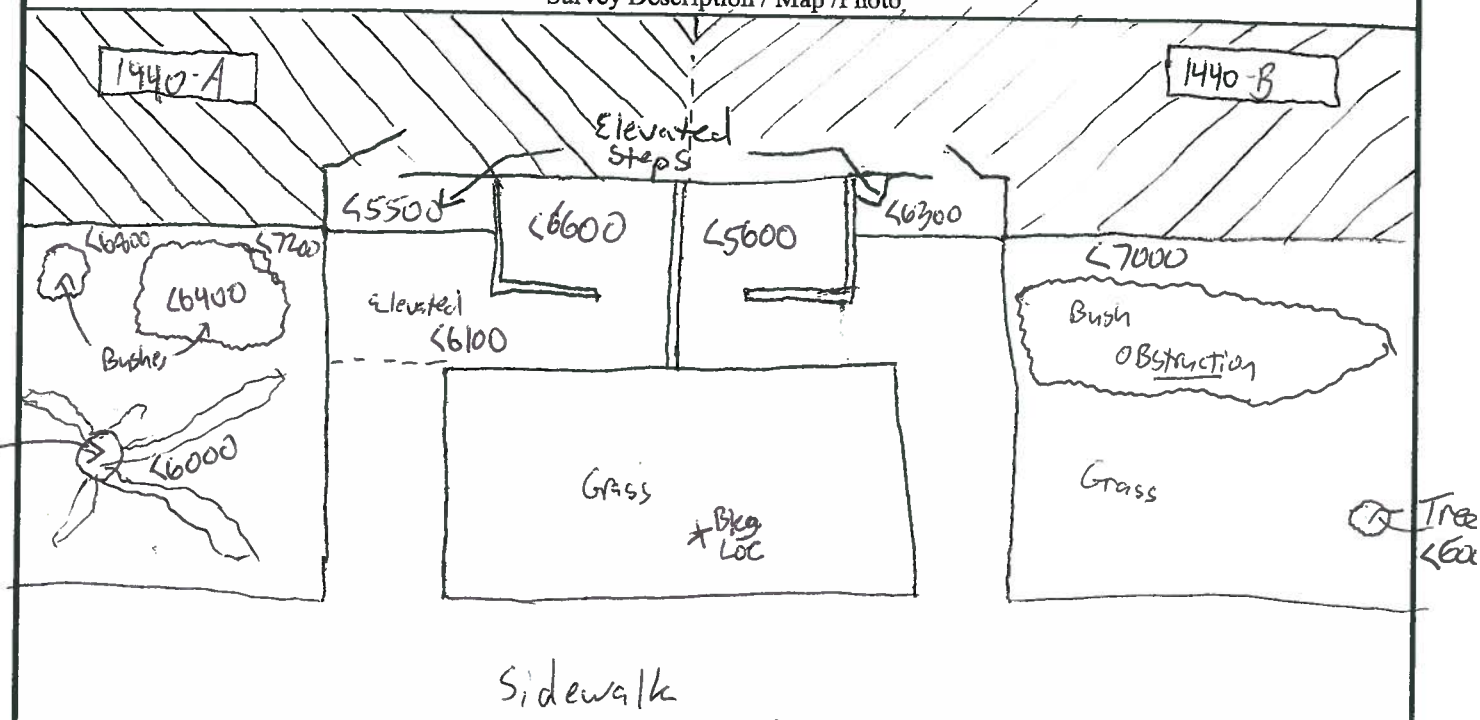
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 040	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147572	9/21/13	4440	BW 19768	9/21/13	N / A	N / A	5595	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1440 apartment " A+B " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

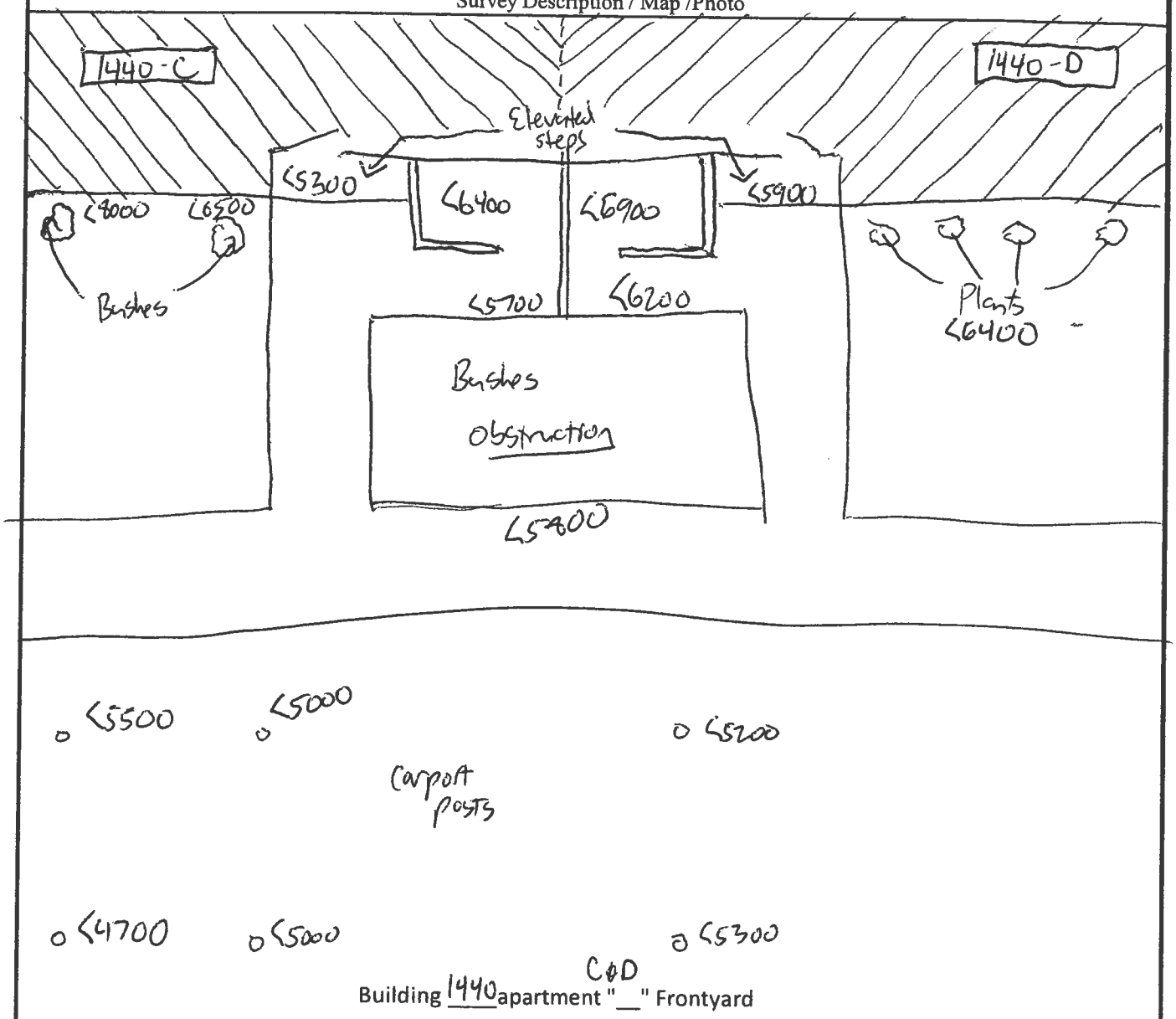
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-040	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1440 apartment "C&D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

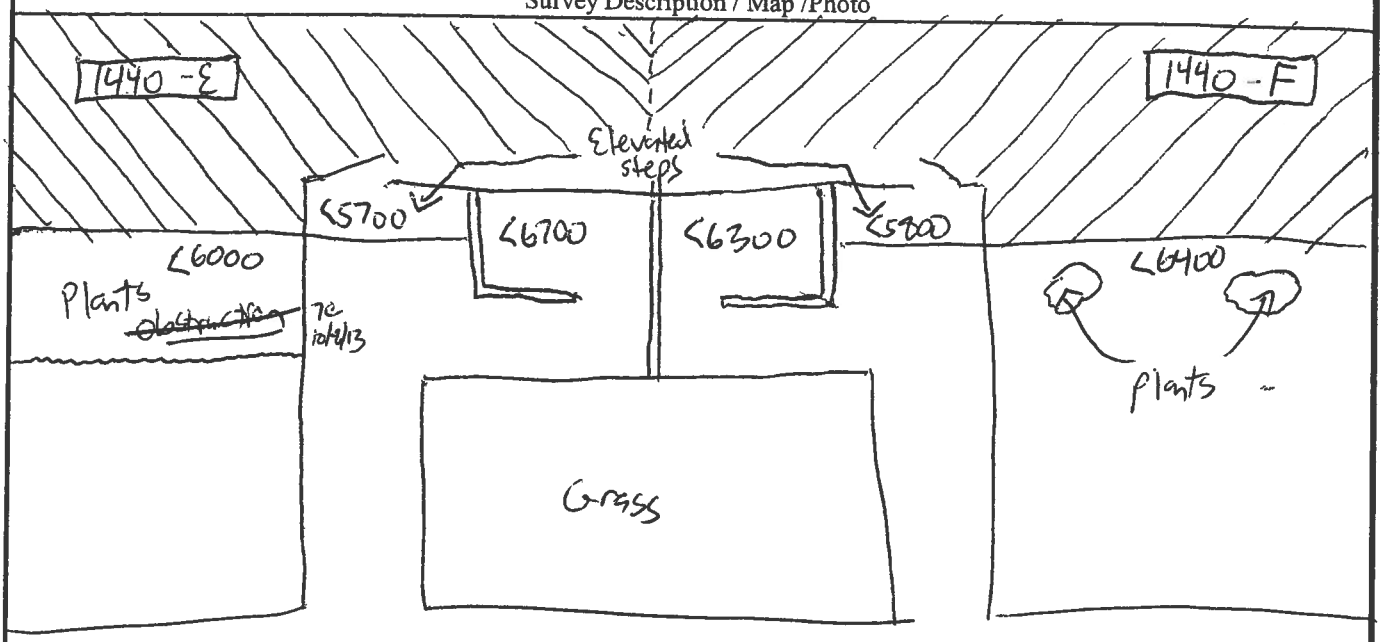
Gilbane

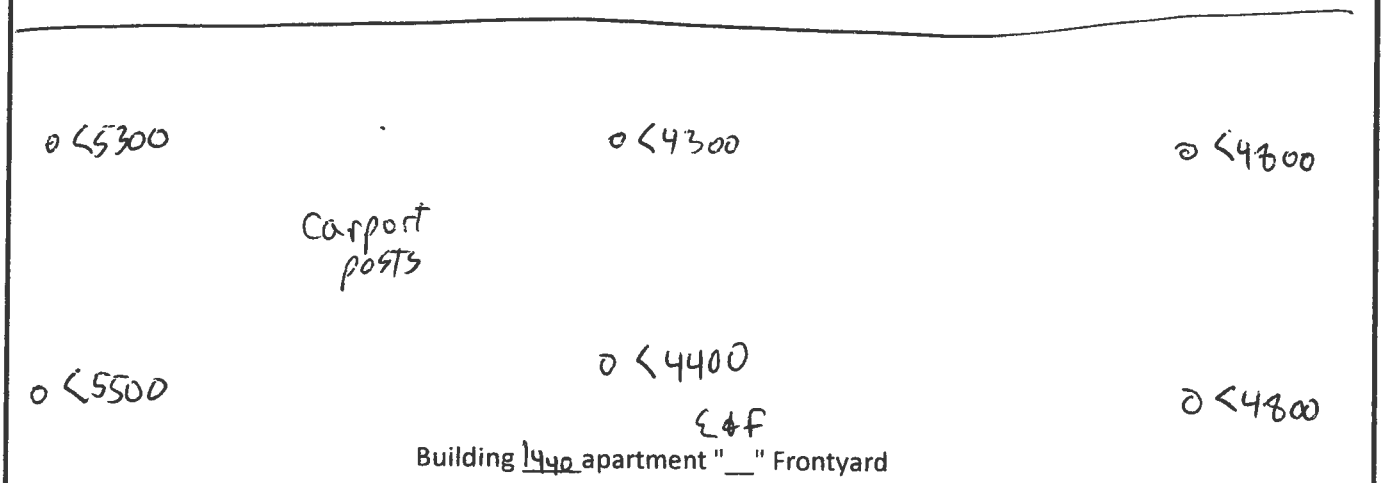
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-040	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo





Building 1440 apartment "__" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

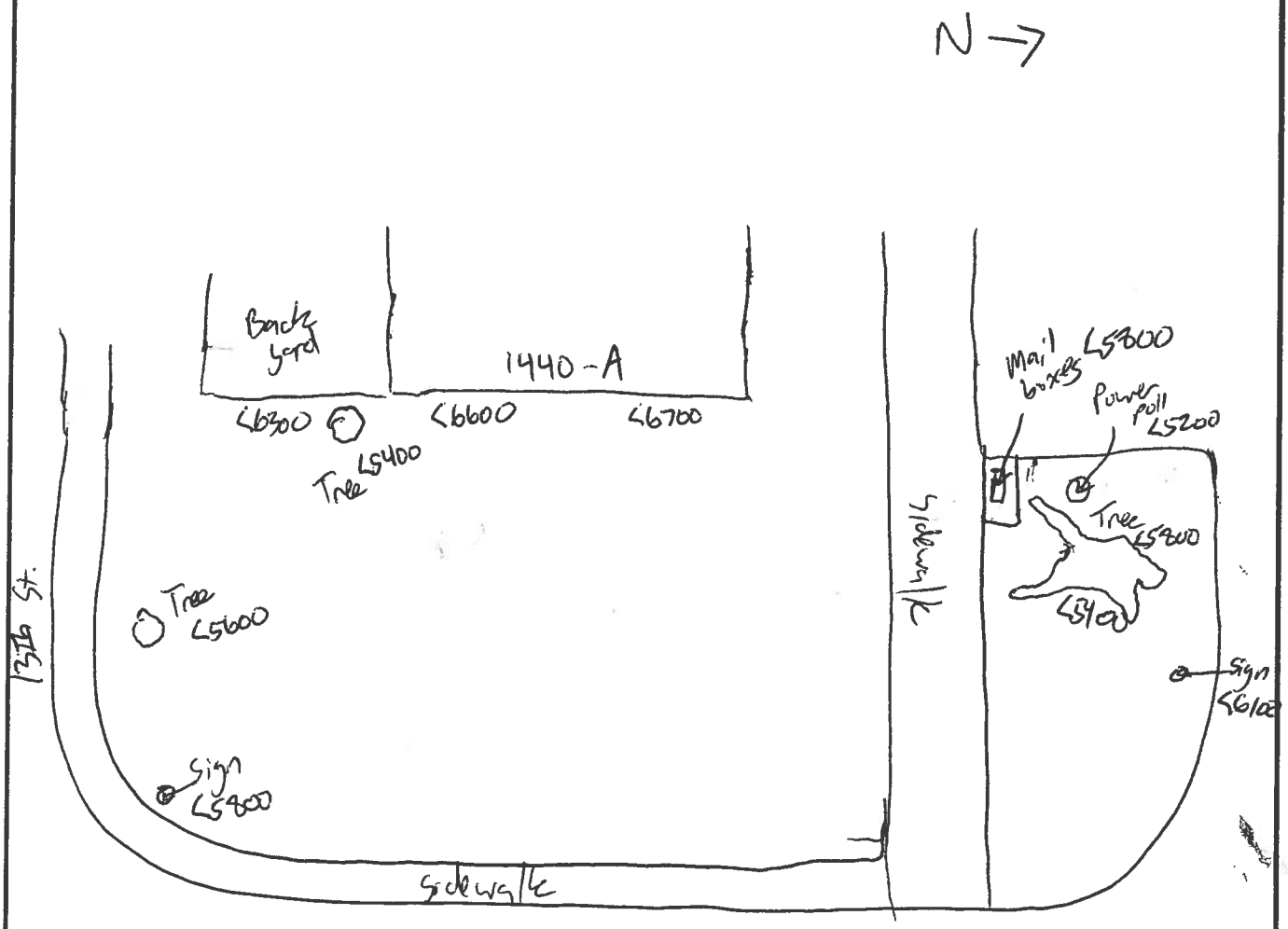
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 040	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1440 apartment " A " Frontyard

Gateway

Comments: Highest readings of area recorded. All accessible areas surveyed.

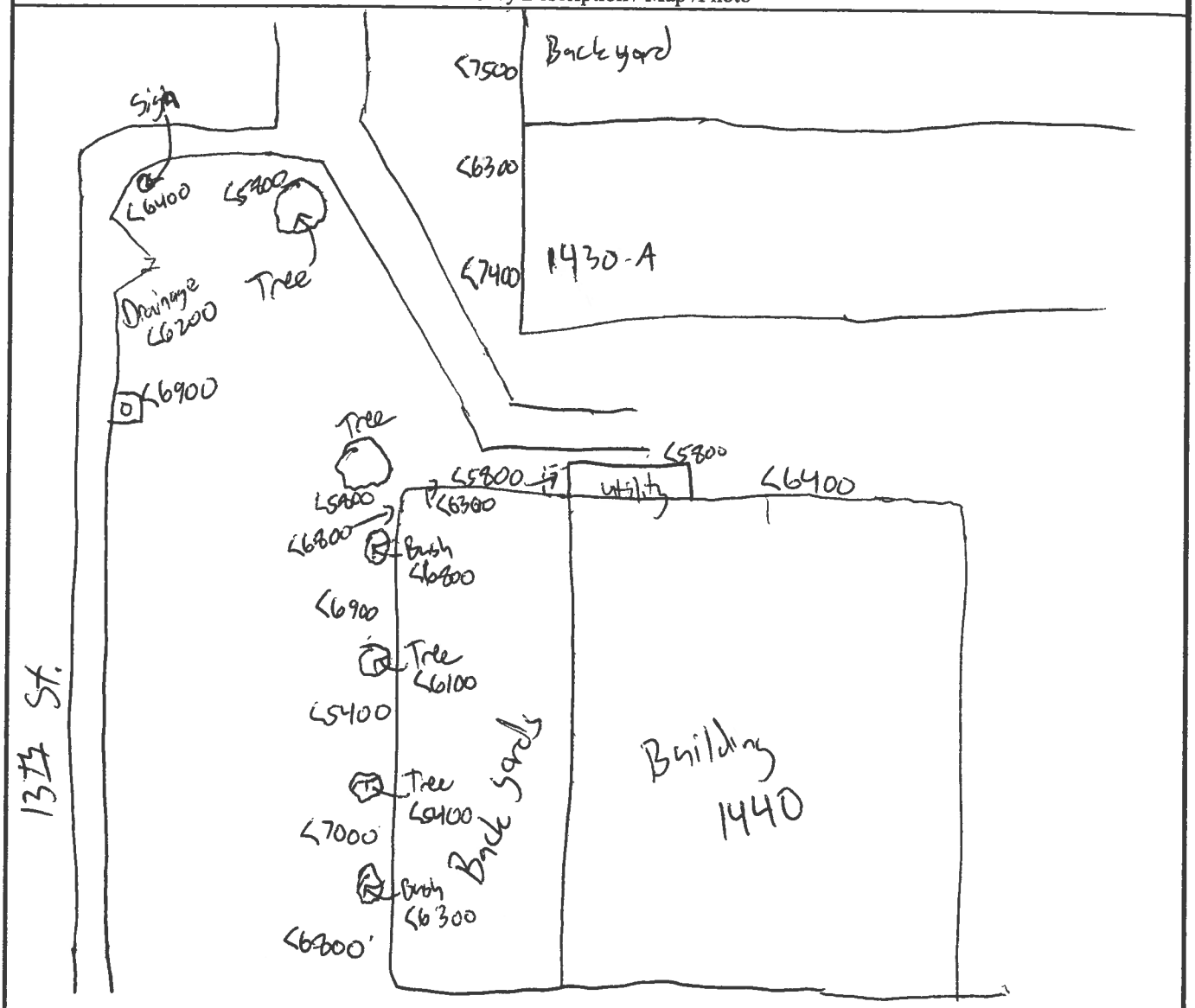
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-040	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1440 apartment "sign" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

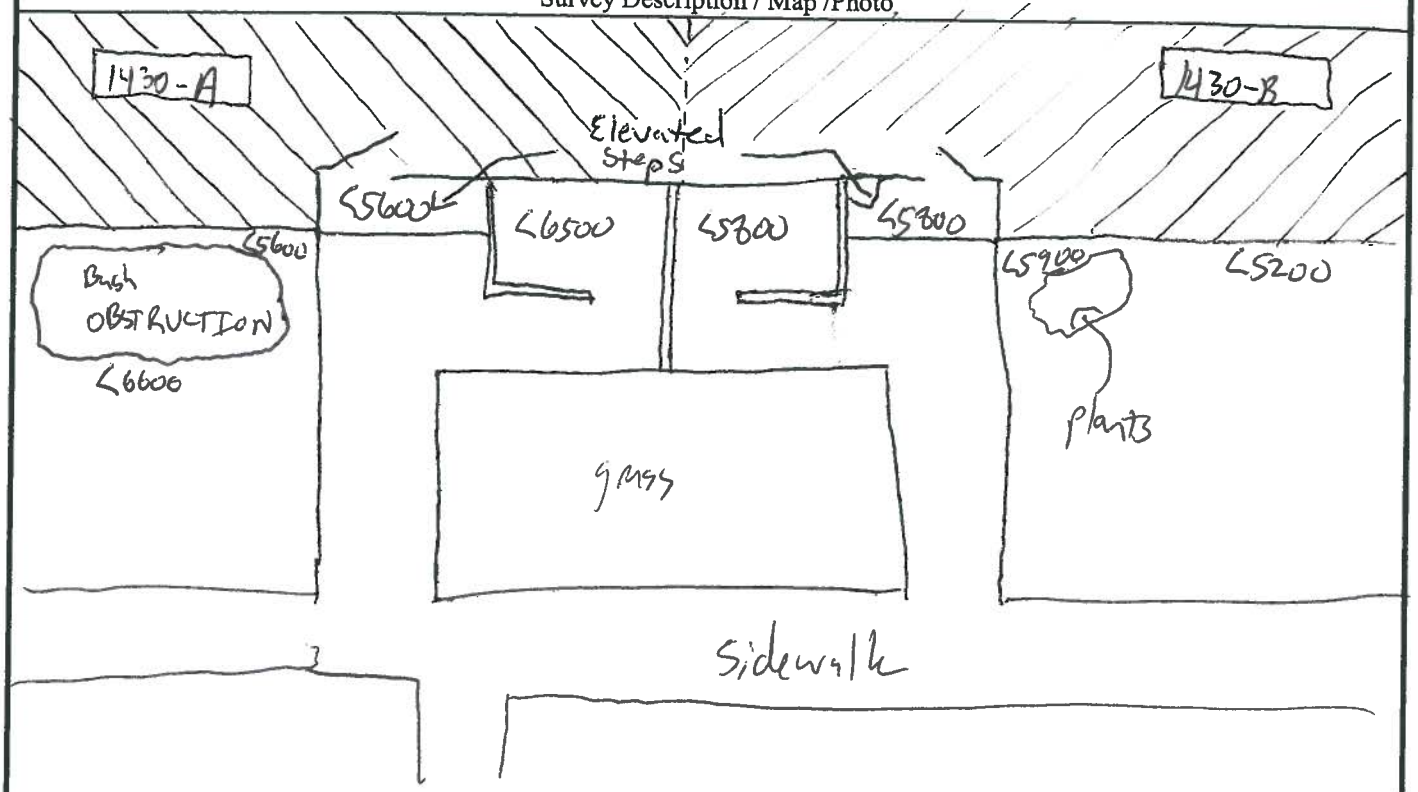
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-041	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/13	44-10	PN 19768	8/21/13	N / A	N / A	5537	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1430 apartment " A&B " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

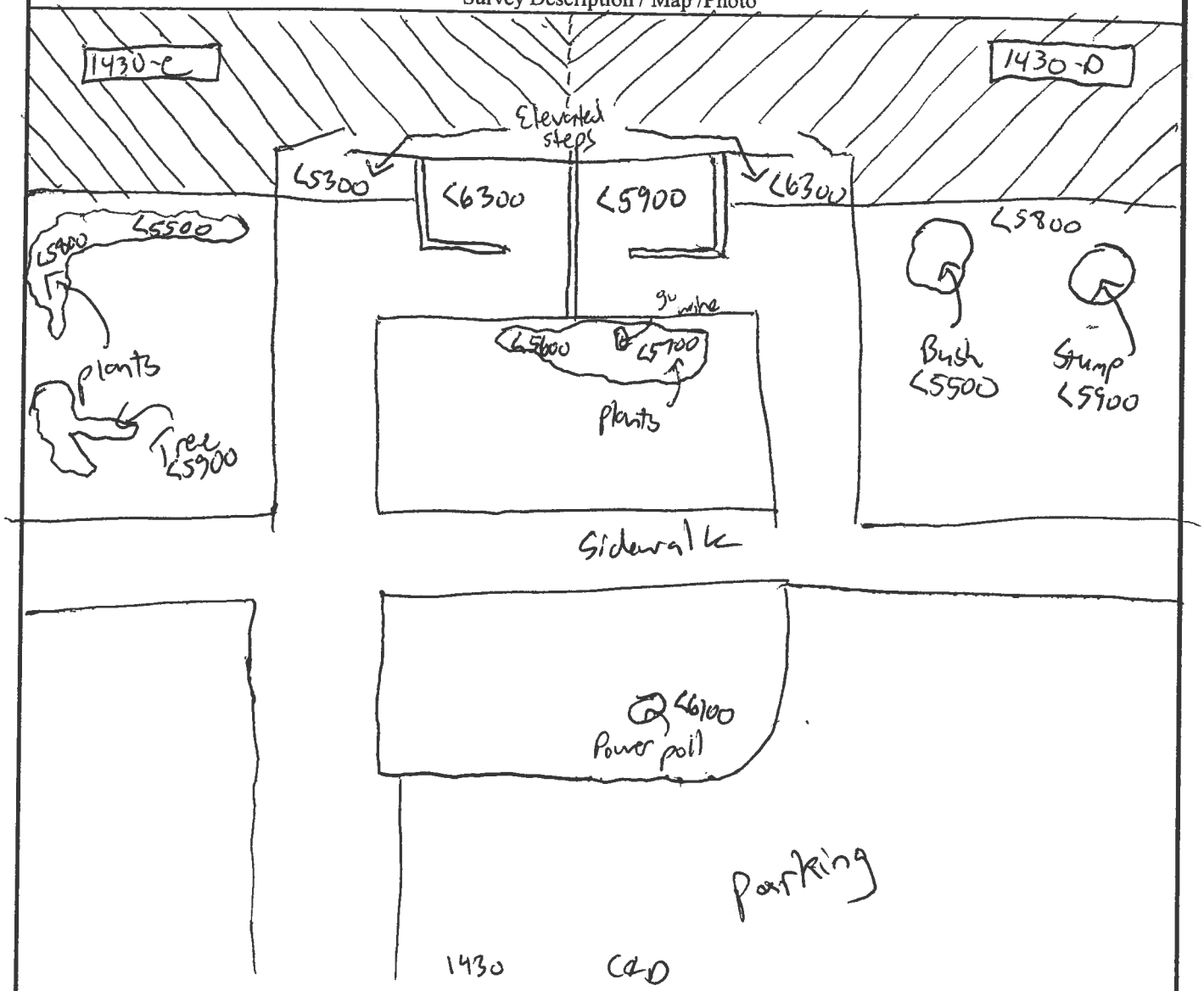
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-041	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building ____apartment "__" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

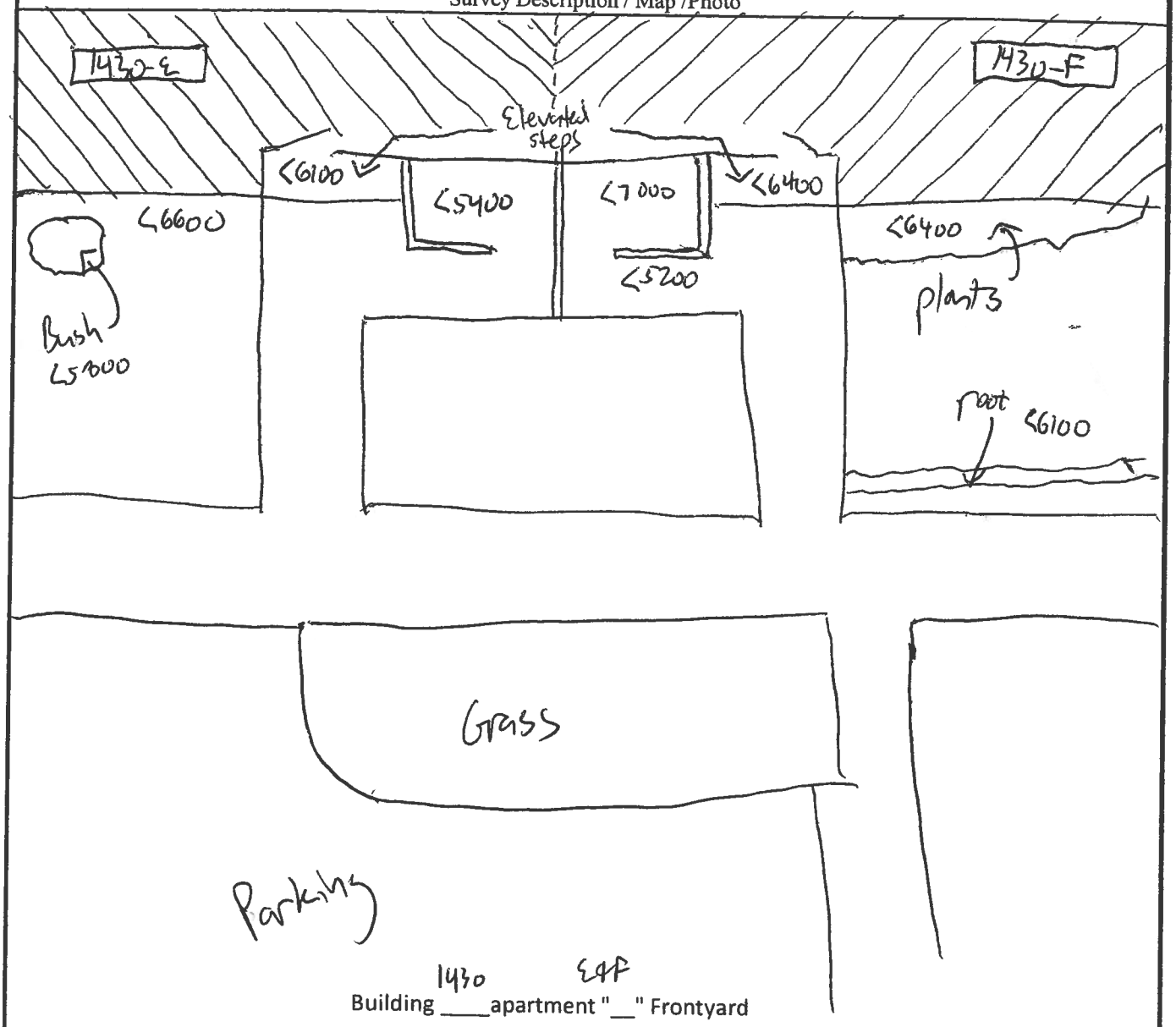
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-041	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1430 apartment "EAF" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

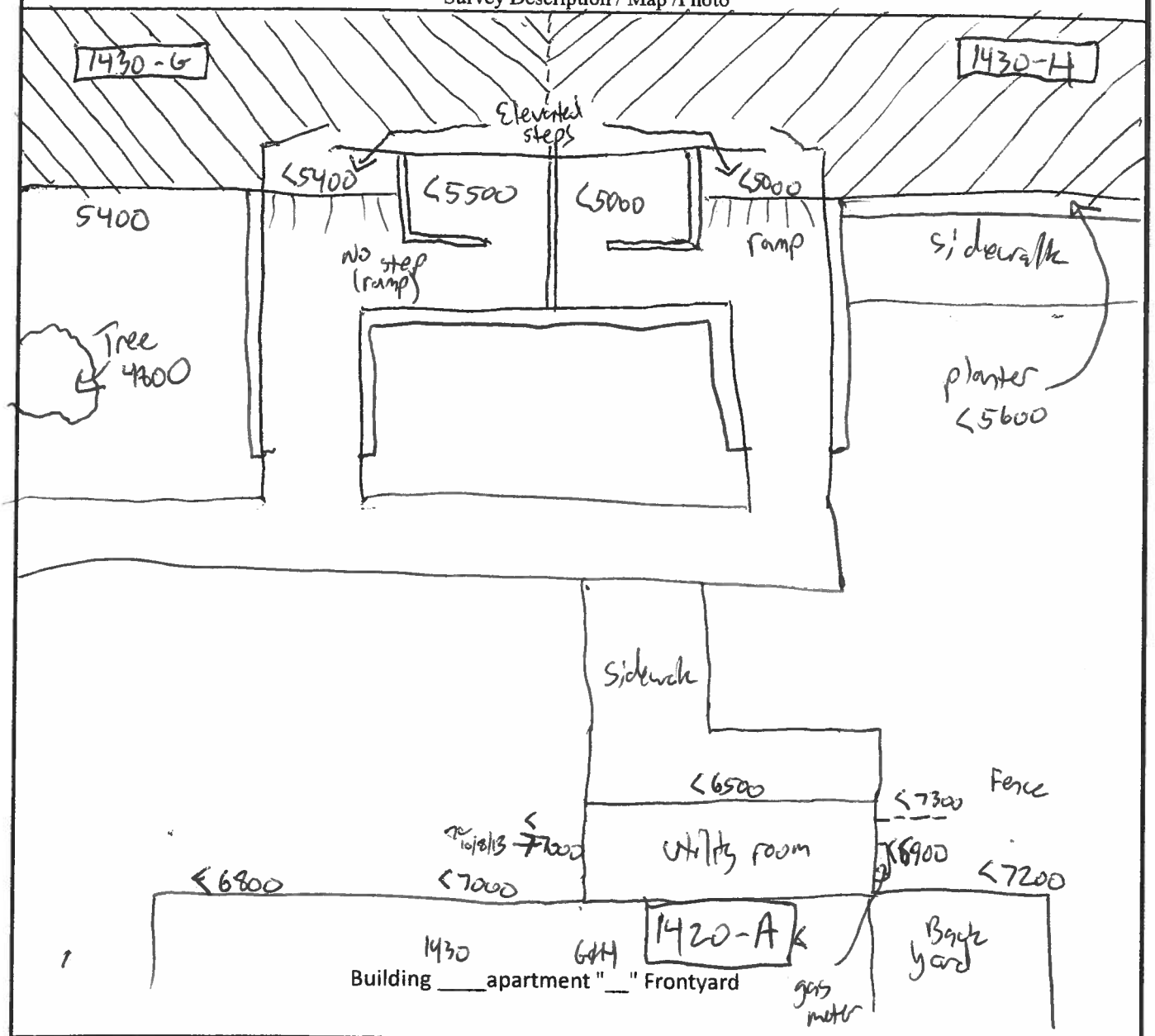
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 041	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

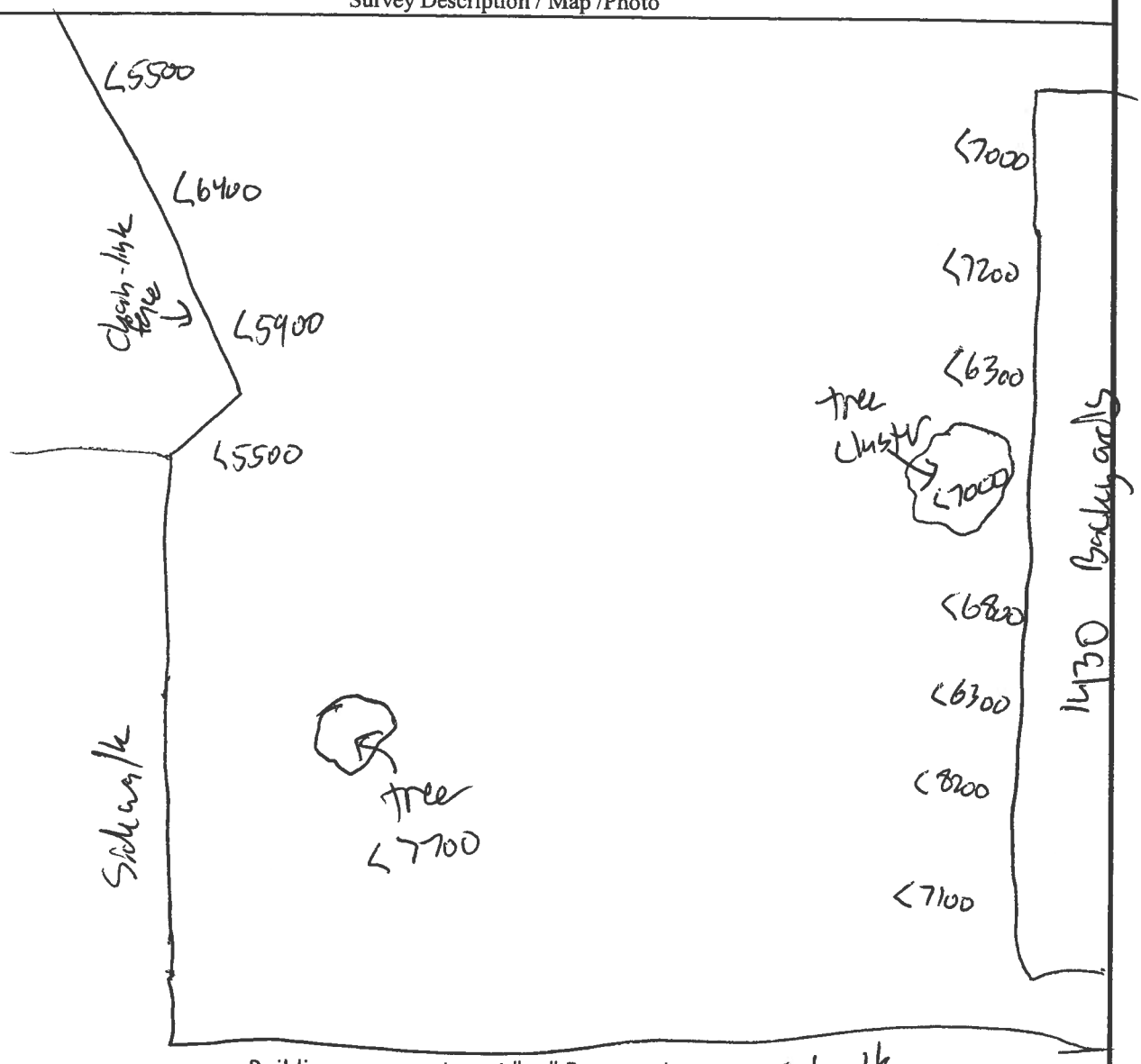
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-041	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building ____apartment "__" Frontyard

Sidewalk

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-041	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

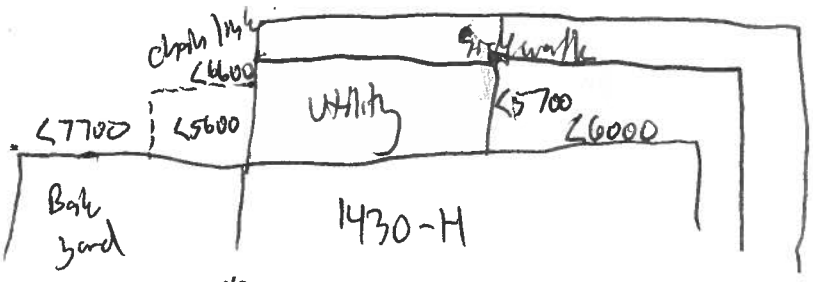
Survey Description / Map /Photo

N↑

Power poll

<6700

<7300
gay-wire



Building 1430 apartment "__" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

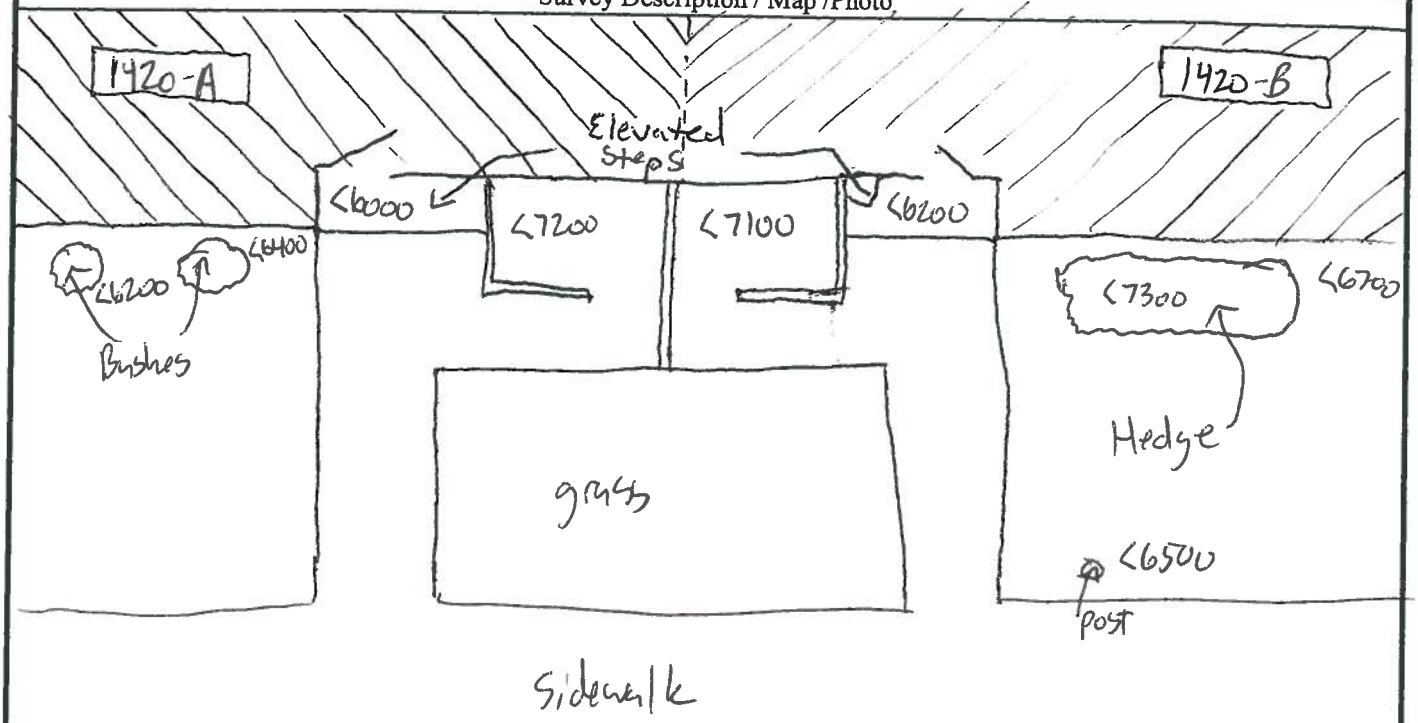
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

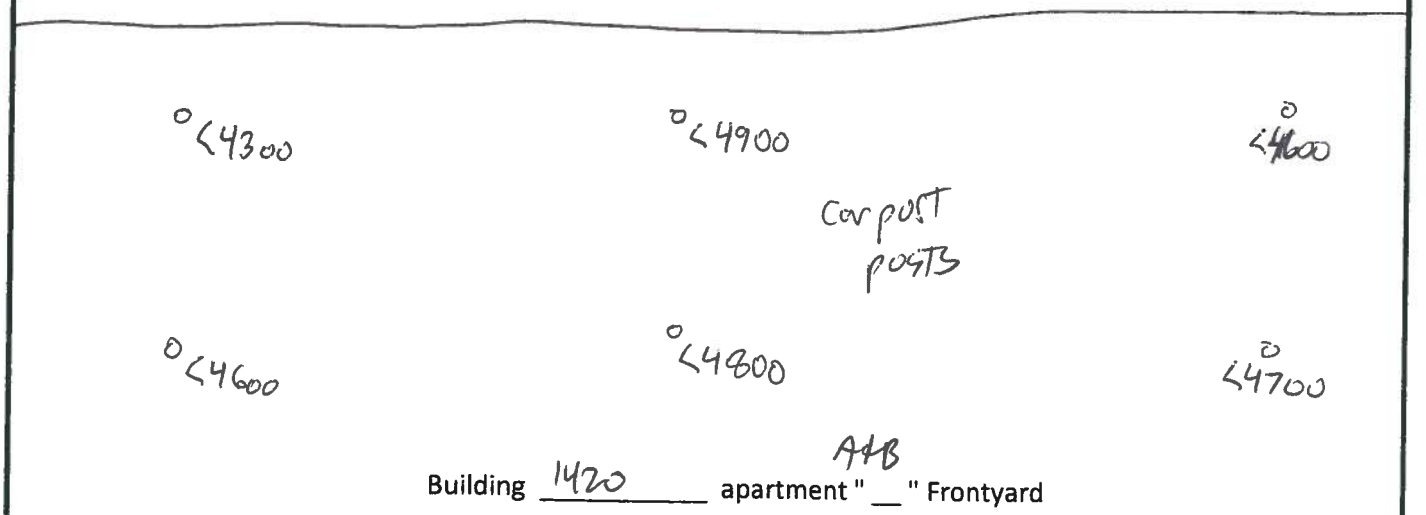
Survey No.: 06-12-042	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Cranford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	4410	AW 1978	3/21/13 →		N / A	N / A	5515	N/A	N / A	N / A
N/A			4410								→
N/A											→

Survey Description / Map /Photo





Building 1420 apartment " A+B " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

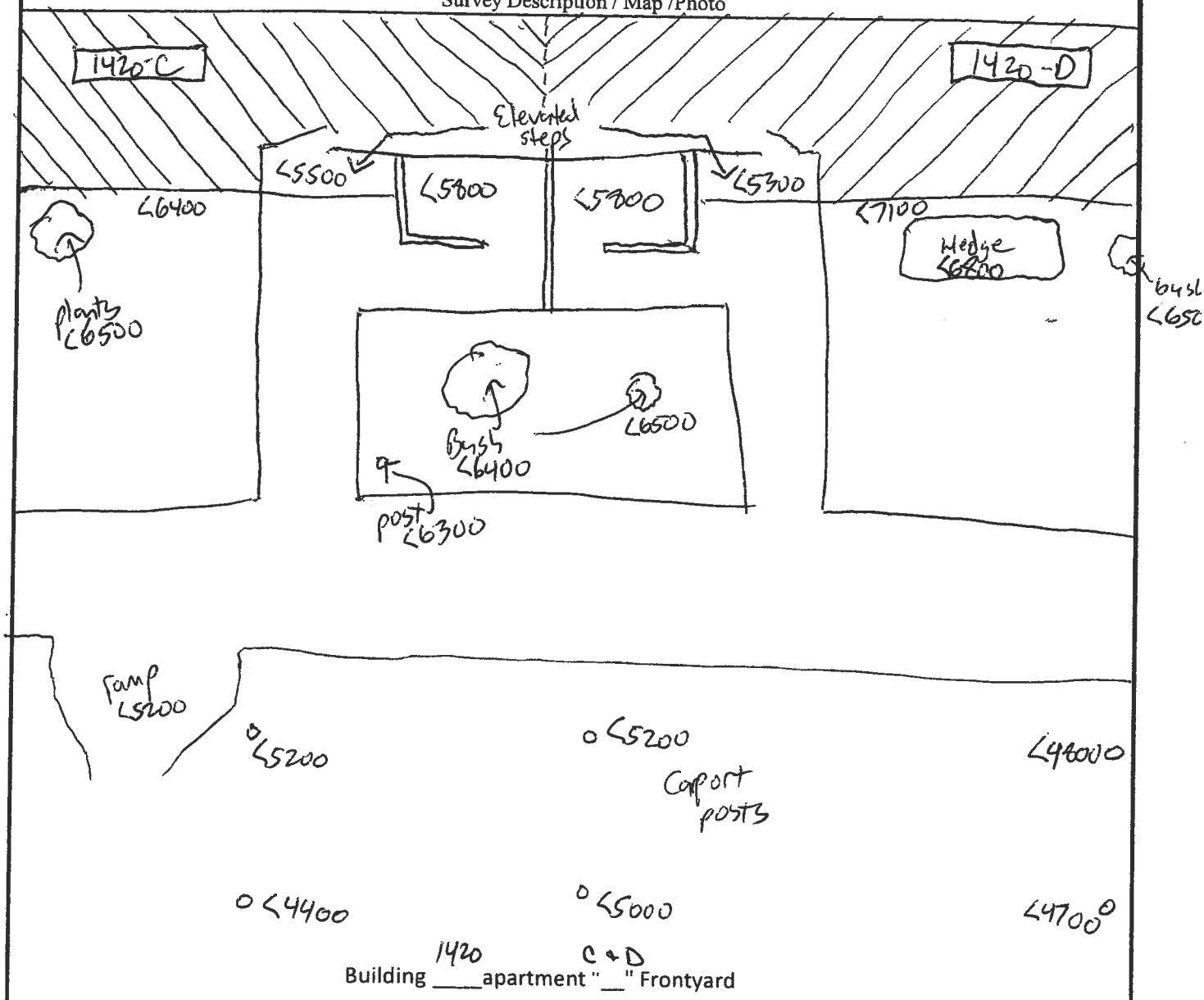
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-042	Date: 10/4/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1420 apartment "C + D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

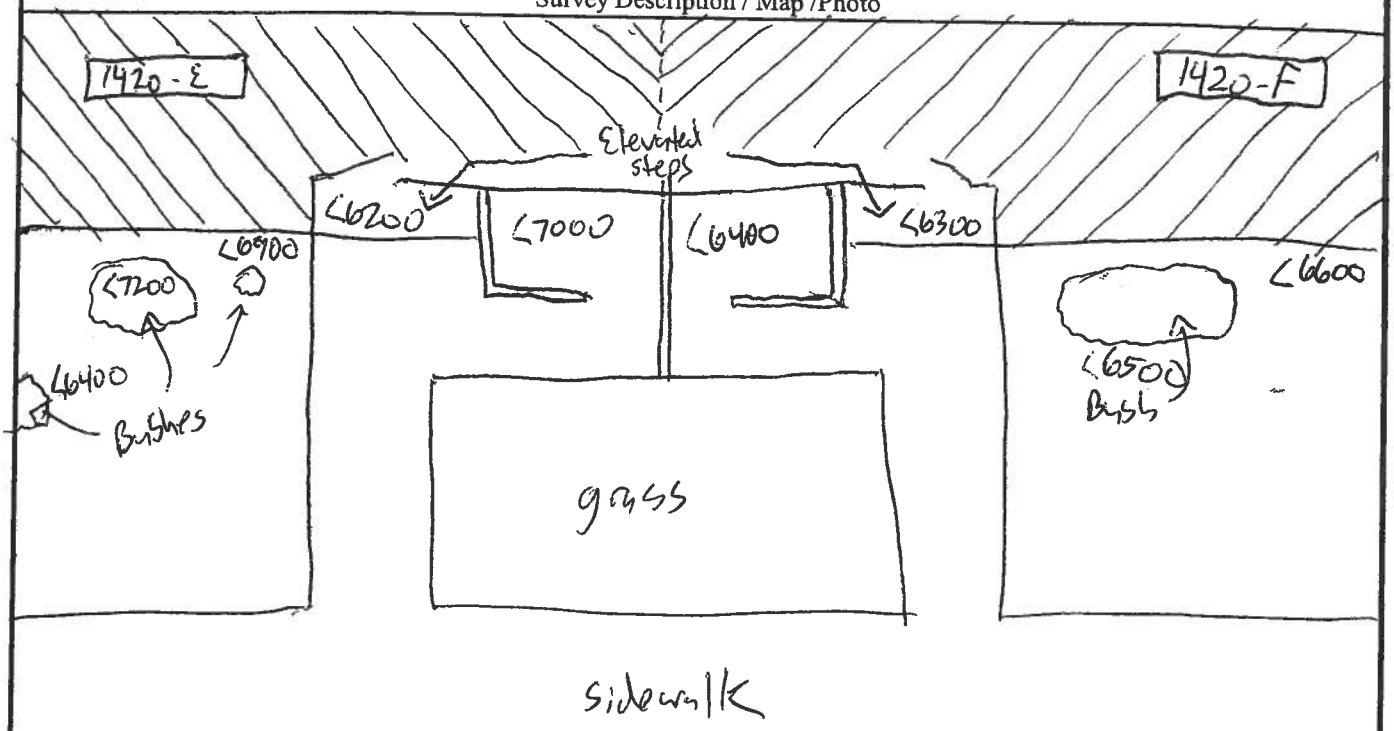
See Page 1 for Instrument Information. All Readings in cpm.

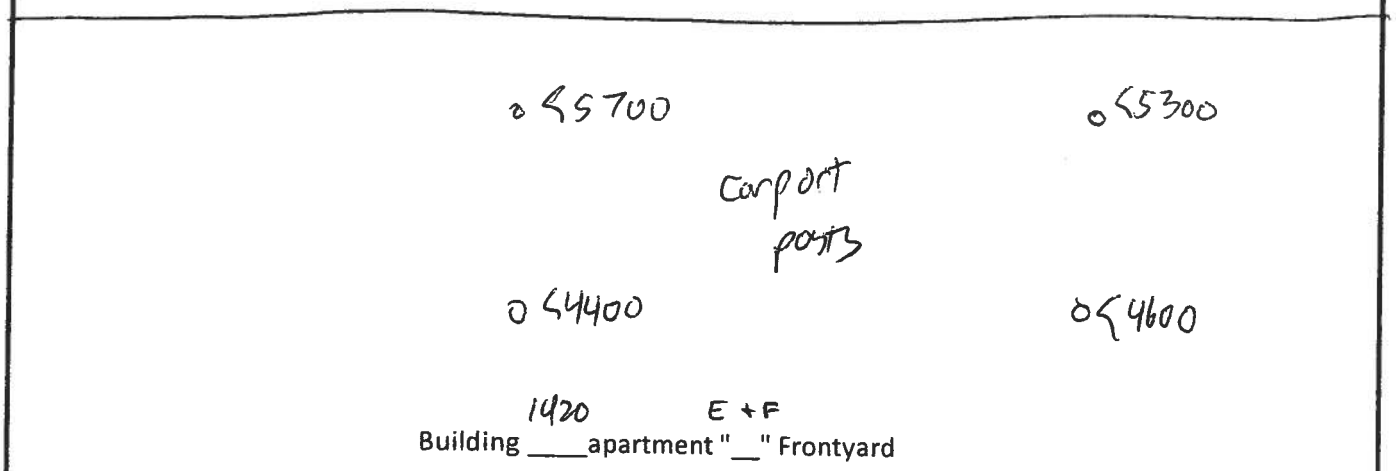
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 042	Date: 10/2/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo





Building 1420 apartment "E + F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

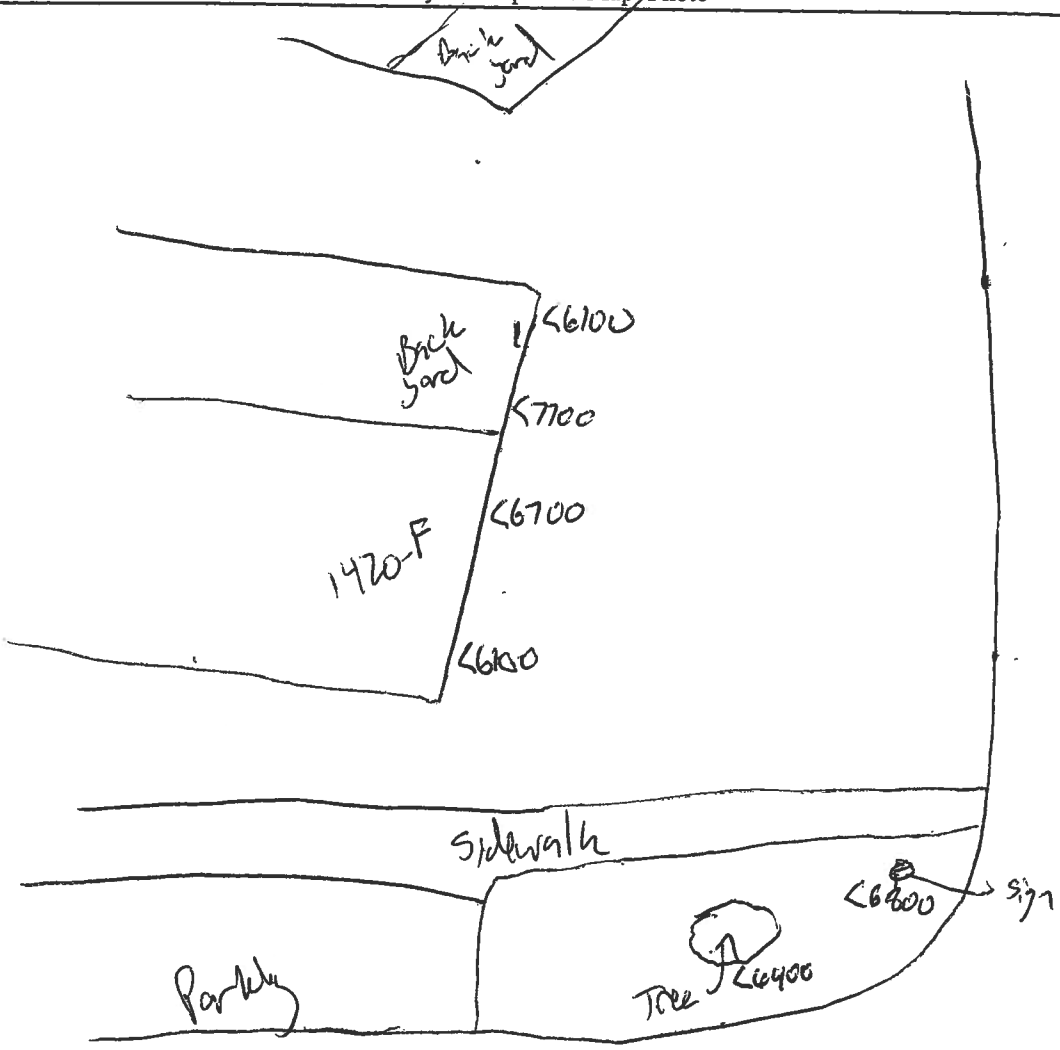
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-042	Date: 10/8/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1420 apartment "UNA" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

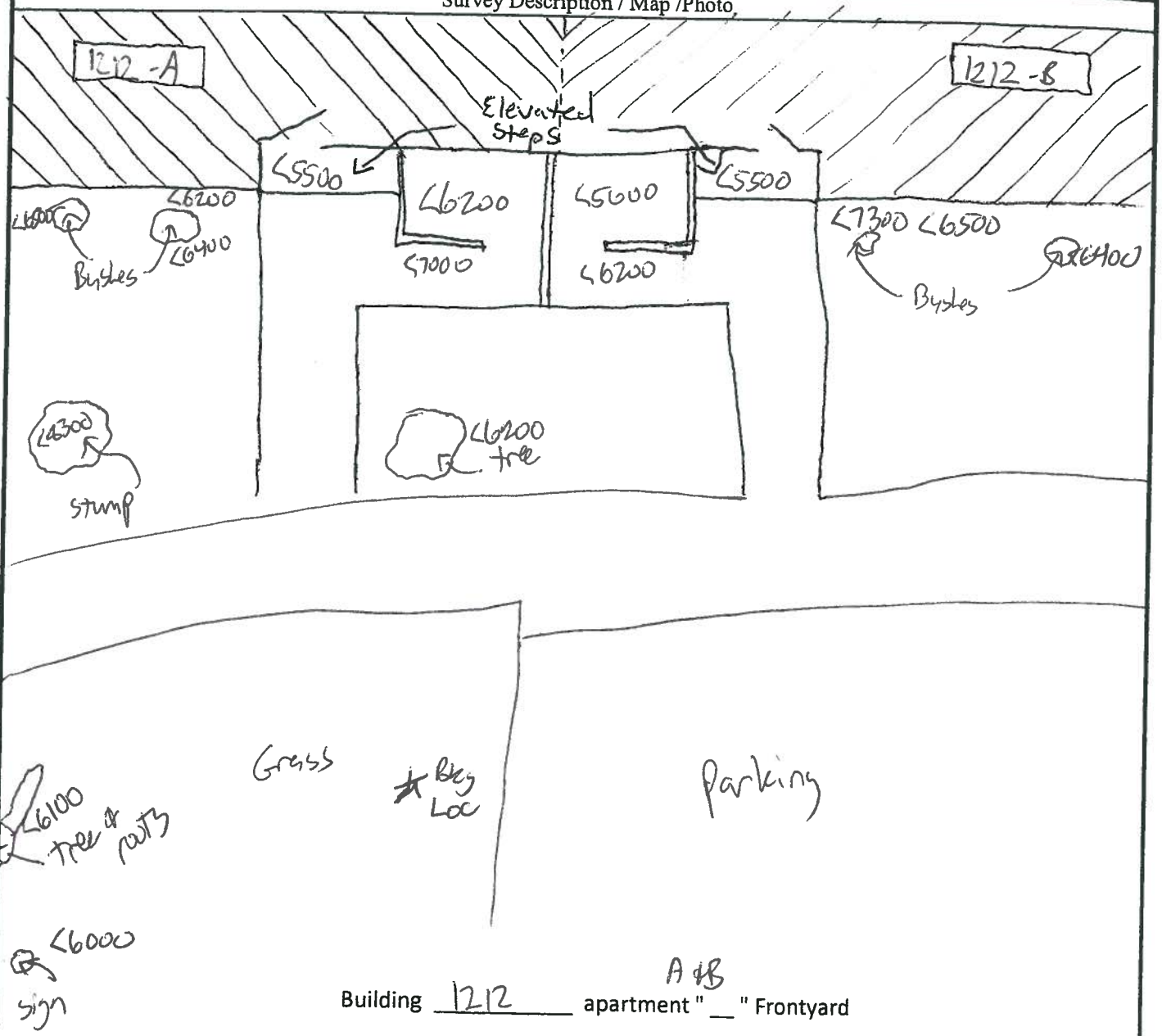
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-043	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Cranford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR9768	8/21/14	N/A	N/A	5421	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1212 apartment "A & B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

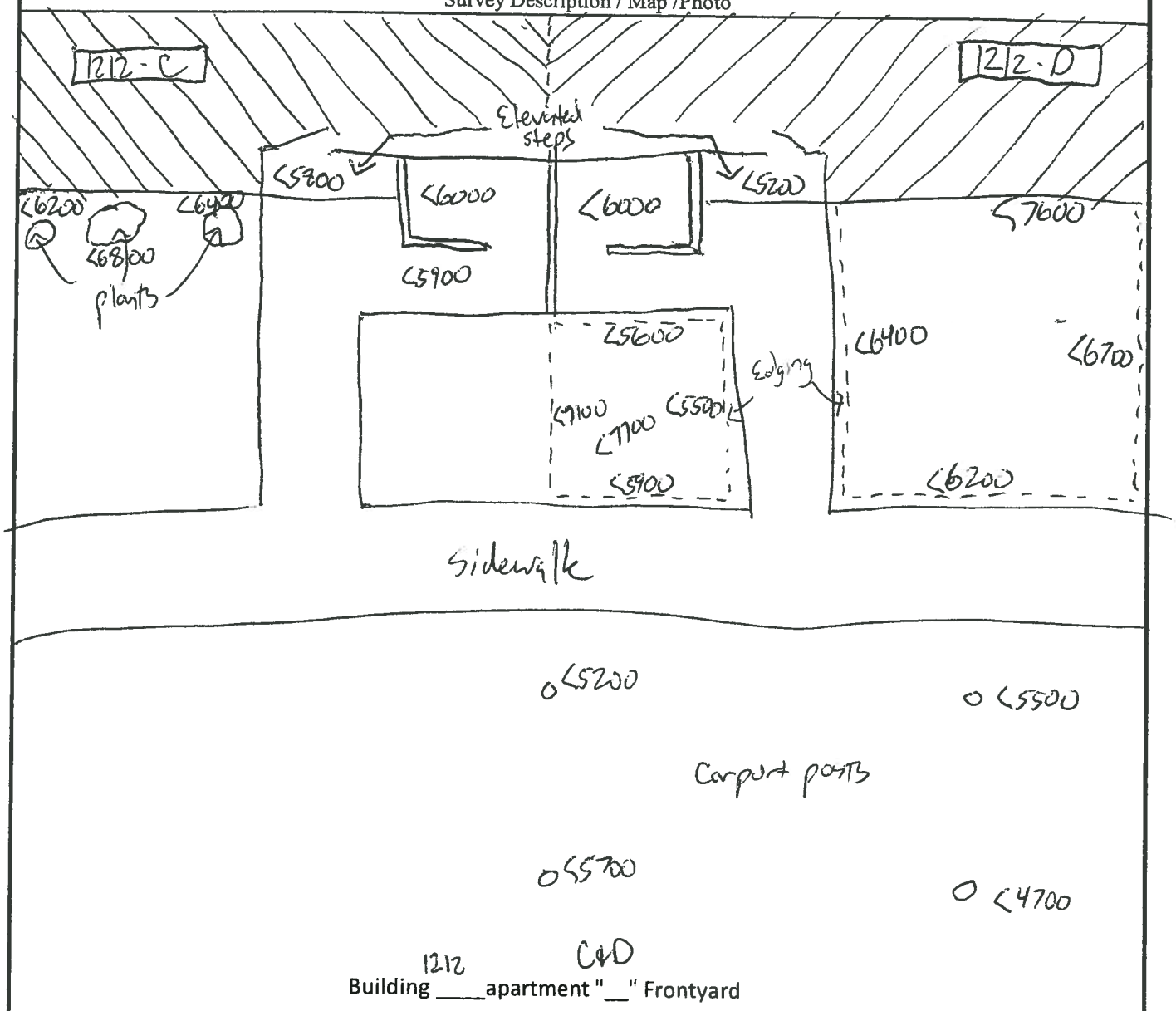
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-043	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1212 apartment "C&D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

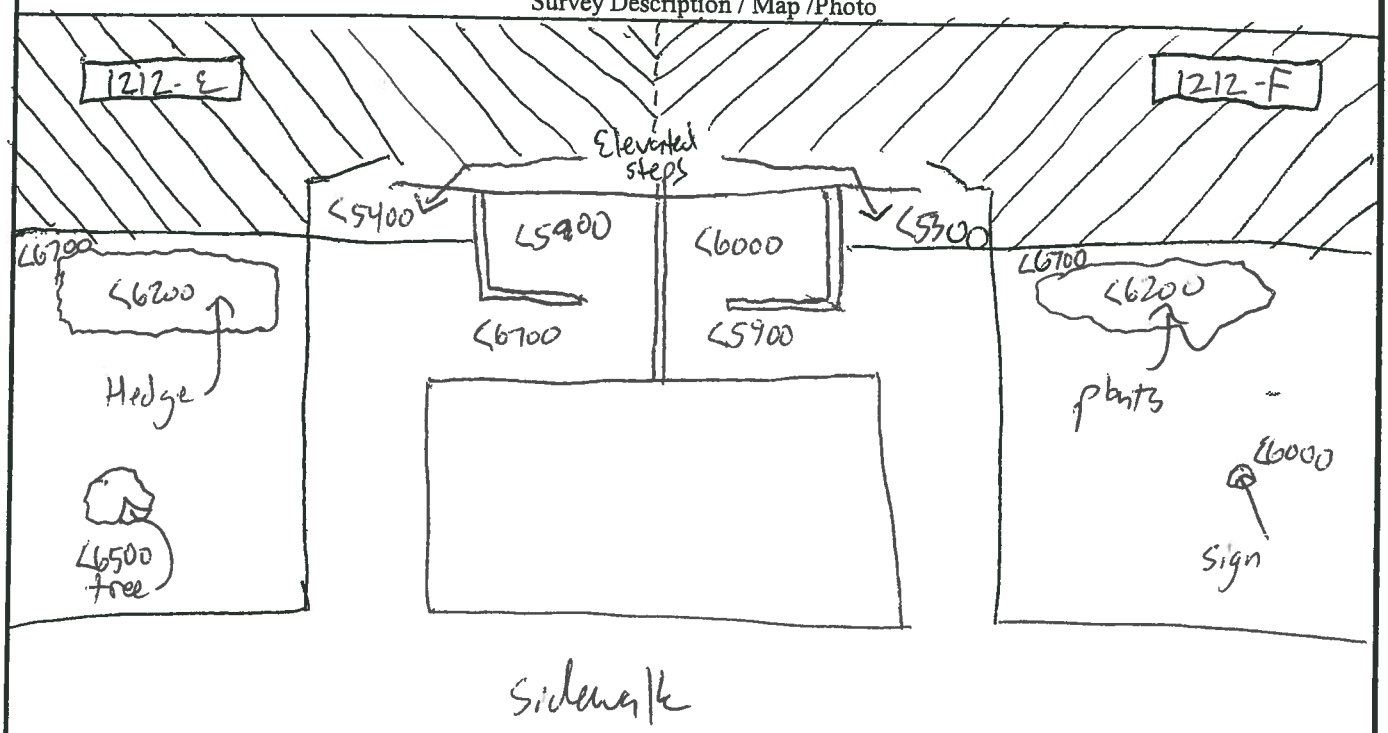
Gilbane

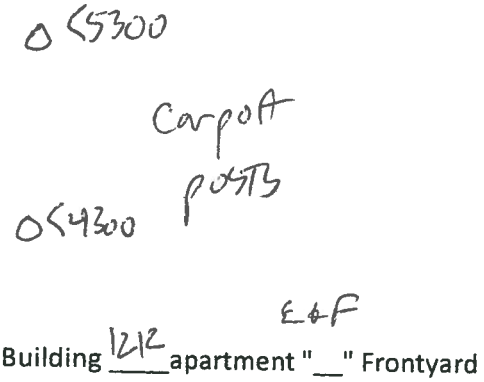
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-043	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo





Building 1212 apartment "E+F" Frontyard

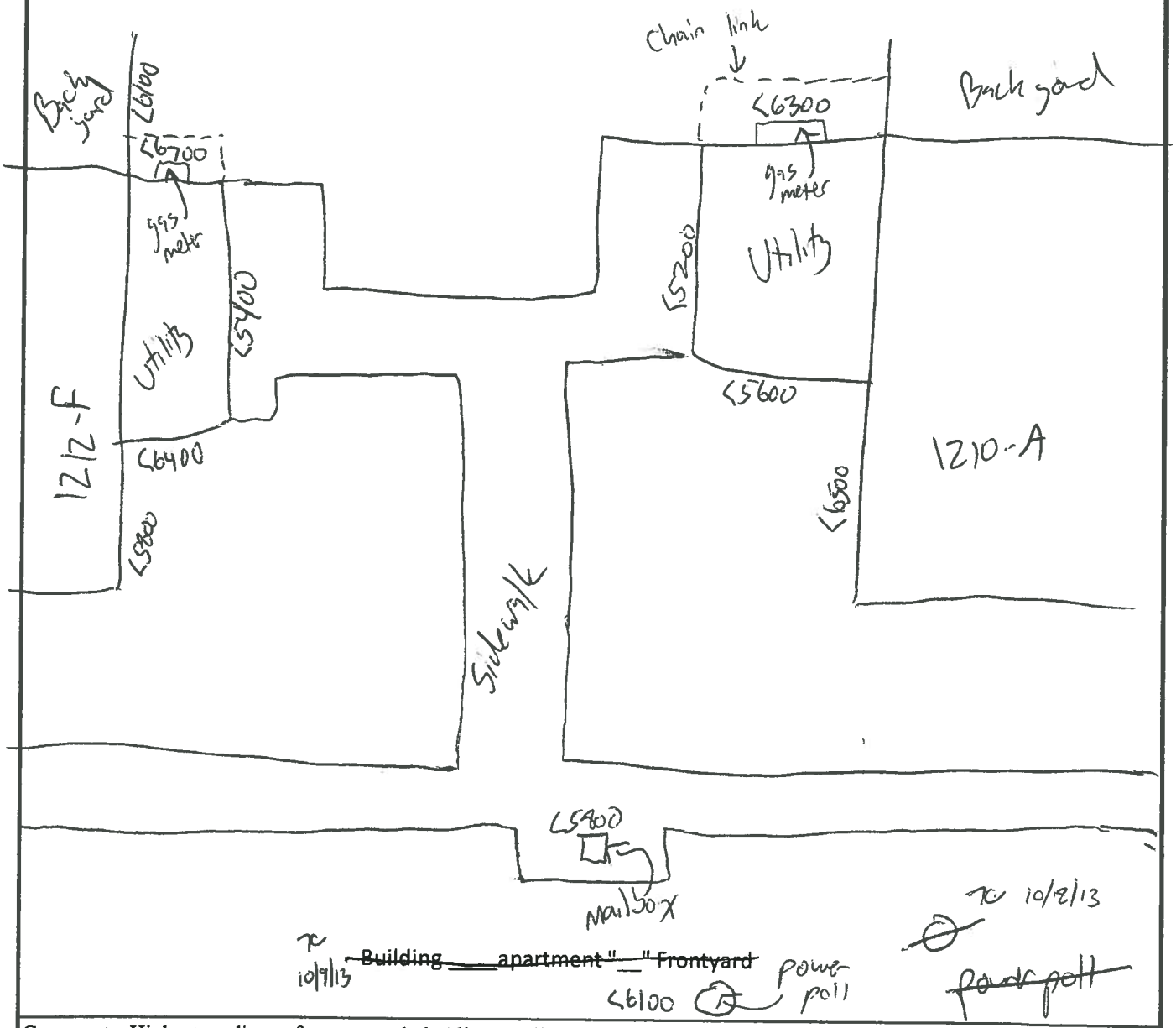
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-043	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

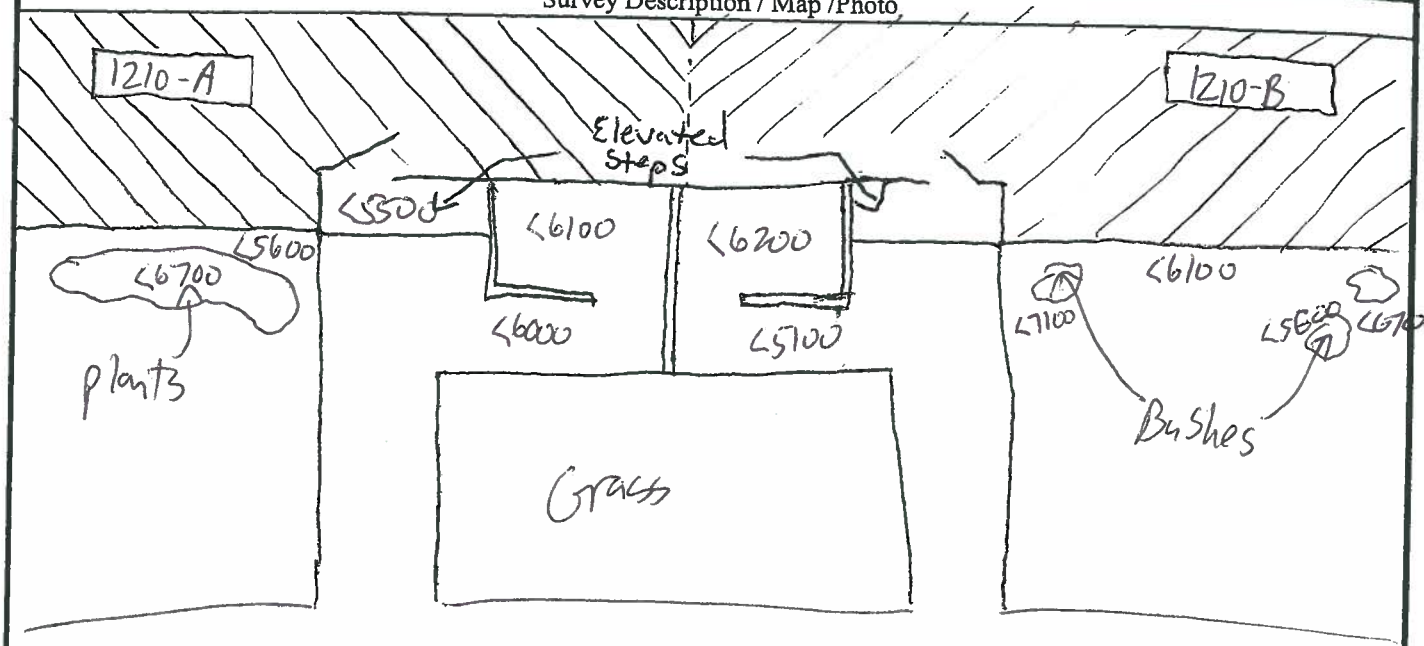
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

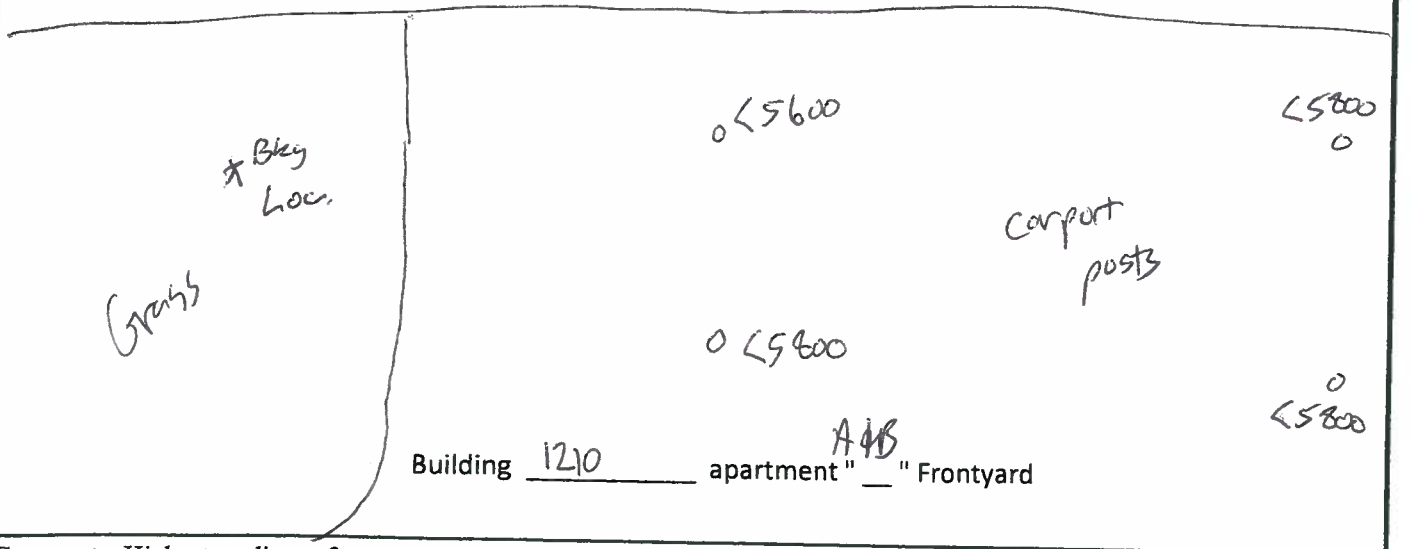
Survey No.: 06-12-044	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR 19768	8/21/14	N/A	N/A	5673	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo





Building 1210 apartment "A&B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

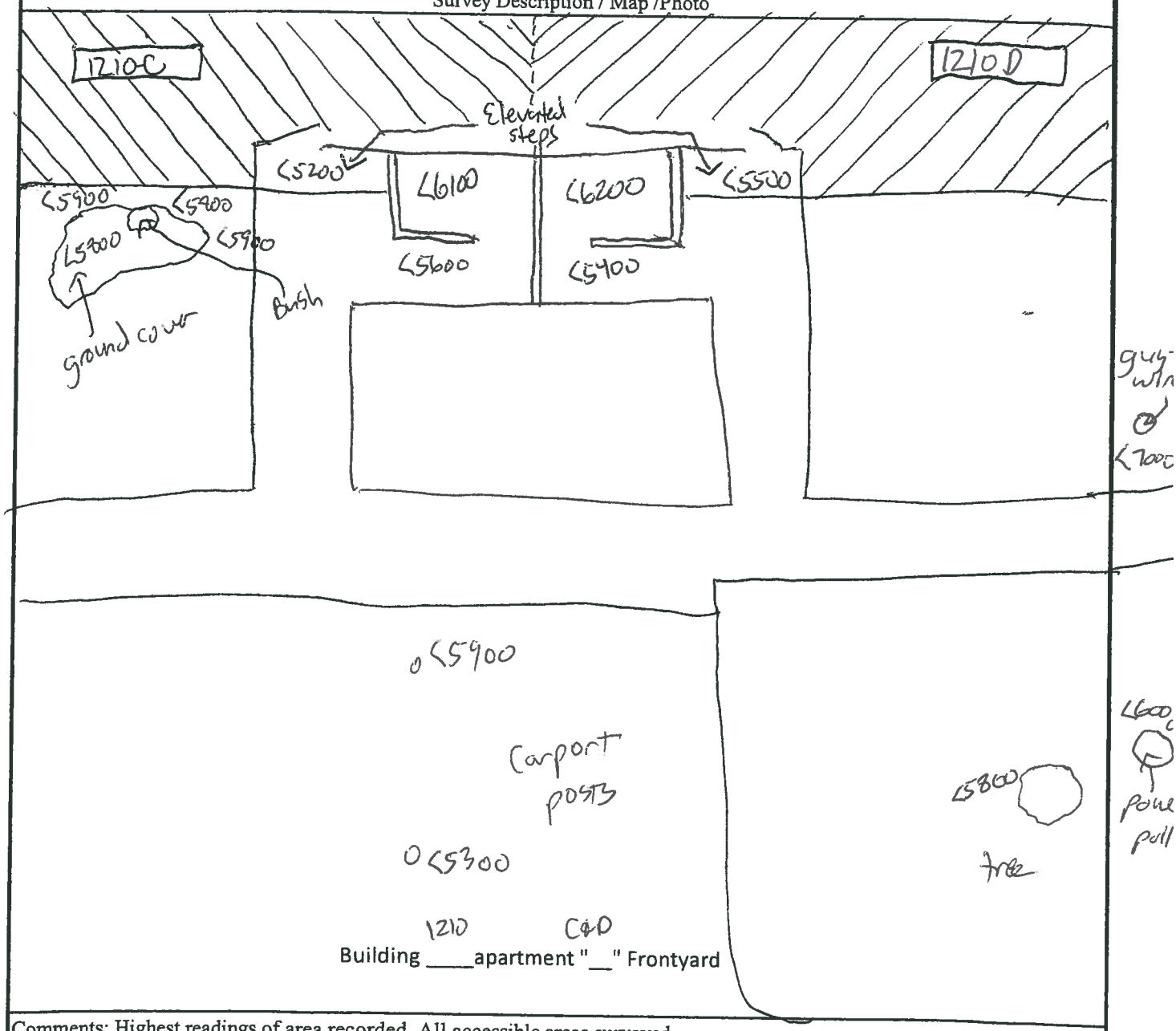
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 044	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

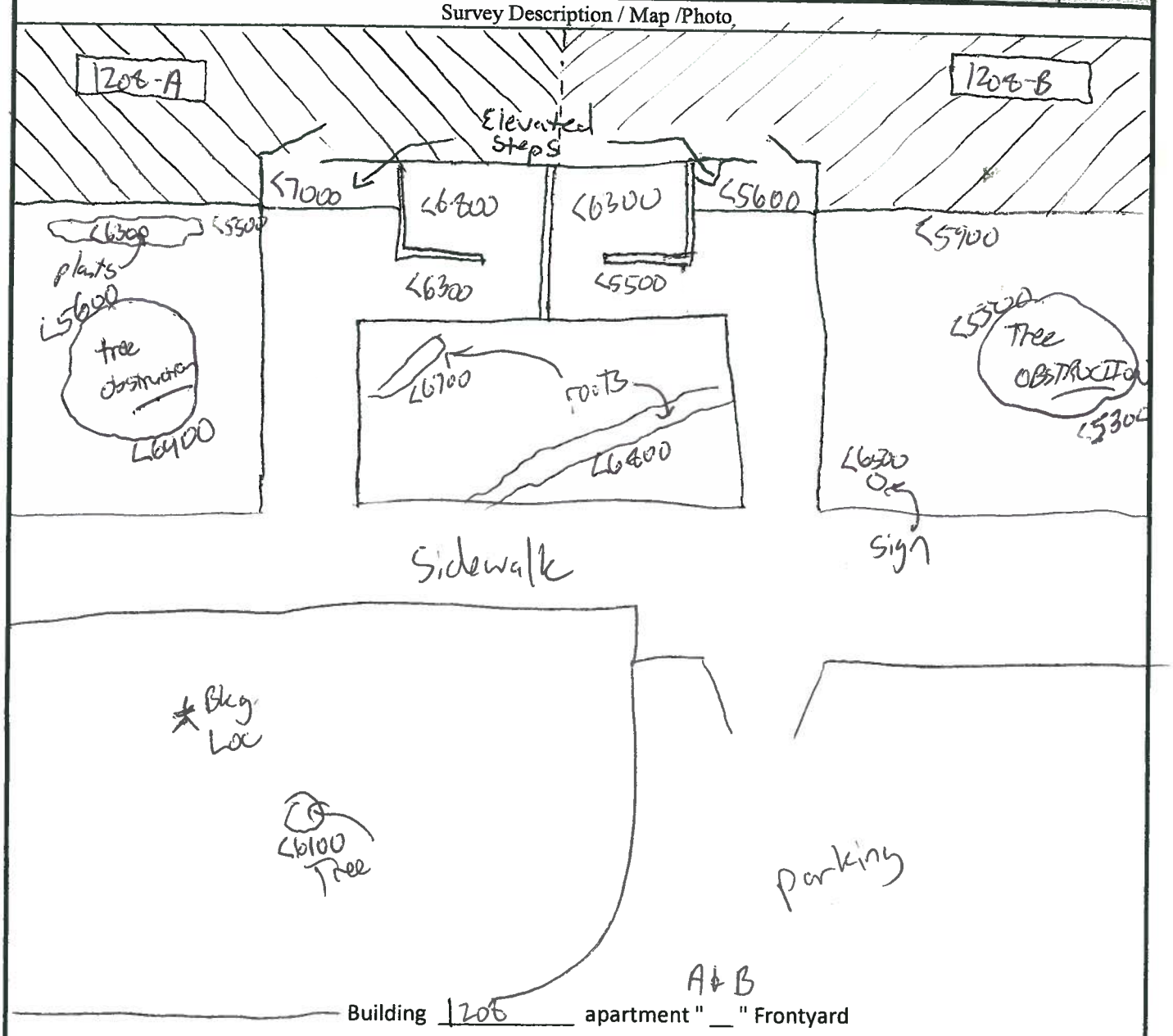
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-045	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR19766	8/21/14	N/A	N/A	5502	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1208 apartment " __ " Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Rev 10-10-13

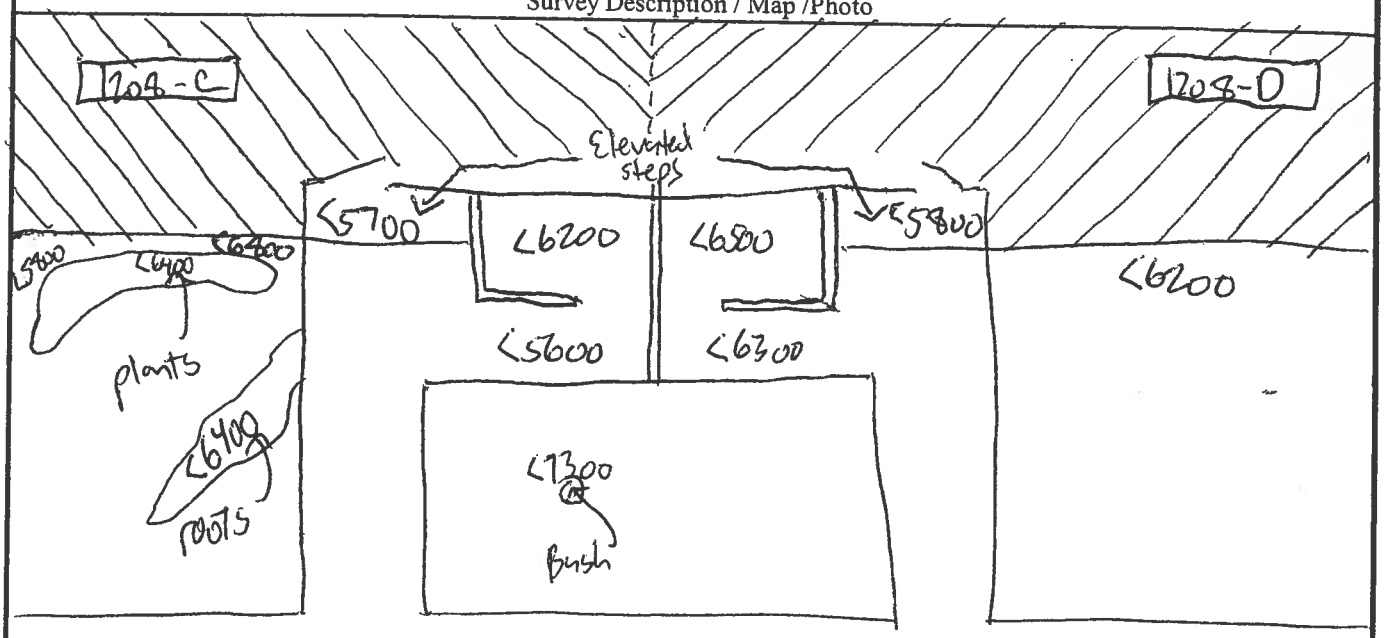
Gilbane

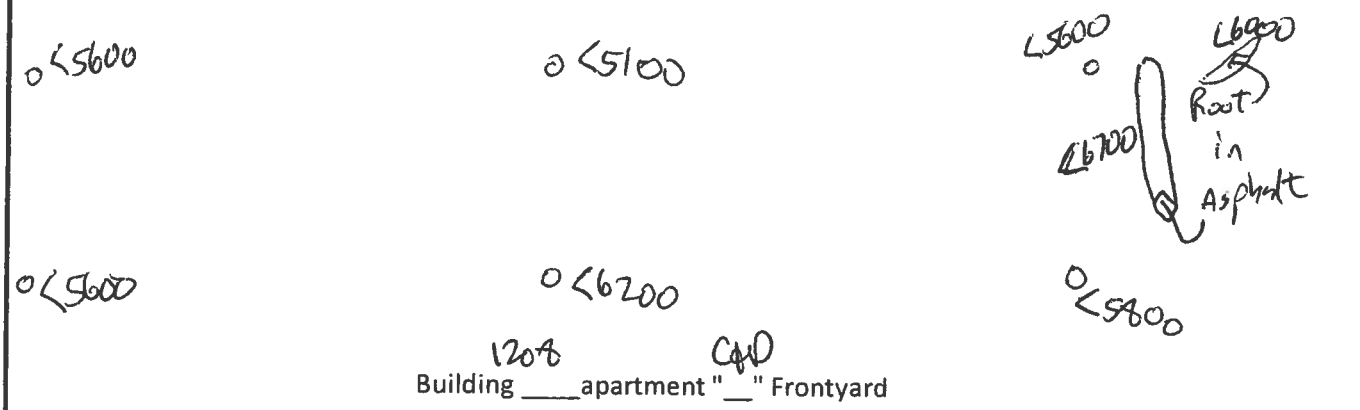
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-045	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo





Building 1208 apartment "C&D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

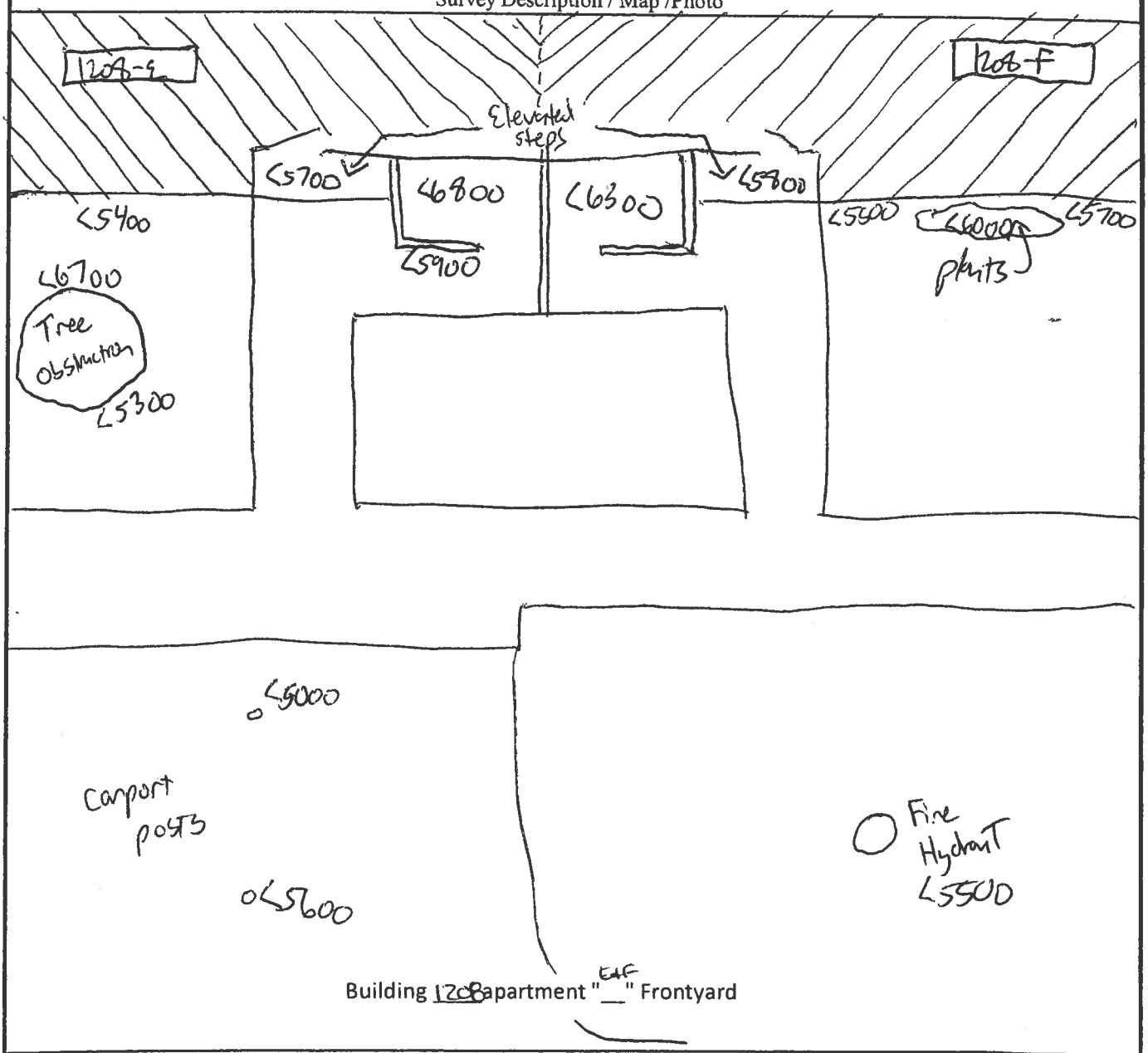
Rev. 10/10/13

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-045	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

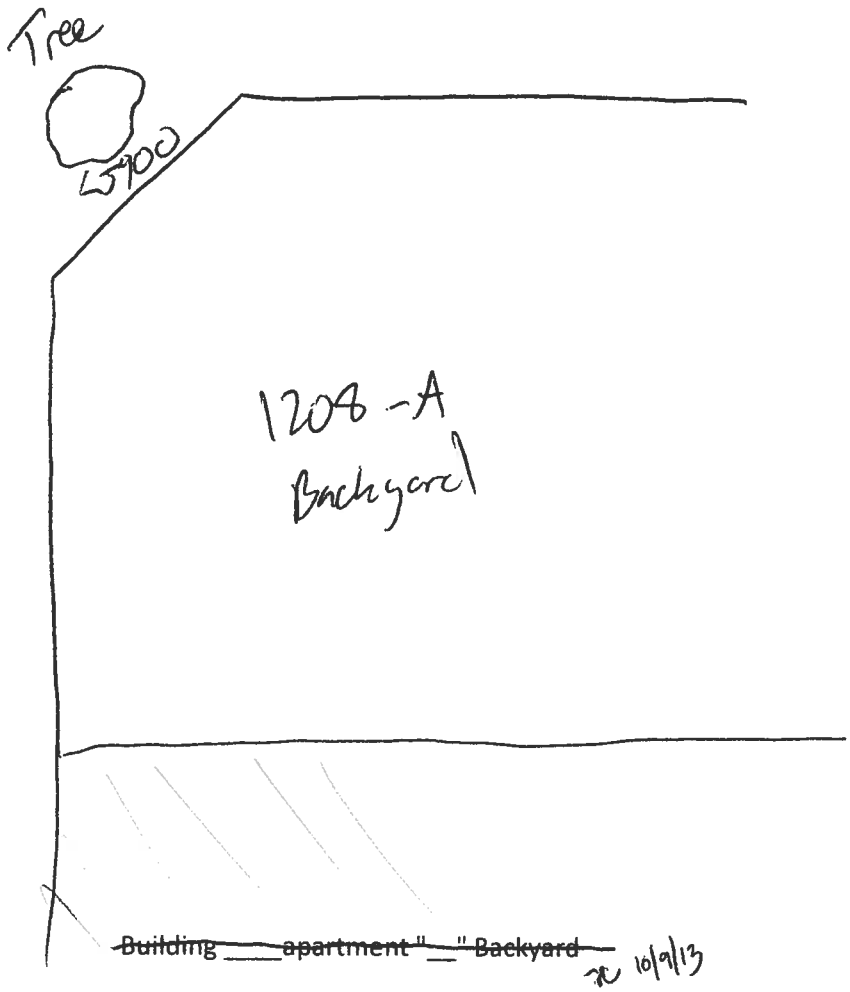
PW10/10/13

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12- 045	Date: 10/9/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



10/9/13

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

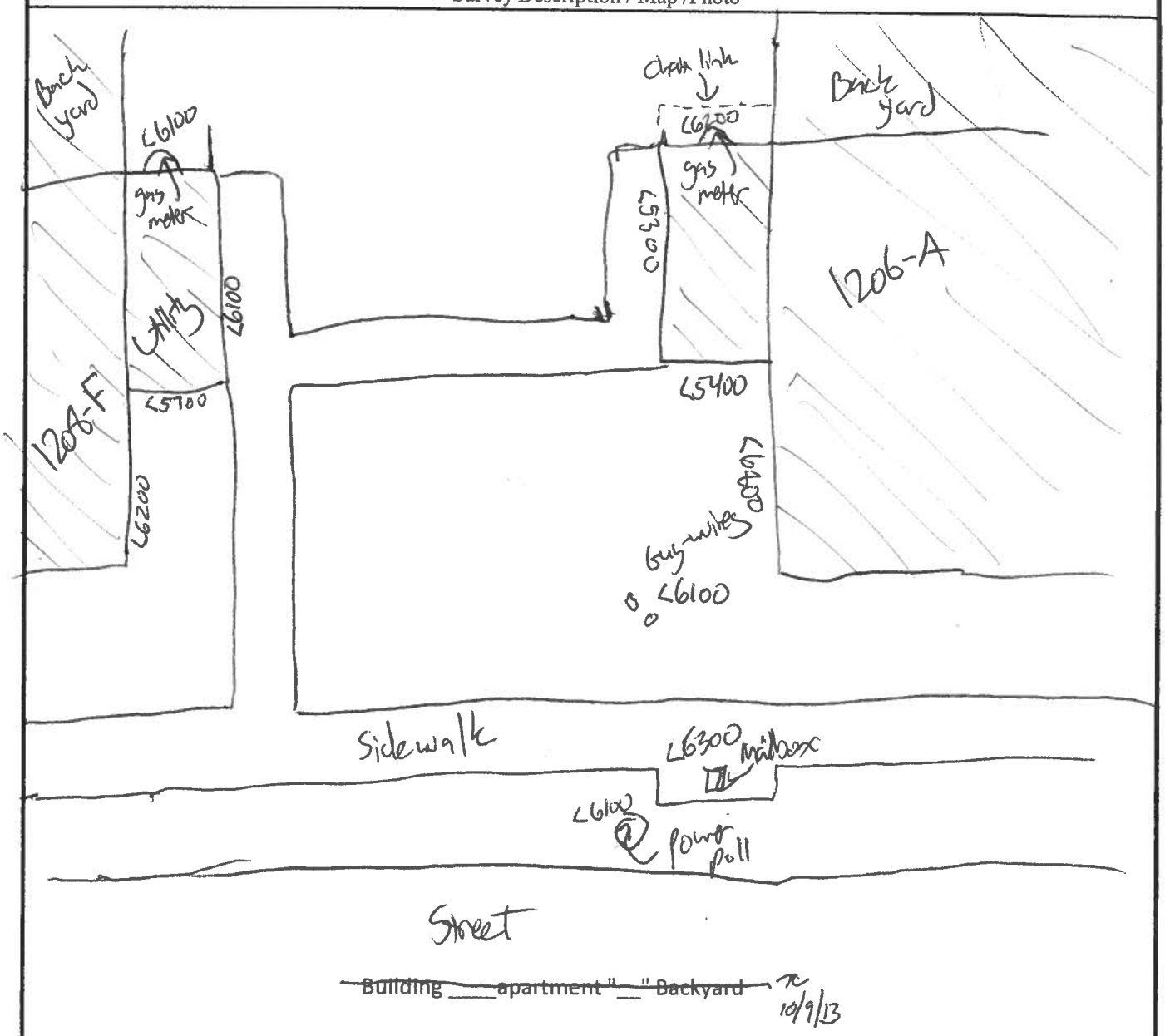
AW 10/10/13

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-045	Date:	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



~~Building ____ apartment "__" Backyard~~ 10/9/13

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

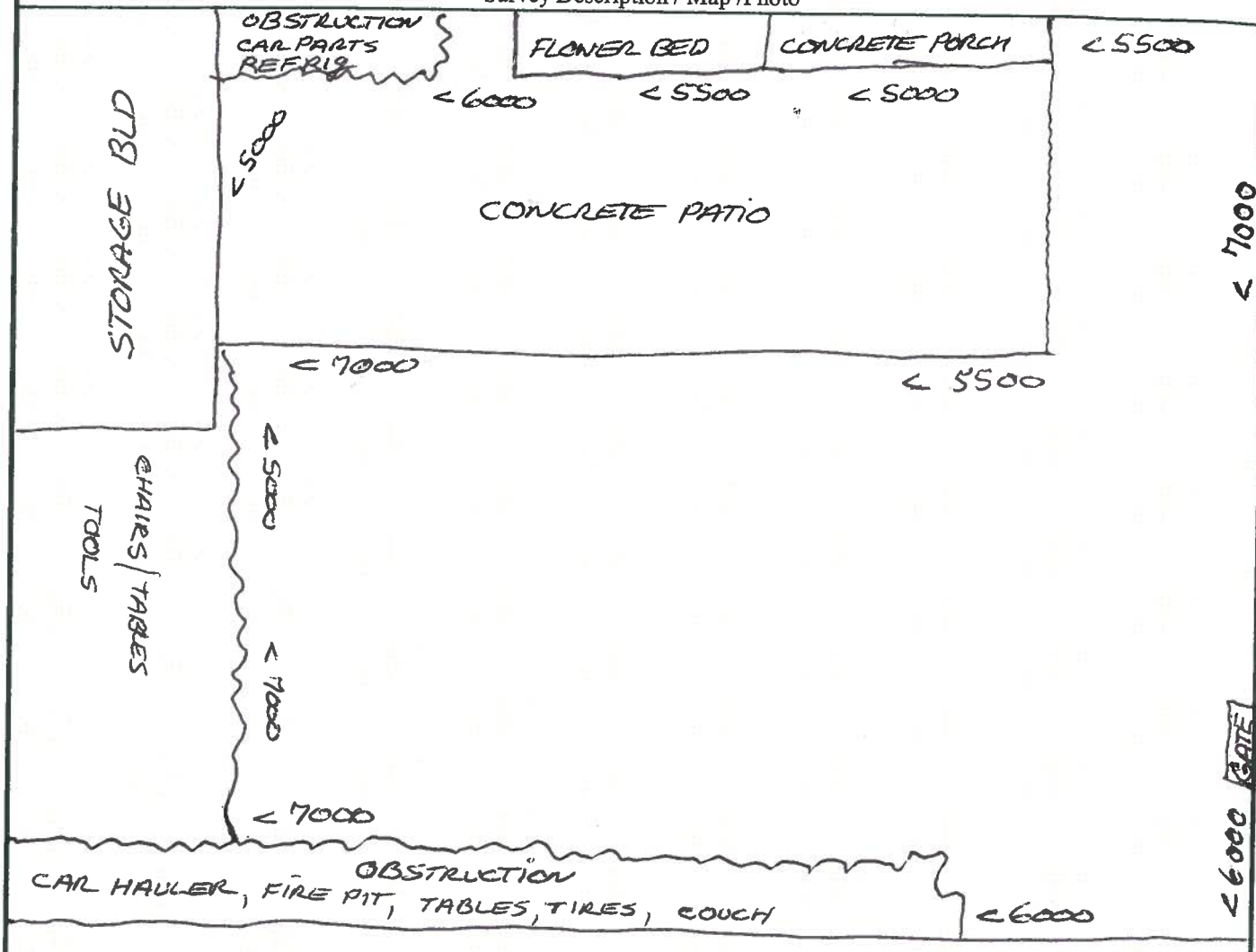
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-046	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	5922	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1208 apartment " A " Backyard

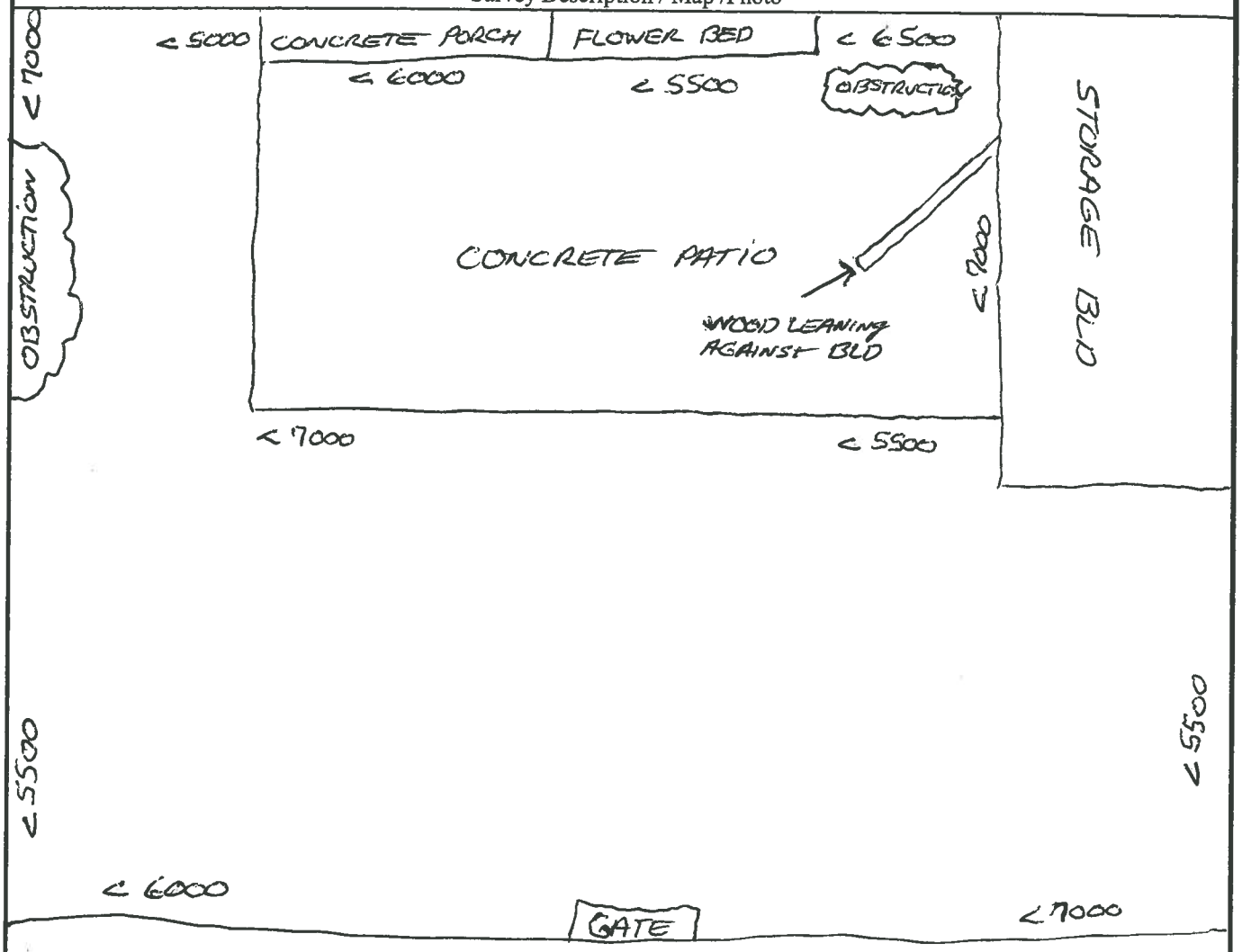
Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-046	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1208 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

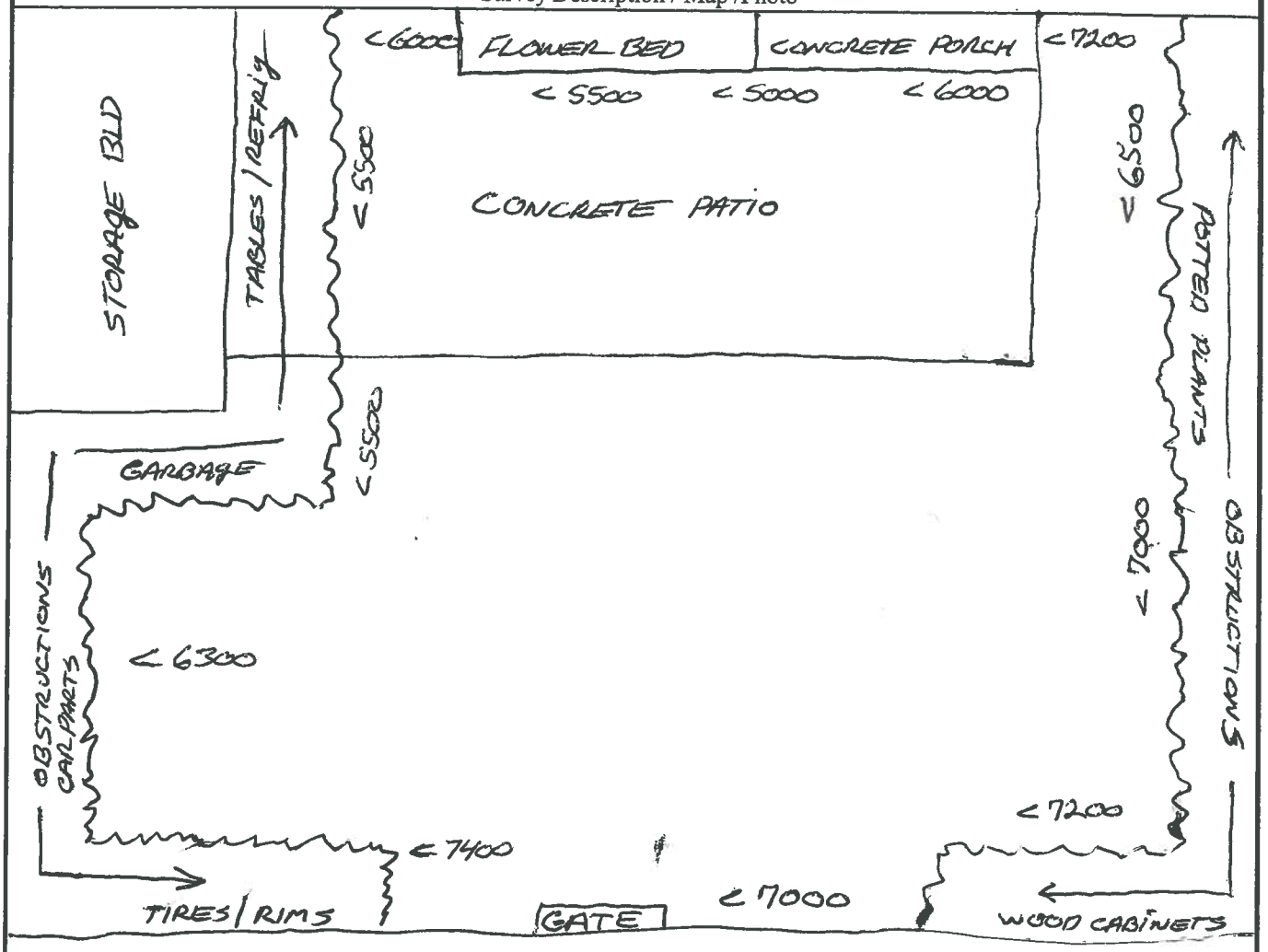
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-046	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1208 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

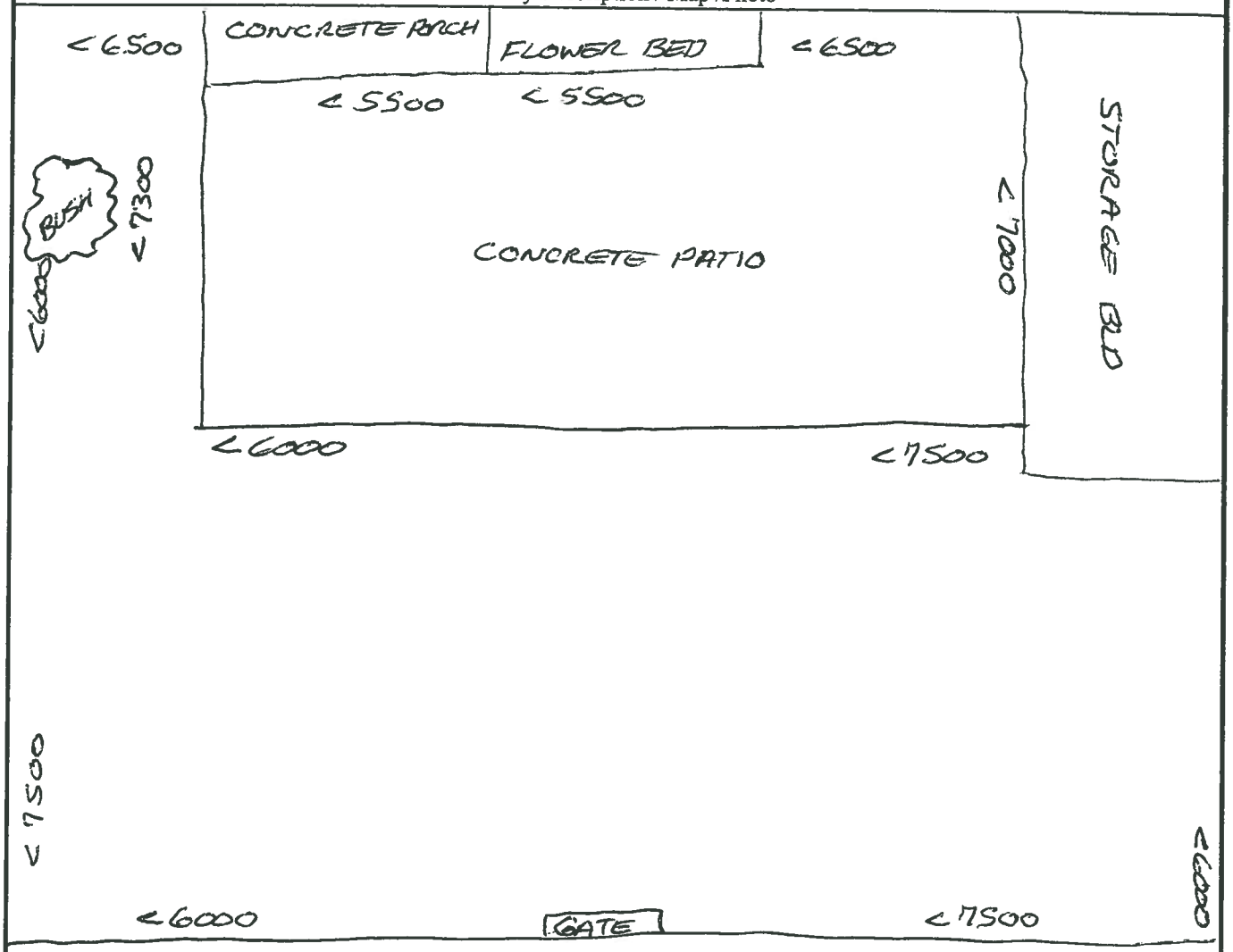
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 046	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 12cB apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

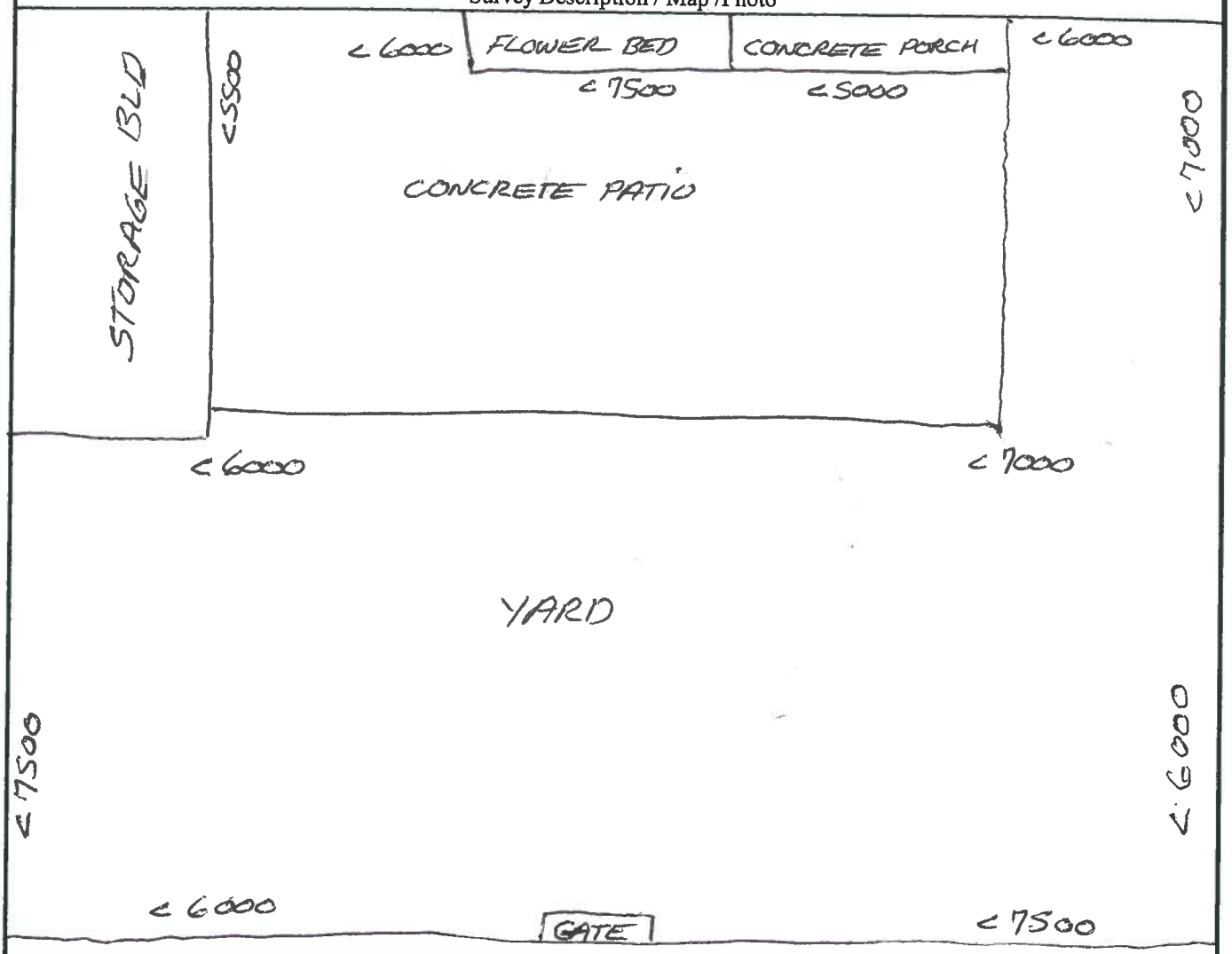
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-046	Date: 10.9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 12C apartment "E" Backyard

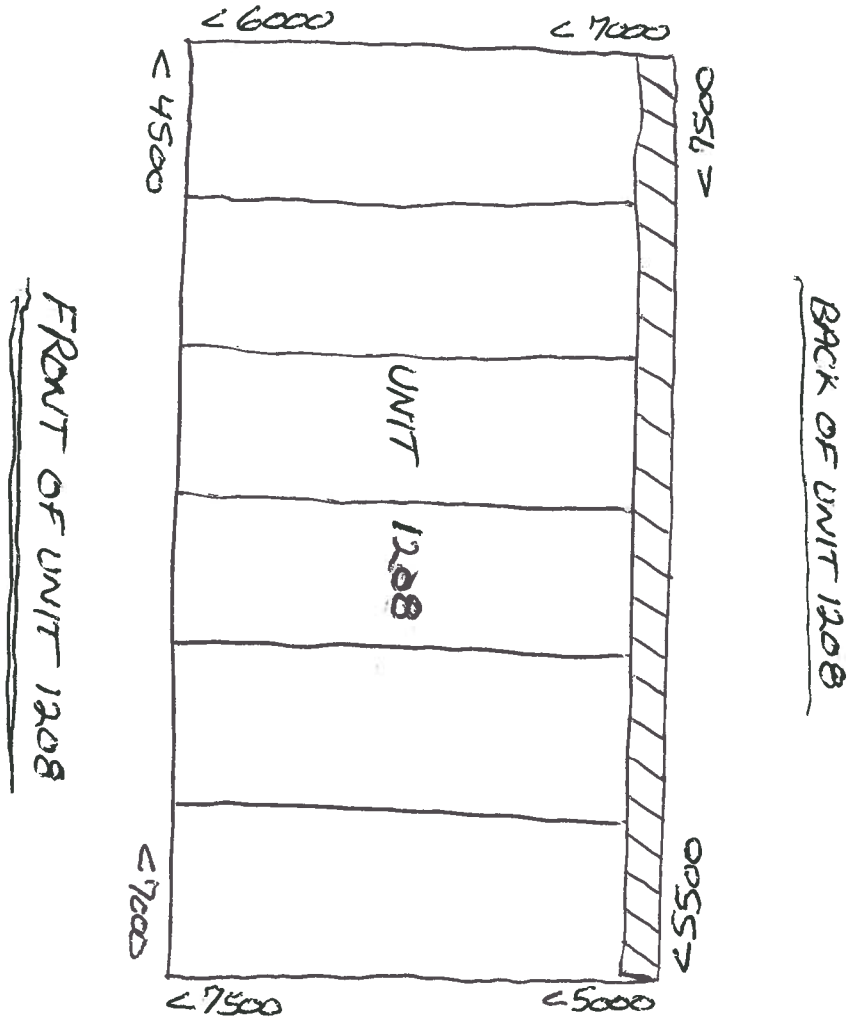
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 046	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1208 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

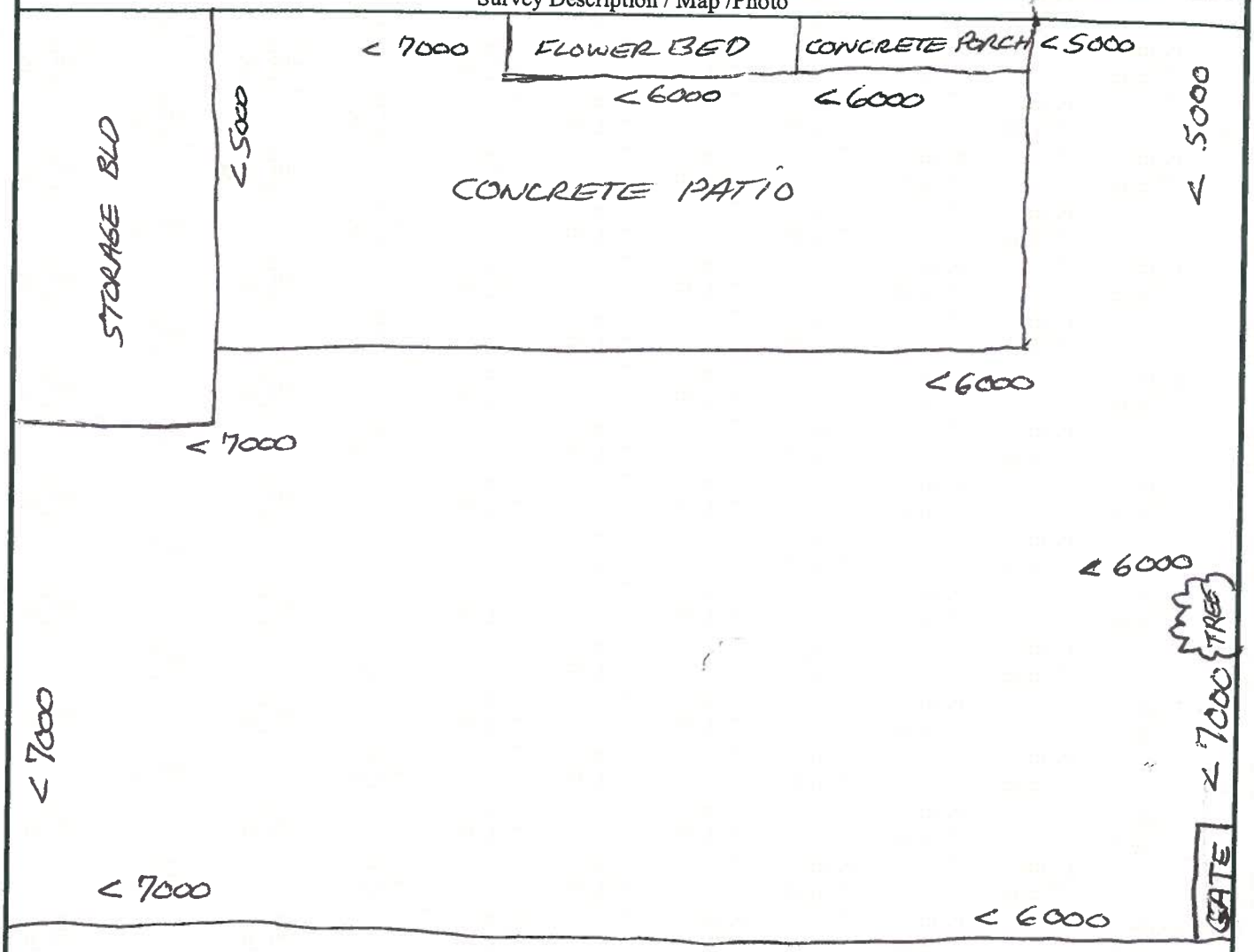
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-047	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6013	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1212 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

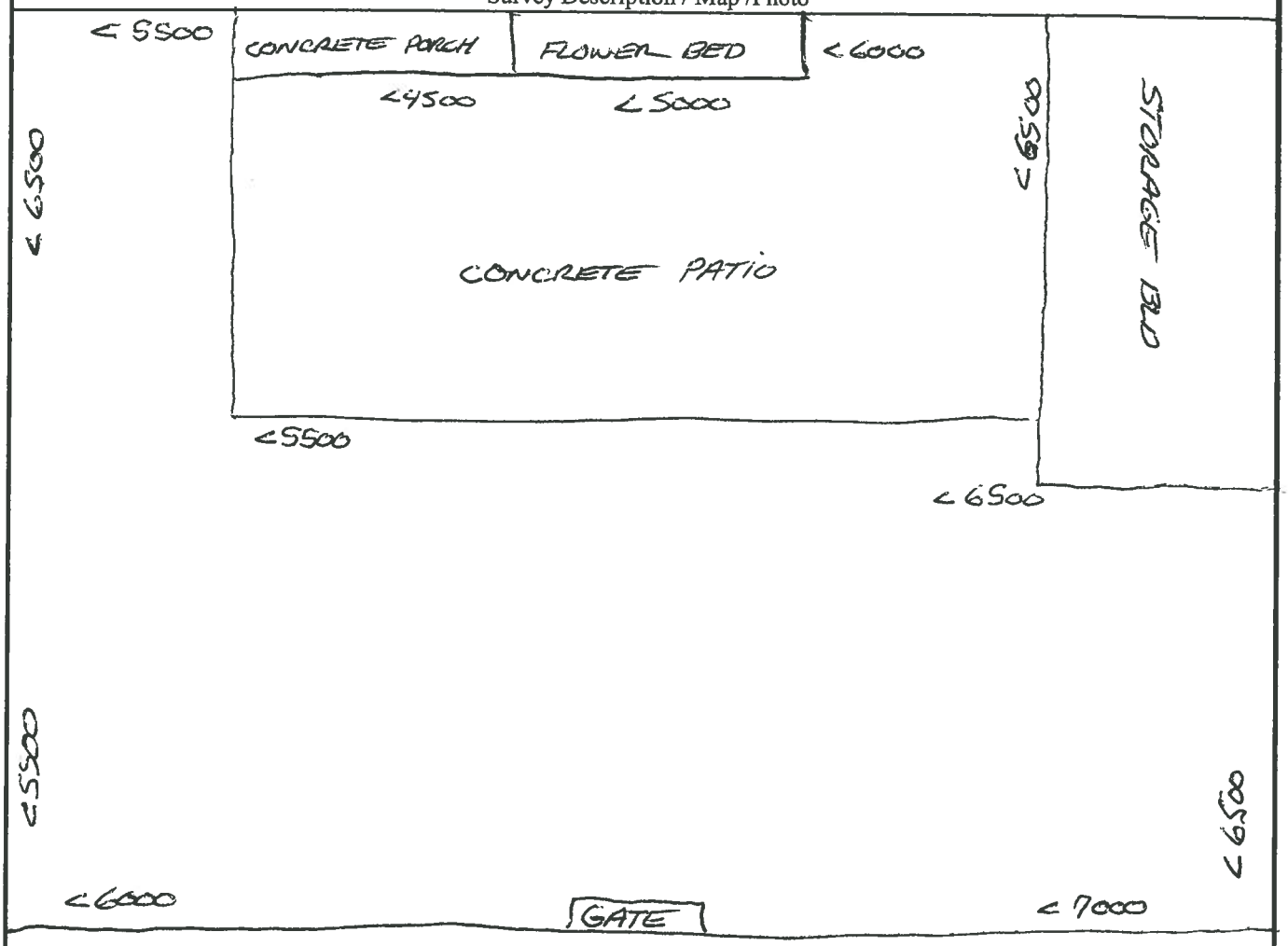
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-047	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1212 apartment "B" Backyard

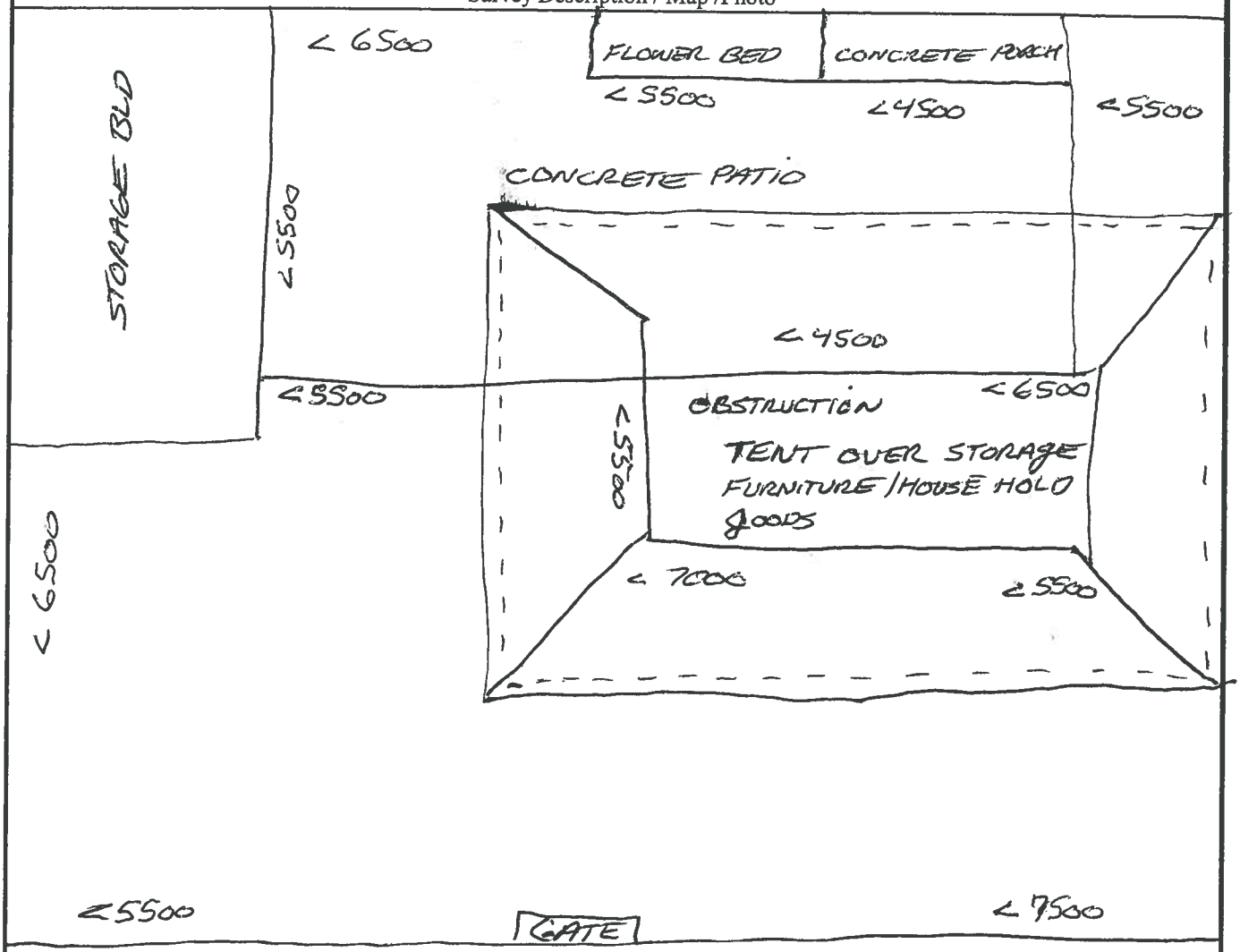
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-047	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1212 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

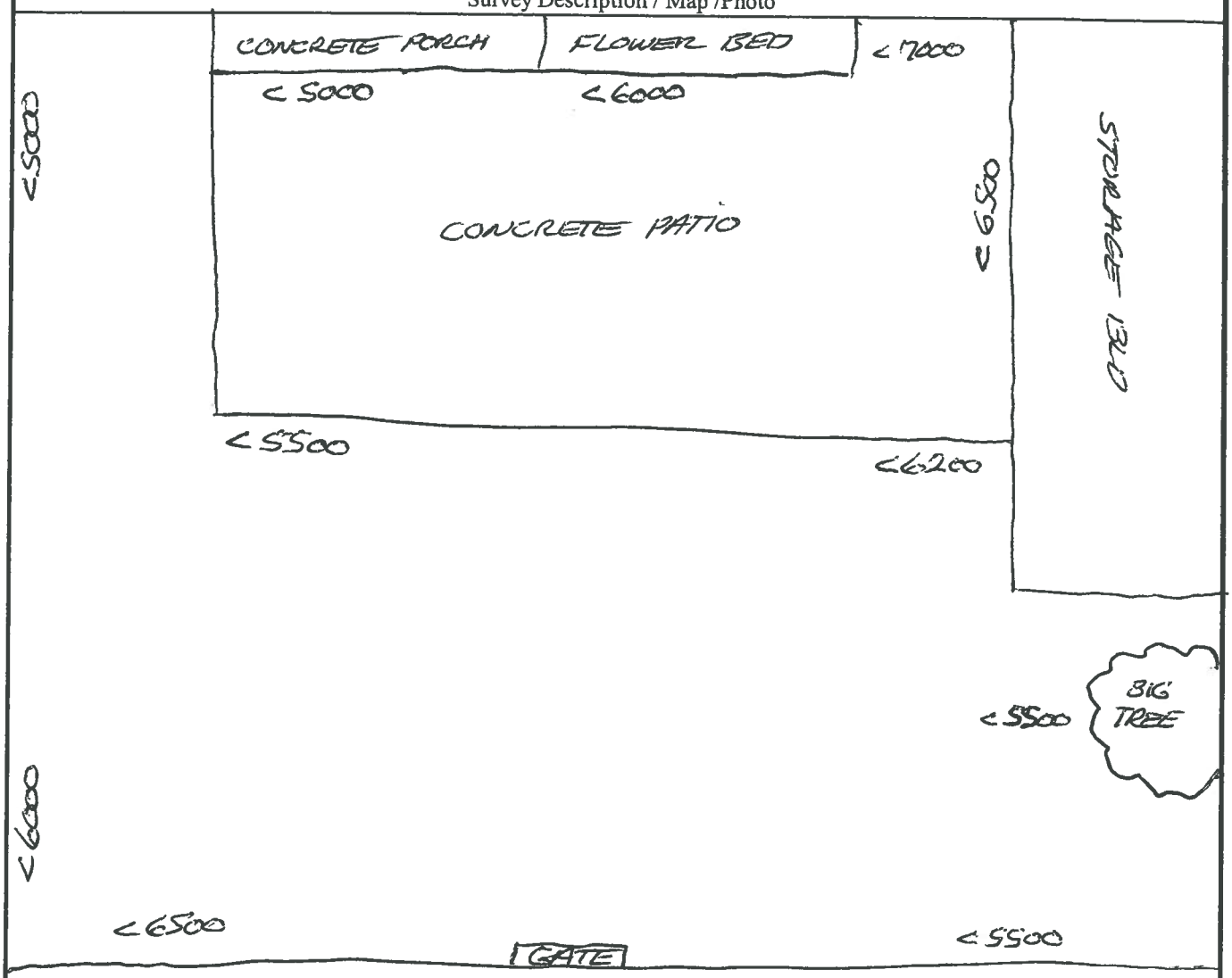
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-047	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 22 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

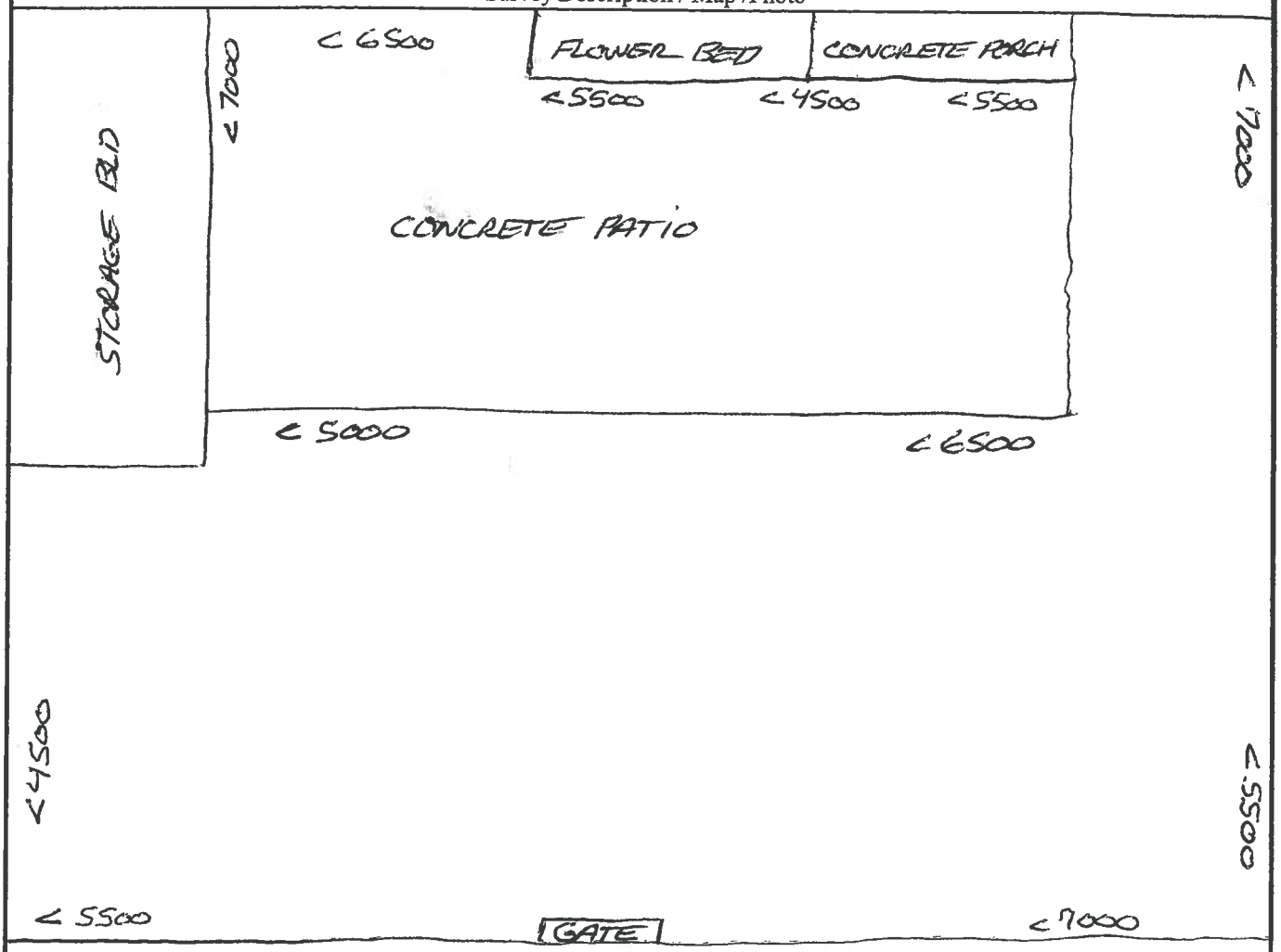
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-047	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1212 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

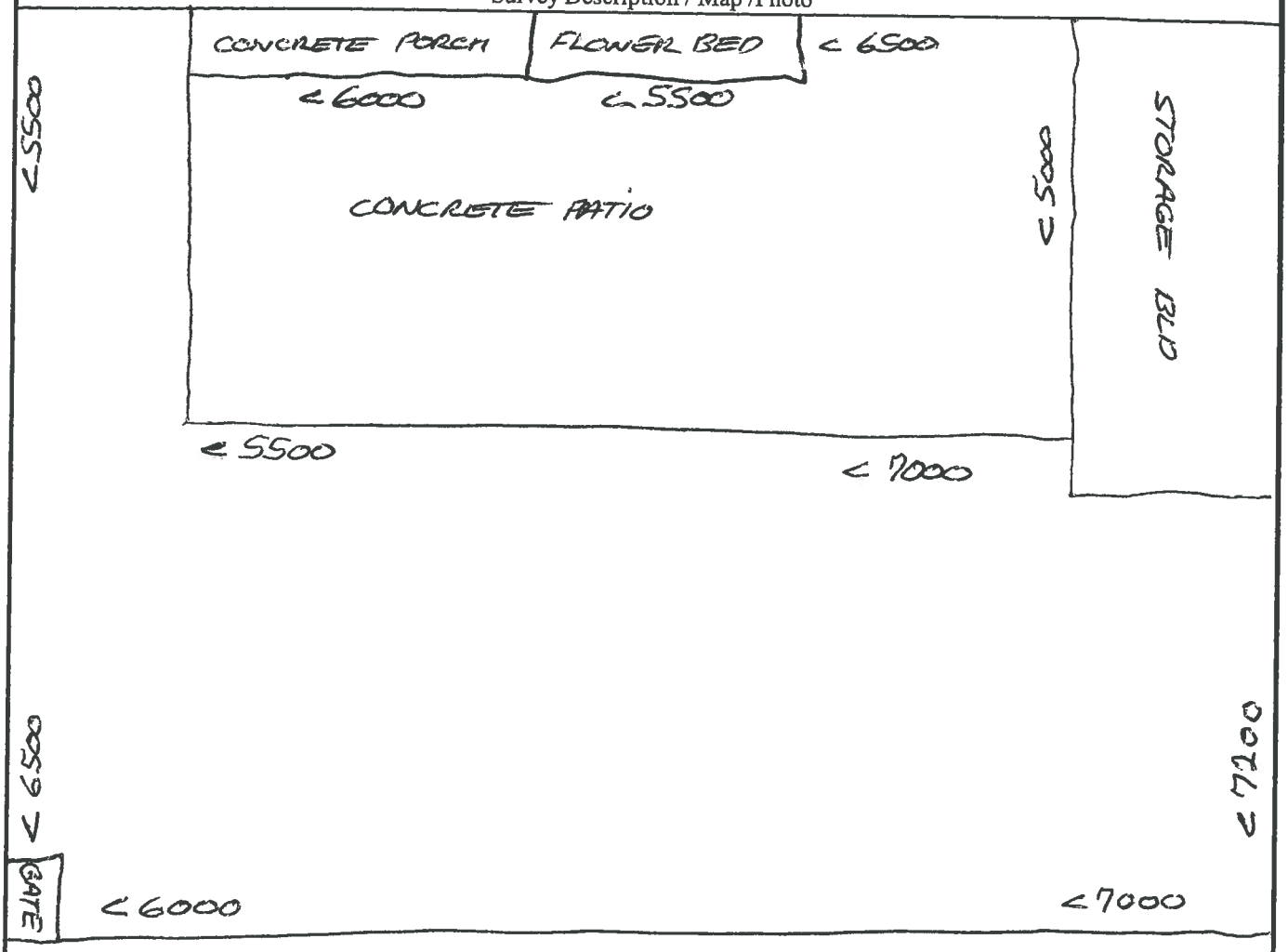
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-047	Date: 10-9-11 13 PW 10-10-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1212 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

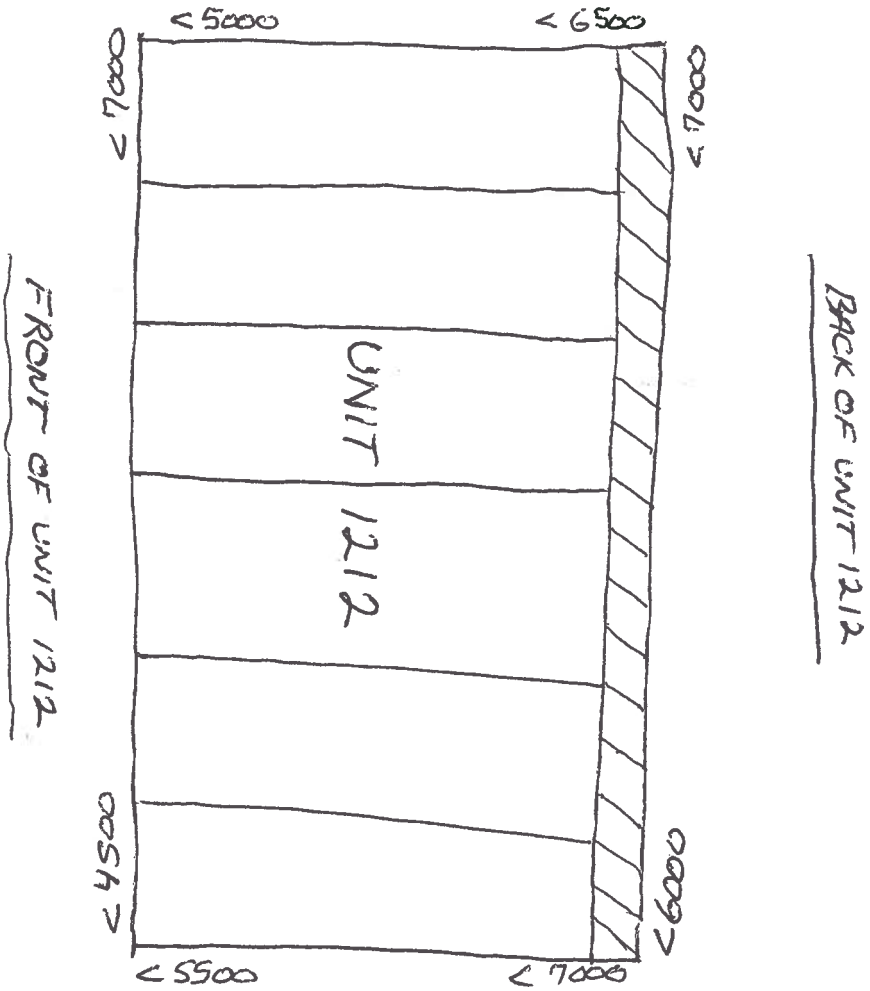
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 047	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1212 apartment "Perimeter" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

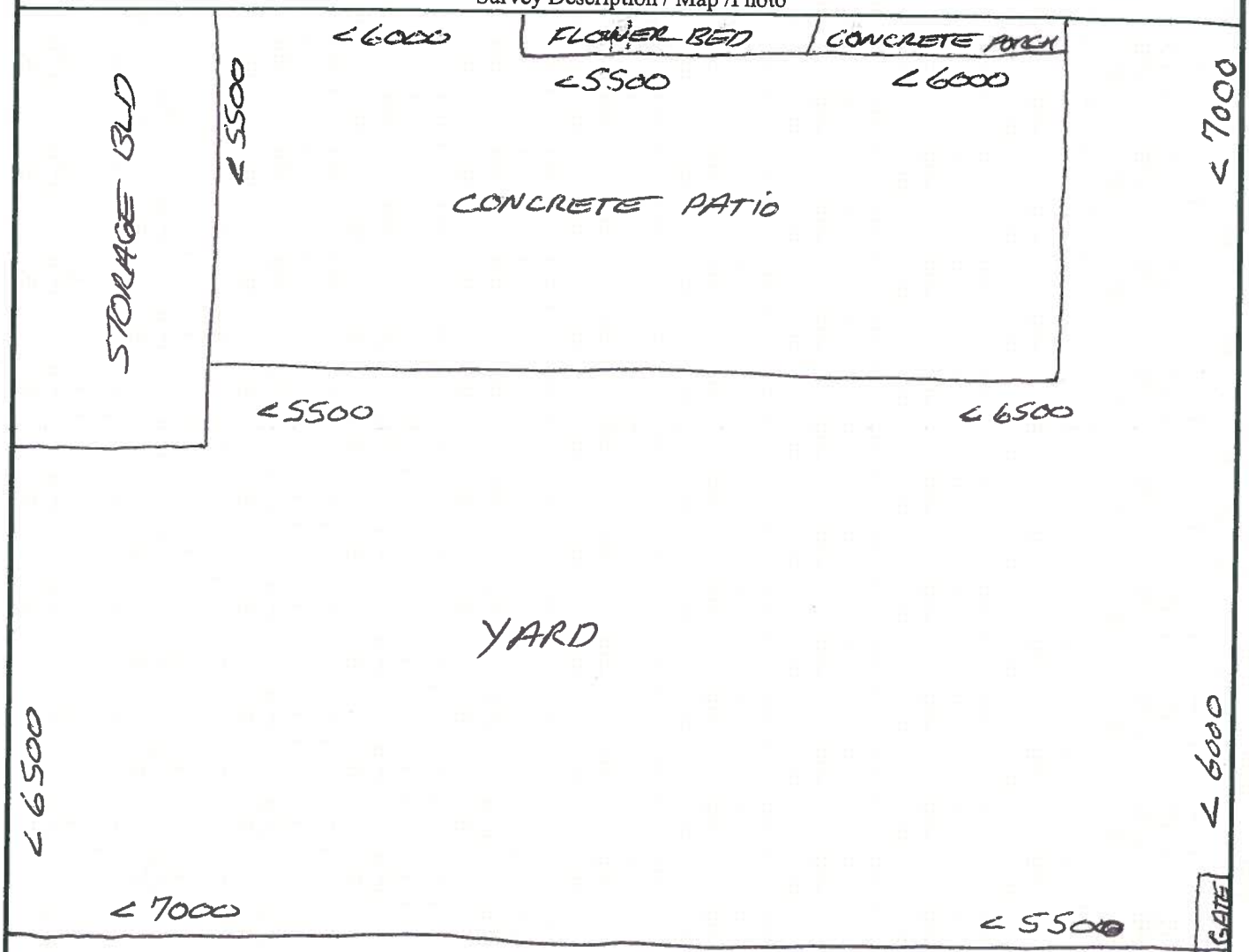
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-048	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N / A	N / A	5976	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1210 apartment " A " Backyard

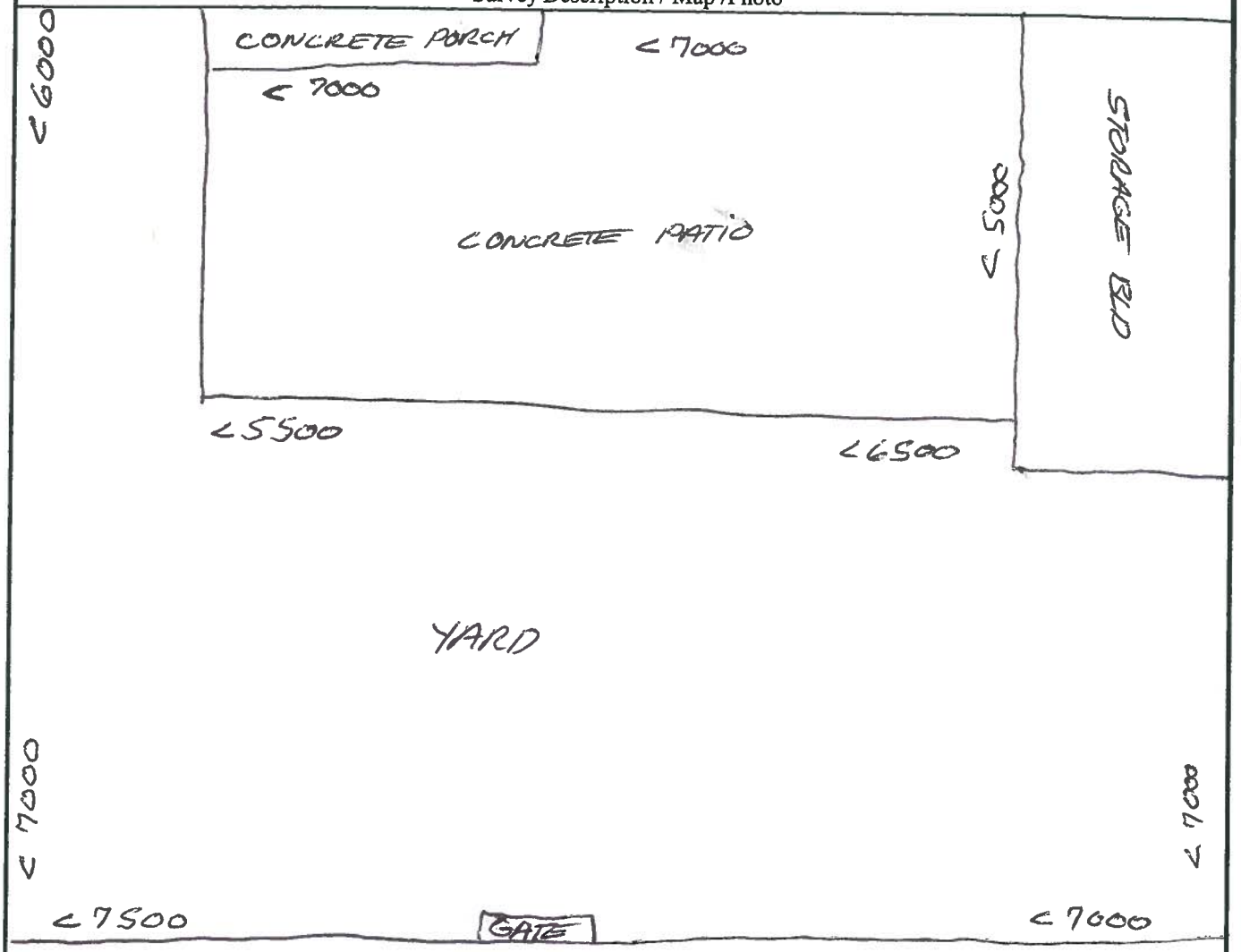
Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-048	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1210 apartment "B" Backyard

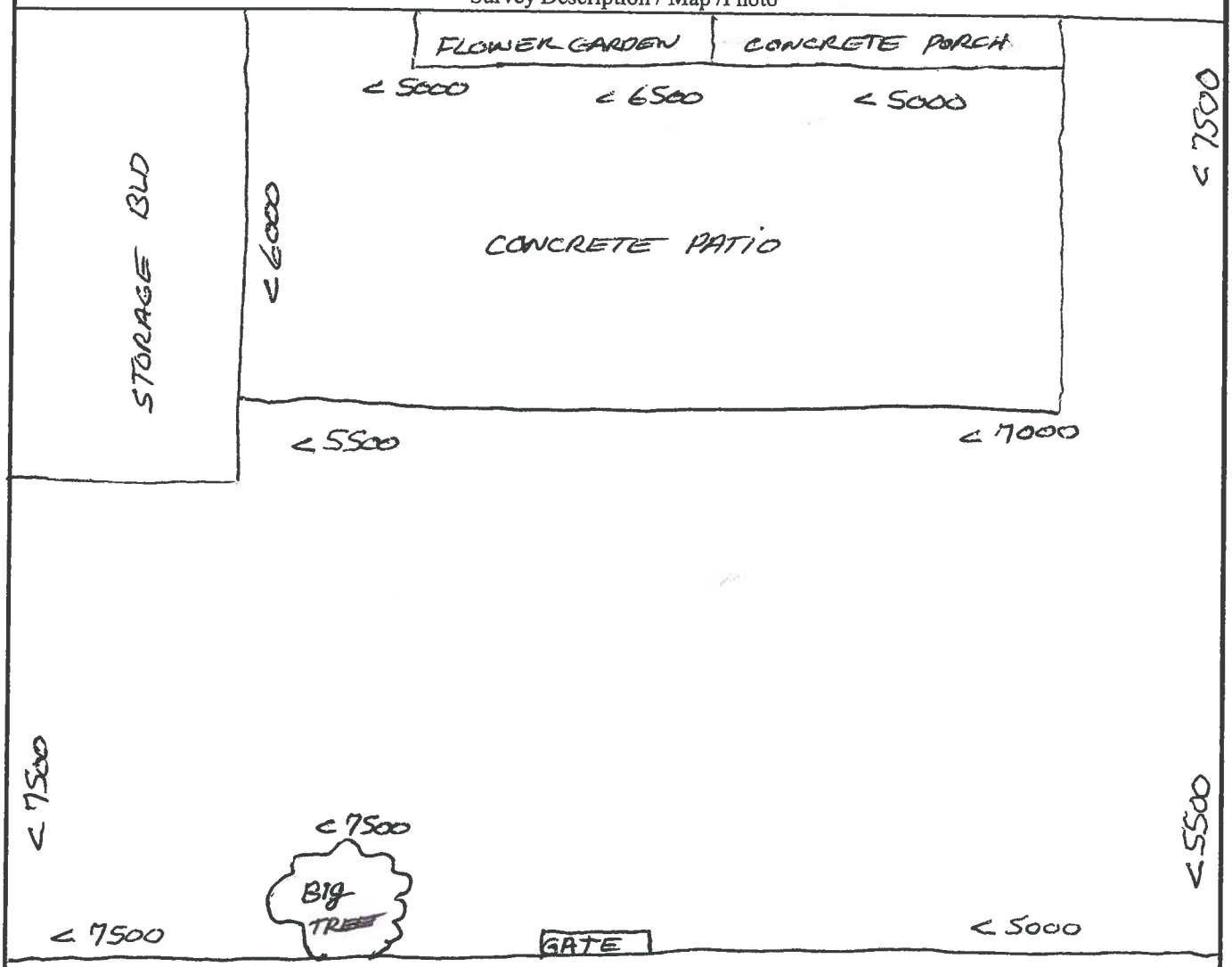
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-048	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1210 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

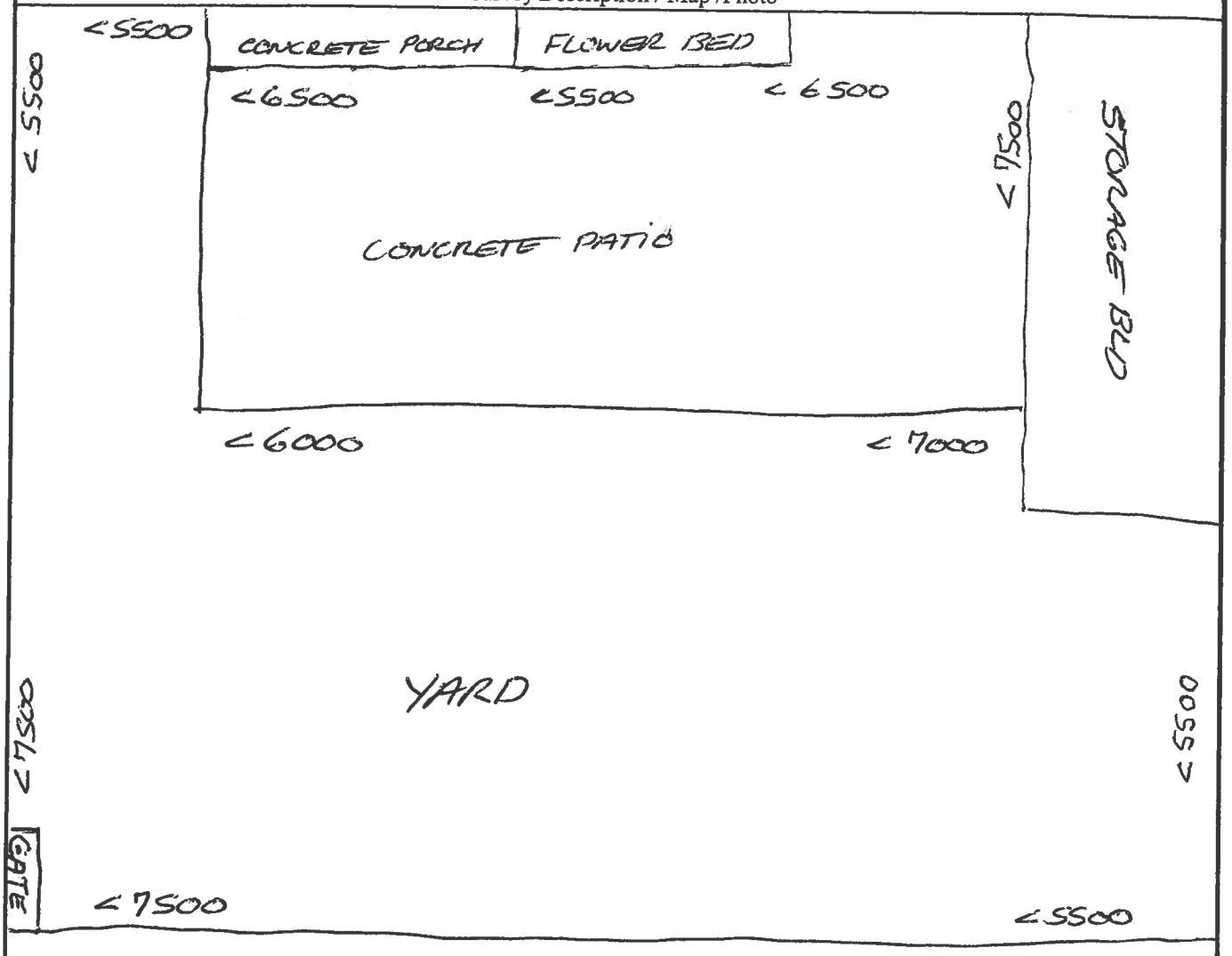
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-048	Date: 10-9-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 120 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

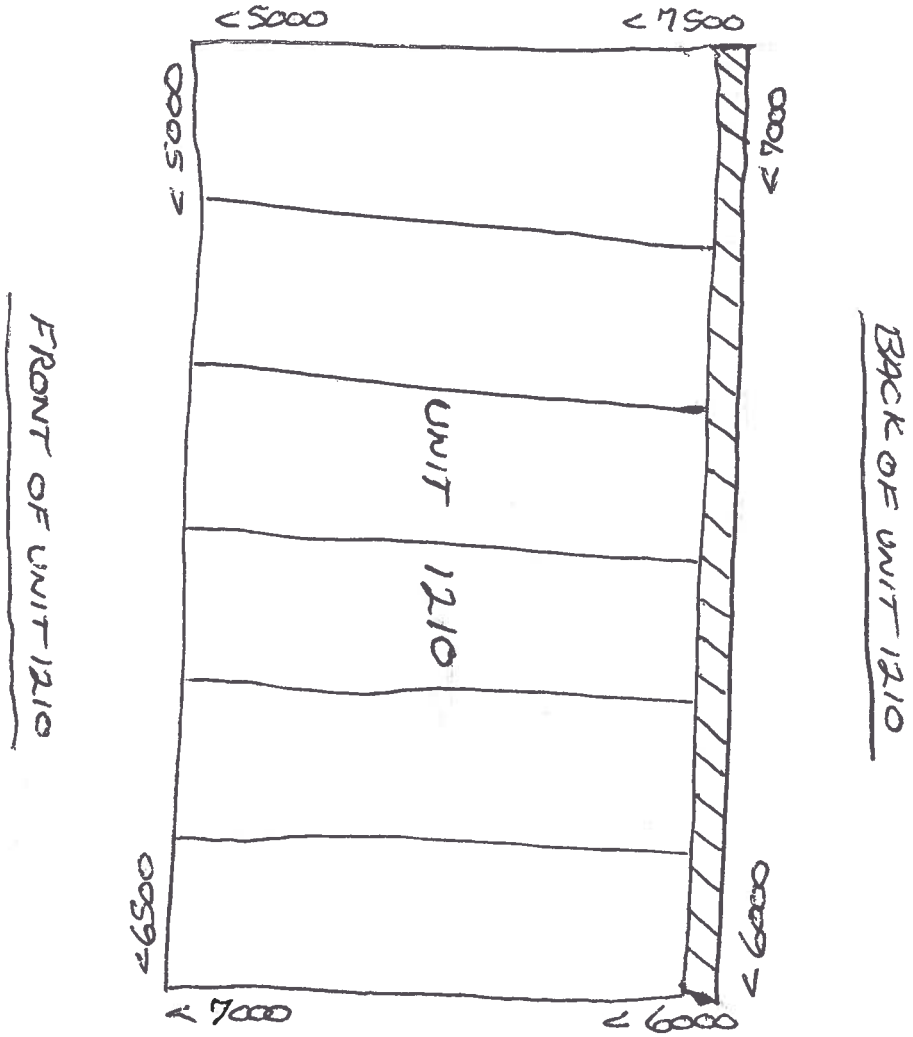
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-048	Date: 10.9.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1210 apartment "__" Backyard
Perimeter

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

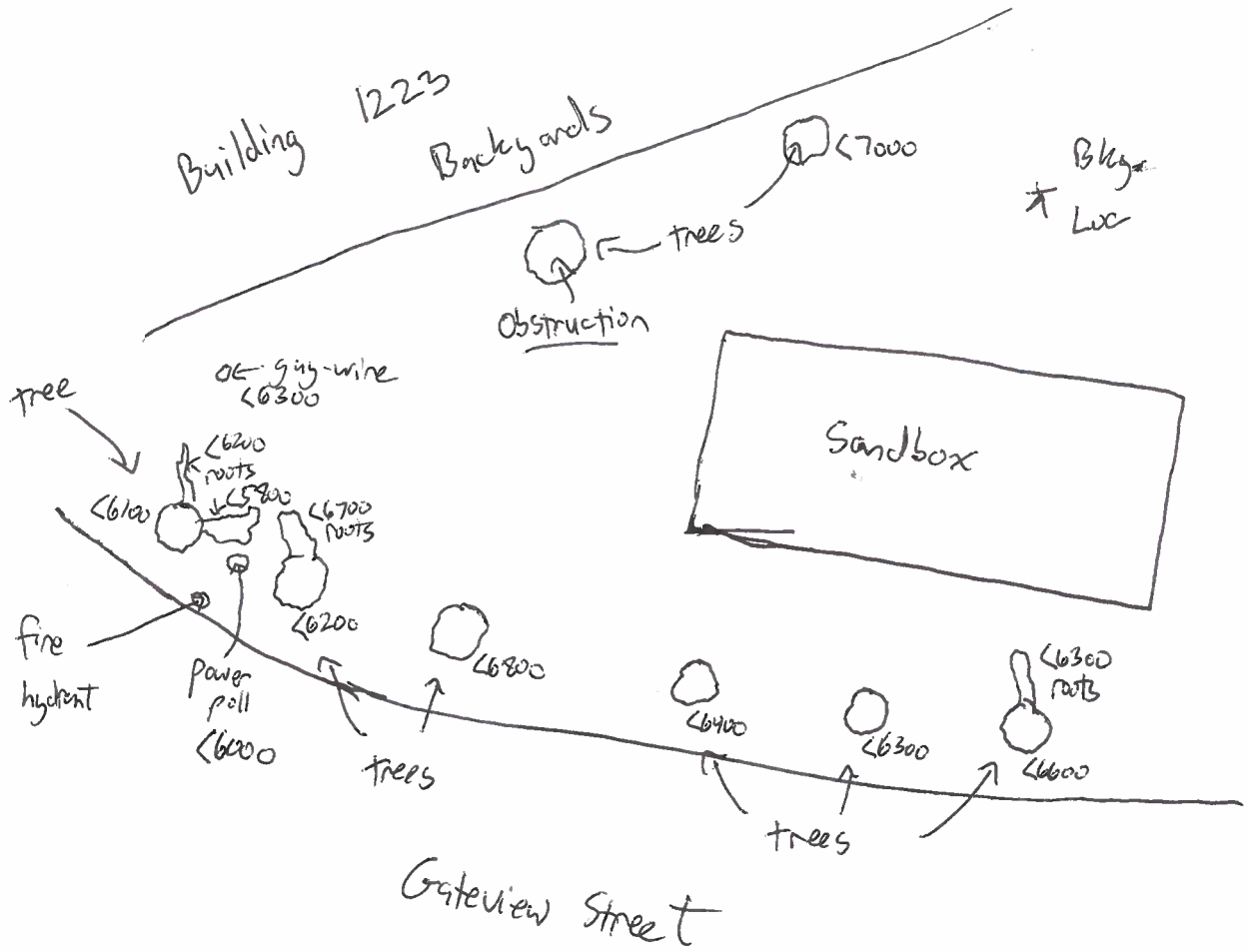
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:

Survey No.: 06-12-049	Date: 10/9/12	Location: Site 12	Survey Type: 2x2 walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 19768	8/21/14	N/A	N/A	5845	N/A	N/A	N/A

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane **RADIOLOGICAL SURVEY FORM**

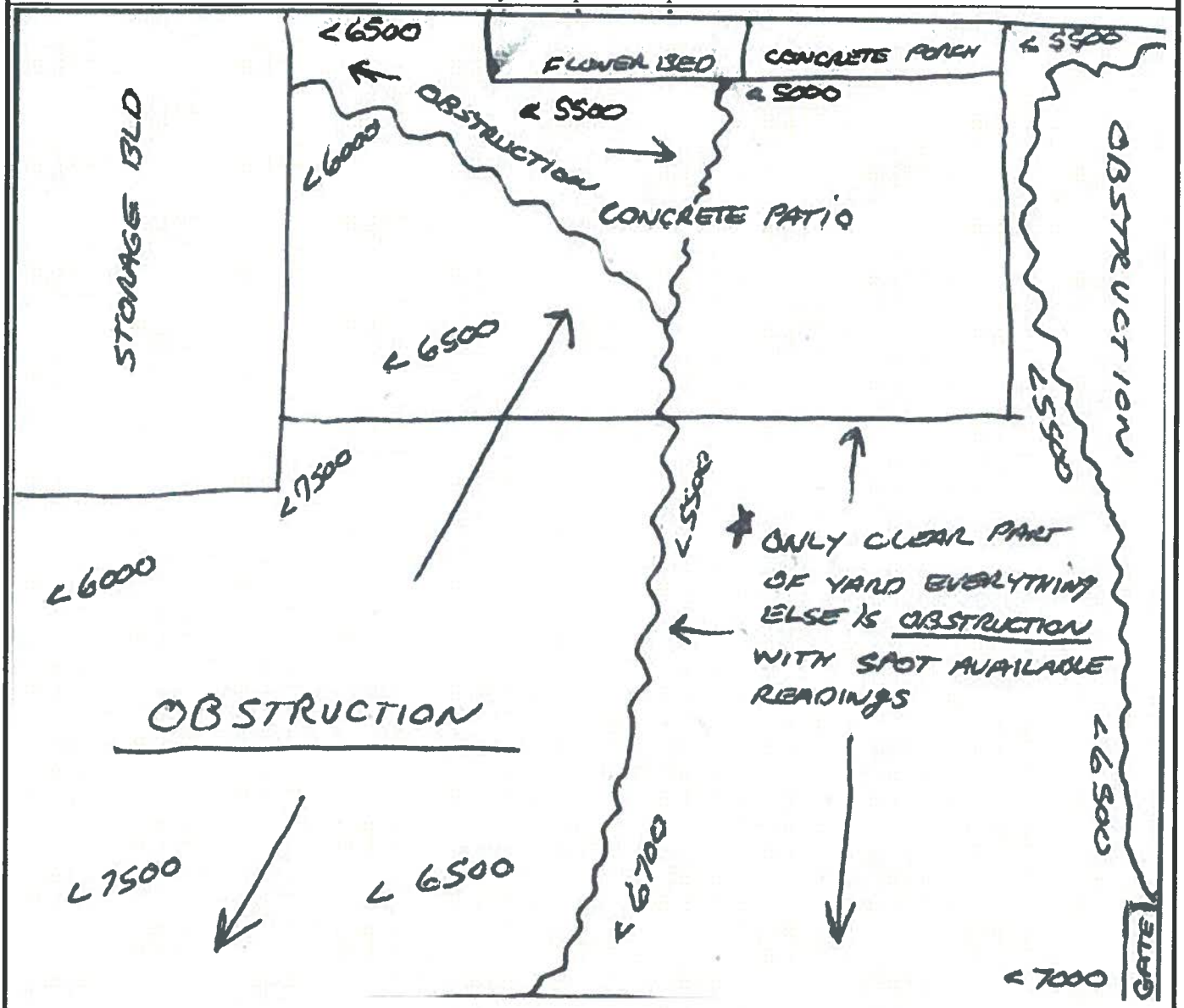
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-051	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6283	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1217 apartment " A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

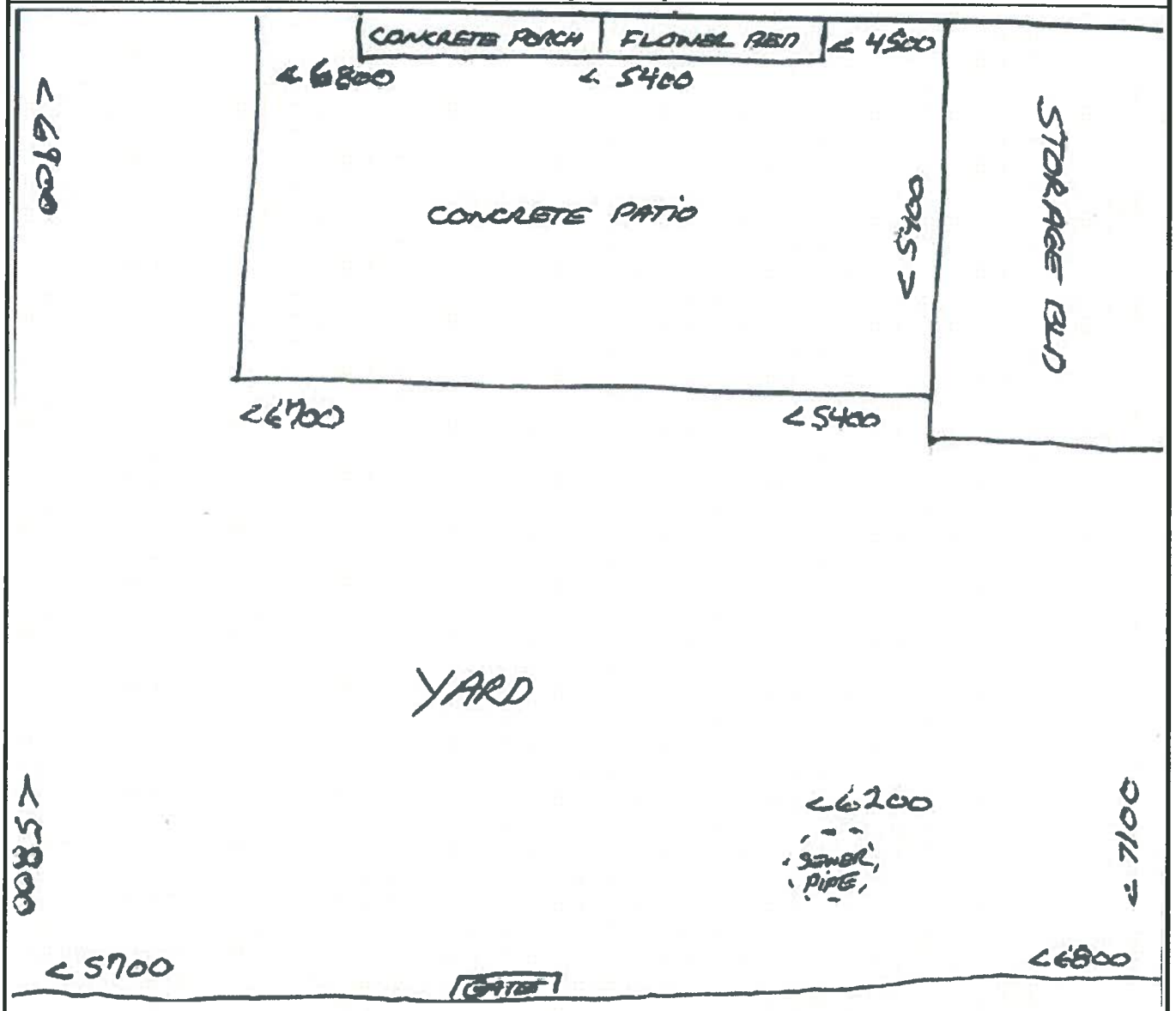
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-051	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment " B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

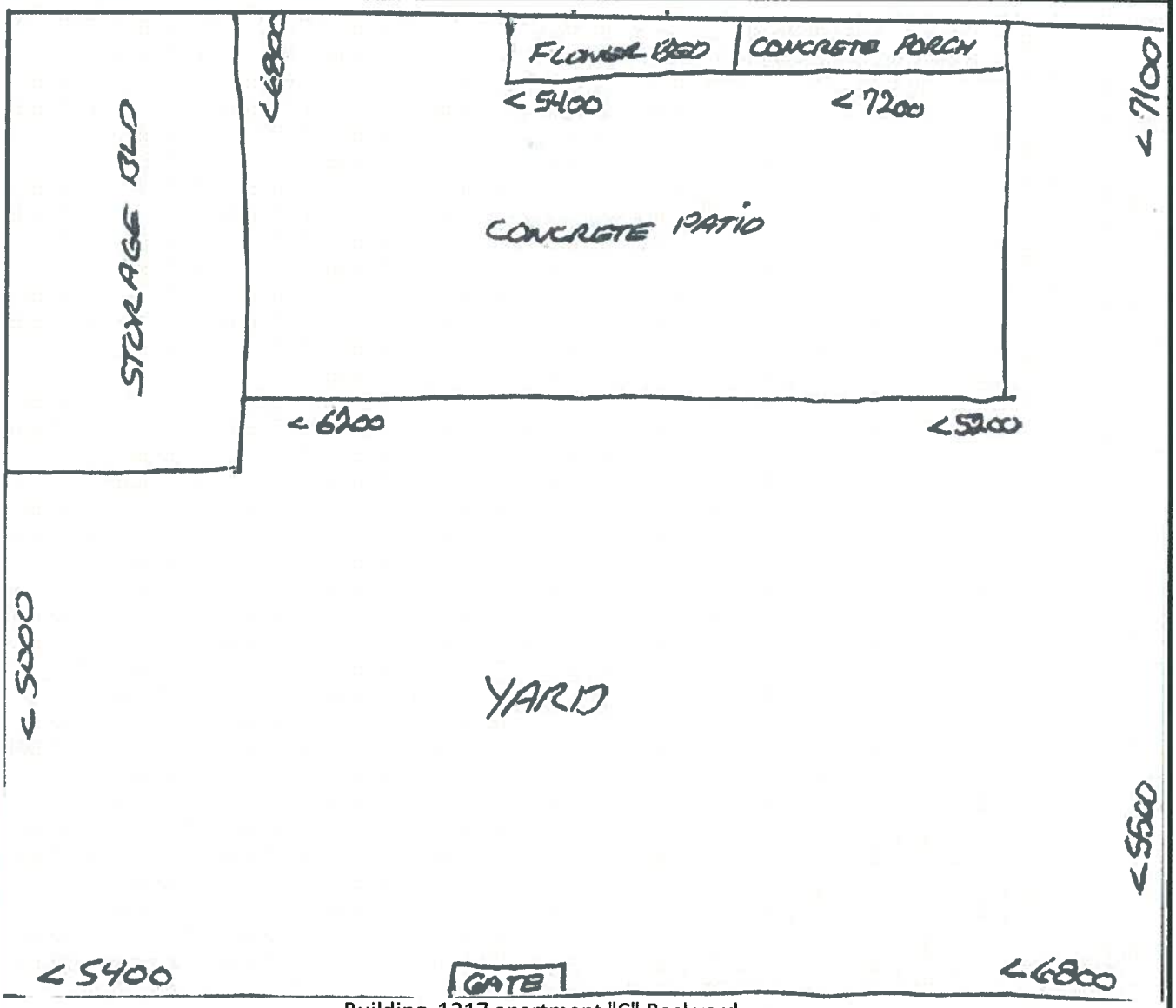
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-051	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

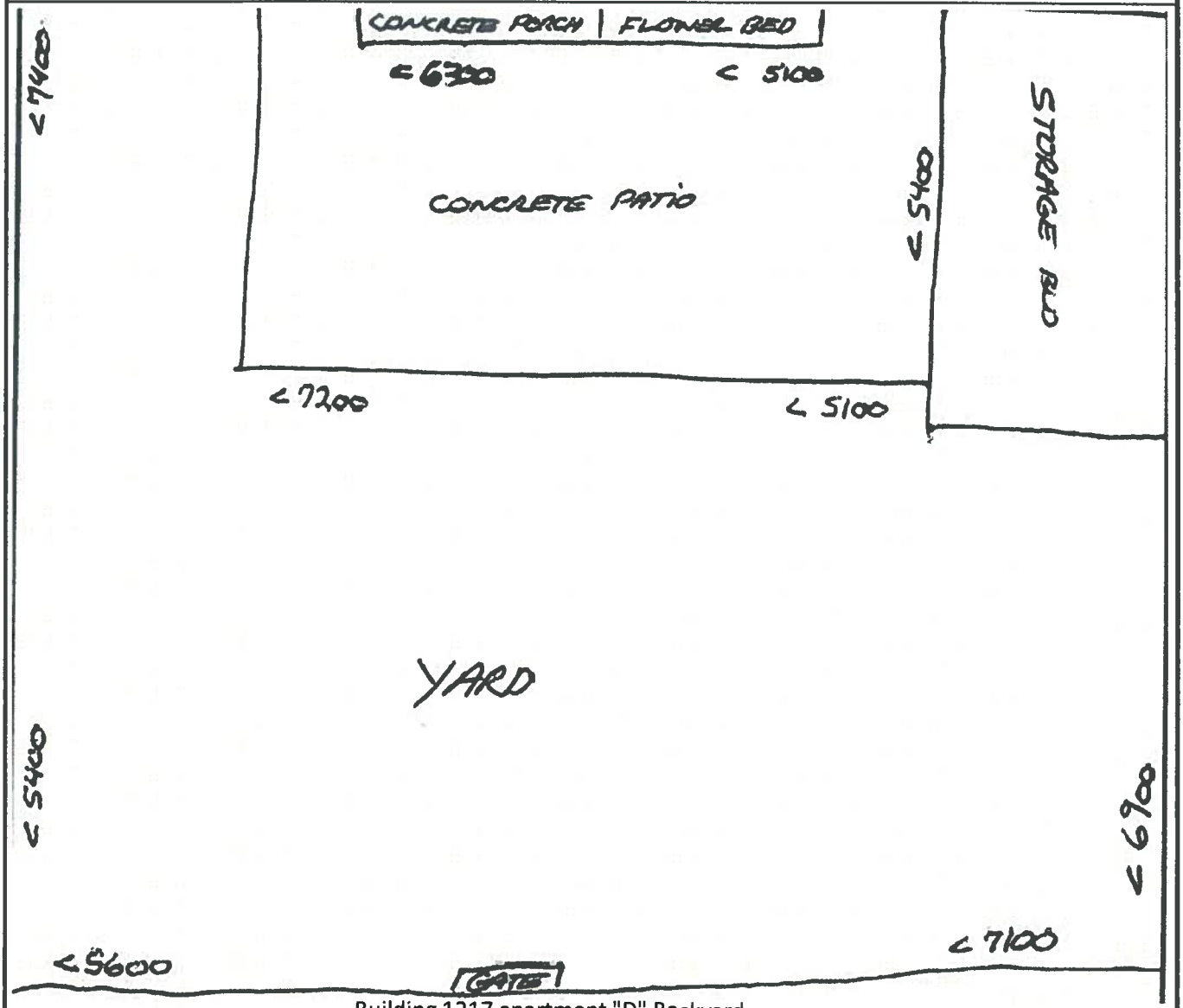
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-051	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

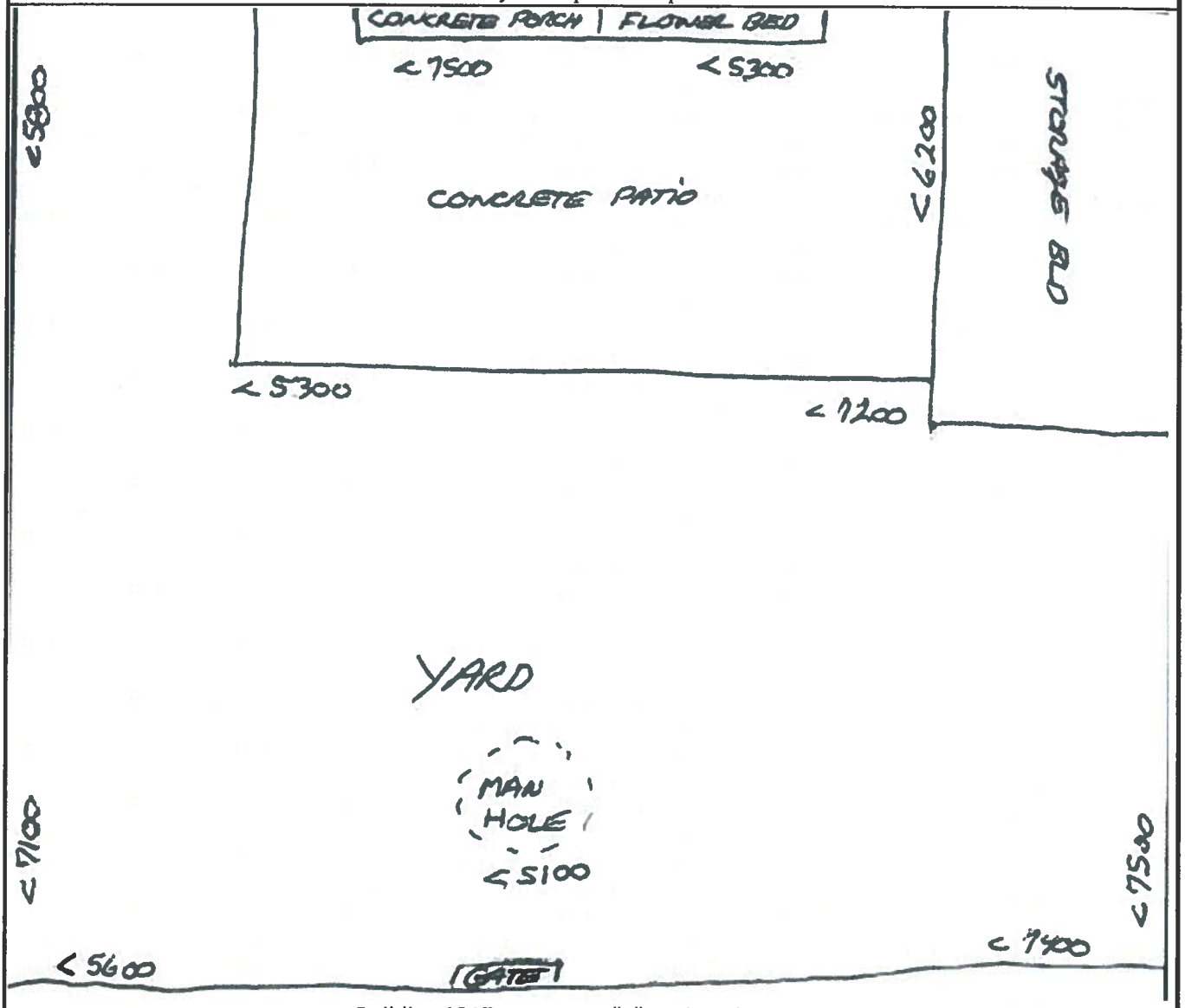
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-051	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

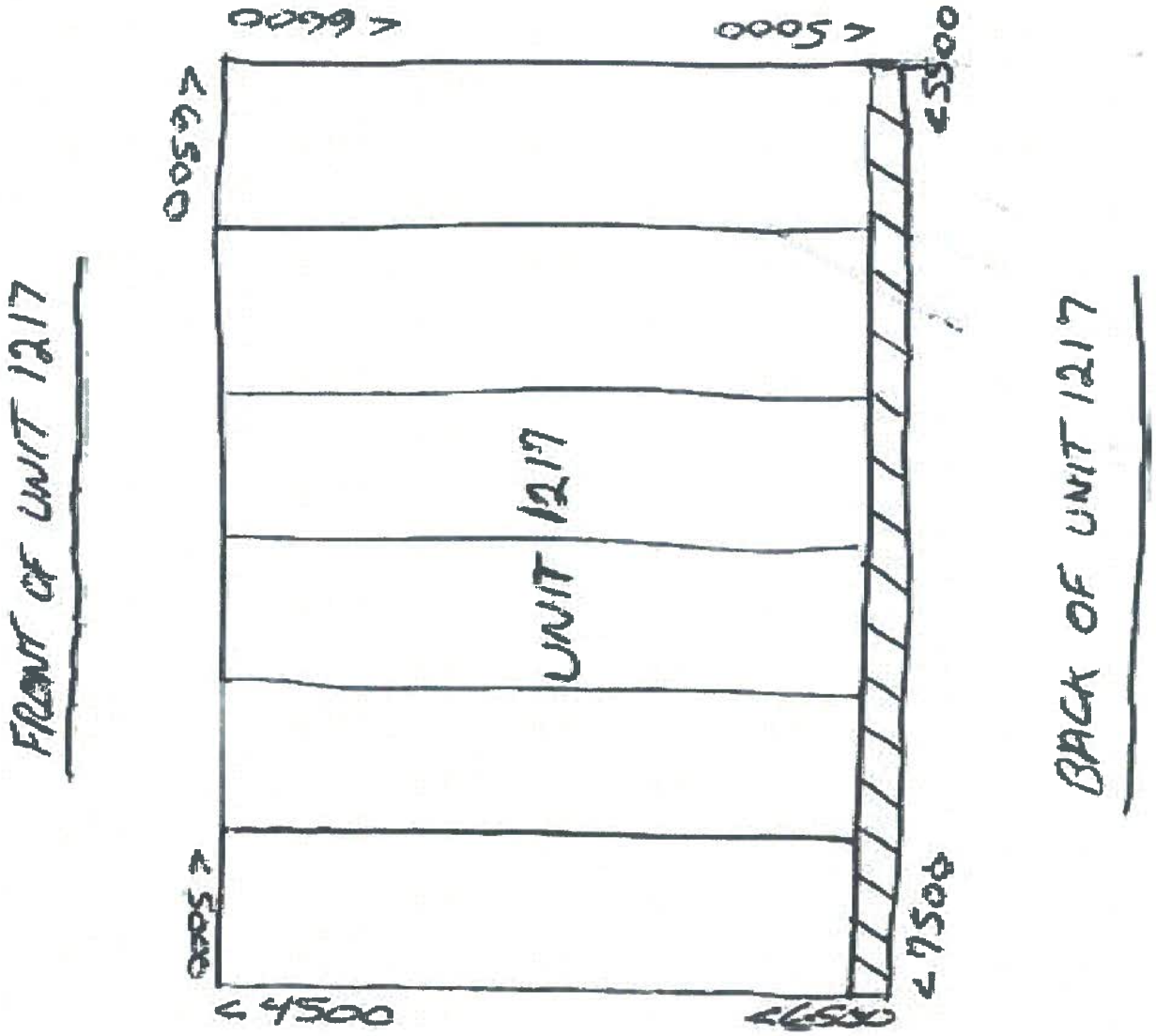
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-051	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

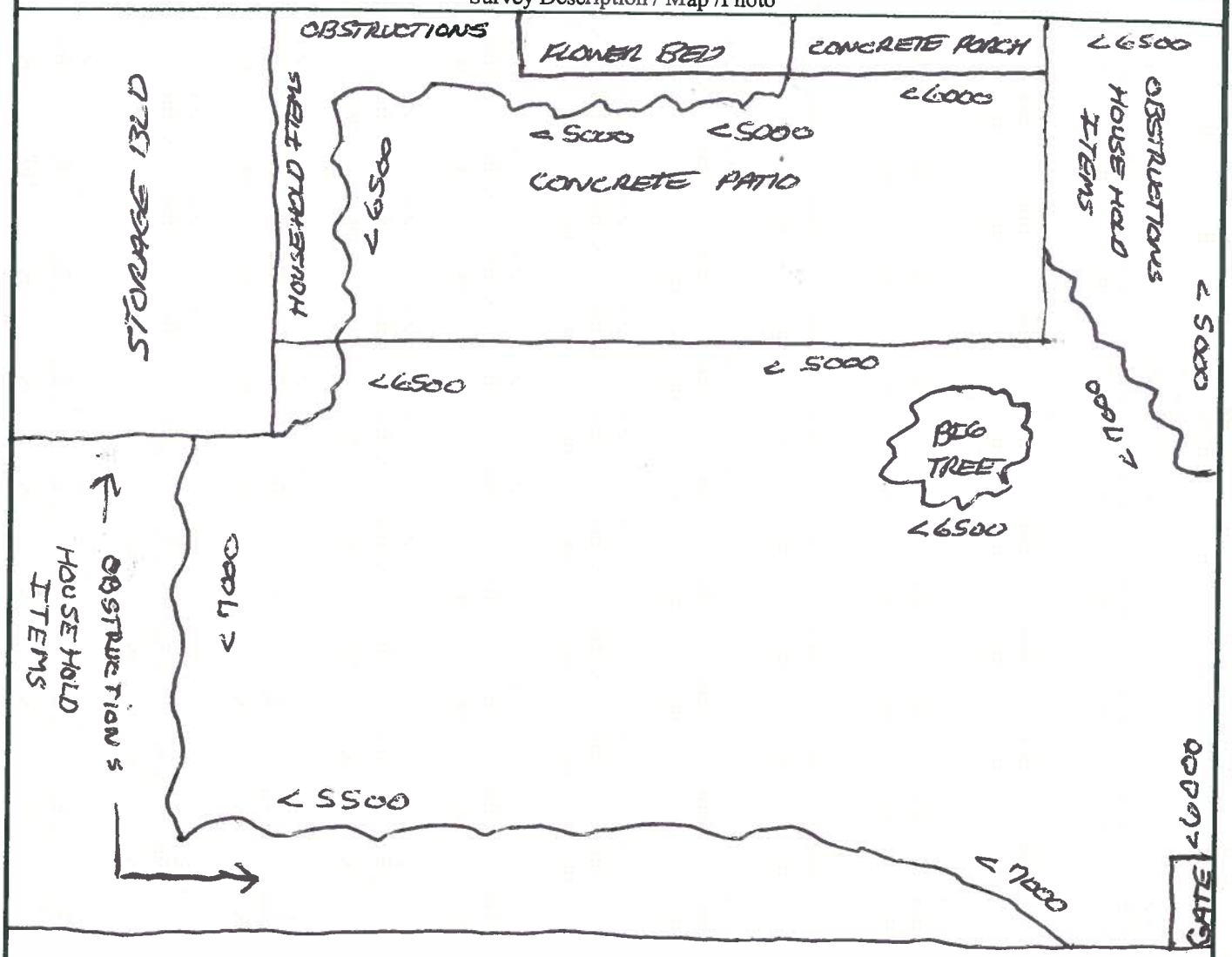
CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-052	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6409	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1221 apartment " A " Backyard

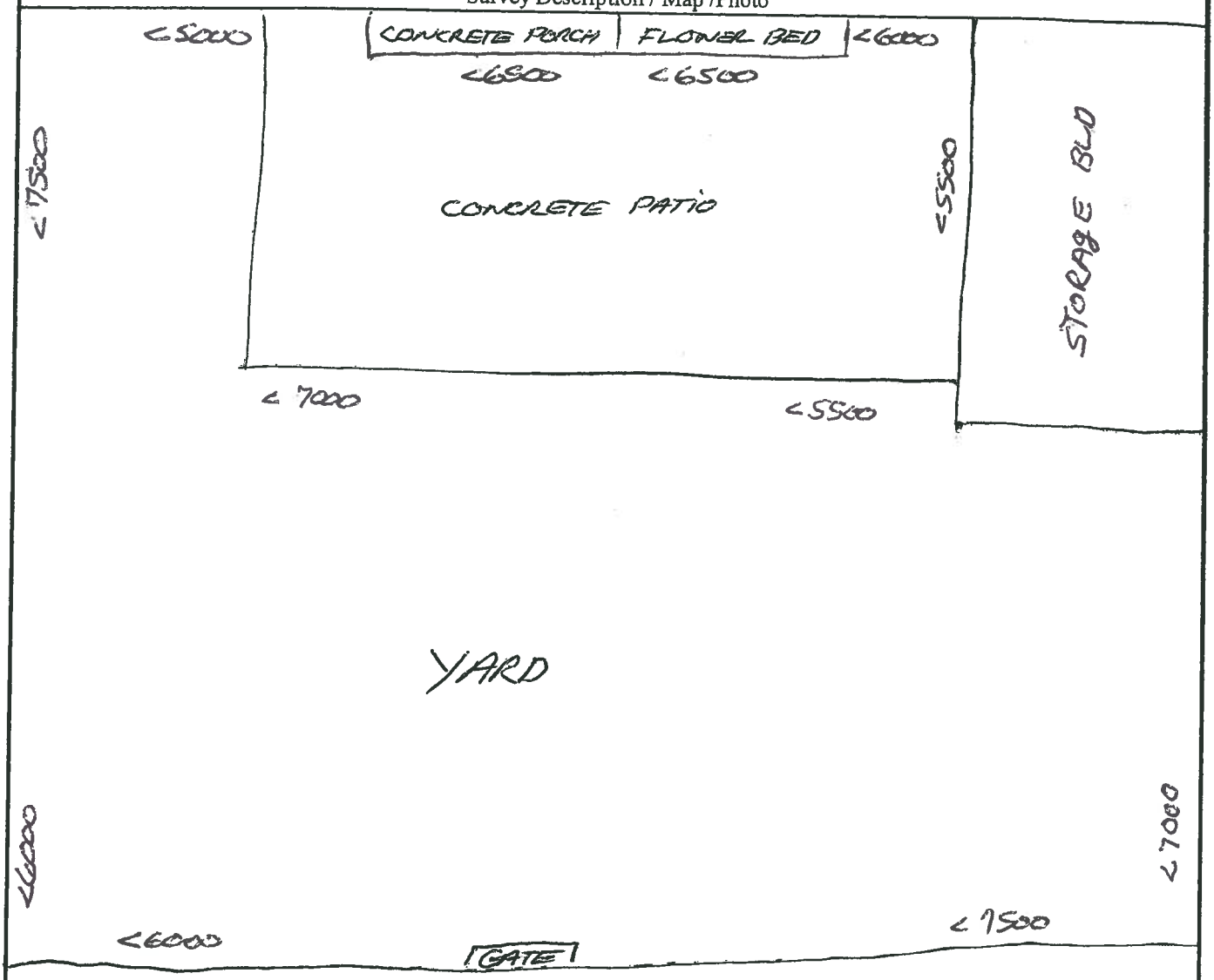
Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-052	Date: 10·10·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

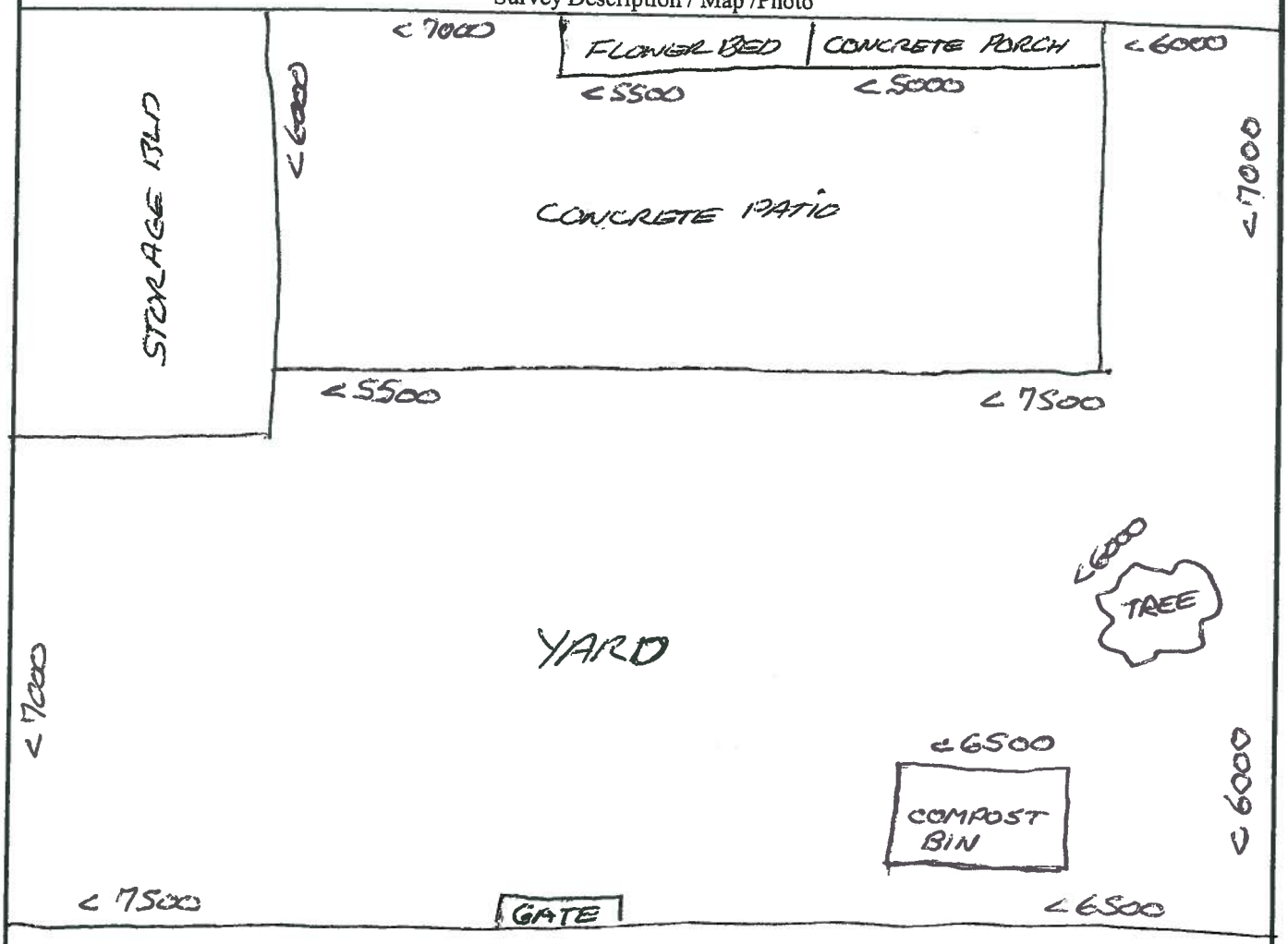
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-052	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 122 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

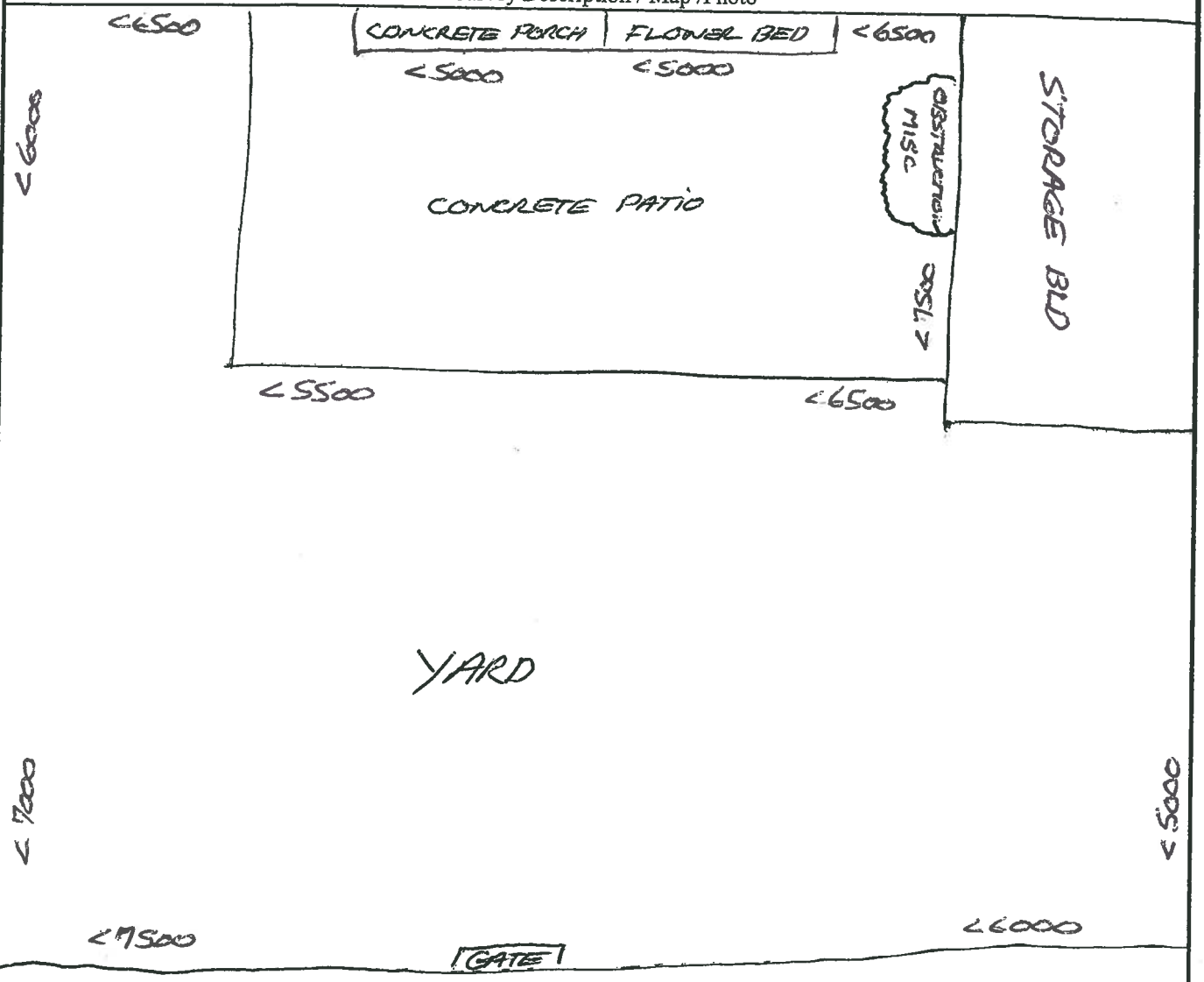
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-052	Date:	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

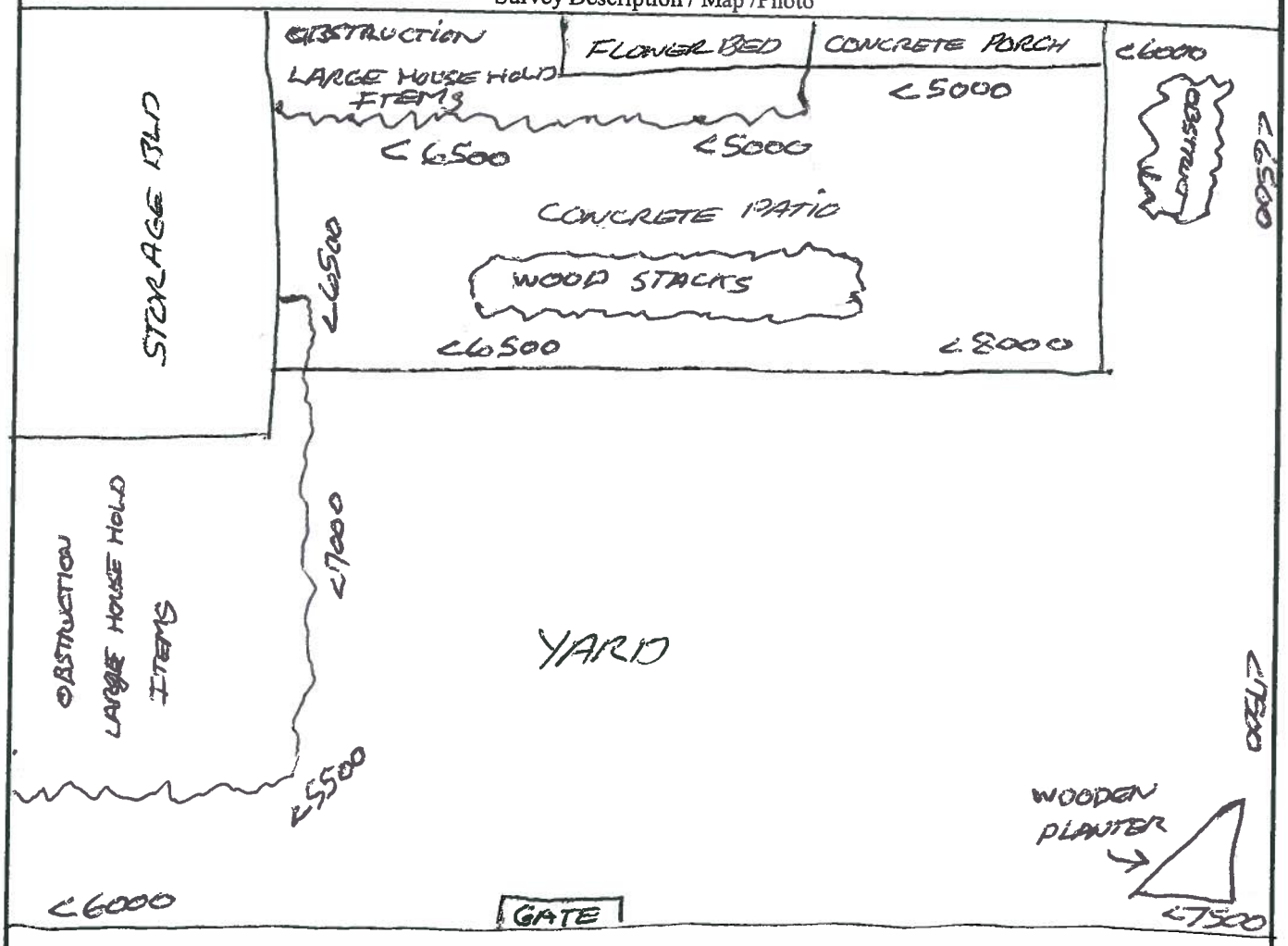
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-052	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

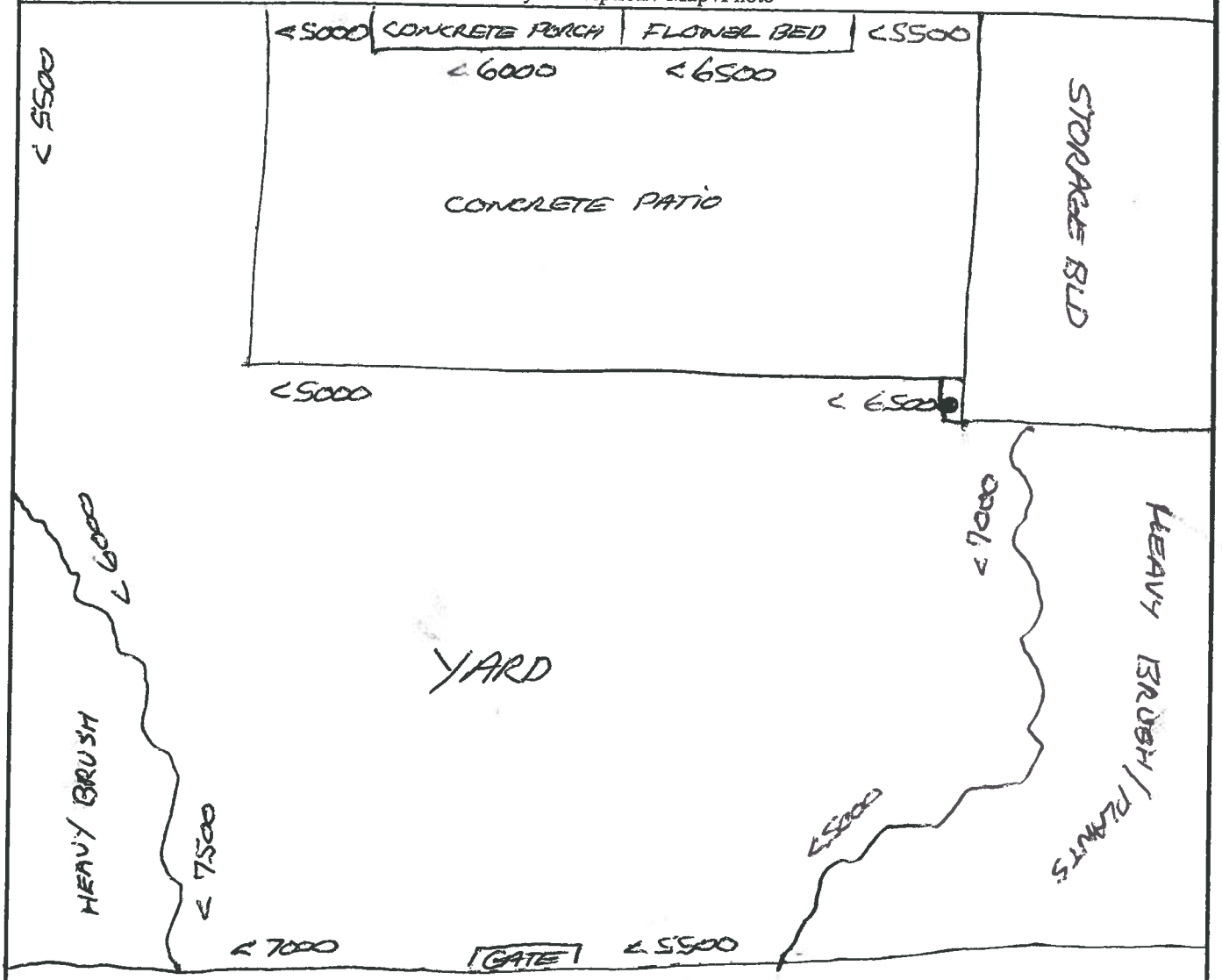
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-052	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

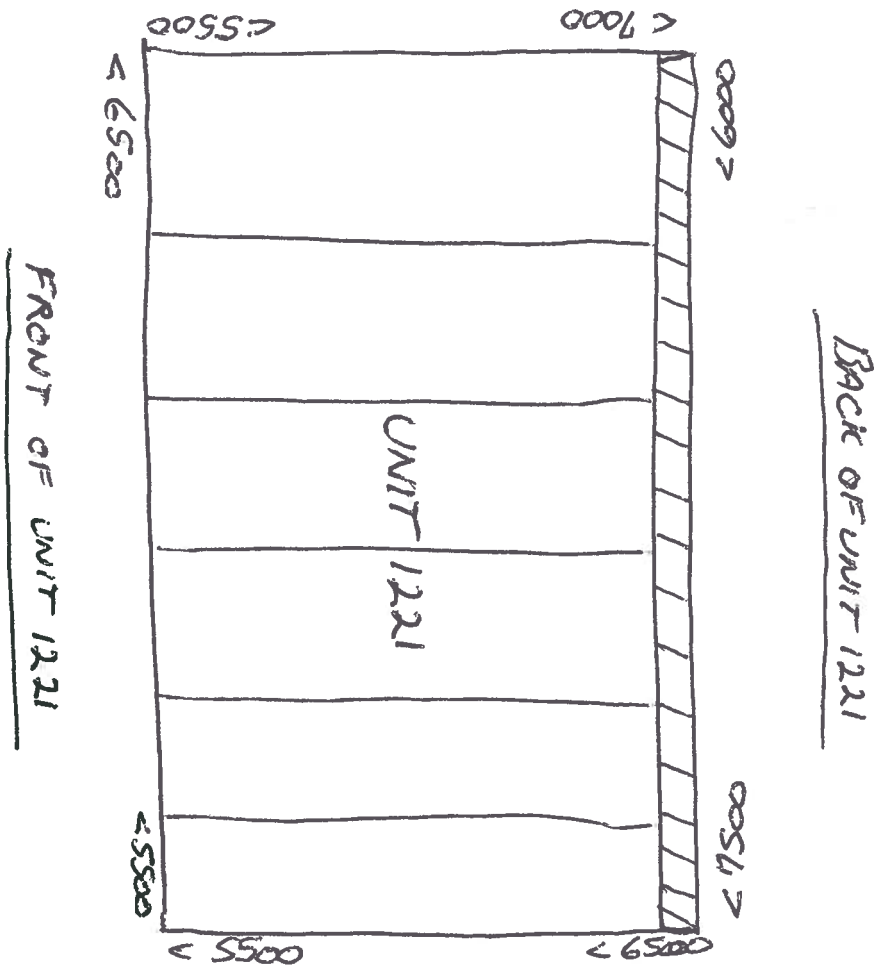
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-052	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

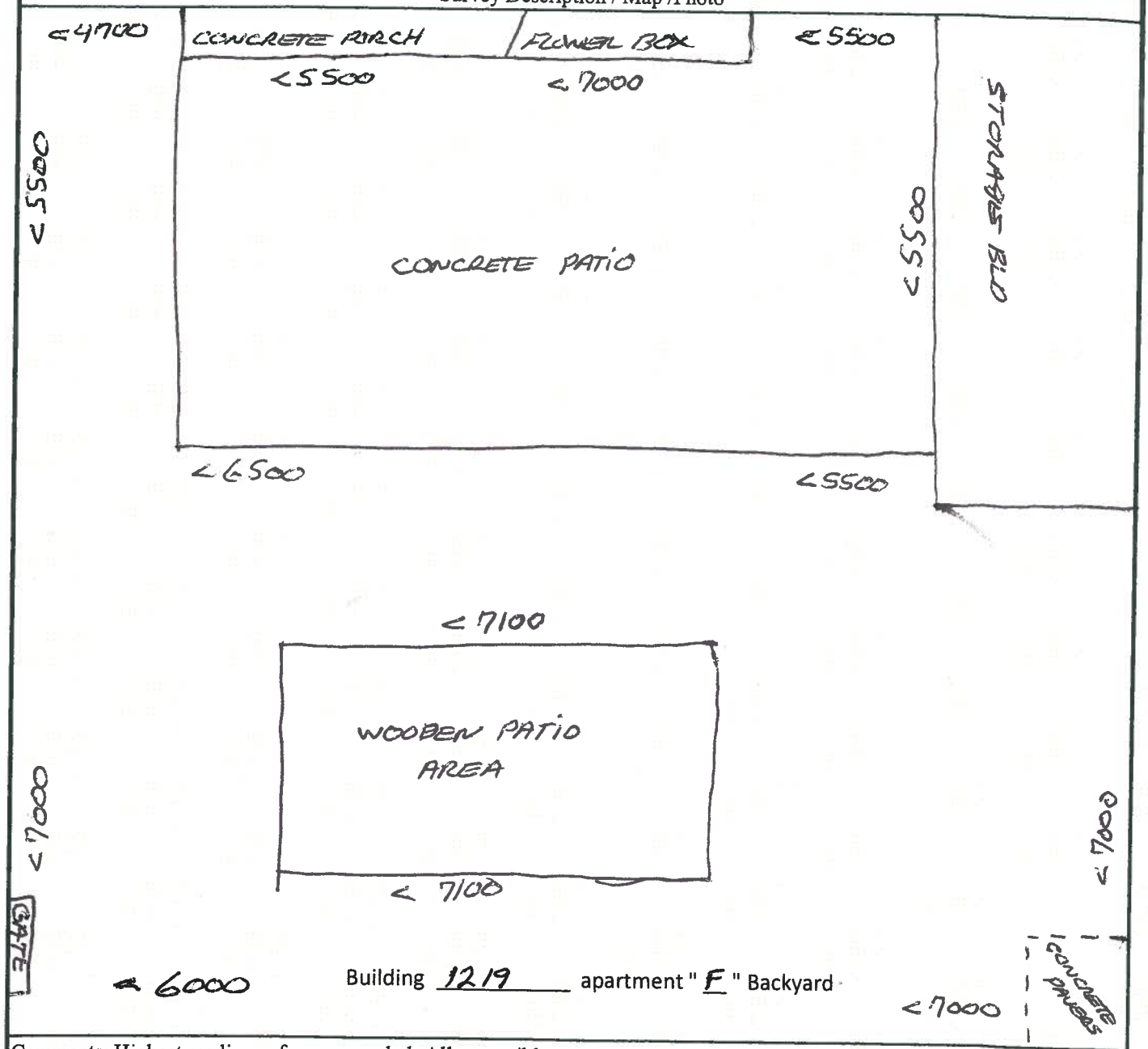
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-053	Date: 10-10-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6062	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1219 apartment " F " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

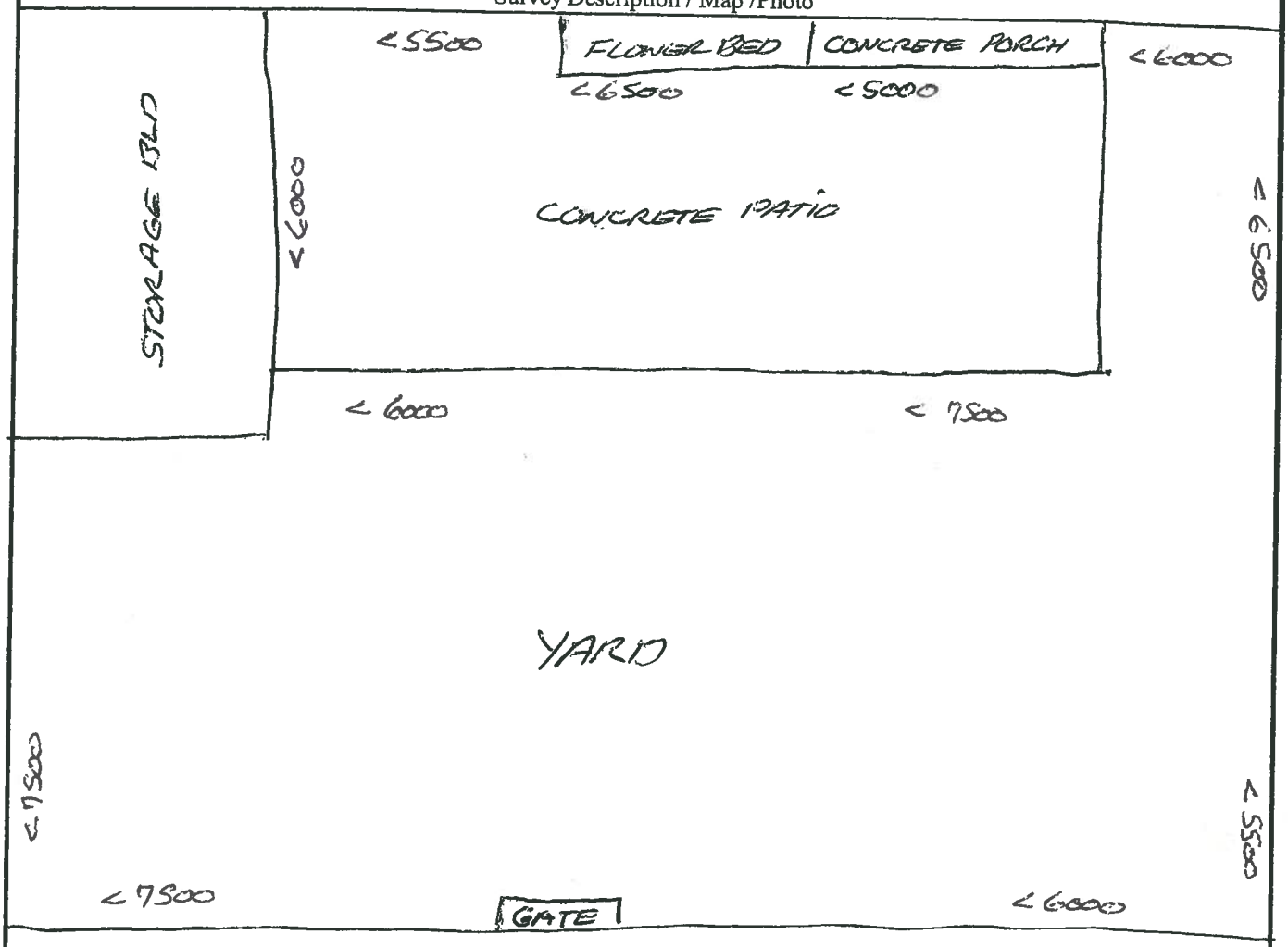
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-053	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 129 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

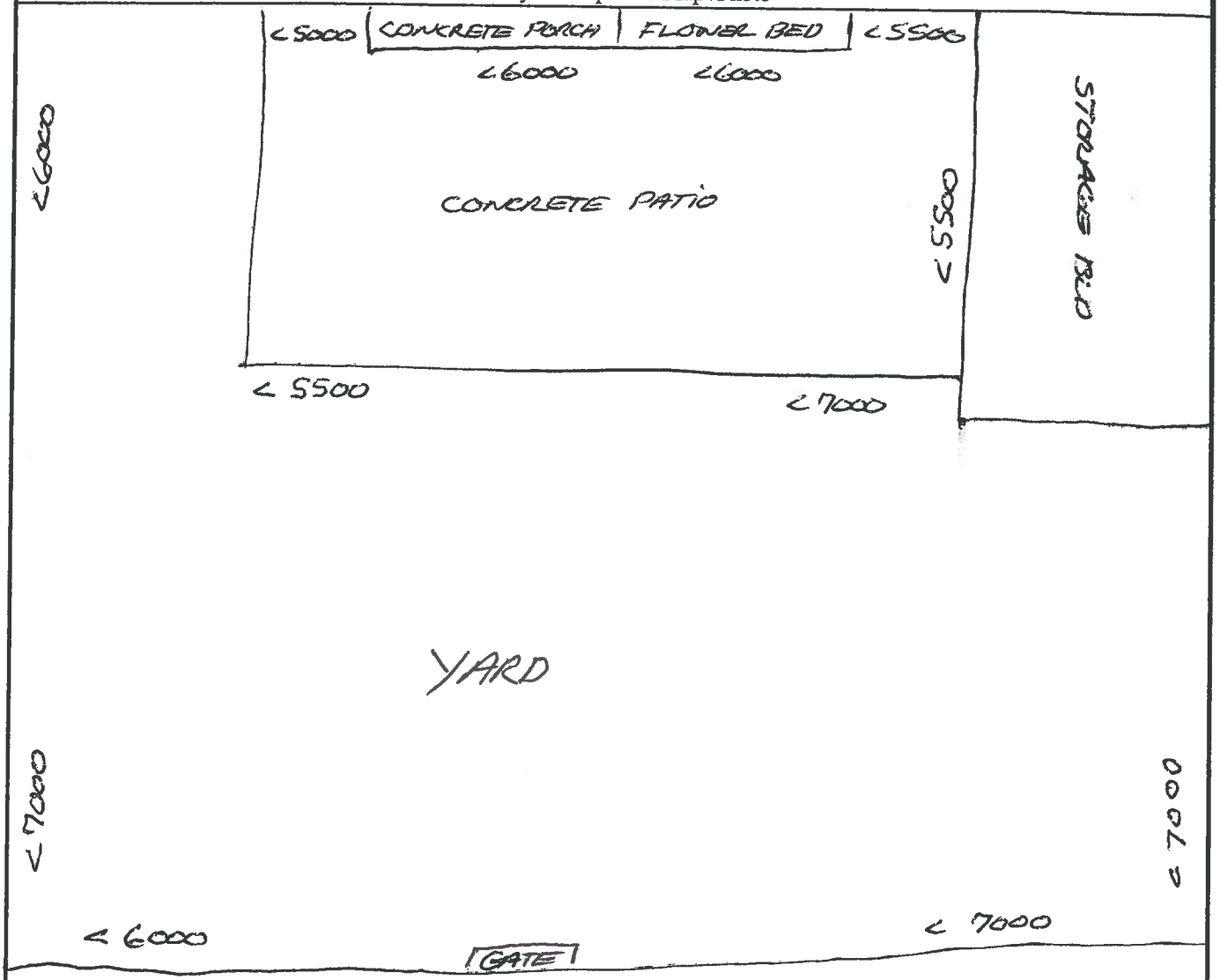
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-053	Date:	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 12/9 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

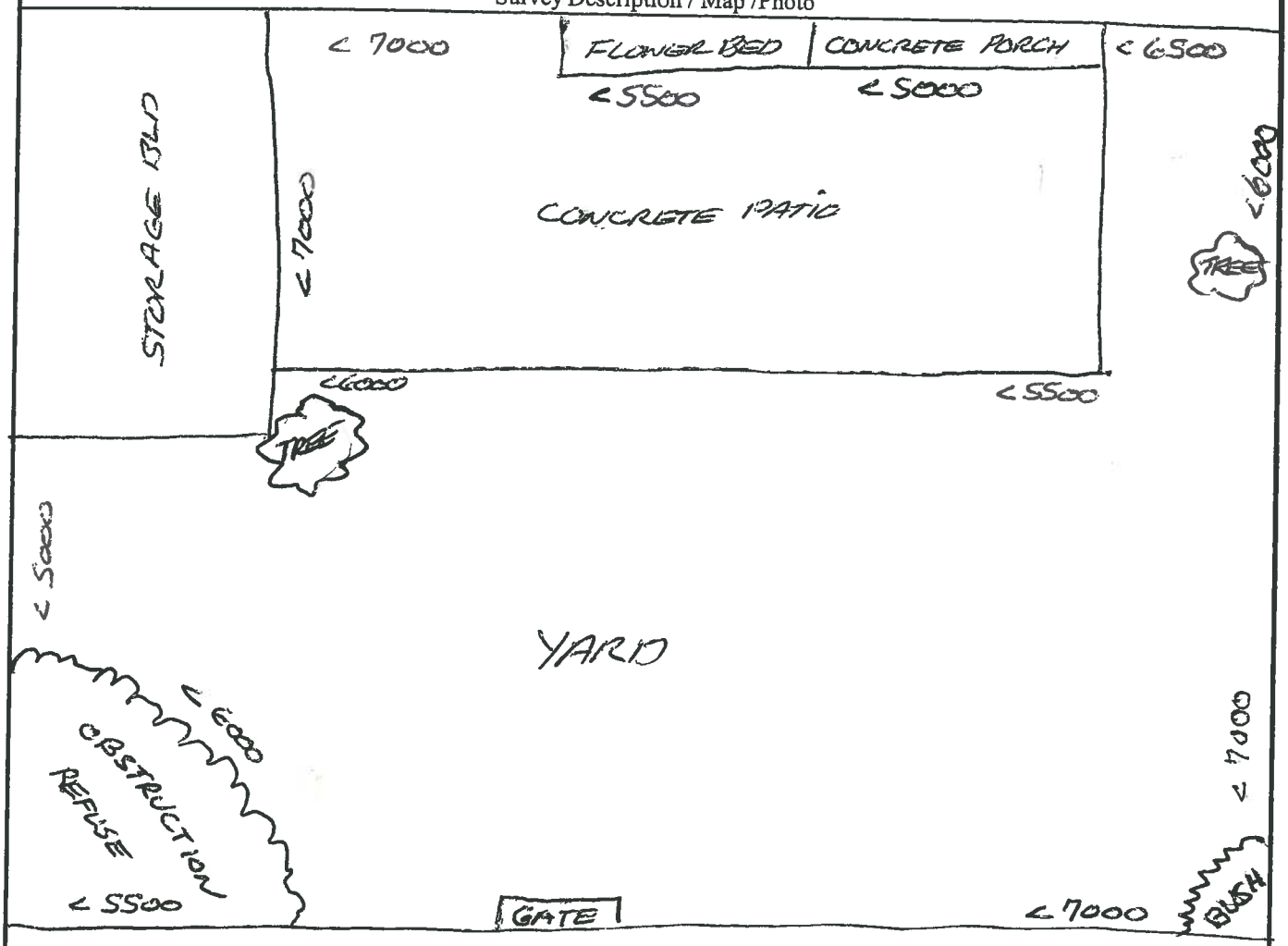
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-053	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1219 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

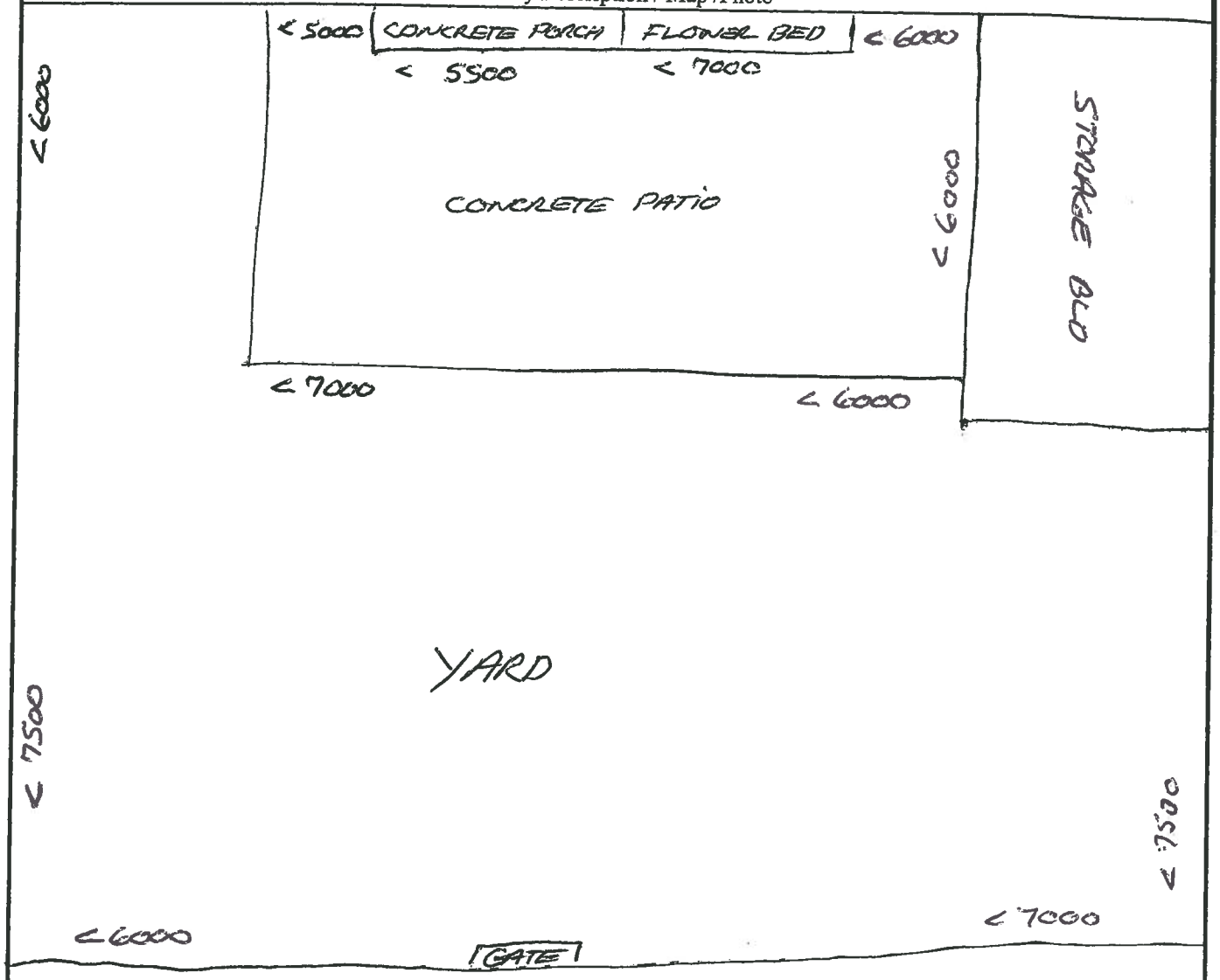
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-053	Date: 10·10·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1219 apartment "D" Backyard

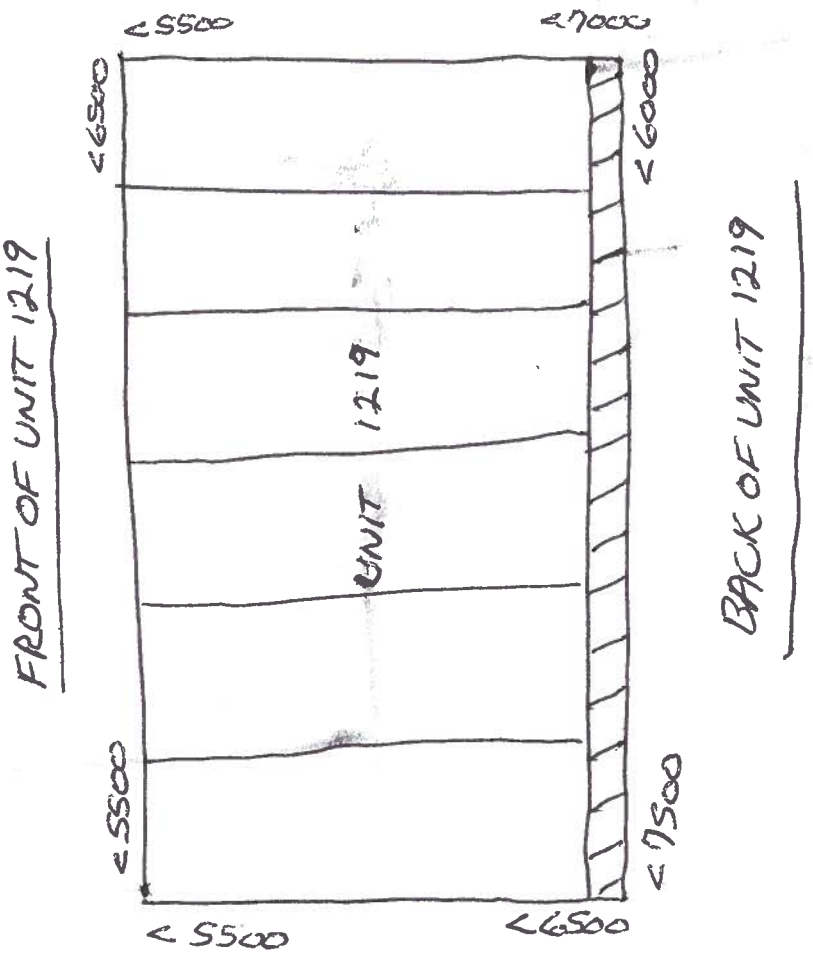
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 053	Date: 10.10.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1219 apartment "P" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

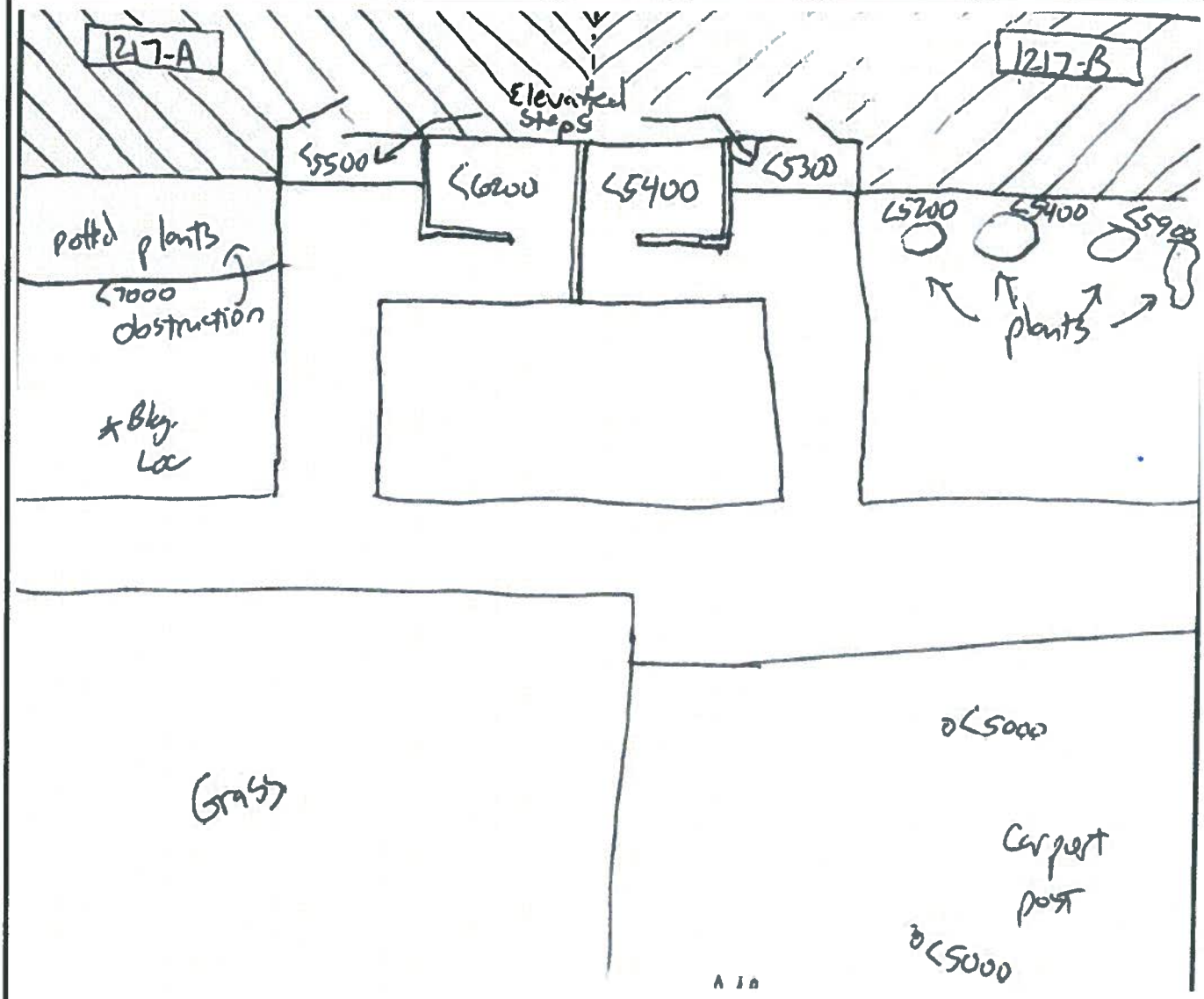
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-054	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	5612	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1217 apartment " A & B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

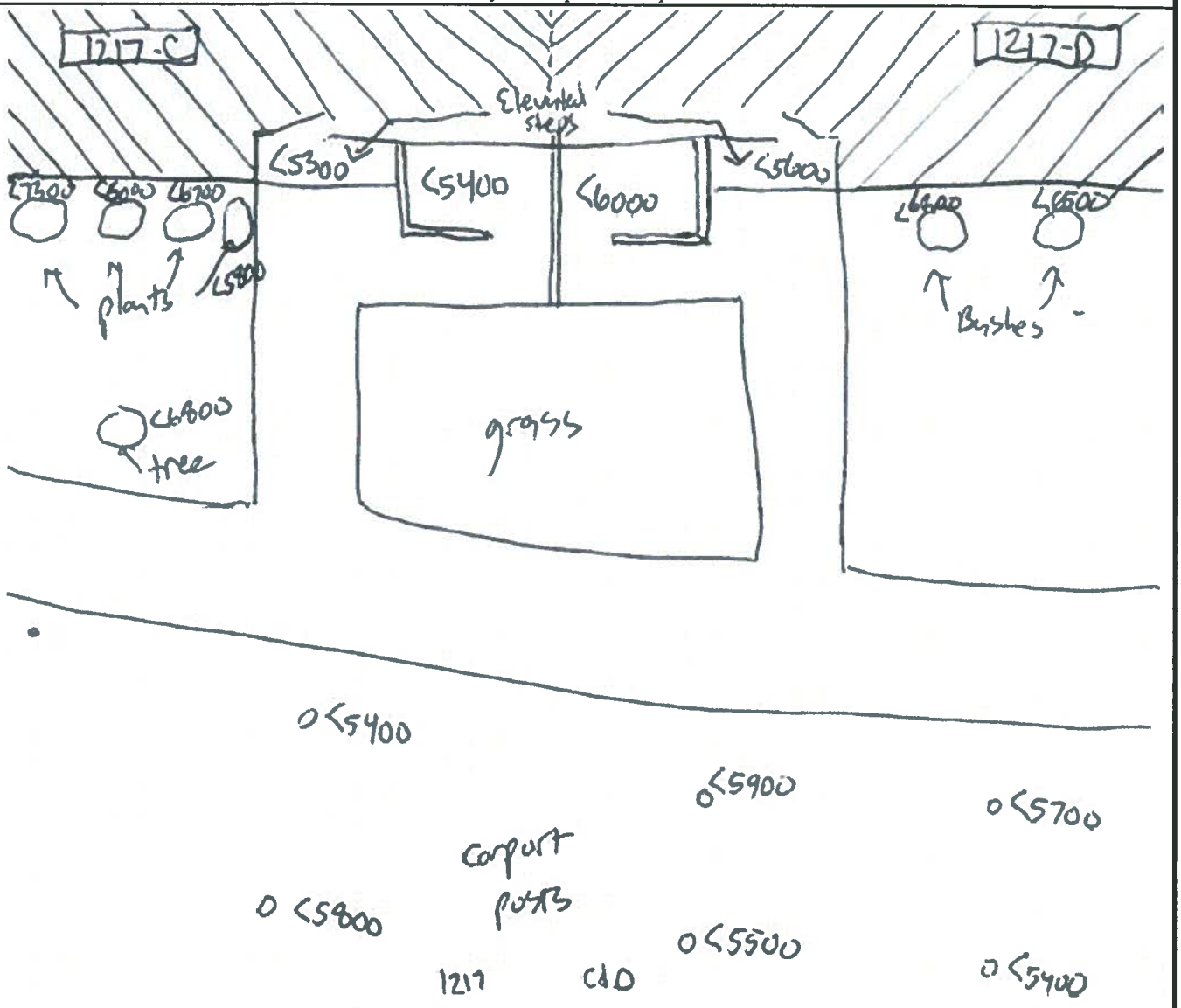
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-054	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment " C & D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

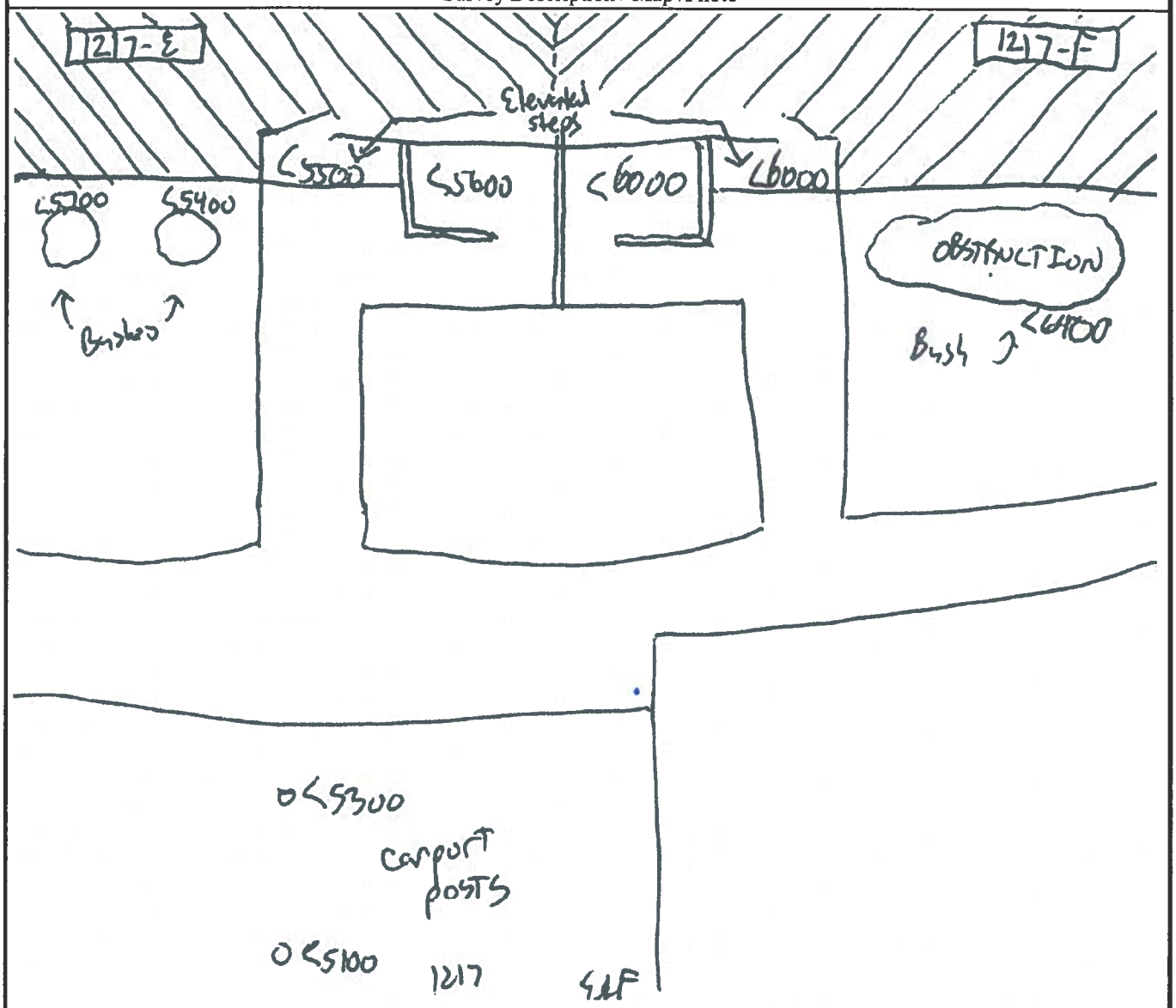
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-054	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment " E & F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

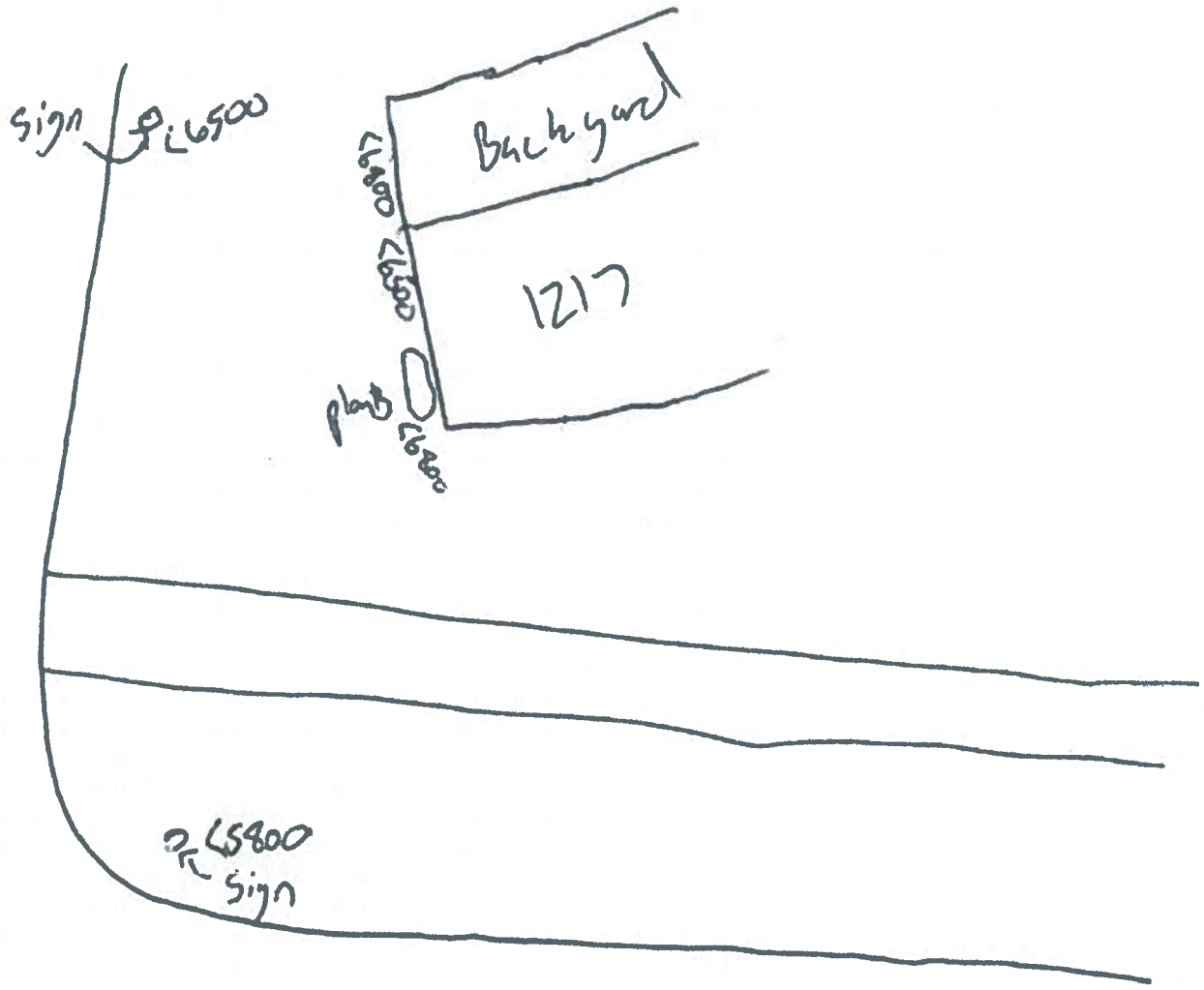
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-054	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment " N/A" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

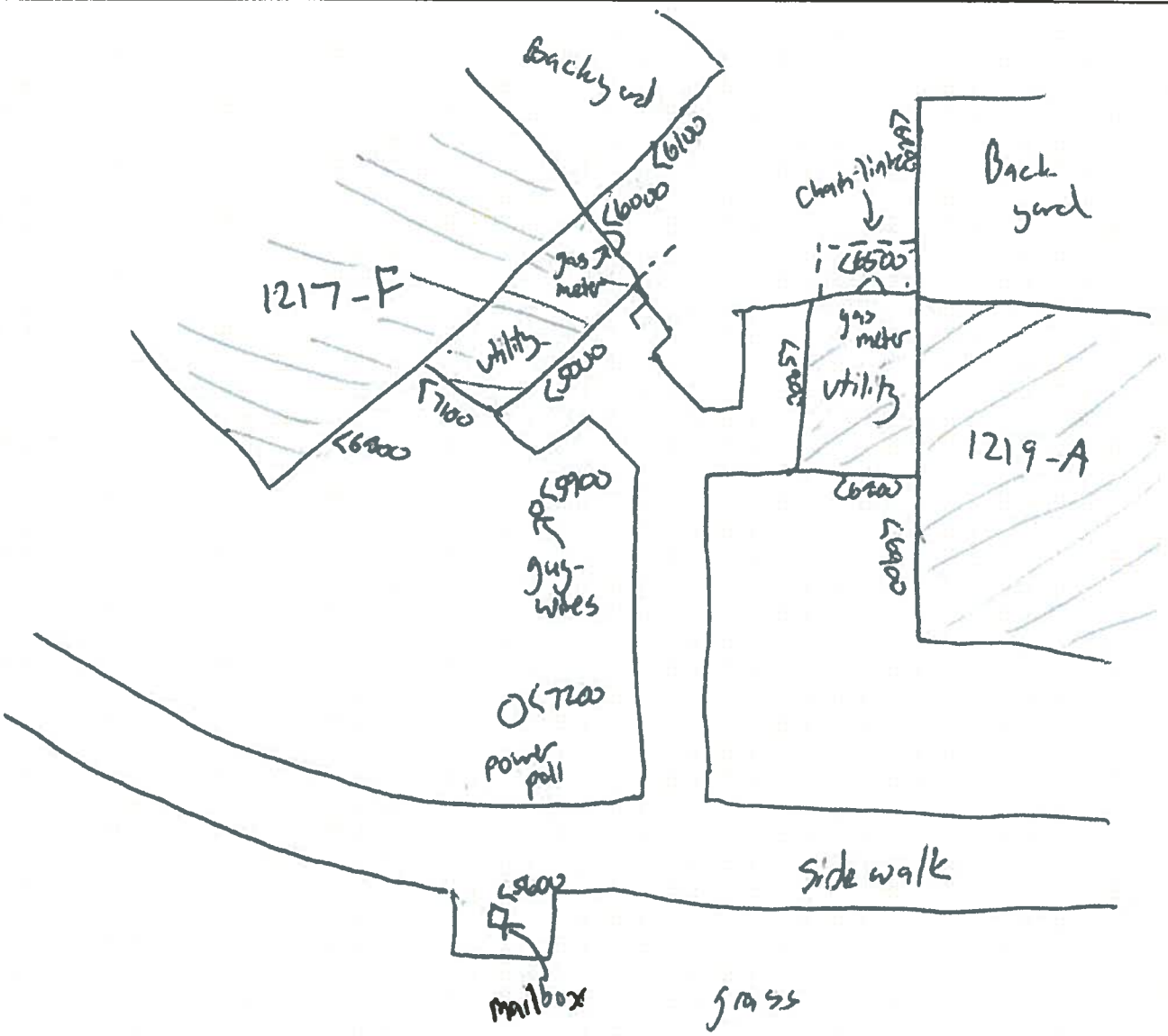
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-054	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1217 apartment " N/A" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

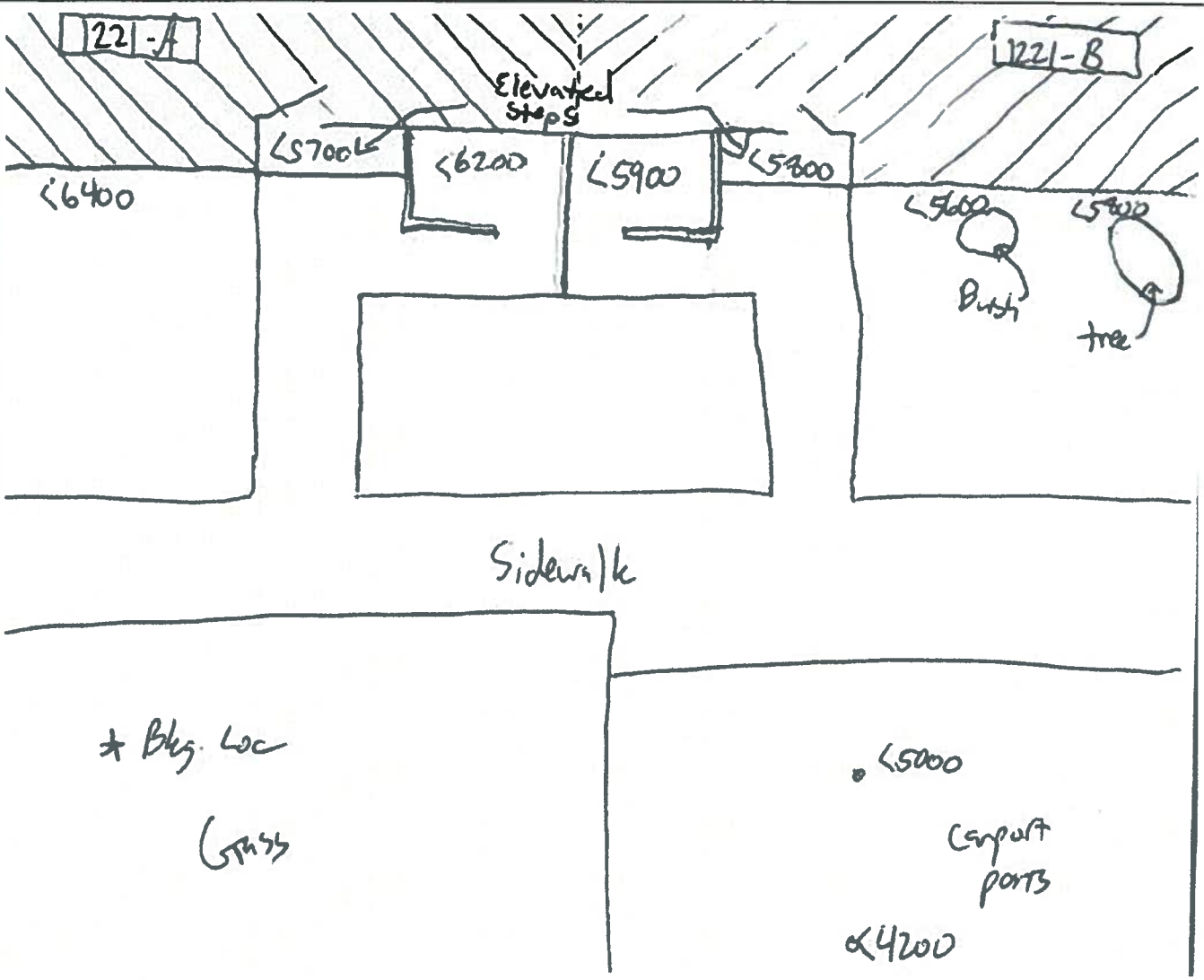
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-055	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	5662	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1221 apartment " A & B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

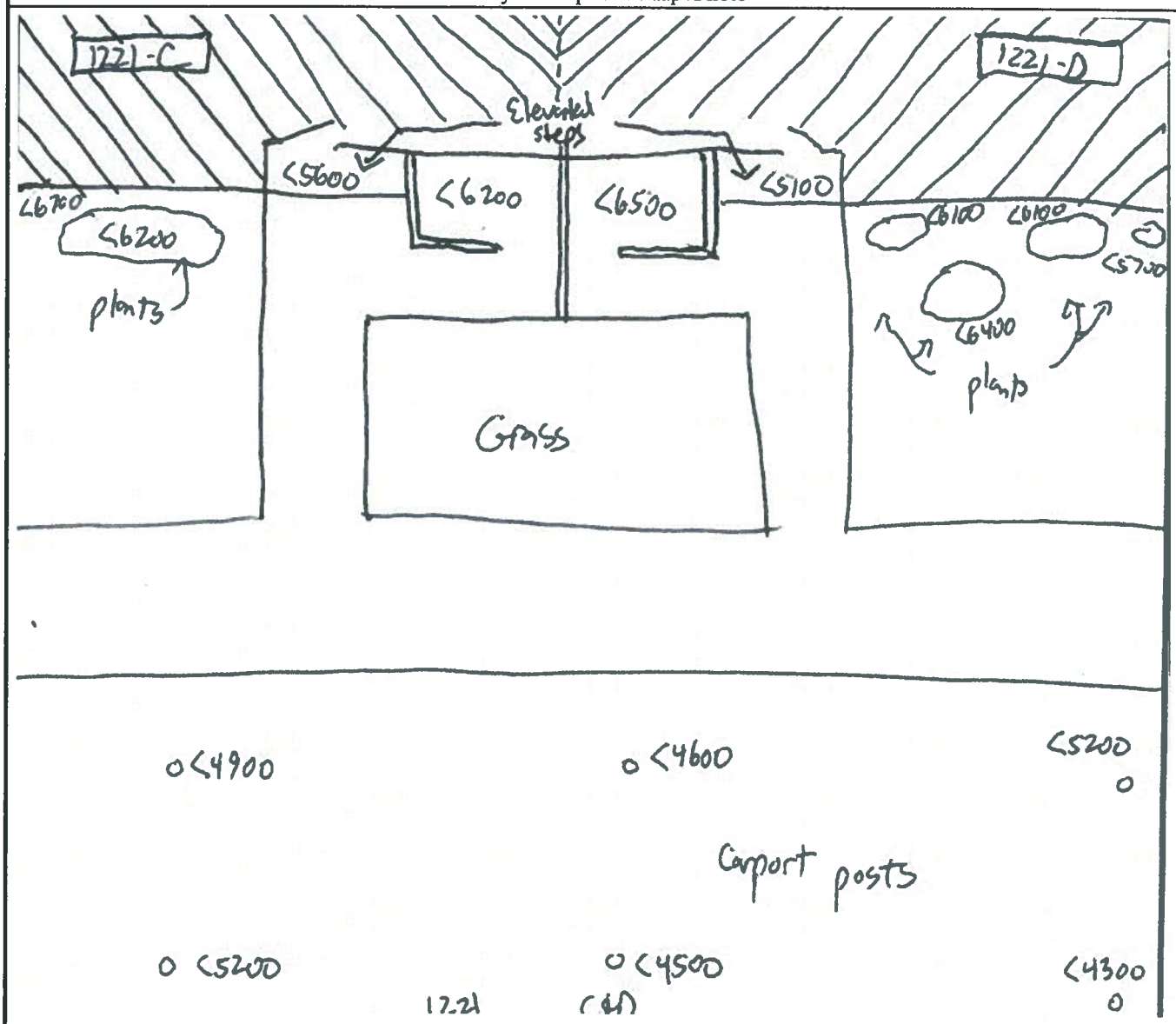
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-055	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment " C & D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

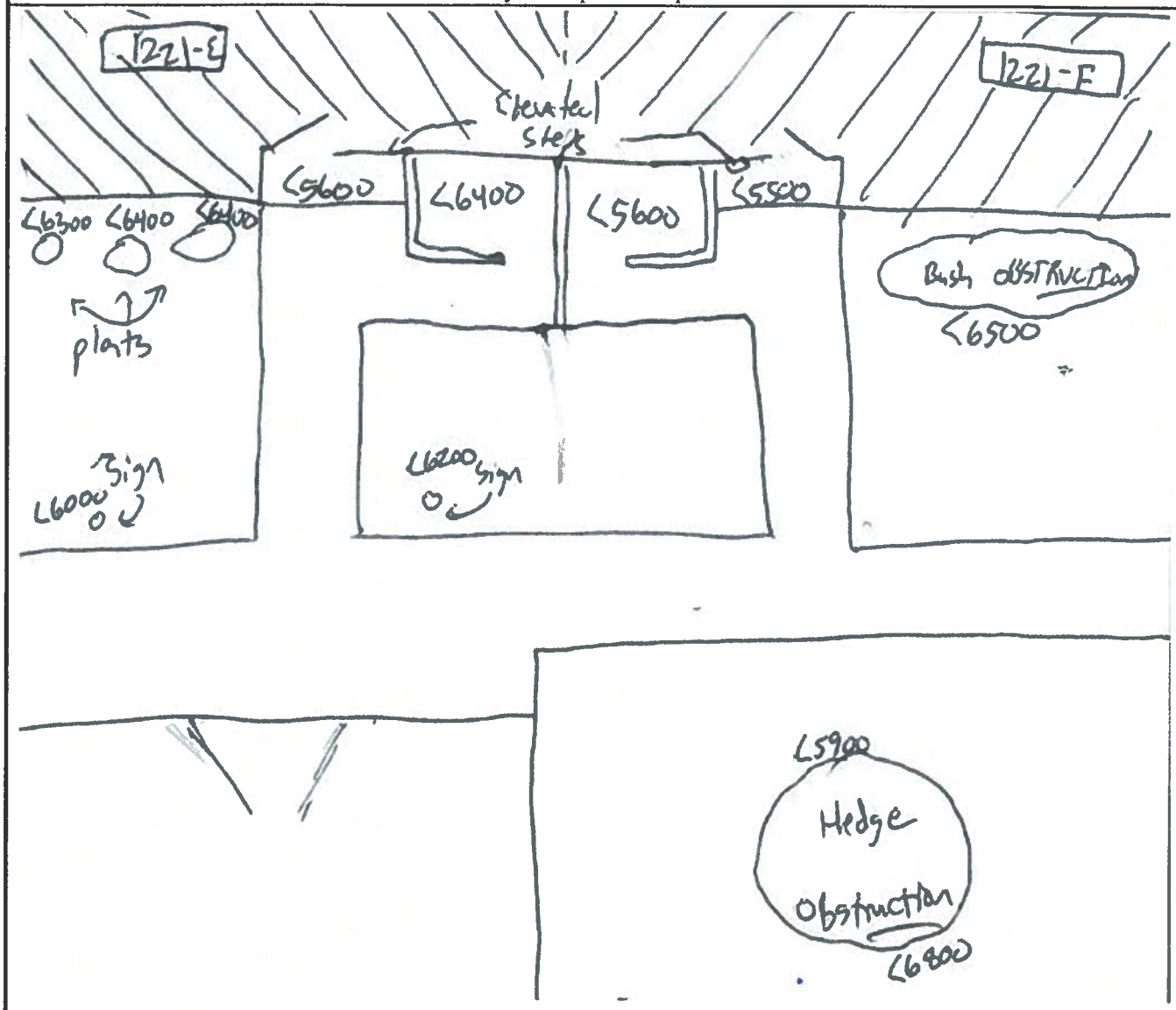
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-055	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment " E & F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

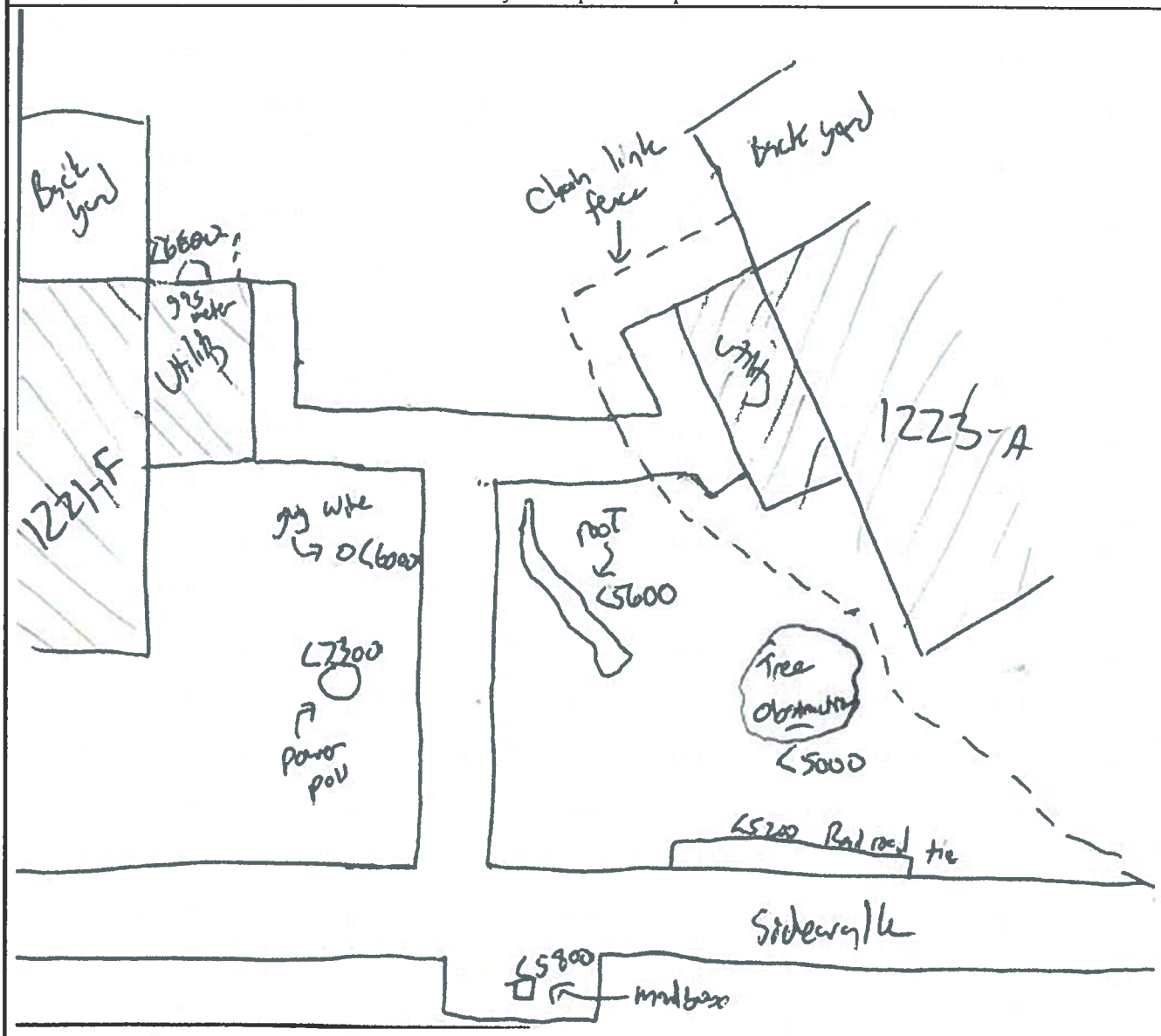
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-055	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1221 apartment " N/A" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

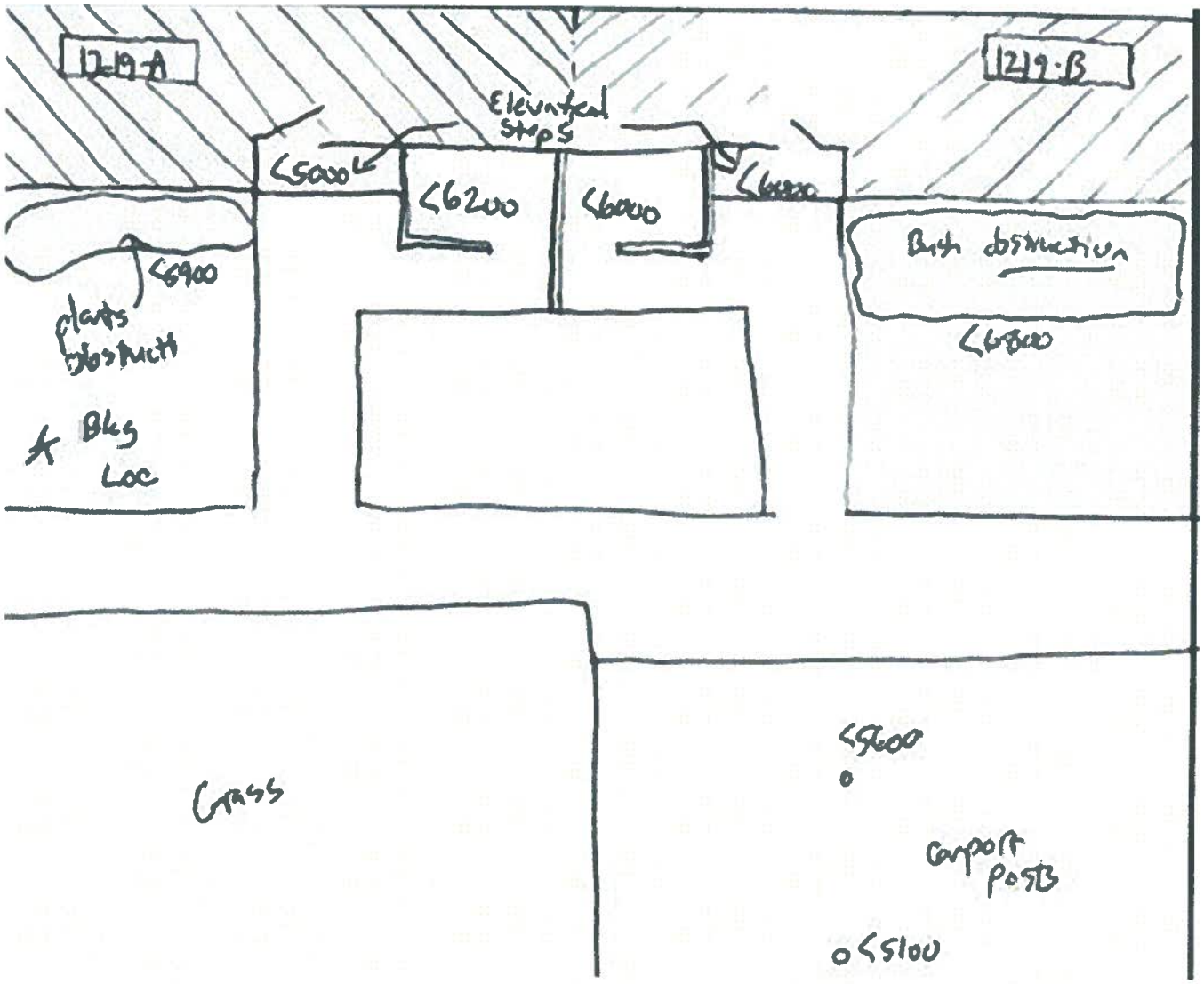
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-056	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	5960	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1219 apartment " A & B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

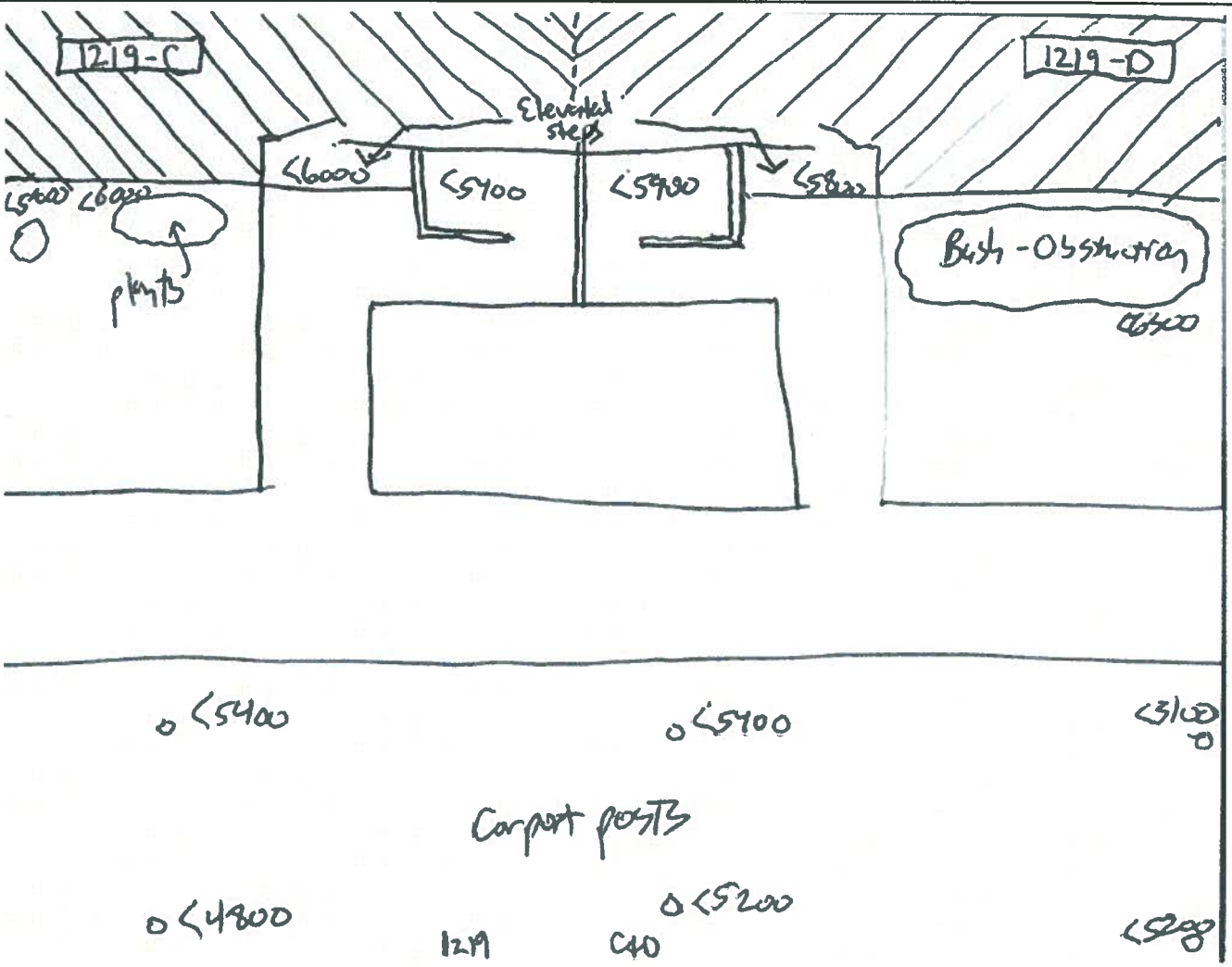
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-056	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1219 apartment " C & D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

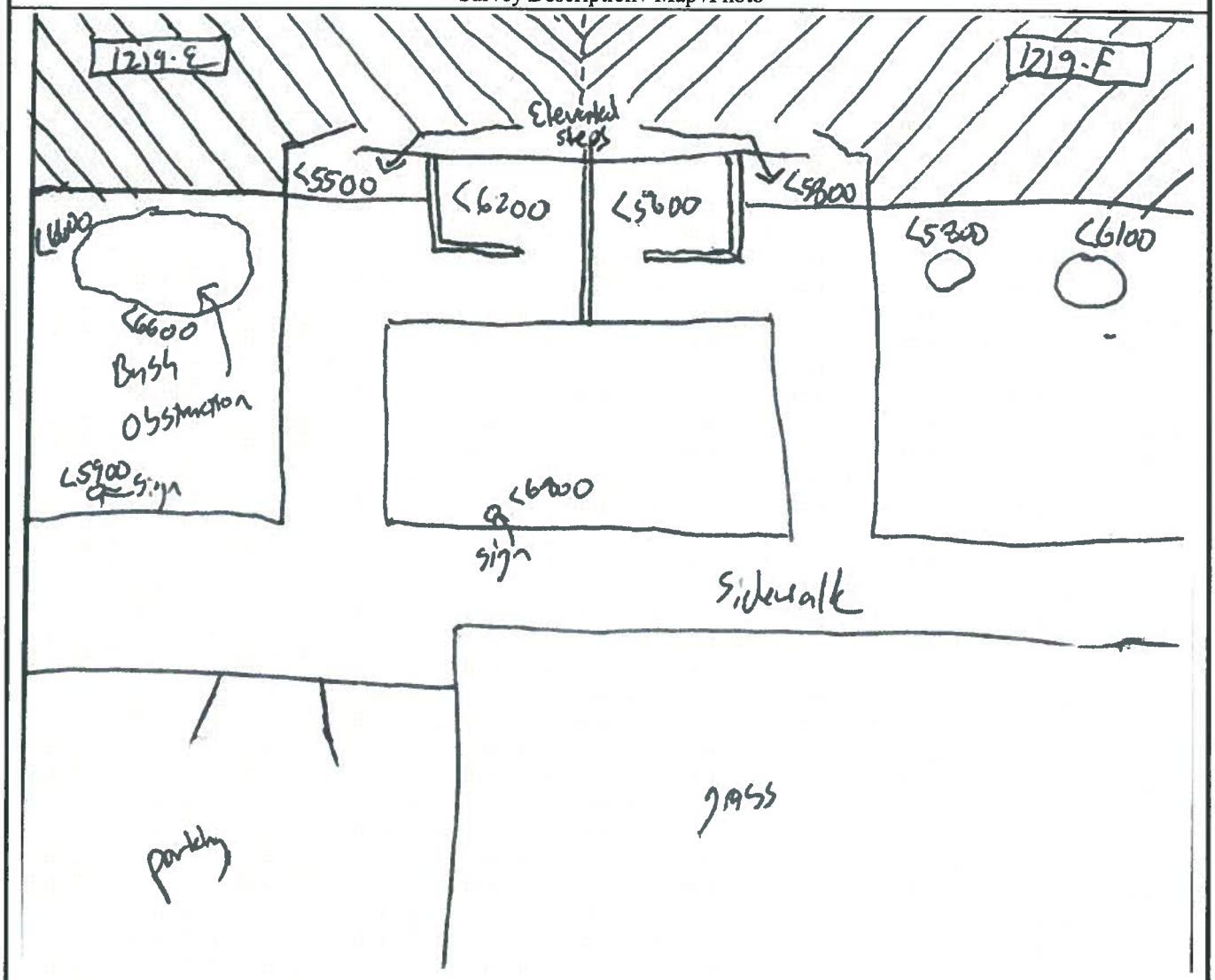
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-056	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1219 apartment " E & F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

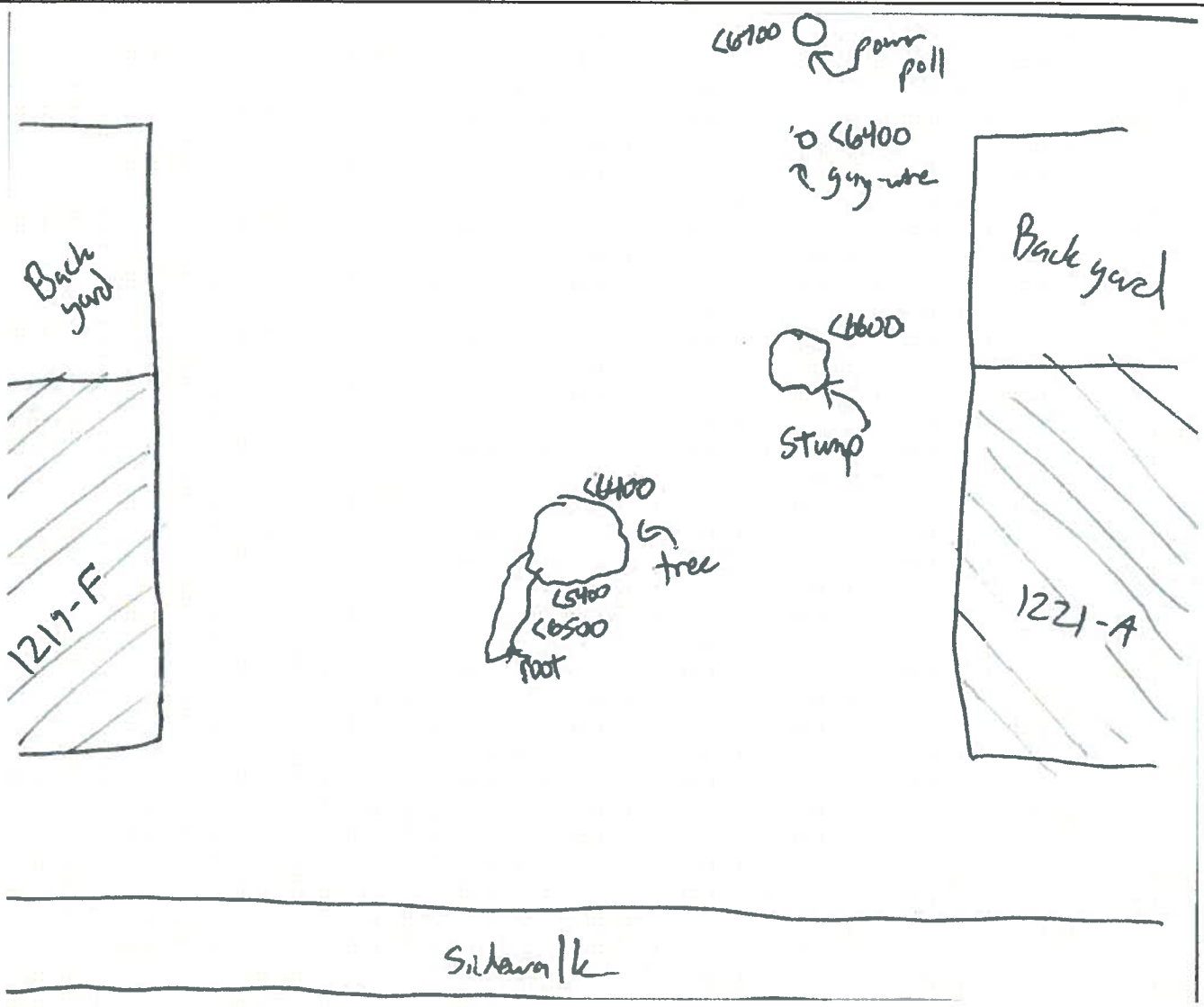
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-056	Date: 10/10/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1219 apartment " N/A" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

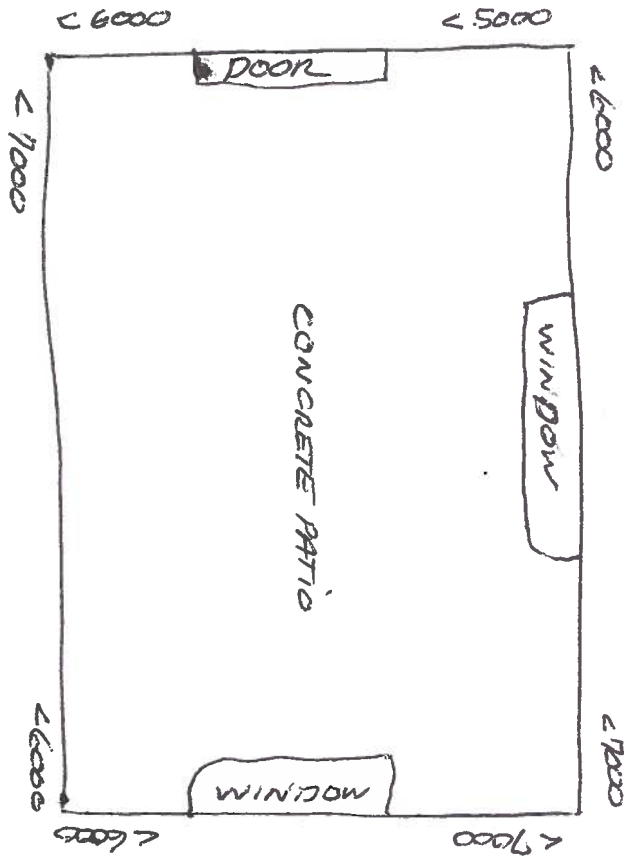
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-057	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	6342	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1437 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

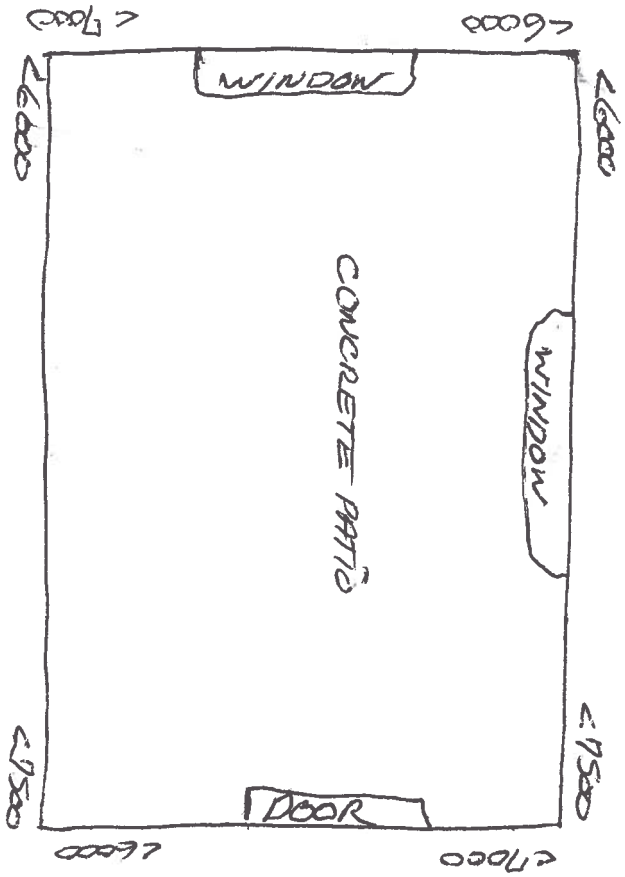
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 057	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1437 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

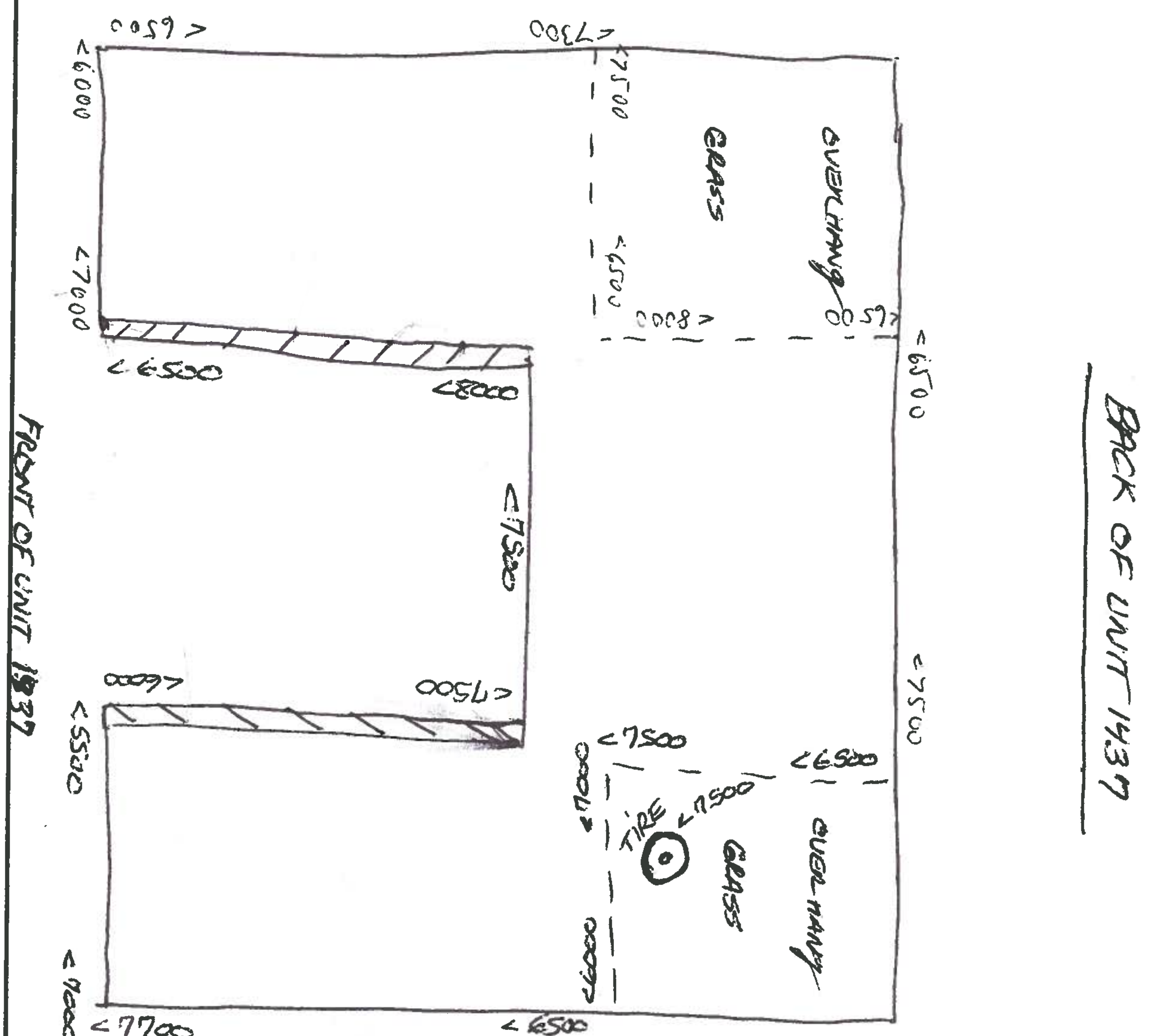
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 057	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1437 apartment "___" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

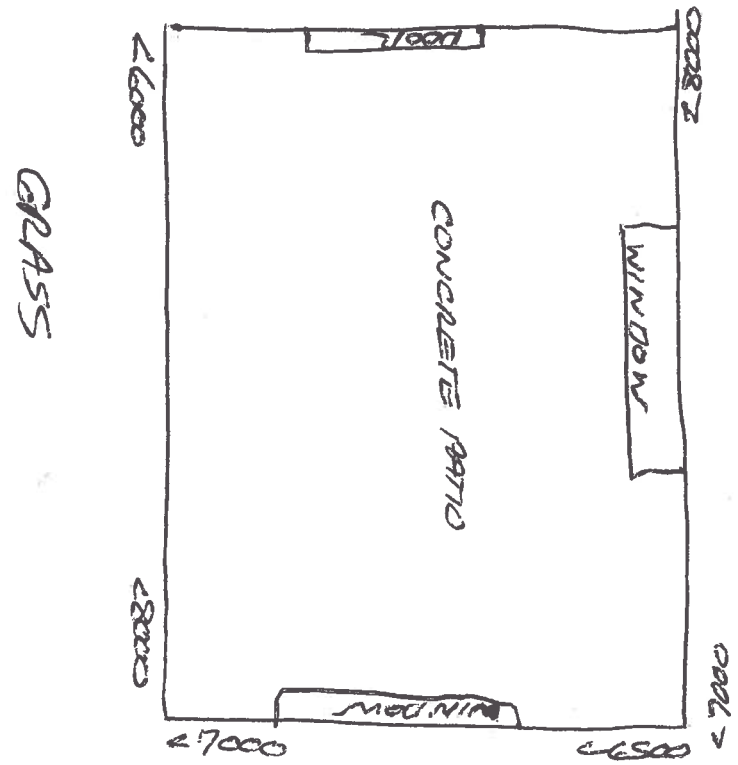
ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 058	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6430	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1439 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

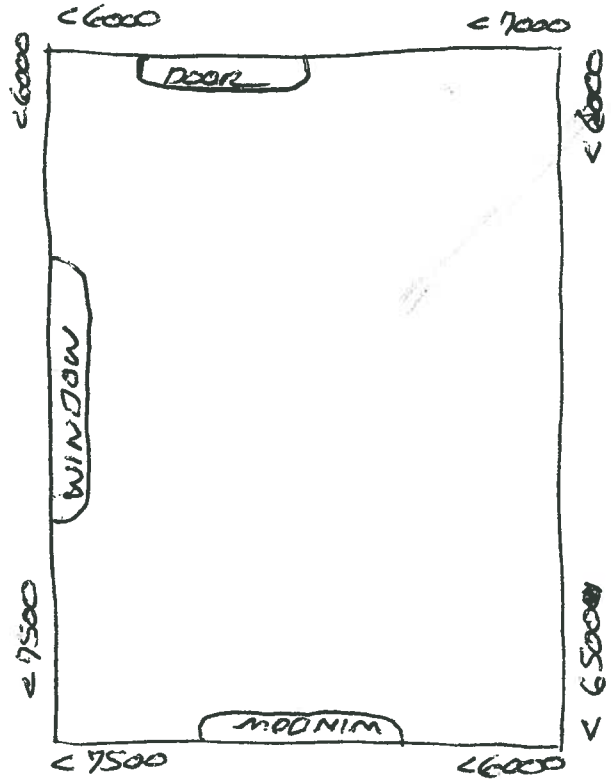
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 058	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1439 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

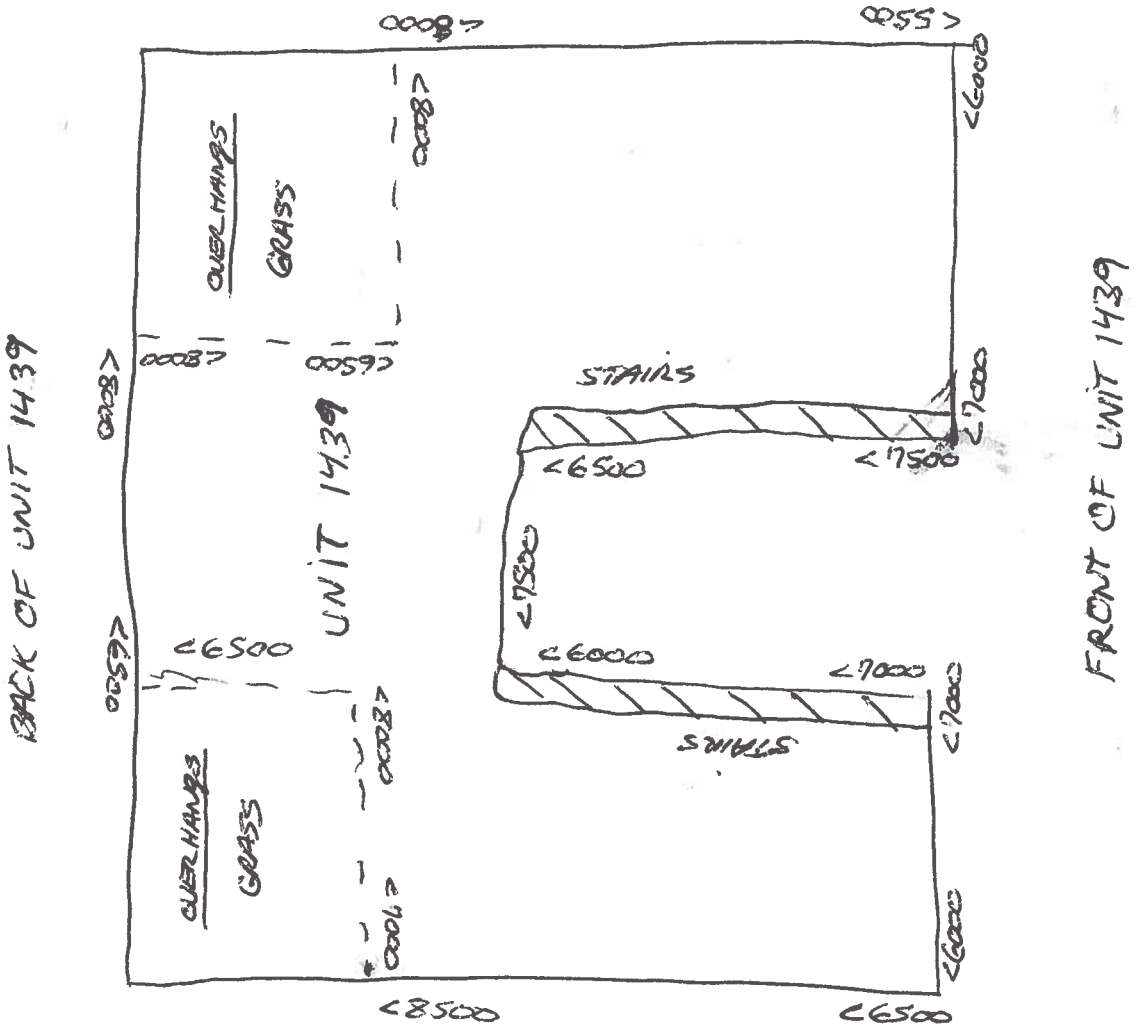
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 058	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

PERIMETER UNIT 1439

Survey Description / Map /Photo



Building 1439 apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

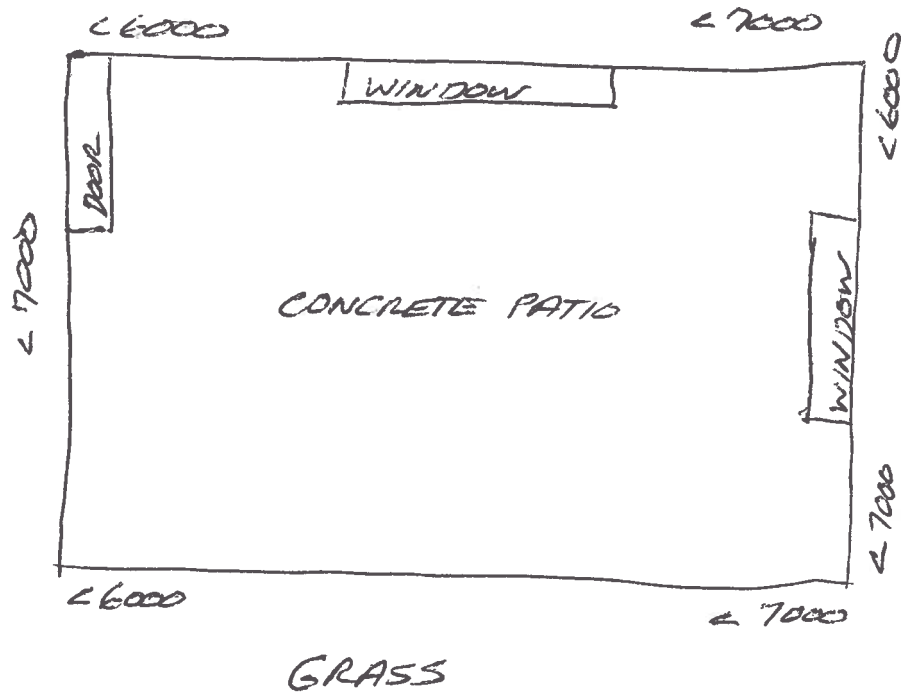
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-059	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JULY 14	44-10	19765	27 JULY 14	N / A	N / A	7109	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1441 apartment "A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

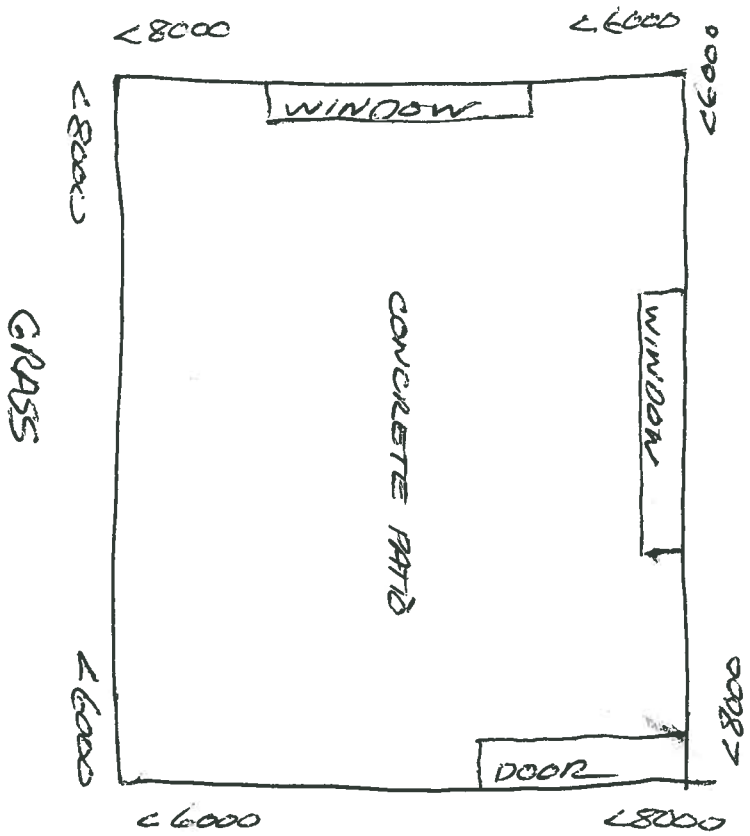
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 059	Date: 10-15-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1441 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

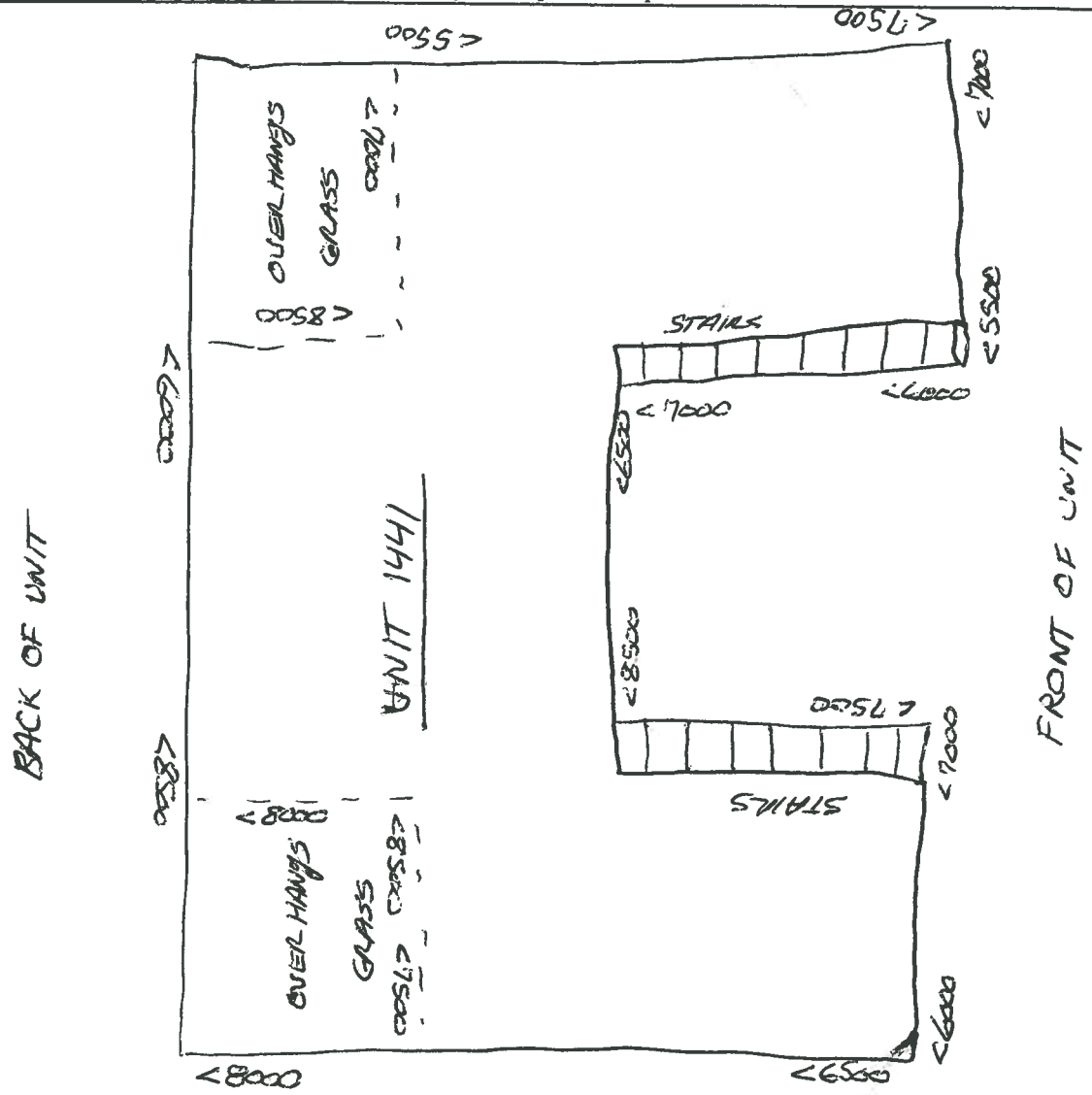
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-059	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

* Big WATER LEAK ON SIDE OF BLD 1441

UNIT 1441 PERIMENTER

Survey Description / Map /Photo



Building 1441 apartment "UA" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

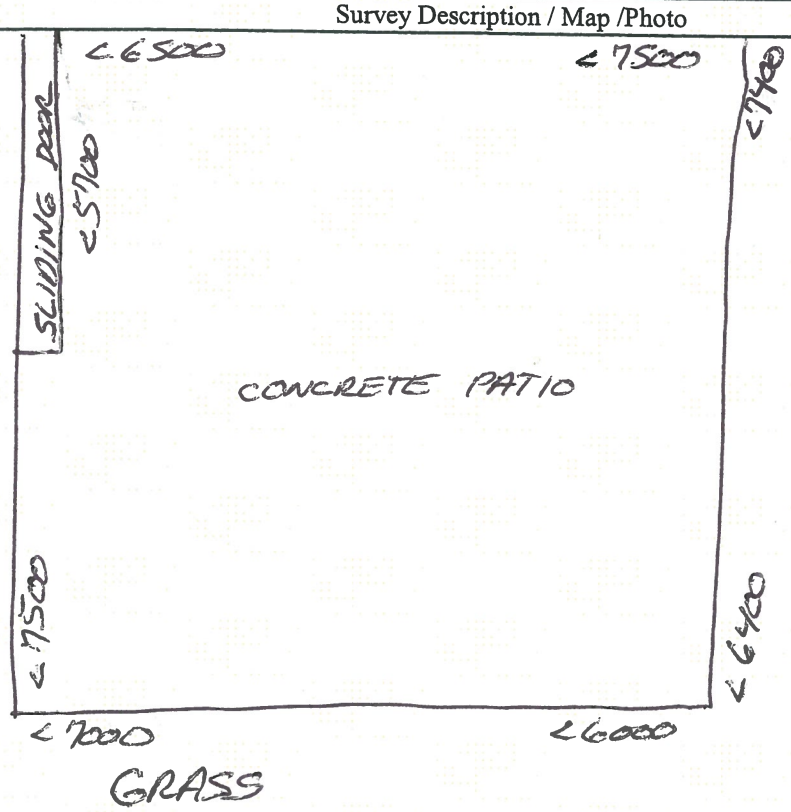
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-060	Date: 10-15-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6803	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1443 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

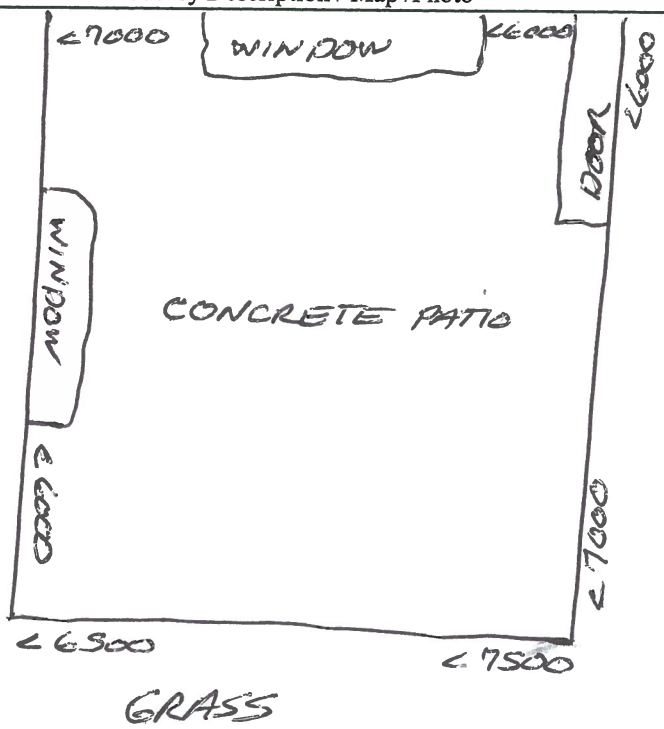
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 060	Date: 10-15-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1443 apartment "B" Backyard

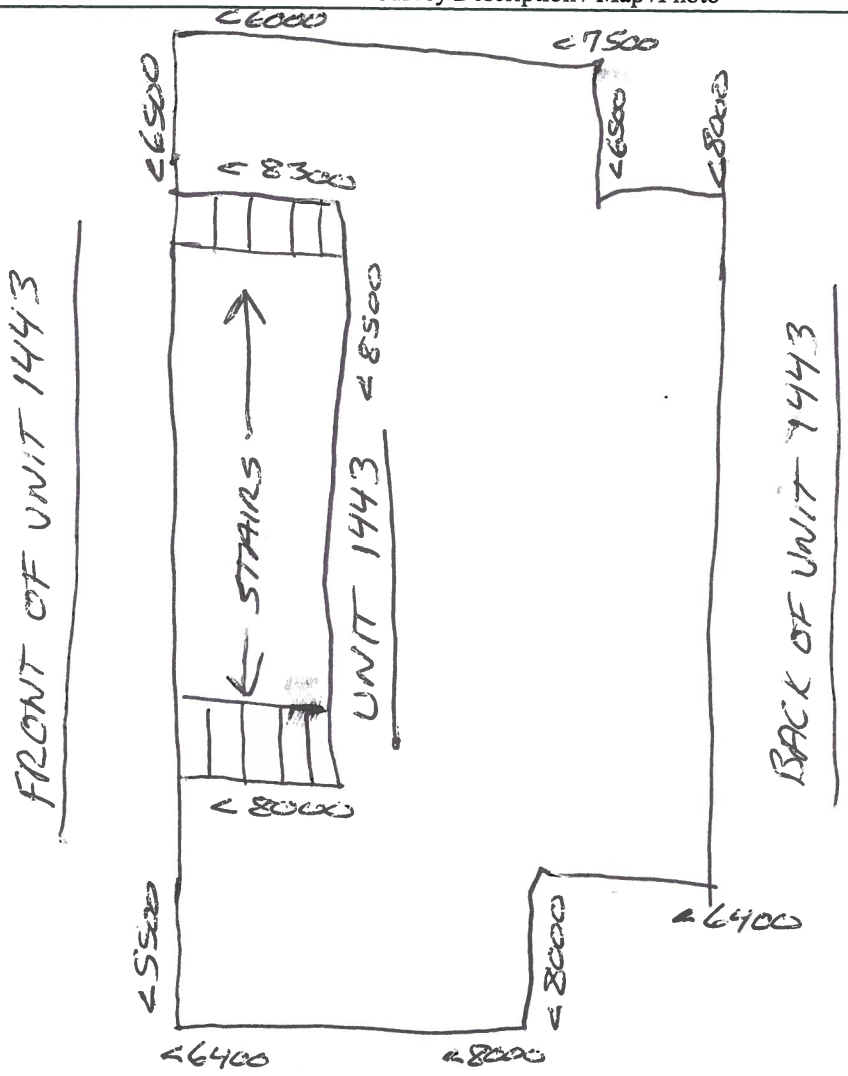
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-060	Date: 10-15-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1443 apartment "___" Backyard

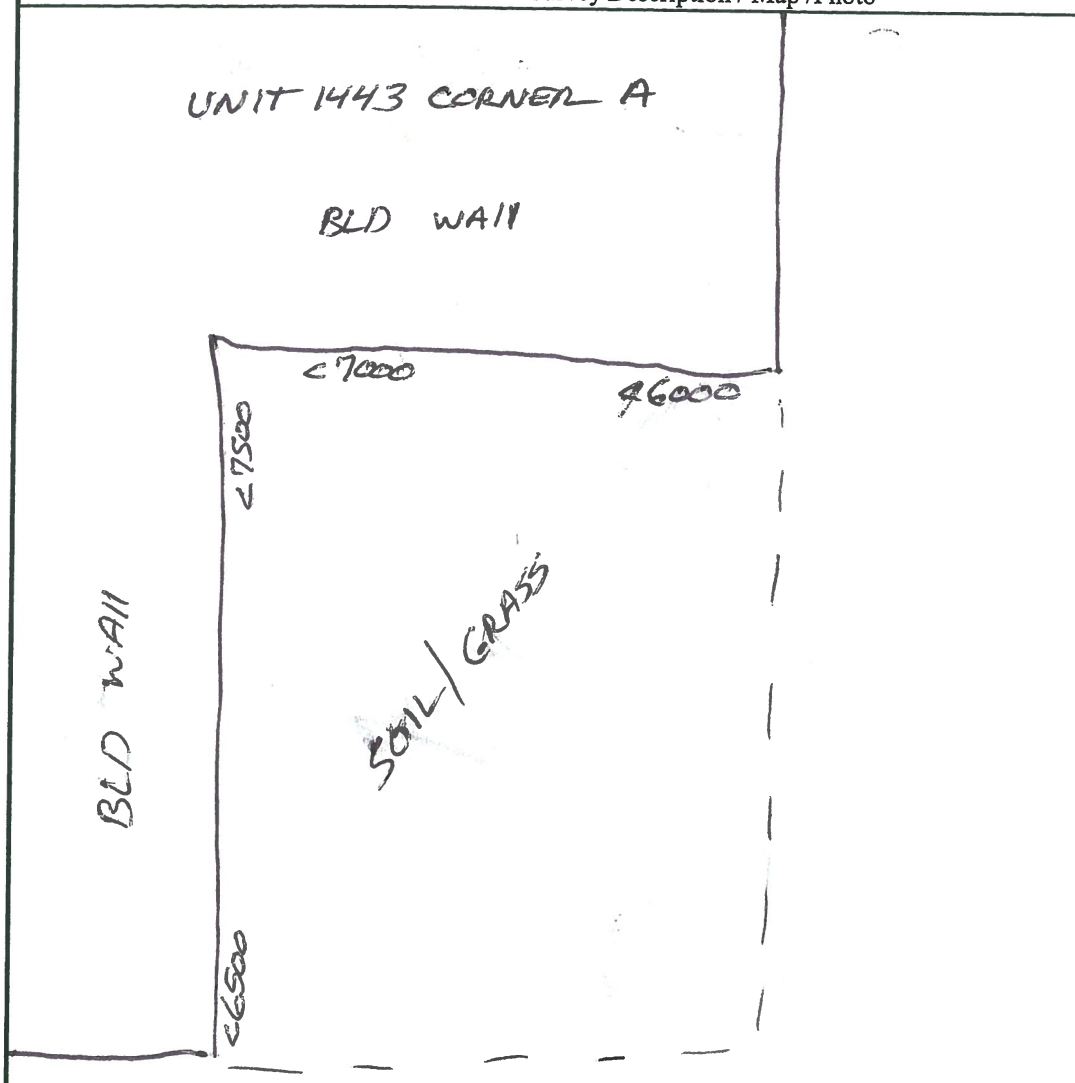
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-060	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1443 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

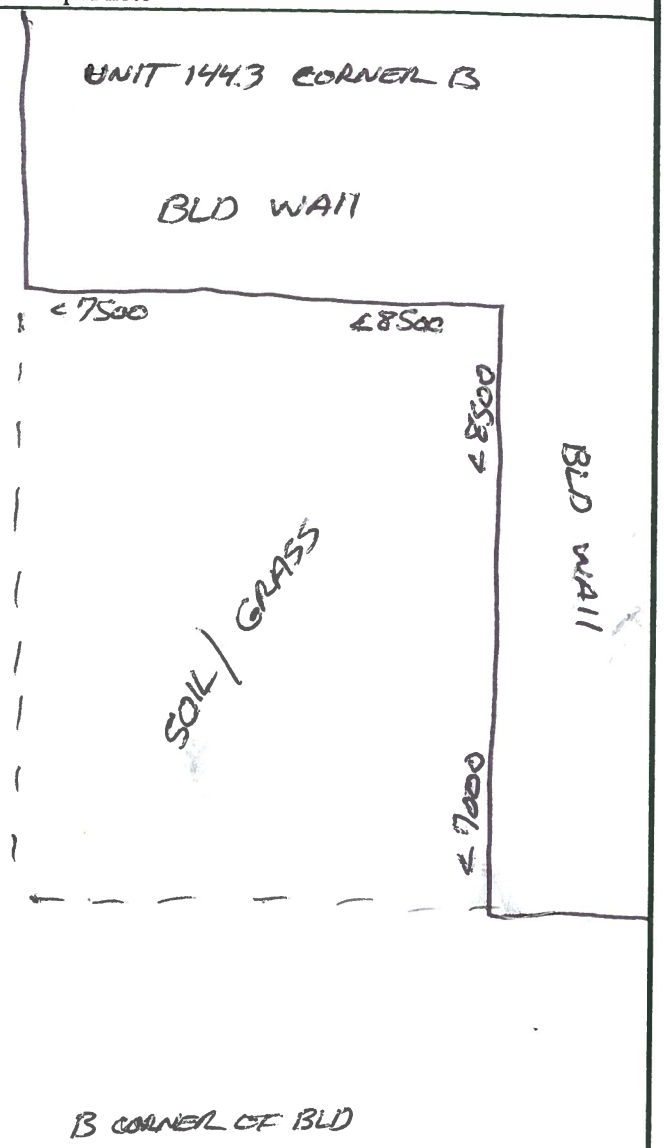
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-060	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 144.3 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

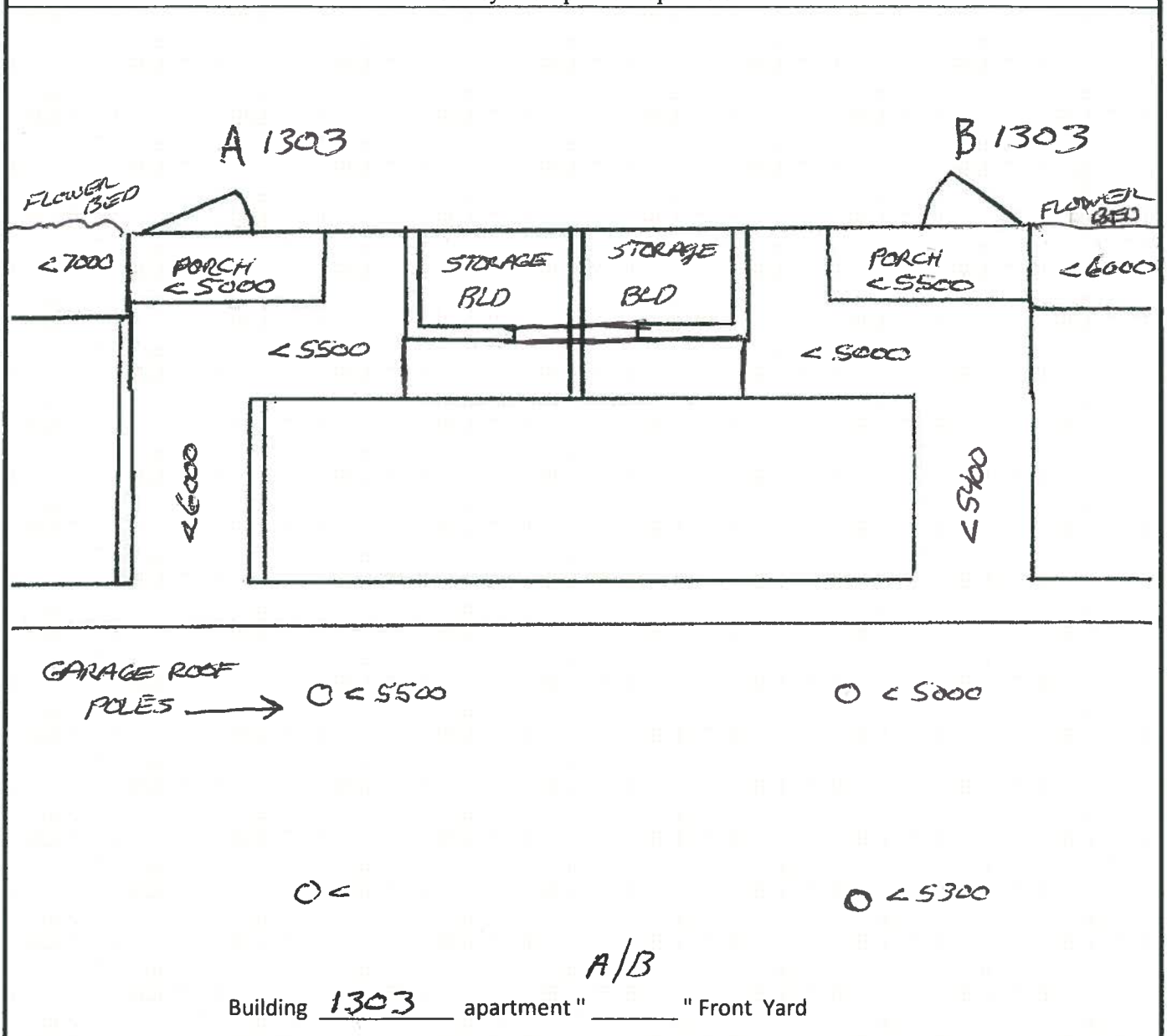
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-061	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JULY 14	44-10	19765	27 JULY 14	N / A	N / A	5819	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1303 apartment " A/B " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

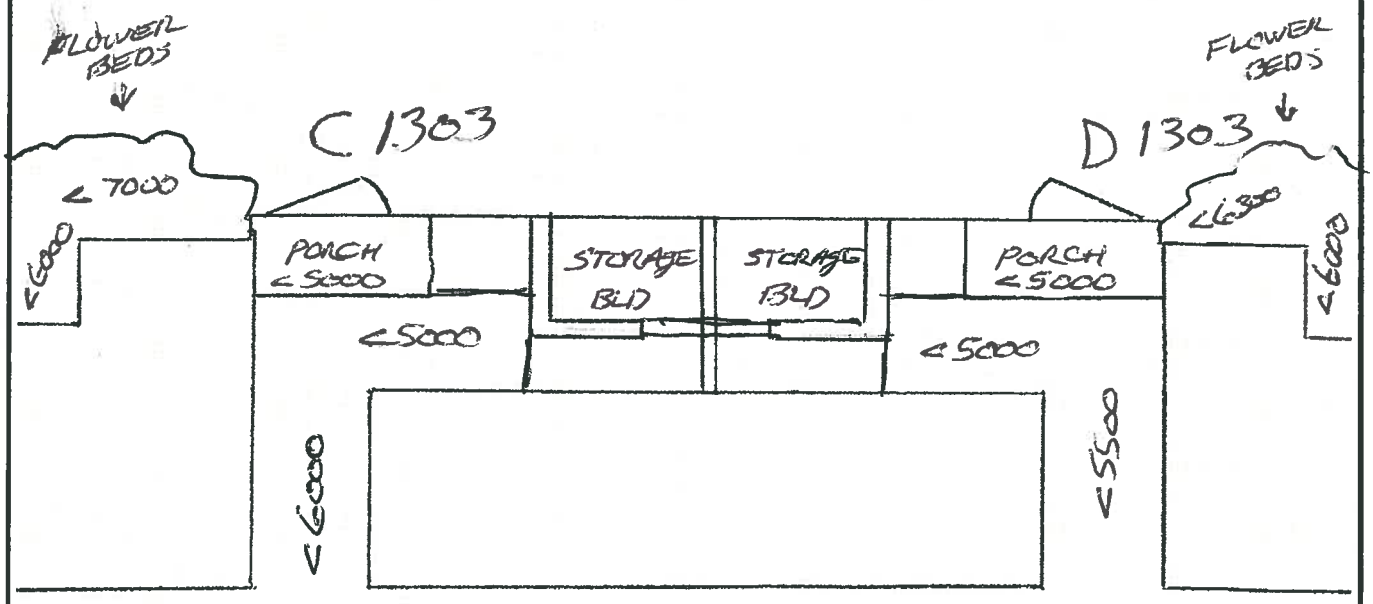
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-061	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



0 < 5000

0 < 5700

0 < 5000

0 < 6000

Building 1303 apartment " C/D " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

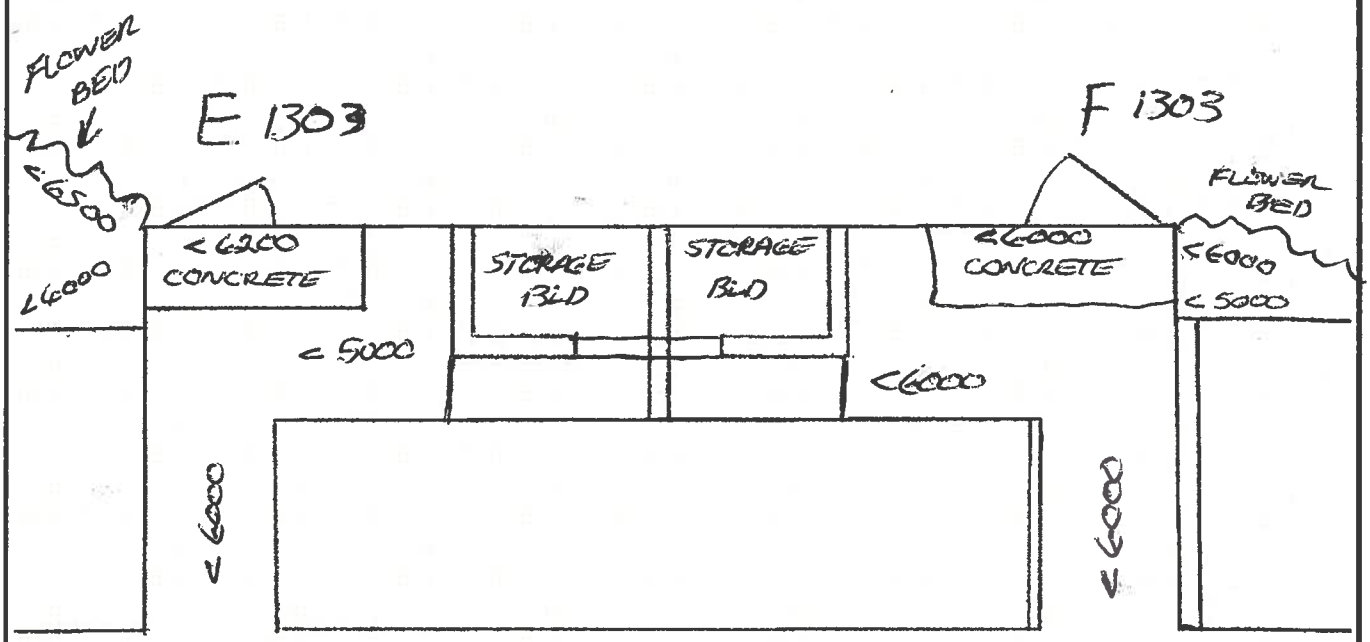
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-0101	Date: 10-15-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



O <5500

O <5000

O <5000

O <5000

Building 1303 apartment " E/F " Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

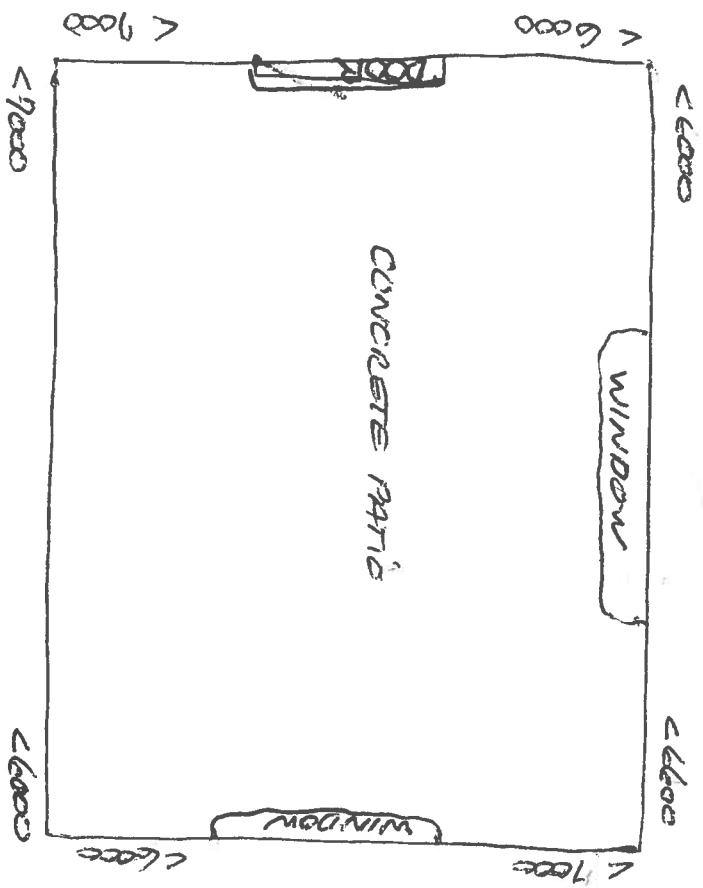
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 062	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	6921	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1438 apartment " A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

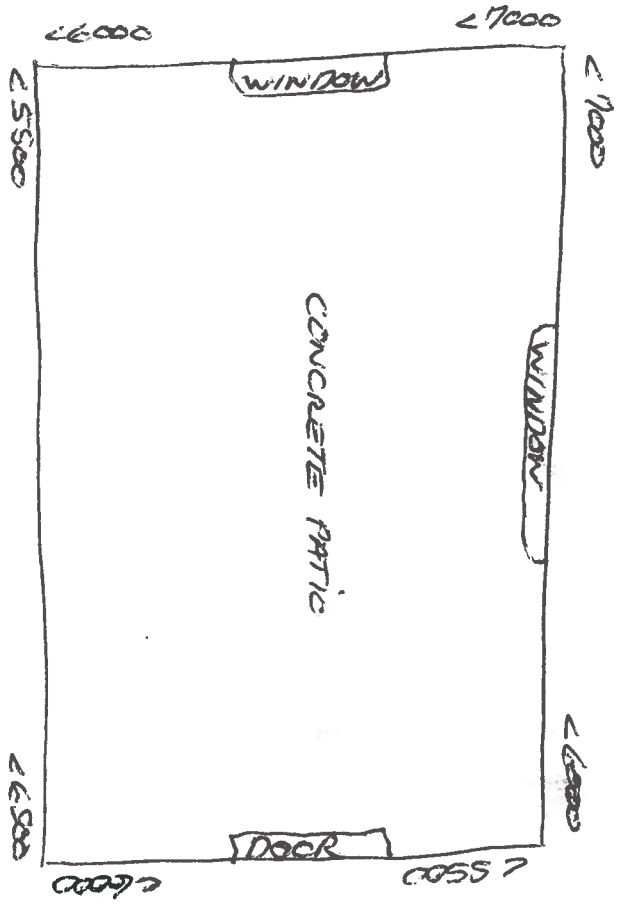
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 062	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1438 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

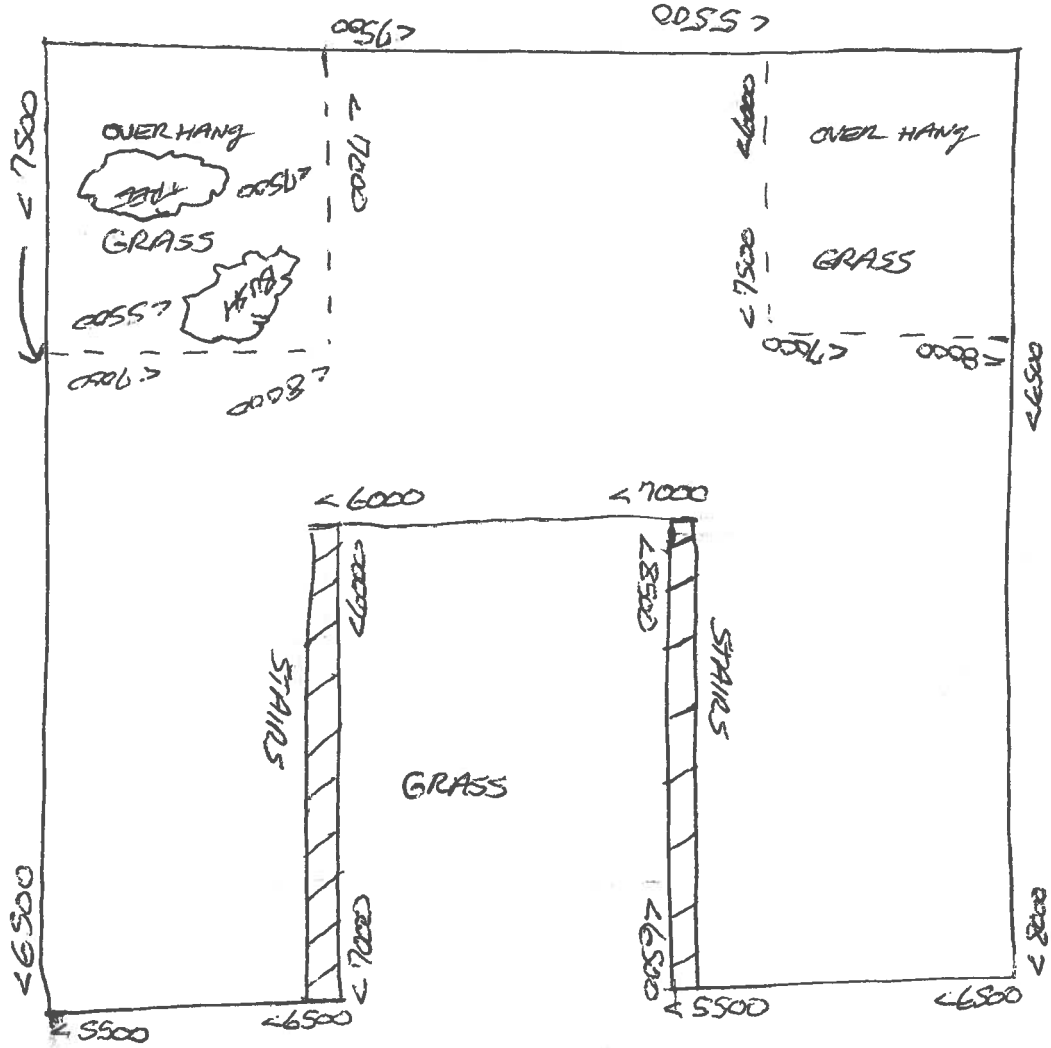
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-062	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1438 Apartment "N/A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

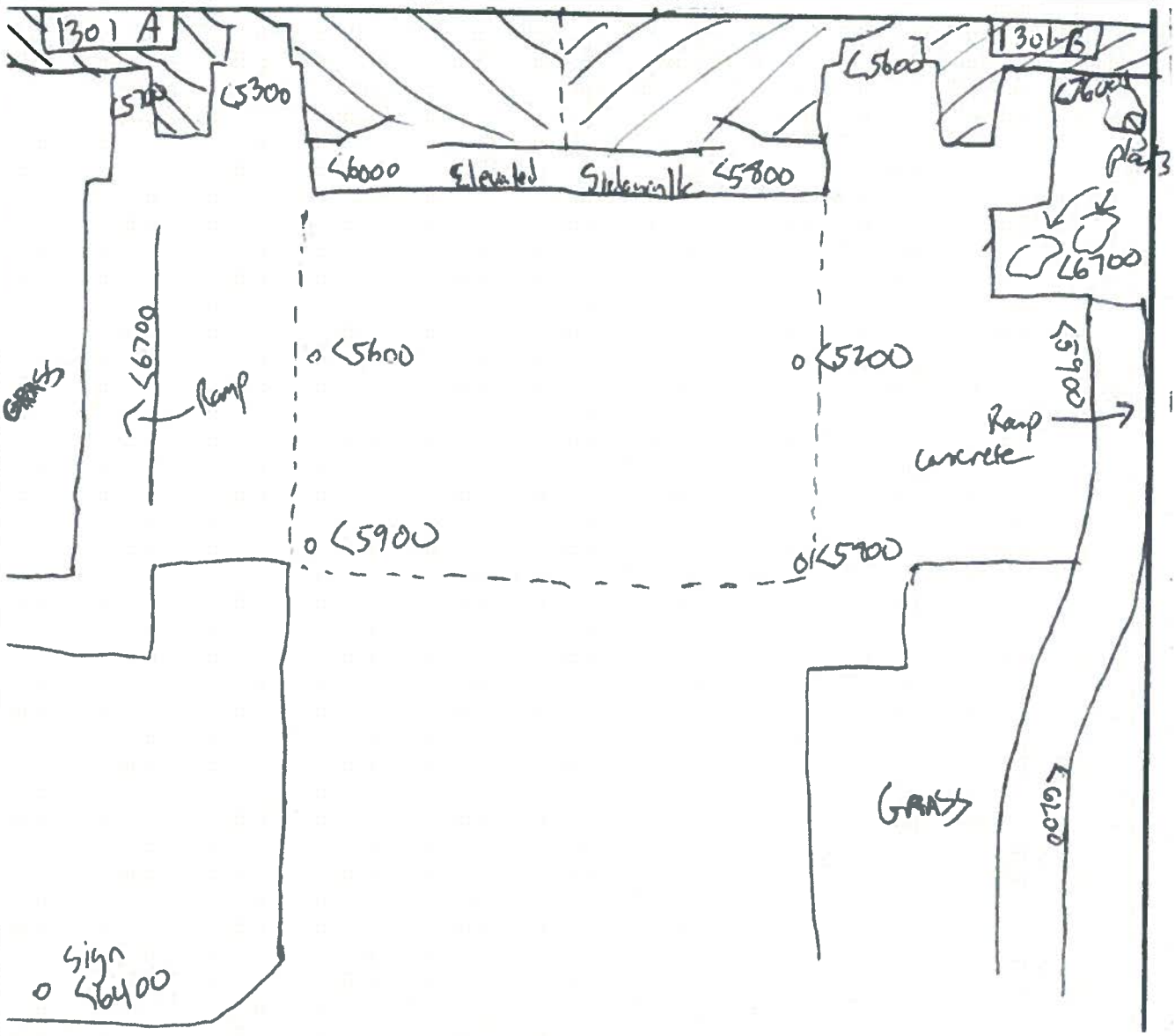
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-063	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	6046	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1301 apartment " A & B" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

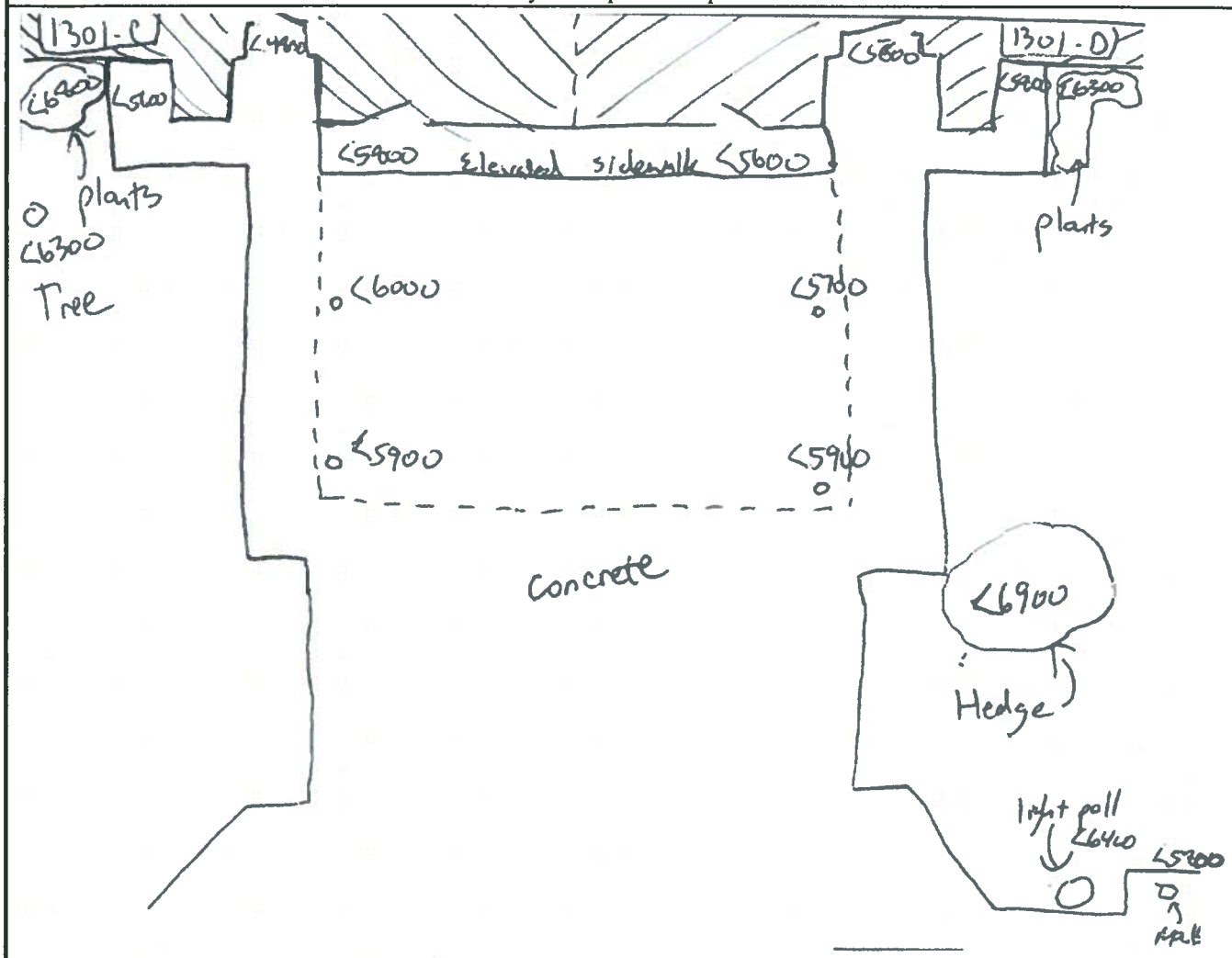
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-063	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1301 apartment " C & D" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

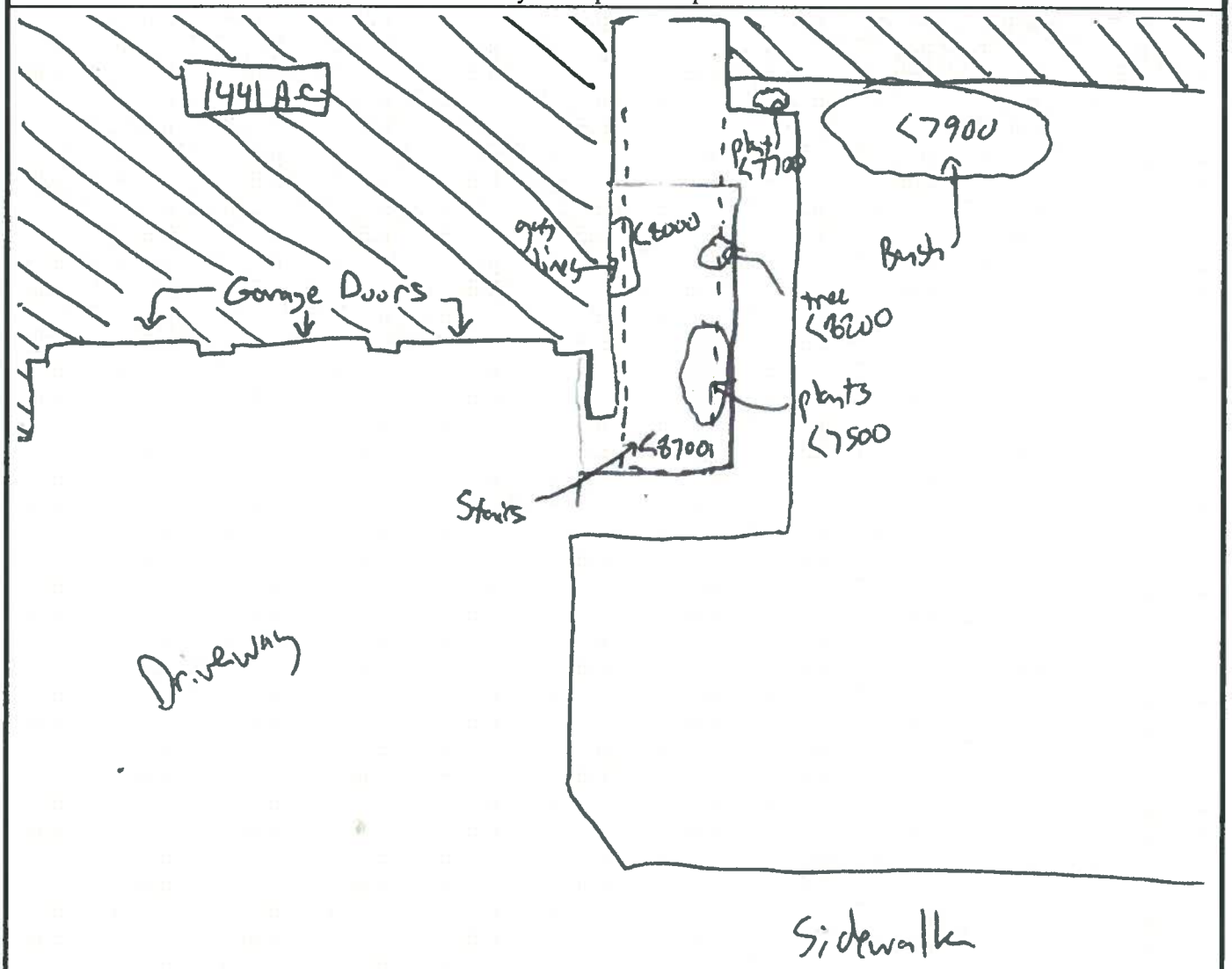
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-064	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	5941	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1441 apartment "A-B-C" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

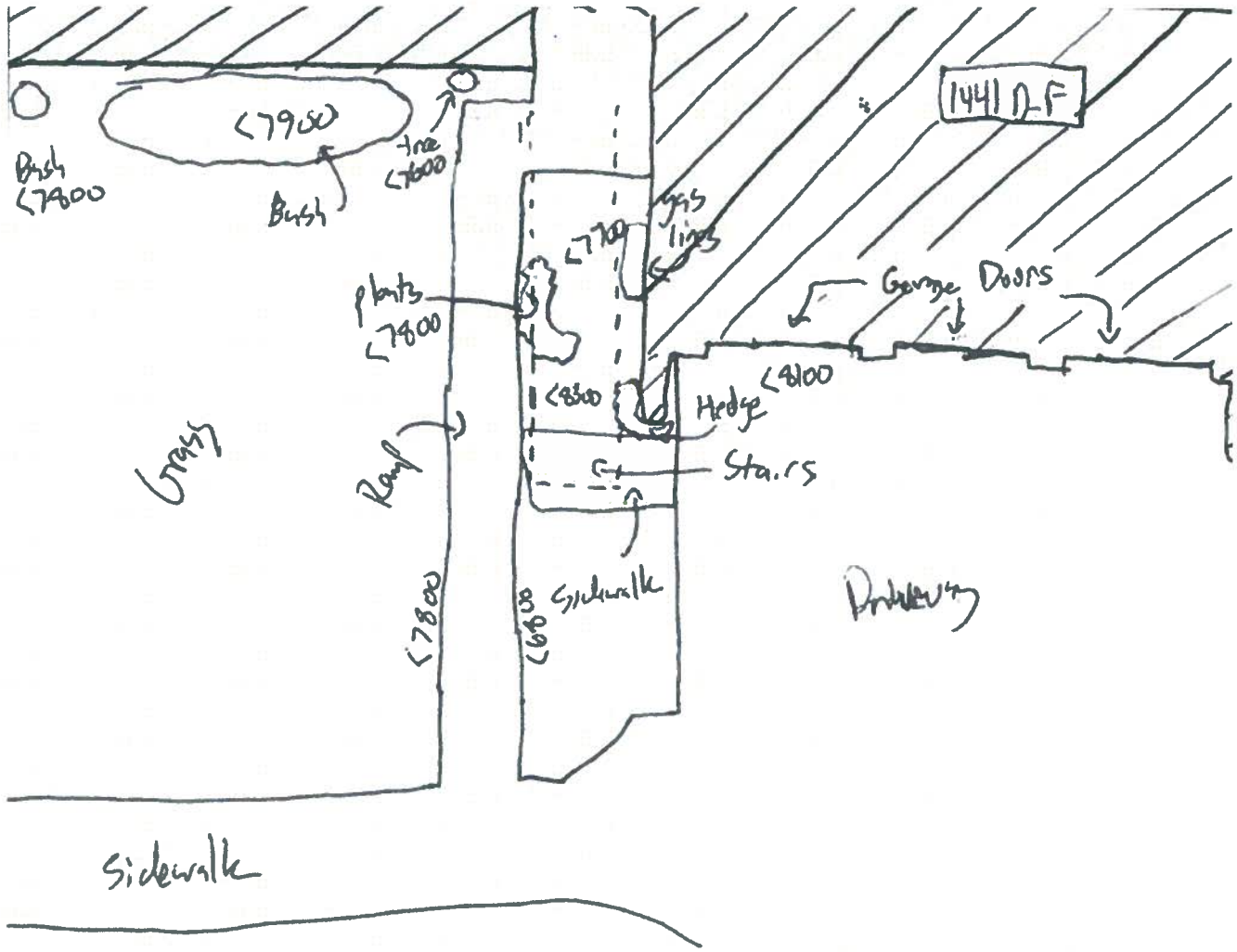
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-064	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1441 apartment "D-E-F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

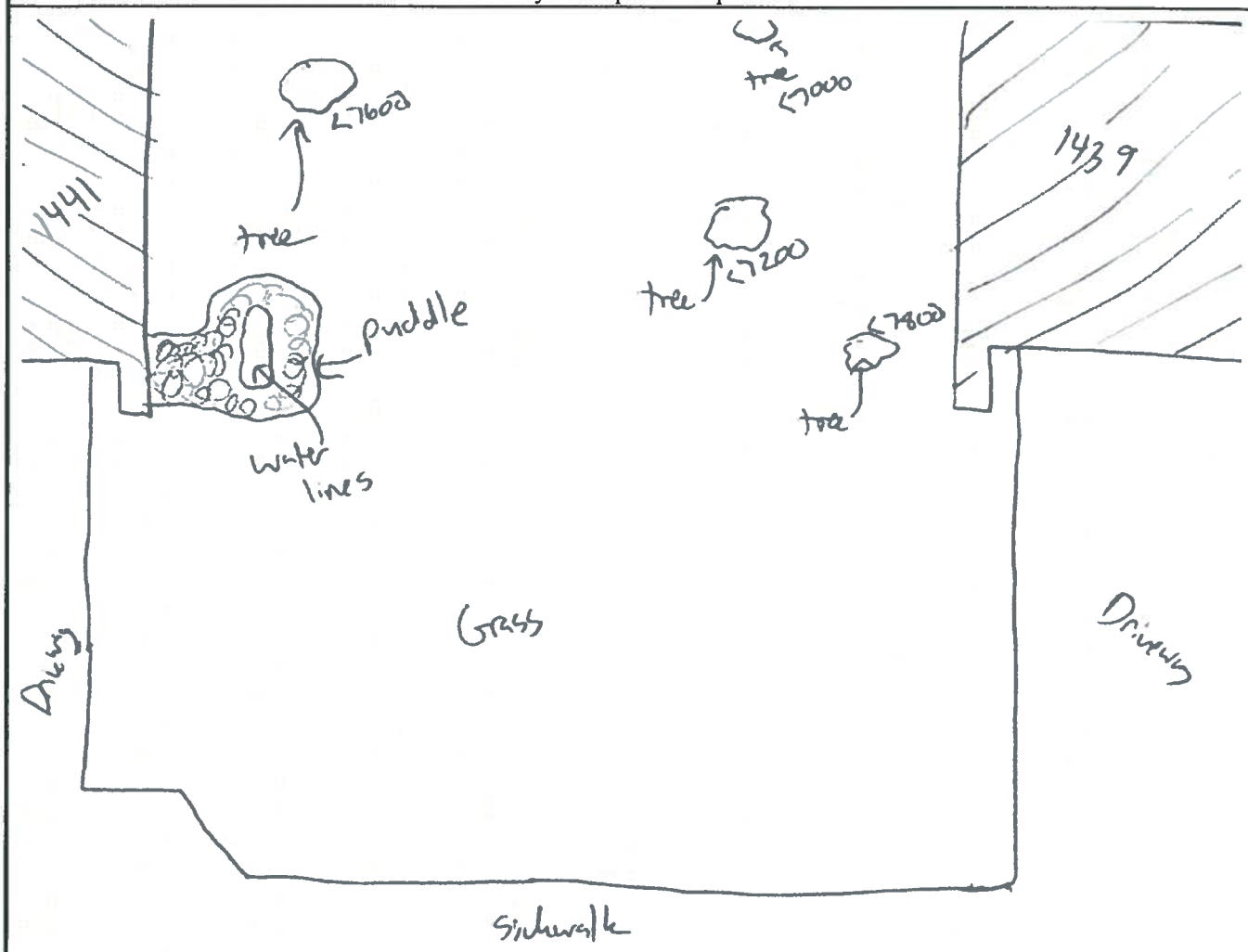
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-064	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1441 apartment "Perimeter" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

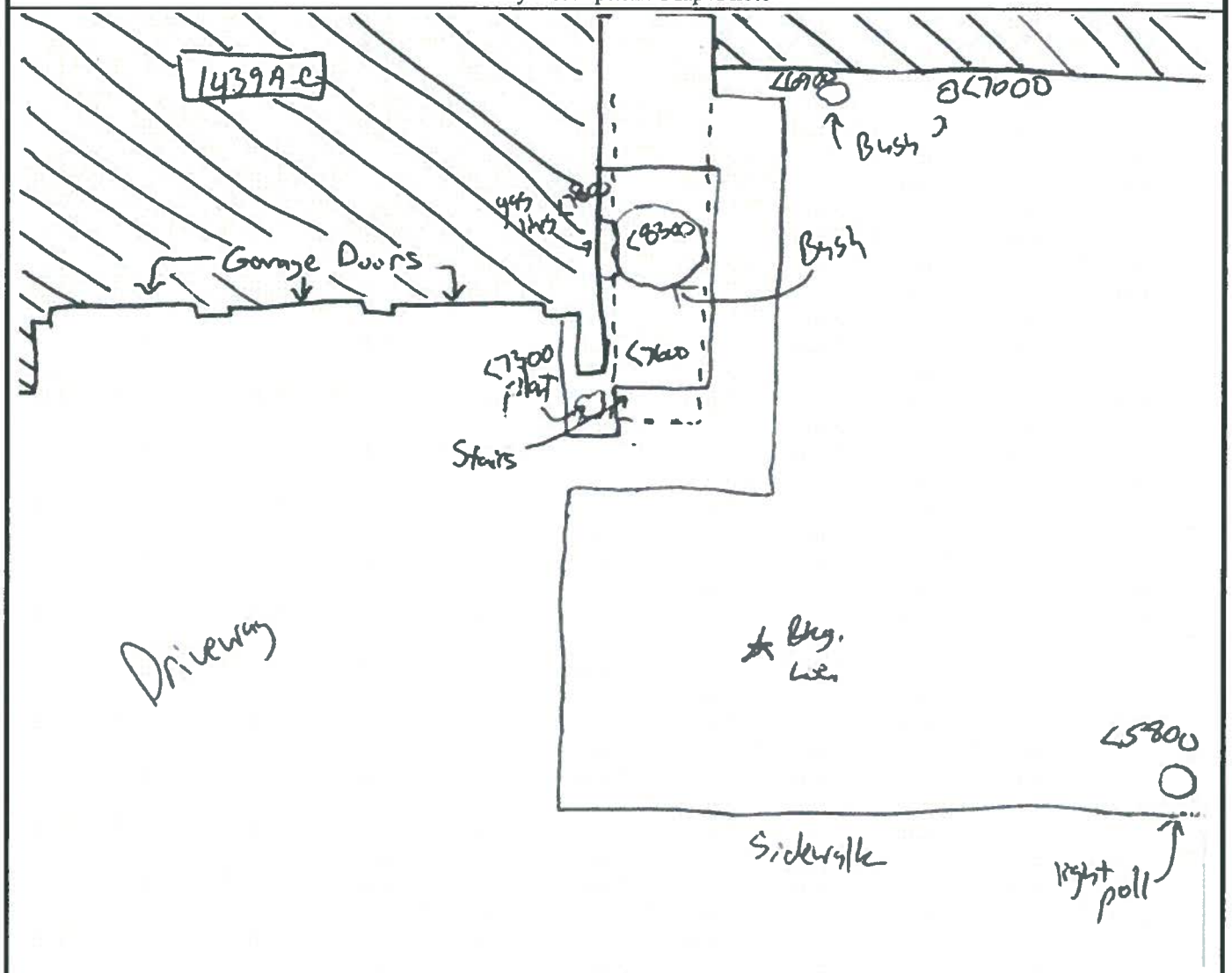
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-065	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	6357	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1439 apartment "A-B-C" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

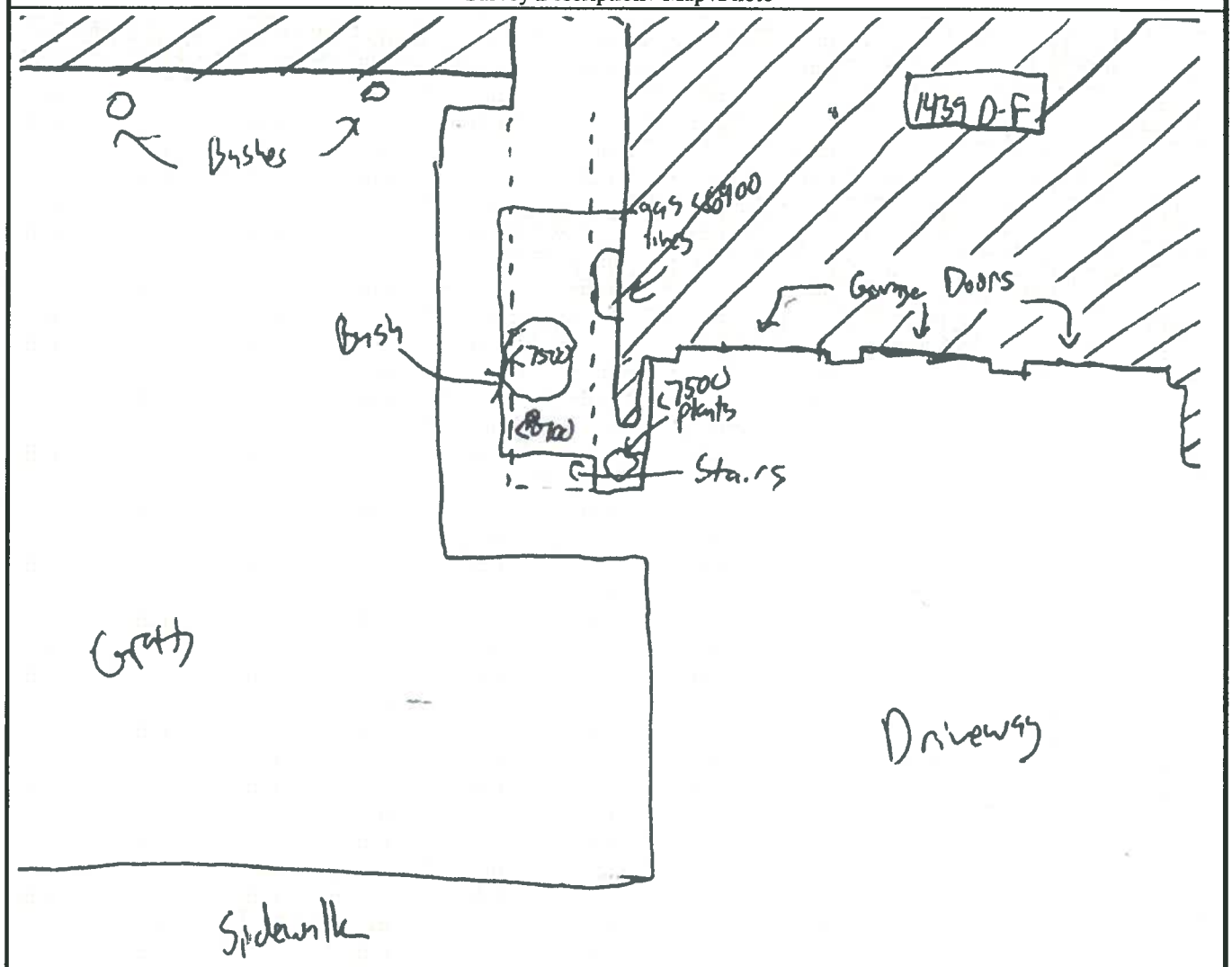
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-065	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1439 apartment "D-E-F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

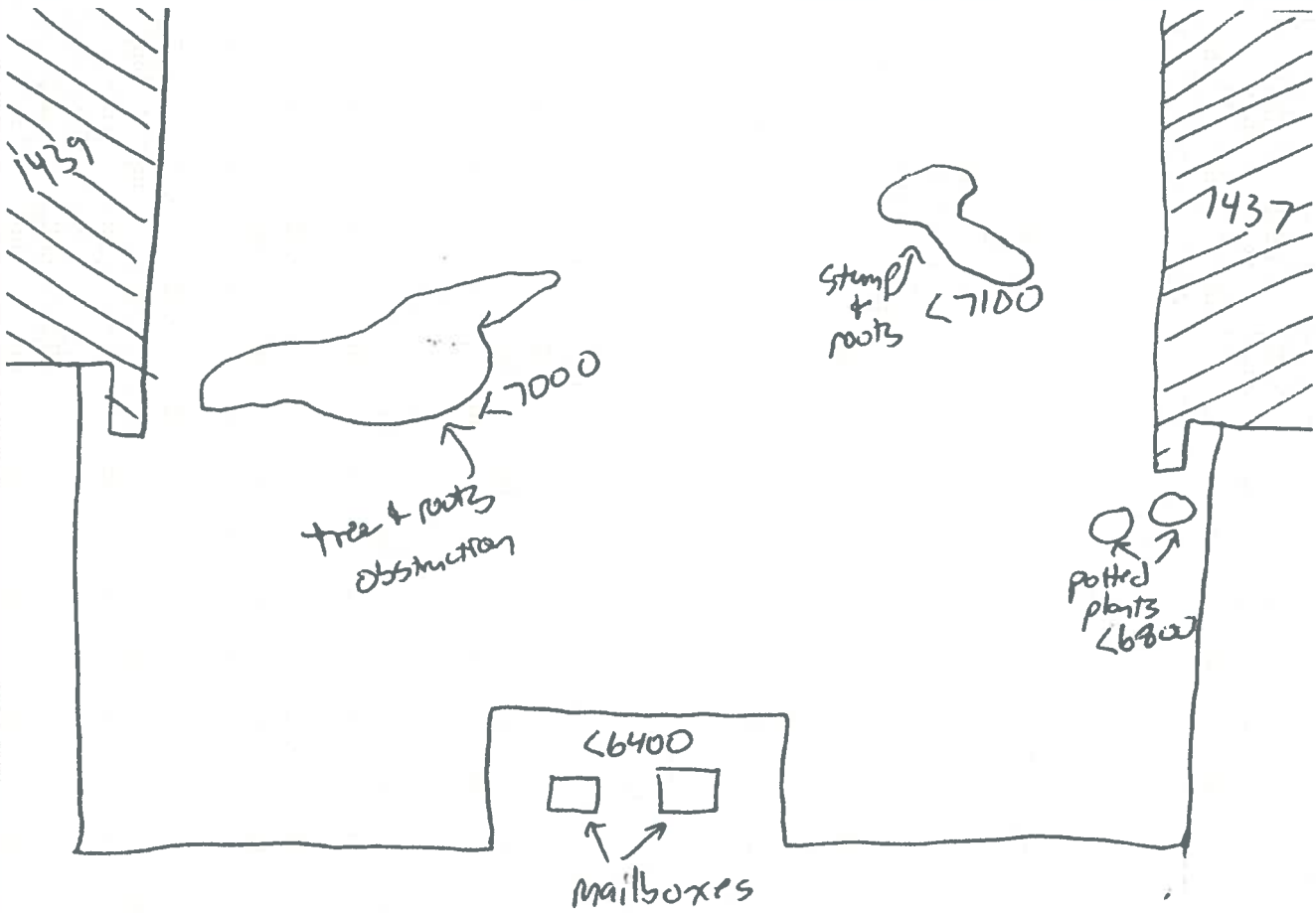
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-065	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1439 apartment "Perimeter" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

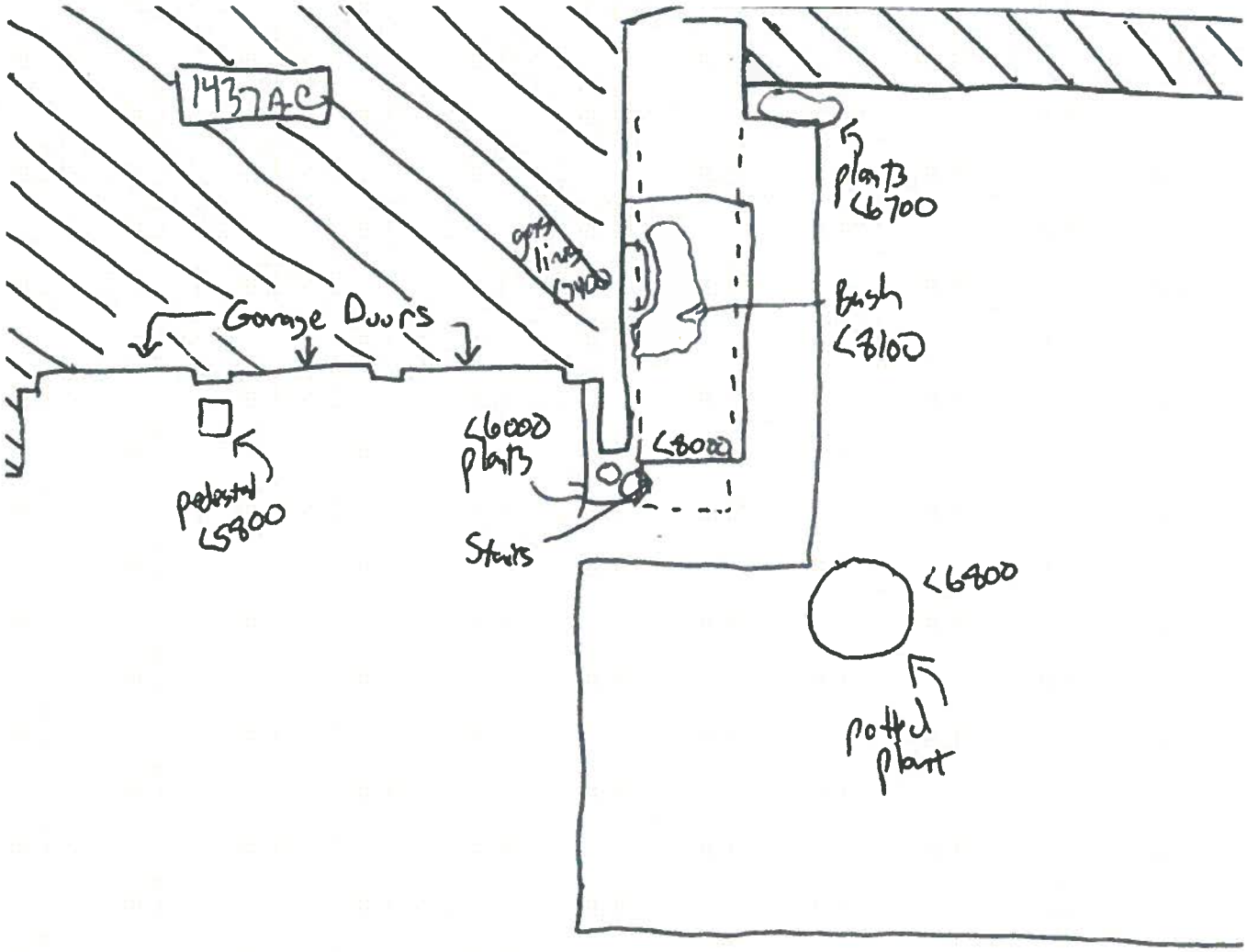
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-066	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	6165	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1437 apartment "A-B-C" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

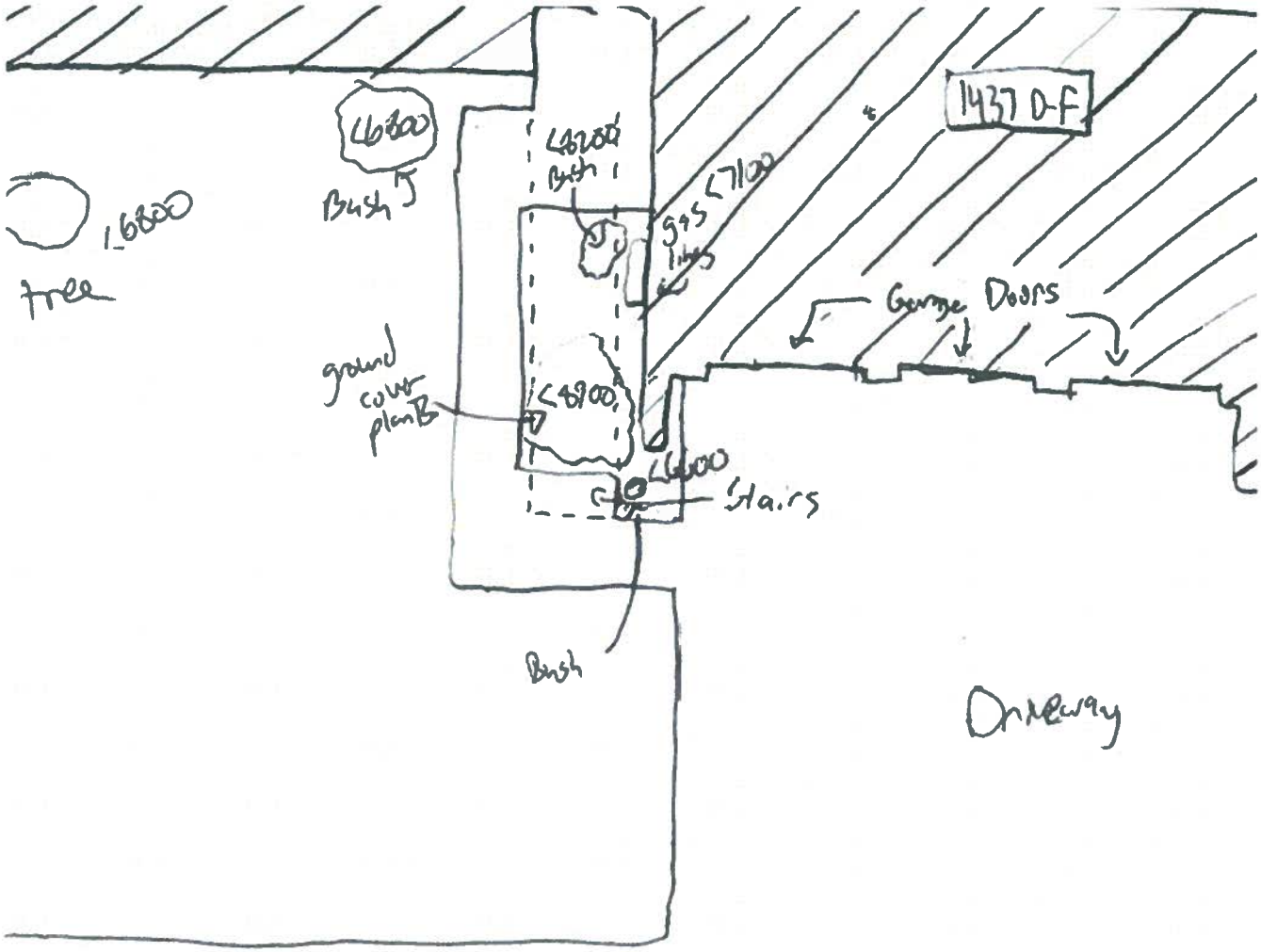
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-066	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1437 apartment "D-E-F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

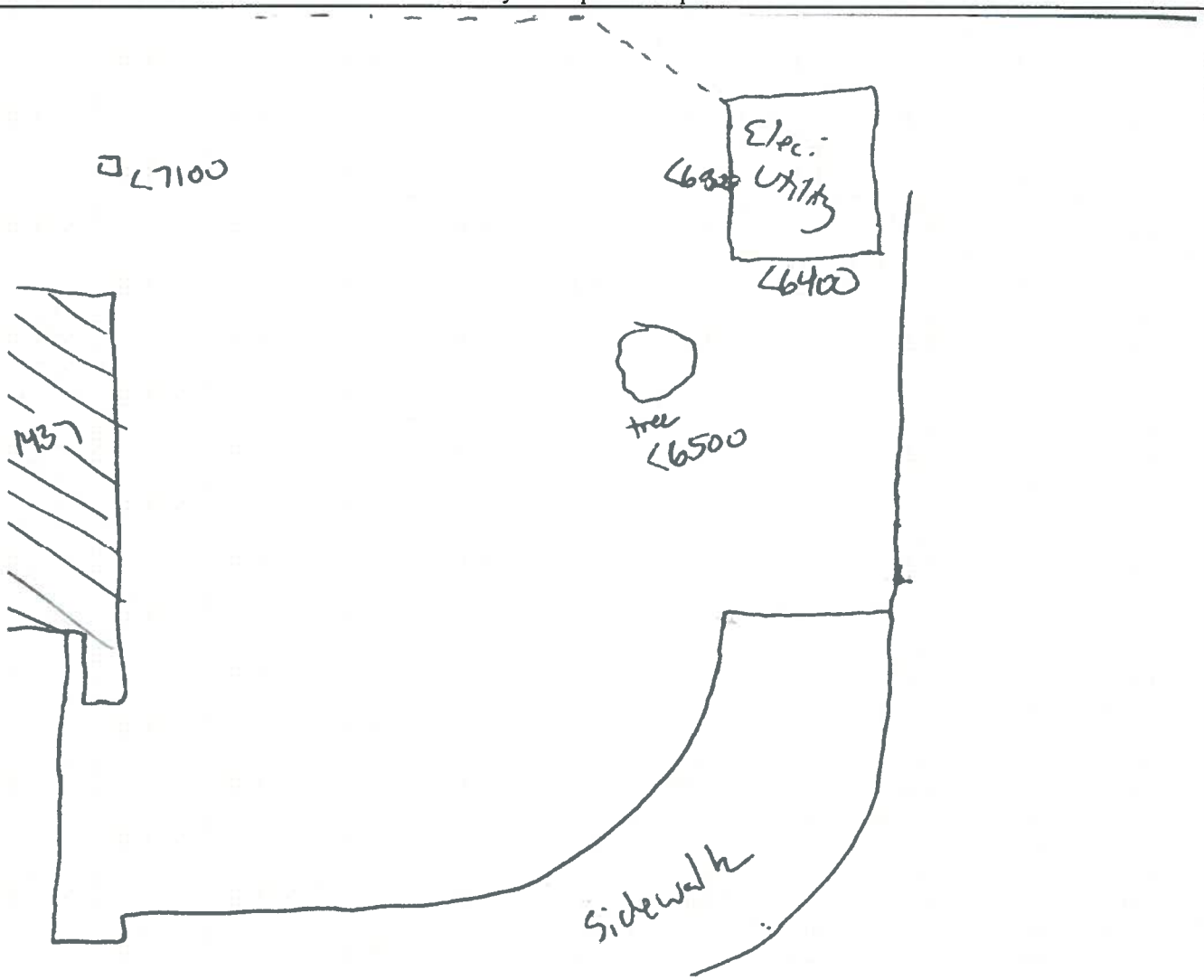
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-066	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1437 apartment "Perimeter" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

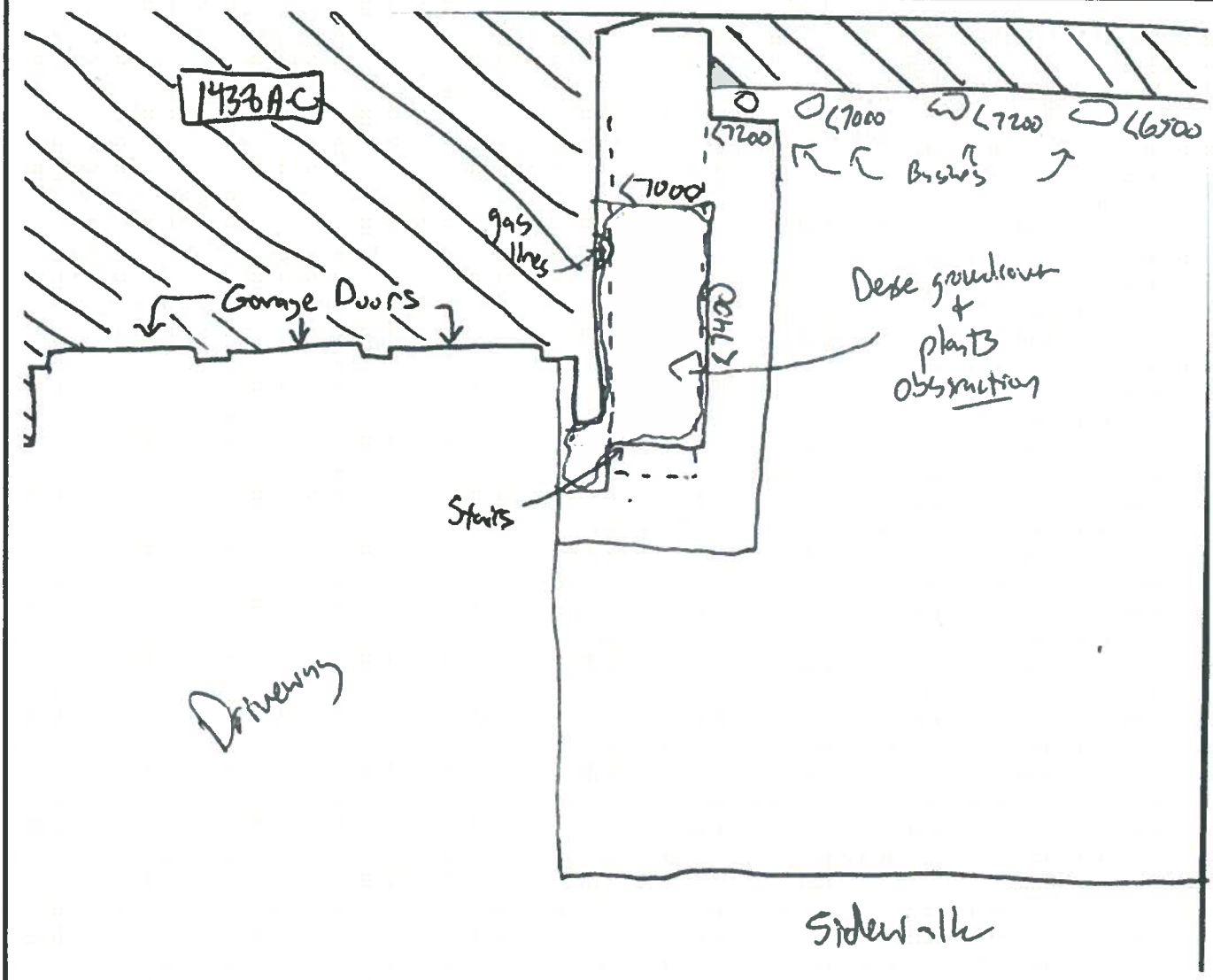
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-067	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	6212	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1438 apartment "A-B-C" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

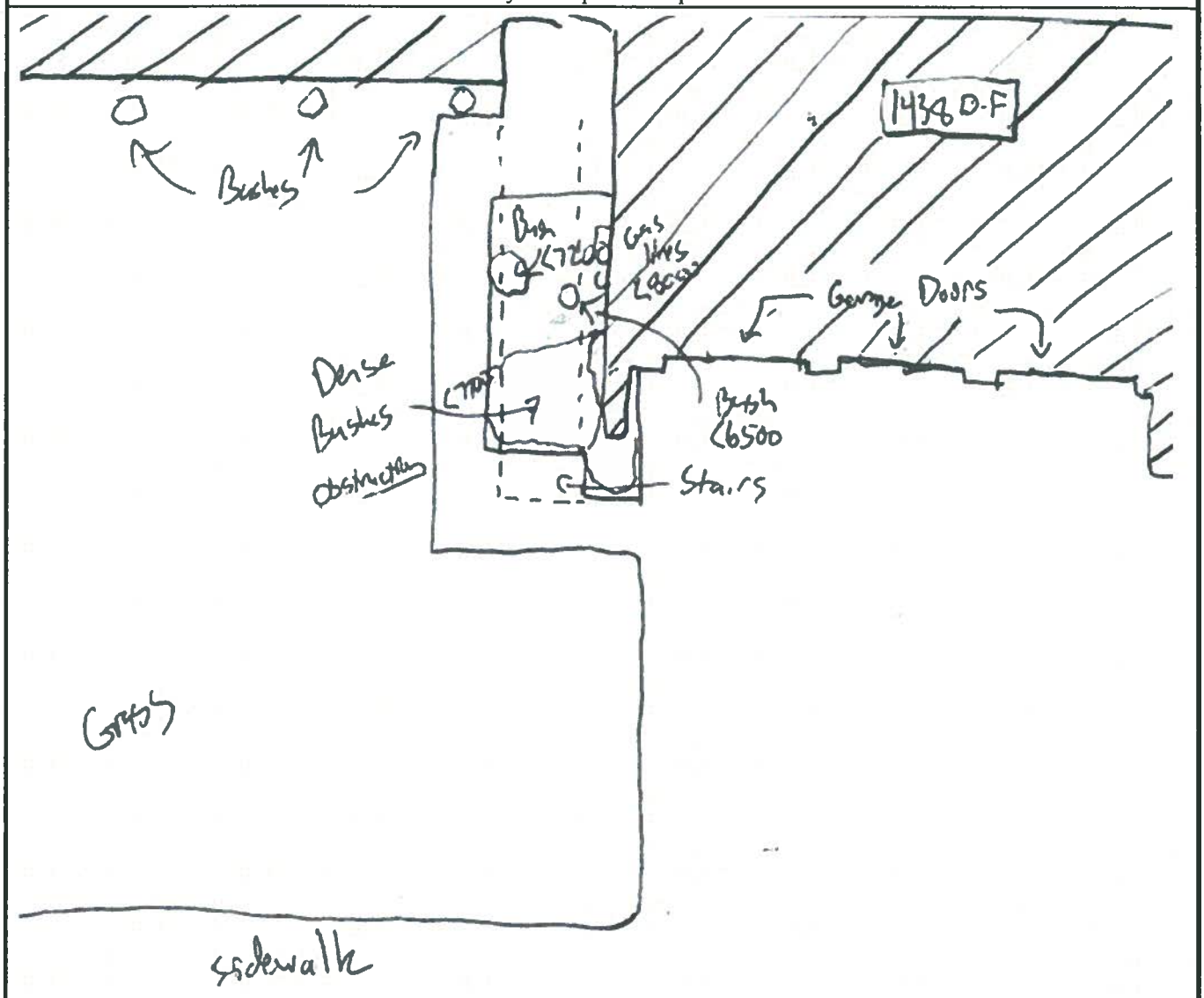
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-067	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1438 apartment "D-E-F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

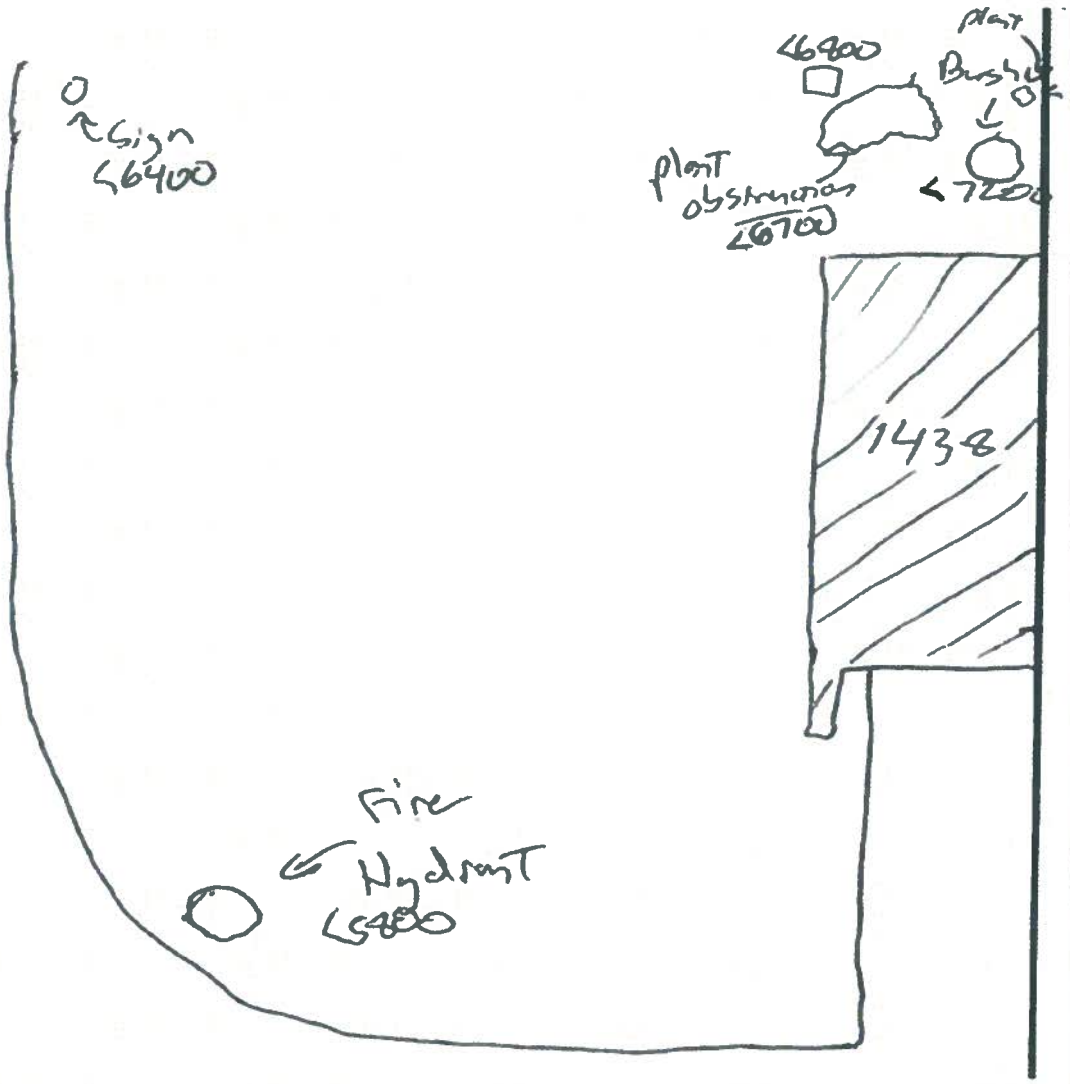
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-067	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1438 apartment "Perimeter" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

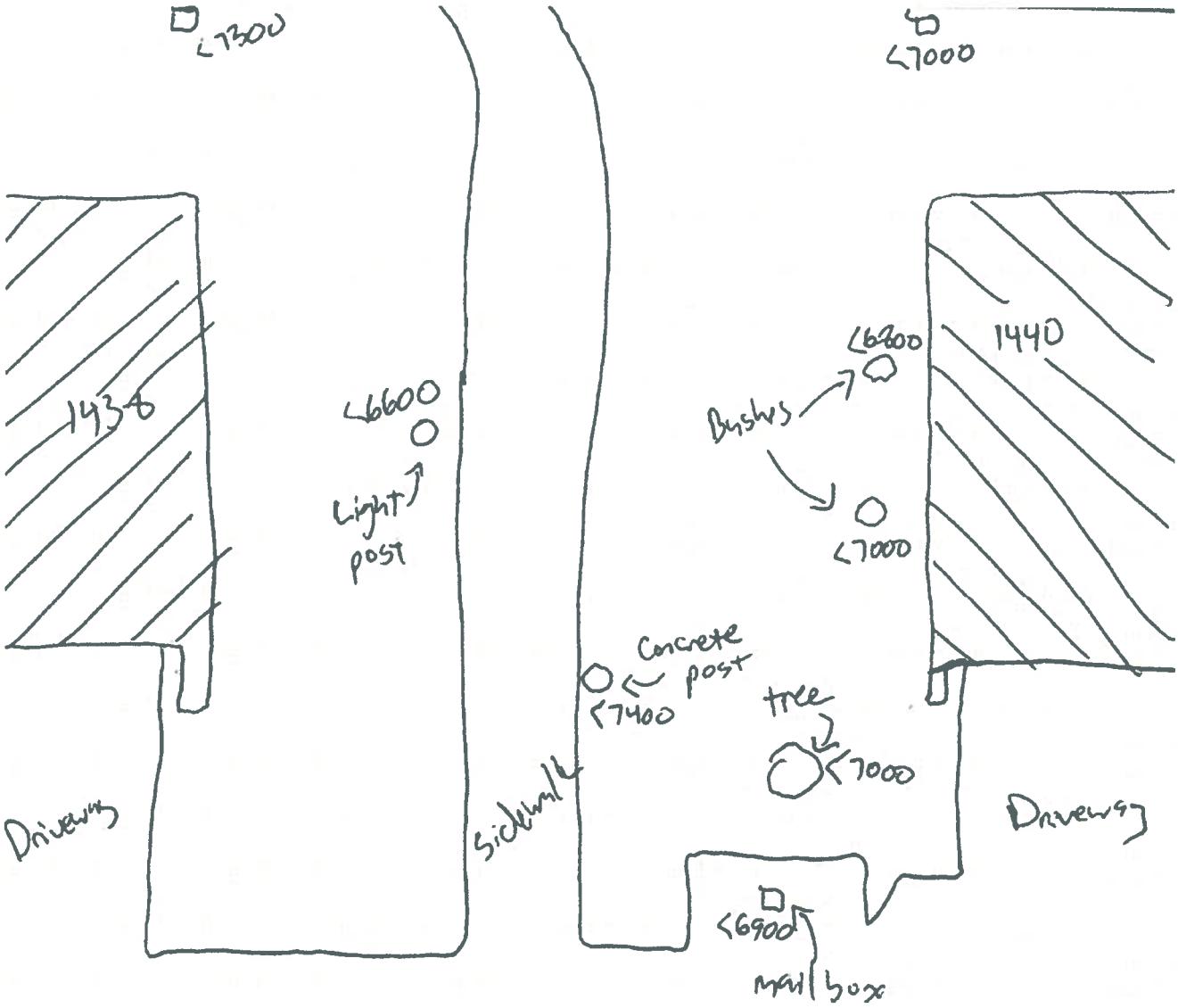
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-067	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1438 apartment "Perimeter" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

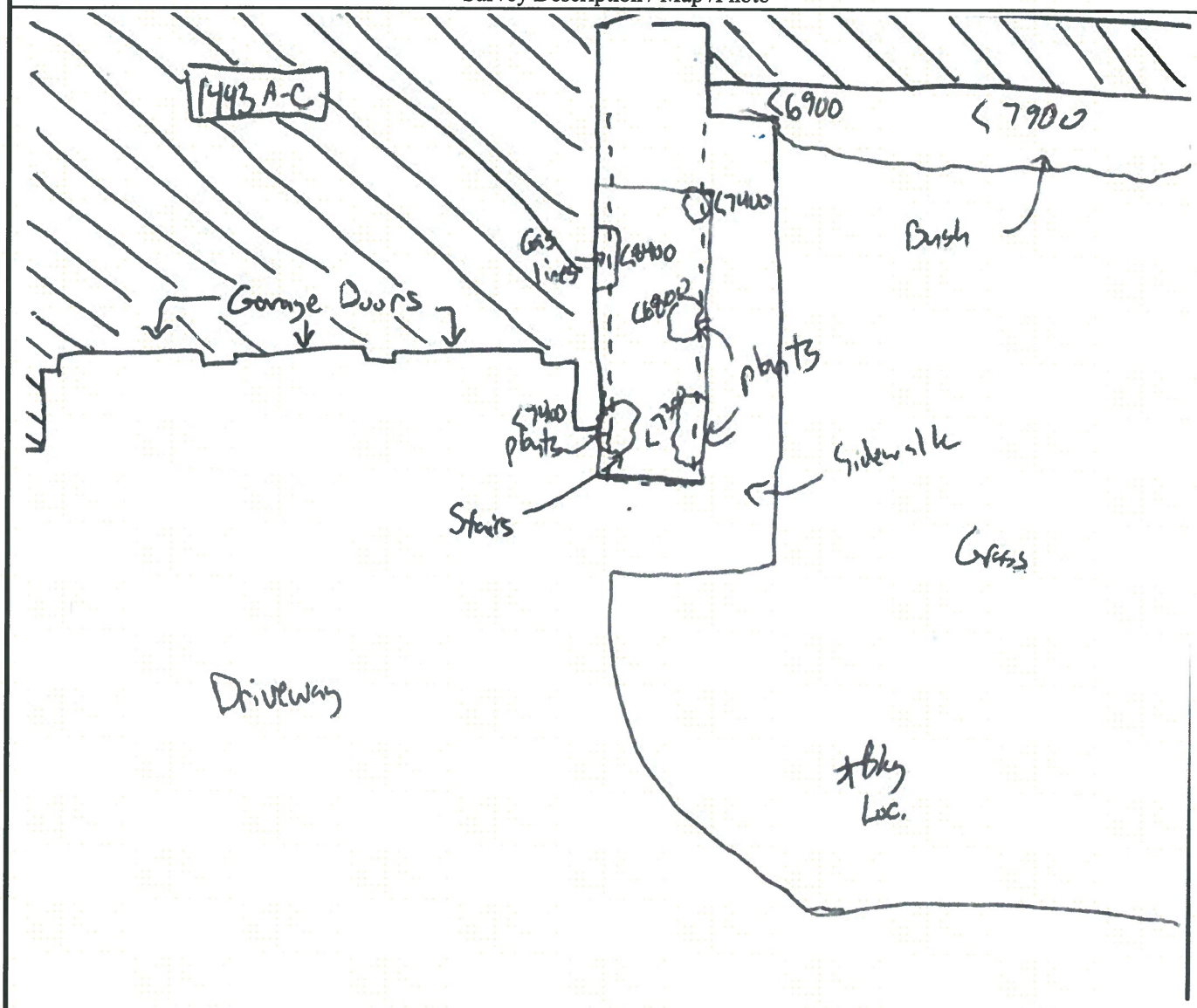
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-068	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N / A	N / A	5839	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1443 apartment "A-B-C" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

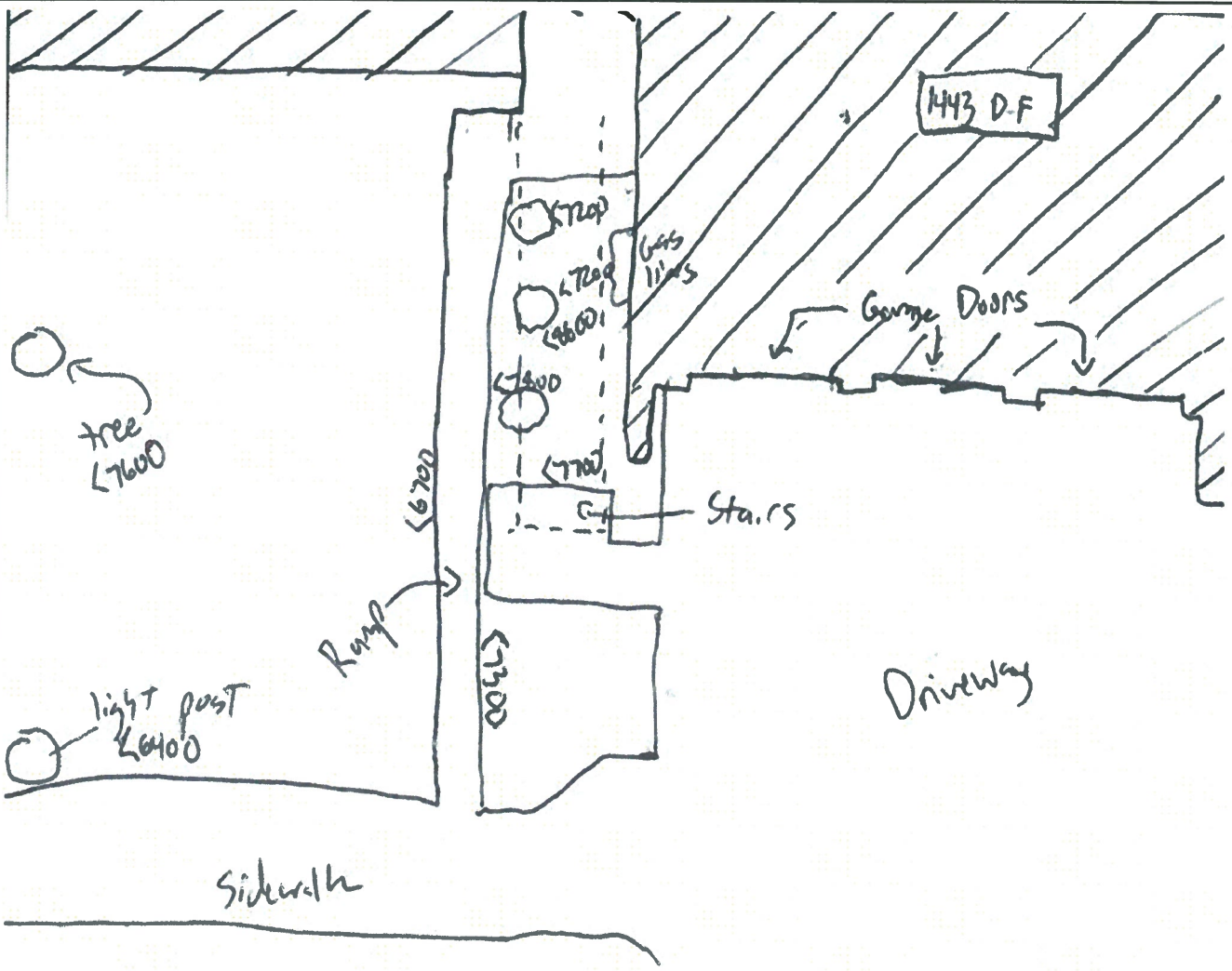
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-068	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1443 apartment "D-E-F" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

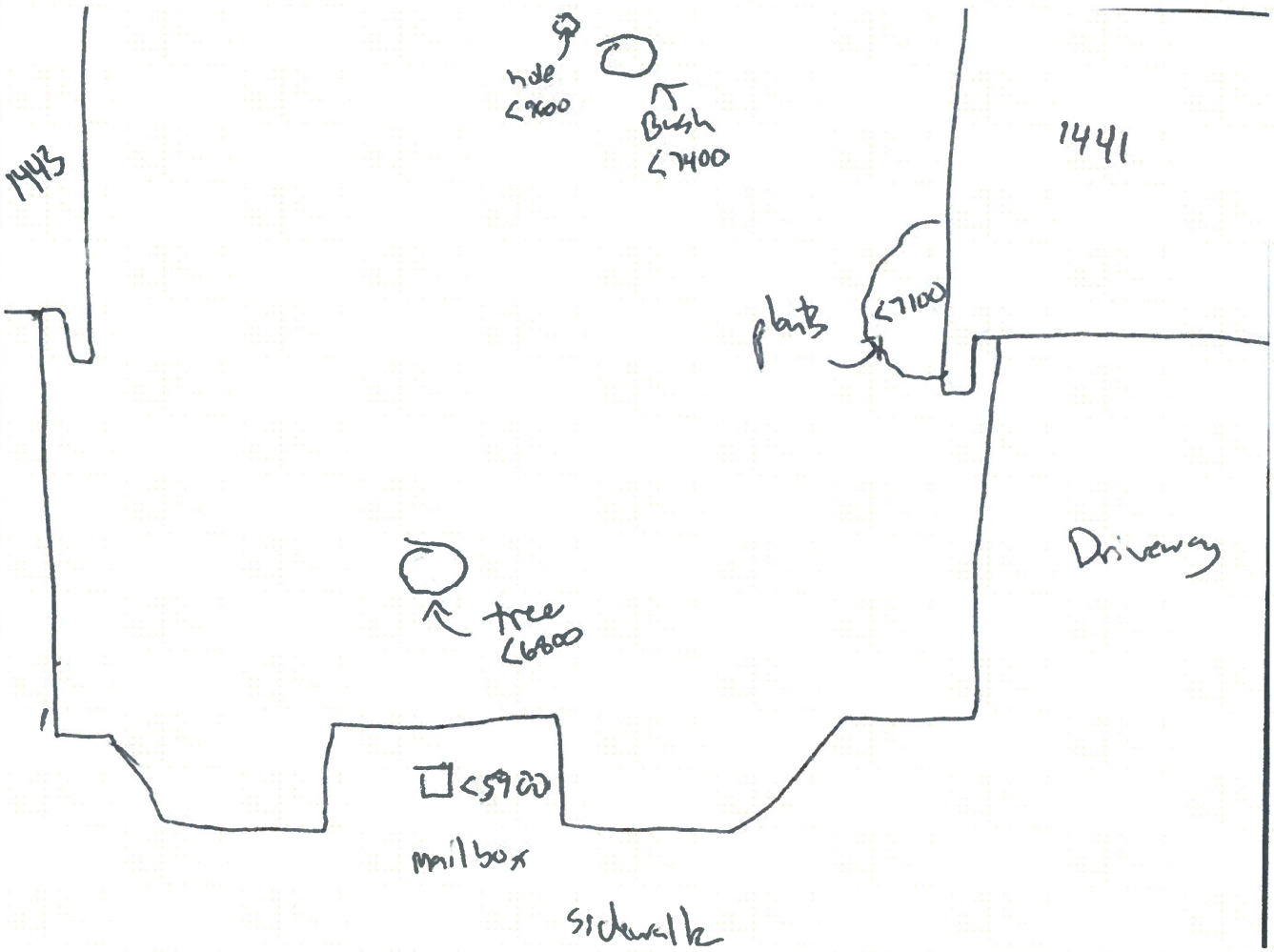
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-068	Date: 10/15/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1443 apartment "Perimeter" Frontyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

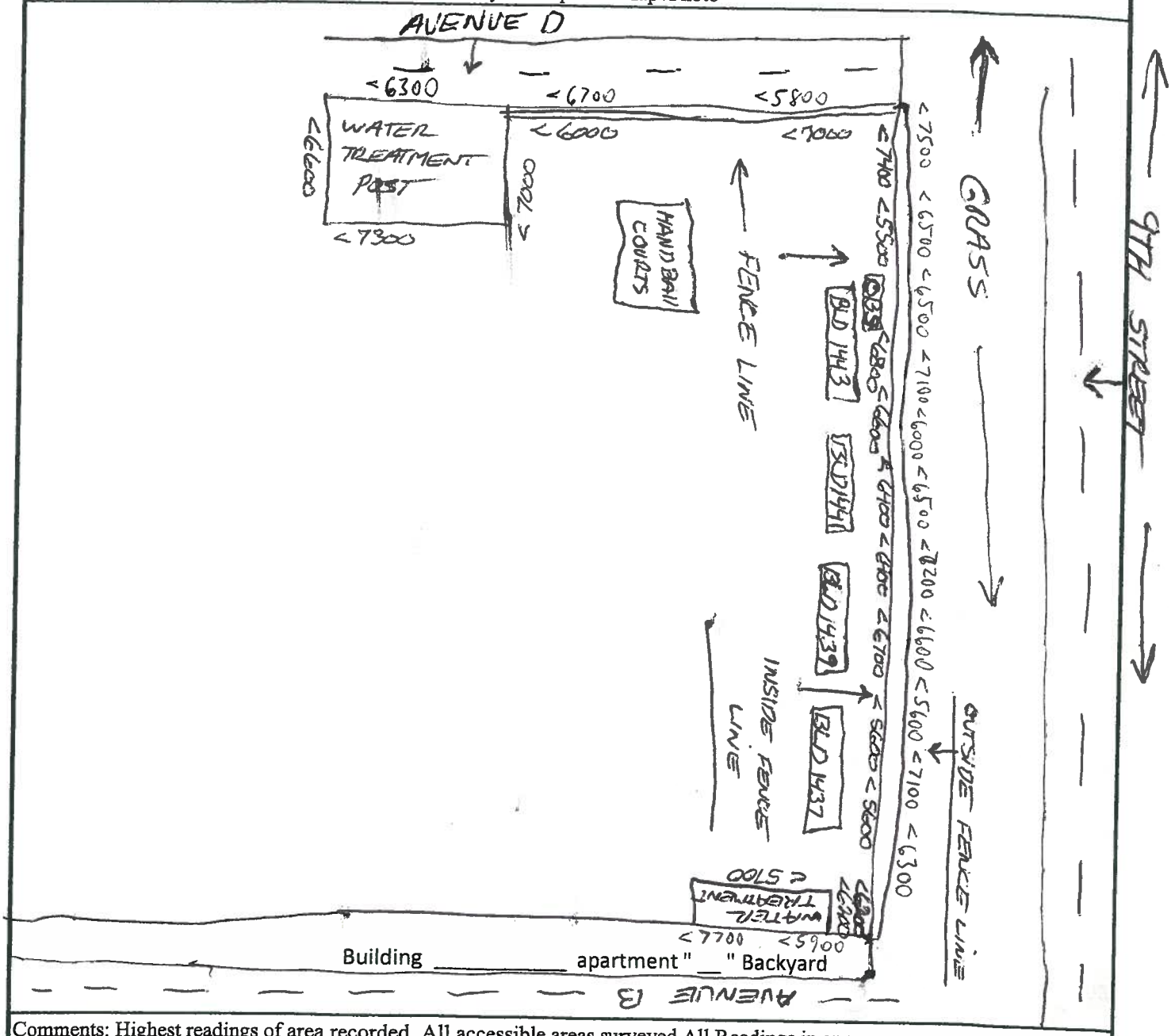
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 069	Date: 10.15.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6505	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

* FILE NAME 9TH ST FENCE-15 05

Gilbane **RADIOLOGICAL SURVEY FORM**

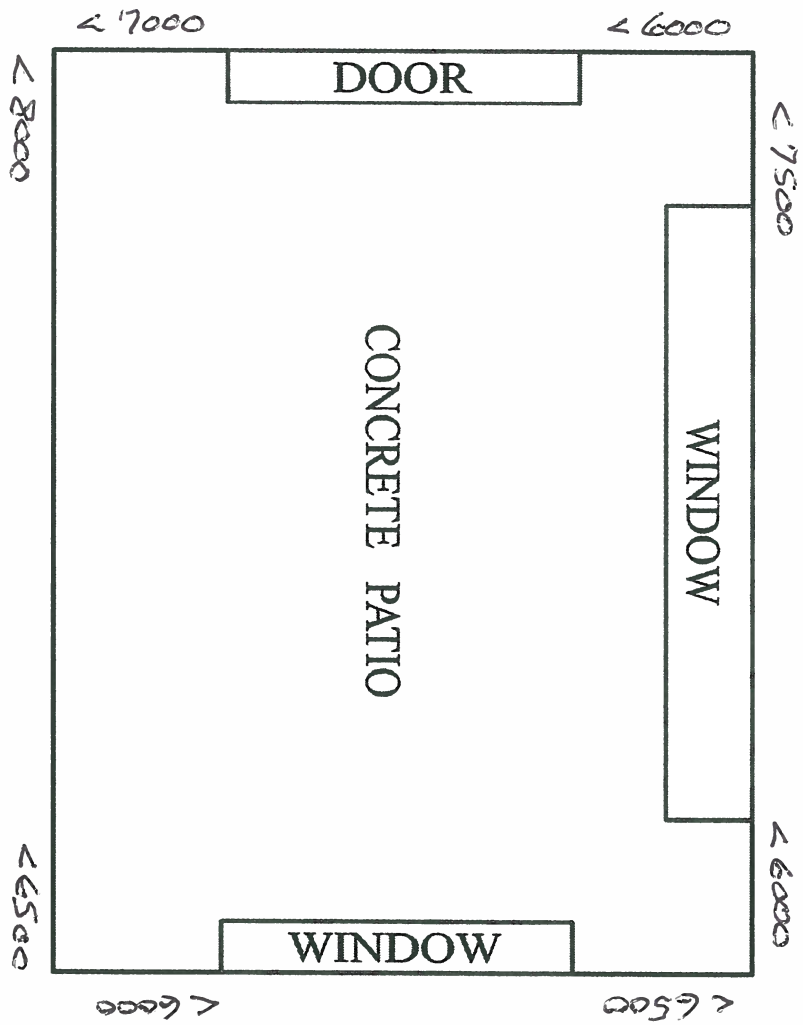
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-070	Date: 10·16·13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6022	N/A	N/A	N/A
N/A											→
N/A											→

Survey Description / Map /Photo



Building 1434 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

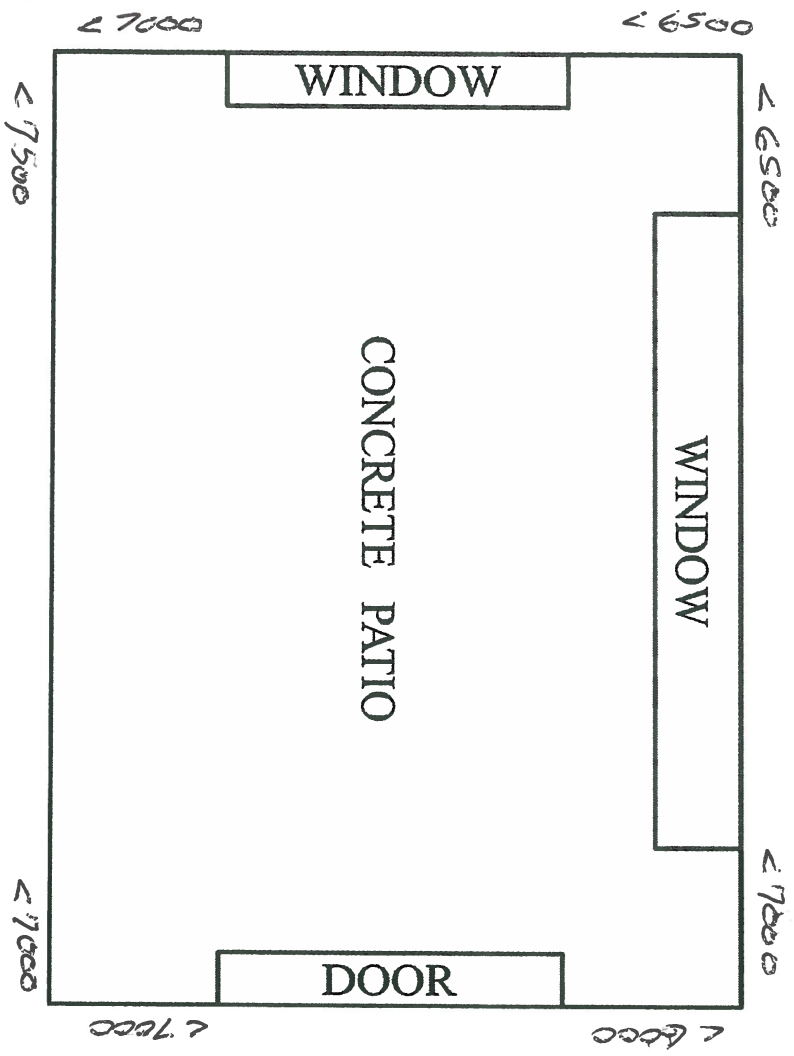
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 070	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1434 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

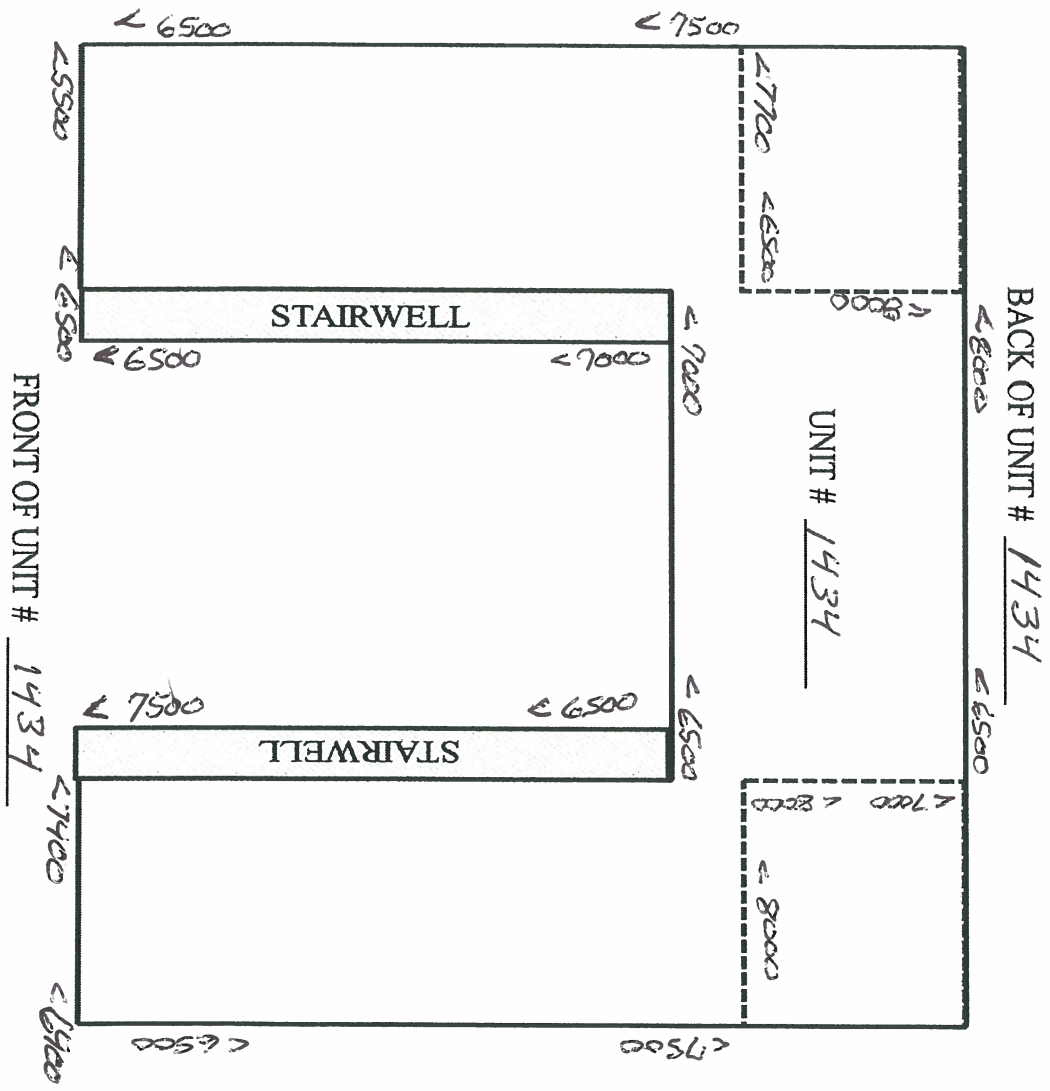
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-070	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1434 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

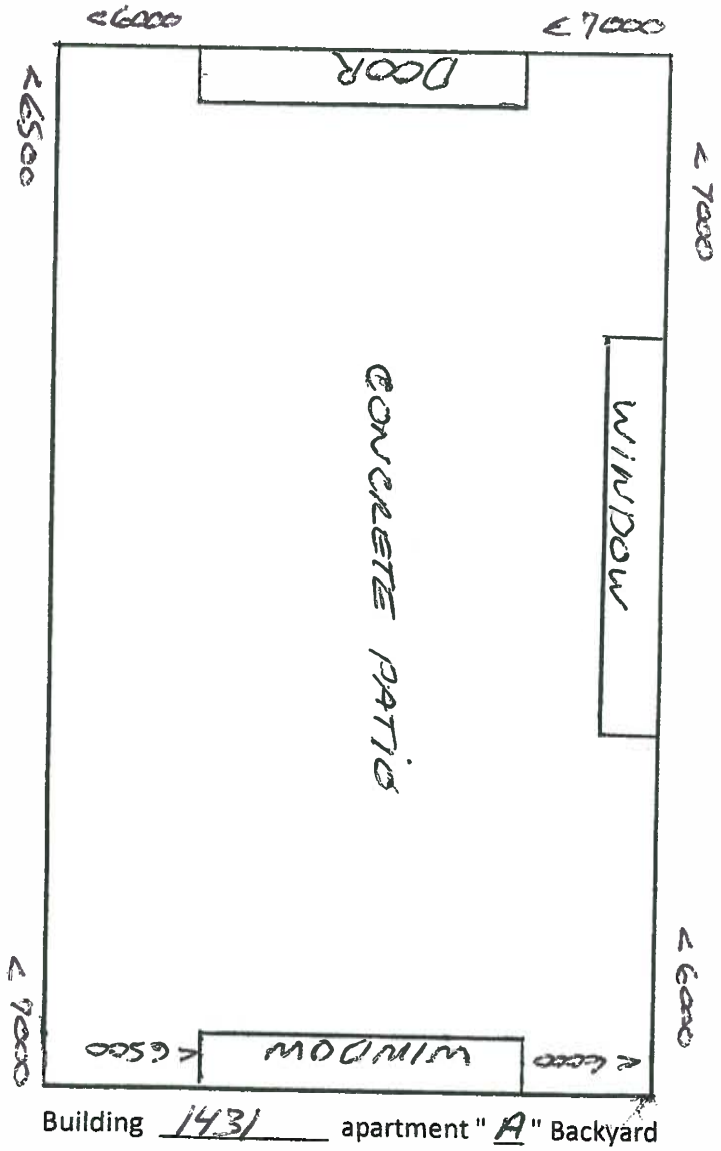
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 071	Date: 10·16·13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6185	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1431 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

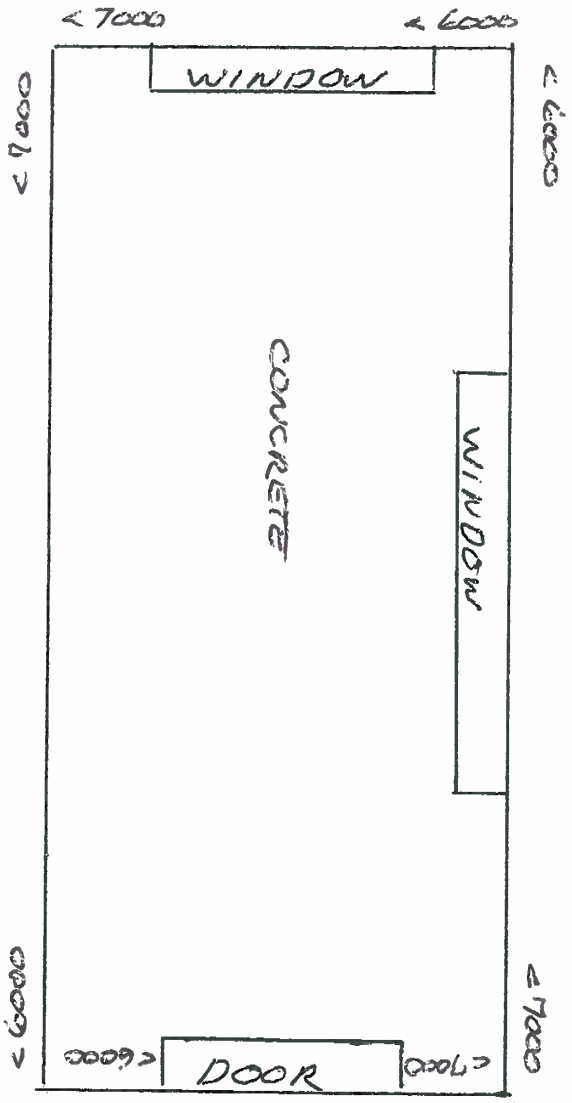
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-071	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1431 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

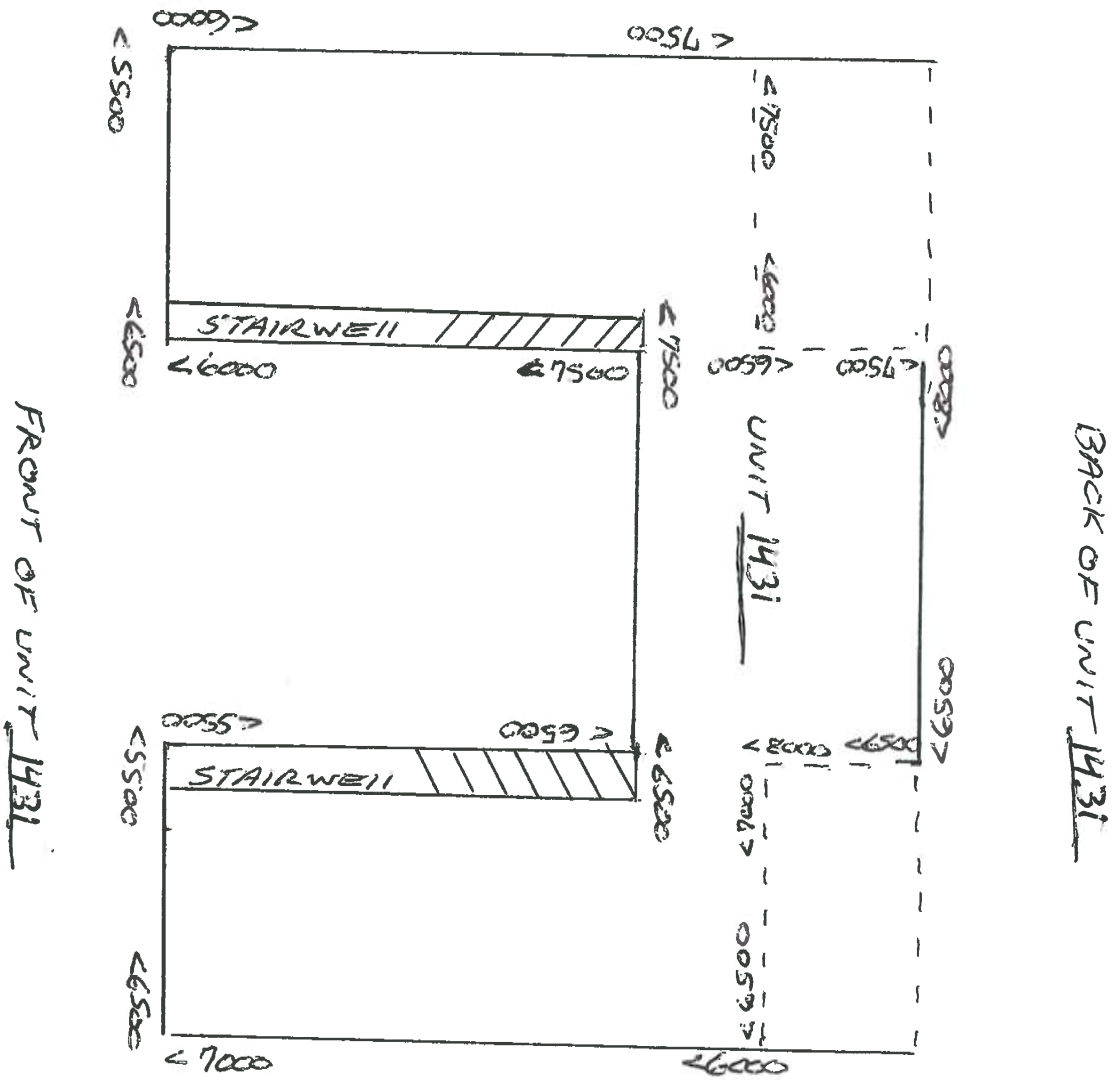
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-071	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1431 apartment "Q" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

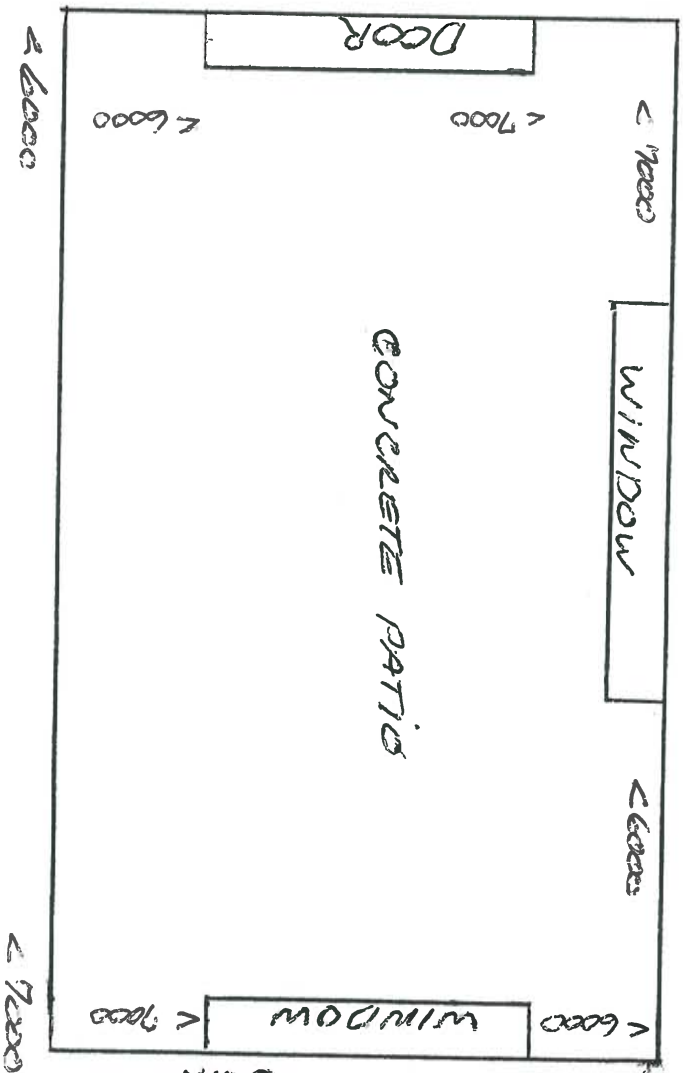
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 072	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 JULY 14	44-10	19765	27 JULY 14	N / A	N / A	6/+16	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1435 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

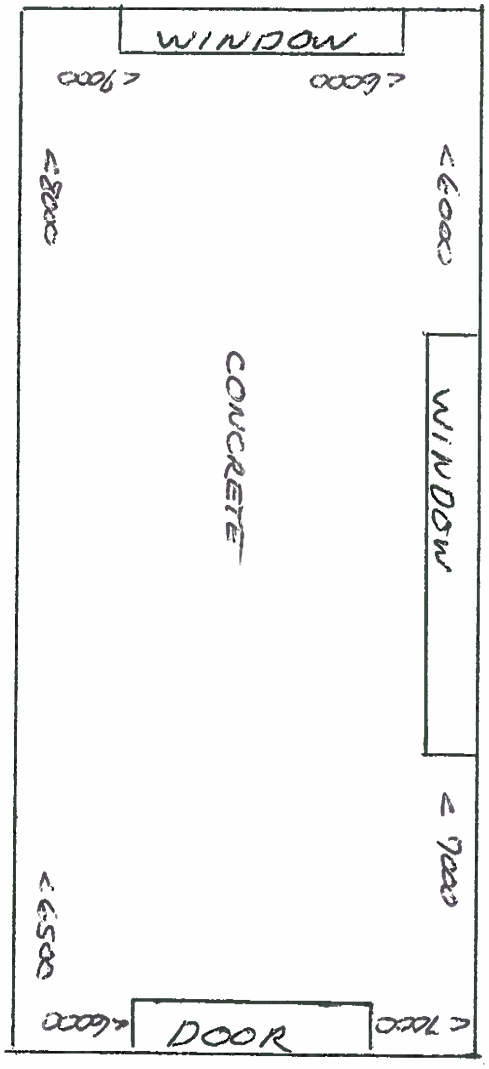
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 072	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 435 apartment " B Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

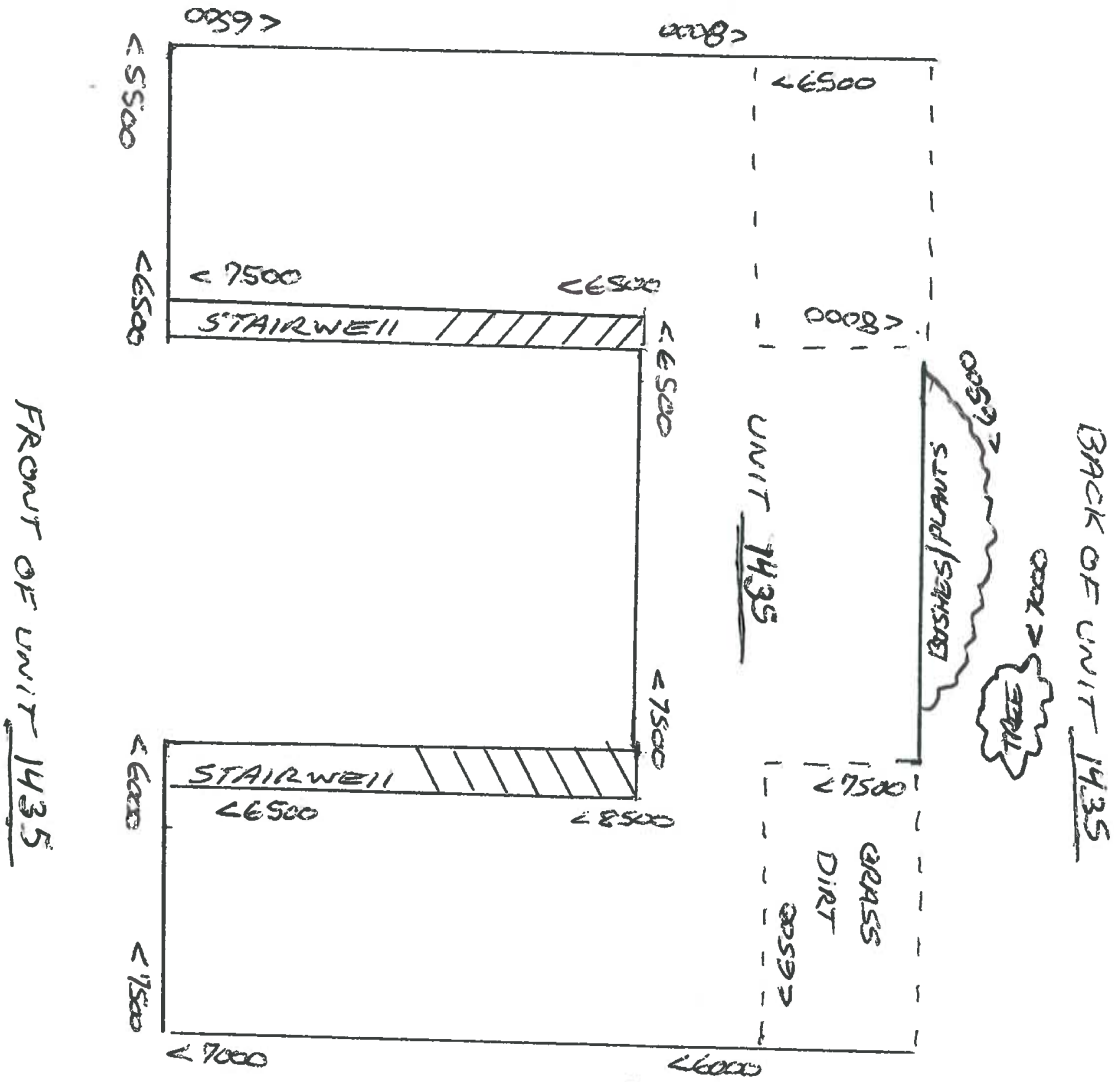
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-072	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1435 apartment "✓" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

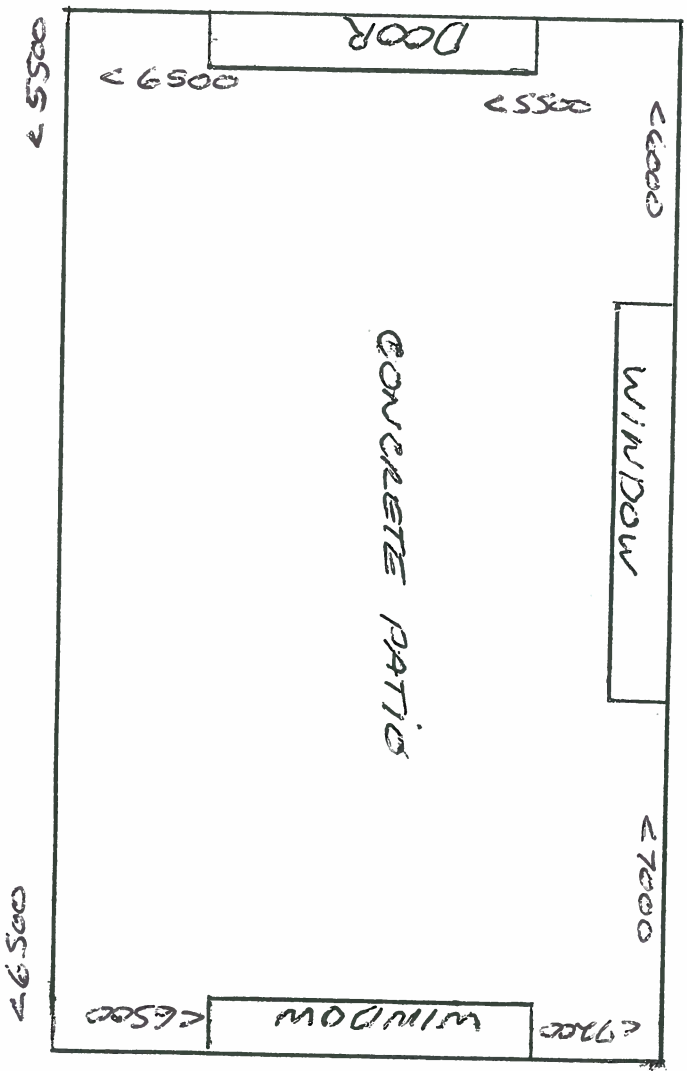
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-073	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N / A	N / A	6646	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1433 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

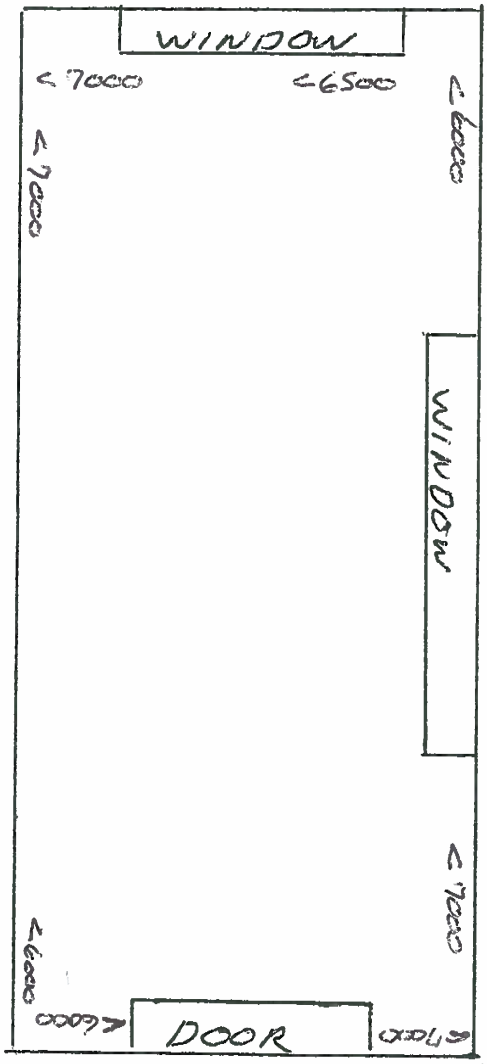
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-073	Date: 10·16·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1430 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

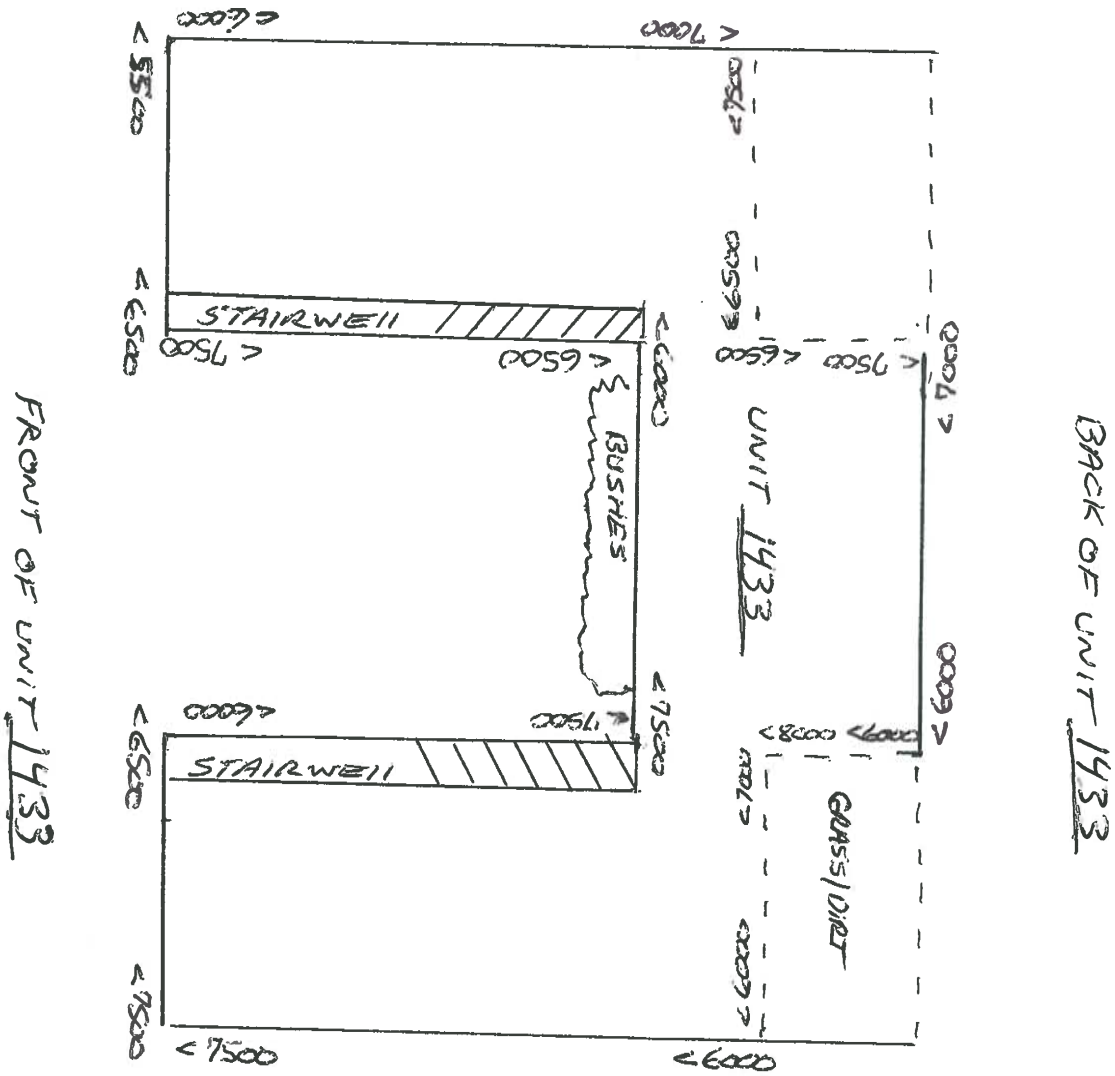
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-073	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1433 apartment "__" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

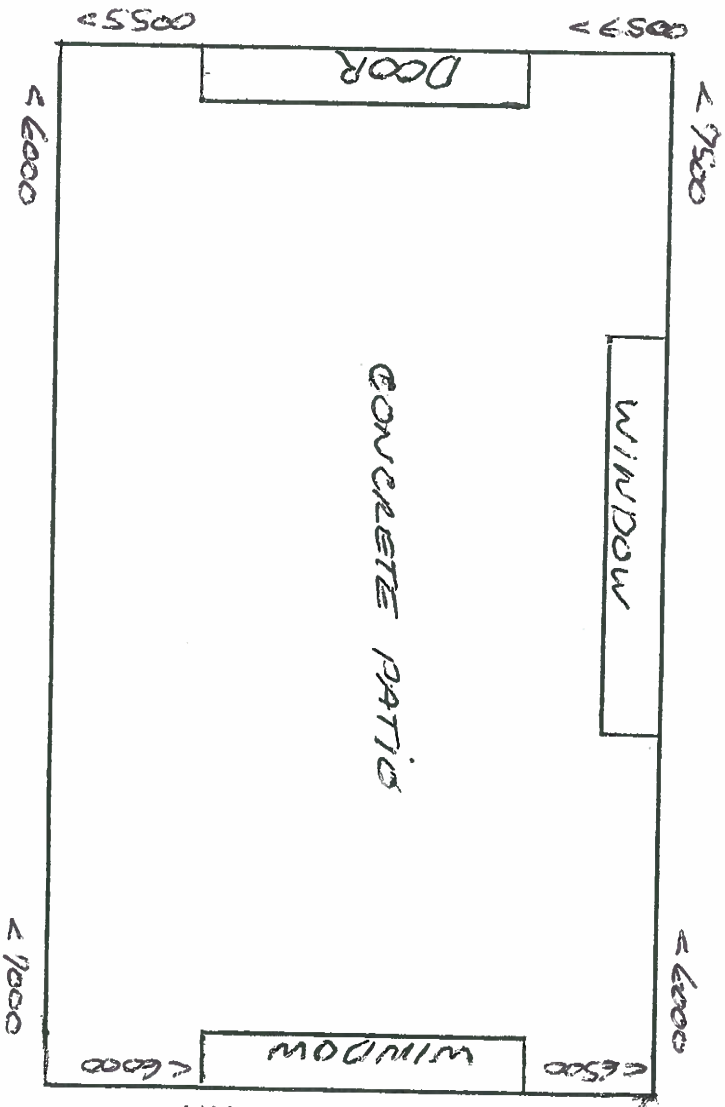
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 074	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6868	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1430 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

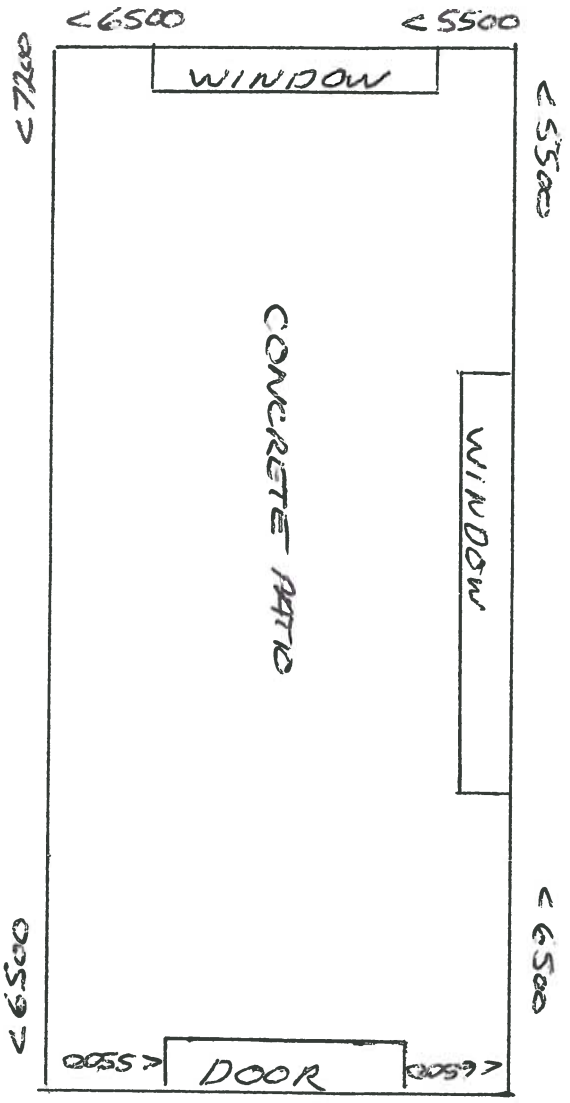
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 074	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1430 apartment " B Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

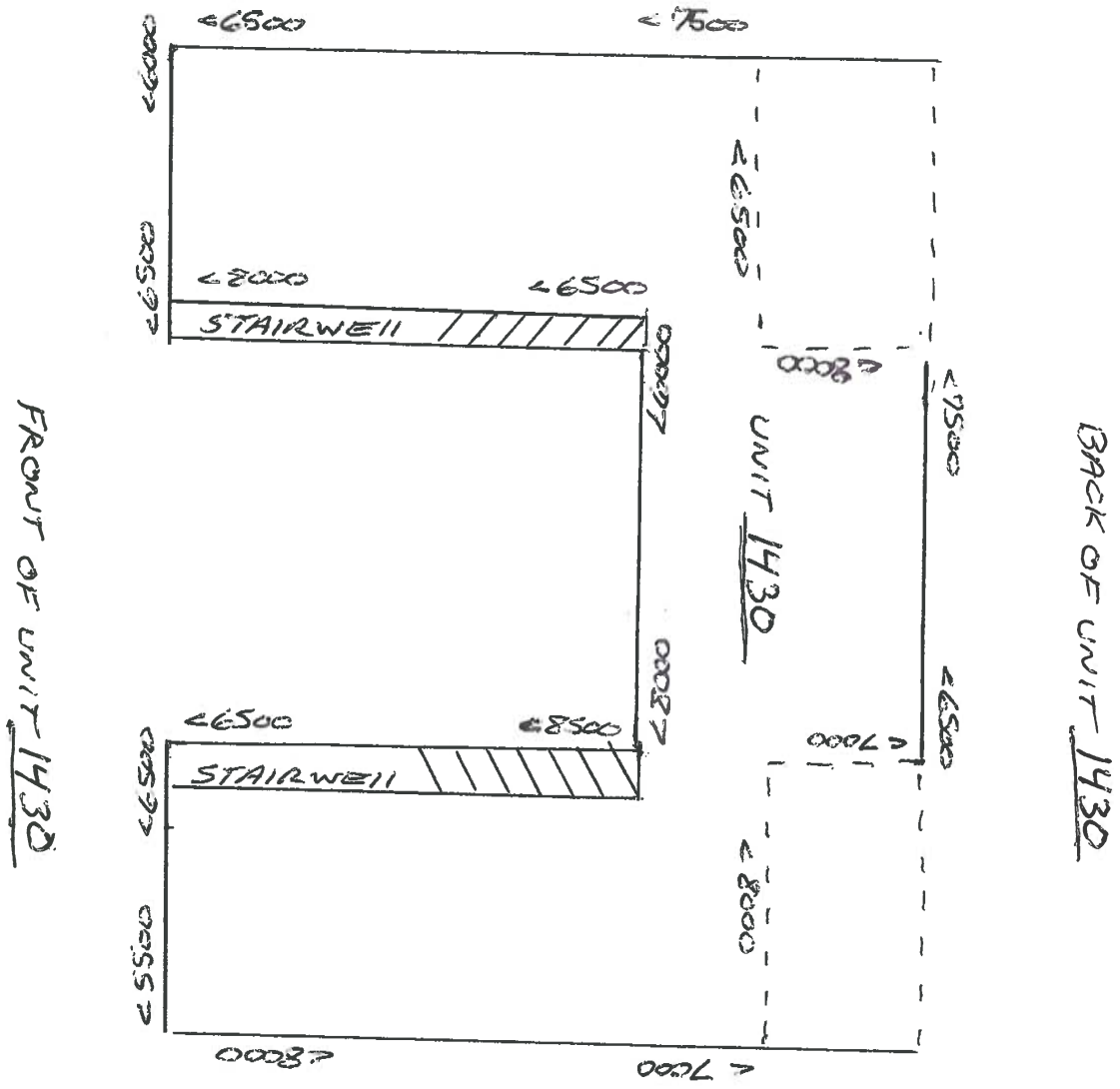
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 074	Date: 10·16·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1430 apartment "P" Backyard
Perimeter

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

ITSI Gilbane

RADIOLOGICAL SURVEY FORM

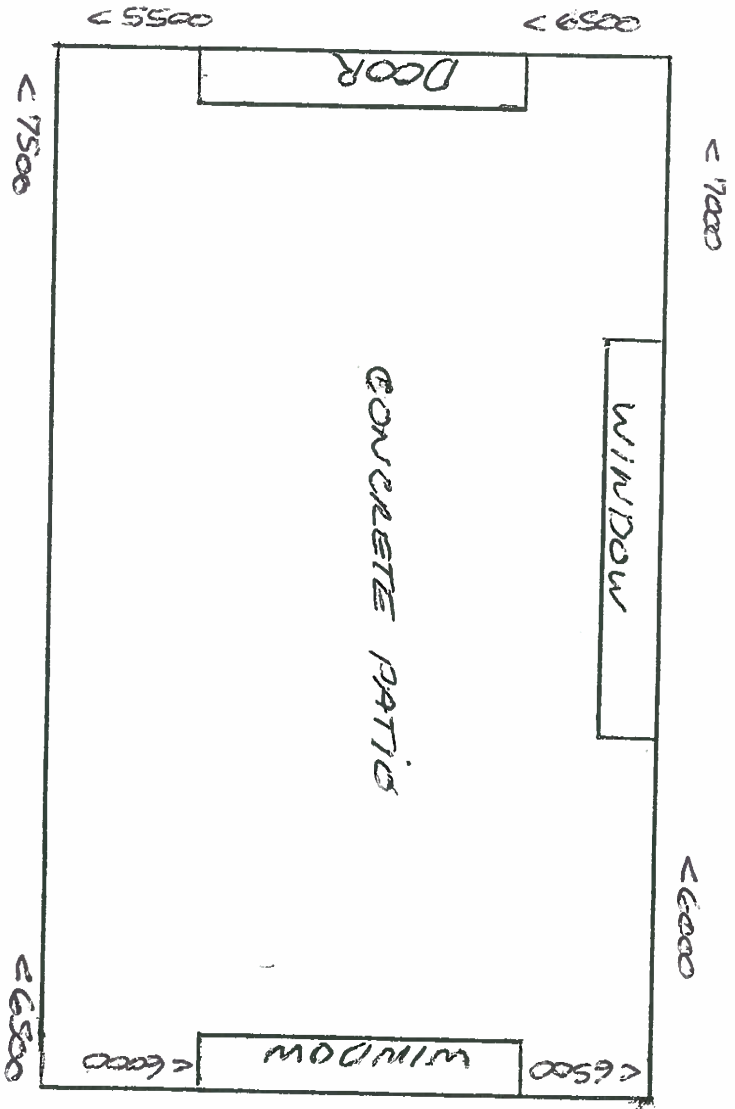
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-075	Date:	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N / A	N / A	6868	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1432 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

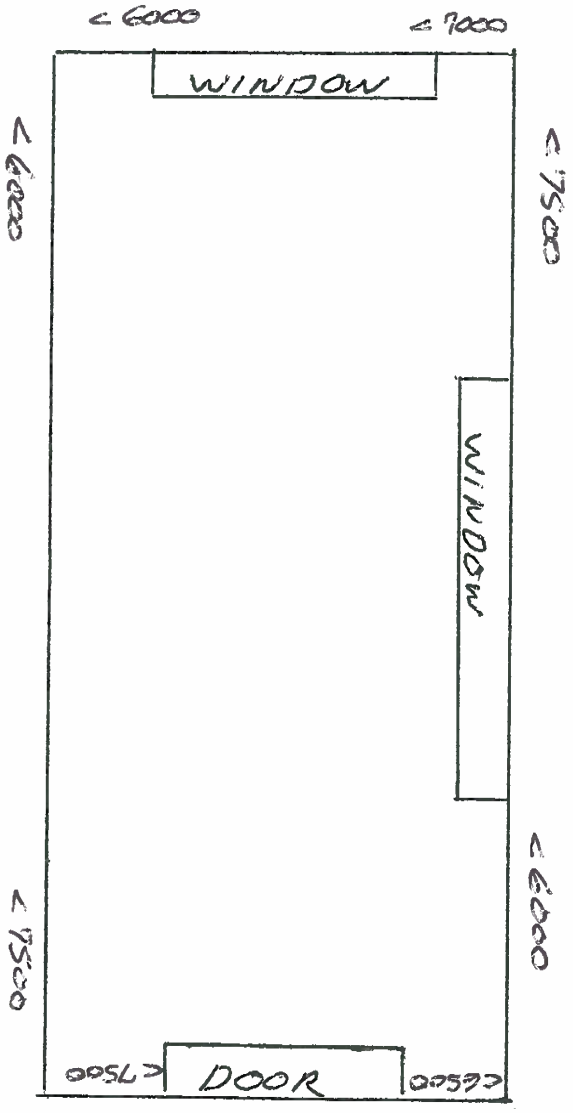
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-075	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1430 apartment " 13 Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

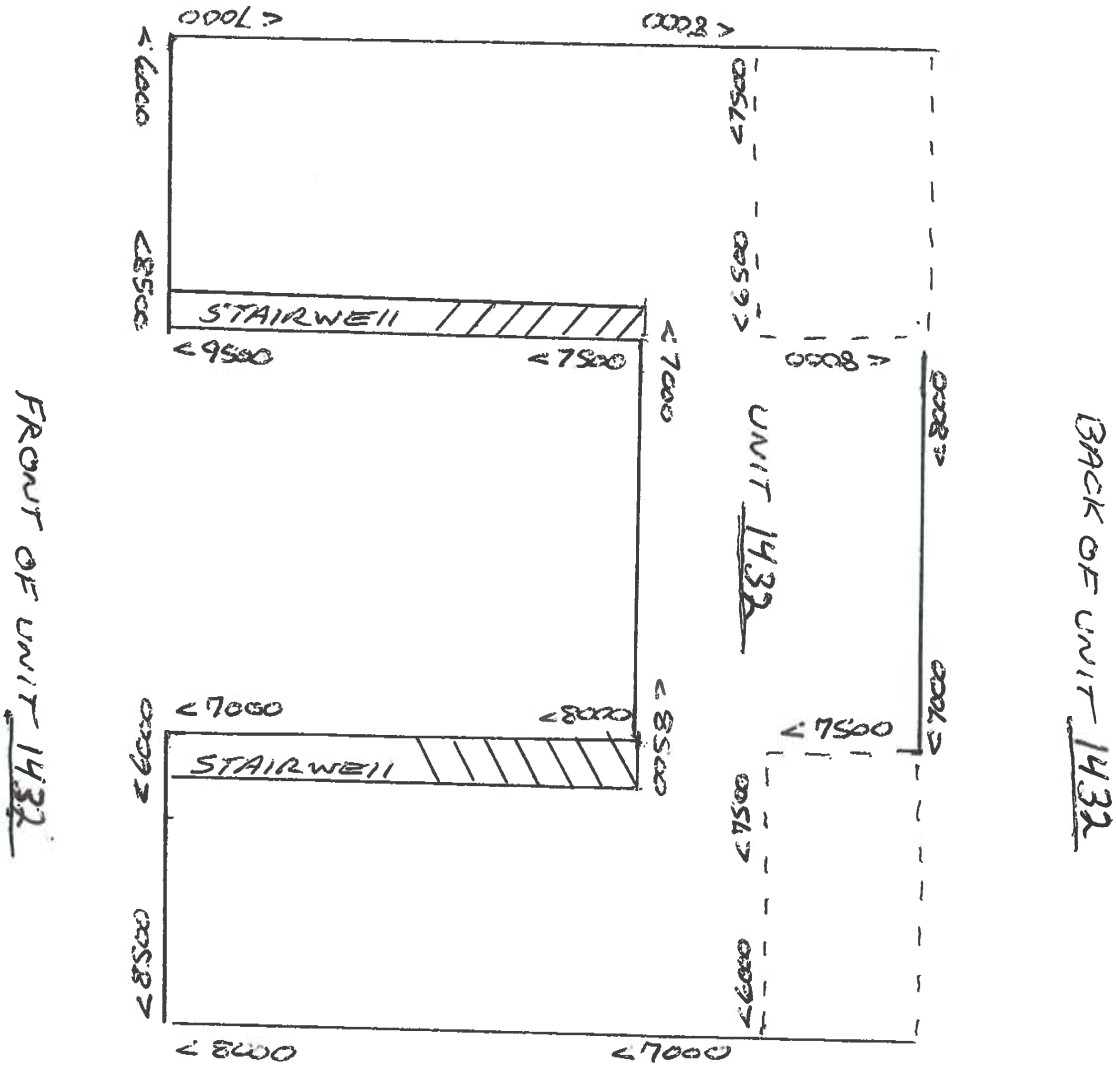
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-075	Date: 10-16-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1432 apartment "A" Backyard PERIMETER

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

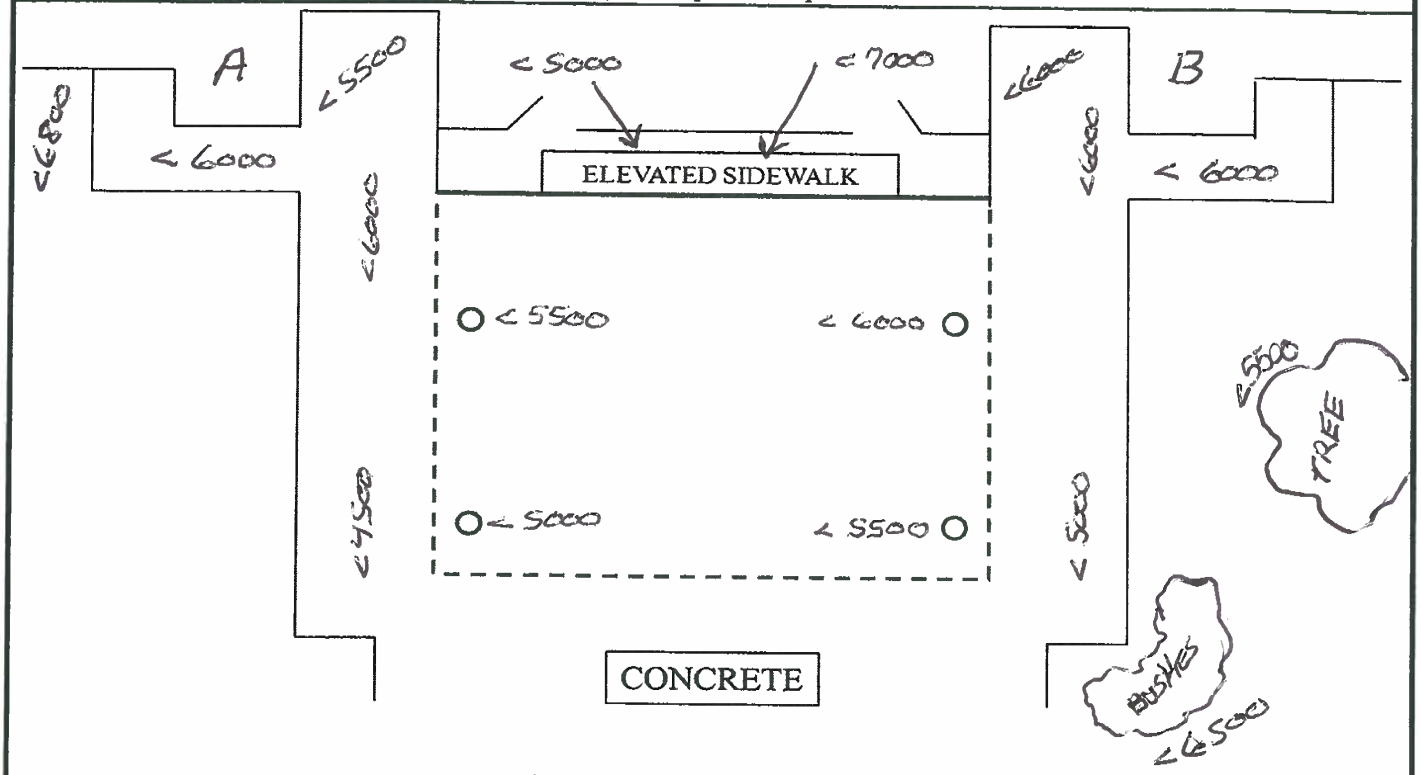
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 076	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5384	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1302 Apt(s)# A/B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

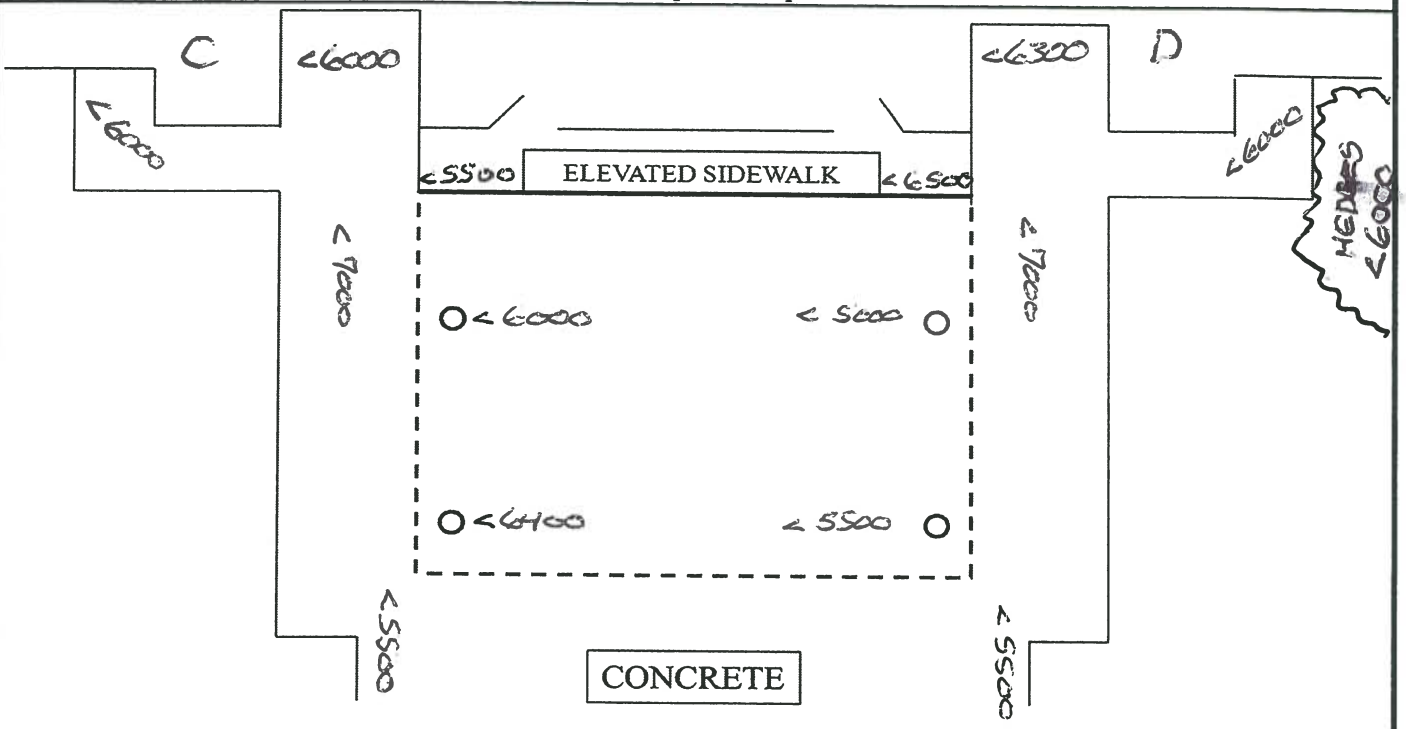
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-076	Date:	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James T. Smith	— See cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 Jun 14	44-10	19765	27 Jun 14	N/A	N/A	5384	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1302 Apt(s)# C/D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

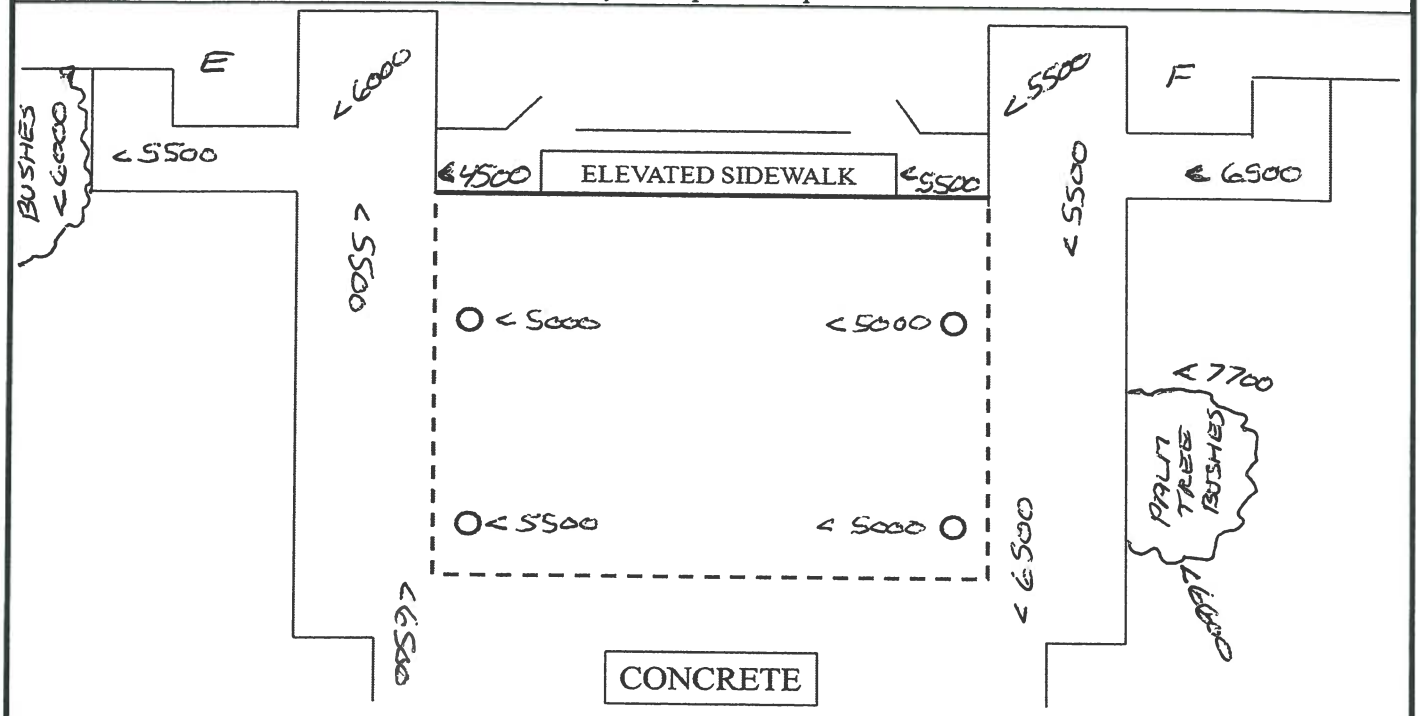
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-076	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	— See cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N/A	N/A	5384	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1302 Apt(s)# E/F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

ITSI Gilbane — **RADIOLOGICAL SURVEY FORM**

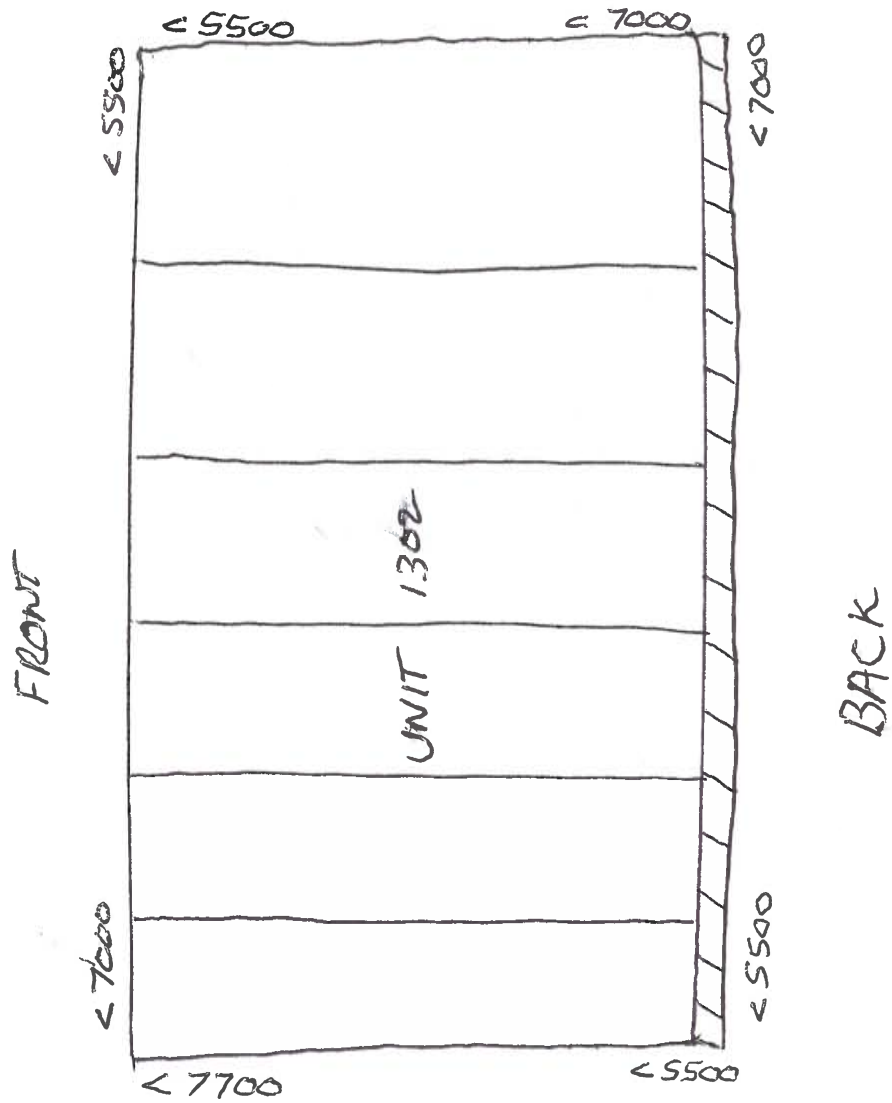
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-074	Date: 10.16.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	— See Cover page —	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27Oct14	44-10	19765	27Oct14	N / A	N / A	5384	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1302 apartment " D " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

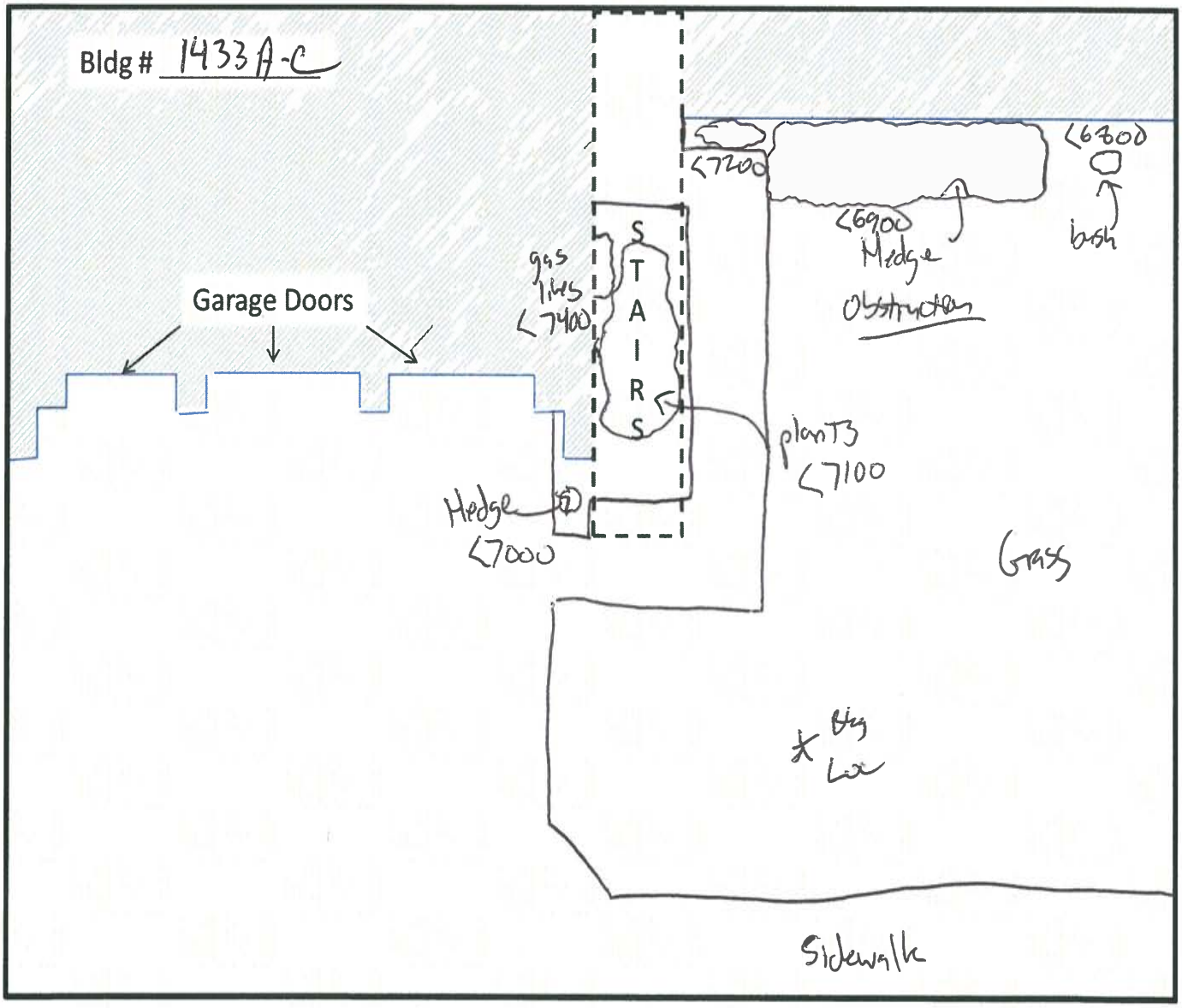
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-077	Date: 10/6/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	6040	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1433 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

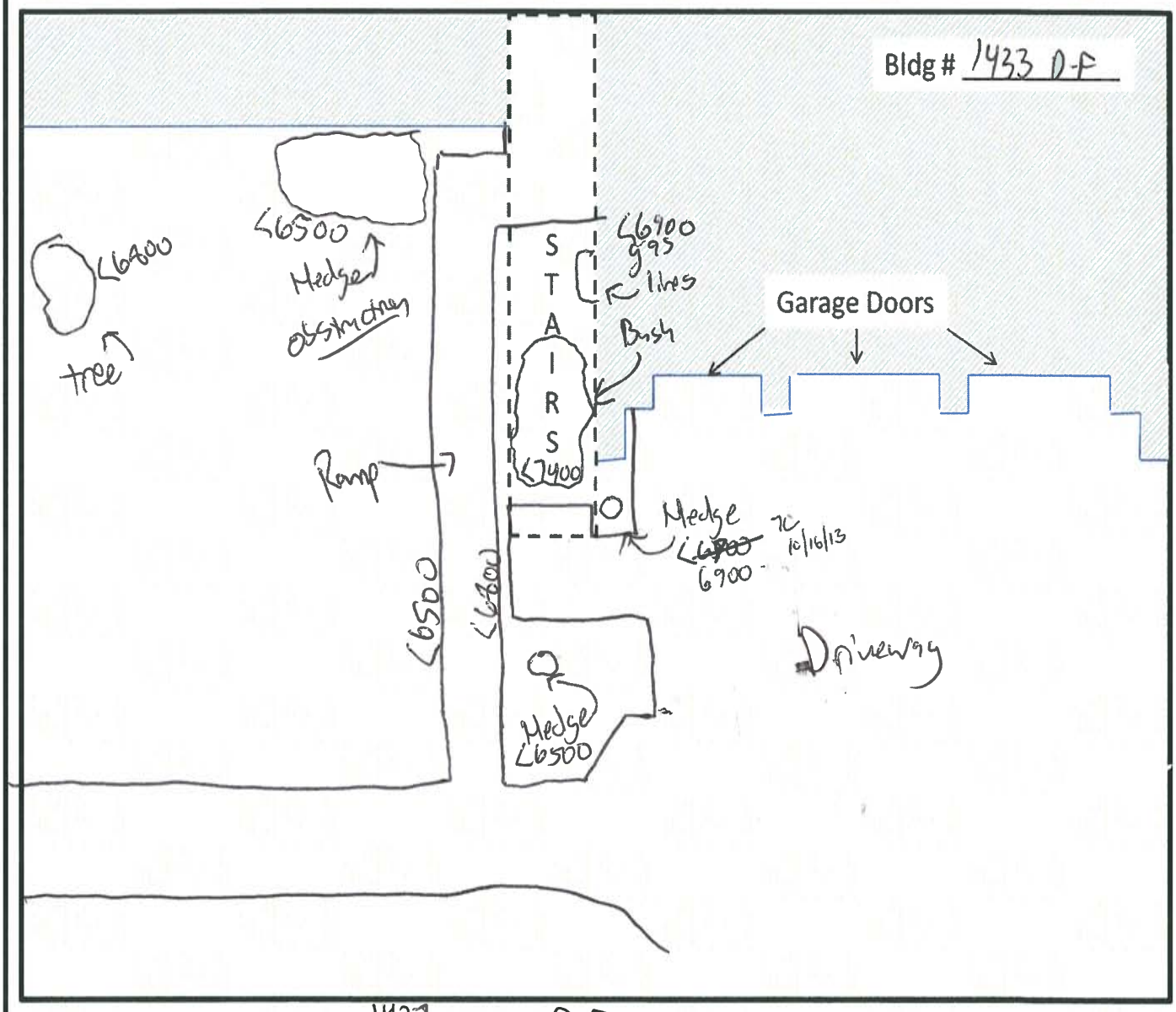
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-077	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1433 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

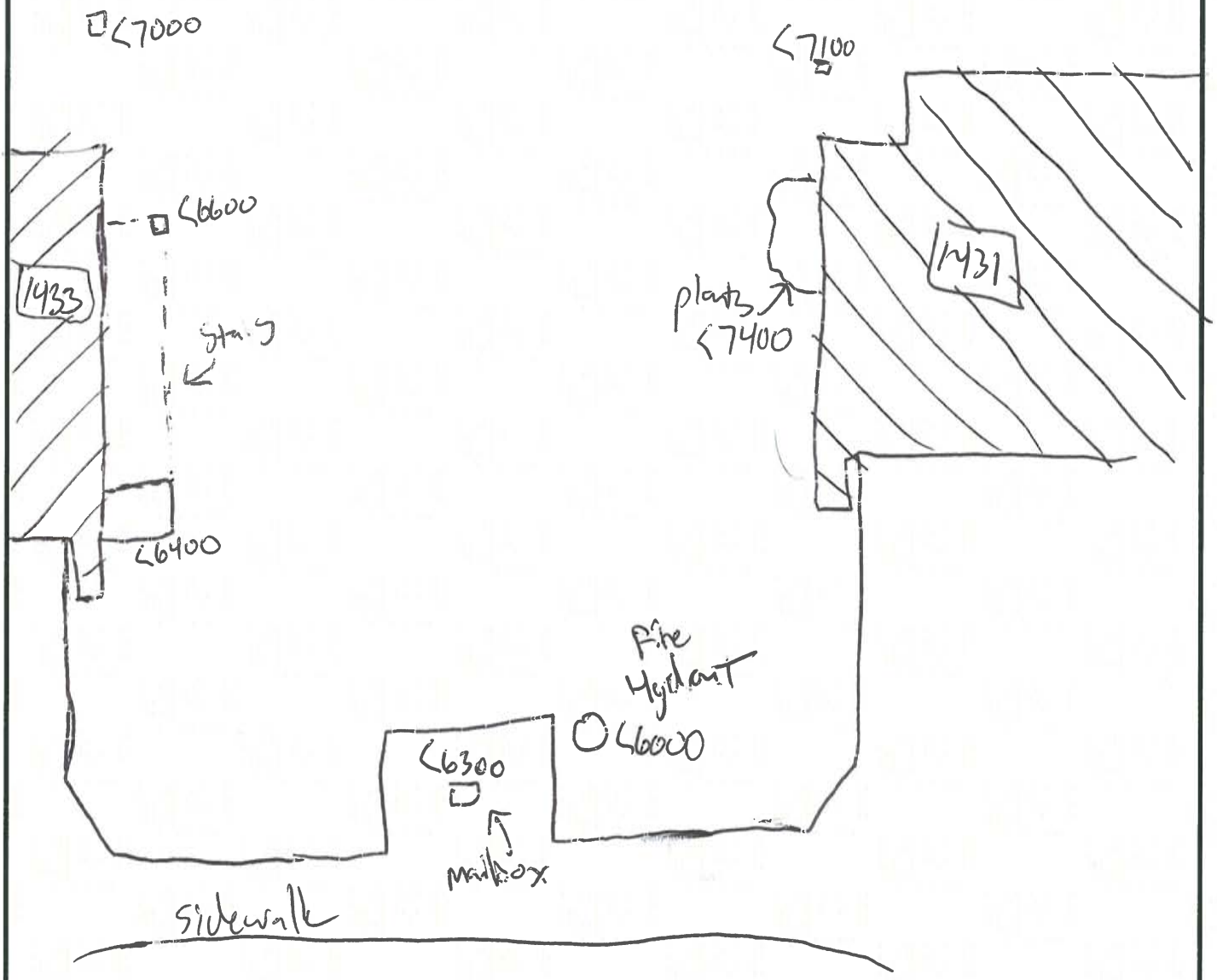
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-077	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

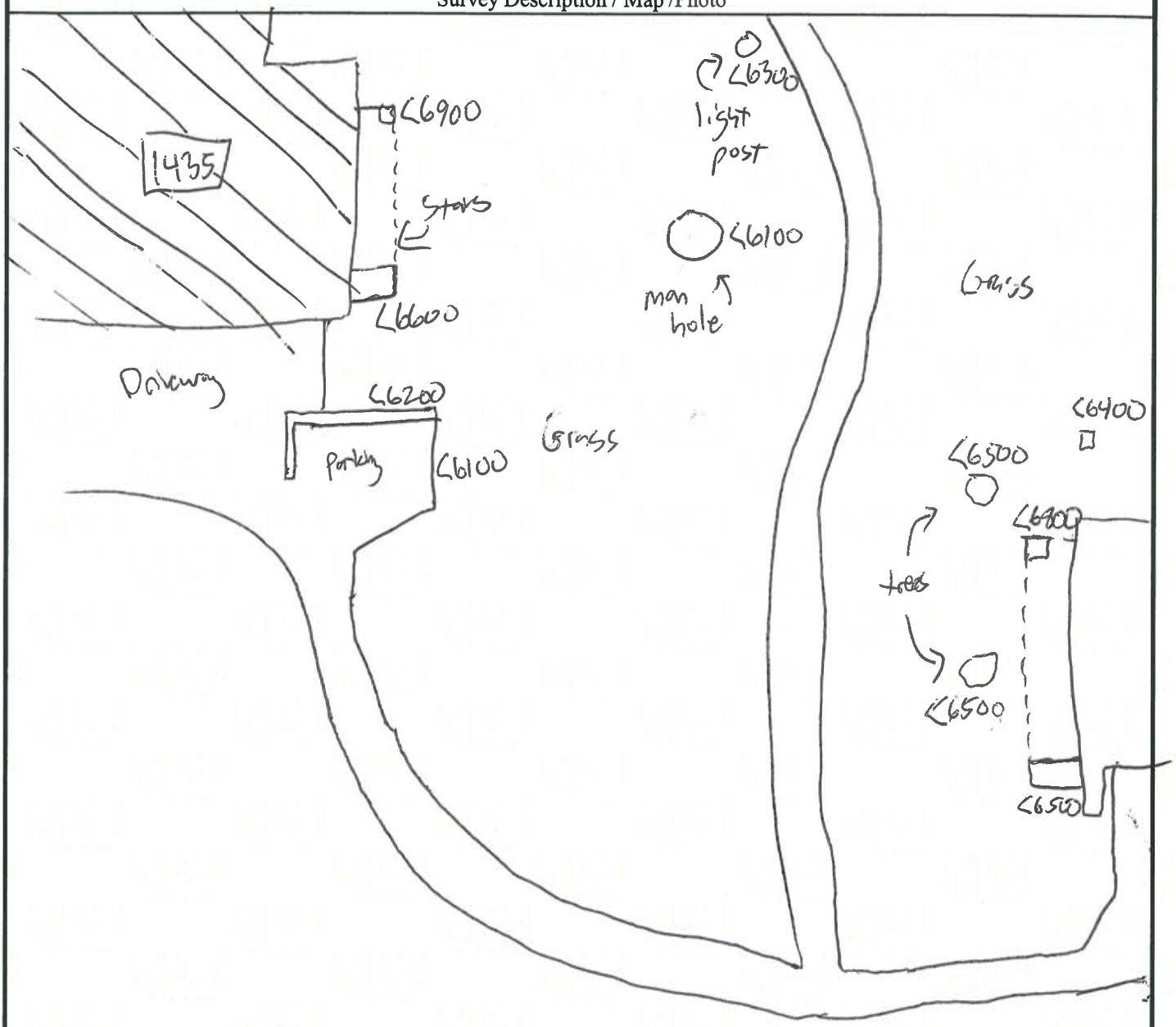
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-077	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

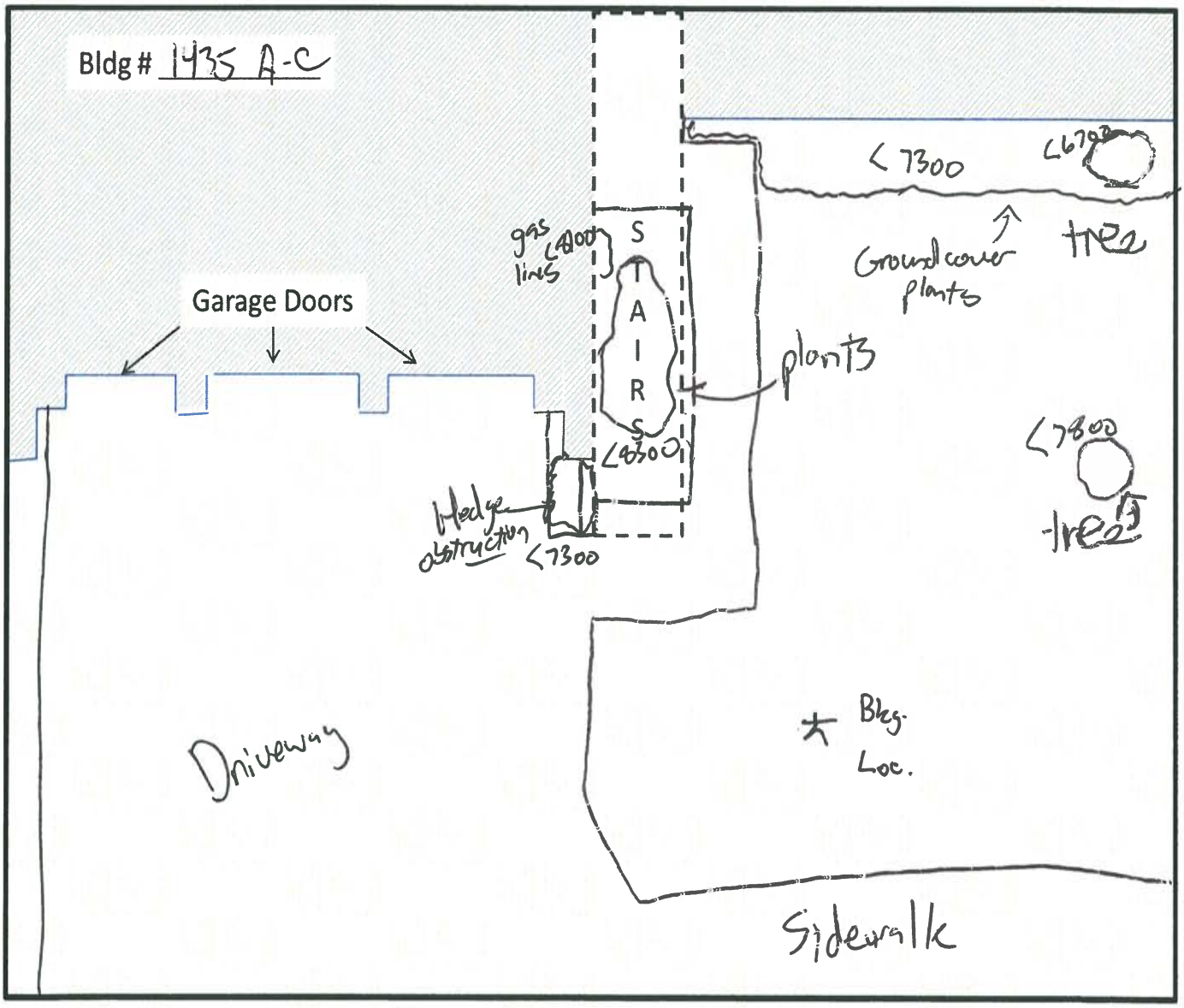
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 078	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	AW19768	8/21/14	N/A	N/A	5998	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1435 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

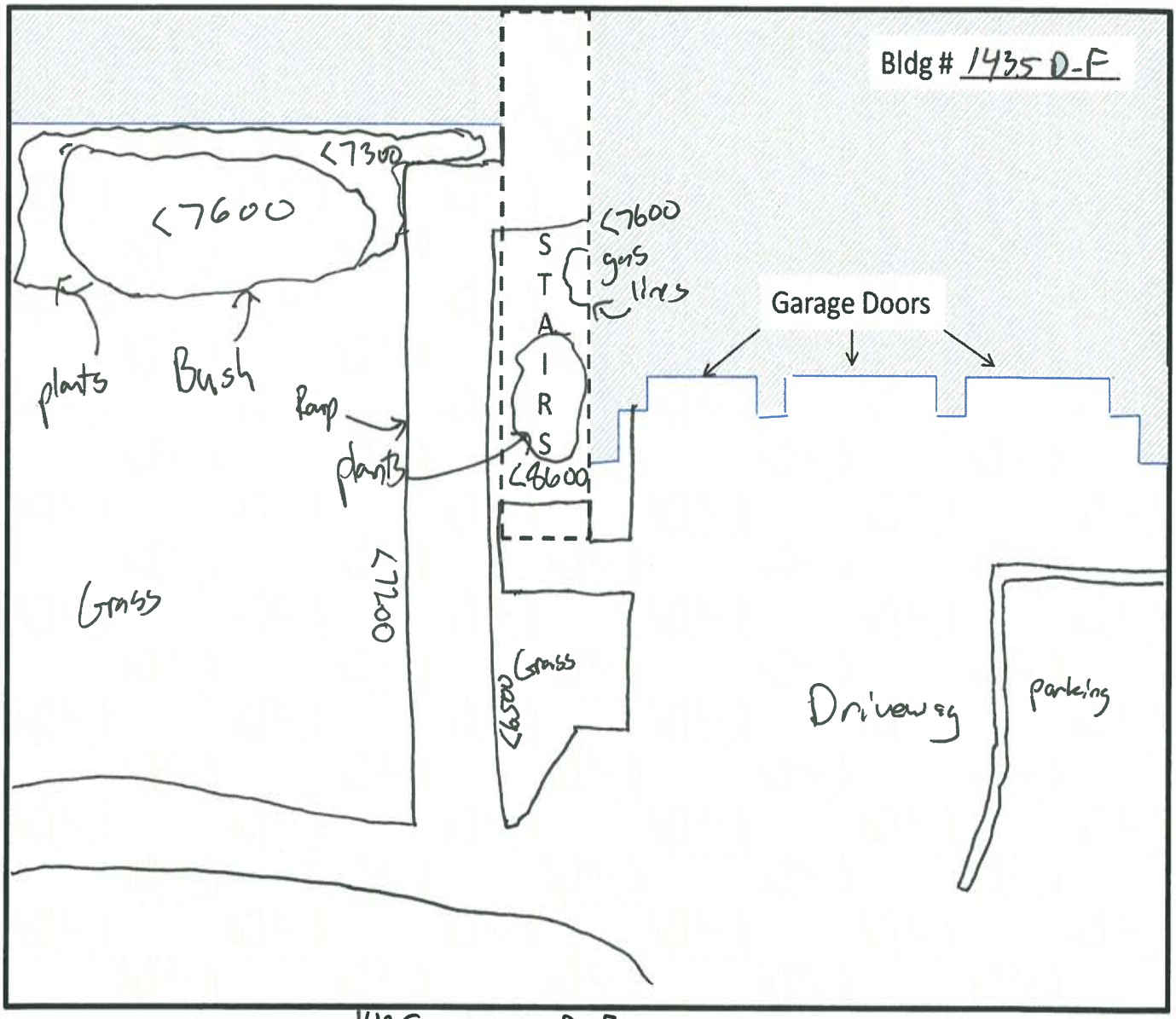
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-078	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1435 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

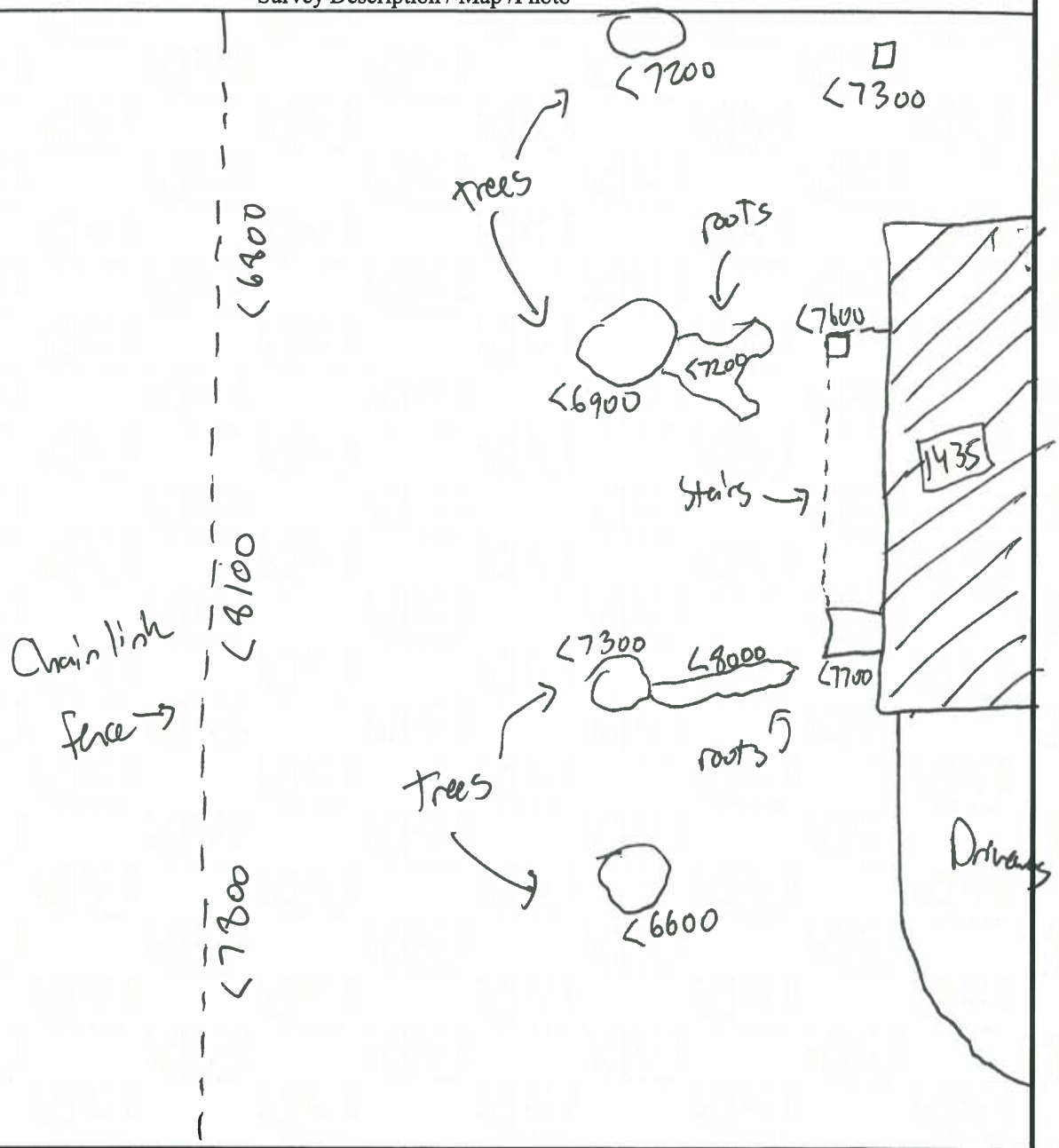
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-078	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

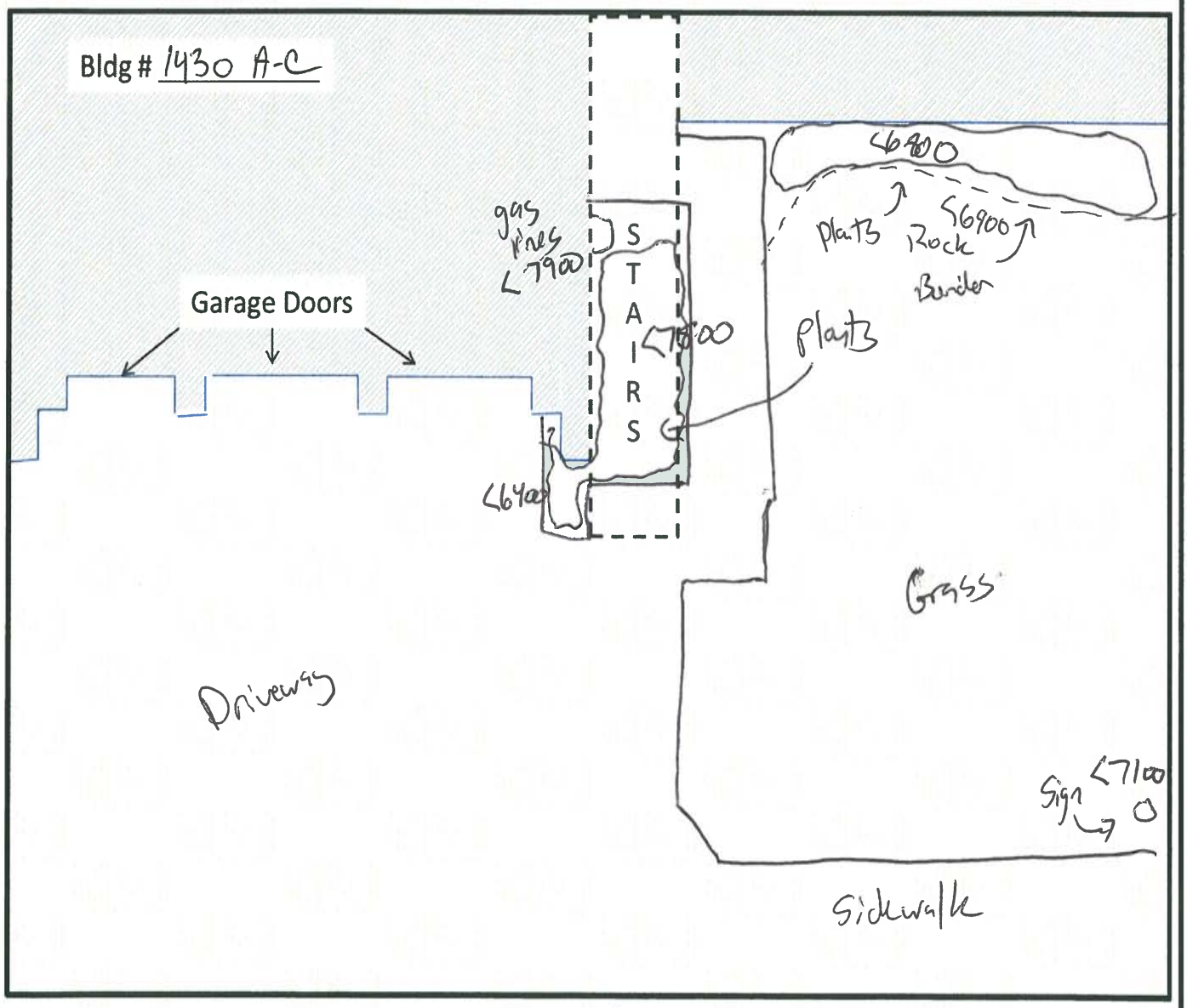
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 079	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	4440	BU19763	8/21/14	N/A	N/A	6286	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1430 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

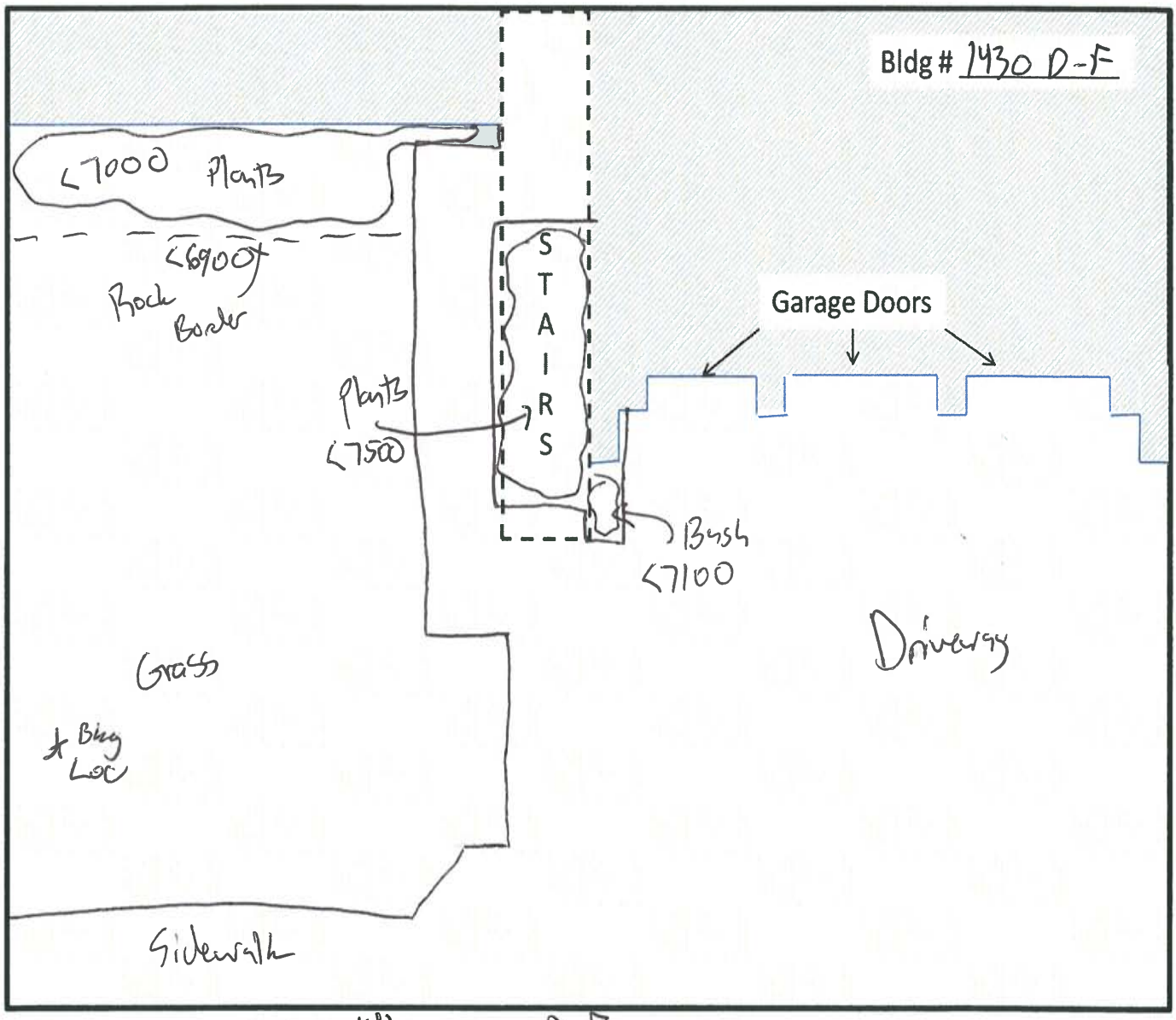
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 079	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1430 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

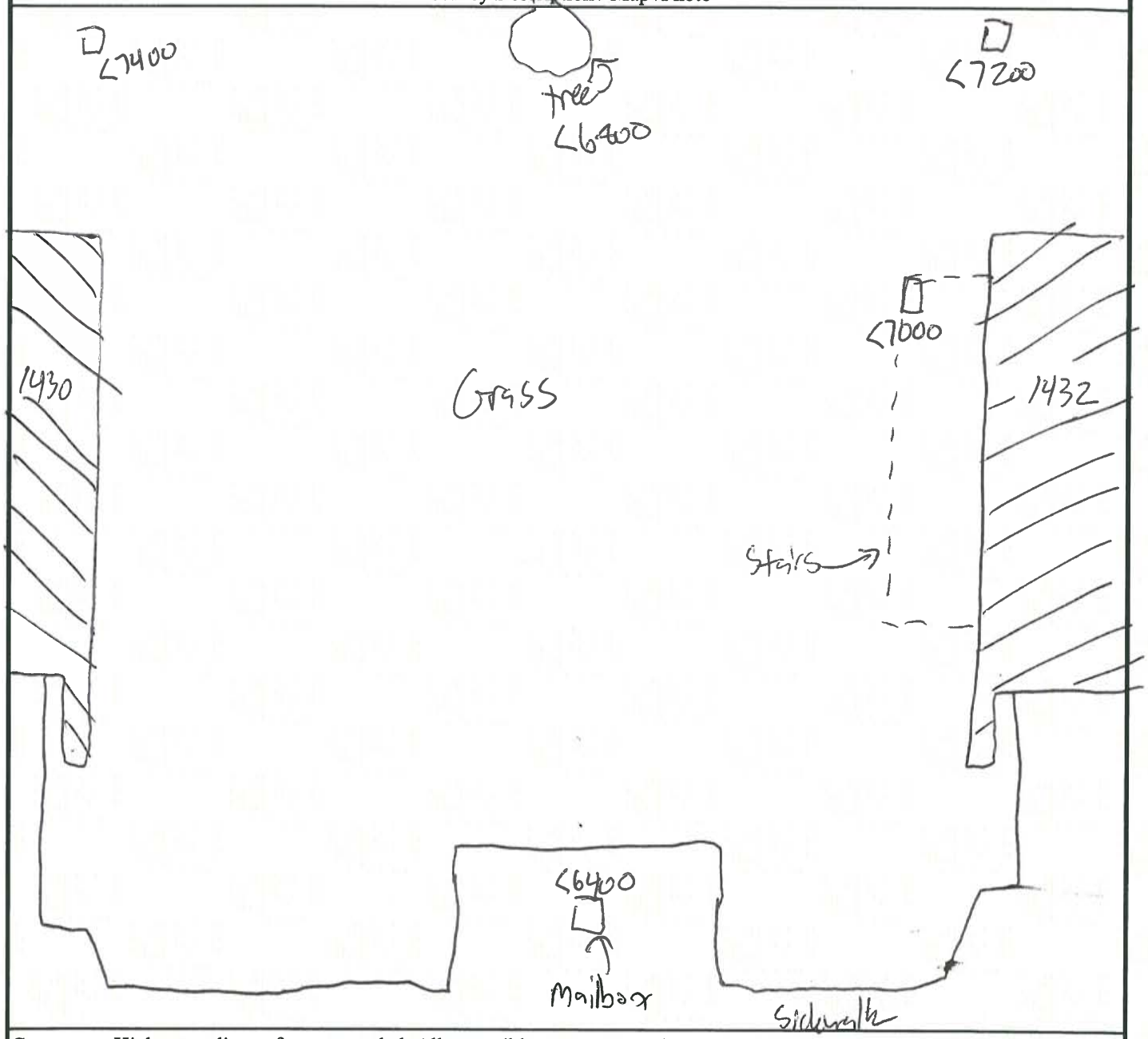
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 079	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

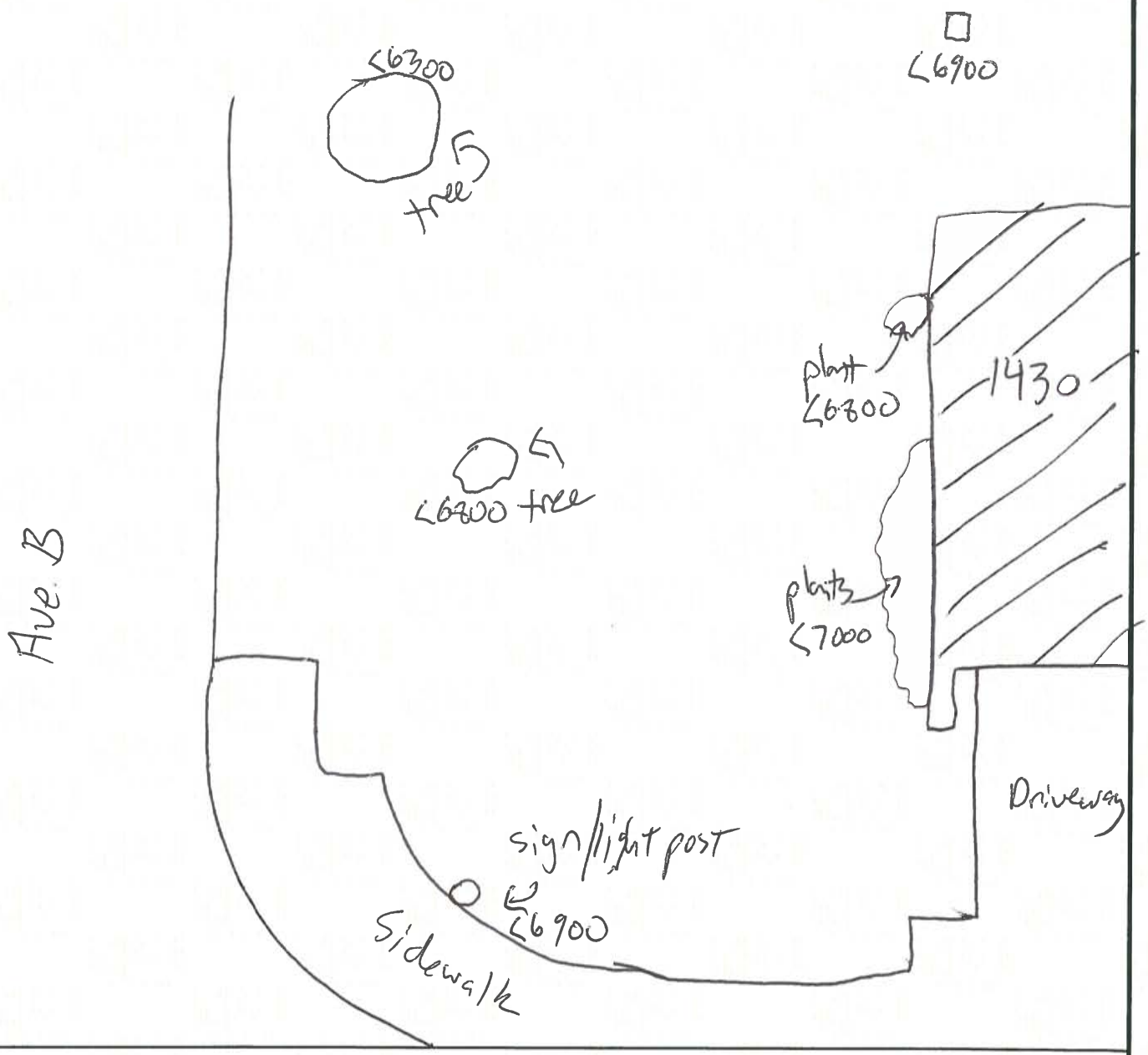
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 079	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

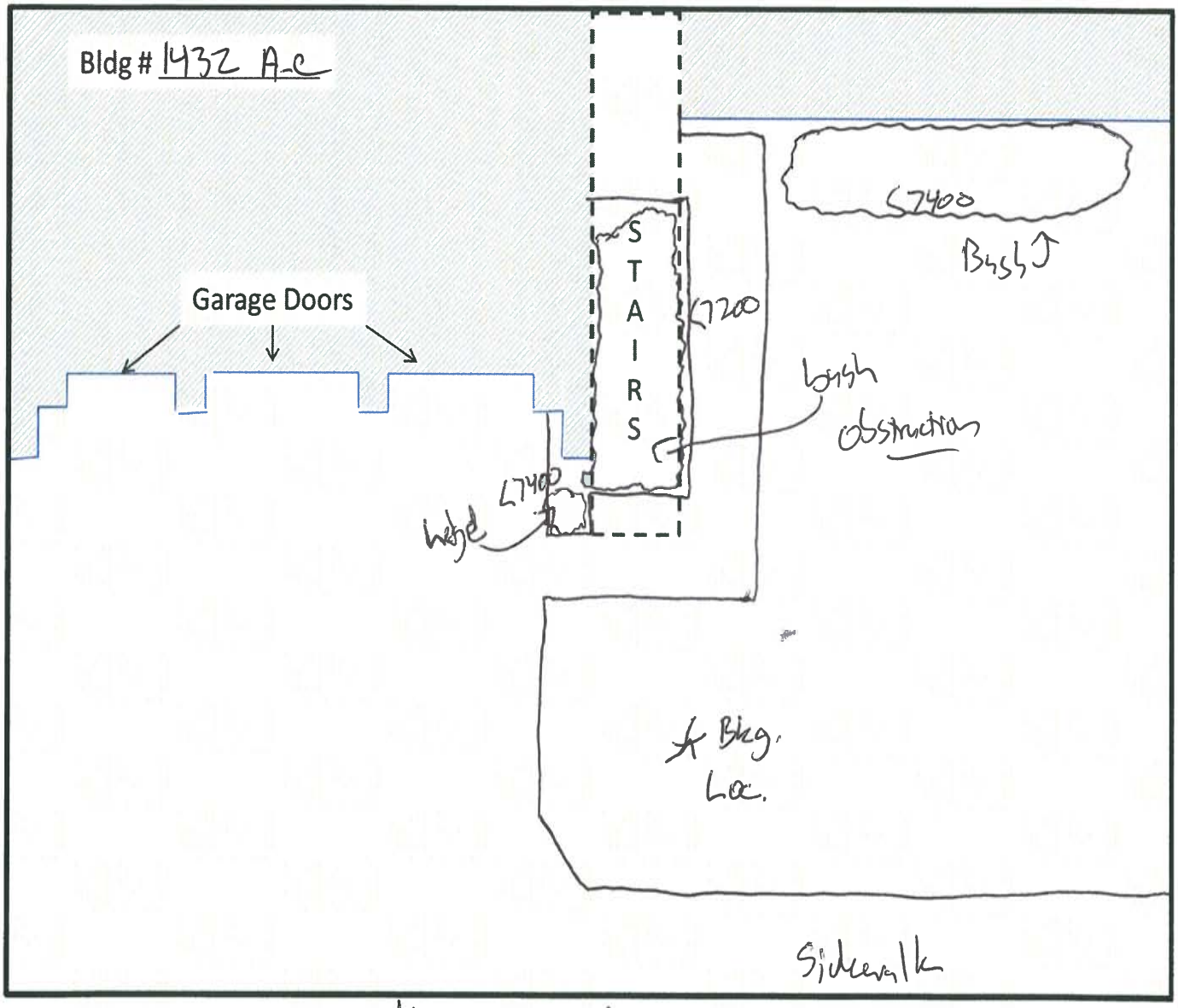
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-080	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-40	R019768	8/21/14	N/A	N/A	6457	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1432 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

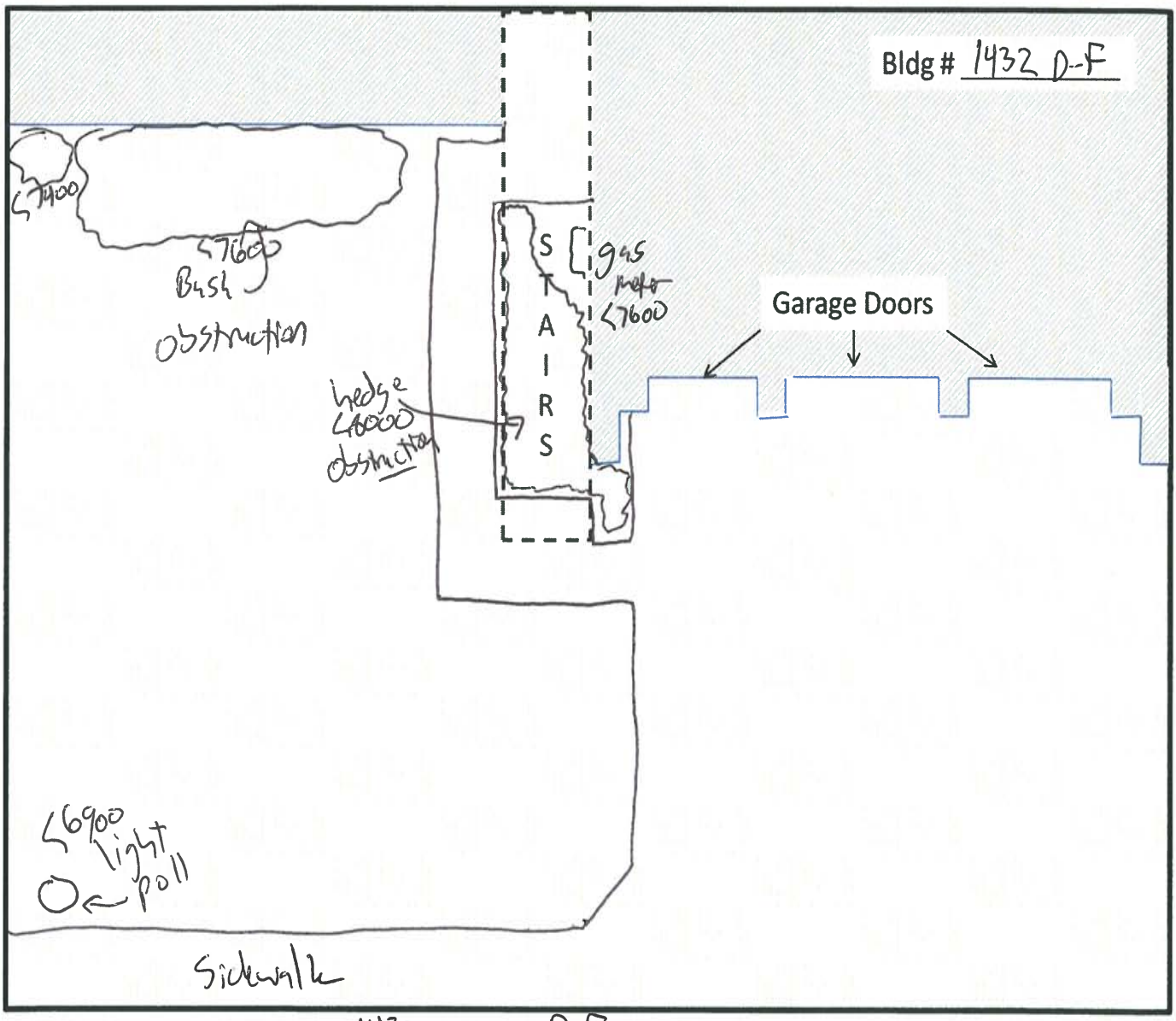
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-080	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1432 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

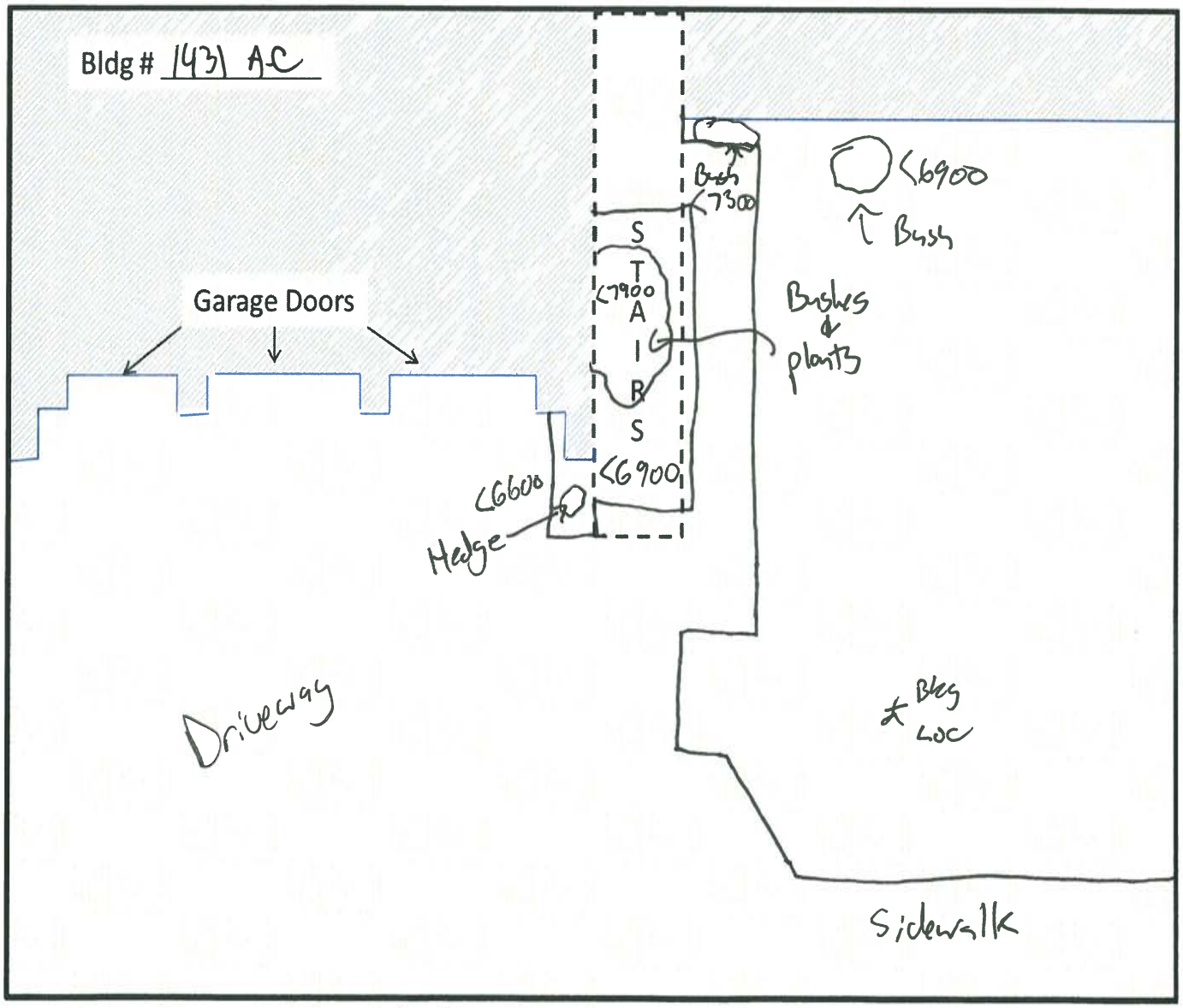
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 081	Date: 12/16/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	BU19768	8/21/14	N/A	N/A	6327	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1431 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

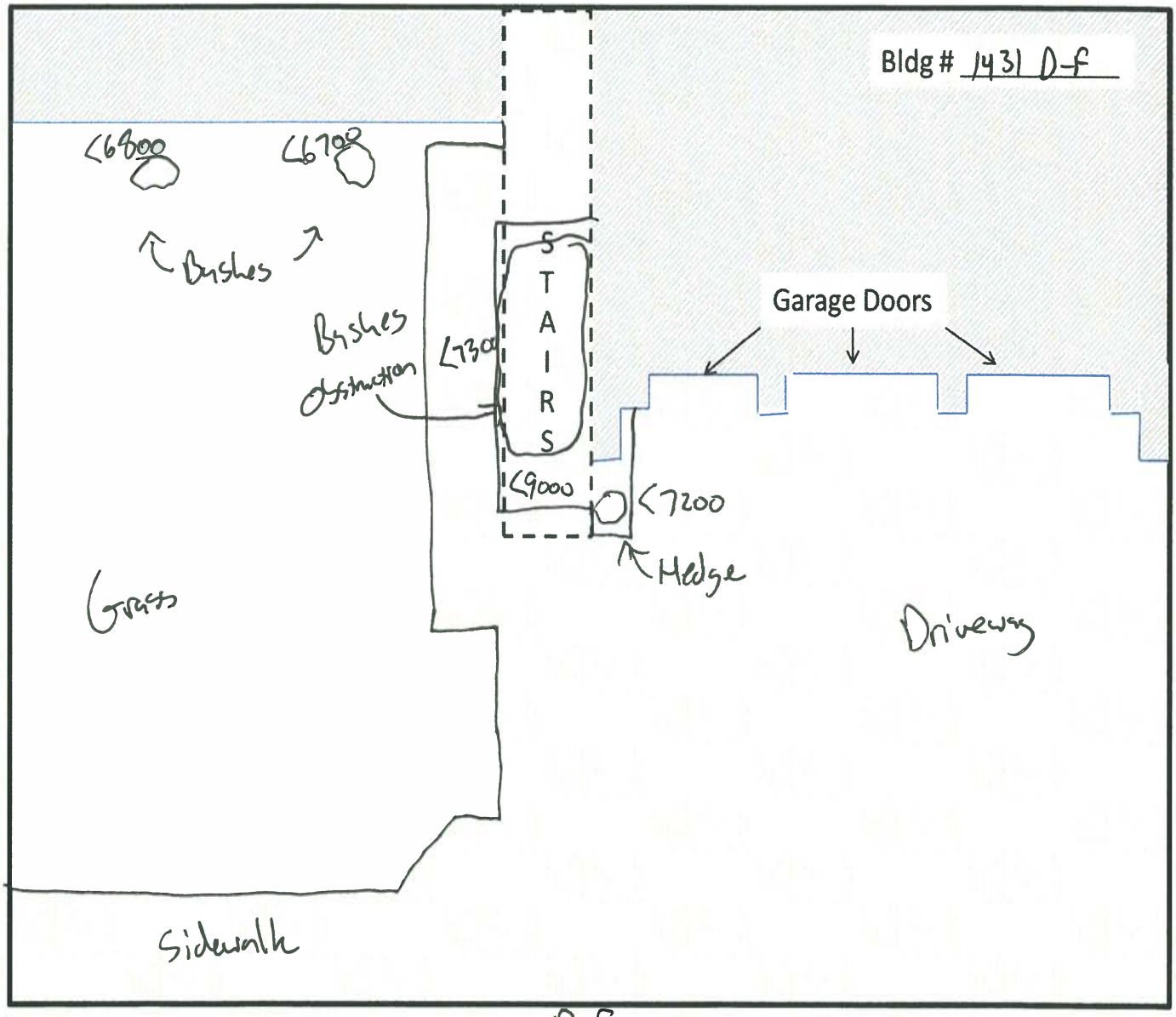
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-081	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1431 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

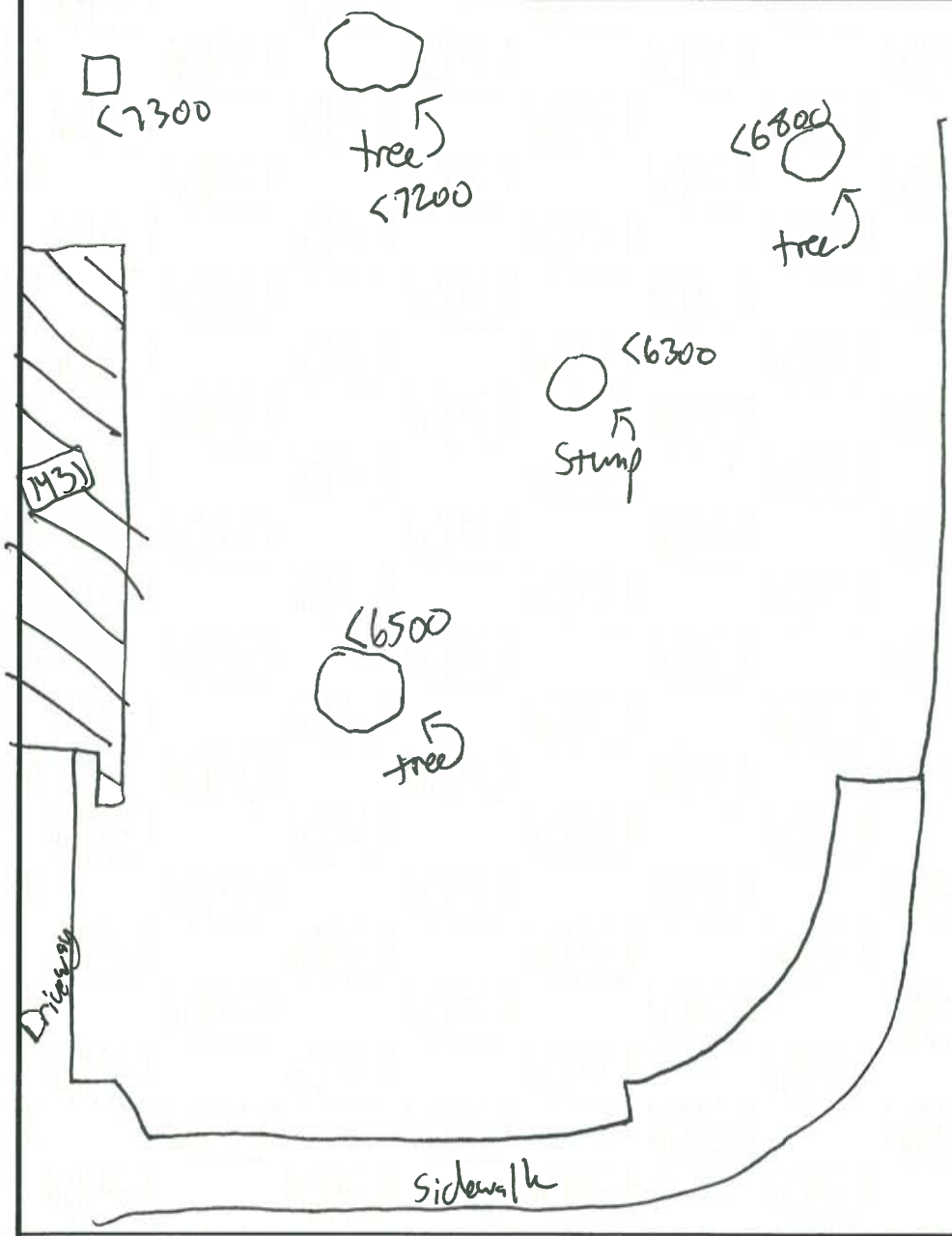
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-081	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

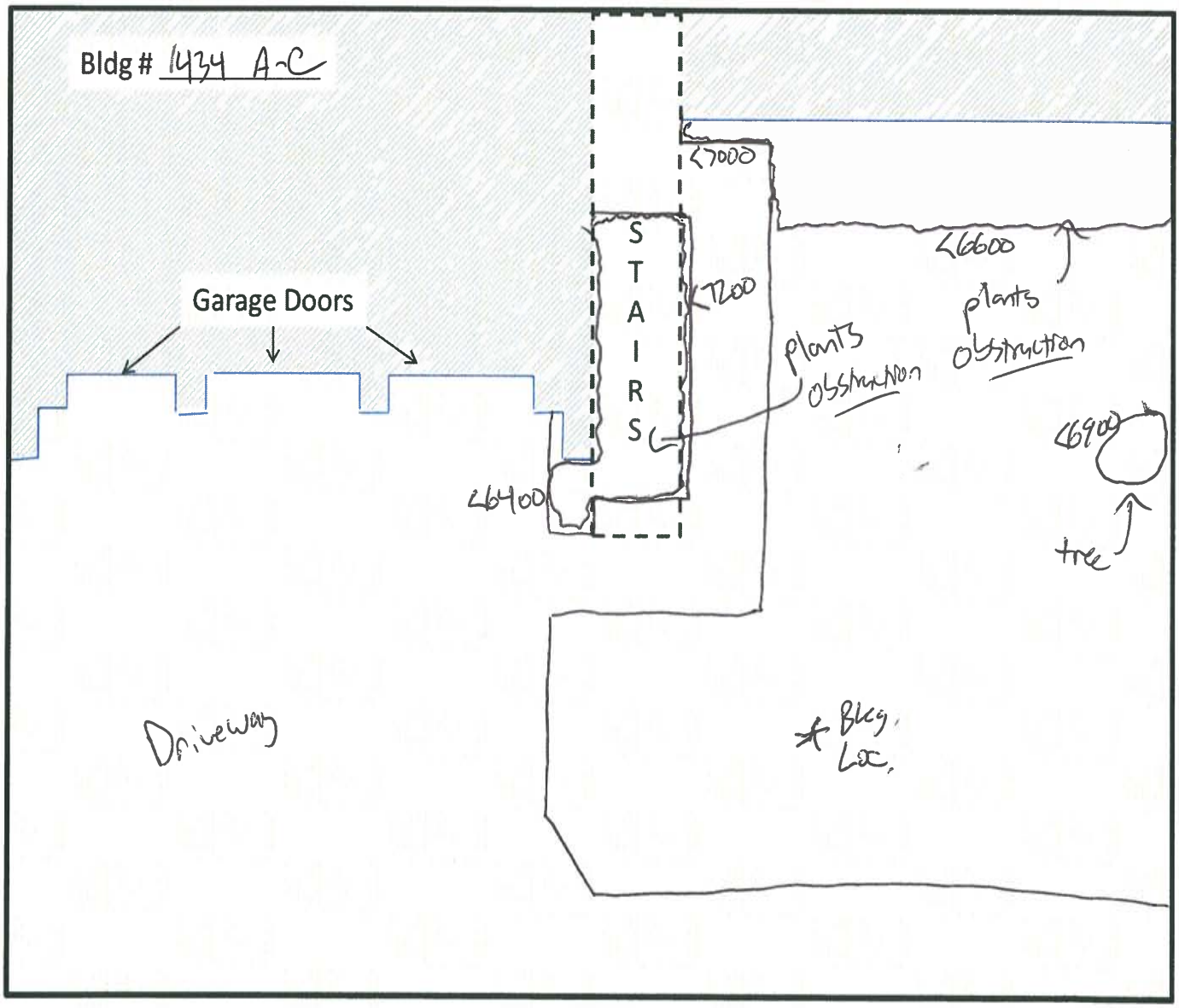
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-082	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	6472	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1434 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

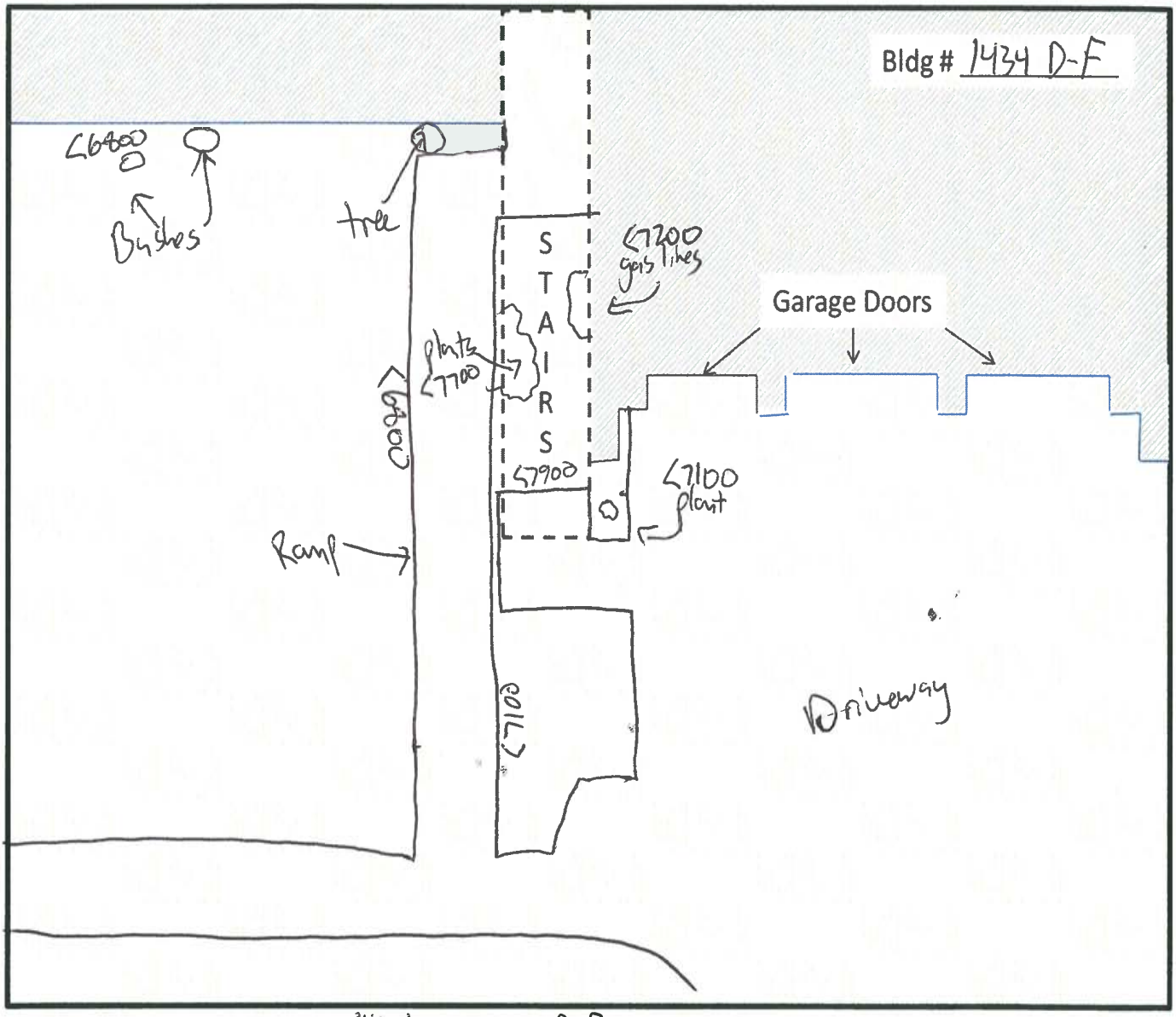
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-082	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1434 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

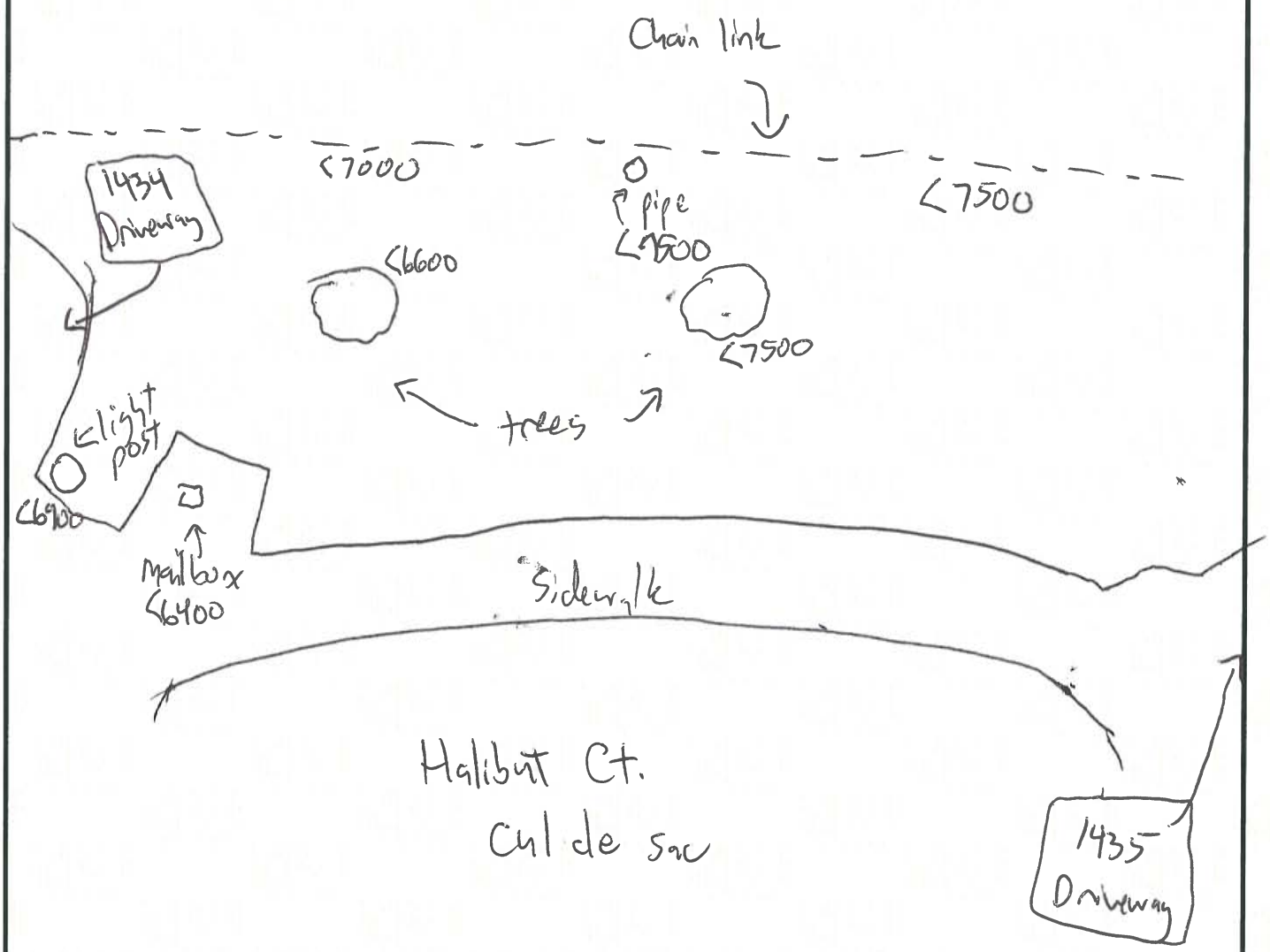
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-082	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

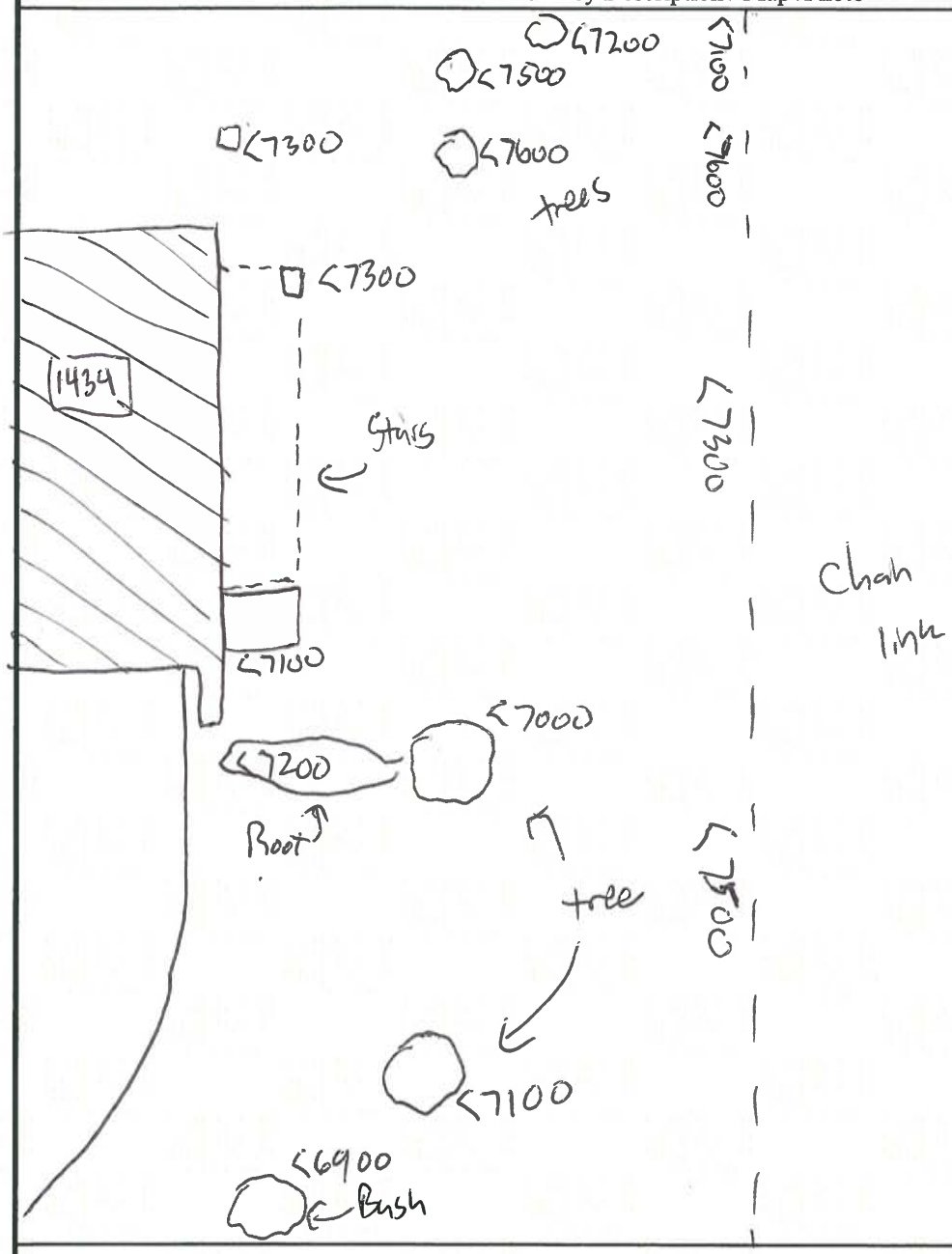
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 082	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

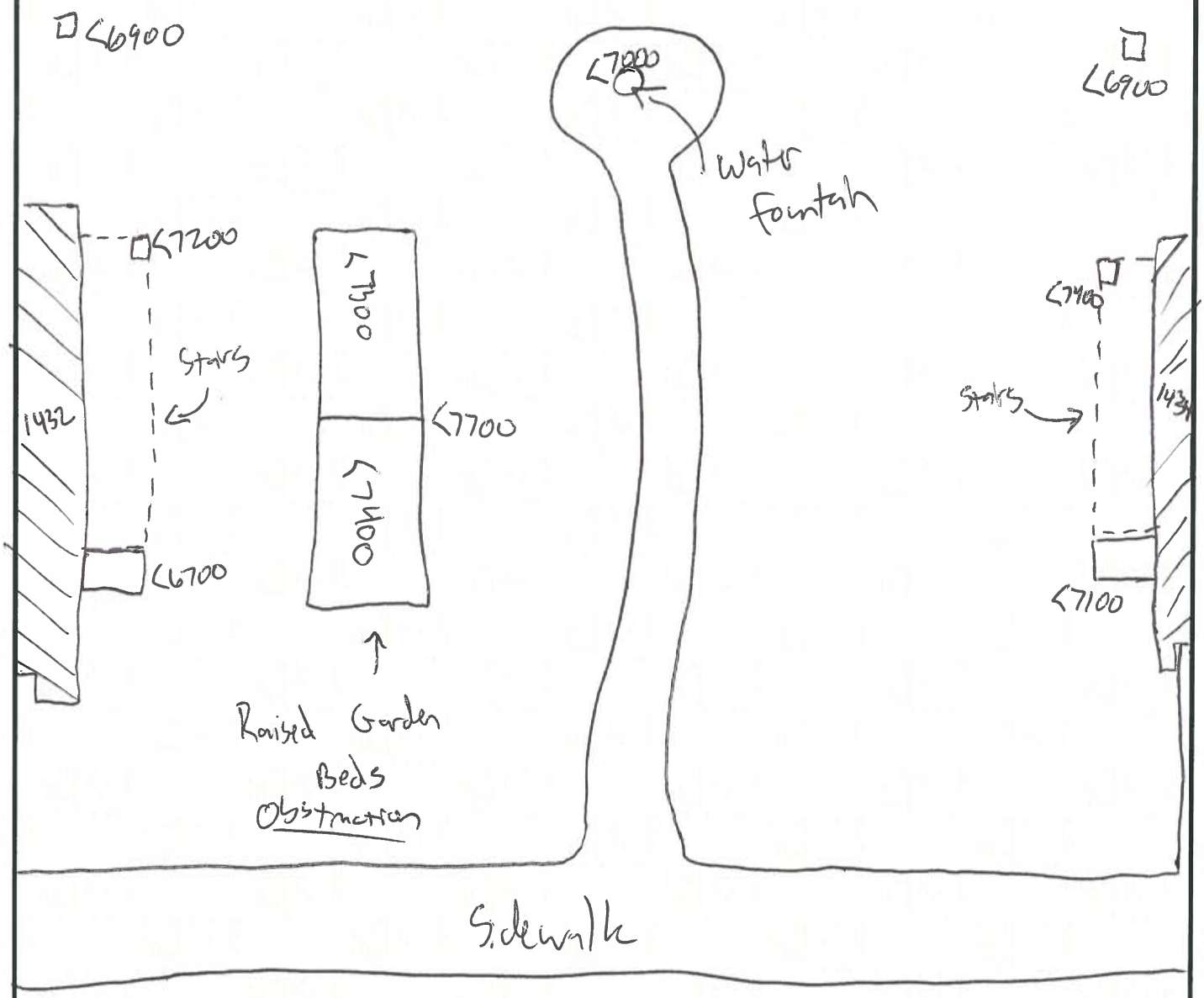
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-082	Date: 10/16/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

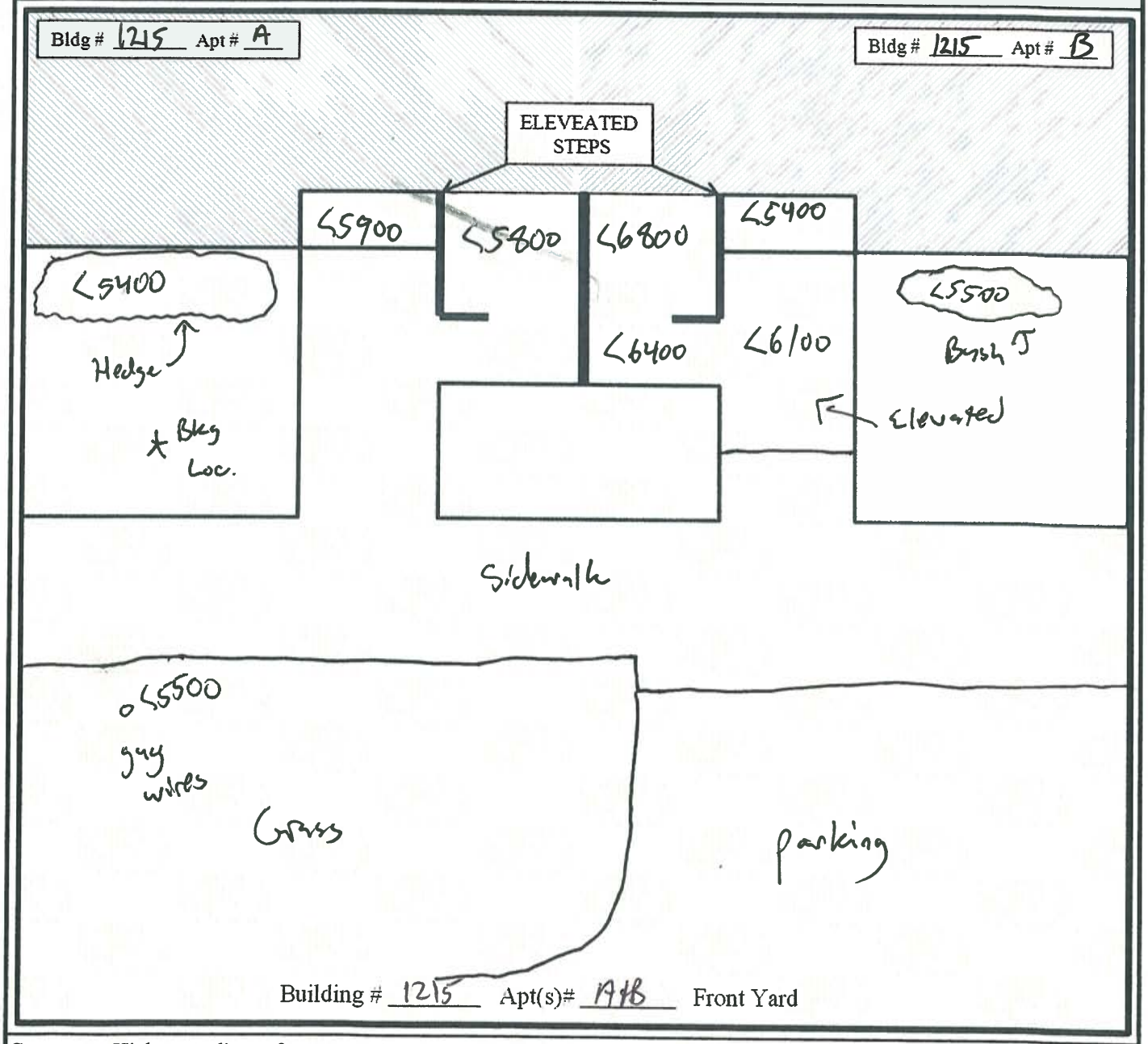
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-083	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RNA768	8/21/14	N/A	N/A	5745	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1215 Apt(s)# A+B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

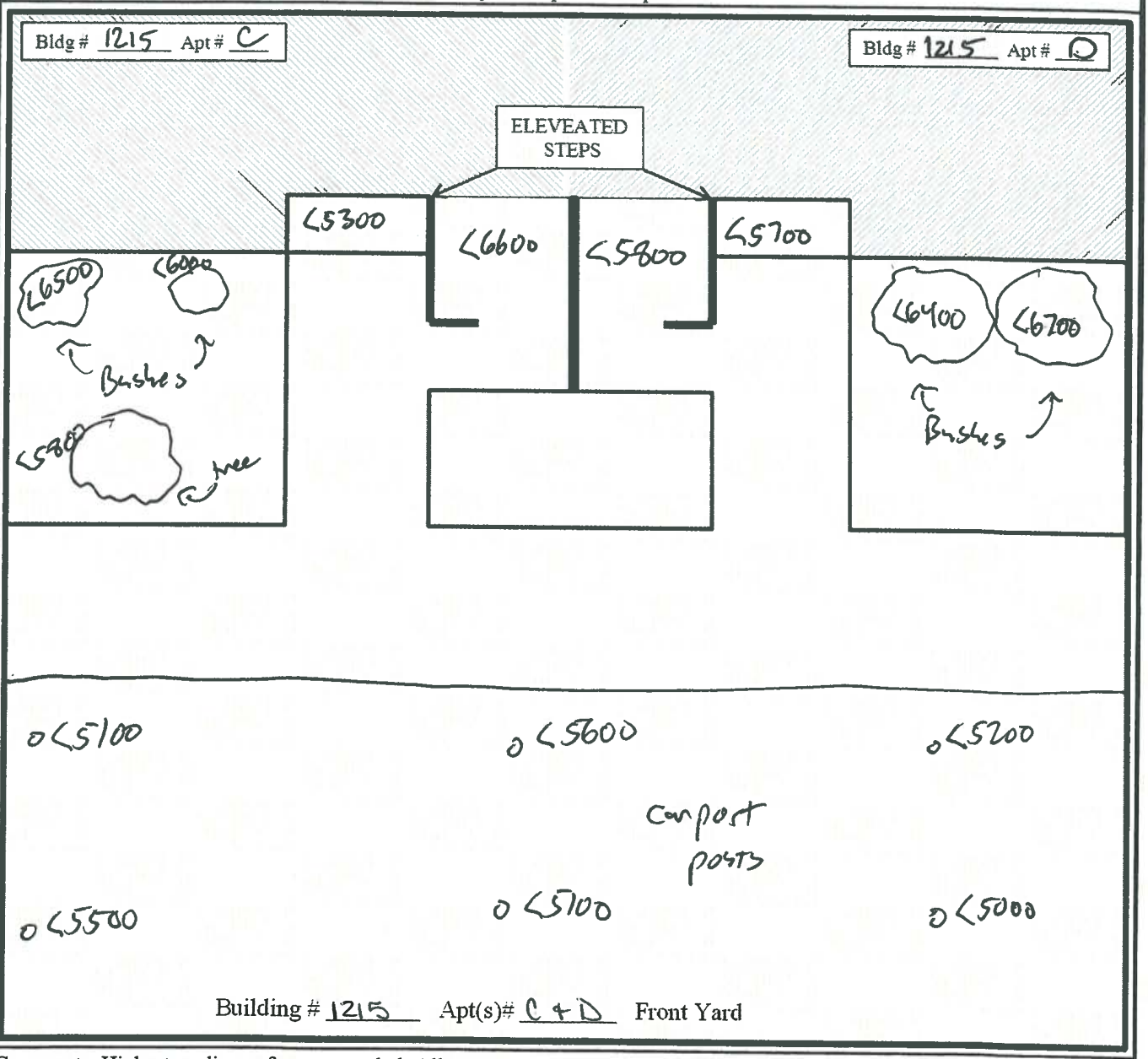
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 083	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

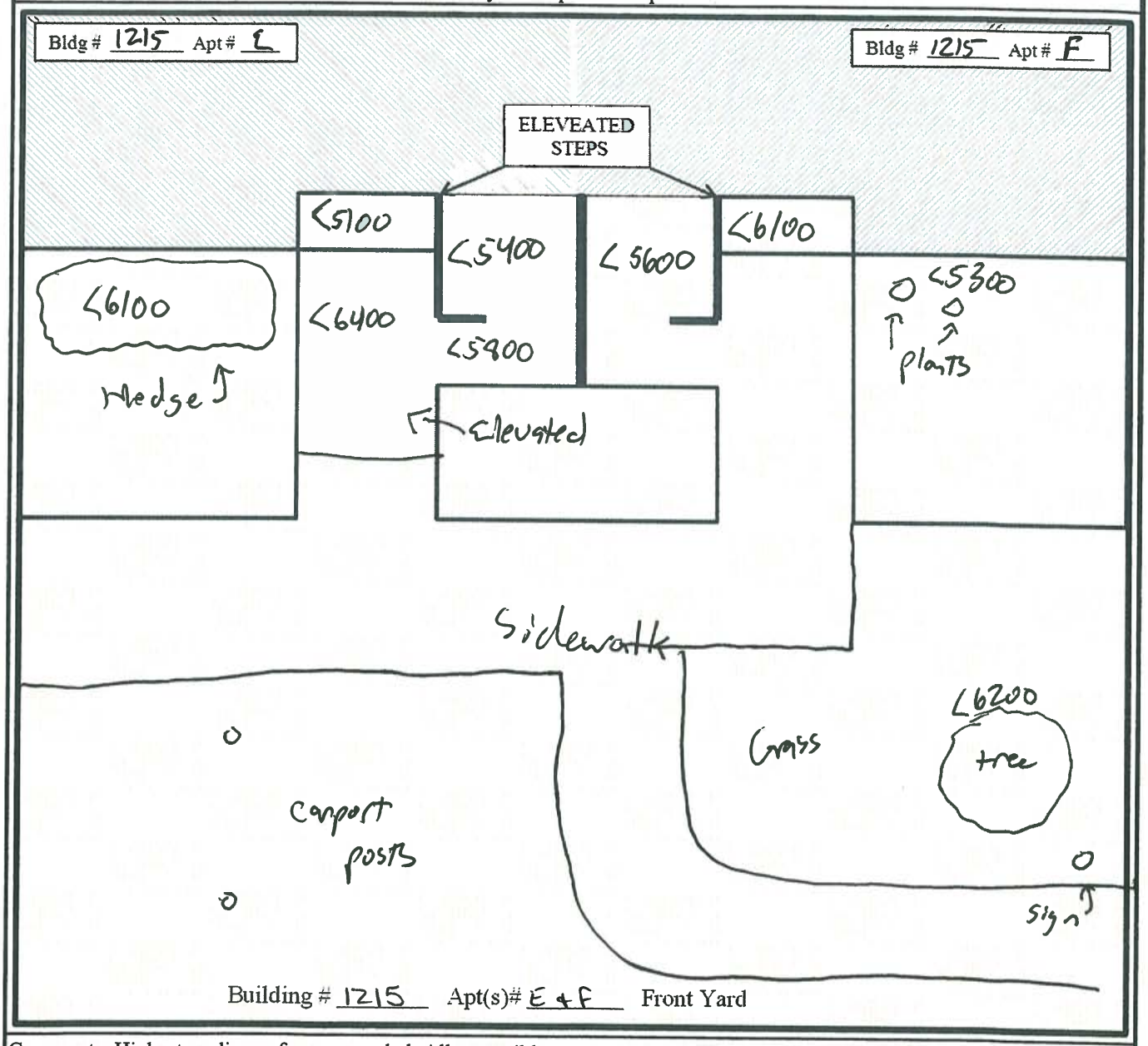
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 083	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1215 Apt(s)# E + F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

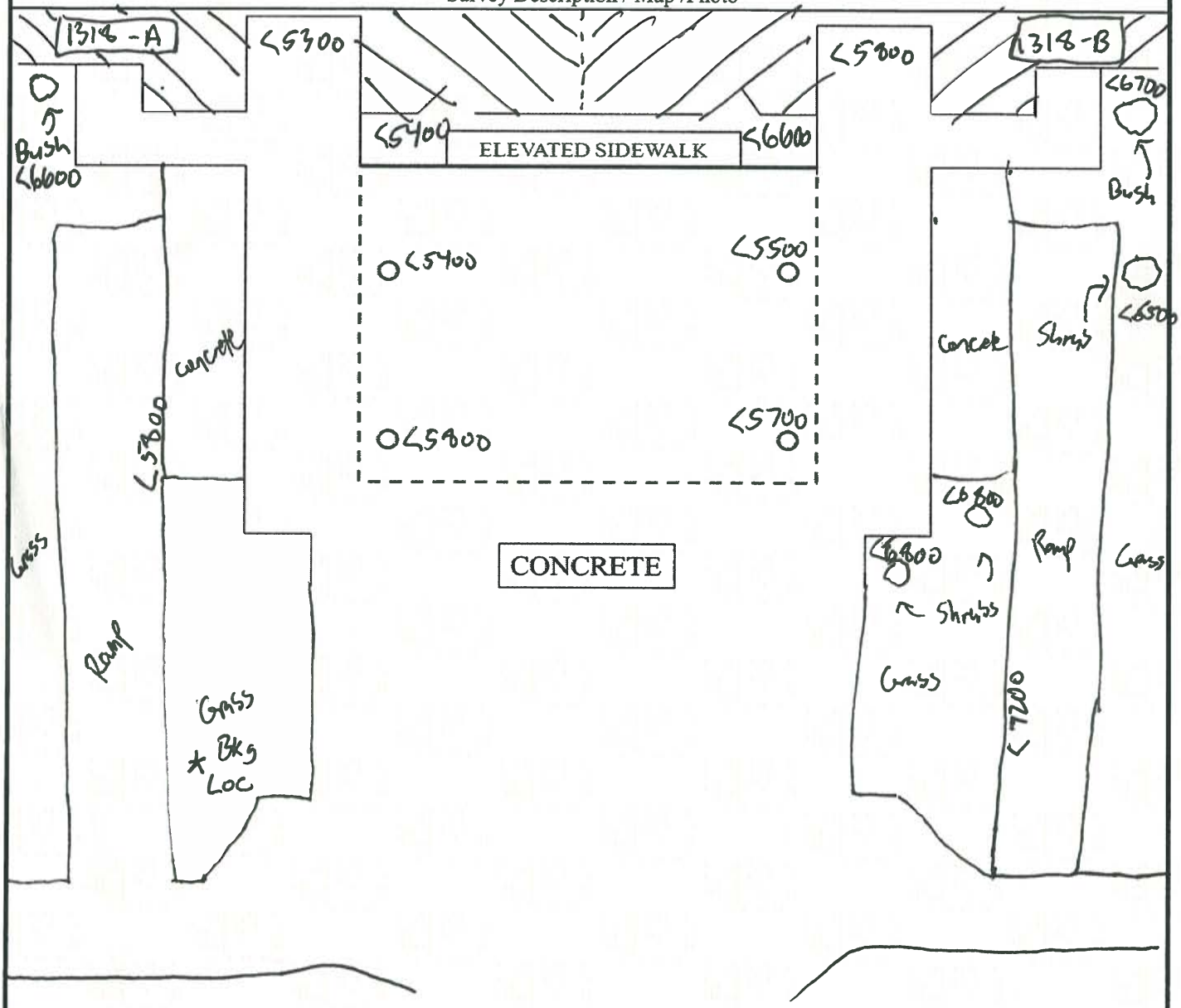
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-084	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	BN119768	8/21/14	N/A	N/A	5767	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1318 Apt(s)# A&B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

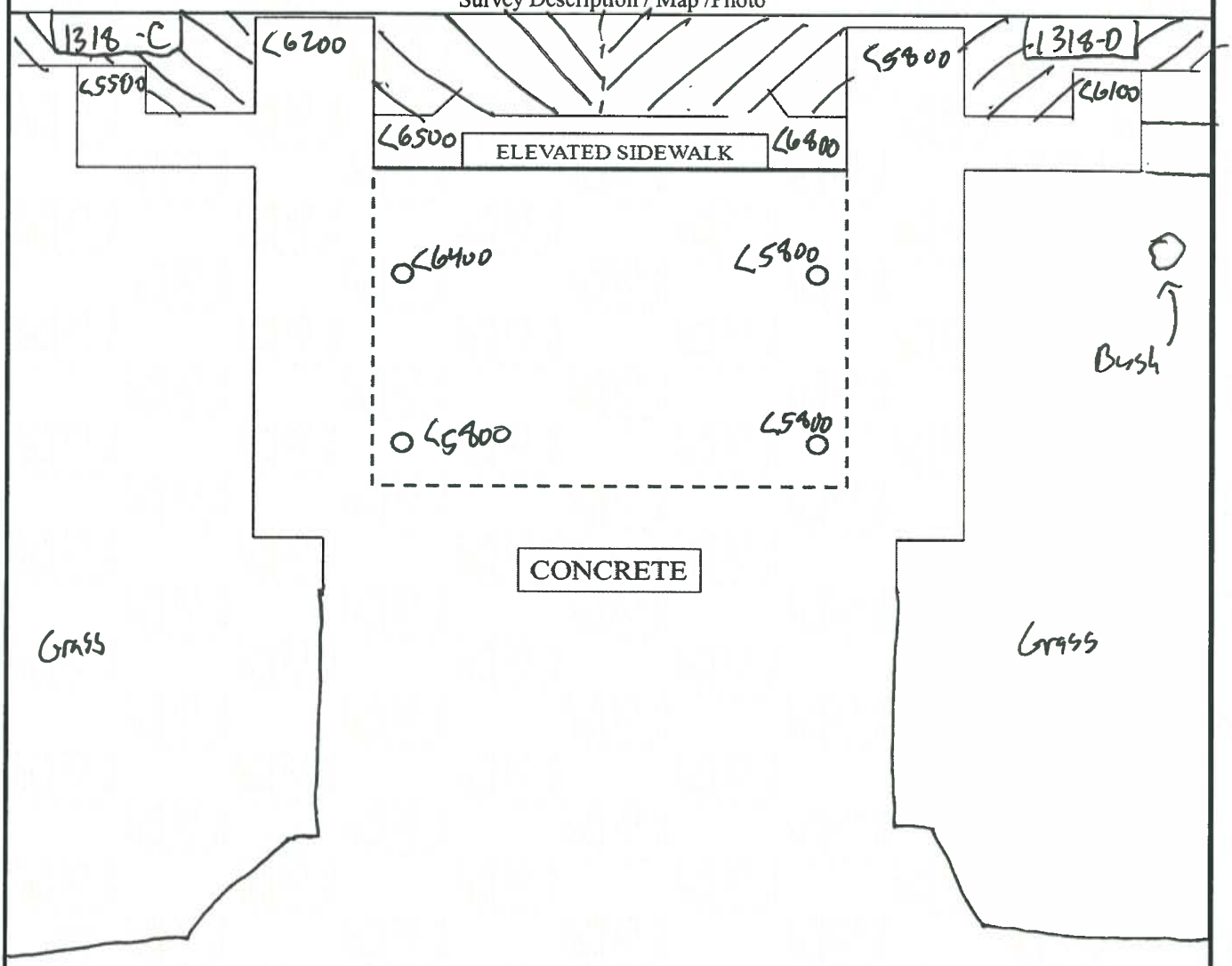
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-084	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1318 Apt(s)# C&D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

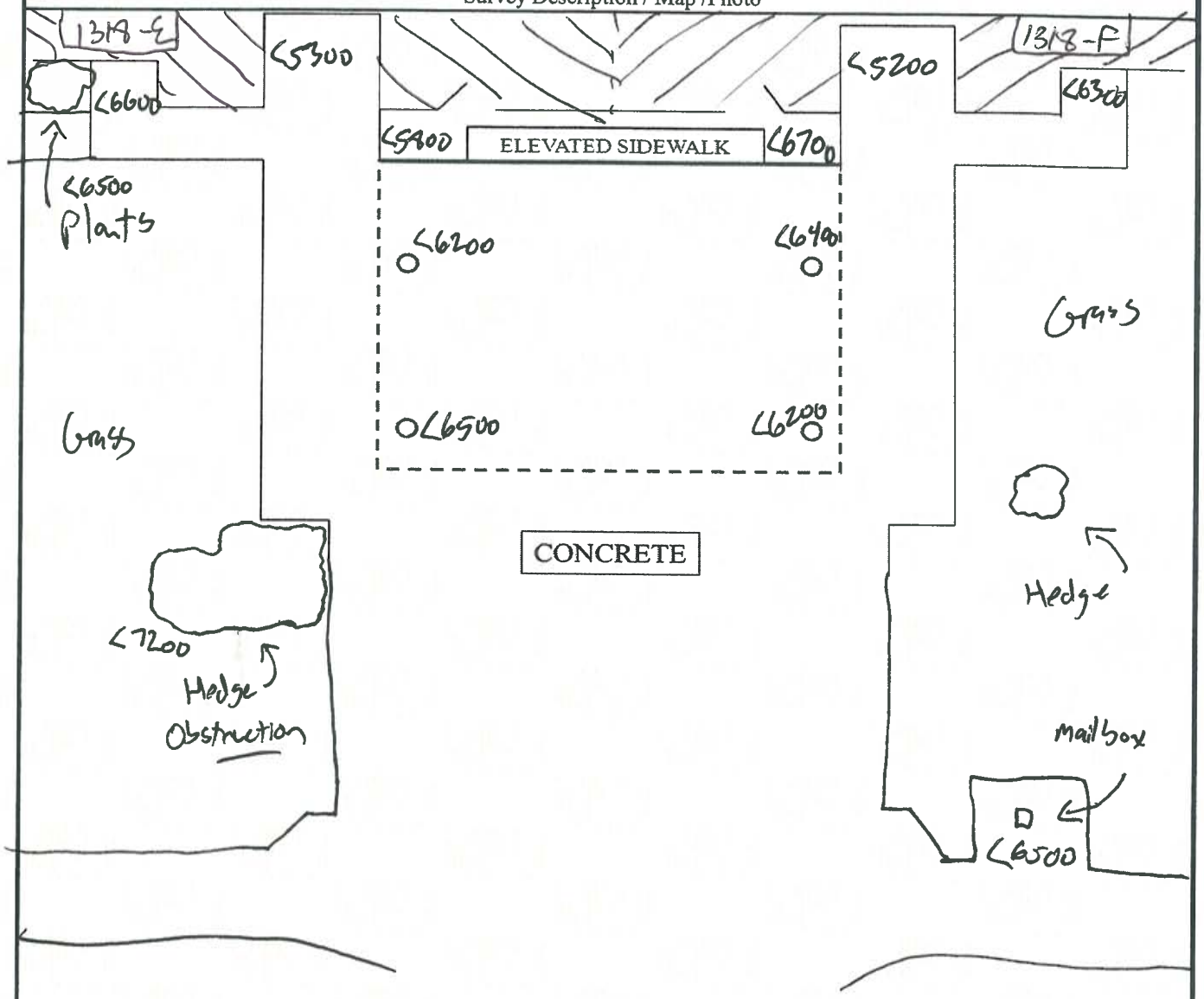
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-084	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1318 Apt(s)# E & F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

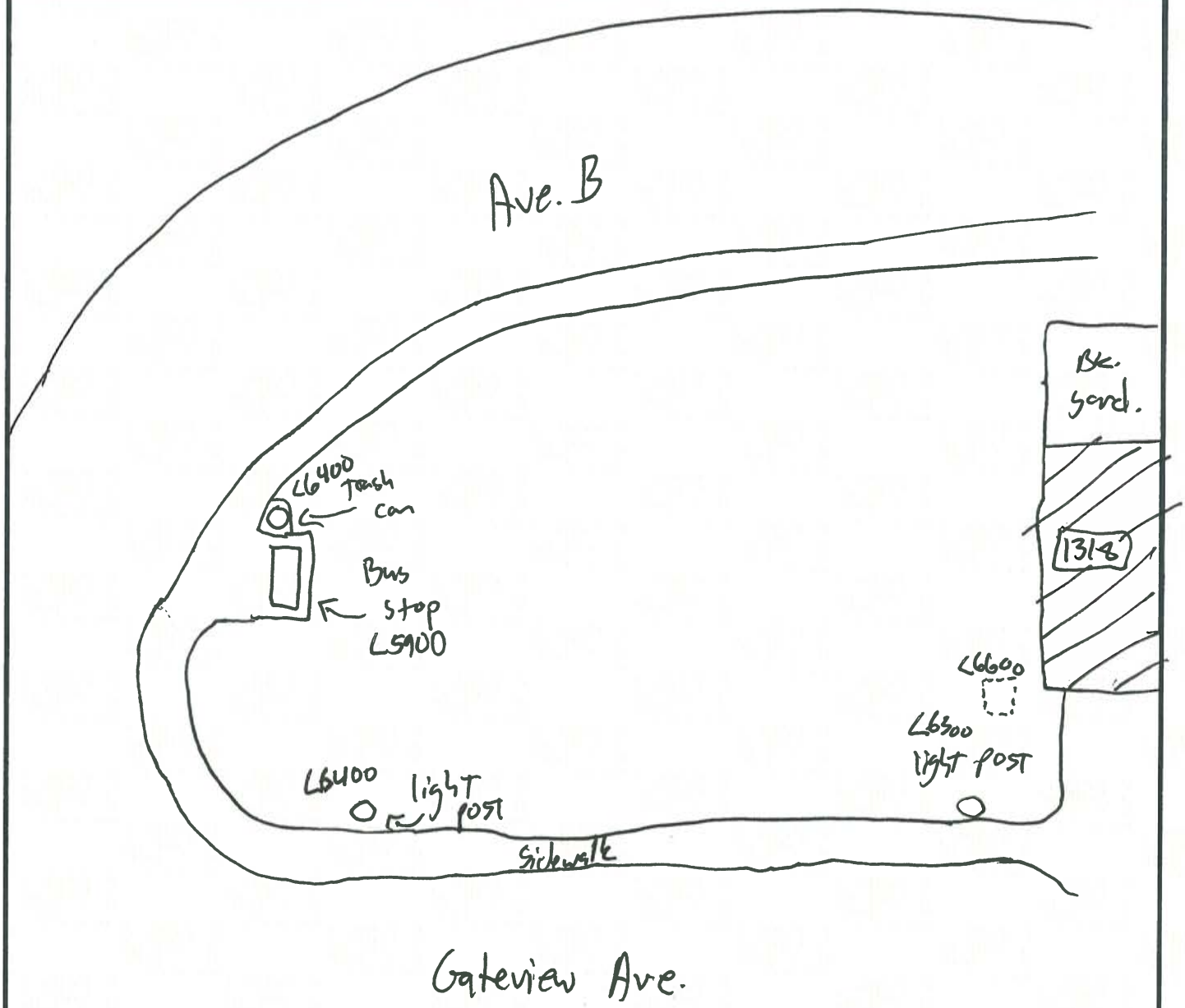
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-084	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

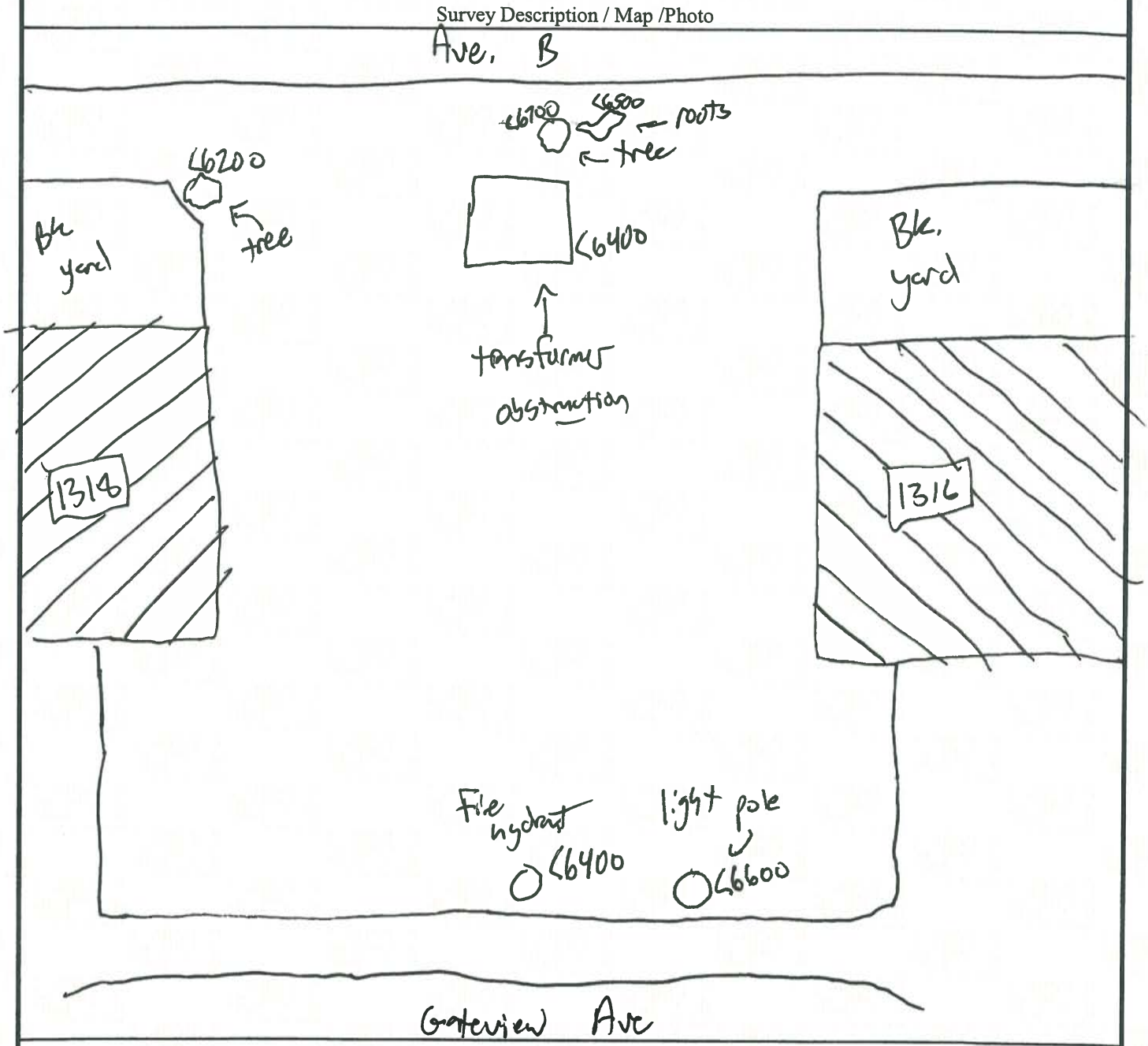
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-084	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

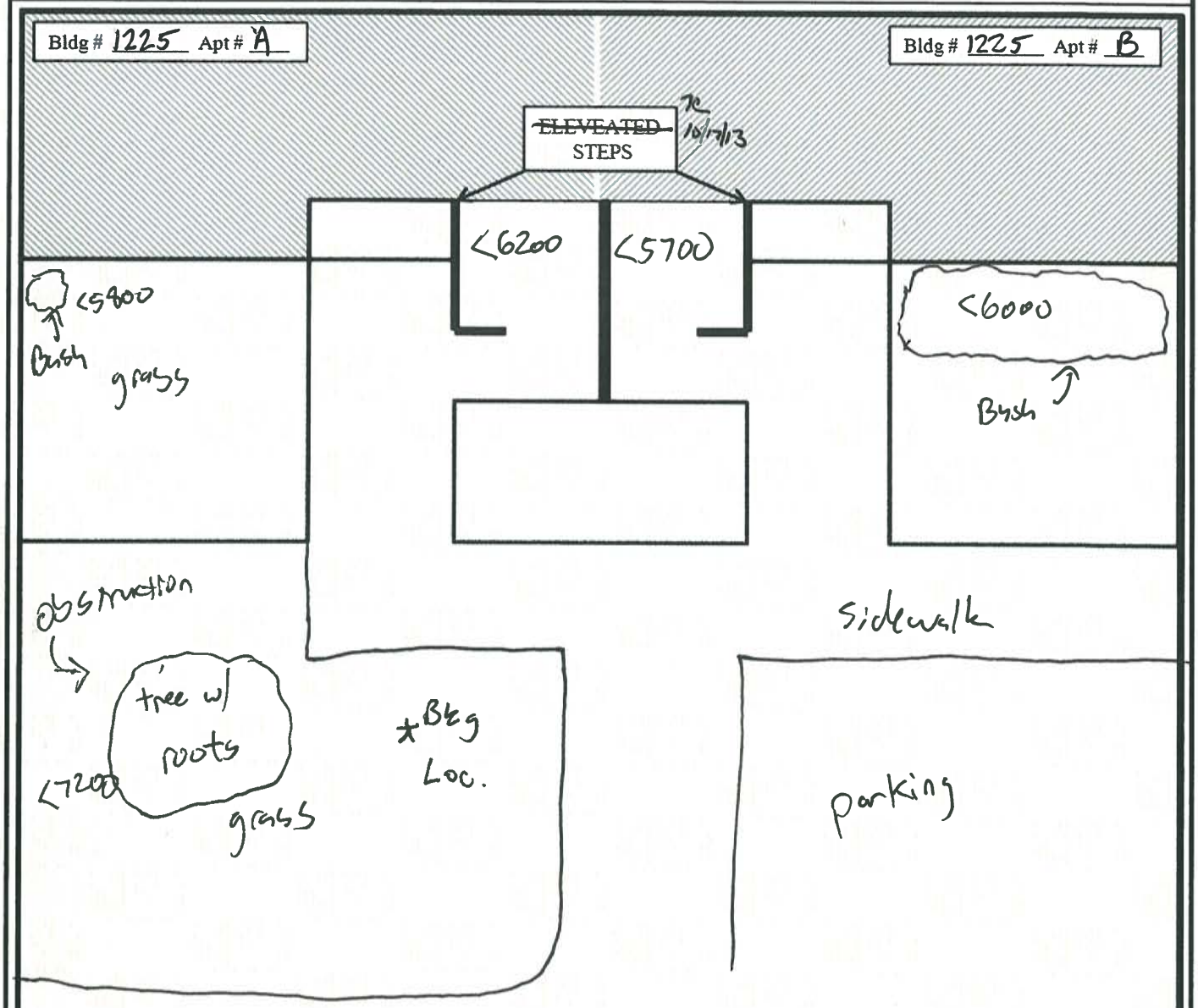
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-085	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	5885	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1225 Apt(s)# A+B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

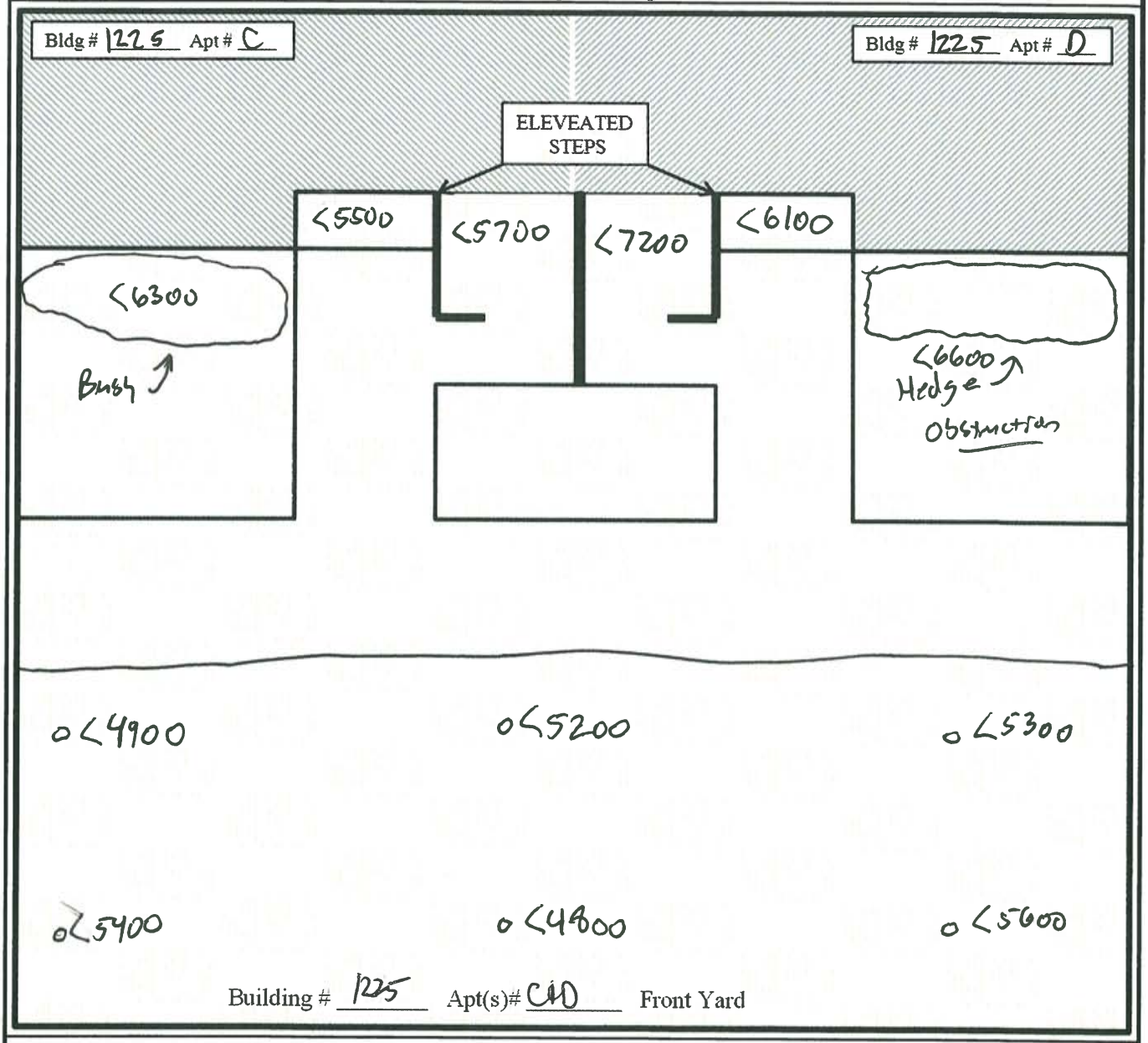
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 085	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

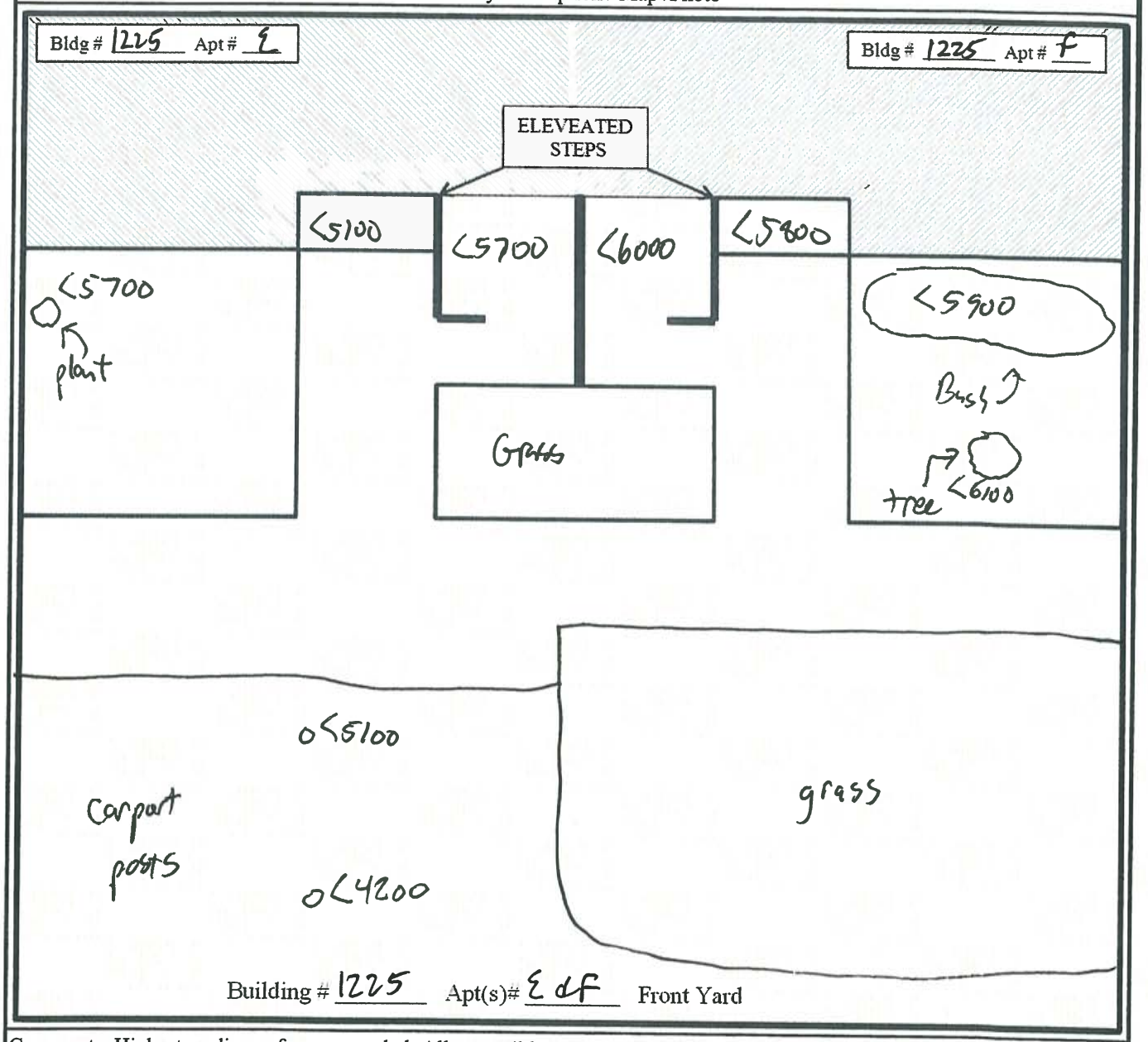
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-085	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

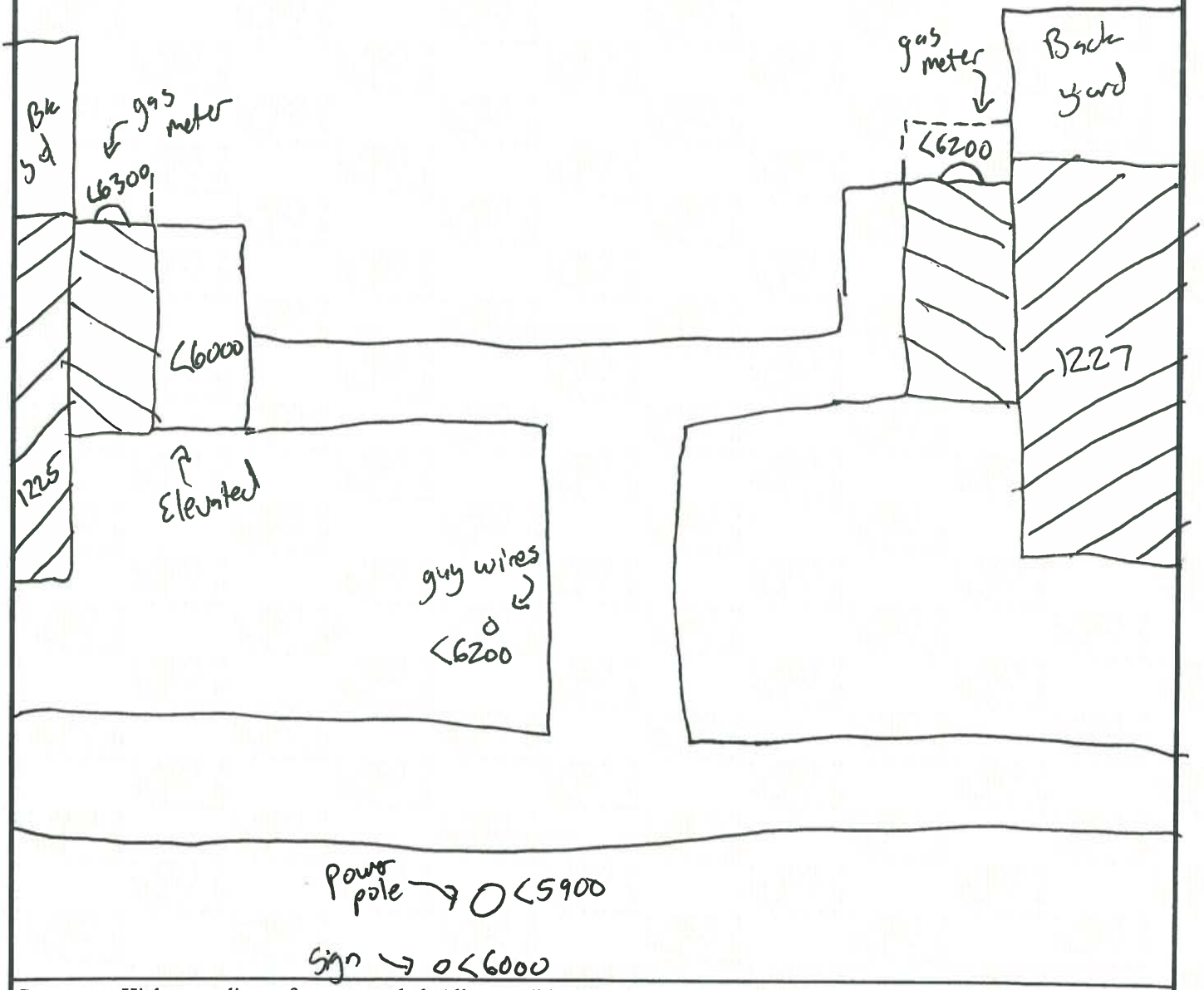
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-085	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

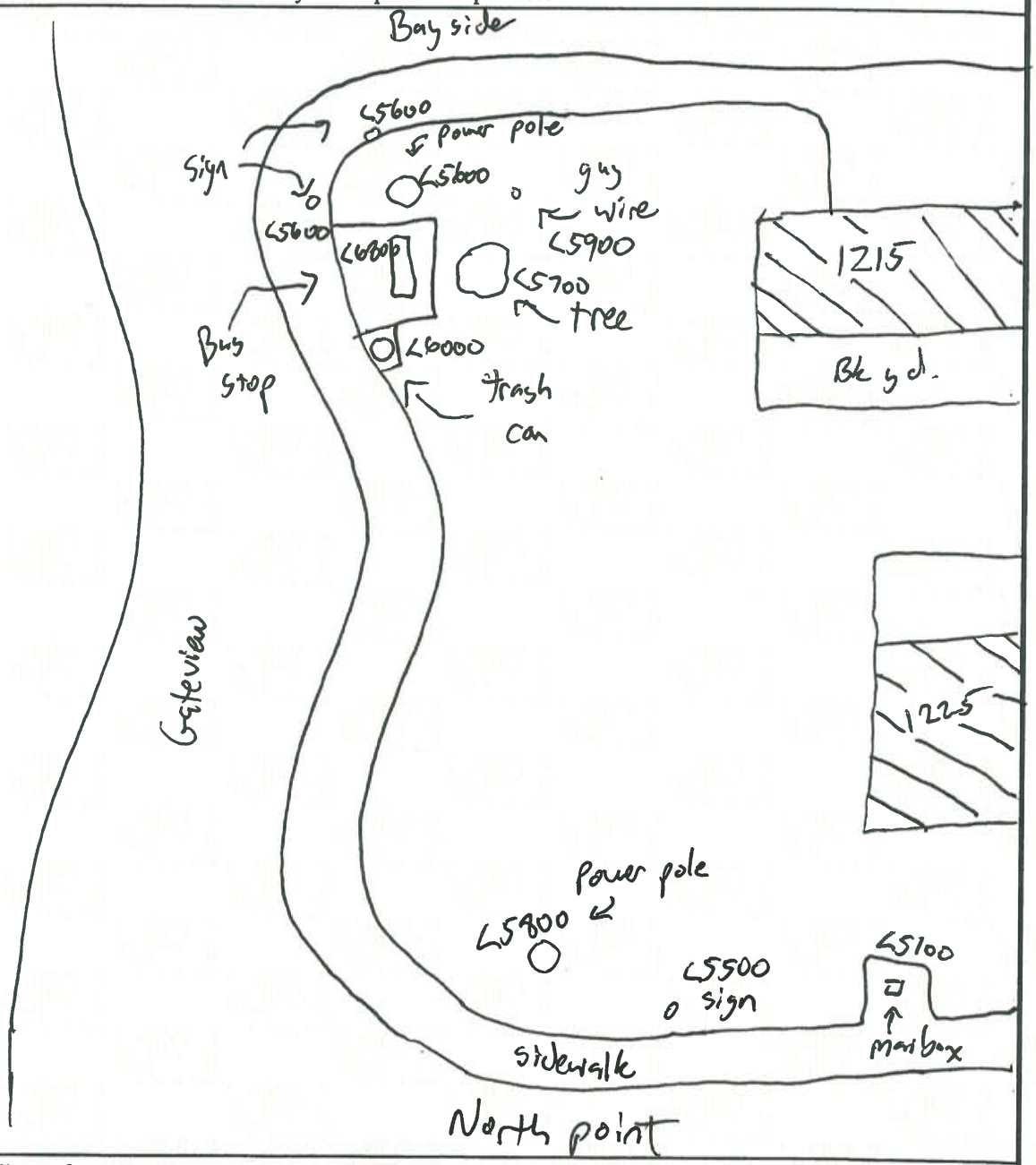
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-085	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

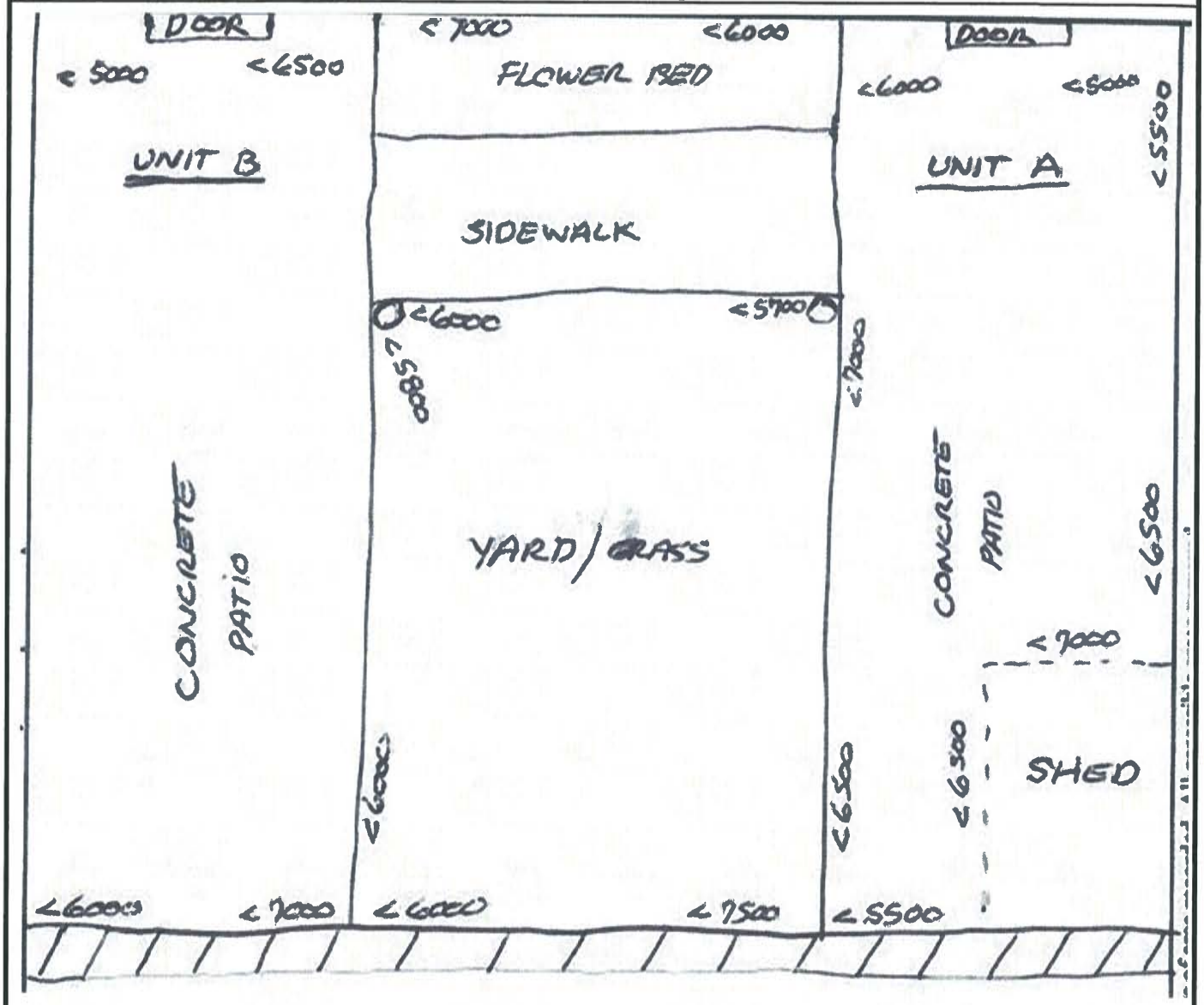
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-086	Date: 10/17/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	6166	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1318 apartment "A & B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

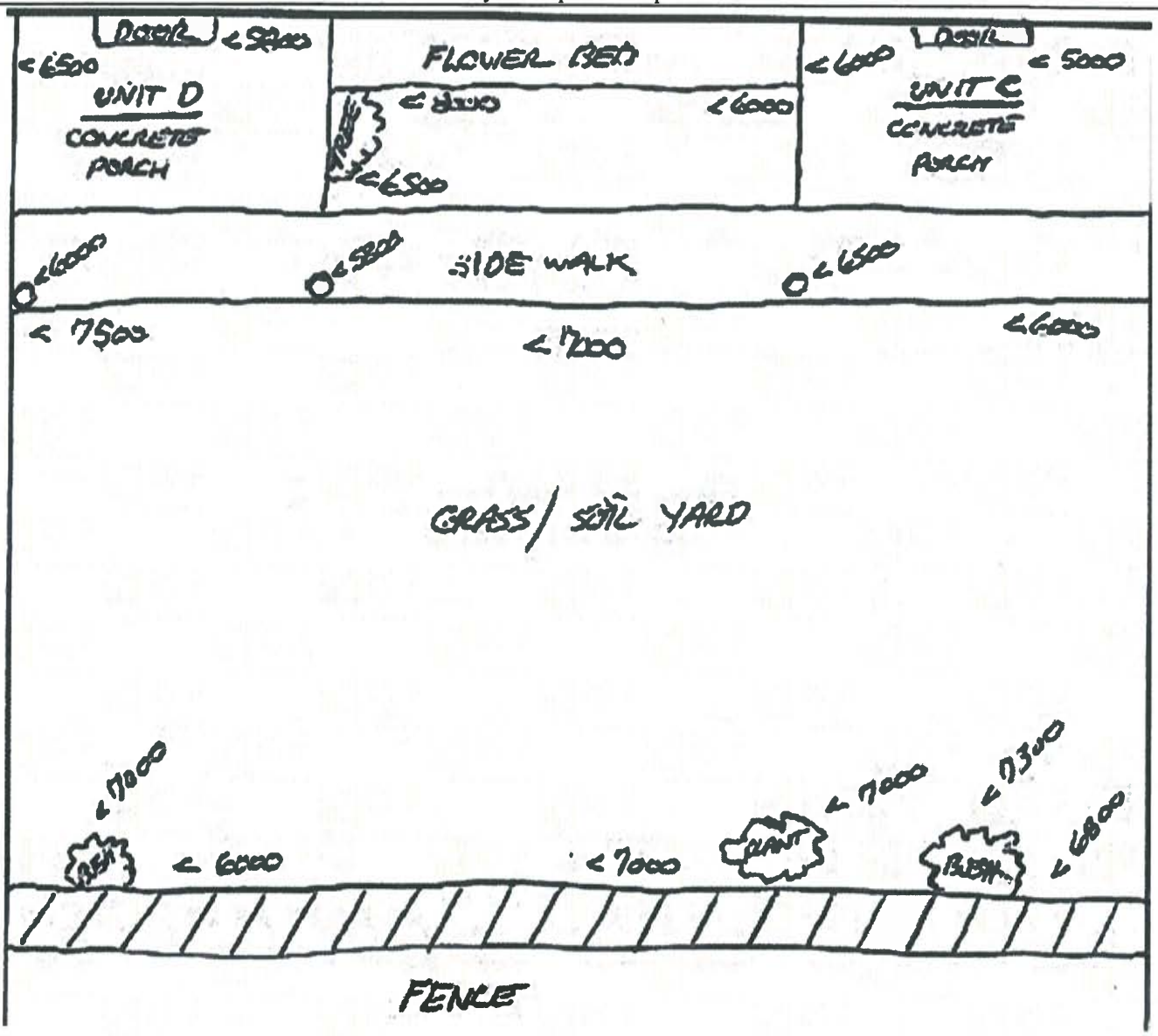
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-086	Date: 10/17/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1318 apartment "C & D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

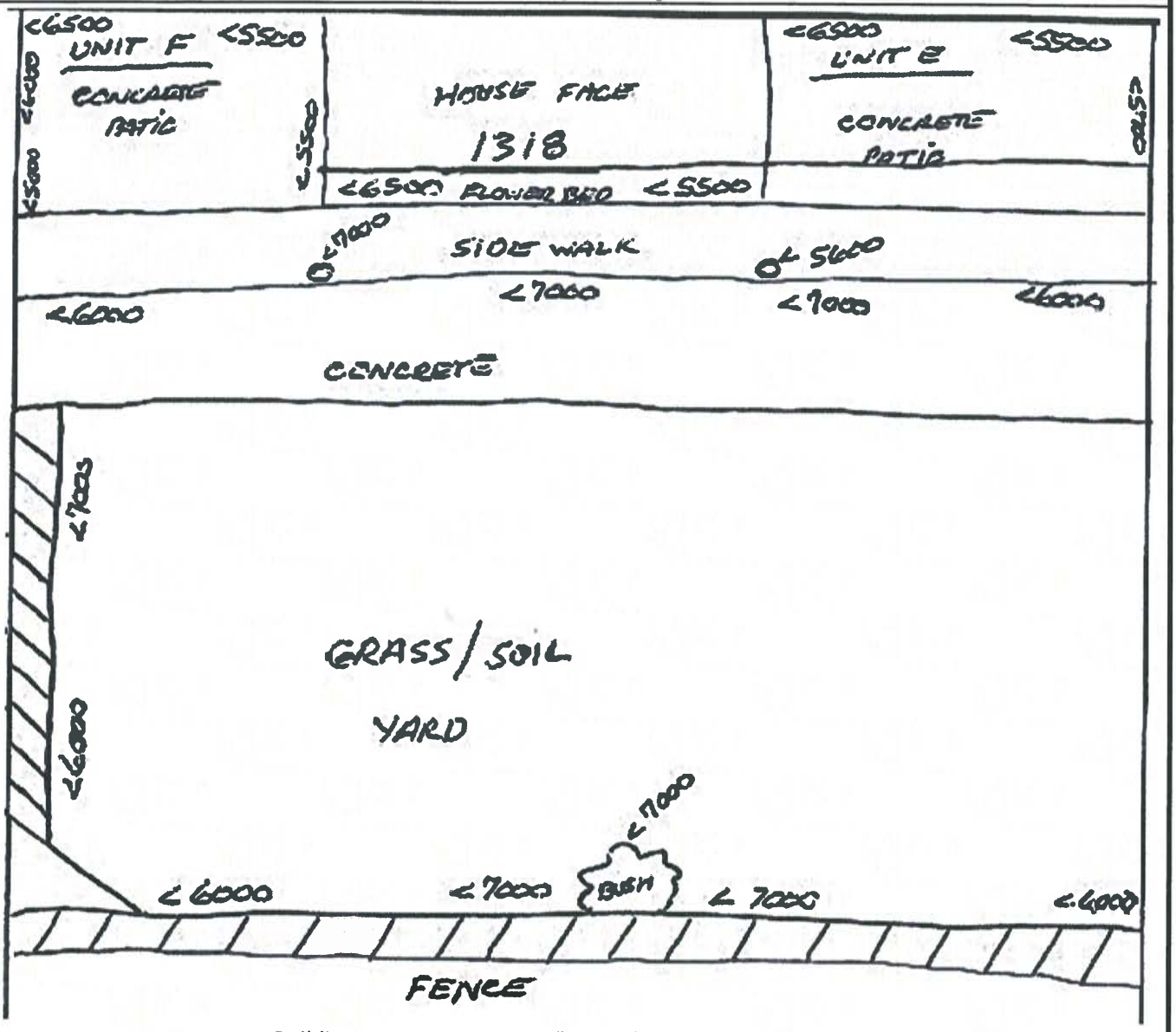
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-086	Date: 10/17/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1318 apartment " E & F " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

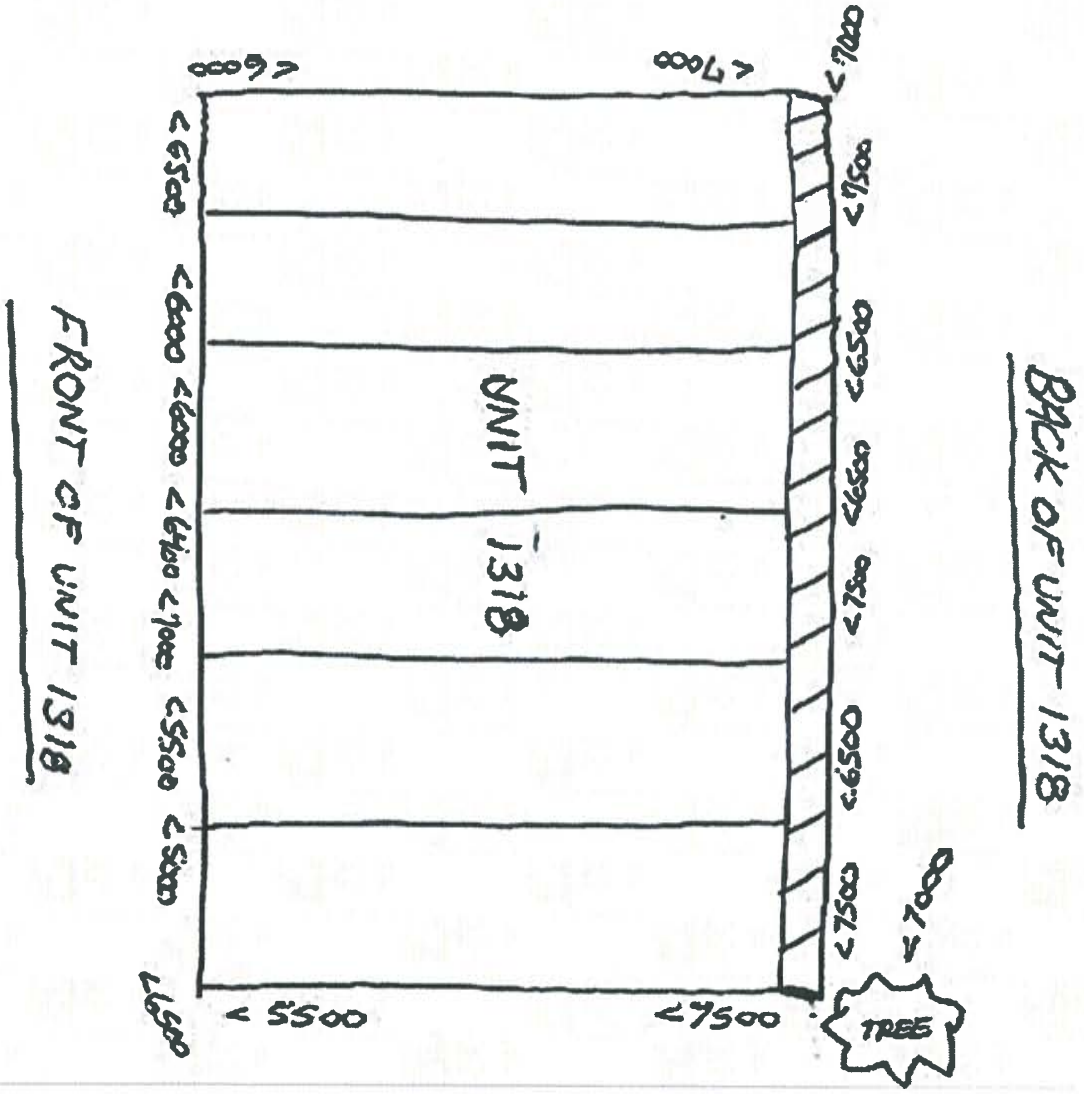
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-086	Date: 10/17/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1318 apartment " Perimeter " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

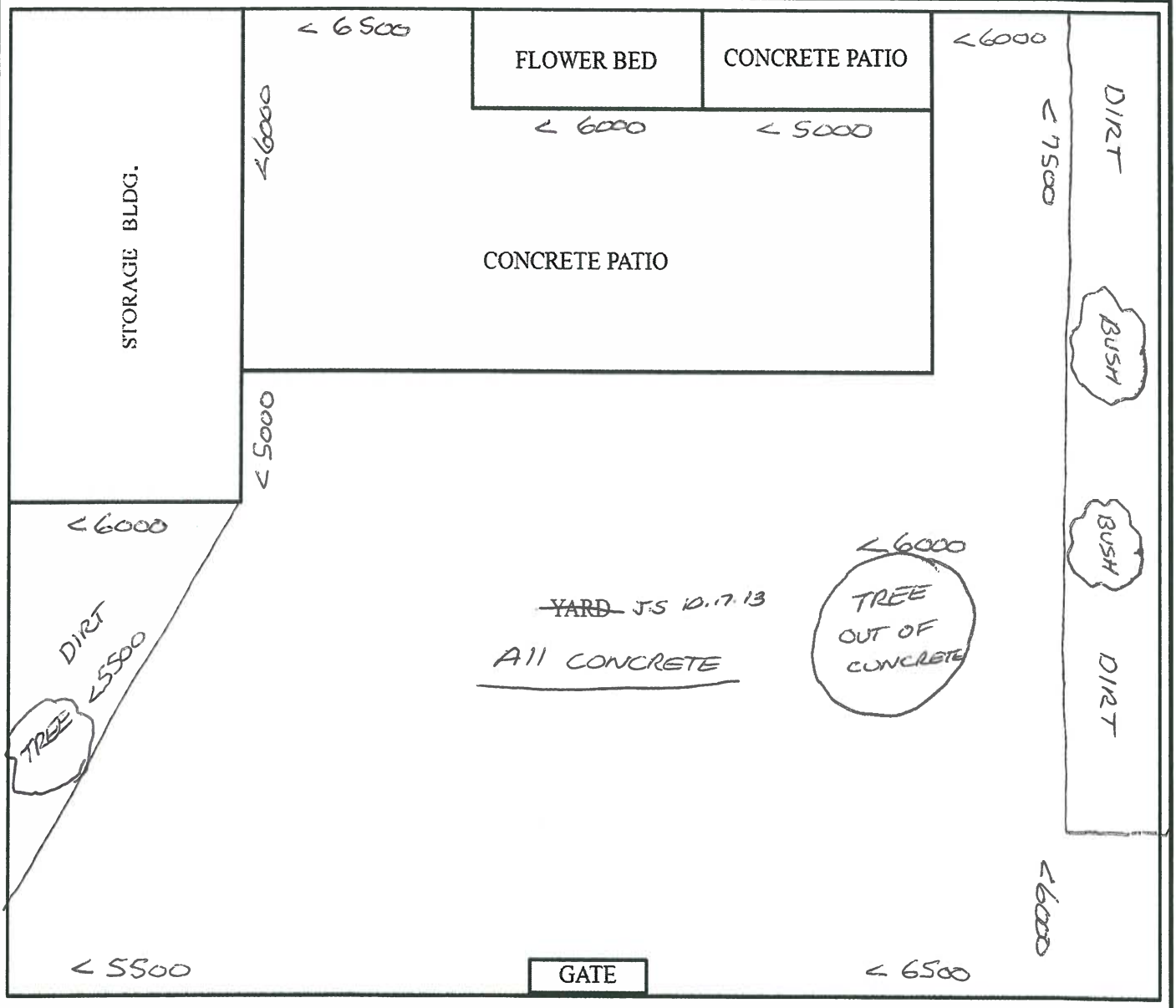
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-087	Date: 10-17-2013	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5914	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1254 Apt(s)# A Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

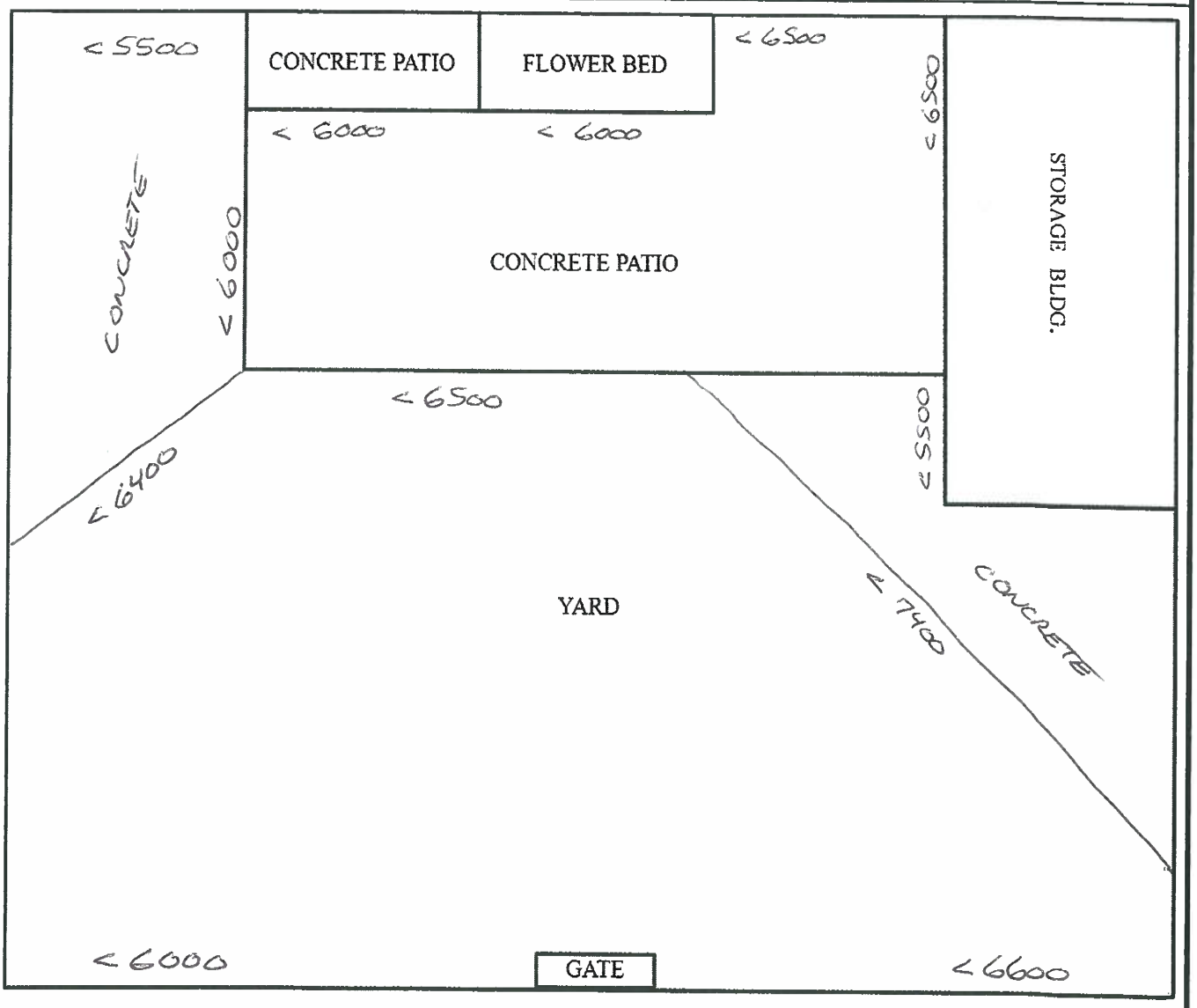
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-087	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# B Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

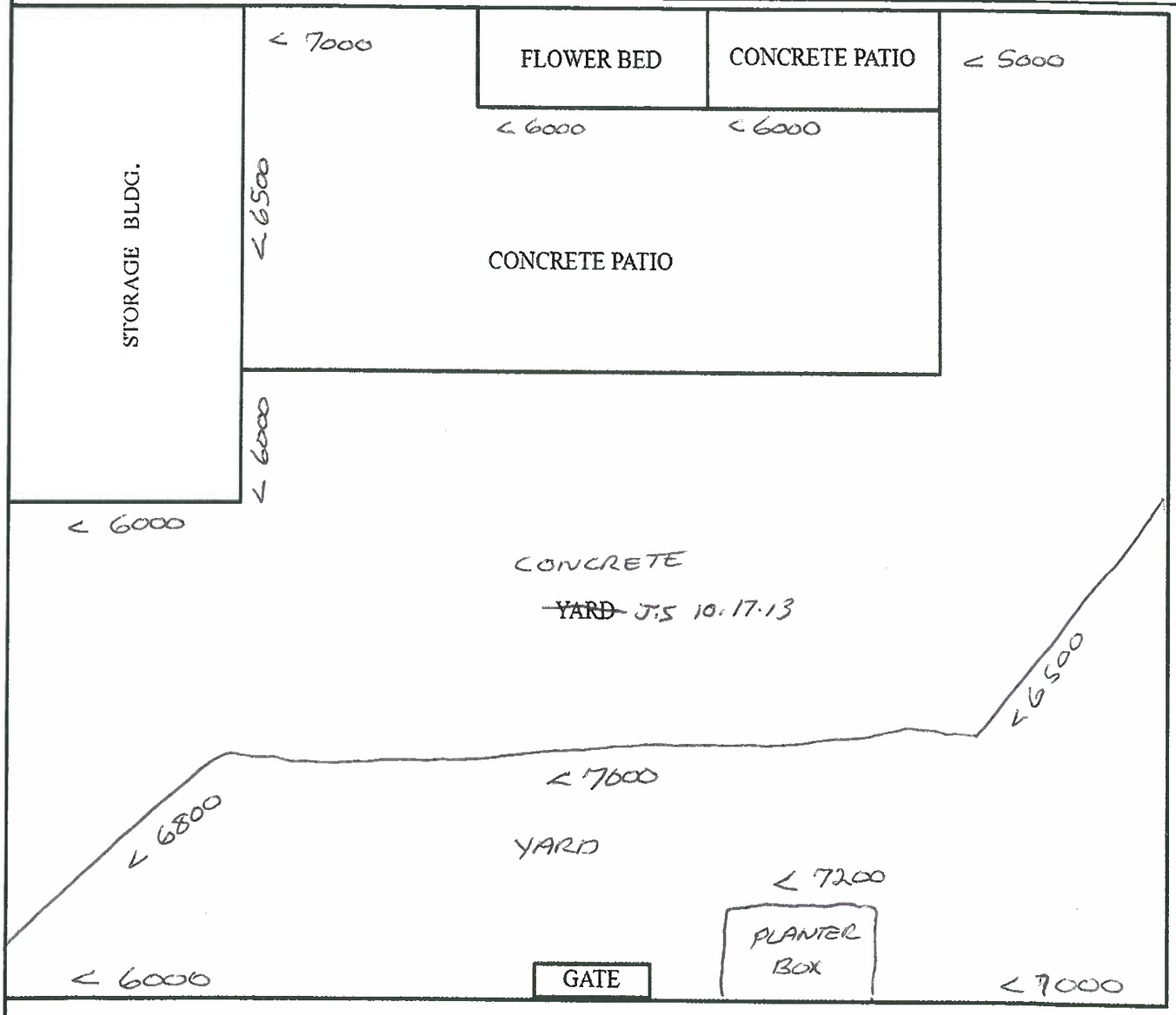
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-087	Date: 10·17-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# C Back Yard

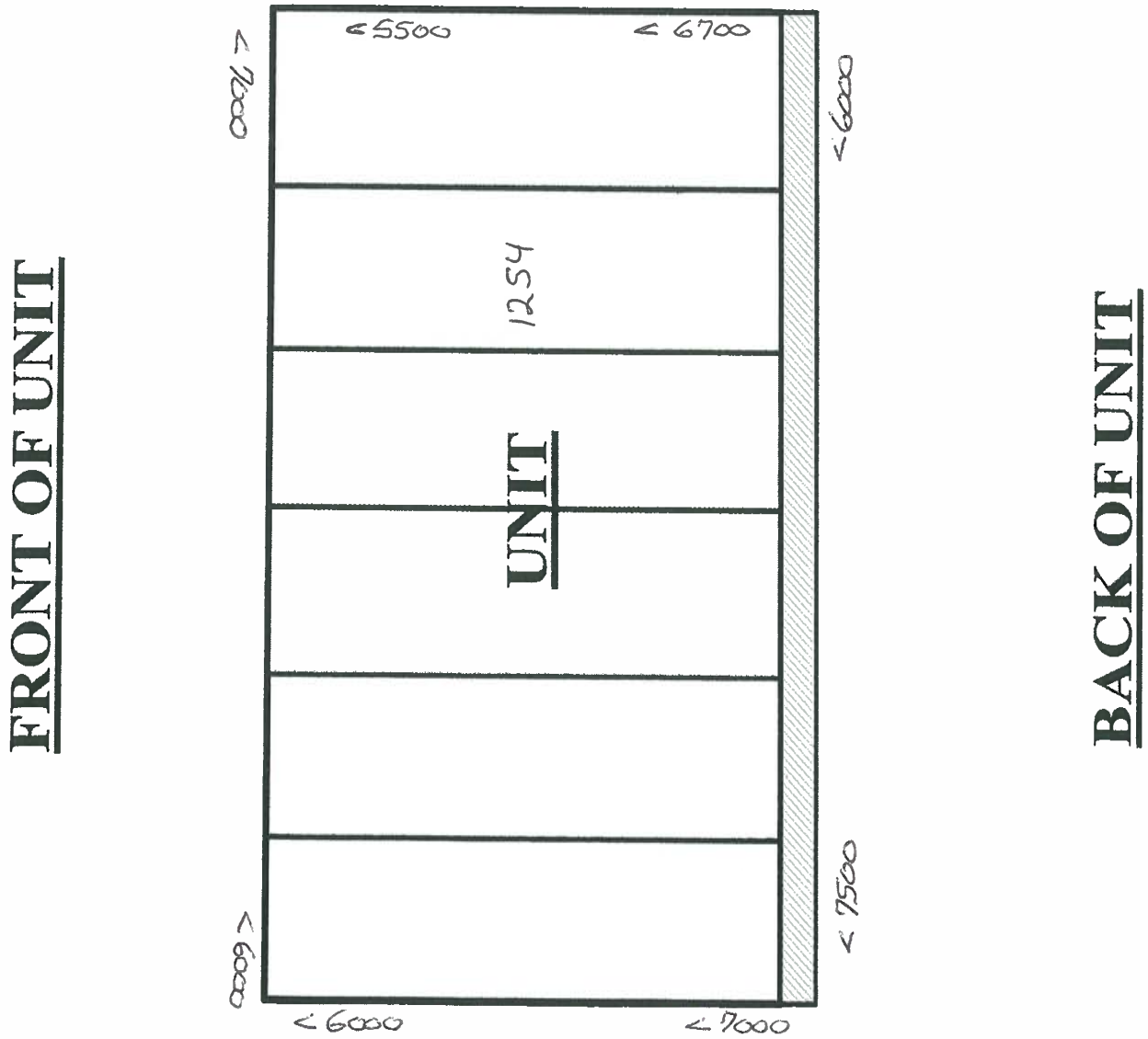
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-087	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

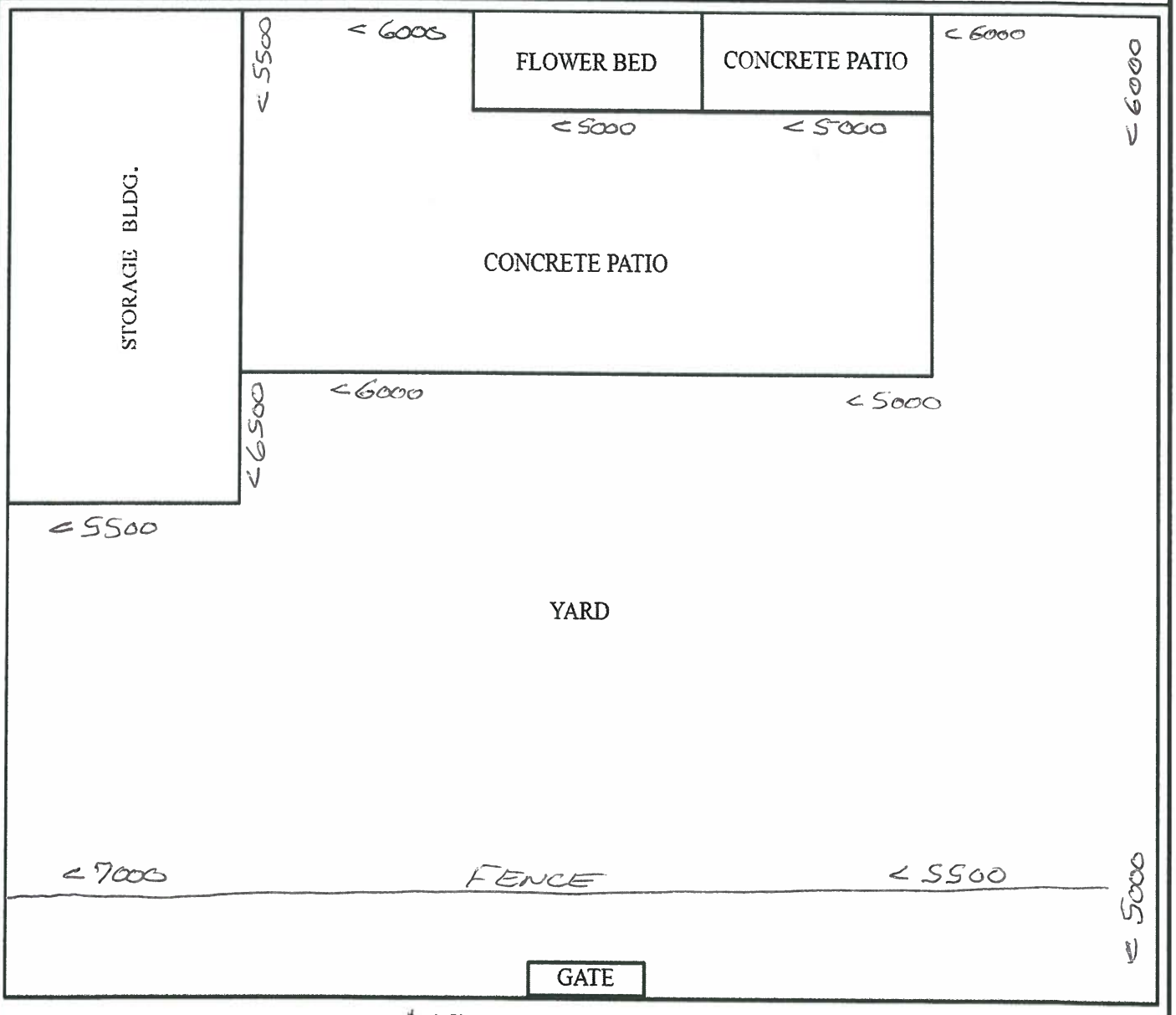
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-088	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5984	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1225 Apt(s)# A Back Yard

1225

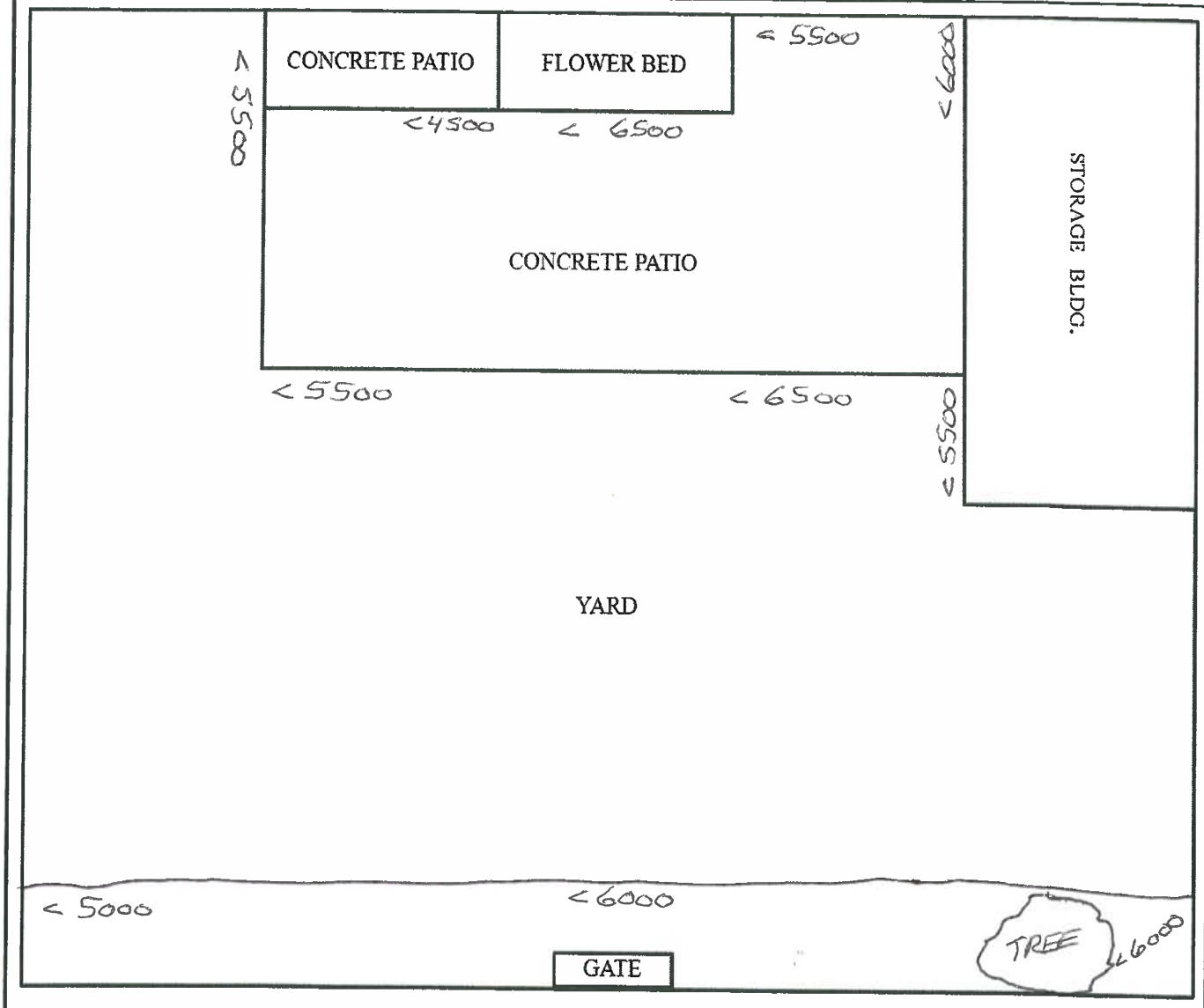
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-088	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1225 Apt(s)# B Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

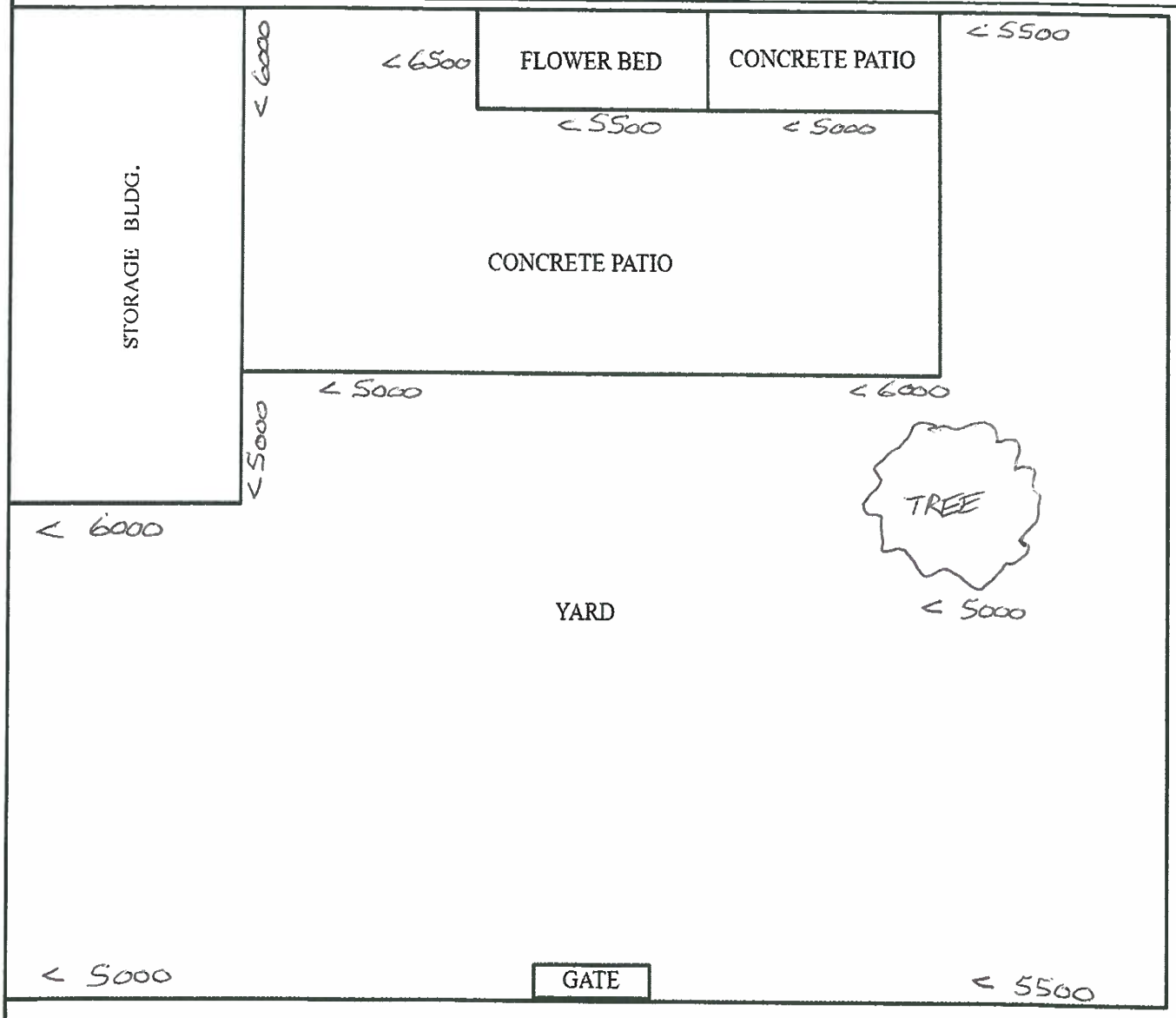
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-088	Date: 10-17-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1225 Apt(s)# C Back Yard

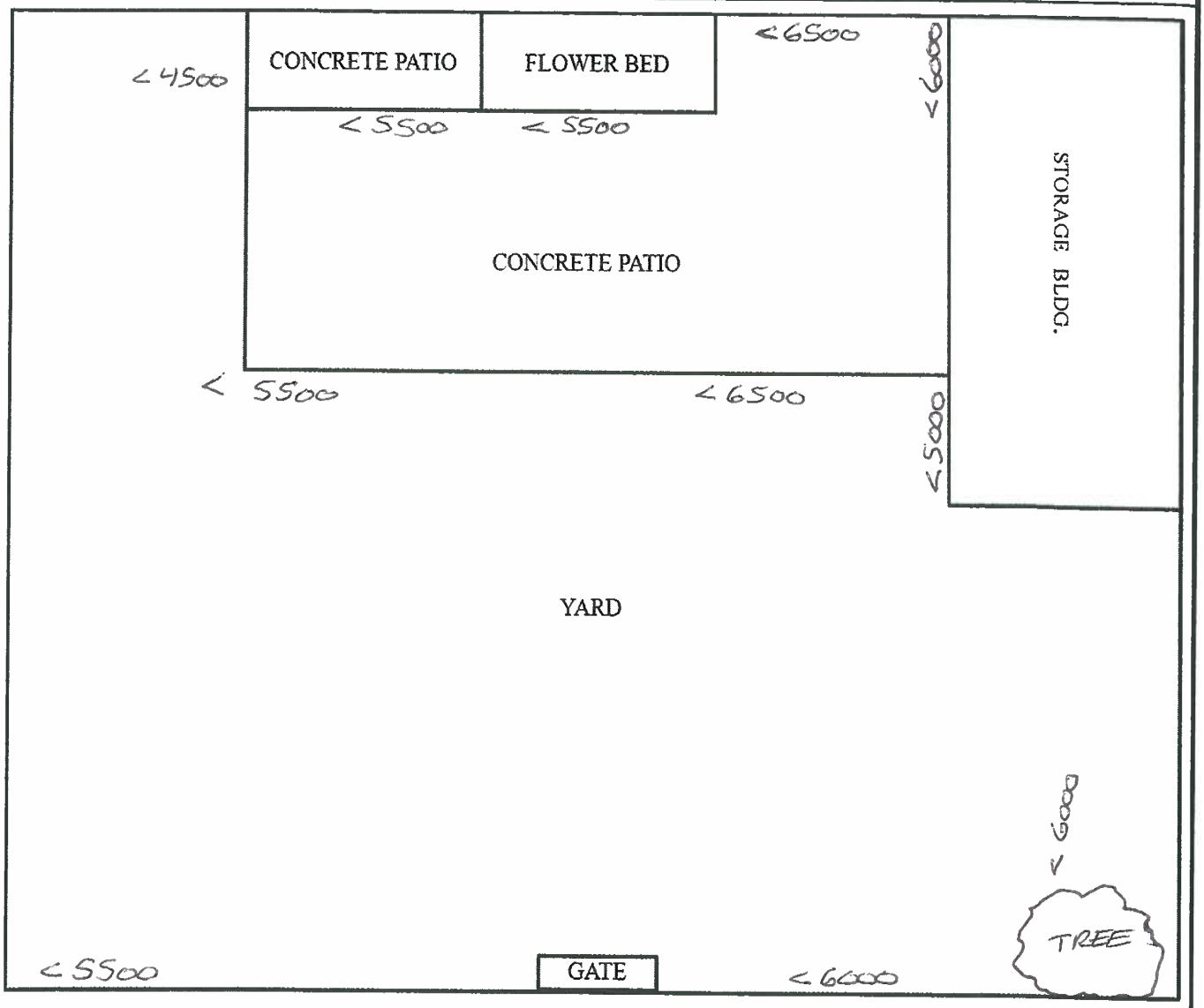
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-088	Date: 10-17-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1229 Apt(s)# D Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

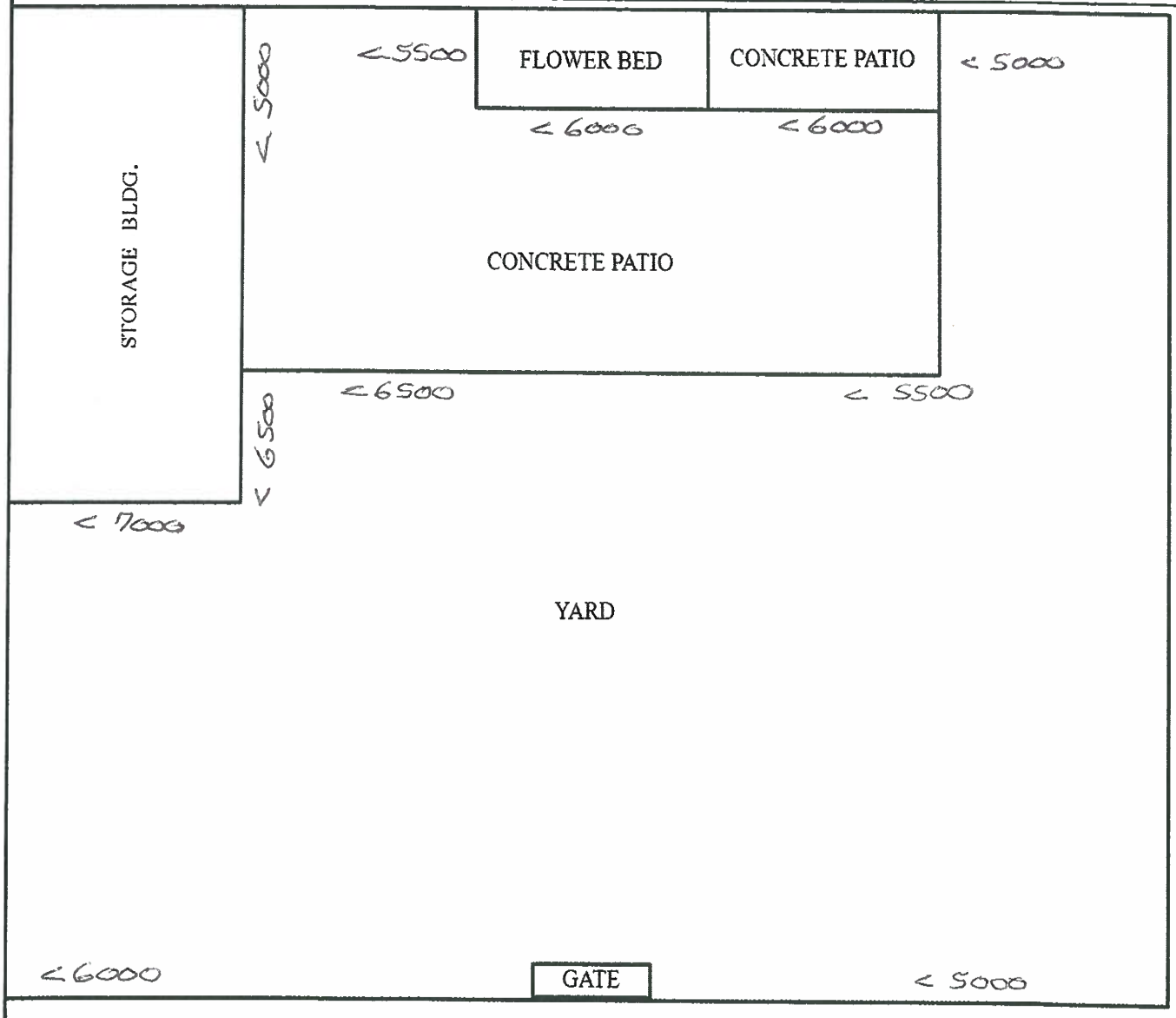
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-088	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1225 Apt(s)# E Back Yard

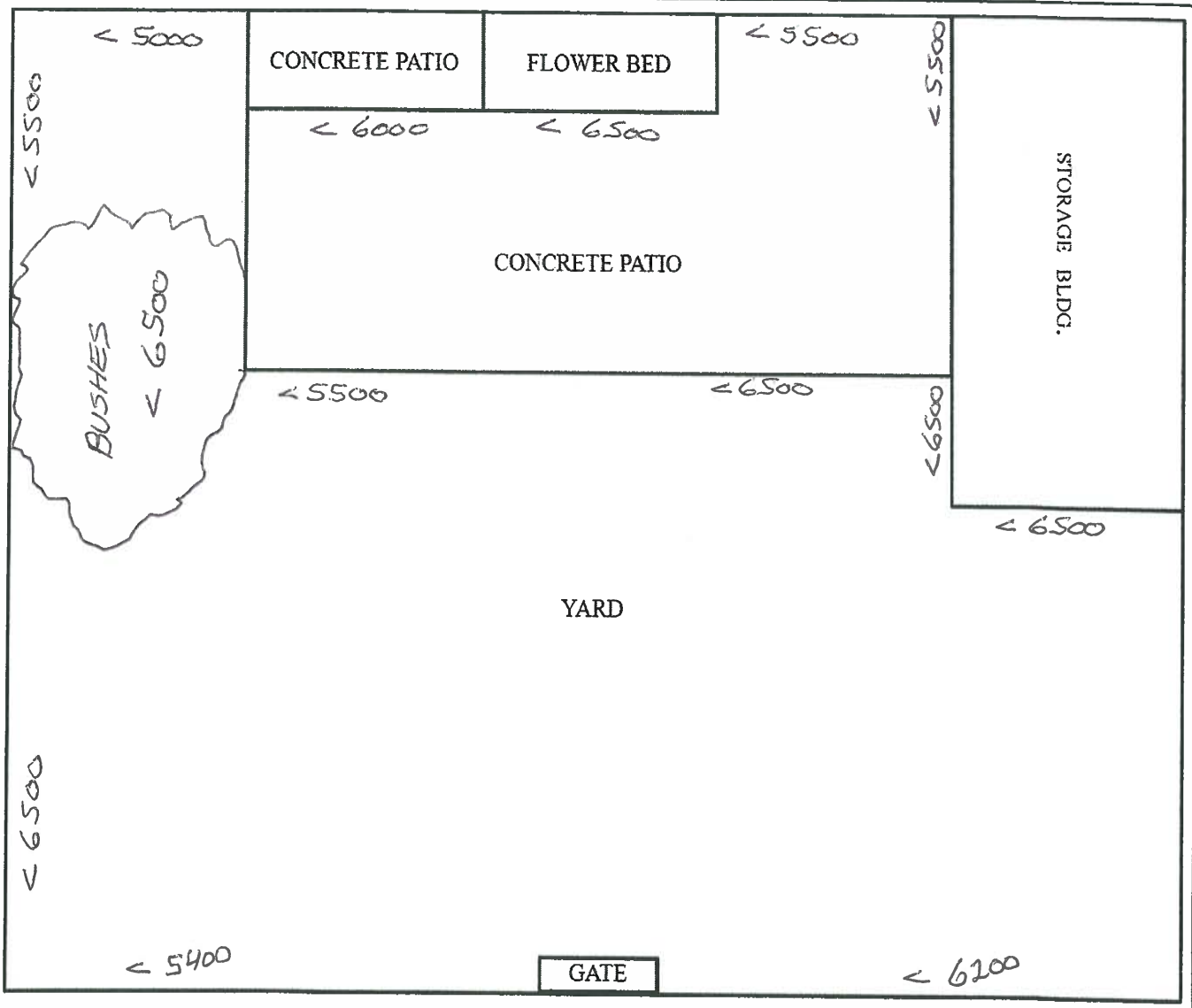
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-088	Date: 10-17-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1225 Apt(s)# F Back Yard

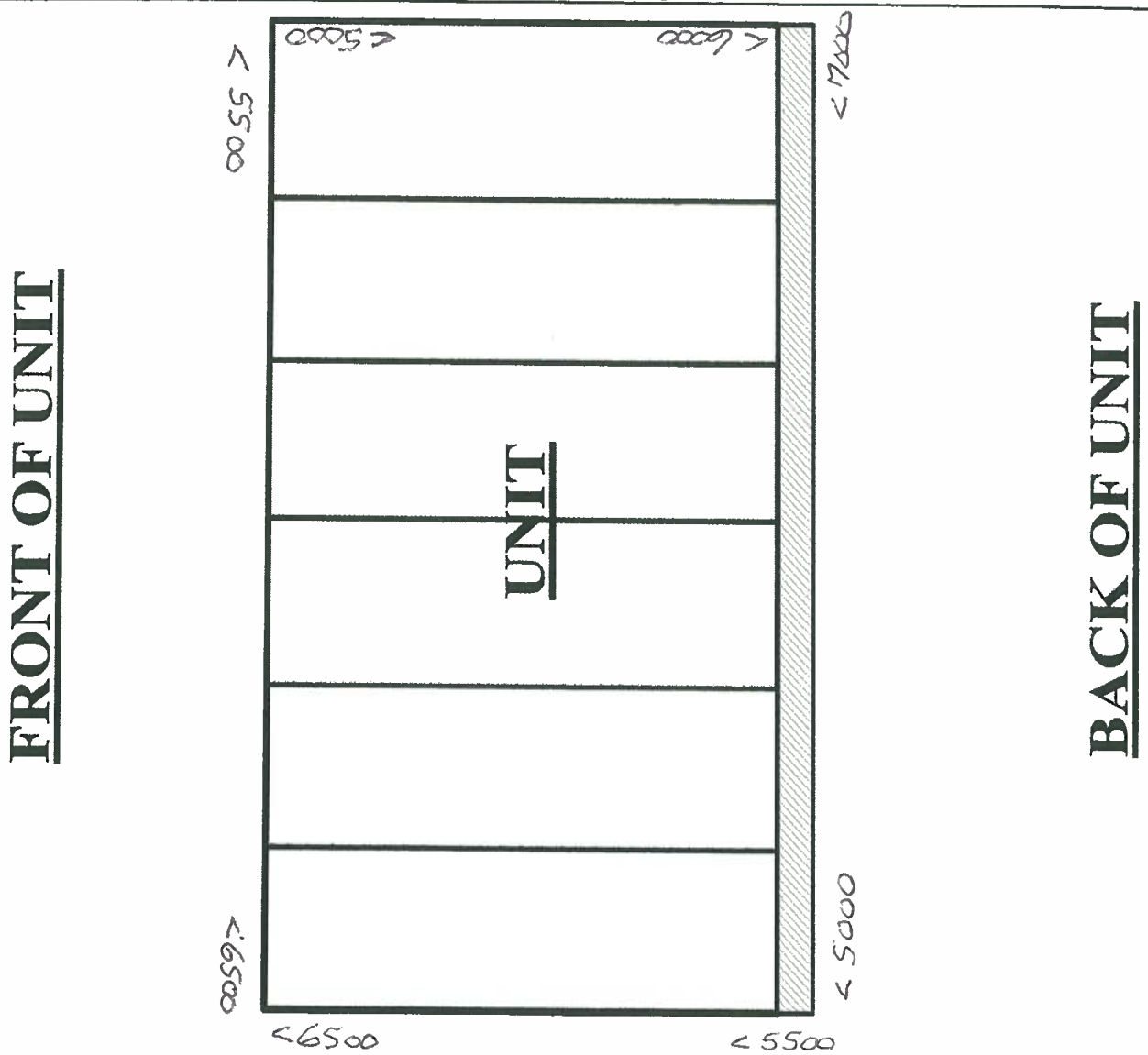
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-088	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1225 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

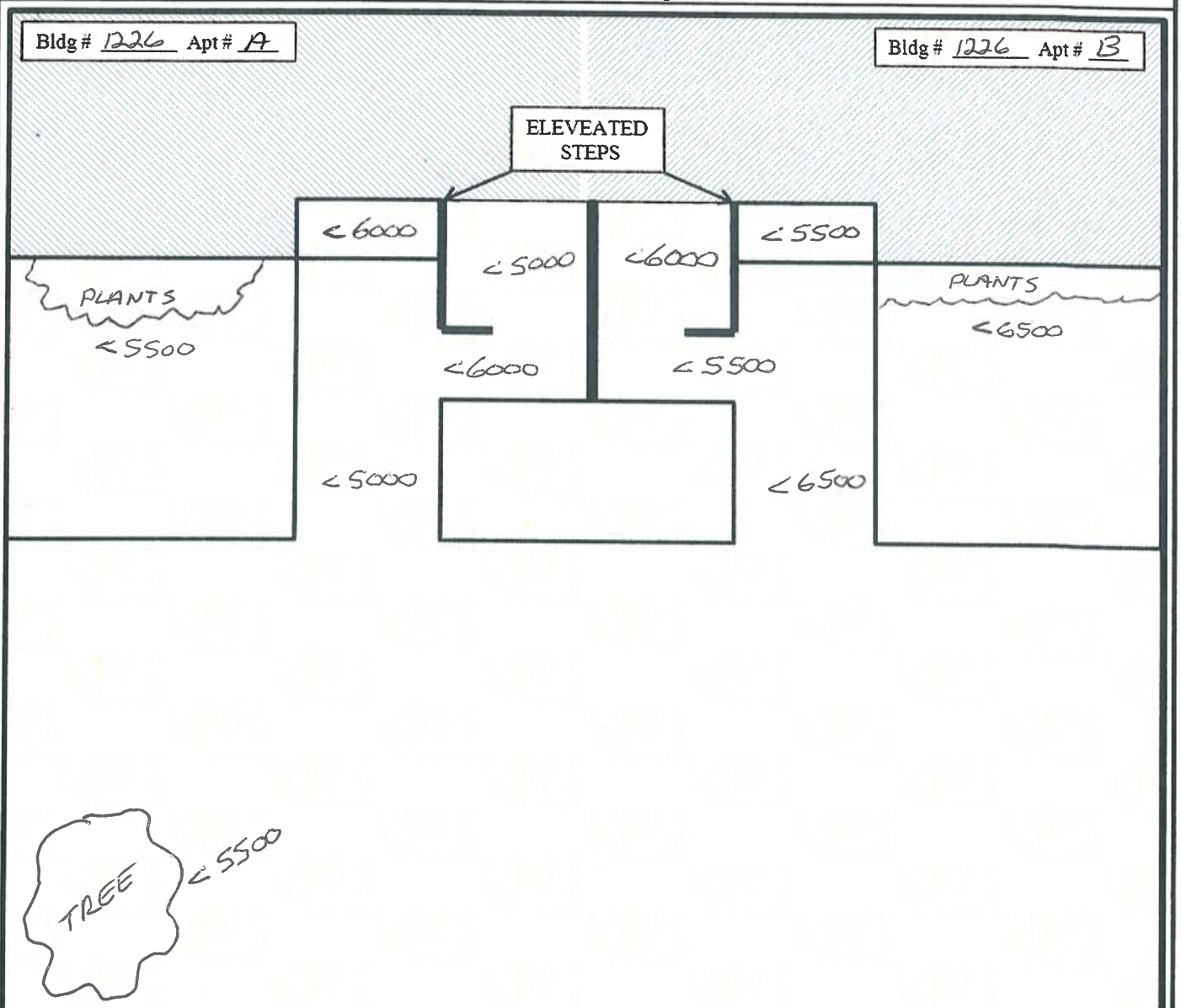
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-089	Date: 10-17-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James E Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5541	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1226 Apt(s)# A/B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

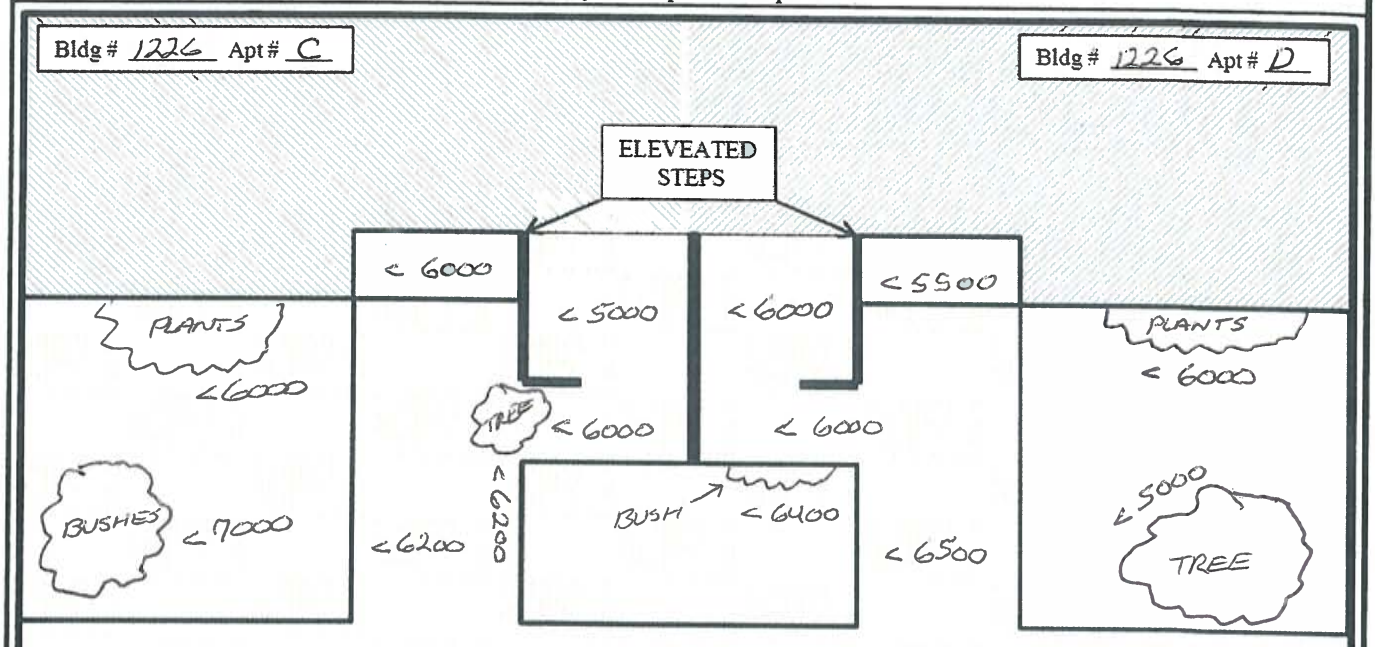
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-089	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1226 Apt(s)# C/D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

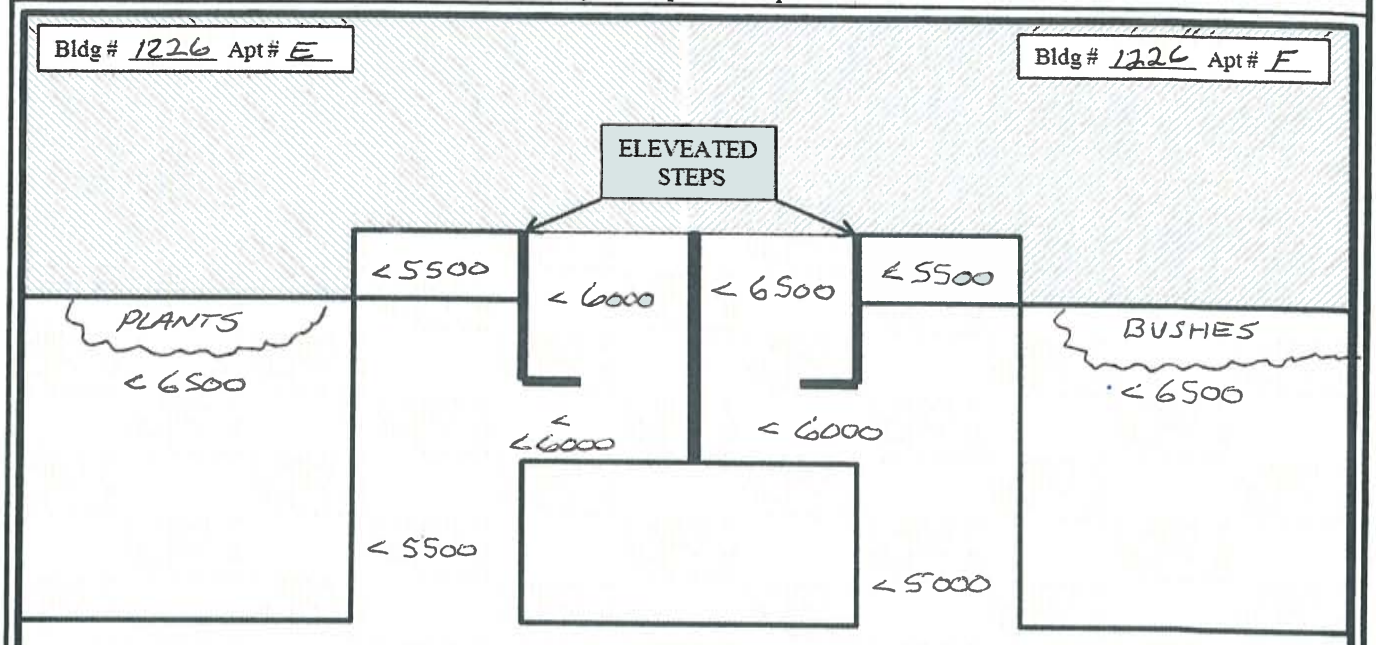
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-089	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1226 Apt(s)# E/F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

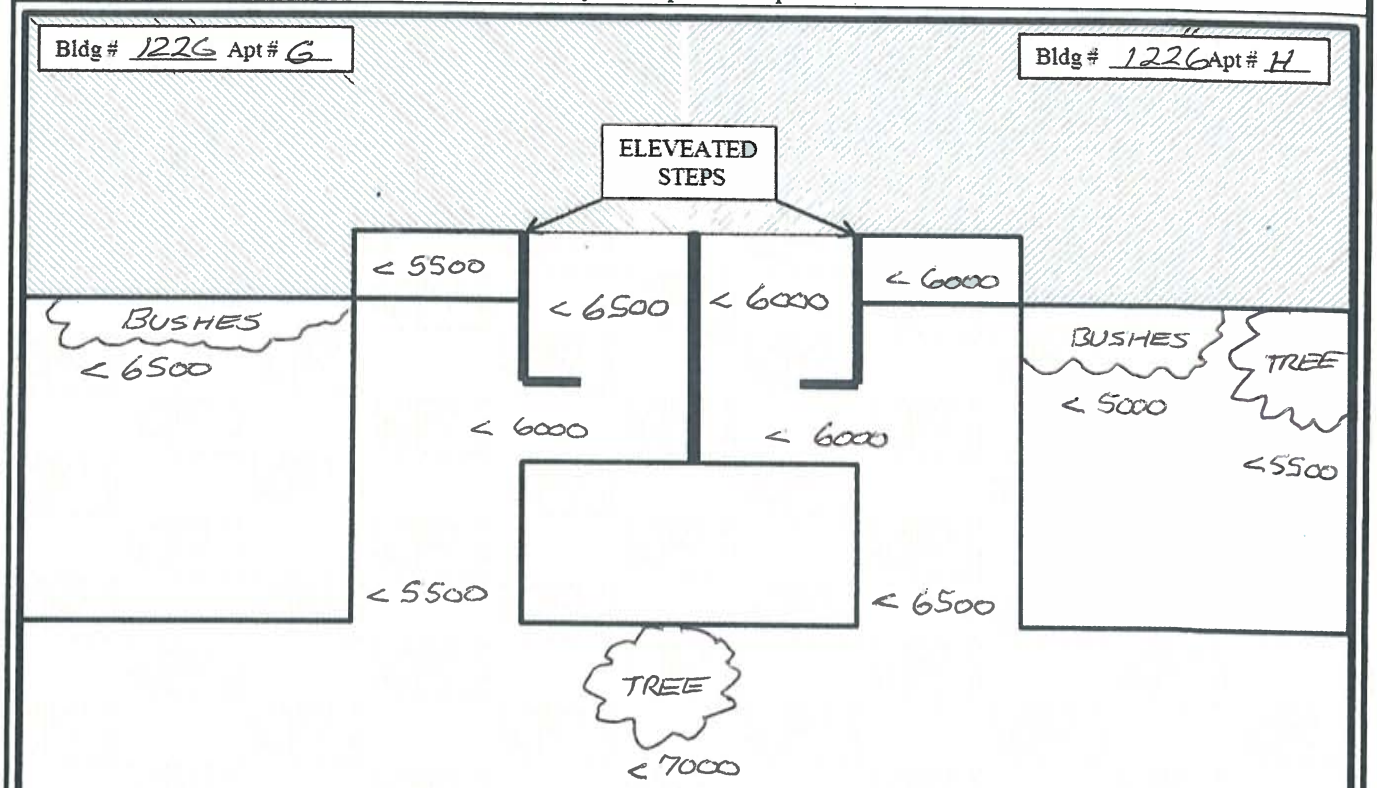
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-089	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1226 Apt(s)# G/H Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-091	Date: 10/17/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	See Below	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo

Perimeter surveys

Building 1316 Perimeter Survey BKG 6283 cpm

Building 1227 Perimeter Survey BKG 6014 cpm

Maps are Attached

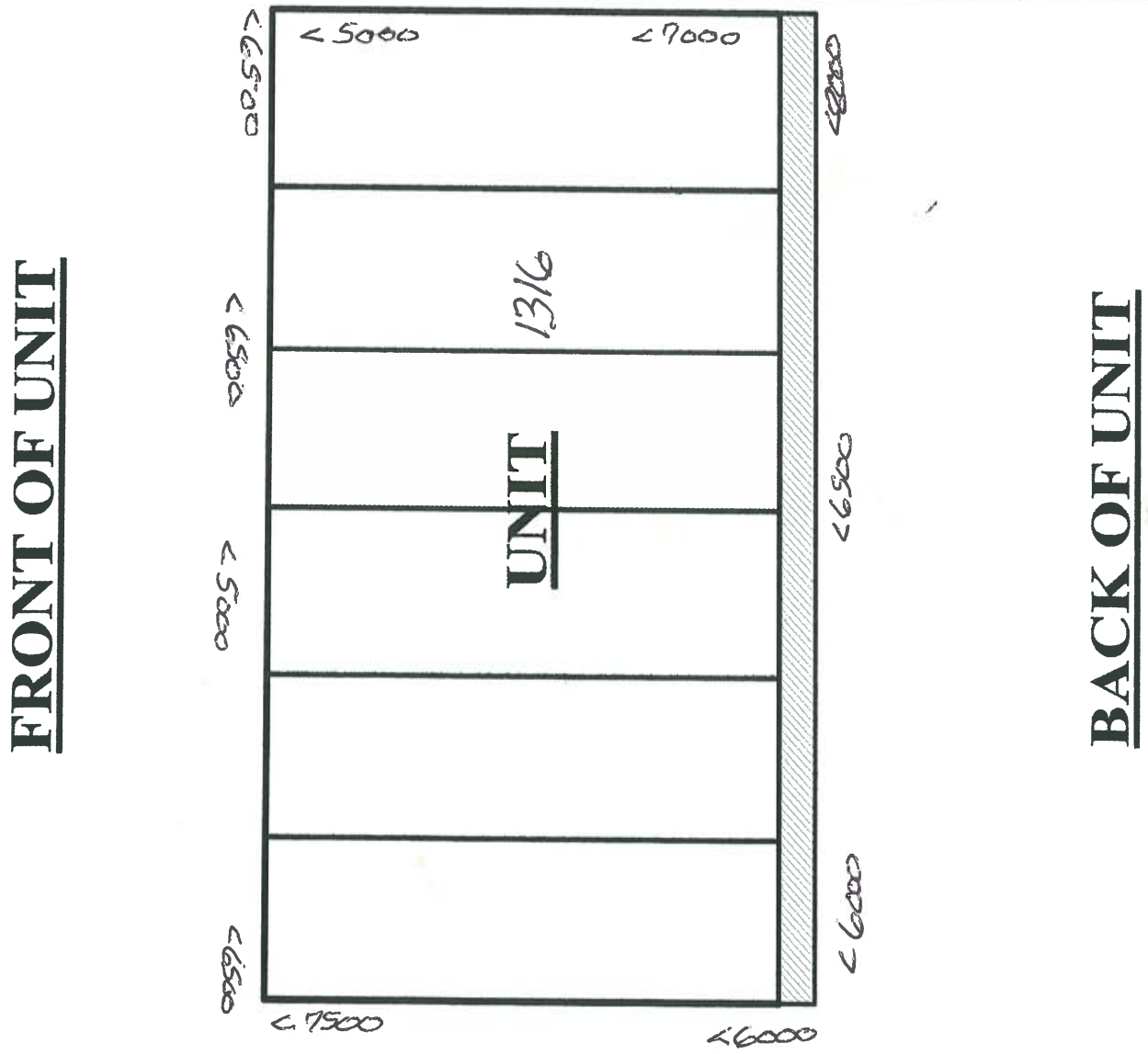
Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-091	Date: 10-17-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1316 Apt(s)# Perimeter Back Yard

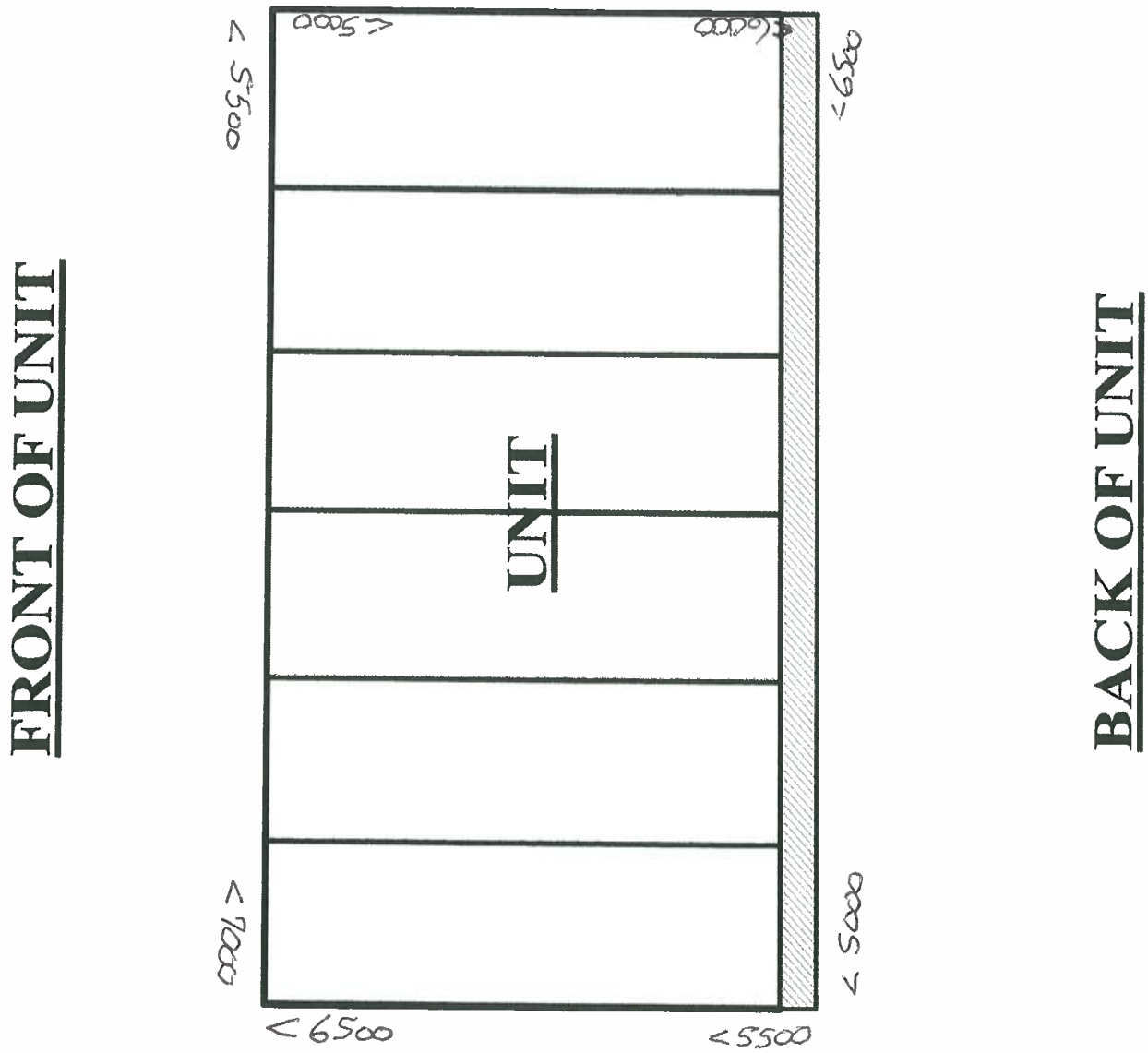
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-091	Date: 10.17.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1227 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-08081	RAD Scoping Survey (Treasure Island, CA	07204-0006

Survey No.:	Date:	Location:	Survey Type:
06-12-092	10-18-13	Site 12	Characterization
David A. Davis	David A. Da	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
19	286213	7-27-14							5		
2221	127231	7-27-14	44-10	19765	7-27-14			4815			

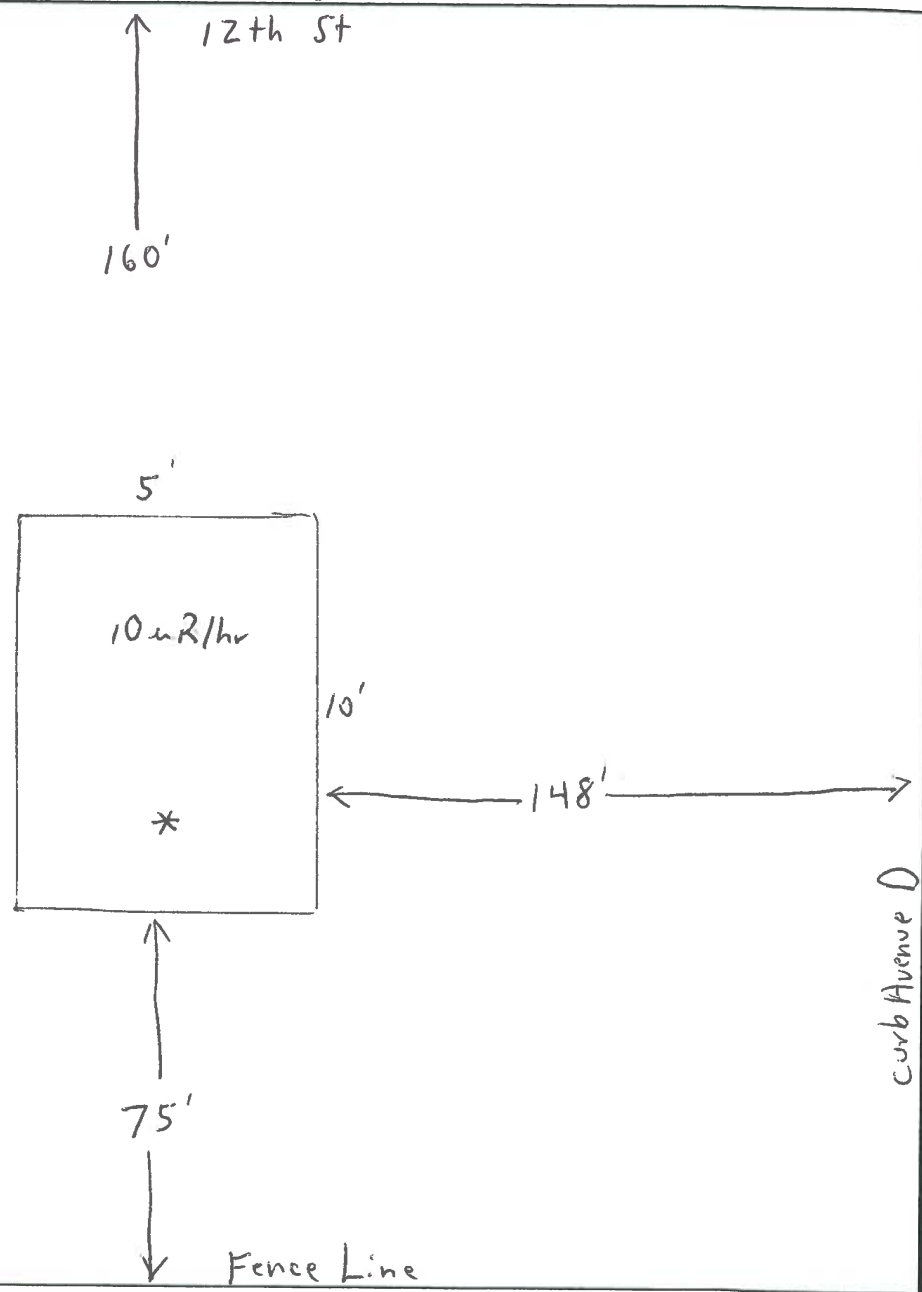
Survey Description / Map /Photo

13uR/hr *

11uR/hr @ 30cm

13,100 *

10,200 @ 4"



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

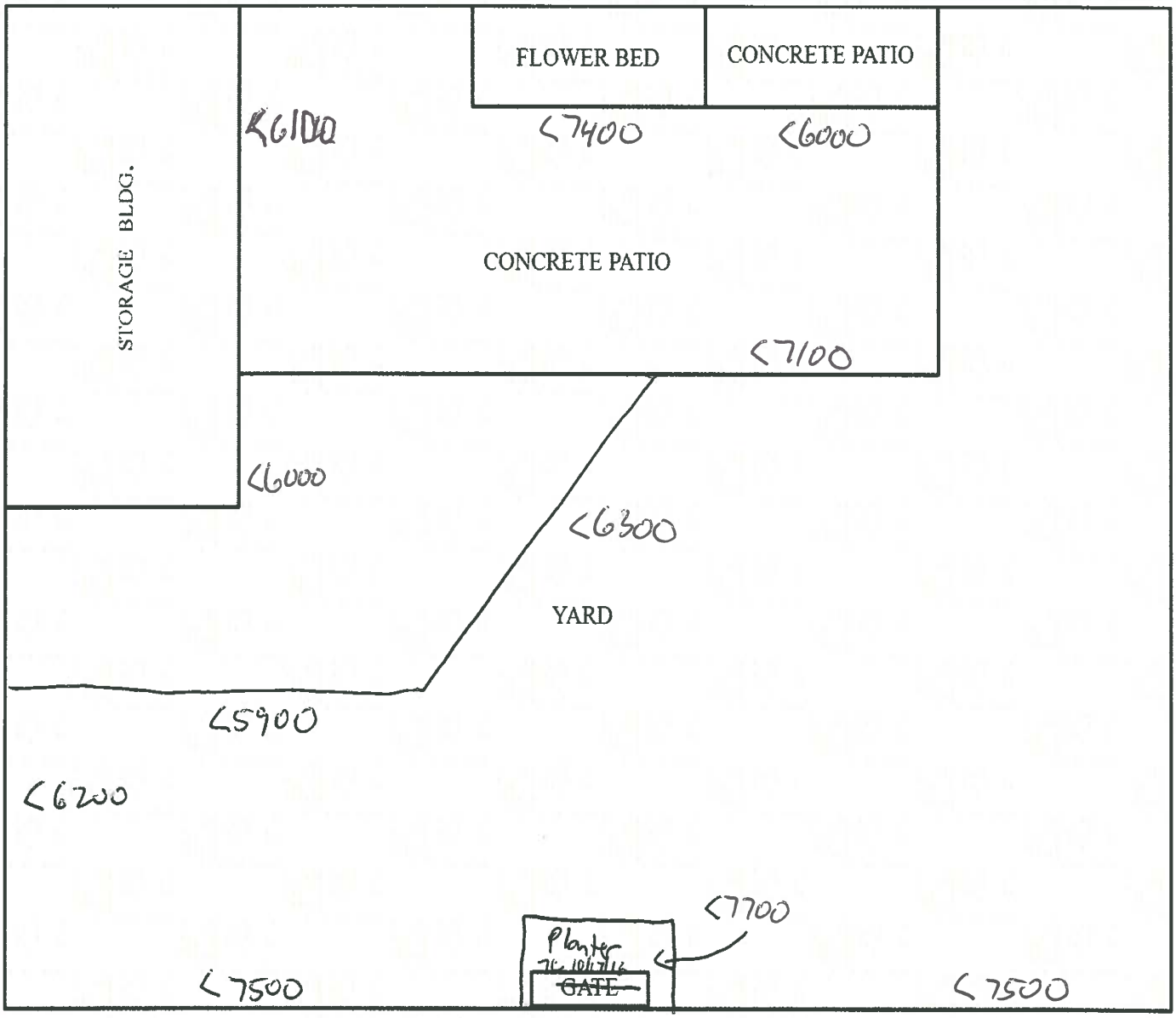
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-093	Date: 10·17·13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	3/21/14	44-10	RN19769	3/21/14	N/A	N/A	5967	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1254 Apt(s)# E Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

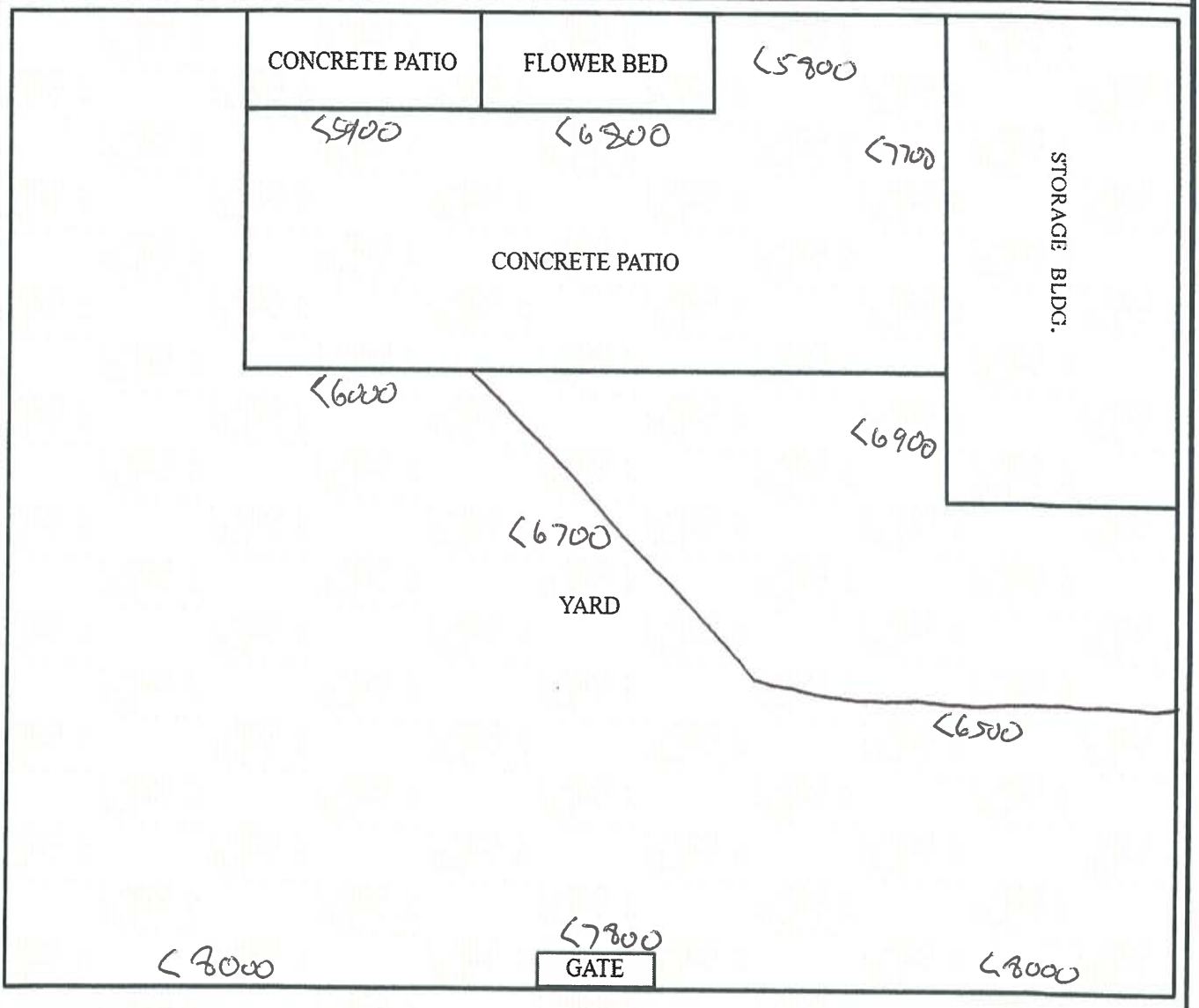
Only 2"x2" used. No GPS.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 093	Date: 10/17/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# D Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

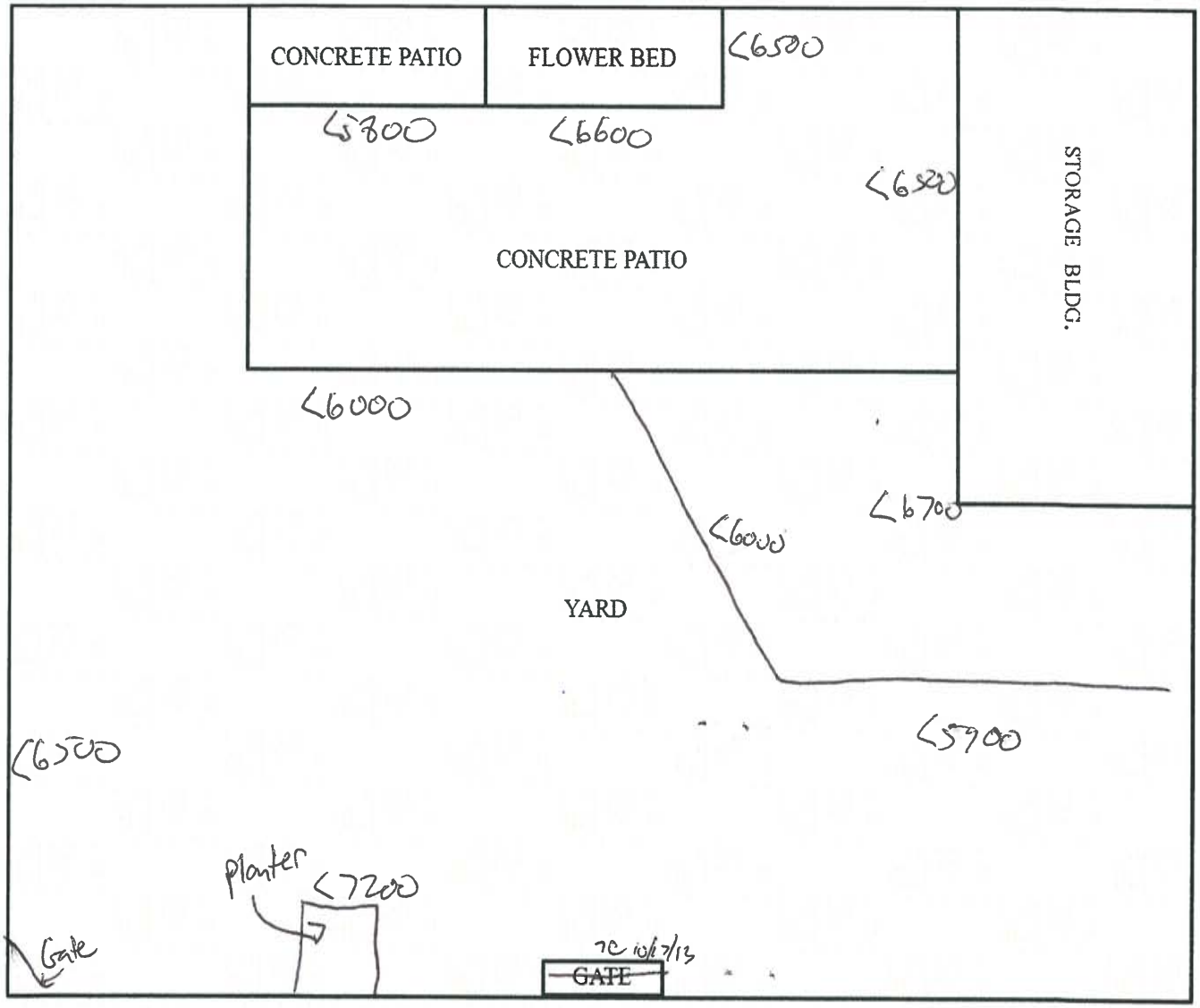
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-093	Date: 10·17·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# F Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

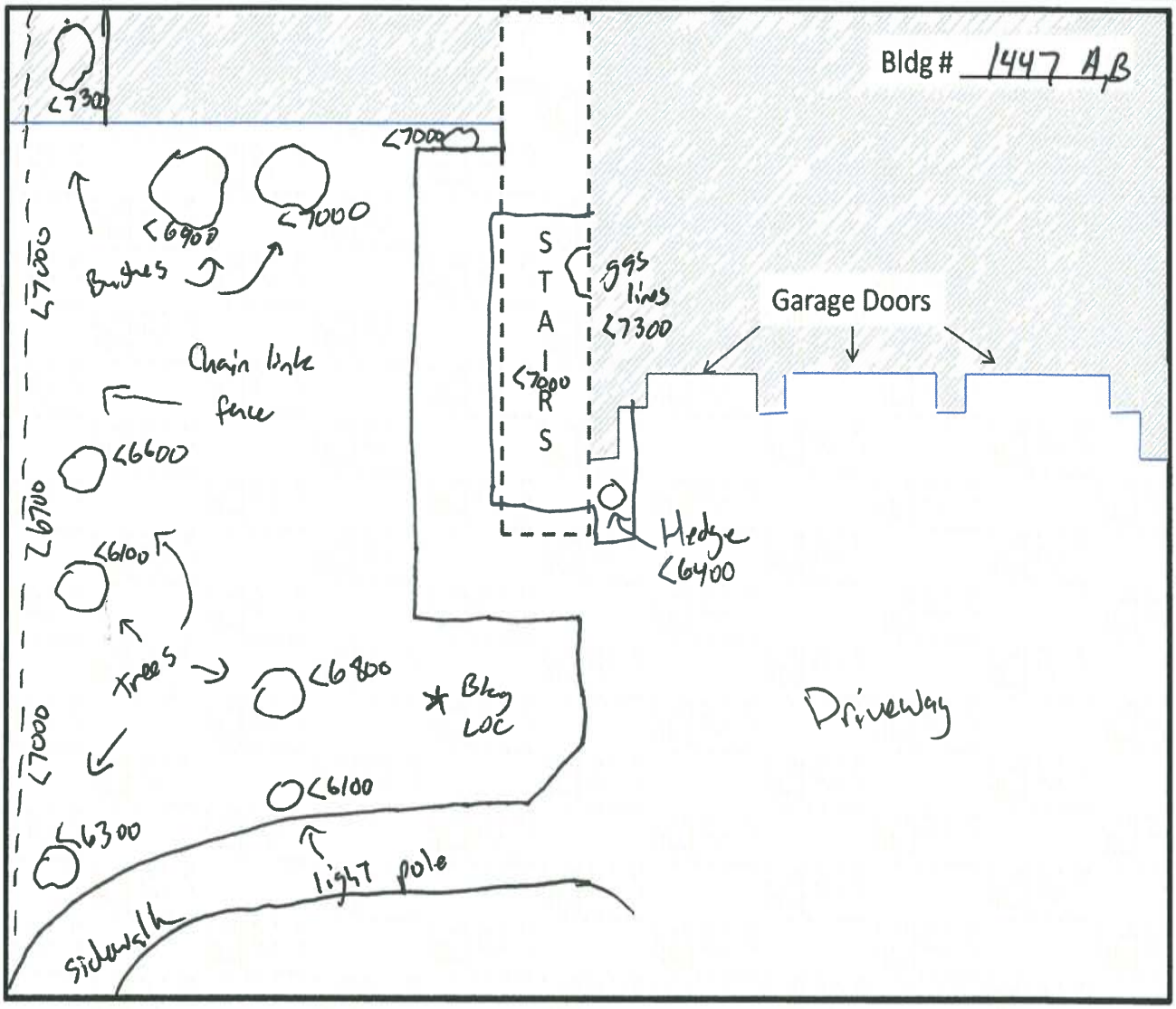
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-094	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19728	8/21/14	N/A	N/A	5894	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1447 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

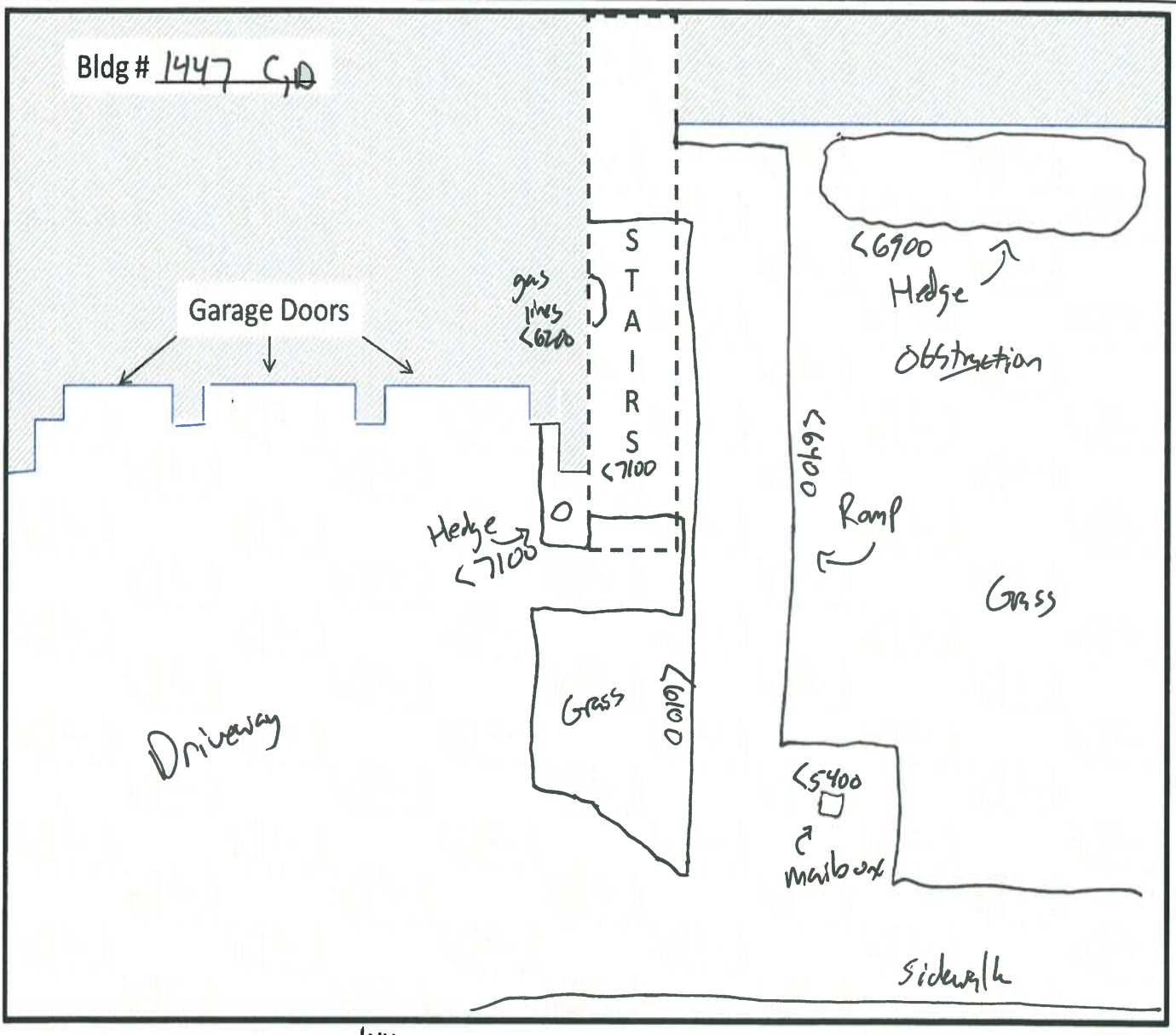
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-094	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1447 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

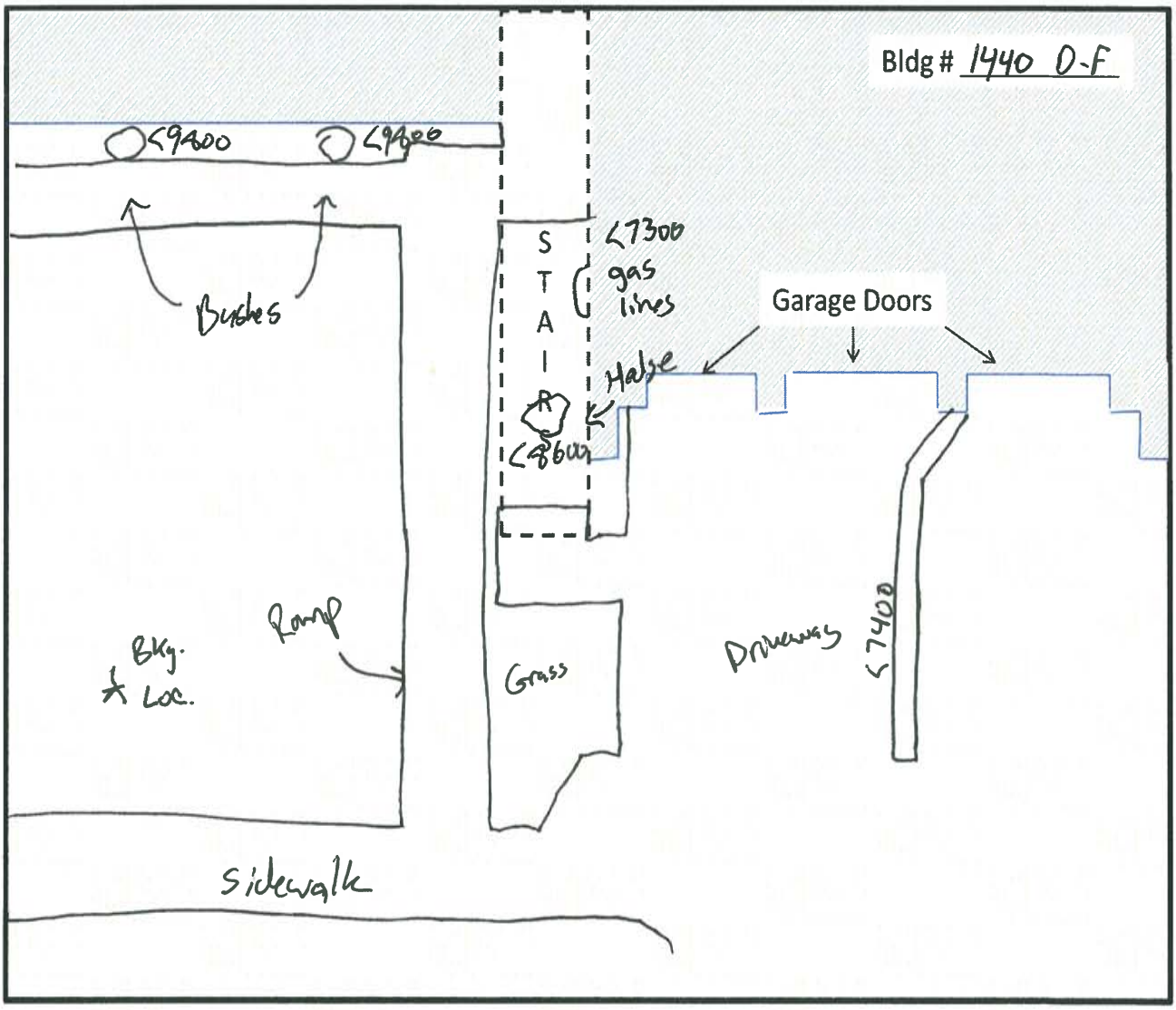
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-095	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	5809	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1440 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

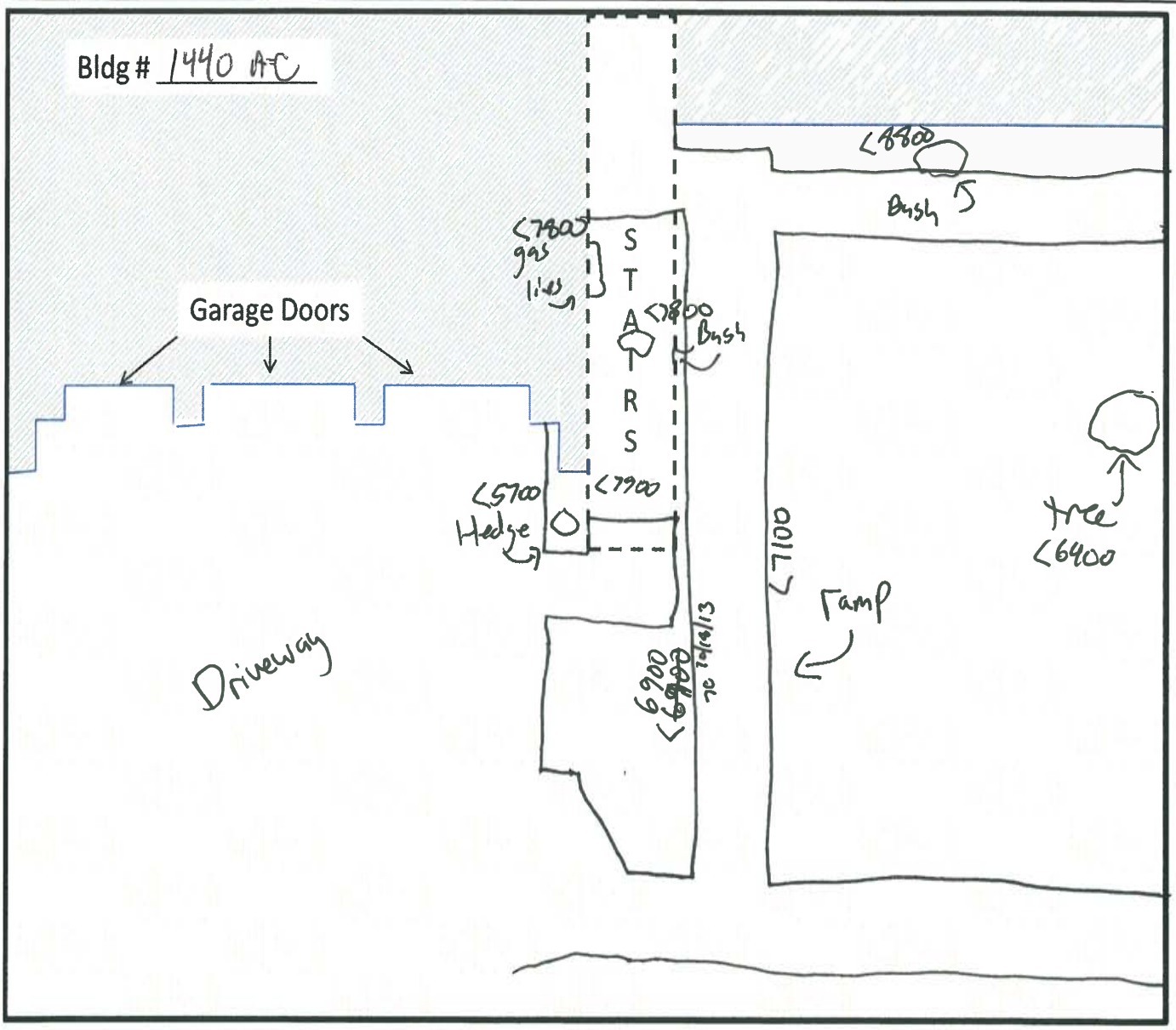
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-095	Date: 10/19/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1440 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

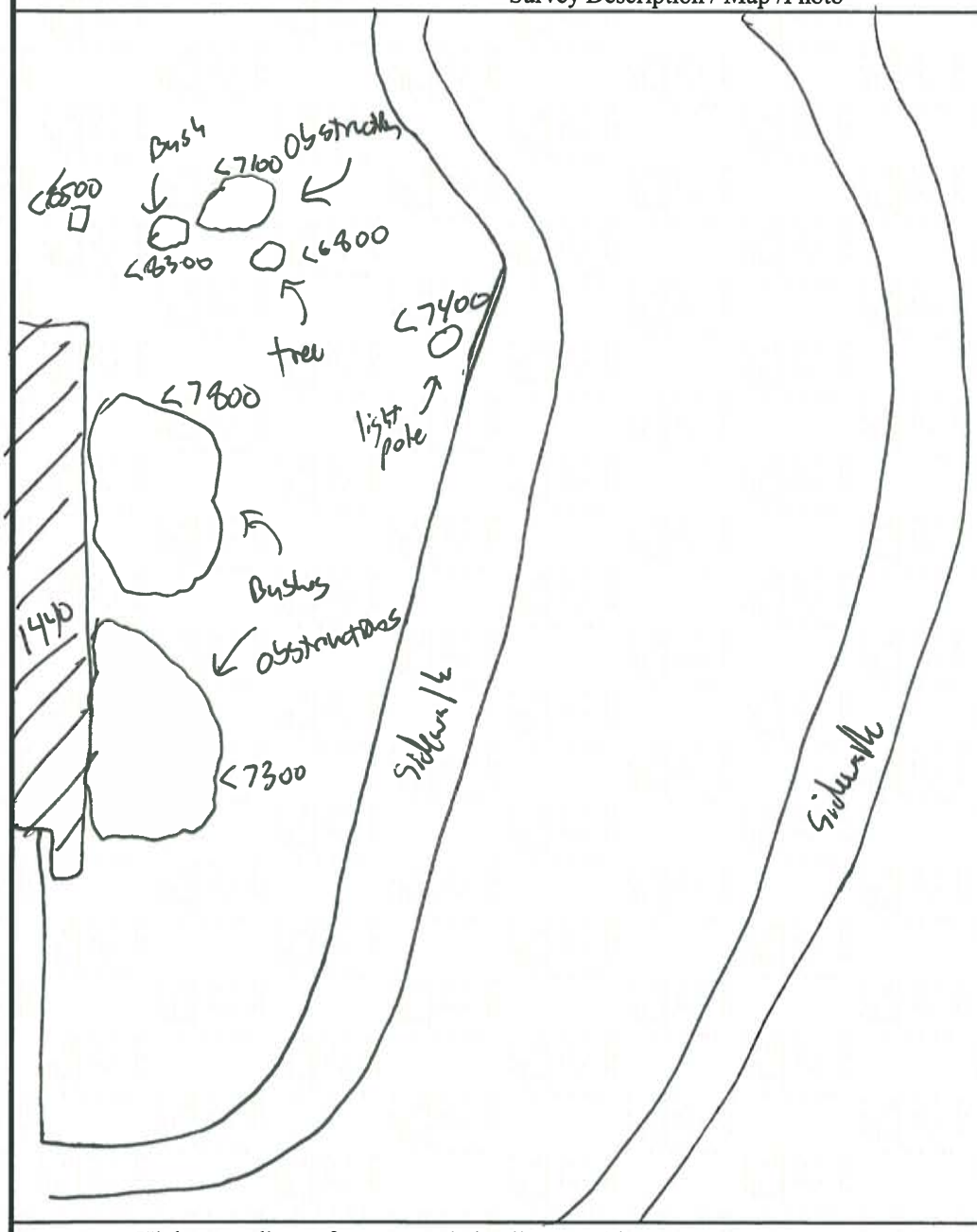
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 095	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

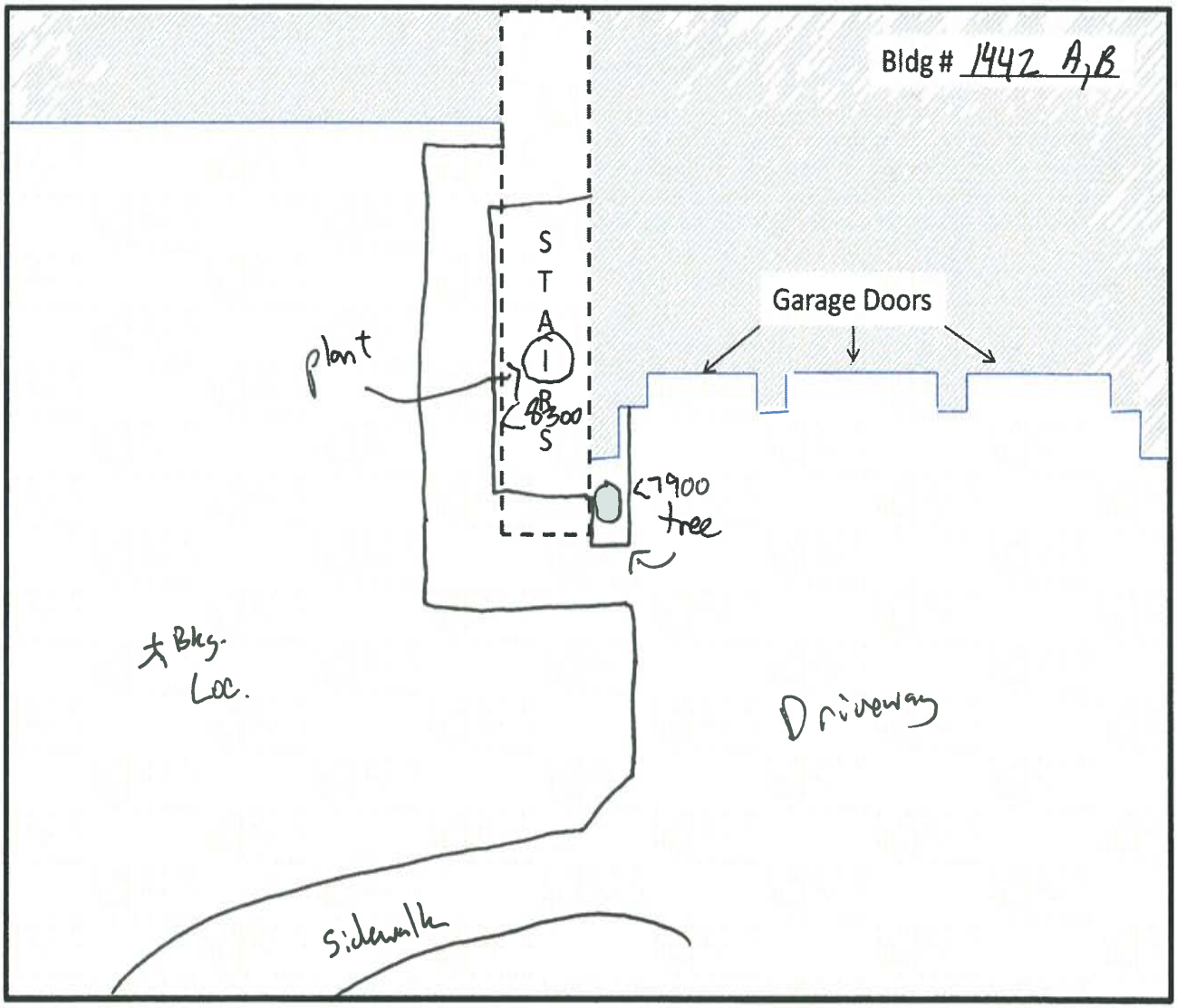
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-096	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	~~4410~~ 8/21/14	44-10	RD 19769	8/21/14	N/A	N/A	6087	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1442 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

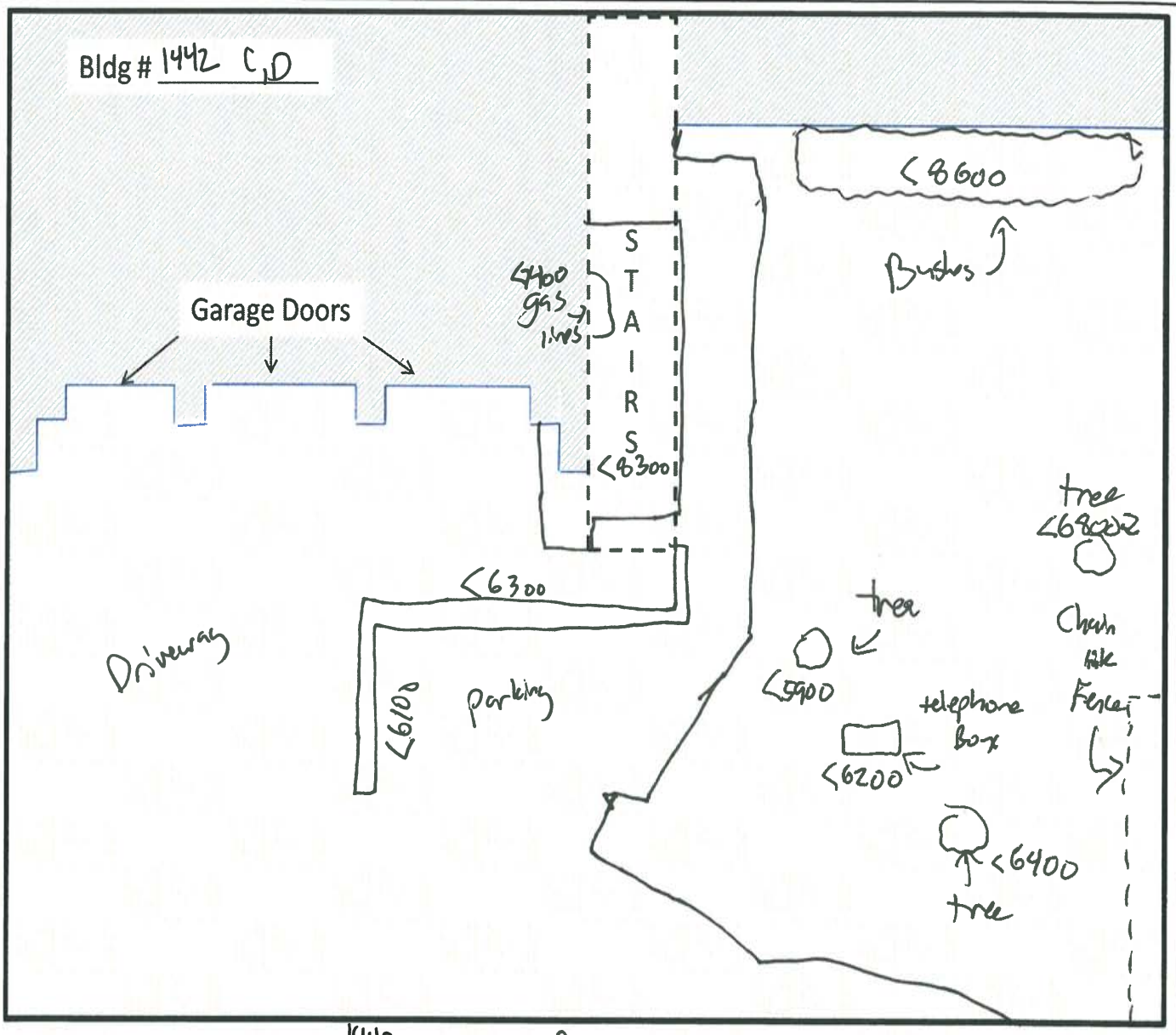
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-096	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1442 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

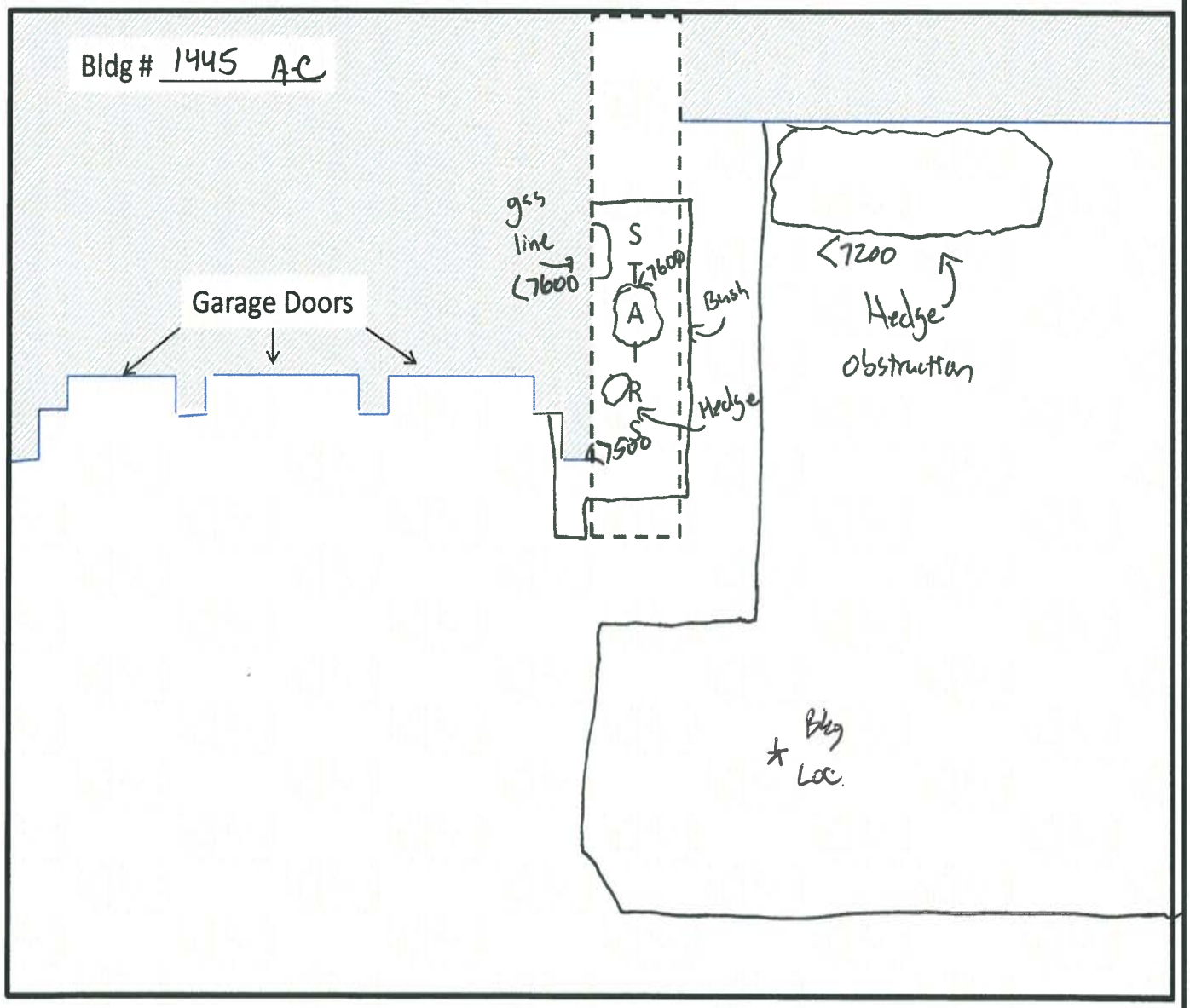
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-097	Date: 10/19/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW 1978	8/21/14	N/A	N/A	5628	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1445 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

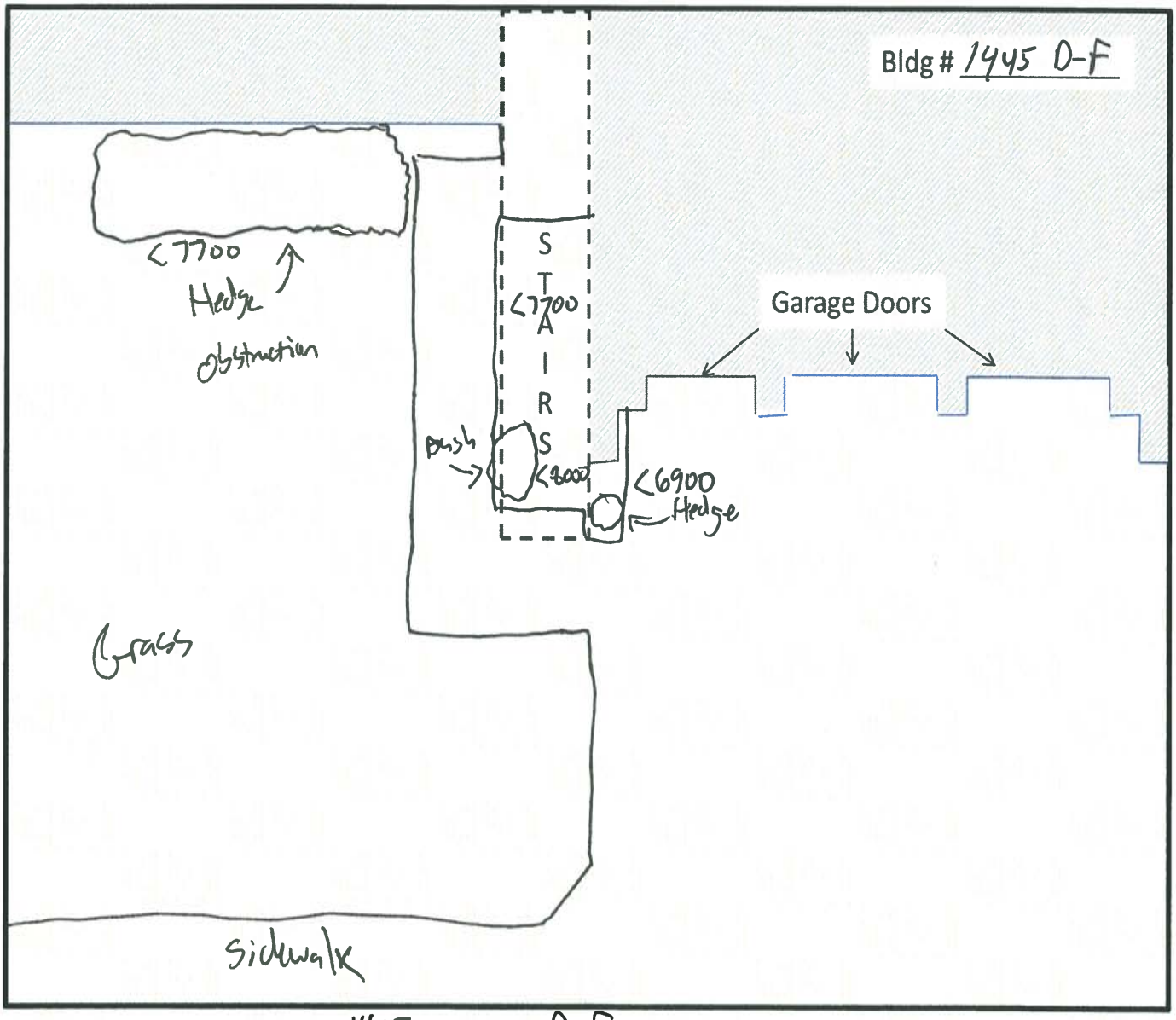
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-097	Date: 10/18/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1445 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

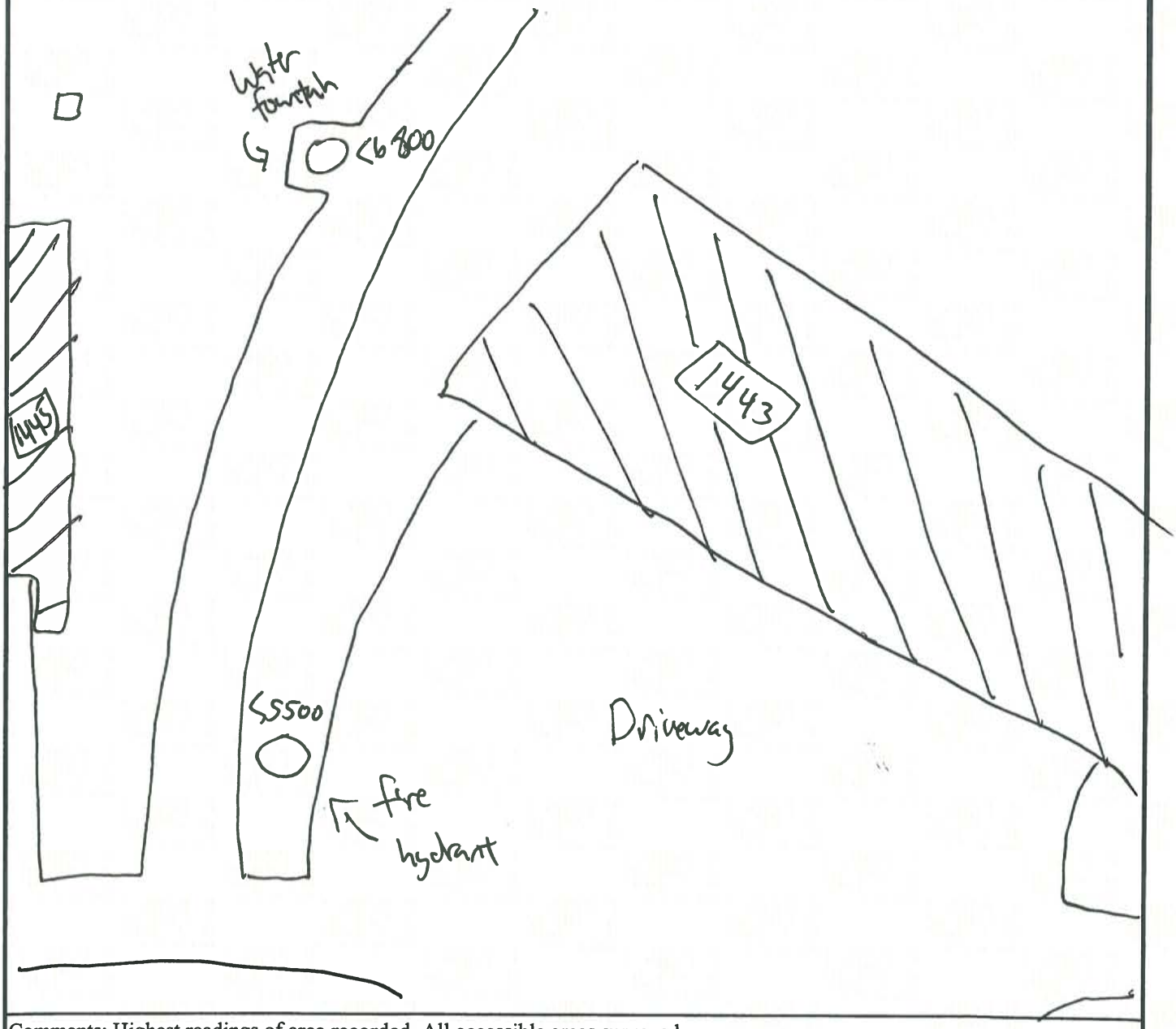
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-097	Date: 10/14/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

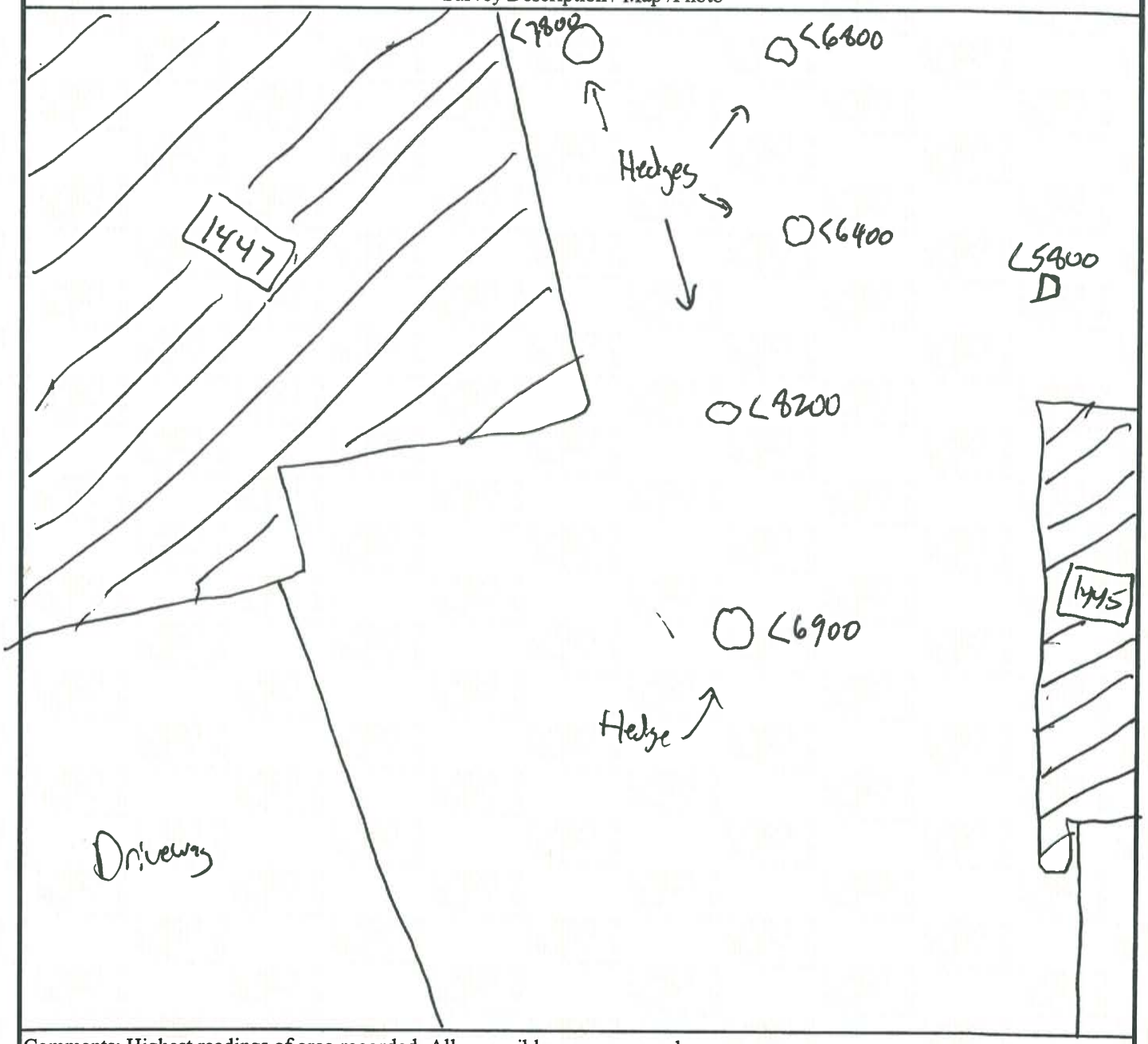
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-097	Date: 10/19/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

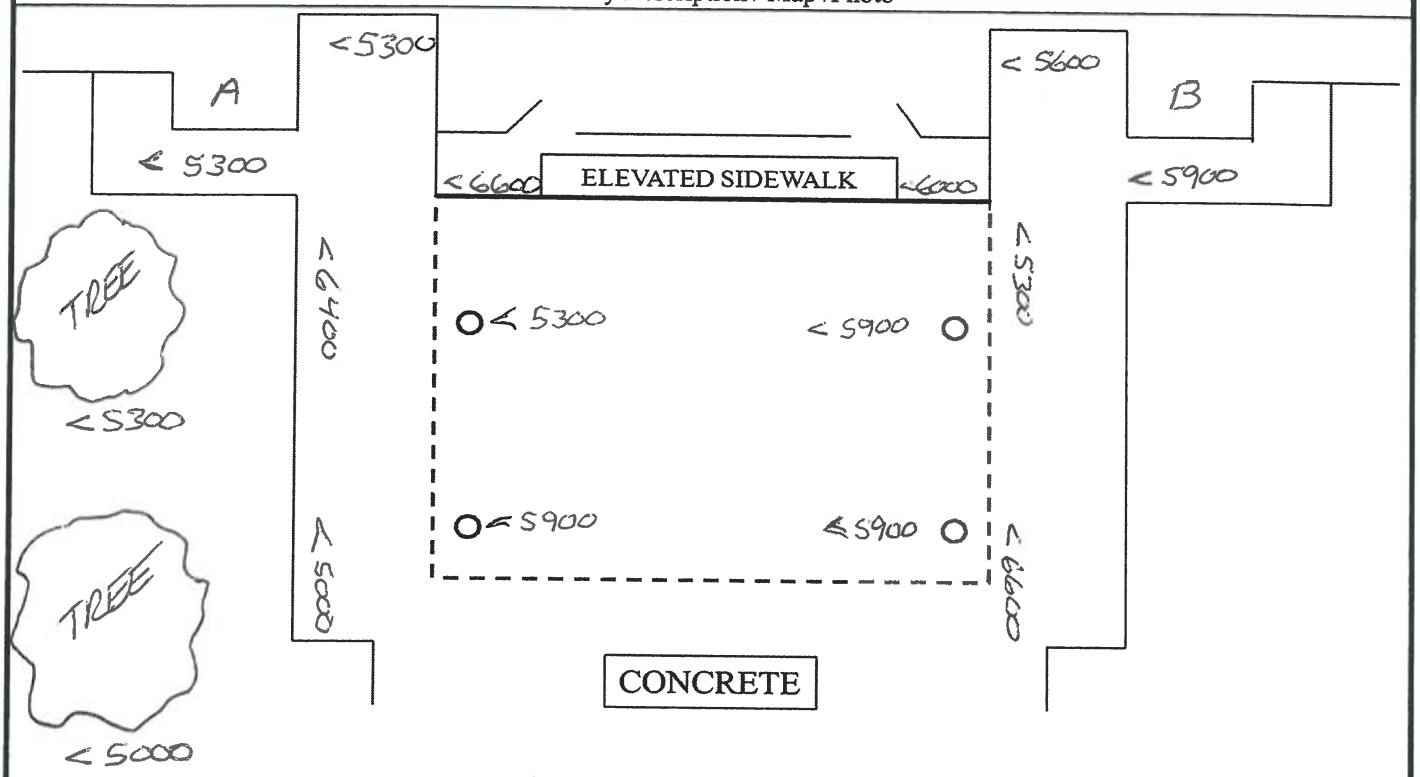
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-098	Date: 10-18-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5135	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1306 Apt(s)# A - B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

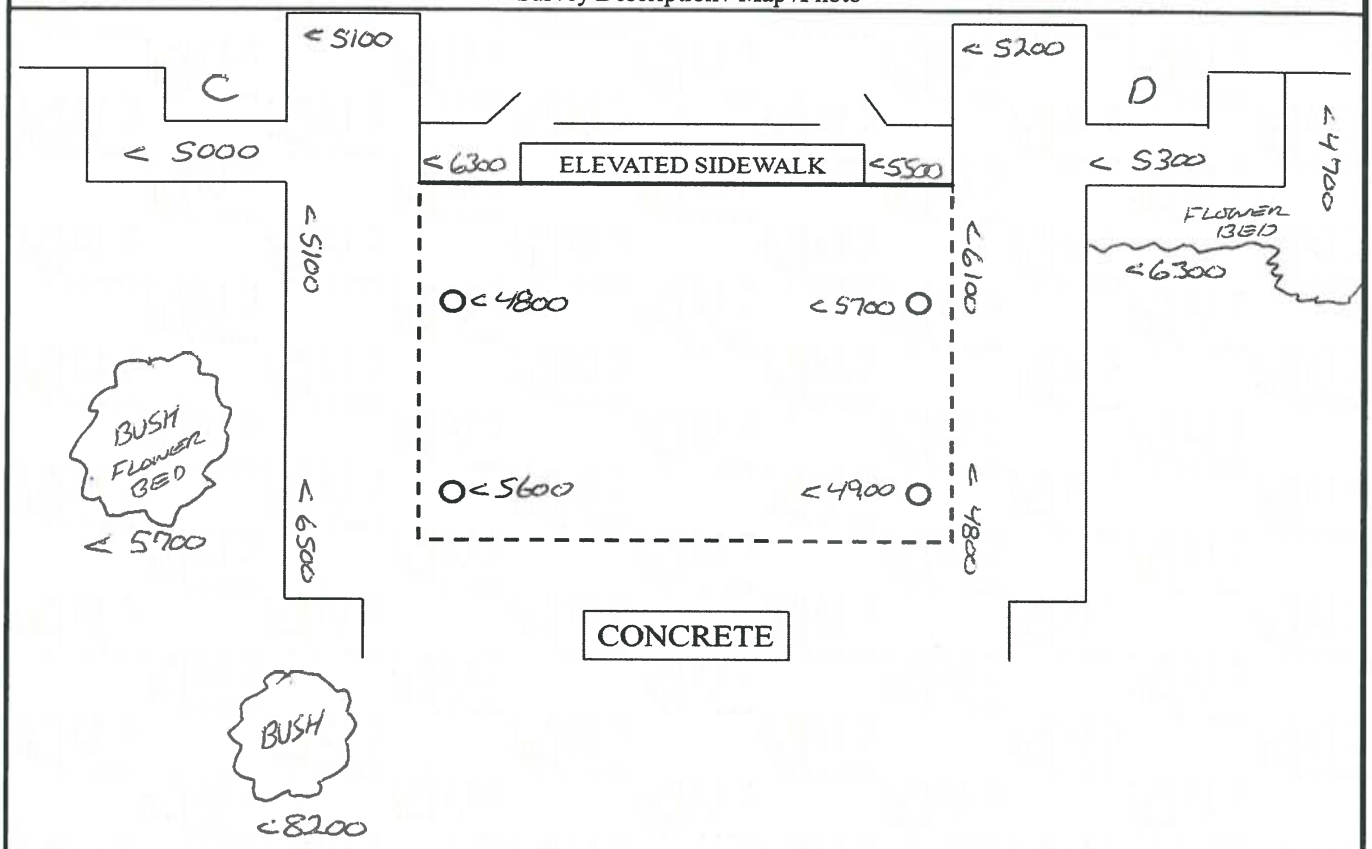
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-098	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1306 Apt(s)# C-D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

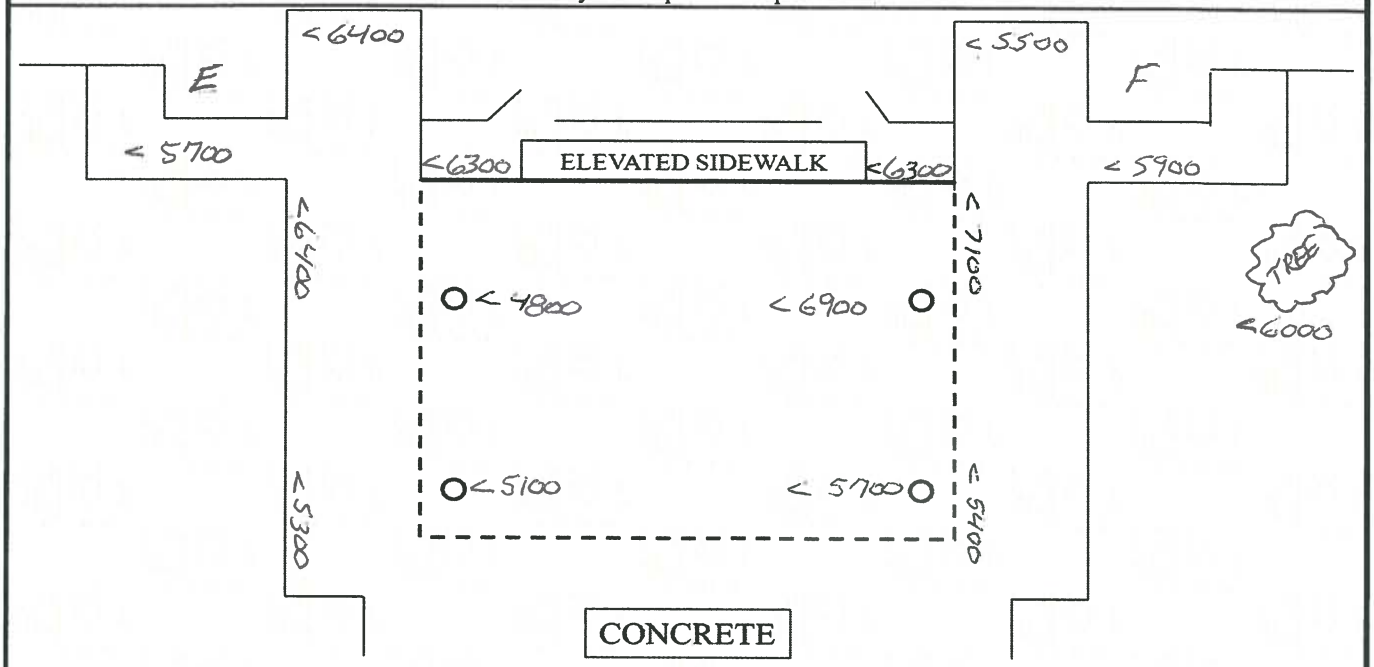
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-098	Date: 10·18·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1306 Apt(s)# E-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

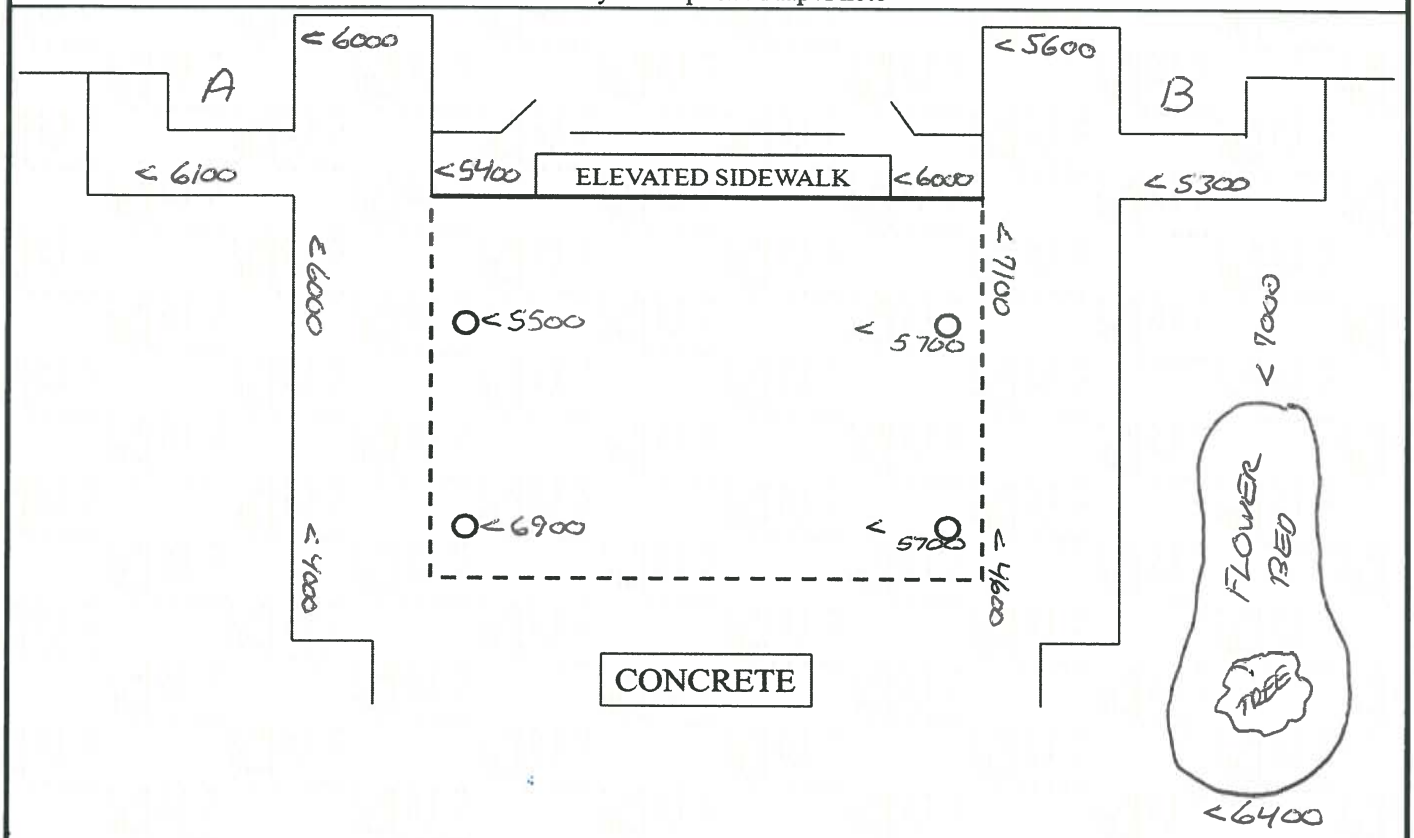
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-099	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5673	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1305 Apt(s)# A-B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

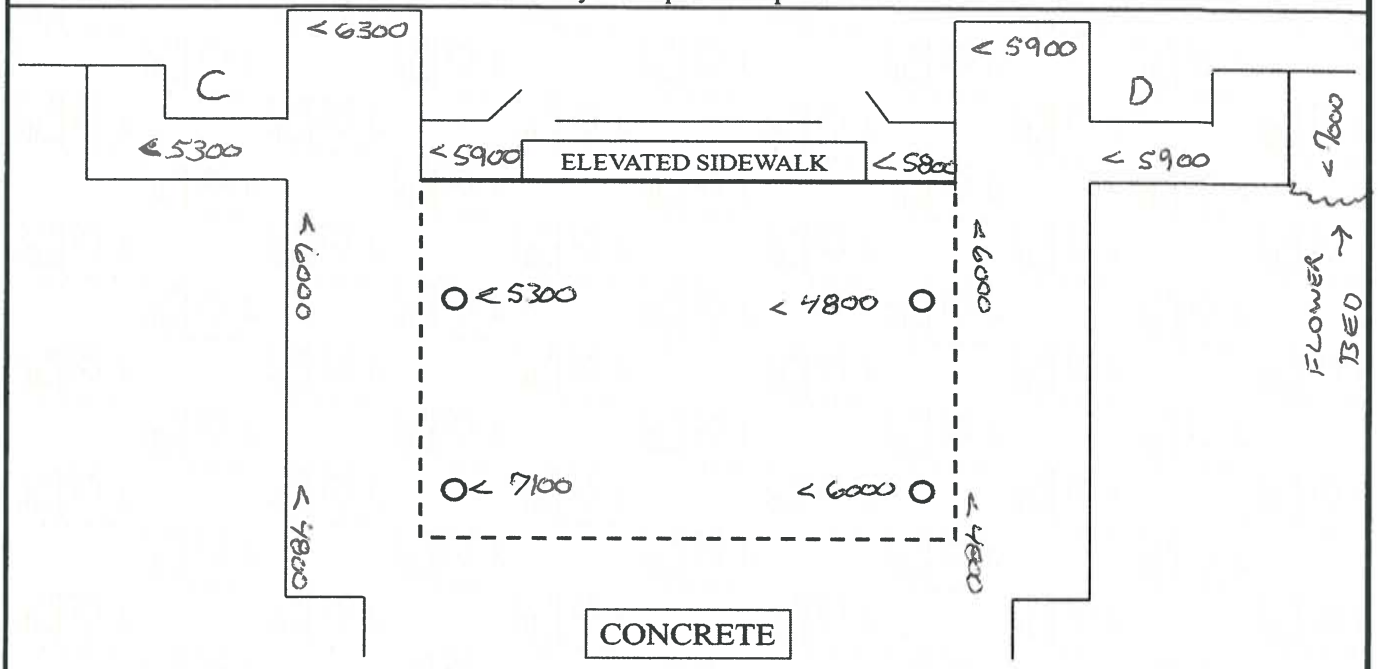
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 099	Date: 10·18·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1305 Apt(s)# C-D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

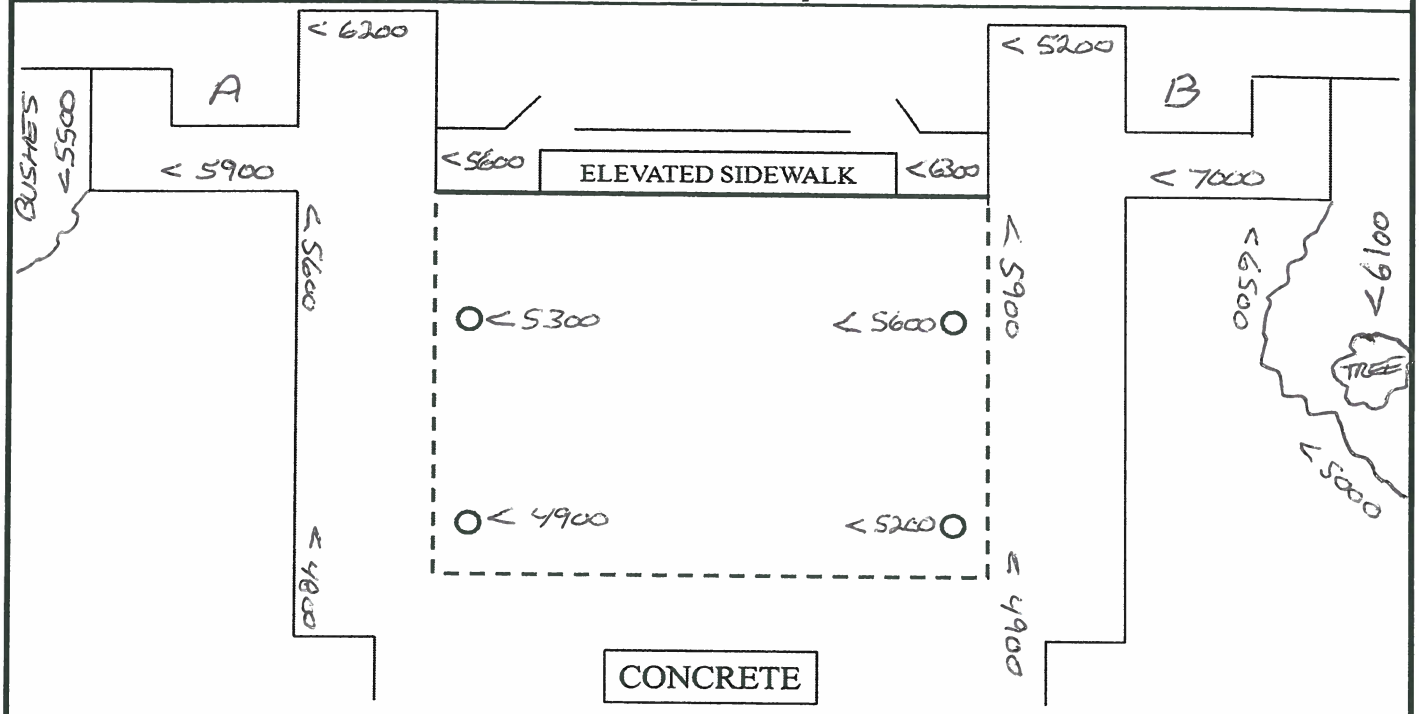
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-100	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5428	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1308 Apt(s)# A - B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

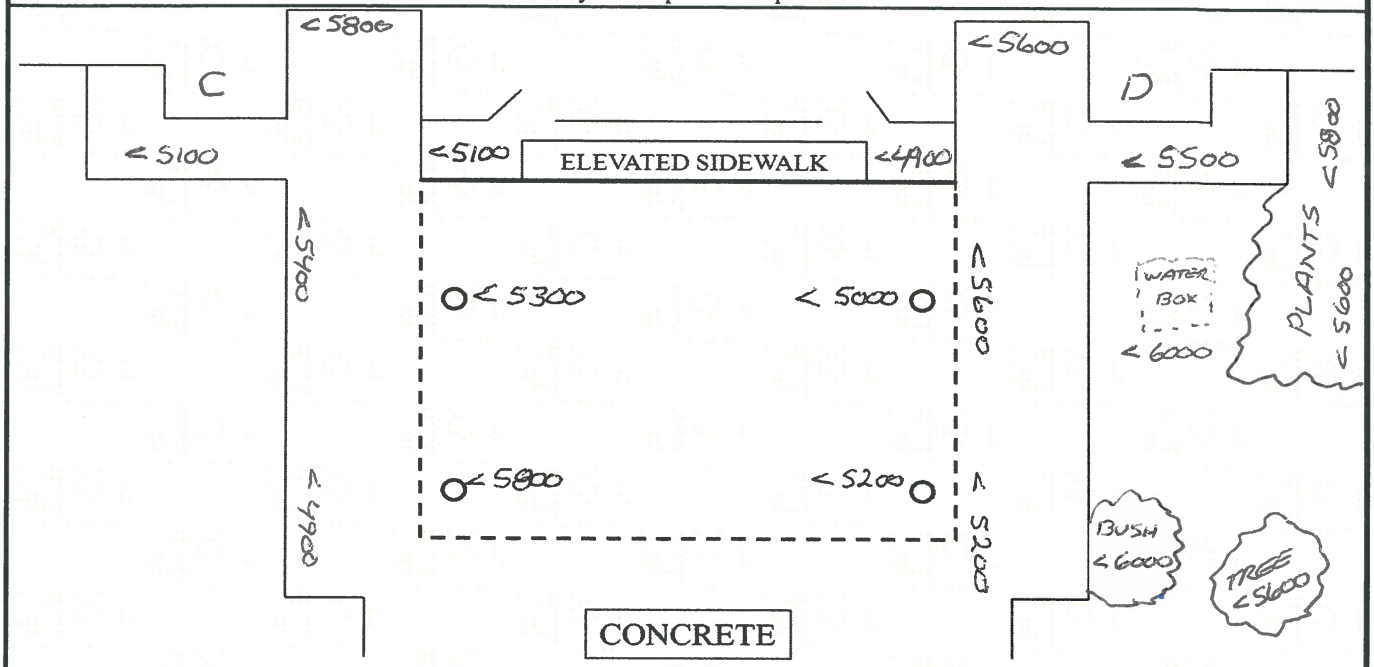
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 100	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1308 Apt(s)# C-D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

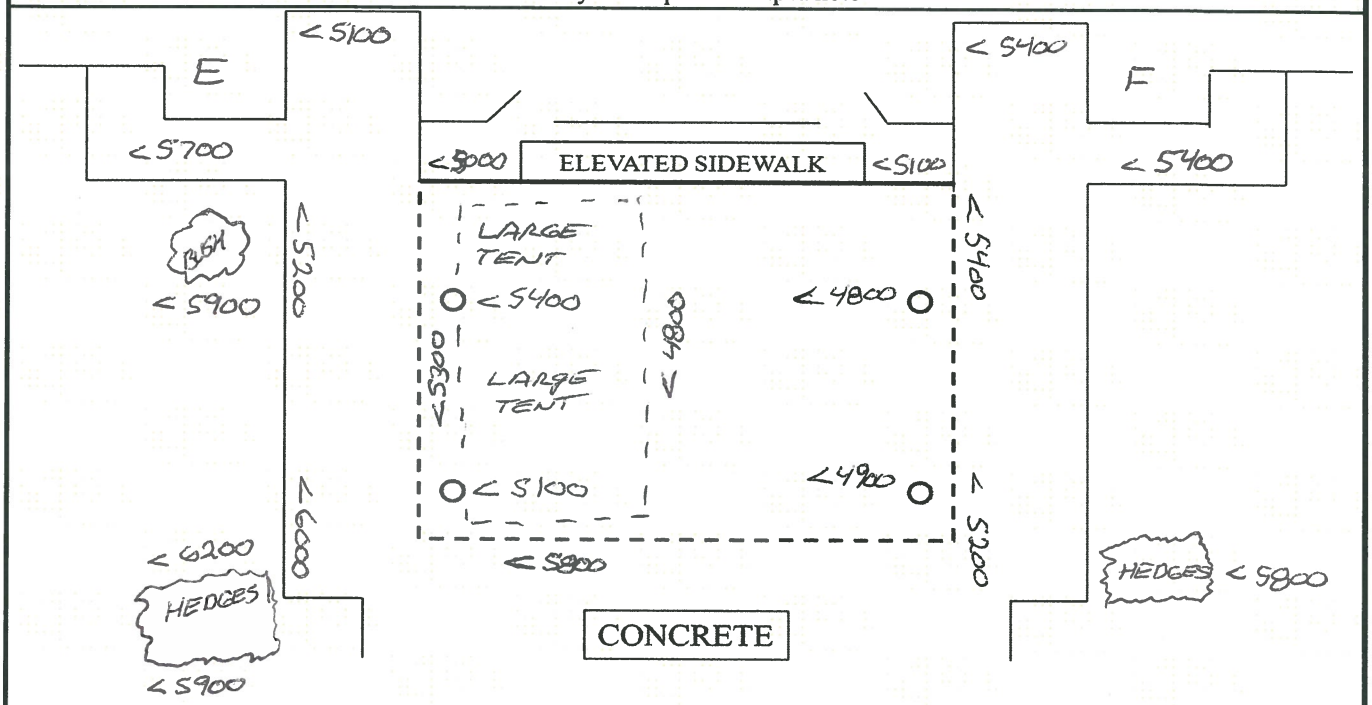
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-100	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1308 Apt(s)# E - F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

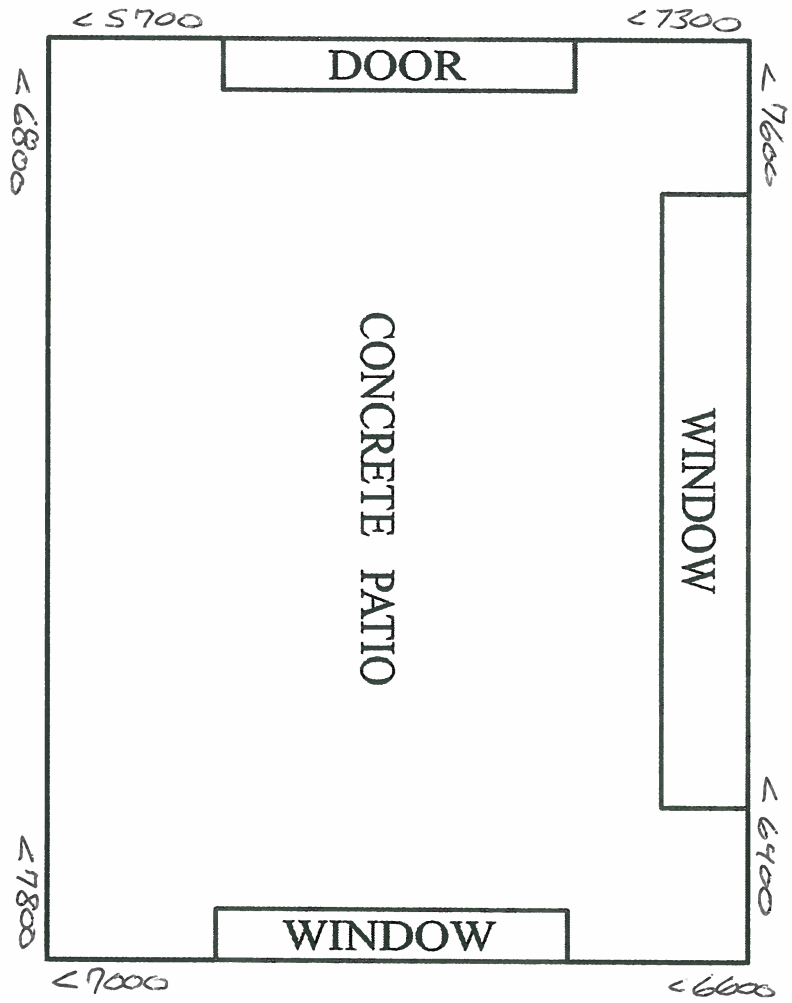
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-101	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	129231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6120	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1442 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

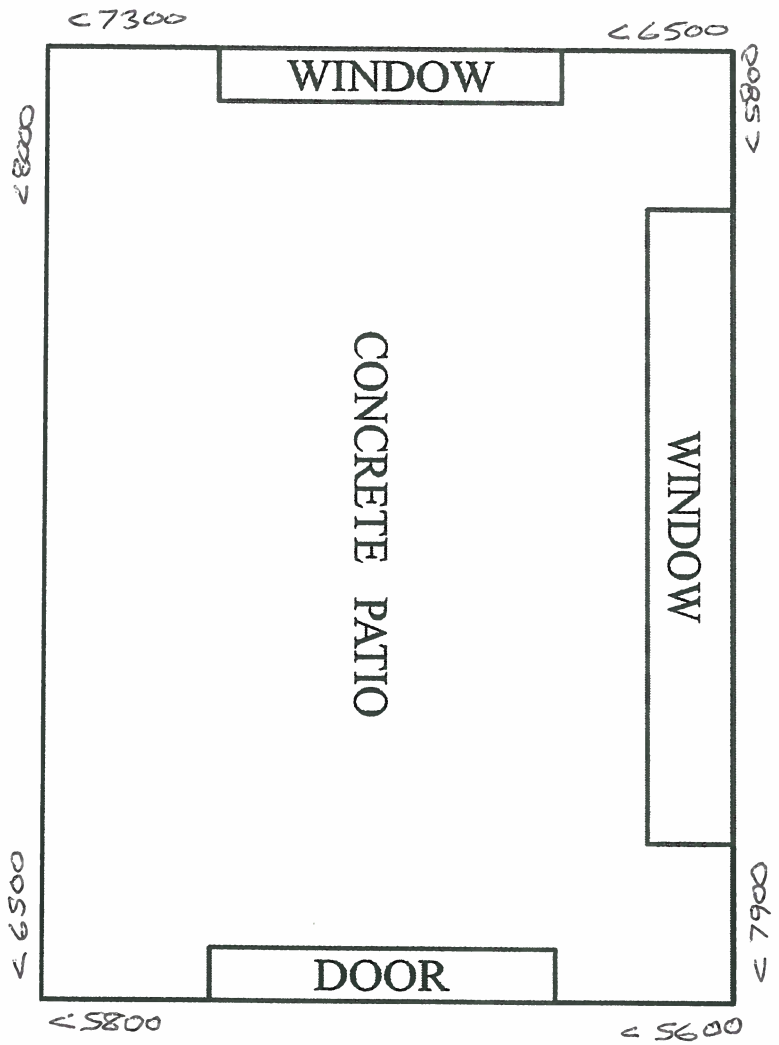
10/18/13

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 101	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1442 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

PW10-18-13

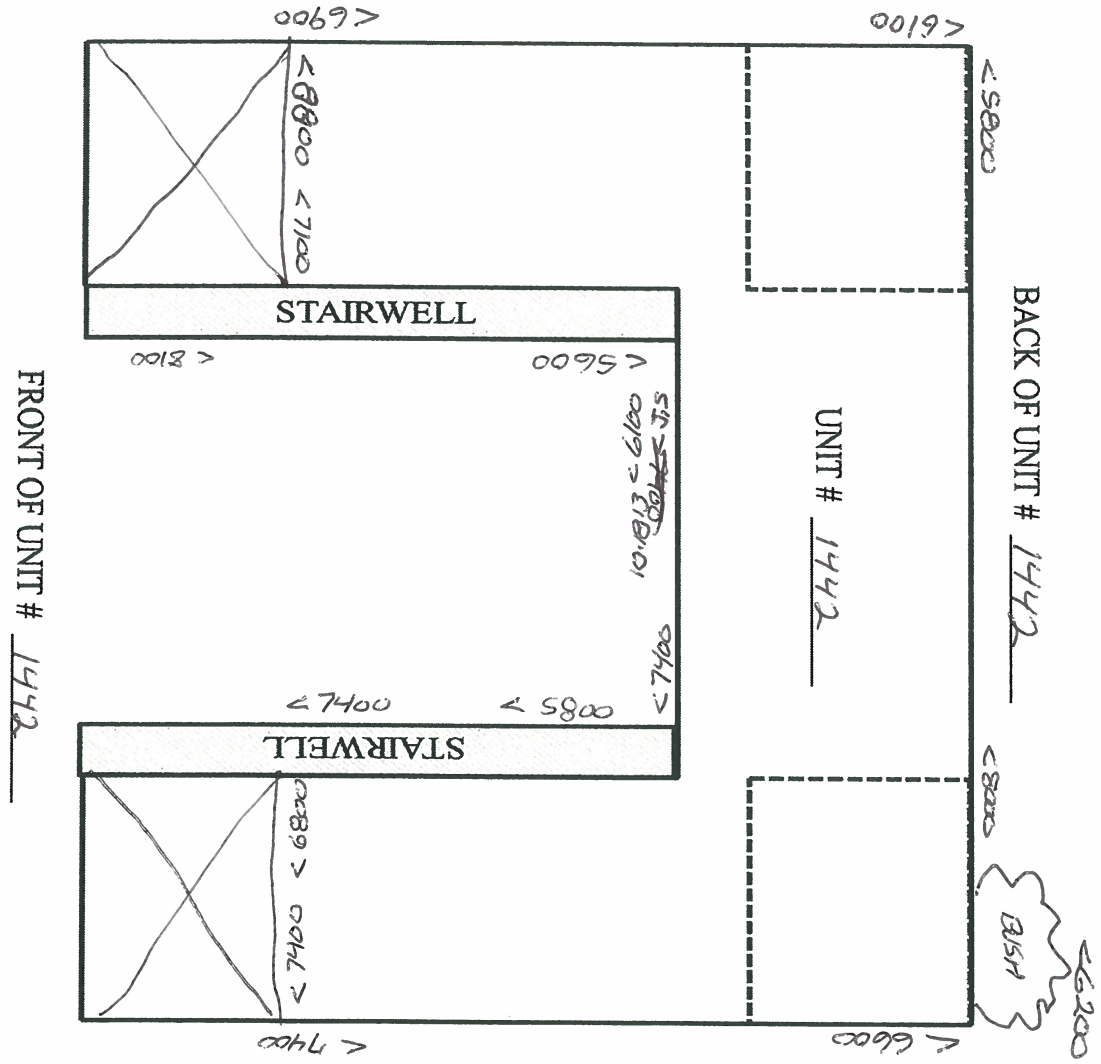
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-101	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1442 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

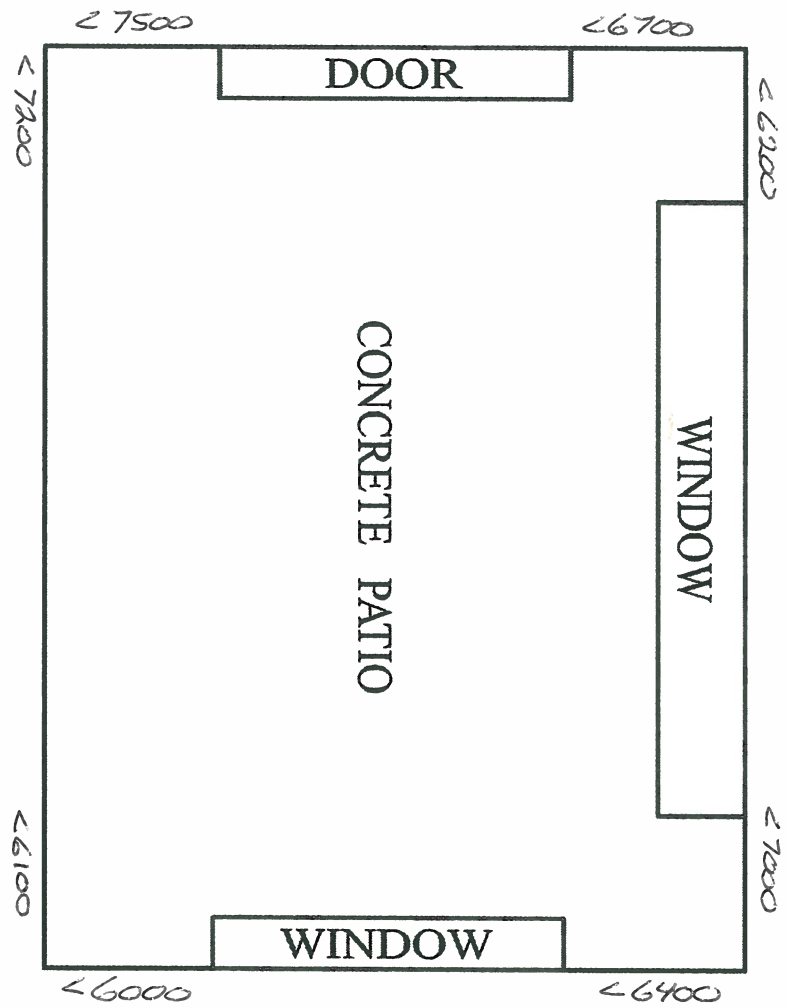
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-102	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N/A	N/A	6160	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1440 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

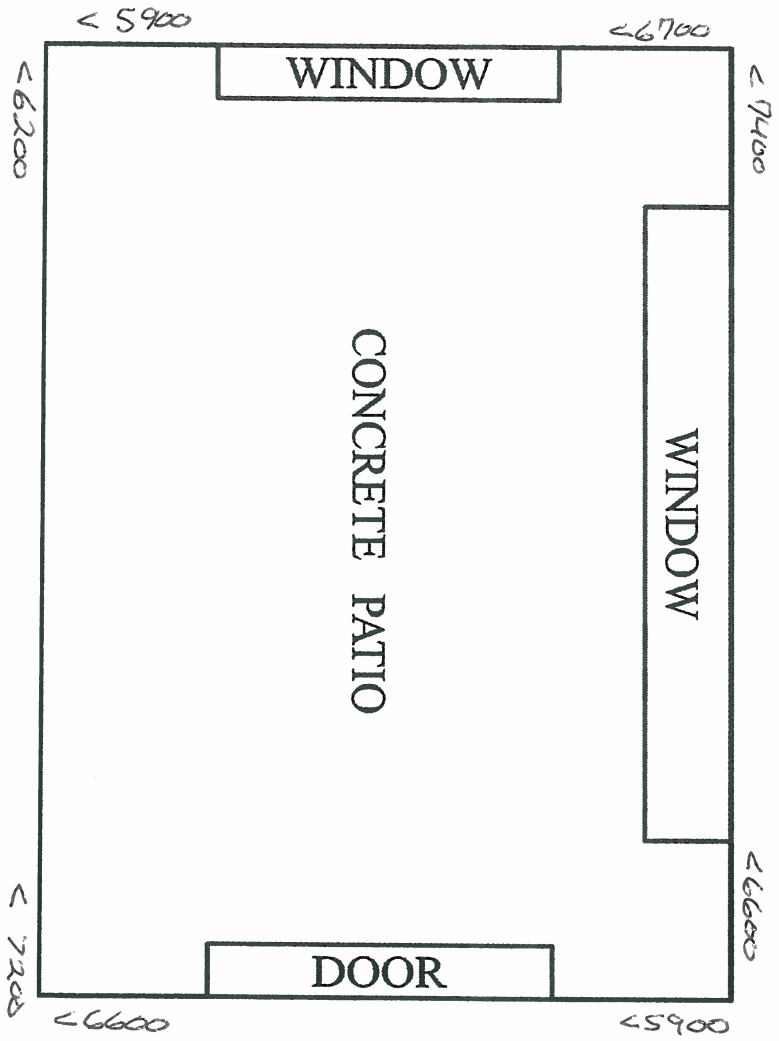
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-102	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1440 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

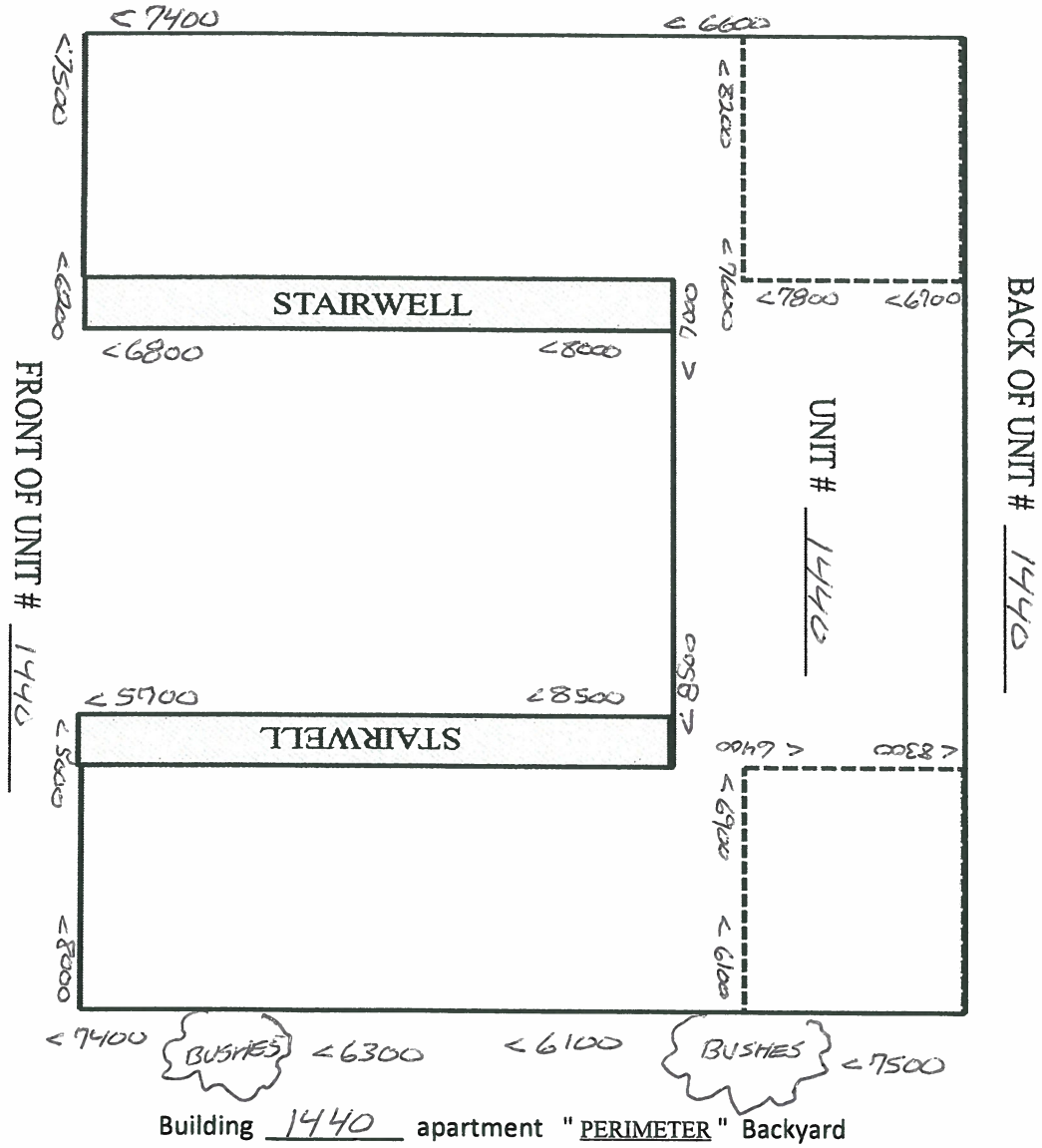
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-102	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1440 apartment "PERIMETER" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

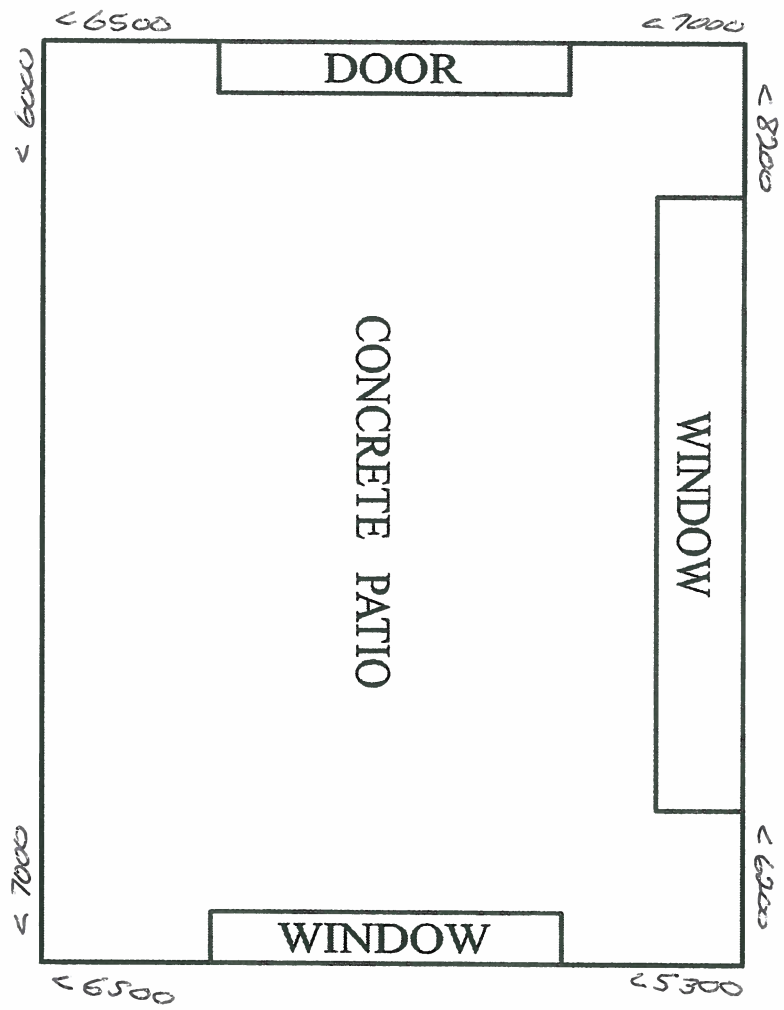
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-103	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	1.6e.34	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1447 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

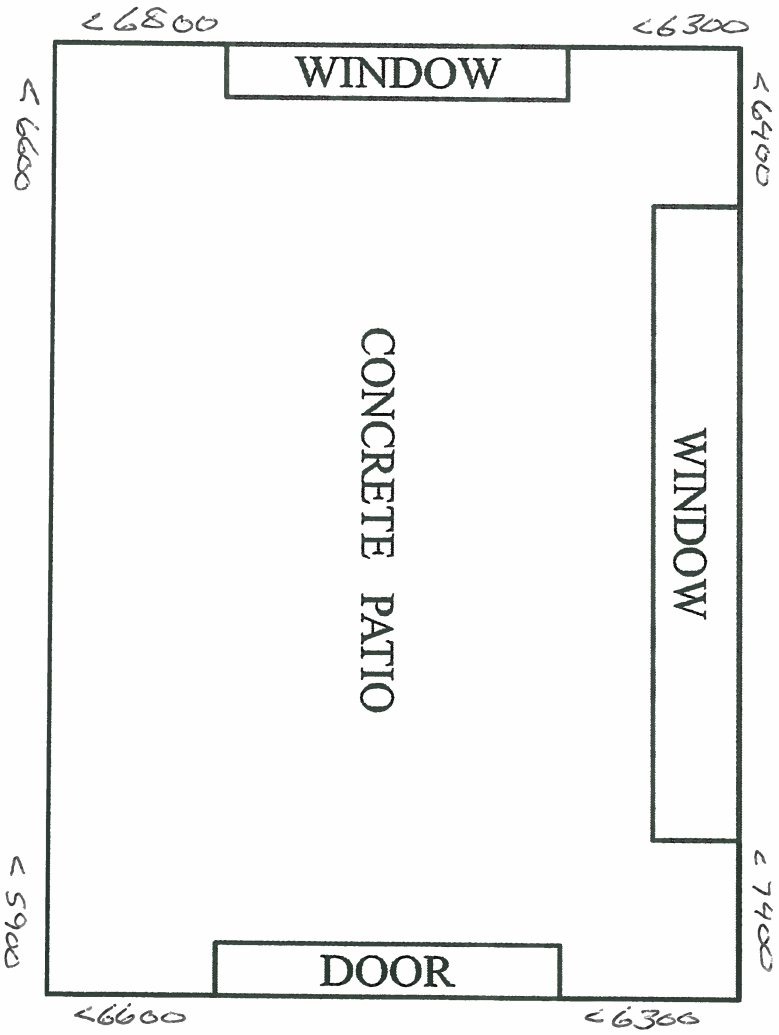
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-103	Date: 10·18·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1447 apartment " B " Backyard

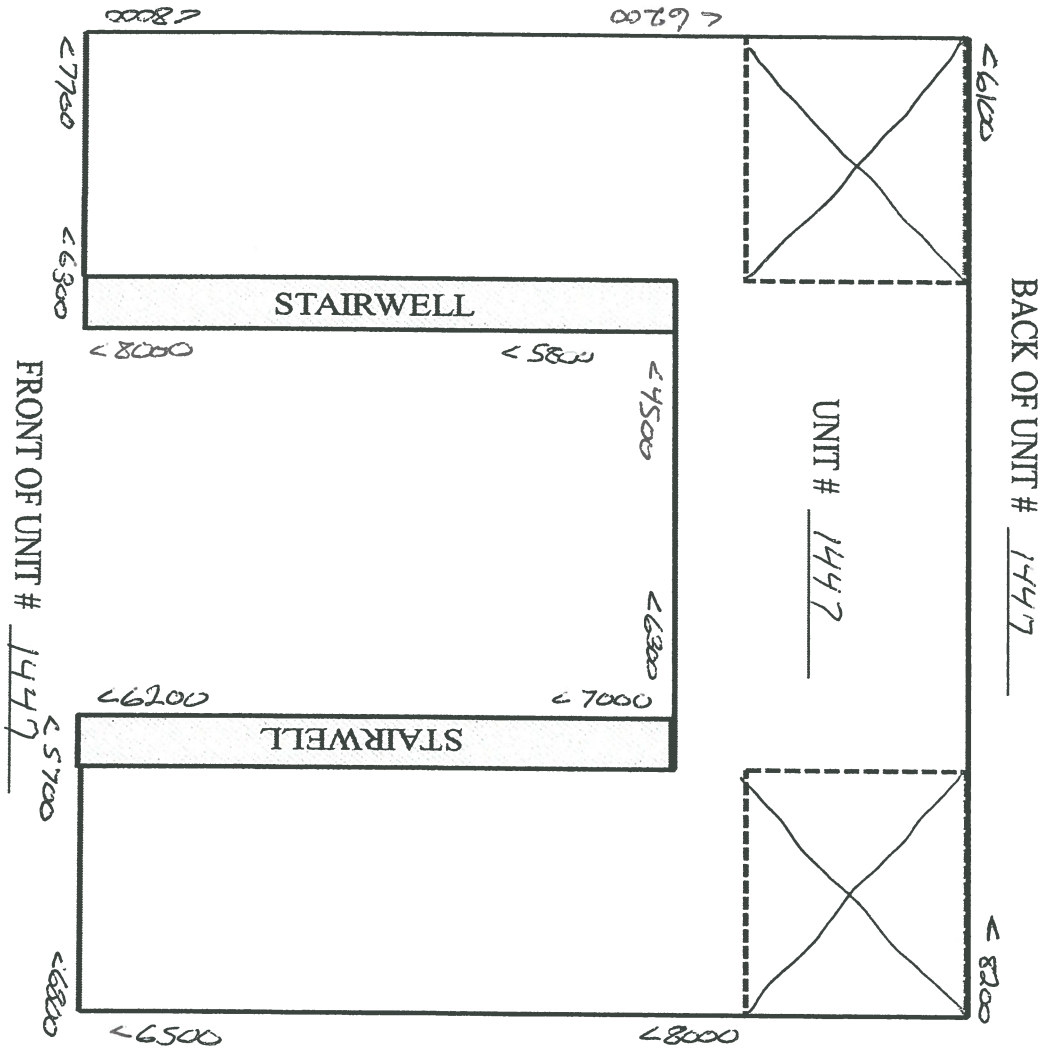
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-103	Date: 10·18·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1447 apartment "PERIMETER" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

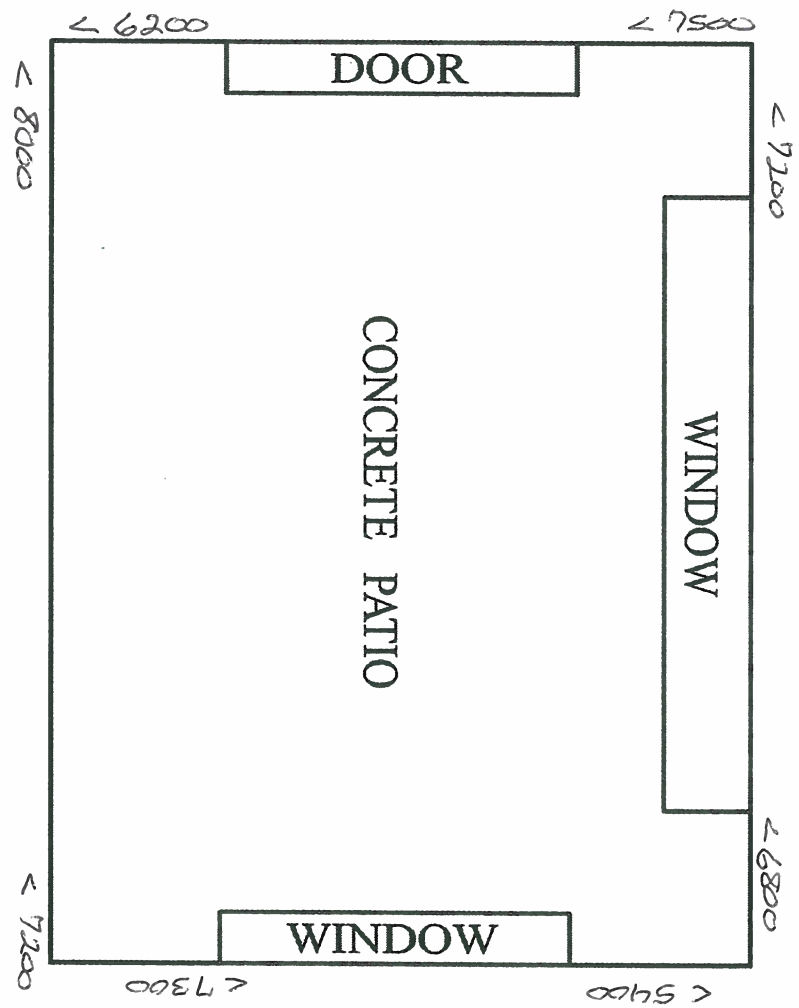
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 104	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	6454	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1445 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

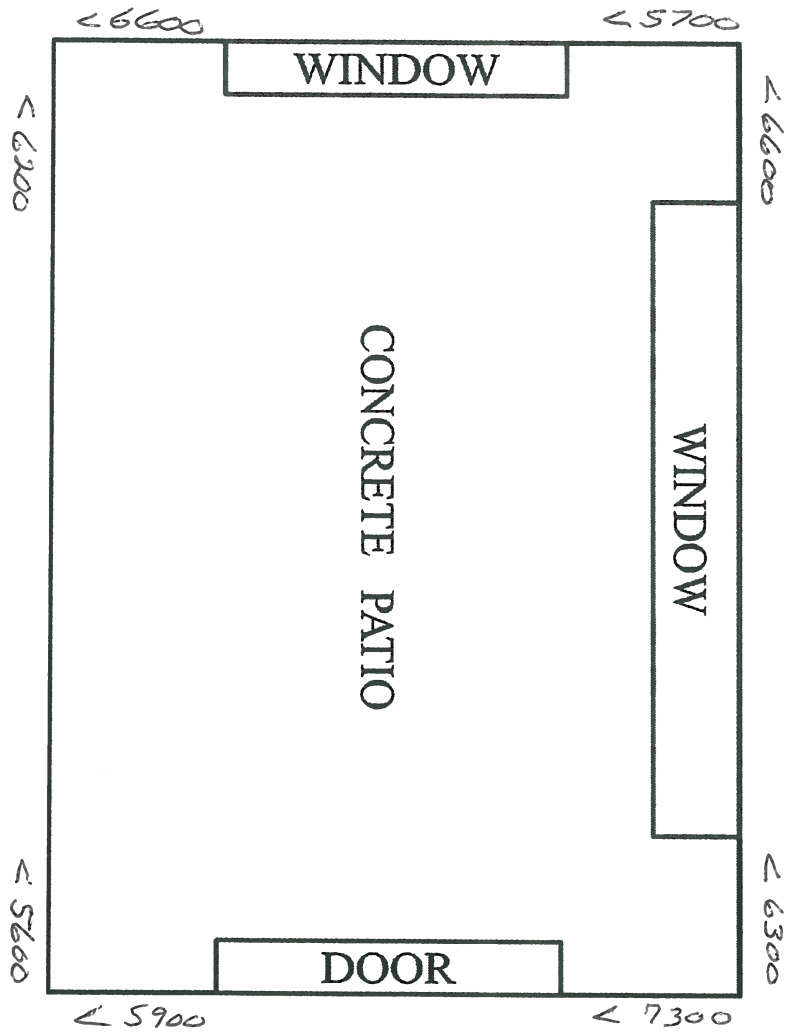
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-104	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1445 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

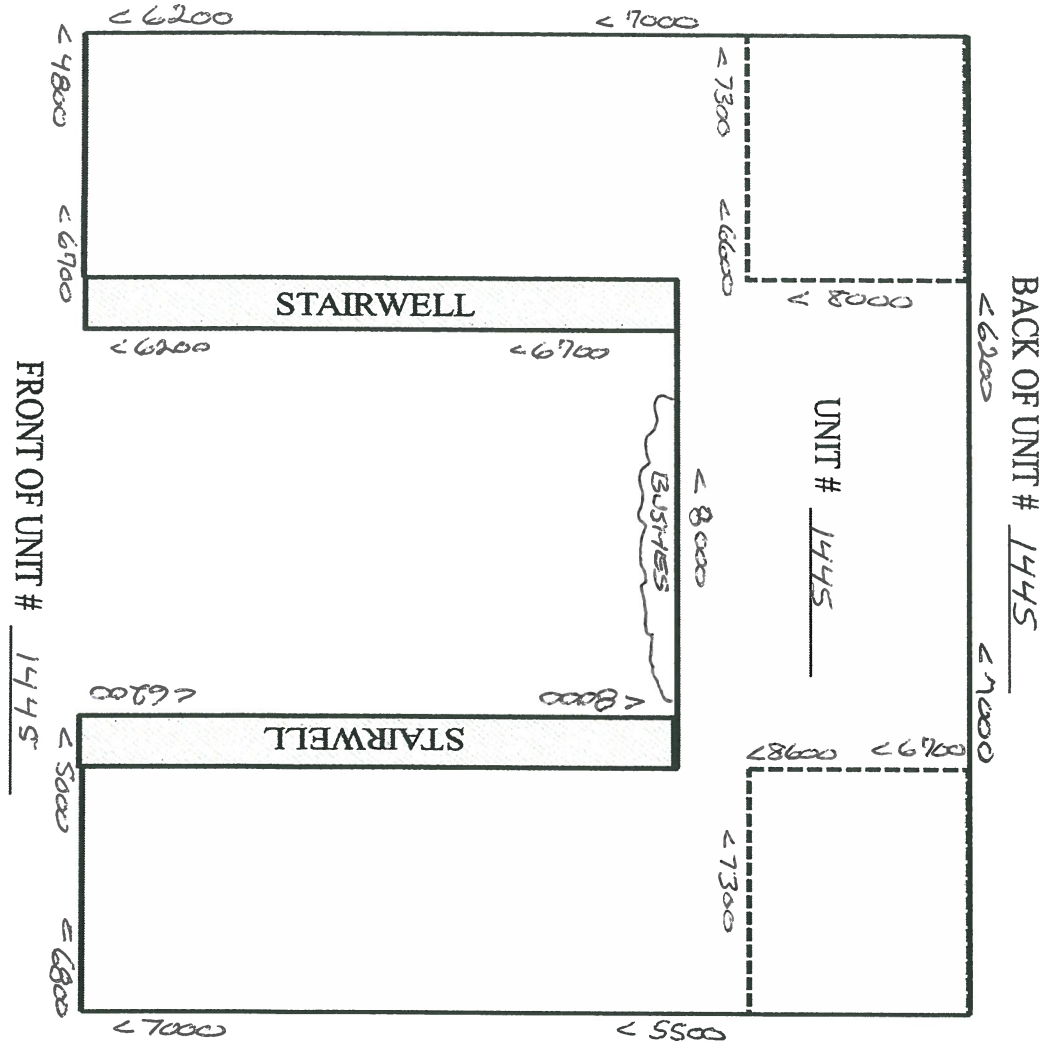
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-104	Date: 10.18.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1445 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

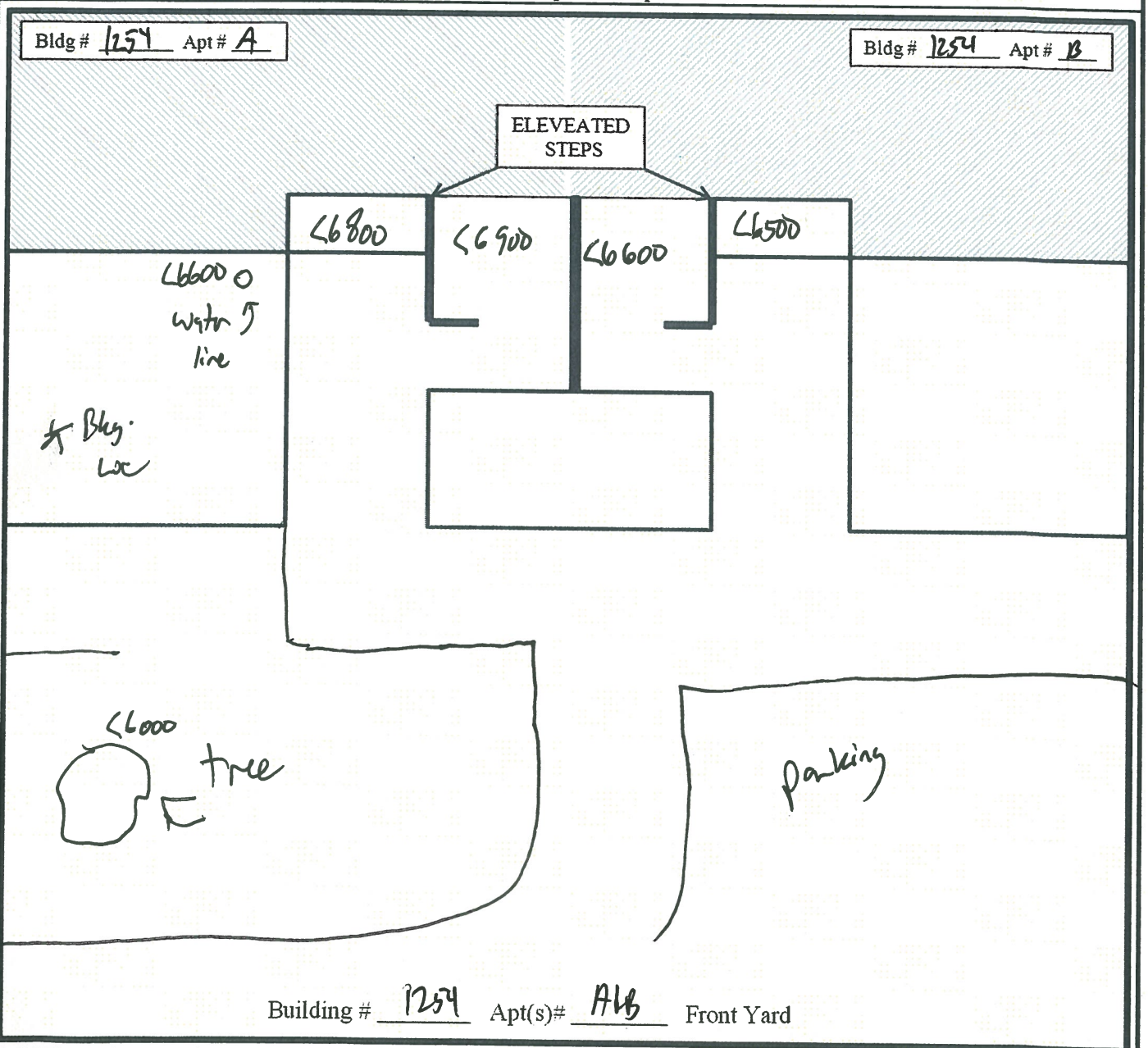
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-105	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	6783	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1254 Apt(s)# A&B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

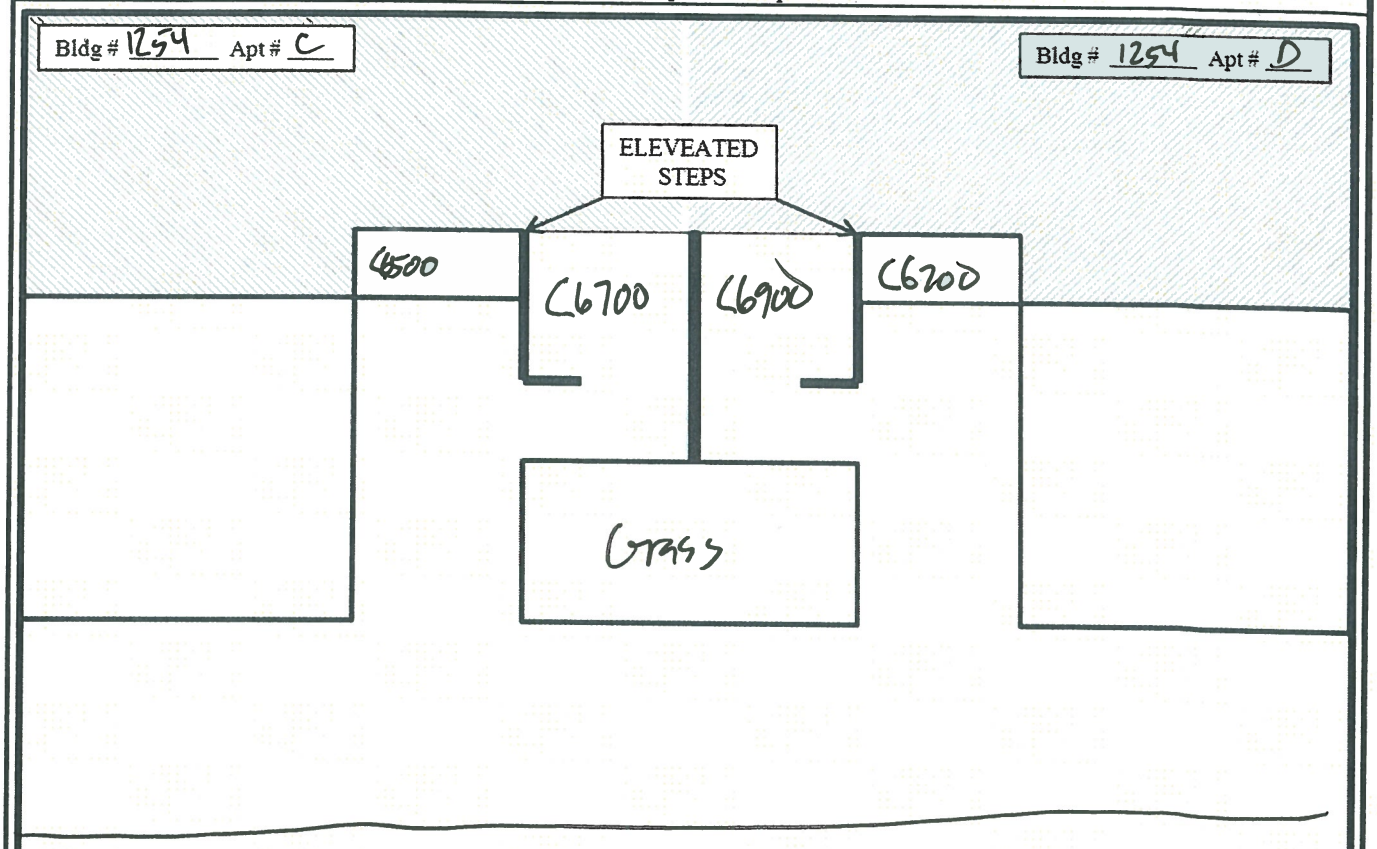
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-105	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# C&D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

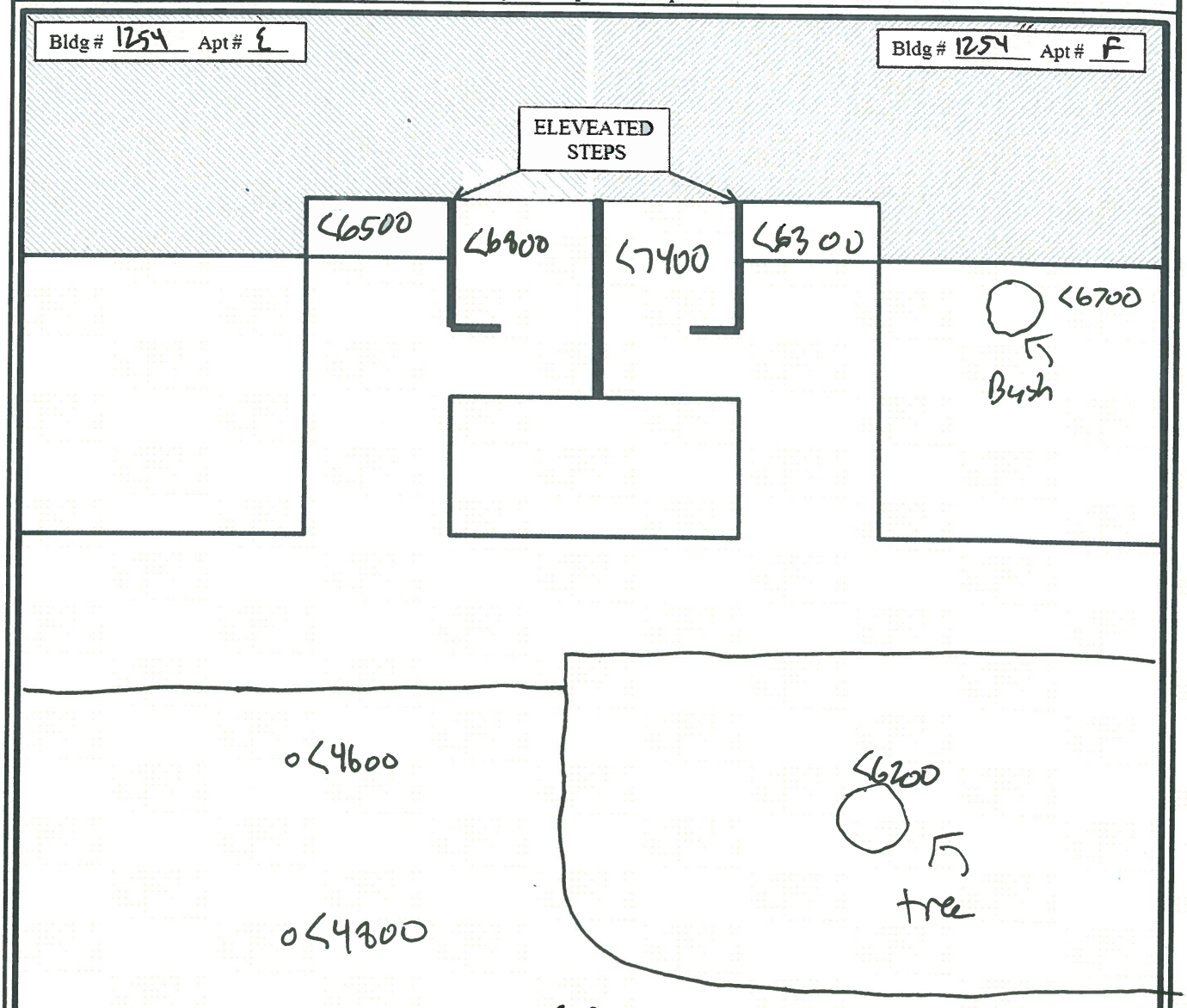
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-105	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1254 Apt(s)# E&F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

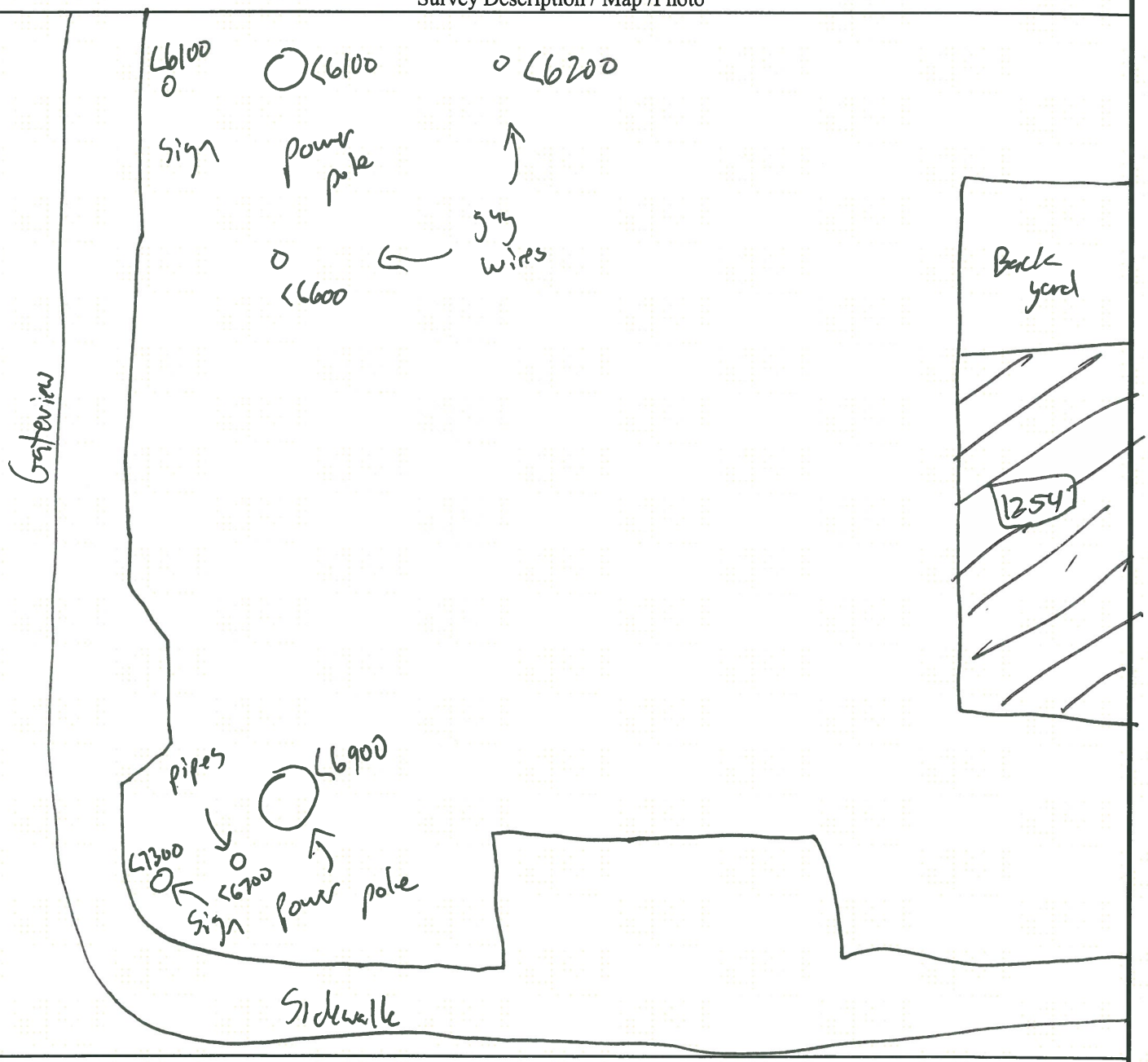
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-105	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

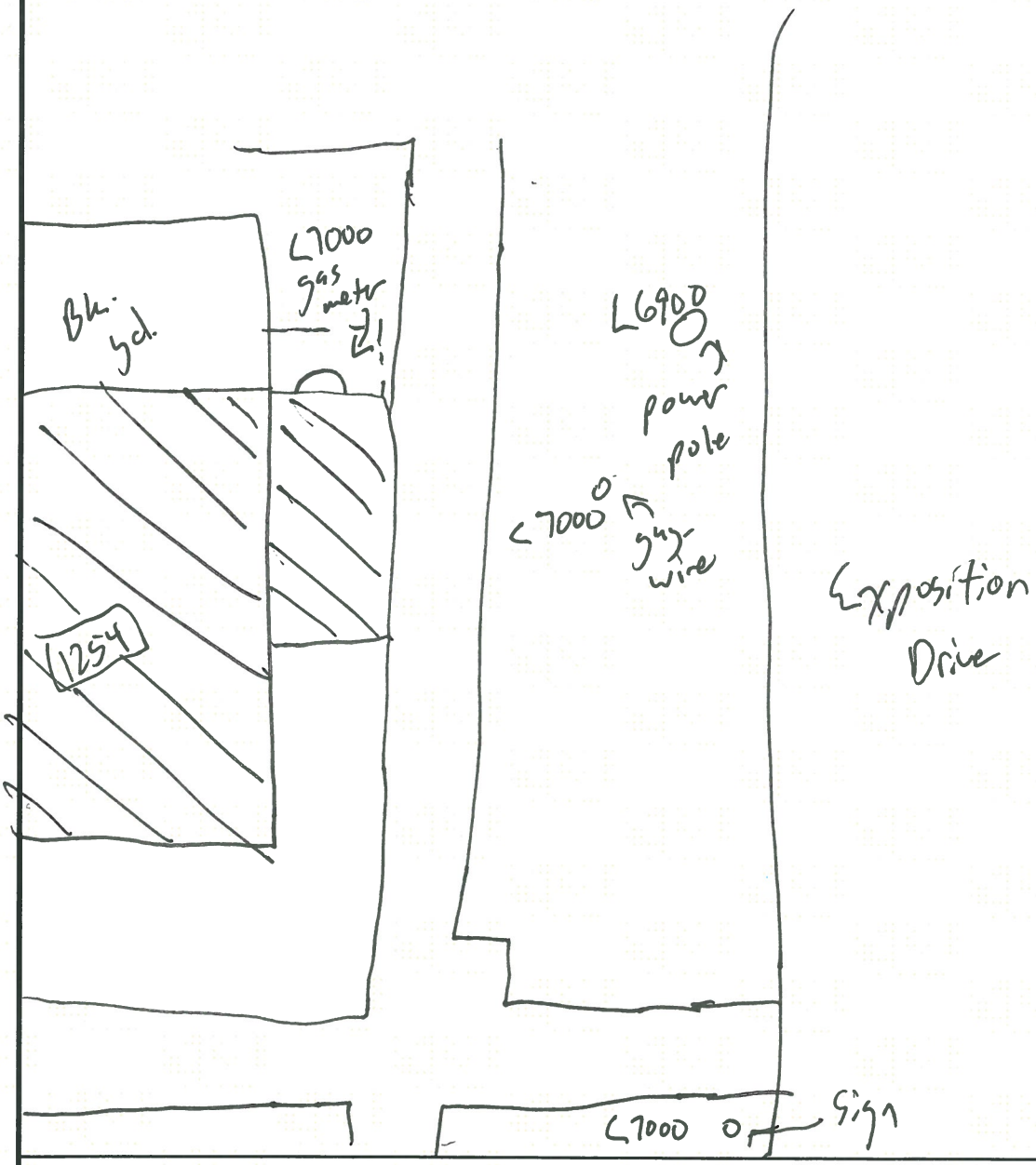
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 105	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

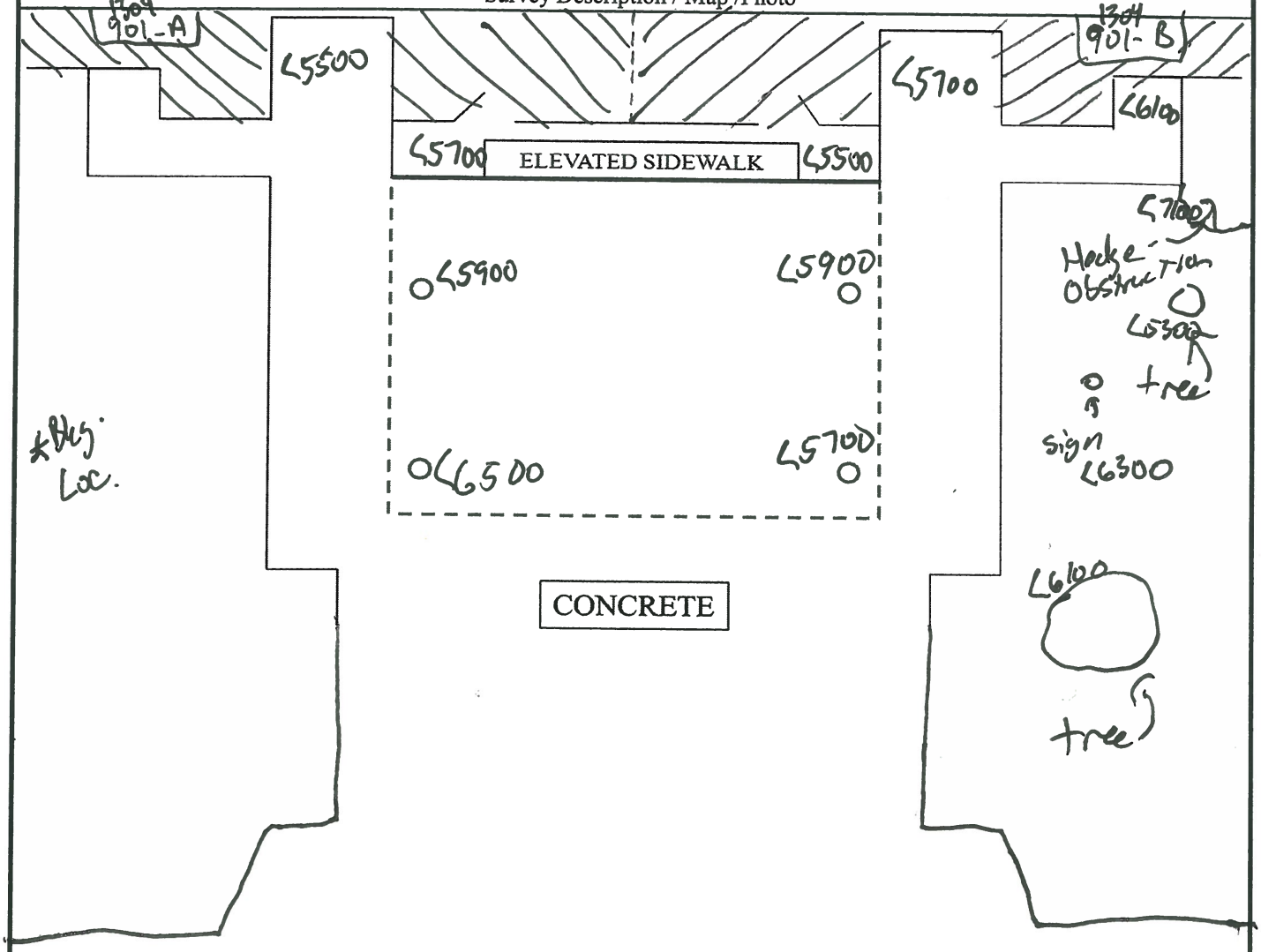
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-106	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	PR19765	7/27/14	N/A	N/A	6441	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 901/1304 Apt(s)# A&B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

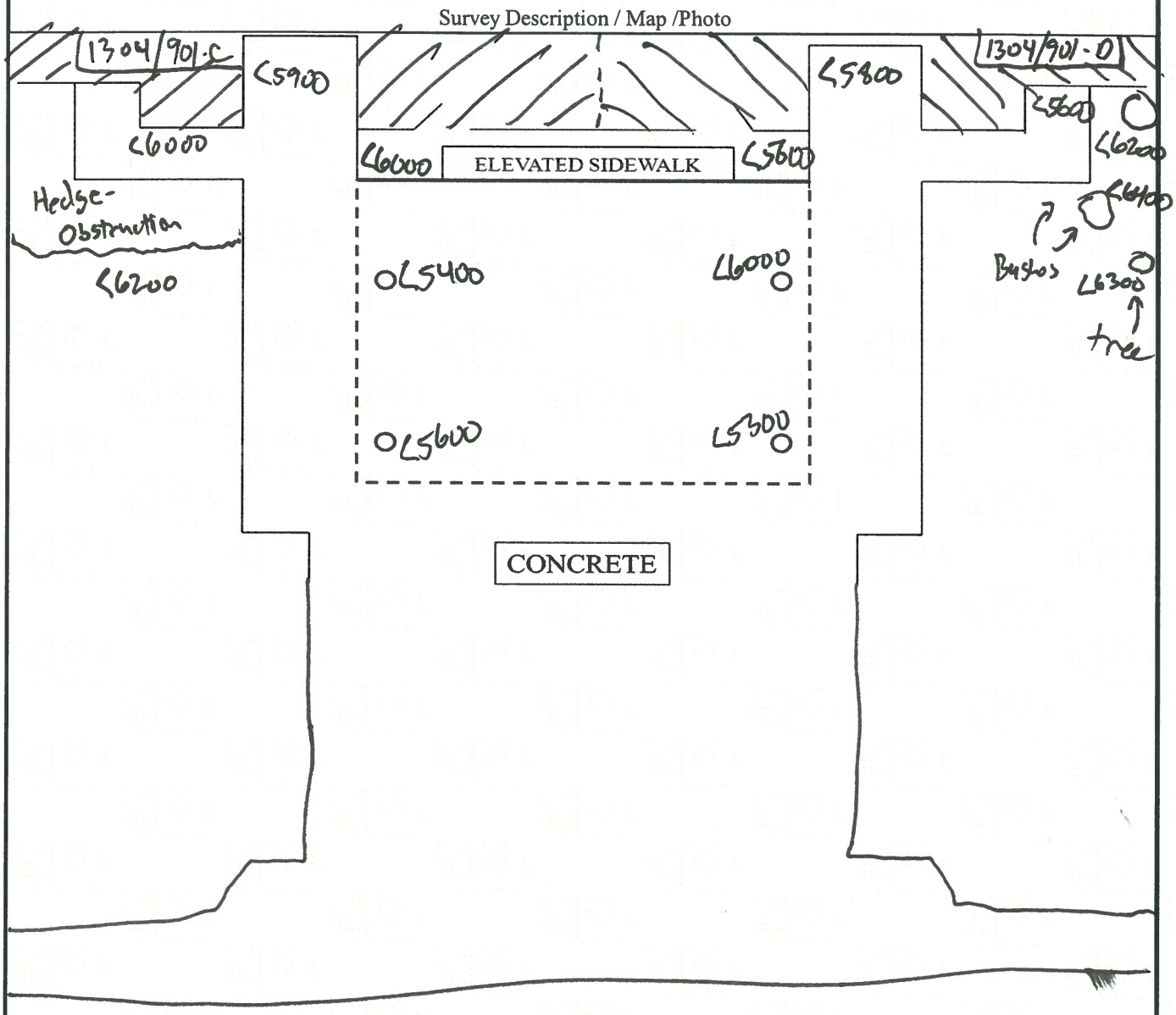
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-106	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1304/901 Apt(s)# C1D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

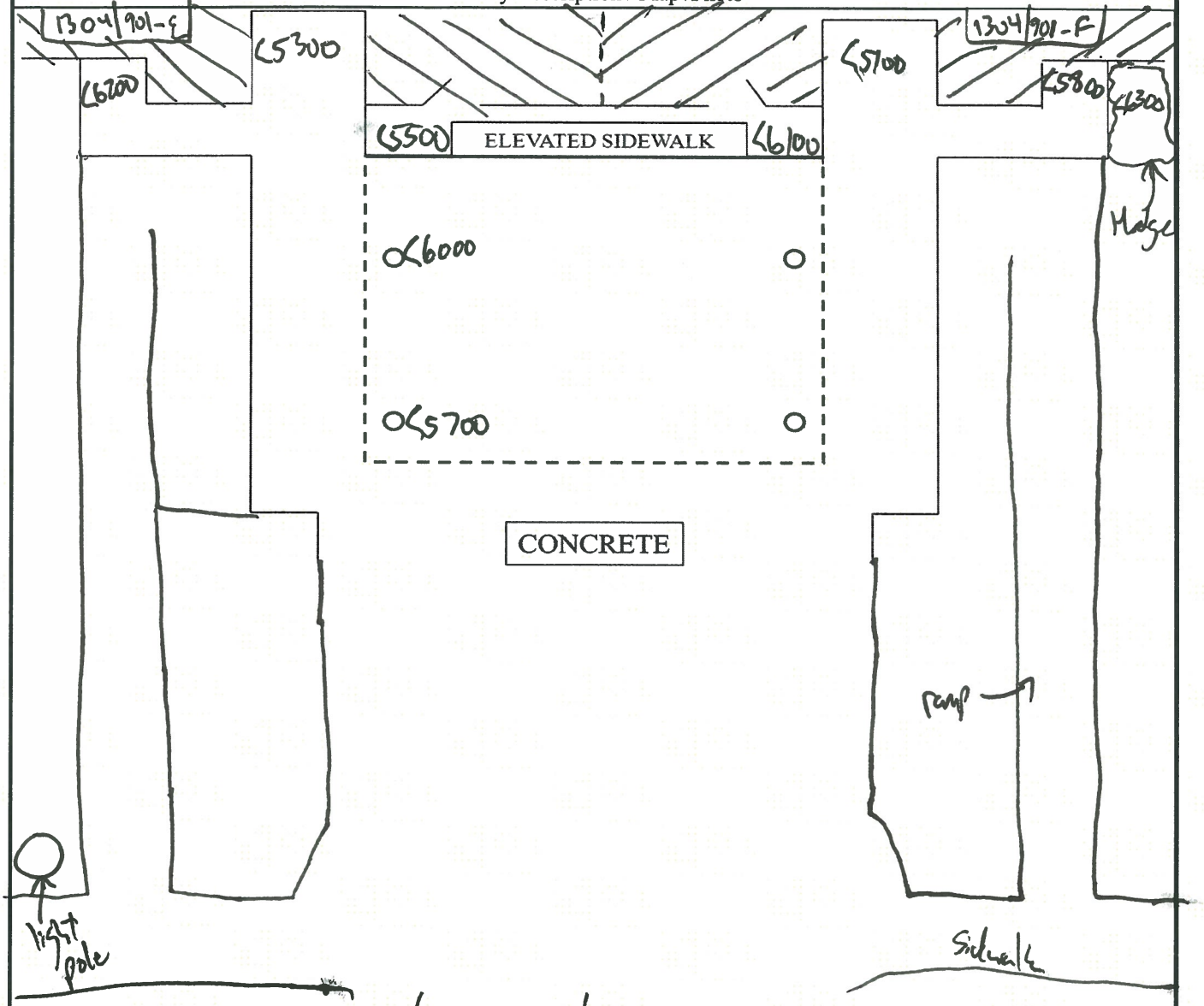
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 106	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1304/901 Apt(s)# E/F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

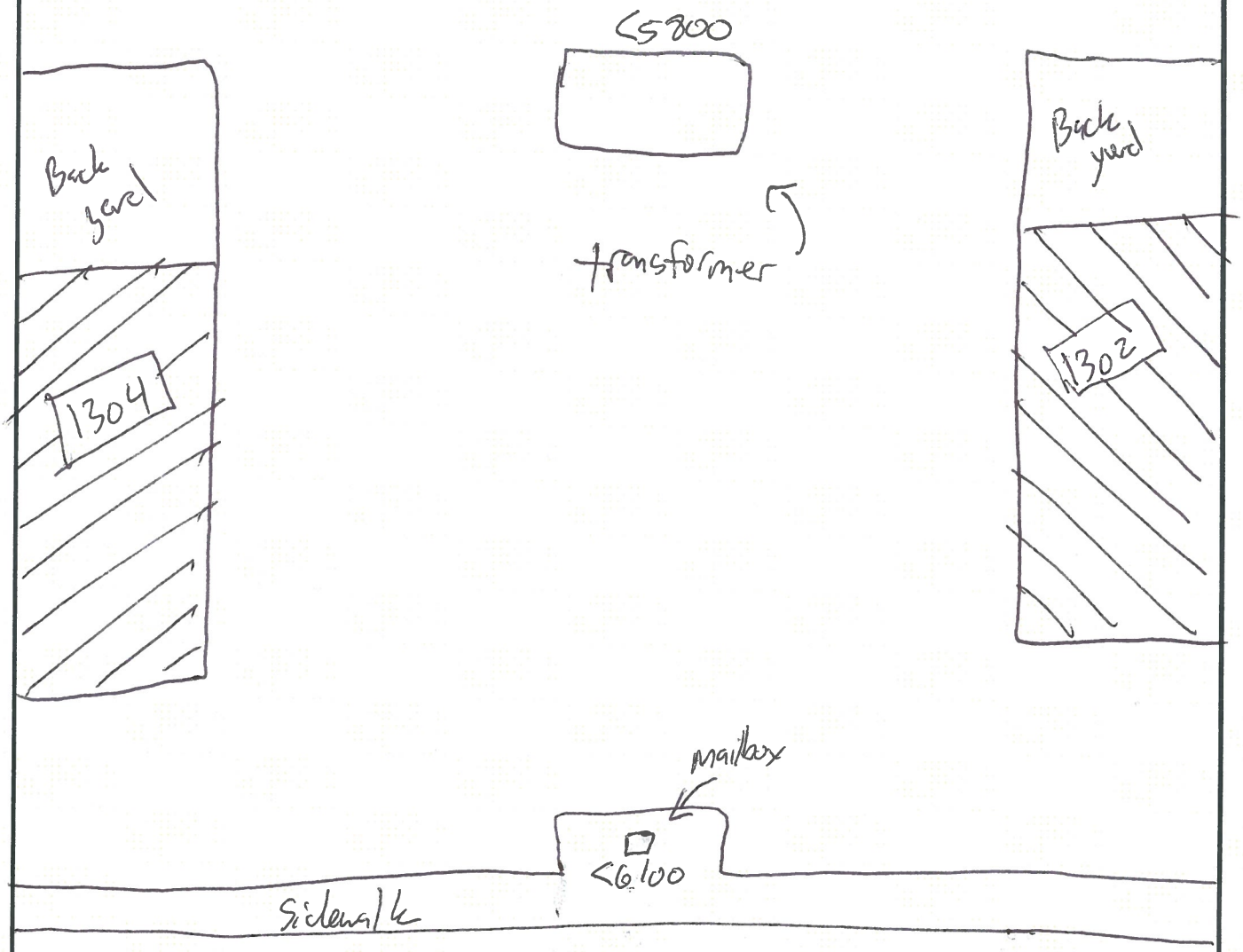
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-106	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

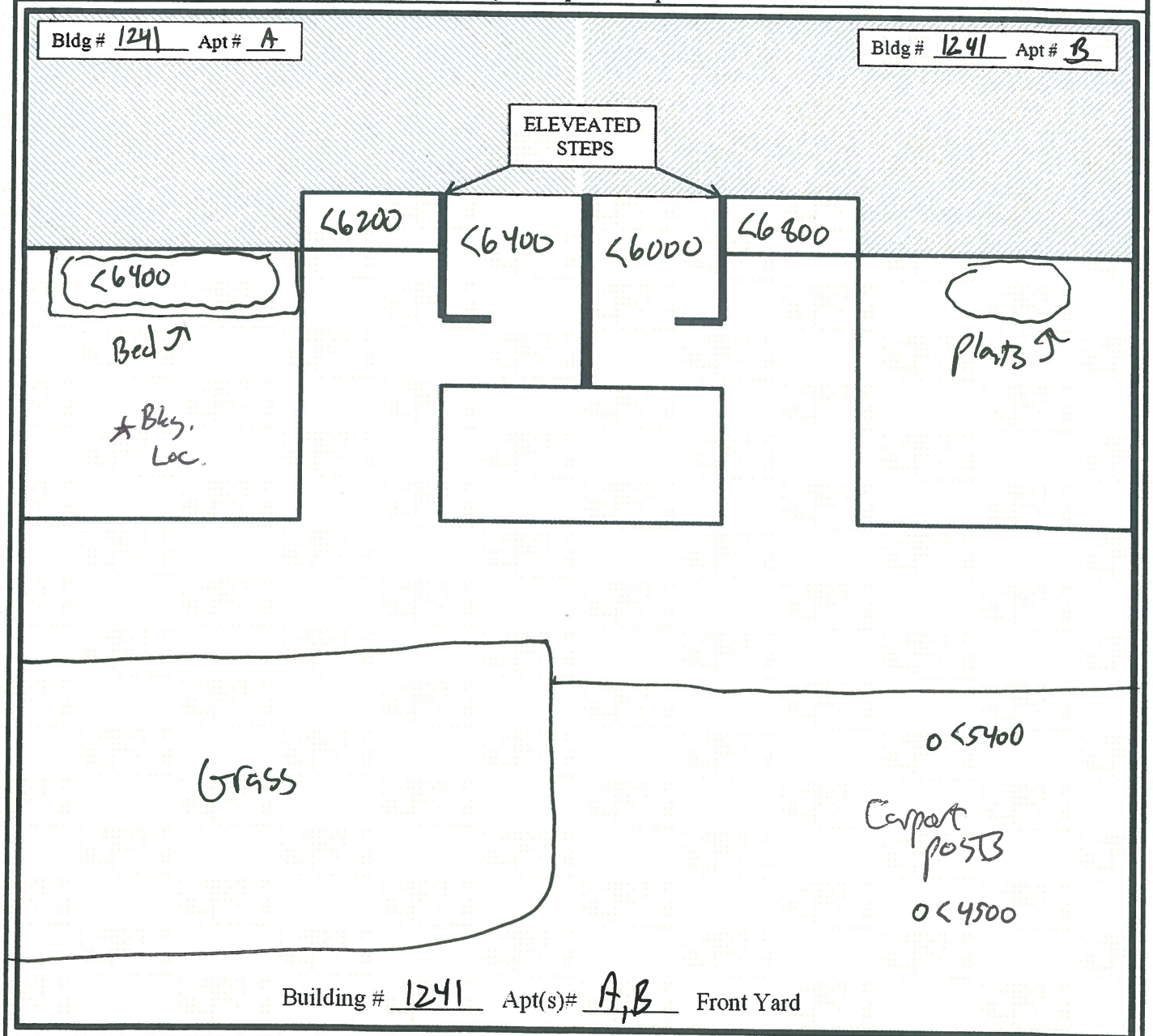
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 107	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Terry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	58	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1241 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

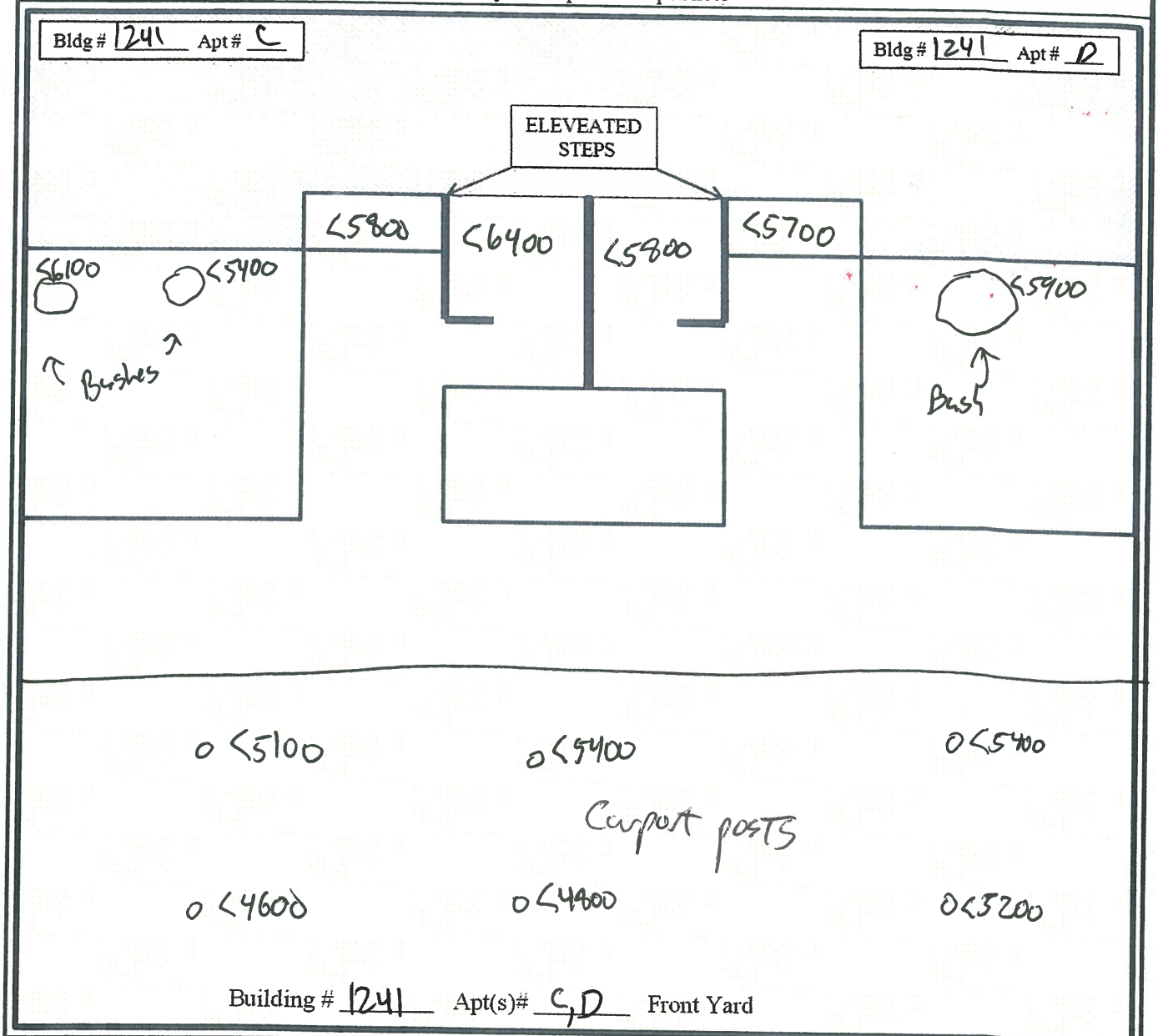
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 107	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1241 Apt(s)# C, D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

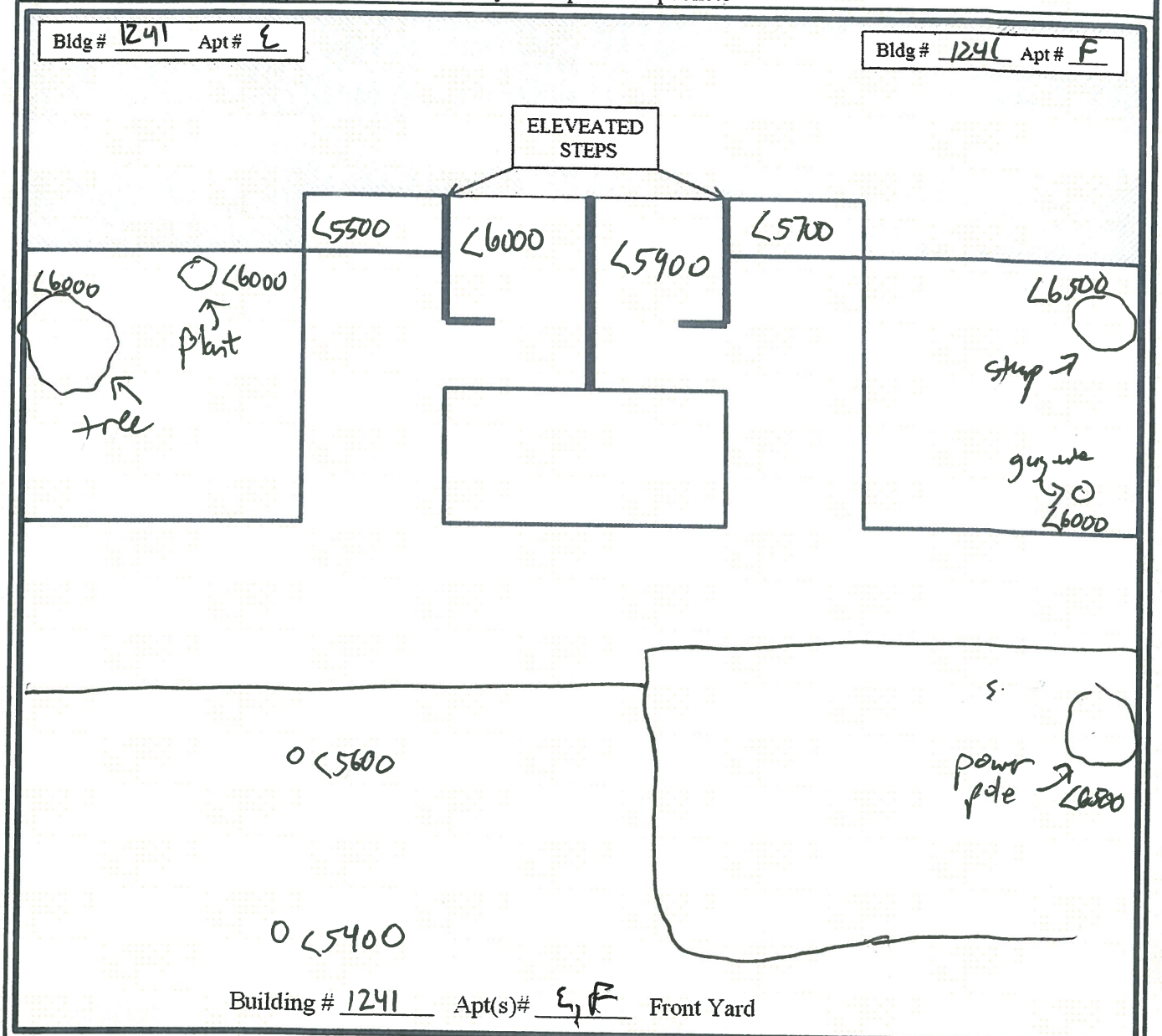
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 107	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1241 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

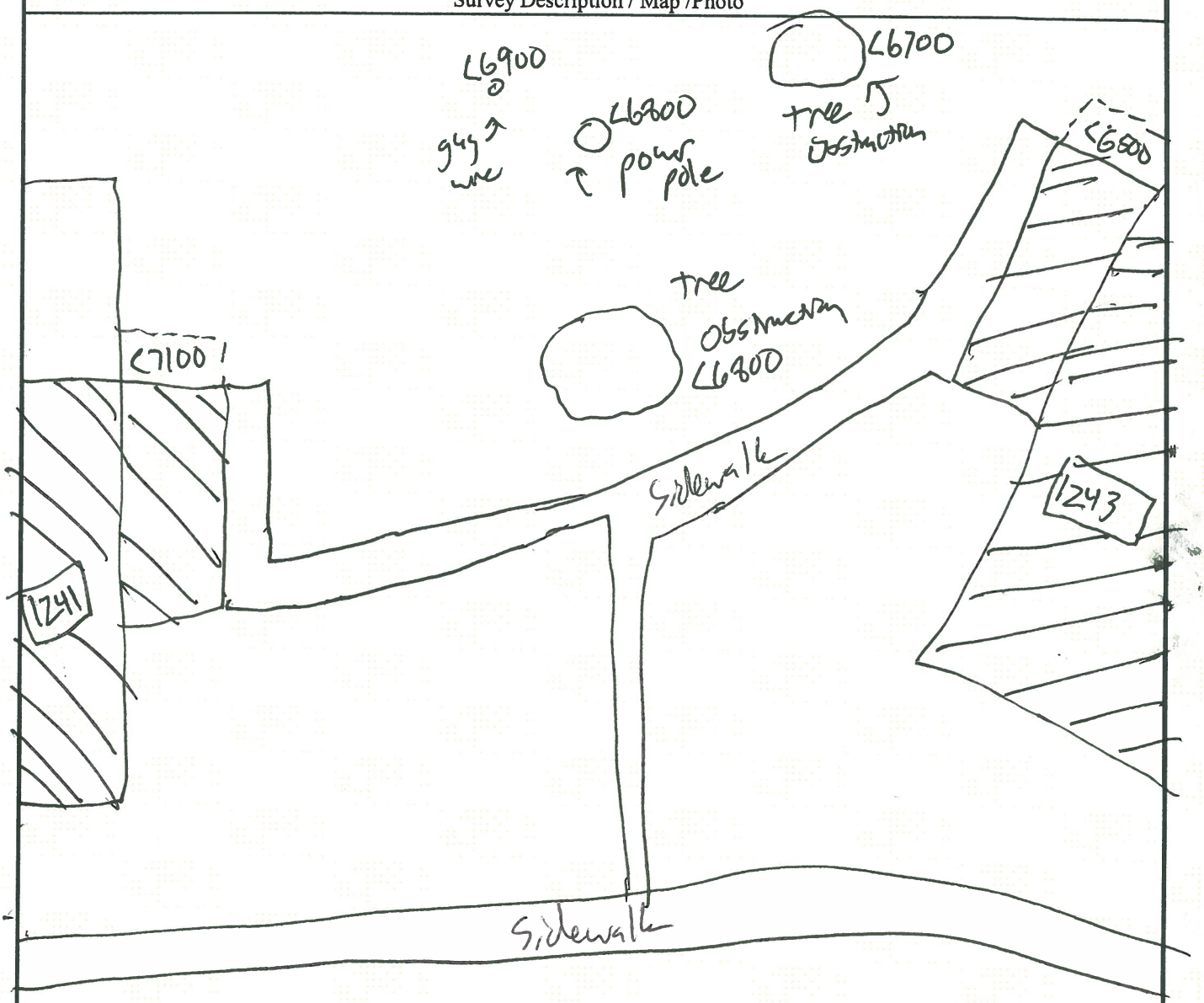
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-107	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

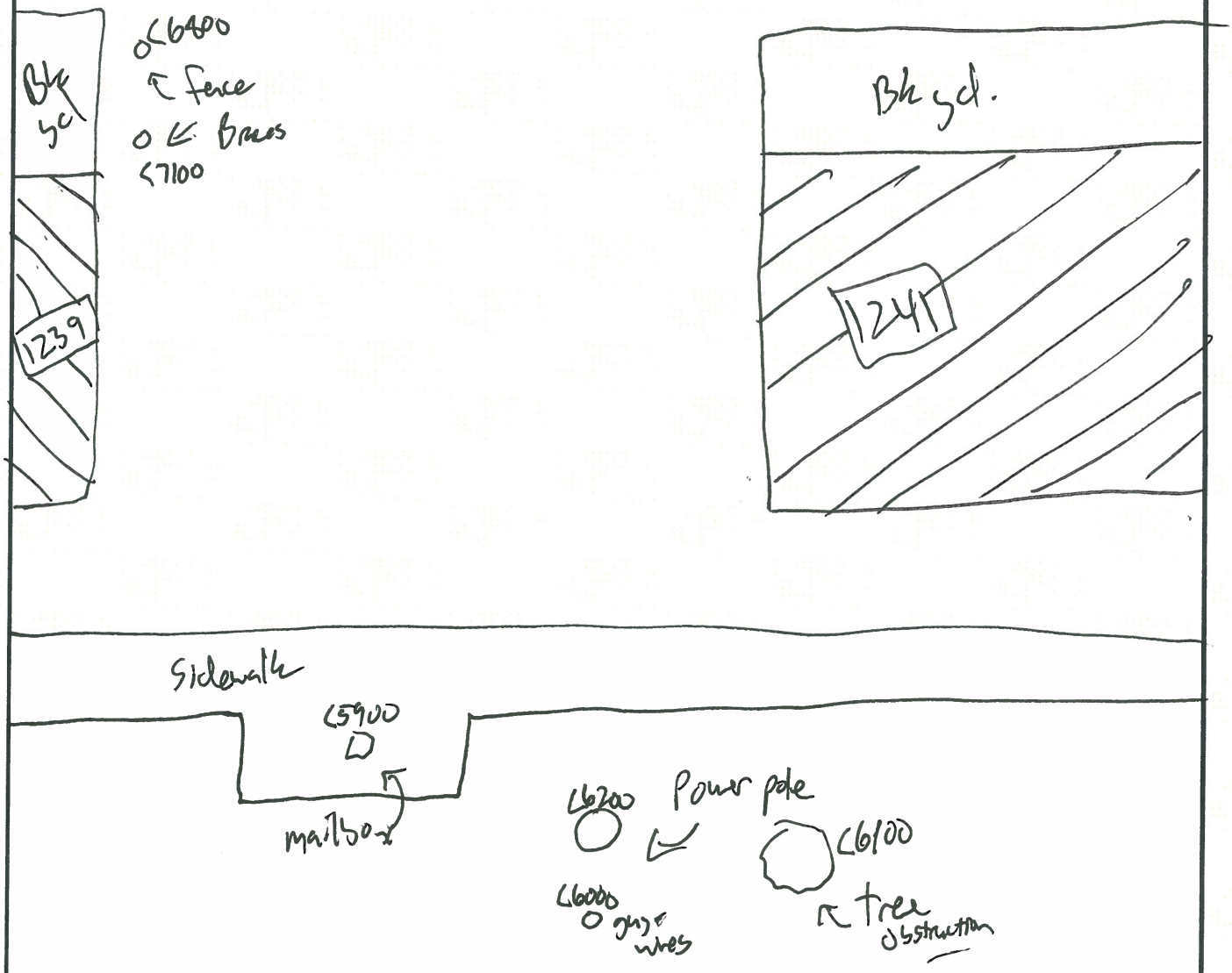
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-107	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

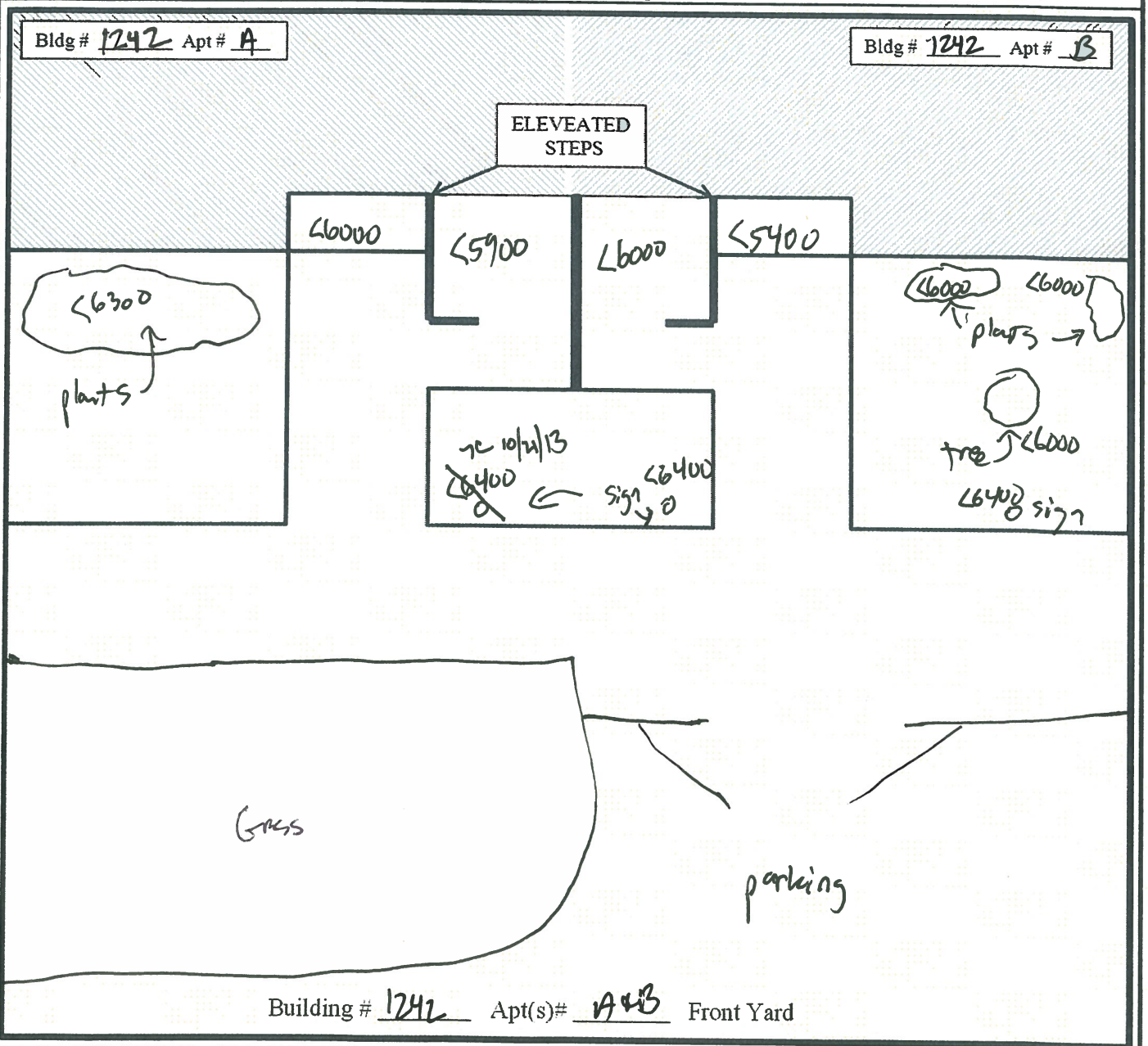
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-108	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	PR197165	7/27/14	N/A	N/A	6112	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1242 Apt(s)# A&B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Background taken between buildings 1240 and 1242 as documented on 1240's survey.

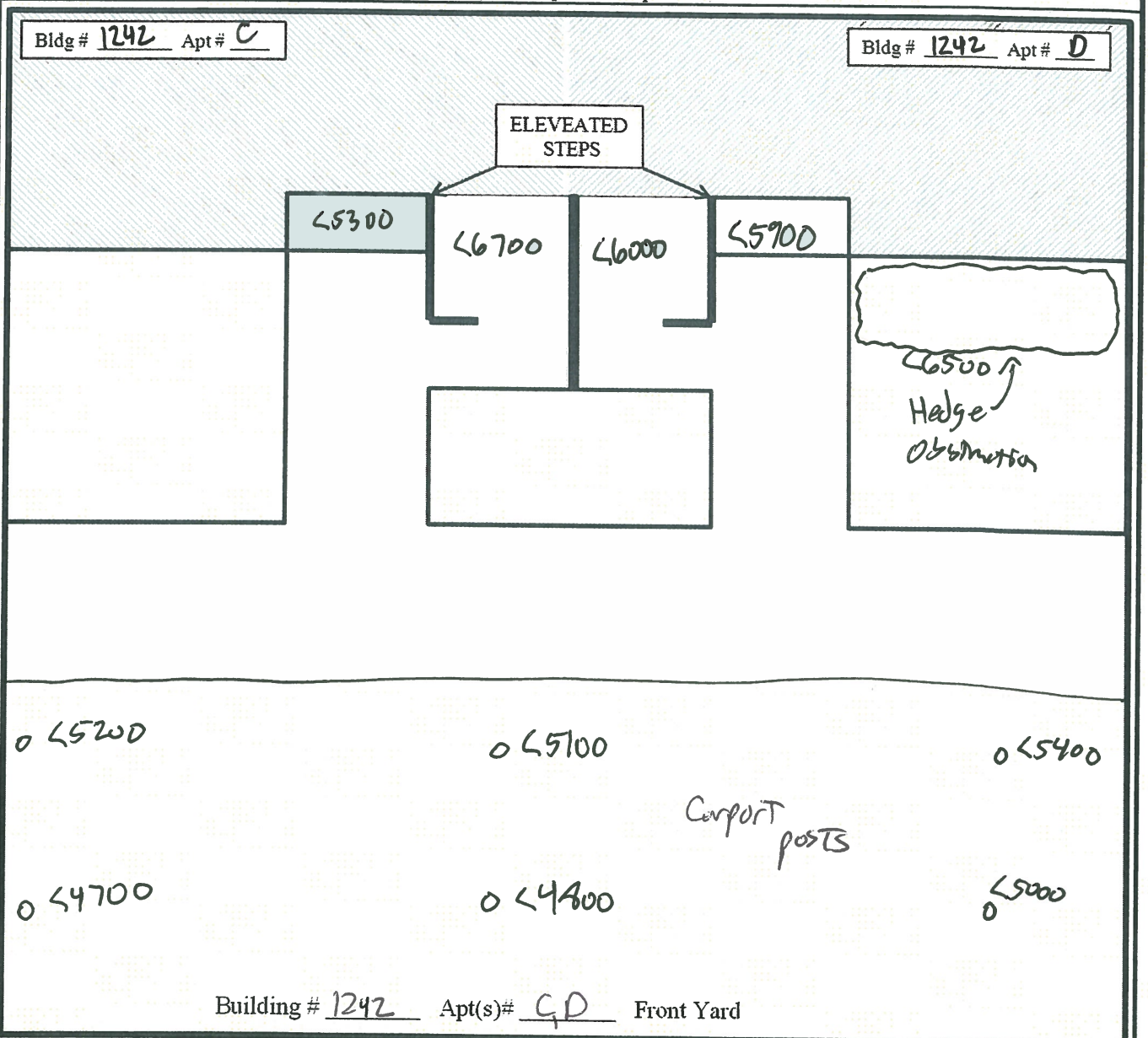
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-108	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1242 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

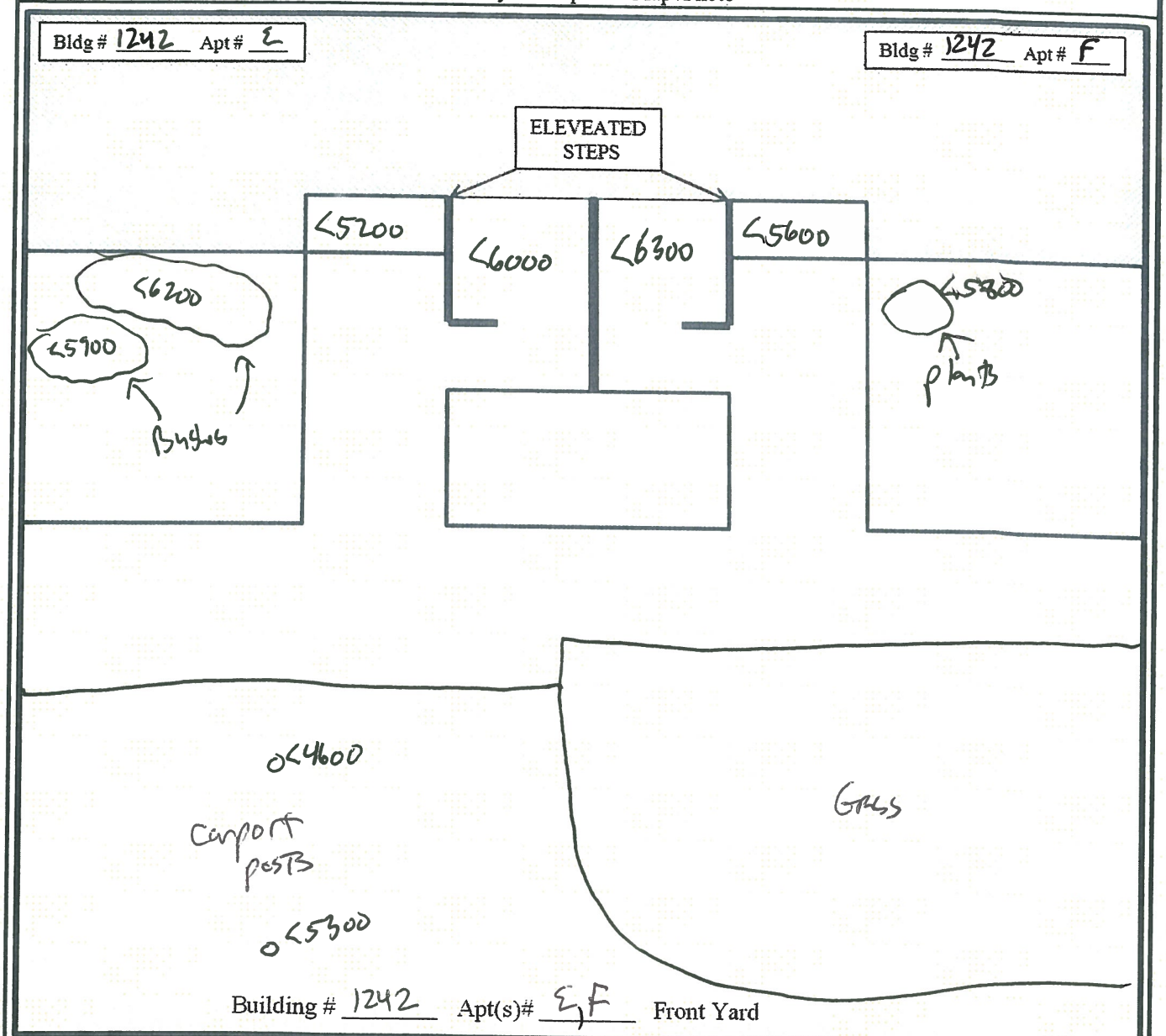
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-108	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1242 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

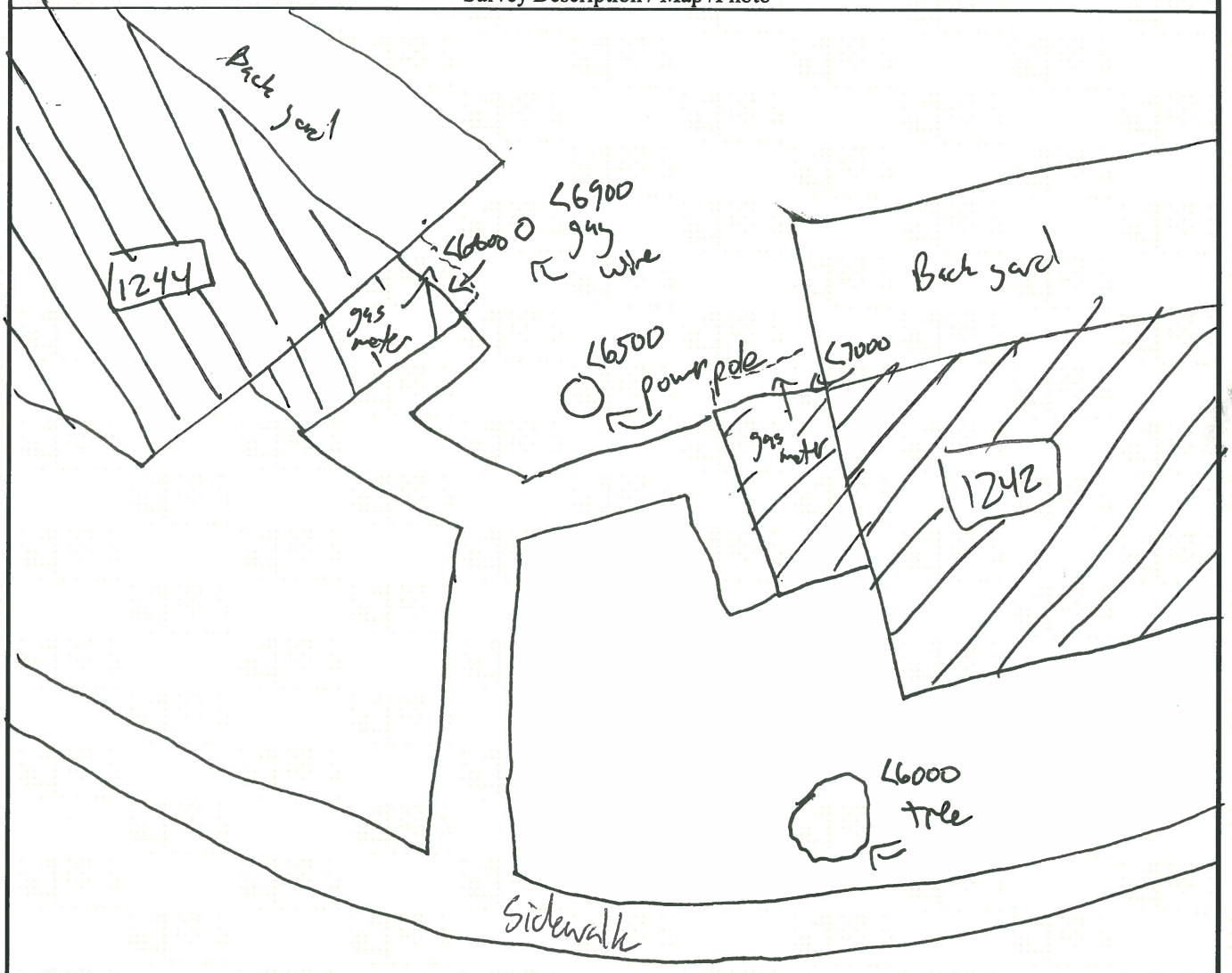
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-108	Date: 10·21·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

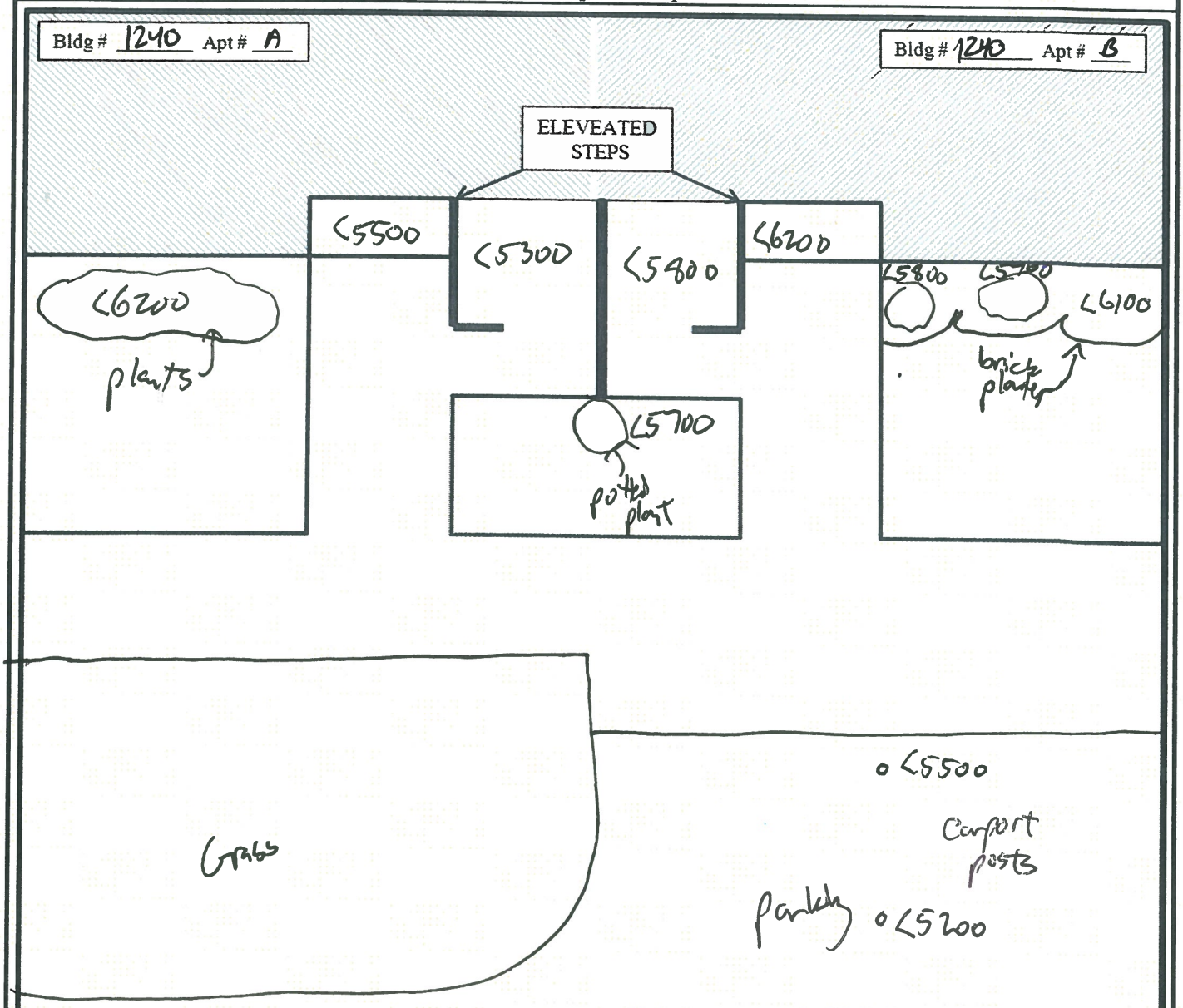
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-109	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	6112	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1240 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

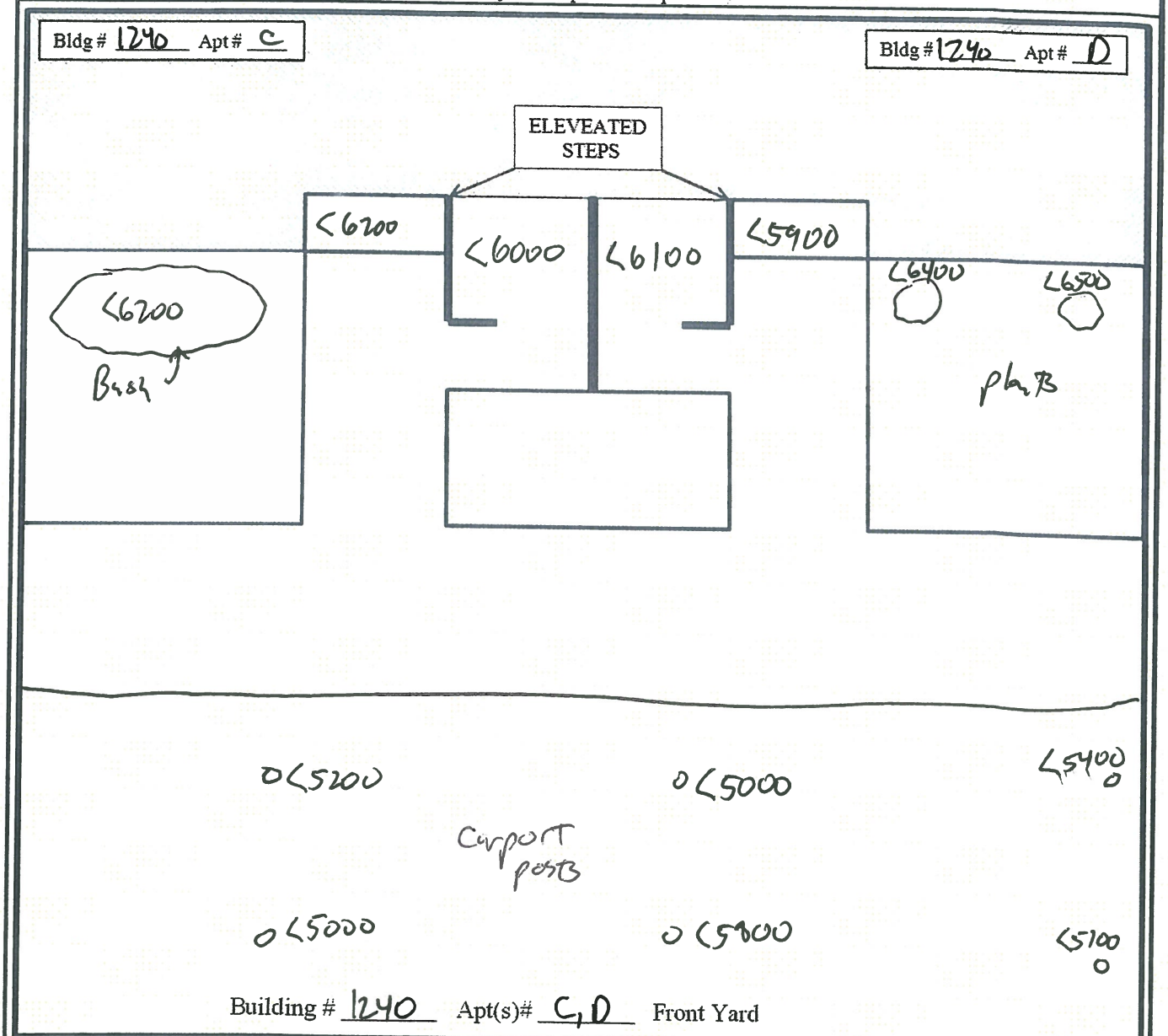
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-109	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1240 Apt(s)# C, D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

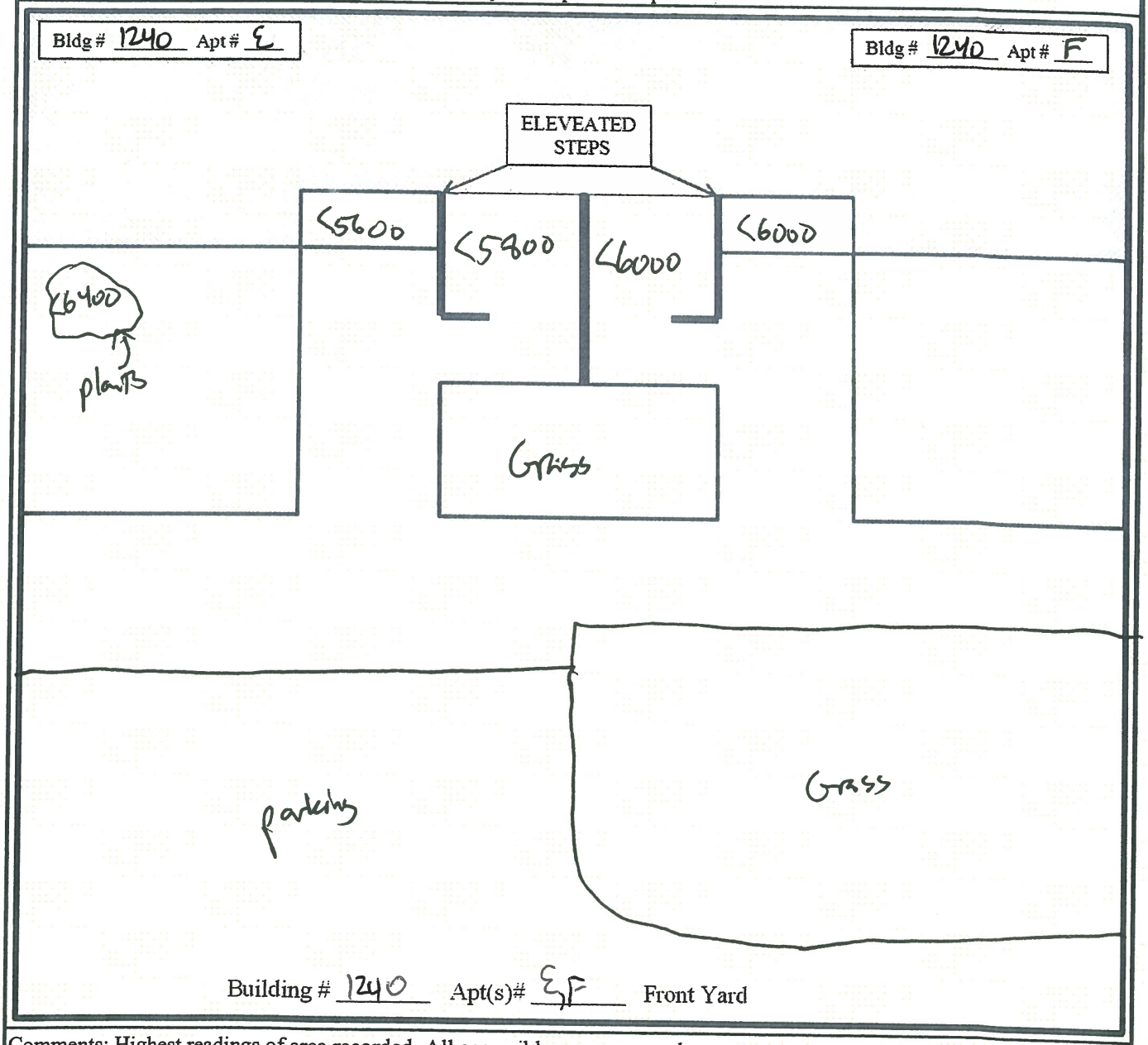
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-109	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1240 Apt(s)# E,F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

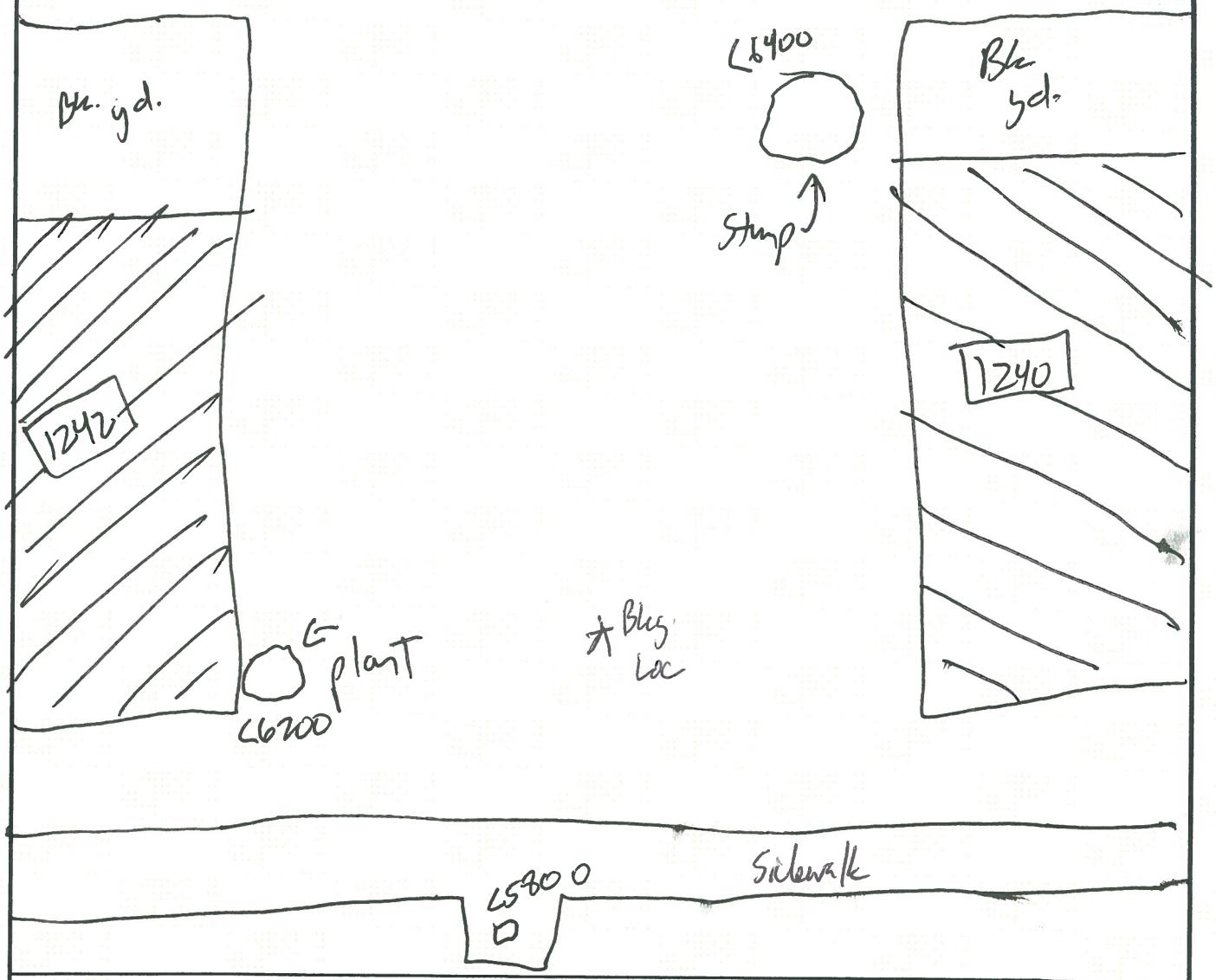
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-109	Date: 10-21-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

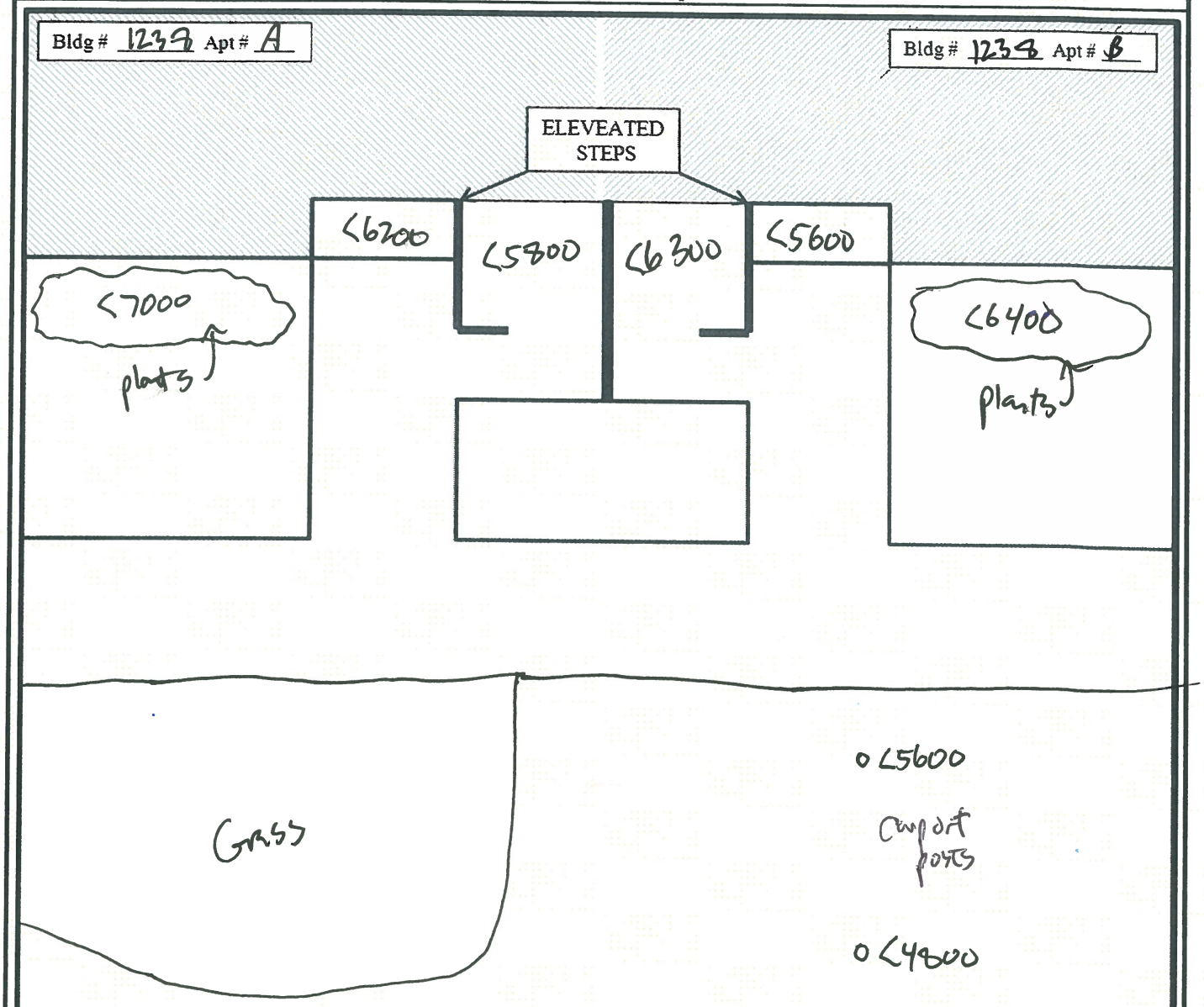
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-110	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	6190	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1238 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

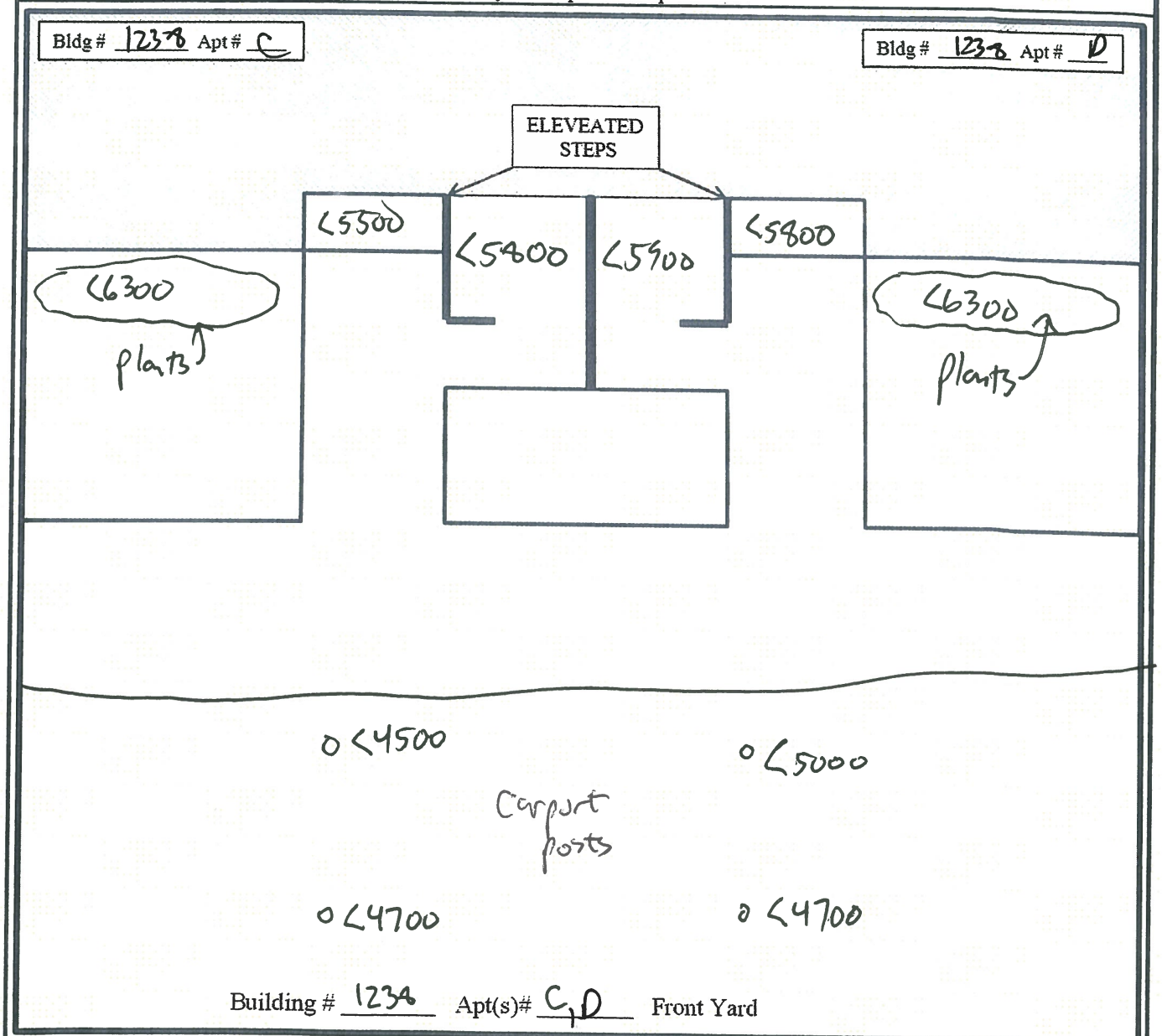
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-110	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1238 Apt(s)# C, D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

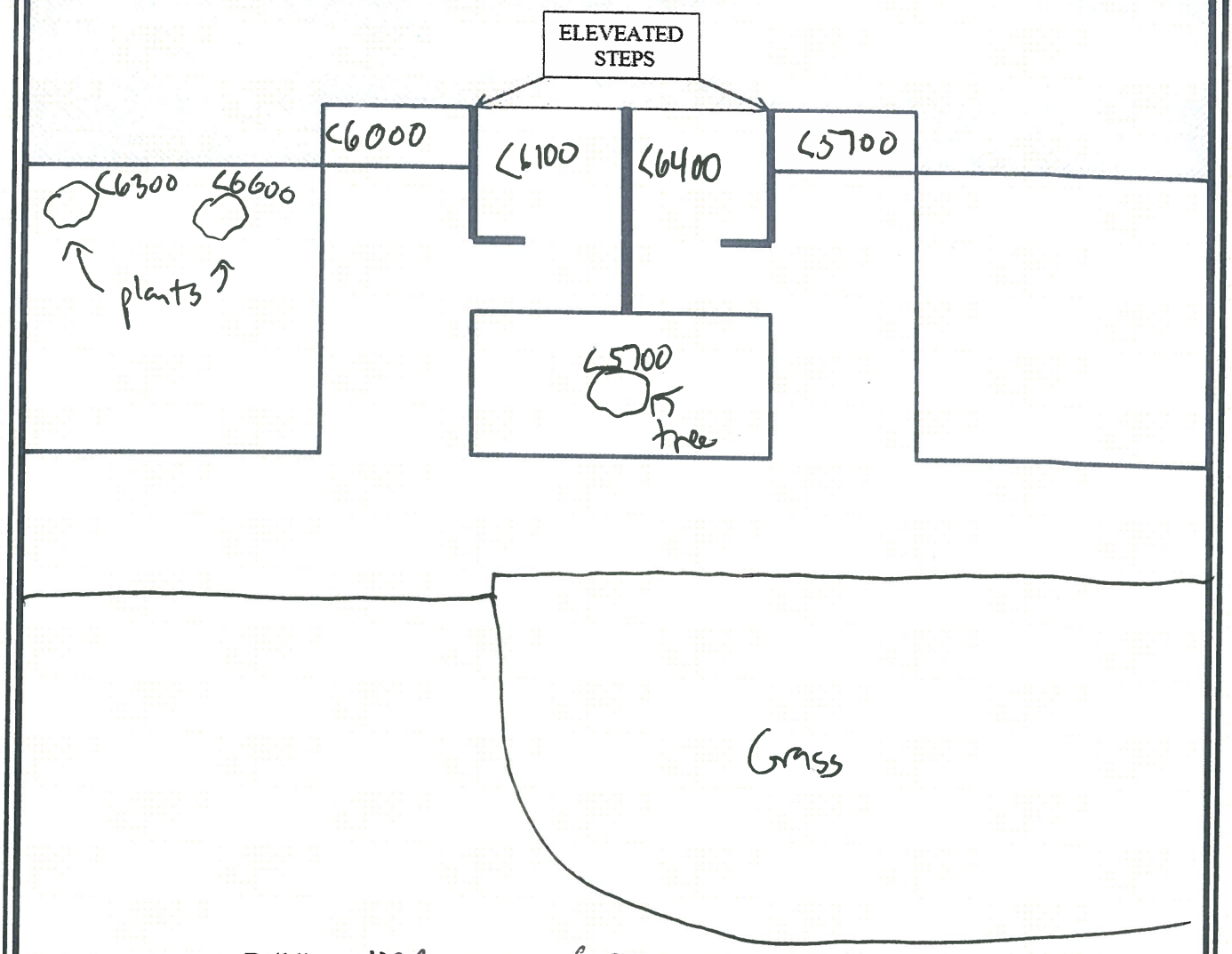
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-110	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Bldg # 123a Apt # E

Bldg # 123a Apt # F



Building # 123a Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

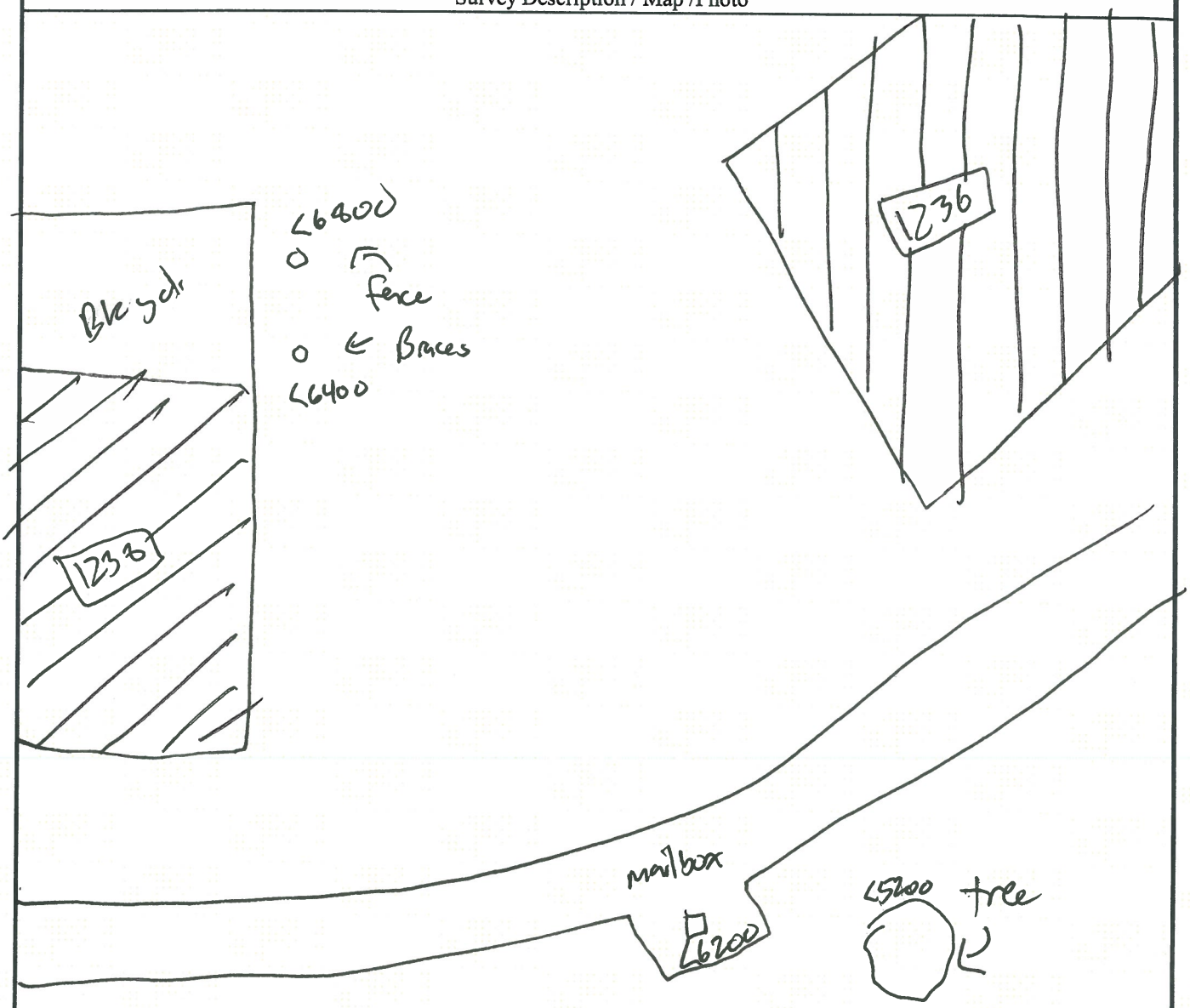
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 110	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

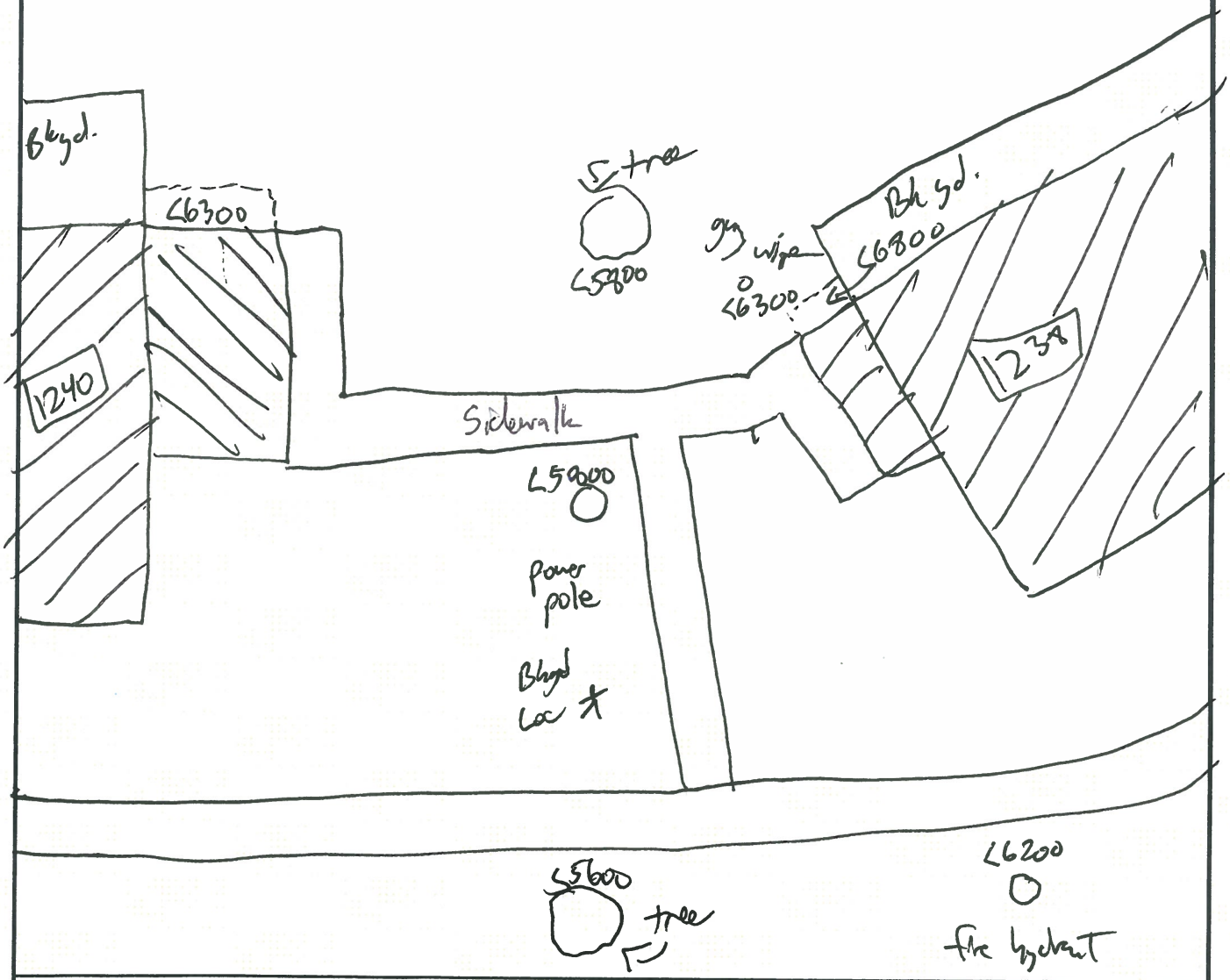
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 110	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

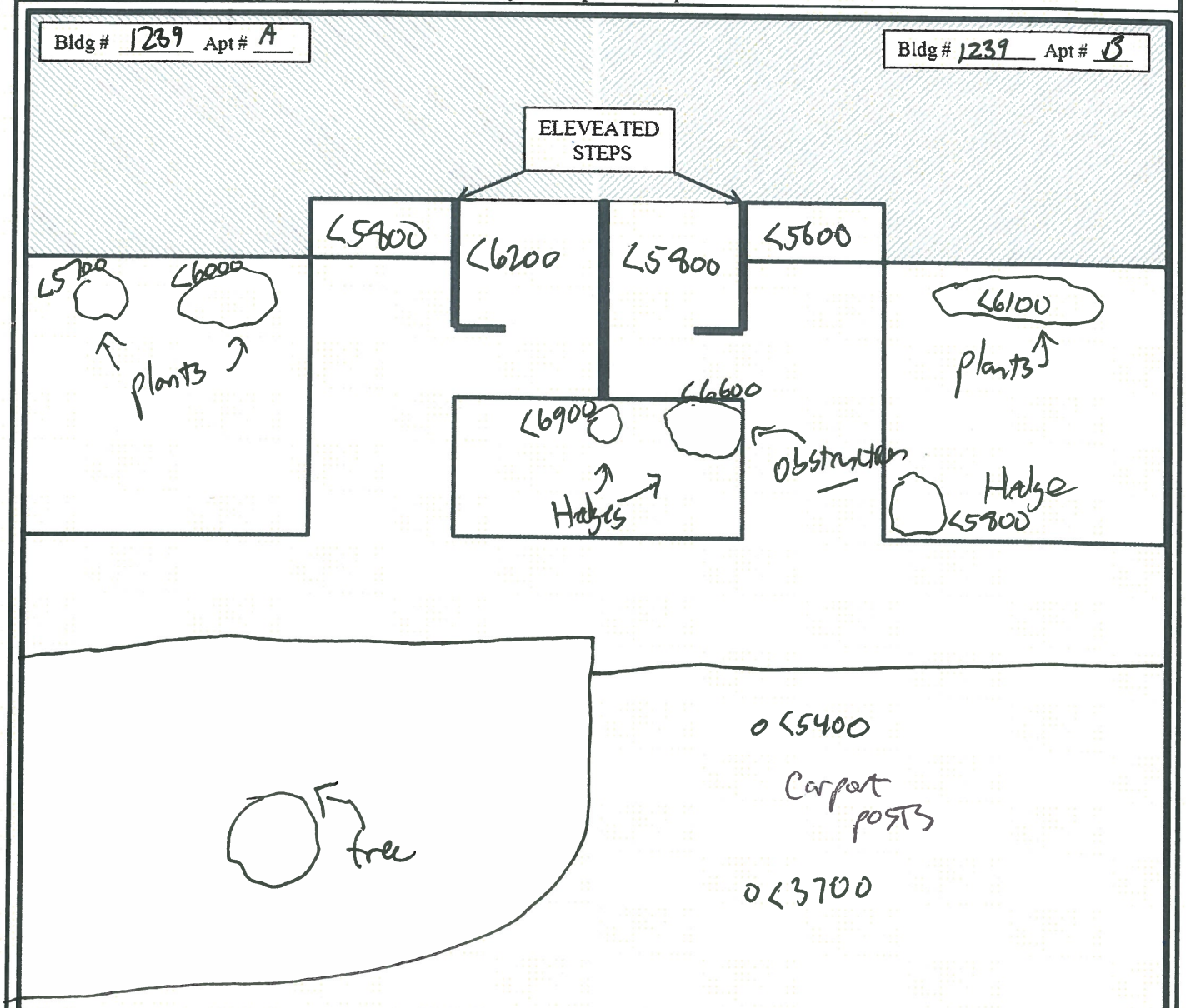
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-111	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	5789	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1239 Apt(s)# A, B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

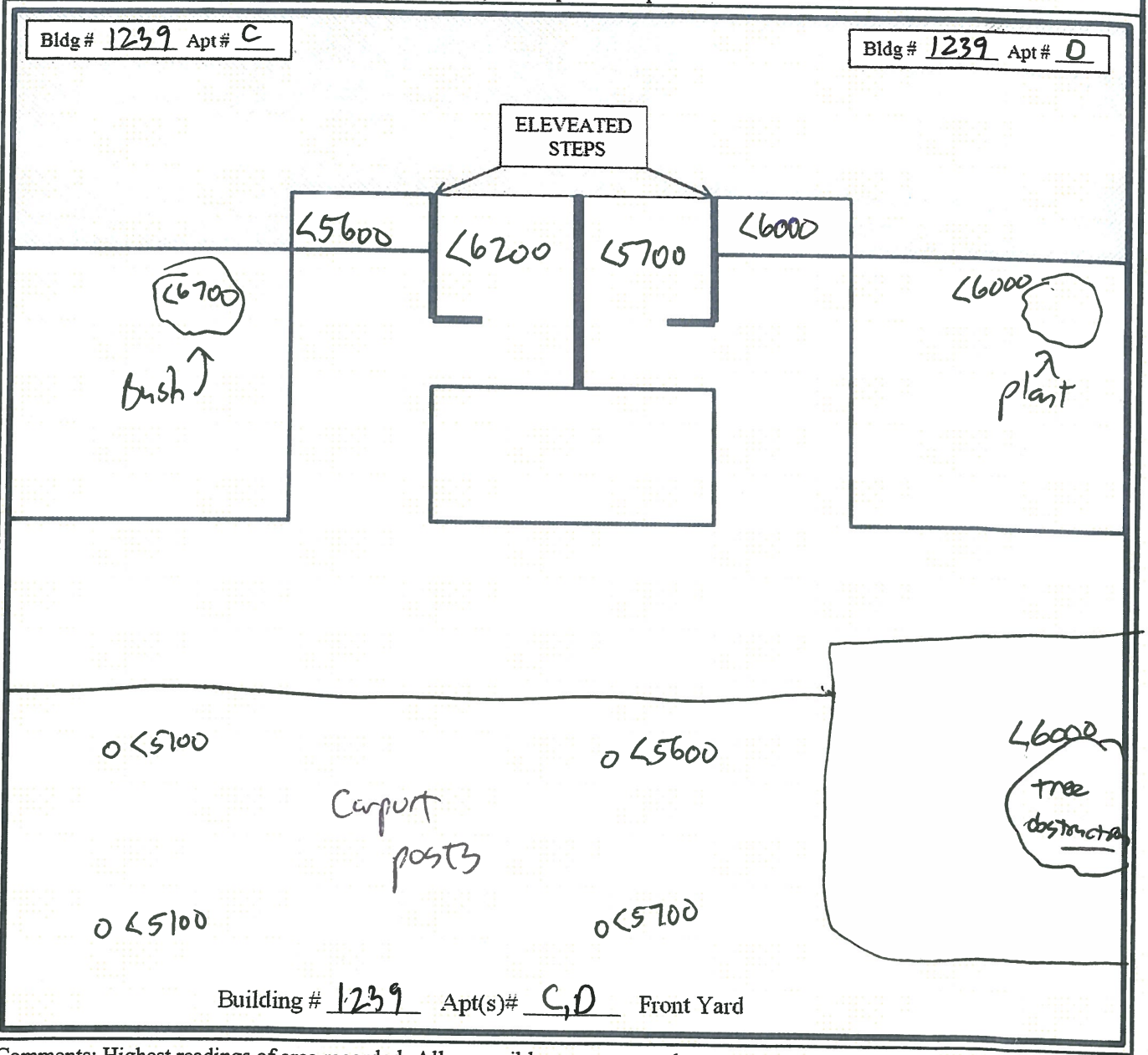
Background taken between buildings 1237 and 1239 as documented on 1237's Survey.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 111	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1239 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

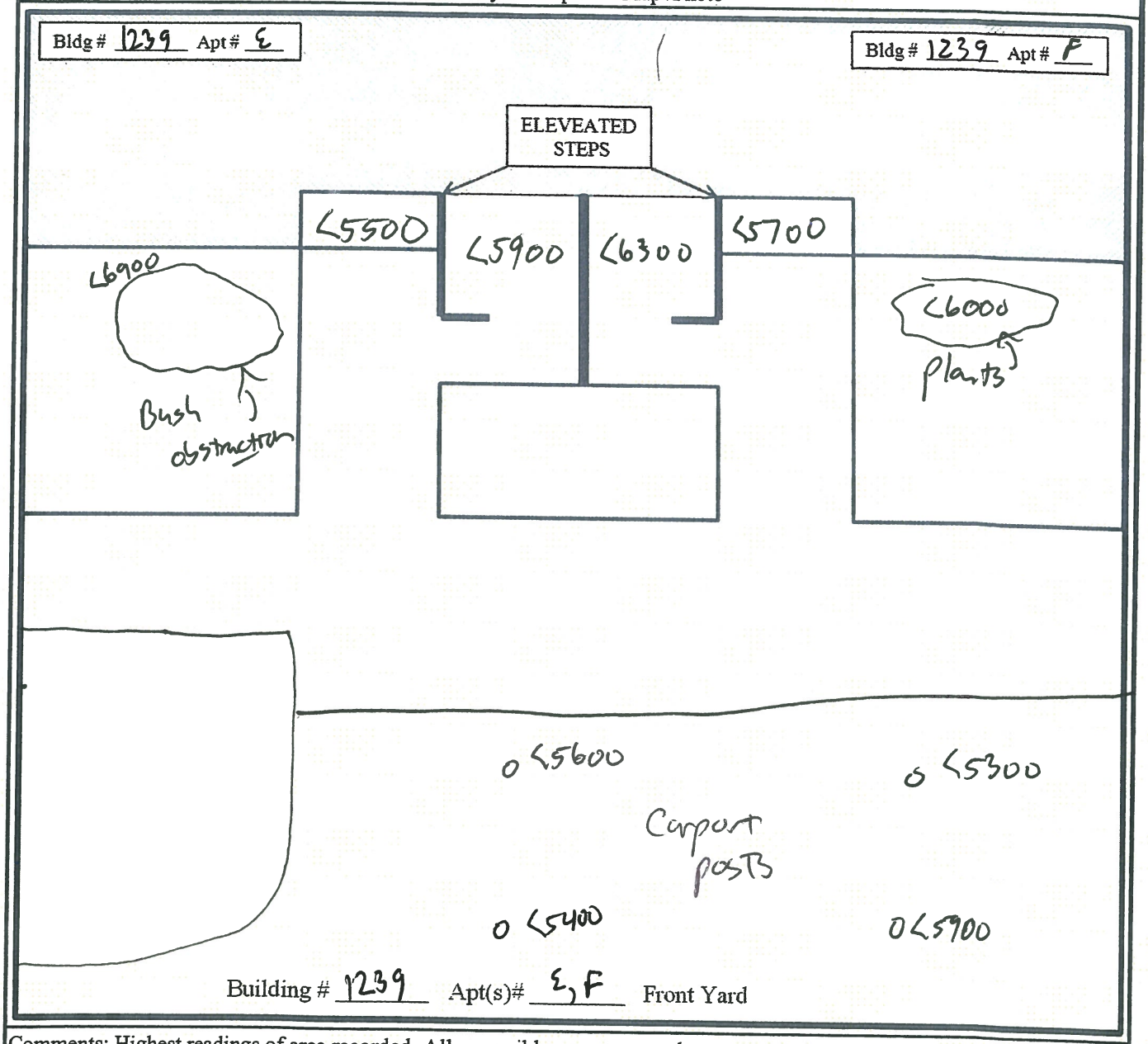
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 111	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1239 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

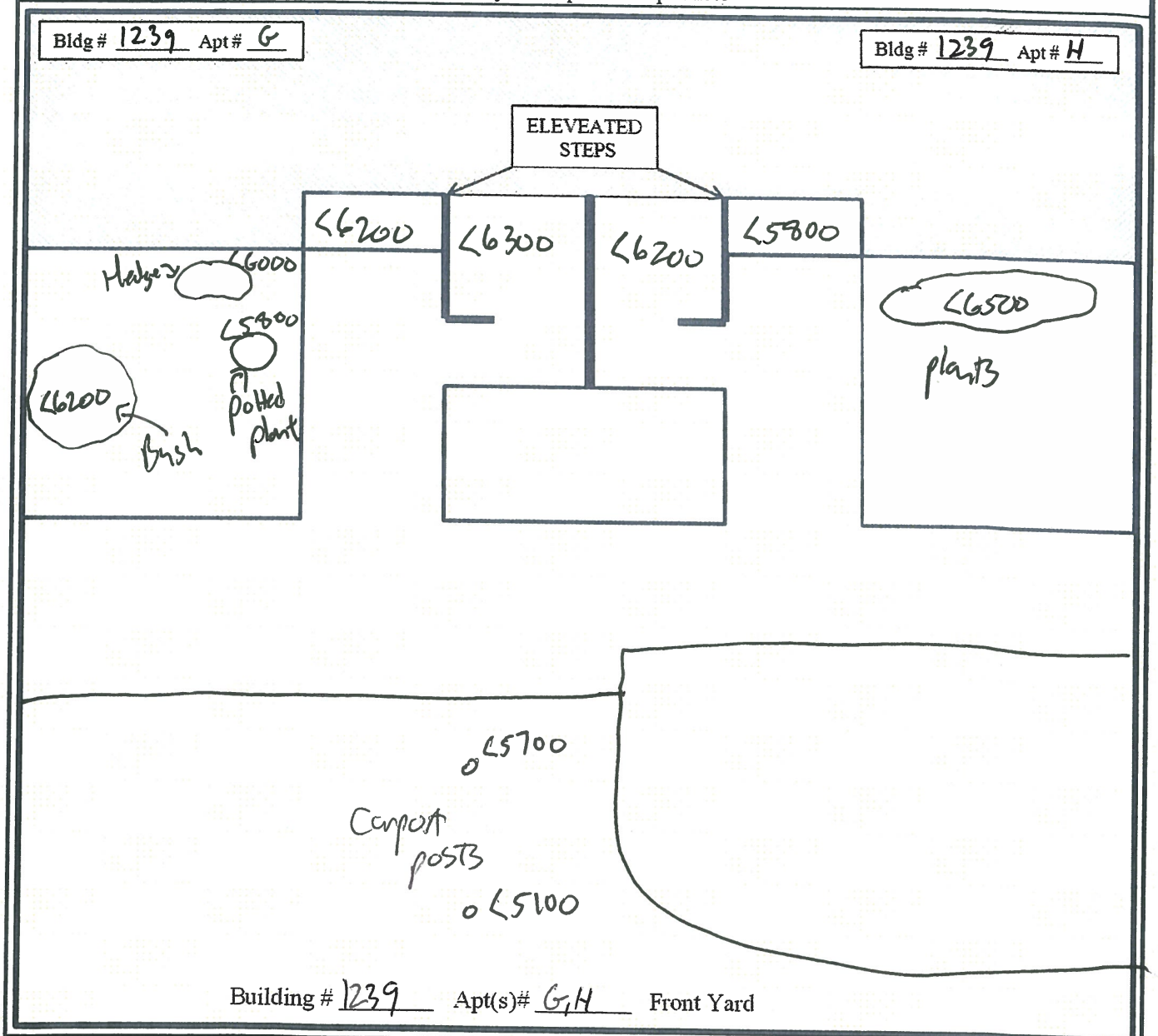
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 111	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1239 Apt(s)# G,H Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

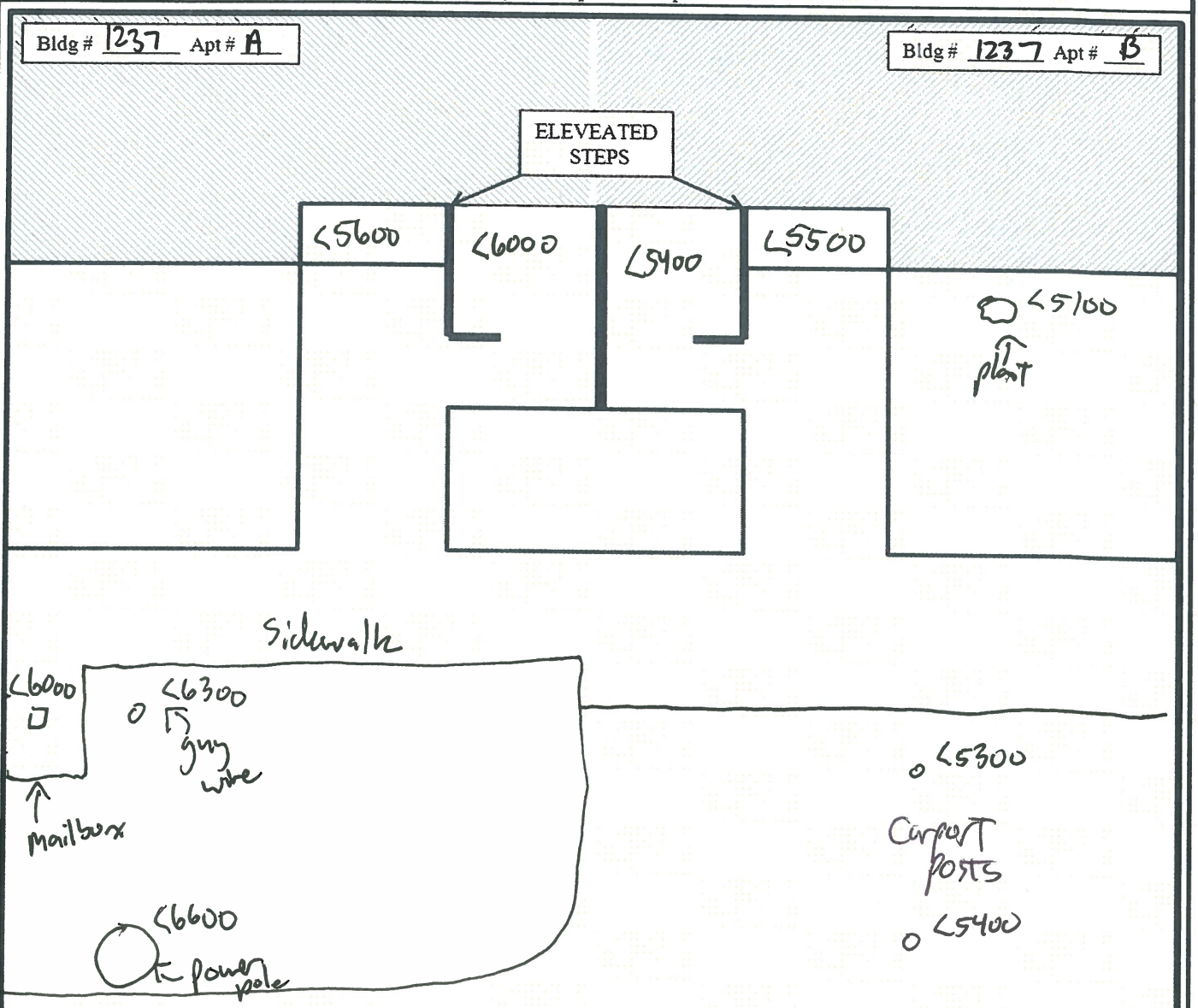
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-112	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	5789	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1237 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

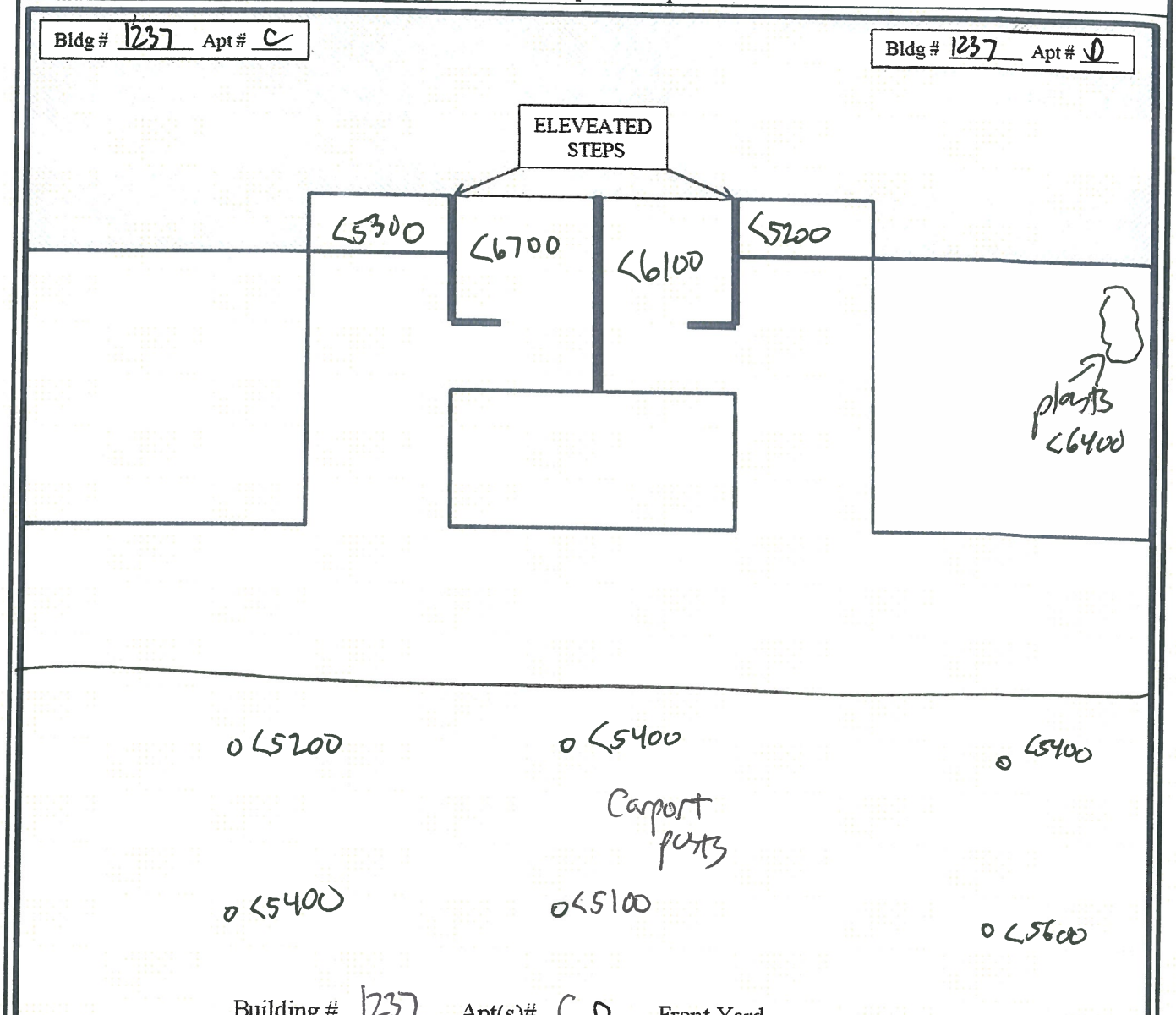
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-112	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

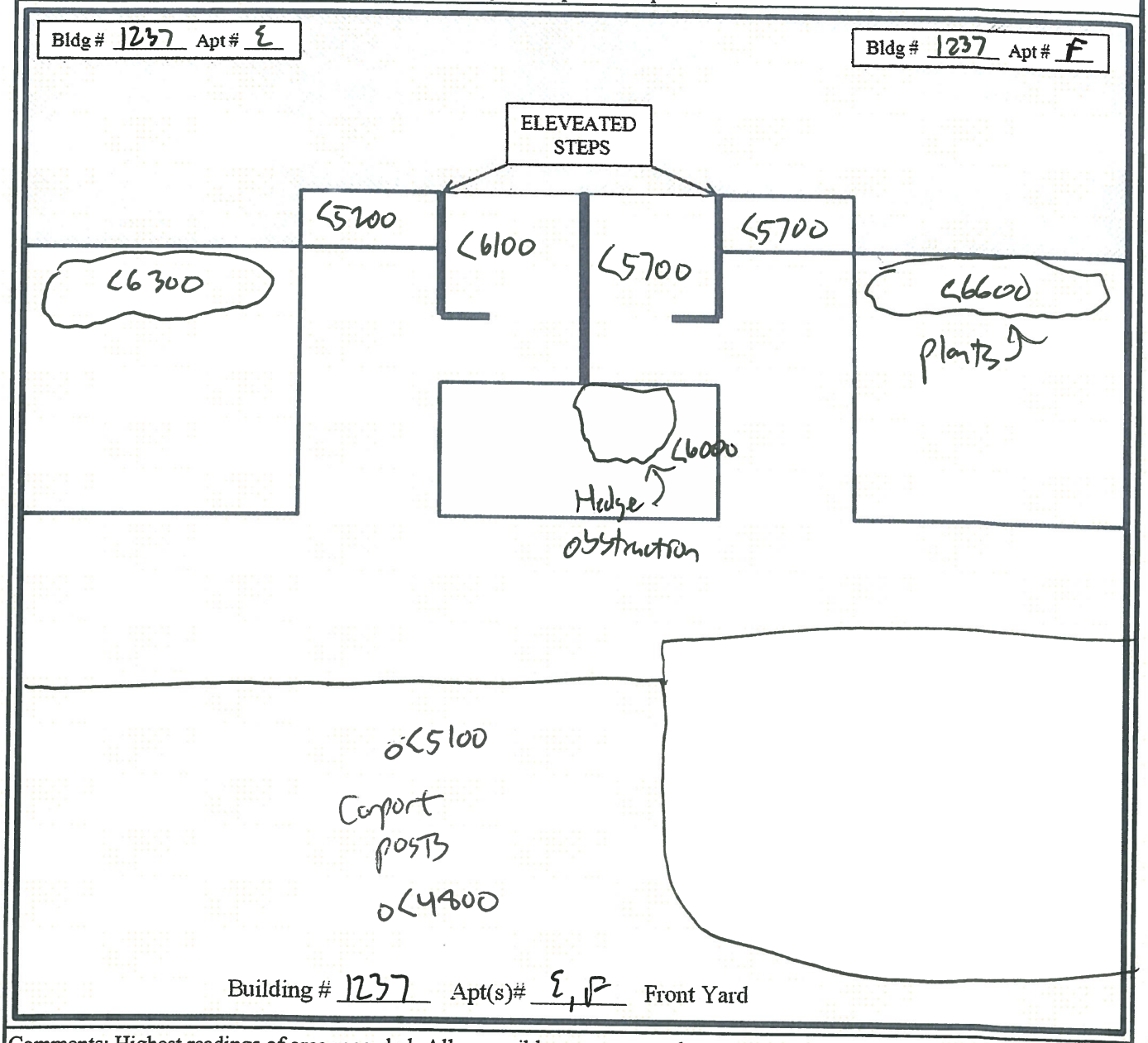
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-112	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1237 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

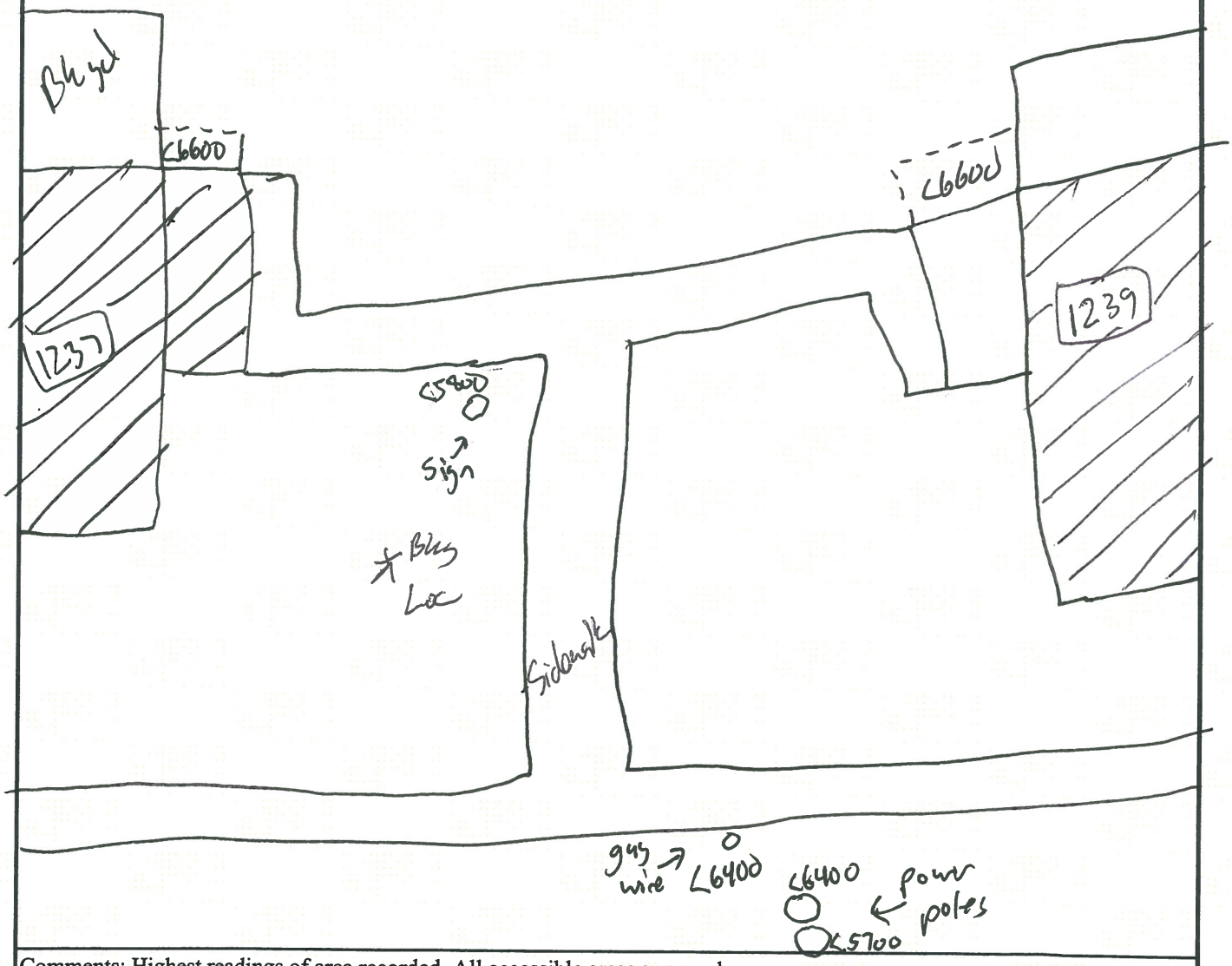
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 112	Date: 10/21/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

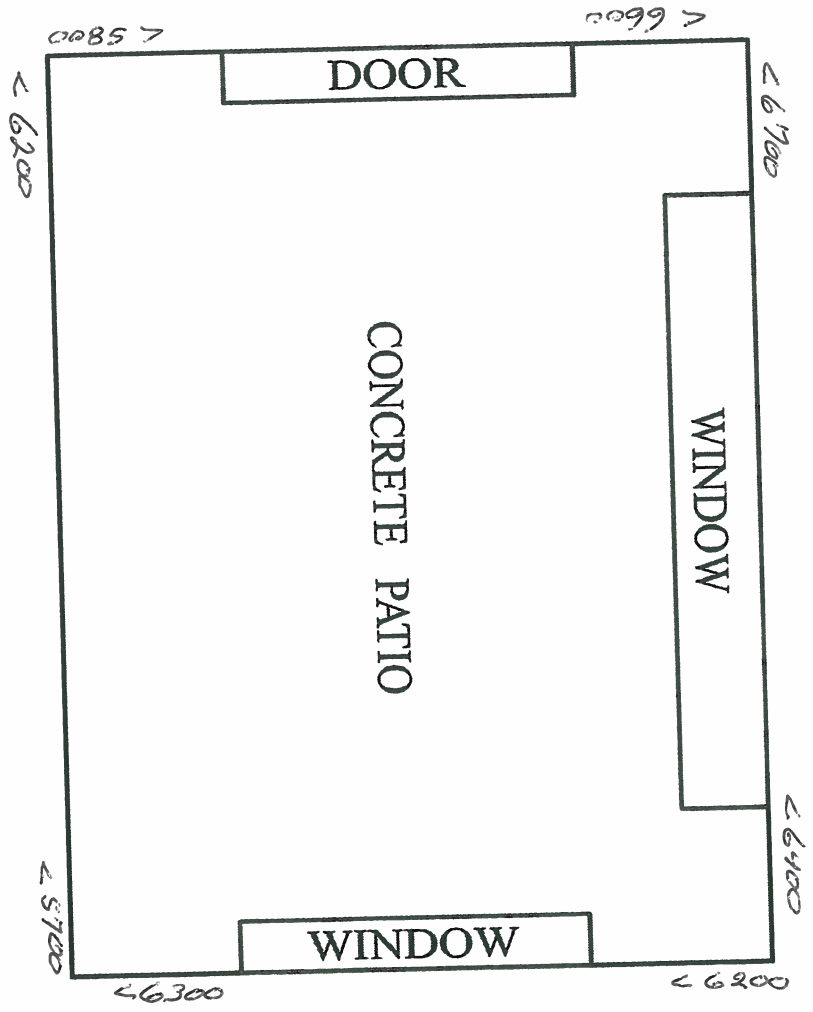
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-114	Date: 10-22-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6000	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1449 apartment " A " Backyard

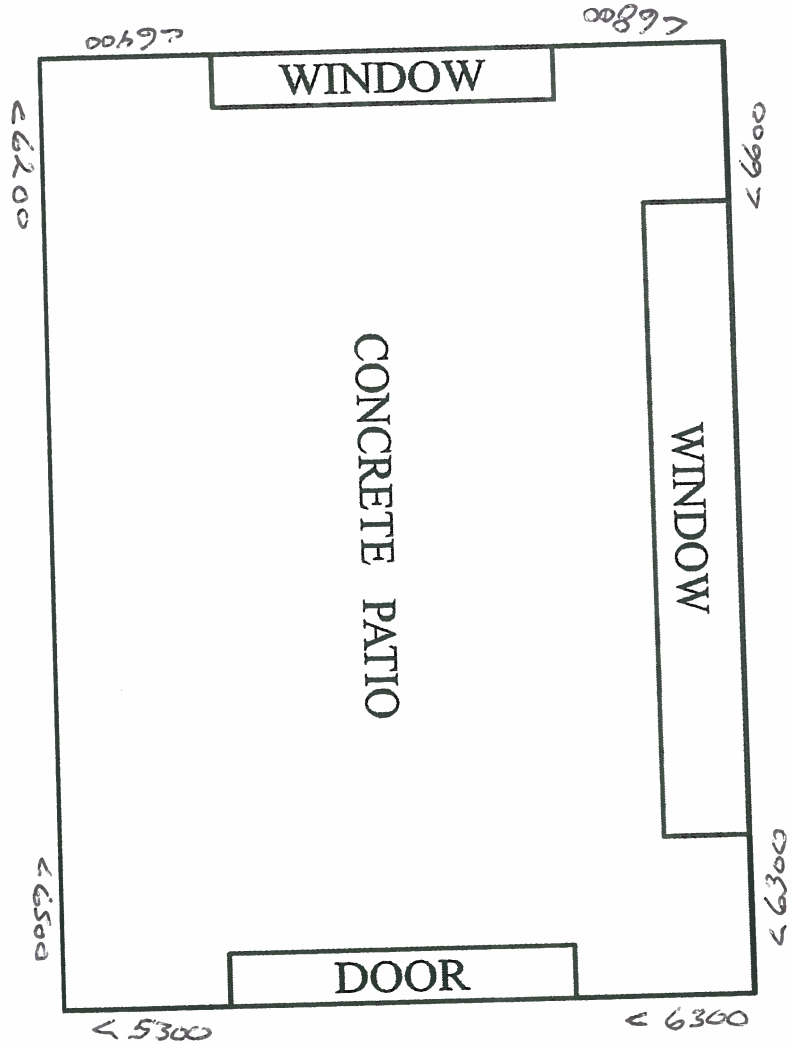
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-114	Date: 10-22-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1449 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

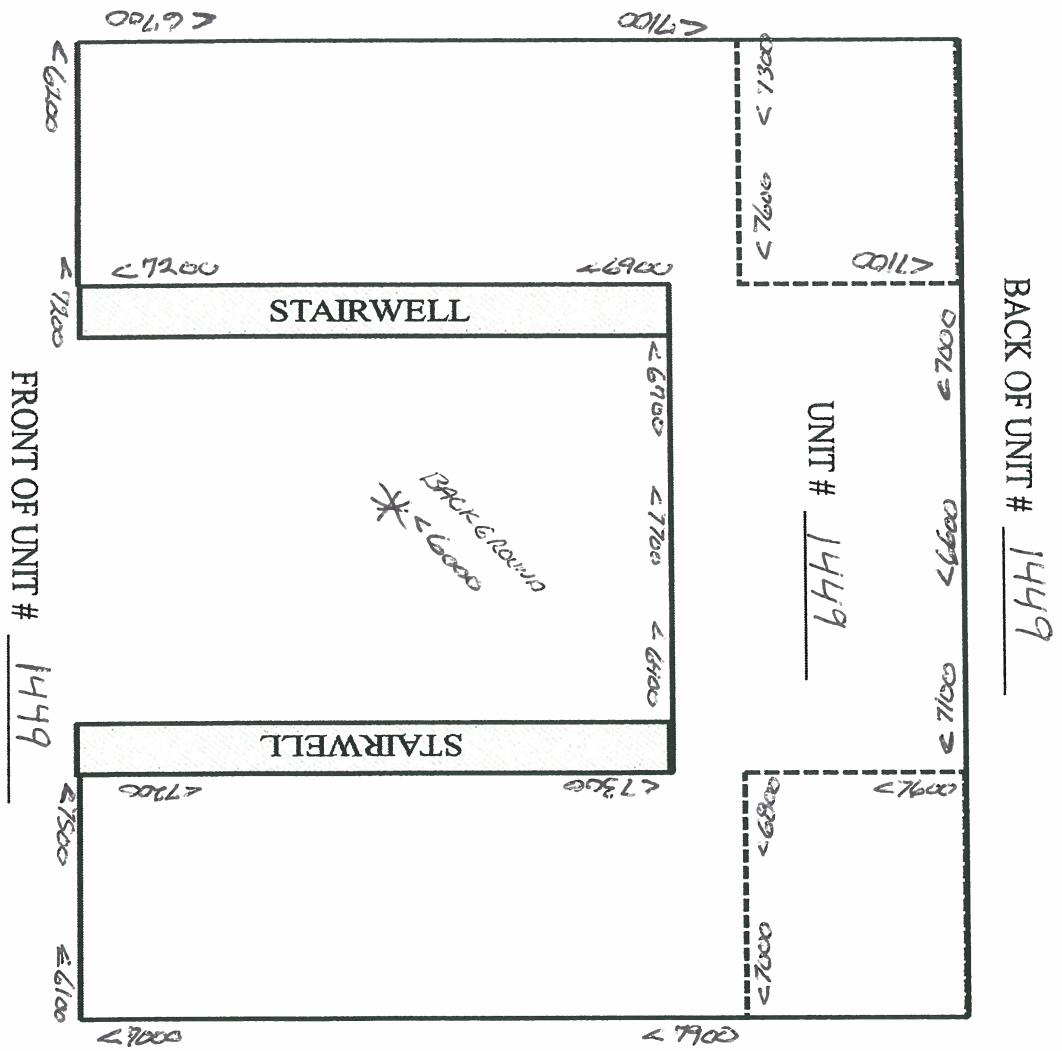
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-114	Date: 10.22.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1449 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

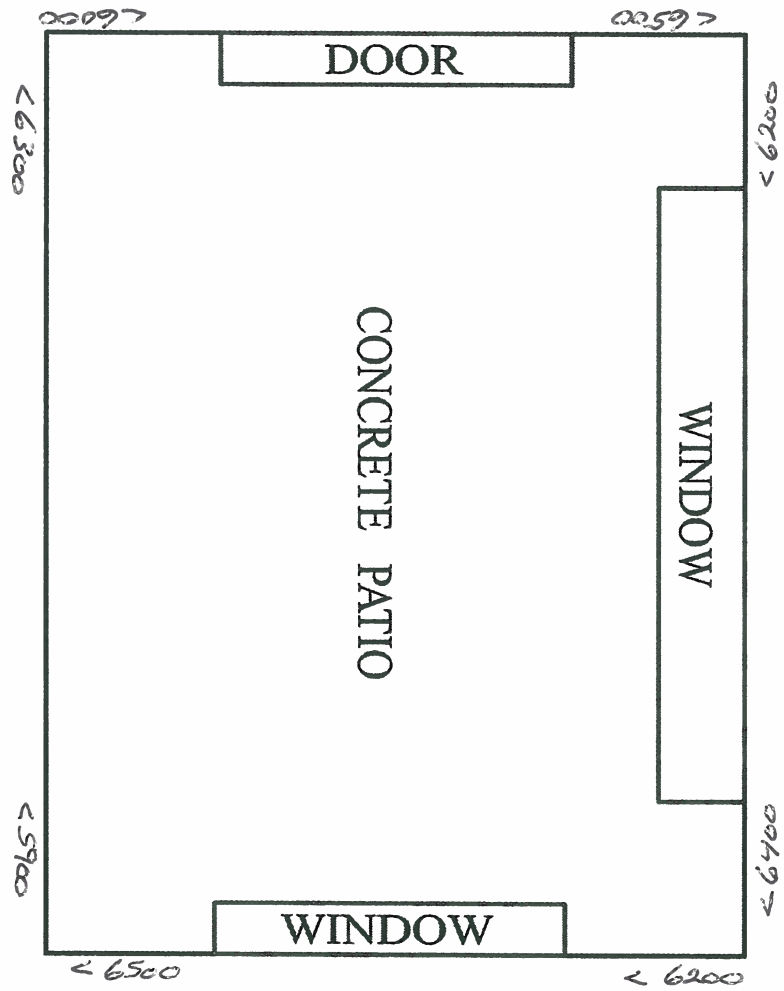
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-115	Date: 10.22-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N/A	N/A	6112	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1436 apartment " A " Backyard

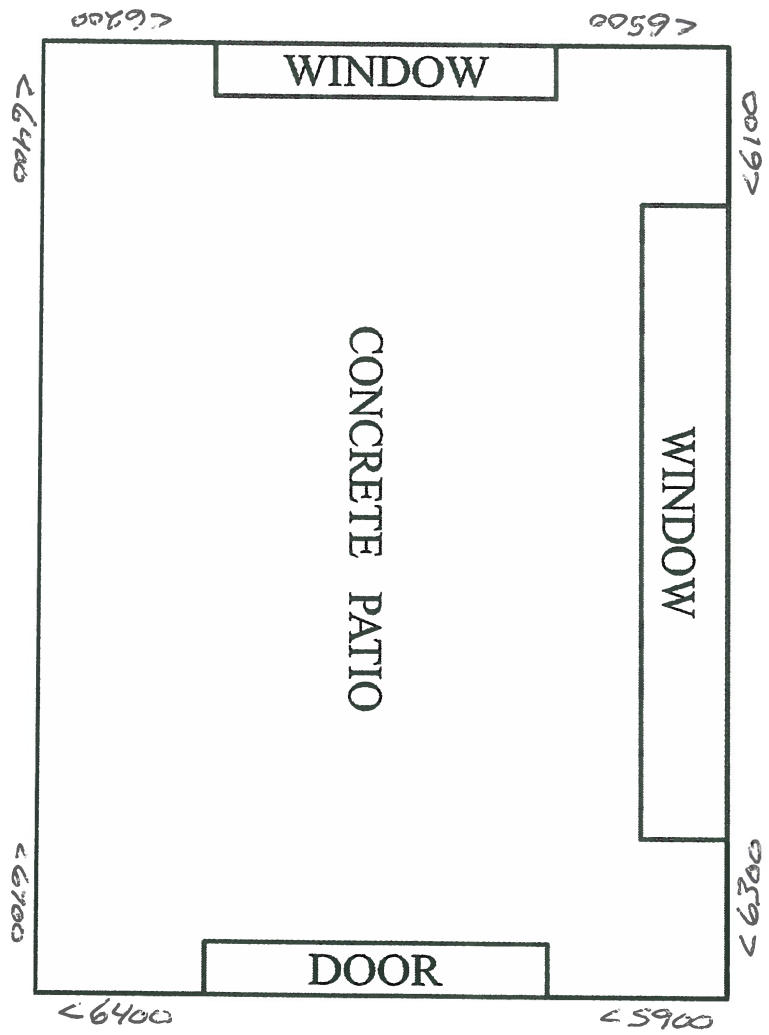
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-115	Date: 10-22-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1436 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

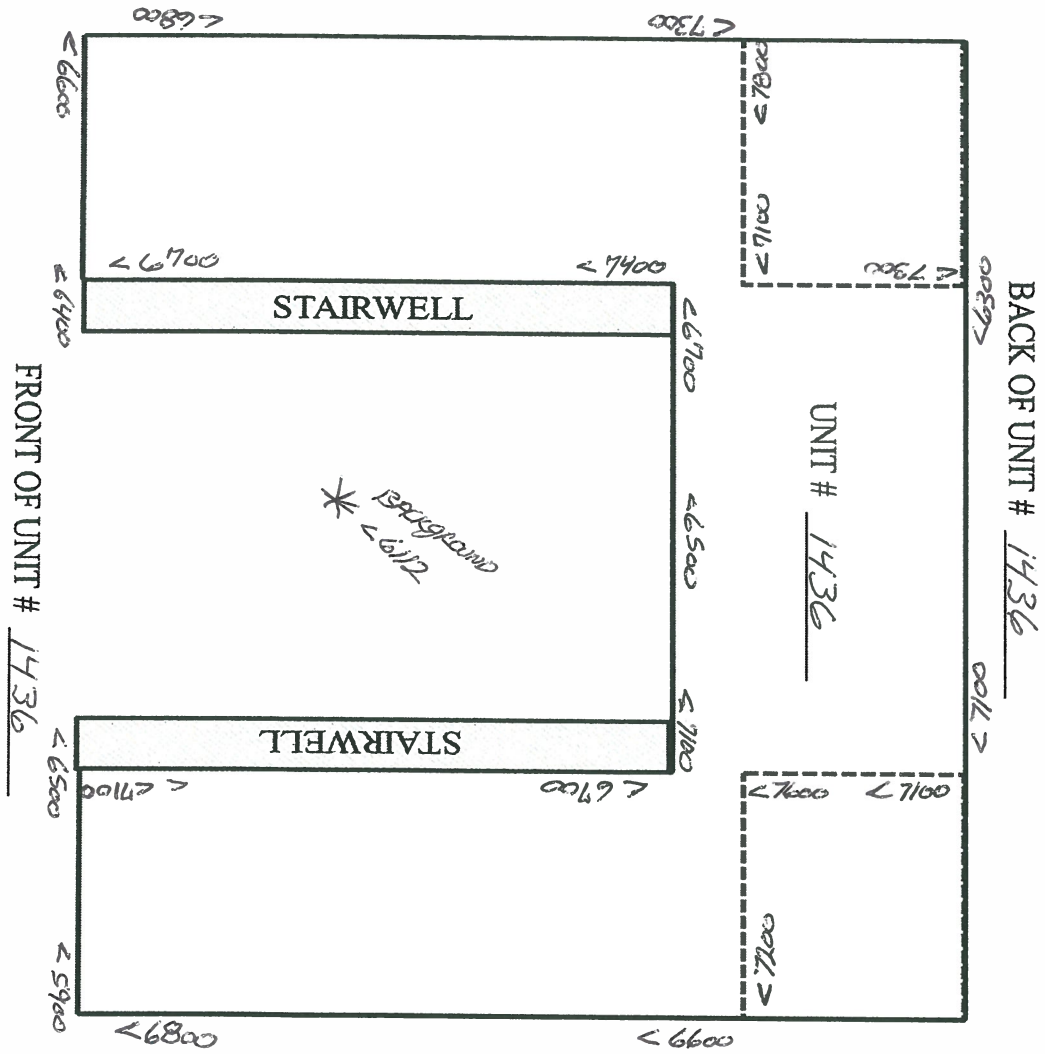
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-115	Date: 10.22.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1436 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

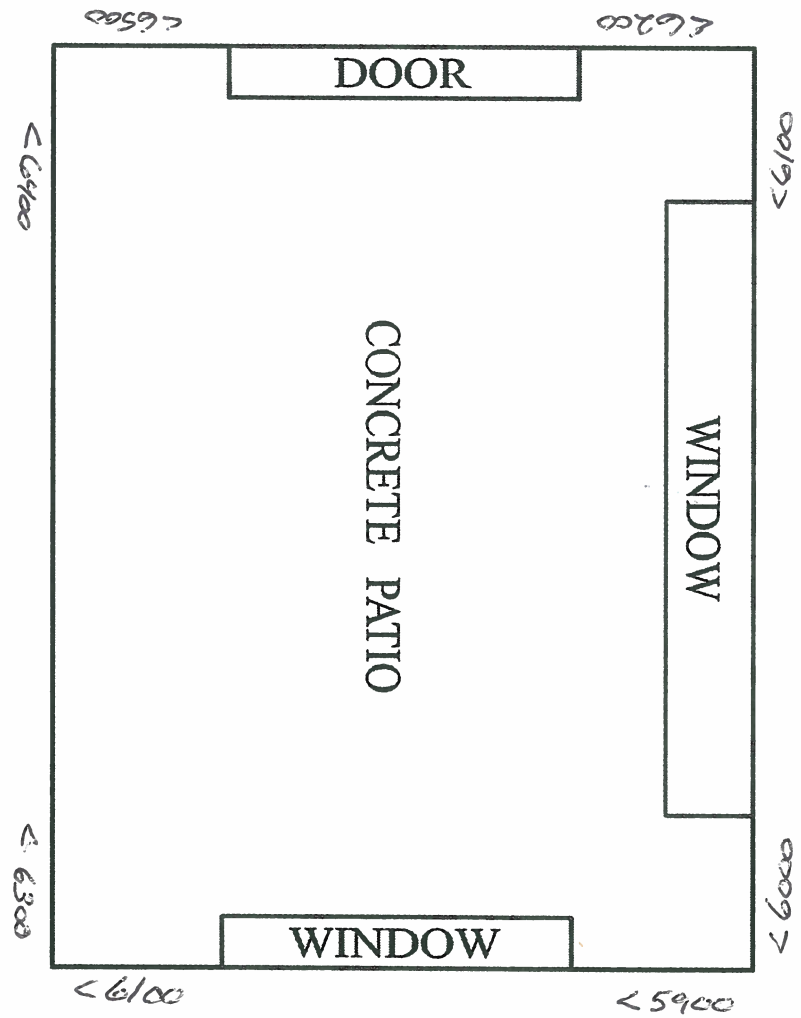
CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 116	Date: 10.22.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
2221	127231	27 JULY 14	44-10	19765	27 JULY 14	N / A	N / A	6291	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1431 apartment " A " Backyard

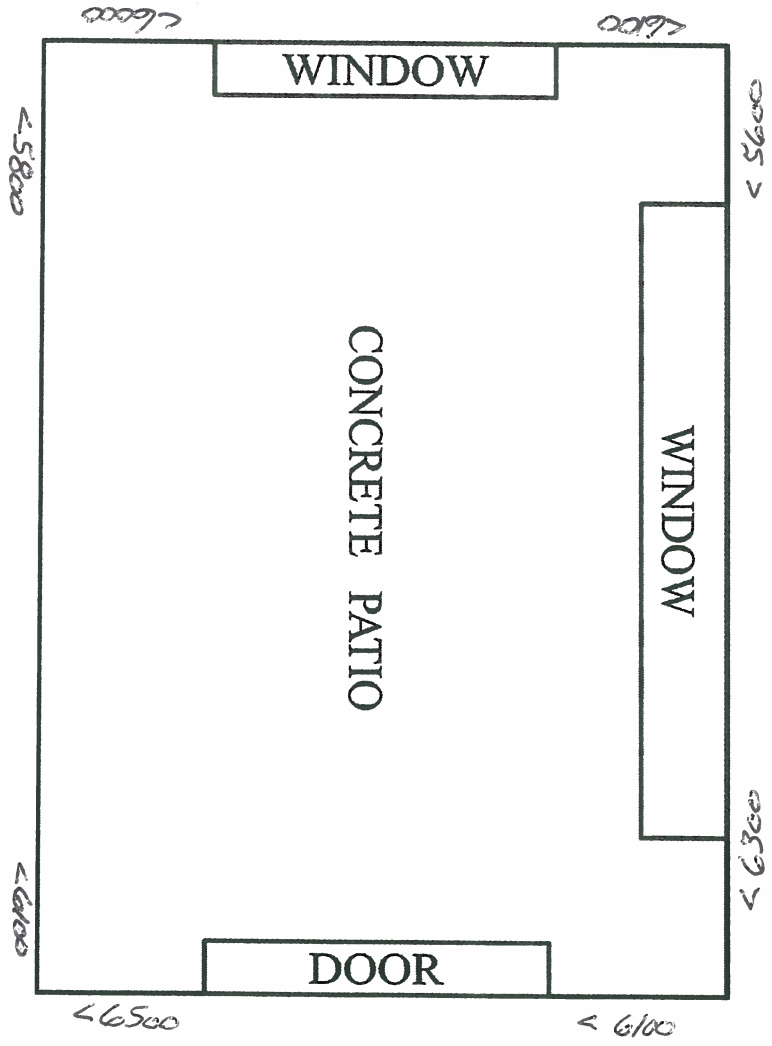
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-116	Date: 10.22.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1431 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

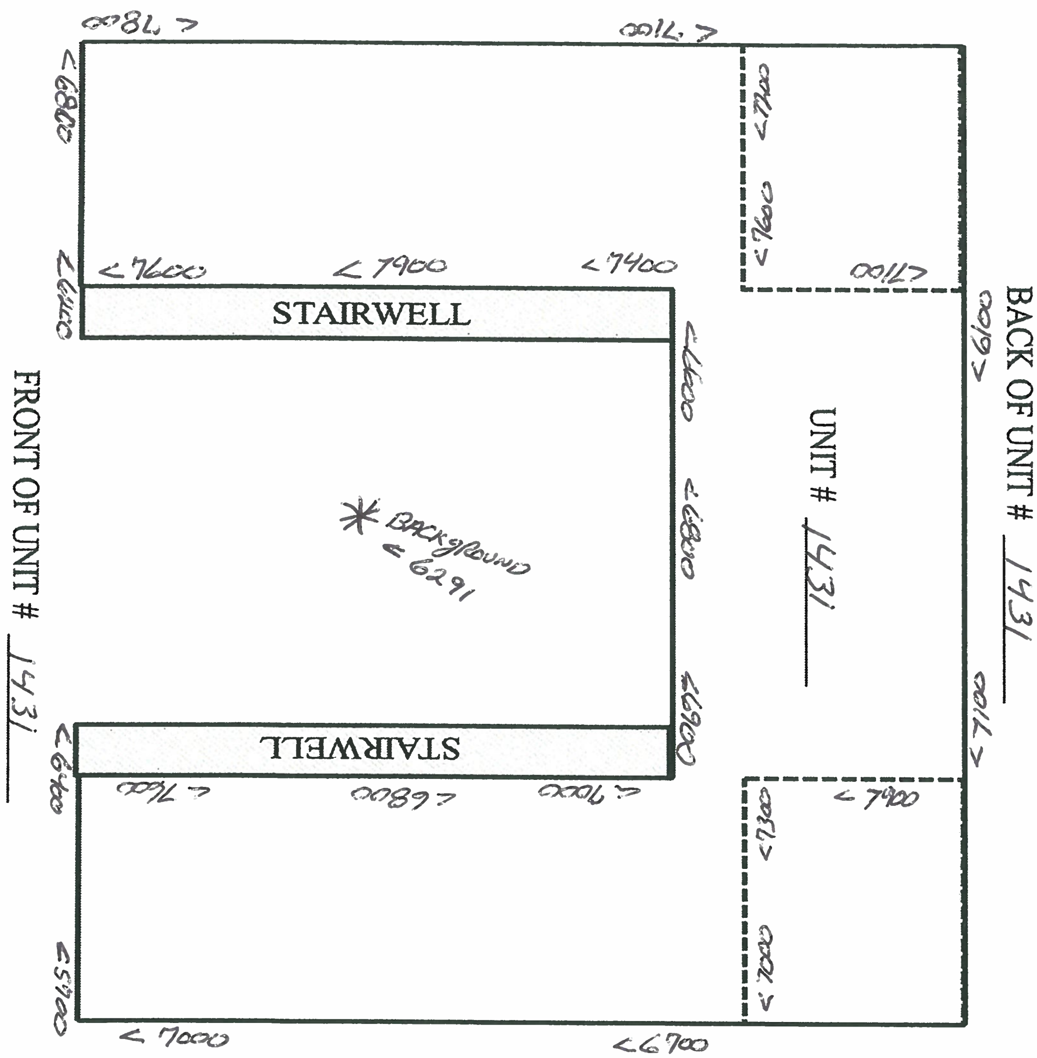
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-116	Date: 10.22.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1431 apartment "PERIMETER" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

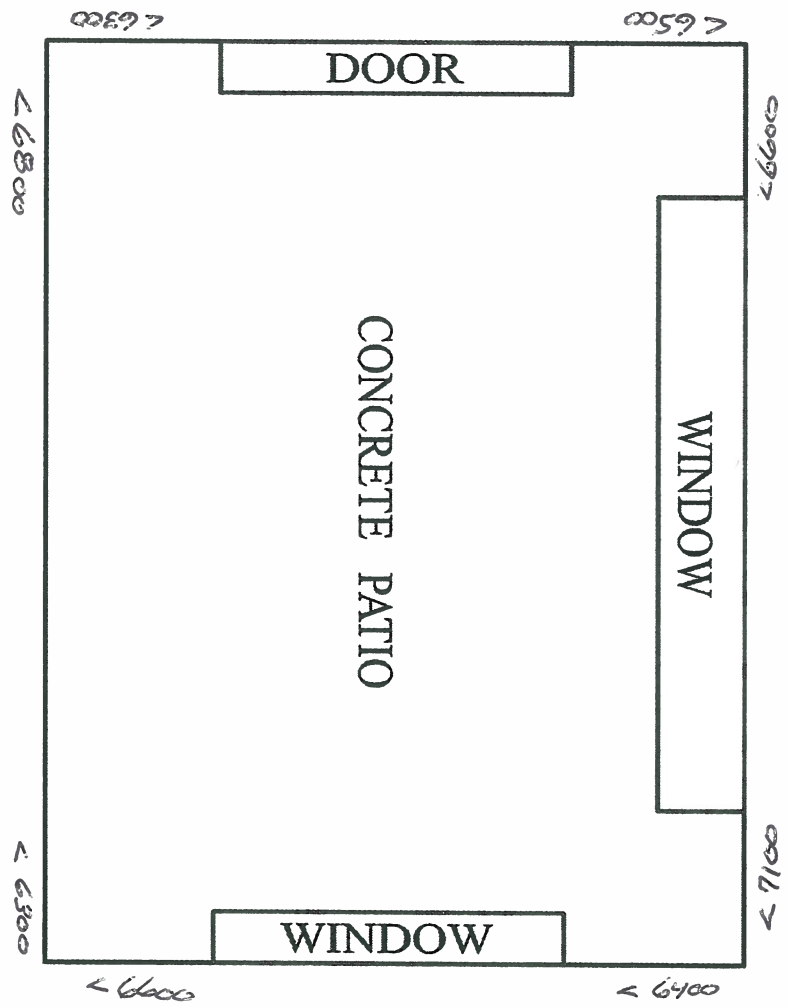
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 117	Date: 10.22.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	4440	19765	27JUL14	N / A	N / A	6378	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1444 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

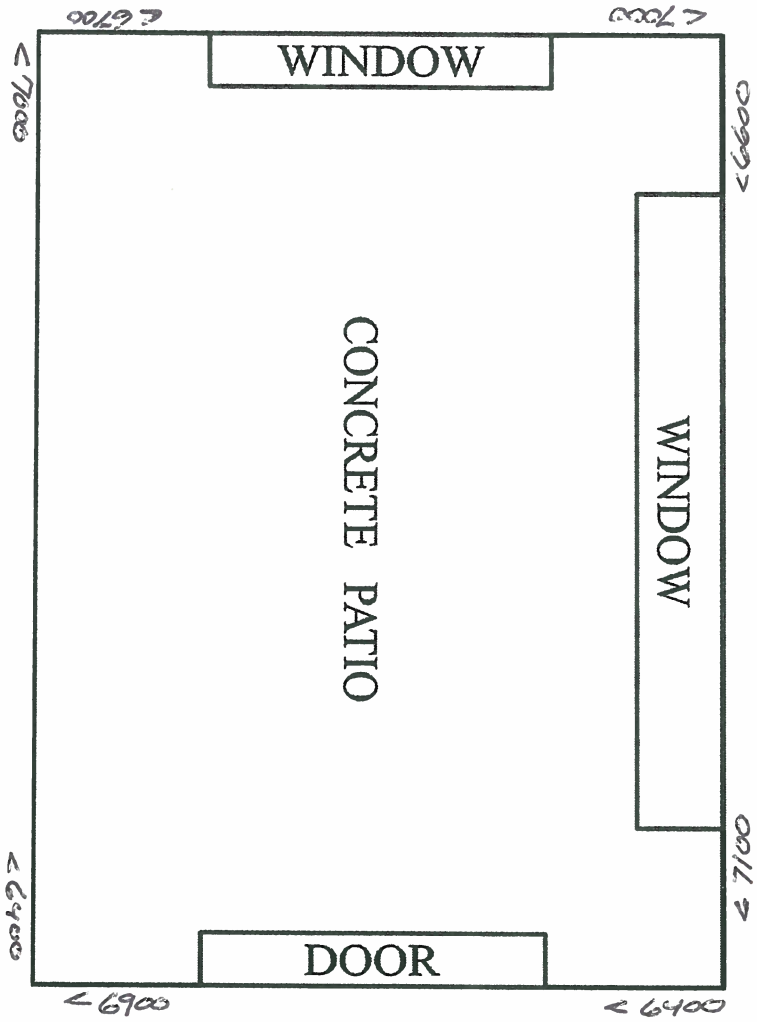
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-117	Date: 10·22·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1444 apartment " 13 " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

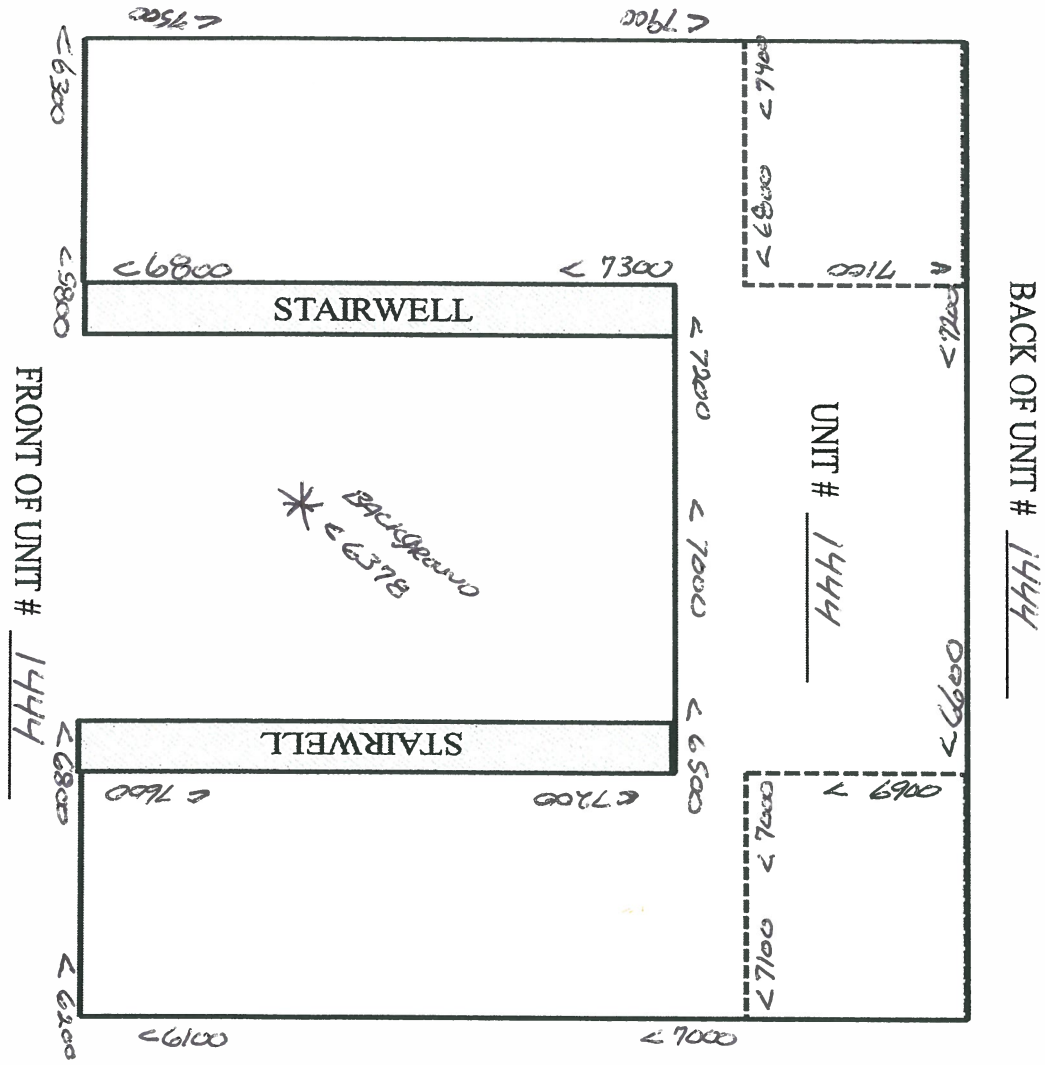
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-117	Date: 10·22·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1444 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

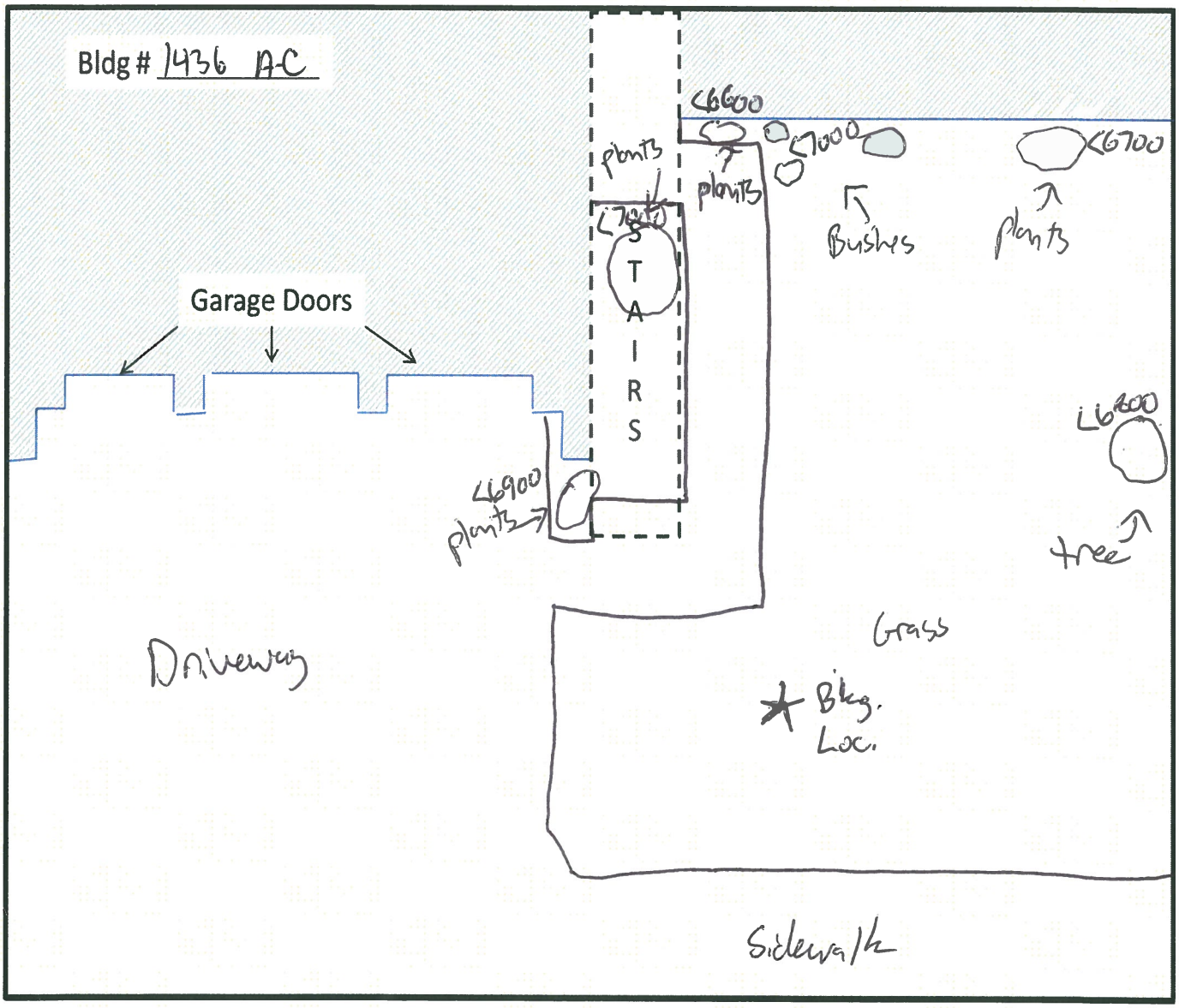
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-118	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/13	44-10	BW 19768	8/21/14	N/A	N/A	60/67	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1436 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

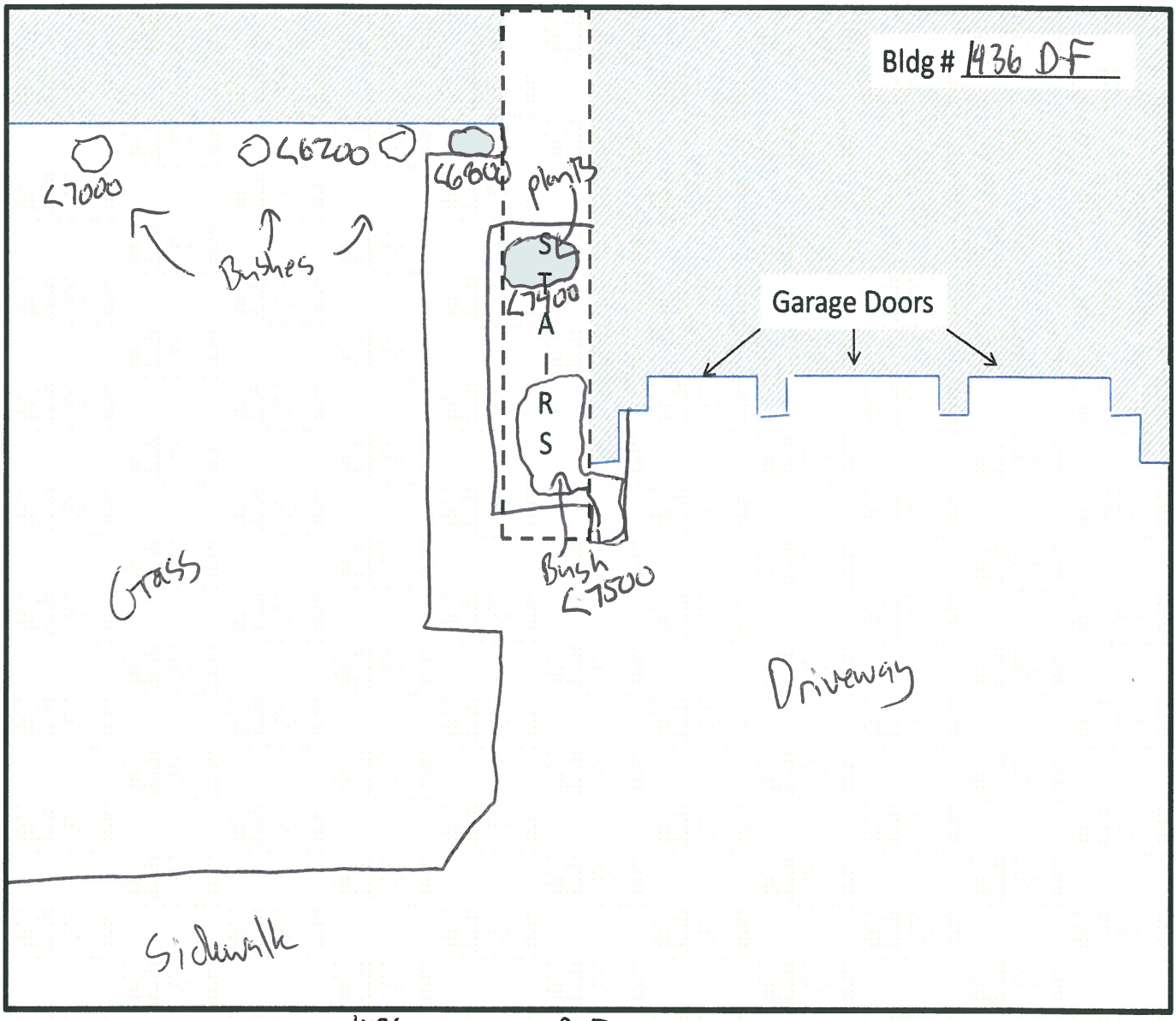
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 11B	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1436 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

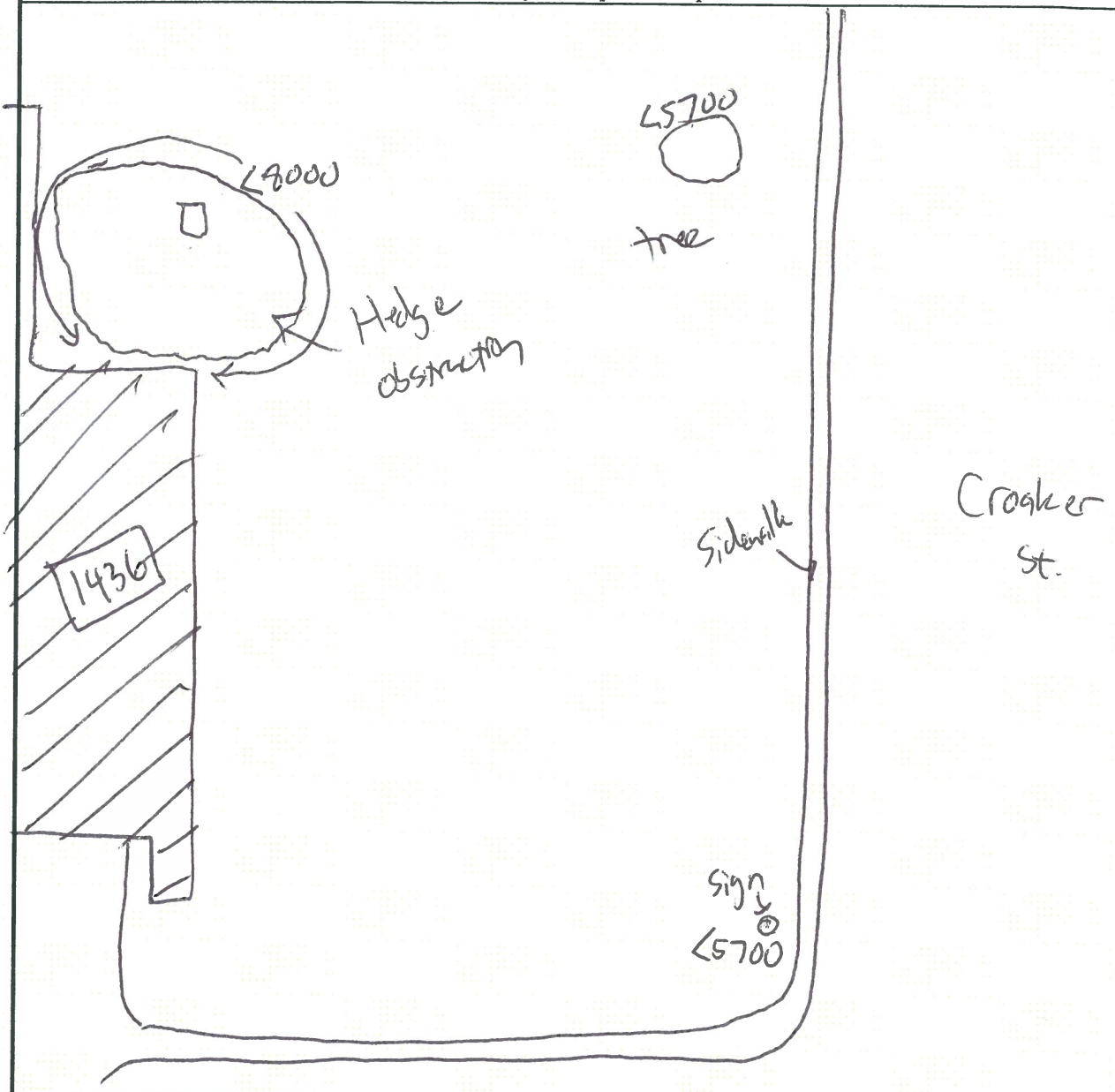
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-118	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

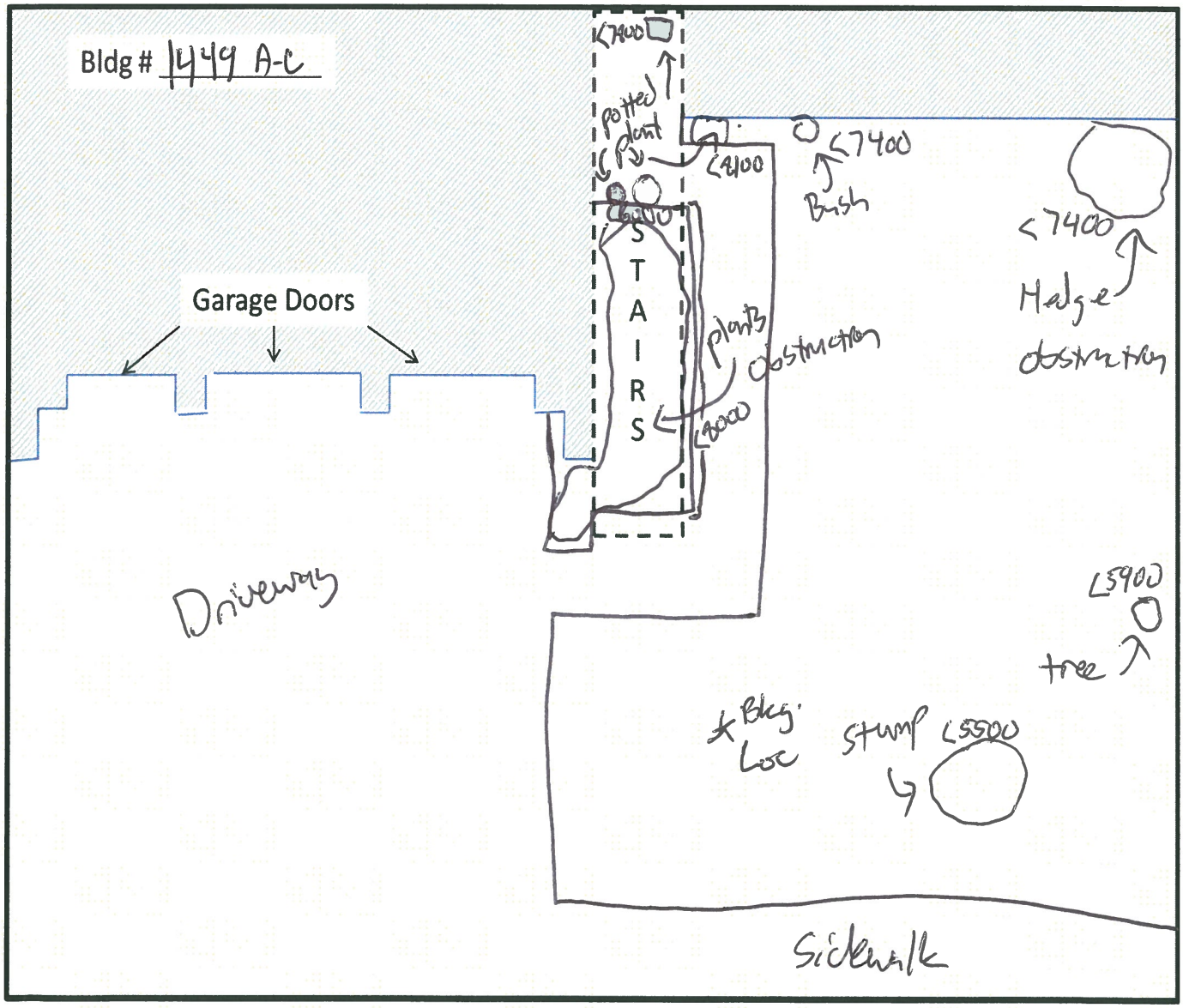
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 119	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/13	44-10	RN19768	8/21/14	N/A	N/A	5813	N/A	N/A	N/A
N/A											→
N/A											→

Survey Description / Map /Photo



Building # 1449 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

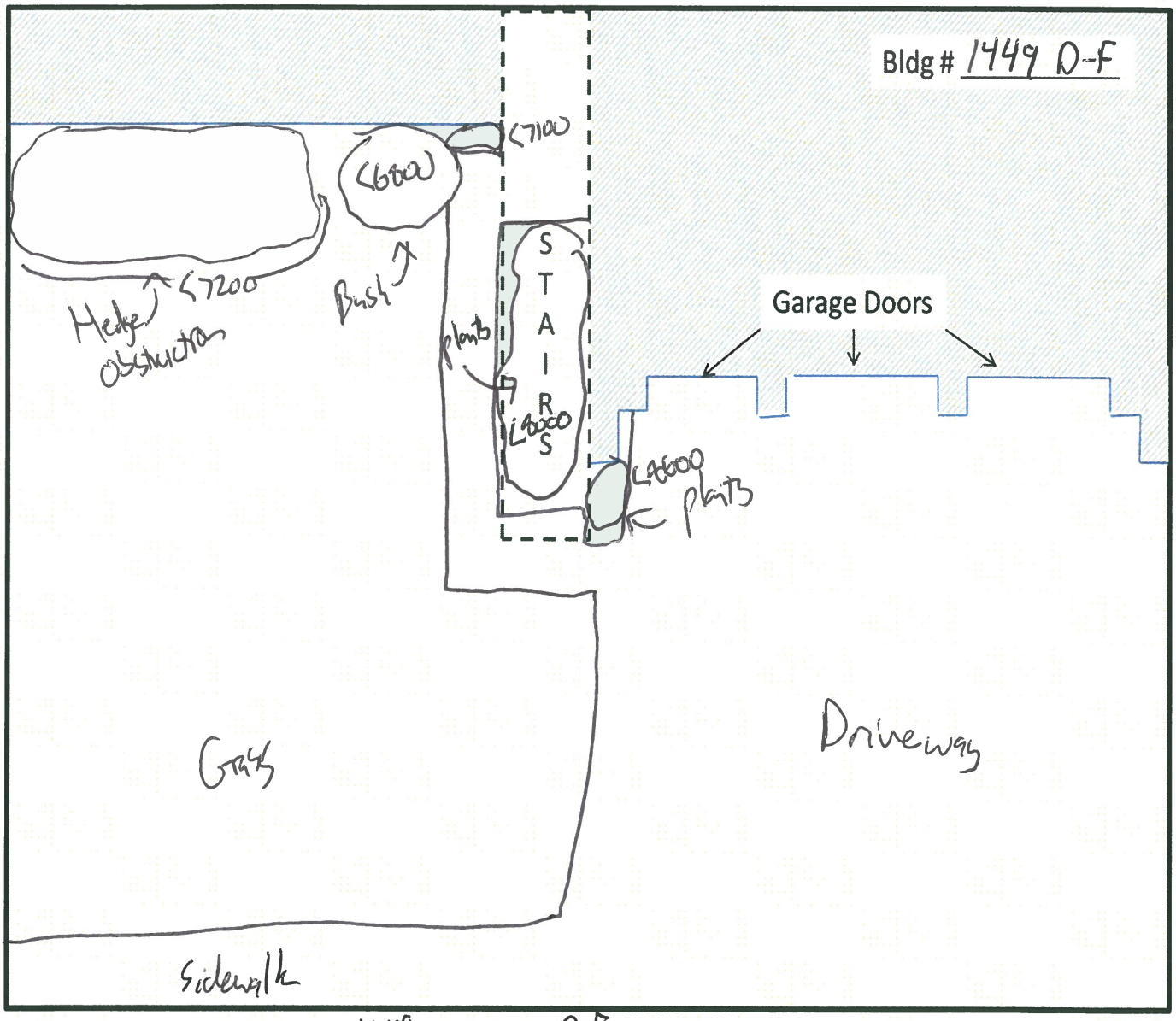
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-119	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1449 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

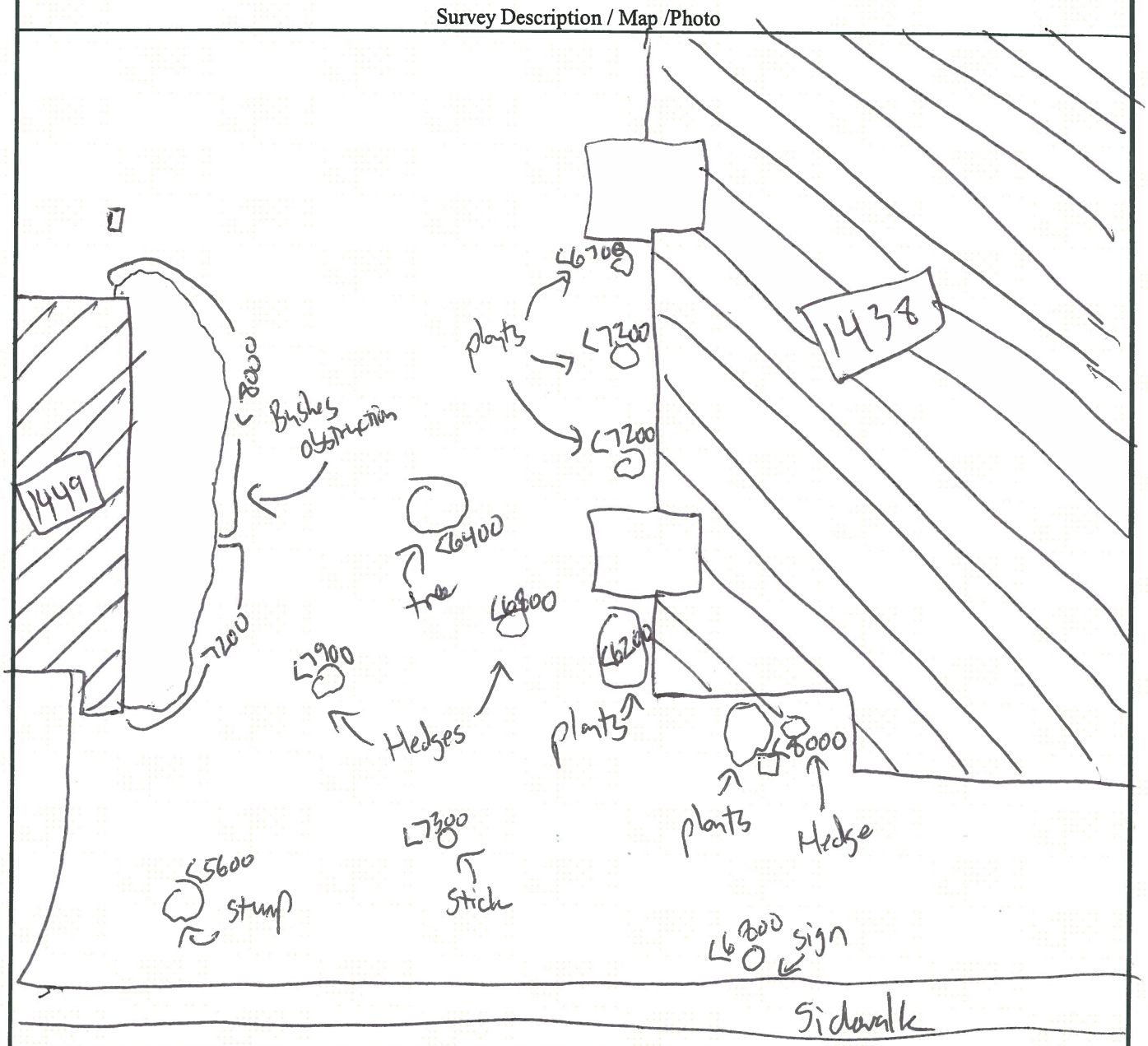
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-119	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

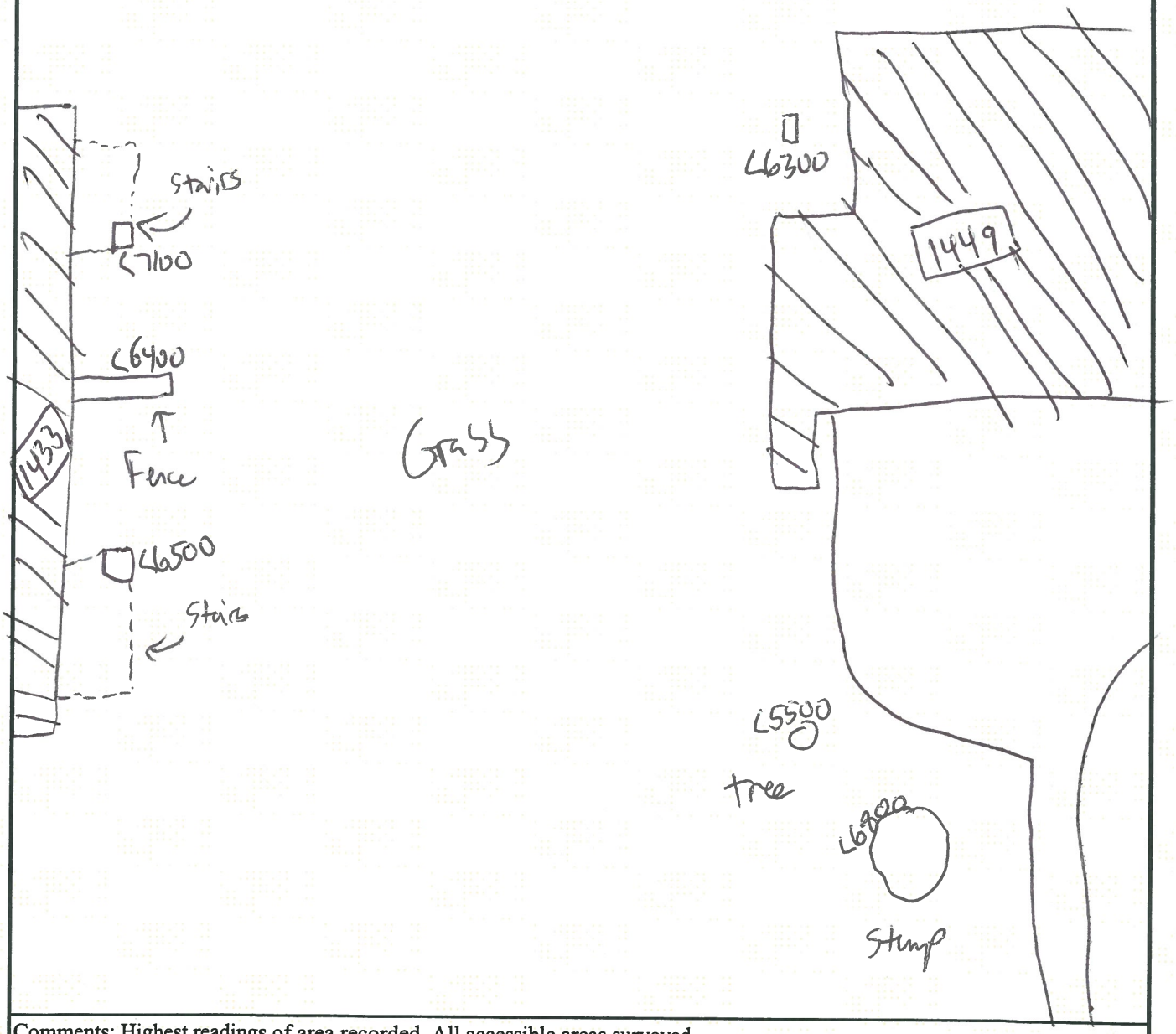
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-119	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

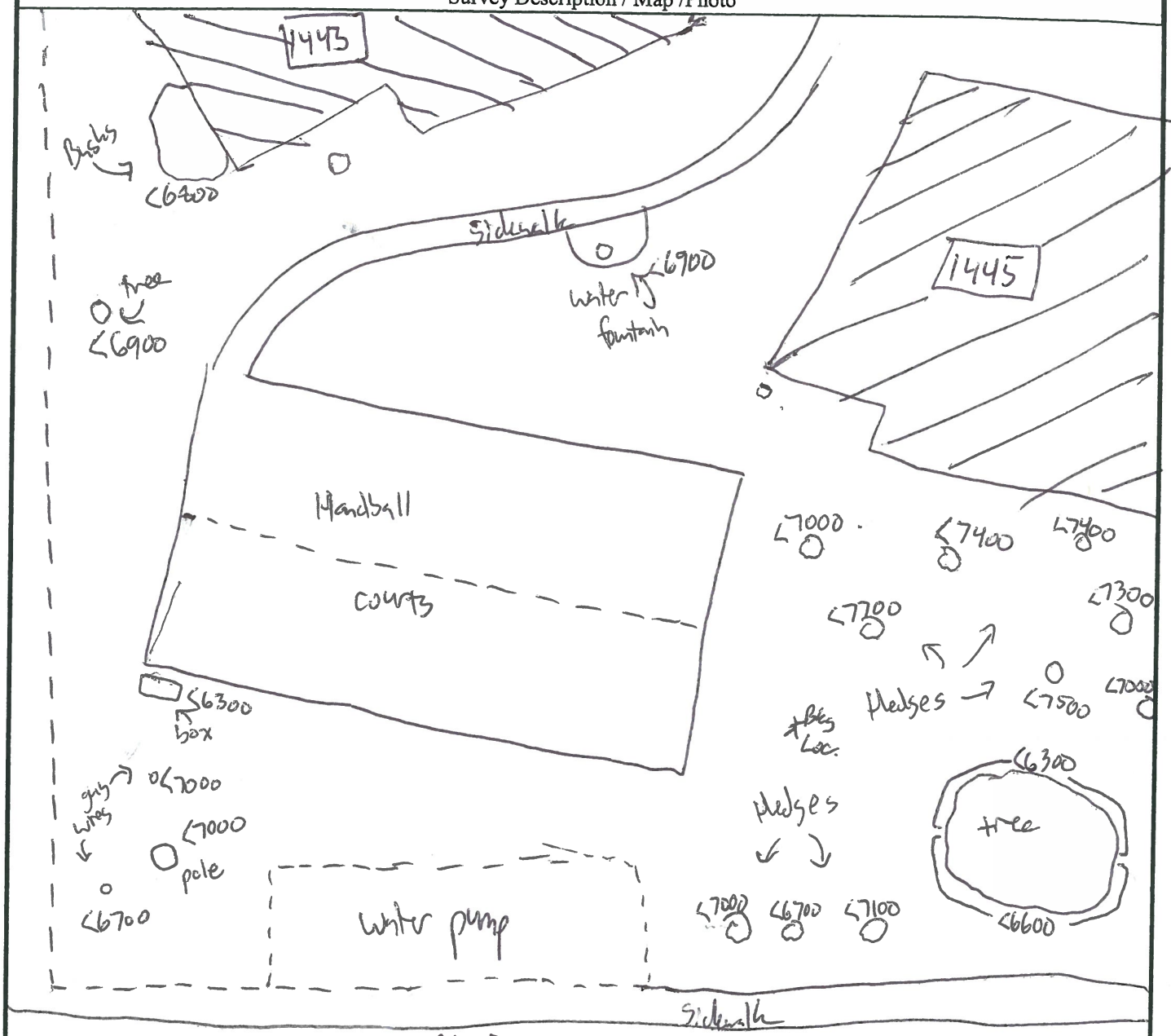
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62478-10-D-0808 / 0006	RAD Scoping Survey / Treasure Island CA	07204-0006

Survey No.: ~~120~~ 06-12-120 R010-22-13	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	6526	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

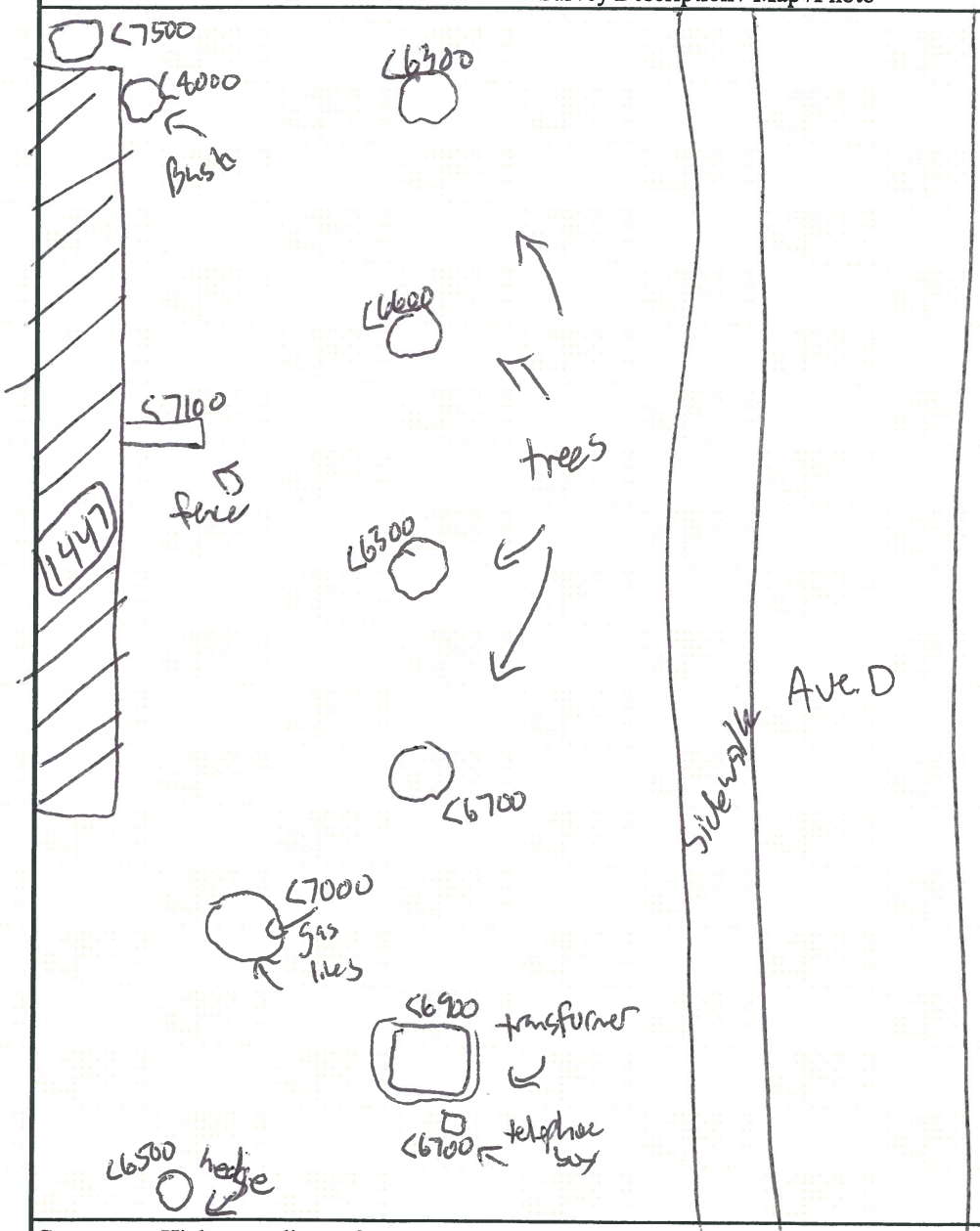
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-120	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

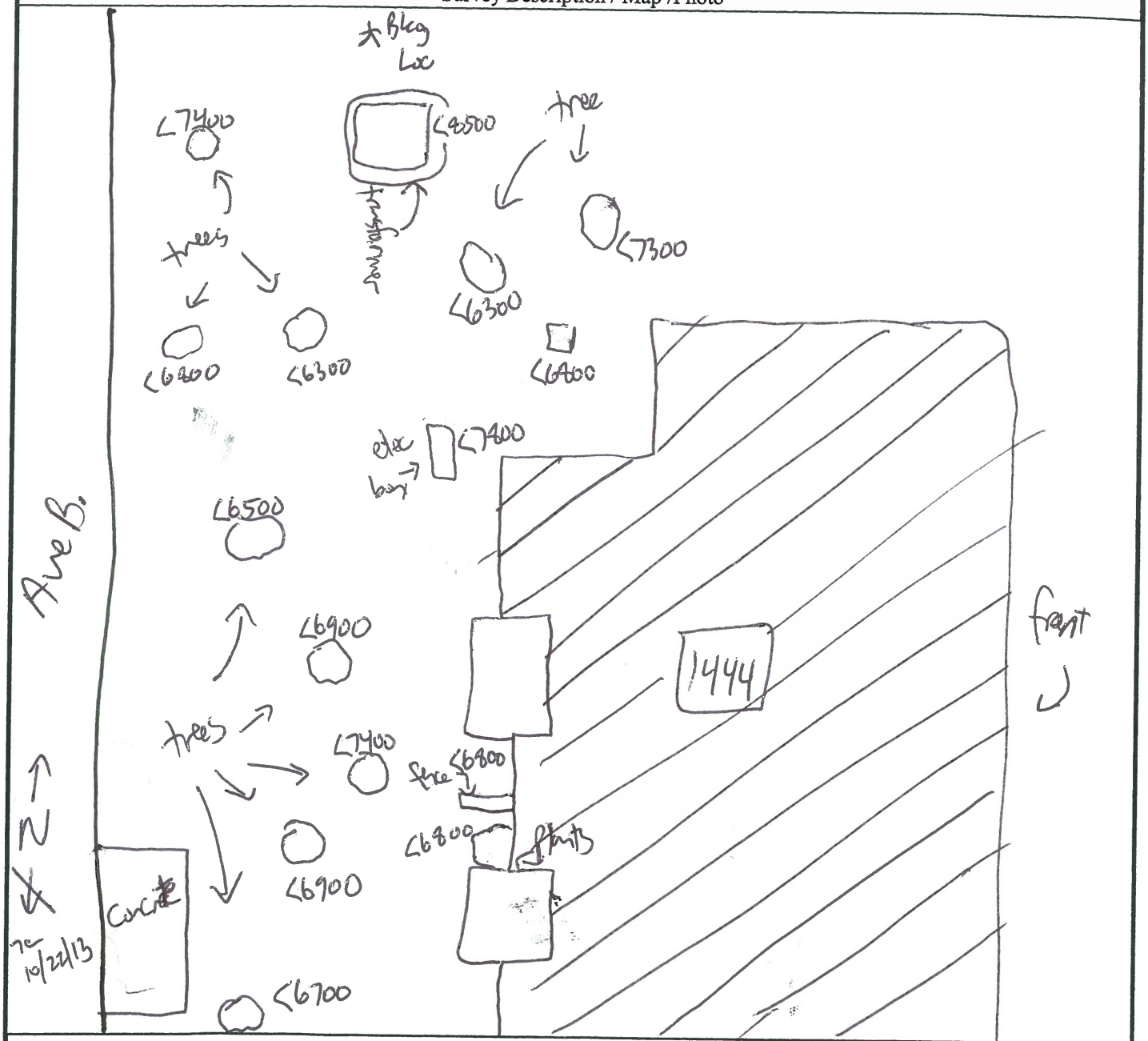
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 (0004)	RAD Scoping Surveys / Treasure Island CA	07204-0001

Survey No.: 06-12-121	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 w/cover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/14	44-10	RN19765	7/27/14	N/A	N/A	6741	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

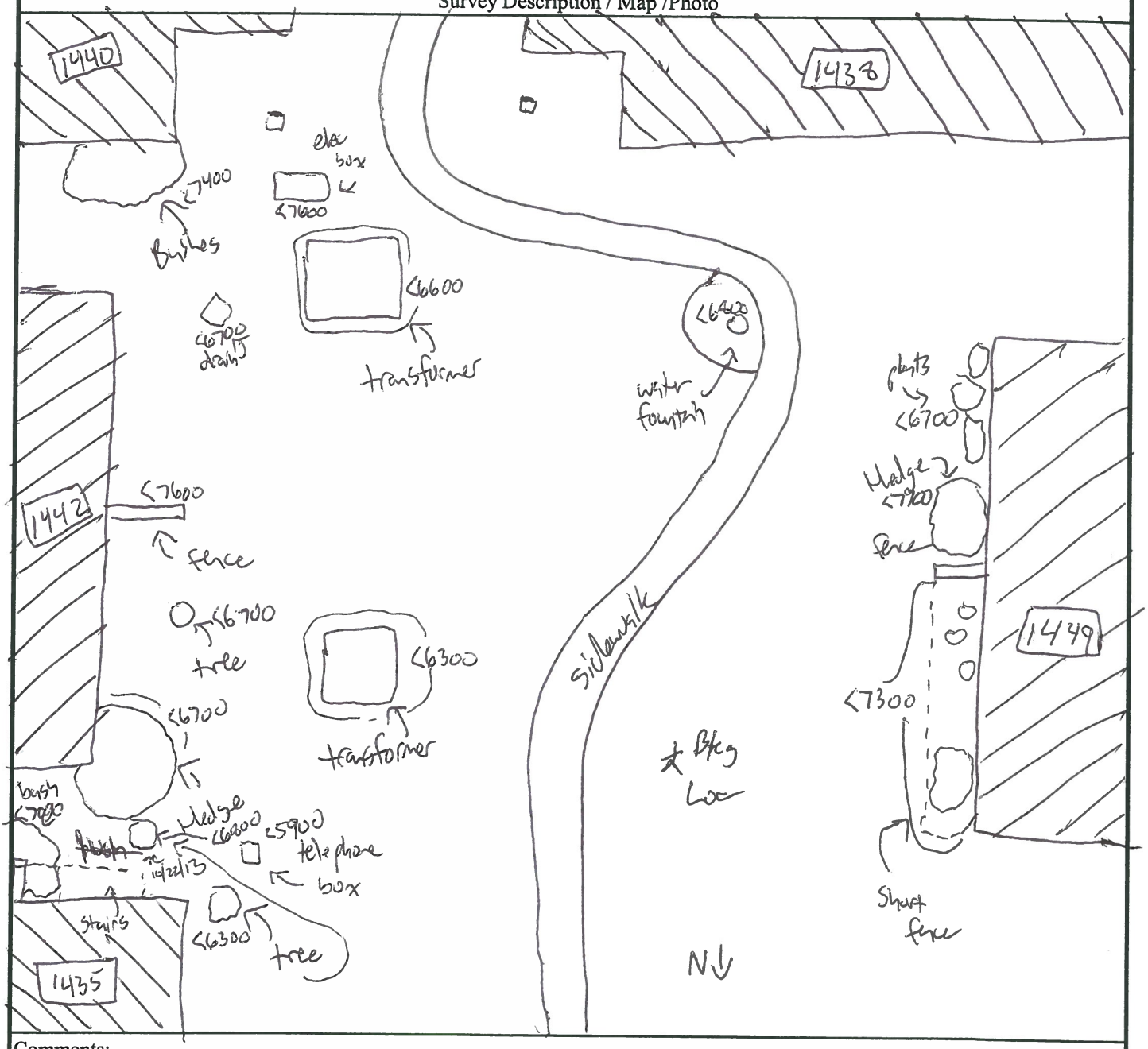
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 00016	Rad Scoping Surveys / Treasure Island CA	07204 - 00016

Survey No.: 06-12-122	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 walk over
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
~~12725~~ TC 10/22/13	127231	7/27/14	~~RN19765~~	RN19765	7/27/14	N/A	N/A	5932	N/A	N/A	N/A
2221	N/A	N/A	44-10	TC 10/22/13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	↓	↓	N/A	N/A	↓	↓	↓	↓	↓	↓	↓

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

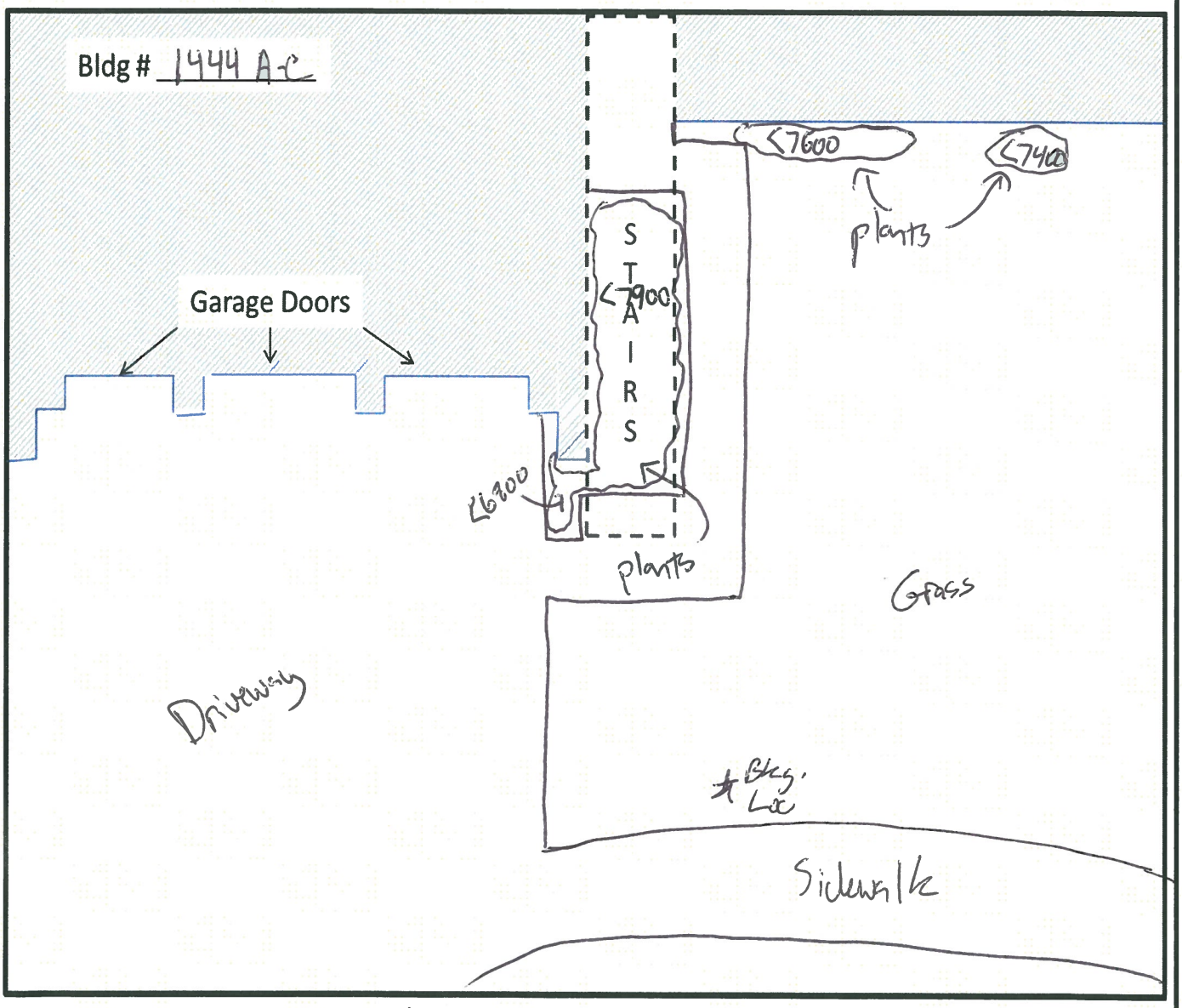
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-123	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/13	44-10	RN19768	8/21/14	N/A	N/A	5750	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1444 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

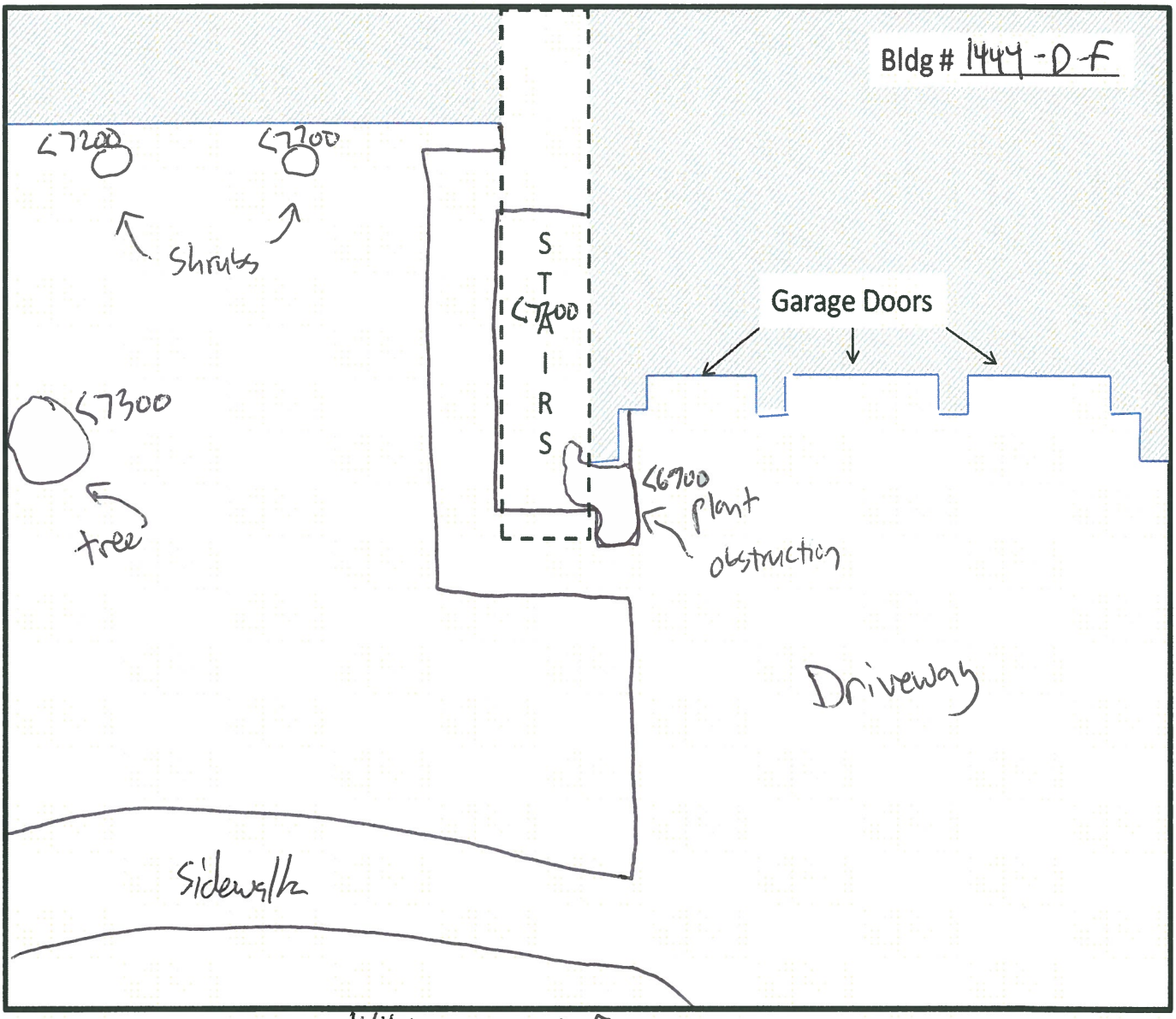
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 123	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1444 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

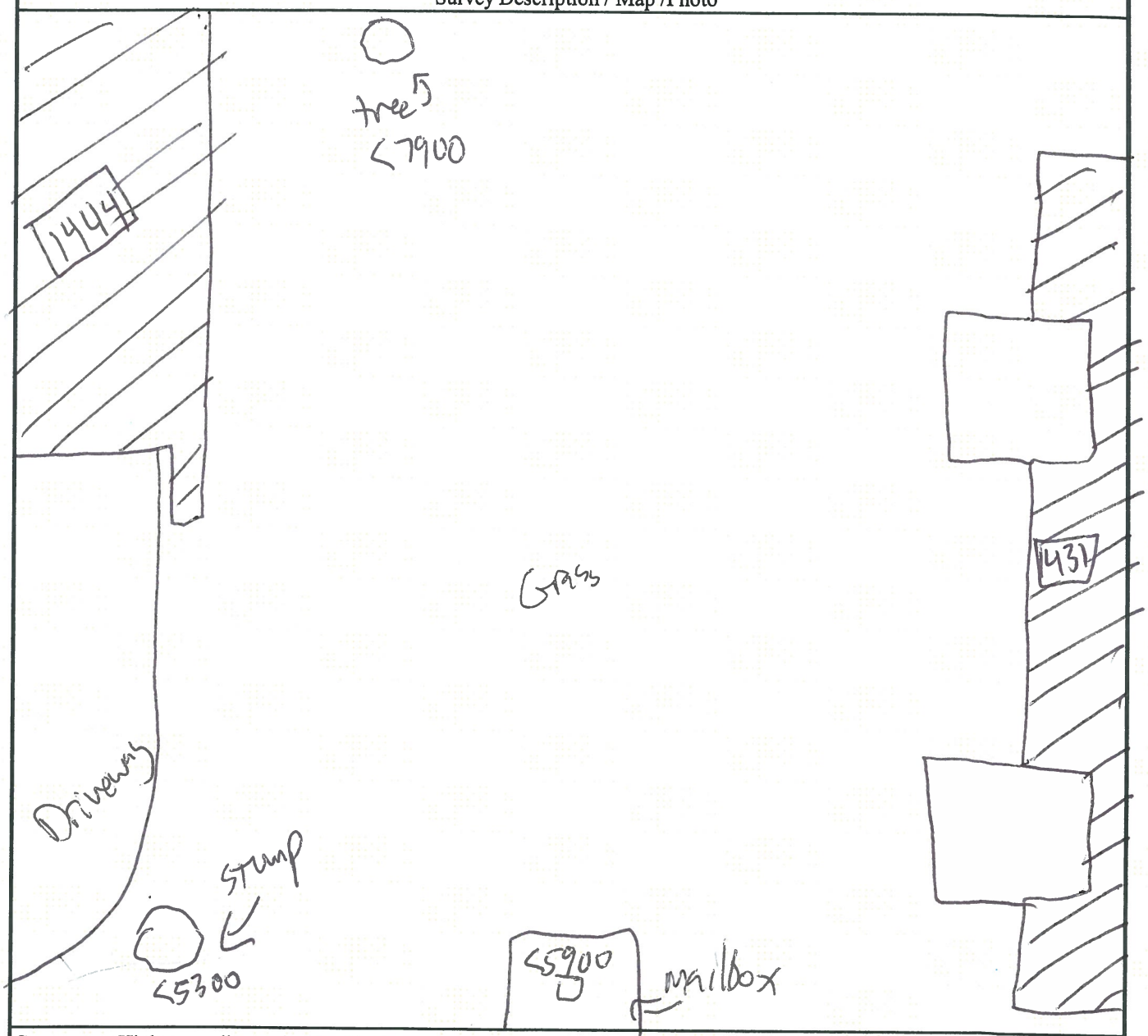
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-123	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

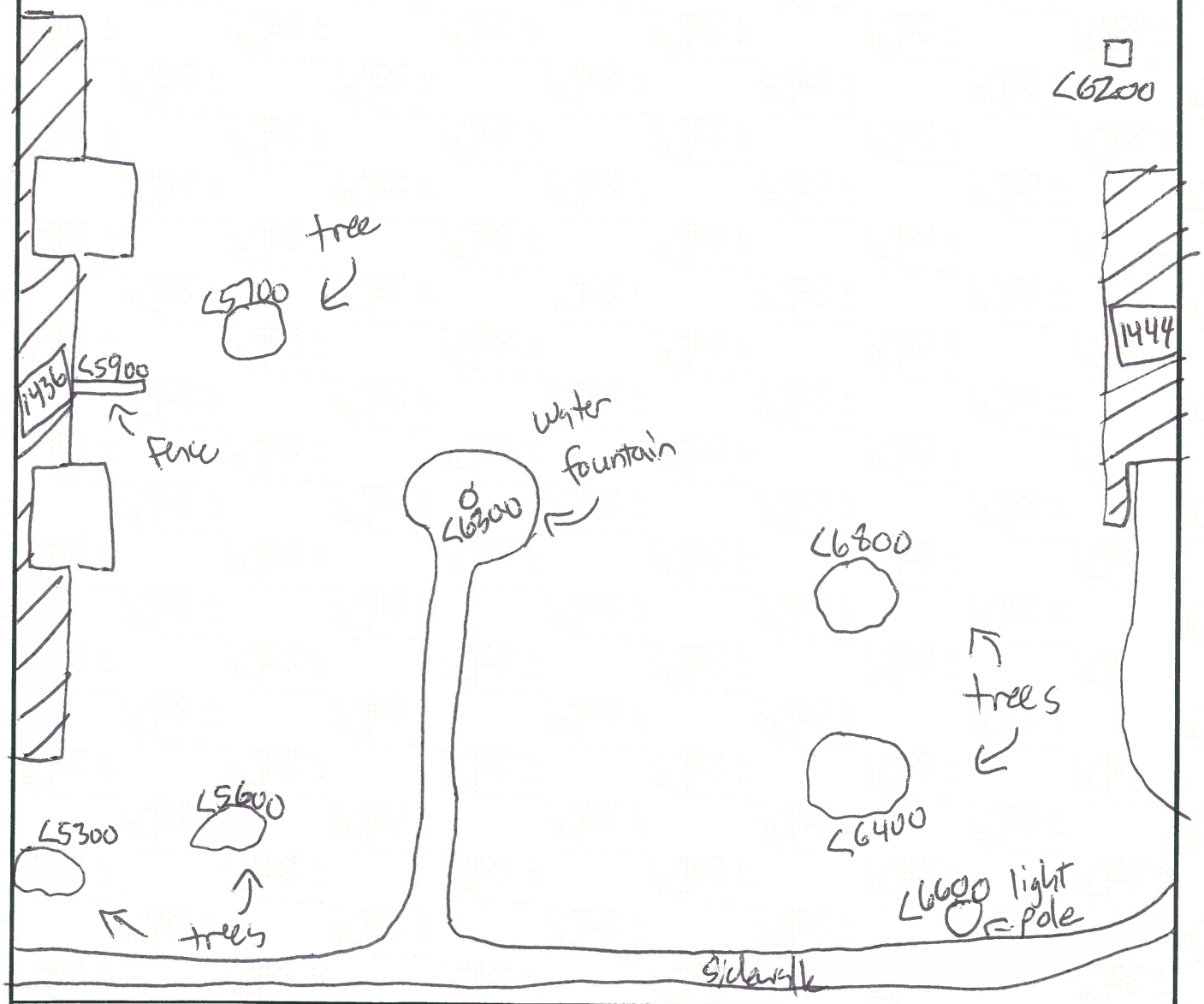
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 123	Date: 10/22/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

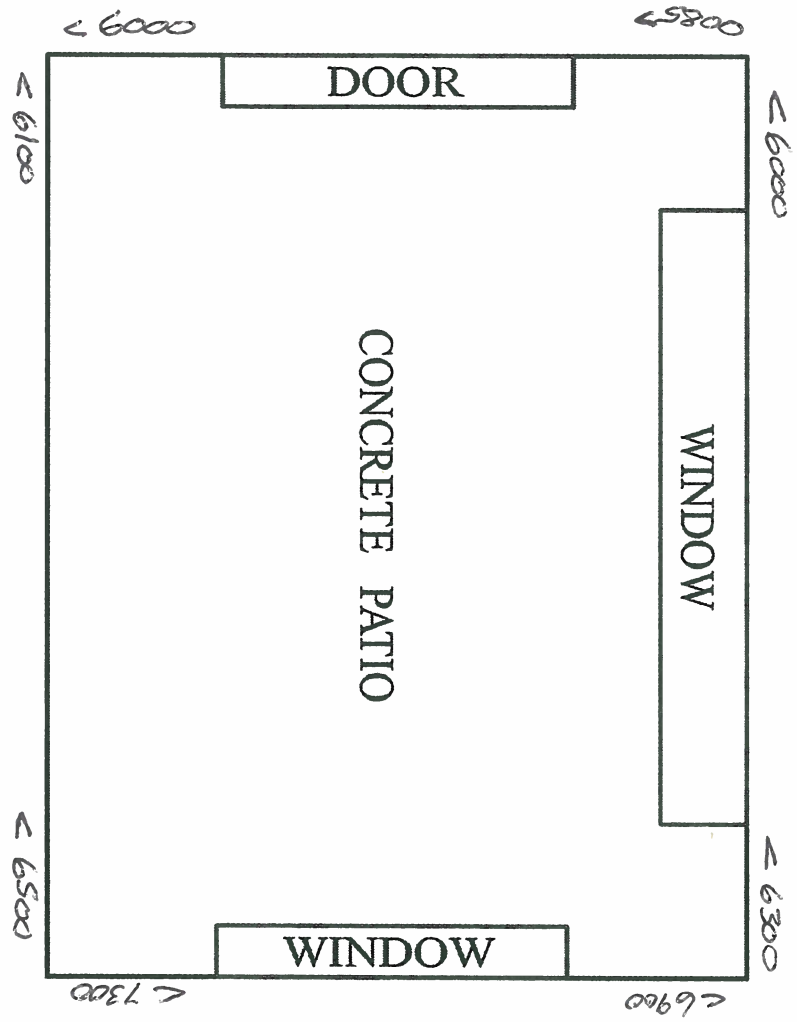
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 124	Date: 10·23·13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	6427	N/A	N / A	N / A
N/A											→
N/A											→

Survey Description / Map /Photo



Building 1418 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

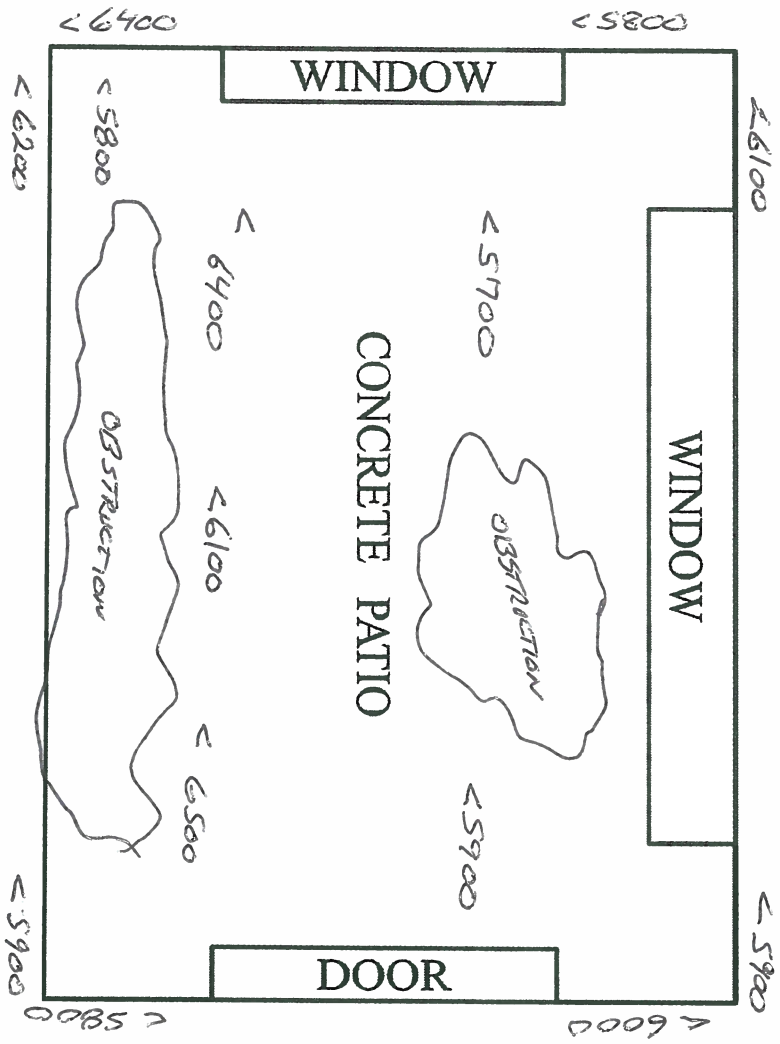
NOTE – UNIT 'A' HAS ROD IRON FENCE WITH NO ENTRANCE FENCE IS ABOUT 3½ FEET TALL

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 124	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1418 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

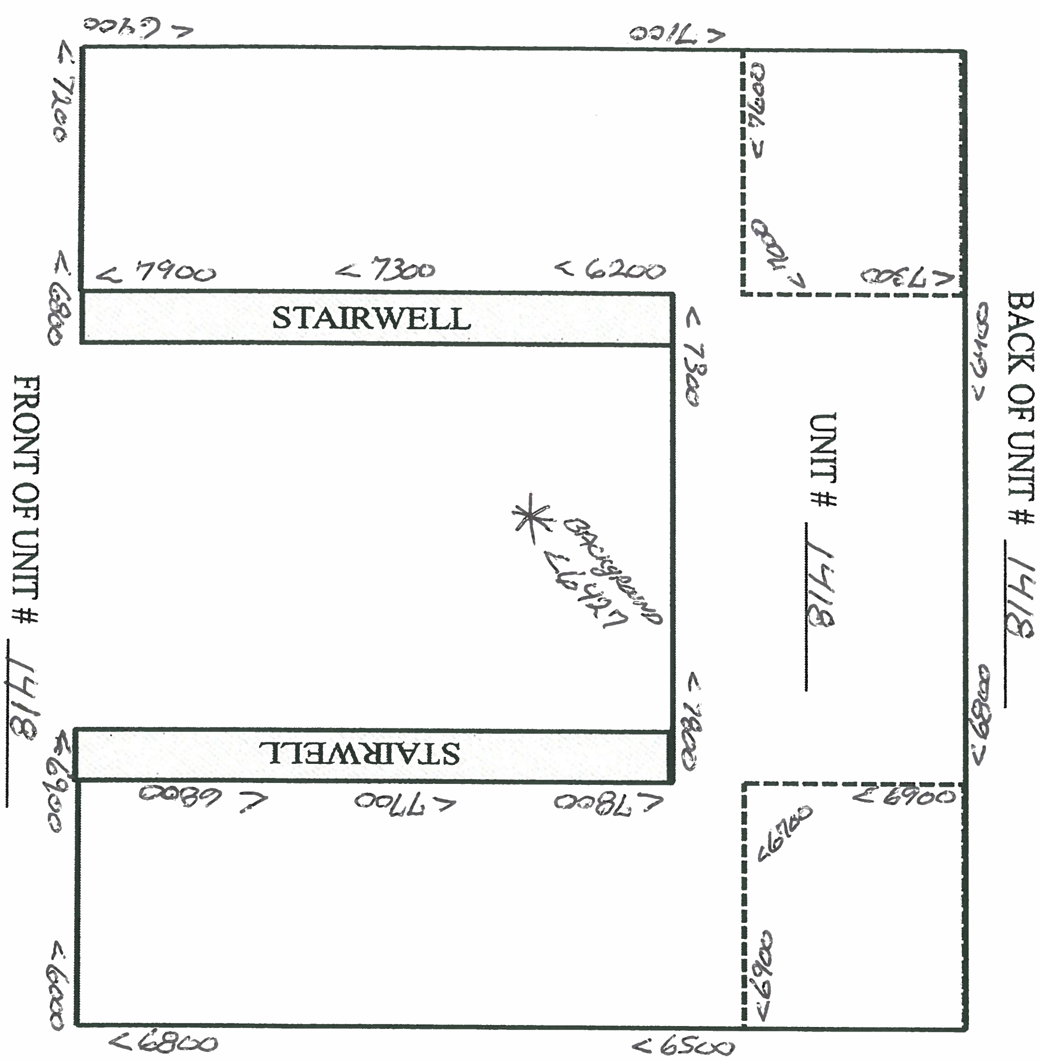
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 124	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1418 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

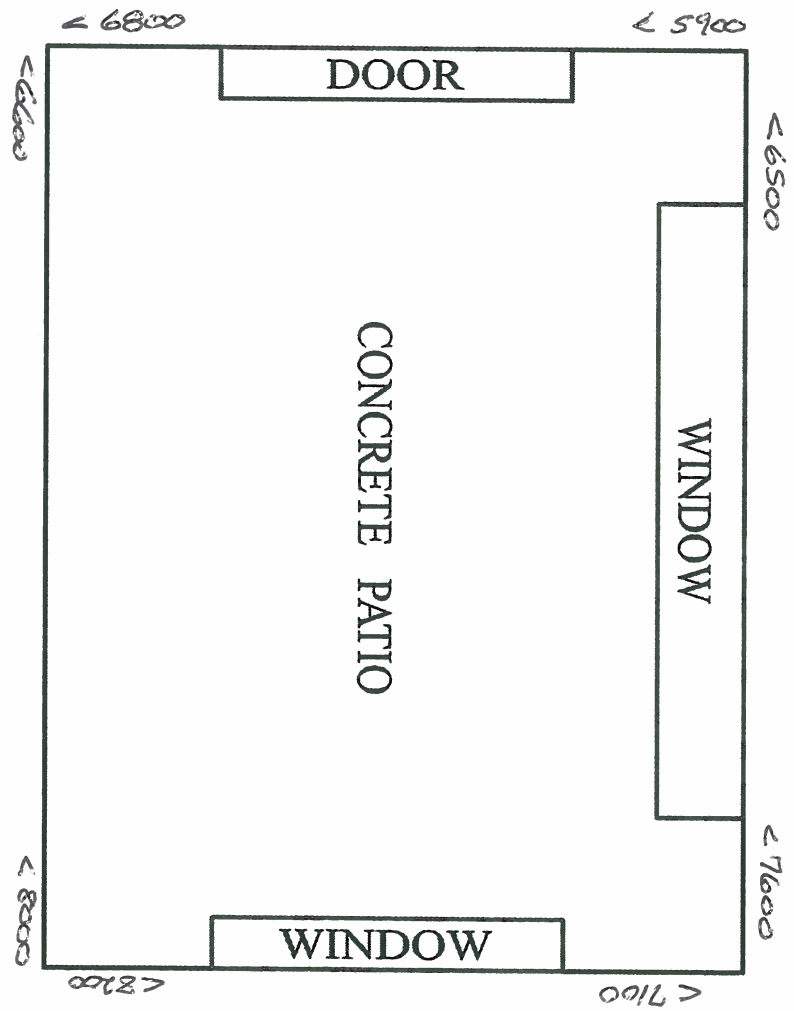
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-125	Date: 10-23-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	7664	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1404 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

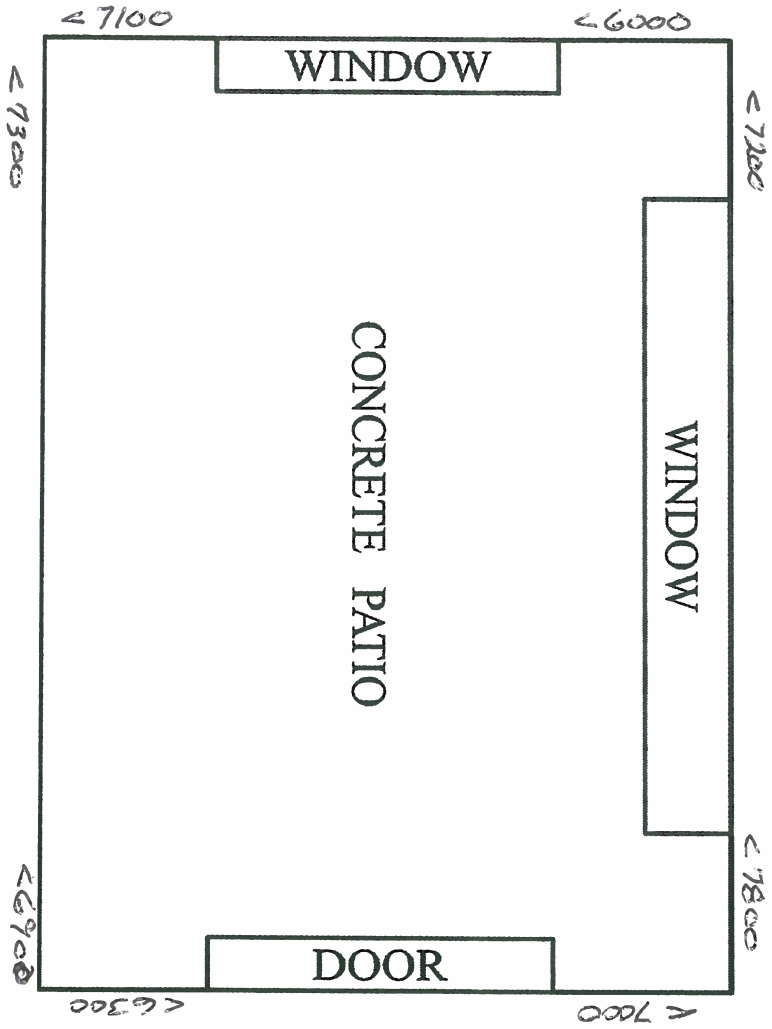
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-125	Date: 10·23·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1404 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

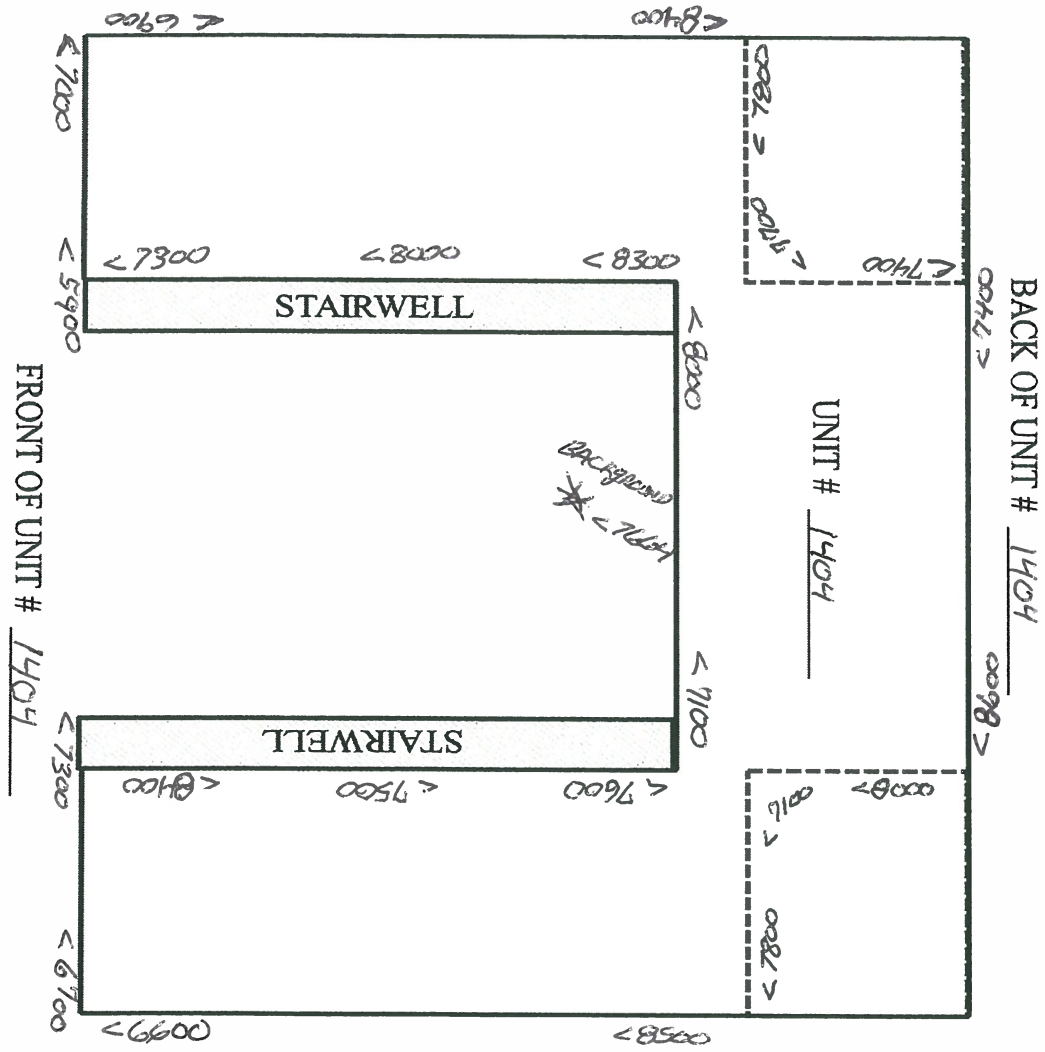
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-125	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1404 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

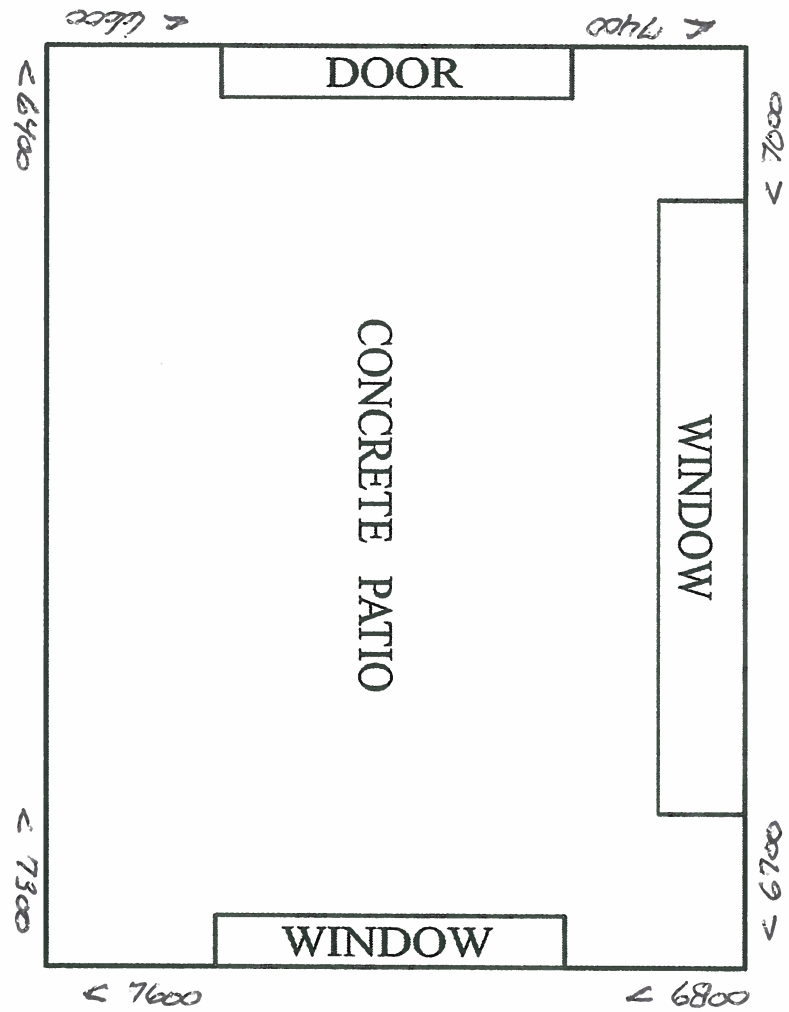
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-126	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	6096	N/A	N / A	N / A
N/A											→
N/A											→

Survey Description / Map /Photo



Building 1402 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

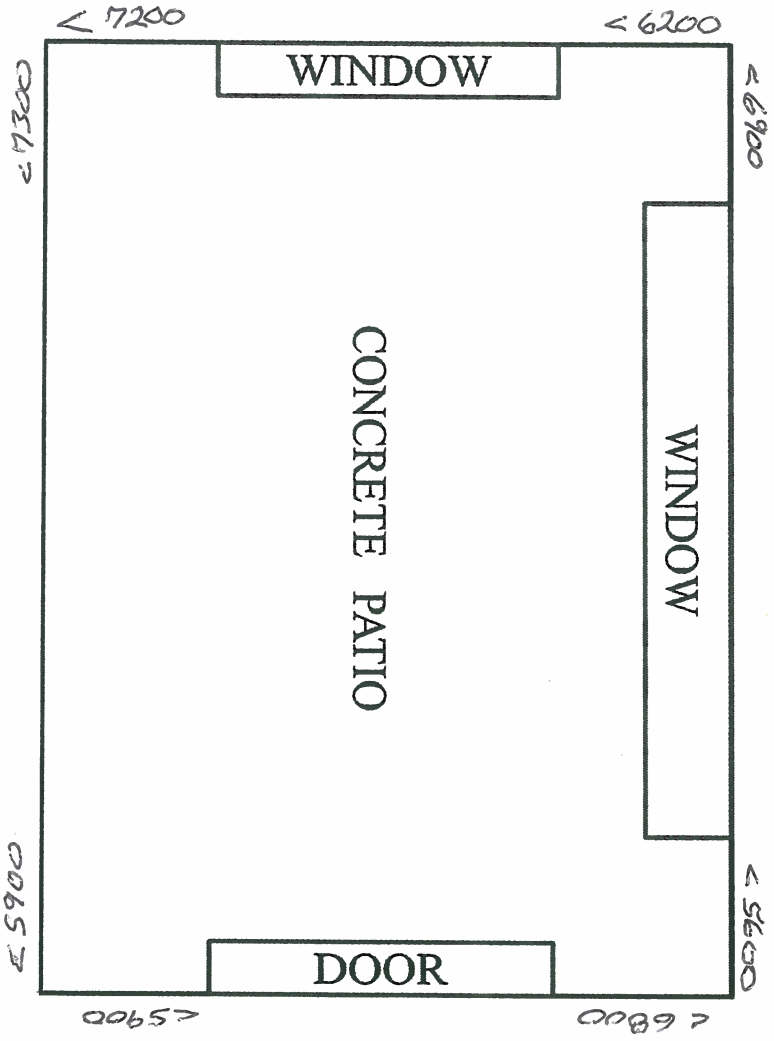
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-126	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1402 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

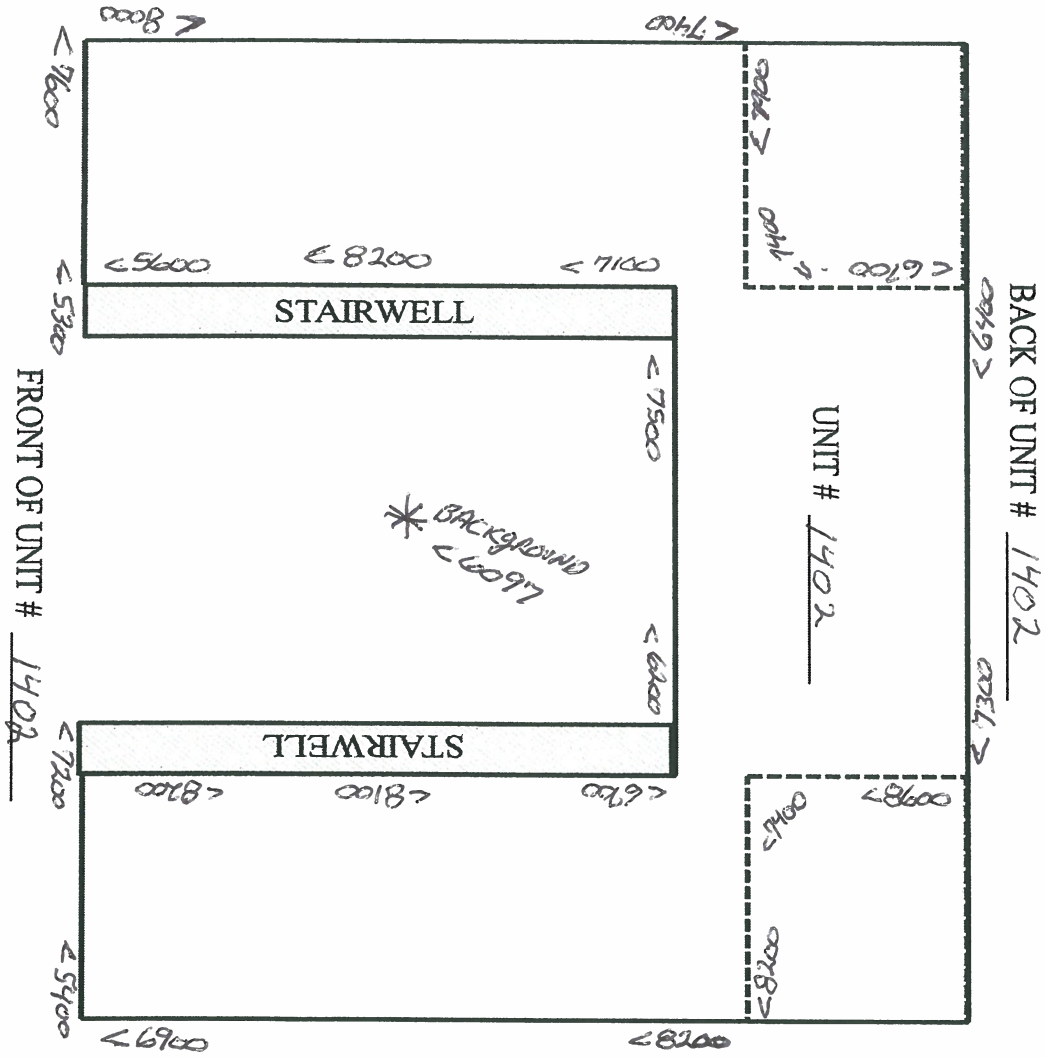
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-126	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1402 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

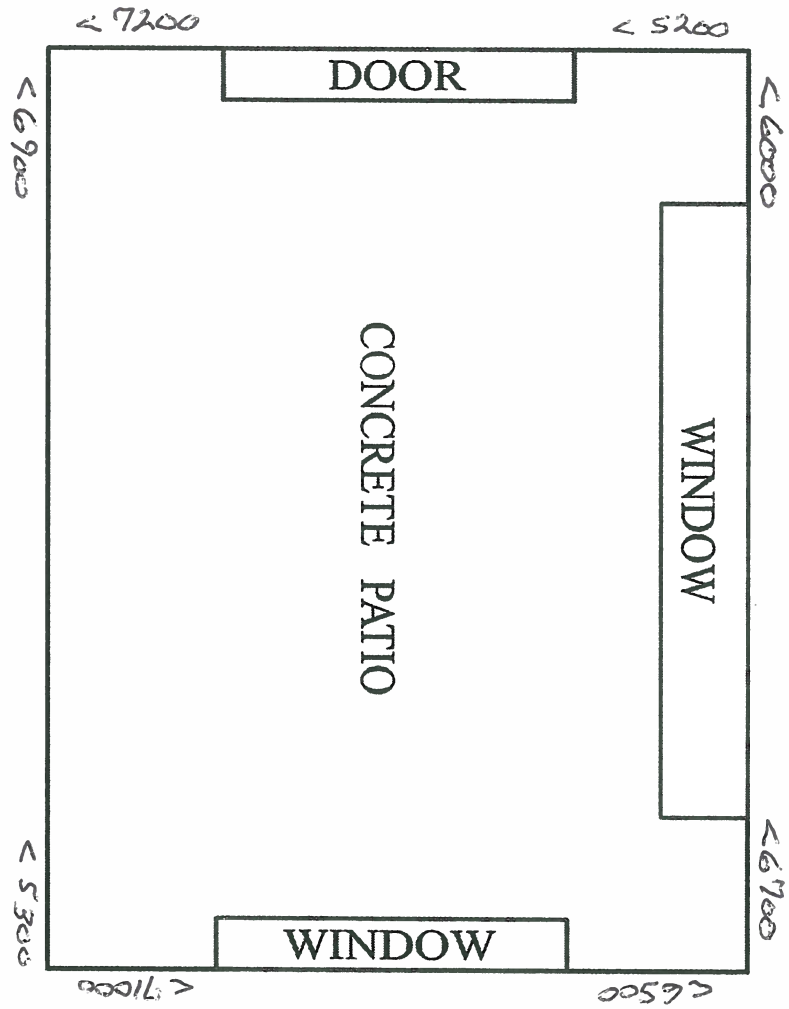
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-127	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27 Jul 14	44-10	19765	27 Jul 14	N/A	N/A	6754	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1400 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

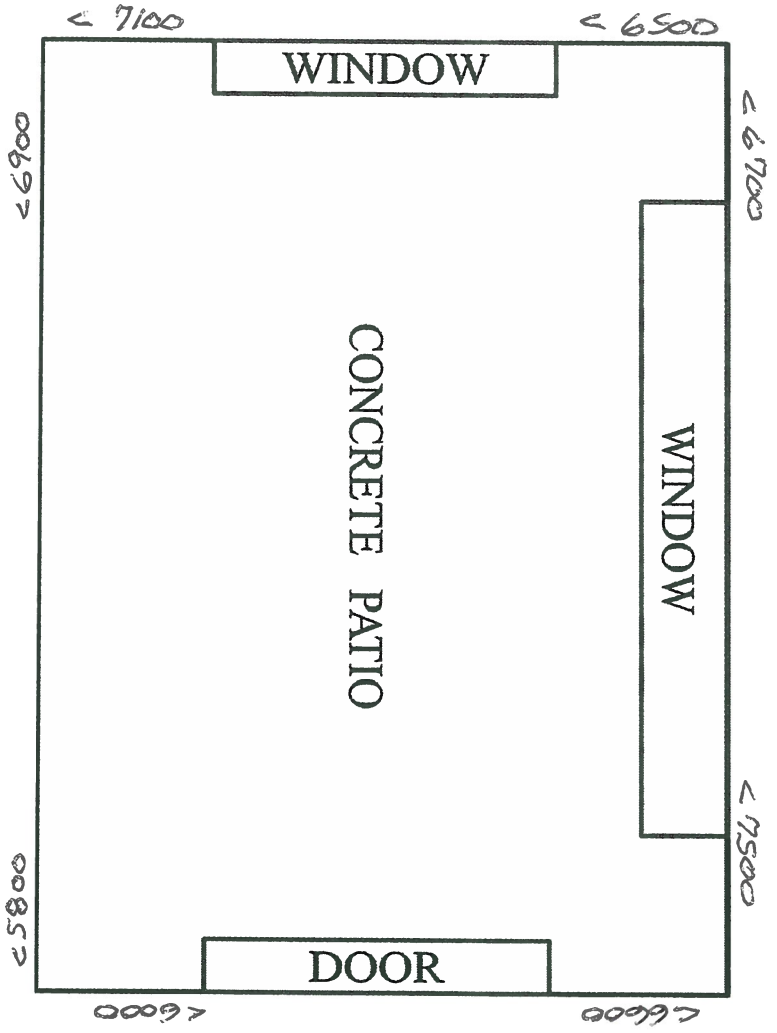
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 127	Date: 10-23-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1400 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

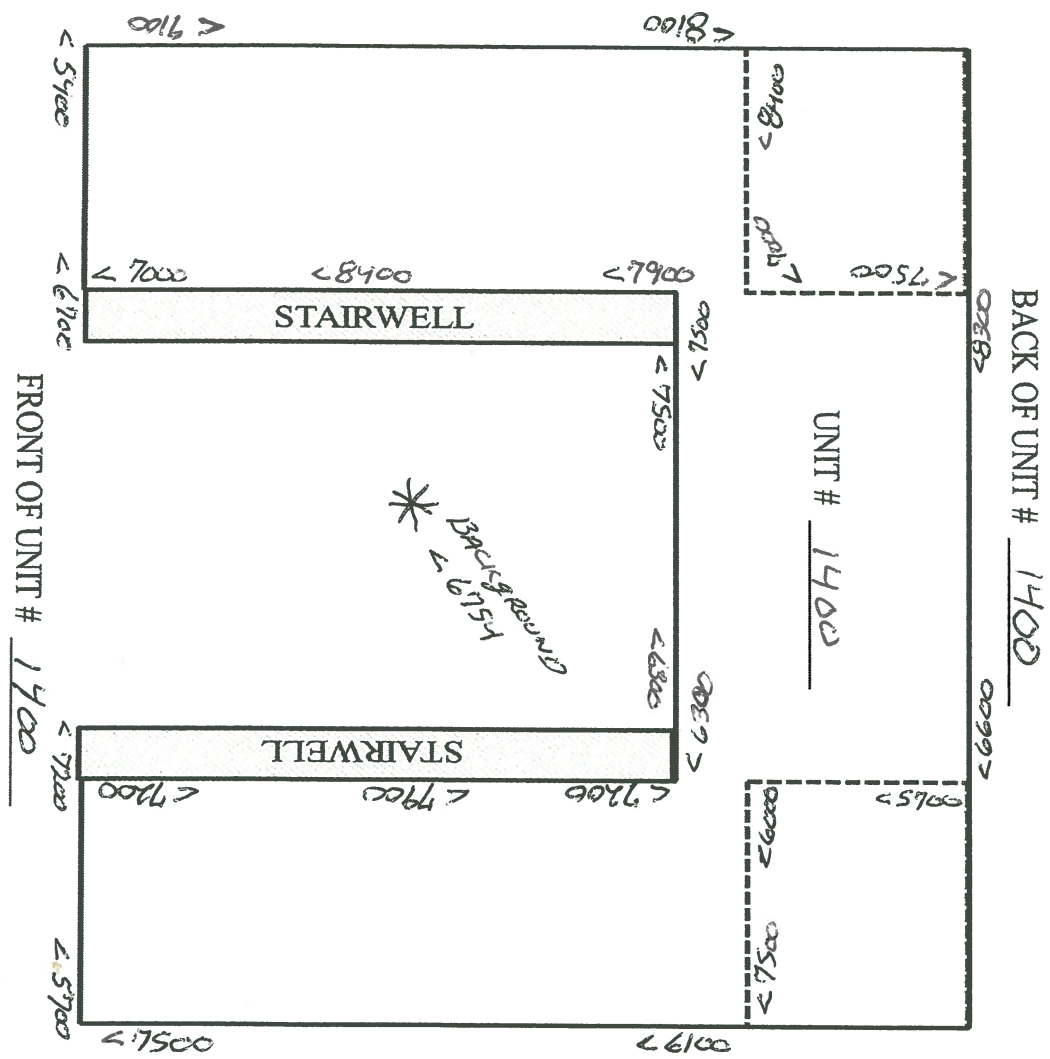
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 127	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1400 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

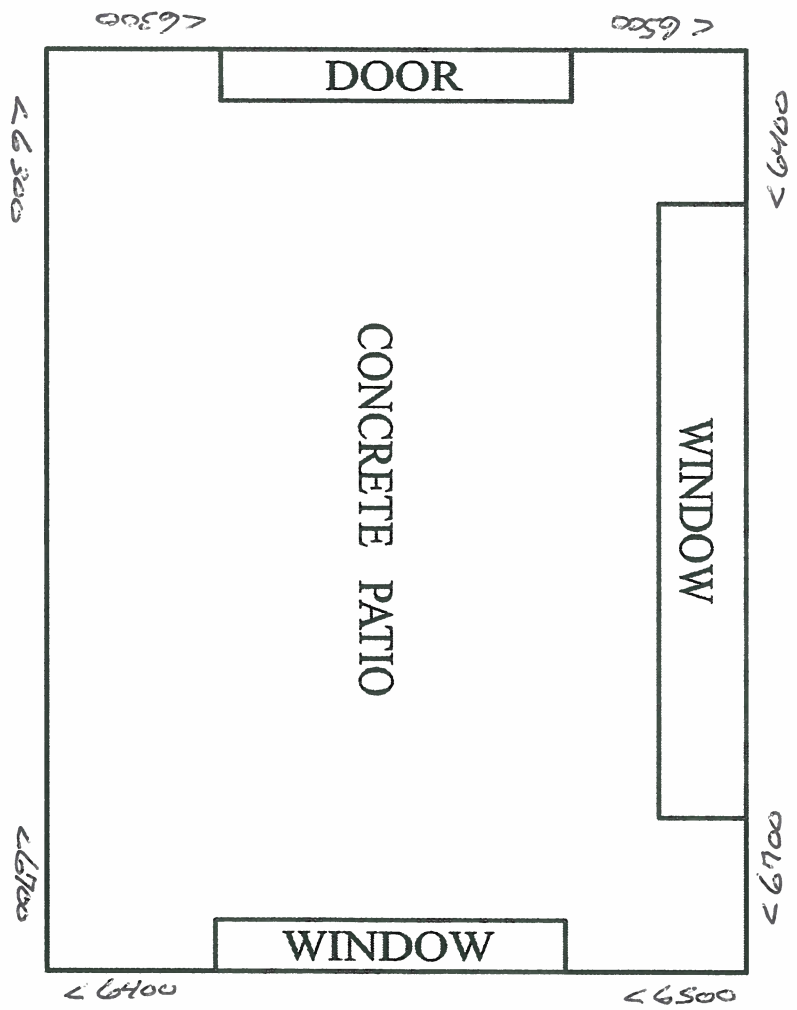
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 128	Date: 10.23.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6445	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1420 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

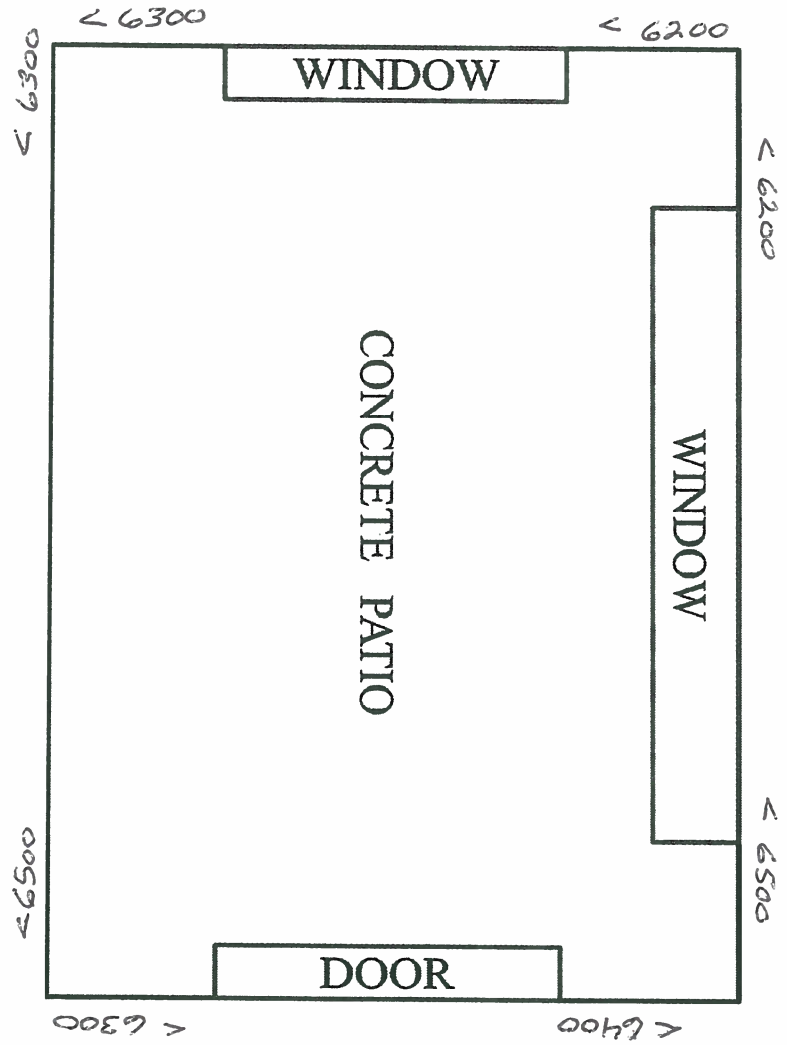
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 128	Date: 10:23:13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1420 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

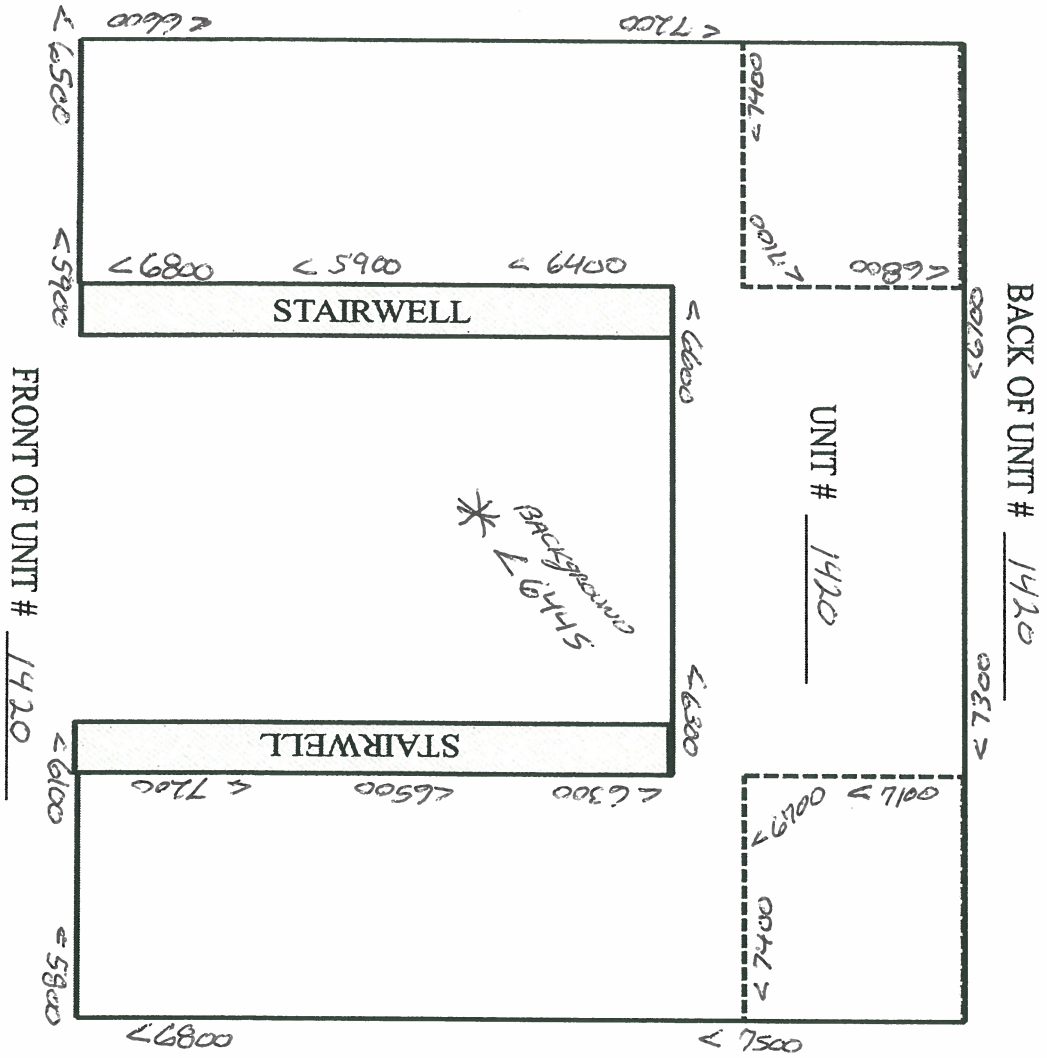
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-128	Date: 10-23-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1420 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

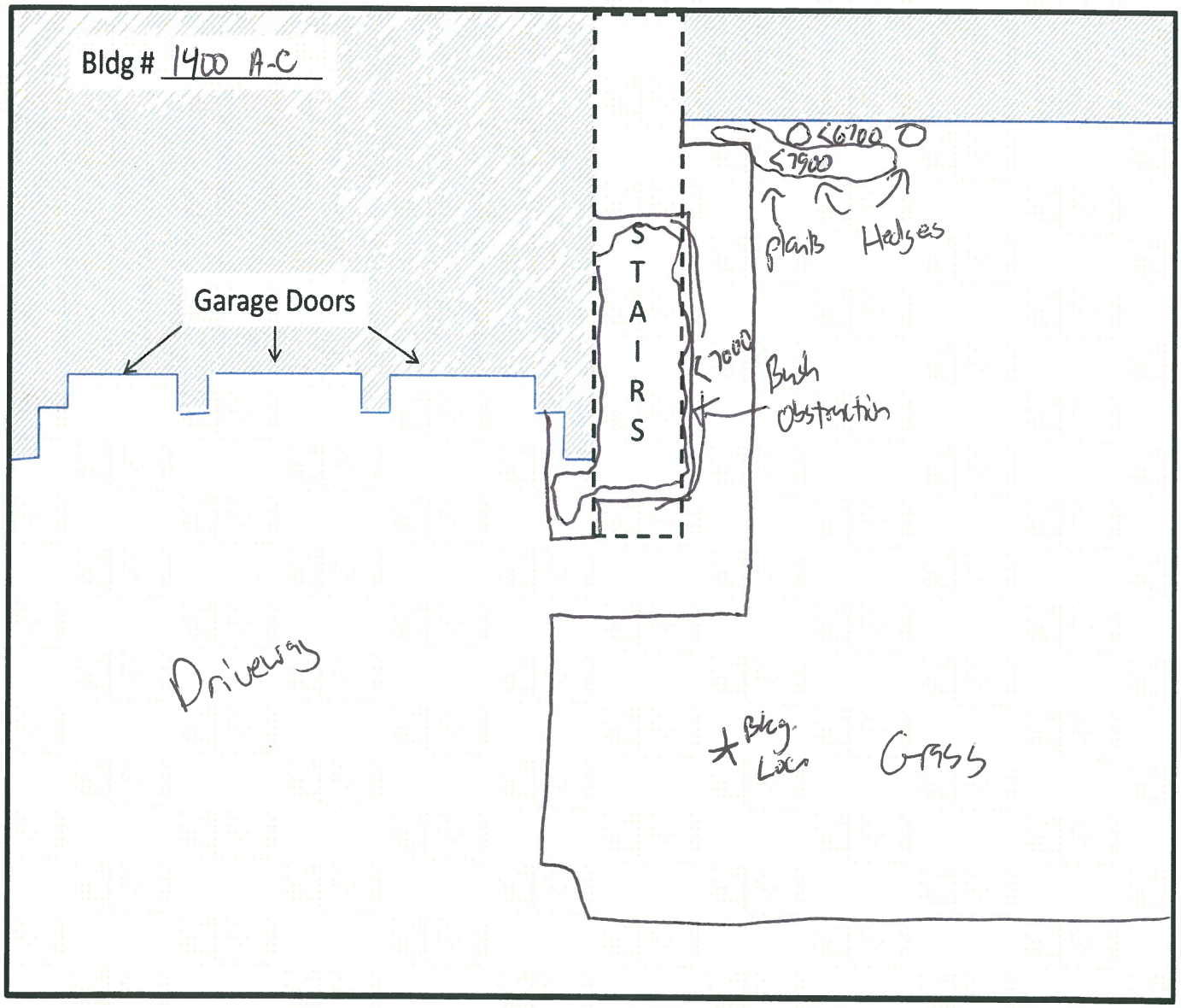
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 129	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	Tim Crawford	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW19768	8/21/14	N/A	N/A	6076	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1400 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

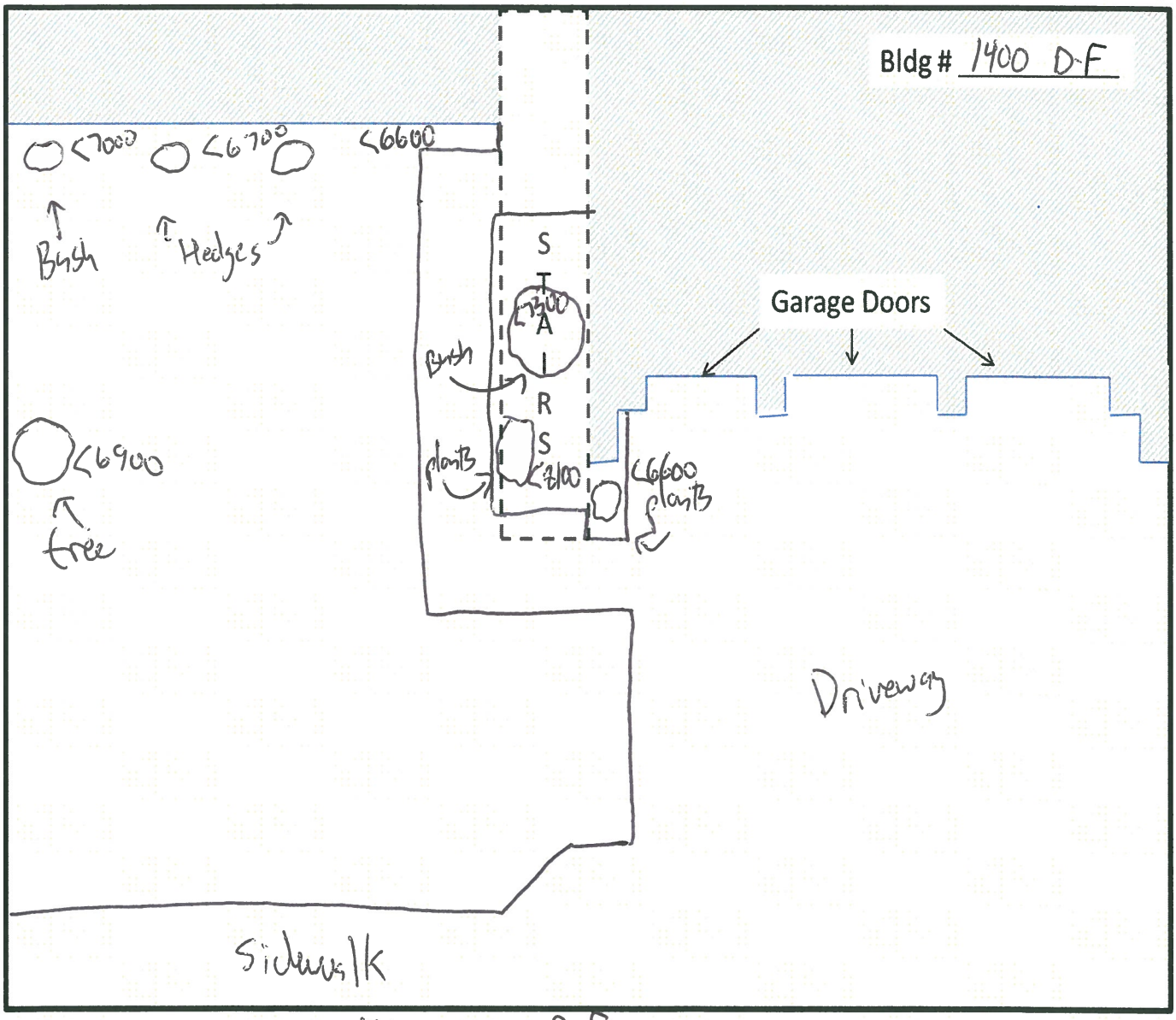
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-129	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1400 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

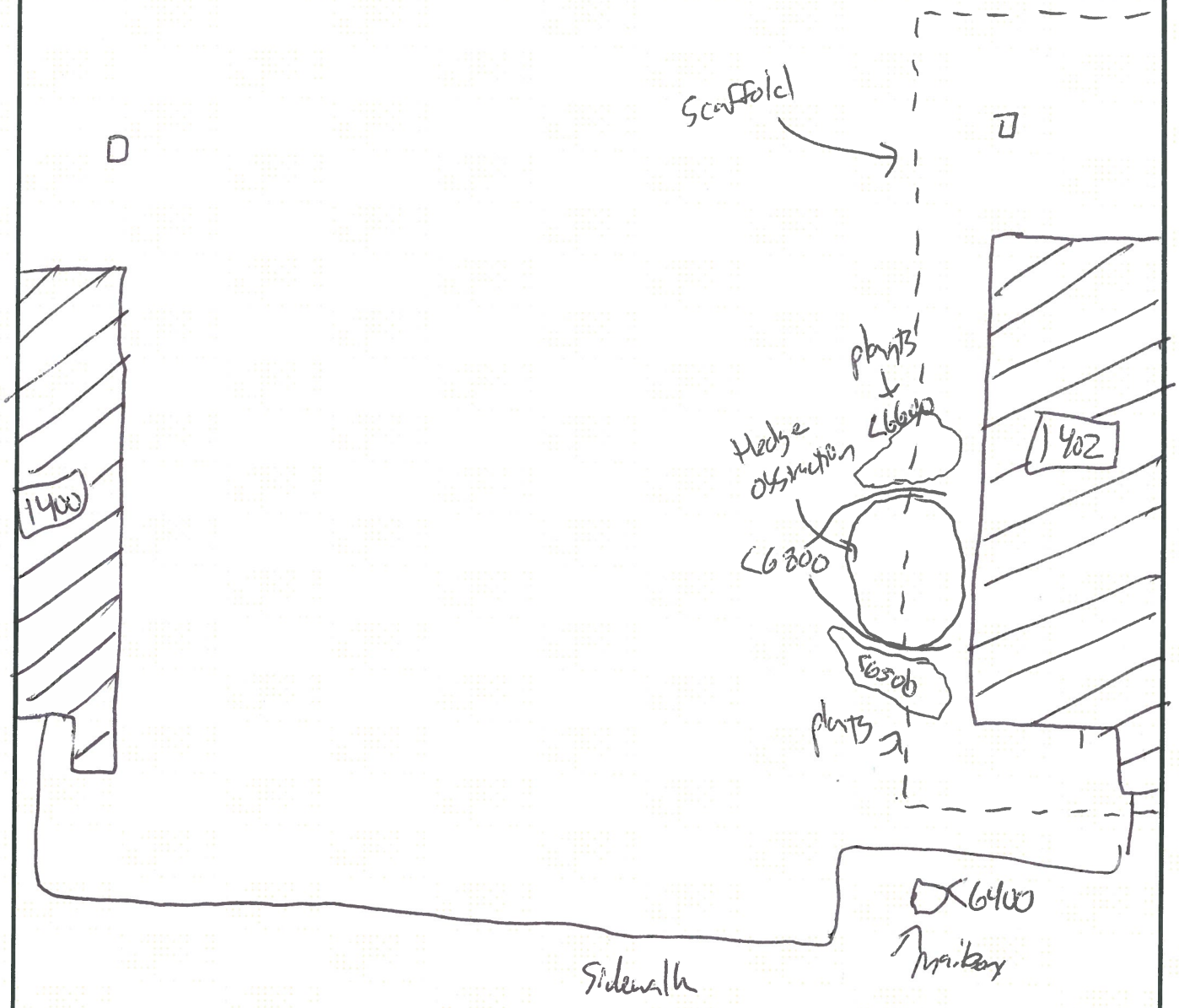
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-129	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

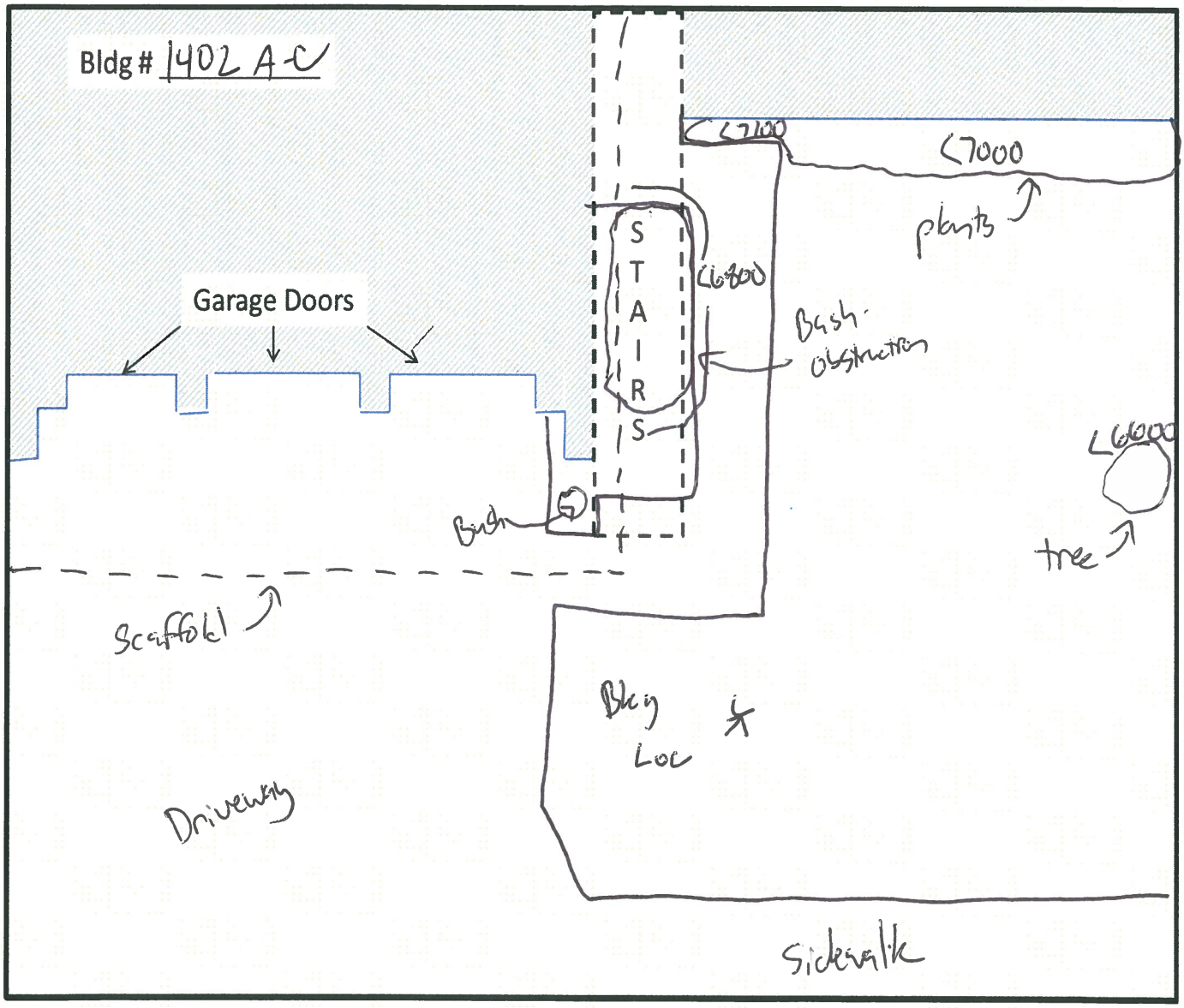
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 130	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR9768	8/21/14	N/A	N/A	5461	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1402 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

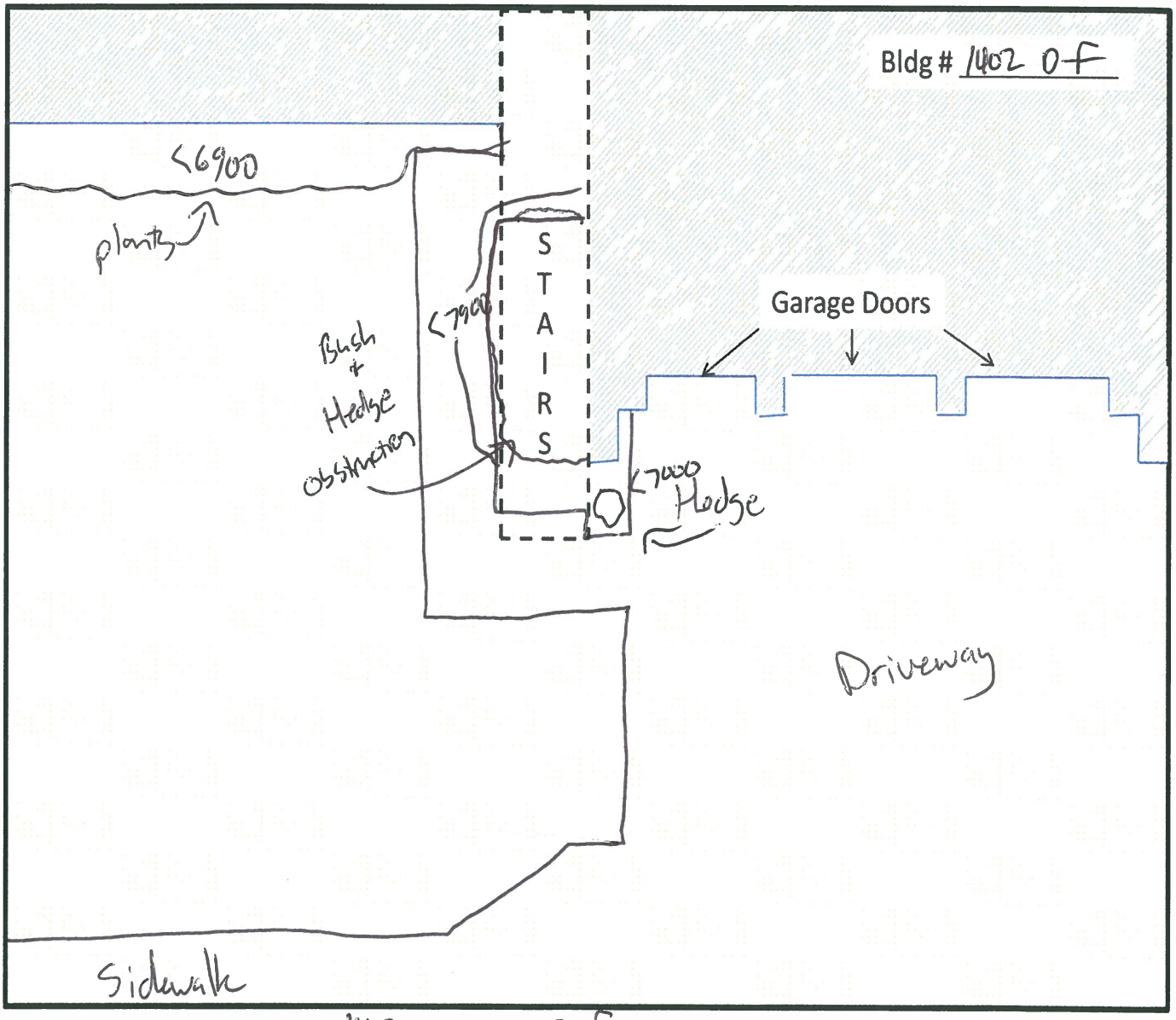
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-130	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1402 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

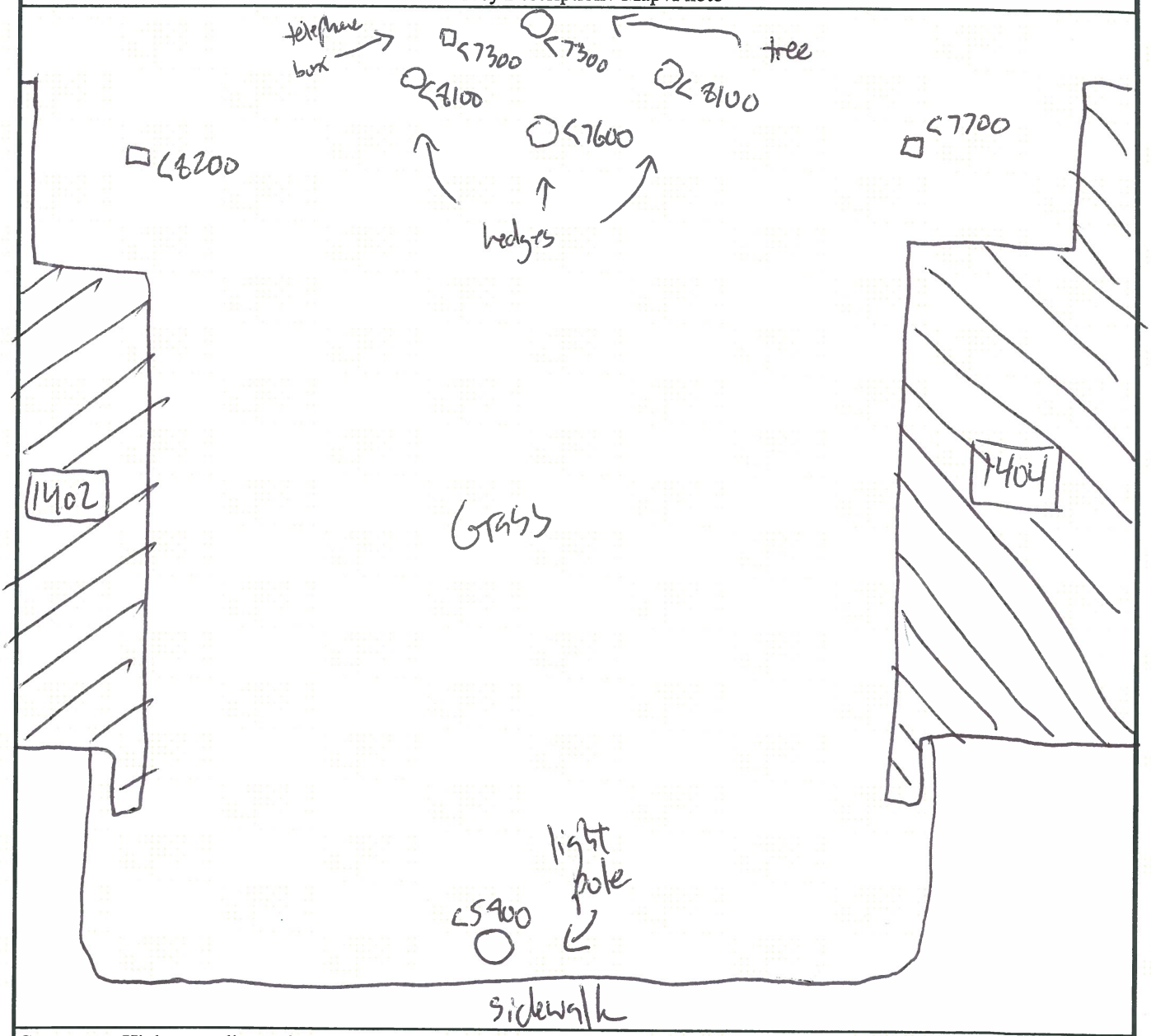
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 130	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

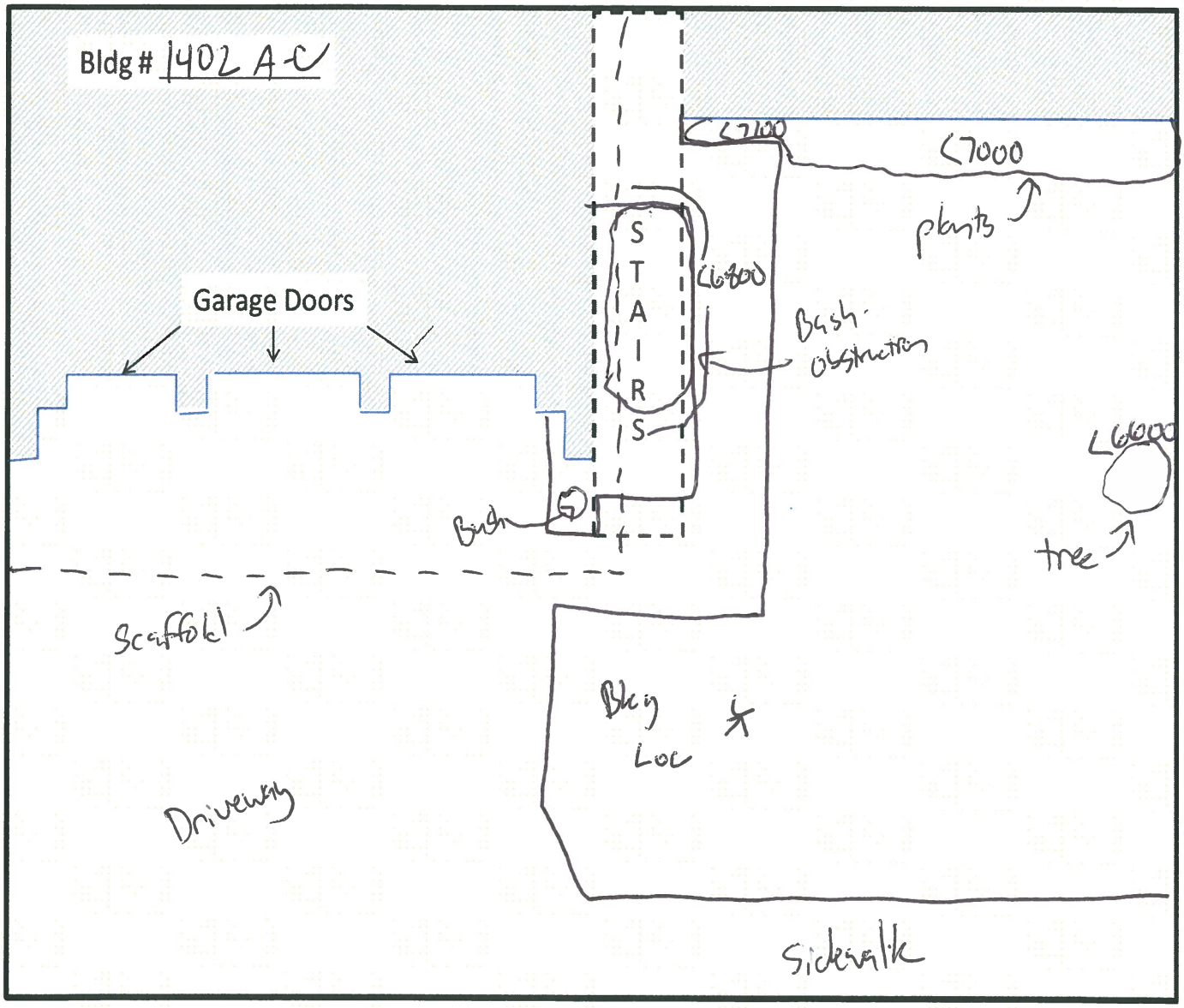
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 130	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR9768	8/21/14	N/A	N/A	5461	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1402 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

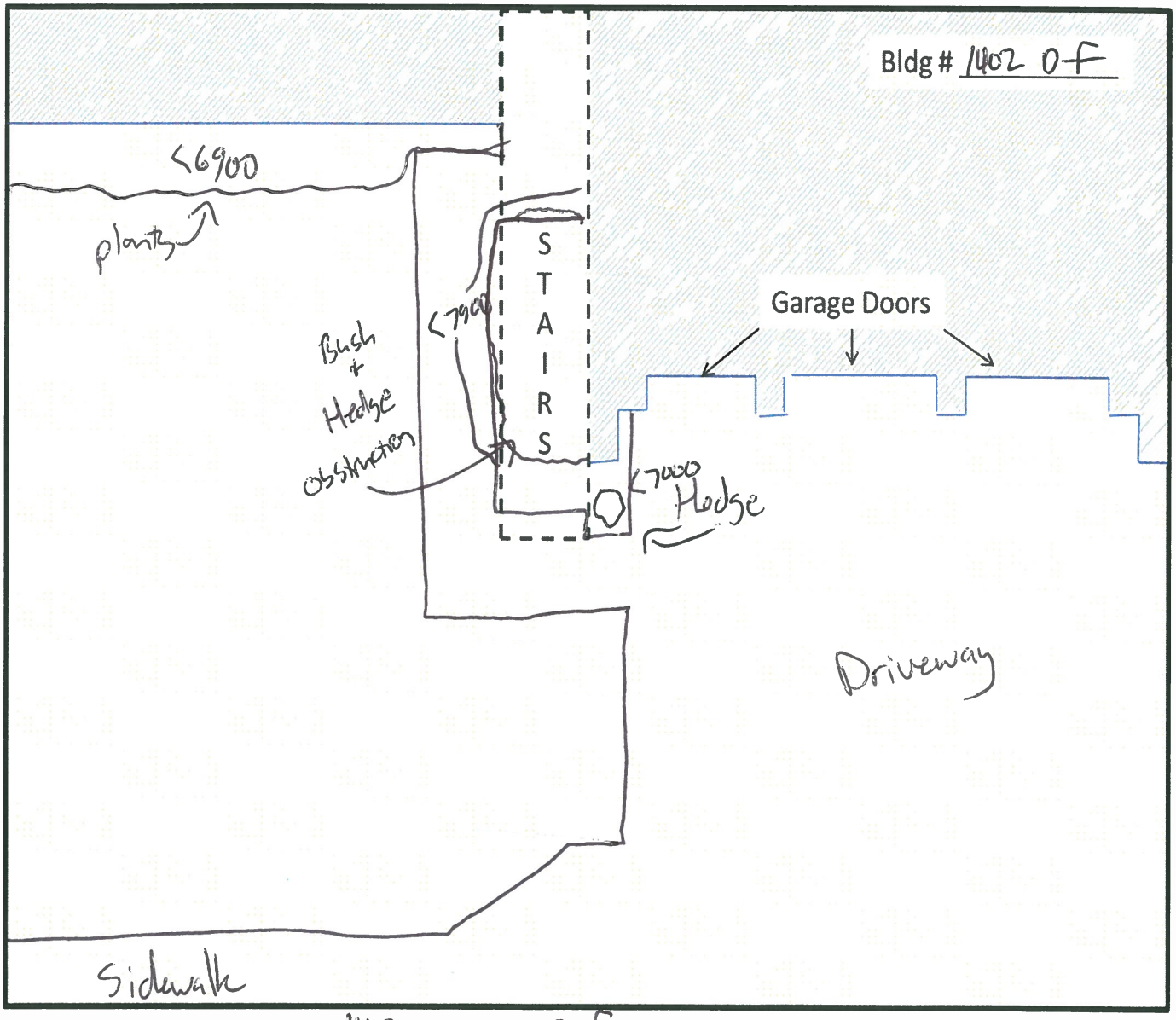
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-130	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1402 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

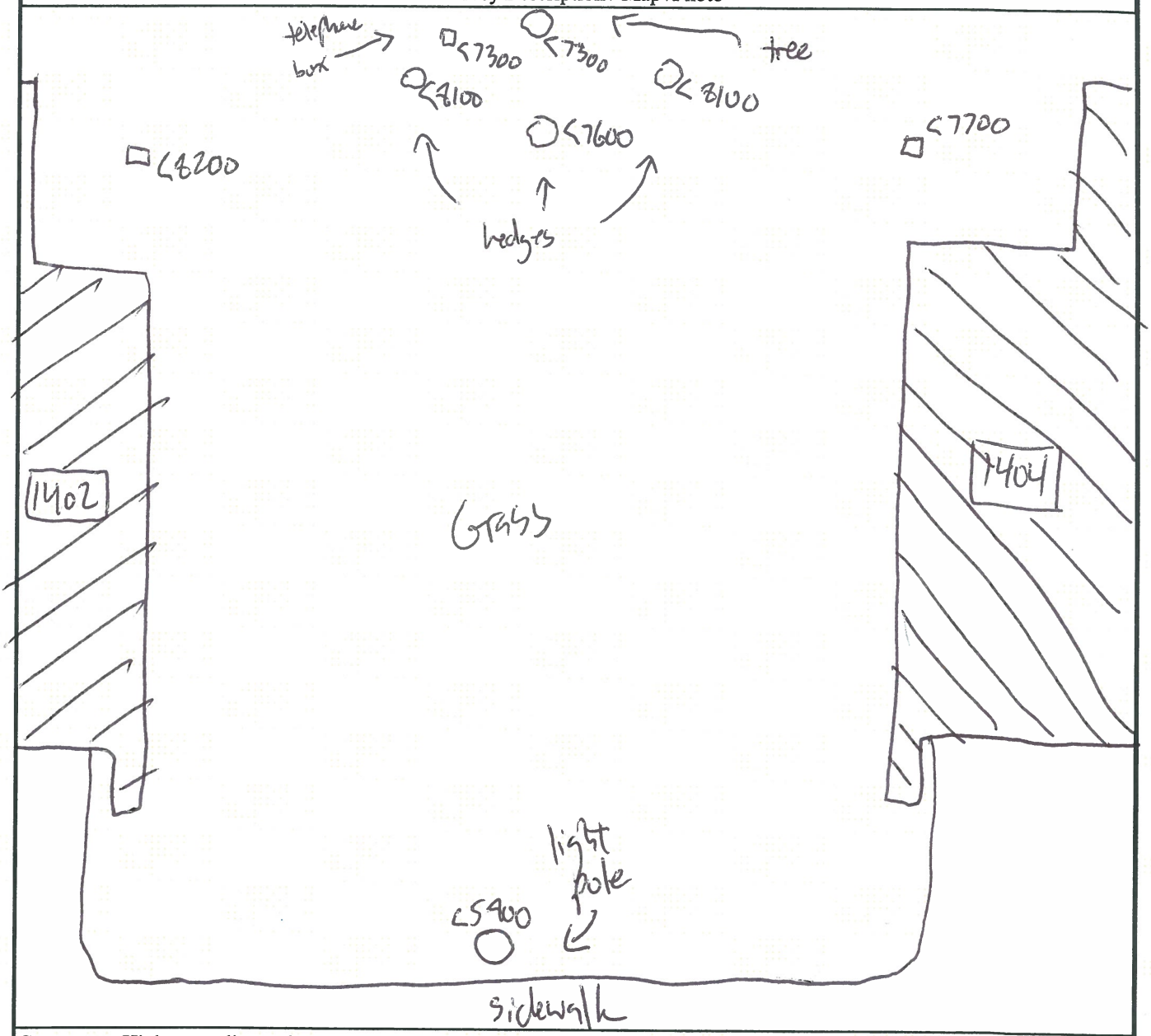
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 130	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

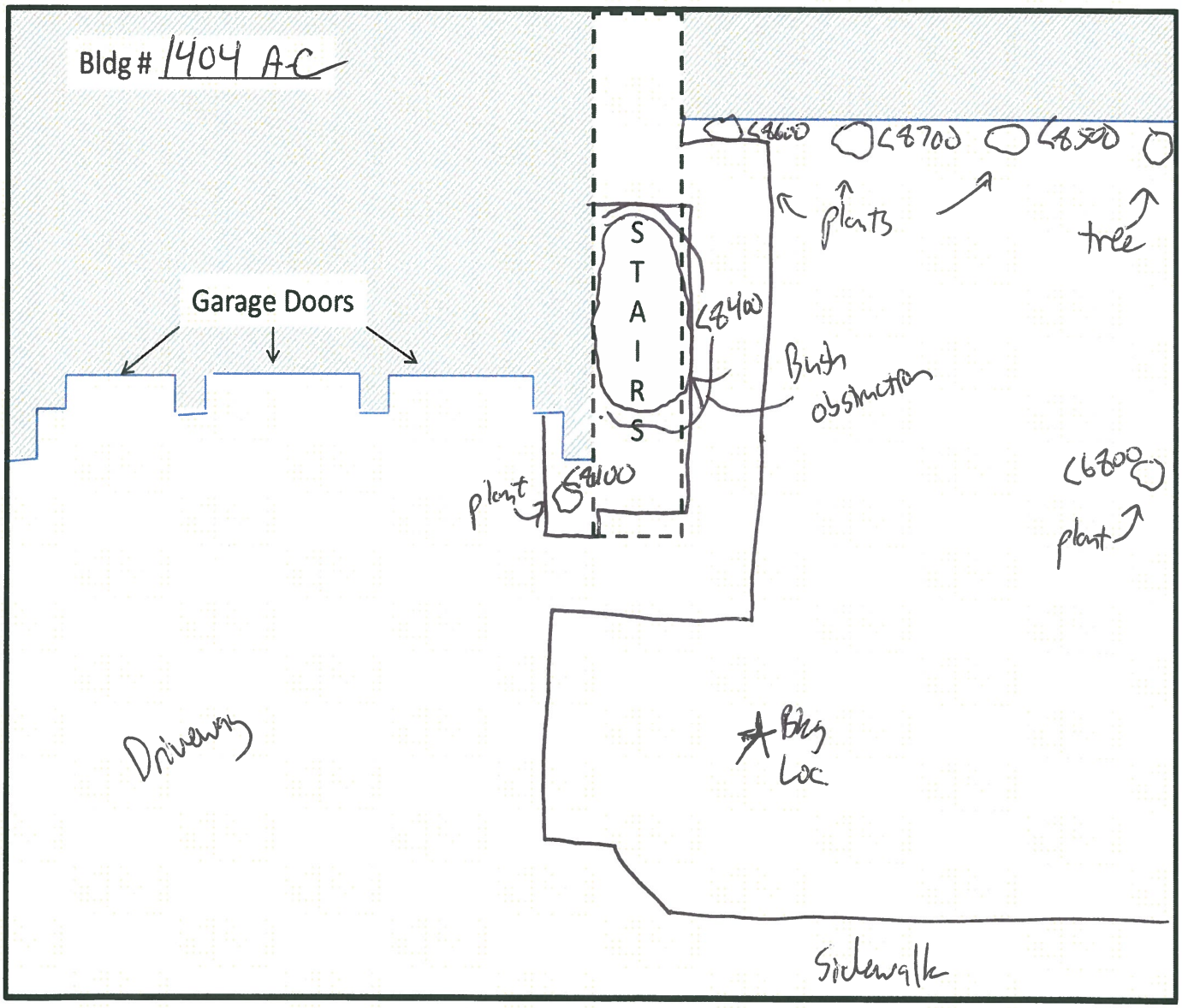
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 131	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[illegible]	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	6195	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1404 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

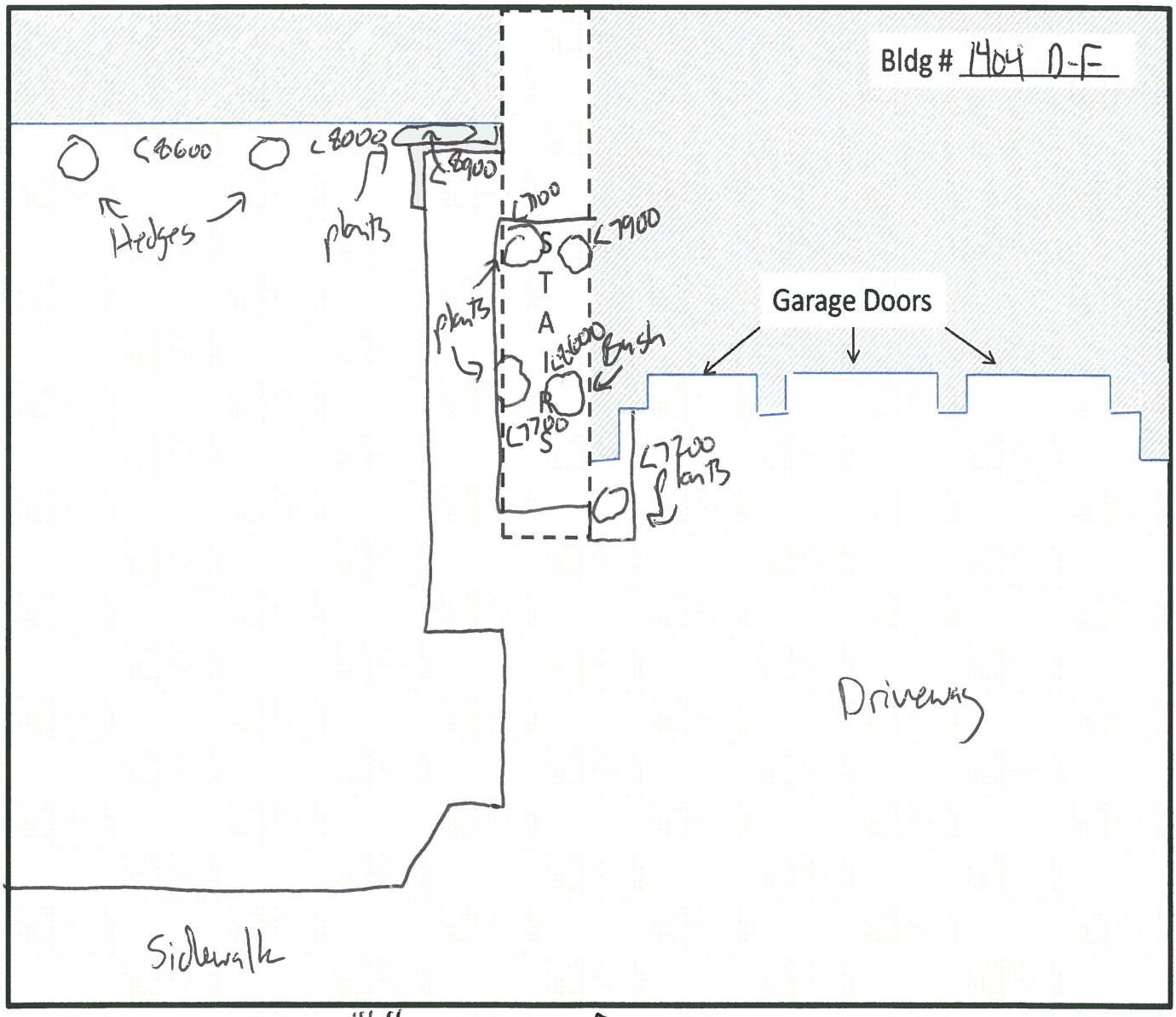
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-131	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1404 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

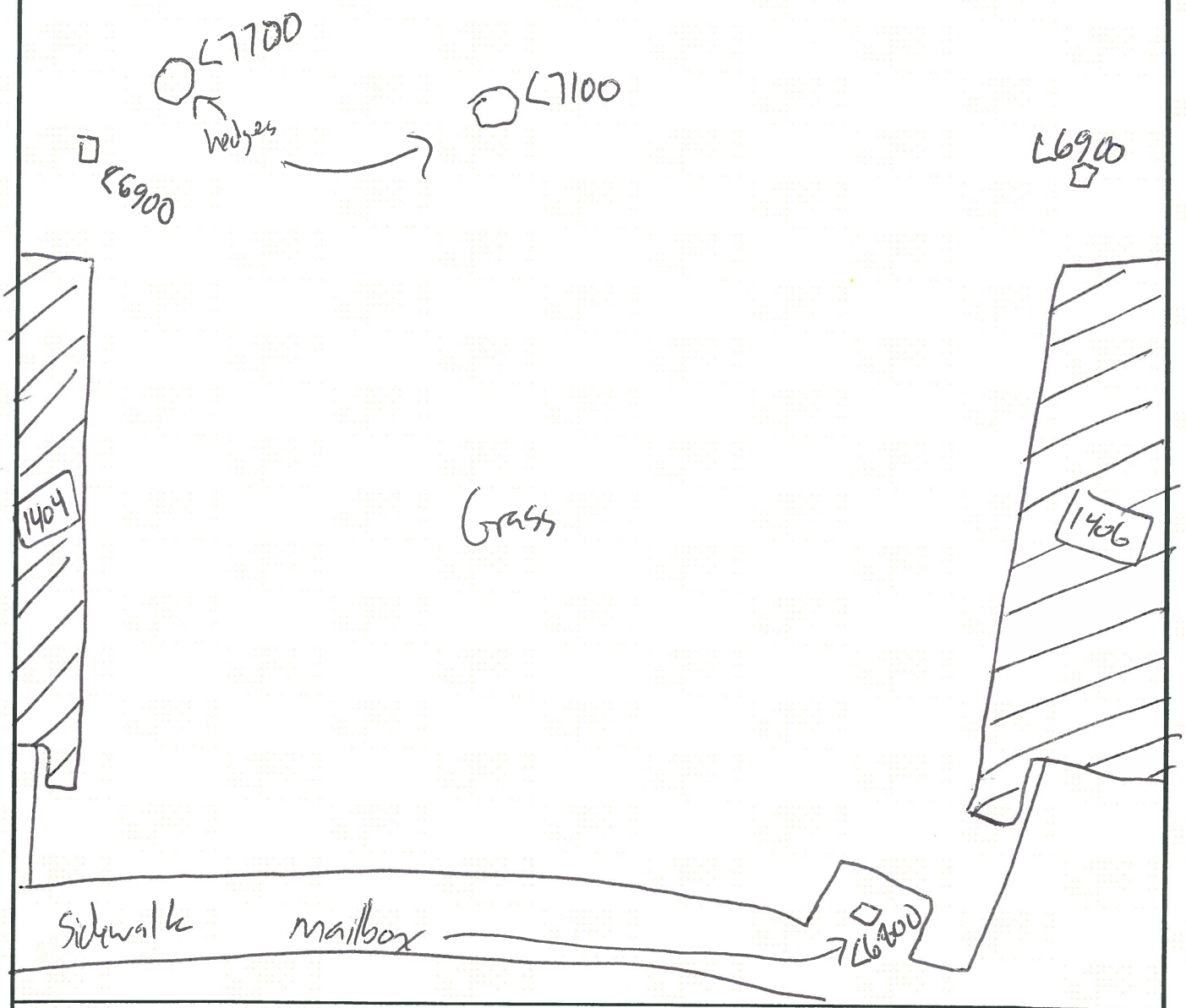
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-131	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

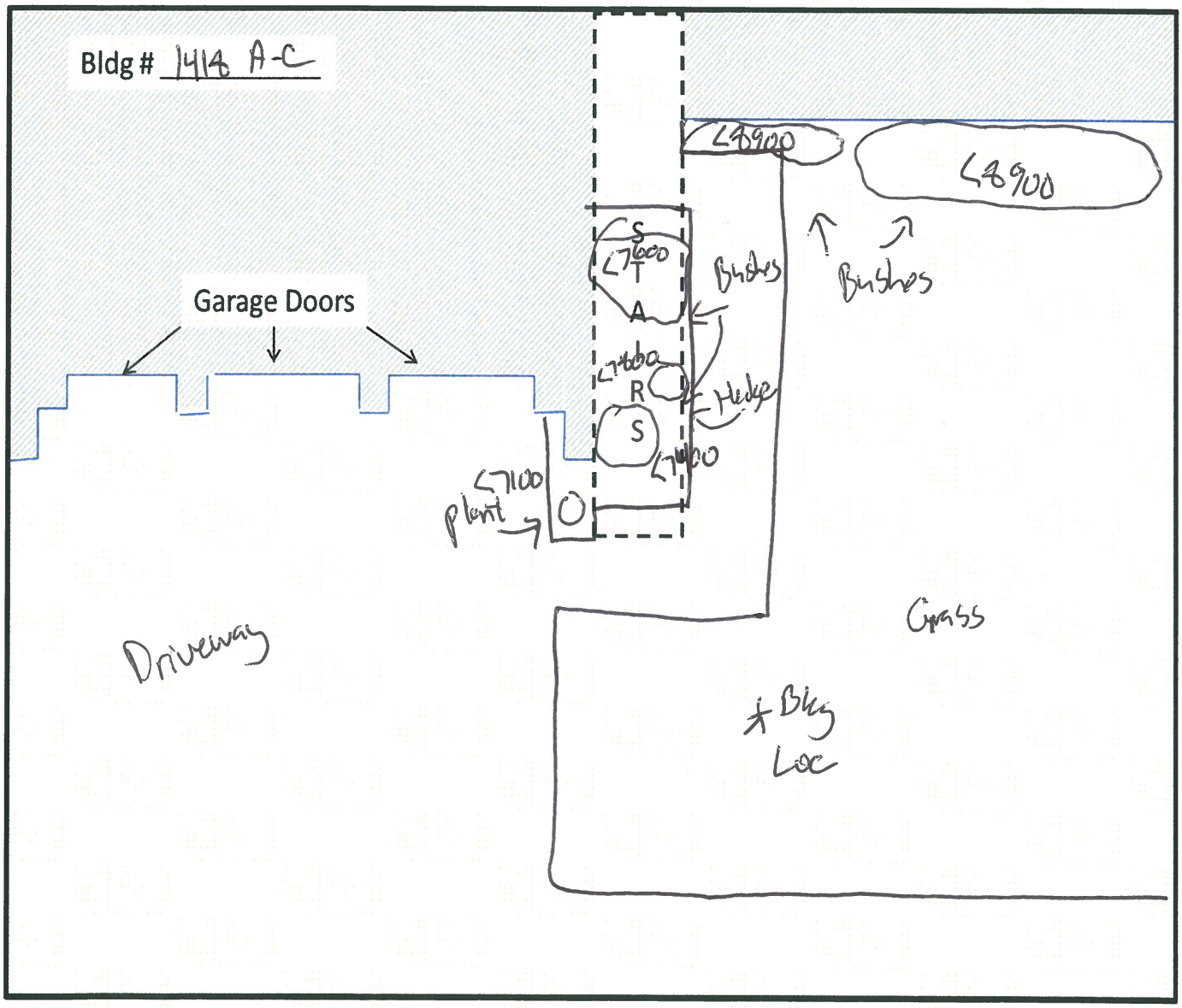
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-132	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	~~RN19768~~	RN19768	8/21/14	N/A	N/A	5587	N/A	N/A	N/A
N/A			44-10	7E 10/23/13							→
N/A											→

Survey Description / Map /Photo



Building # 1418 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

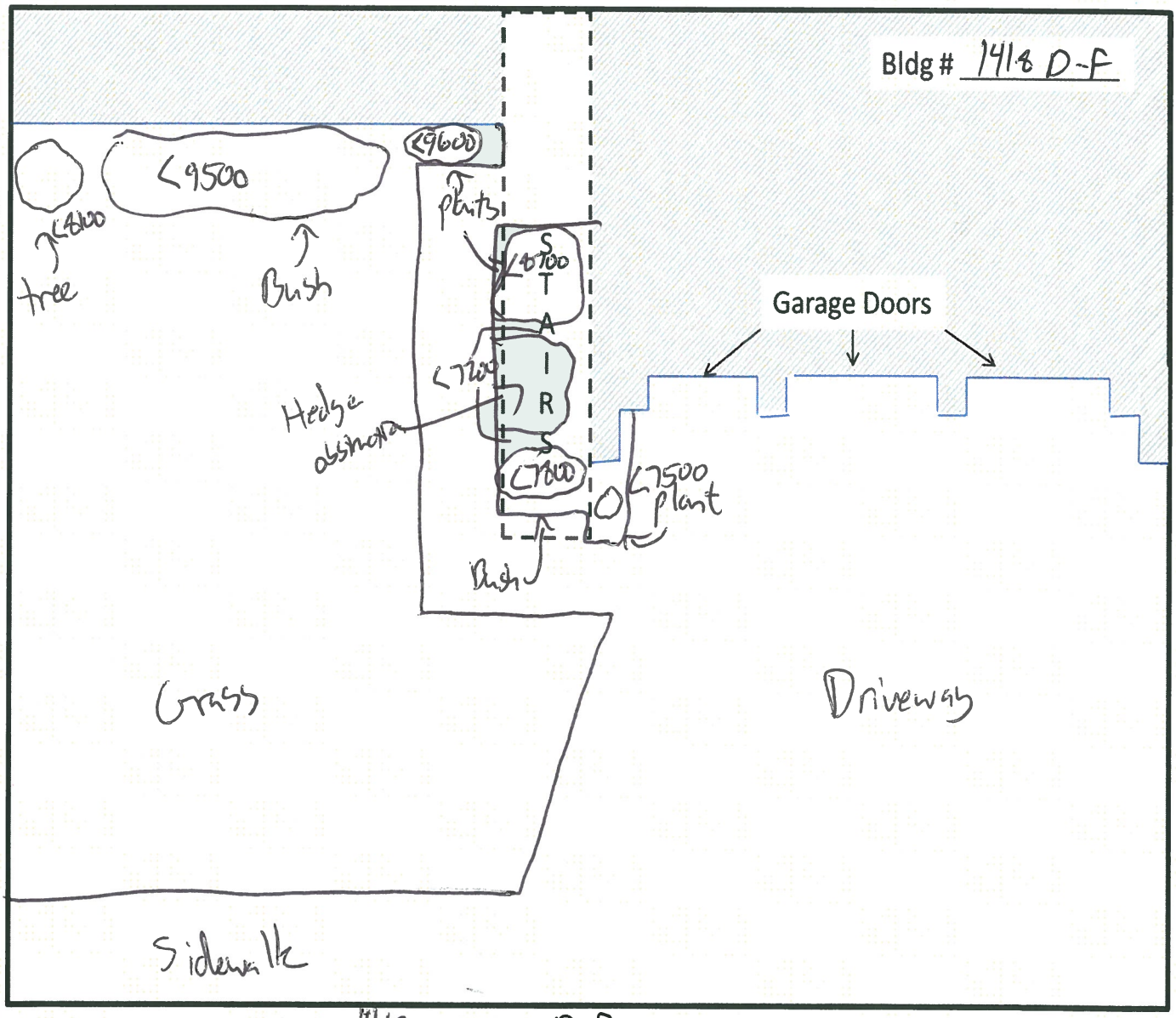
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 132	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1418 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

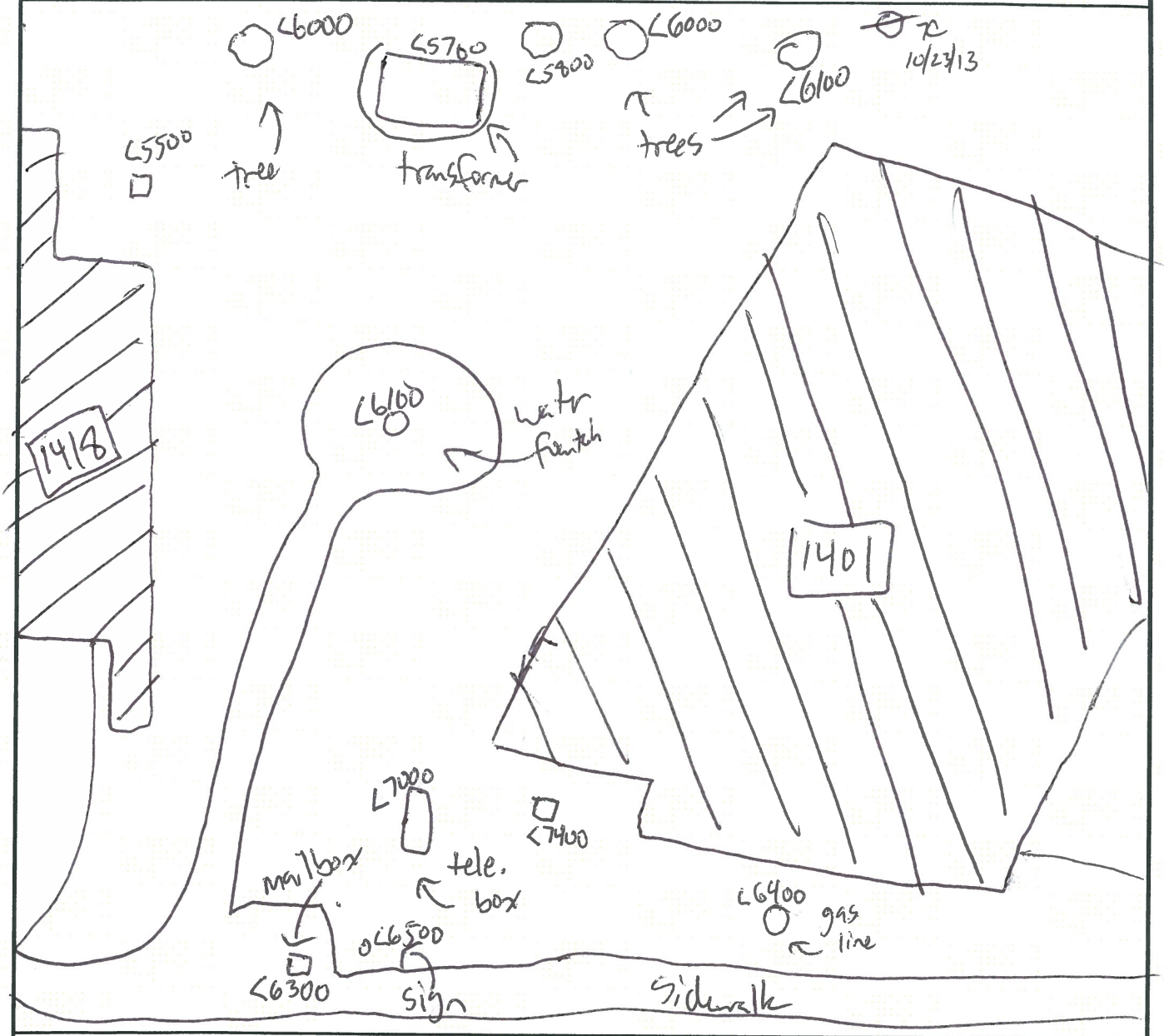
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 132	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

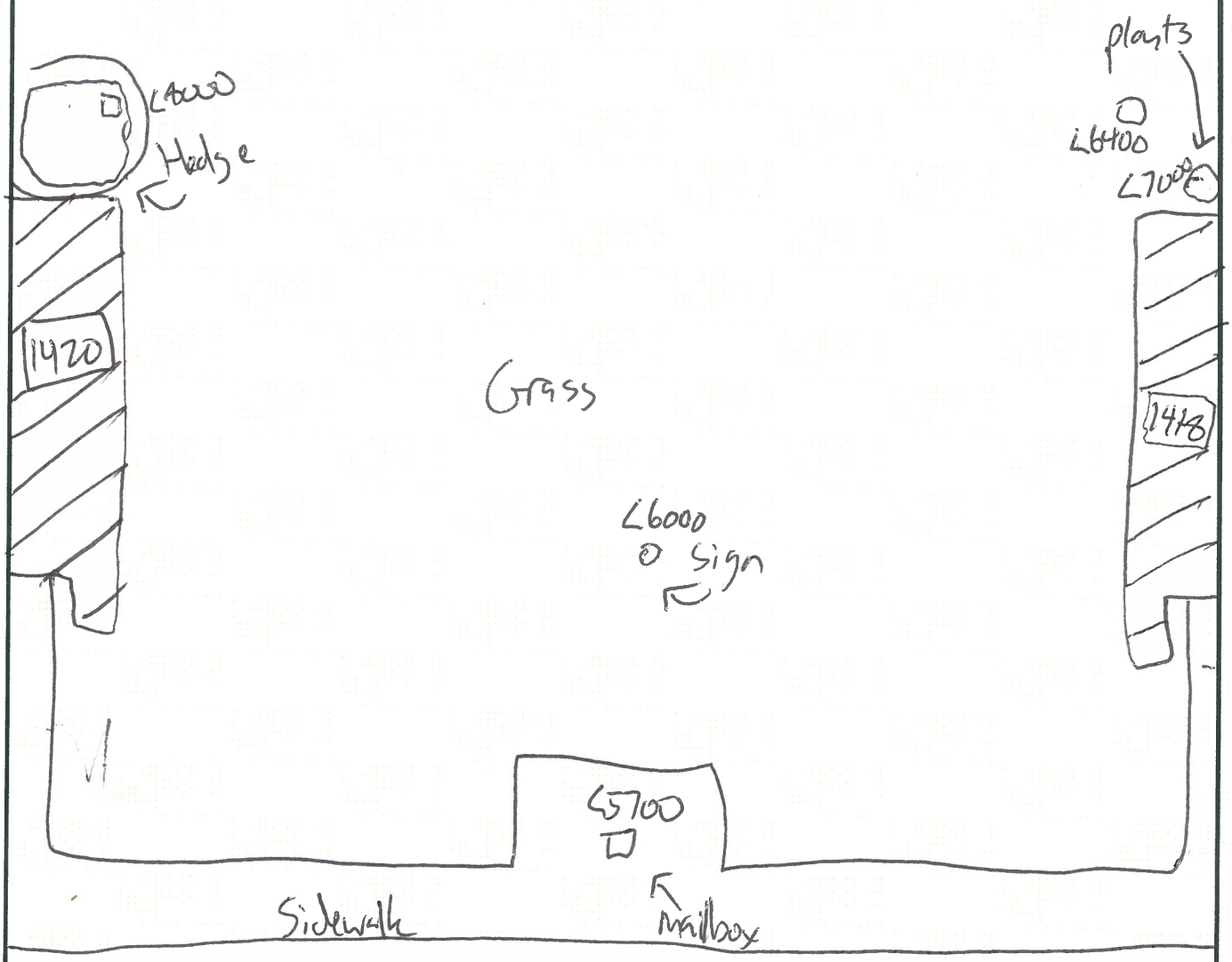
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-132	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

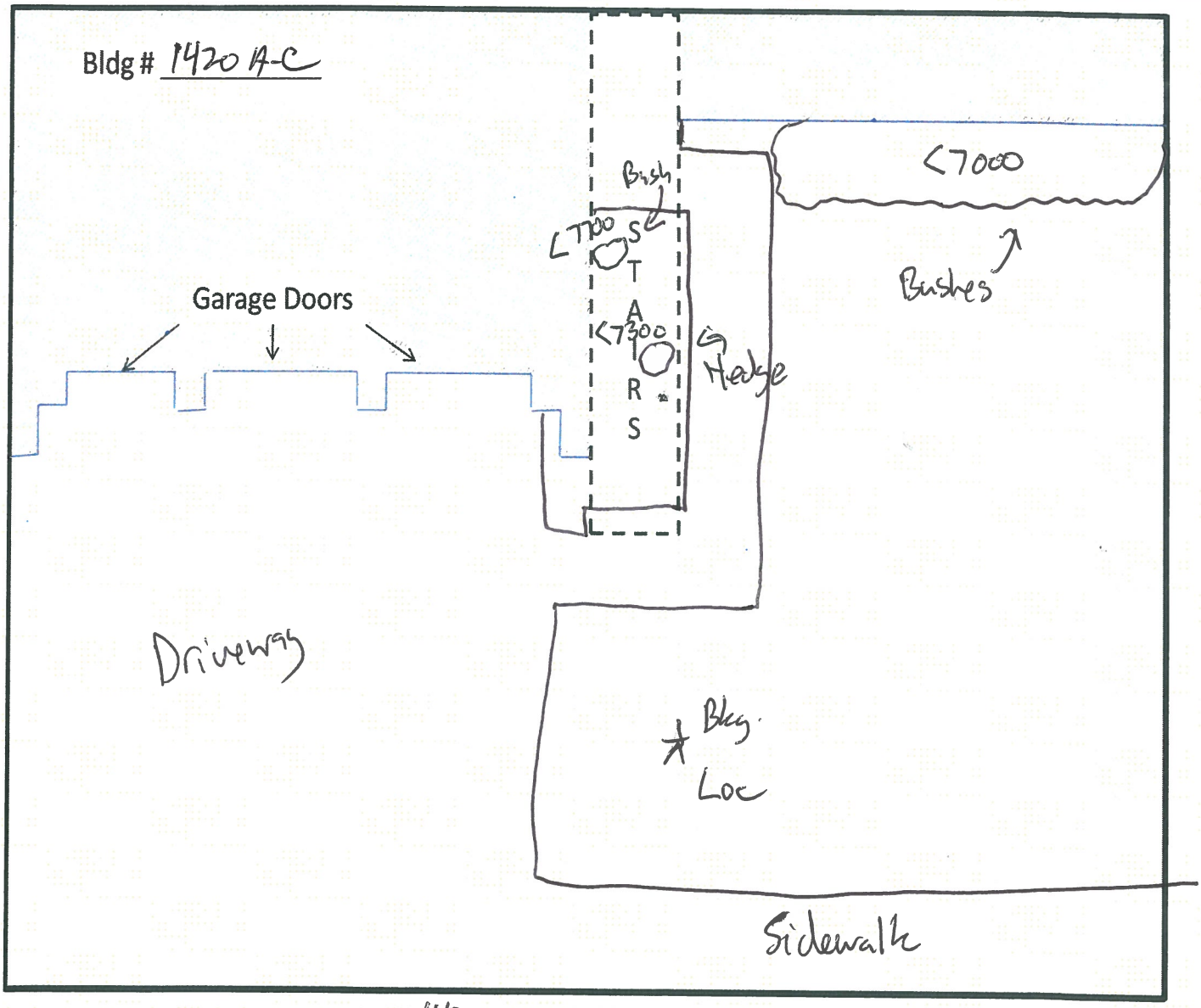
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-133	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	5587	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1420 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

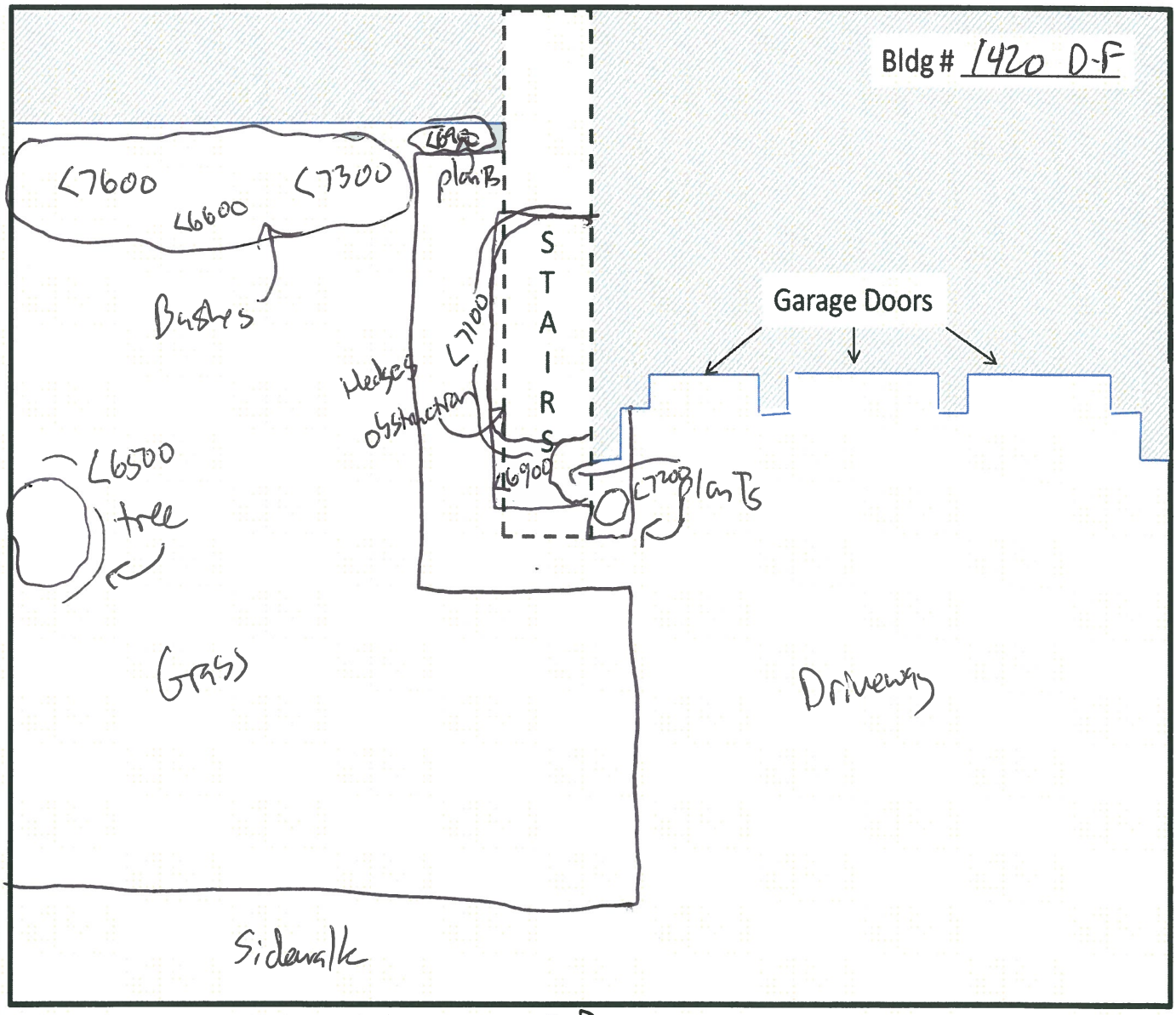
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-133	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1420 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

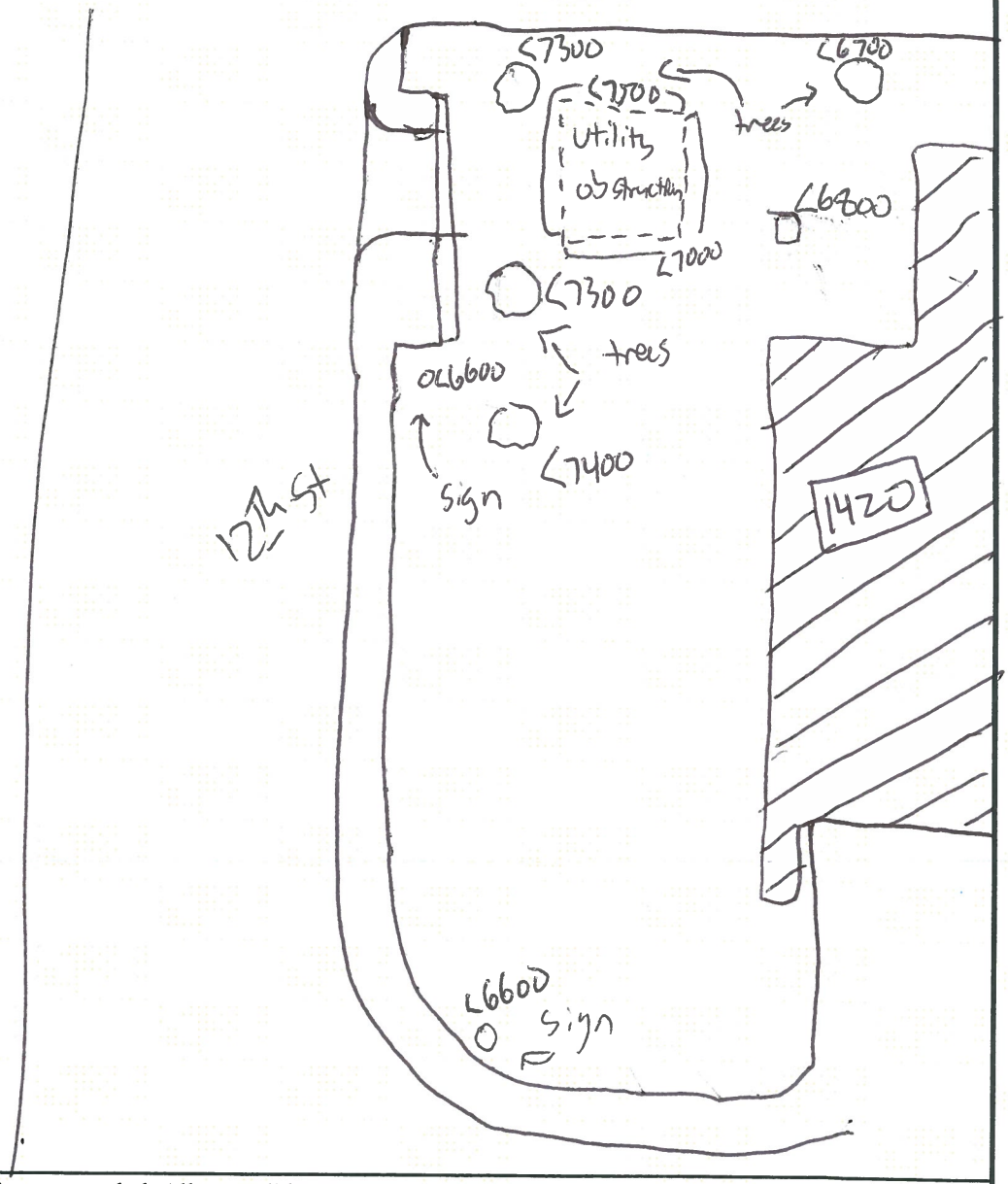
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-133	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

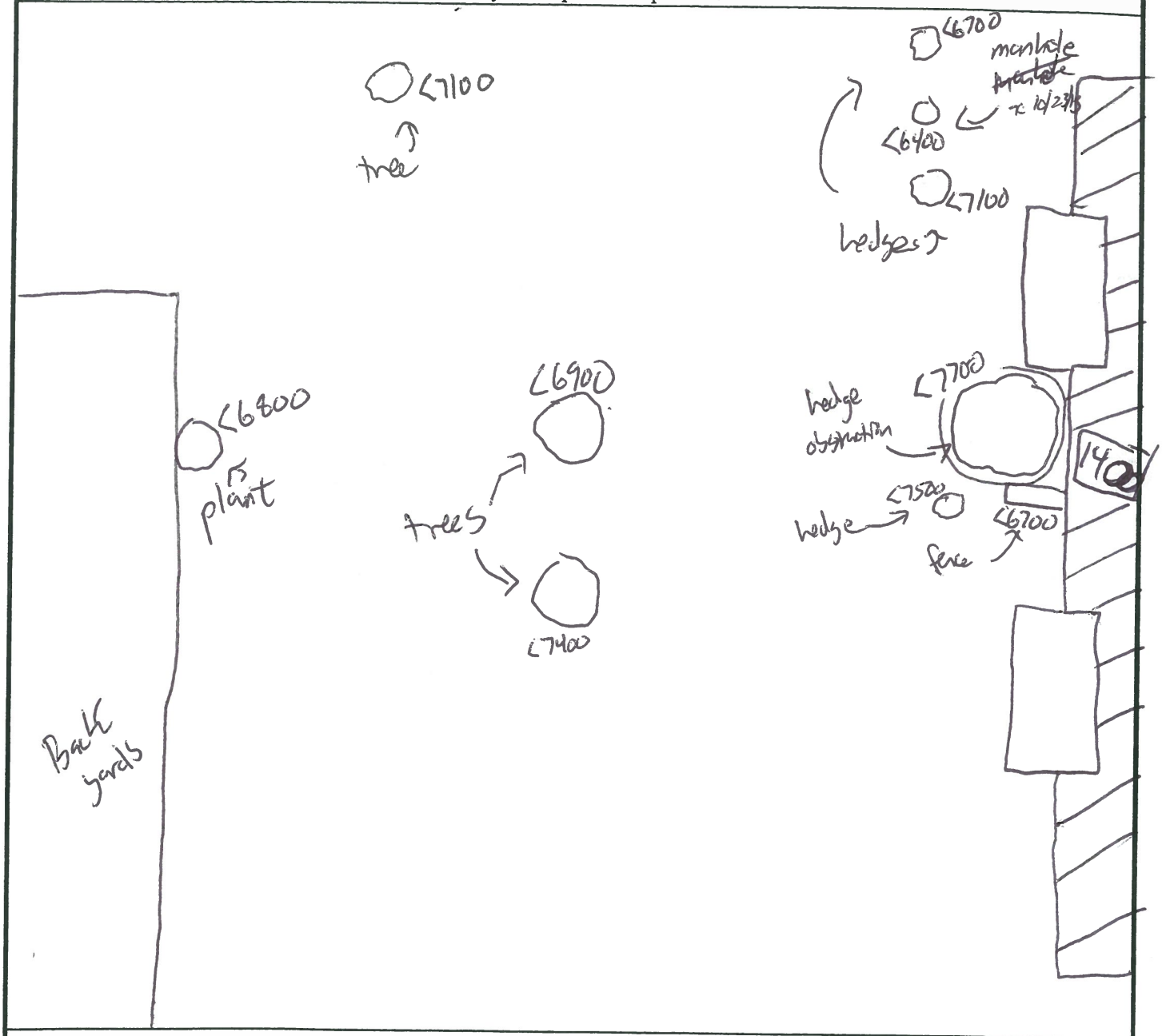
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	RAD Scoping Surveys / Treasure Island Ca	07204-0006

Survey No.: 06-12-134	Date: 10/23/13	Location: Site 12	Survey Type: 2x 2hrs/hour
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19268	8/21/14	N/A	N/A	6/56	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

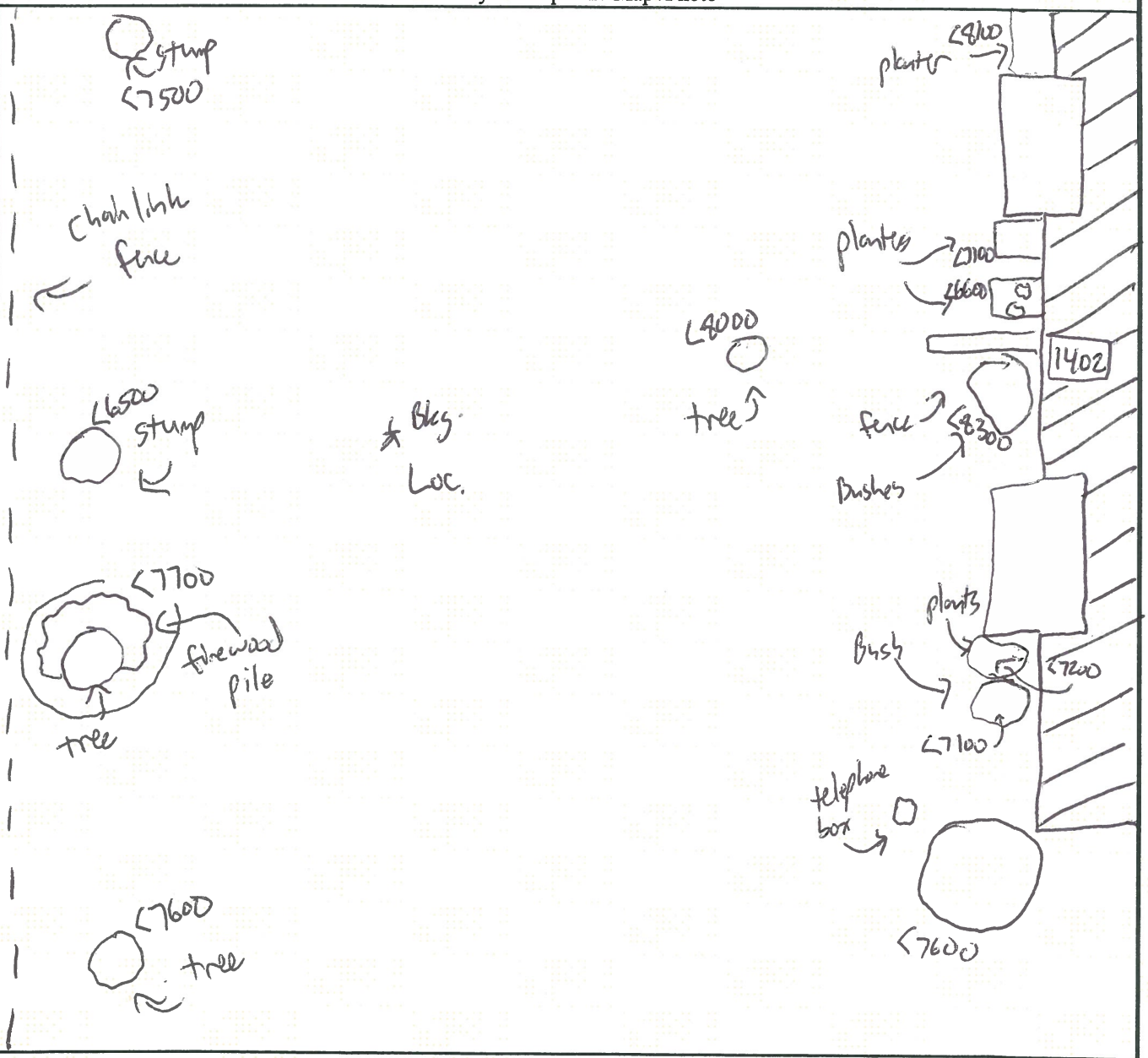
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-134	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

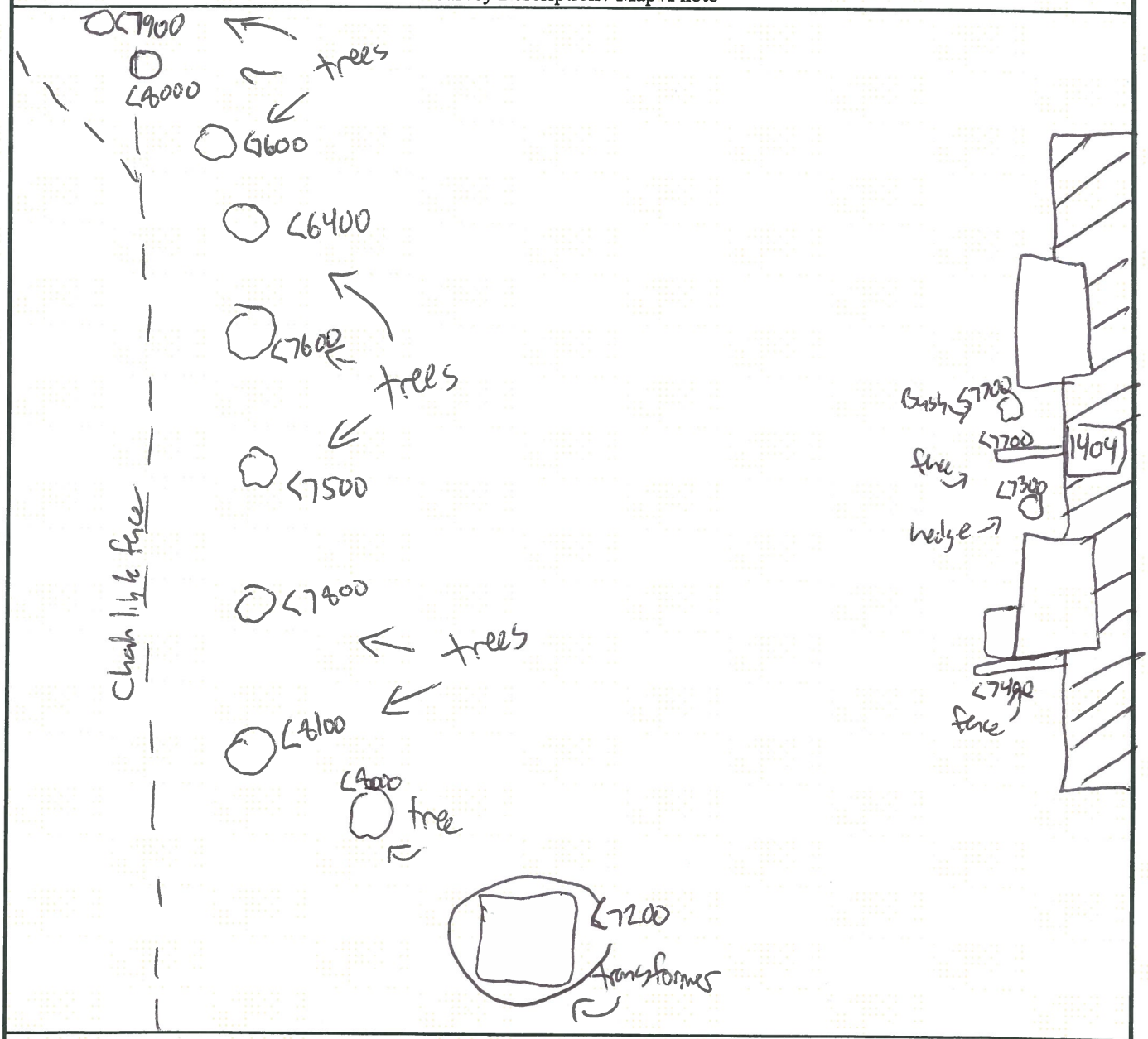
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 134	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

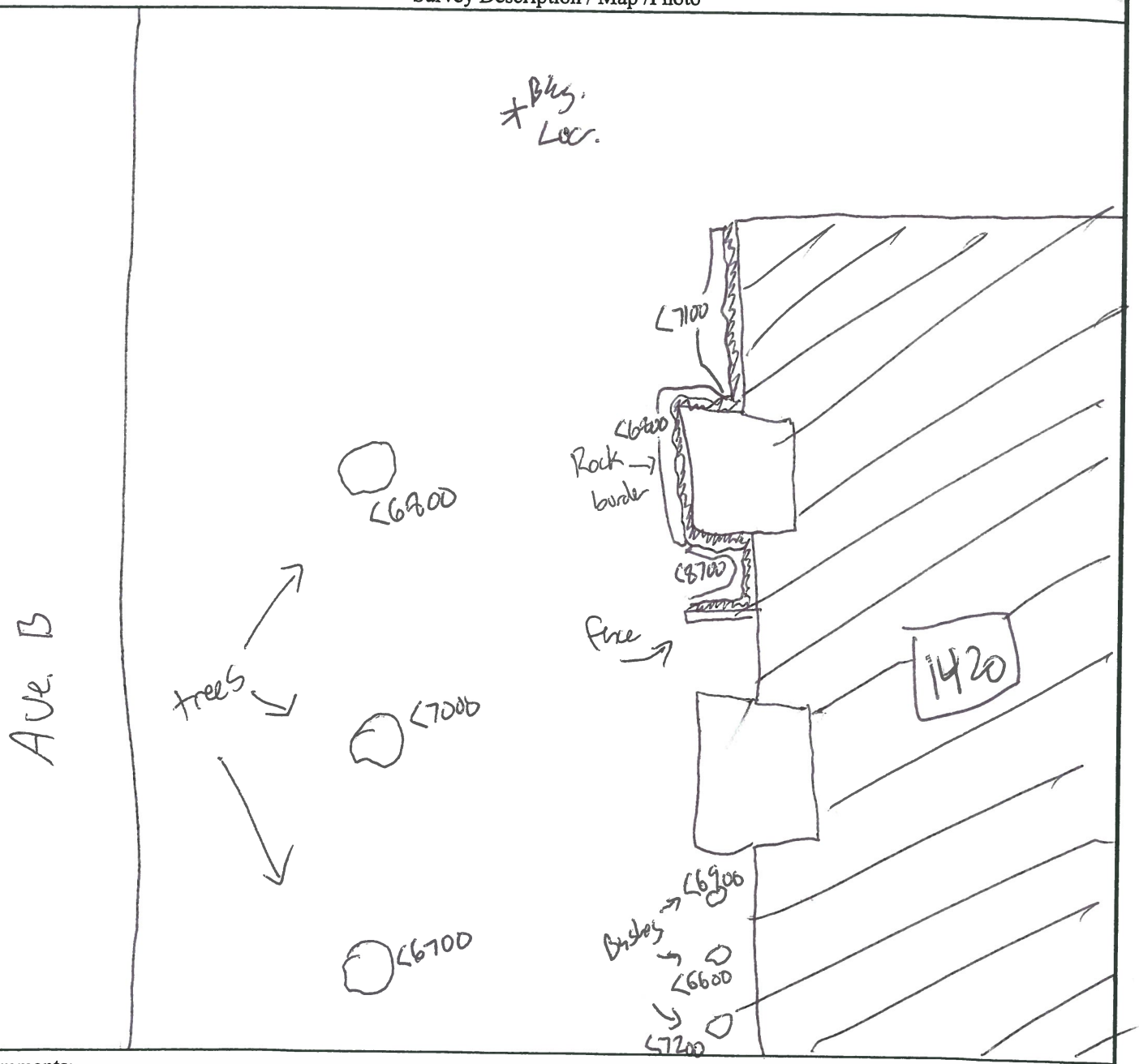
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-A-8808 / 0006	RAD Scoping Surveys / Treasure Island Co	076204-0006

Survey No.: 06-12-135	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	6009	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

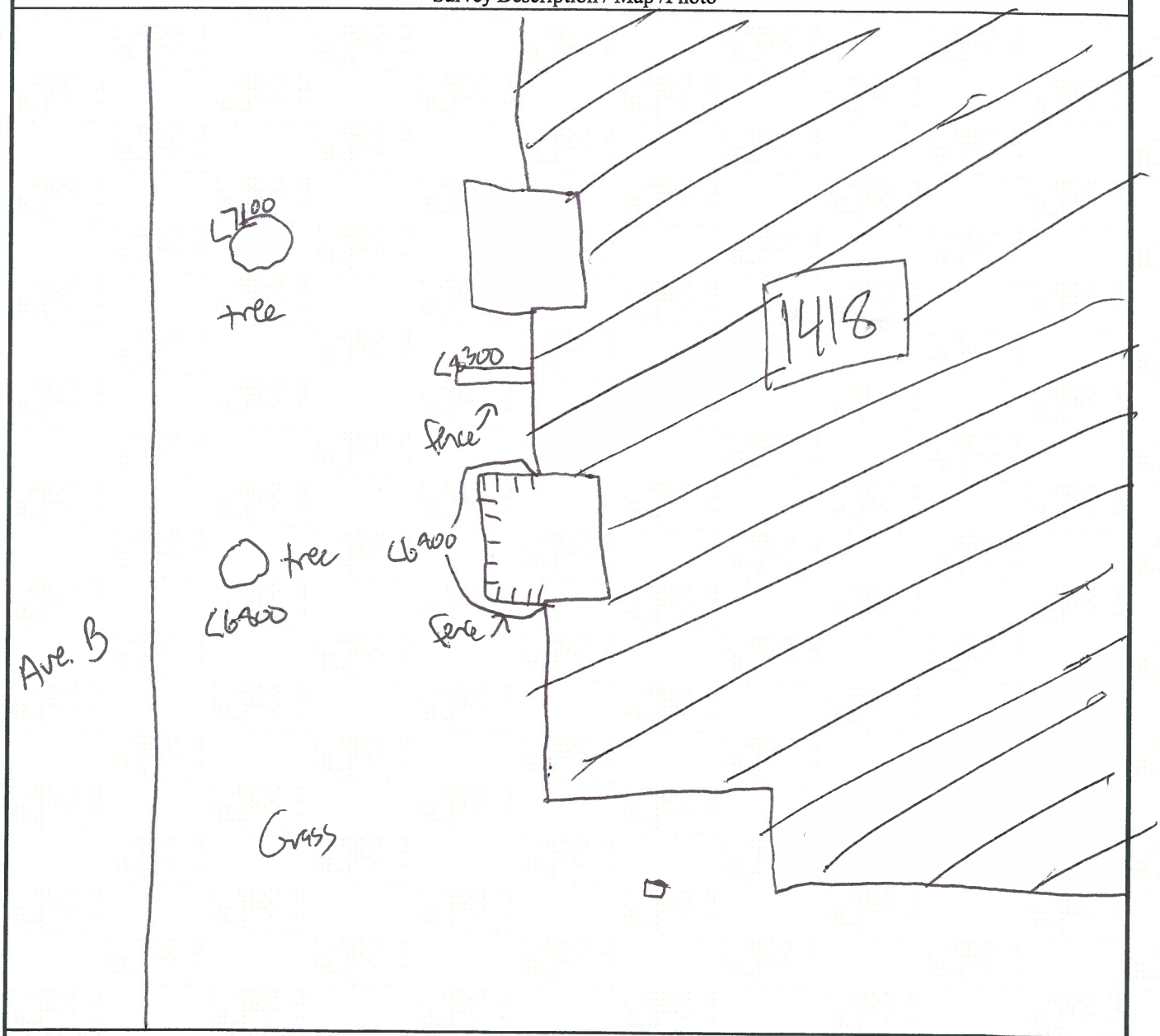
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 135	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

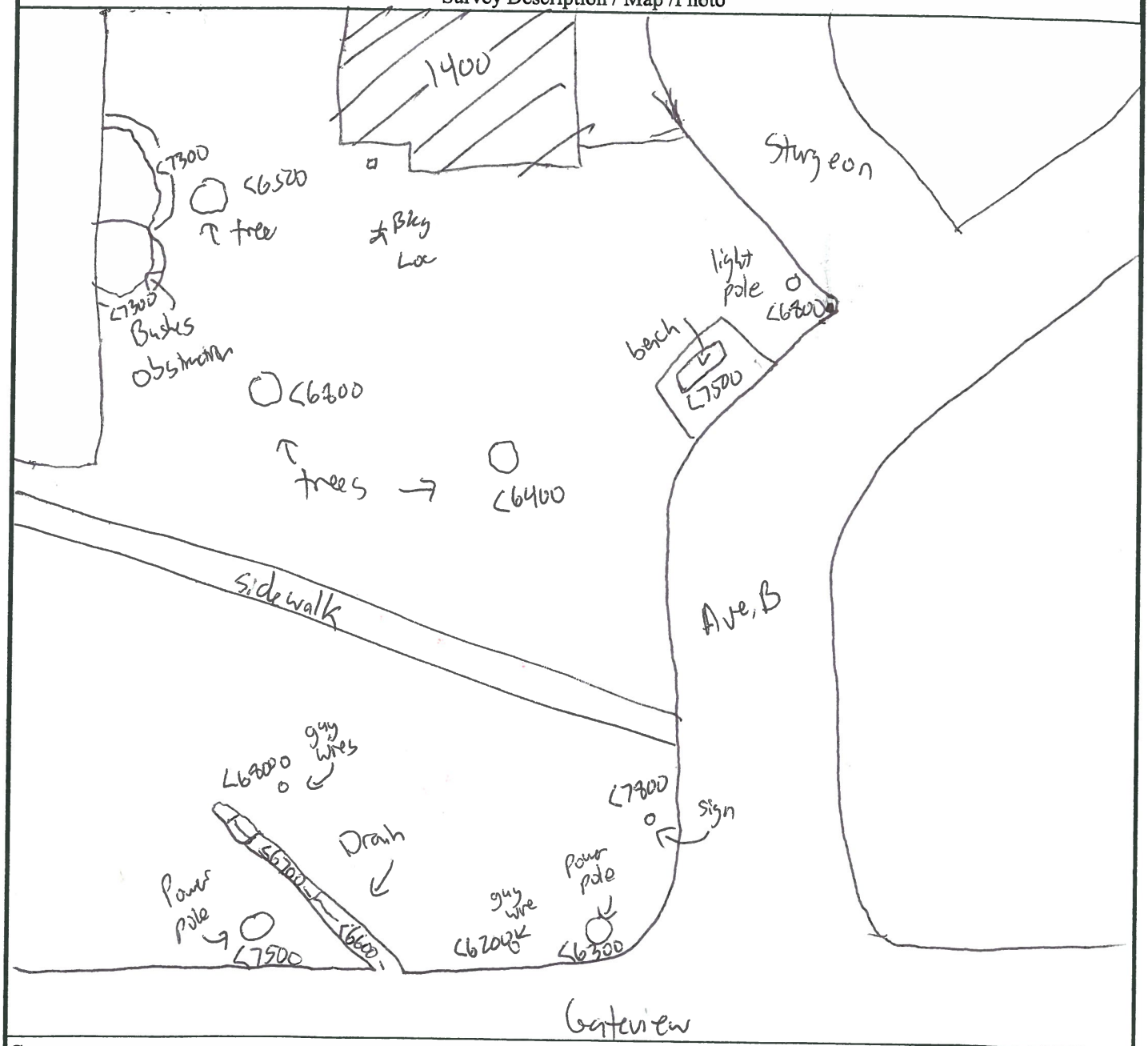
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	RAD Scoping Surveys / Treasure Island CA	07204 - 0006

Survey No.: 06-12-136	Date: 10/23/13	Location: Site 12	Survey Type: 2x2 grid/cover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	2N19769	8/21/14	N/A	N/A	6169	N/A	N/A	N/A

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

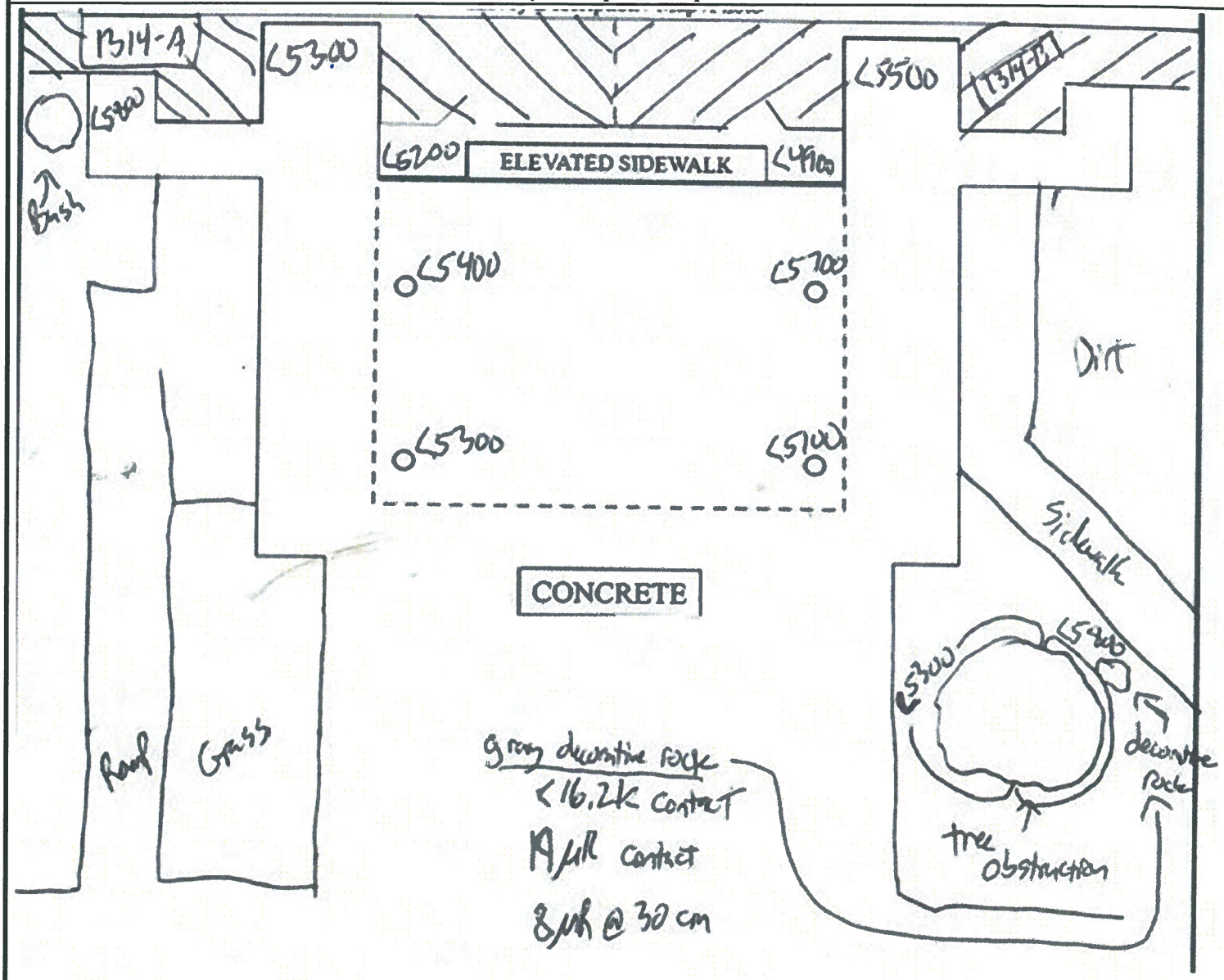
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-137	Date: 10/24/2013	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/2014	44-10	RN19768	8/21/2014	N/A	N/A	5541	N/A	N/A	N/A
19	36519	7/27/2014	N/A	N/A	N/A	N/A	N/A	N/A	6	N/A	N/A
N/A											

Survey Description / Map /Photo



Building # 1314 Apt(s)# A & B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

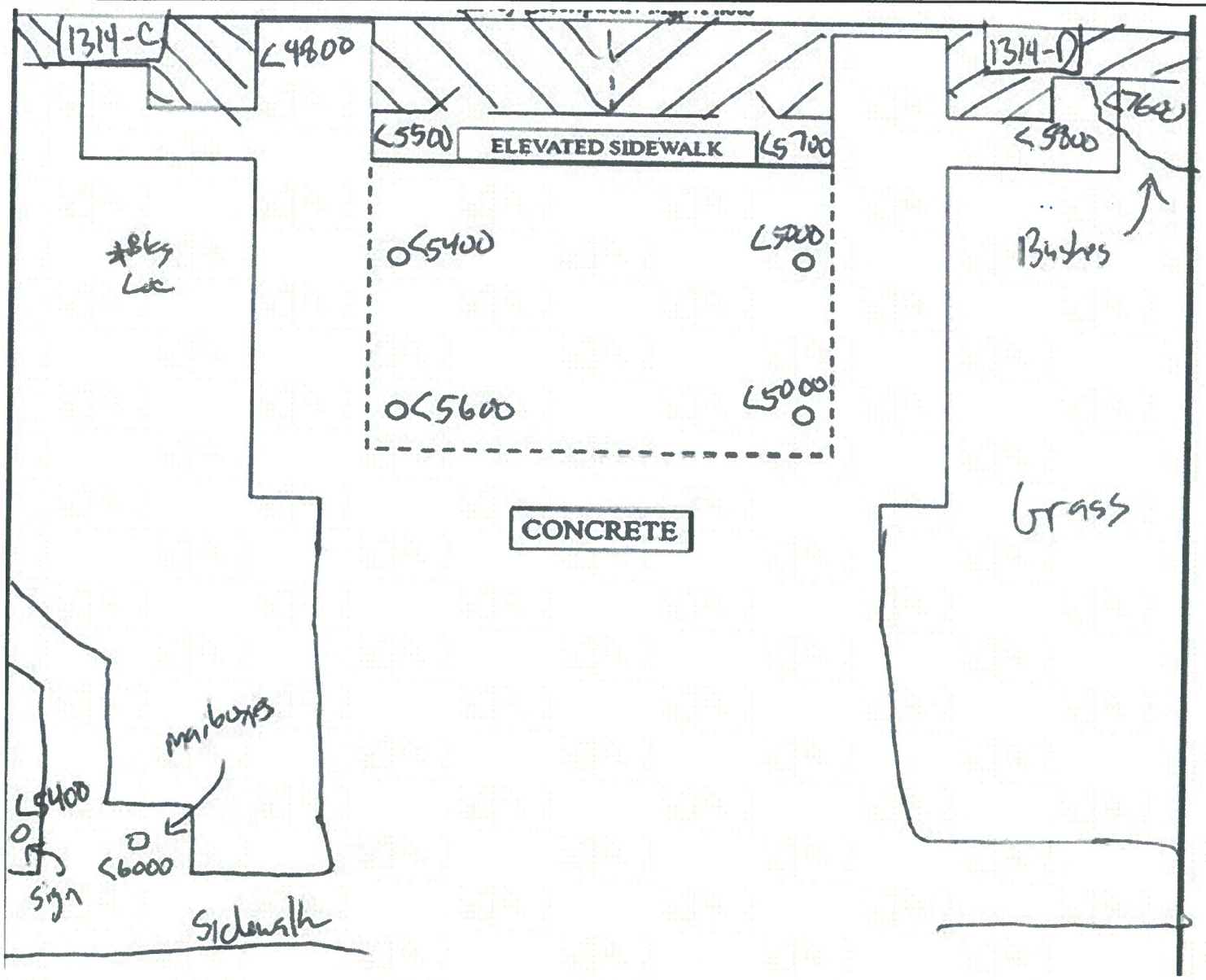
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-137	Date: 10/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1314 Apt(s)# C & D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

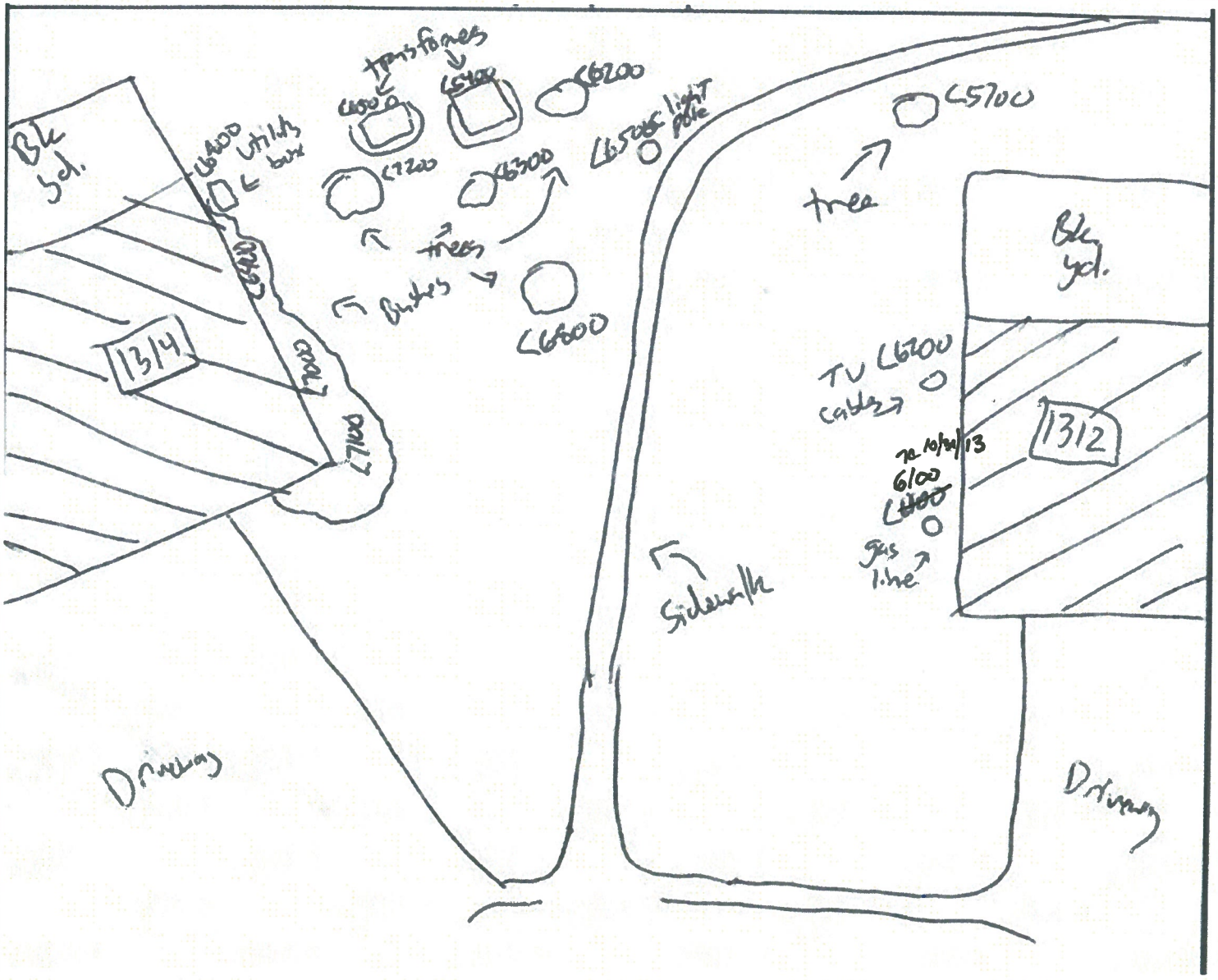
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-137	Date: 10/24/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1314 Apt(s)# Perimeter Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

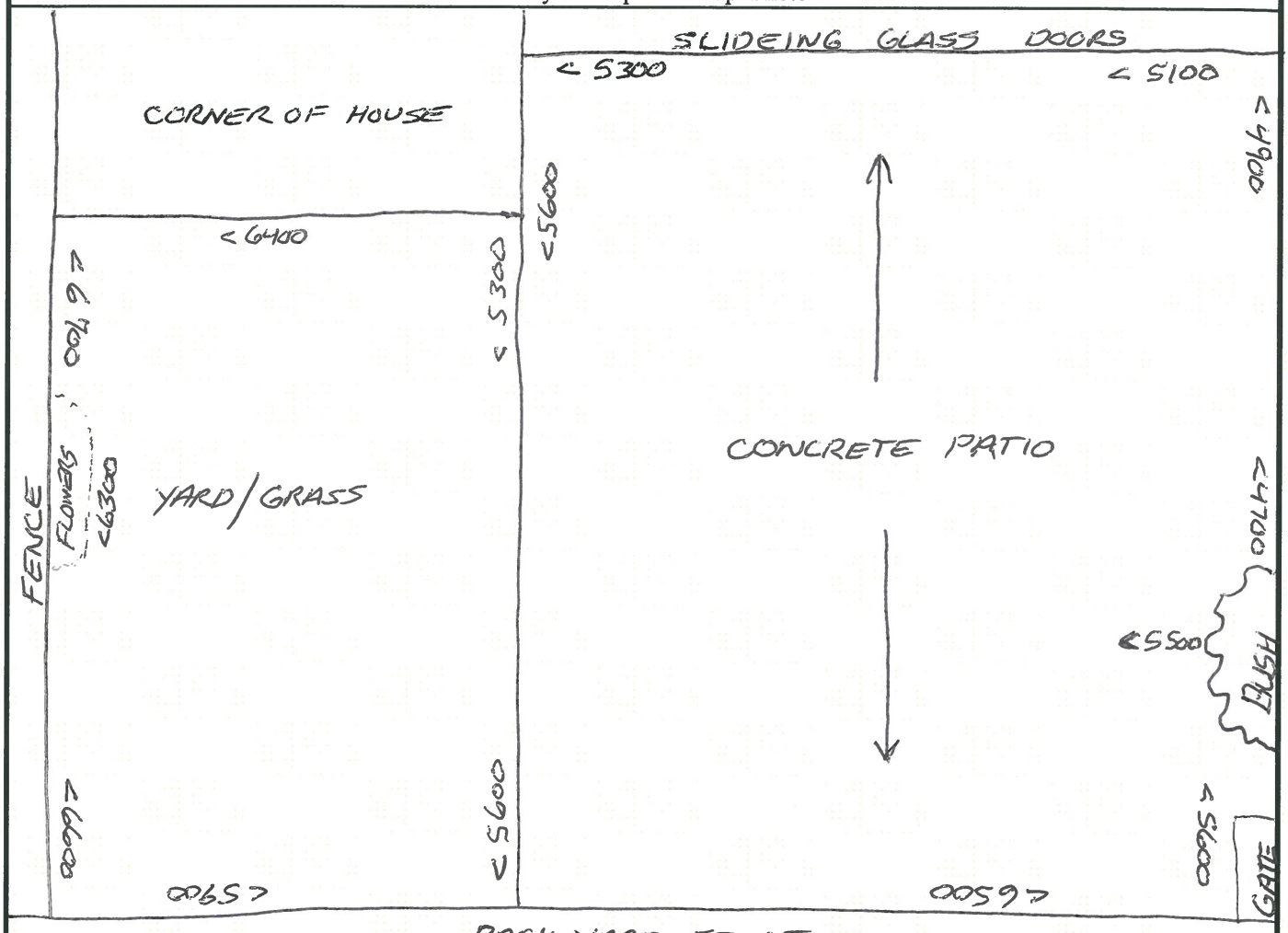
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-138	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JULY14	44-10	19765	27JULY14	N/A	N/A	5877	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1314 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

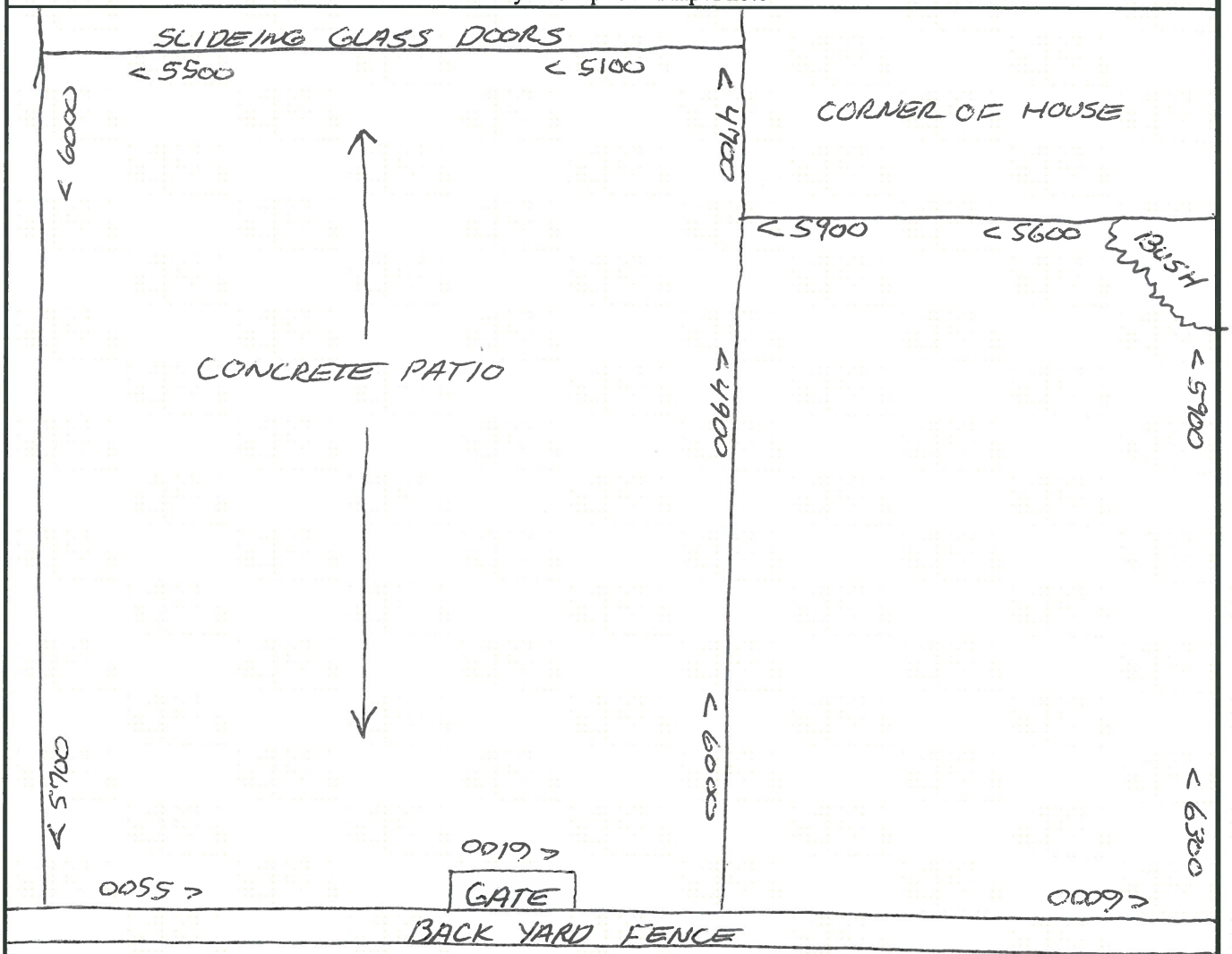
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-138	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1314 apartment " 13 " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

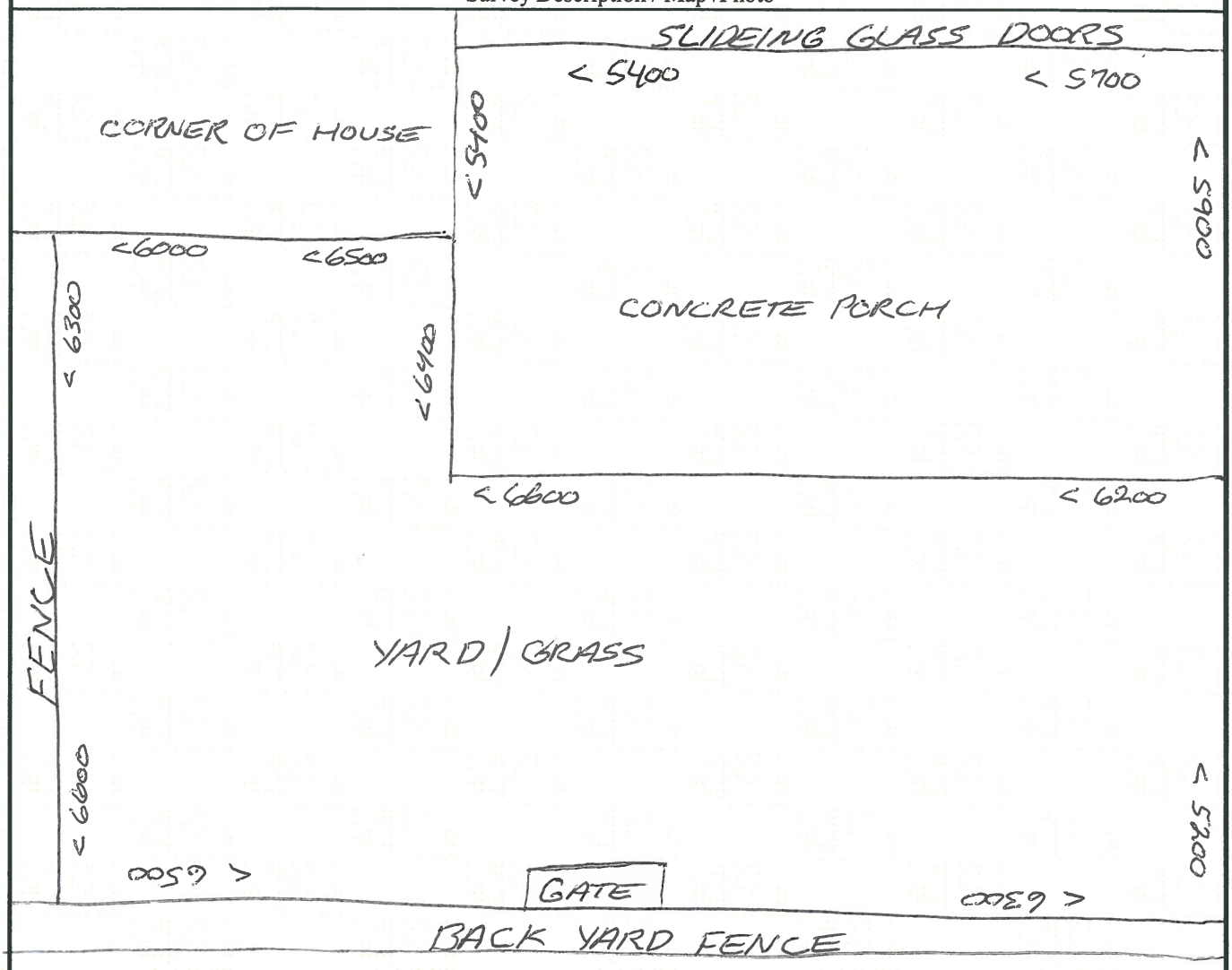
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-138	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1314 apartment " C " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

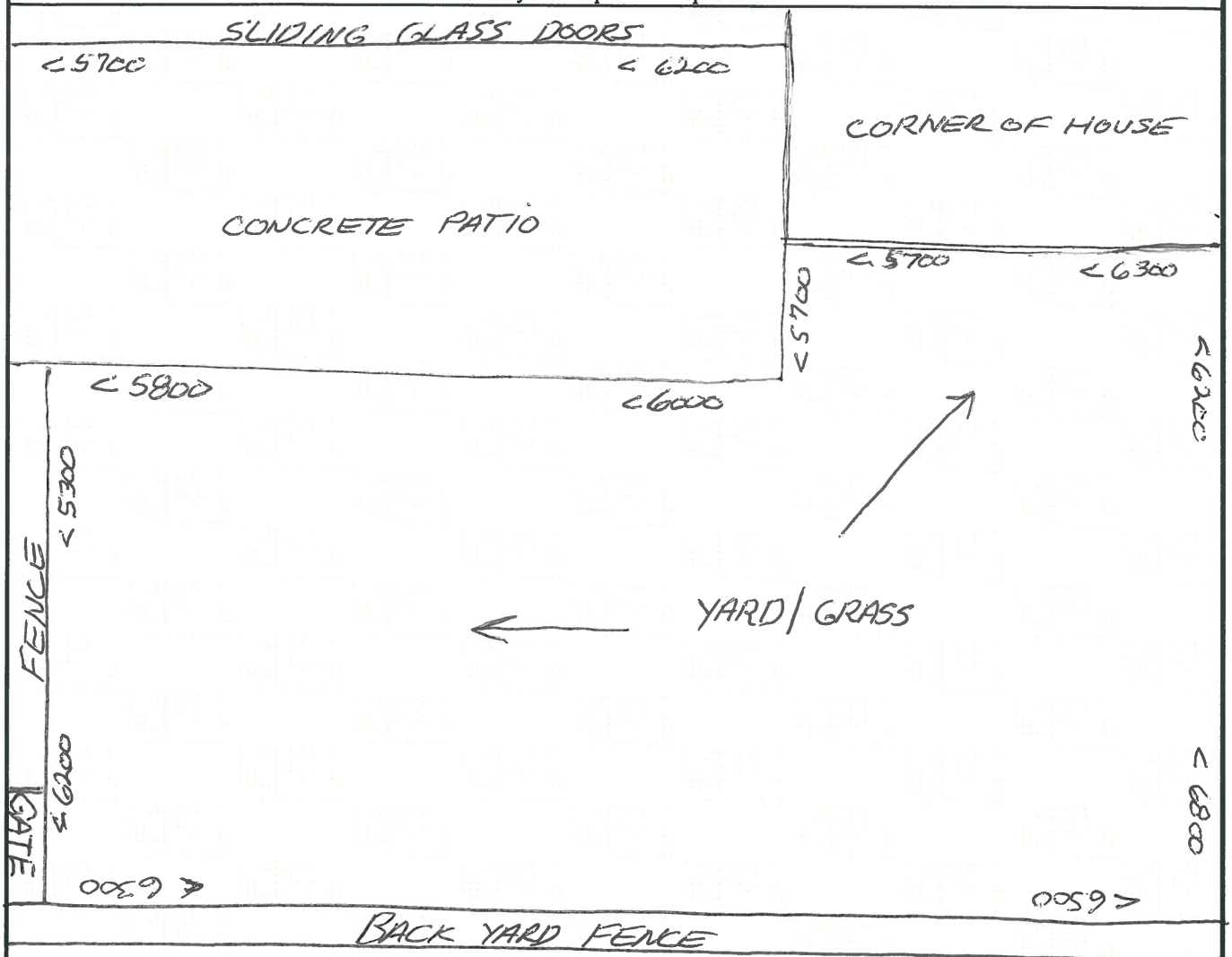
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 138	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1314 apartment " D " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

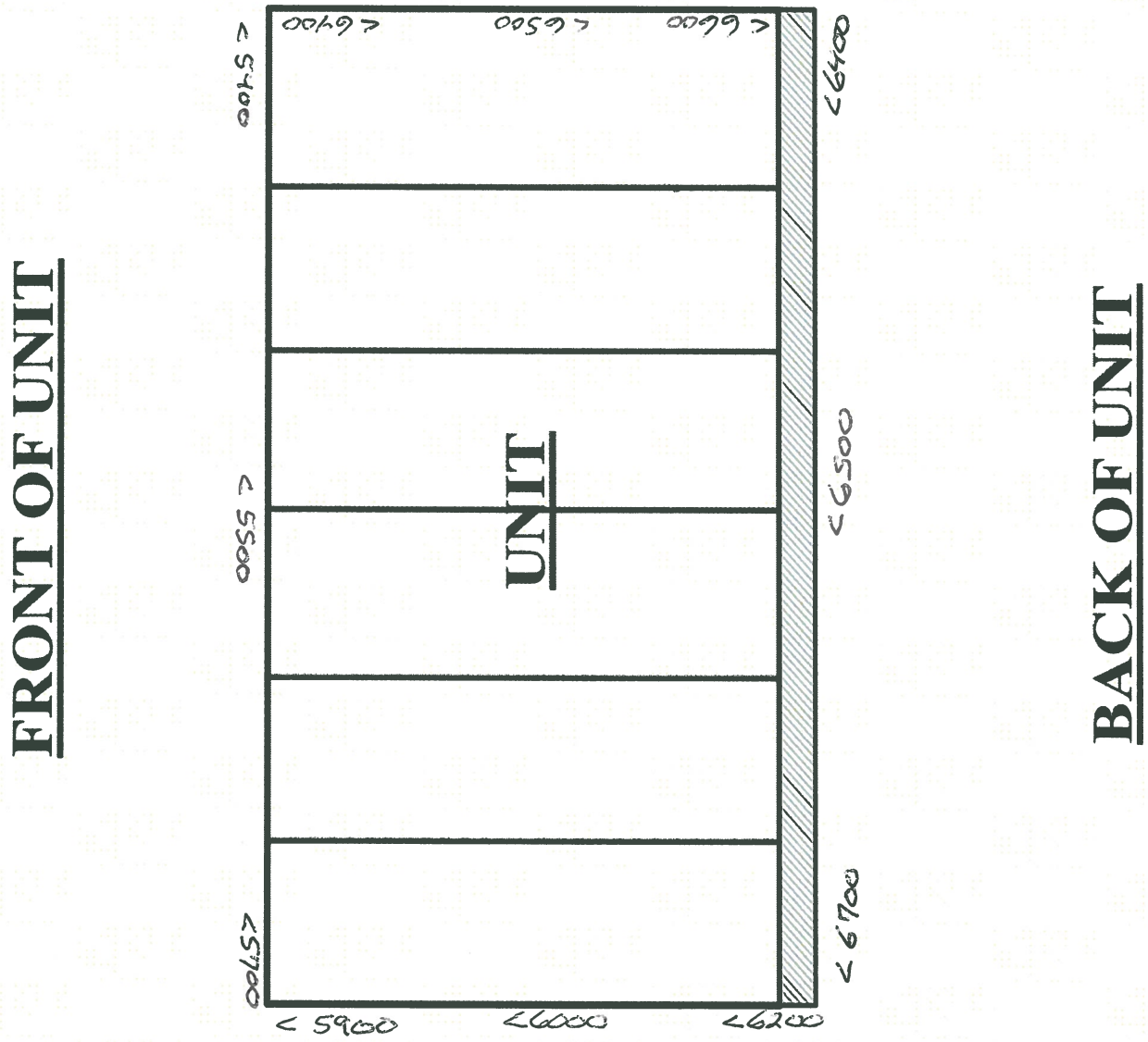
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-138	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1314 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

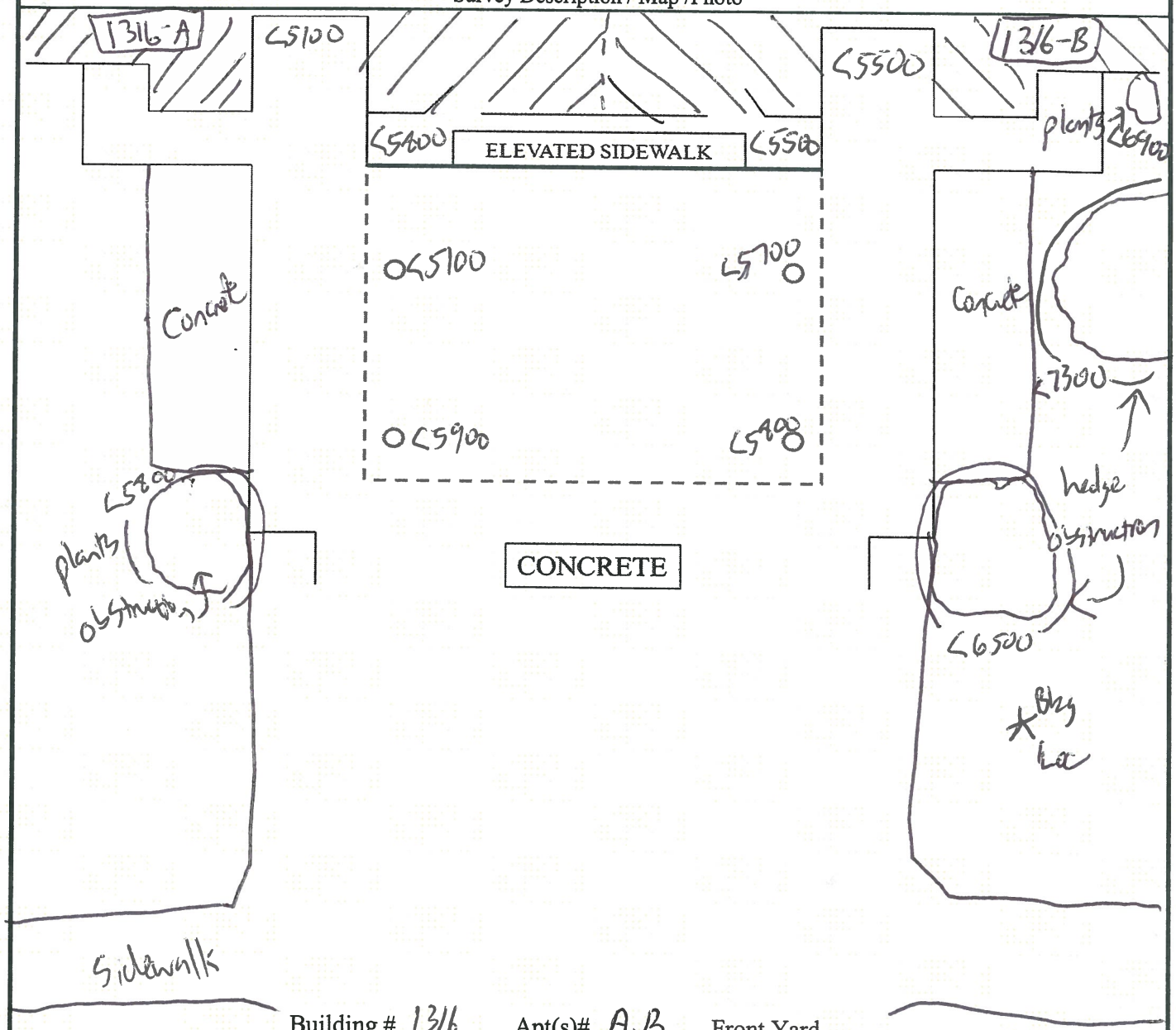
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 139	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 17768	8/21/14	N/A	N/A	5704	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1316 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

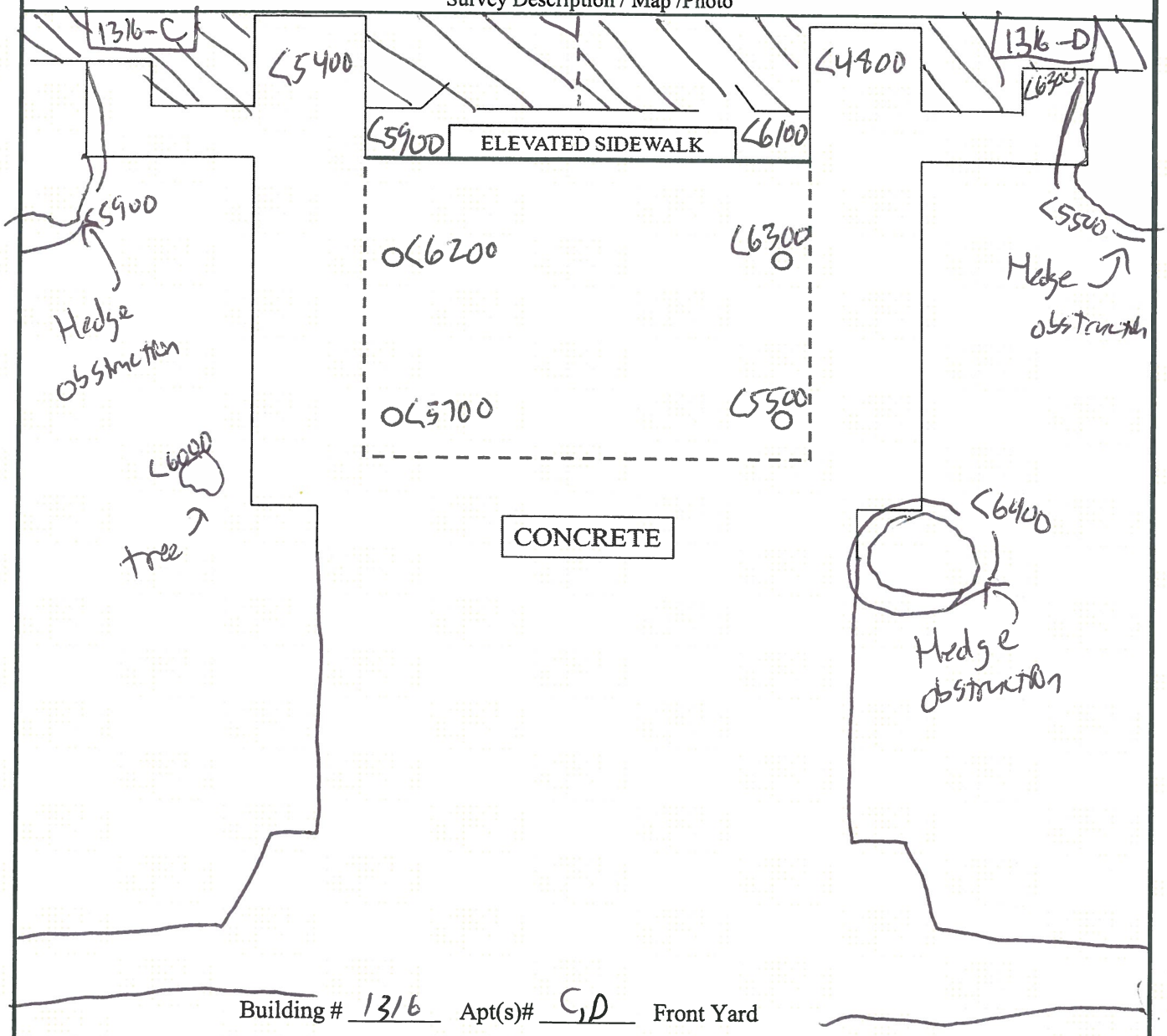
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 139	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1316 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

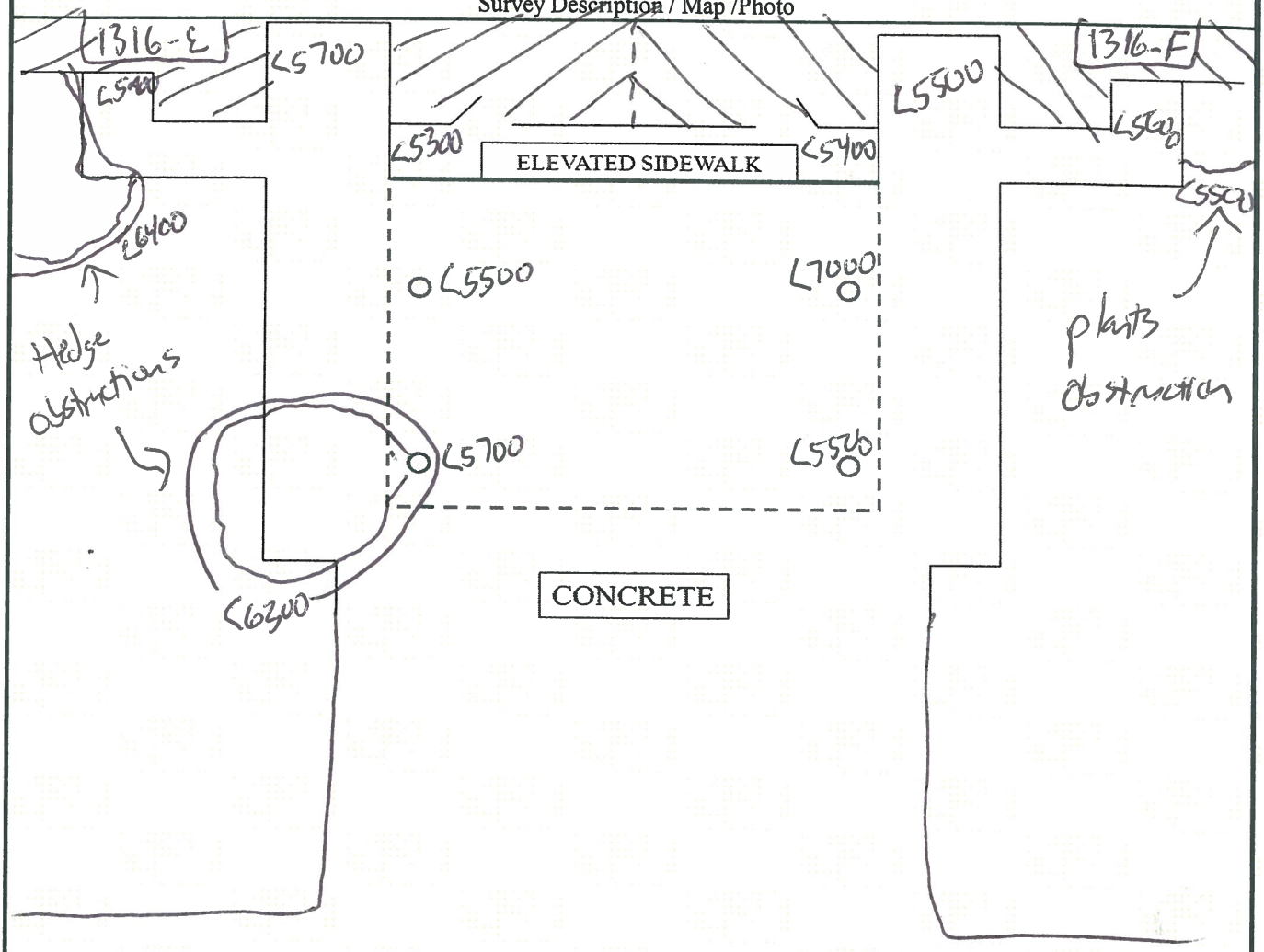
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-139	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1316 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

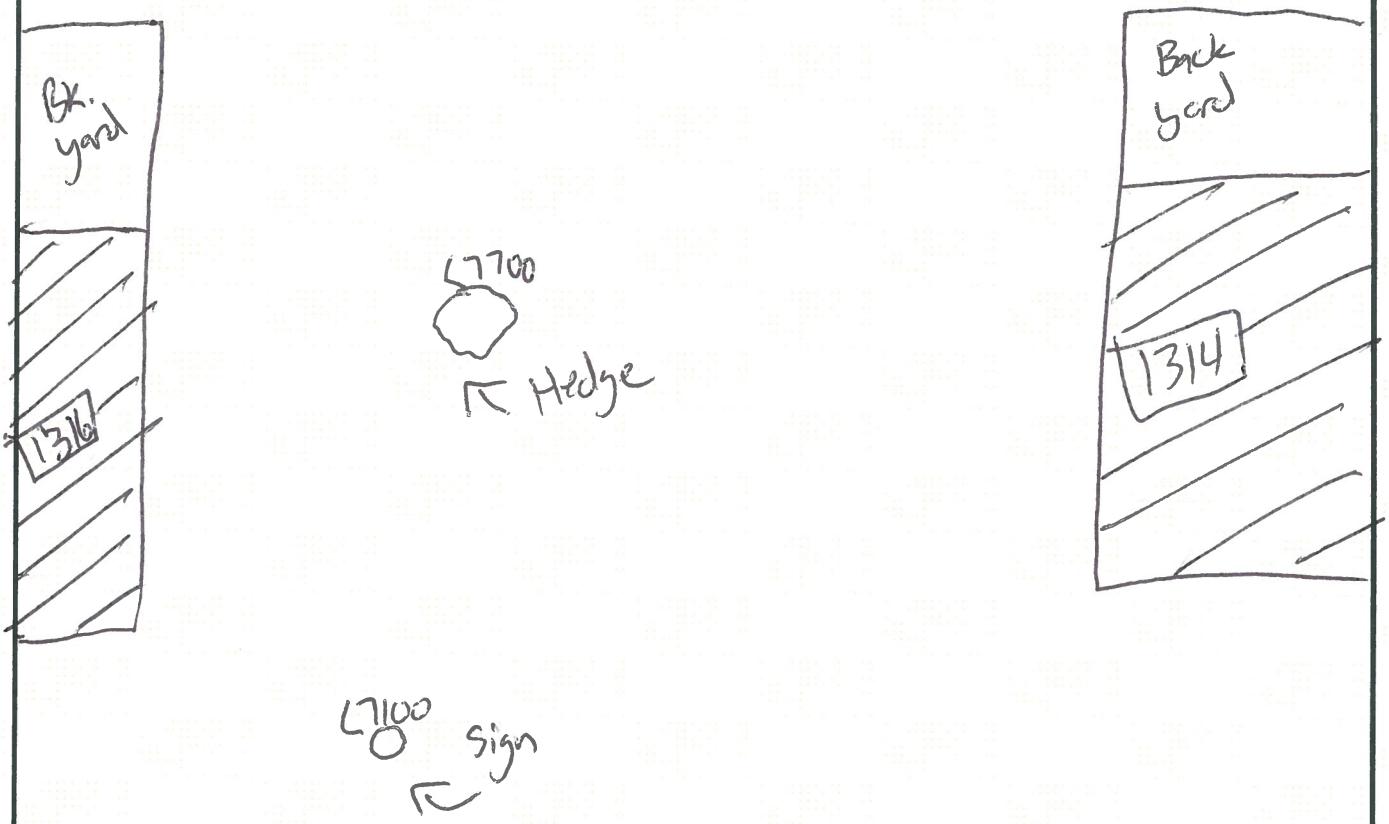
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-139	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

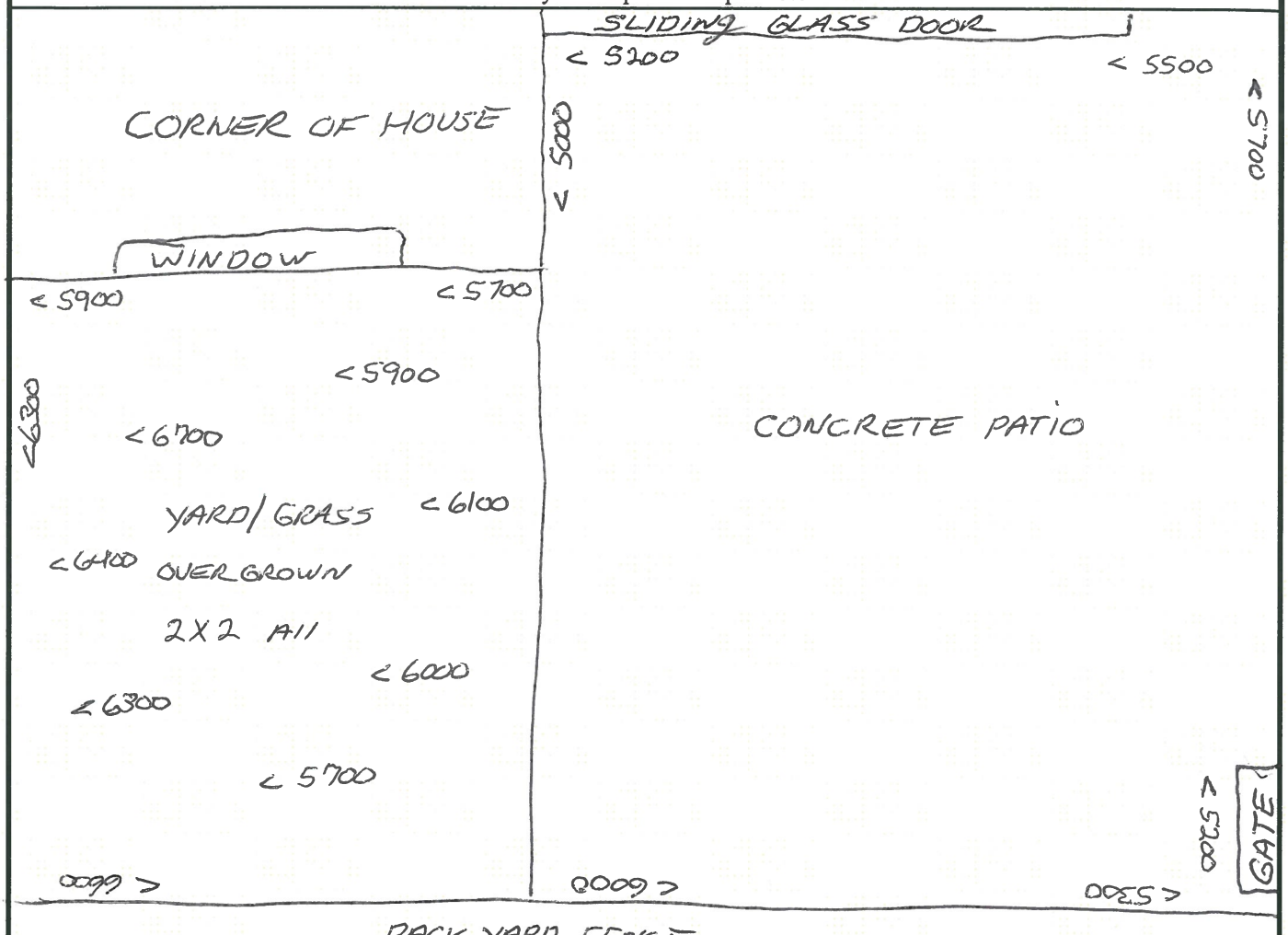
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-140	Date: 10·24·13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	5877	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



BACK YARD FENCE

Building 1316 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

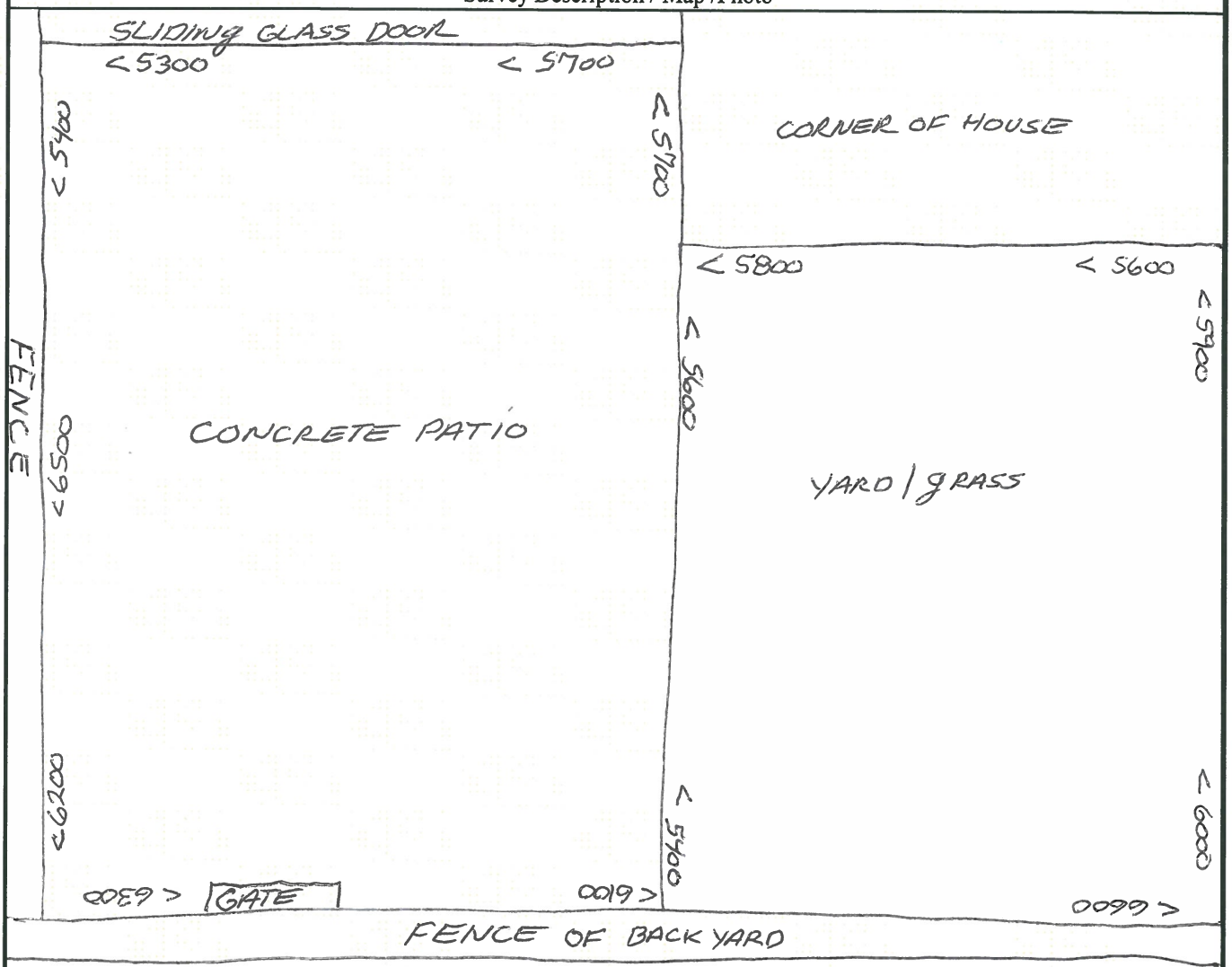
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-140	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1316 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

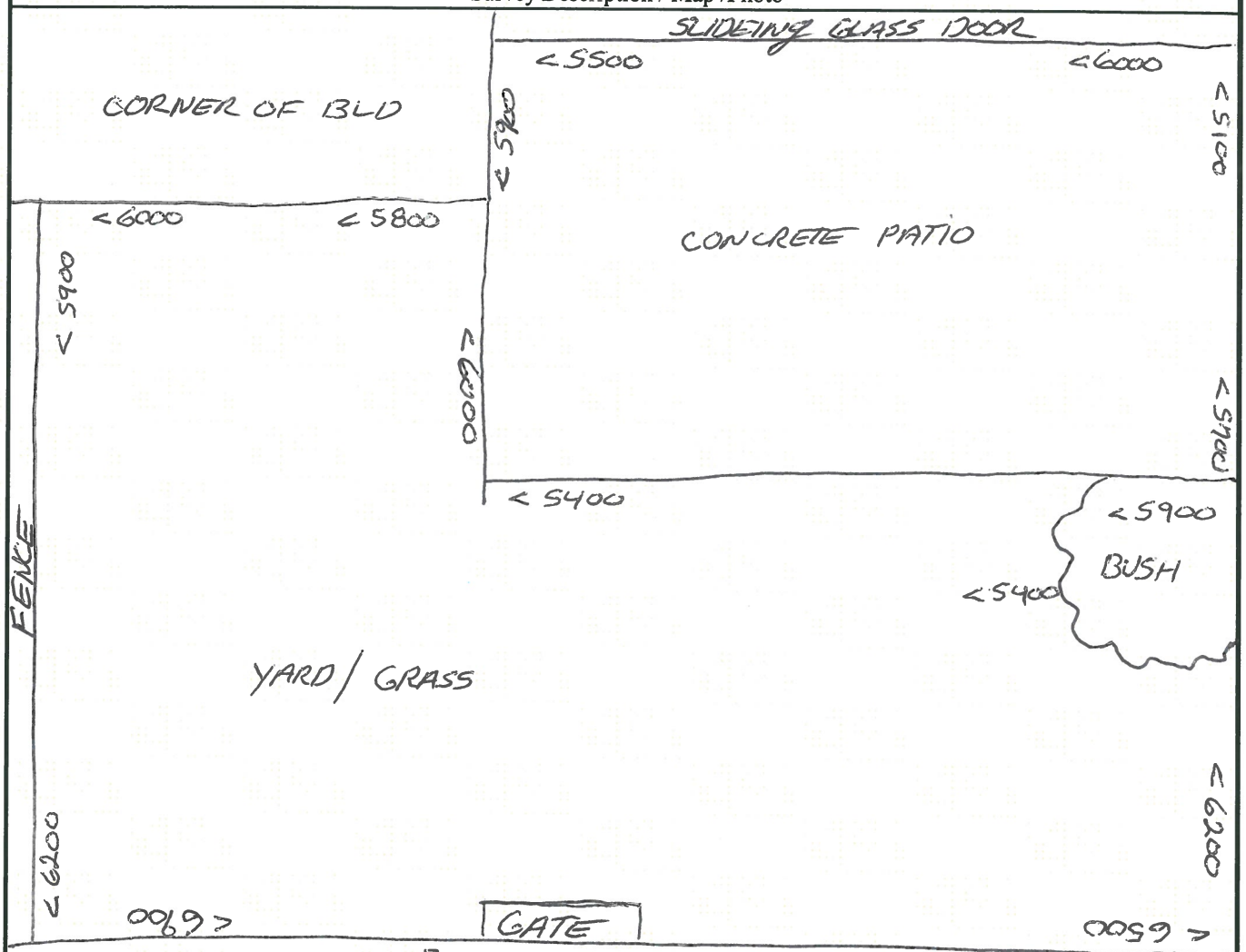
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-140	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1316 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

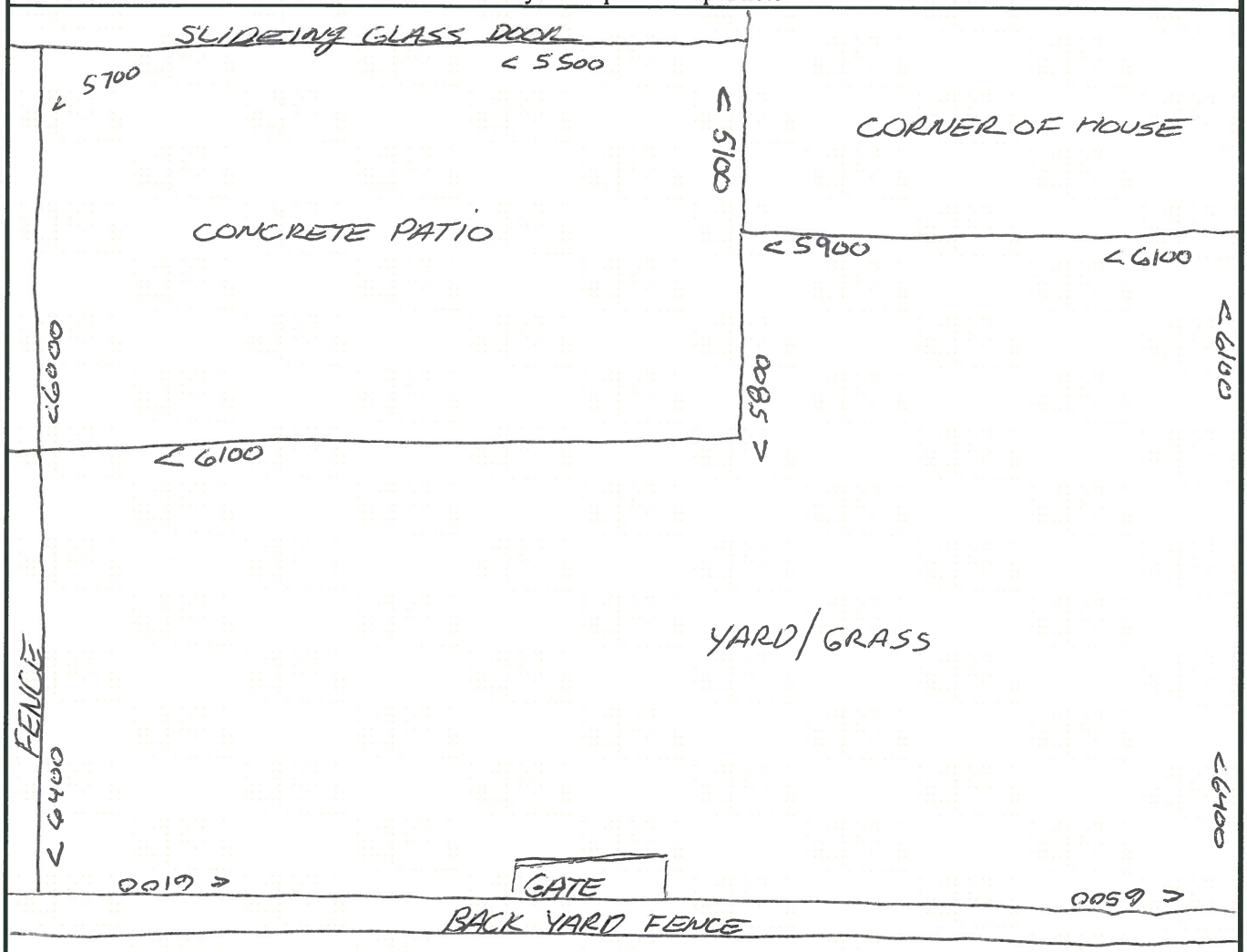
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-140	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1316 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

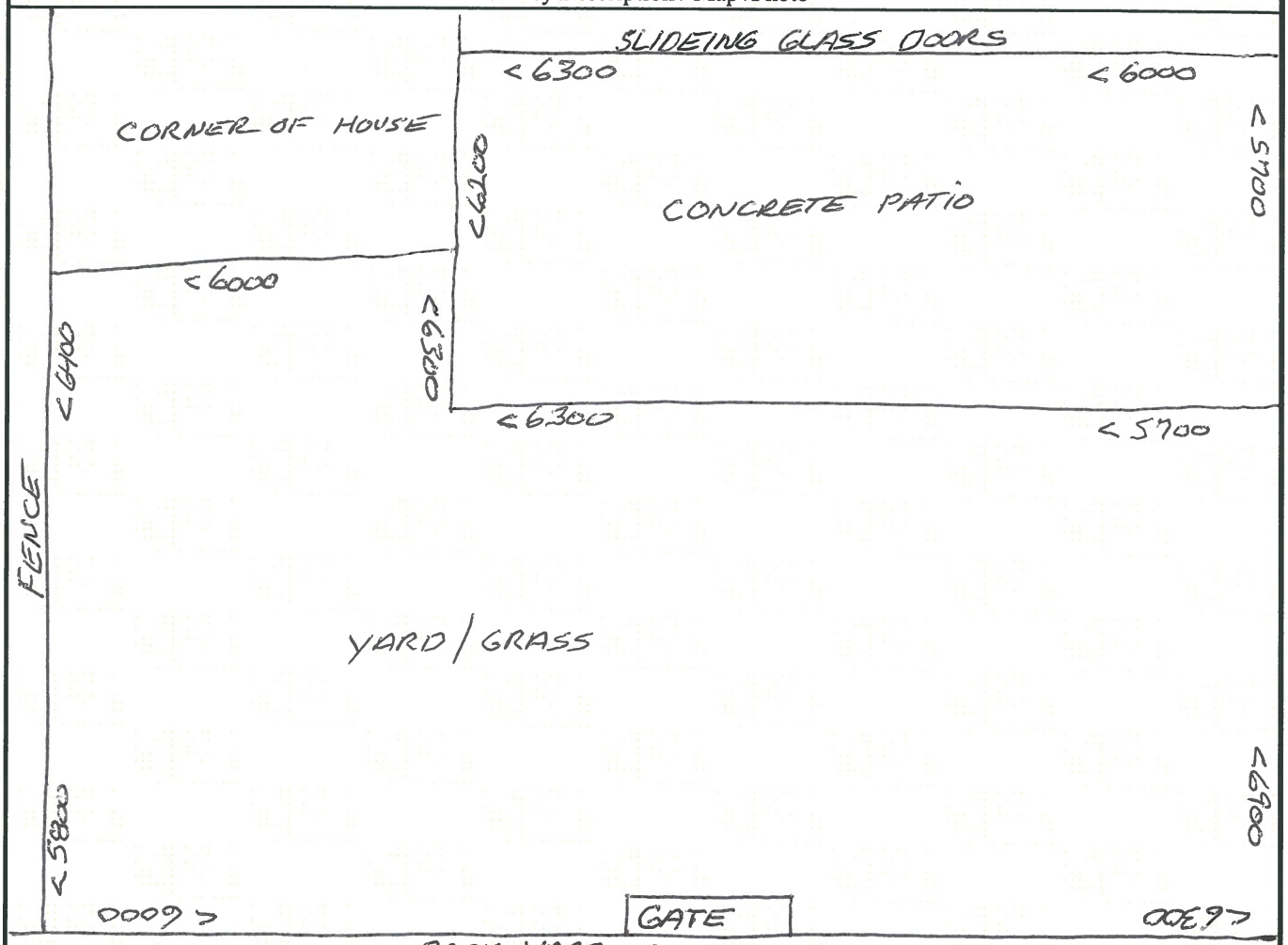
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-140	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1316 apartment " E " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

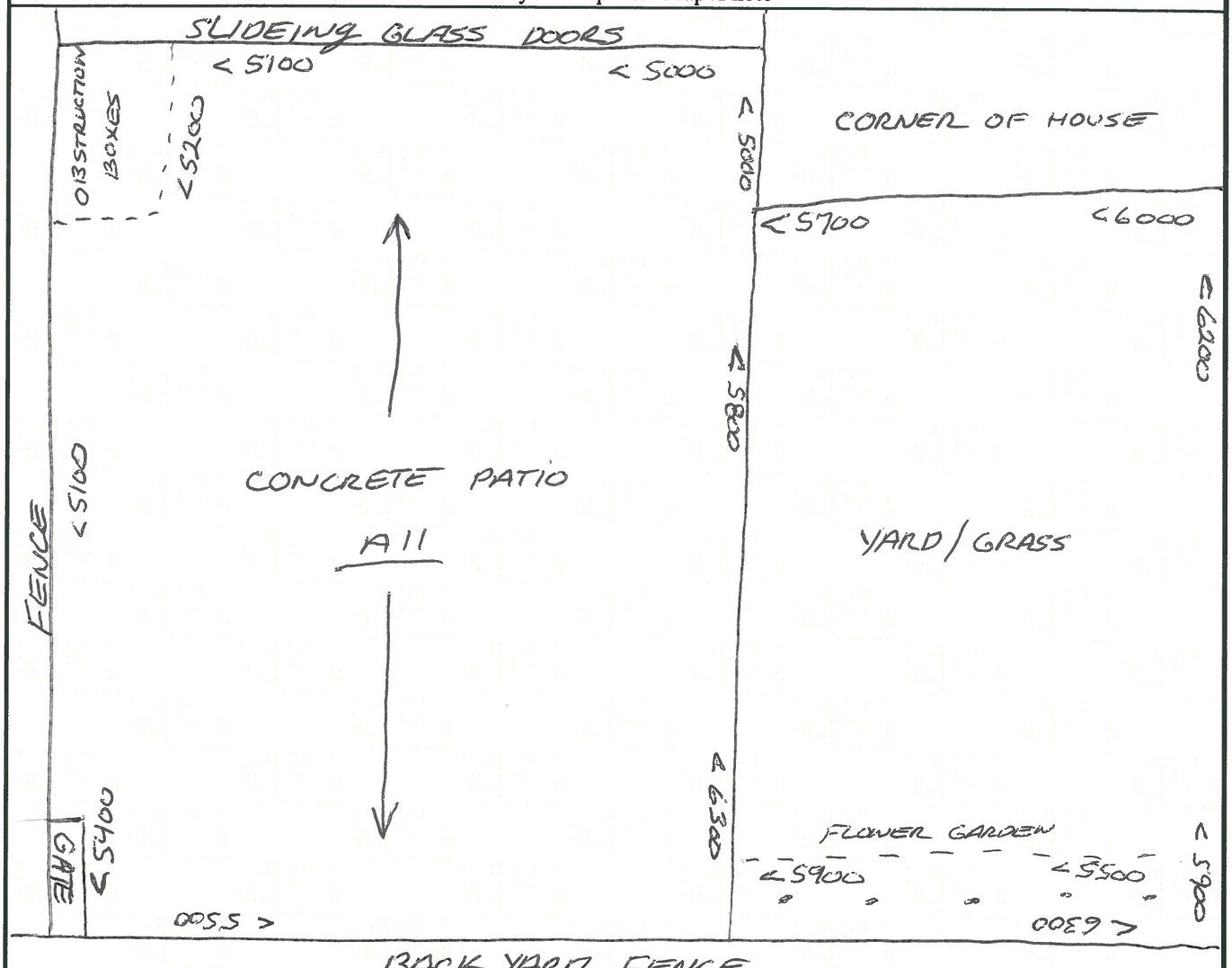
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-140	Date: 10-24-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1316 apartment " F " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

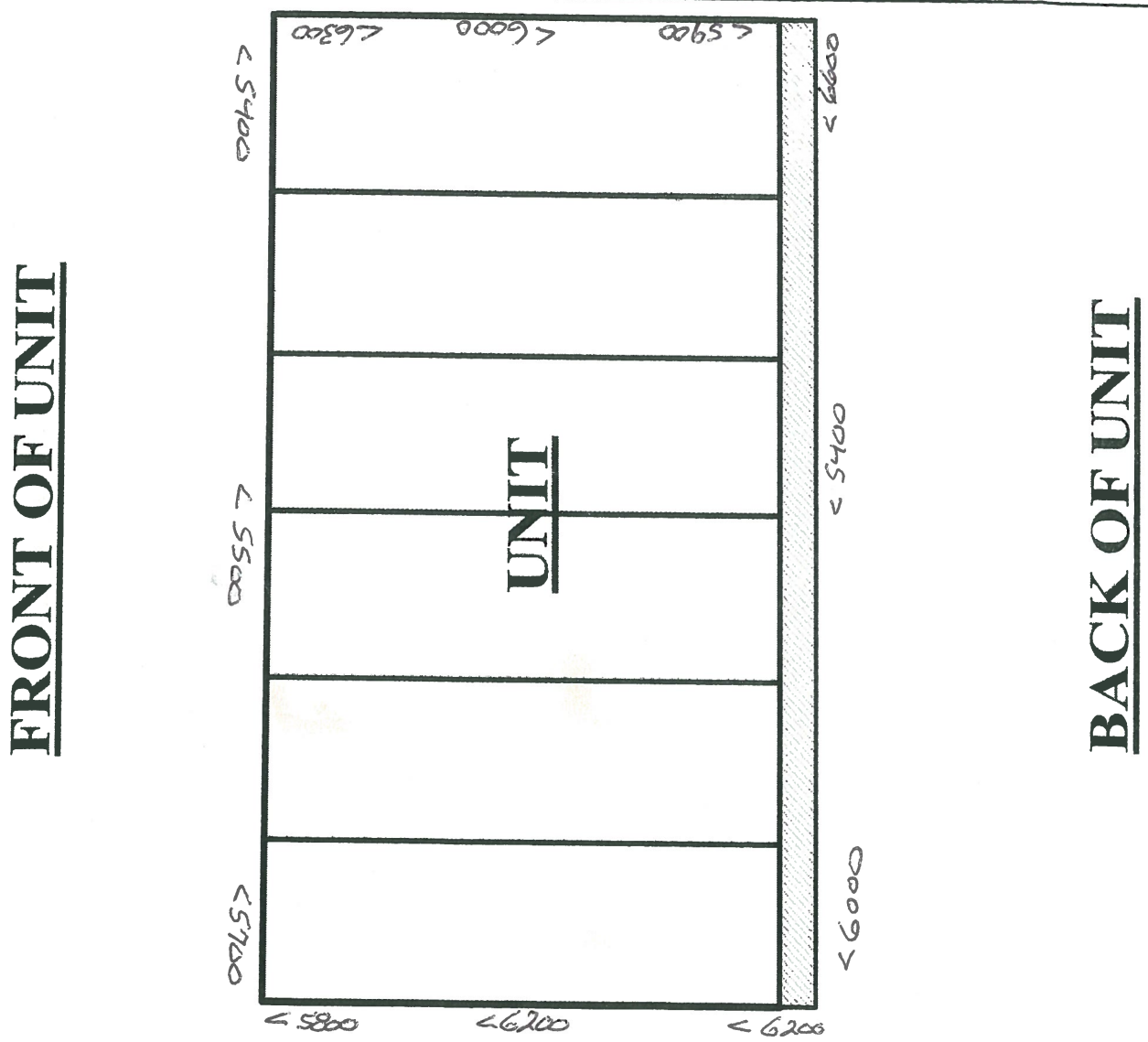
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 140	Date: 10-24-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1316 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

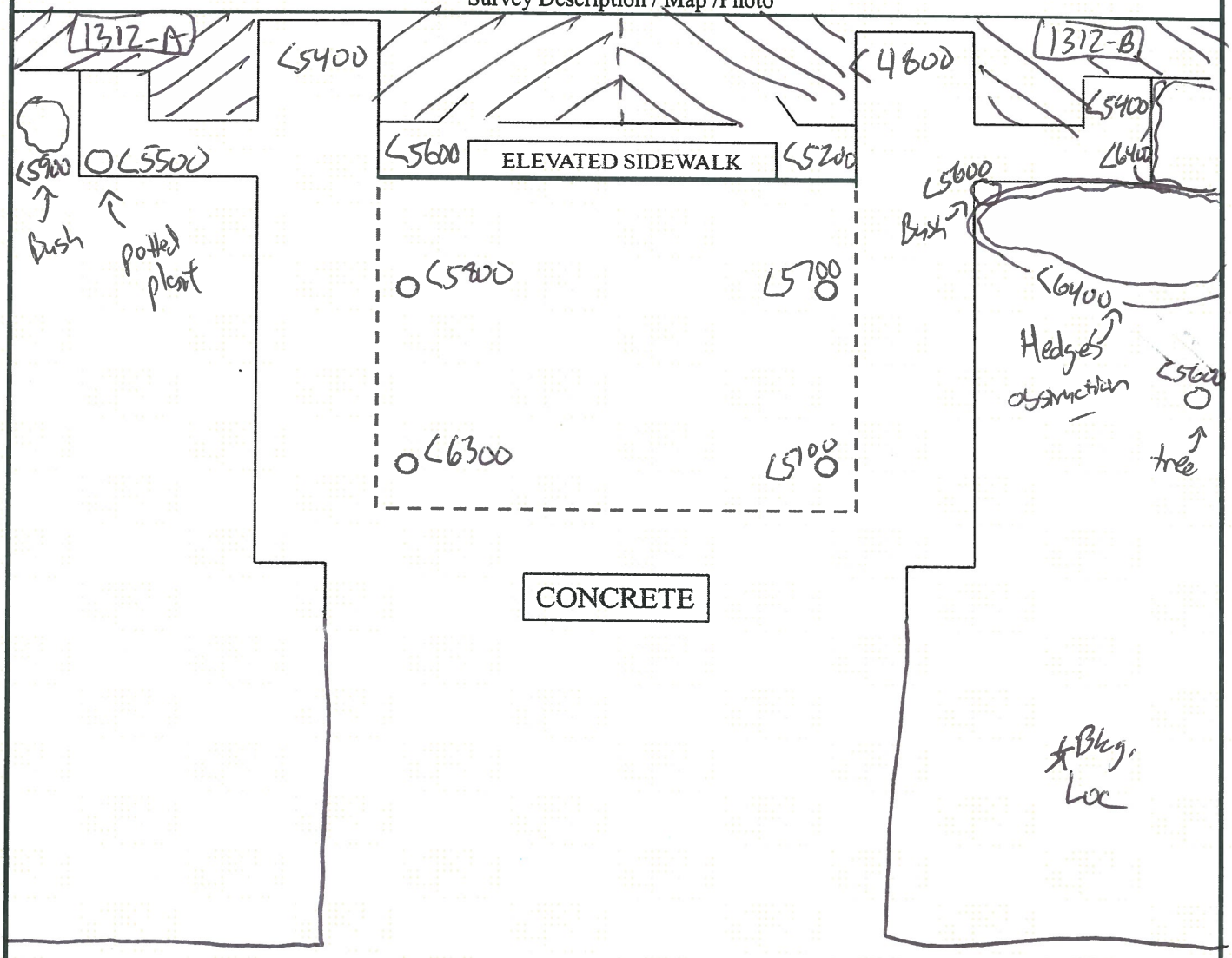
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 141	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR 19768	8/21/14	N/A	N/A	5344	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1312 Apt(s)# A, B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

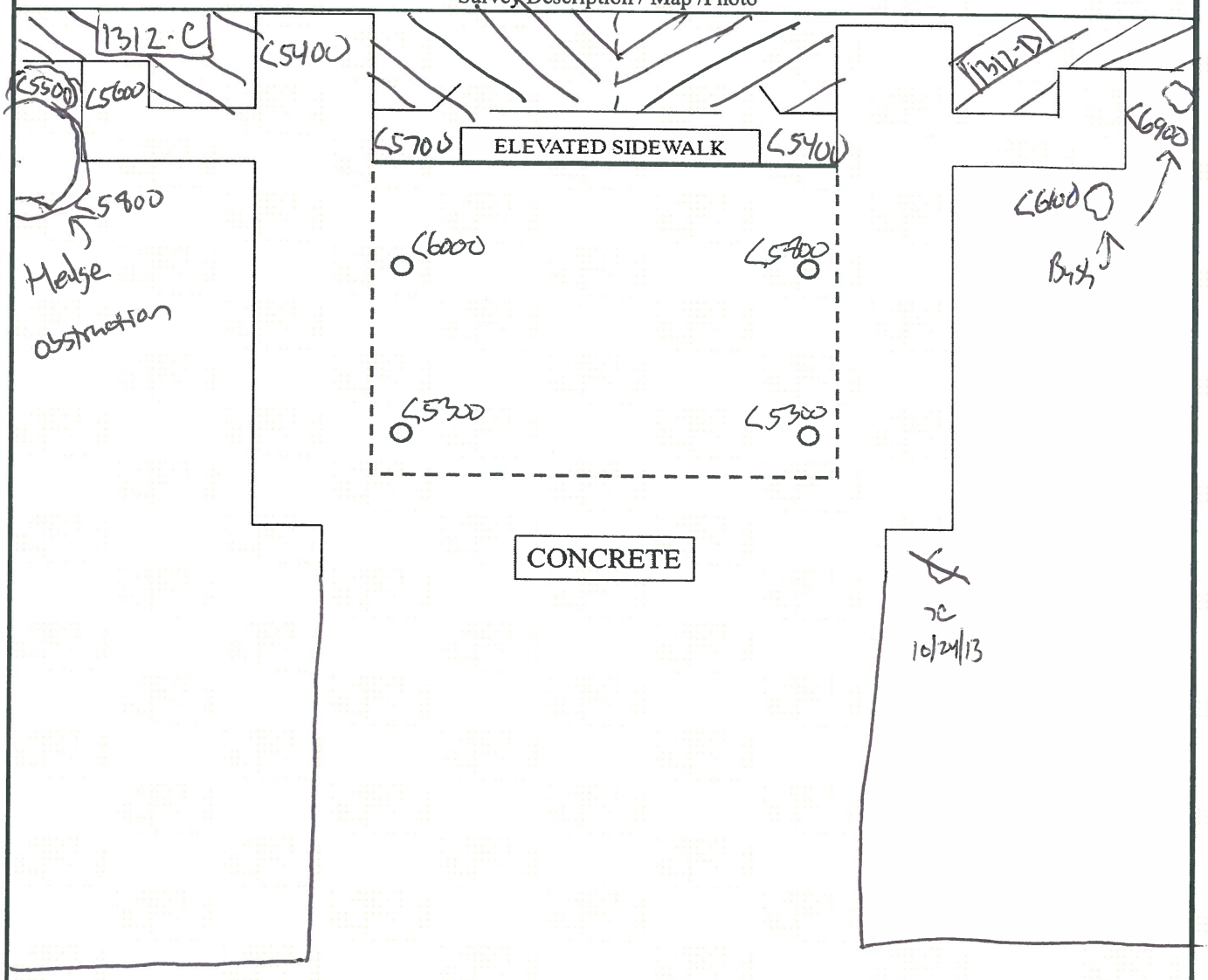
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-141	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1312 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

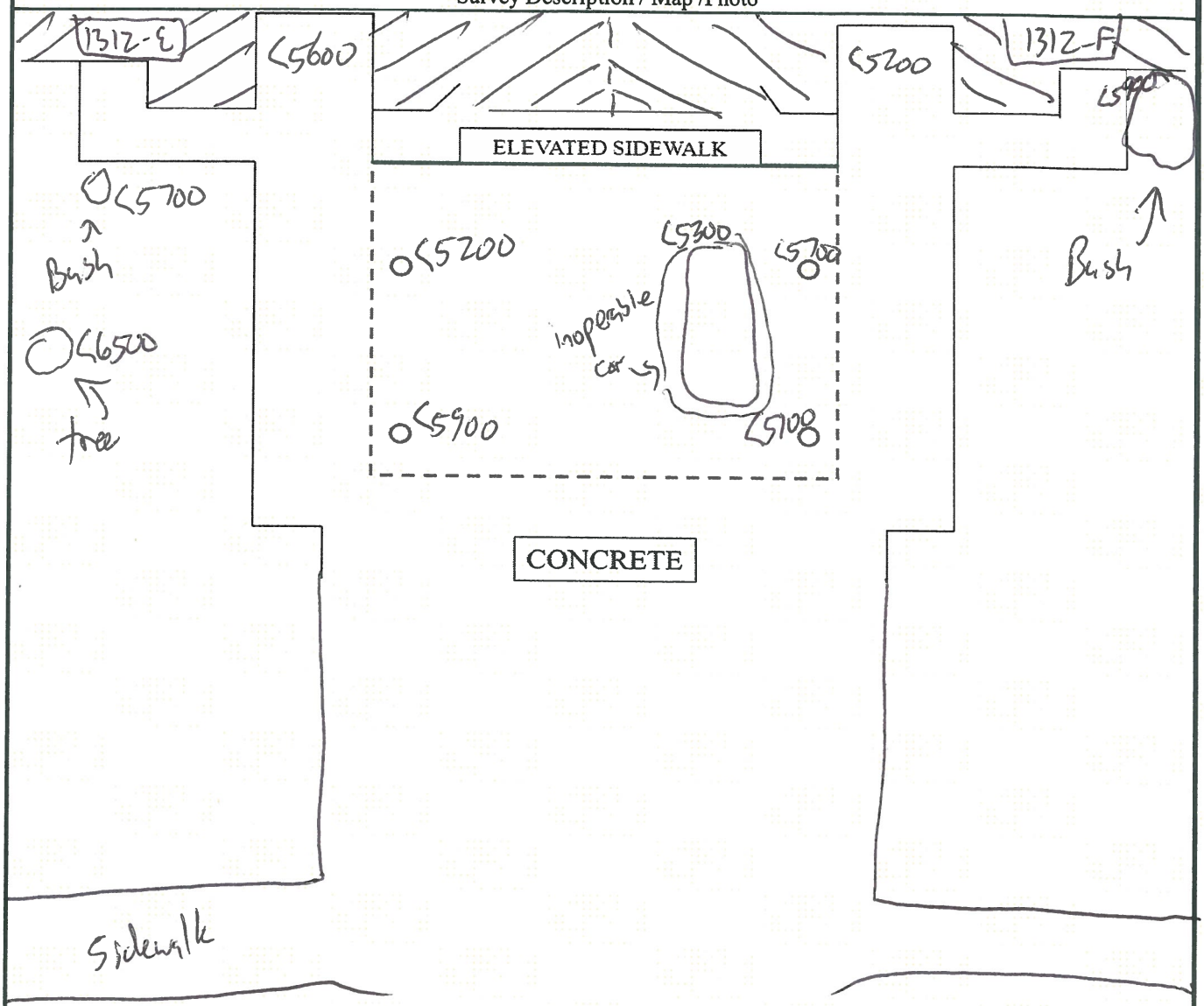
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-141	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1312 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

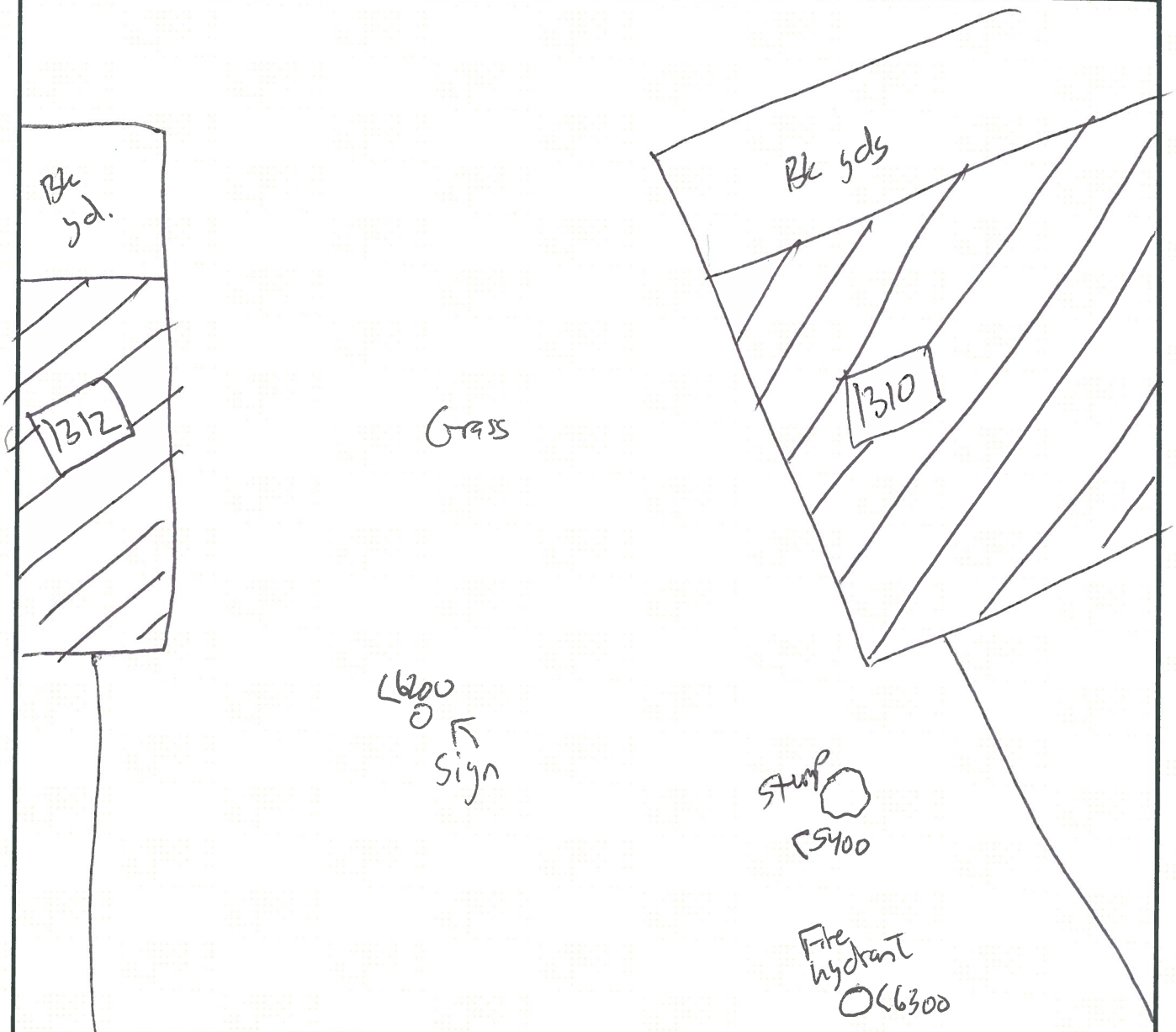
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-141	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

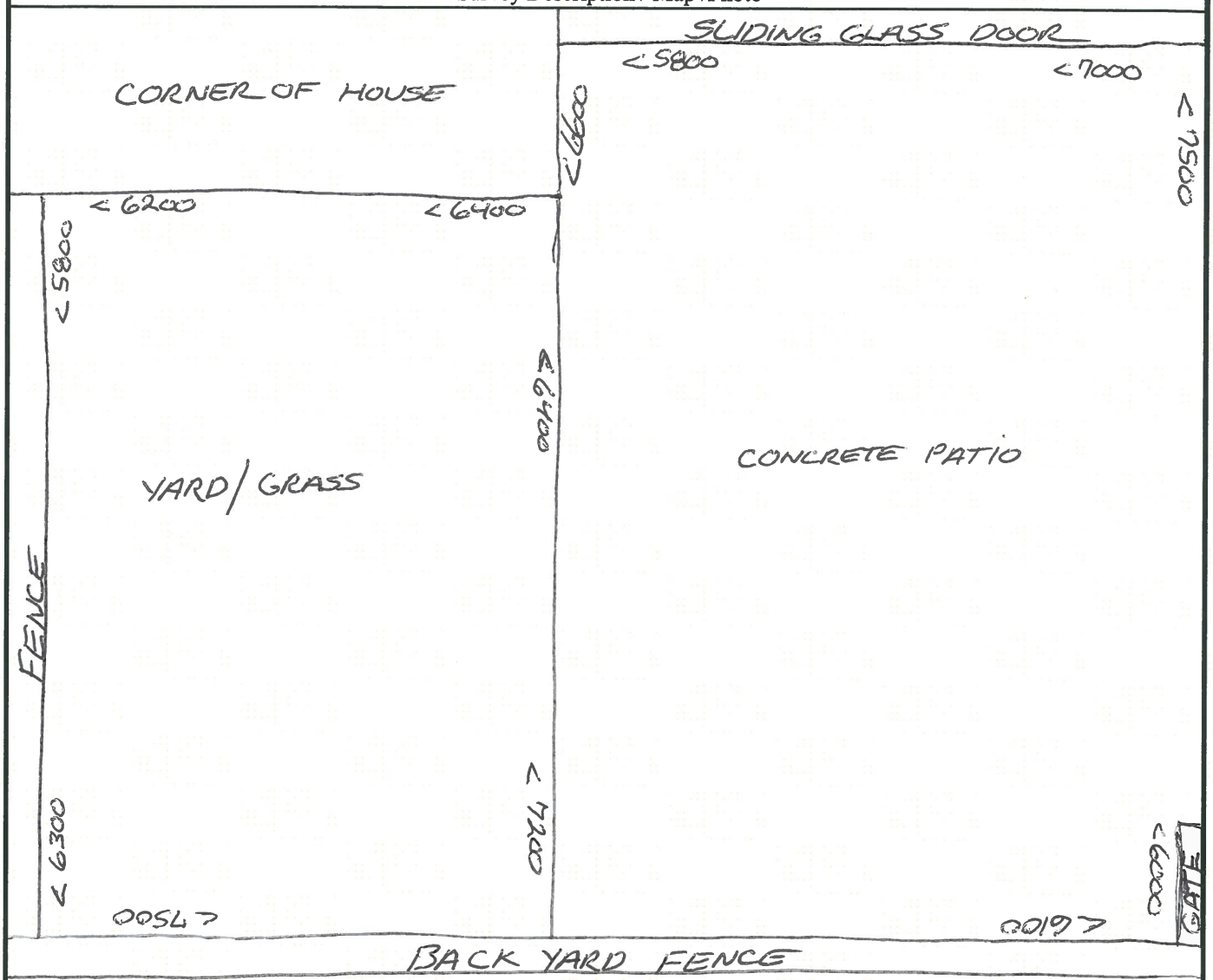
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 142	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	James Smith Signature	Jerry Cooper RSOR Printed Name	Jerry Cooper Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	5800	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1312 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

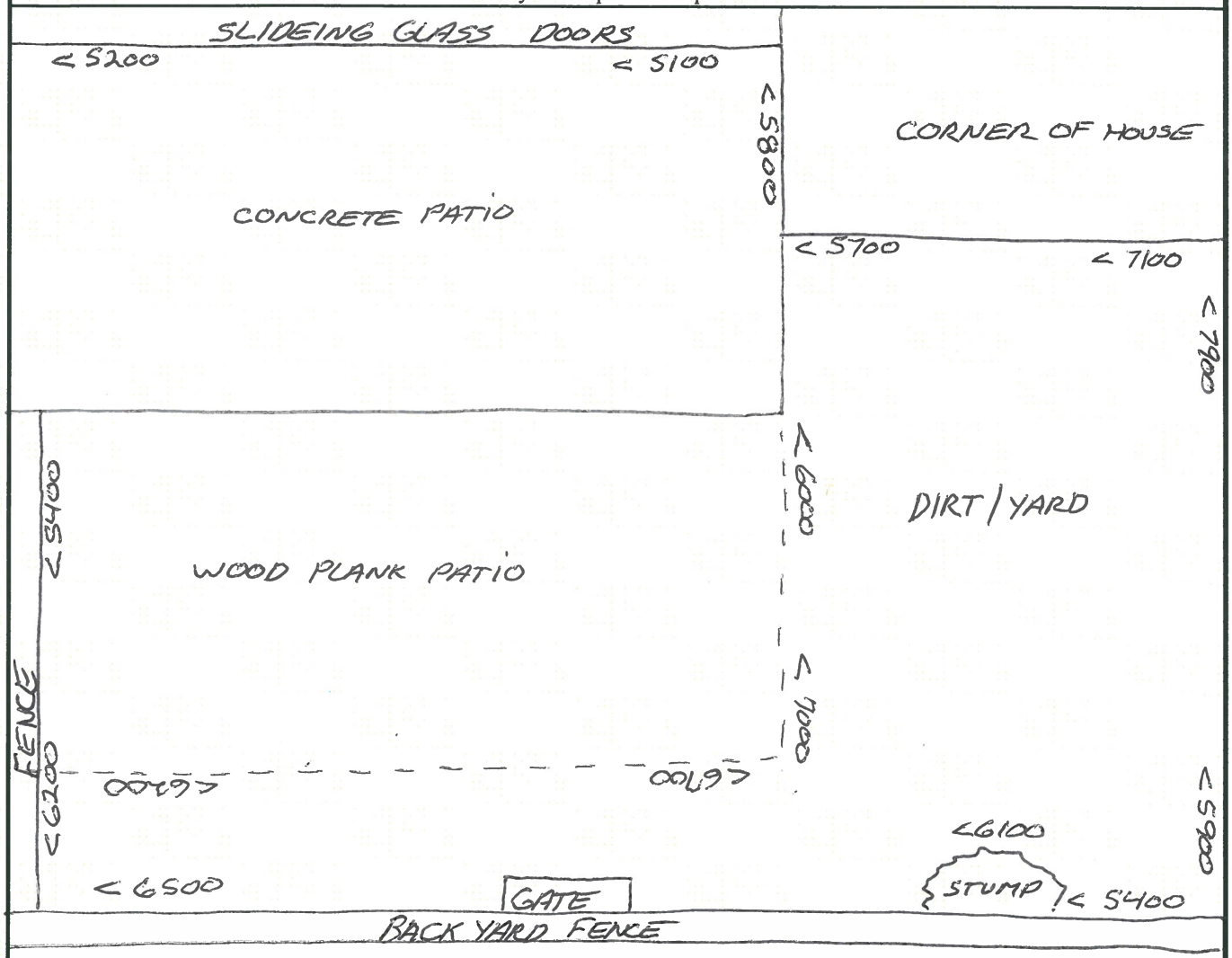
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-142	Date: 10-24-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1312 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

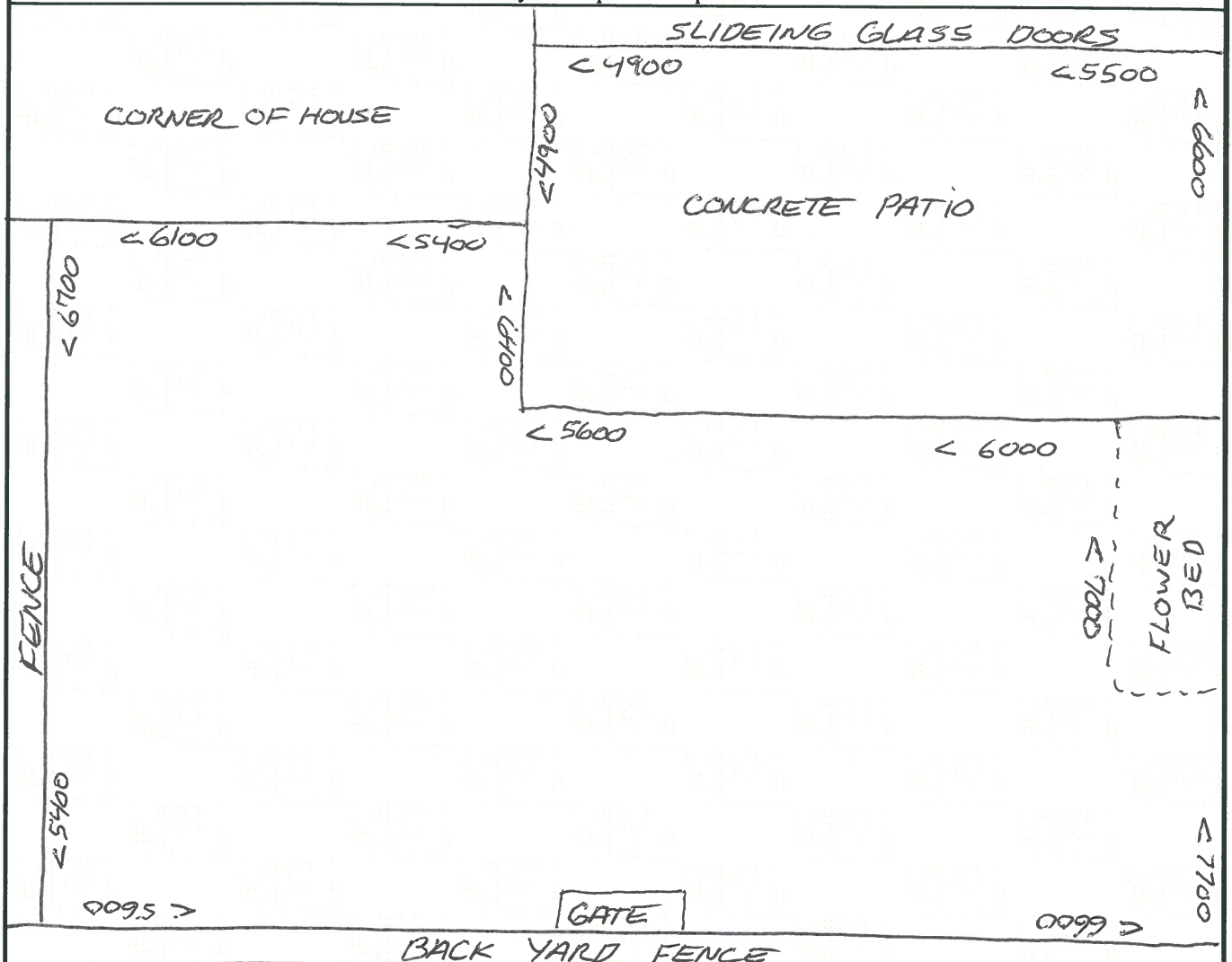
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 142	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1312 apartment " C " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

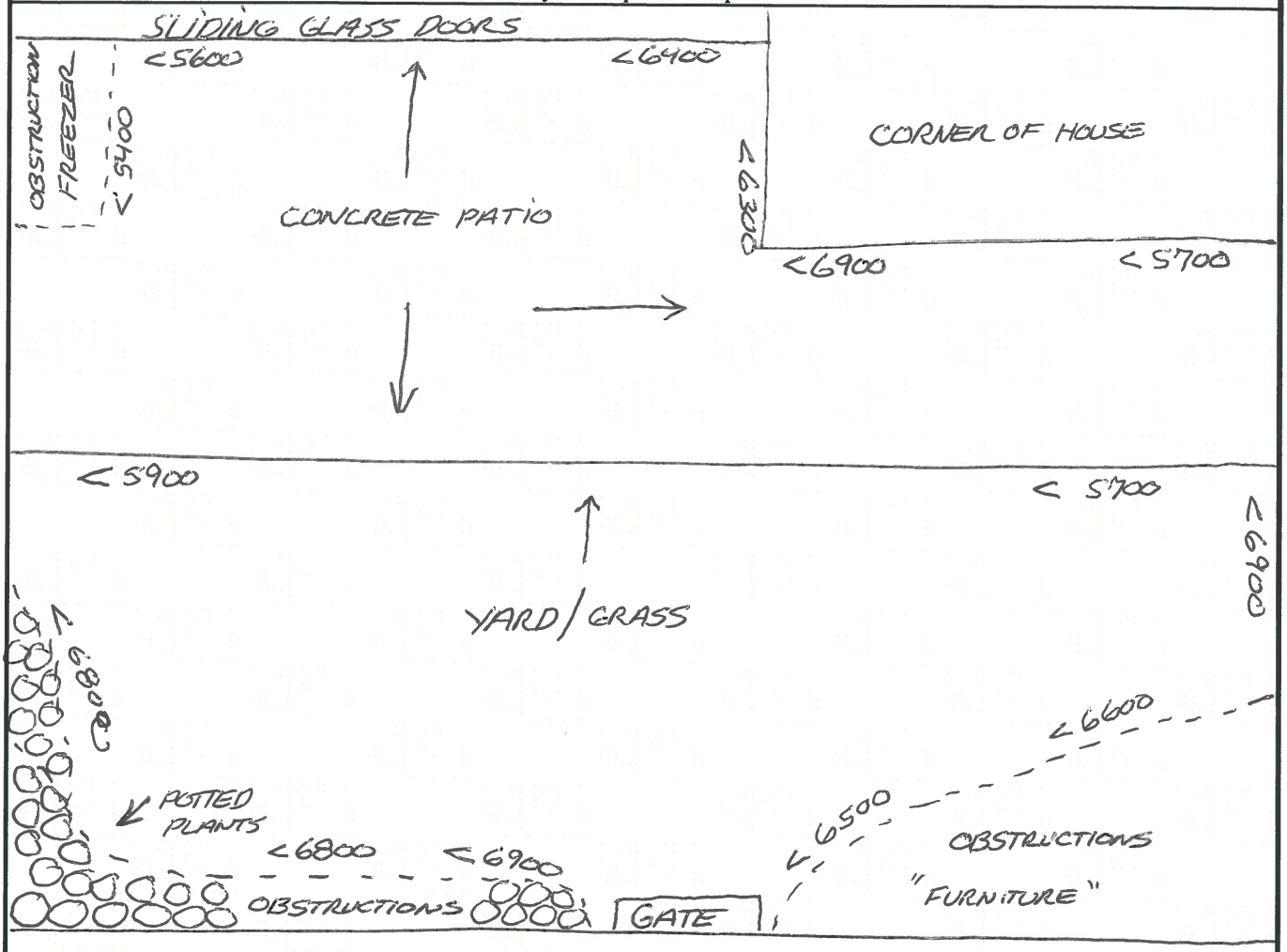
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-142	Date: 10·24·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1312 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

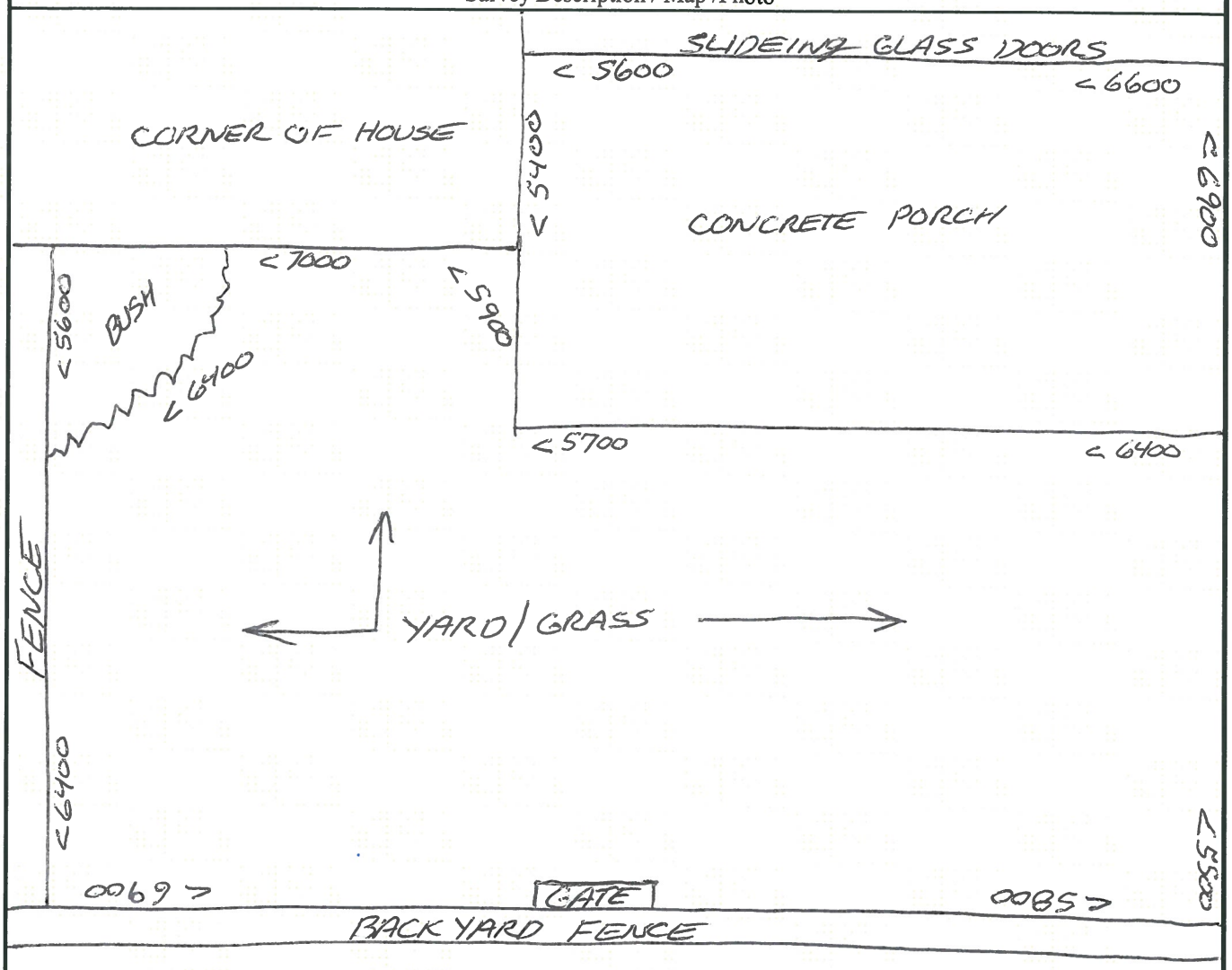
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-142	Date: 10-24-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1312 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

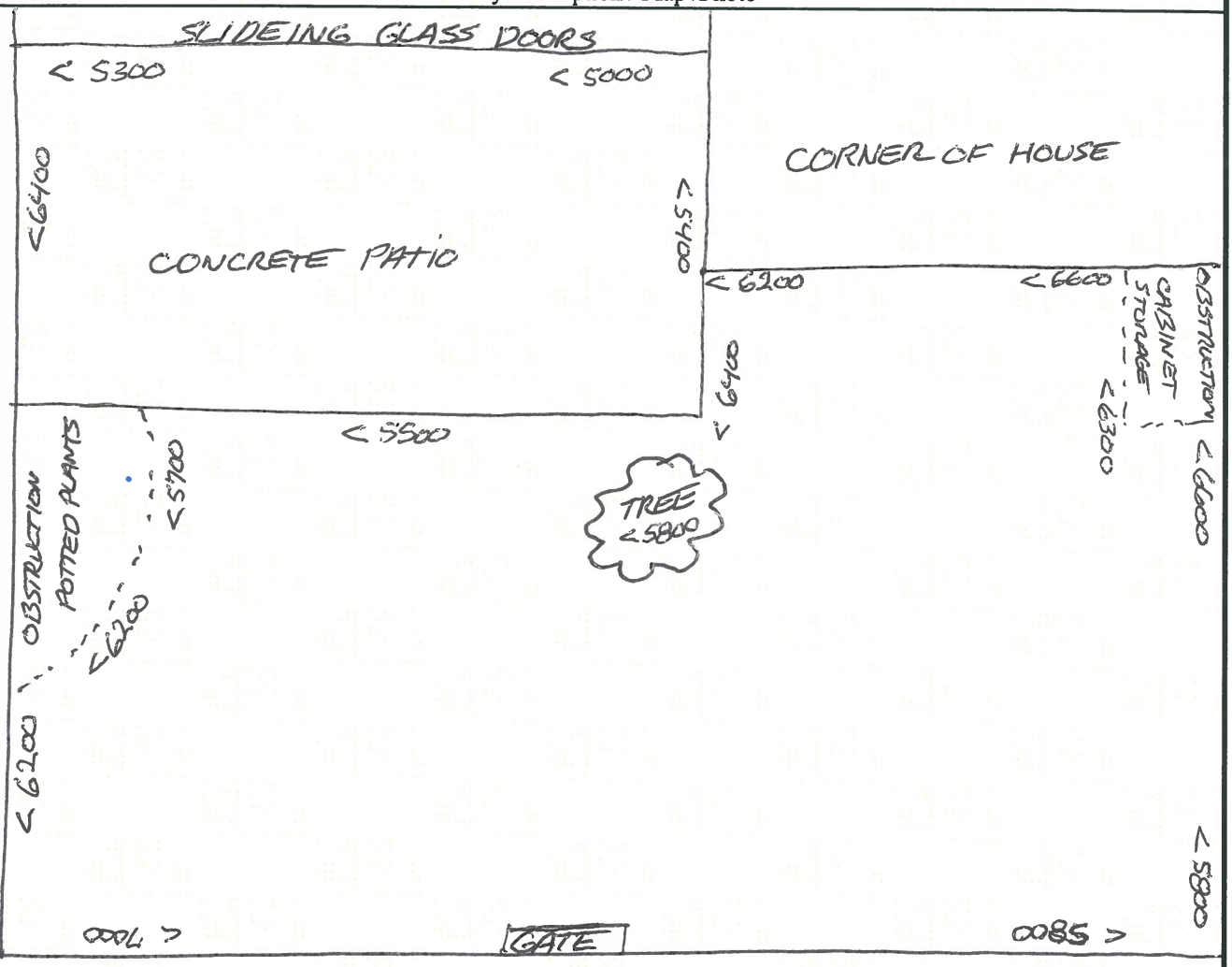
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-142	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1312 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

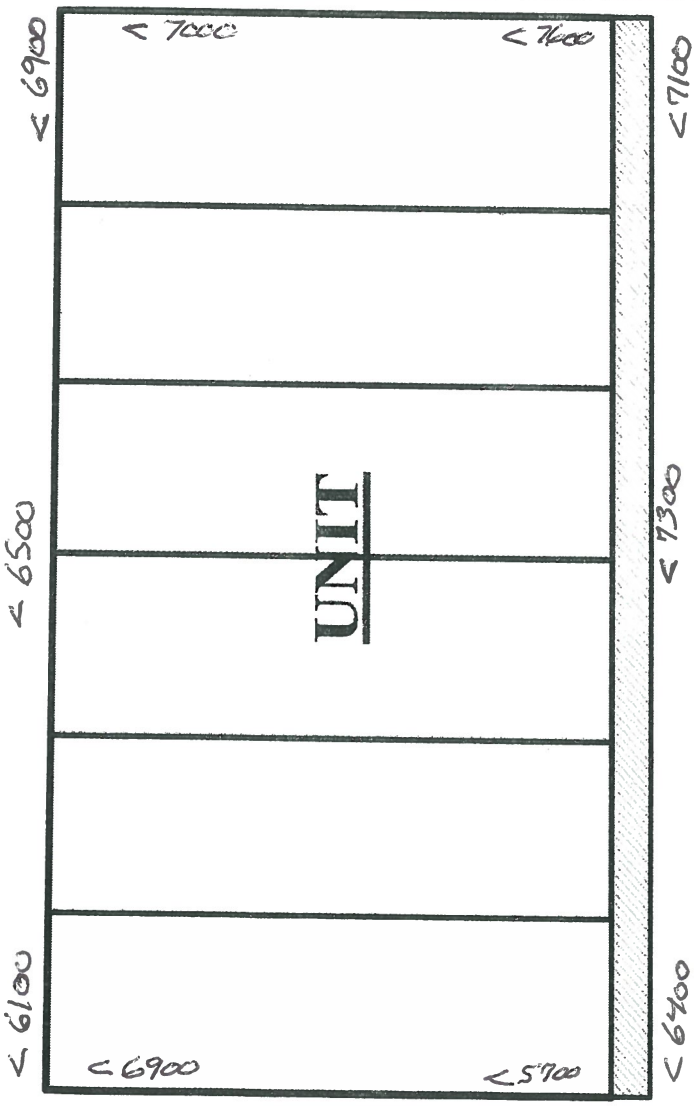
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-142	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1312 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

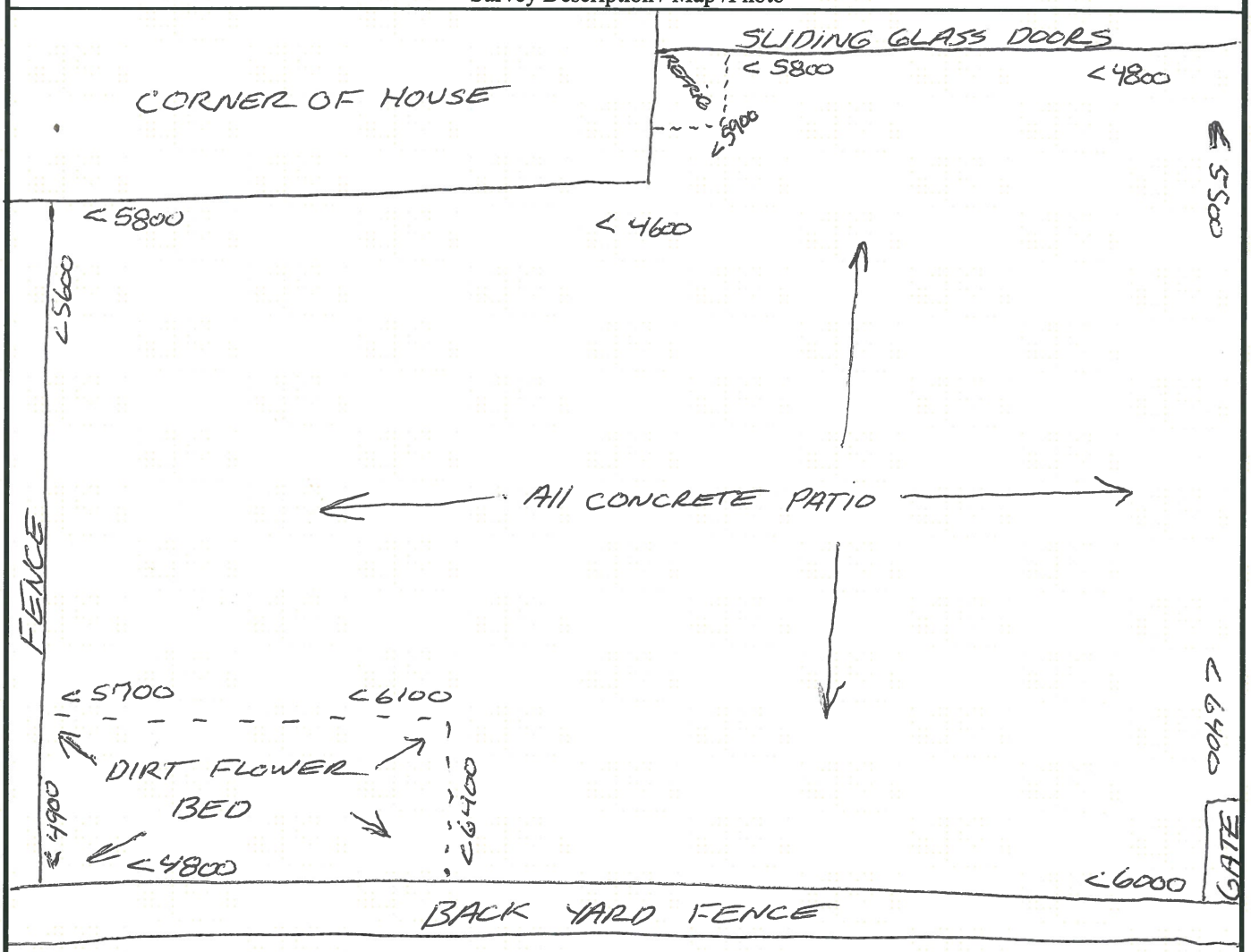
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-143	Date: 10.24.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N/A	N/A	5800	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1310 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

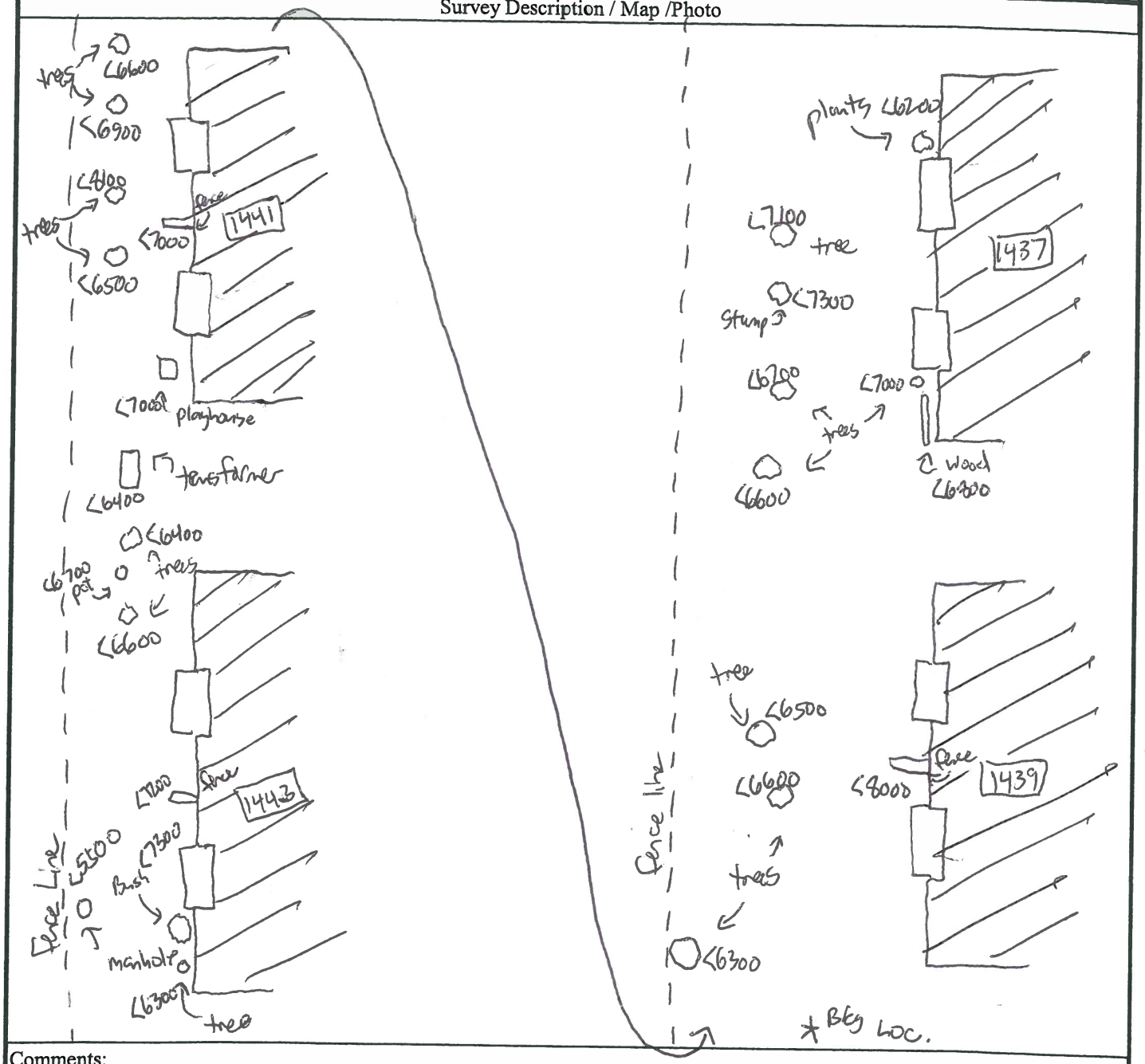
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 00016	RAM Scoping Surveys / Treasure Island CA	07304-00026

Survey No.: 06-12-144	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19769	8/21/14	N/A	N/A	5977	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

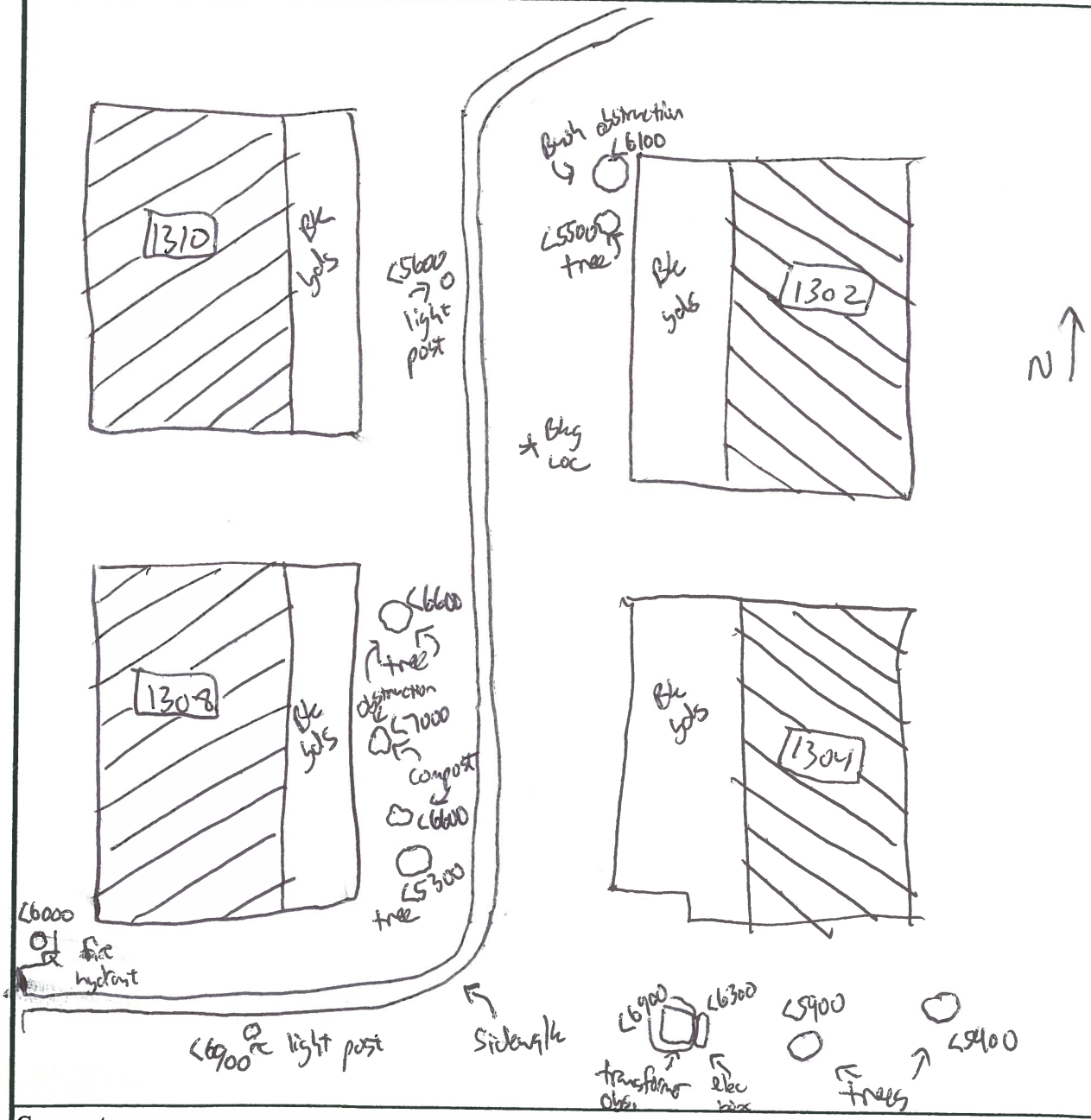
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island CA	07204-00016

Survey No.: 06-12-145	Date: 10/24/13	Location: site 12	Survey Type: 2x2 w/ walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR119768	8/21/14	N/A	N/A	5477	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

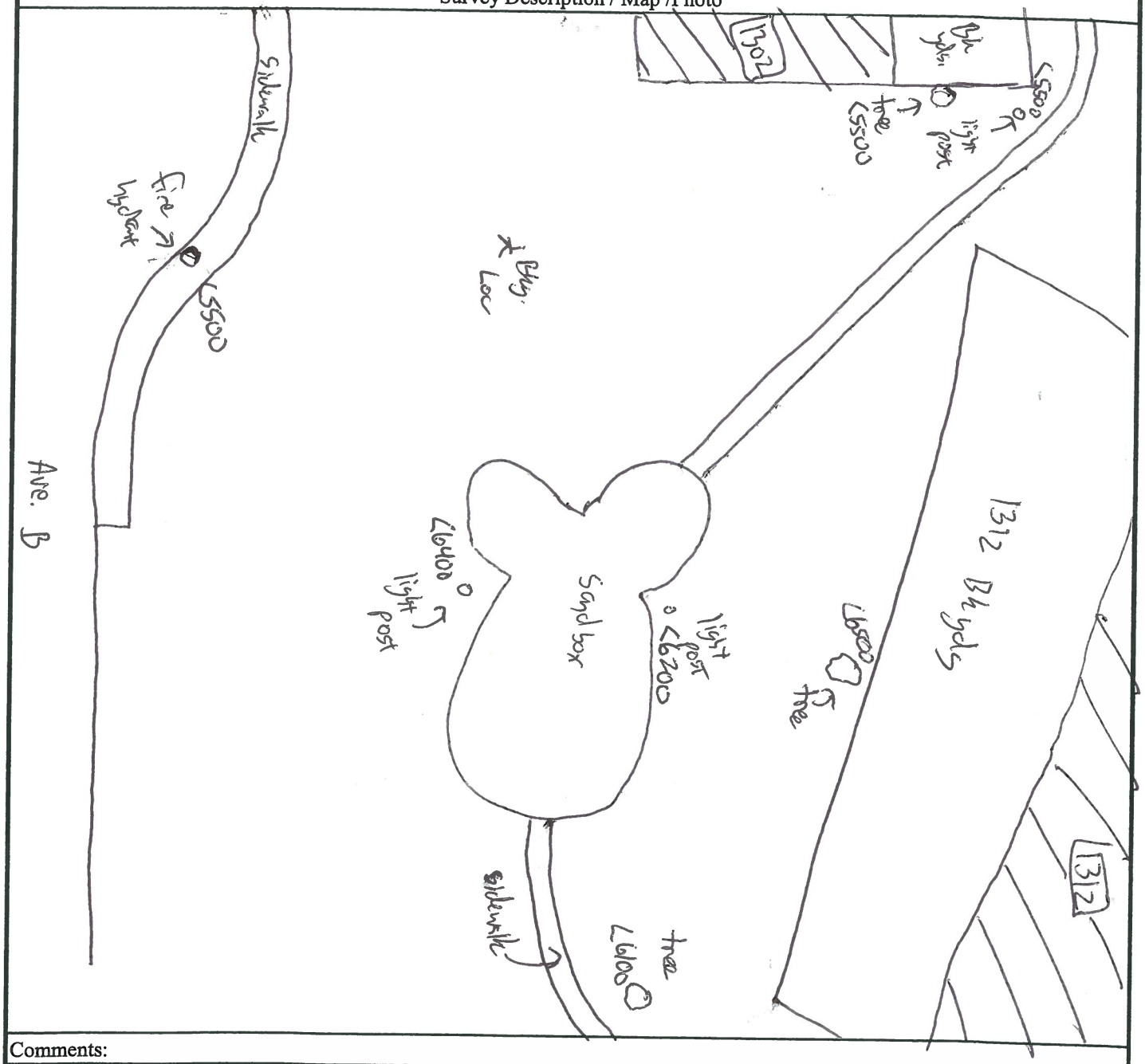
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
W62473-10-D-0808/0006	Rad Scoping Surveys / Treasure Island CA	07204-0006

Survey No.: 06-12-146	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 walkover
Tim Crawford	[illegible]	Jerry Cooper	[illegible]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	4/21/14	44-10	RN19768	3/21/14	N/A	N/A	5444	N/A	N/A	N/A

Survey Description / Map /Photo



Comments:

See Attached Sheets for Static / Removeable Results

Gilbane

RADIOLOGICAL SURVEY FORM

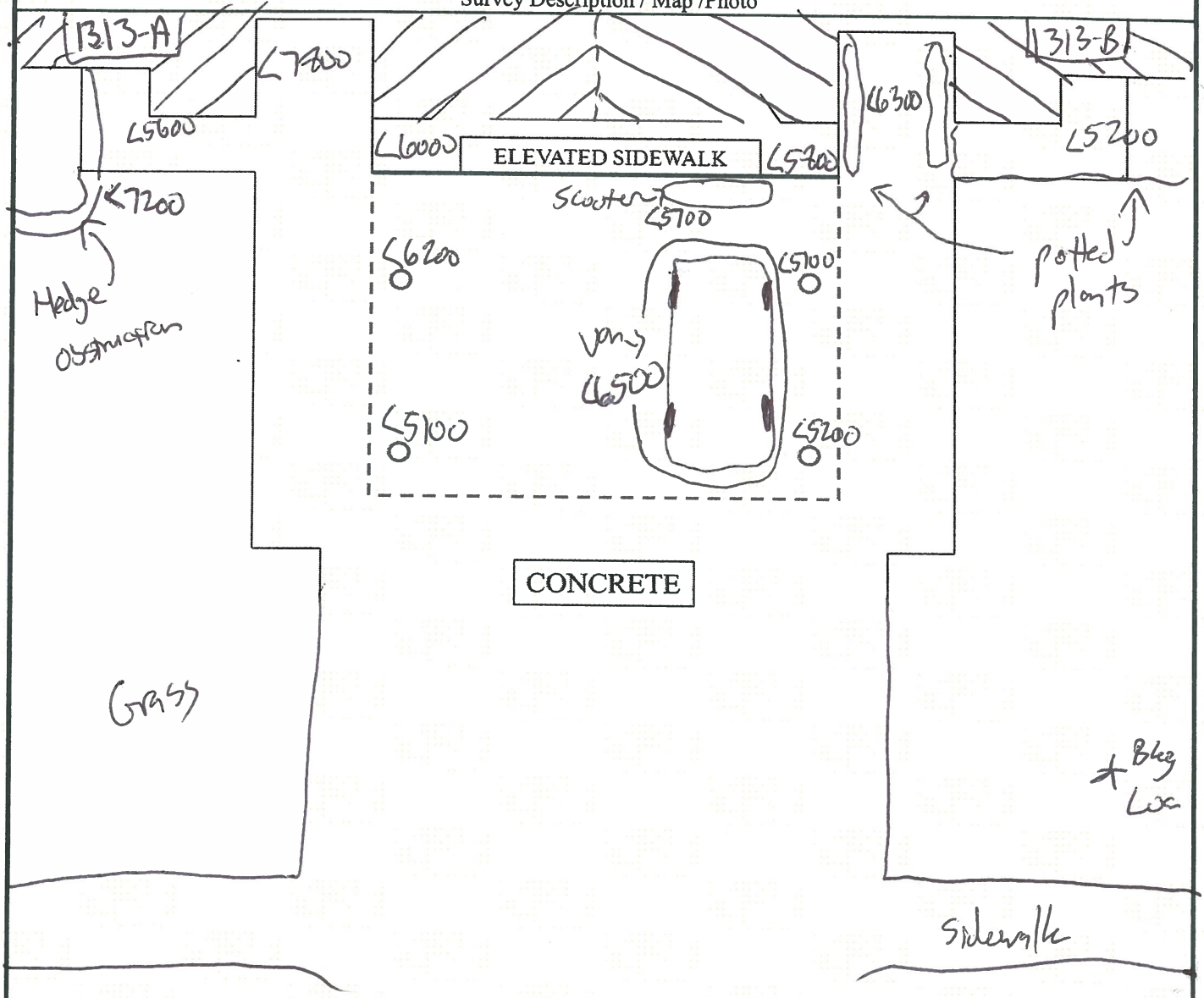
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-147	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	PR19769	8/21/14	N/A	N/A	5445	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1313 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

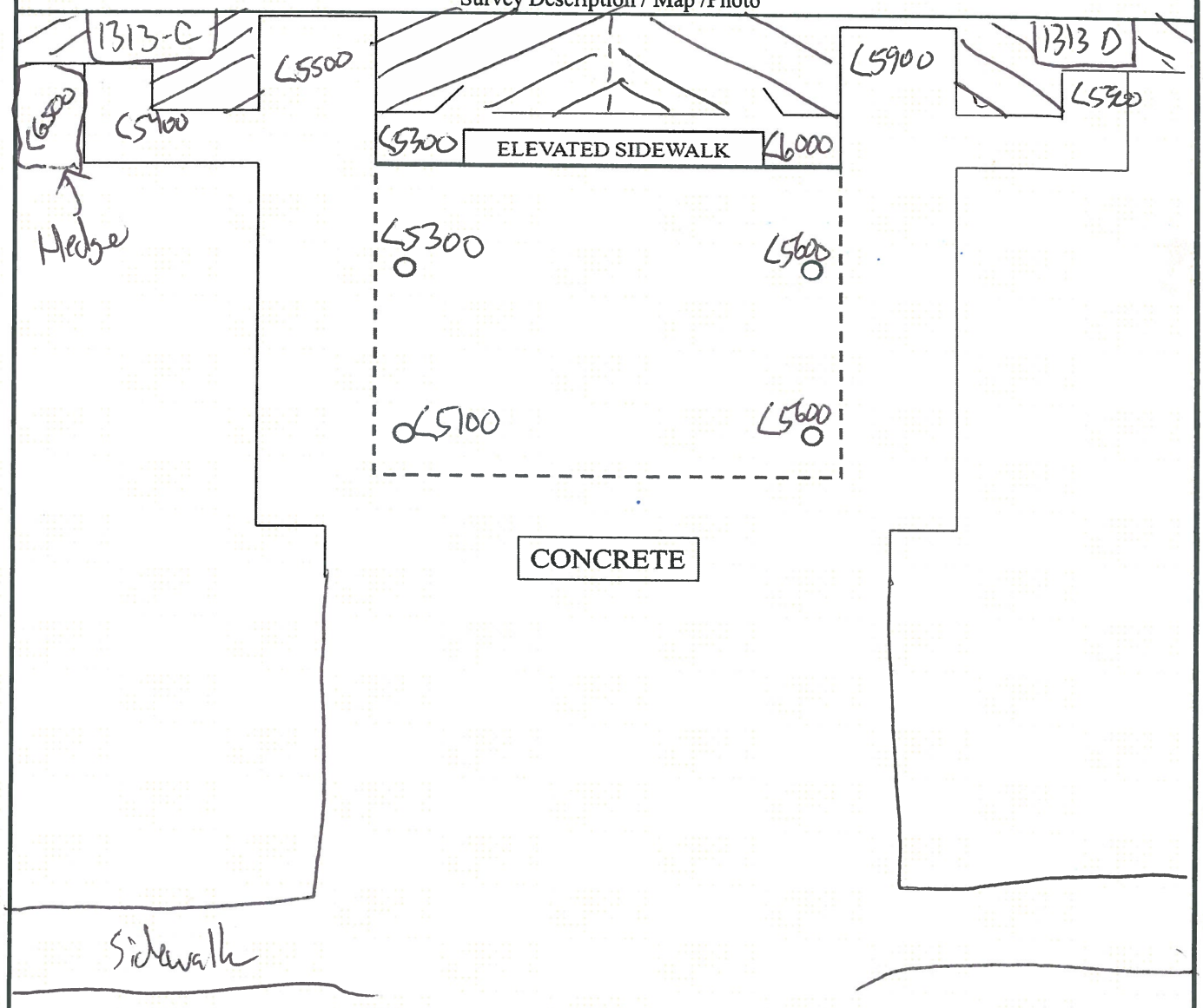
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-147	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1313 Apt(s)# C, D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

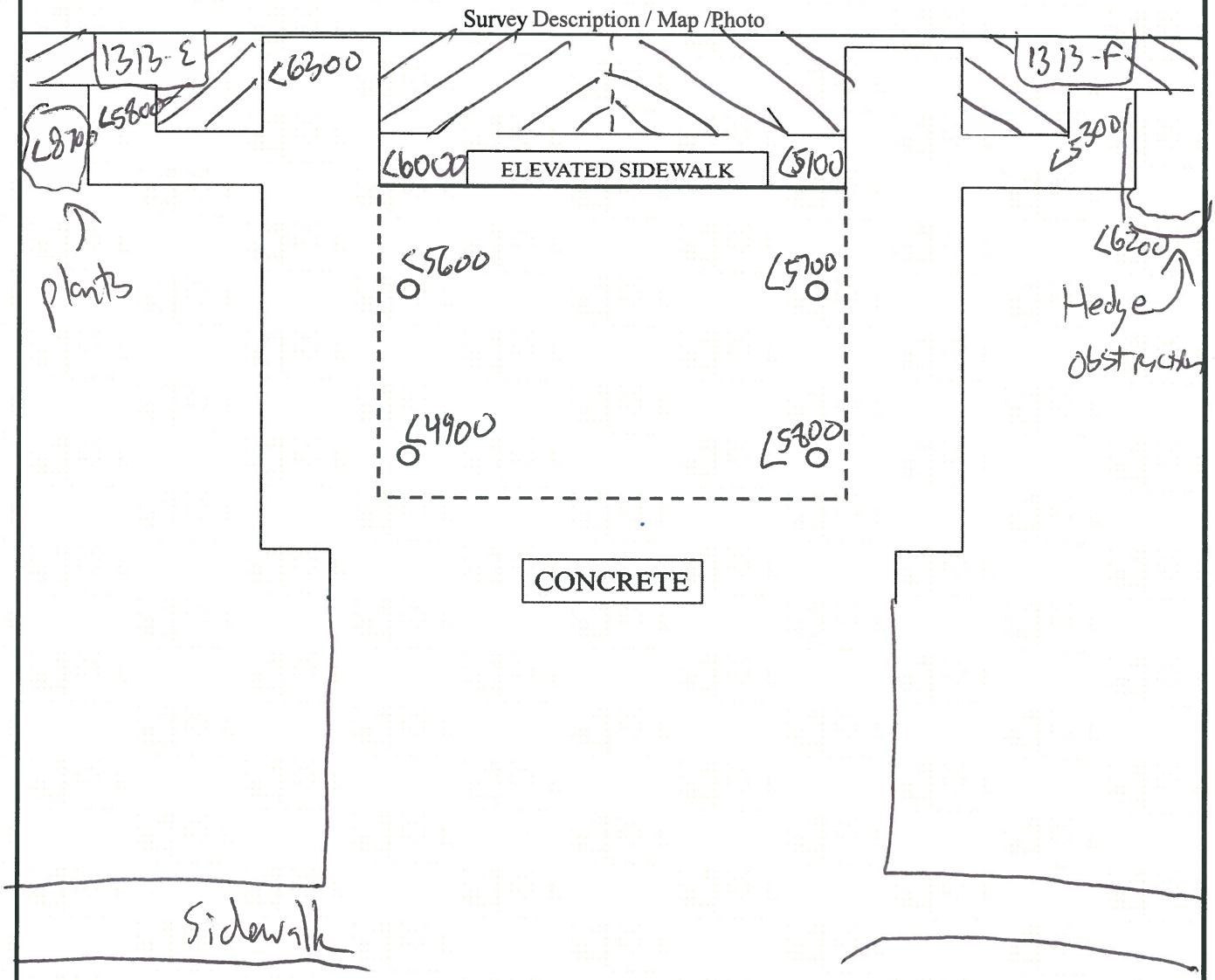
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-147	Date: 10/24/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1313 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

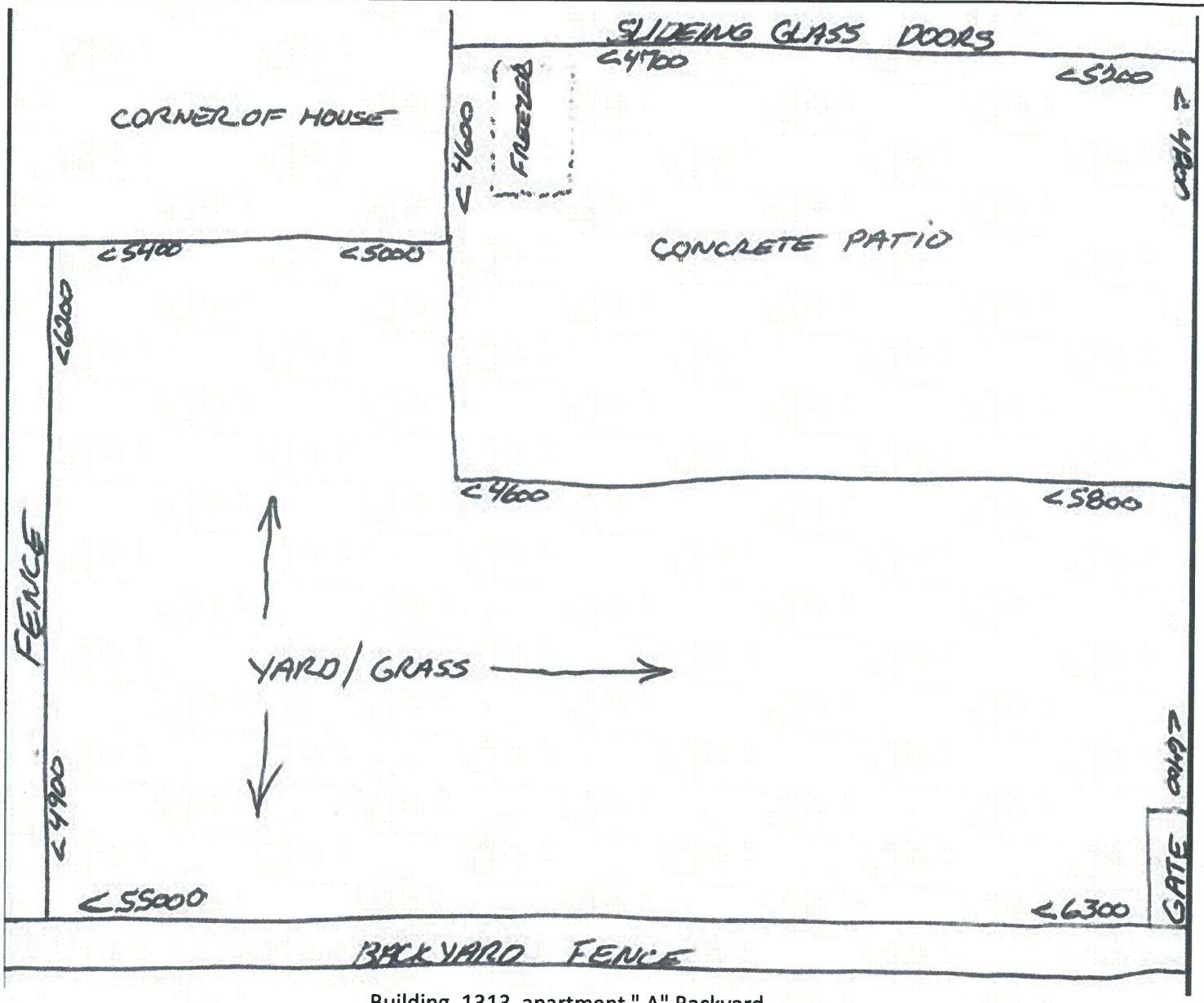
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover
James Smith		MATT CUSHMAN	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	7/27/2014	44-10	RN19765	7/27/2014	N / A	N / A	5303	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1313 apartment " A" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

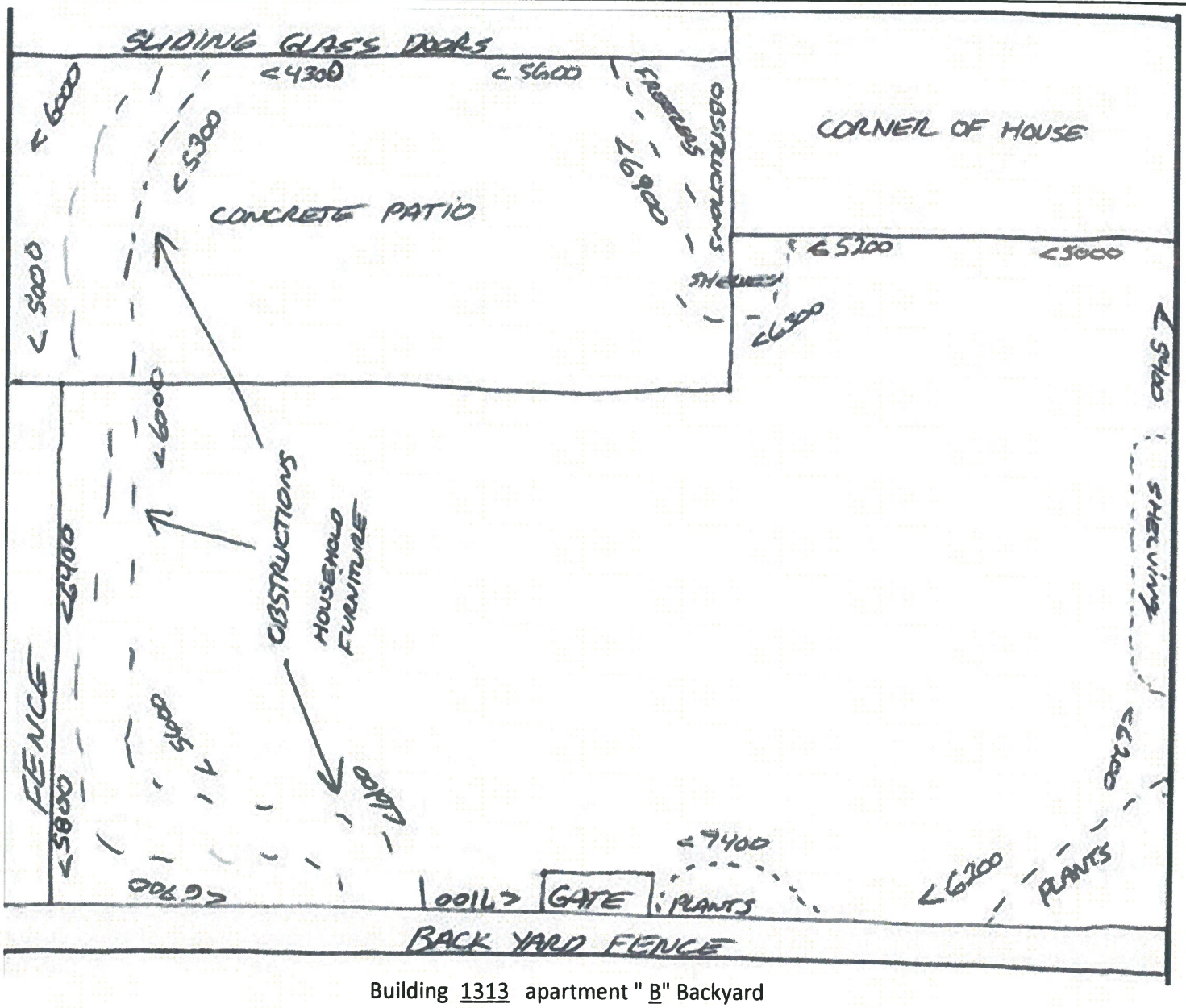
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1313 apartment " B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

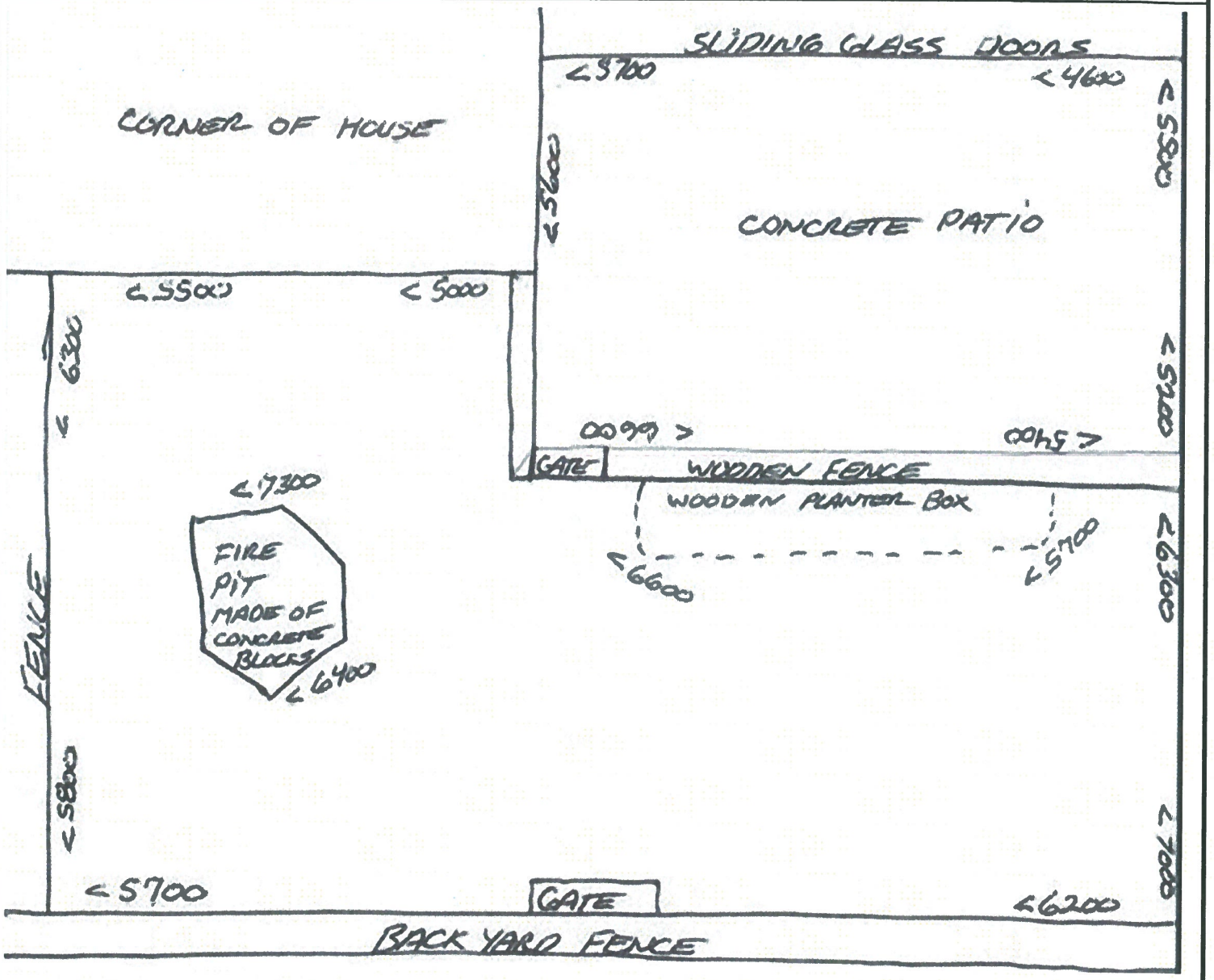
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1313 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

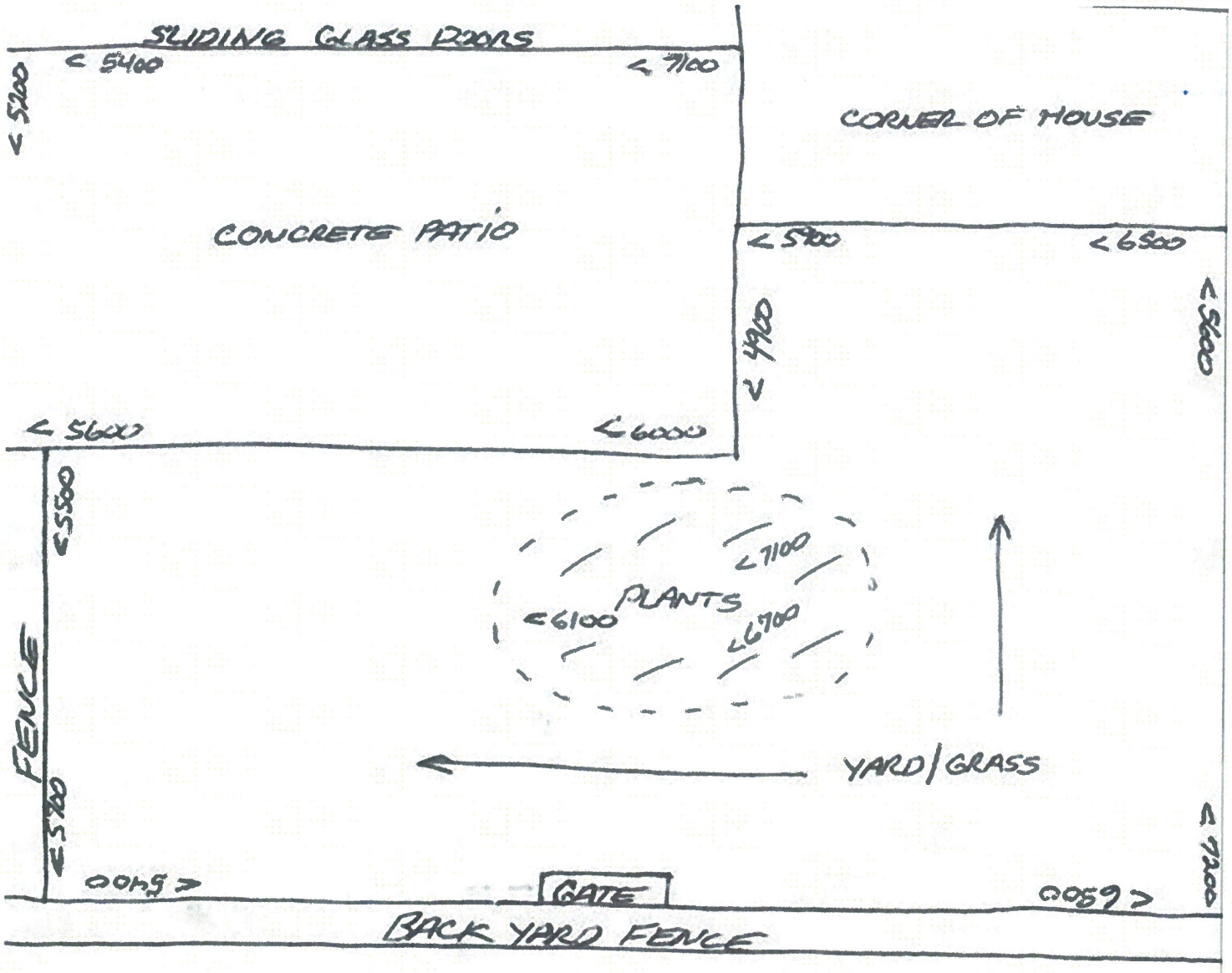
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1313 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

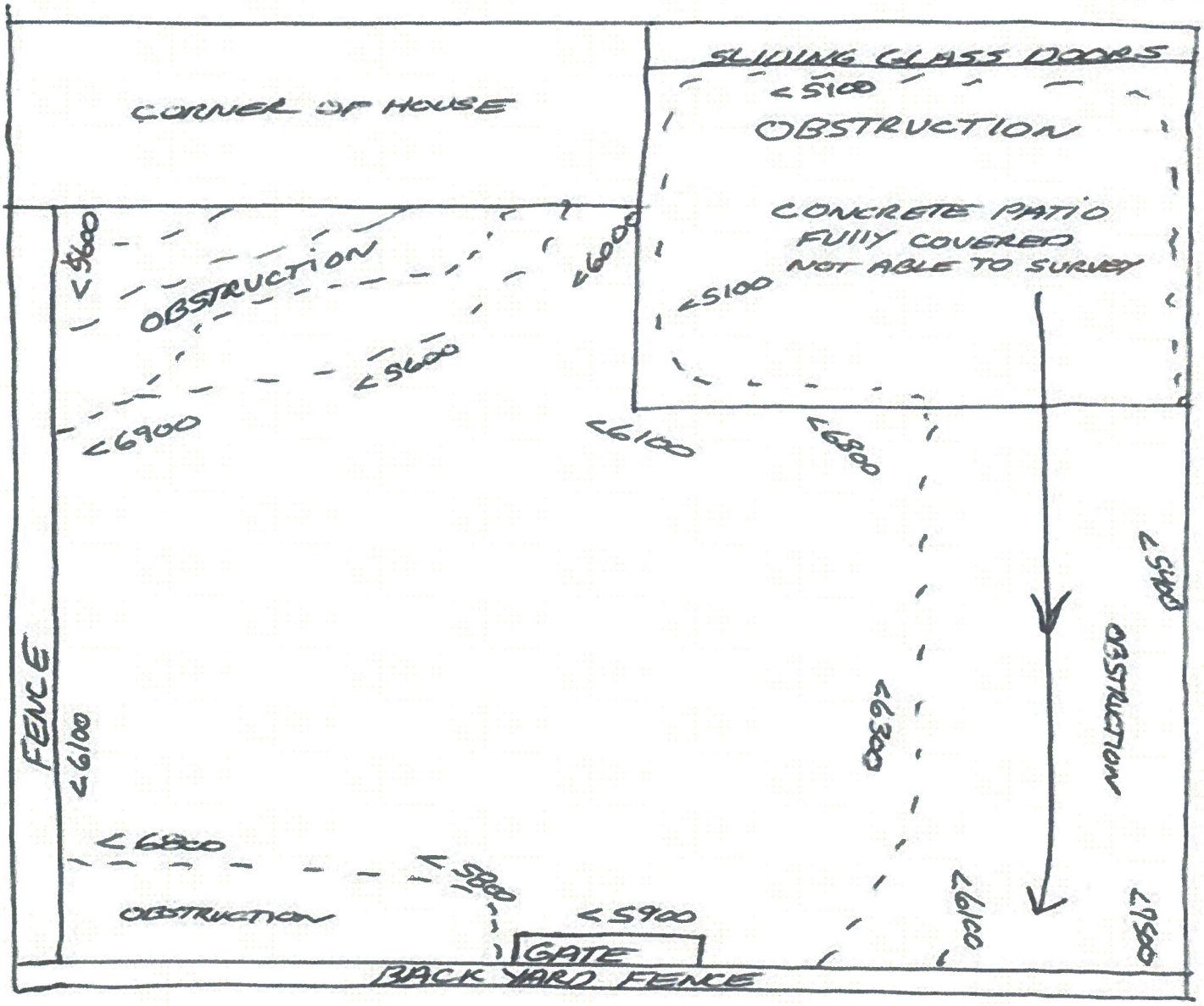
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1313 apartment " E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

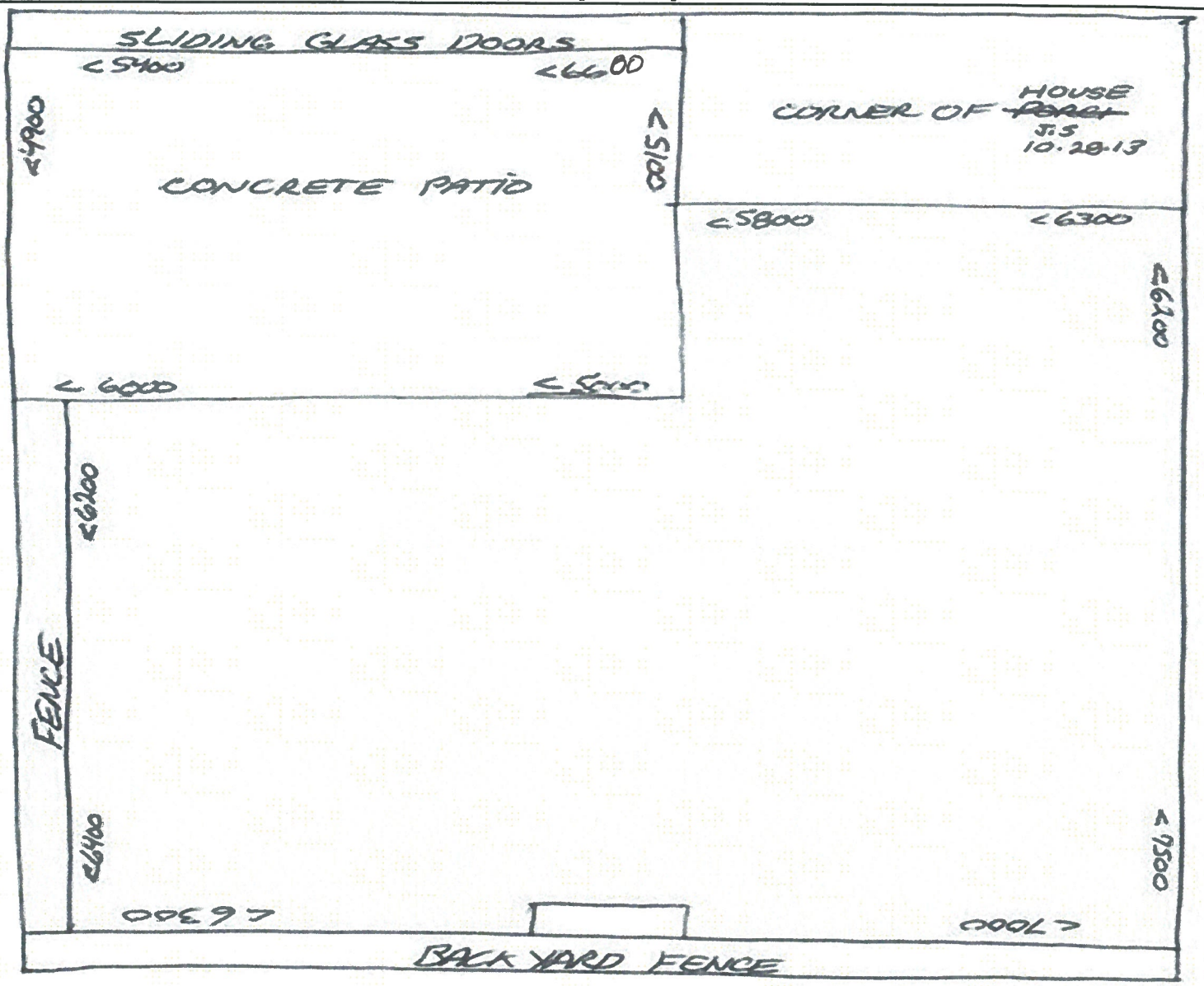
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1313 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

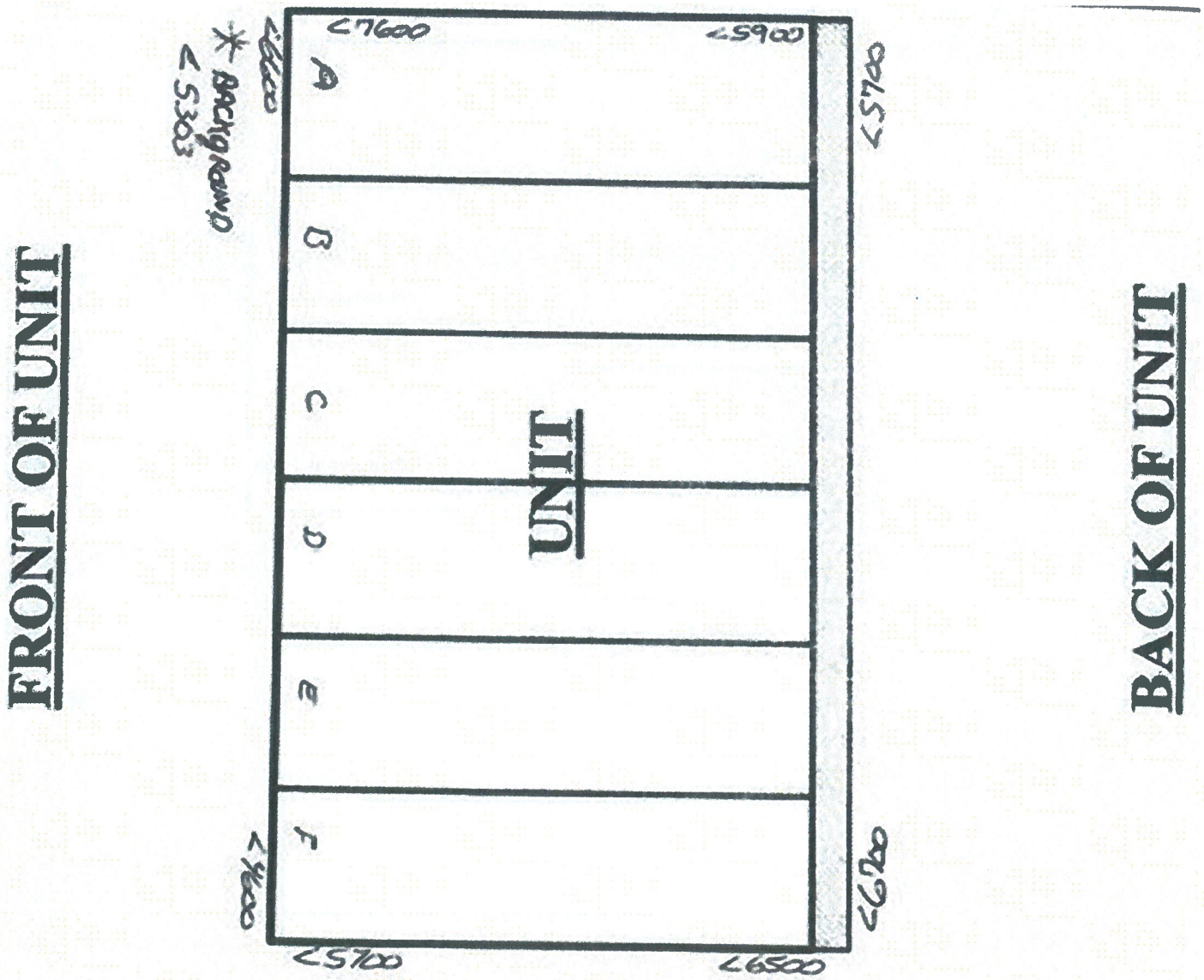
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-148	Date: 10/28/2013	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1313 apartment "Perimeter" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

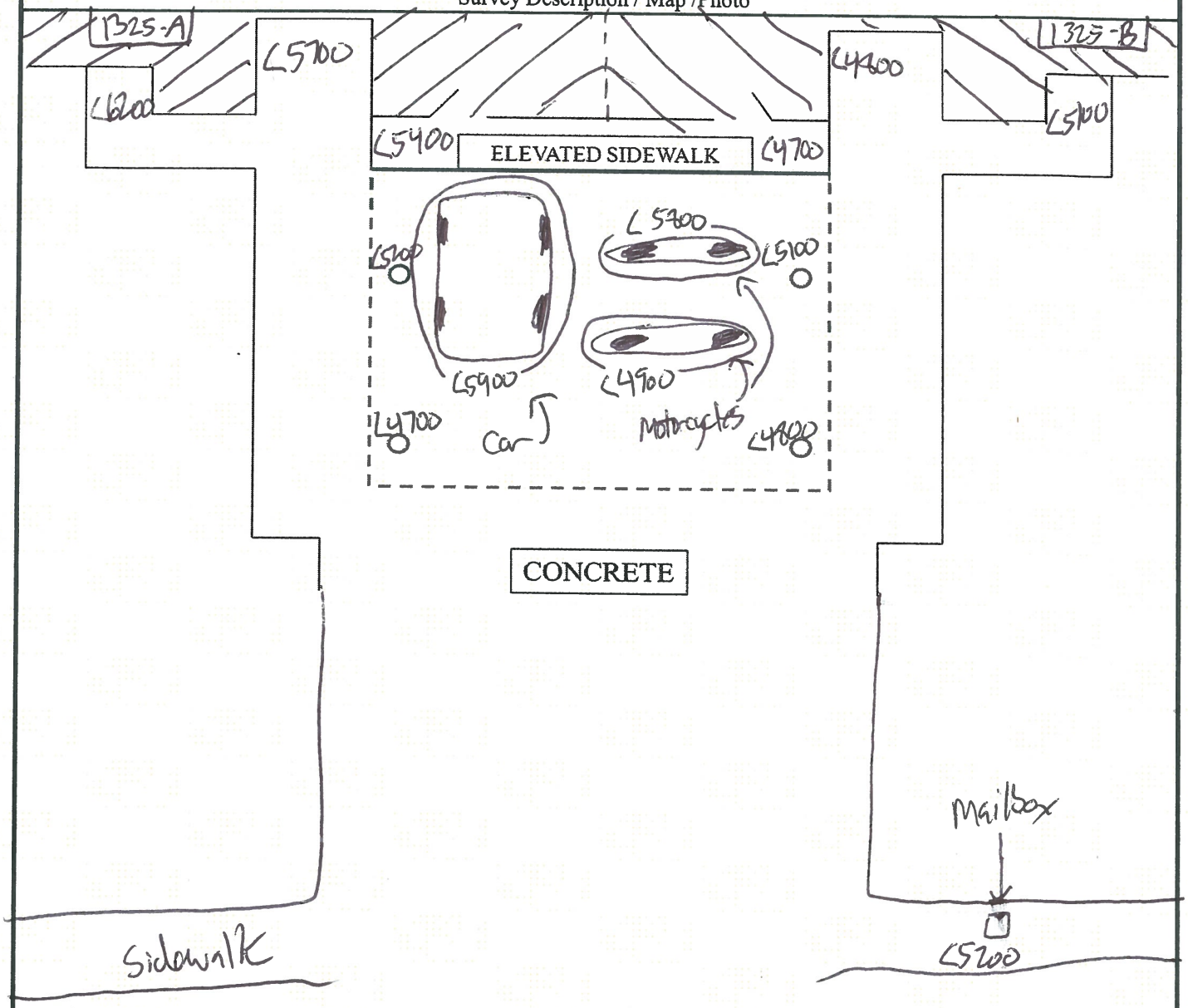
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-149	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW 19768	8/21/14	N/A	N/A	5808	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1325 Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

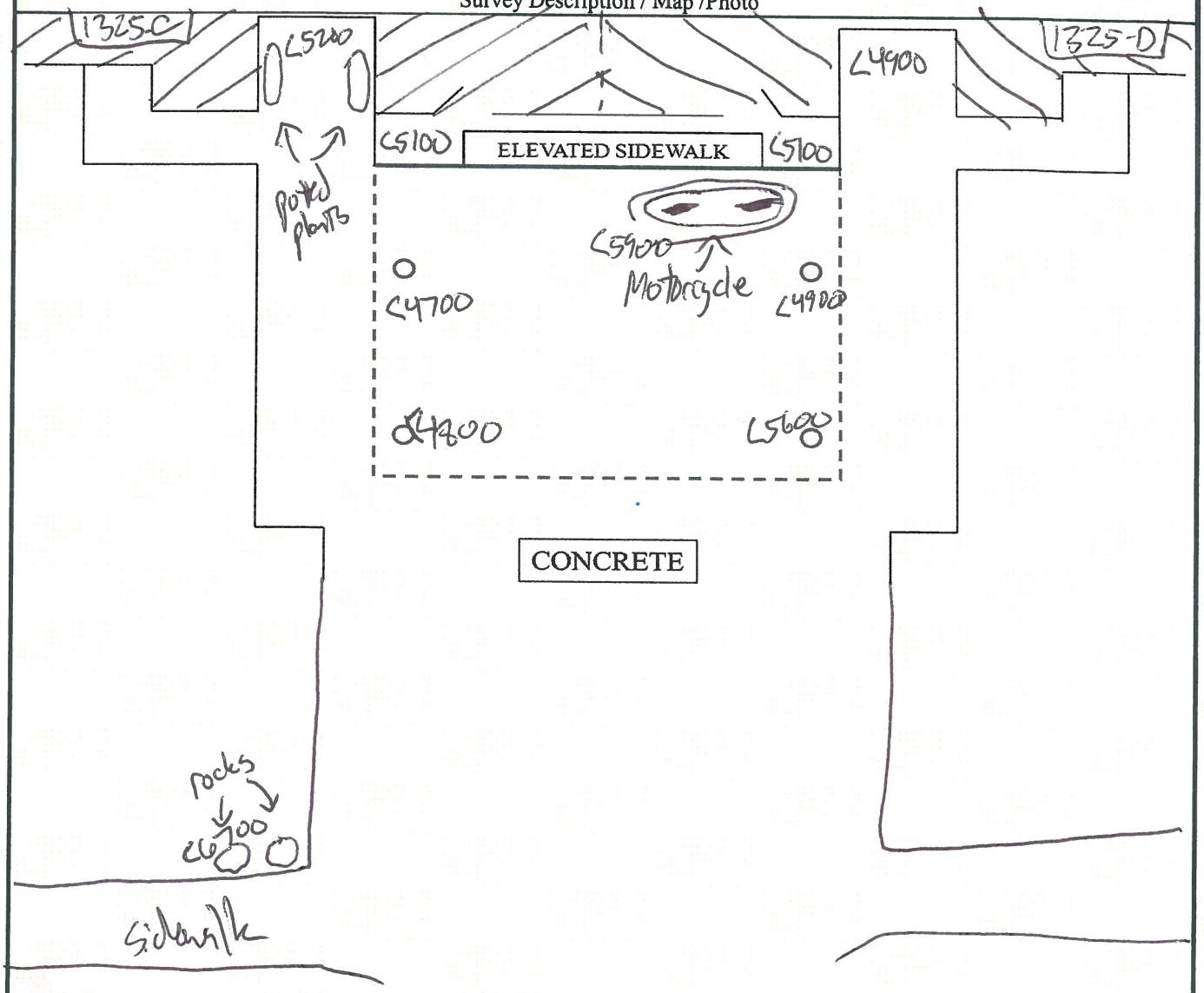
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-149	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1325 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

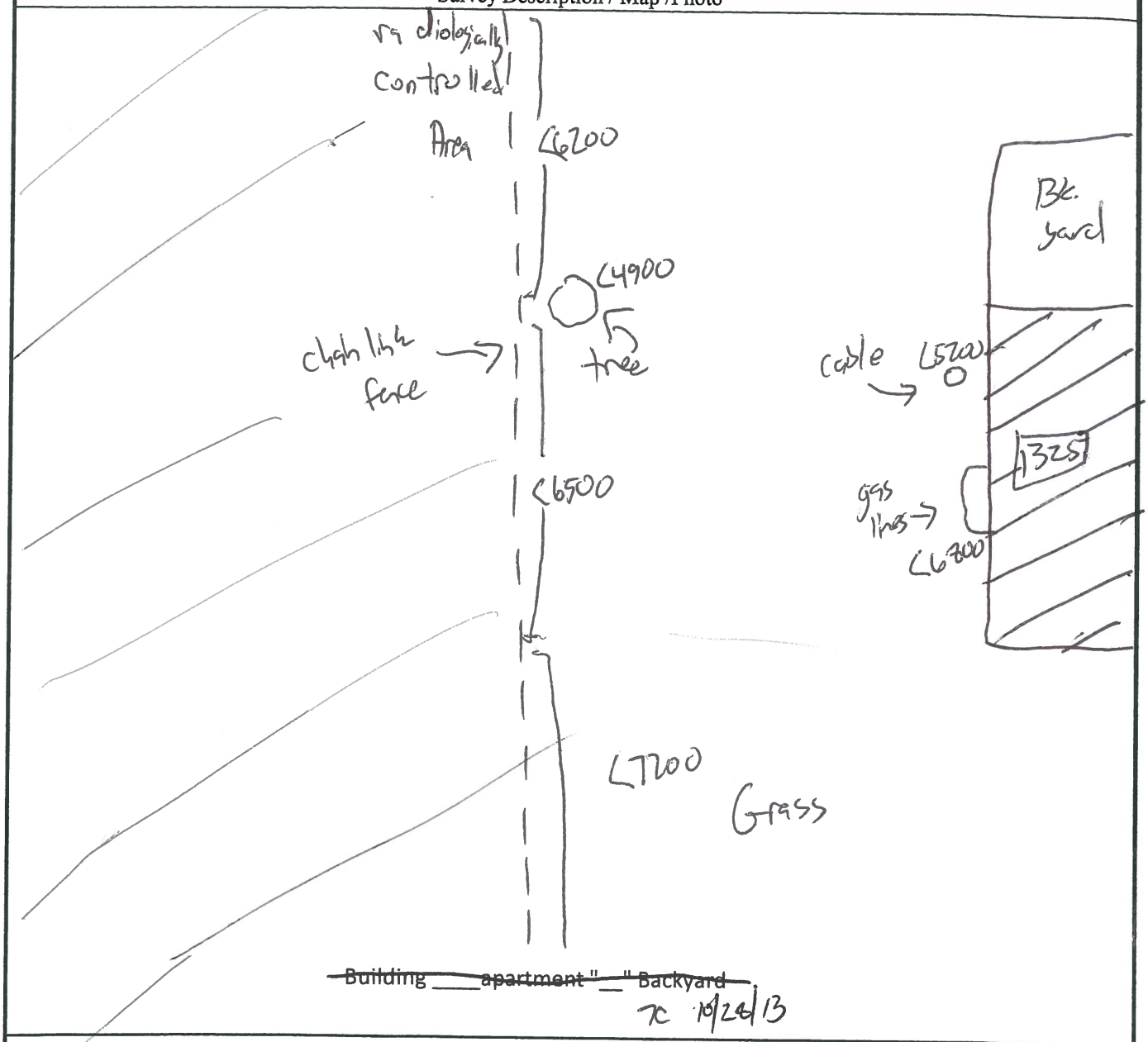
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-149	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

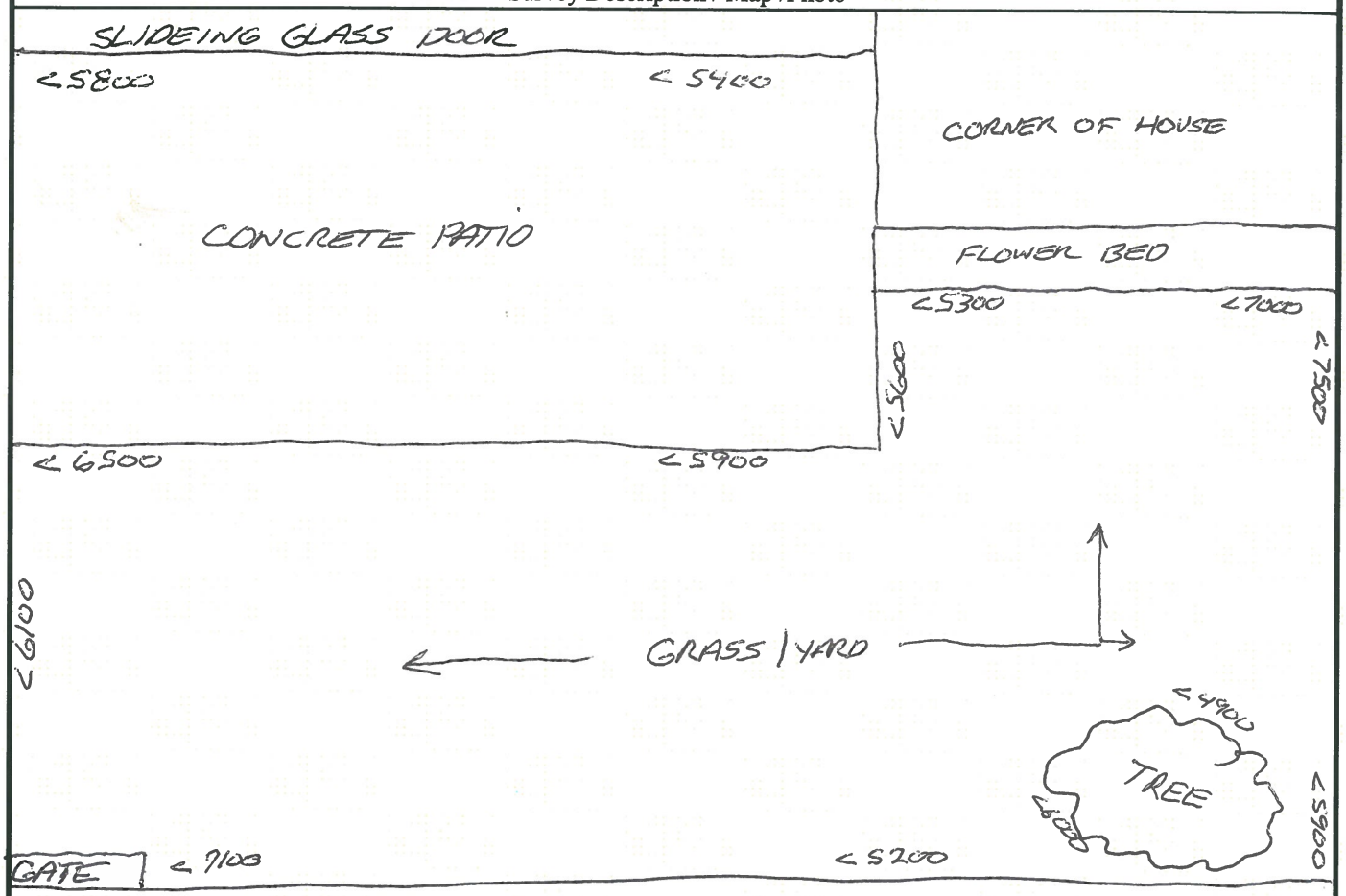
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-150	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH Tech Printed Name	Signature	Jerry Cooper RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	5050	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 10.28.13 ~~D~~ 75 apartment " D " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

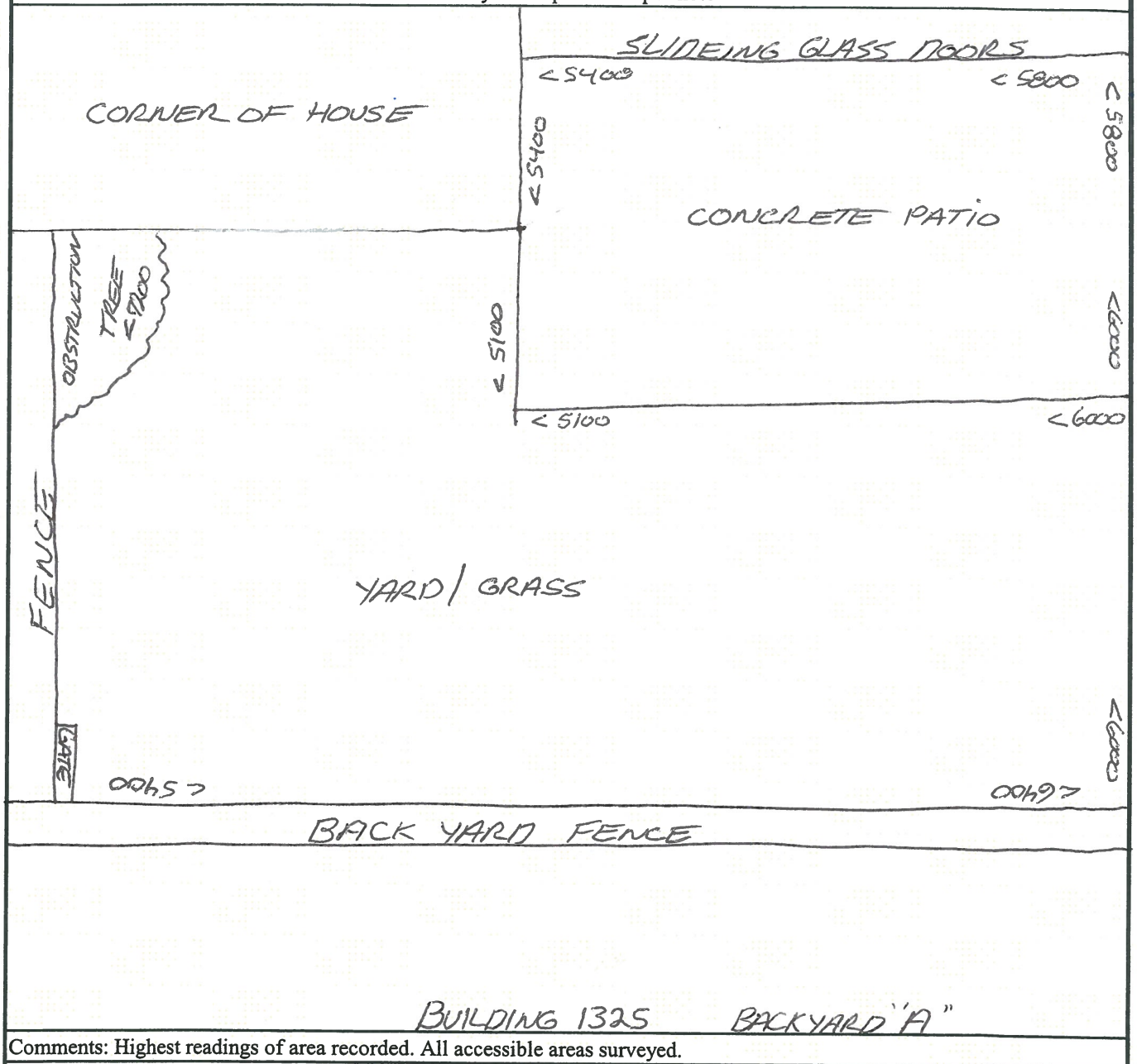
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-150	Date: 10-28-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



BUILDING 1325 BACKYARD "A"

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

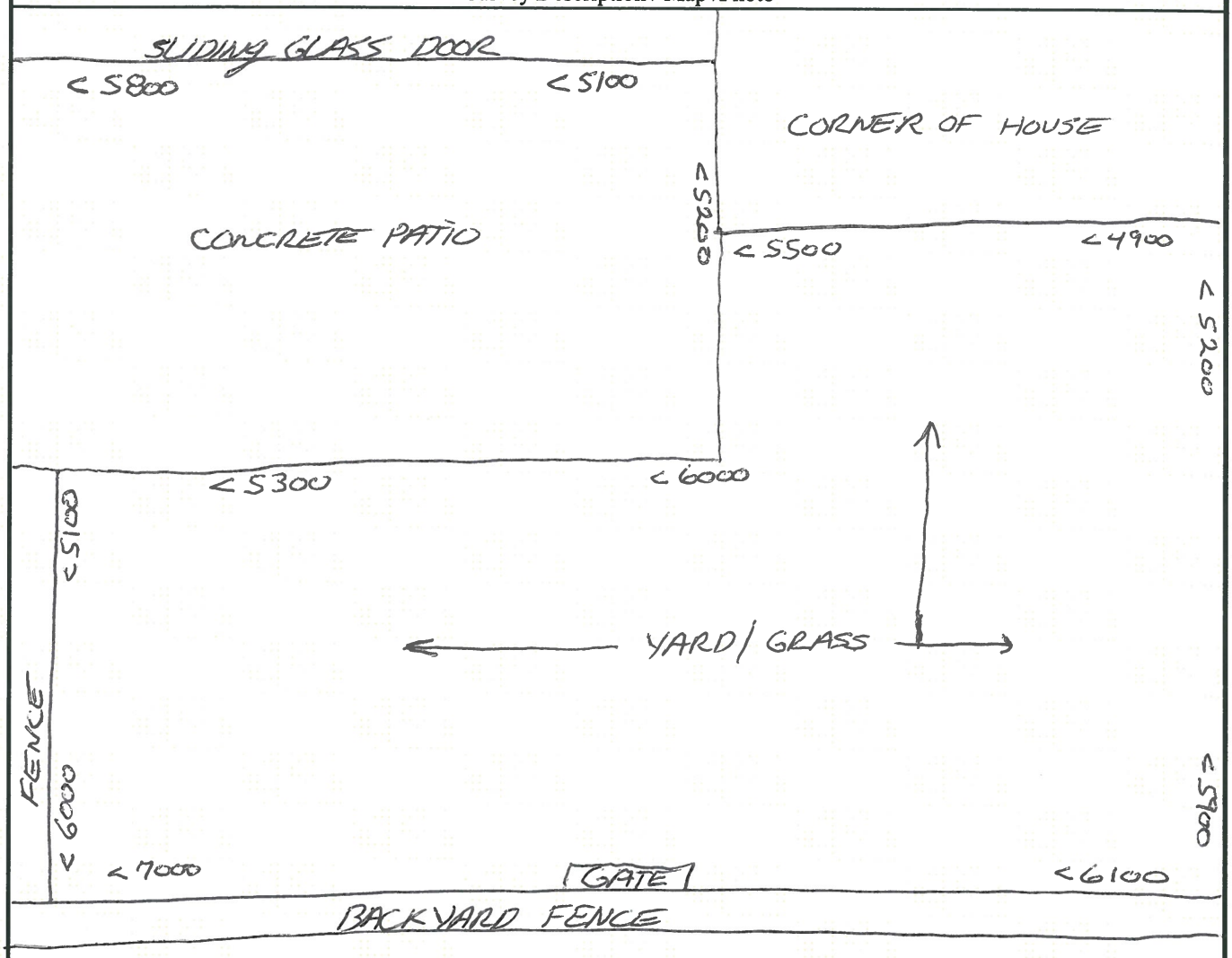
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 150	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1325 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

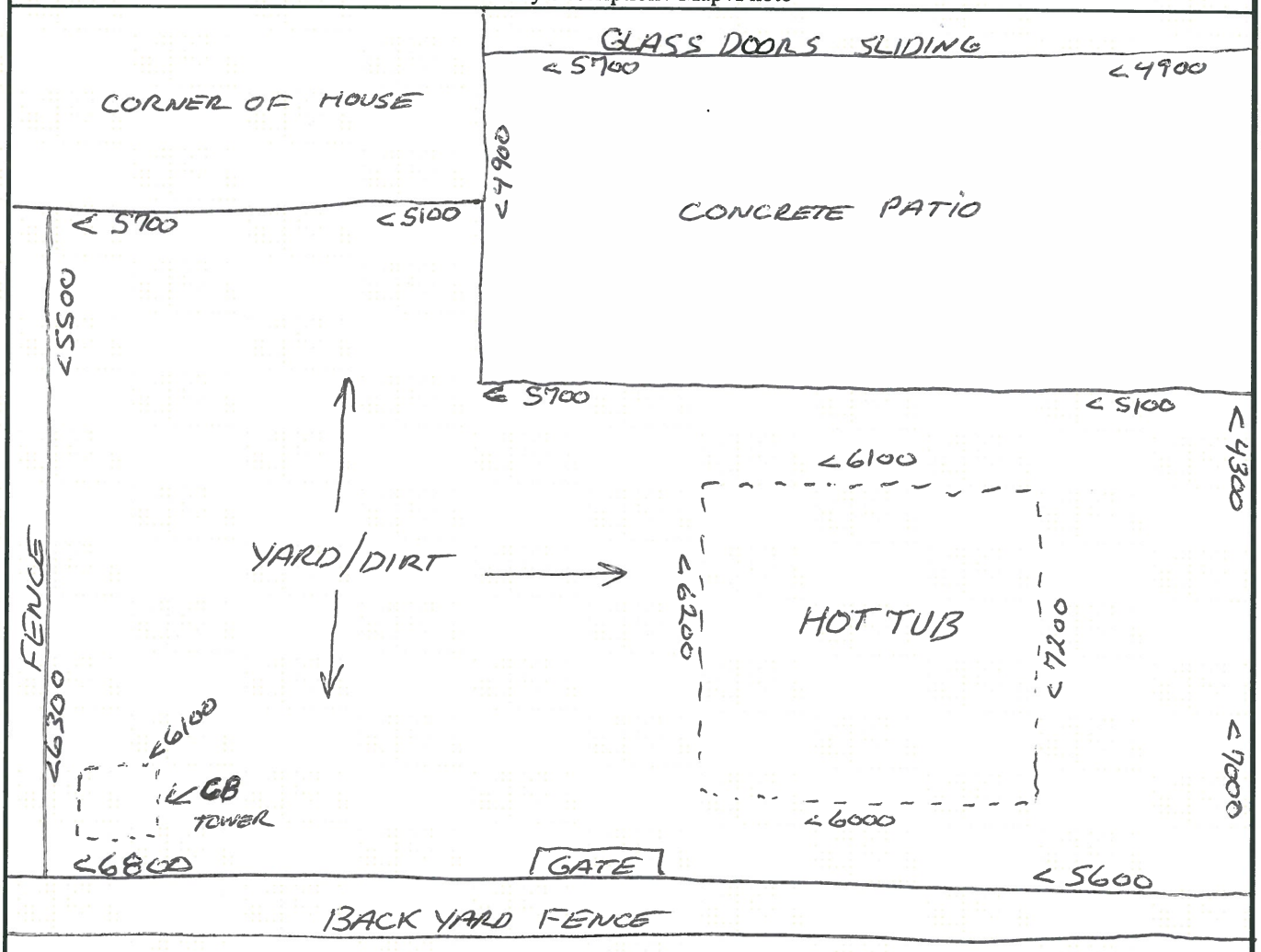
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-150	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1325 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

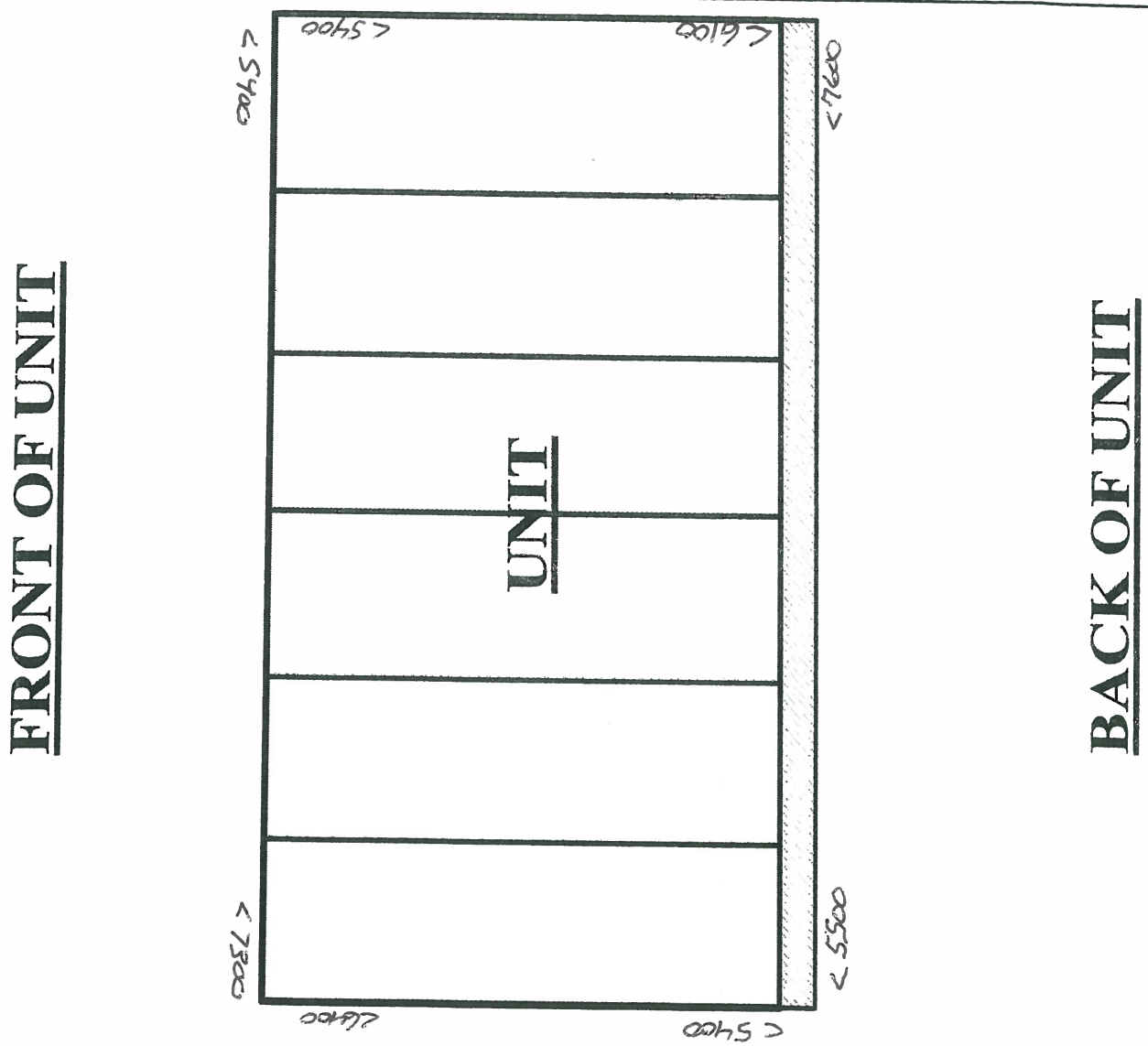
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 150	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1325 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ane

RADIOLOGICAL SURVEY FORM

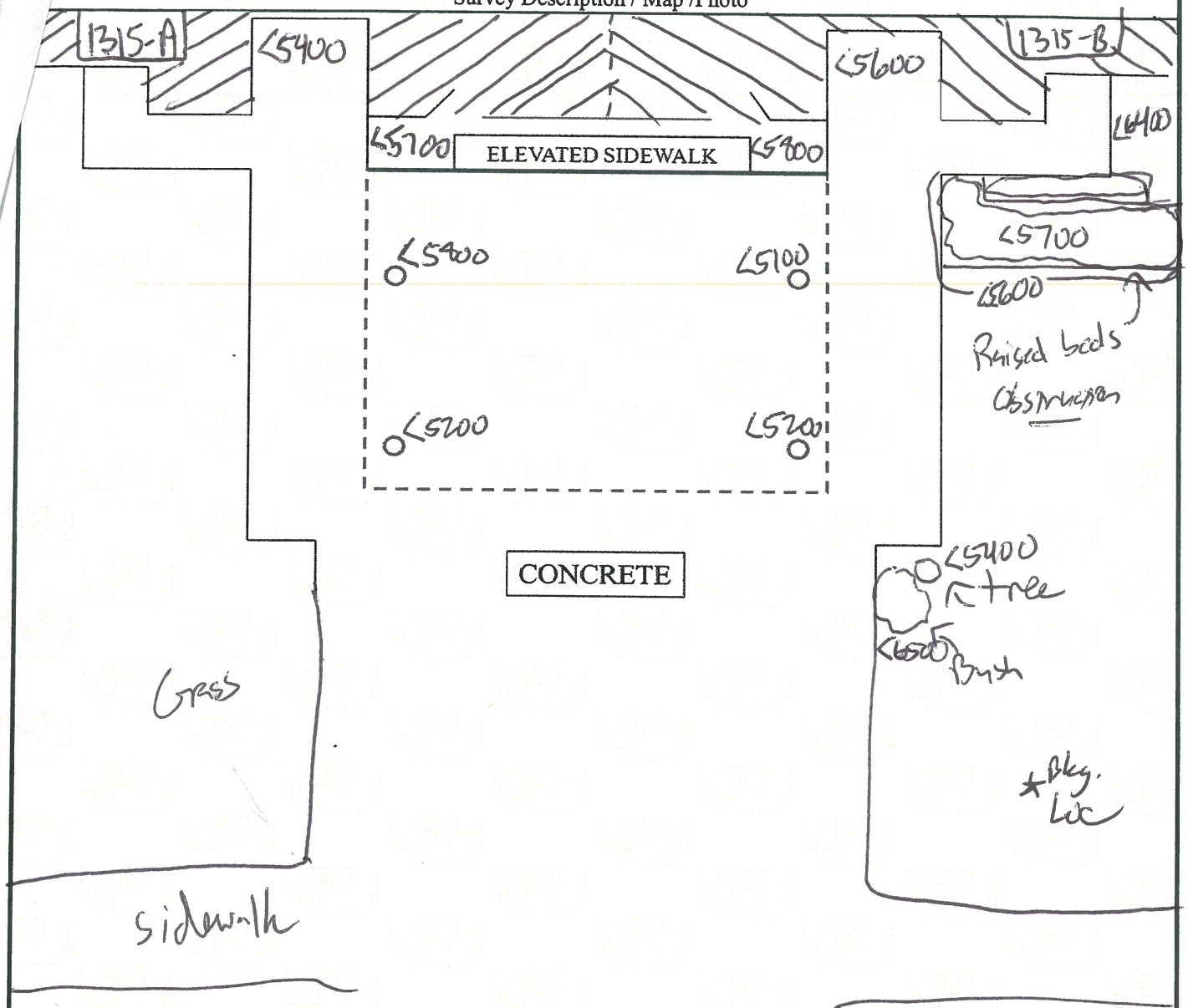
.CT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

06-12-154	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover
ted Name	Signature	RSOR Printed Name: Jerry Cooper	Signature: Jerry Cooper

Instrument(s)

el	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
1	147512	8/21/14	44-10	RN197698	8/21/14	N/A	N/A	5314	N/A	N/A	N/A
/A											
N/A											

Survey Description / Map /Photo



Building # 1315 Apt(s)# A, B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

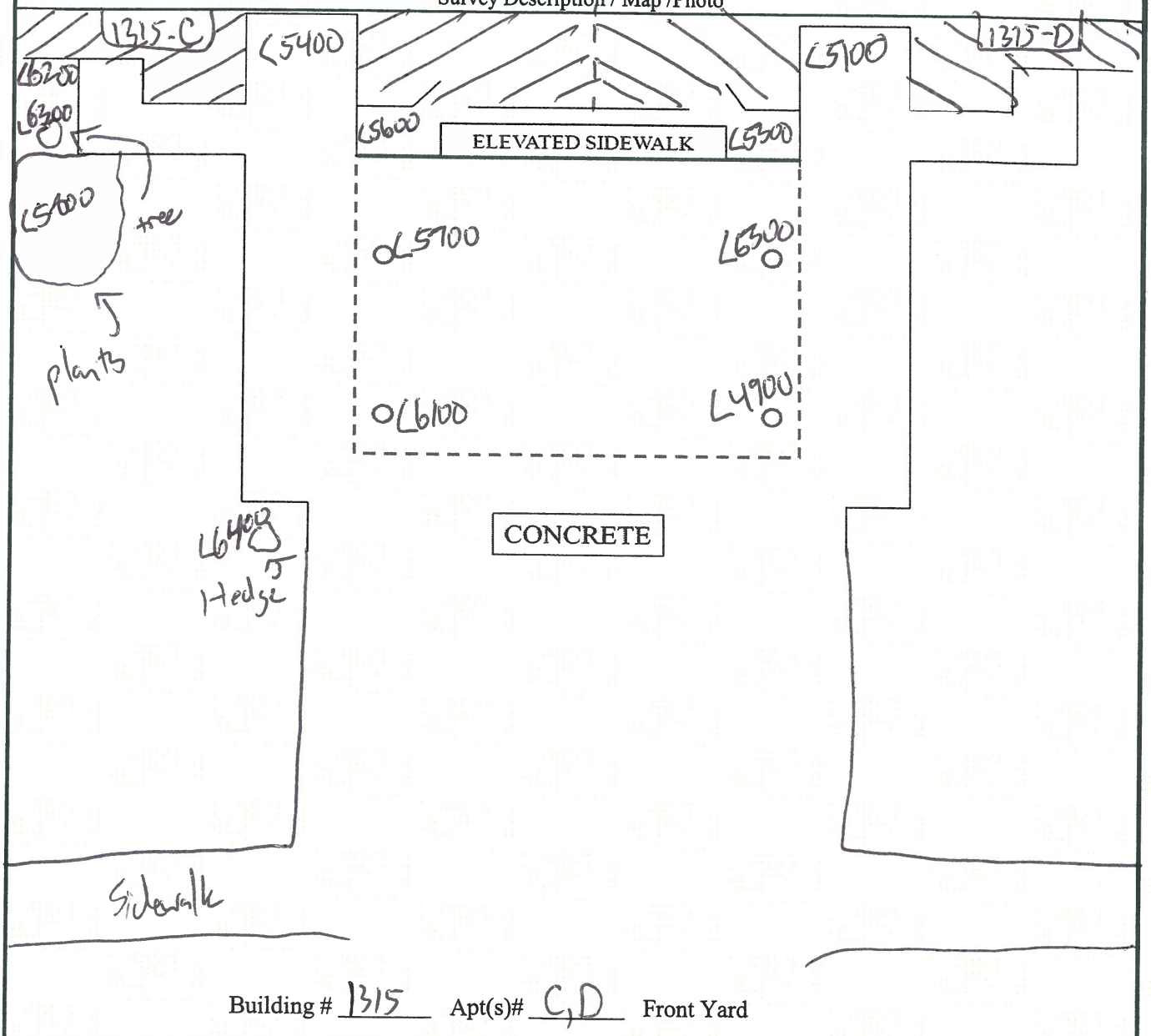
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-154	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1315 Apt(s)# C,D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

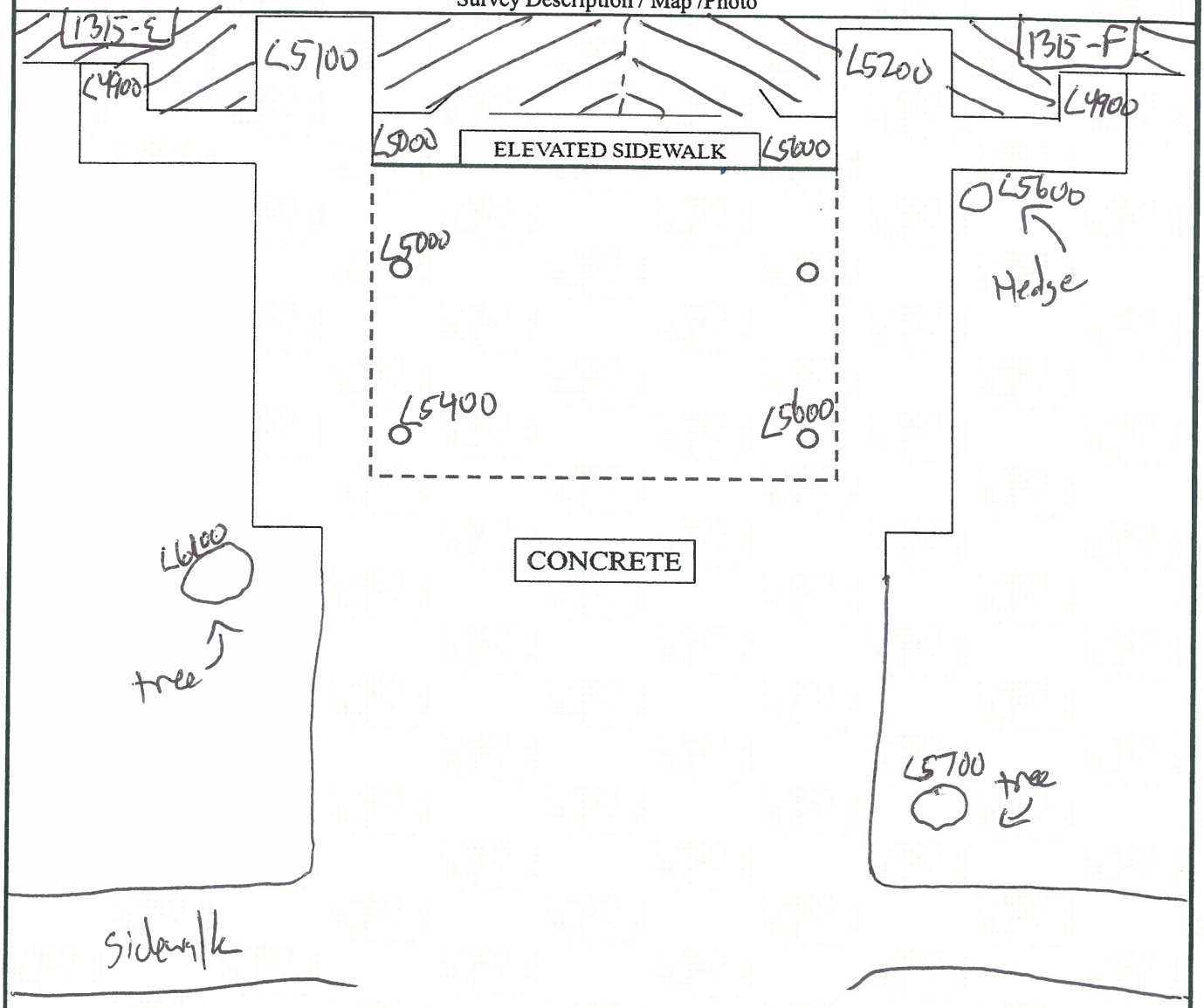
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 156	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1315 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

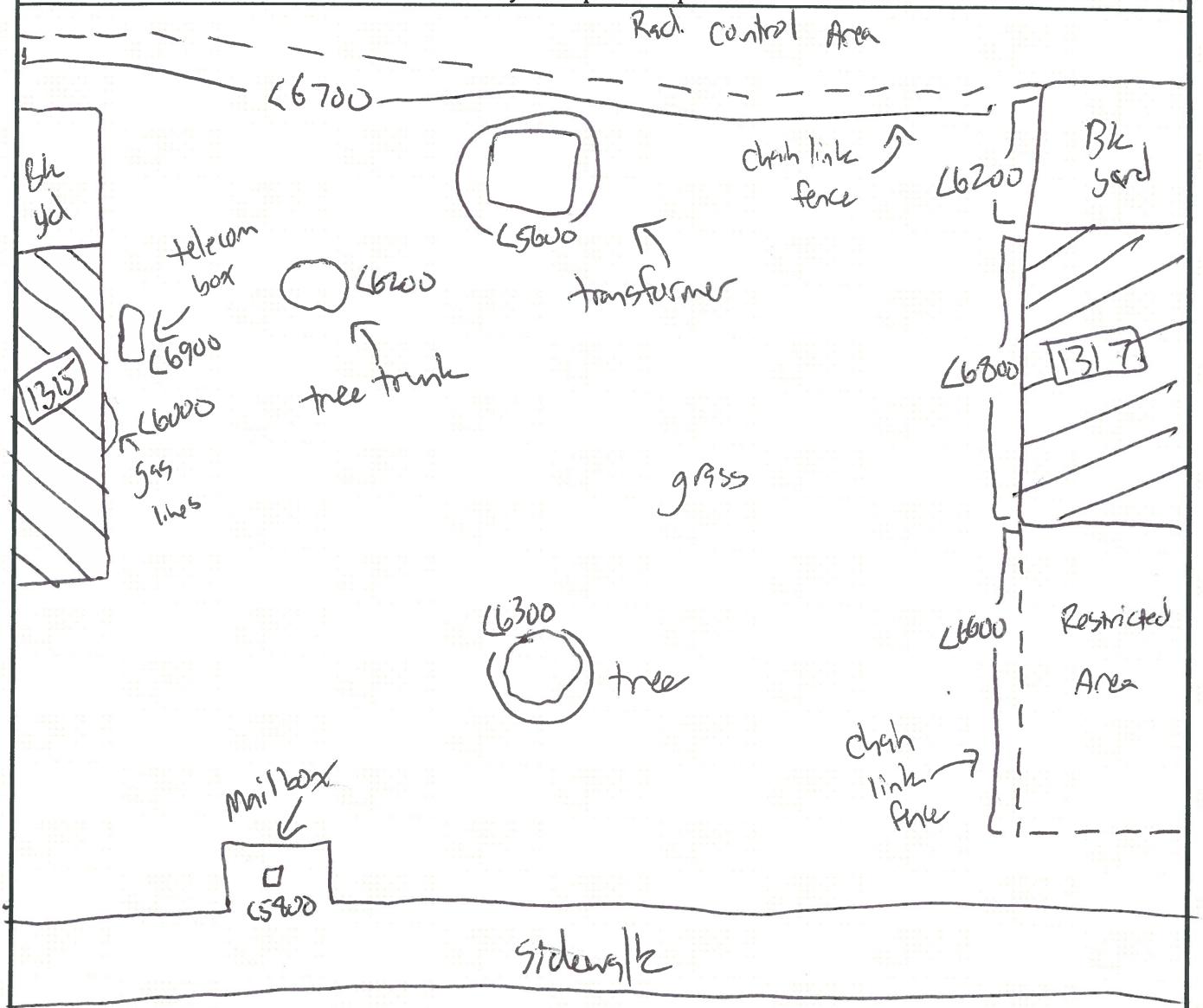
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-156	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

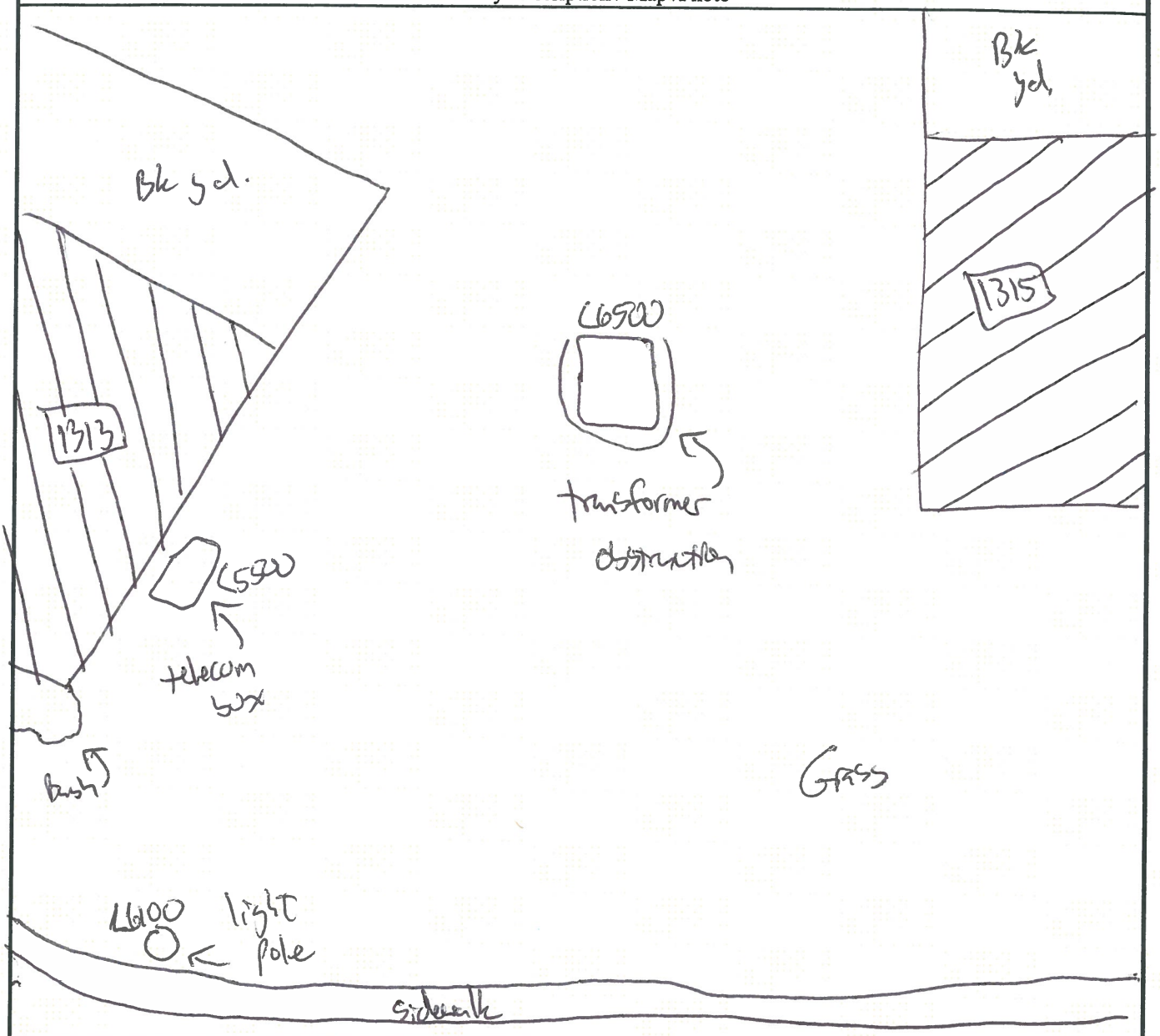
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-154	Date: 10/28/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

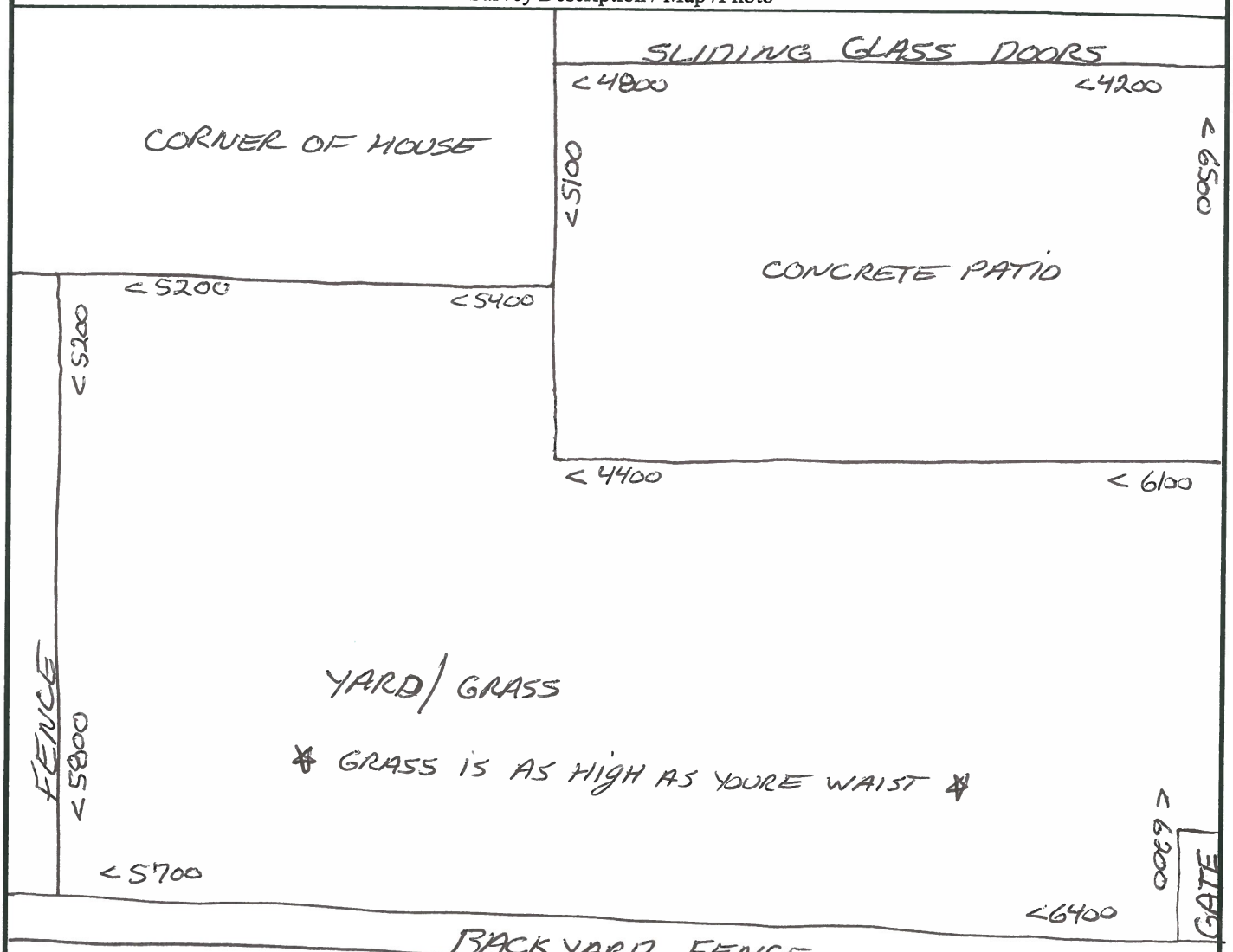
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-0808 10006	Rad Scoping Surveys / Treasure Island CA	07204-00006

Survey No.: 06-12-157	Date: 10.28.13	Location: SITE 12	Survey Type: 2X2 WALKOVER
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	~~5515~~ N/A	Ro 10/30/13	5515	N/A	N/A	N/A
					N						
						A					

Survey Description / Map /Photo



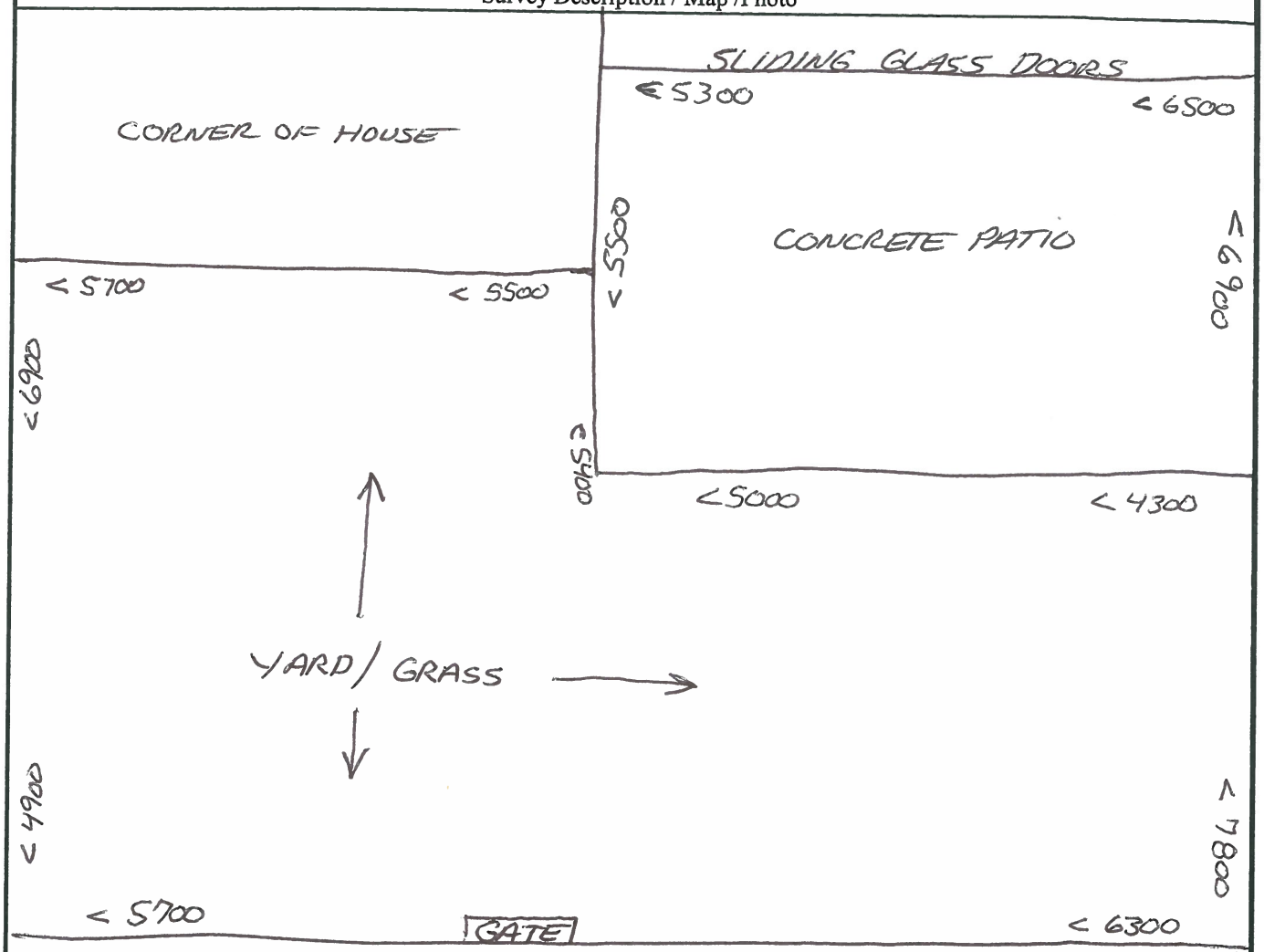
Comments:

See Attached Sheets for Static / Removeable Results

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12- 157	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1315 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

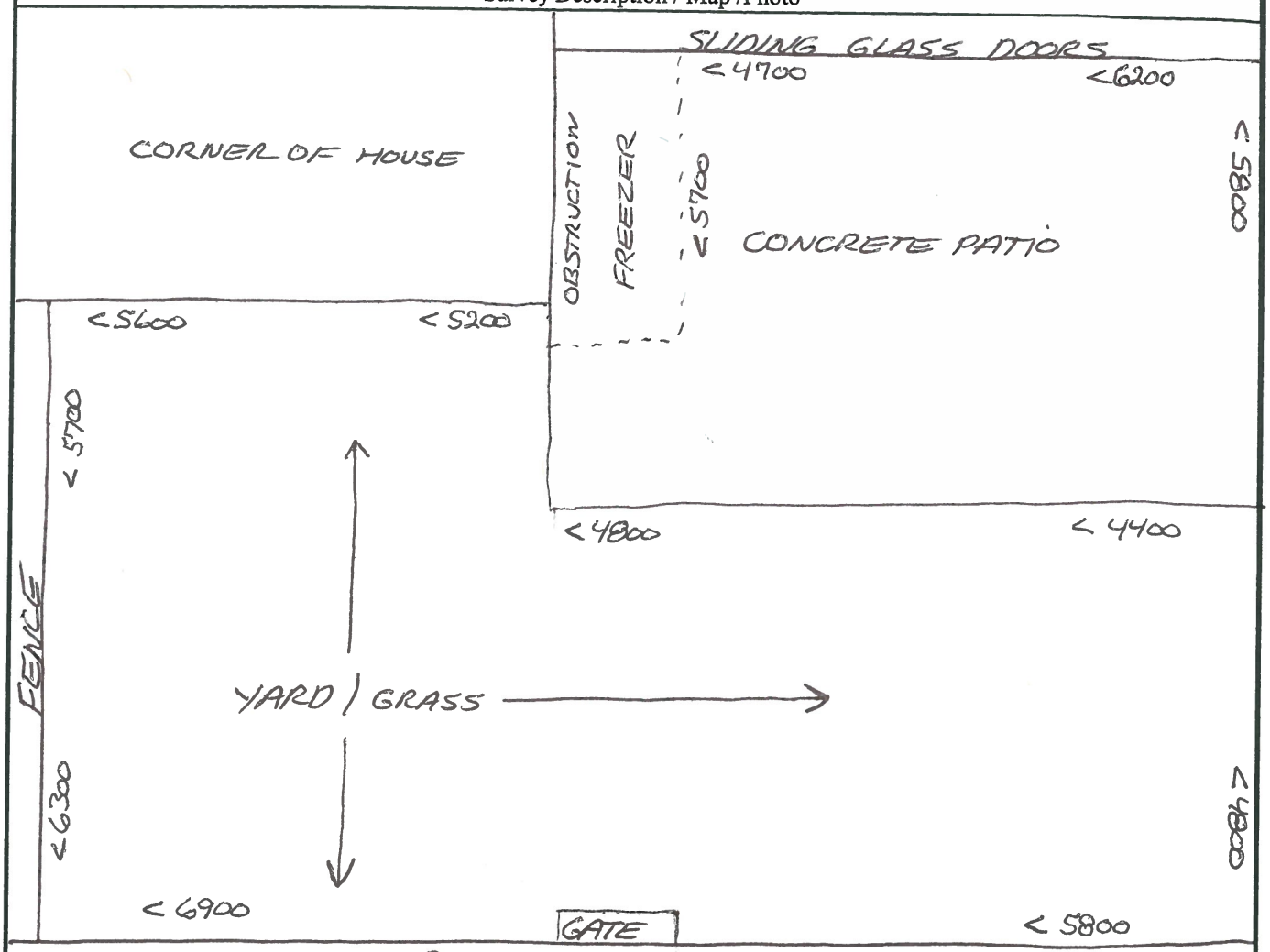
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-157	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1315 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

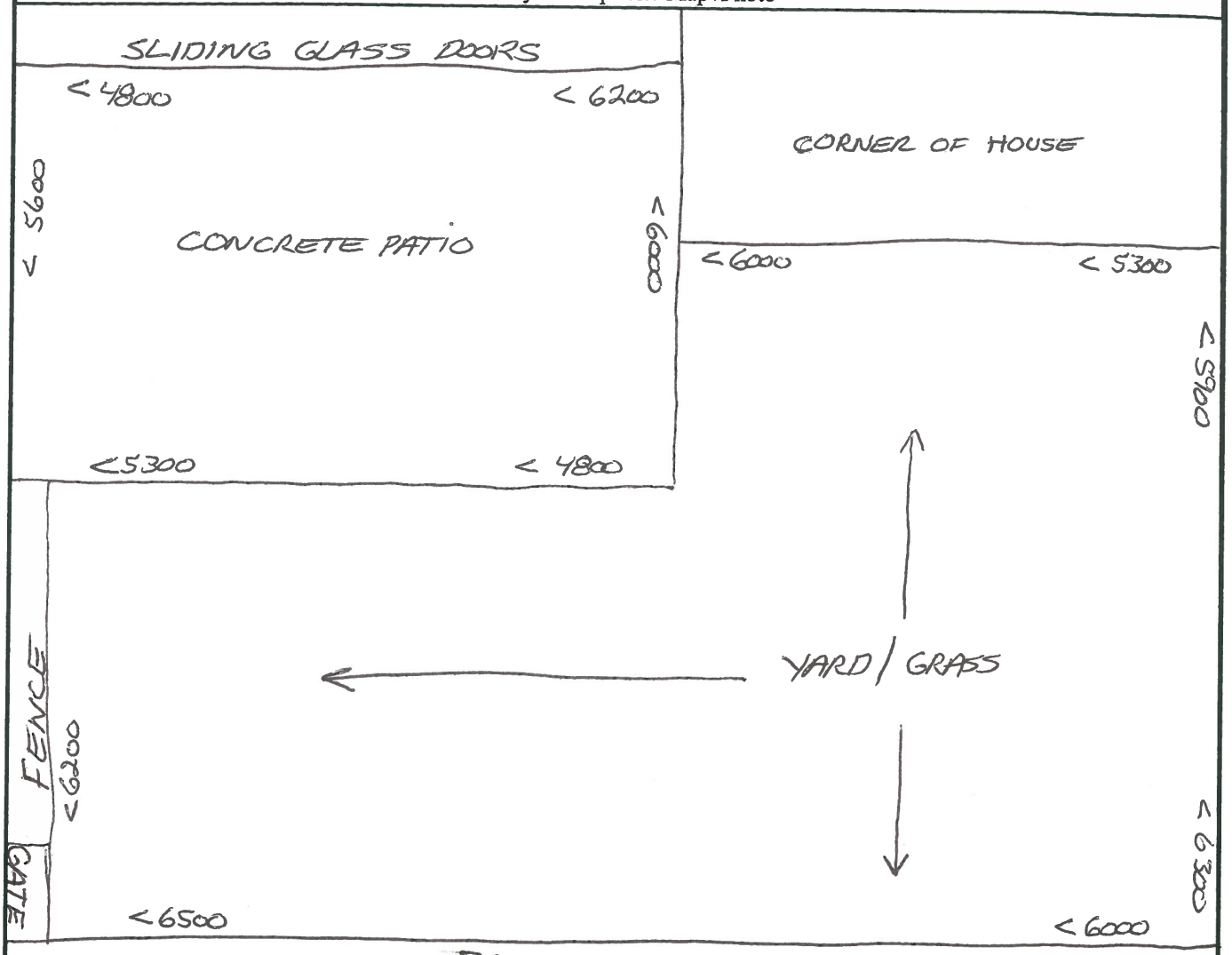
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 157	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1315 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

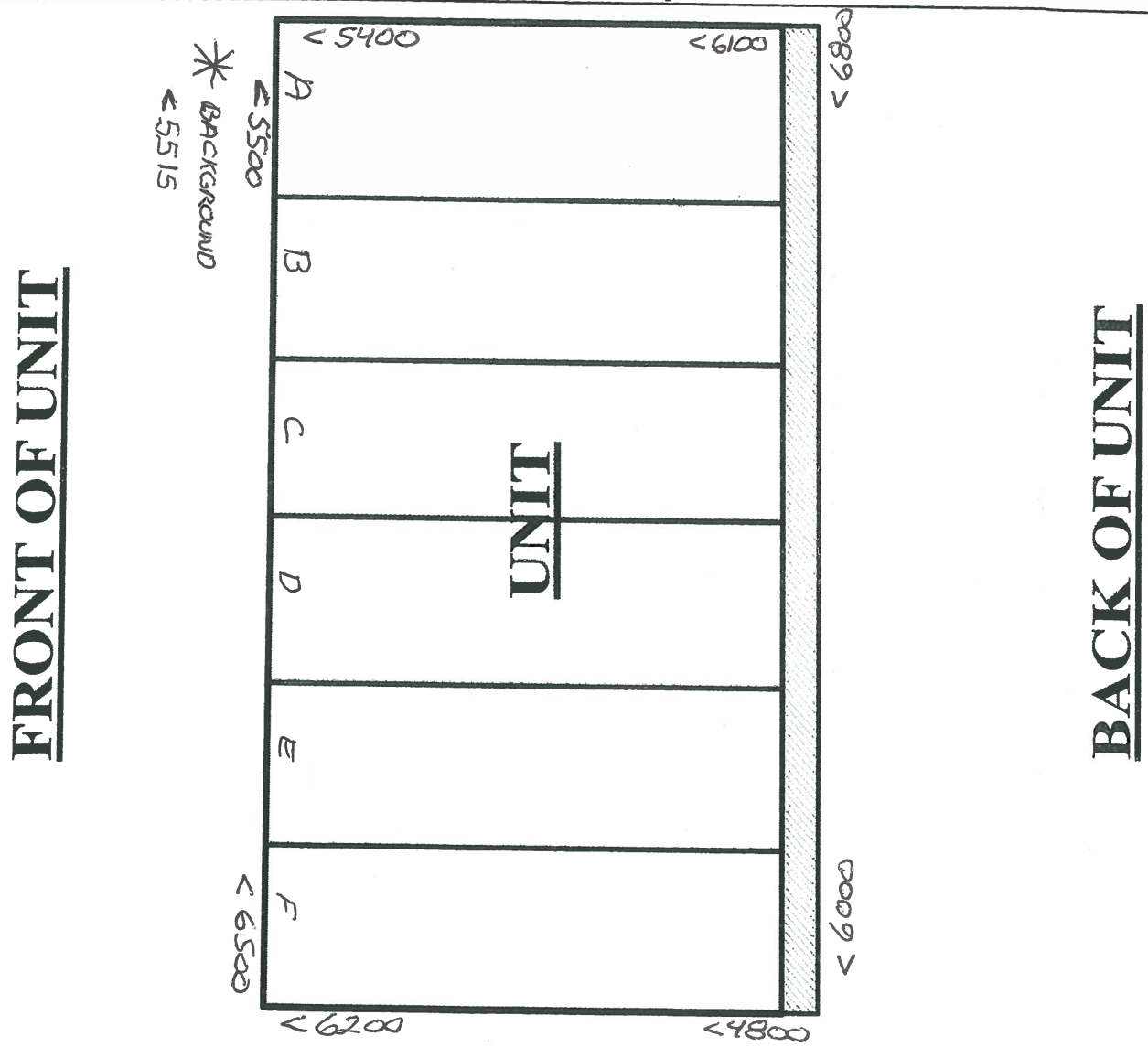
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-157	Date: 10.28.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1315 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

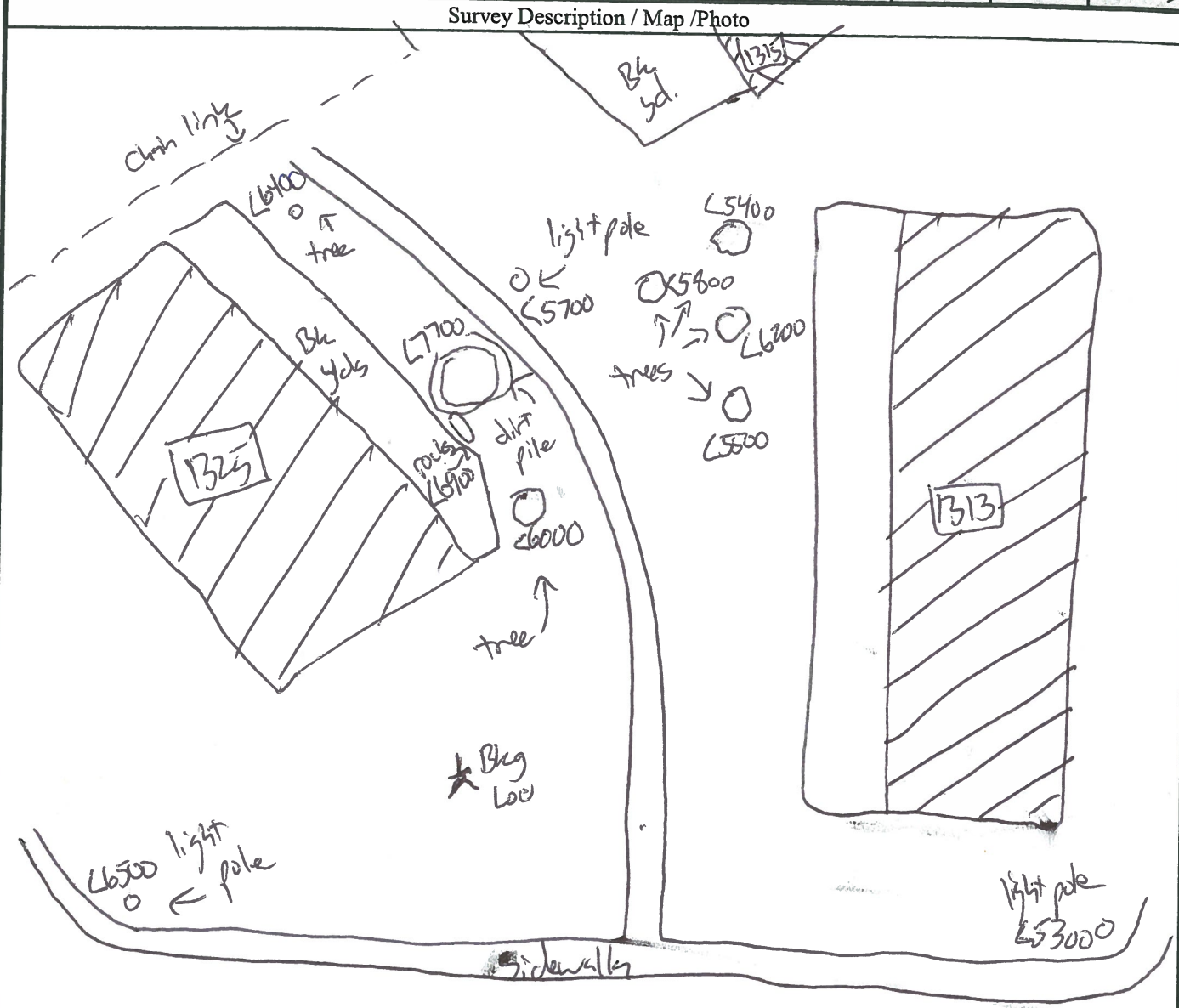
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 158	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN197608	8/21/14	N/A	N/A	5759	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



~~*Building~~ _____ ~~apartment "__" Frontyard~~

TC 10/29/13

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

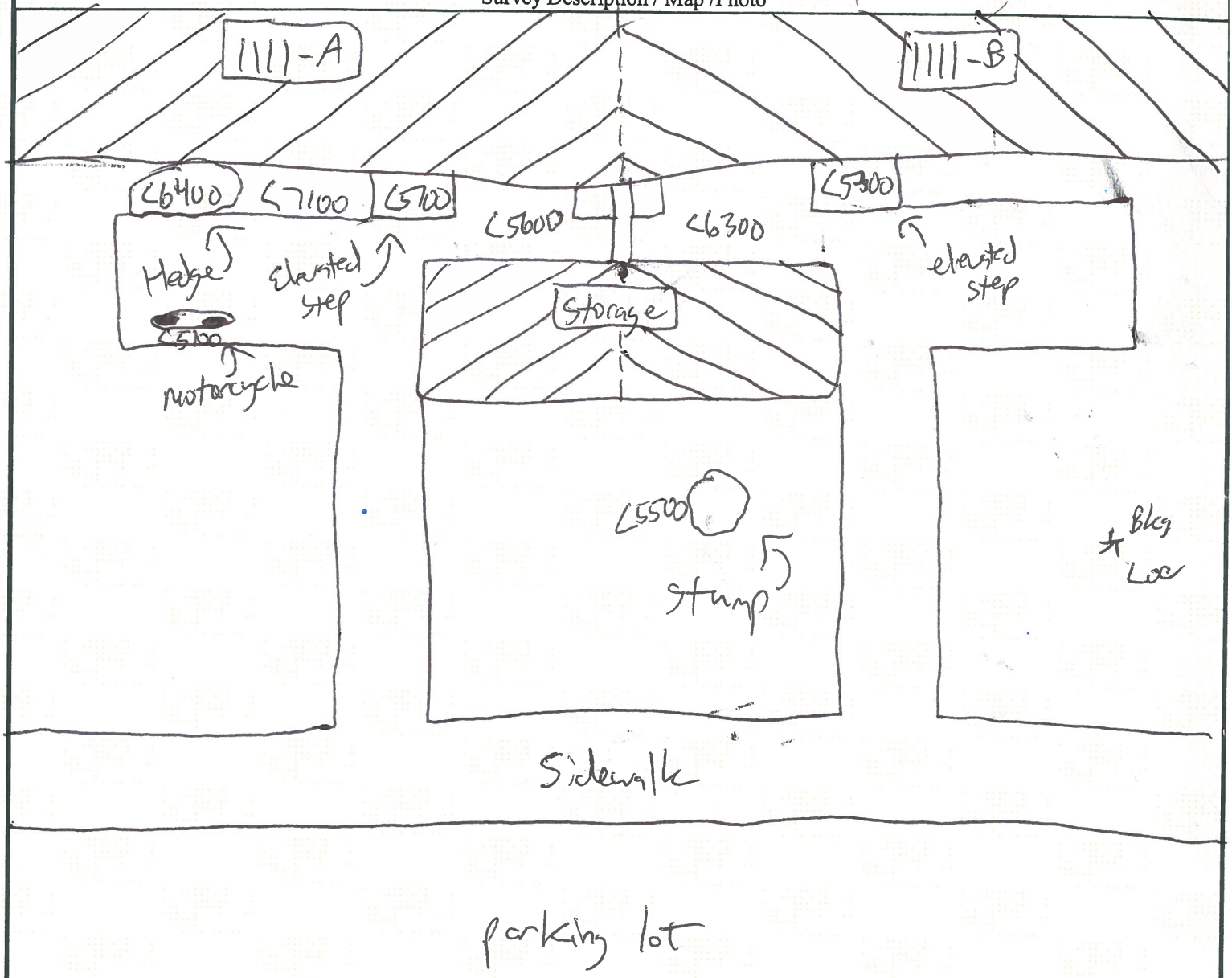
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-159	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN 19768	8/21/14	N/A	N/A	5465	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

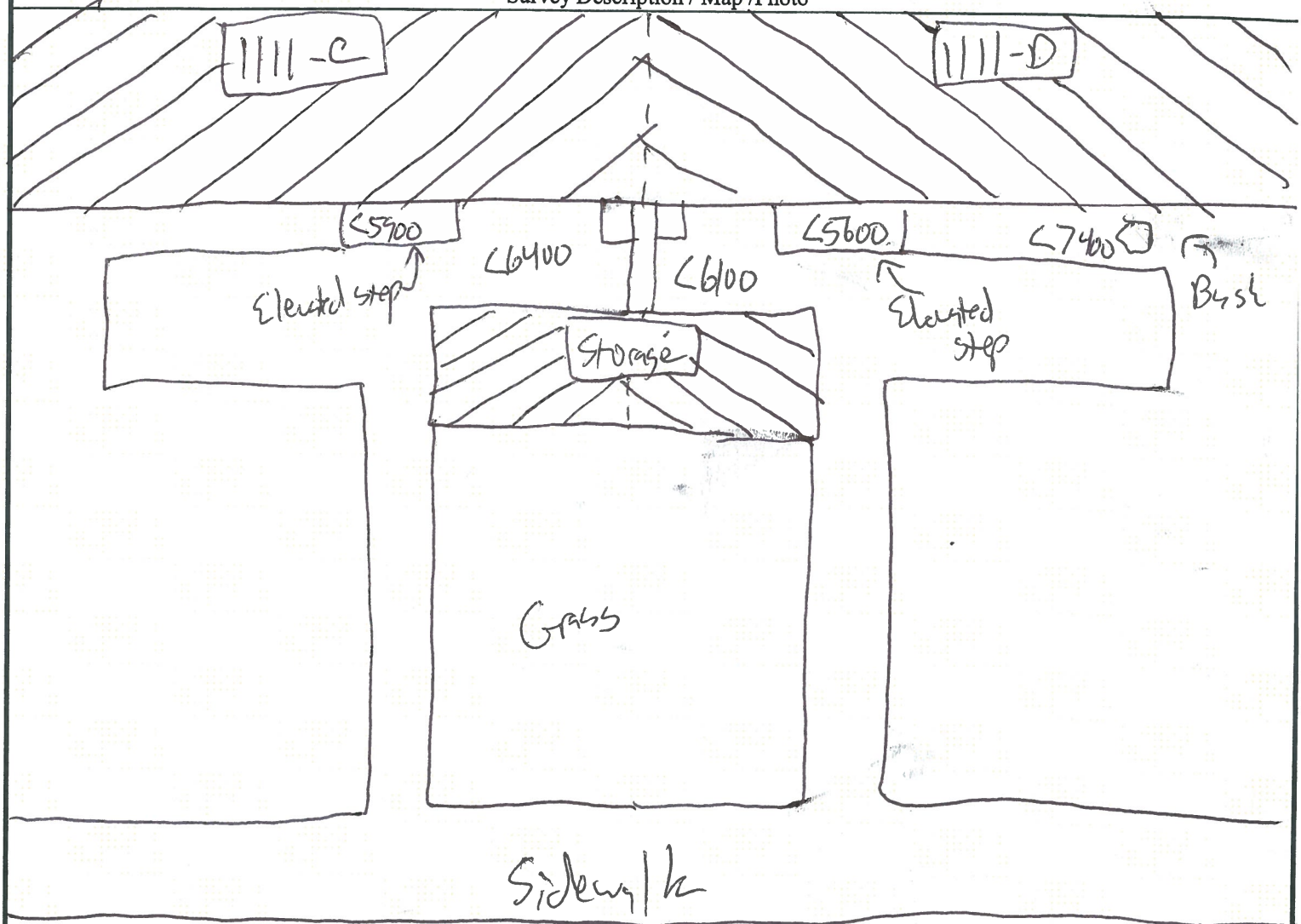
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-159	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

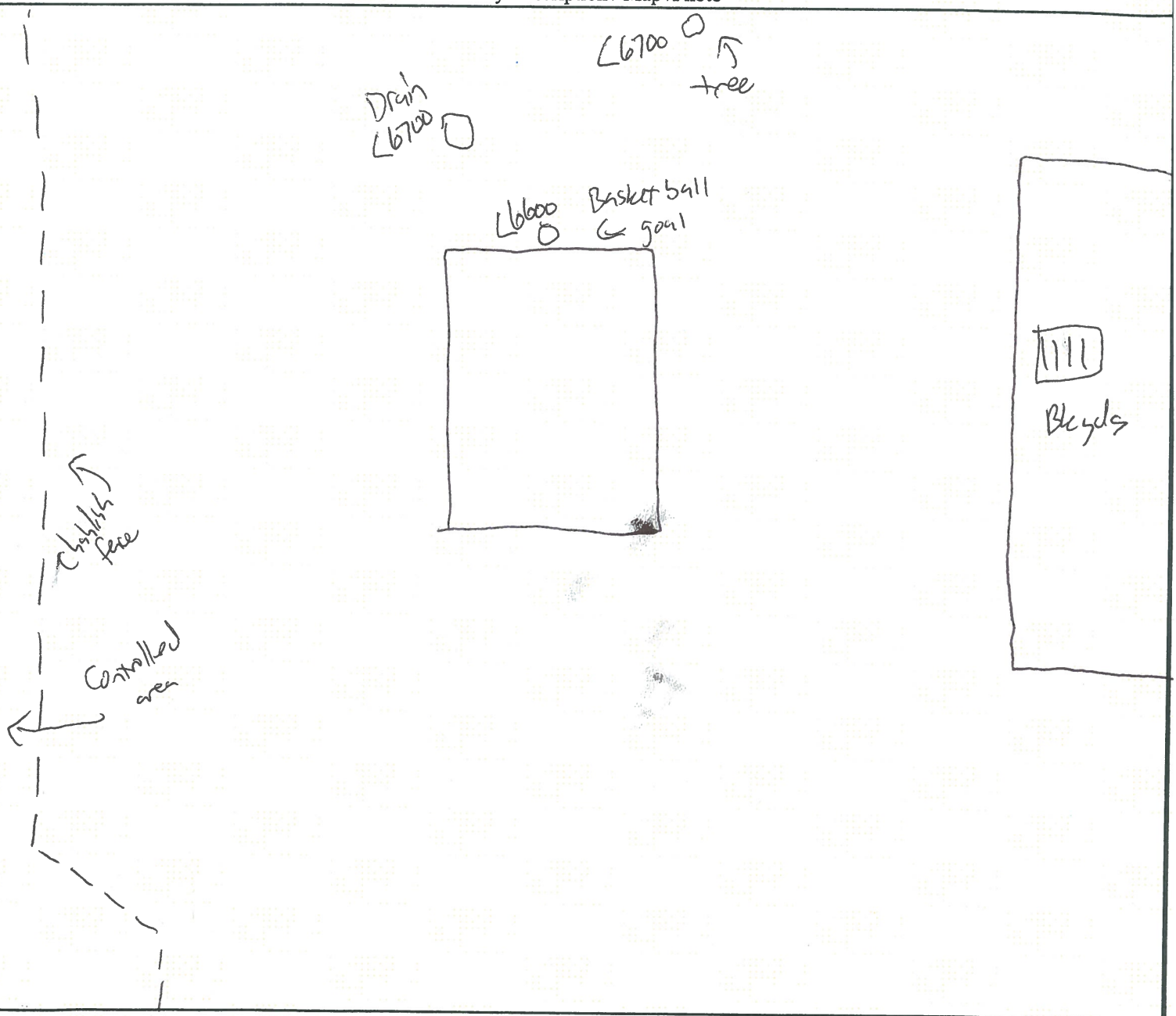
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 160	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW19768	8/21/14	N / A	N / A	6/87	N/A	N / A	N / A
N/A											→
N/A											→

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

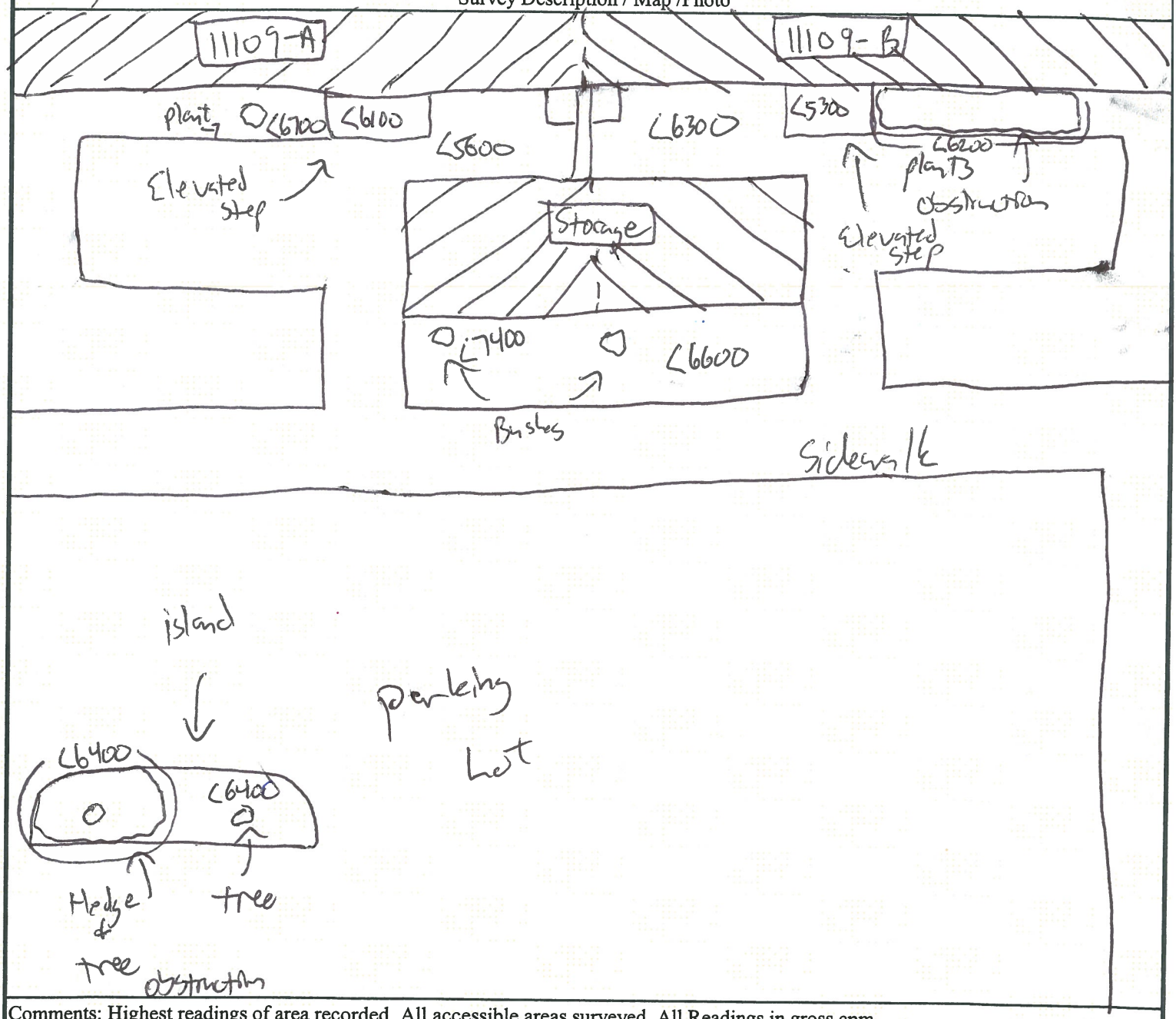
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-161	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	5484	N/A	N/A	N/A
N/A											→
N/A											→

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

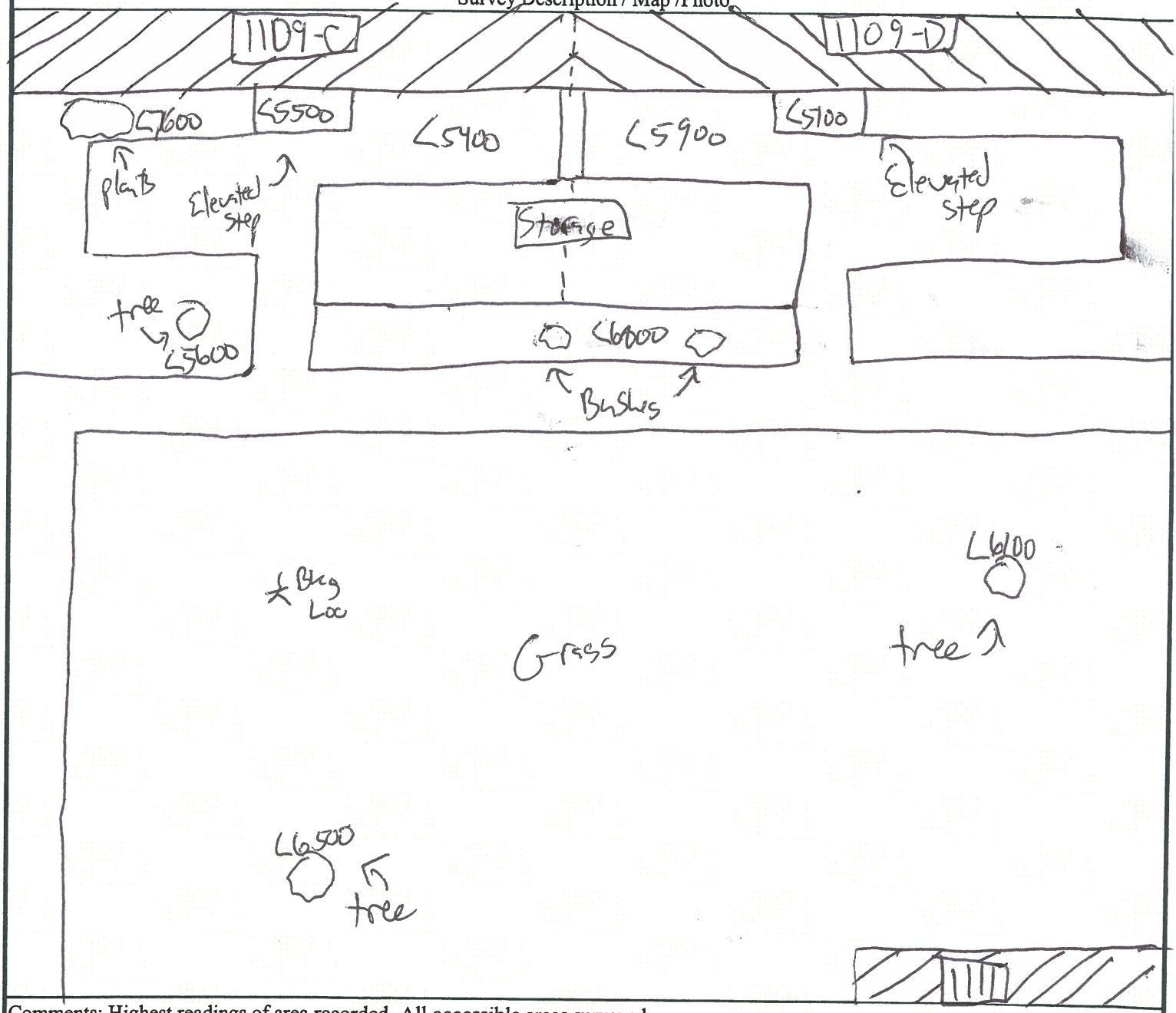
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-161	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

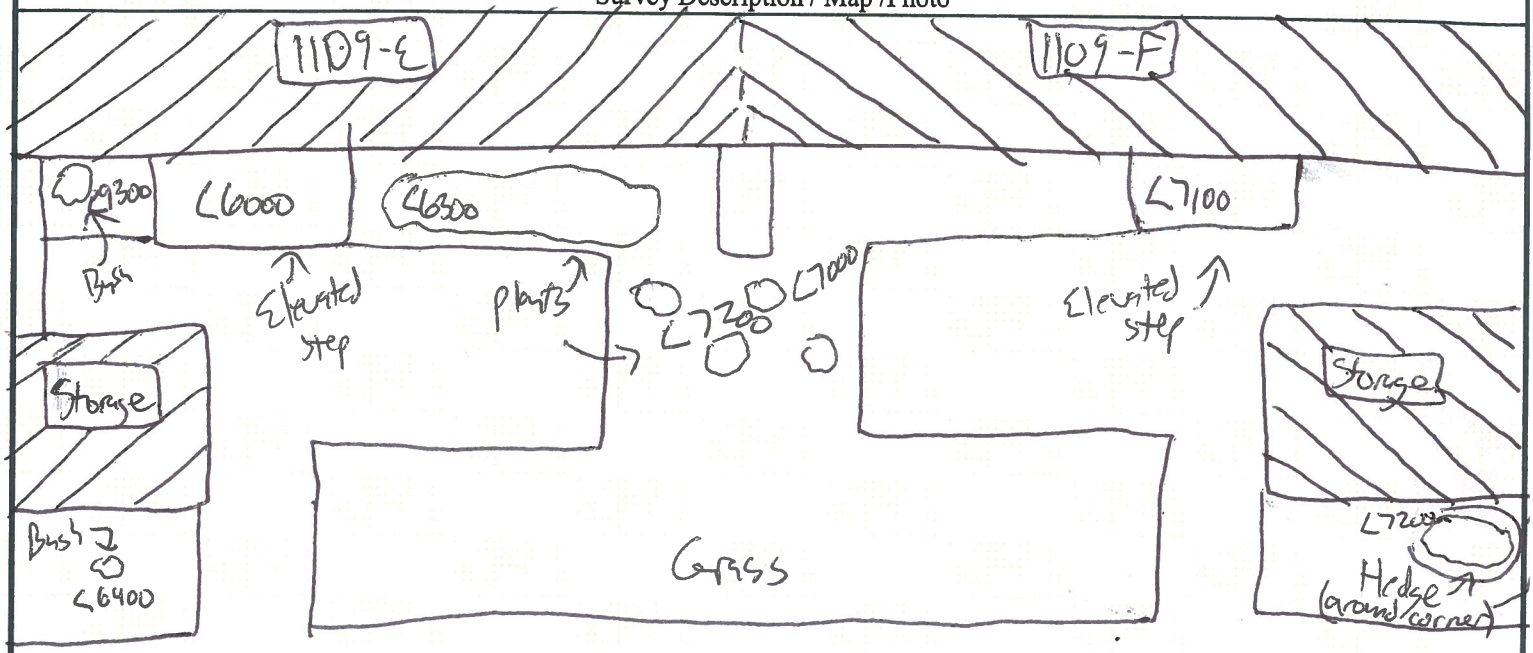
Gilbane

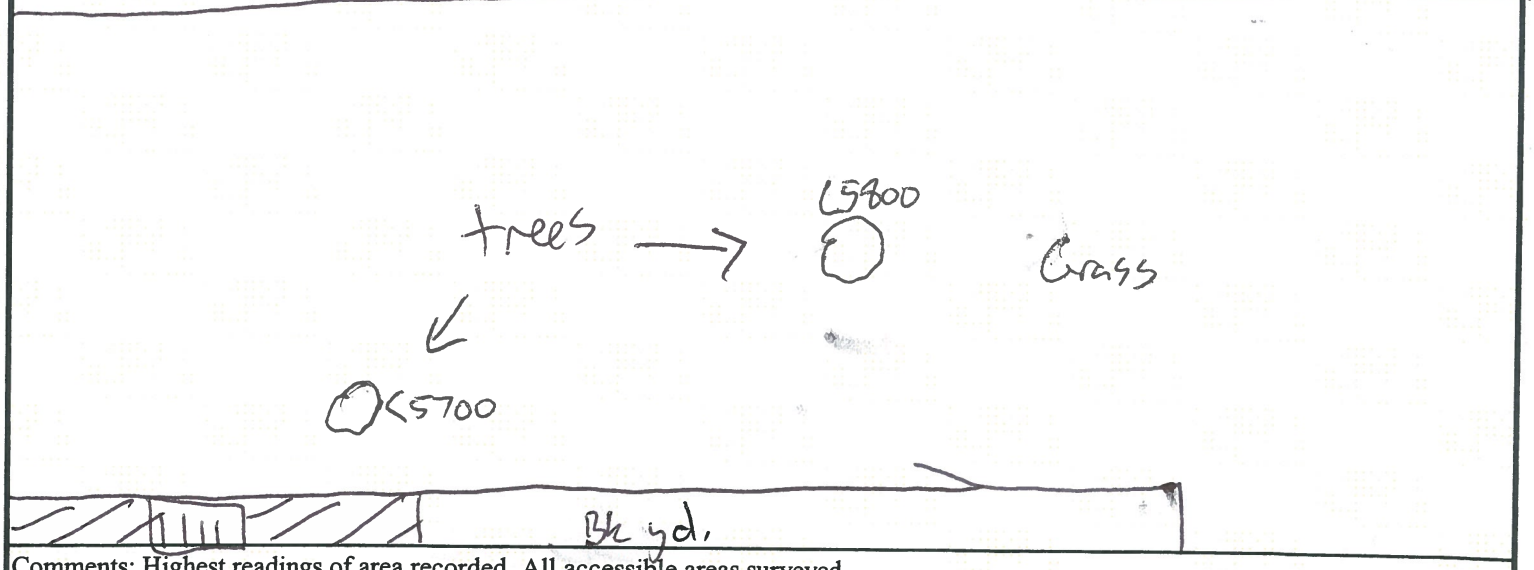
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-161	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo





Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

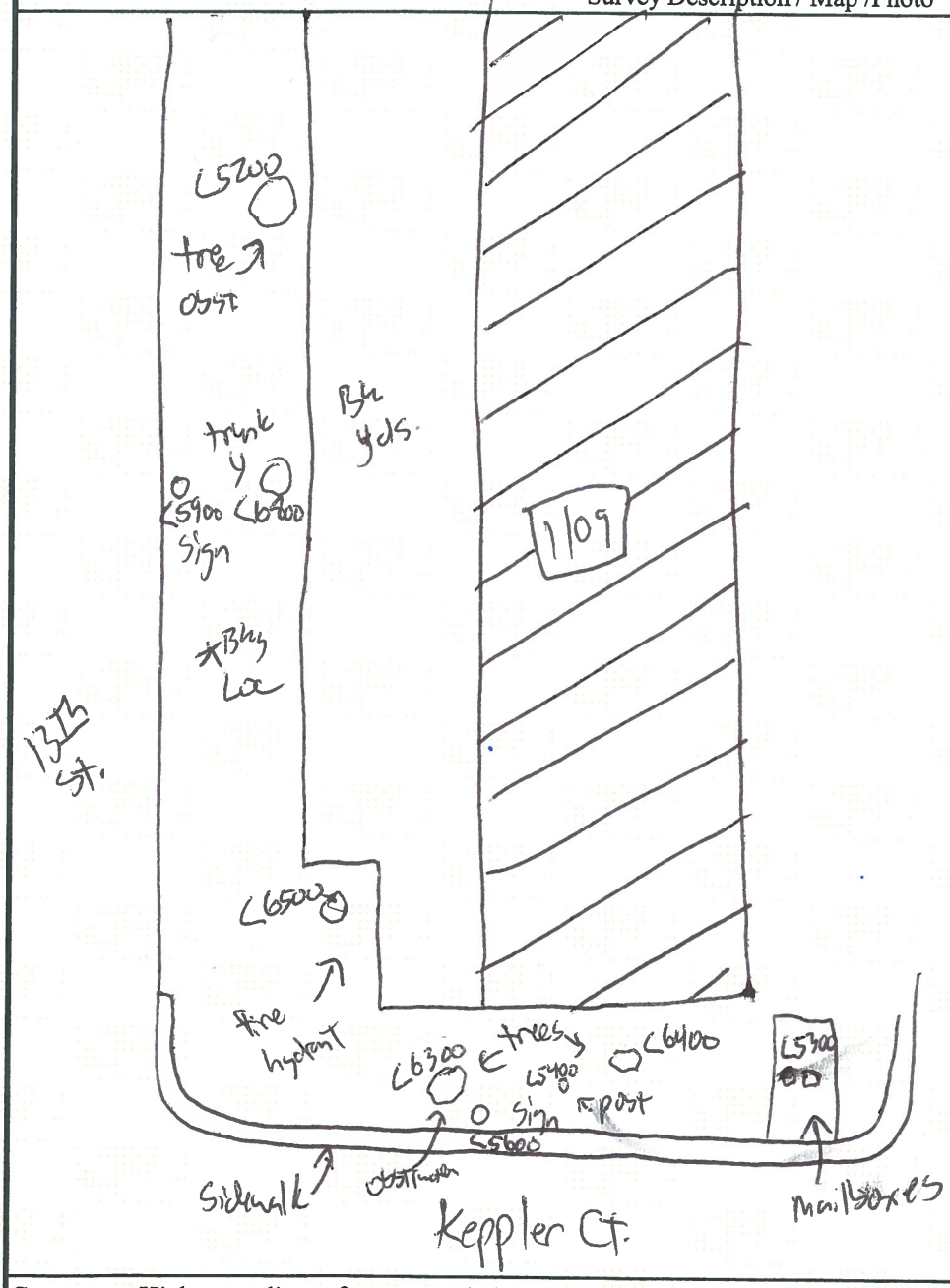
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-162	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	Jerry Cooper	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW19768	8/21/14	N / A	N / A	5932	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

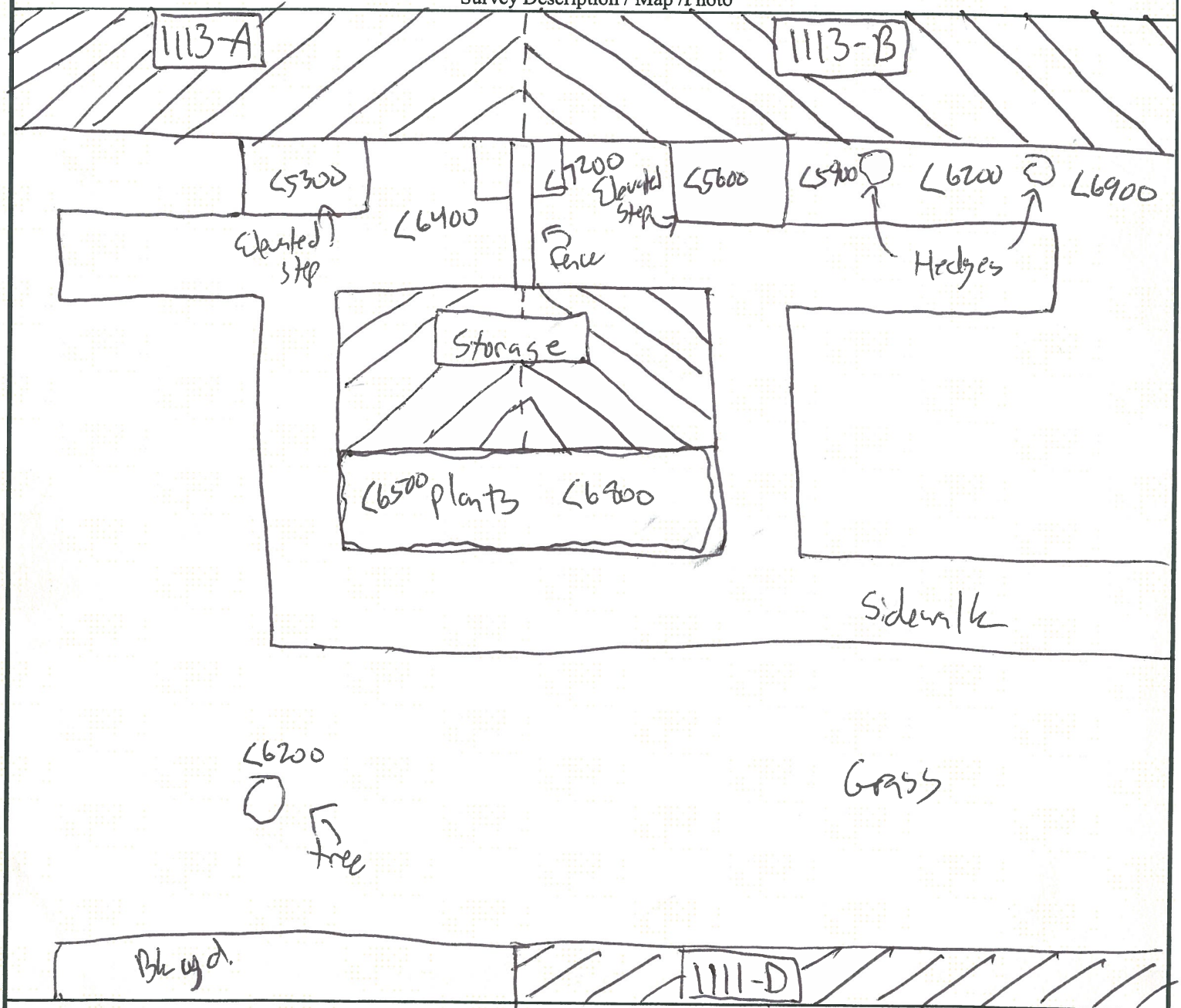
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-163	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		Jerry Cooper	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	6010	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

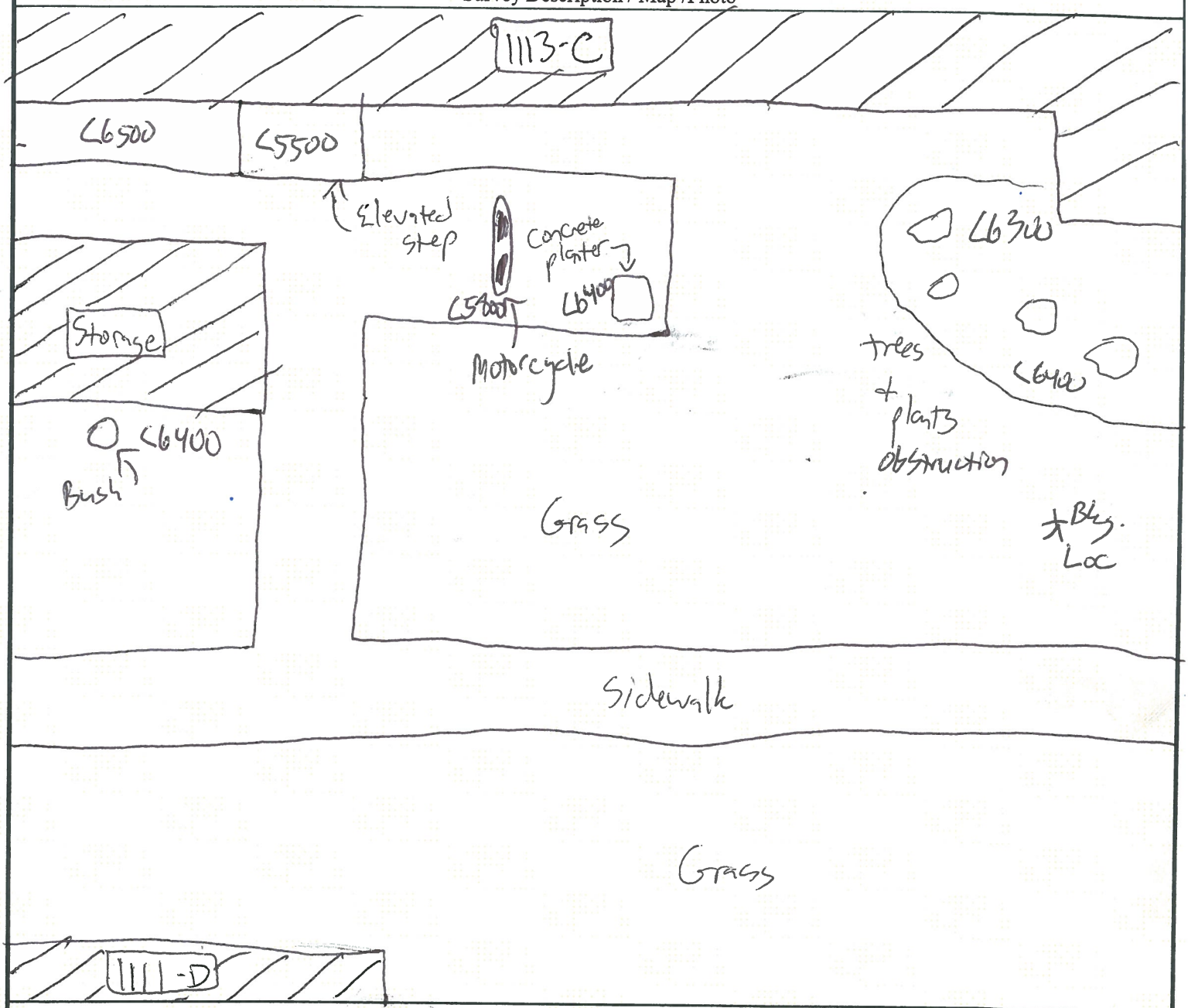
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-163	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

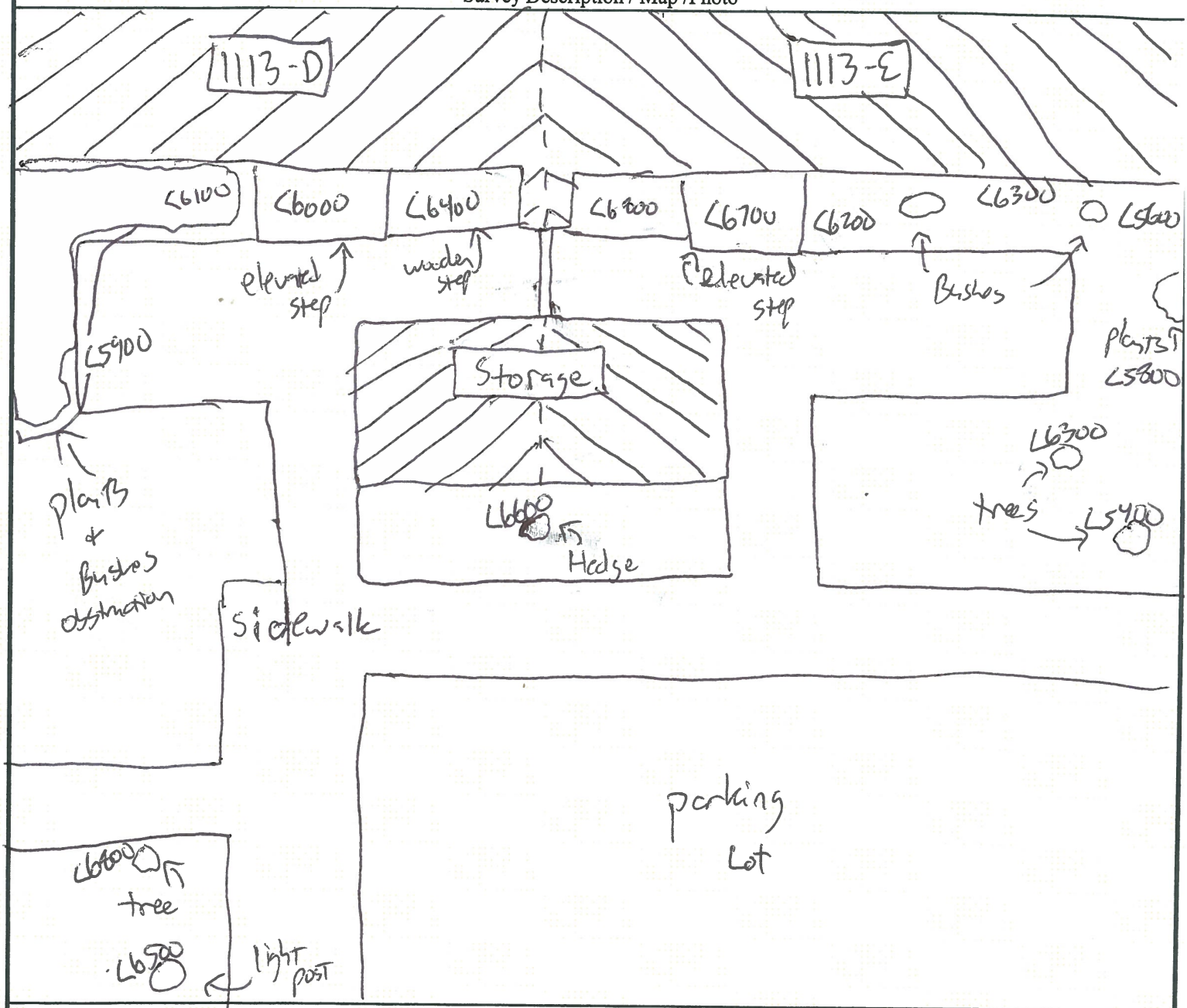
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-163	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

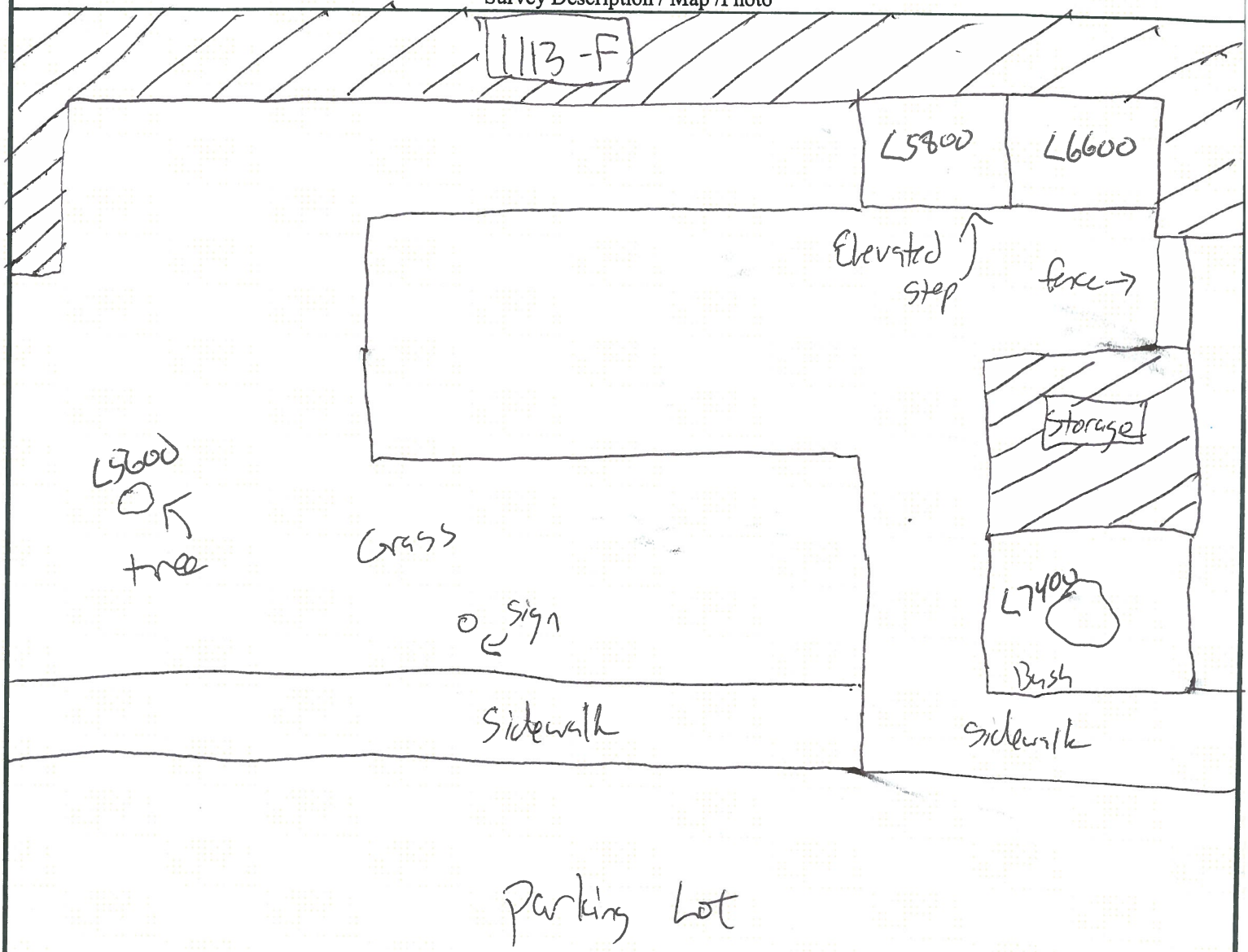
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-163	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

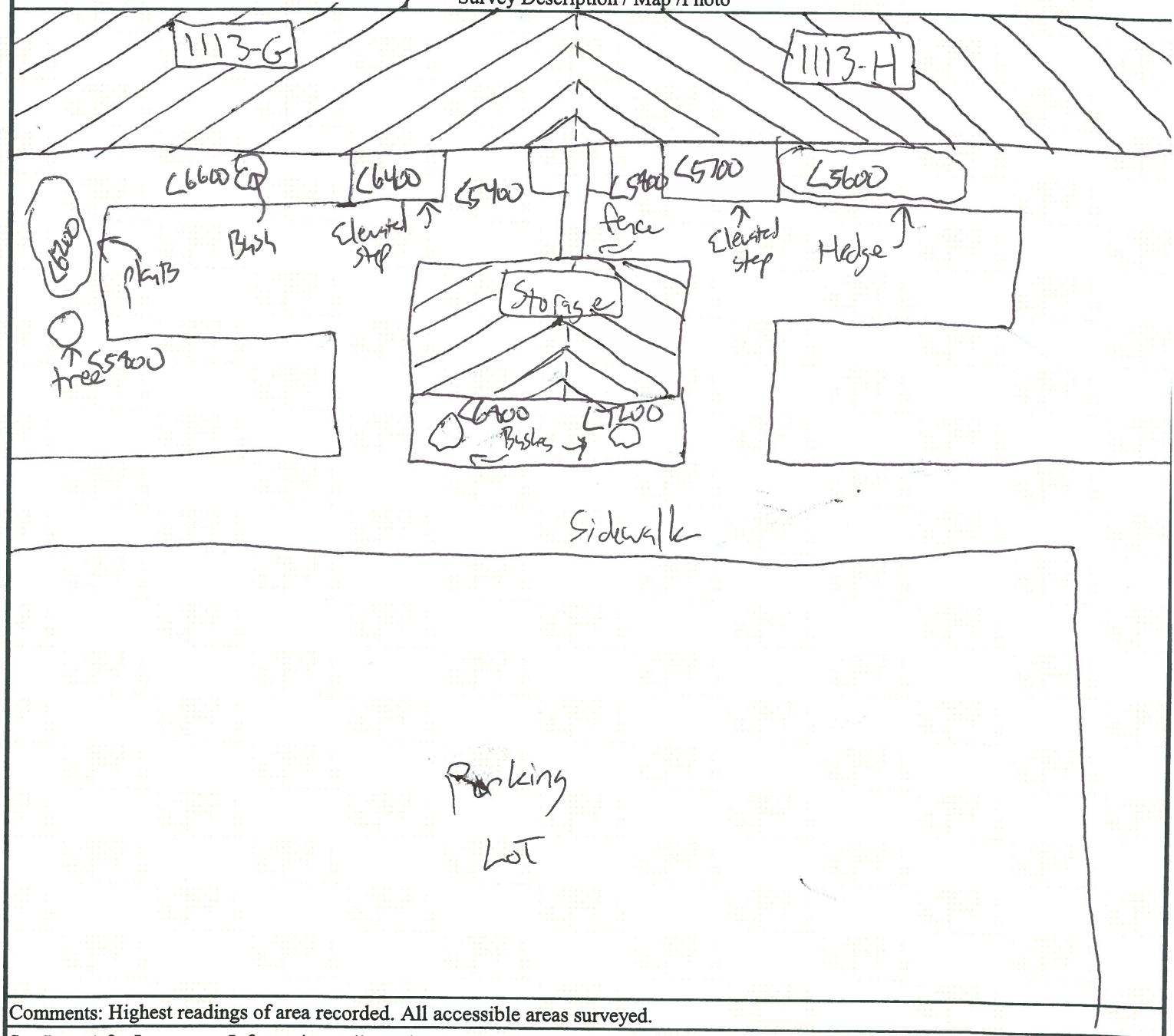
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-163	Date: 10/29/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

ITSI Gilbane **RADIOLOGICAL SURVEY FORM**

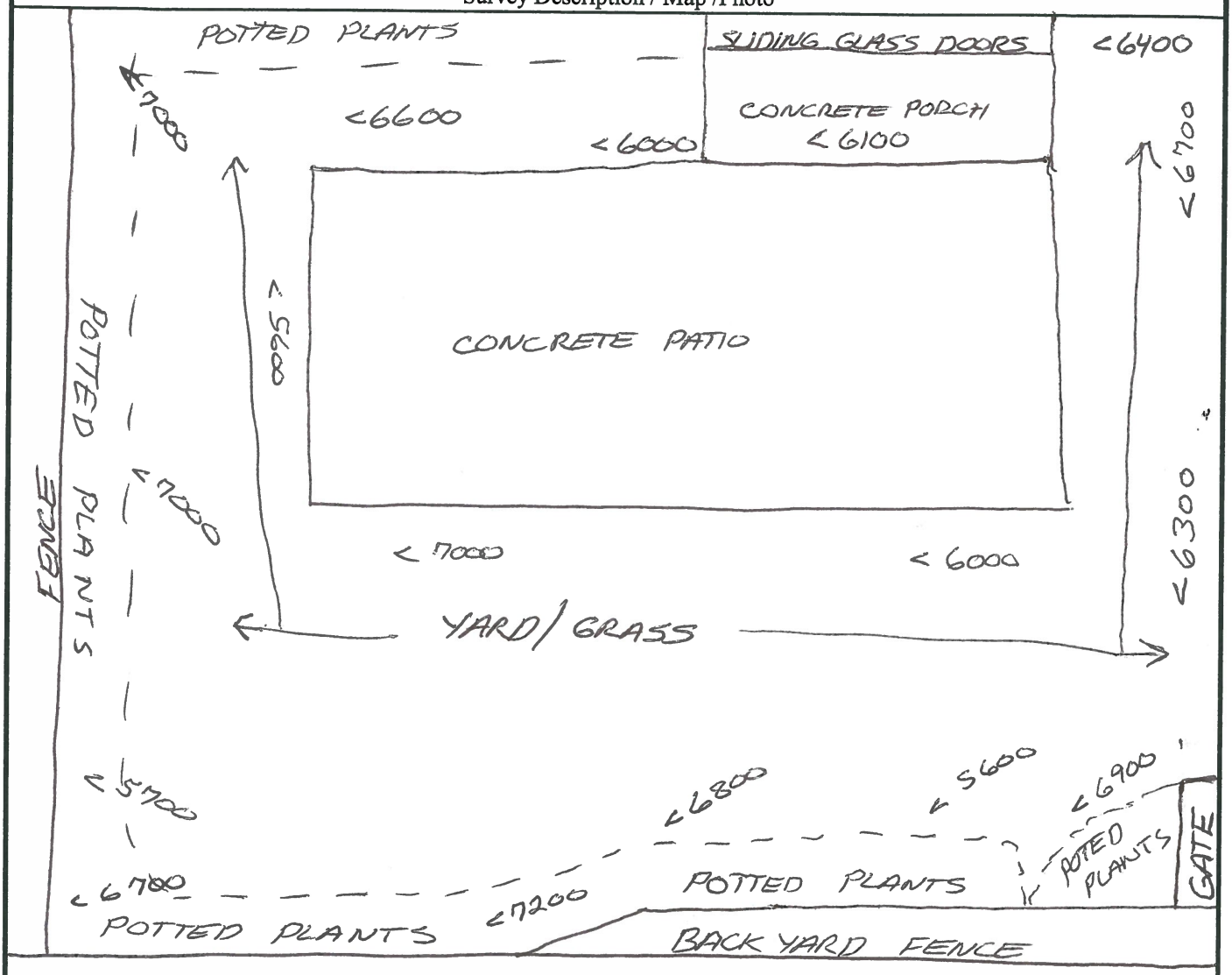
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	124231	27JUN14	44-10	19765	27JUN14	N/A	N/A	5659	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building 1109 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.All Readings in cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

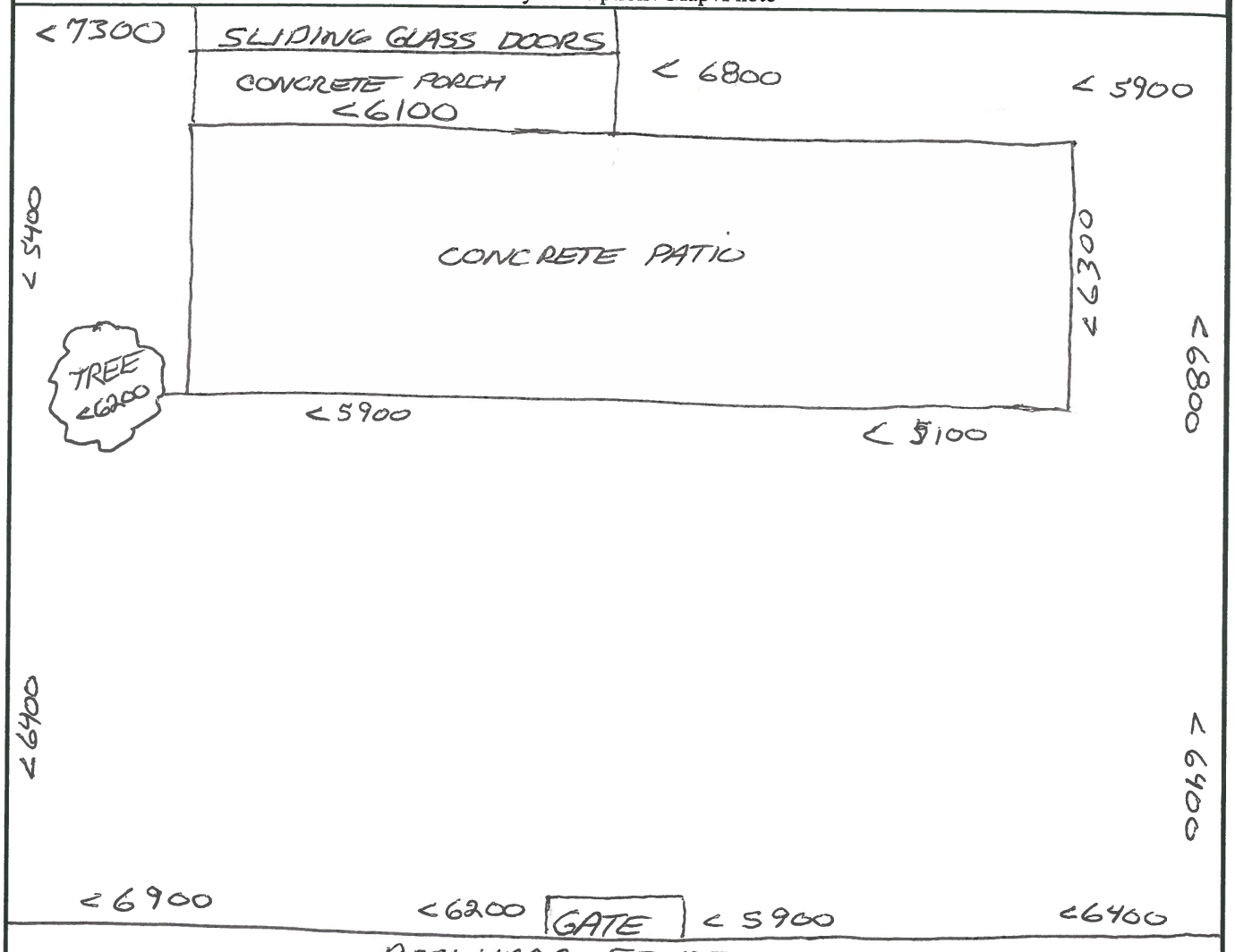
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1109 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

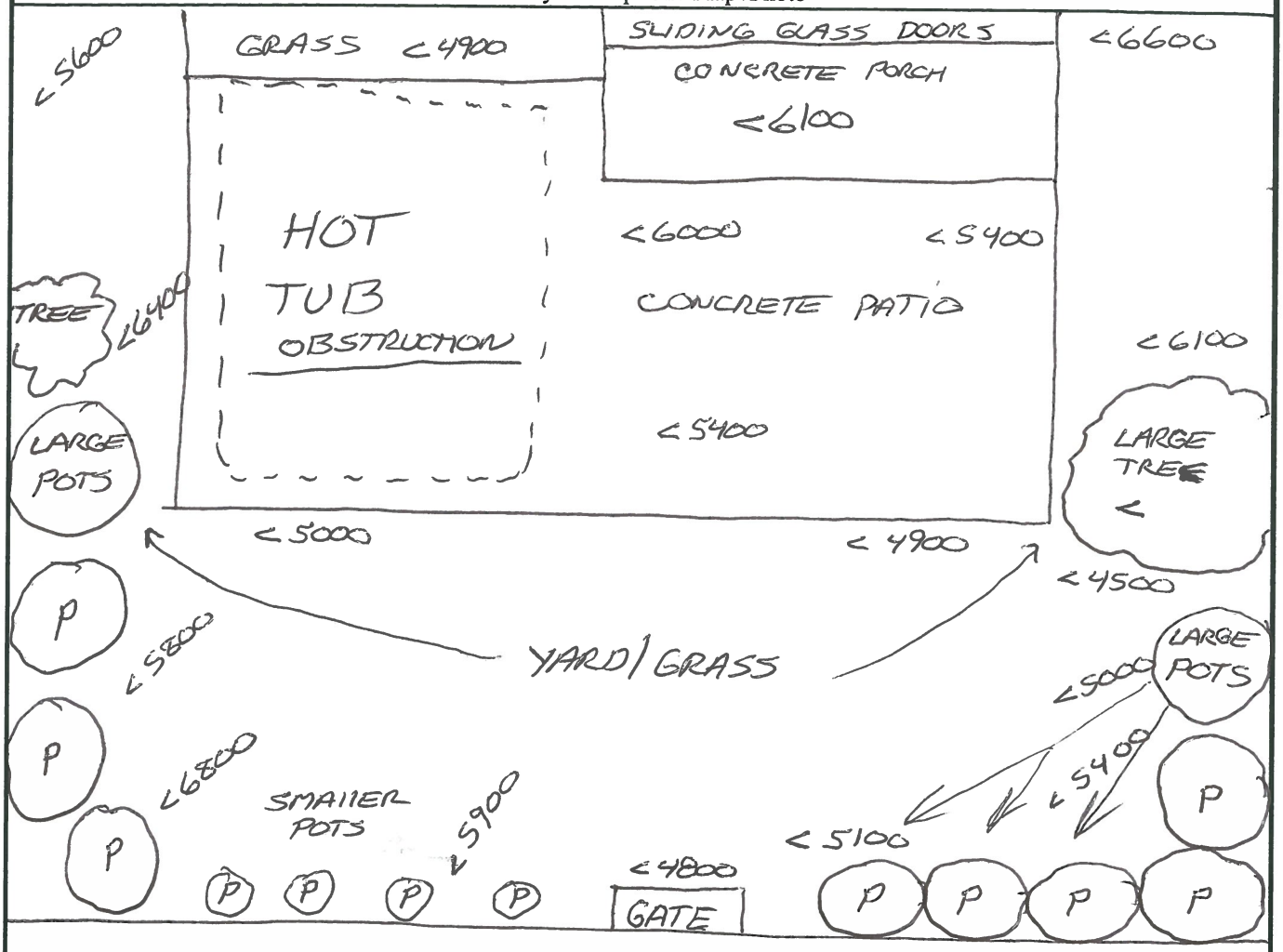
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1109 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

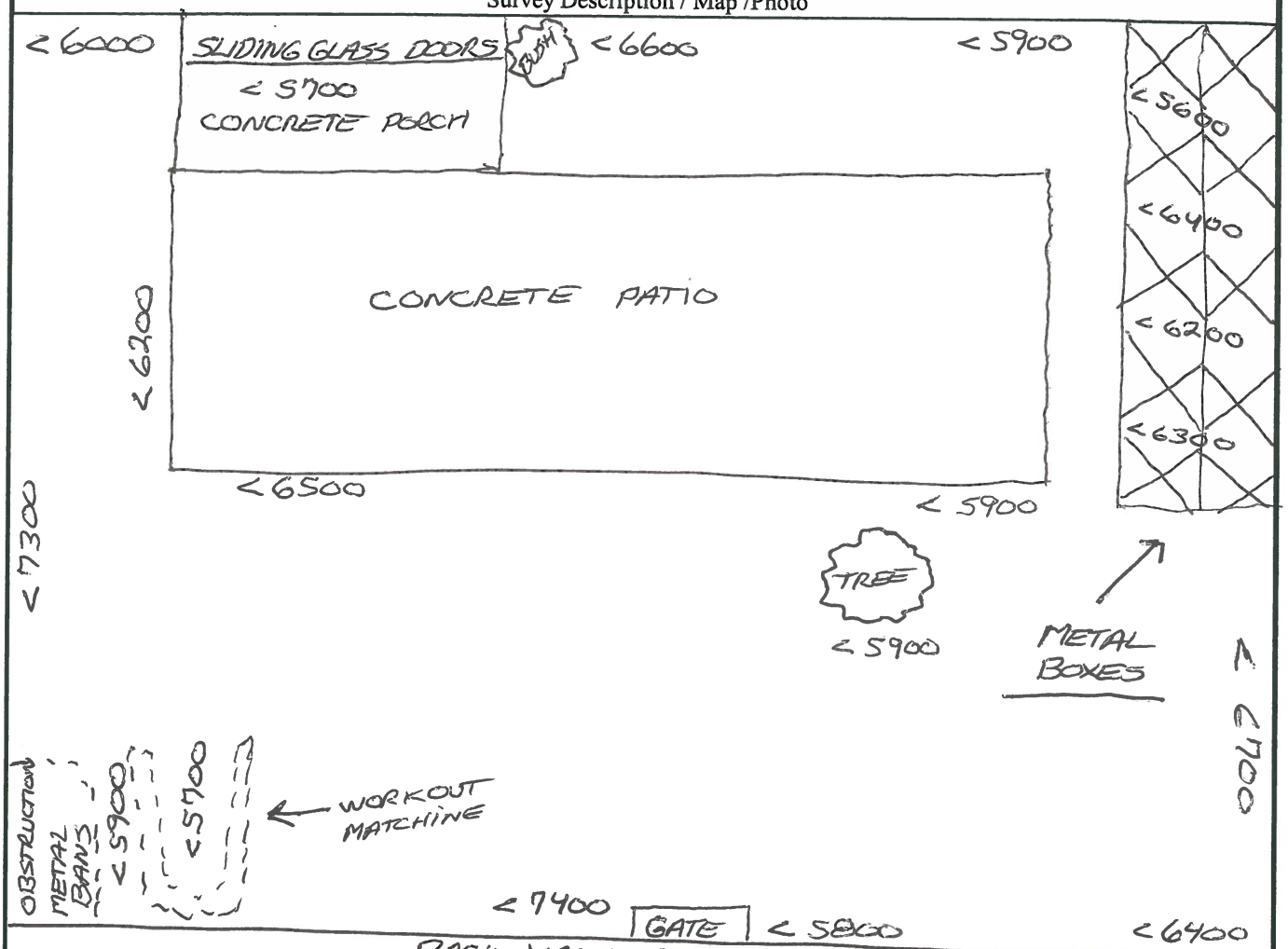
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1109 apartment "D" Backyard

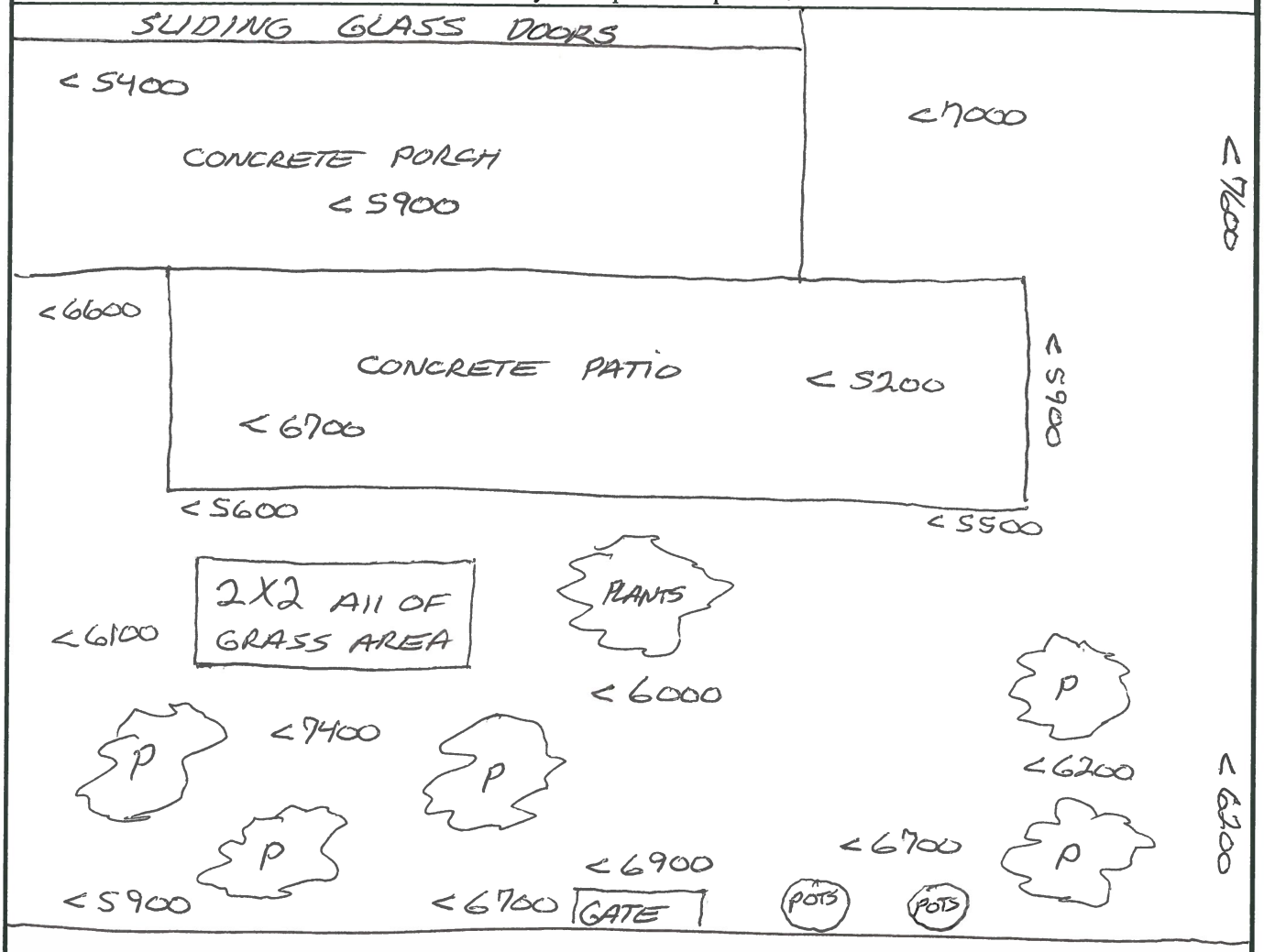
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-164	Date: 10-29-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 109 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

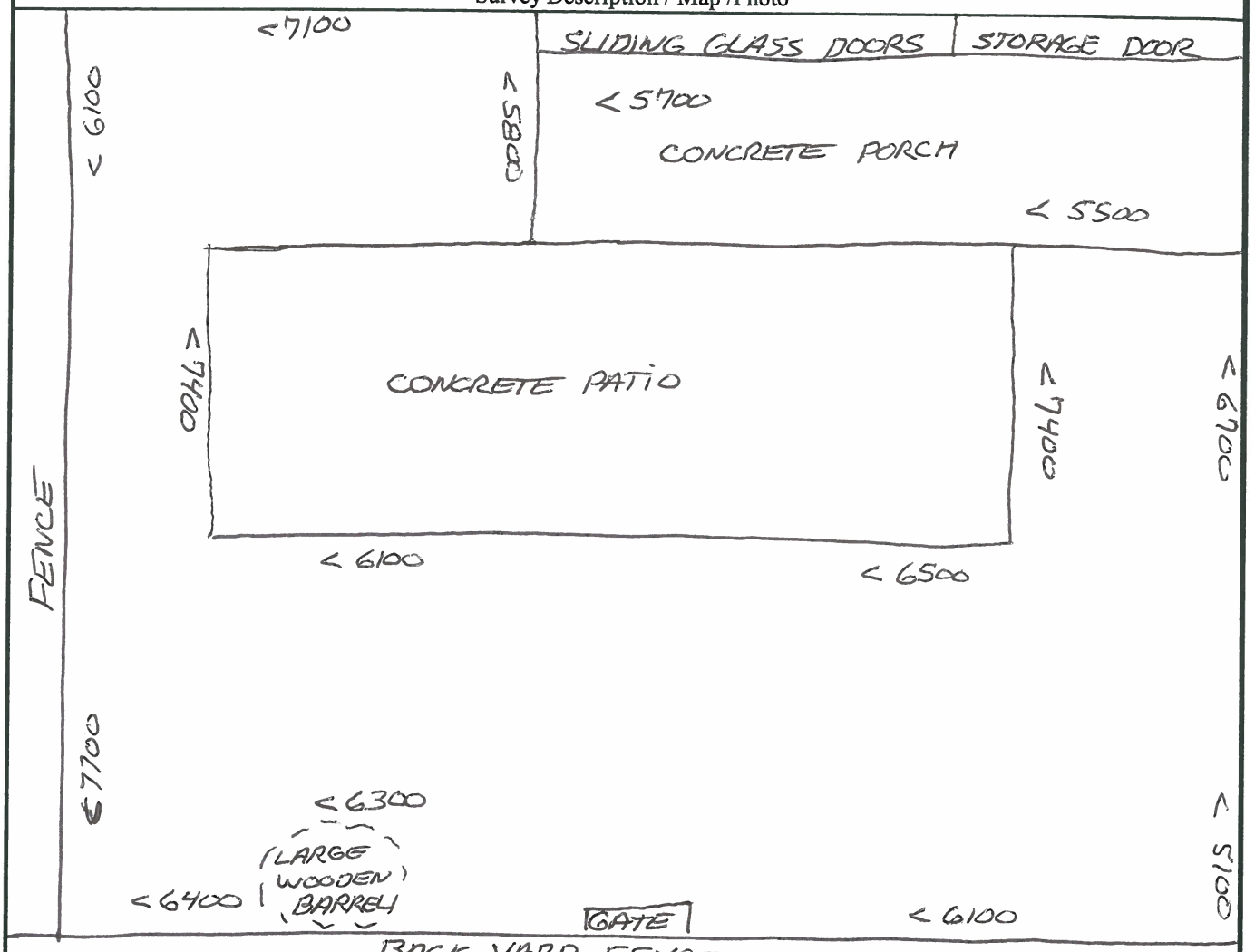
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1109 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

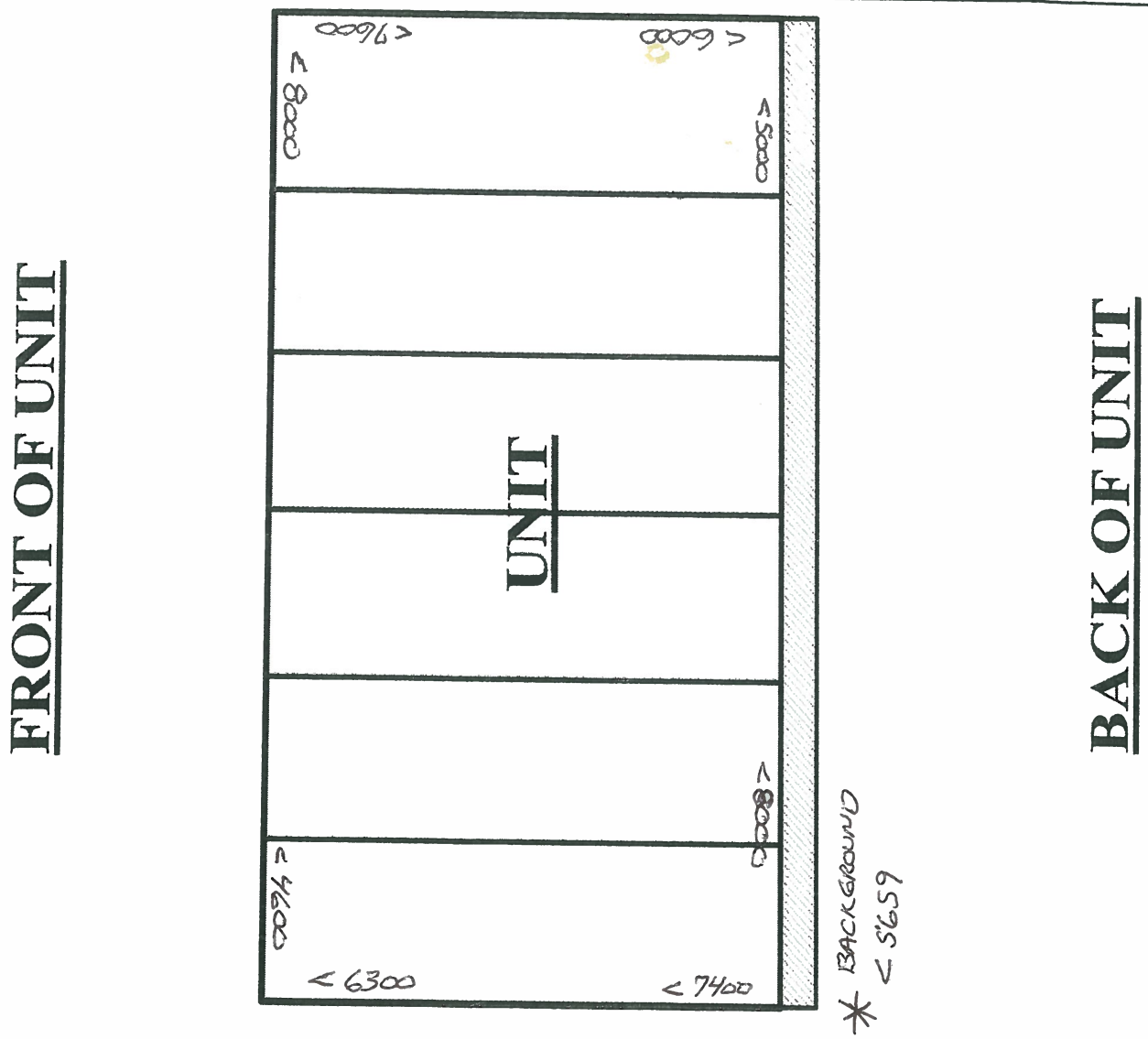
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-164	Date: 10-29-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1109 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

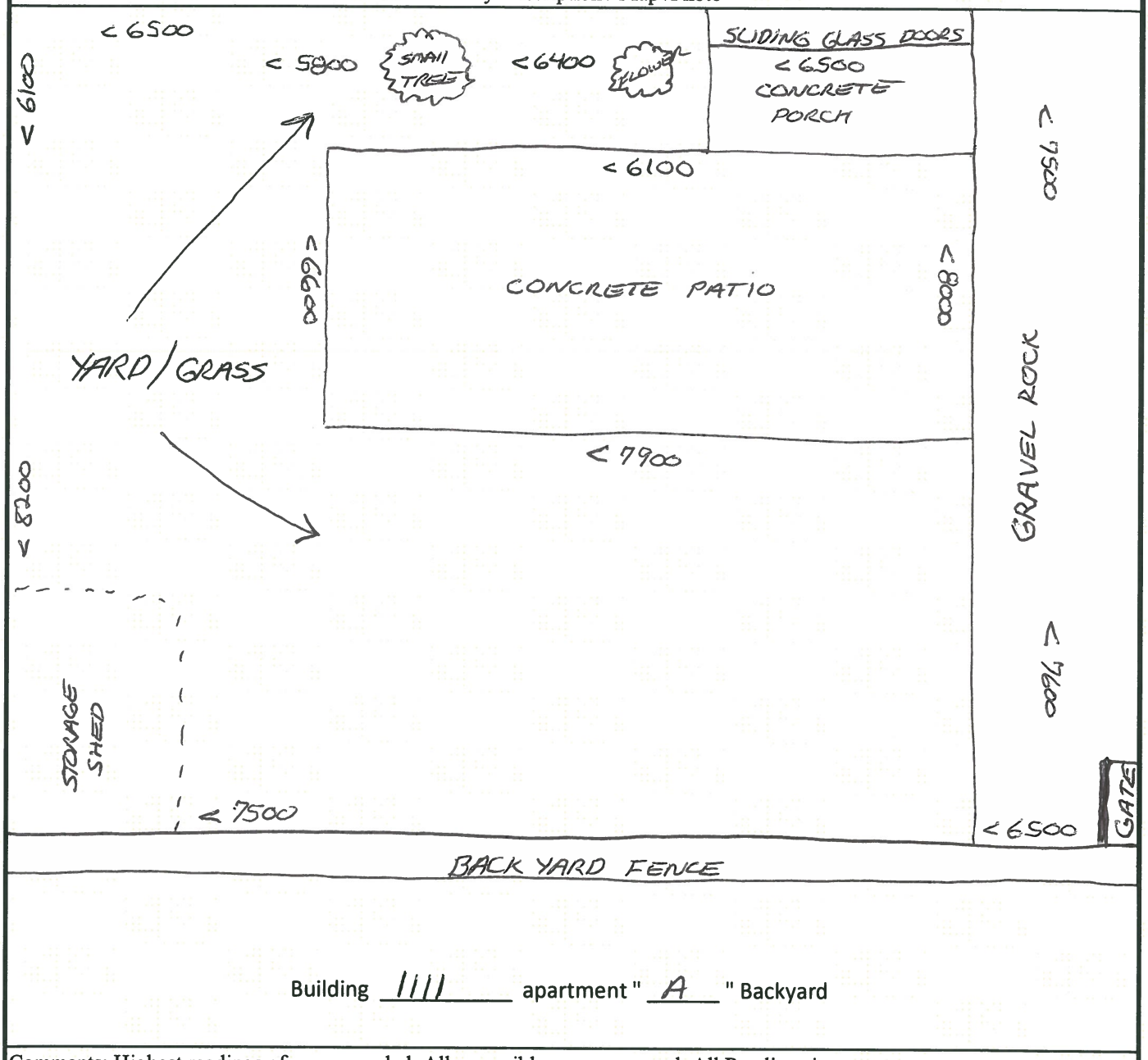
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 165	Date: 10·29·13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N / A	N / A	6015	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1111 apartment " A " Backyard

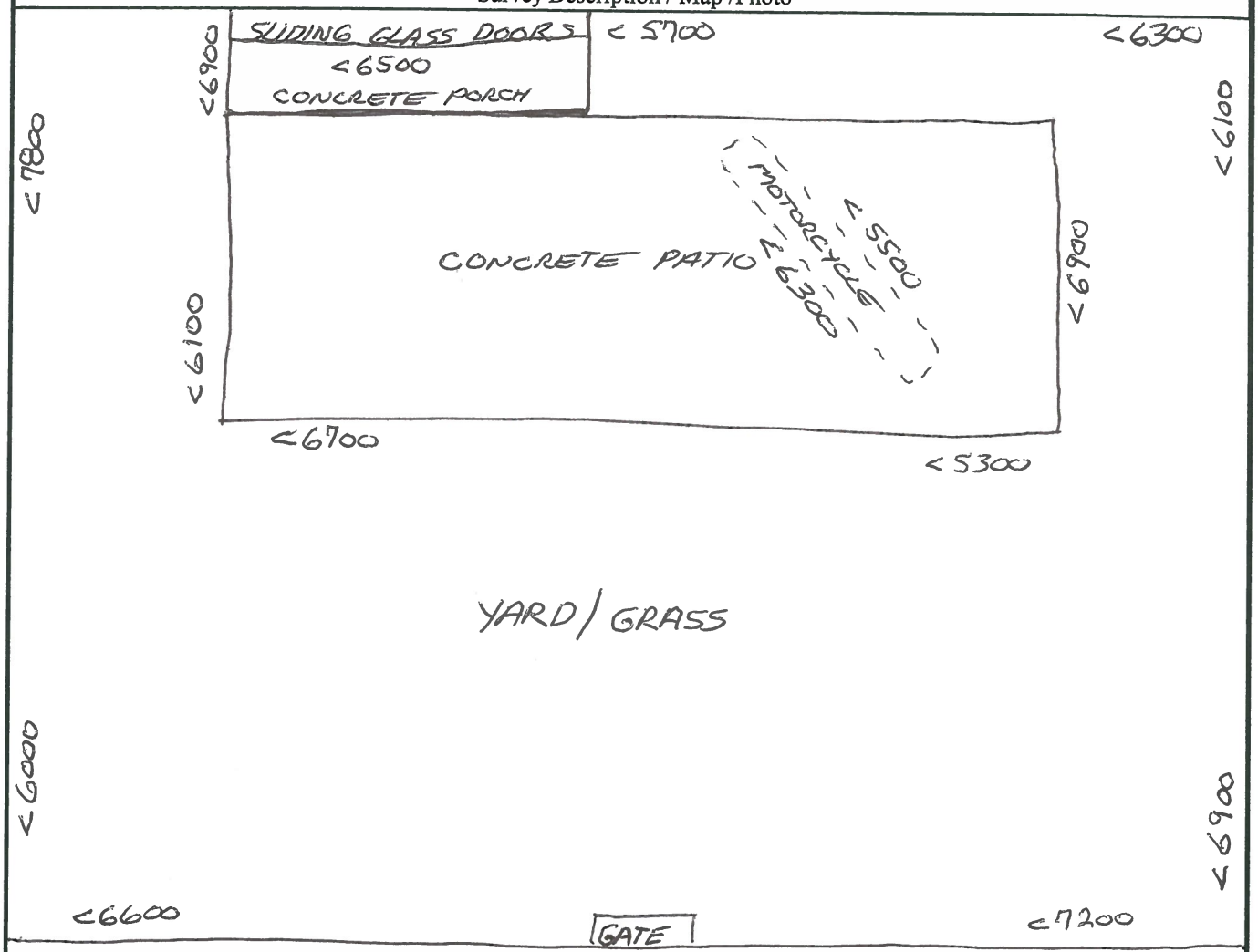
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-165	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1111 apartment "B" Backyard

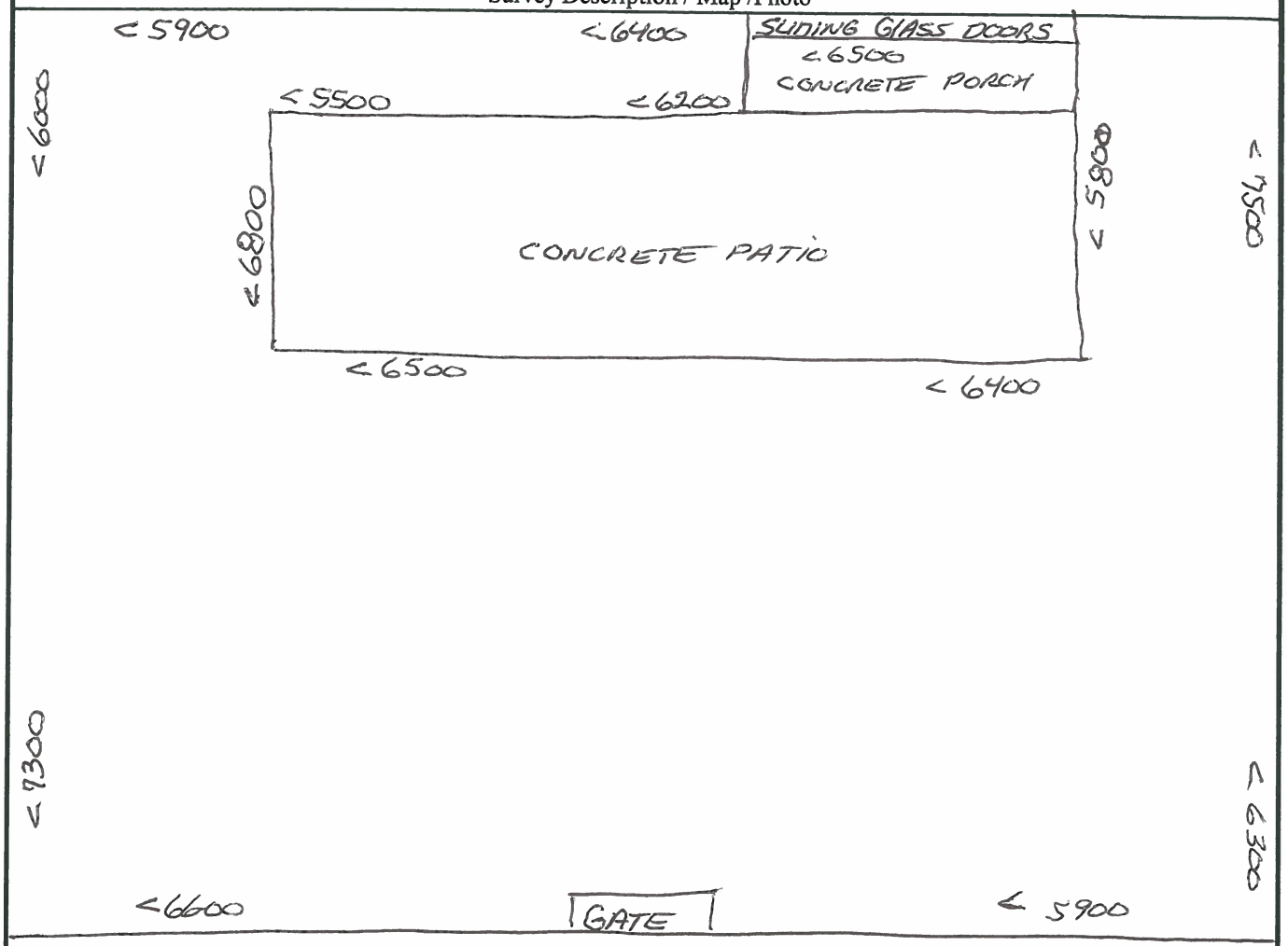
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12- 165	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building //// apartment "C" Backyard

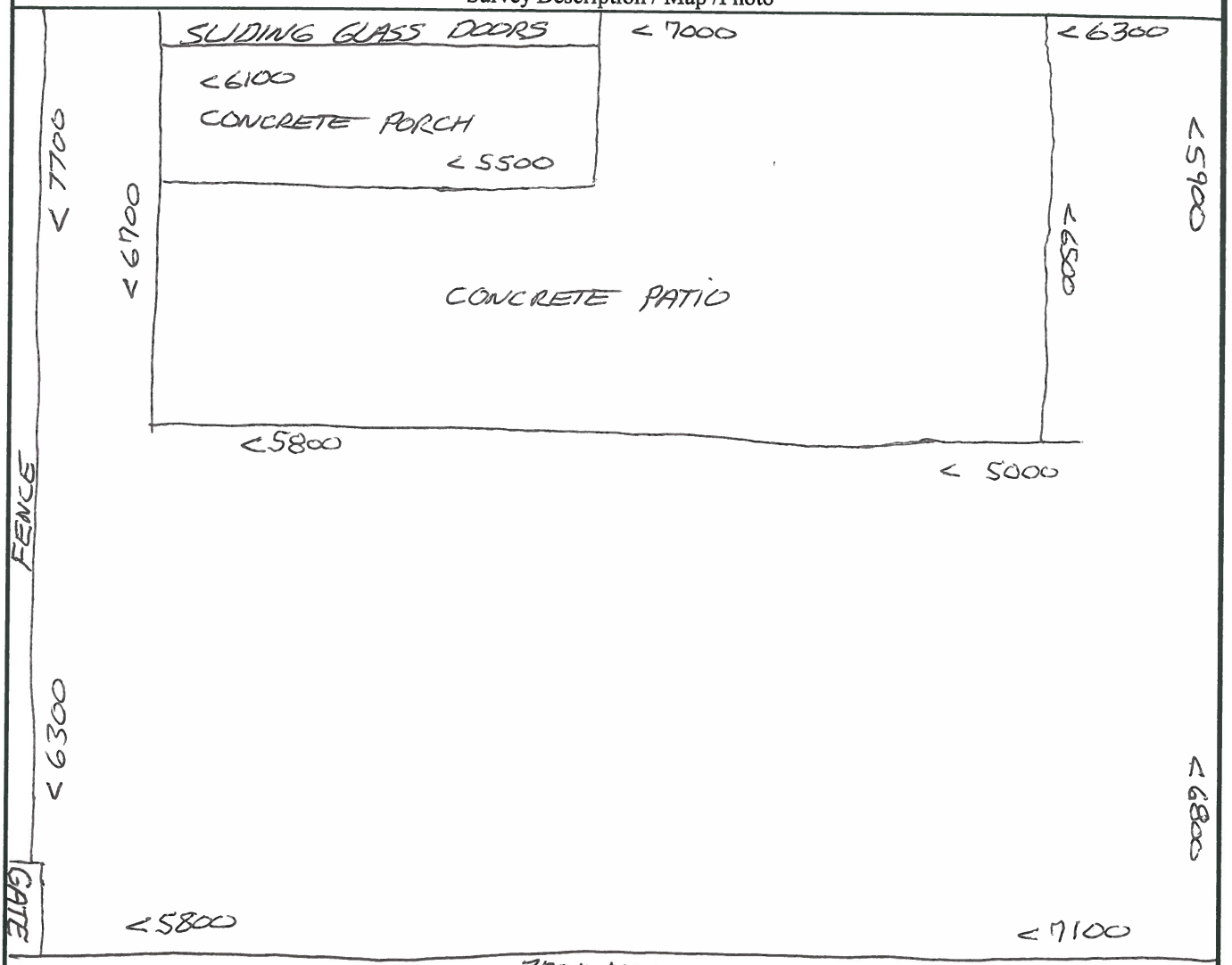
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-165	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1111 apartment "D" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

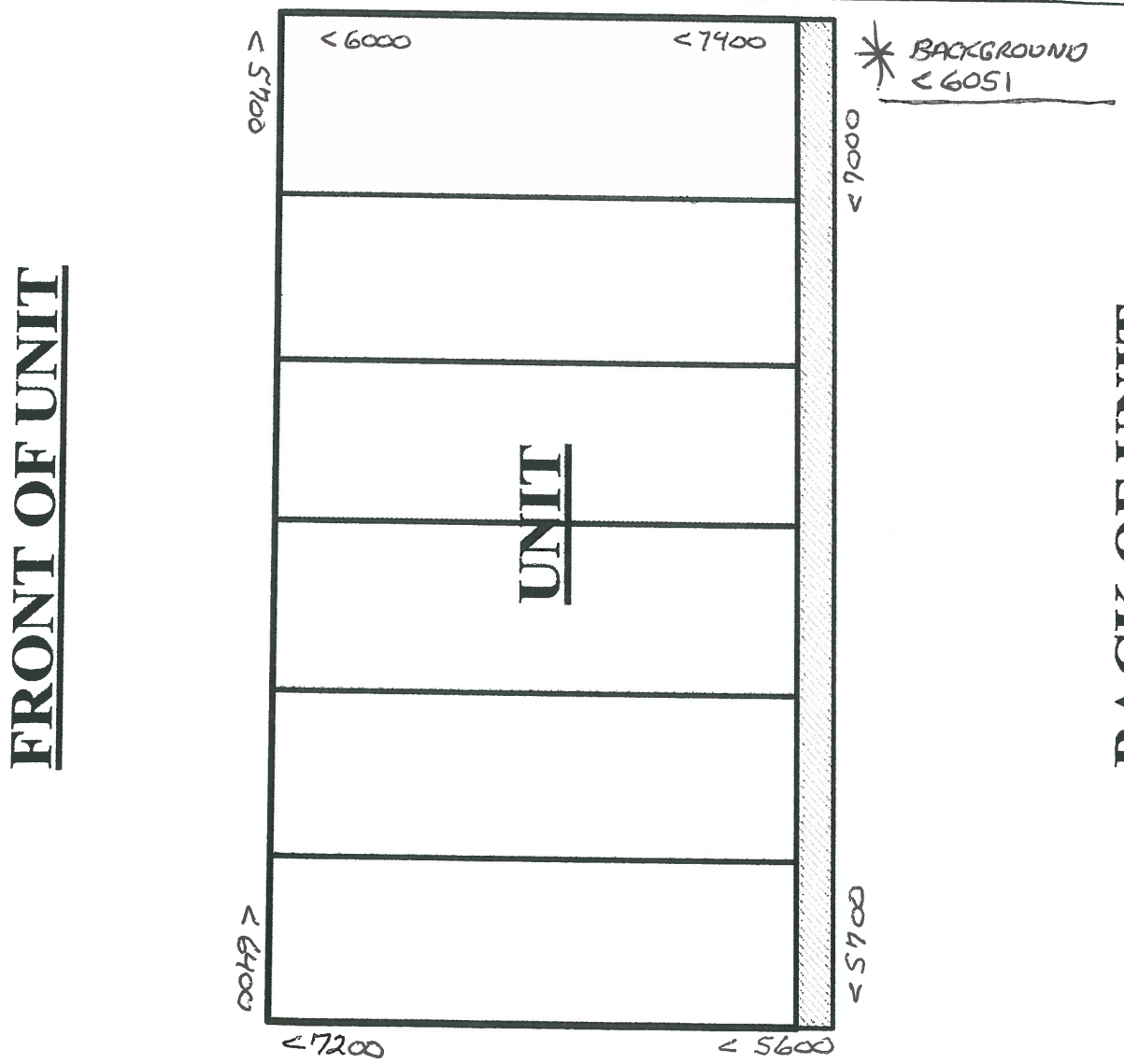
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-165	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1111 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

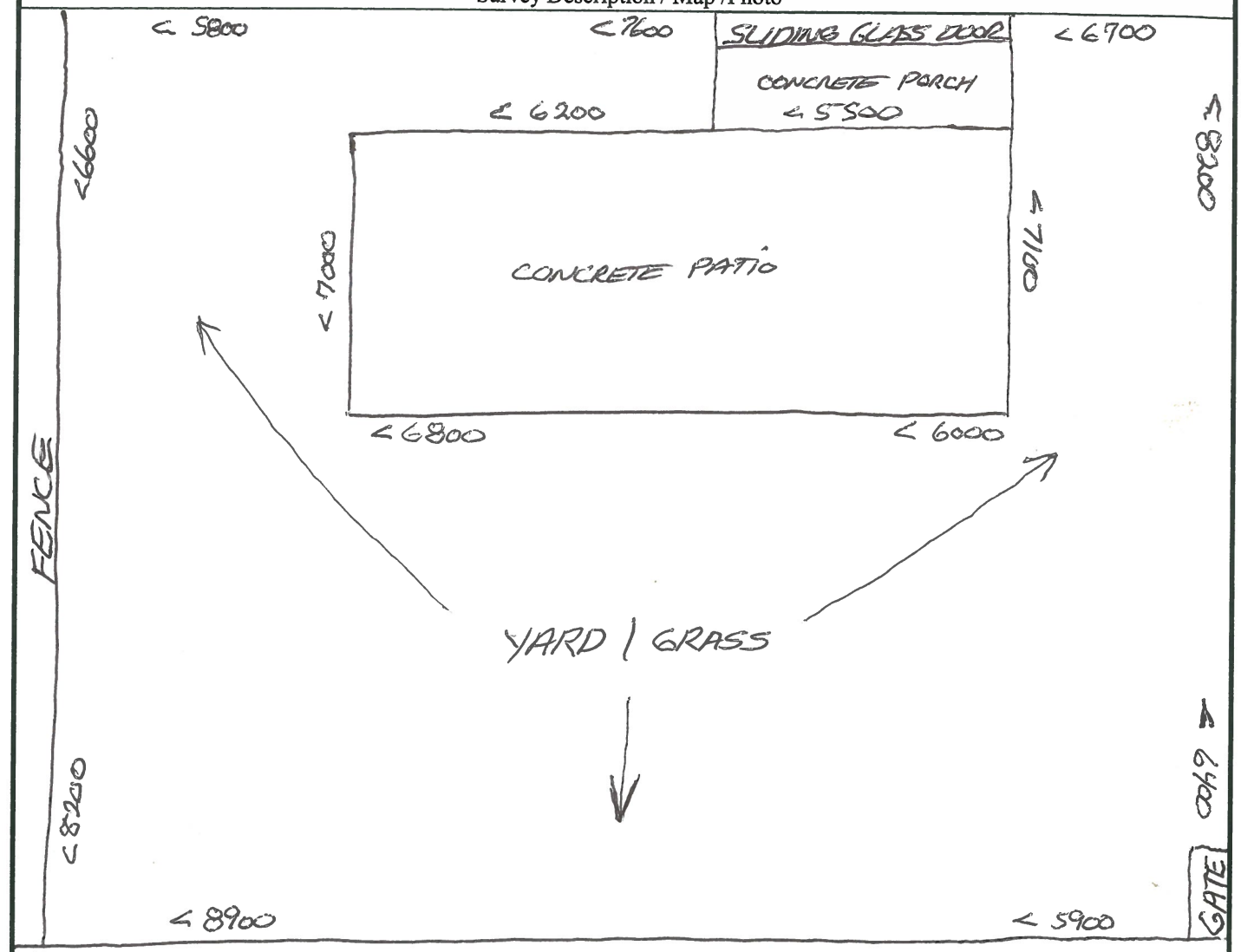
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
NL62473-10-D-0808/00016	Rad Scoping Surveys / Treasure Island	07204-0006

Survey No.: 06-12-160	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	Jerry Cooper	Jerry Cooper
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG µr/Hr	Eff. α	Eff. β
2221	129231	27JUN14	44-10	19765	27JUN14	5573	N/A	5573	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	JJS 10-29-13	N/A	N/A	↓	↓	↓
↓	↓	↓	↓	↓	↓	N/A	↓	↓	↓	↓	↓

Survey Description / Map /Photo



BACKYARD FENCE

BUILDING 1113 UNIT A

Comments:

See Attached Sheets for Static / Removeable Results

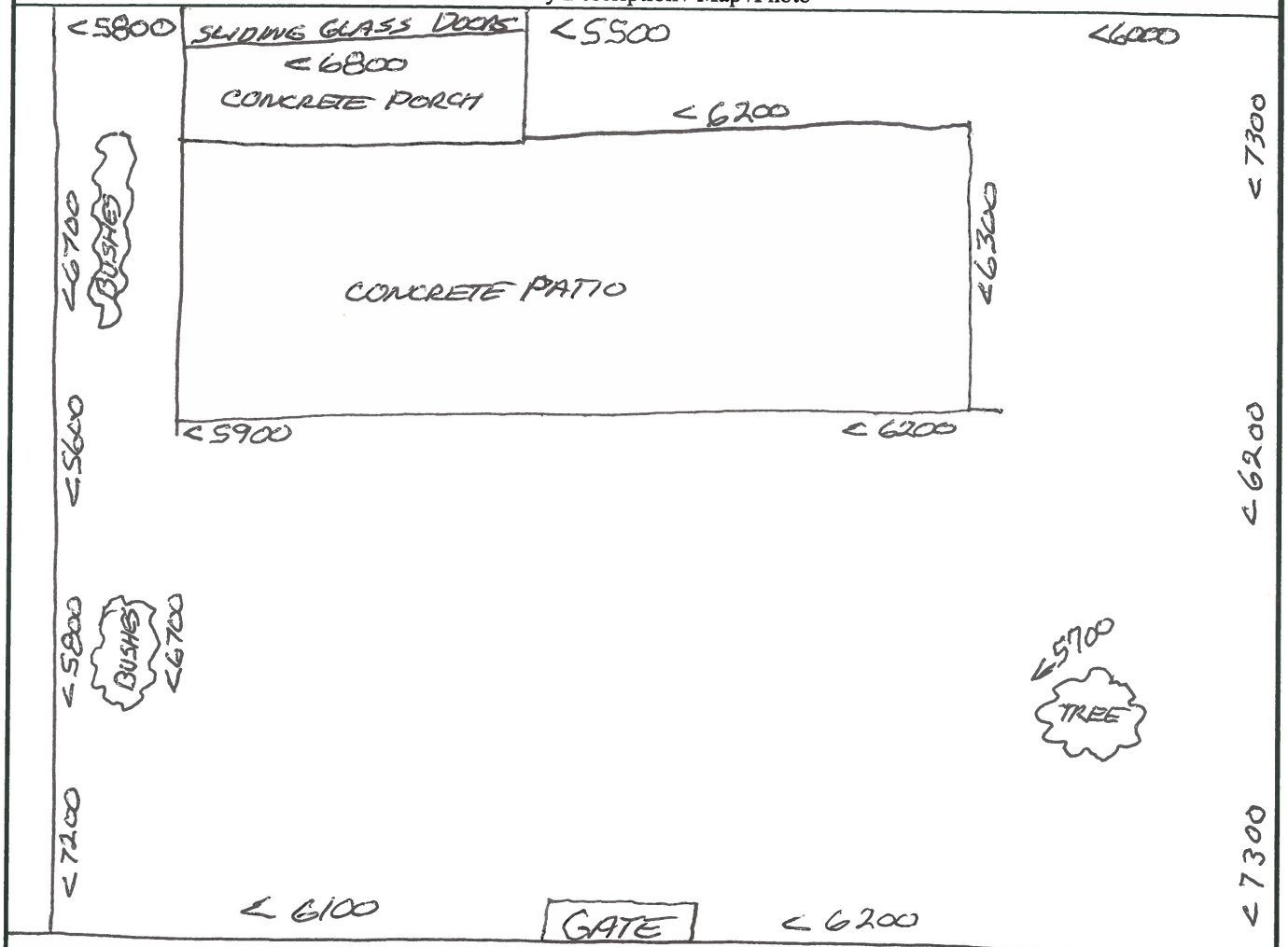
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-1669	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1113 apartment "B" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

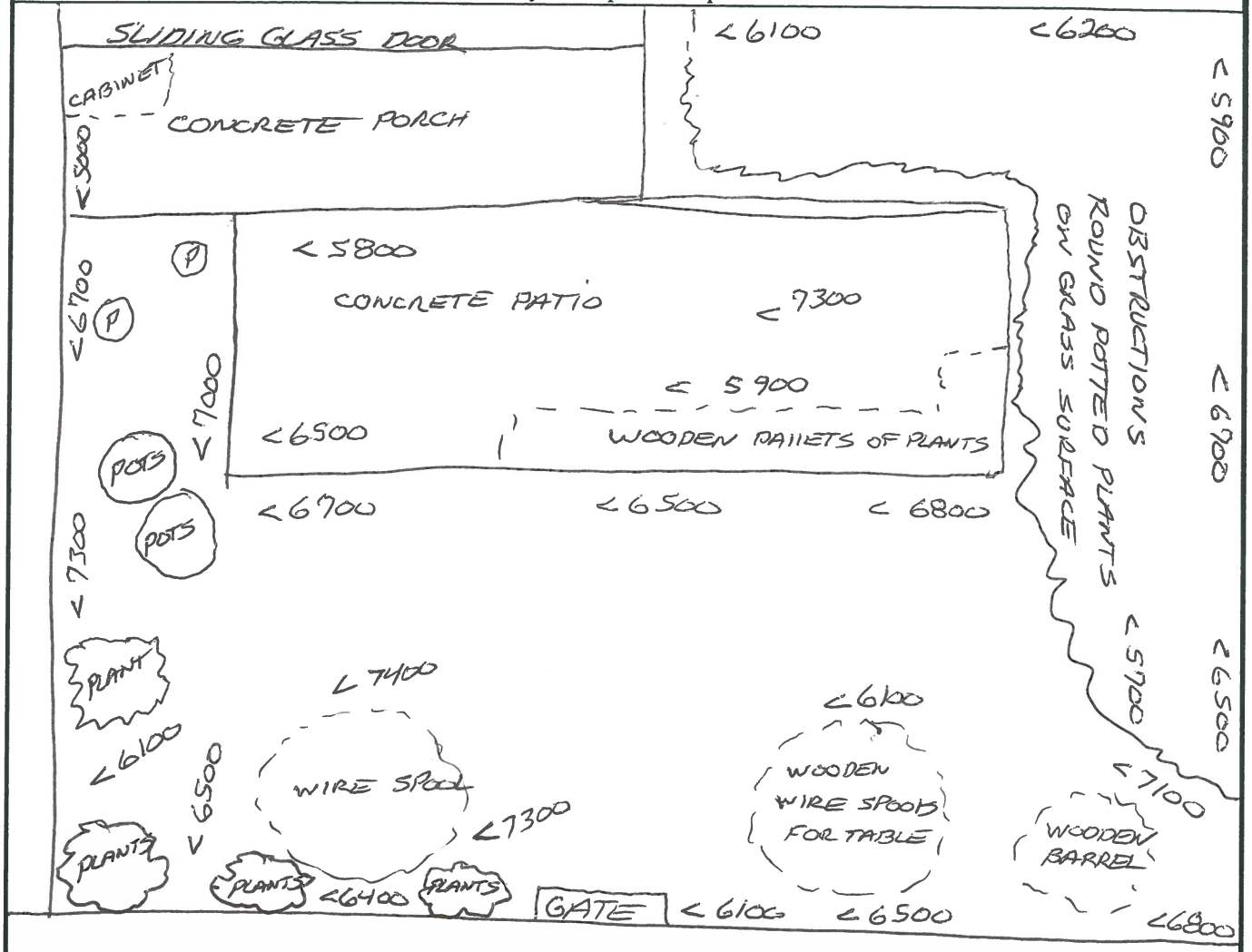
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	ITSI GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12-1664	Date: 10-29-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1113 apartment "C" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

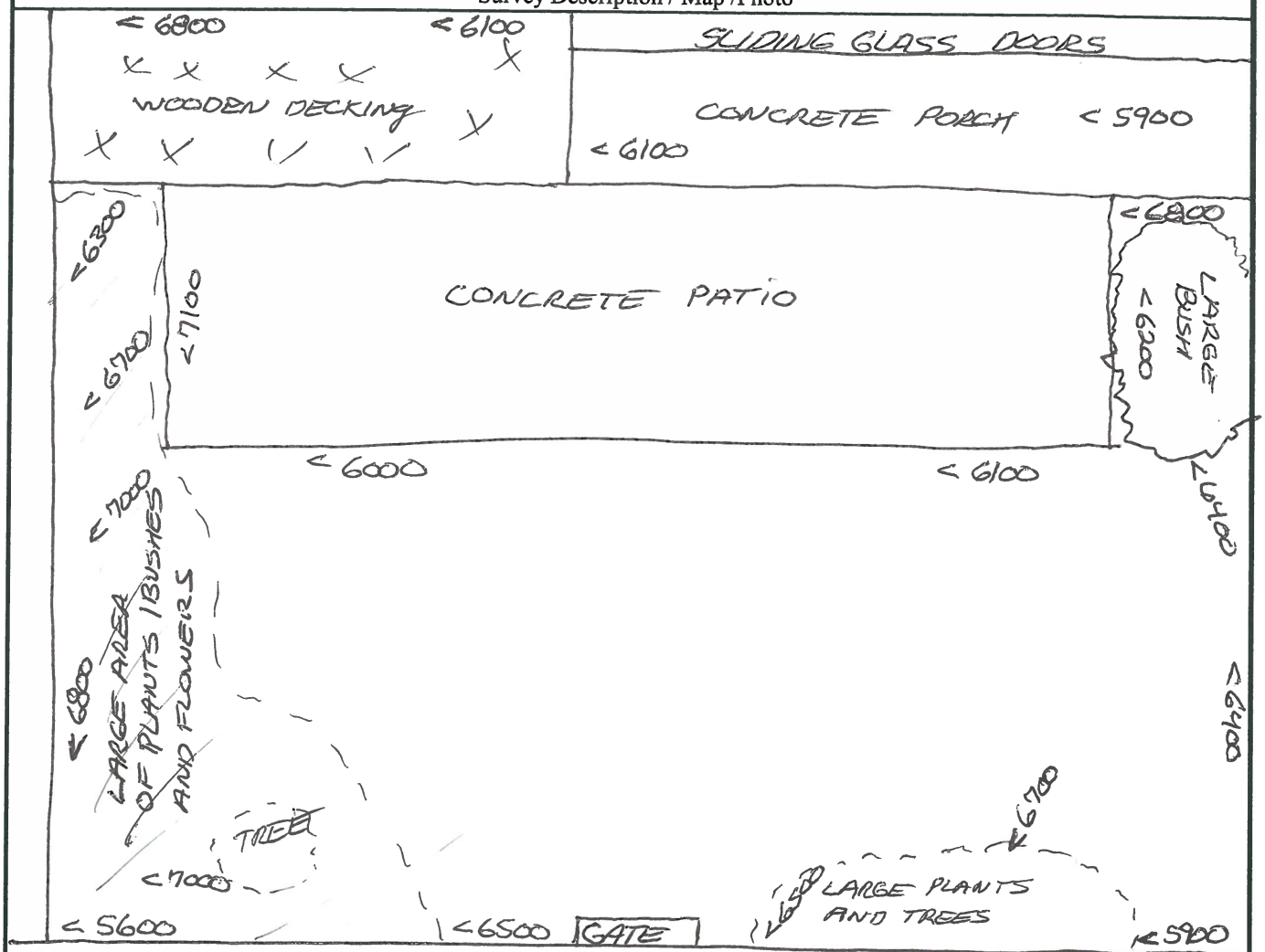
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 164	Date: 10-29-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 113 apartment "D" Backyard

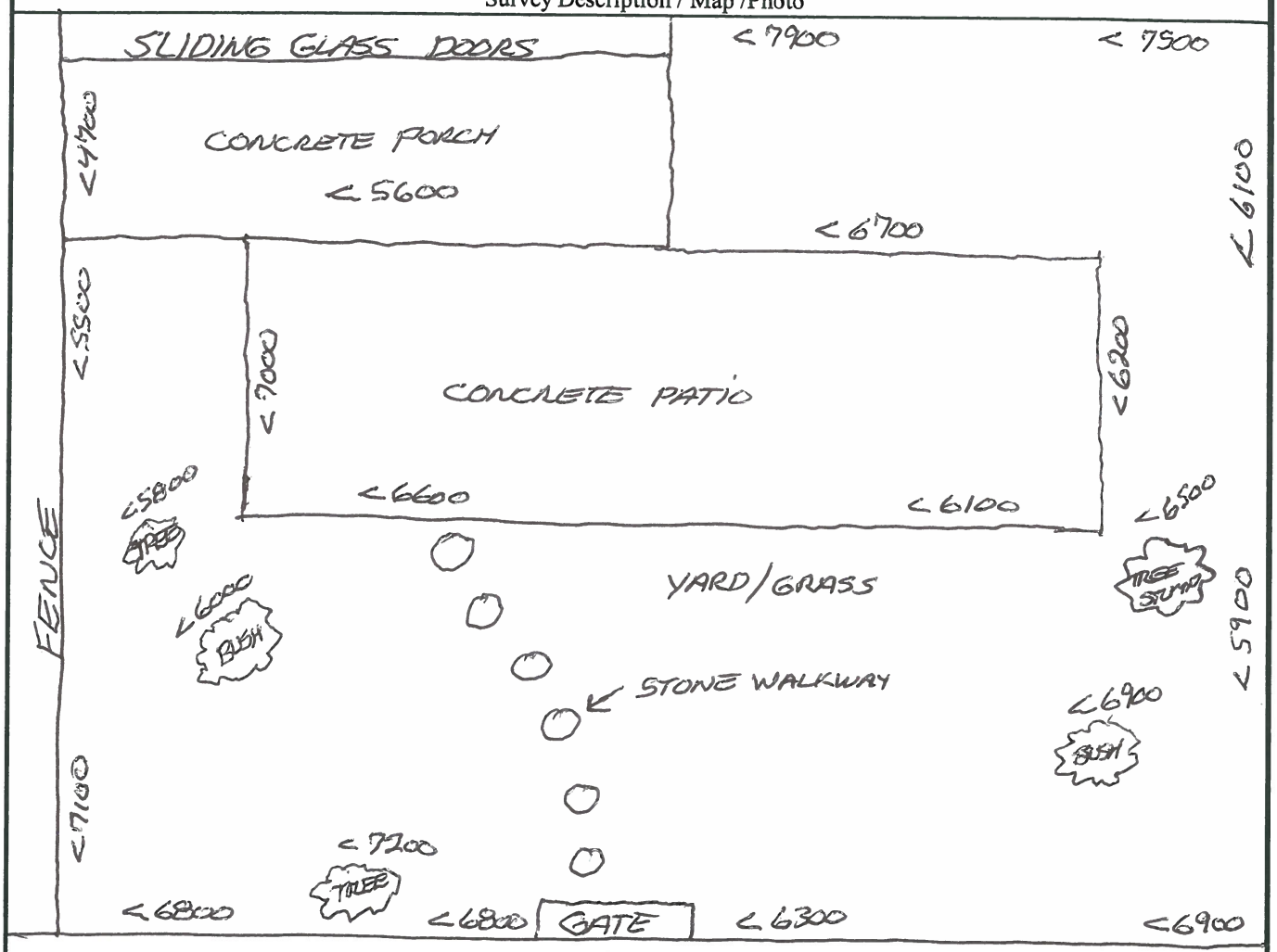
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-1164	Date: 10-29-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1113 apartment "E" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

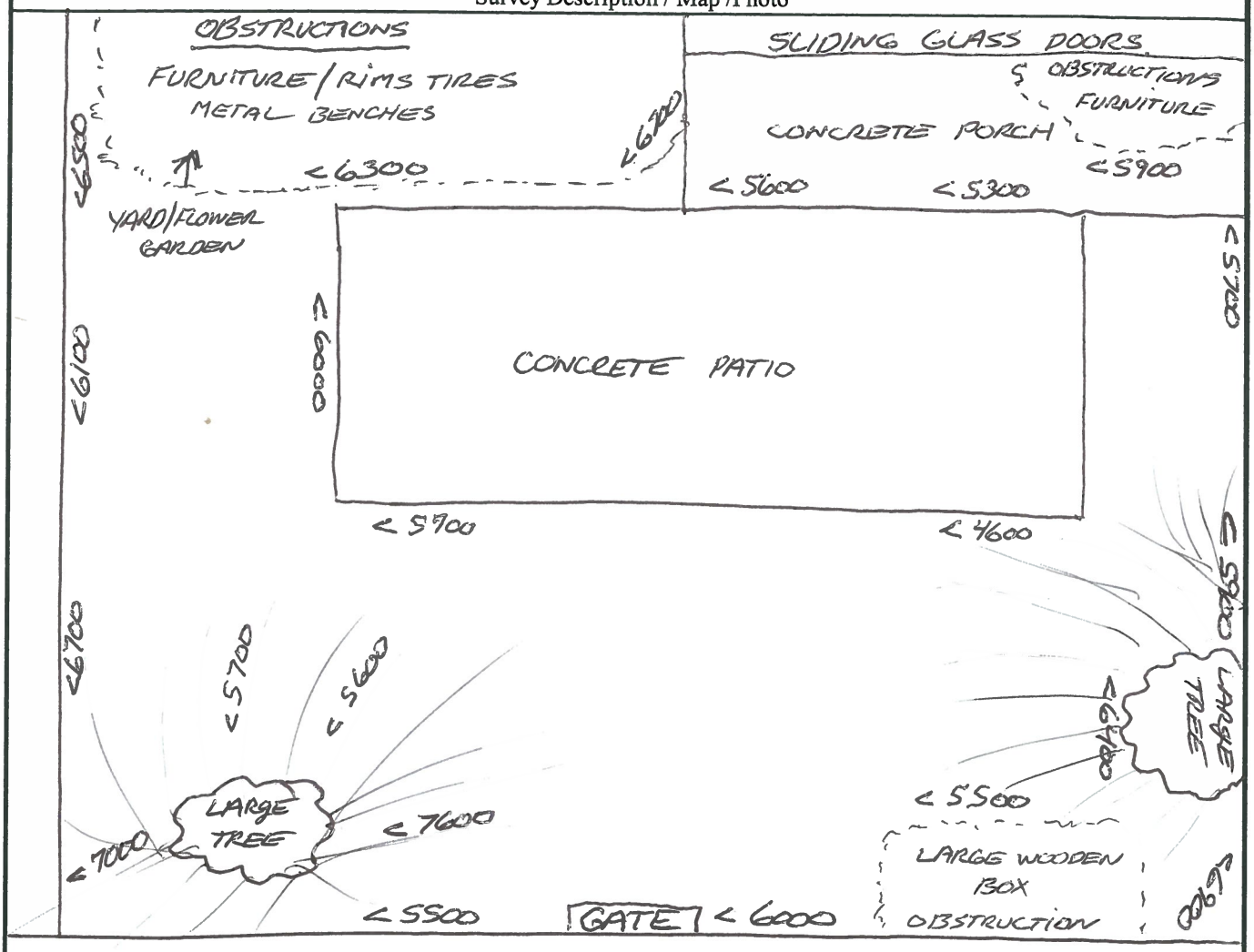
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca		ITSI GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-1164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

* YARD HAS EXCESSIVE OVERGROTH FROM TREES AND BUSHES

Survey Description / Map /Photo



Building 1113 apartment "F" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in cpm.

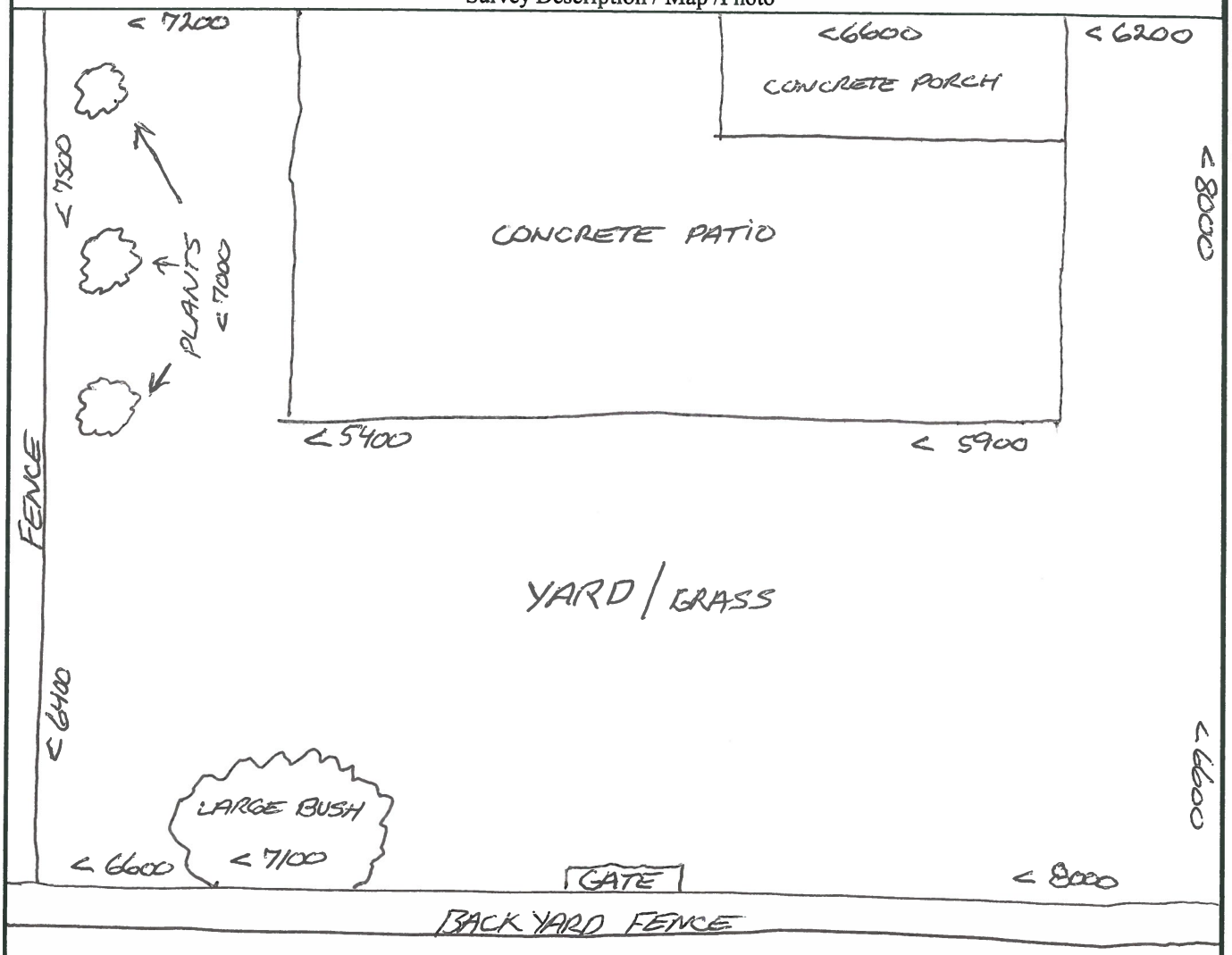
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-166	Date: 10·29·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1113 apartment "G" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

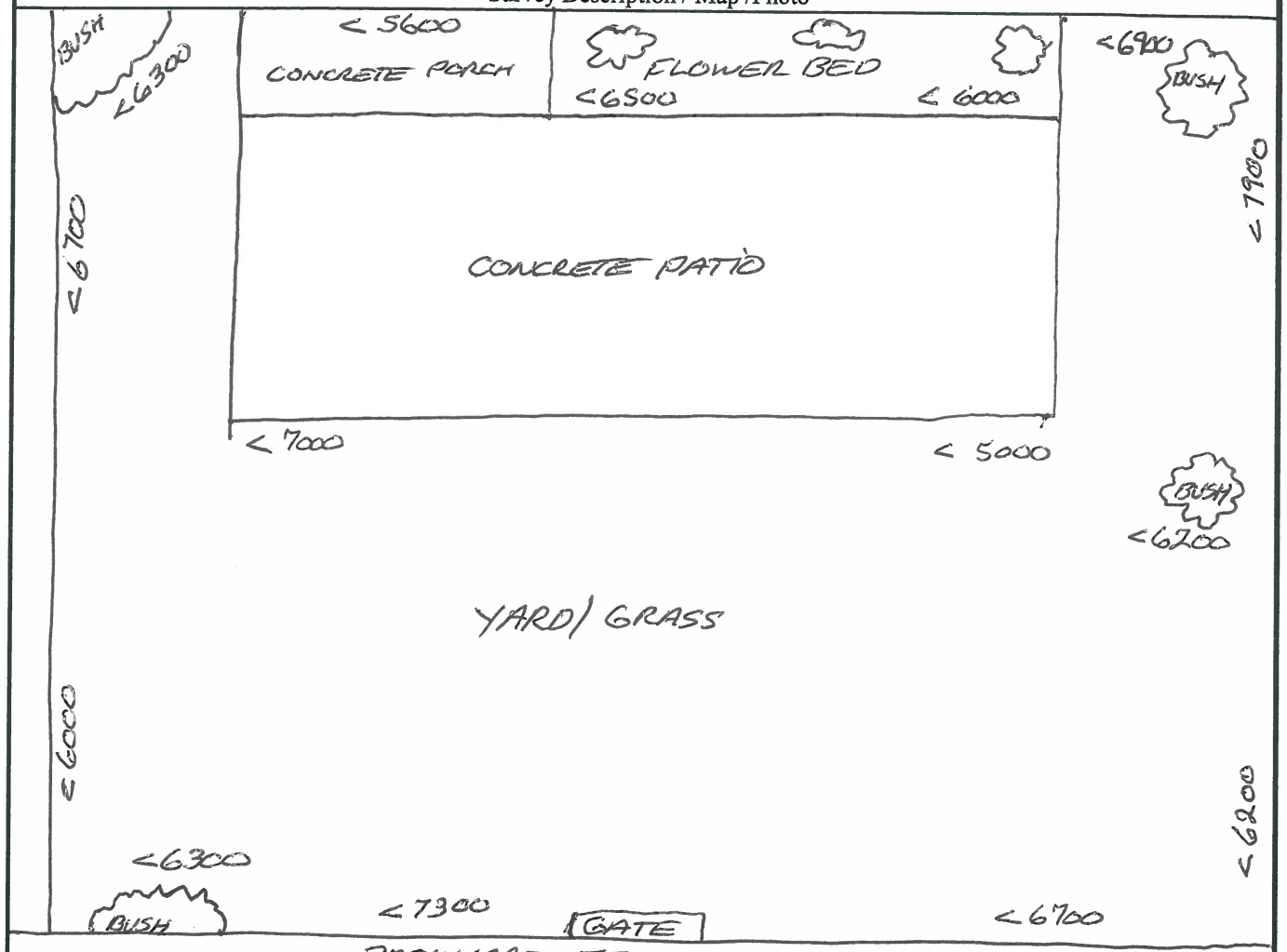
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-1164	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1113 apartment "H" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

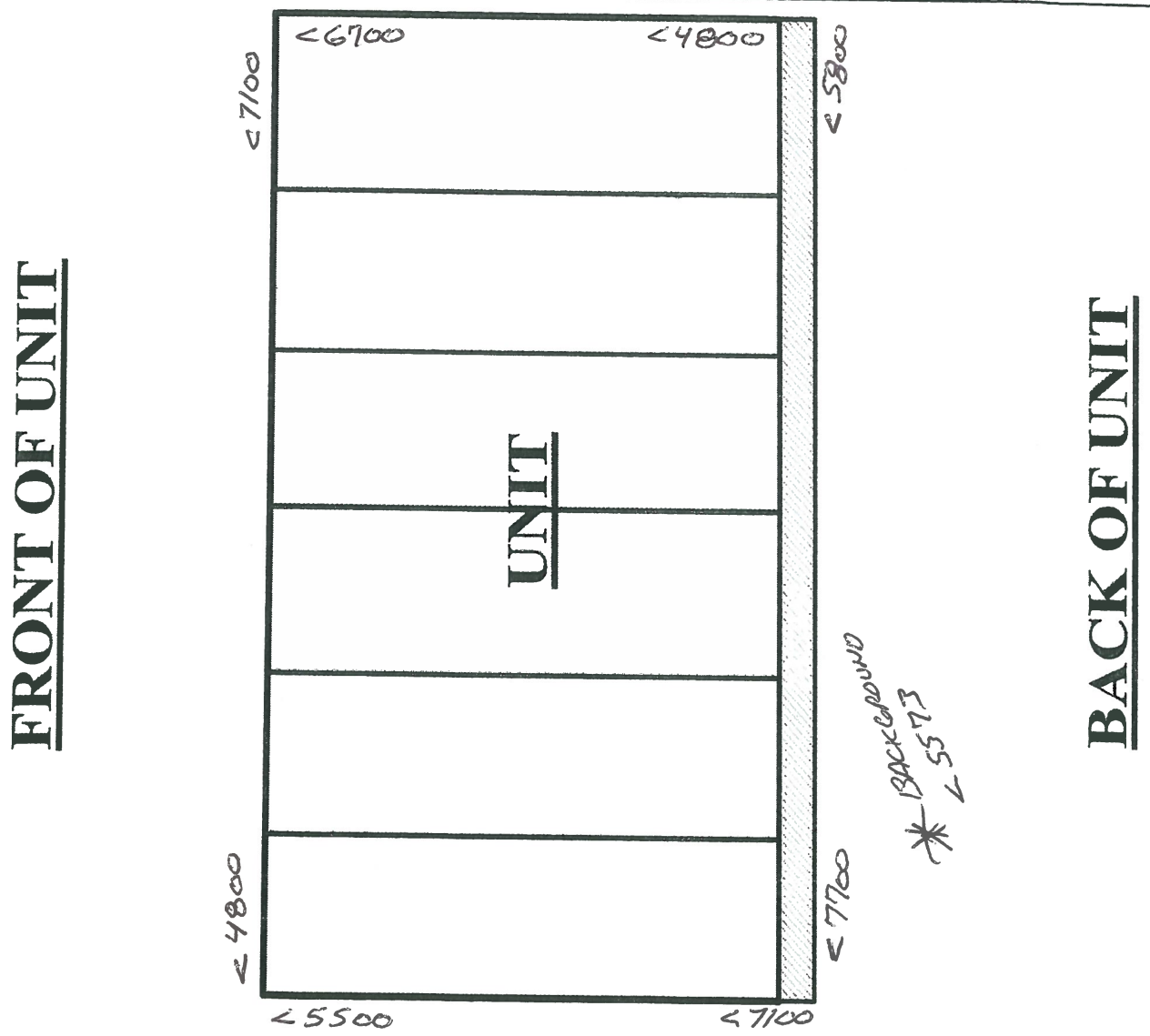
See Page 1 for Instrument Information. All Readings in cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-166	Date: 10.29.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1113 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

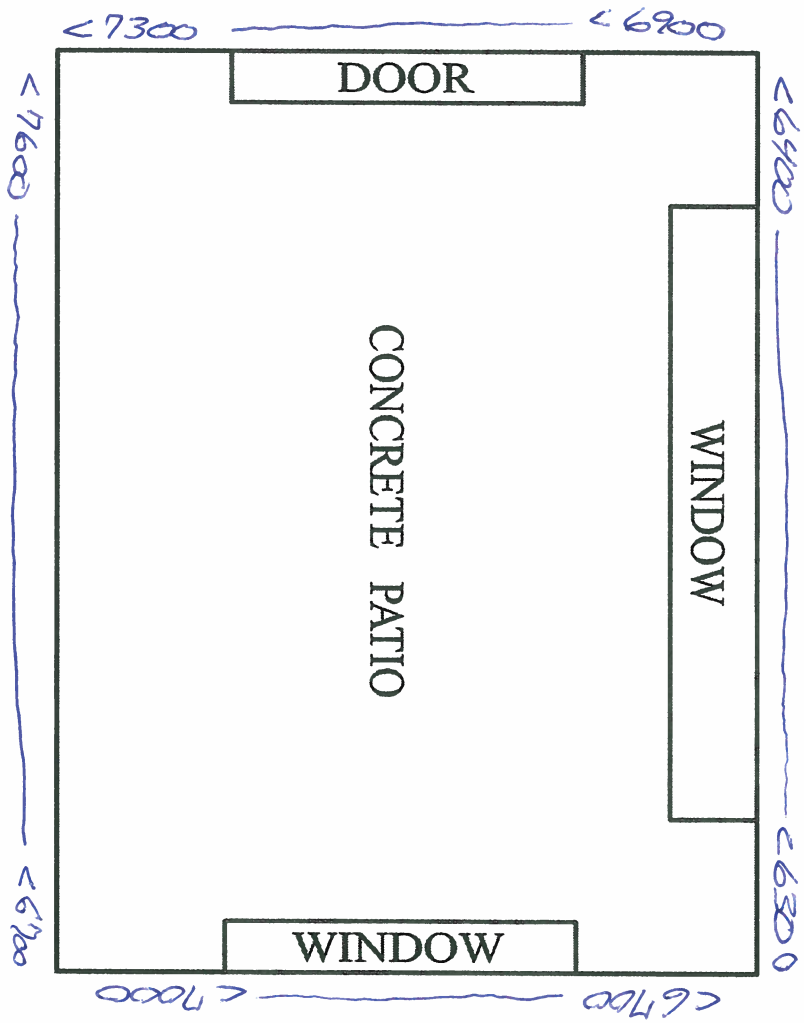
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-167	Date: 10.31-13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	MATT CUSHMAN	[signature]
Tech Printed Name	Signature James Smith	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N/A	N/A	6294	N/A	N/A	N/A
N/A											→
N/A											→

Survey Description / Map /Photo



Building 1410 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

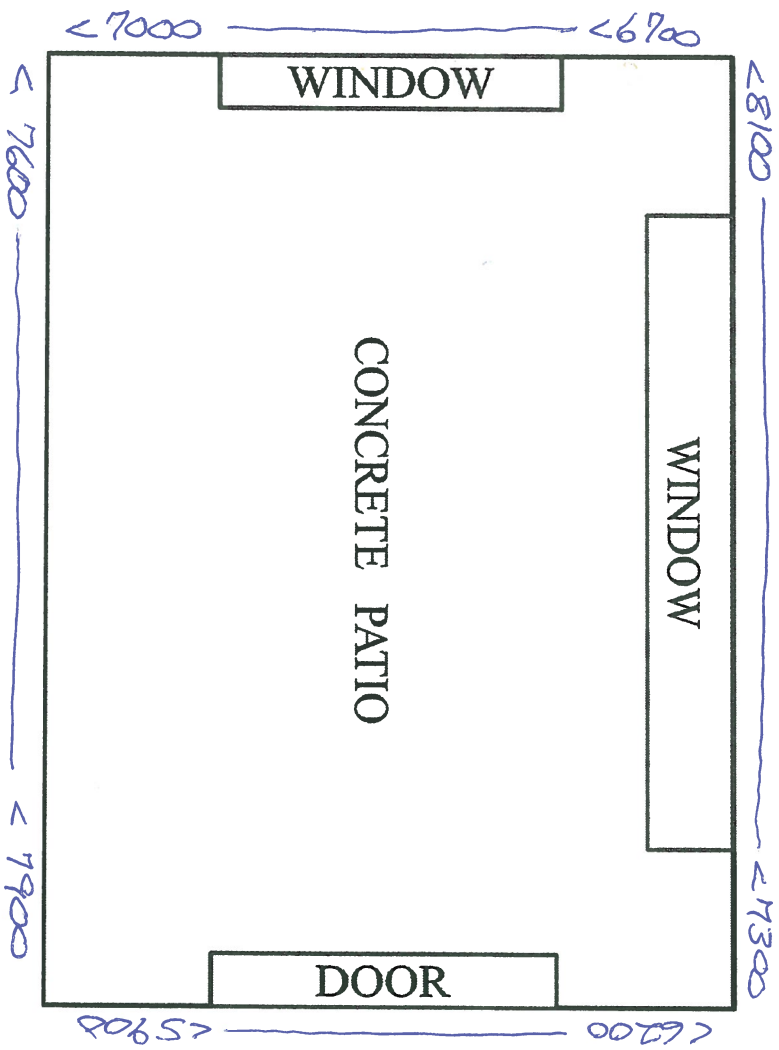
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 167	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1410 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

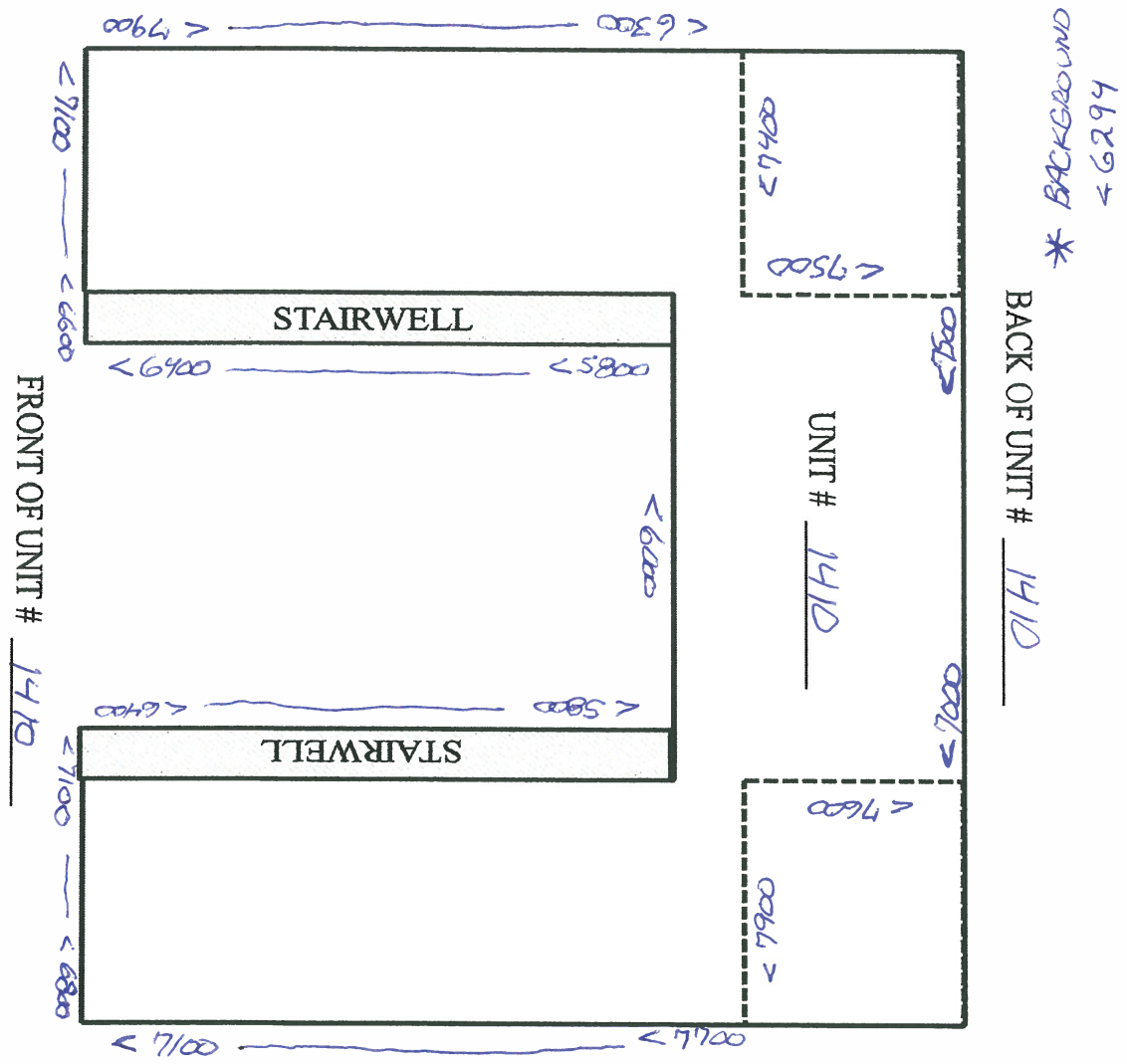
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 167	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1410 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

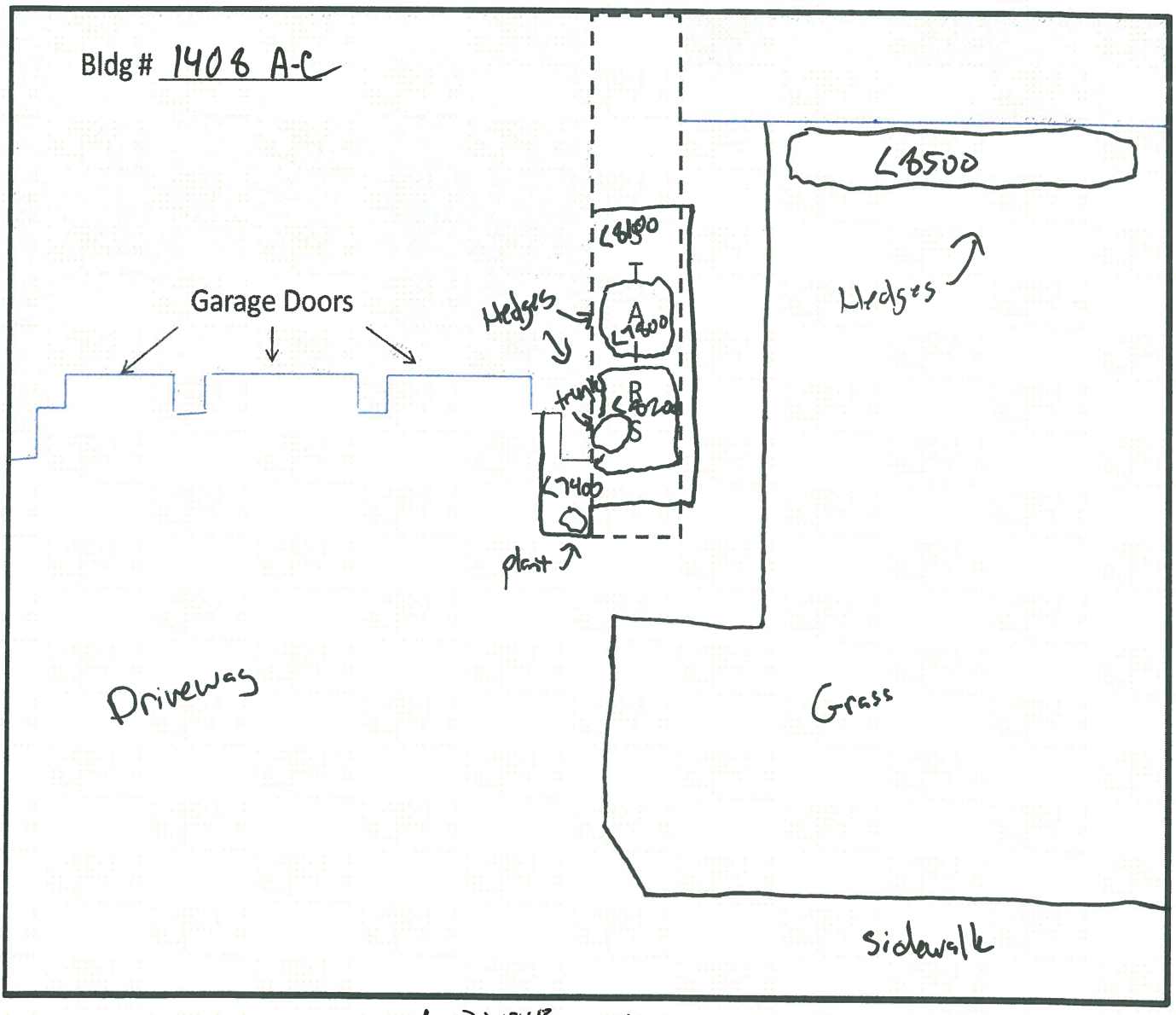
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-168	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	MATT COSHMAN	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW19768	8/21/14	N/A	N/A	5988	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # ~~1400~~ 1408 Apt(s)# A-C Front Yard 10/31/13

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

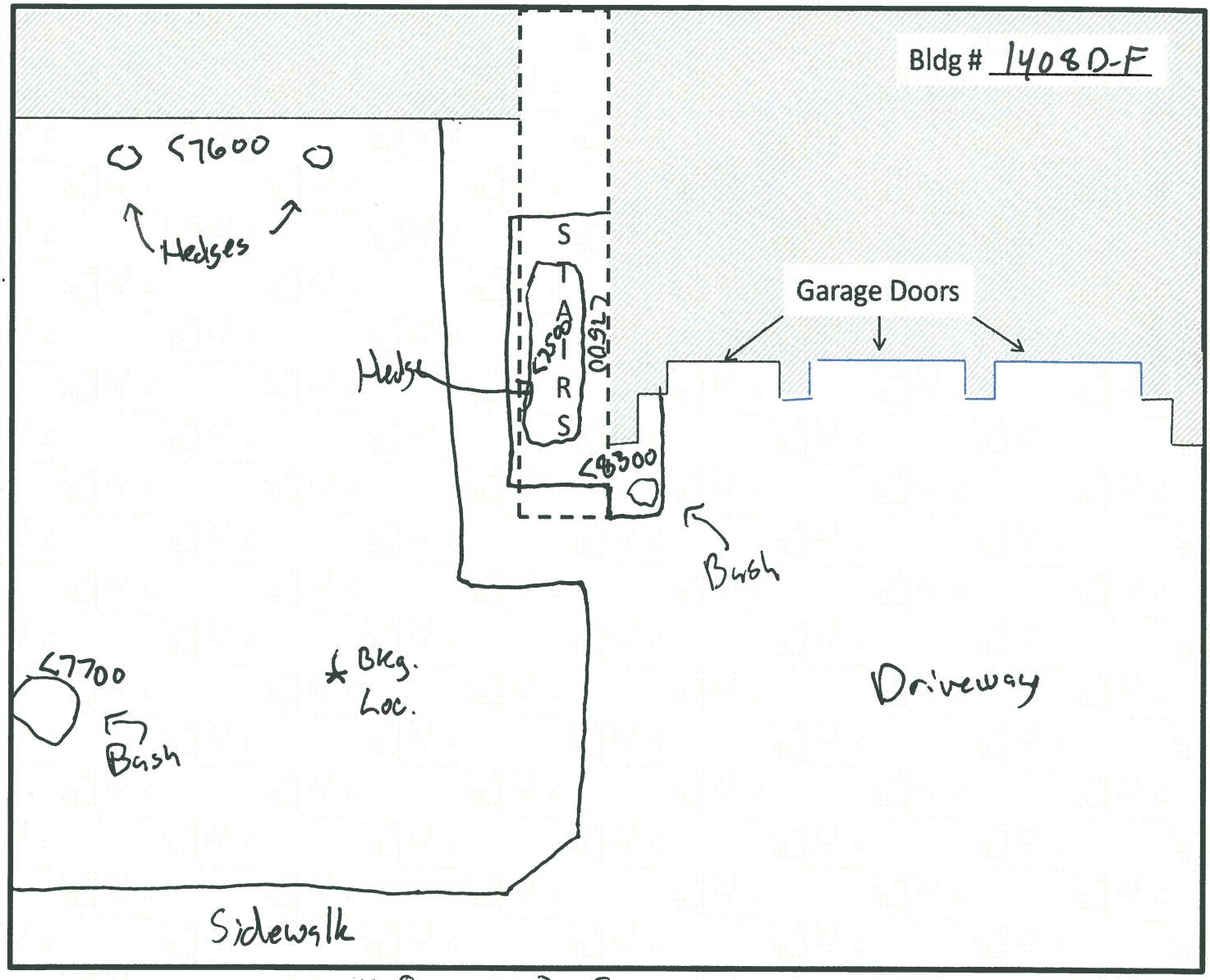
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-168	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1408 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

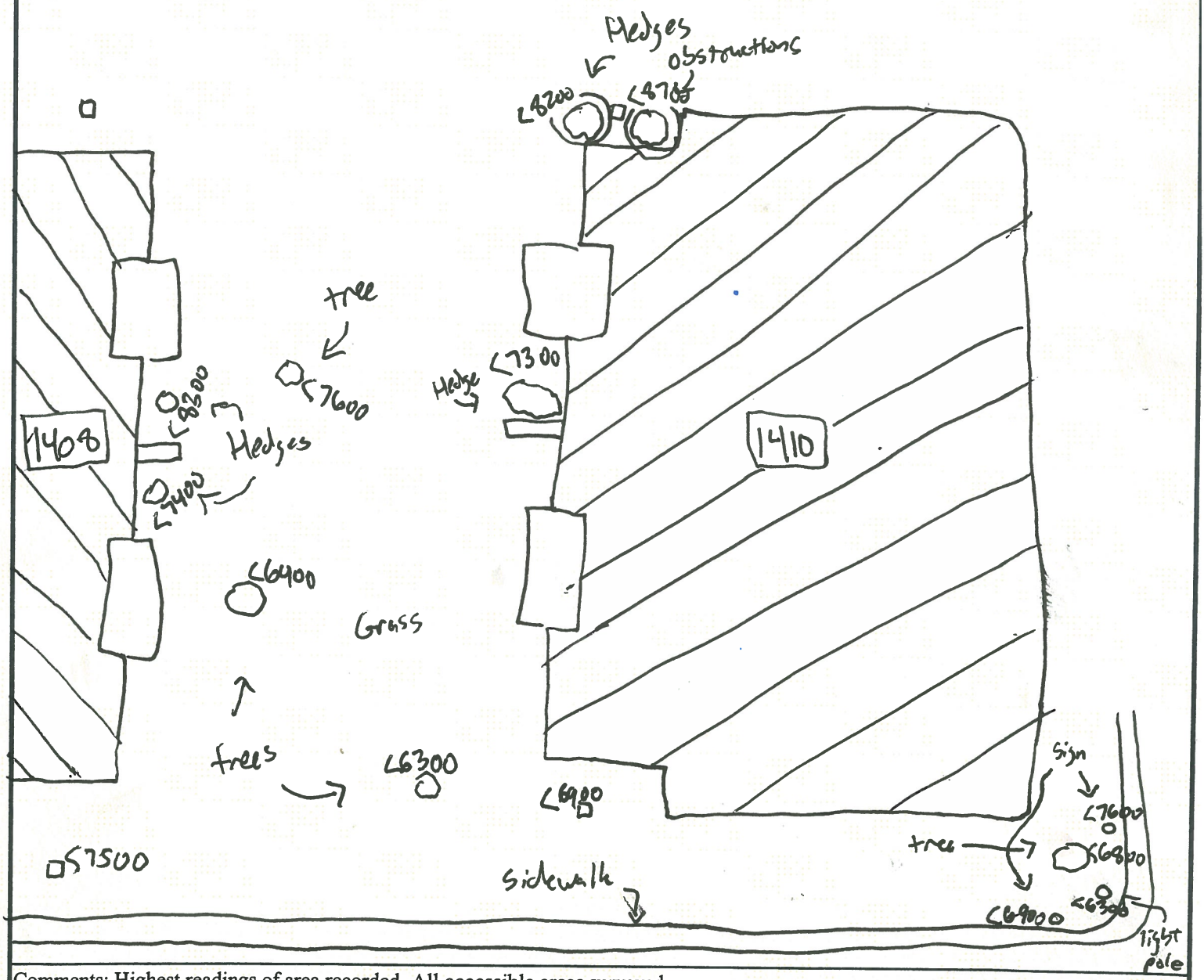
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-168	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

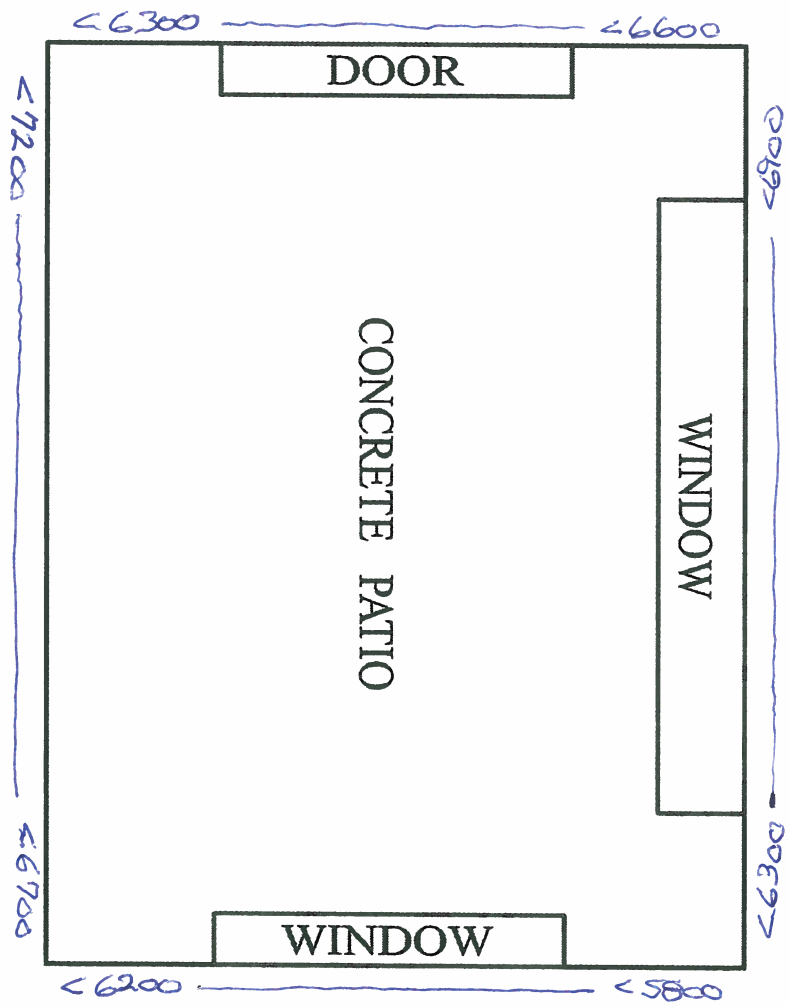
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-169	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	MATT CUSHMAN	MM
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUN14	44-10	19765	27JUN14	N/A	N/A	6294	N/A	N/A	N/A
N/A											→
N/A											→

Survey Description / Map /Photo



Building 1408 apartment " A " Backyard

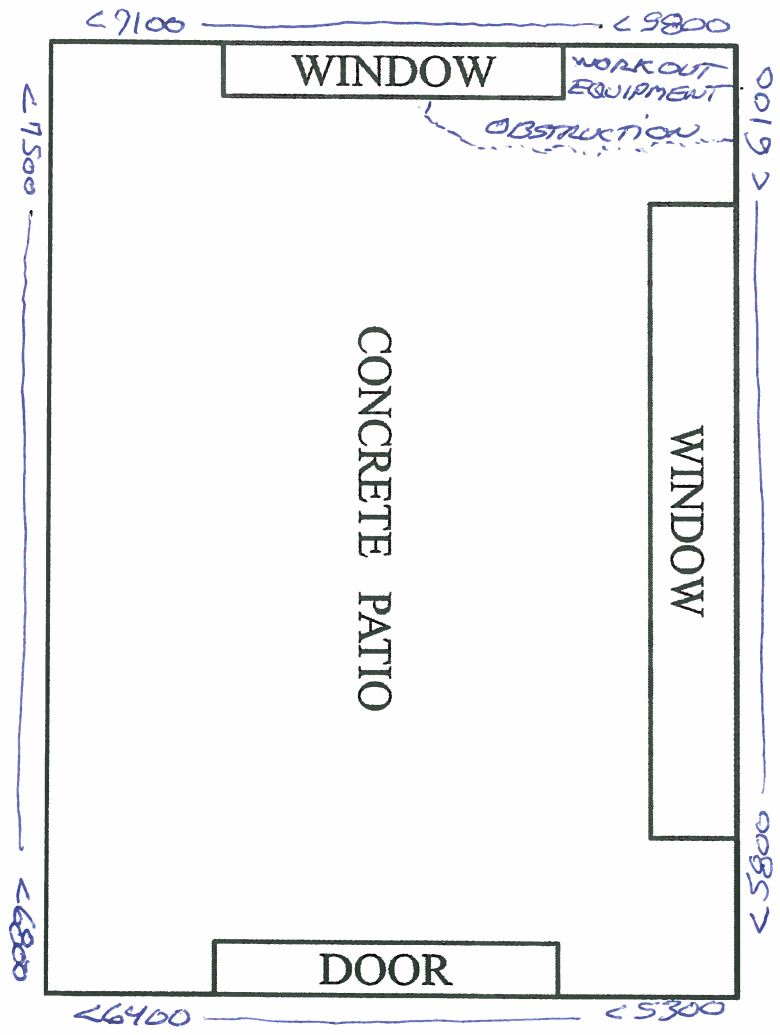
Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping Surveys / Treasure Island, Ca	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12- 169	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1408 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

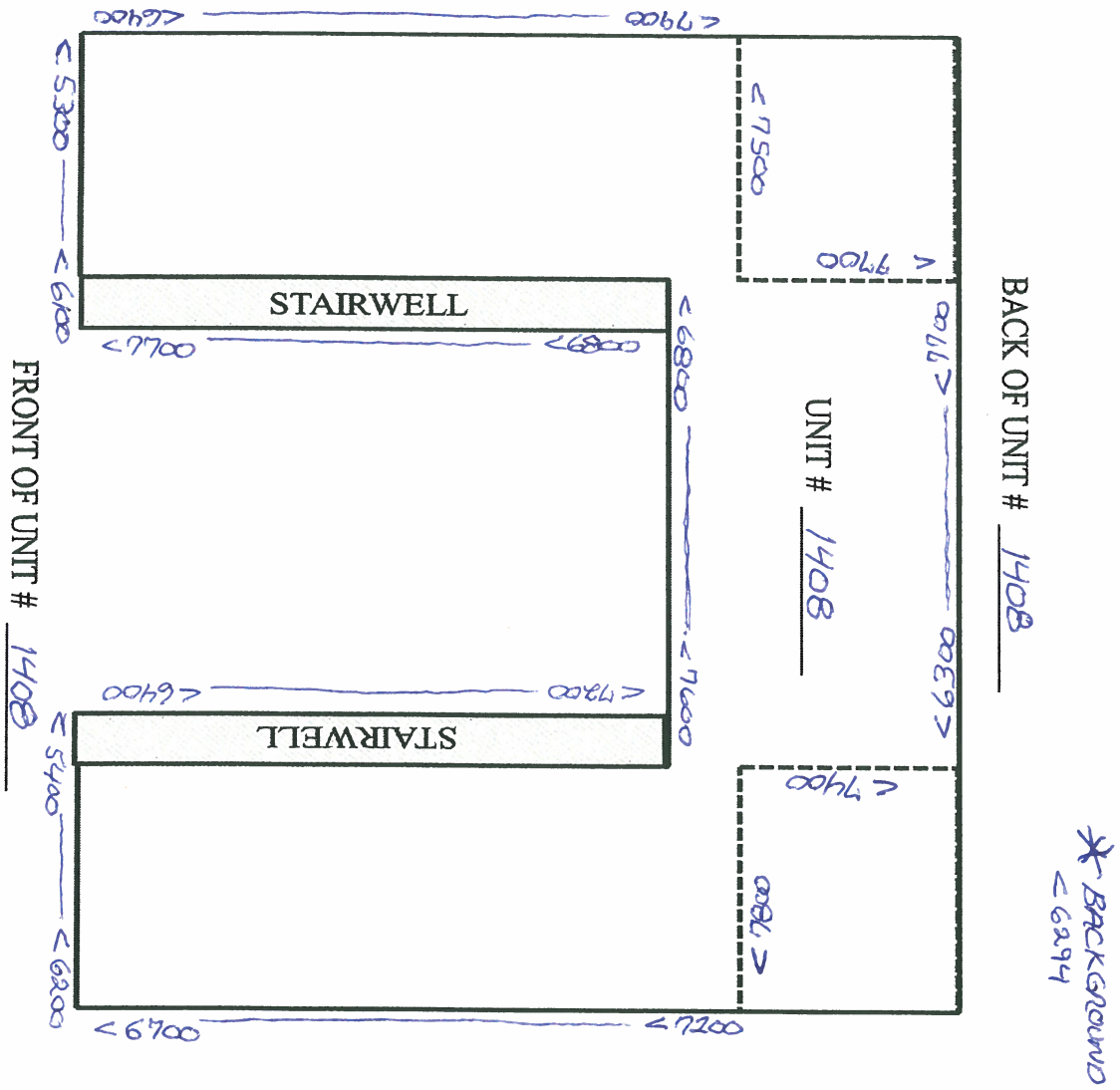
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-169	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1408 apartment "PERIMETER" Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

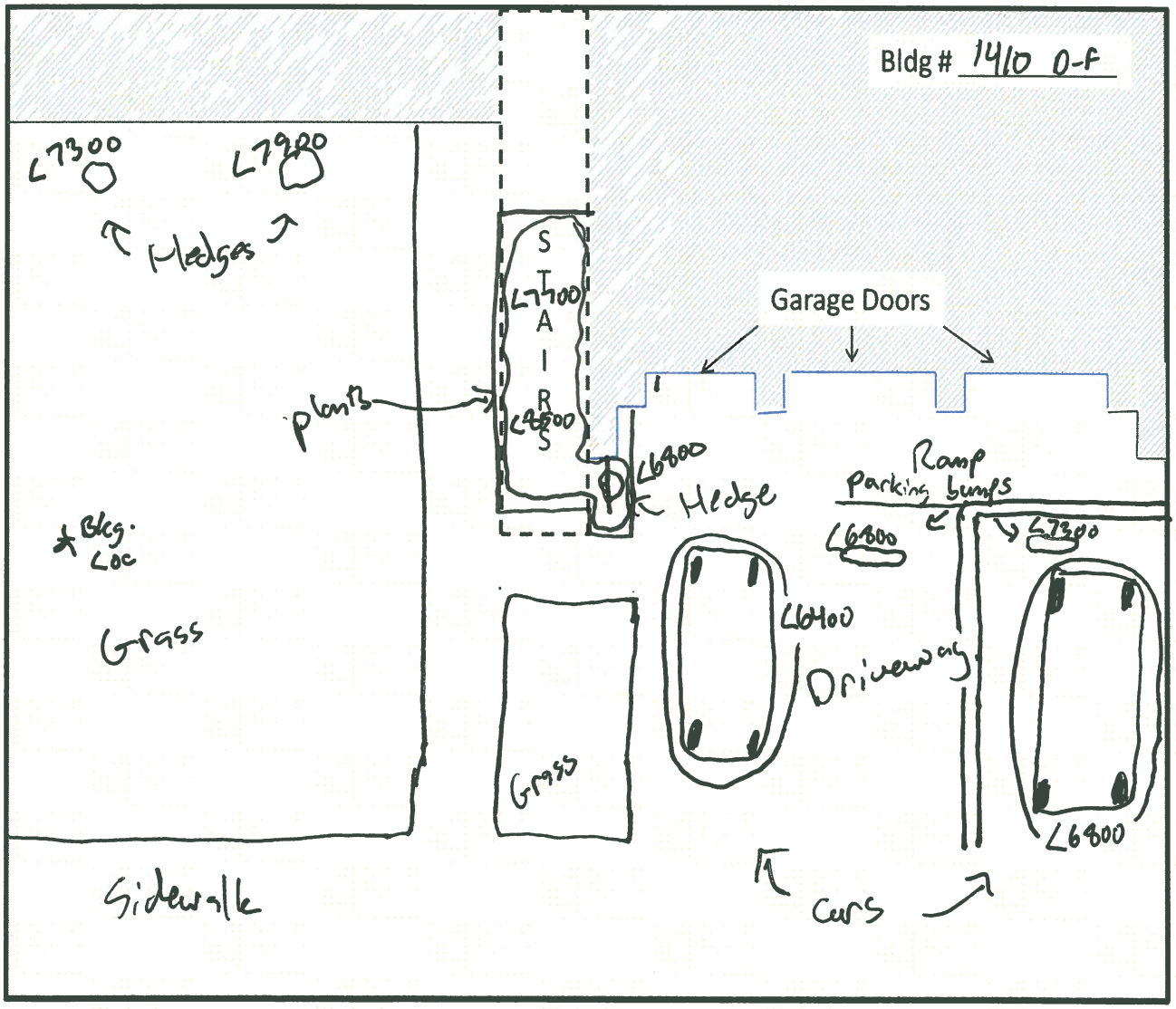
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-170	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	MATT CUSHMAN	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	BN 19768	8/21/14	N/A	N/A	6/13	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1410 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

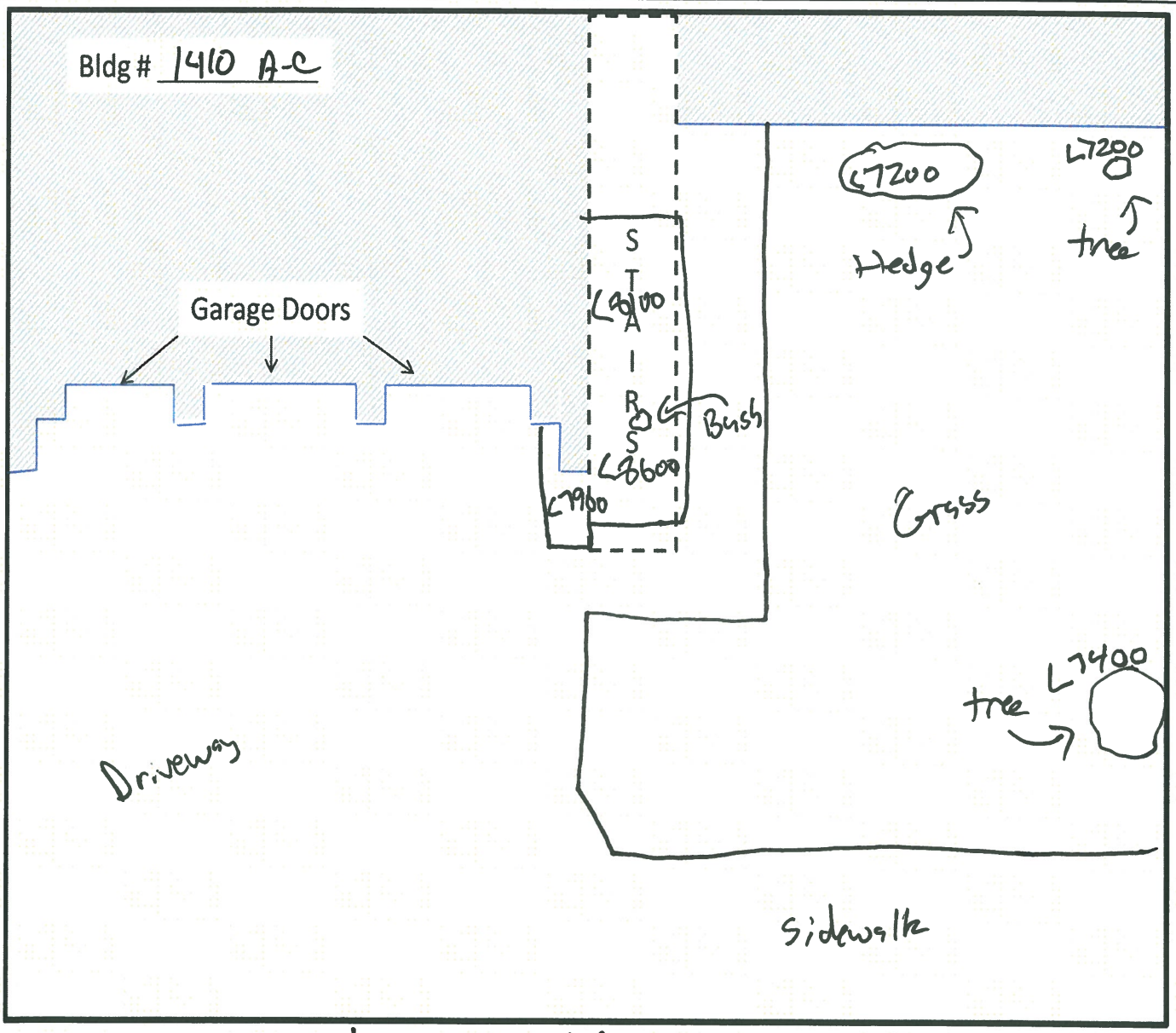
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 170	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1410 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

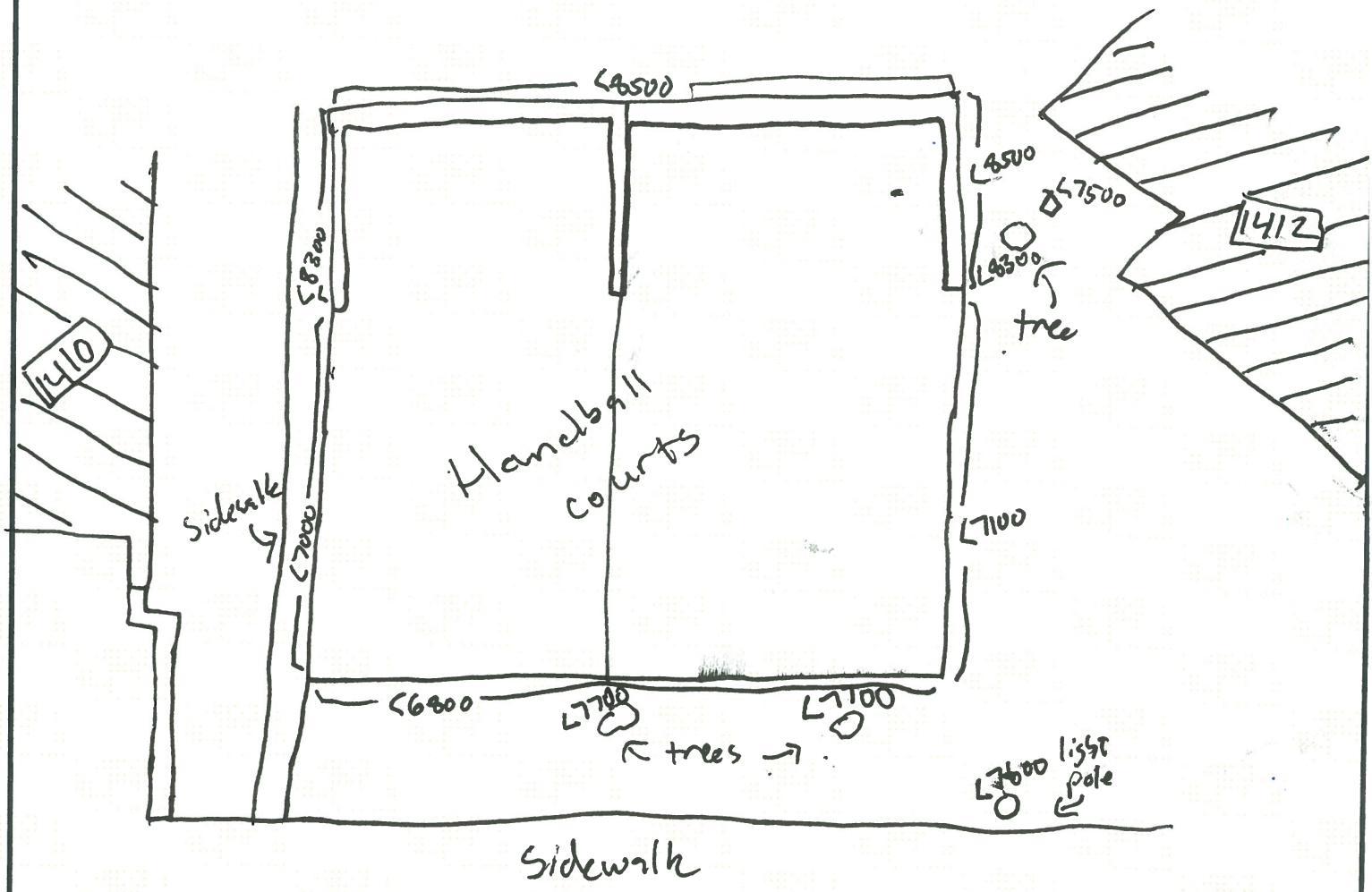
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-170	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

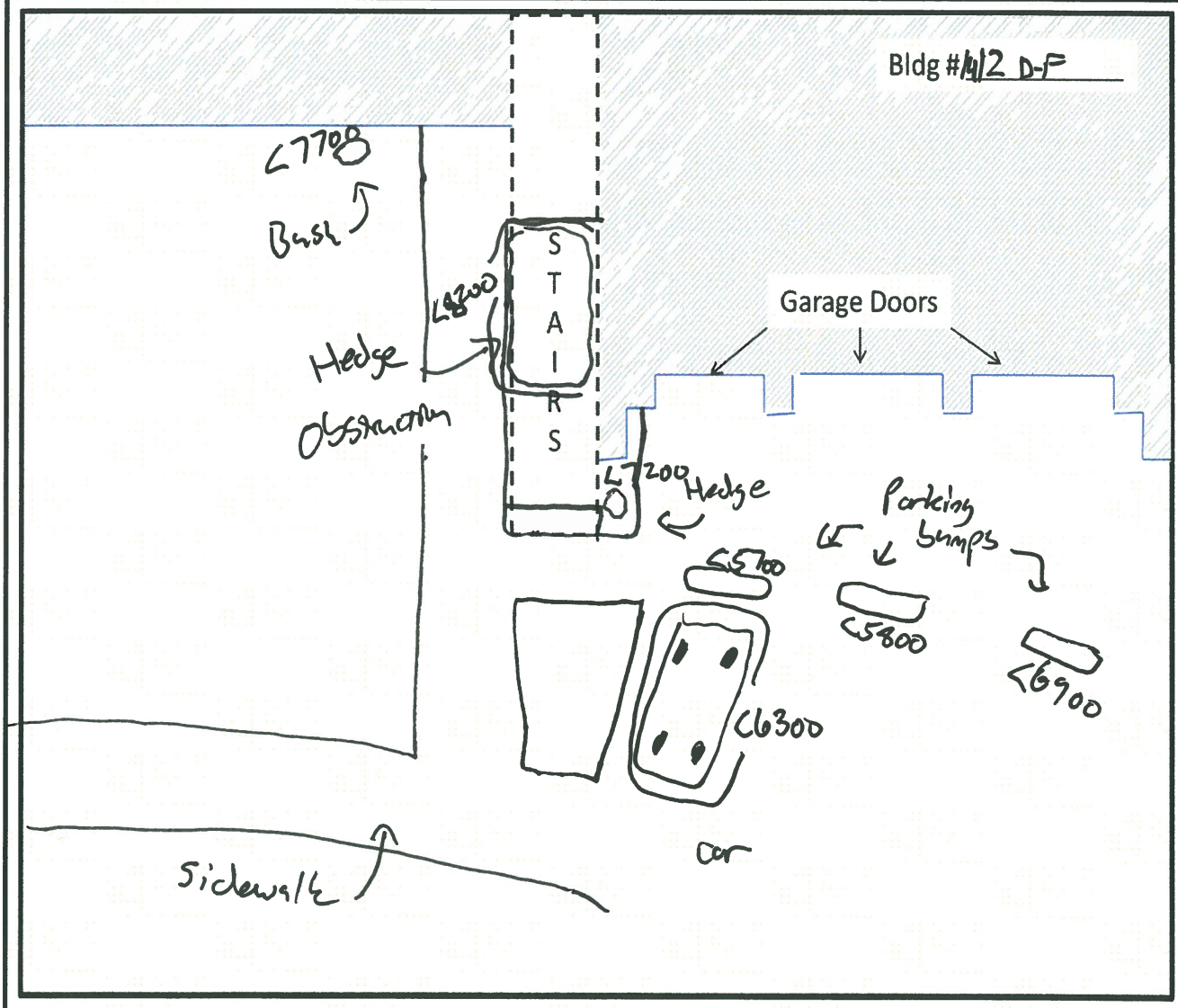
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-171	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		MATT CUSHMAN	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	6408	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1412 Apt(s)# D-F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

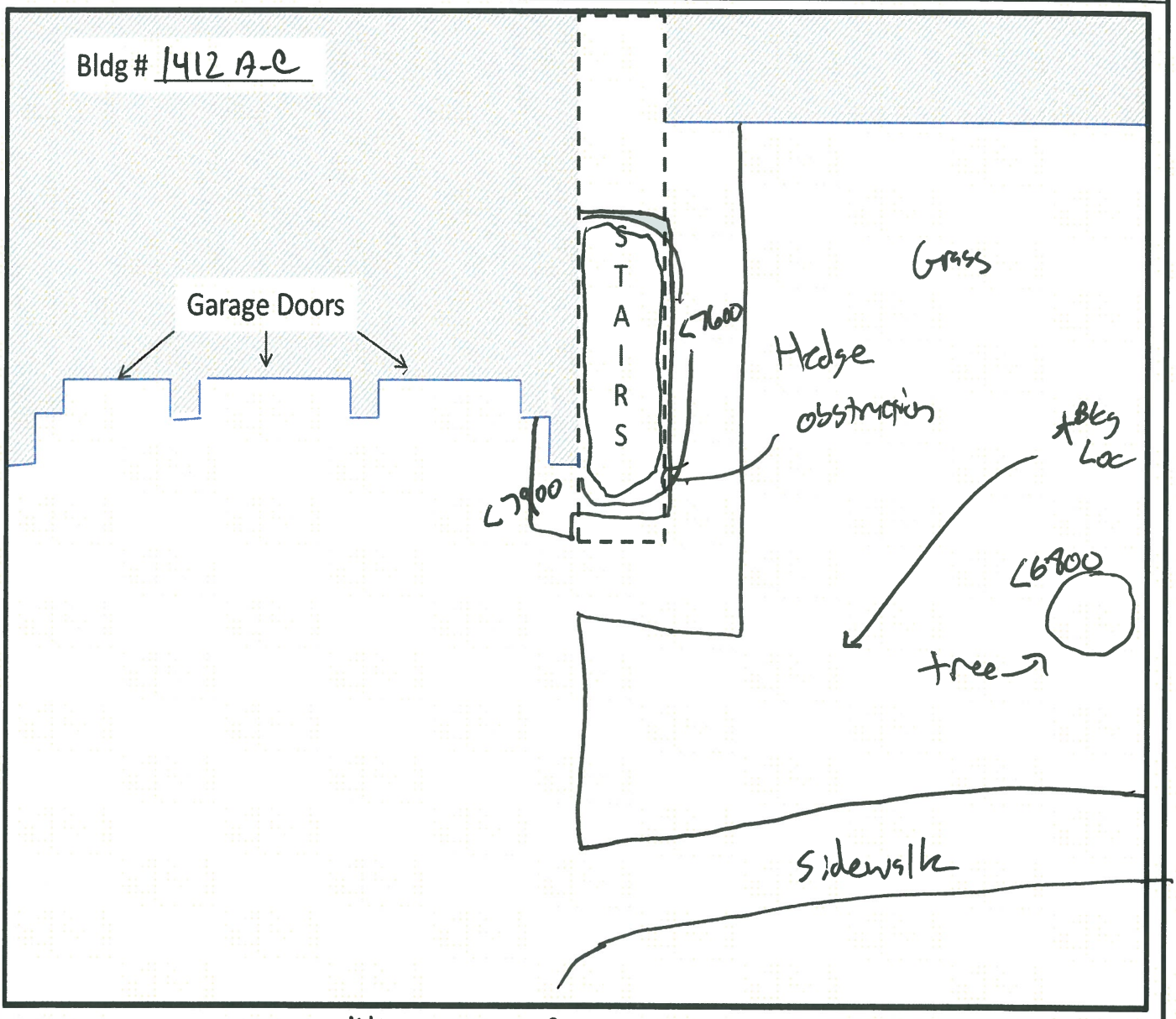
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-171	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1412 Apt(s)# A-C Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

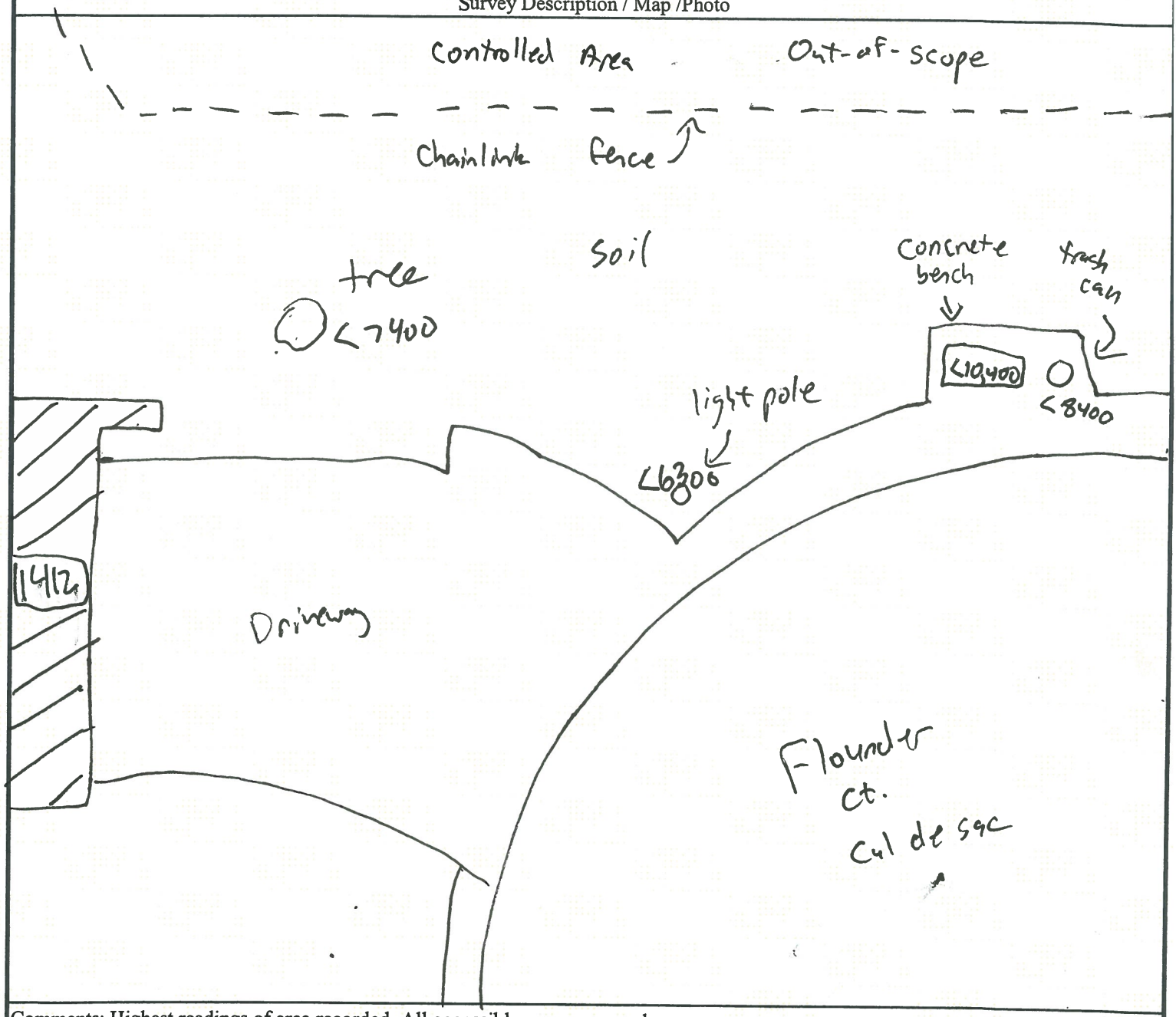
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 171	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

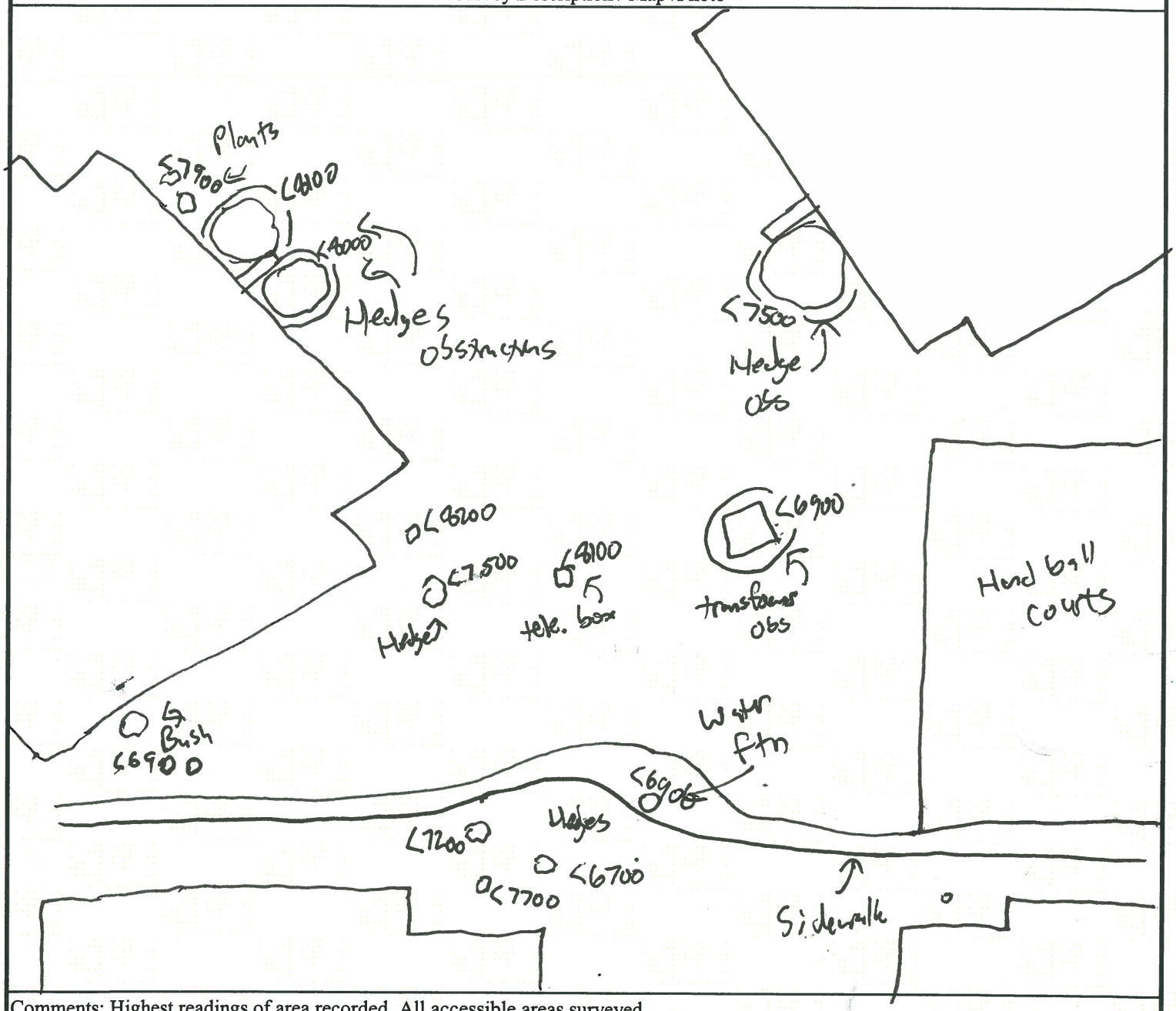
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-171	Date: 10/31/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

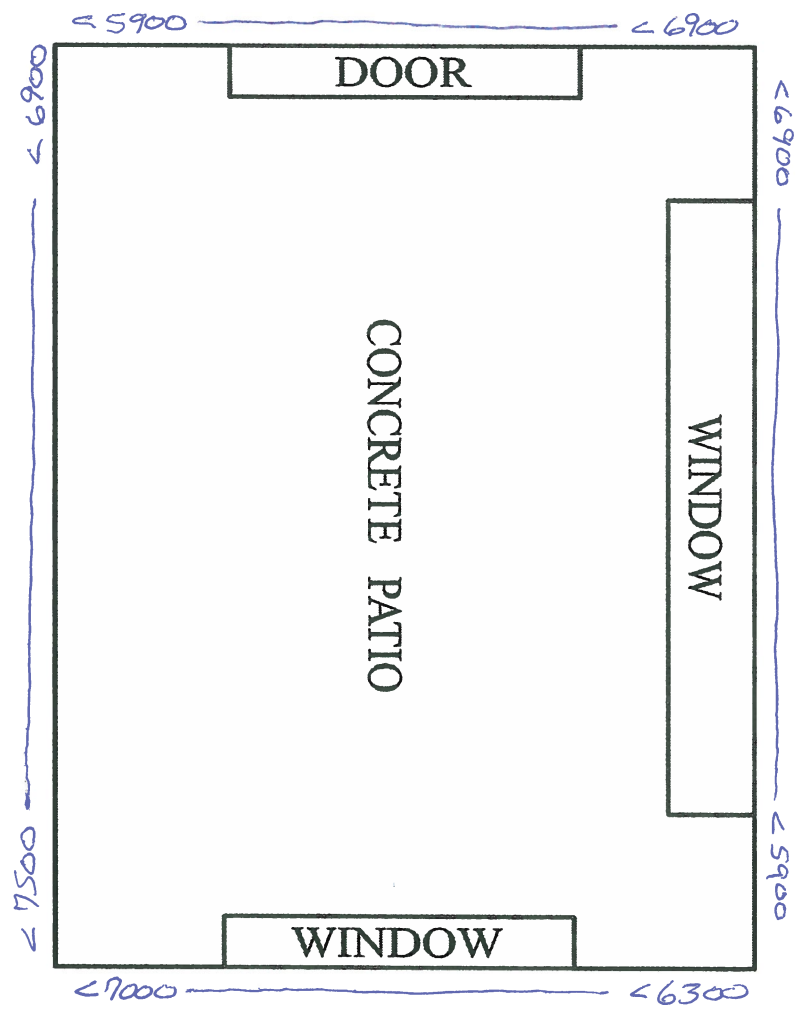
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-172	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	MATT COSHMAN	[illegible]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N / A	N / A	6795	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Building 1412 apartment " A " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

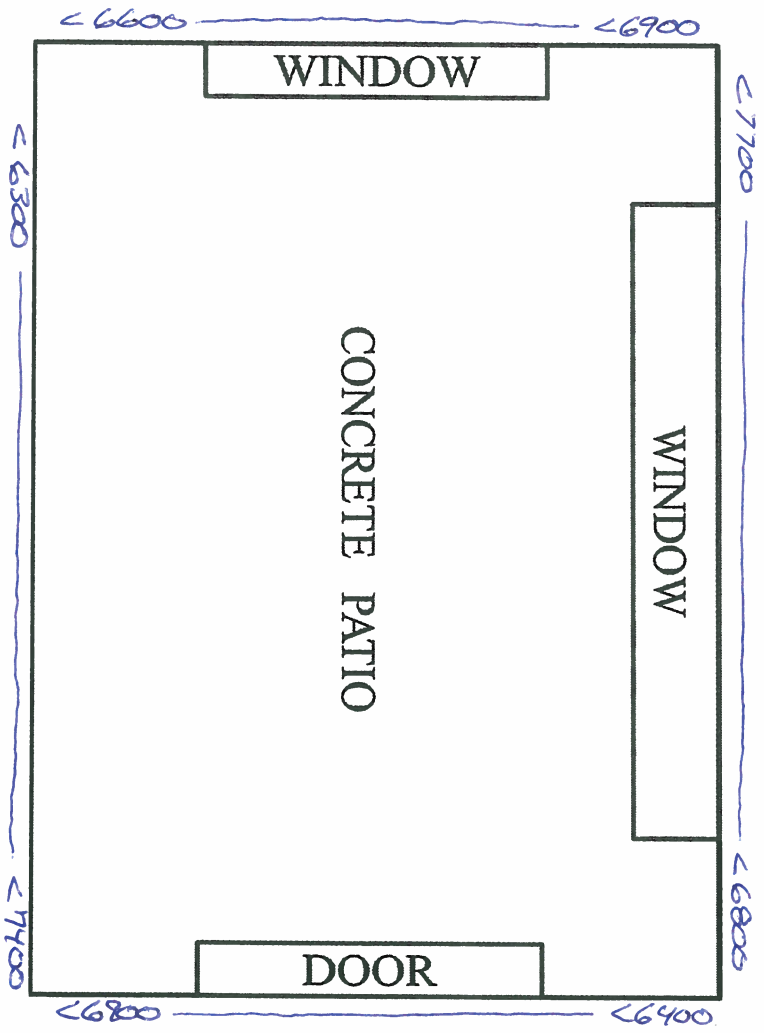
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-172	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1412 apartment " B " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

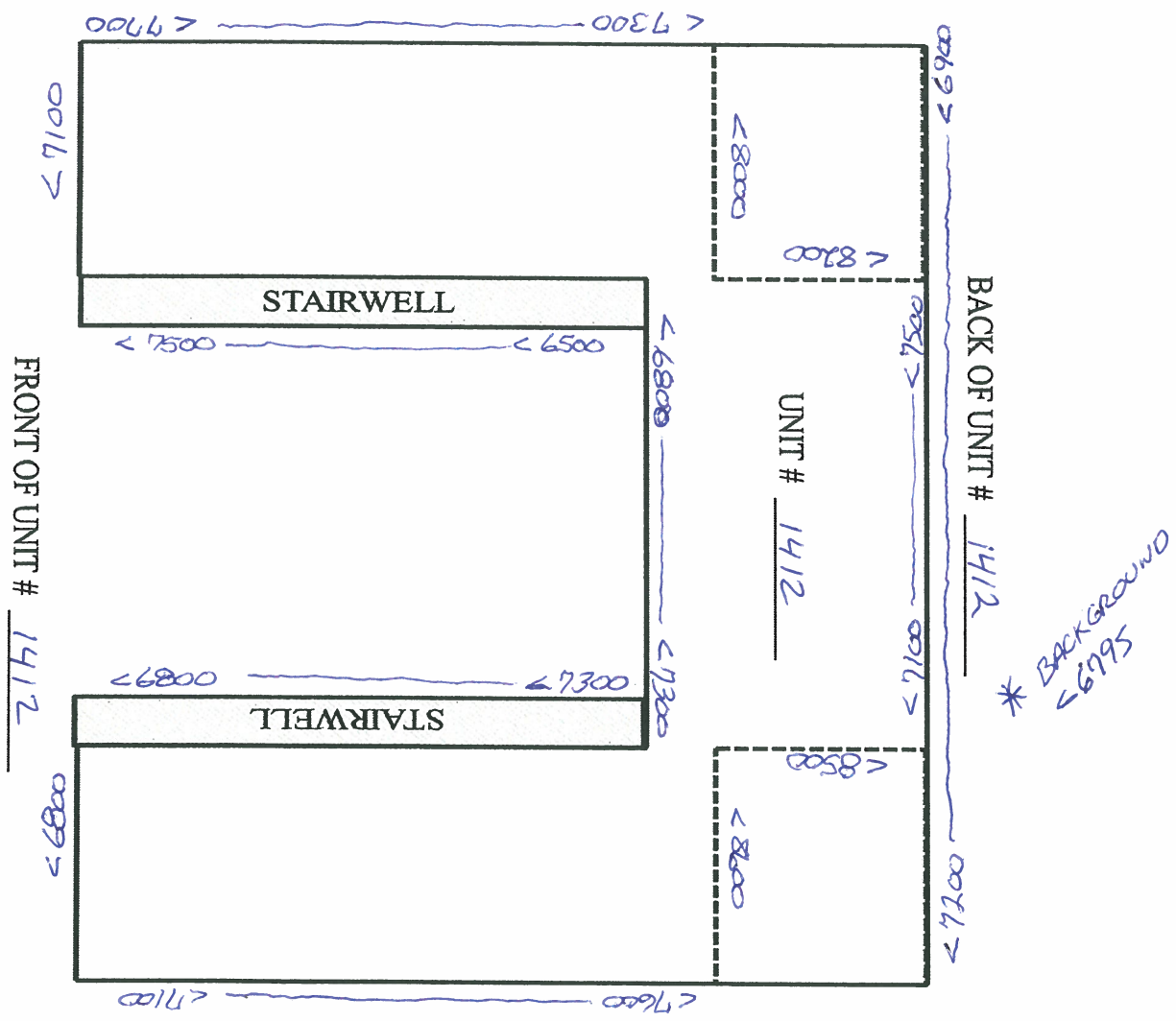
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 172	Date: 10.31.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building 1412 apartment " PERIMETER " Backyard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

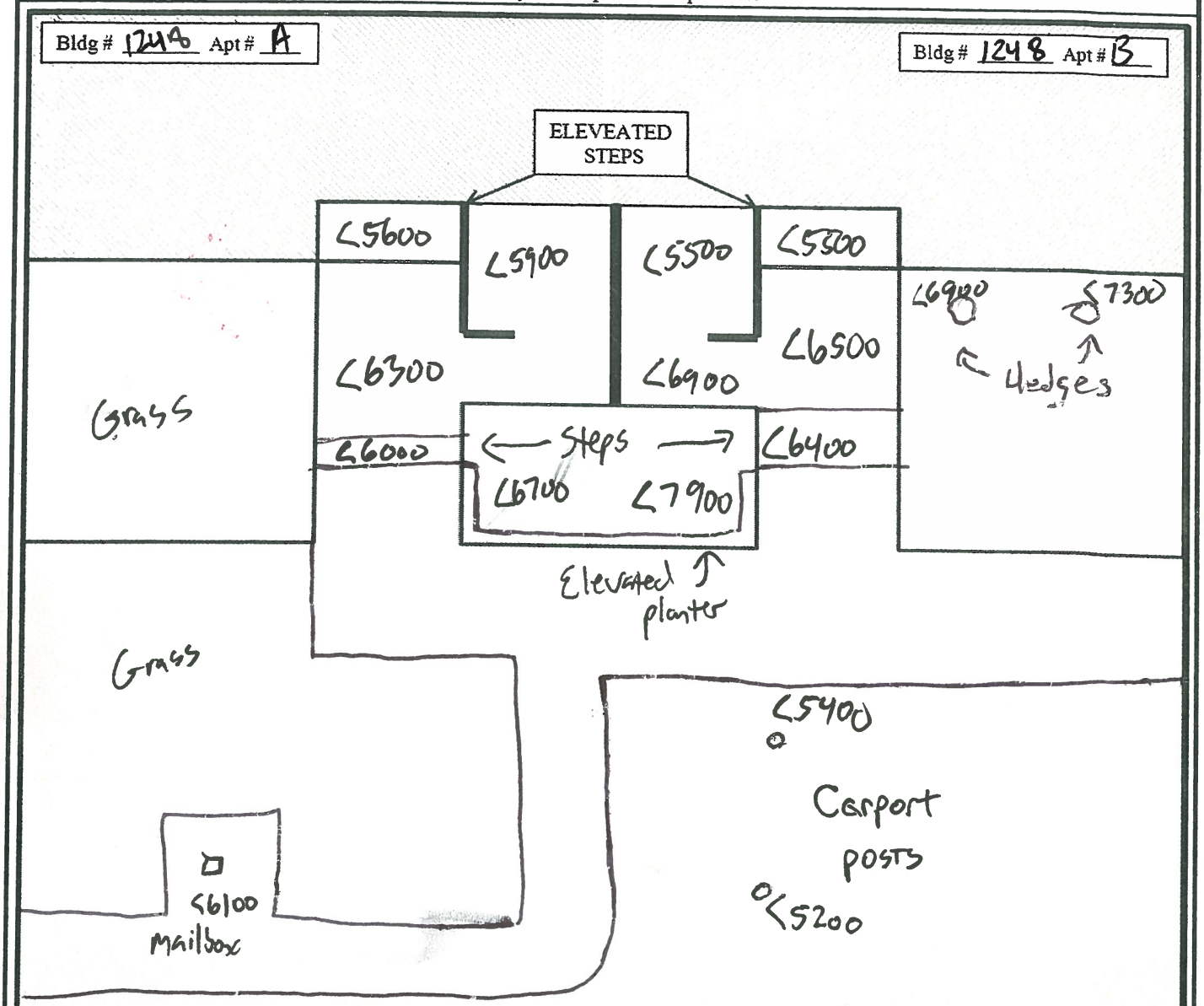
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-173	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		MATT CUSHMAN	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	5964	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 124B Apt(s)# A,B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

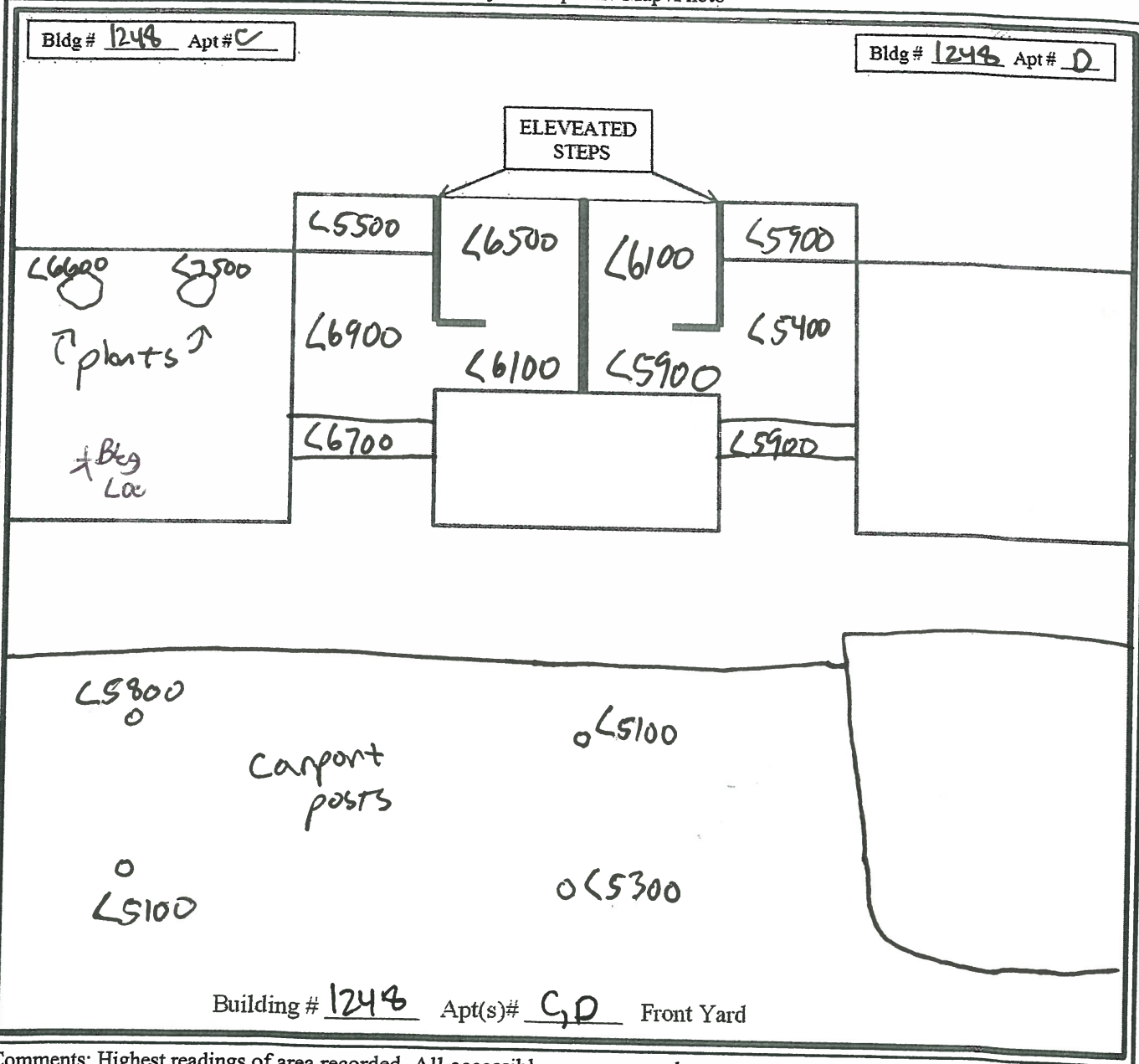
Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-173	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# C, D Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

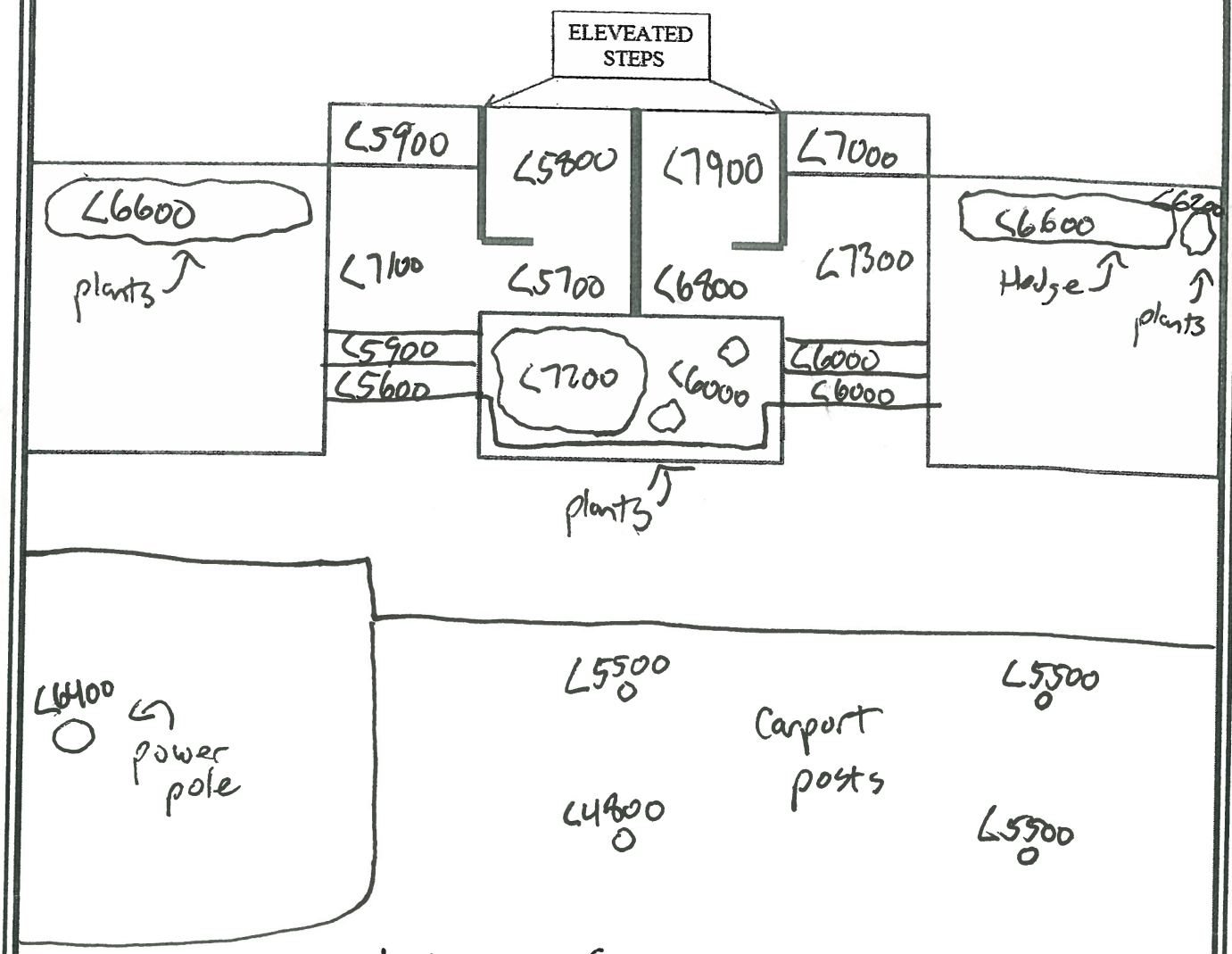
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-173	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Bldg # 1248 Apt # E

Bldg # 1248 Apt # F



Building # 1248 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

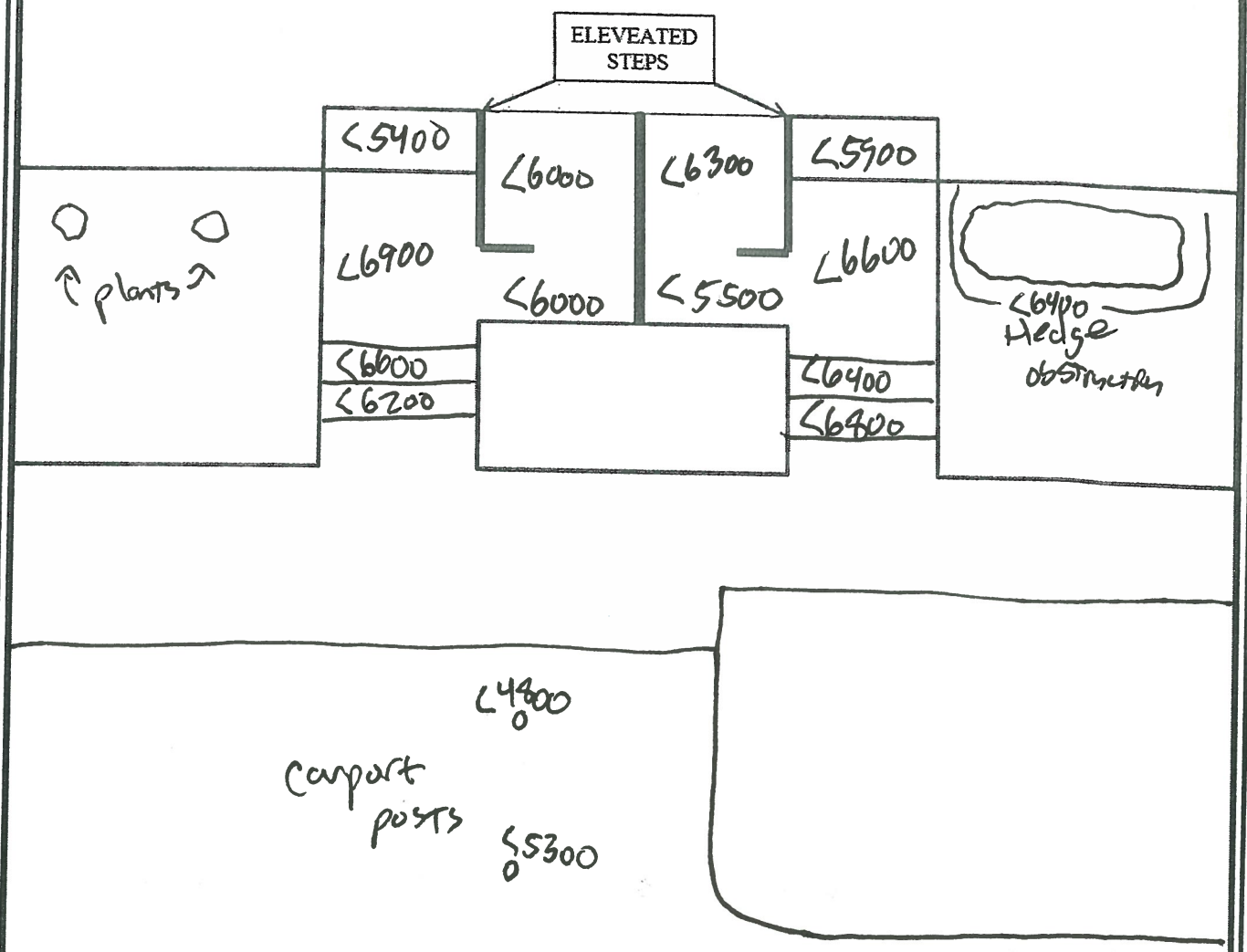
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-173	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Bldg # 1248 Apt # G

Bldg # 1248 Apt # H



Building # 1248 Apt(s)# G, H Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

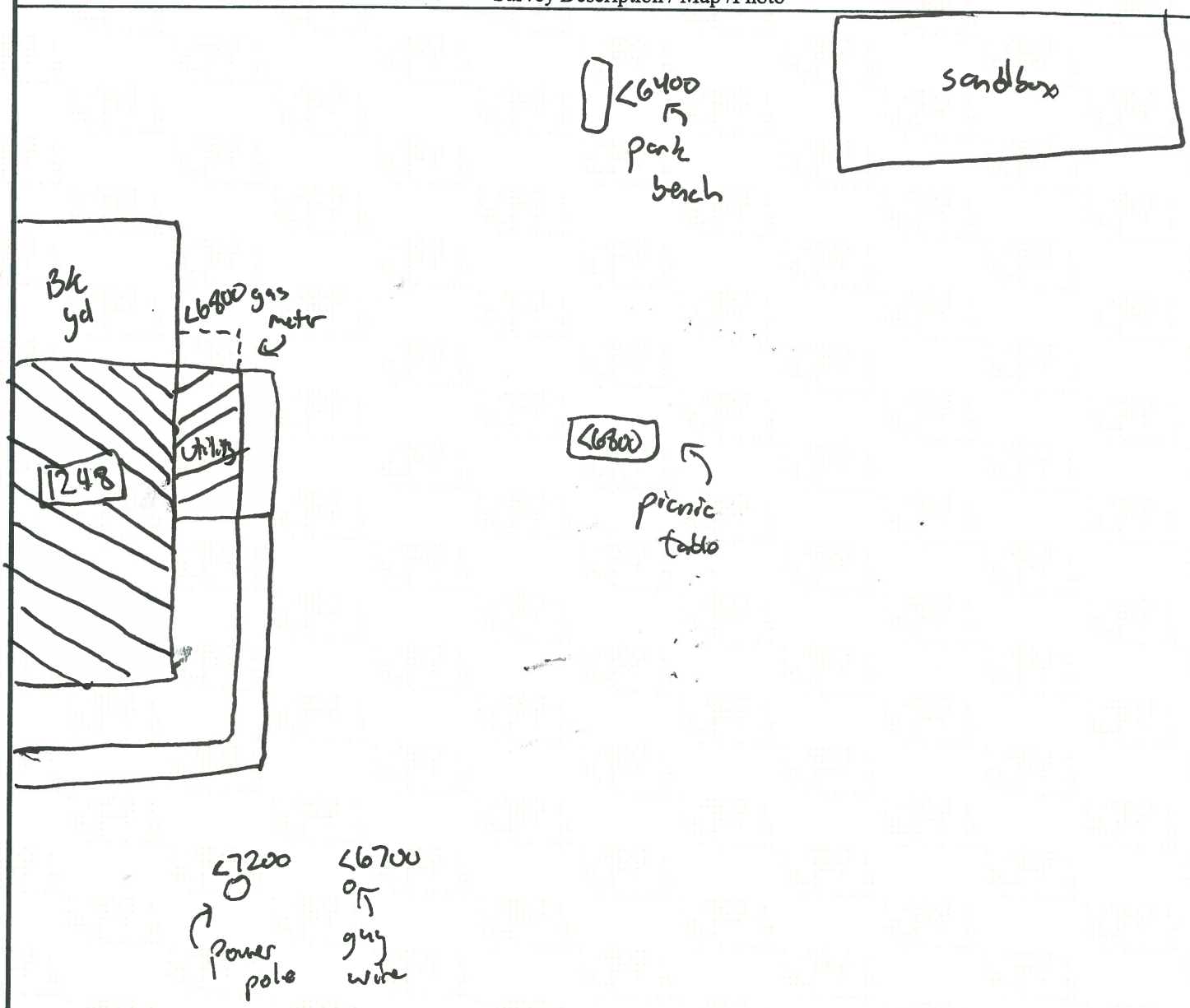
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-173	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

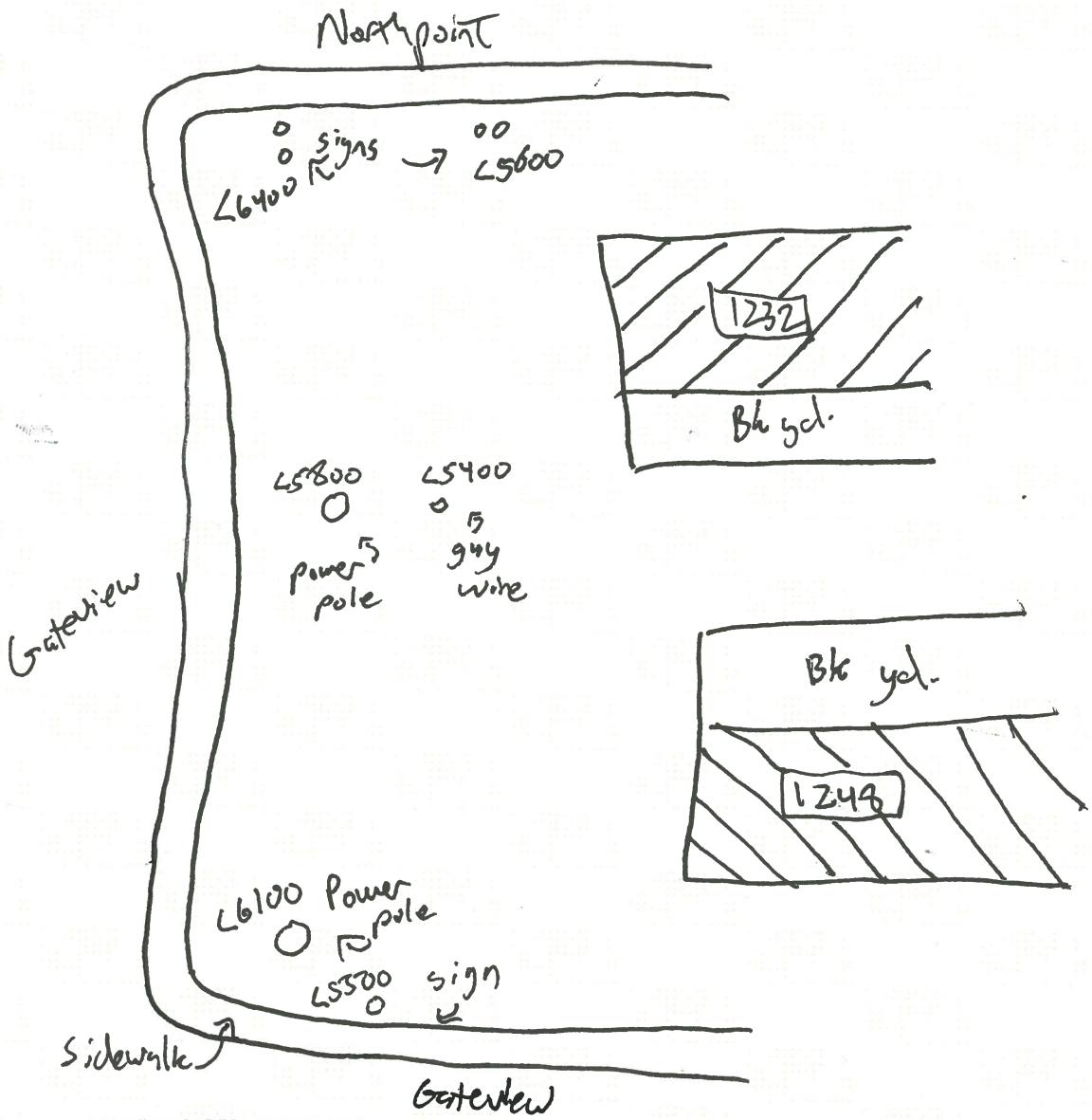
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-173	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

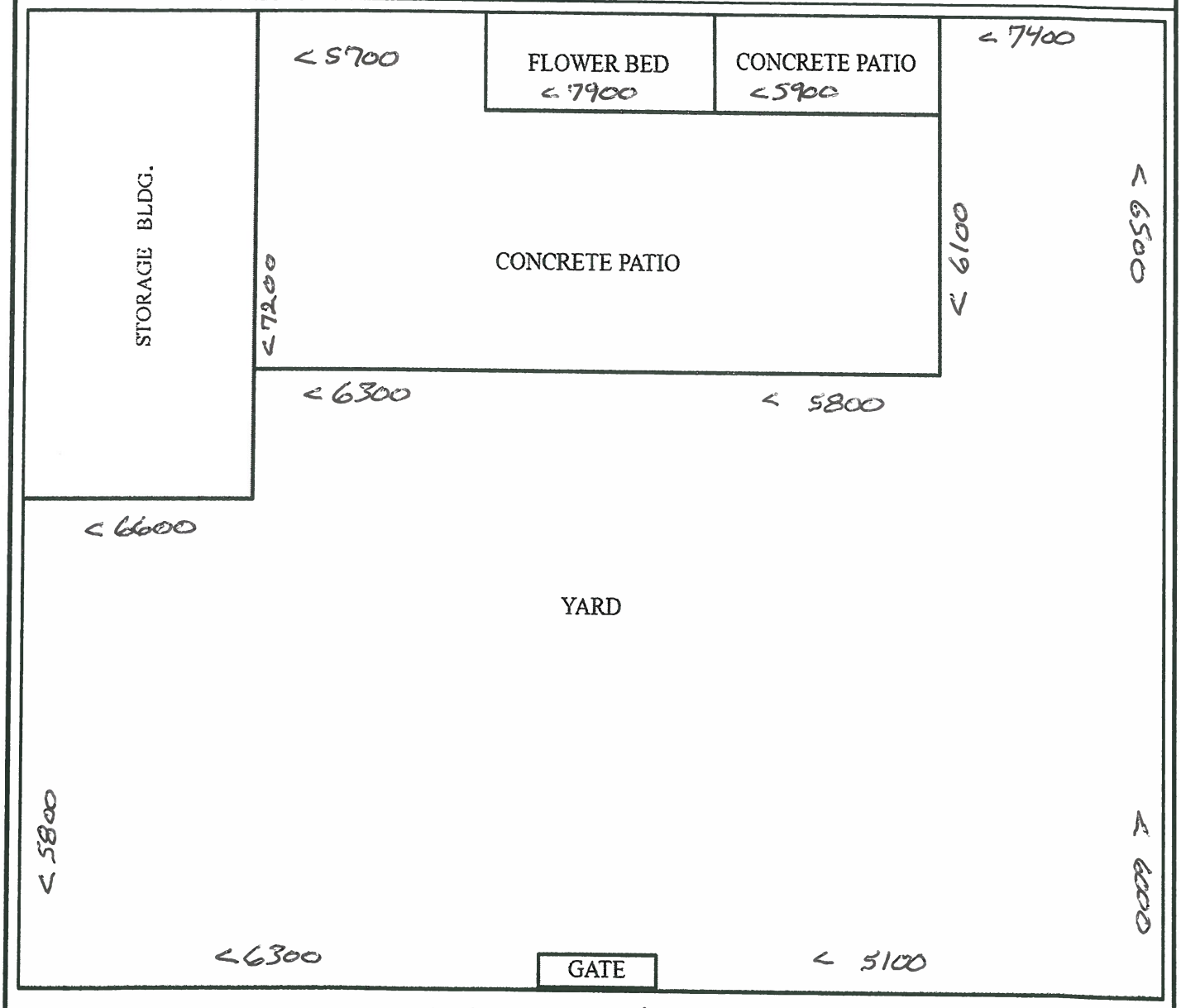
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	MATT CUSHMAN	[illegible]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6040	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1248 Apt(s)# A Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

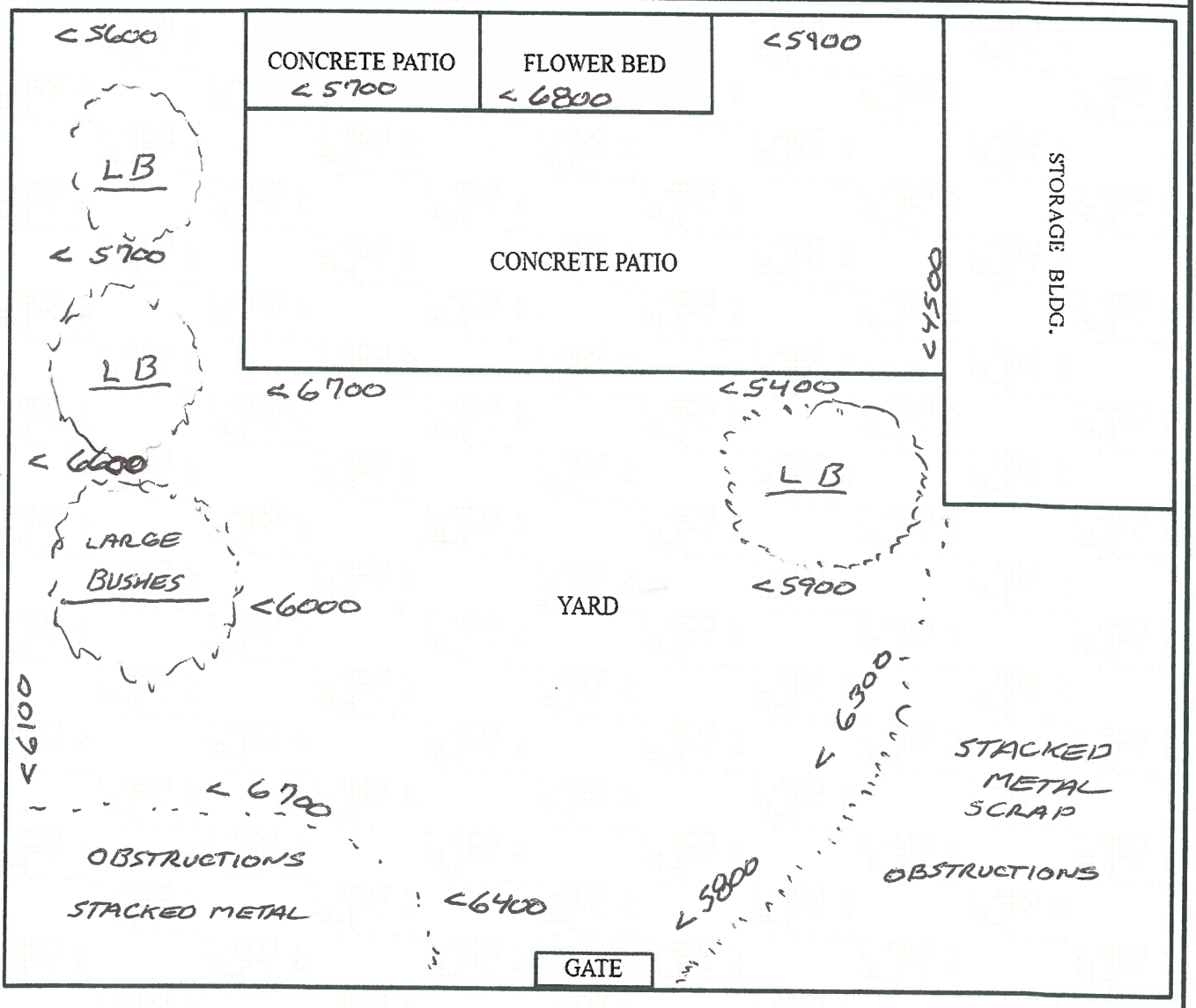
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# B Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

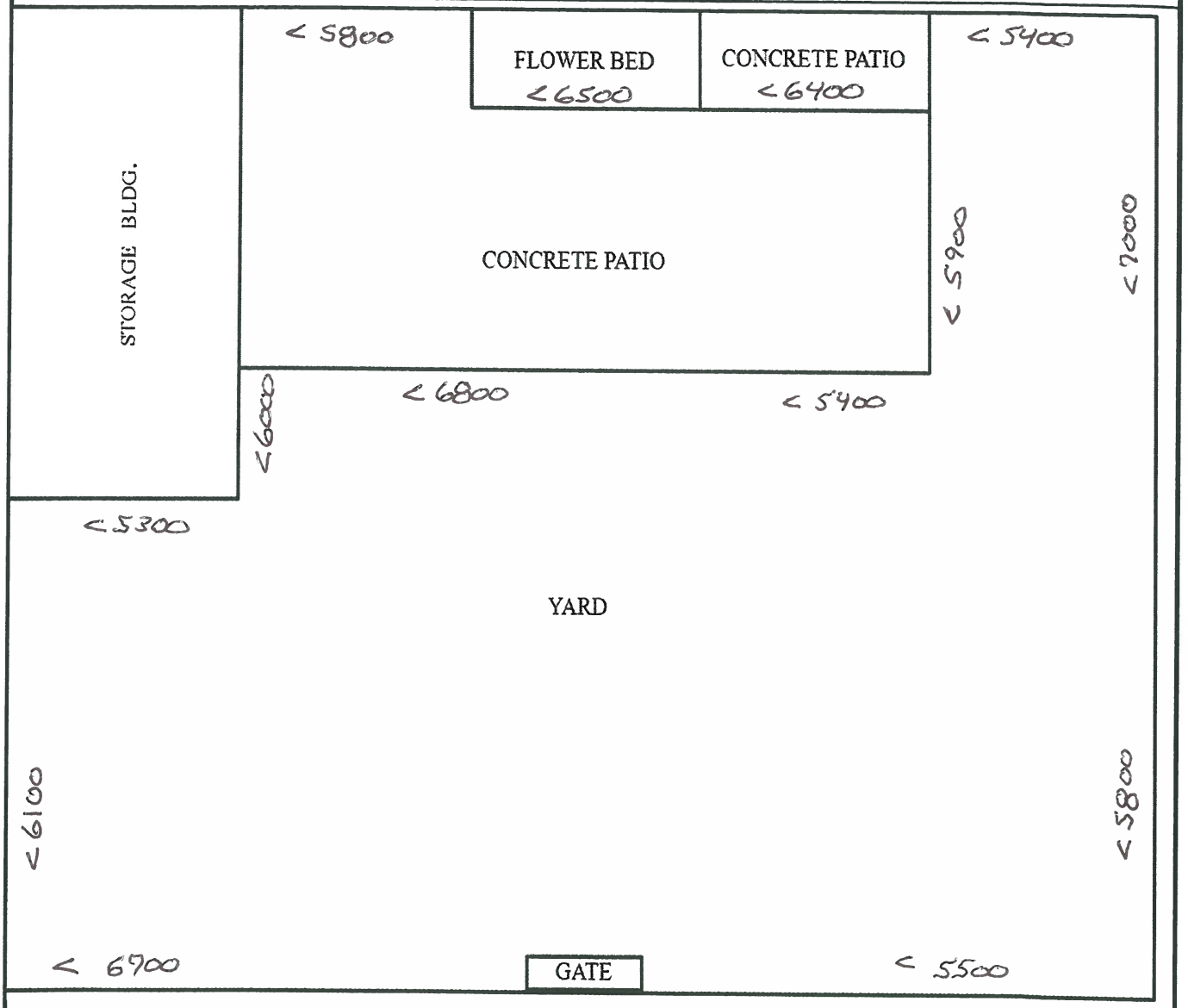
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# C Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

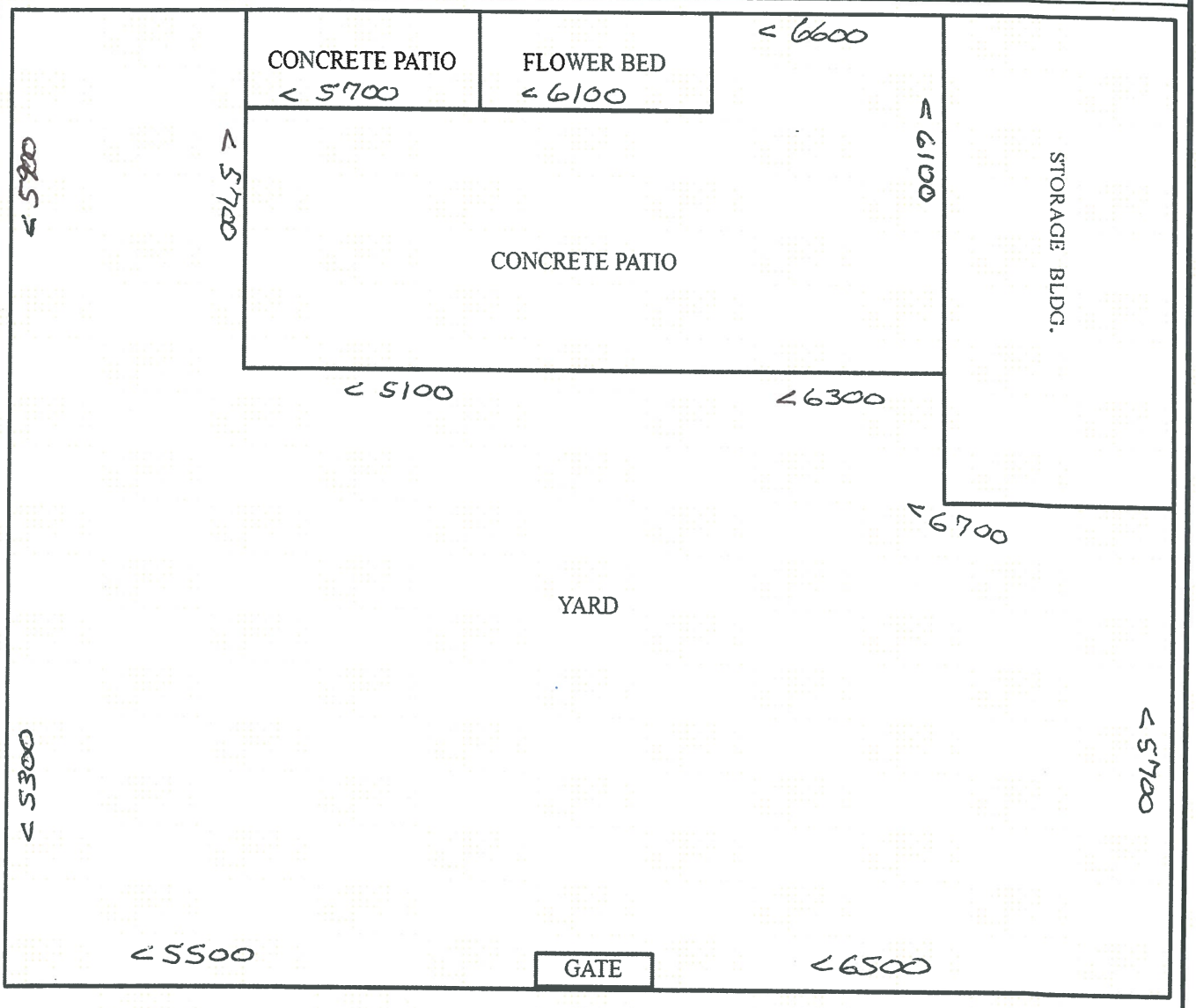
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-174	Date: 10-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# 0 Back Yard

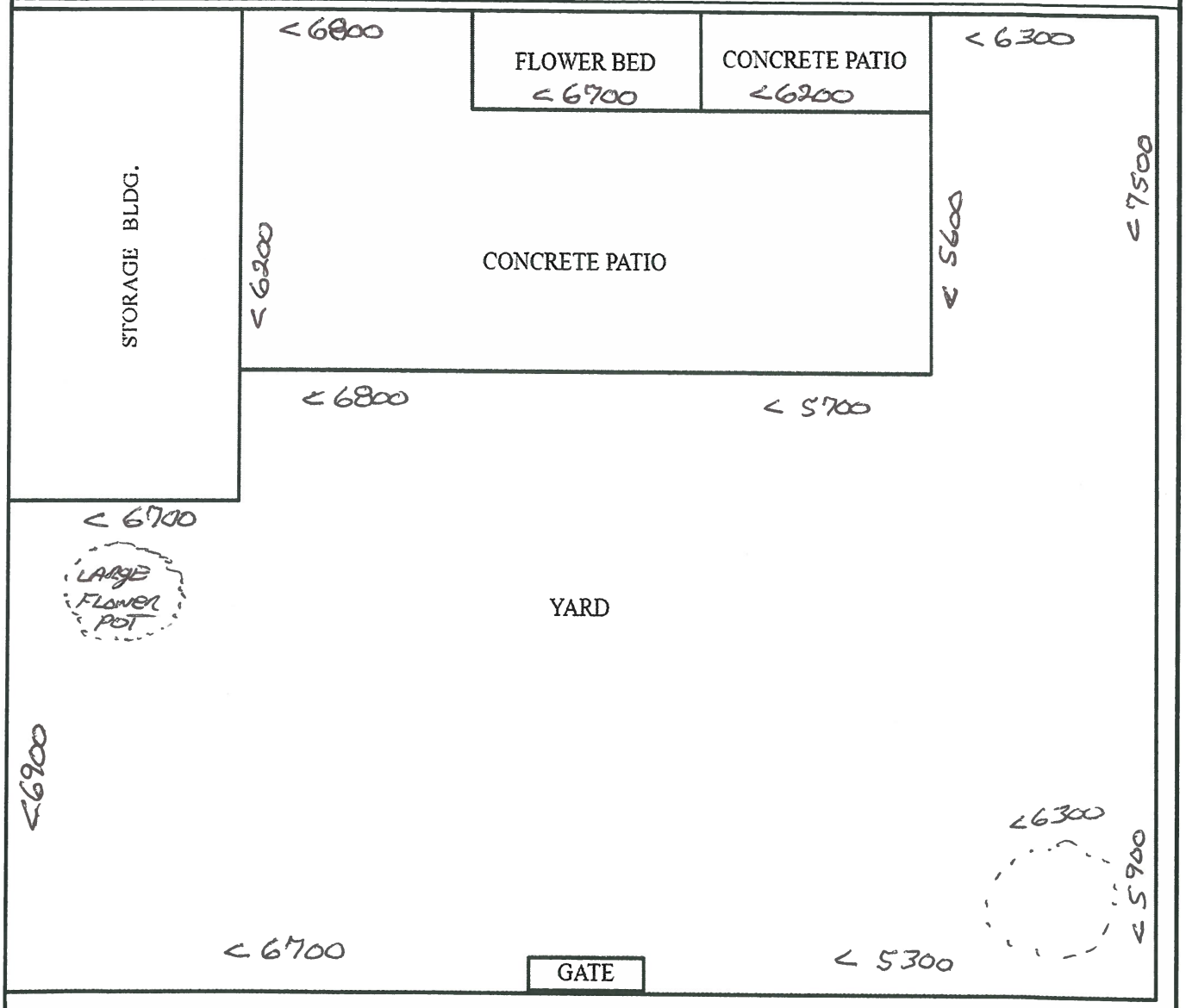
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# E Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

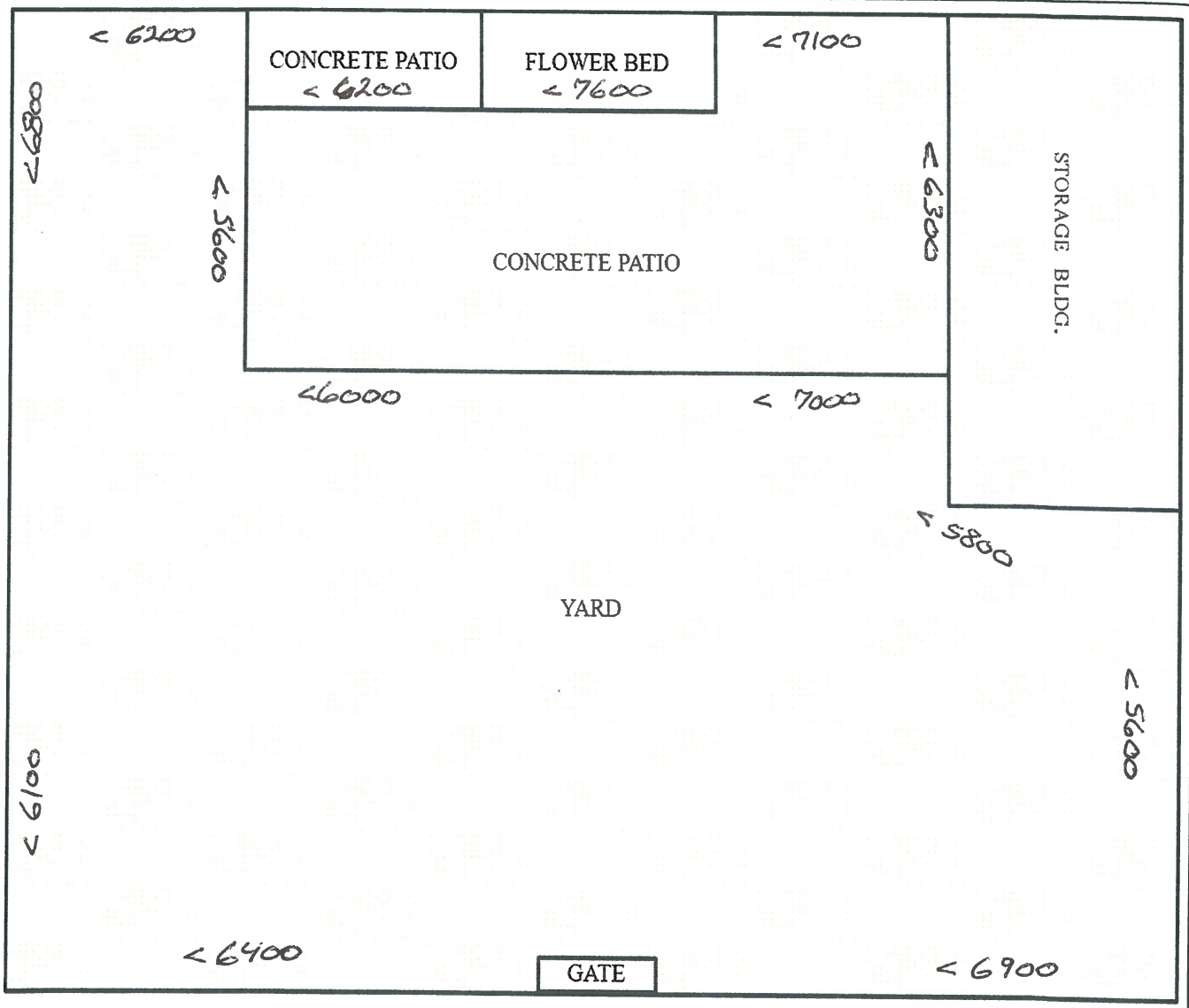
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 174	Date: 10-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# F Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

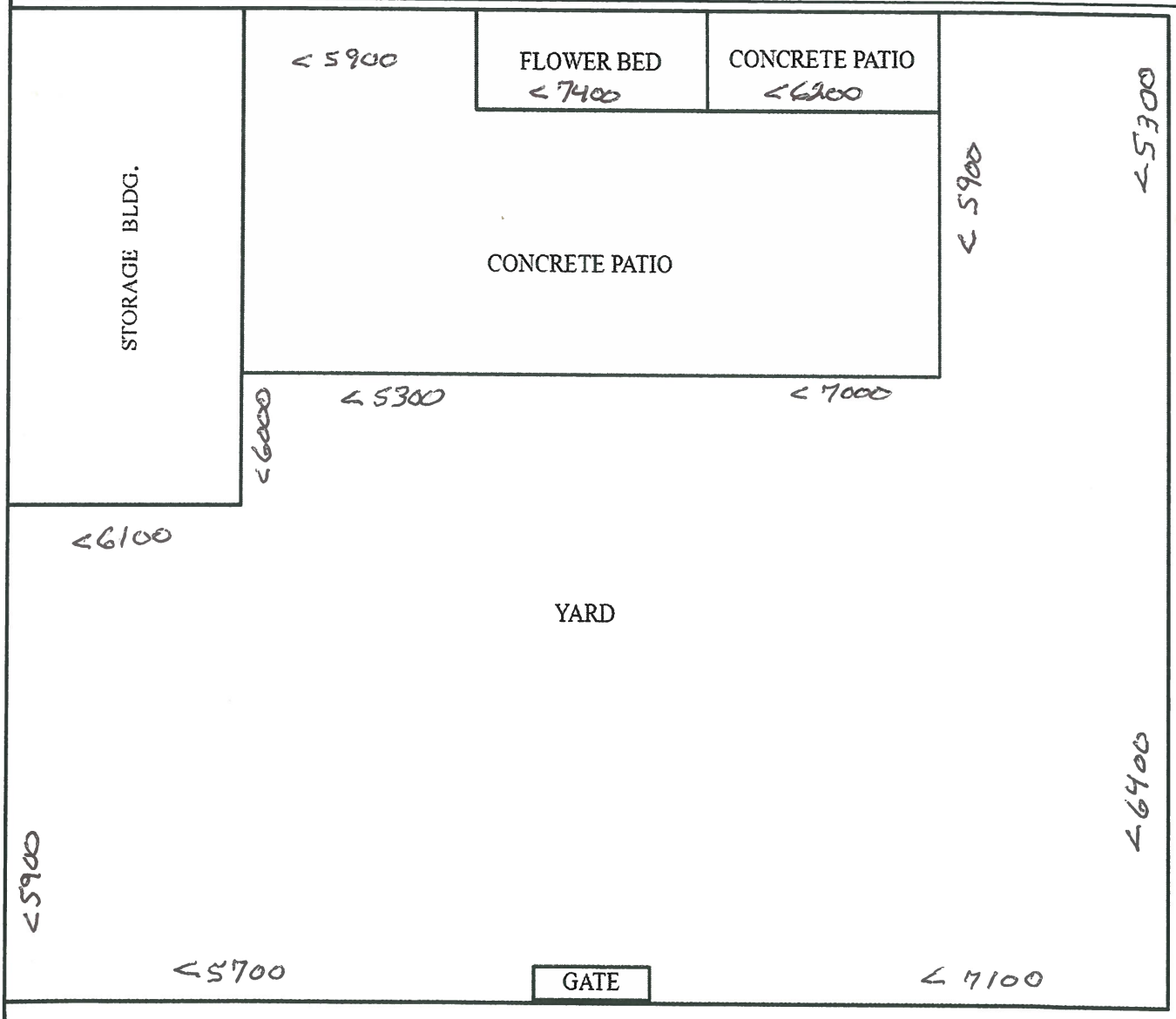
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# G Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

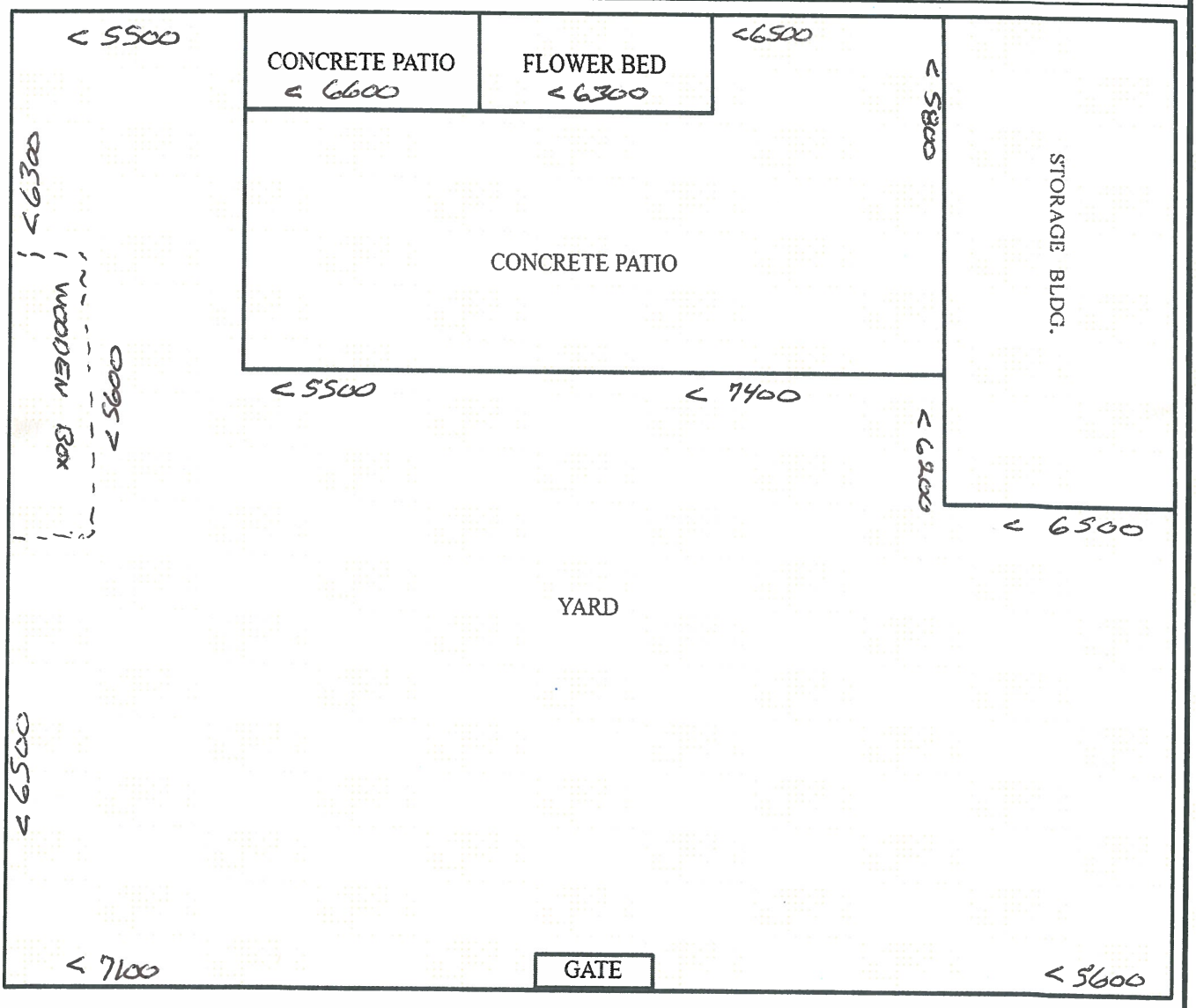
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# H Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

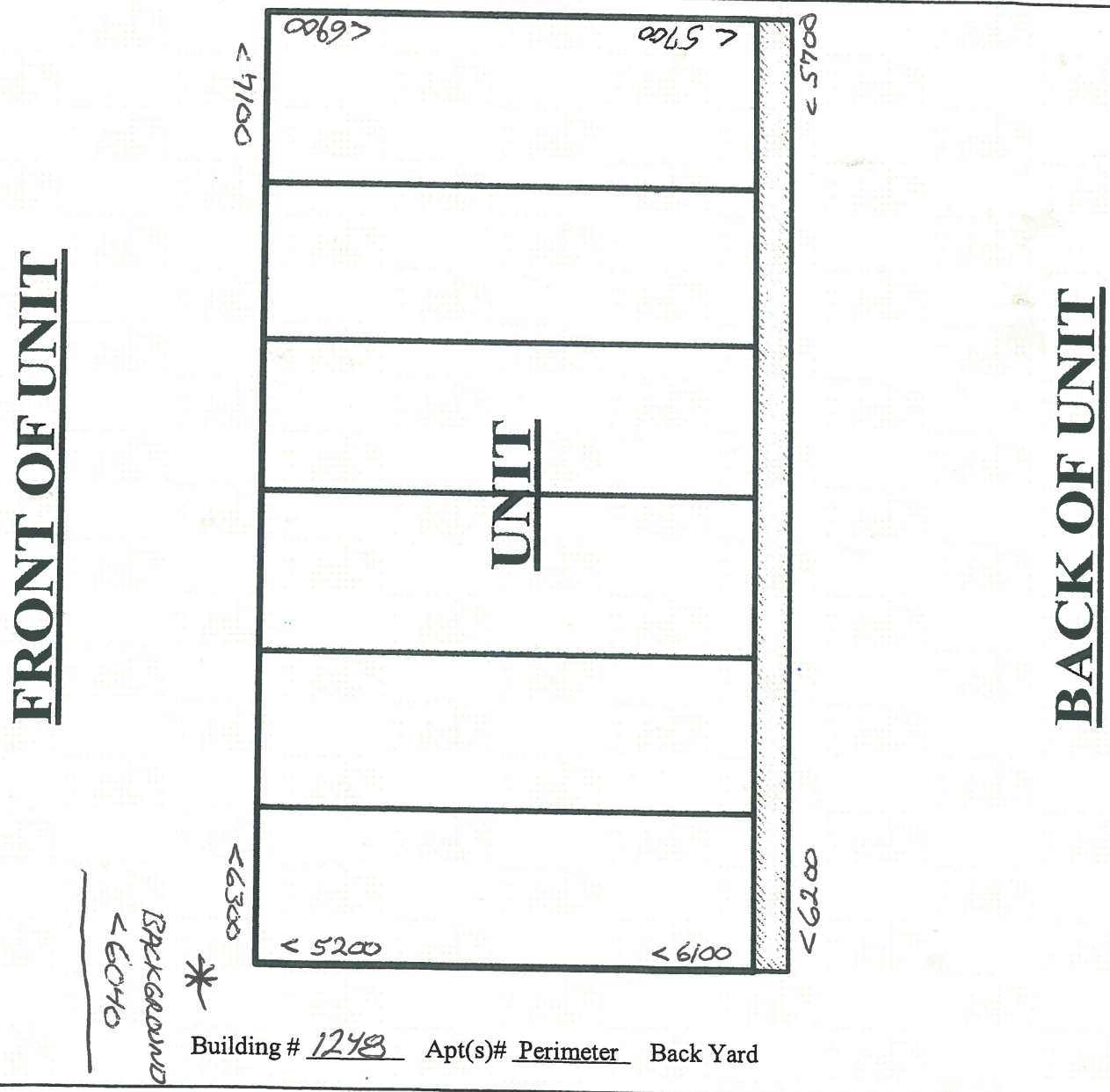
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-174	Date: 10-30-13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1248 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

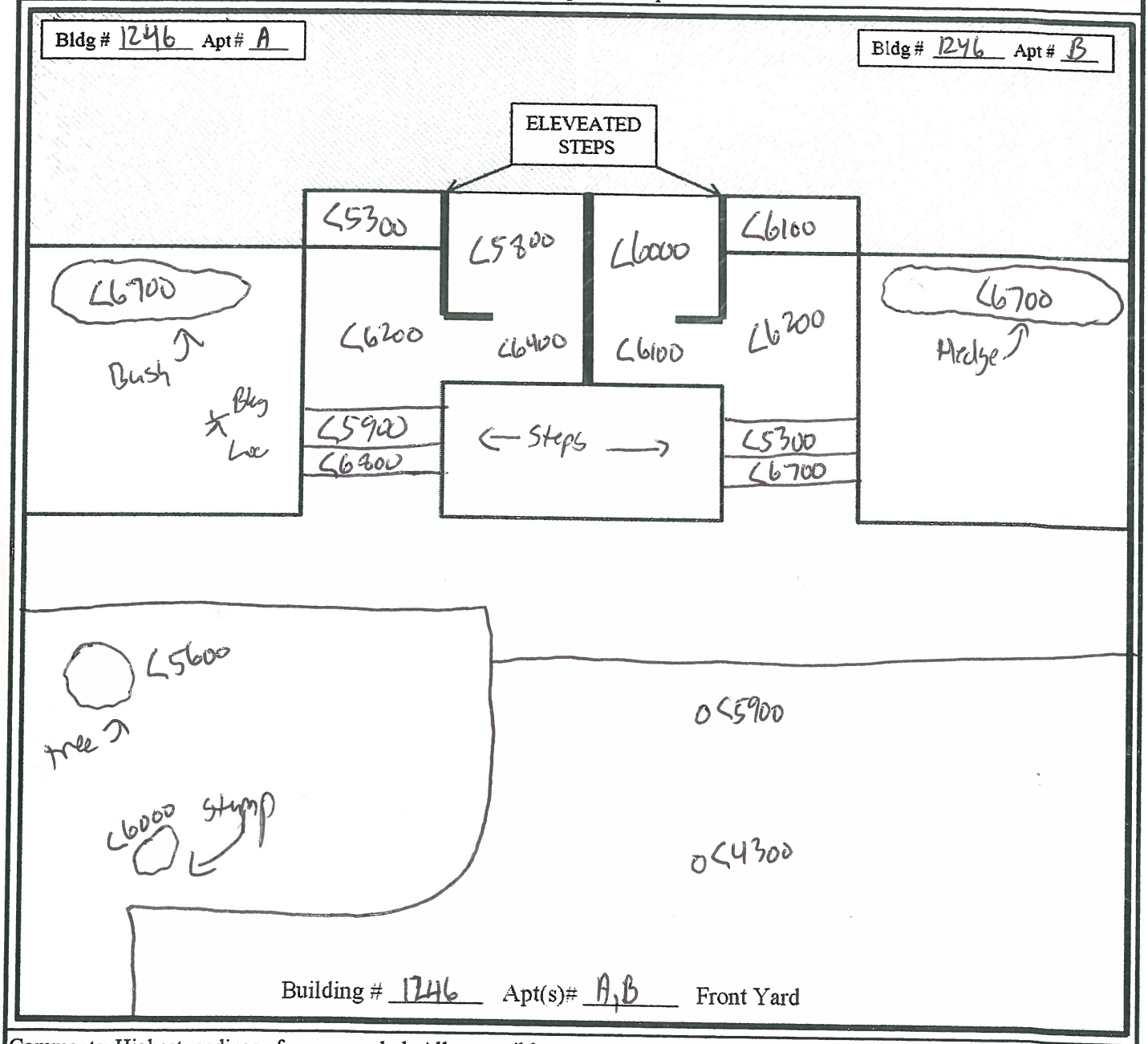
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-175	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford	[signature]	MATT COSKMAN	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RN19768	8/21/14	N/A	N/A	5771	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1246 Apt(s)# A, B Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

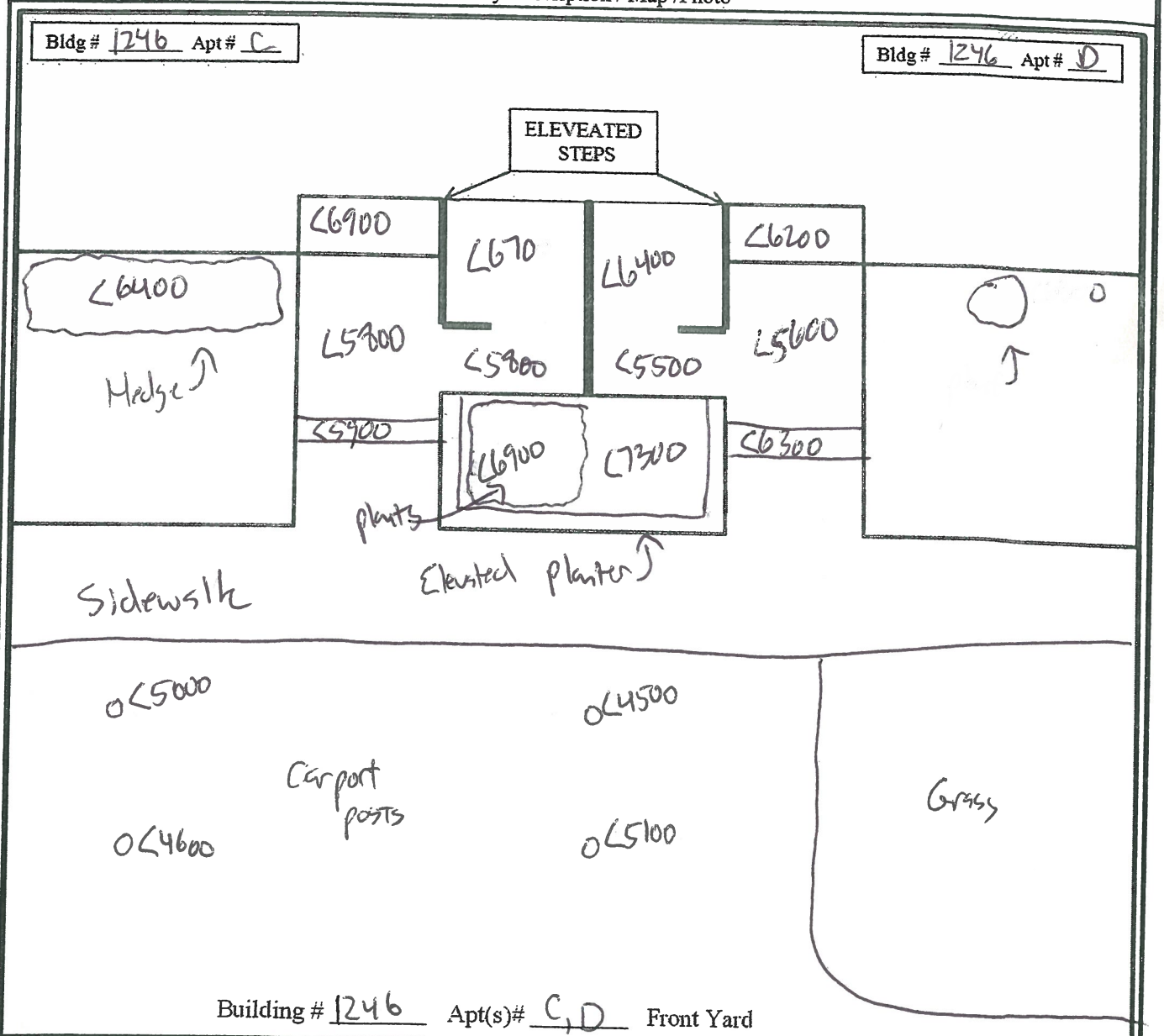
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 175	Date: 10/~~28~~ 30/13	Location: Site 12	Survey Type: 2x2 Walkover

TC 10/30/13

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

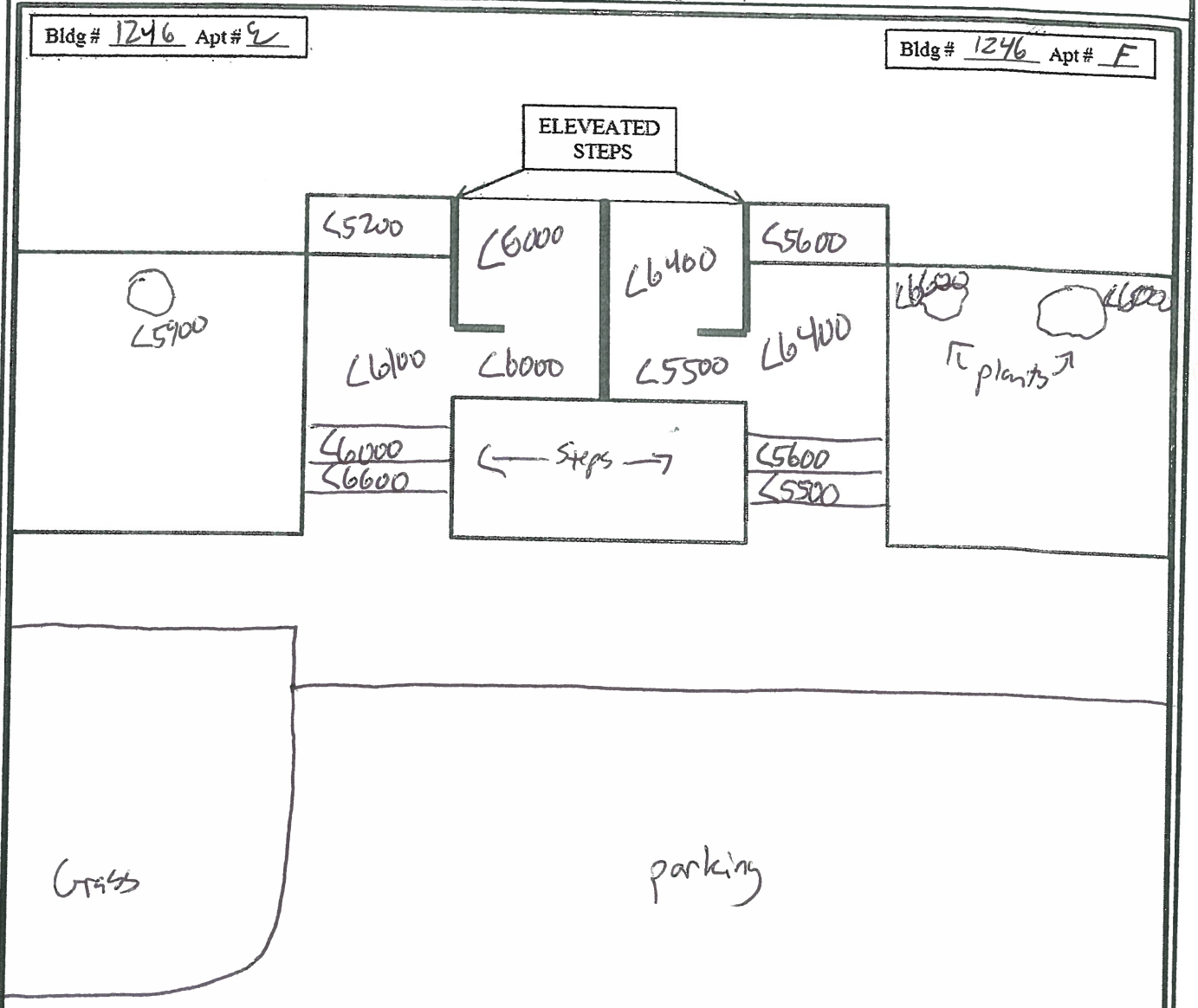
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-175	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# E, F Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

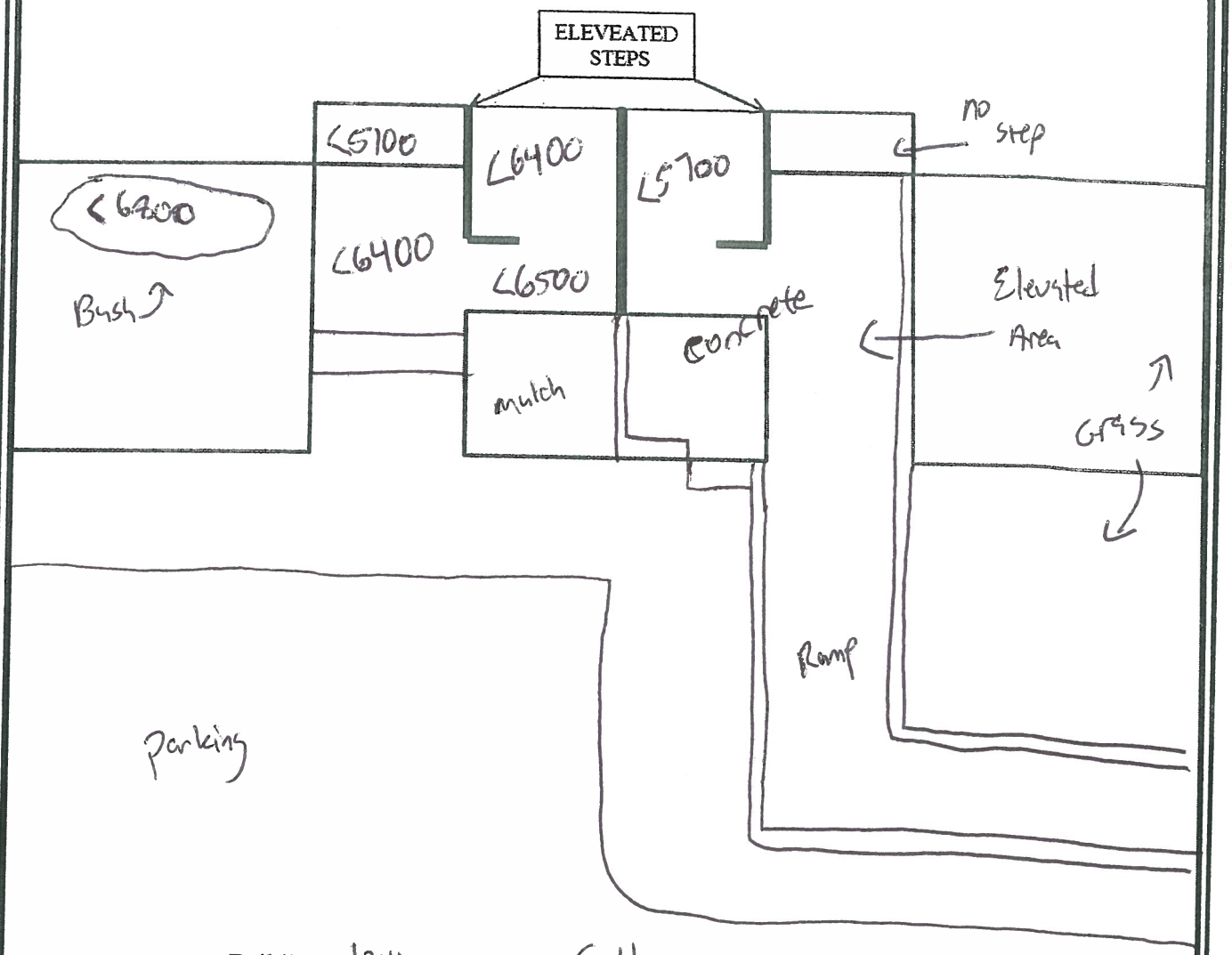
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-175	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Bldg # 1246 Apt # G

Bldg # 1246 Apt # H



Building # 1246 Apt(s)# G, H Front Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

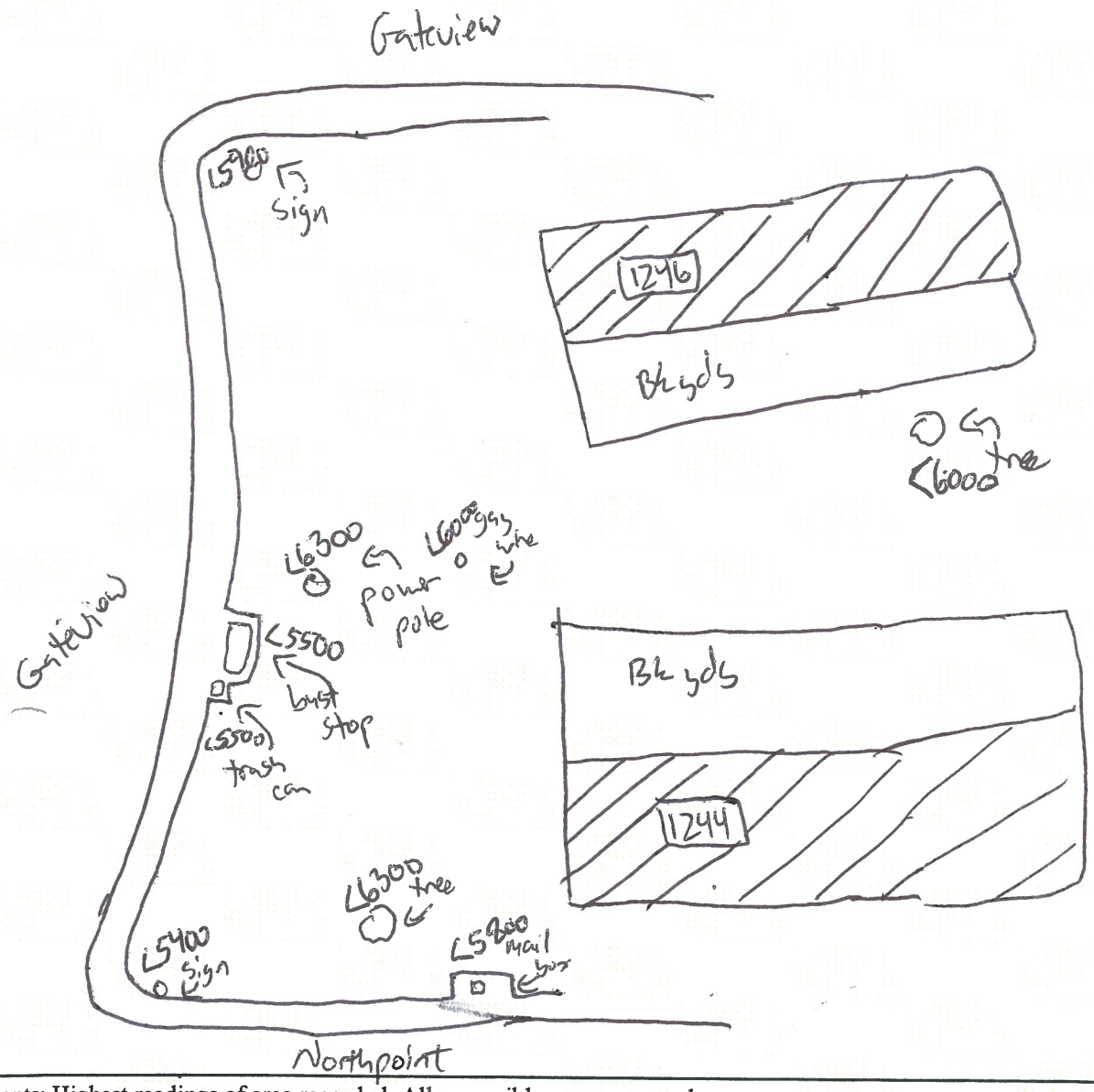
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 175	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

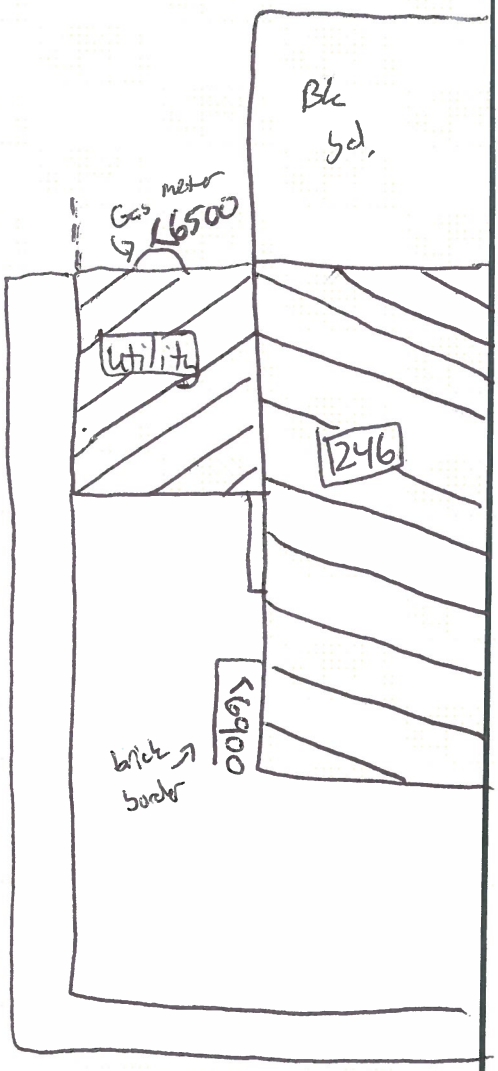
RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-175	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo

Grass



Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

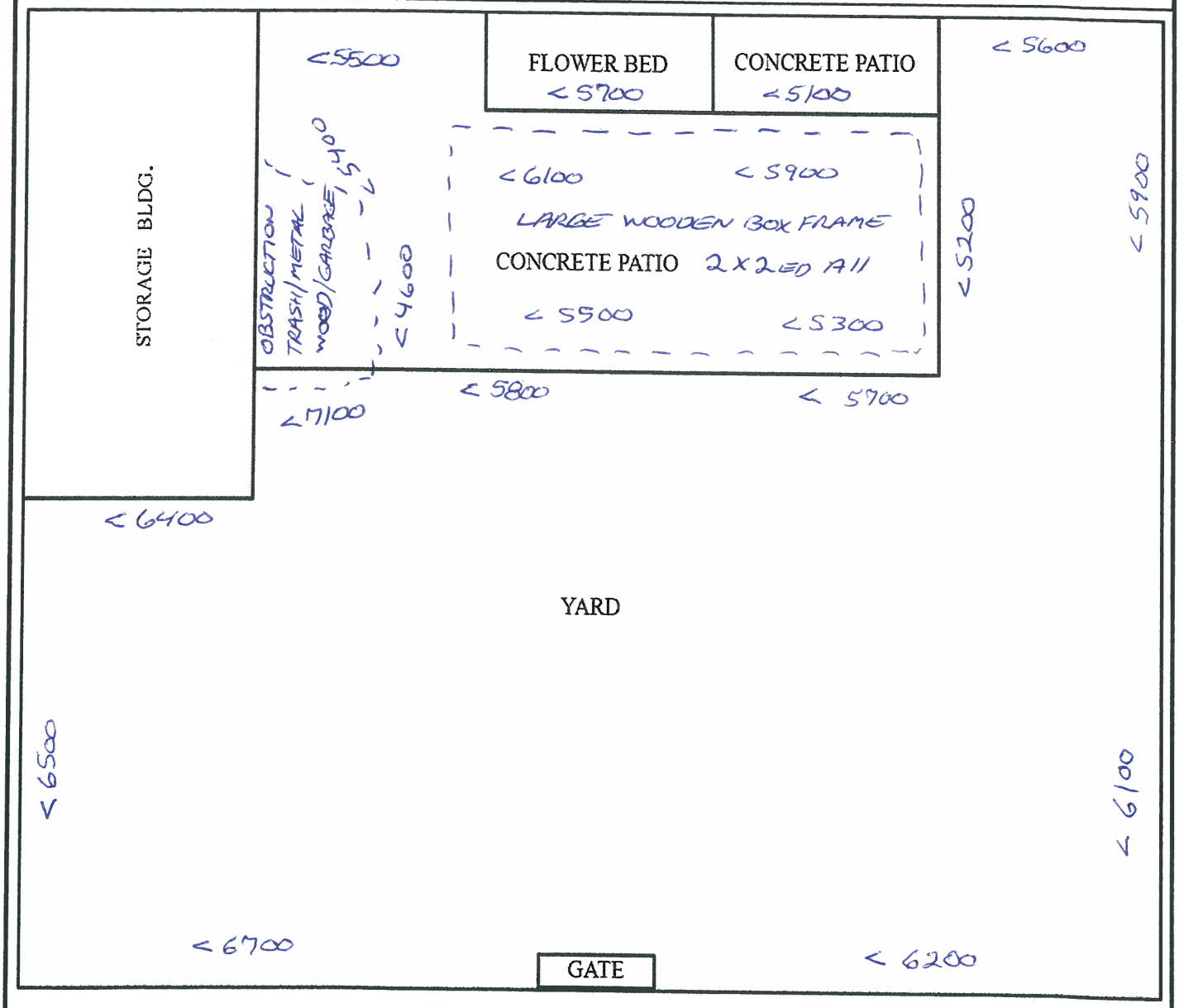
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	MATT CUSHMAN	[signature]
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	5880	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # 1246 Apt(s)# A Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

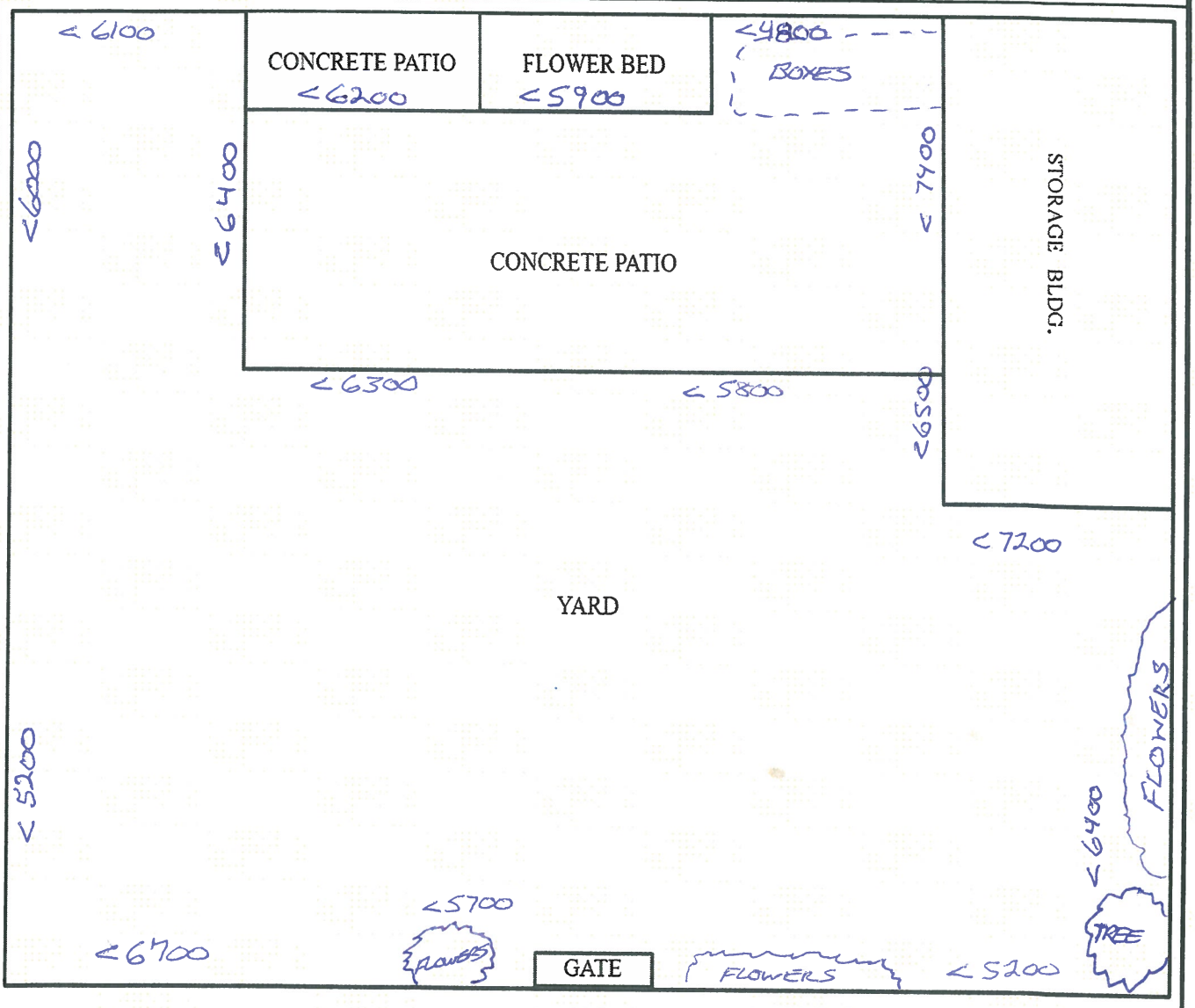
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# B Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

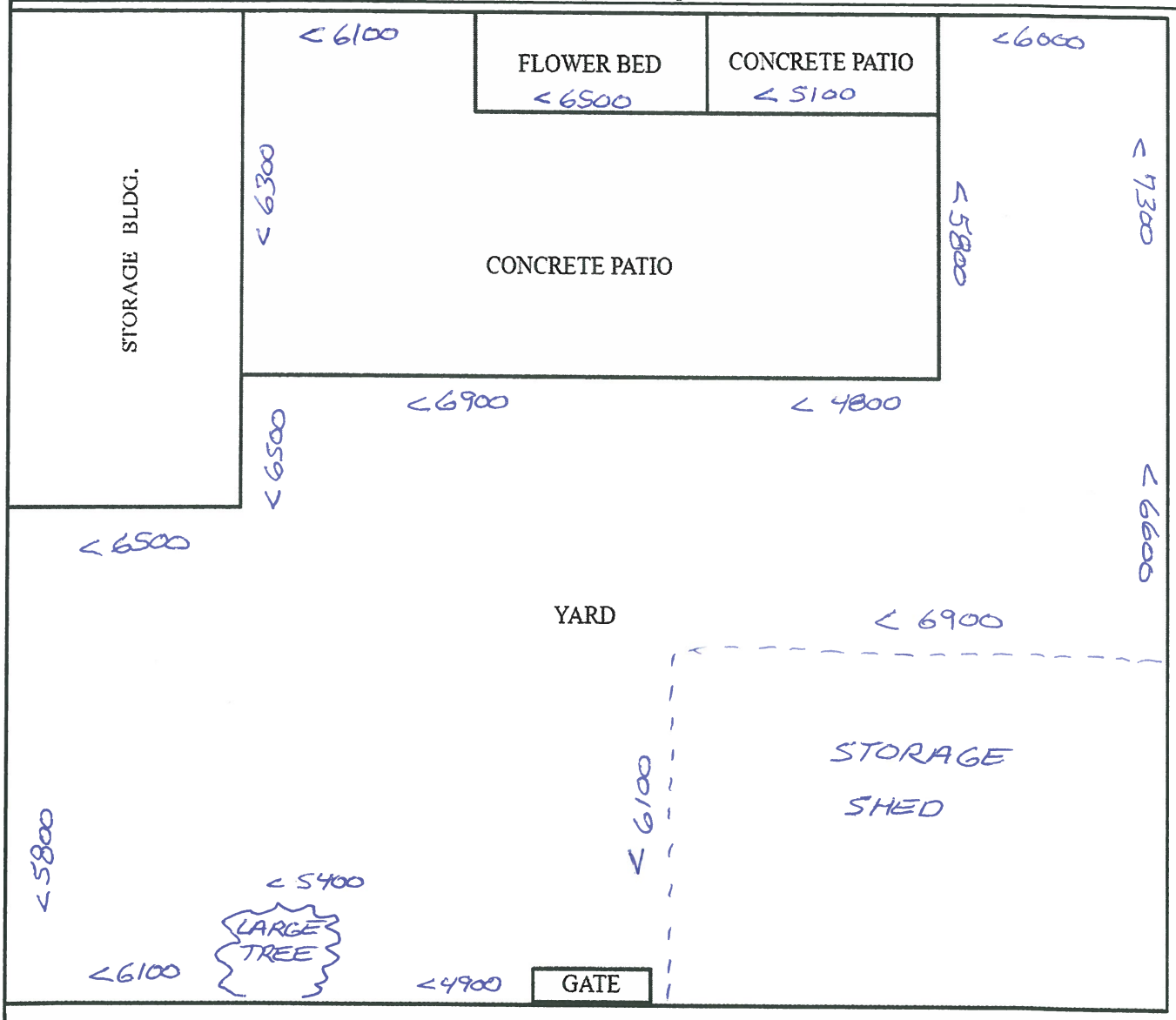
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# C Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

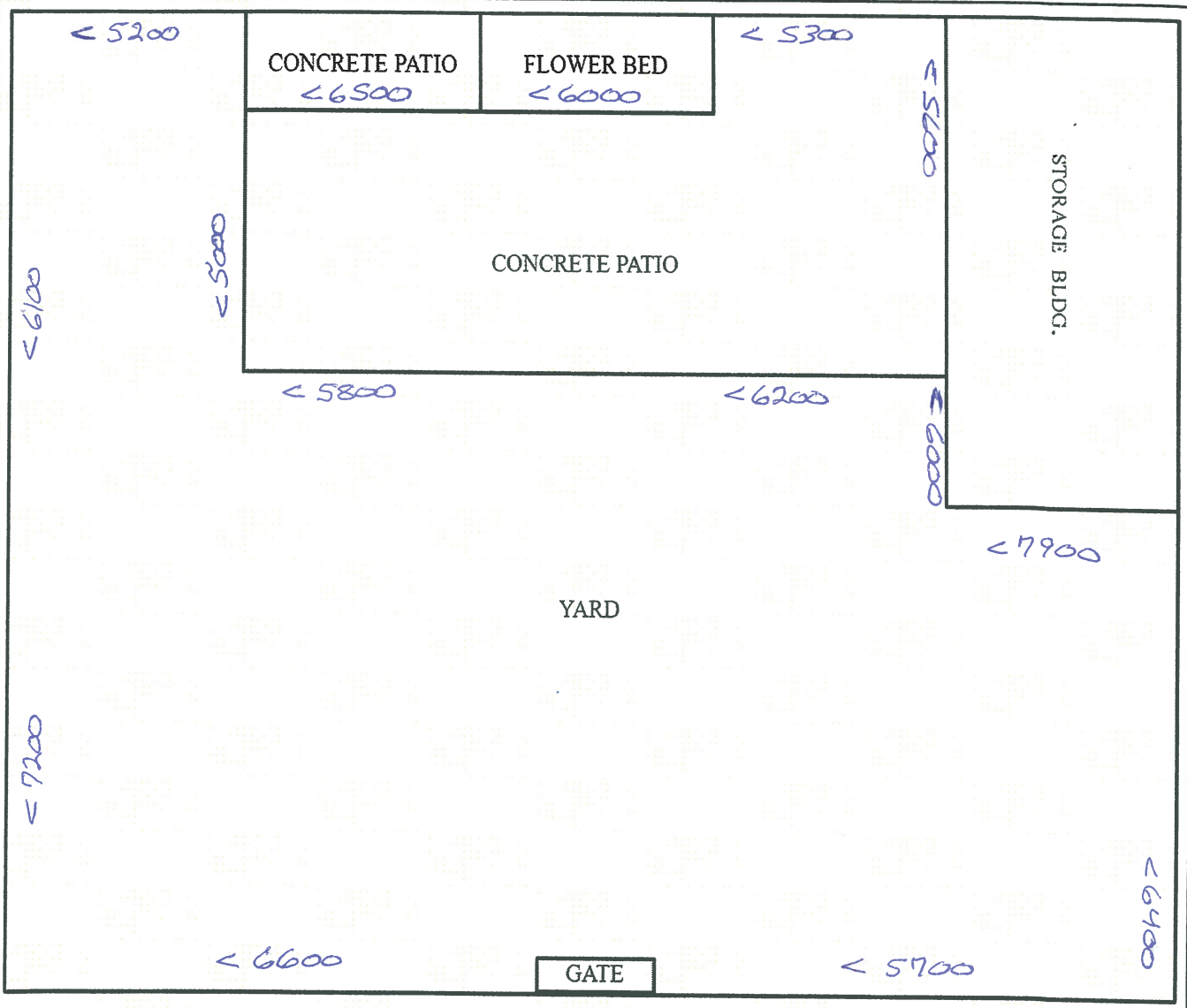
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# D Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

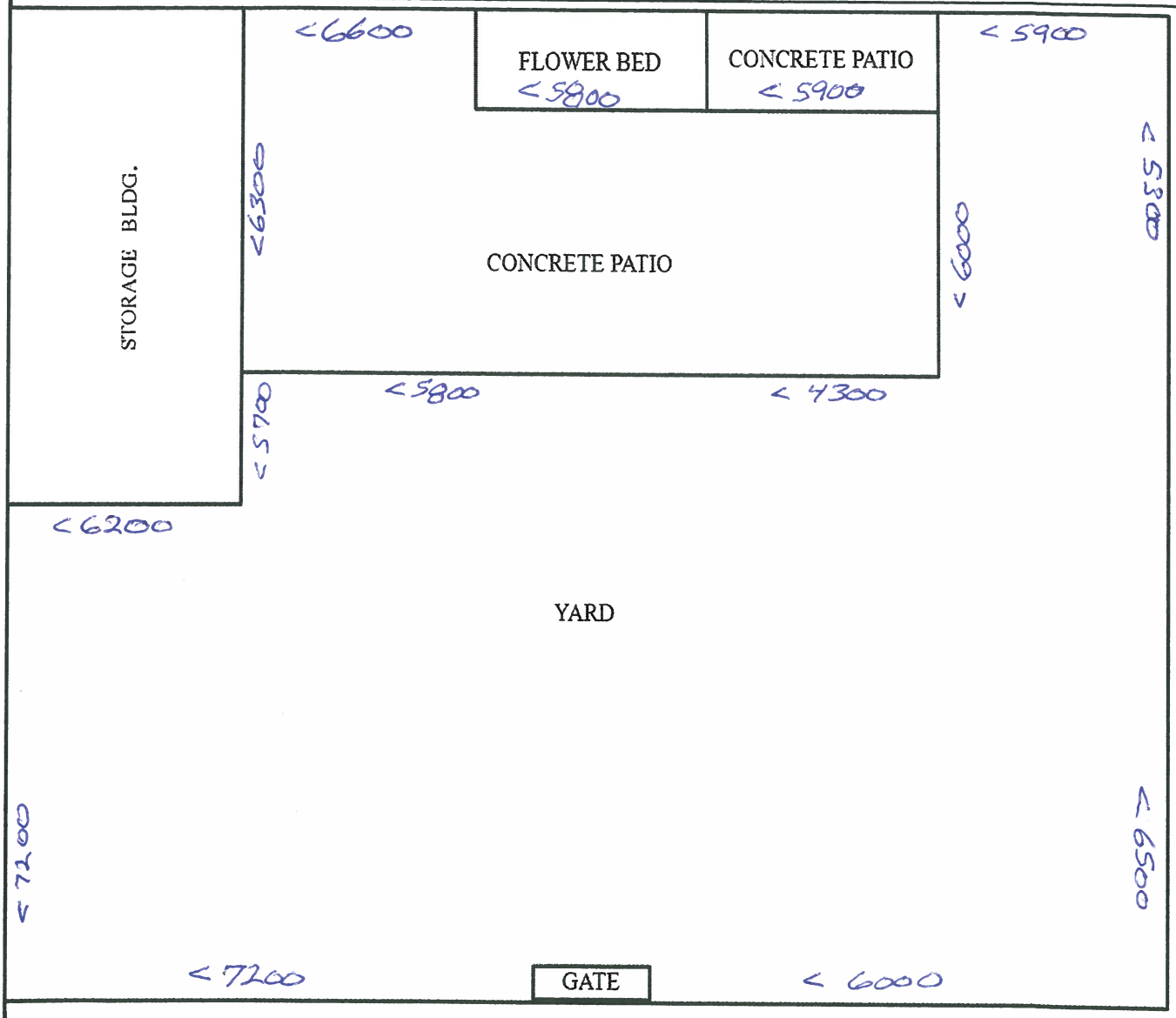
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 174	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# E Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

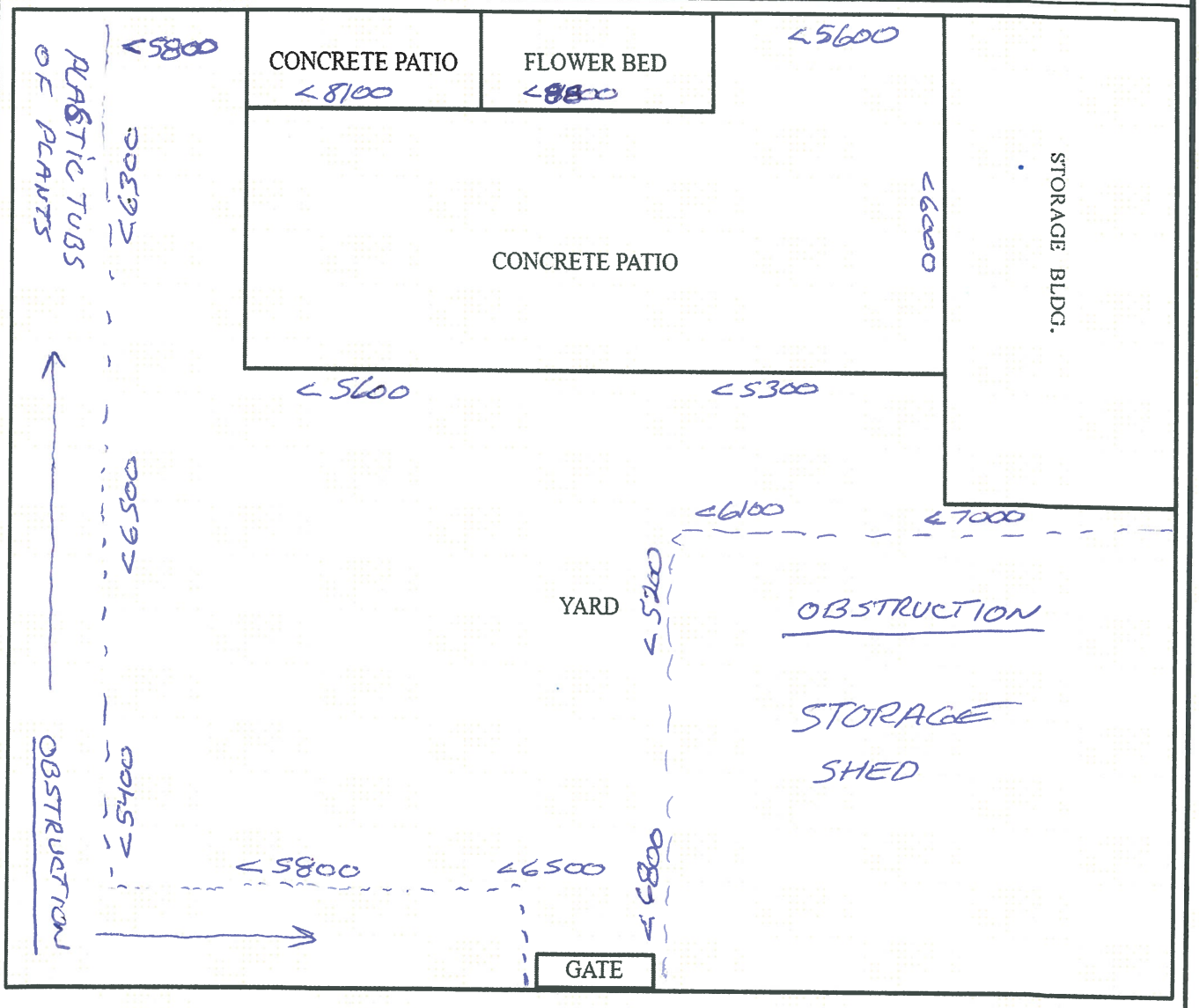
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# F Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

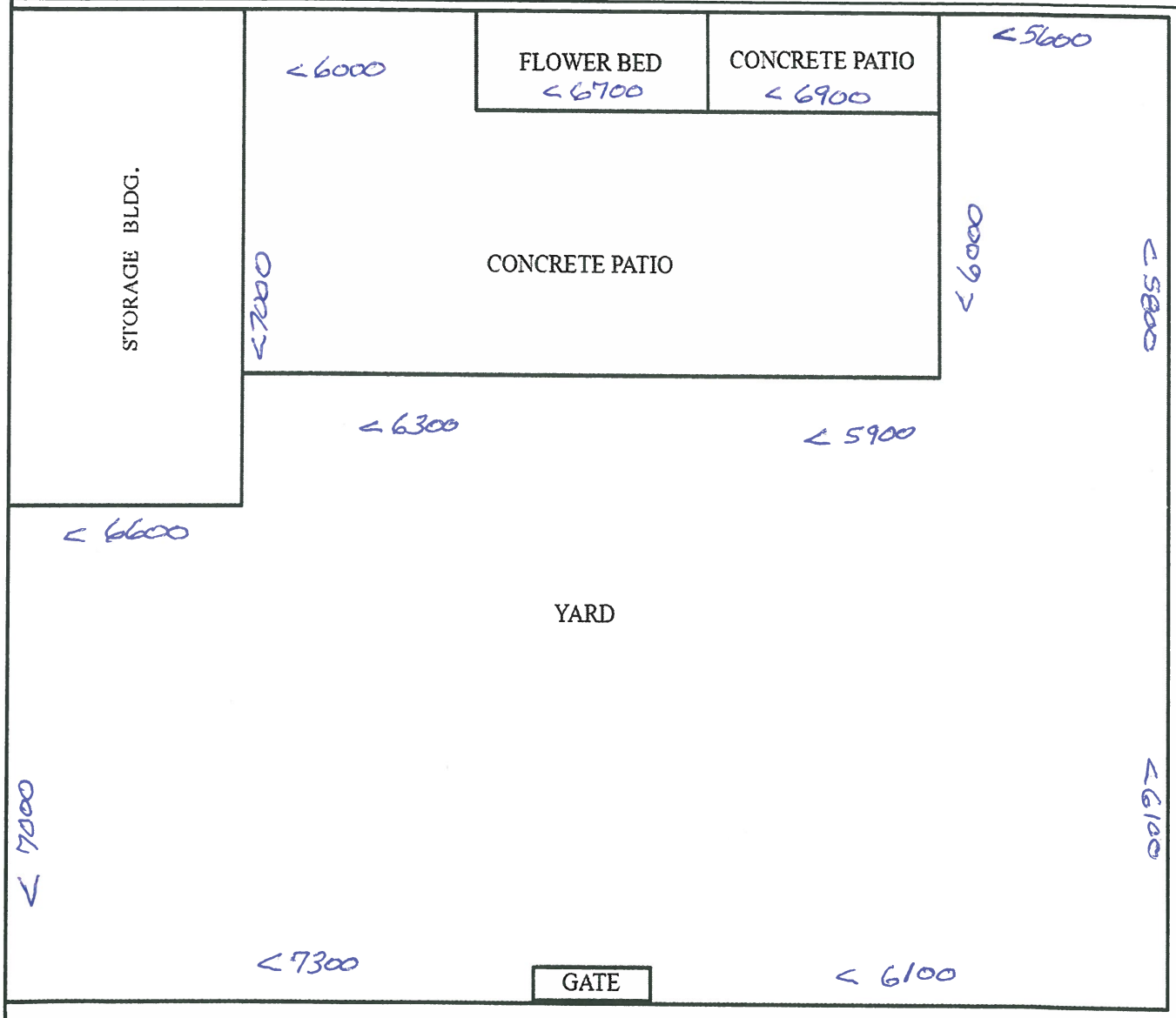
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-176	Date:	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# G Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

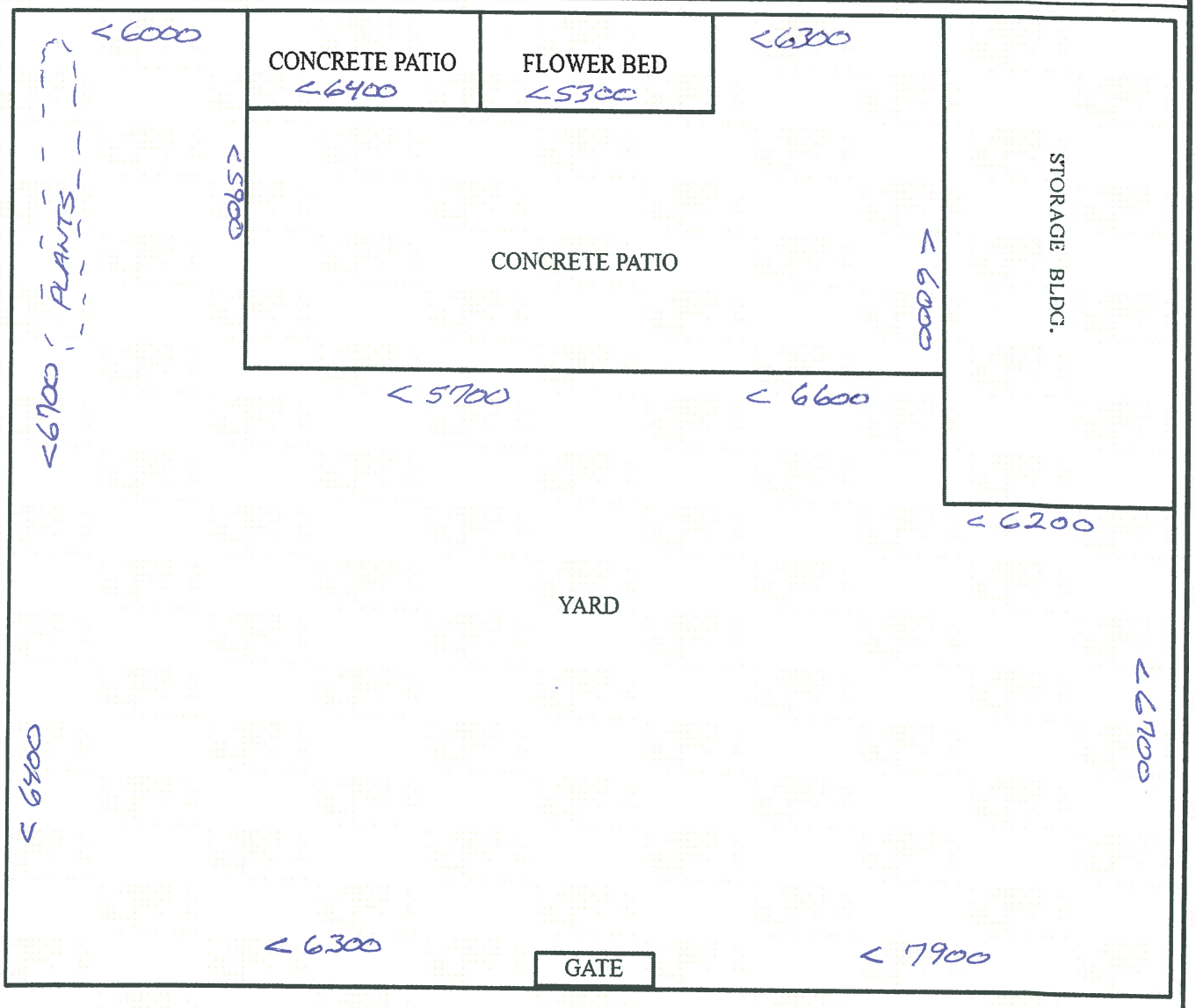
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# H Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

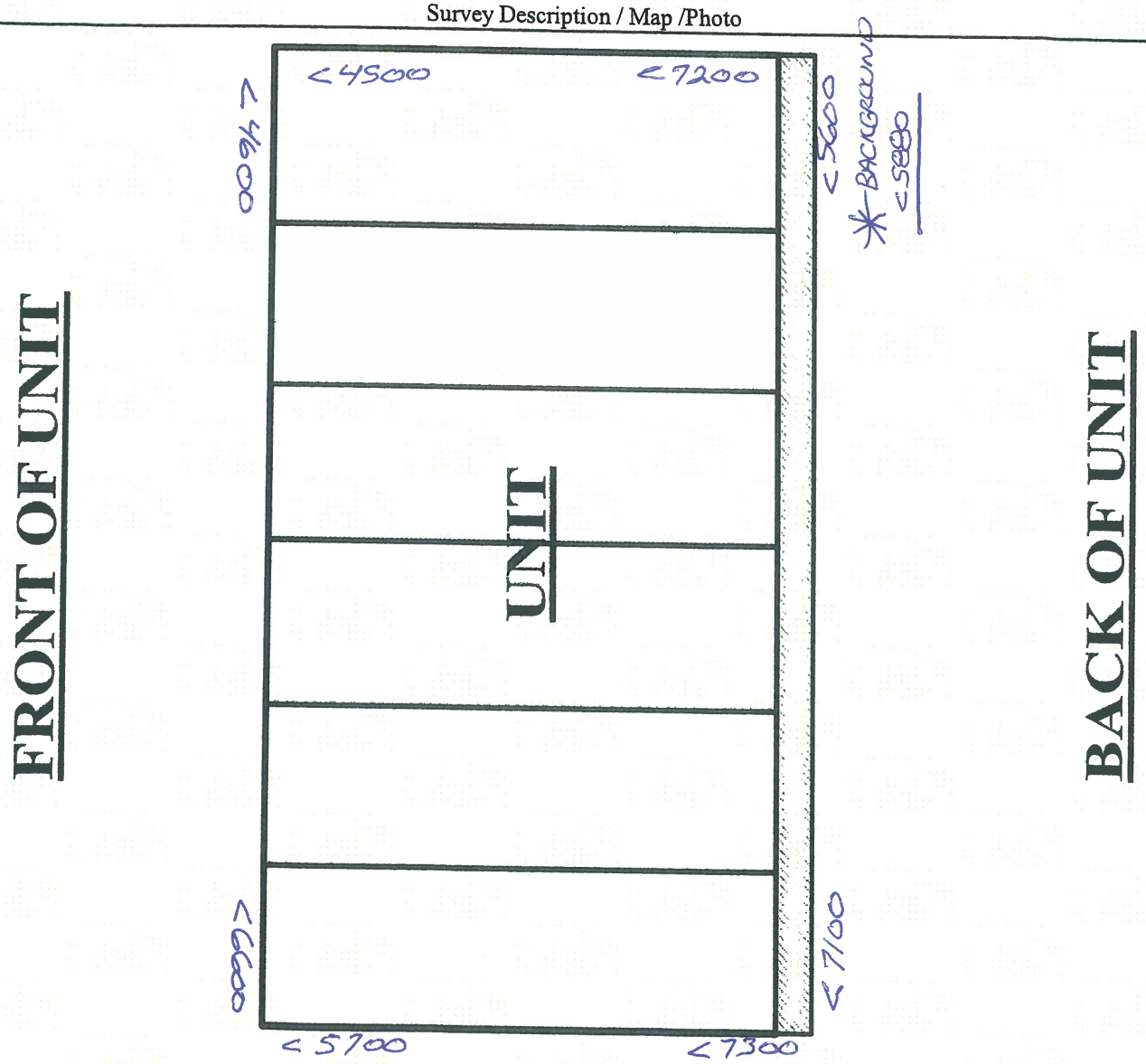
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12-176	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1246 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

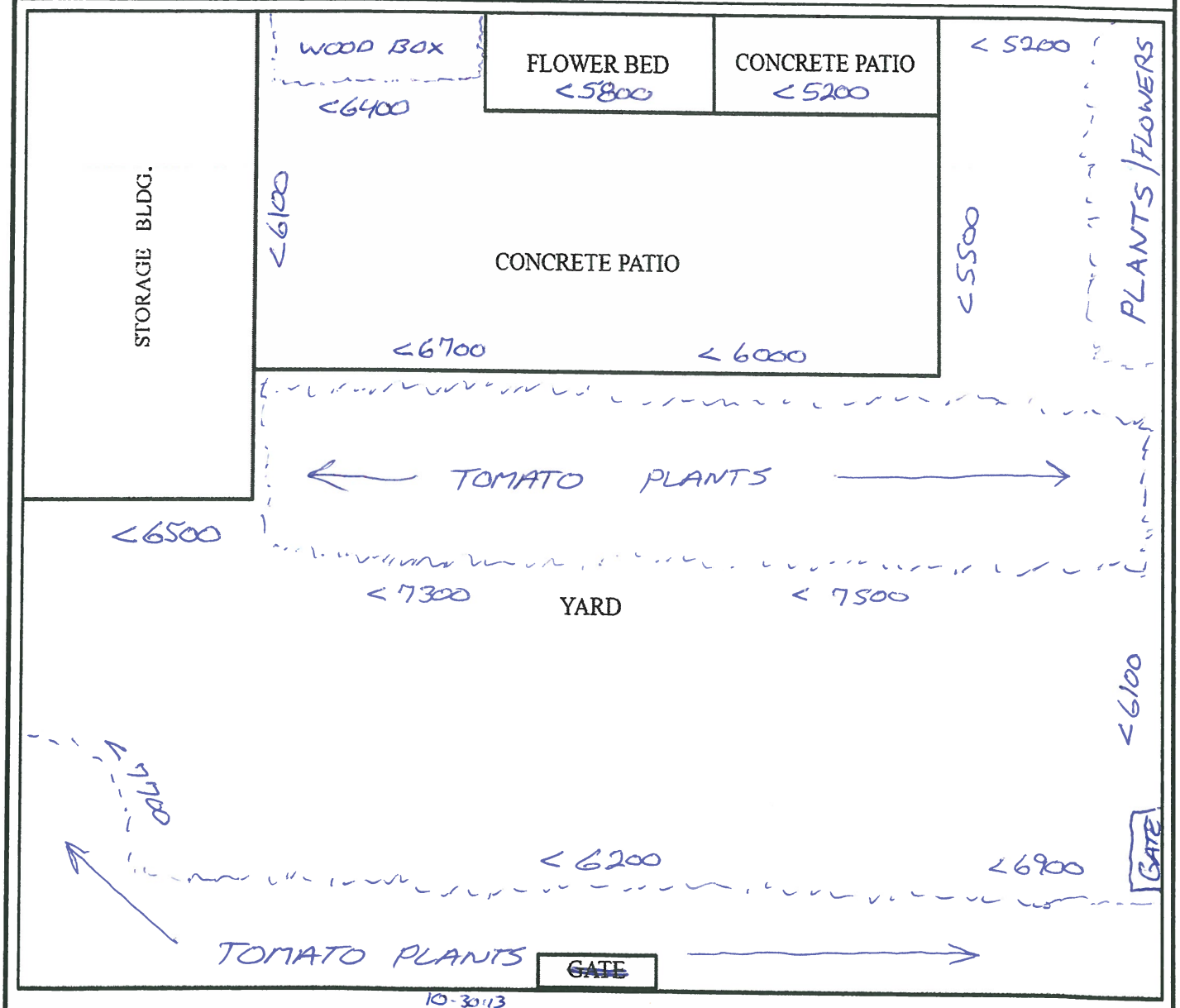
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12- 177	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover
JAMES SMITH	James Smith	MATT GOSHMAN	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	127231	27JUL14	44-10	19765	27JUL14	N/A	N/A	6034	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Building # ~~1250~~ 1252 10-30-13 JS Apt(s)# A Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

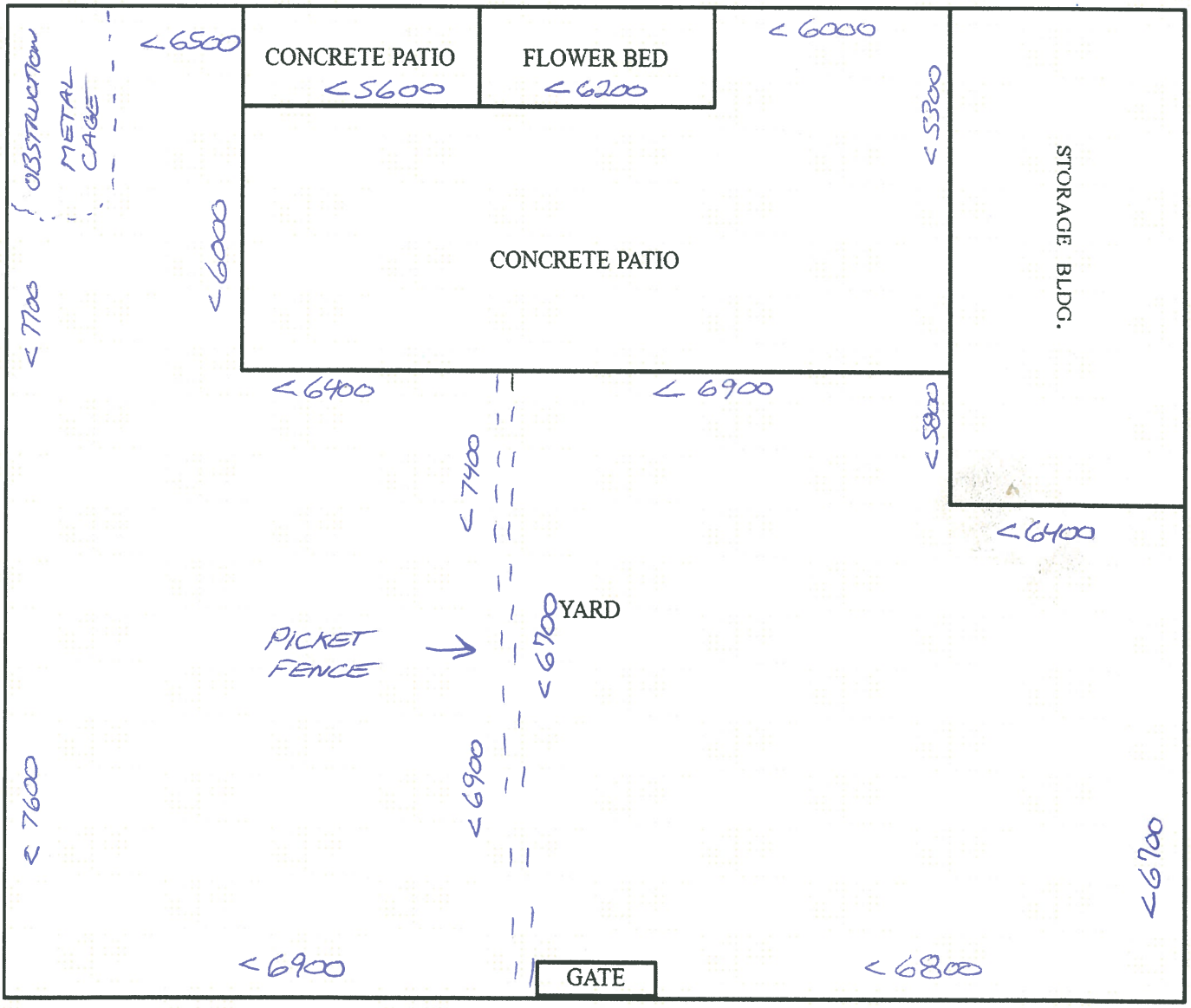
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-177	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1252 Apt(s)# B Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

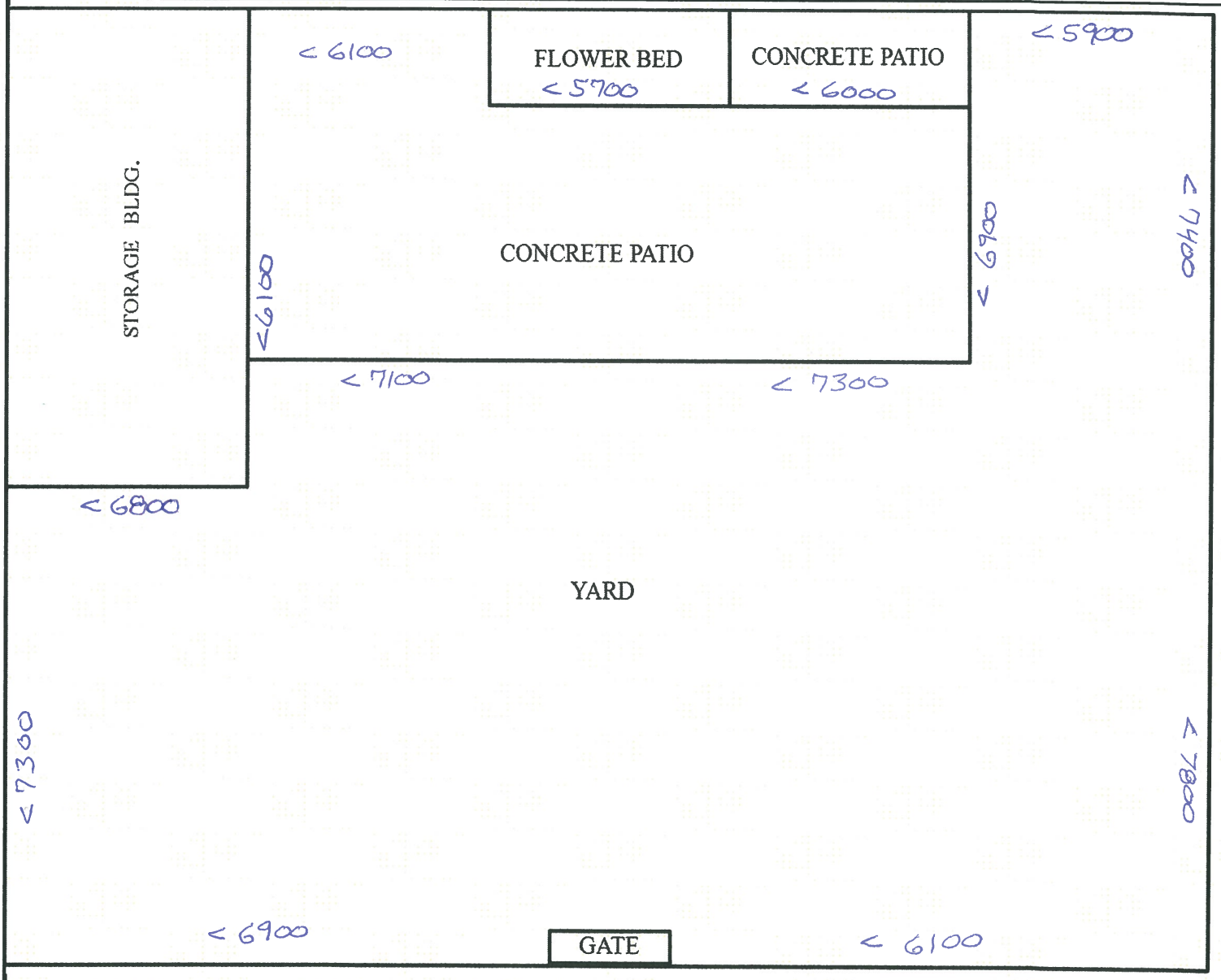
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping / Treasure Island	07204-0006

Survey No.: 06-12-177	Date: 10·30·13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1252 Apt(s)# C Back Yard

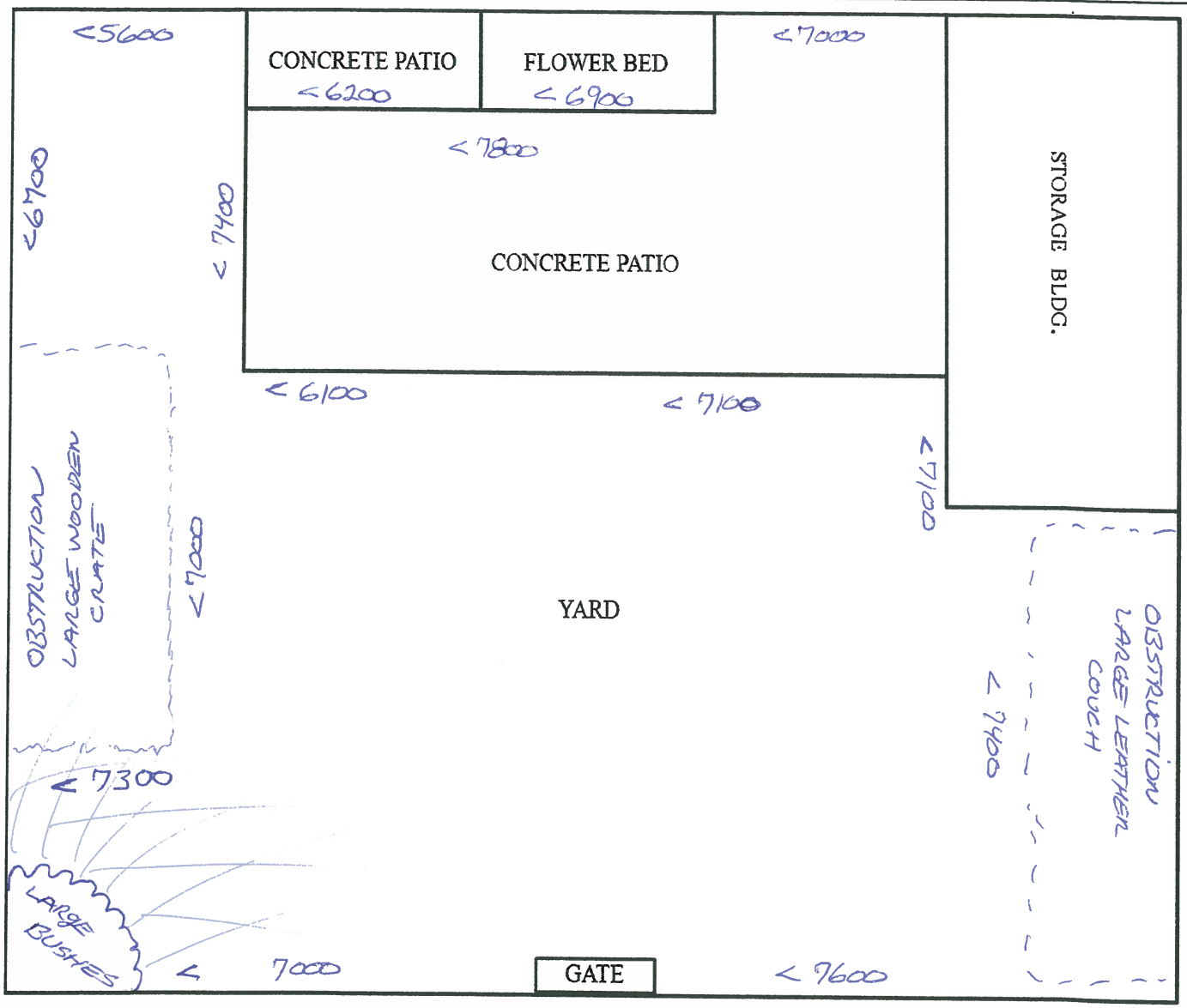
Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane **RADIOLOGICAL SURVEY FORM**

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island		GILBANE PROJECT NO: 07204-0006
Survey No.: 06-12- 177	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1252 Apt(s)# D Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

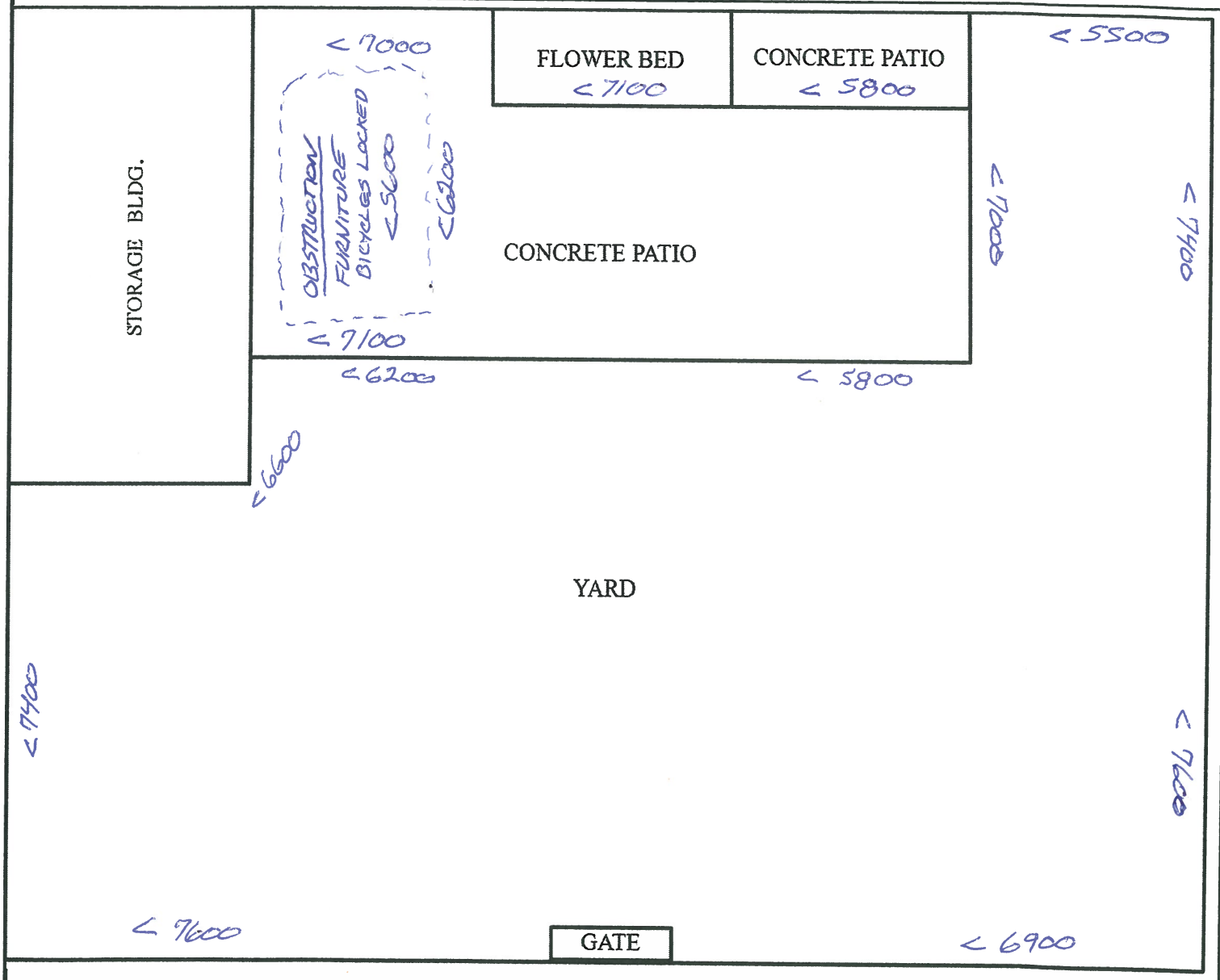
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 177	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1252 Apt(s)# E Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

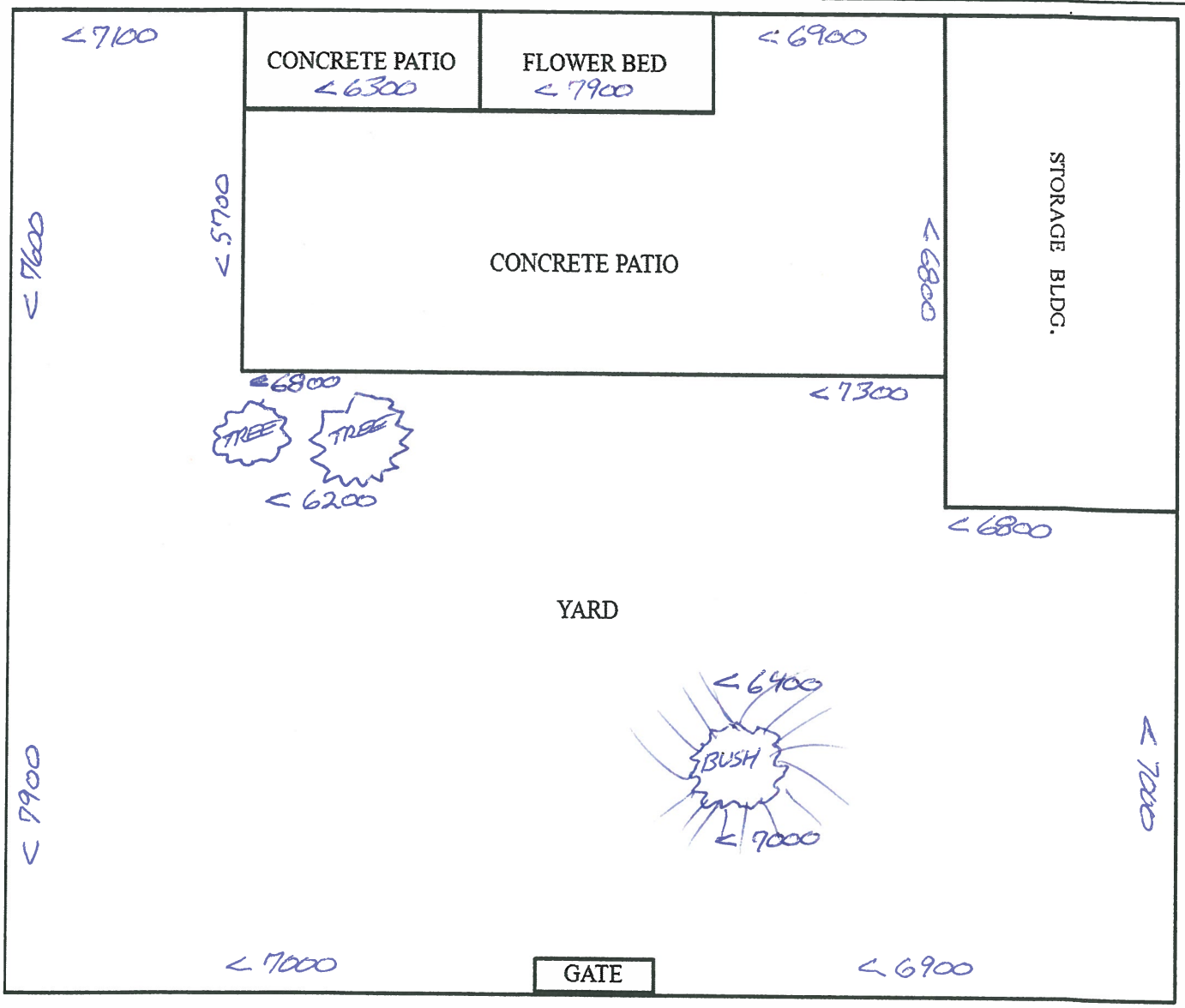
See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006	
Survey No.: 06-12-177	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1252 Apt(s)# F Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

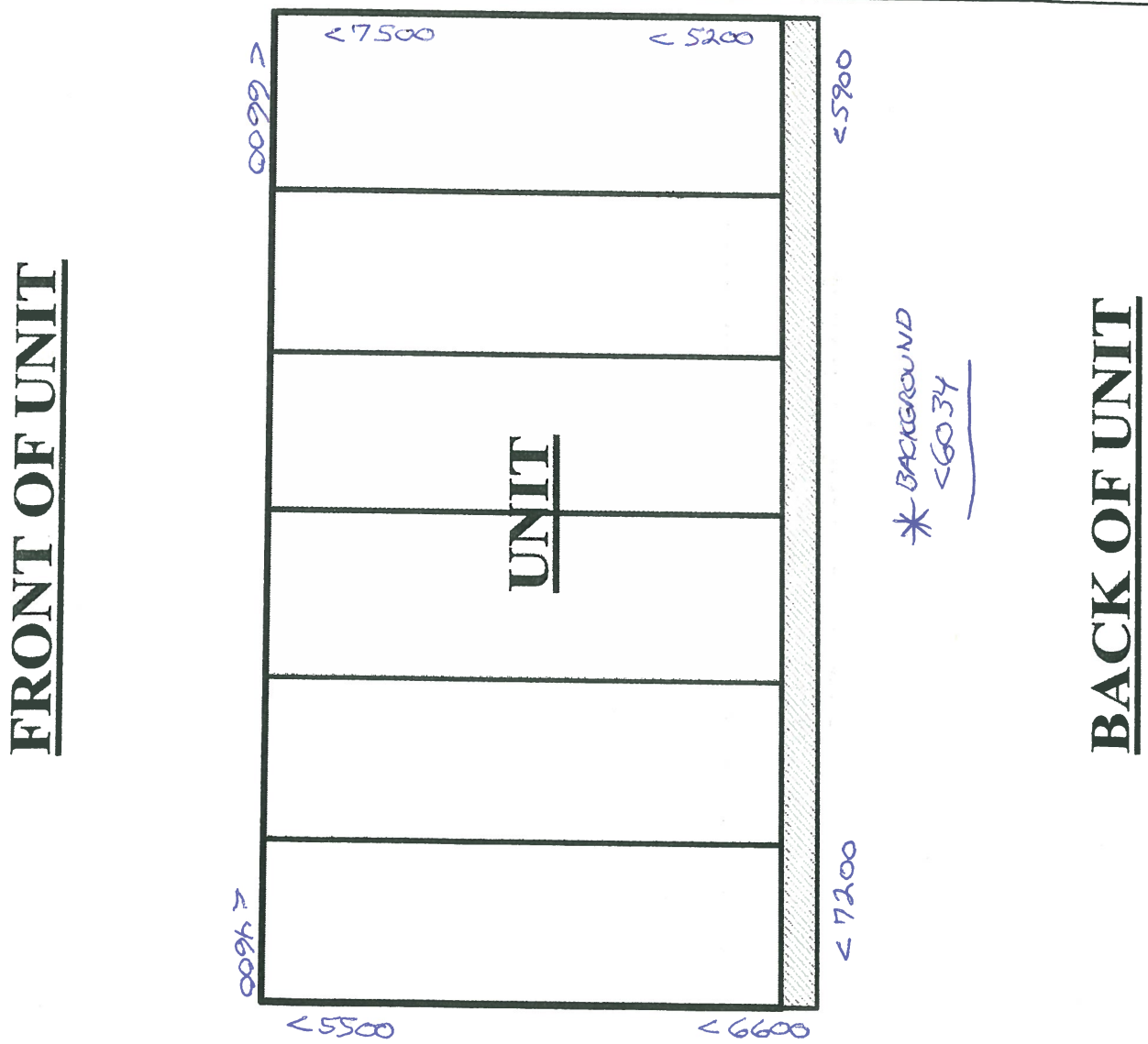
Gilbane

RADIOLOGICAL SURVEY FORM

CONTRACT NO / TO NO: N62473-10-D-0808 / 0006	PROJECT TITLE / LOCATION: Rad Scoping / Treasure Island	GILBANE PROJECT NO: 07204-0006

Survey No.: 06-12- 177	Date: 10.30.13	Location: Site 12	Survey Type: 2x2 Walkover

Survey Description / Map /Photo



Building # 1252 Apt(s)# Perimeter Back Yard

Comments: Highest readings of area recorded. All accessible areas surveyed.

See Page 1 for Instrument Information. All Readings in gross cpm.

Gilbane

RADIOLOGICAL SURVEY FORM

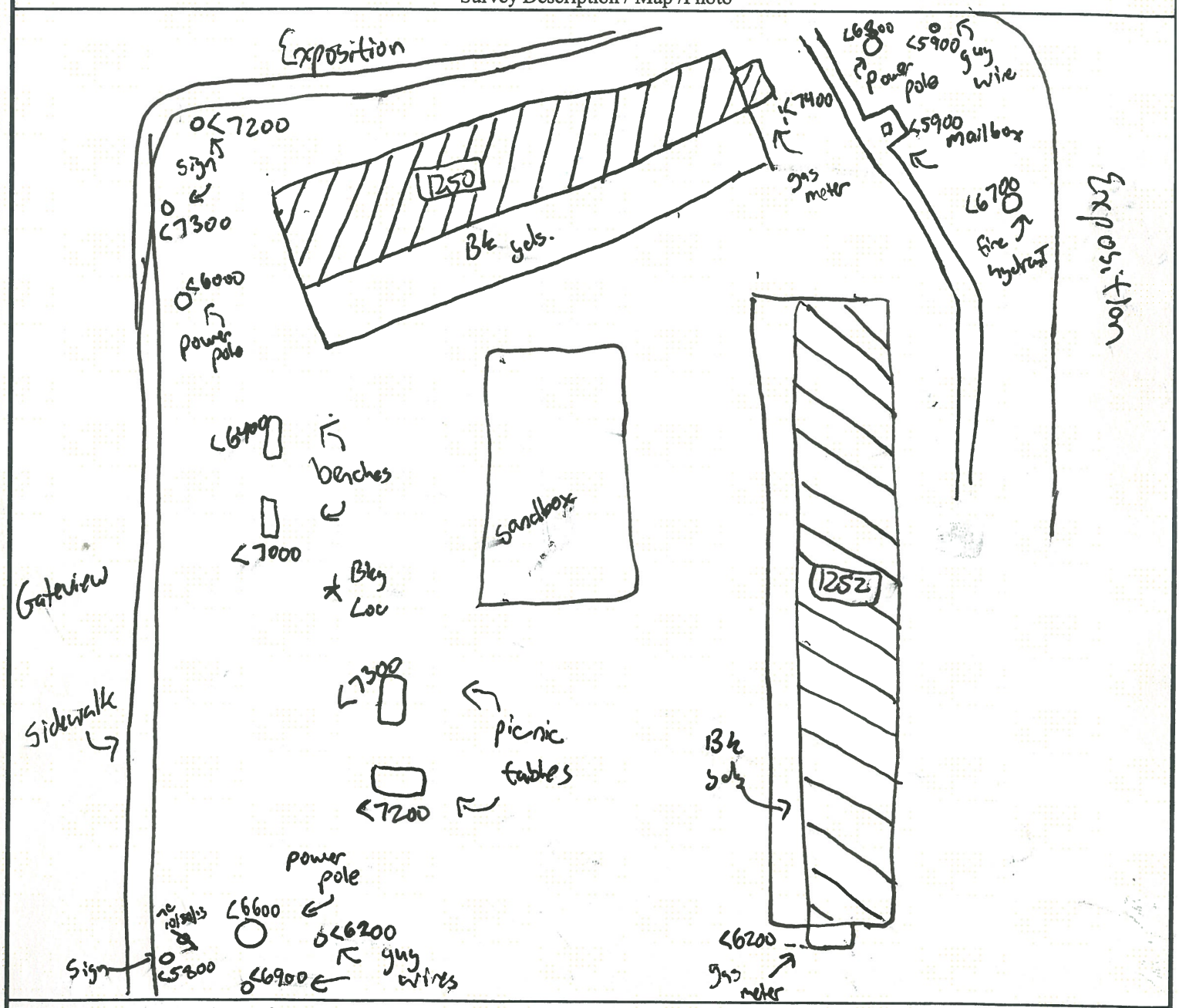
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12- 178	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		MATT CUSHMAN	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW19768	8/21/14	N / A	N / A	6146	N/A	N / A	N / A
N/A											
N/A											

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.

Continue

Gilbane

RADIOLOGICAL SURVEY FORM

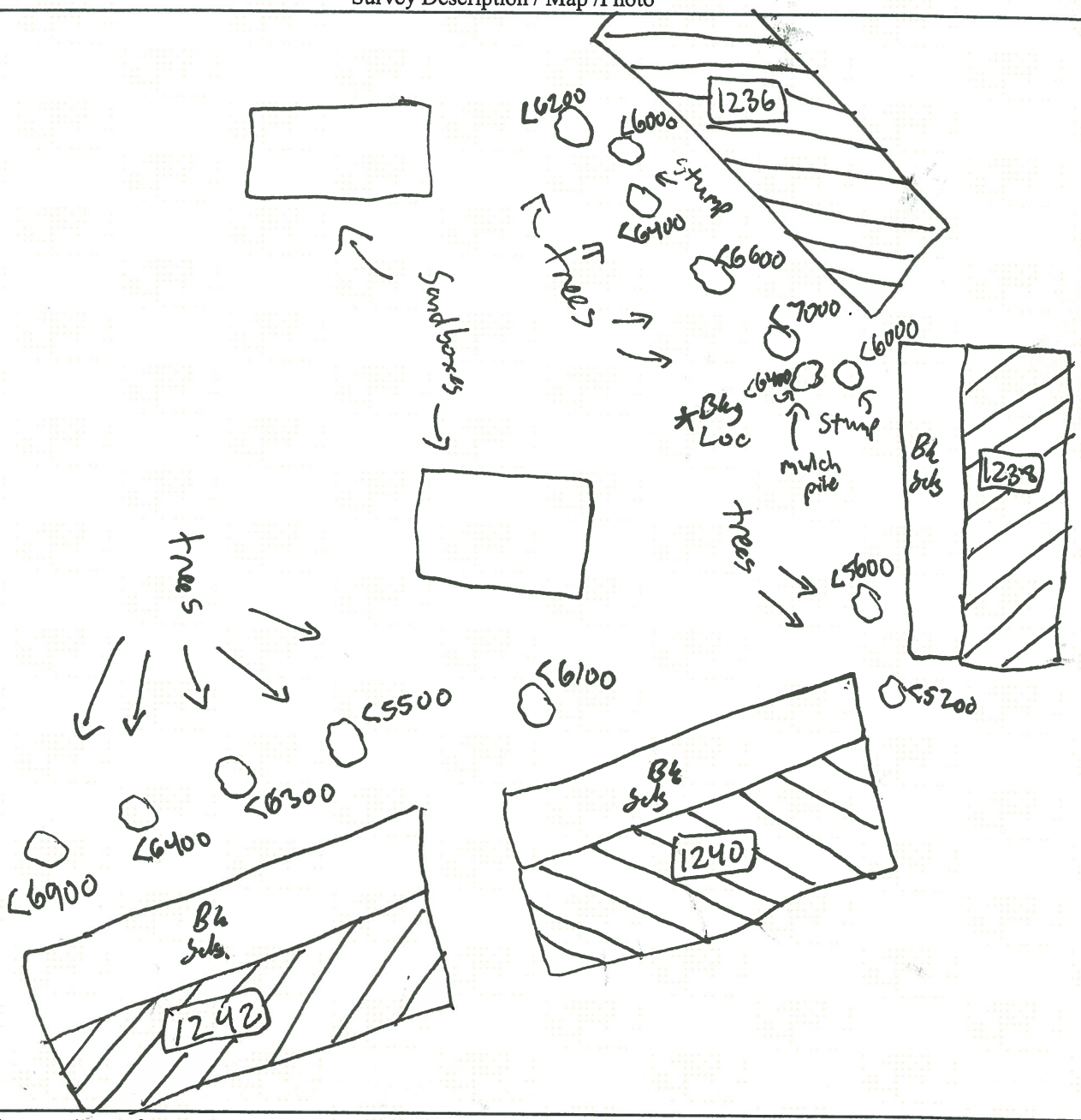
CONTRACT NO / TO NO:	PROJECT TITLE / LOCATION:	ITSI GILBANE PROJECT NO:
N62473-10-D-0808 / 0006	Rad Scoping Surveys / Treasure Island, Ca	07204-0006

Survey No.: 06-12-179	Date: 10/30/13	Location: Site 12	Survey Type: 2x2 Walkover
Tim Crawford		MATT CUSHMAN	
Tech Printed Name	Signature	RSOR Printed Name	Signature

Instrument(s)

Model	Serial	Cal Due Date	Probe Model	Probe Serial	Cal Due Date	BKG α	BKG β	BKG γ	BKG μr/Hr	Eff. α	Eff. β
2221	147512	8/21/14	44-10	RW19768	8/21/14	N/A	N/A	5664	N/A	N/A	N/A
N/A											
N/A											

Survey Description / Map /Photo



Comments: Highest readings of area recorded. All accessible areas surveyed. All Readings in gross cpm.

Backgrounds are General Area 1 minute static Average of 3 at approximately 2'-3' above ground at perimeter of building.