California Department of Public Health

Division of Radiation Safety
and Environmental Management
Radiologic Health Branch
P. O. Box 997414, MS 7610
Sacramento, California 95899-7414

Hunters Point Shipyard, Parcel A-1
Health and Safety Survey
February 5, 2019

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Table of Contents

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Radiologic Health Branch

Hunters Point Shipyard, Parcel A-1, Health and Safety Survey

Introduction

Purpose

As a result of data falsification elsewhere at Hunters Point Shipyard and public concern regarding Parcel A, the US Environmental Protection Agency (US EPA), the Navy, the Department of Toxic Substances Control (DTSC), and stakeholders from the City of San Francisco requested the California Department of Public Health (CDPH) to perform a radiological health and safety survey of Parcel A-1.

Figure 1 Hunters Point Shipyard, from Navy website

CDPH staff performed a radiological survey to assess the health and safety of the public and the environment in Parcel A-1. This CDPH survey was limited to investigating ionizing radiation. CDPH has regulatory authorities and recognized expertise in the area of radiological health. The Environmental Management Branch and the Radiologic Health Branch serve as radiological contamination remediation consultants for the Department of Toxics Substances Control (DTSC).

Location

Former Naval Shipyard Hunters Point, Parcel A, San Francisco, California, covering approximately 75 acres, has been subdivided into Parcel A-1 and Parcel A-2. Parcel A was transferred from Navy possession to the City of San Francisco in 2004. Parcel A-1 has since been developed for residential use, including townhomes and condominiums. Some parts of Parcel A-1 are currently under construction or are planned for future

Figure 2 Aerial view of Parcel A-1

construction. See Figure 1[1] for the location of Parcel A.

In the areas of Parcel A-1, which had already been developed into housing or were under construction, CDPH performed a radiation survey of the accessible (safely passable to CDPH staff) outdoor areas of Parcel A-1 to assess the radiological health and safety of the public and the environment. The topography of Parcel A-1 outside of the residential area includes steep slopes and a large mound of dirt. CDPH also surveyed most of these areas (where it was safe to do so). The green line approximates the border of Parcel A-1, see Figure 2[2].

SURVEY SCOPE

The CDPH performed this health and safety survey to ensure that residents of Parcel A-1 are not exposed to unsafe levels of radiation. This radiation survey of accessible outdoor areas assessed the radiological health and safety of the public and the environment. These areas have limited (e.g., asphalt) or no (e.g., soils) added cover for direct radiation shielding, improving the opportunity to detect such radiation. Radiological survey of the ground floors of residences and businesses, which rest on more extensive foundations and can shield radiation from penetrating through, was therefore not a necessary part of this survey. Similarly, soil sampling and scanning soils and vegetation for pure alpha and pure beta emitters was also beyond the scope of this survey since during redevelopment of Parcel A considerable excavation and grading of soil occurred and new materials, such as clean soil, sidewalks, asphalt and landscaping, were introduced. These materials would block alpha and beta radiation. Additionally, scanning is more effective in detecting discrete forms of contamination than soil sampling. *This was not a MARSSIM[3] survey because MARSSIM statistics do not apply to discrete radioactive sources or to radioactive materials in soils at depths greater than six inches.*

SURVEY METHODOLOGY

From July 16 to December 3, 2018, CDPH conducted a radiation survey at Hunters Point Parcel A-1. The survey consisted of a walkover component and a towed array RS 700 component. The following survey actions were performed:

- Gamma walkover survey of soil, vegetated and hardscaped areas around existing buildings and in other accessible areas using 2” by 2” scintillation detectors

[1] https://bracpmo.navy.mil/brac_bases/california/former_shipyard_hunters_point/hpns_parcels.html , access date: May 18, 2018
[2] Google Maps; https://www.google.com/maps/place/Bayview,+San+Francisco,+CA/@37.719312,-122.3707184,1122a,35y,39.13t/data=!3m1!1e3!4m5!3m4!1s0x808f7f1bb30d3455:0xccec952a18d54560!8m2!3d37.730416!4d-122.384424?hl=en; access date: May 23, 2018
[3] Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), NUREG-1575

- Using the Radiation Solutions RS-700 gamma mapping system, performed gamma scan of roads, sidewalks, other accessible hardscaped areas, and accessible areas where vegetation is absent or less than four inches in height
- Confirmatory gamma spectroscopic investigation of static measurements greater than the background average plus three sigma using the Inspector 1000 or Falcon 5000

When a radiation measurement greater than the background average plus three sigma was found, the following investigation confirming the measurements was conducted before initiating the Notification Plan:

1. Anomalous Measurement Confirmation – Performed static one-minute measurements at contact, 2-inch, and 12-inch heights centered at highest count rate point using 2” by 2” scintillation detector; recorded measurements, location, date, and time.
2. Performed static 30-minute measurement on contact centered at highest count rate point using the Canberra Inspector 1000 for radionuclide identification; saved data, including radionuclide identity.
3. If the Canberra Inspector 1000 detected nuclides other than naturally occurring radioactive materials (NORM), performed a 30-minute measurement using the Canberra Falcon 5000 for radionuclide identity confirmation; saved data, including radionuclide identity, durably marked the location, and initiated the Notification Plan.

SURVEY ORGANIZATION

RHB staff performed the following tasks:

- Gamma Walkover survey
  - Teams of two staff each performed a walking radiological scanning survey on Parcel A-1 using 2” x 2” sodium iodide detectors and exposure rate meters. Because these instruments cannot record data or surveyor location, the teams read and recorded their periodic static measurements and locations.
- RS 700 Gamma Scan Survey with GPS
  - The RS-700 towed gamma scan array was used to map in the streets and flat accessible grounds. This gamma mapping occurred concurrently with the walkover survey.
  - The following procedures were used on the usage of the RS-700 system:
    - Radiation Solutions RS 700 Gamma Mapping Overview
    - Radiation Solutions RS 700 Procedure
    - Technical Basis Document, RS 701 Radiation Mapping System
- Radioactive Isotope Identification
  - The Site Lead or Site Assistant/Tech used the Inspector 1000 and/or Falcon 5000 to collect gamma spectroscopic data for radioactive isotope identification at the points of elevated measurements flagged by survey teams according to procedure.

- Staff positions
    - Survey teams, two staff each
        - Scanner – operates the detector and reads the instrument measurements
        - Data Recorder – records the survey instrument measurements
    - Site Lead presented the daily safety and survey briefing, supervised survey teams, managed survey assignments, and provided notifications to headquarters.
    - Site Assistant directed daily instrumentation Quality Assurance (QA) checks, performed gamma spectroscopy radioactive isotope identification, and assisted in supervising survey teams.

WALKOVER GAMMA SURVEY

ESSENTIALS TO UNDERSTANDING SURVEY RESULTS

Gamma rays are a good identifier of the elements present in any composition of materials by their energy signature. A homogeneous region is one that is composed of a consistent distribution of elements. The fundamental assumption of gamma surveys is that a homogeneous region will, when sampled sufficiently, produce a dataset that is statistically distributed normally. Randomly collected samples within a homogenous region will fall within certain statistical bounds. For example, given the standard deviation of a region, for every 1000 sample points collected, 997 will fall within the average reading plus or minus three standard deviations. Put another way, an anomaly is likely present in different concentrations than found in the rest of the sample set if a sample is outside of the set's average and standard deviation.

Two regions that consist of different materials will produce datasets that are both distributed normally, but the statistical quantifiers may be different. If samples are taken in a grassy field and compared to samples from an asphalt parking lot, the averages and standard deviations of the regions are unlikely to be similar because the elemental composition is different. Knowledge of material composition thus helps the user of a radiation detector to distinguish between statistically normal readings and statistically anomalous readings.

A developed area such as Hunters Point contains dozens of different regions of material composition due to variations in natural lithography, construction materials choices, and landscaping. For this reason, this survey did not use a MARSSIM approach with predetermined release criteria for public health and safety, but evaluated every identifiable material mix against itself to look for statistically excessive measurements.

A relatively simple radiation detector reports measurements as a single number, that being the total quantity of photons of all energies that were detected during a known period. The statistical procedure described above works by collecting a large number of such measurements. A more complex radiation detector separates the counted photons by energy, reporting a series of numbers known as a spectrum. The CDPH-RHB walkover survey collected thousands of the simpler measurements to evaluate Hunters Point and over one hundred spectra to evaluate statistical anomalies.

Every spectrum collected outside of carefully controlled laboratory conditions will contain an observable peak centered around 1461 keV that corresponds to Potassium-40 (K-40), highlighted with red in Figure 3. Note that each spectrum in Appendices 3, 4, and 7 contains this feature.

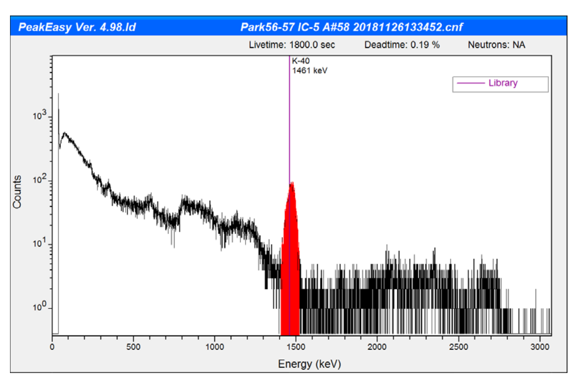


Figure 3: Spectrum with K-40 Highlighted in Red

There are certain nuclides that are deemed to be naturally occurring radioactive material (NORM). Whereas Potassium-40 decays into either Calcium-40 or Argon-40, both of which are stable, much heavier elements such as Thorium-232 and Uranium-238 transform into a series of nuclides called decay chains until they reach a stable form of lead. The features common across spectra correspond to various members of these decay chains.

With two exceptions (detailed below), the spectra collected by this project are very similar in appearance to each other. The small differences are caused primarily by differences in concentrations between K-40 and the decay chains of Uranium and Thorium.

SURVEY RESULTS

During the walkover scan, staff using a 2”x2” NaI Ludlum 44-10 scintillation detector measured radiation for one-minute periods at 4301 distinct locations distributed across Parcel A-1. For follow-up measurements at locations that exceeded the three-sigma statistical limit, the Canberra Inspector 1000 was used for thirty-minute spectroscopy measurements at 64 locations. (Note that 40 of these anomalies were initially reported in the Weekly Progress Updates. Upon completion of the field scanning, CDPH conducted a comprehensive data quality check and discovered that there were an additional 24 anomalies, raising the initial reported 40 anomalies to 64. In November and December, CDPH returned to each of the 24 locations and collected spectra using the Inspector 1000.)

In addition to the above, supplementary measurements with the Canberra Inspector 1000 were taken in every survey unit that did not have any readings in excess of a statistical limit. Fifty-five such readings were taken.

Of the 119 spectra (64 anomalies and 55 supplemental measurements) collected for the walkover survey, one U.S. Navy radium deck marker was found at the bottom of the hill behind the construction trailers in the North block on Galvez Avenue beneath approximately 10 inches of soil. In addition, a low-energy peak was observed in another spectrum that was collected in August but was not discovered until a more in-depth data analysis was performed in November. Neither of these findings pose a risk to health and safety to the residents. Both will be discussed below.

Deck Marker

On September 6, 2018, a deck marker was found buried under approximately 10 inches of soil on the northern face of the hillside, in an undeveloped area behind the fence of the San Francisco Public Works trailer along Galvez Avenue. This measurement point is referenced as Galvez Hills #83 in Appendix 2, and the relevant spectra can be found in Appendices 3 and 4. Photograph 1 shows the site condition where the anomaly was detected.

The Inspector 1000 spectrum and Falcon 5000 spectrum collected were visibly distinct from the spectra collected at all other locations at Hunters Point. Consequently, the Navy and other stakeholders were notified in accordance with survey notification procedure. On September 11, 2018, the Navy contractor dug into the ground to determine if the anomaly was a discrete source of radiation or an area of contamination. After digging a hole that was 10.5” at its deepest point, the contractor identified an object as a deck marker. Measurements were taken and the deck marker was removed and placed in a shielded container to be evaluated in a secure location. Photograph 2 shows the appearance and scale of the deck marker.

While the object was still buried and using a Ludlum Model 19, CDPH measured 0.09 mRem per hour on contact with the ground, 0.08 mRem per hour at 2" above the ground, and 0.02 mRem per hour at 12" above the ground. Using a Ludlum 2221 paired with a Ludlum 44-10 2"x2" NaI detector, CDPH measured 72655 counts per minute (cpm) on contact with the ground, 50742 cpm at 2" above the ground, and 17162 cpm at 12" above the ground.

Immediately after the object was unearthed and using a Ludlum Model 19, CDPH measured 3.4 mRem per hour on contact with the object, 0.09 mRem per hour at 12" above the object, and 0.03 mRem per hour at 36" above the object.

Figures 4, 5, and 6 show the energy output of the deck marker. Figure 4 shows the spectrum of the deck marker when measured at the surface of the ground while it was still buried. By comparison to the shapes of the curves in Figures 5 and 6, Figure 4 shows the clearly observable differences in the spectrum of a non-natural source of radiation. Figure 5 shows the spectrum as measured 3 feet away from the still-buried deck marker. Figure 6 shows the spectrum as measured on the same place as Figure 4 after the deck marker had been removed and taken away from Galvez Hill.

Note that Figures 5 and 6 are, outside of statistical fluctuations, effectively identical. This means that, even while the deck marker was still buried, its radiation could not be detected 3 feet away due to shielding from the plants and dirt. Therefore, these measurements show that this deck marker posed no danger to public health for residents and visitors to Hunters Point at any distance greater than or equal to 3 feet from the buried object. Because the general location, even without the fence acting as a barrier to entry, is steep and incompatible with human habitation, there was no risk to residents.

Photograph 1: Inspector 1000 at Buried Deck Marker

Photograph 2: Unearthed Deck Marker Adjacent to Measuring Tape

Figure 4: Inspector 1000, Contact with Ground Before Removal

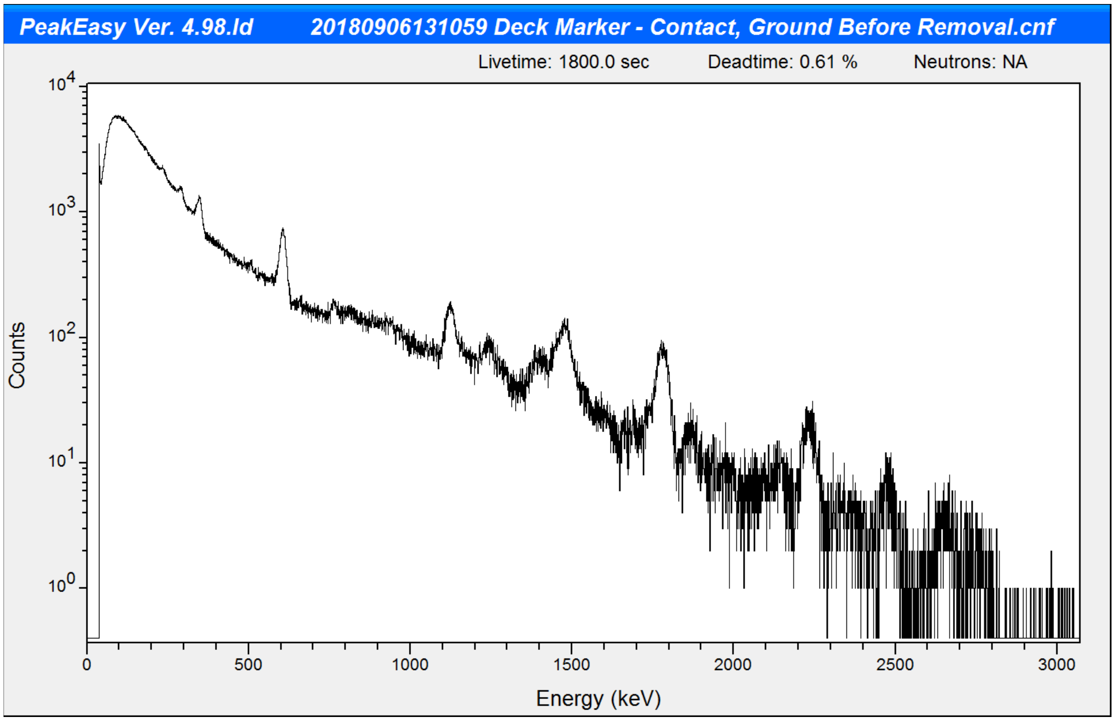


Figure 5: Inspector 1000, 3 ft. Away Before Removal

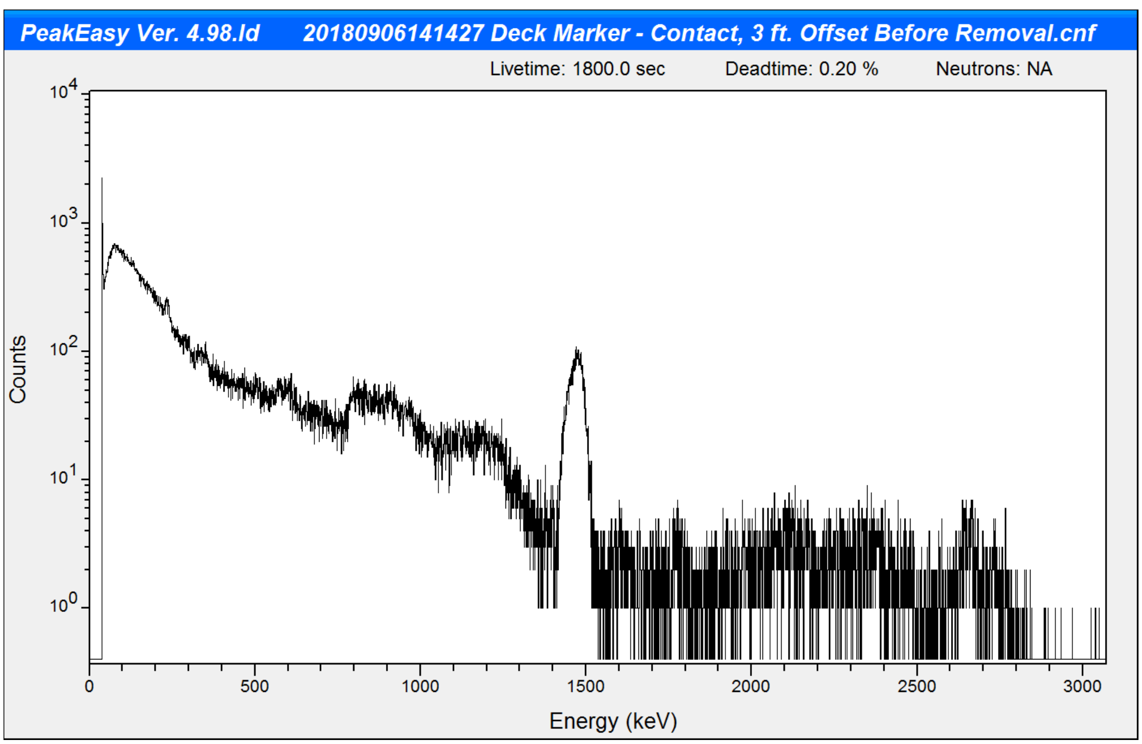
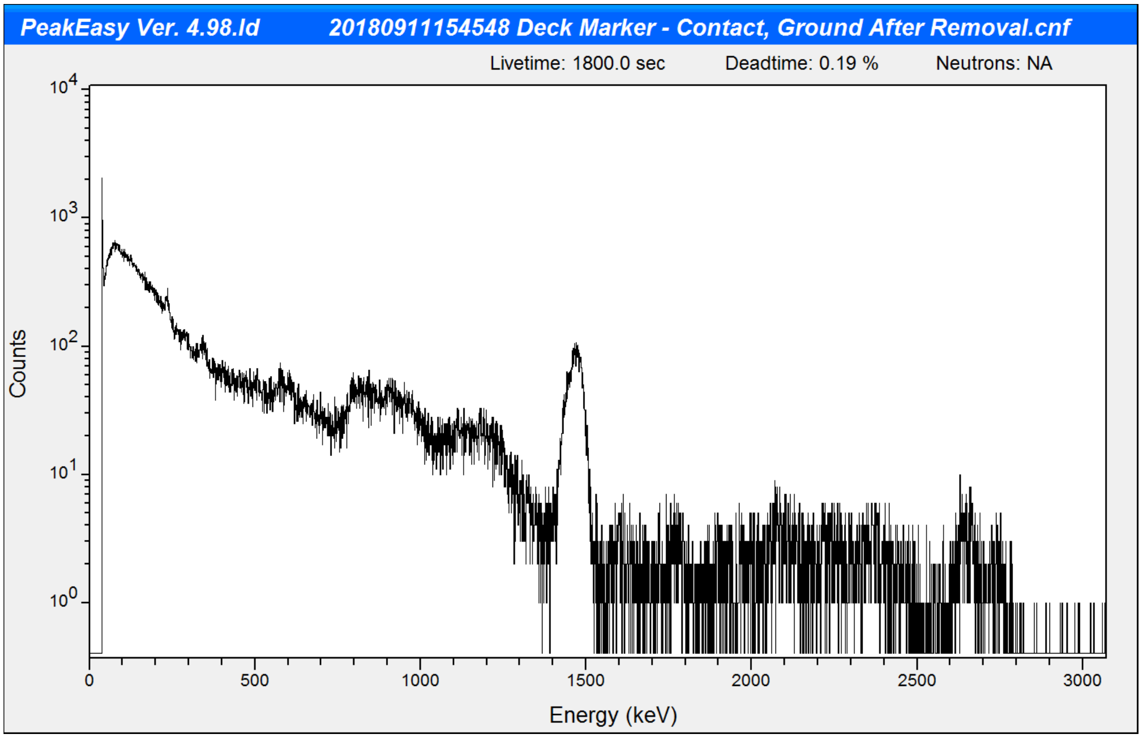


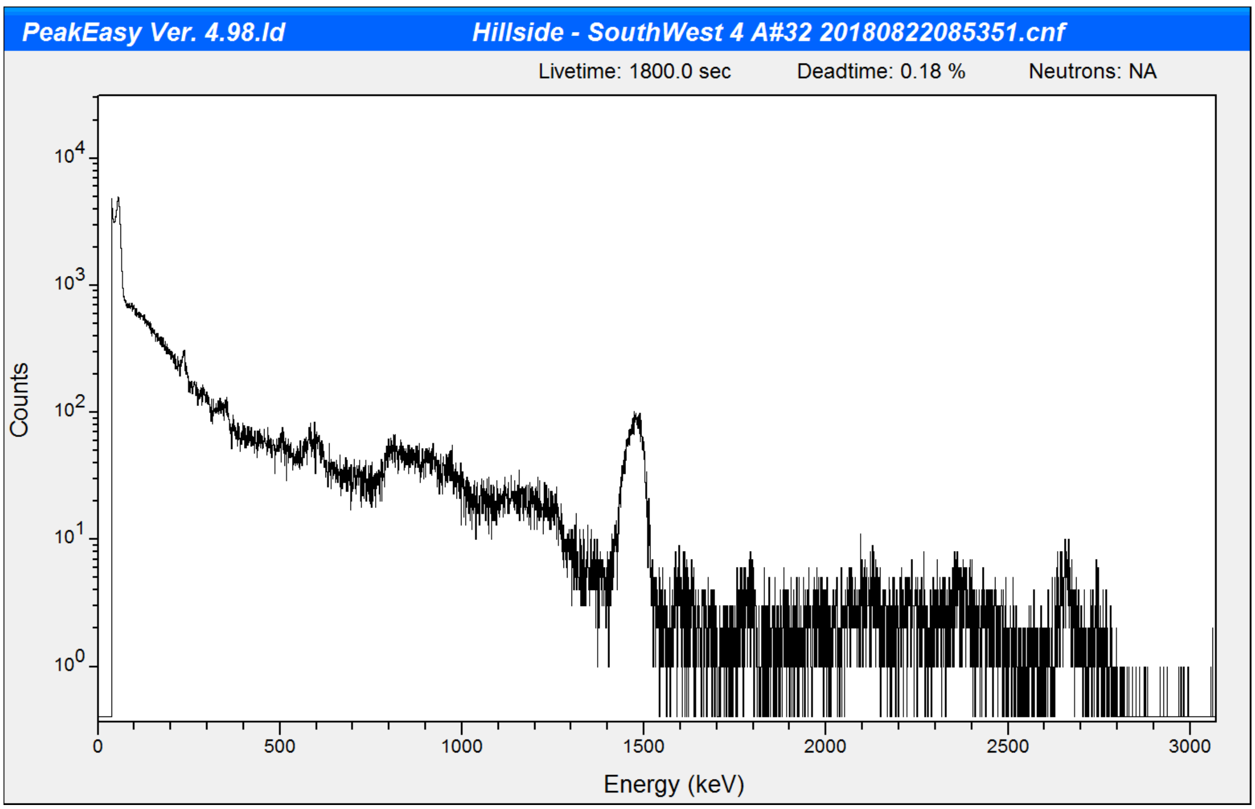
Figure 6: Inspector 1000, Contact with Ground After Removal



Low-Energy Peak

During the data quality review conducted in November, CDPH noticed an unusual spectrum that had been collected in August. The anomaly, as seen in Figure 7 below, shows an energy peak at the low end of the energy spectrum and was found on a southwest hillside not considered accessible to the general public, and this anomaly was not accompanied by a significantly increased count rate. With a Ludlum Model 2221 paired with a Ludlum 44-10, the anomaly had readings of 8892 and 8863 counts per minute. With a Ludlum Model 19, the anomaly had a reading of 0.008 mRem per hour. The average readings for the area ranged from 6209 to 9603 CPM and from 0.006 to 0.007 mRem per hour. These radiation readings were barely detectable, only slightly above baseline counts. For comparison, all data indicators for this anomaly were about ten times lower than for the deck marker discussed above. This point is referenced as Hillside - SouthWest 4 #32 in Appendix 2, and the relevant spectrum is in Appendix 3.

Figure 7: Spectrum with Low-Energy Peak



According to the work plan, on December 3, 2018, CDPH-RHB took supplementary Inspector 1000 spectrum readings. Those readings failed to replicate the original anomaly, indicating that there is no anomalous radiation at this time. However, to ensure that the current water content of the soil did not interfere with or dampen the energy signature (it had rained prior to these readings), CDPH-RHB will repeat the supplementary Inspector 1000 spectrum readings and, if indicated, conduct additional measurement with a Falcon 5000 once the soil of the hillside returns to an appropriately dry state (this is noted as “pending” in Table 1). CDPH anticipates that soil conditions would be sufficiently dry by March 2019 for these additional measurements to be taken. However, should the soil sufficiently dry before March, CDPH would complete these measurements sooner. An addendum to this report will be issued once the additional measurements are completed. There is no indication that this is a health hazard.

Data Summary Tables

The following tables summarize the data collected, and maps of areas surveyed along with locations of anomalies are also provided below.

Table 1 summarizes the radiological readings collected during the walkover survey by block. Appendix 1 provides the reference to match survey units to construction blocks and Appendix 2 contains the complete listing by individual static reading. The color scheme presented in this summary matches the scheme used in Appendix 2. For each static reading, if an Inspector 1000 (“Insp1k” in tables) spectrum was collected, then the table line is marked with blue for an anomaly or gold for a supplementary reading. The asterisk in the Falcon 5000 column denotes the presence of a known data gap that will be addressed by a future revision of this report.

Table 2 lists the survey units by the order in which anomalies were analyzed by an Inspector 1000.

Table 1: Summary of HPS Parcel-1 Walkover Gamma Survey

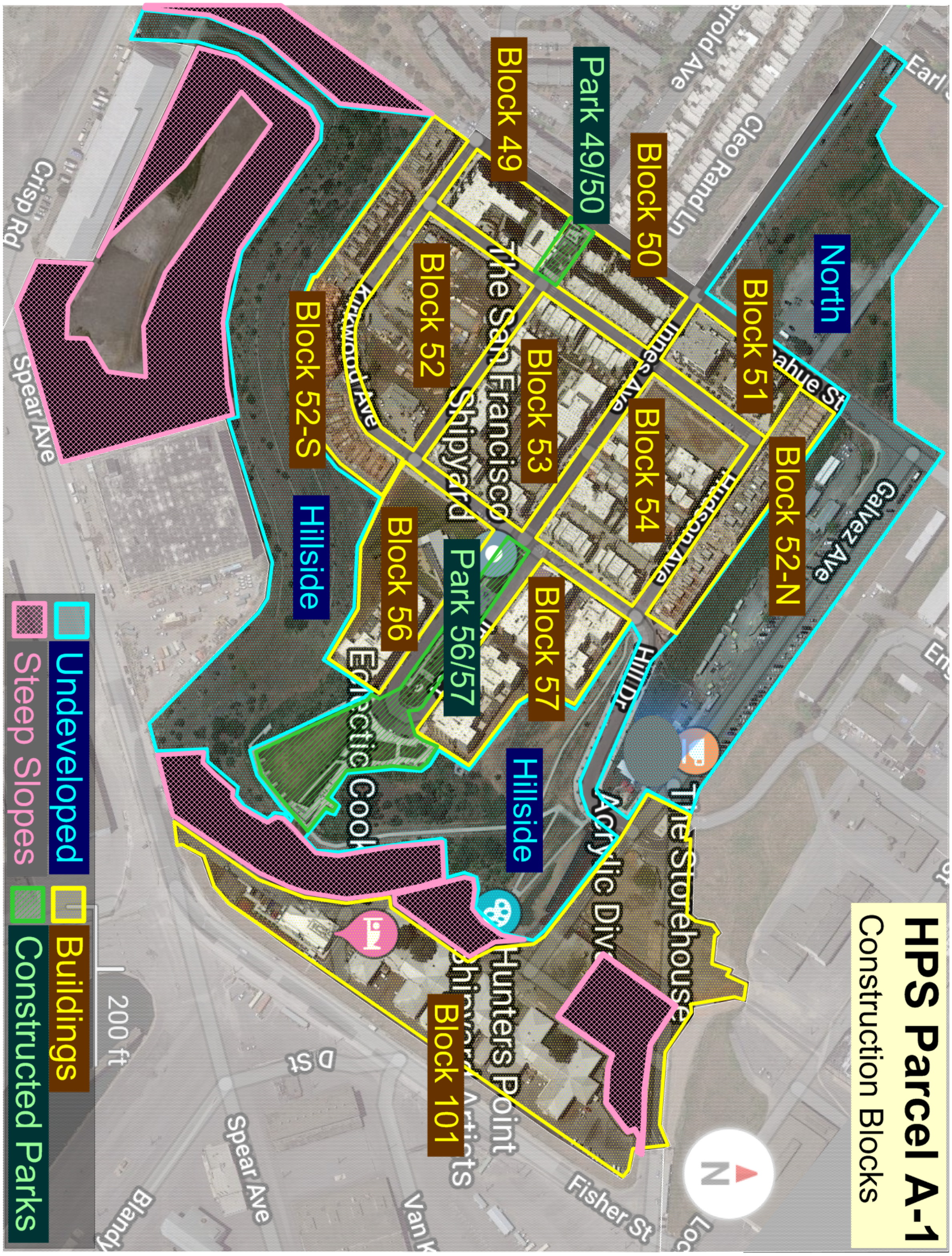
Block	Survey Units	2"x2" Static	Insp1k Supplement	Insp1k Anomaly	Falcon 5000
49	2	44	2	0	0
50	2	55	2	0	0
51	2	61	1	3	0
52	5	199	3	4	0
53	6	174	5	3	0
54	9	240	5	5	0
55-N	3	133	3	0	0
55-S	4	180	4	0	0
56	2	288	1	4	0
57	3	200	2	13	0
101	9	460	5	4	0
Park 49/50	1	45	0	1	0
Park 56/57	7	281	6	4	0
Hillside	14	1293	10	13	1* (pending)
North	11	674	6	10	1
TOTAL	**80**	**4327**	**55**	**64**	**2***

Table 2: Chronology of Identified Walkover Survey Anomalies

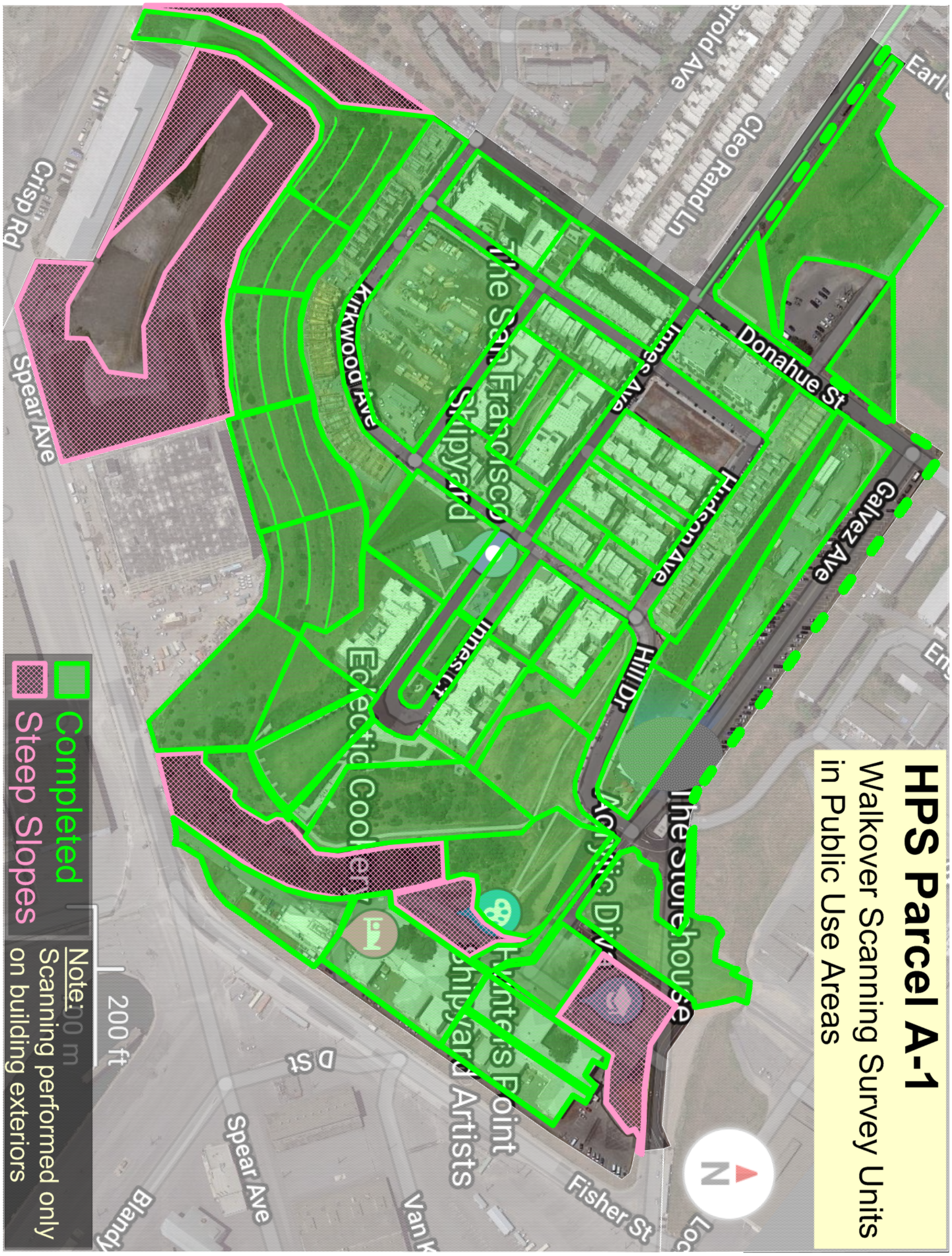
Survey Unit	Subunit	Static ID	Insp1k Time
CS-1	B	3	7/25/2018 9:25
CS-1	B	5	7/25/2018 10:15
IC-3		35	7/25/2018 10:43
IC-1		23	7/25/2018 11:14
IC-1		31	7/25/2018 13:44
CS-1	B	13	7/25/2018 14:23
CS-1	B	8	7/26/2018 10:17
CS-1	B	23	7/26/2018 10:28
IC-3		20	7/26/2018 10:56
IC-2	B	28	7/26/2018 11:45
ICJ Park	B	8	8/7/2018 13:45
Hillside - North		1	8/7/2018 14:37
Hillside - South		28	8/7/2018 15:25
Hillside - North		76	8/8/2018 15:32
IA-1	A	26	8/9/2018 10:24
IA-2		6	8/9/2018 13:43
Hillside - South		147	8/9/2018 15:02
CS-3		23	8/10/2018 9:18
CS-3		26	8/10/2018 9:58
CS-3		30	8/10/2018 10:34
Hillside - North		79	8/13/2018 10:04
HA-1		13	8/15/2018 9:39
Lennar Const. Offices		2	8/16/2018 10:45
Hillside - SouthWest 4		32	8/22/2018 8:53
Galvez S Sidewalk		14	8/22/2018 11:55
North Parking Field		38	8/28/2018 10:44
DF-Park		16	8/29/2018 13:50
Robinson Hill		147	8/30/2018 10:32
FS-4&5 Ext		39	8/31/2018 9:33
FS-4&5 Ext		48	8/31/2018 9:37
FS-4&5 Ext		47	8/31/2018 10:09
Hillside - SouthWest 3		34	9/4/2018 9:19
Hillside - SouthWest 3		54	9/4/2018 10:19
101 SE		12	9/4/2018 16:10
101 NW		46	9/5/2018 10:22
101 SW		37	9/6/2018 12:08
Galvez Hill		83	9/6/2018 13:10
Galvez Hill		72	9/7/2018 9:46
Galvez Hill		110	9/7/2018 10:26
Galvez NW Field		88	9/12/2018 9:24
Block 52 - W		10	10/4/2018 14:33

Survey Unit	Subunit	Static ID	Insp1k Time
Block 52 - Outer		2	10/5/2018 9:13
Block 52 - Offices		15	10/5/2018 12:01
Hillside - NorthEast		24	10/9/2018 9:11
ICP-2		1	10/9/2018 14:24
Block 52 - Outer		1	10/9/2018 16:44
CS-1	A	6	11/26/2018 11:53
CS-1	A	10	11/26/2018 12:13
CS-1	A	13	11/26/2018 12:14
IC-7		18	11/26/2018 12:38
CS-1	A	2	11/26/2018 12:52
IC-7		17	11/26/2018 13:03
CS-1	A	8	11/26/2018 13:13
IC-5		58	11/26/2018 13:34
IC-1		15	11/26/2018 13:41
IC-4		36	11/26/2018 13:44
CS-1	A	14	11/26/2018 13:51
ICP-2		7	11/26/2018 14:27
Galvez S Sidewalk		12	11/26/2018 14:44
Hillside - SouthEast A		75	11/26/2018 14:57
Innes NW Sidewalk		22	11/26/2018 15:42
IC-3		64	11/26/2018 15:58
Innes NW Sidewalk		17	11/26/2018 16:37
IA-1	B	31	12/3/2018 13:21

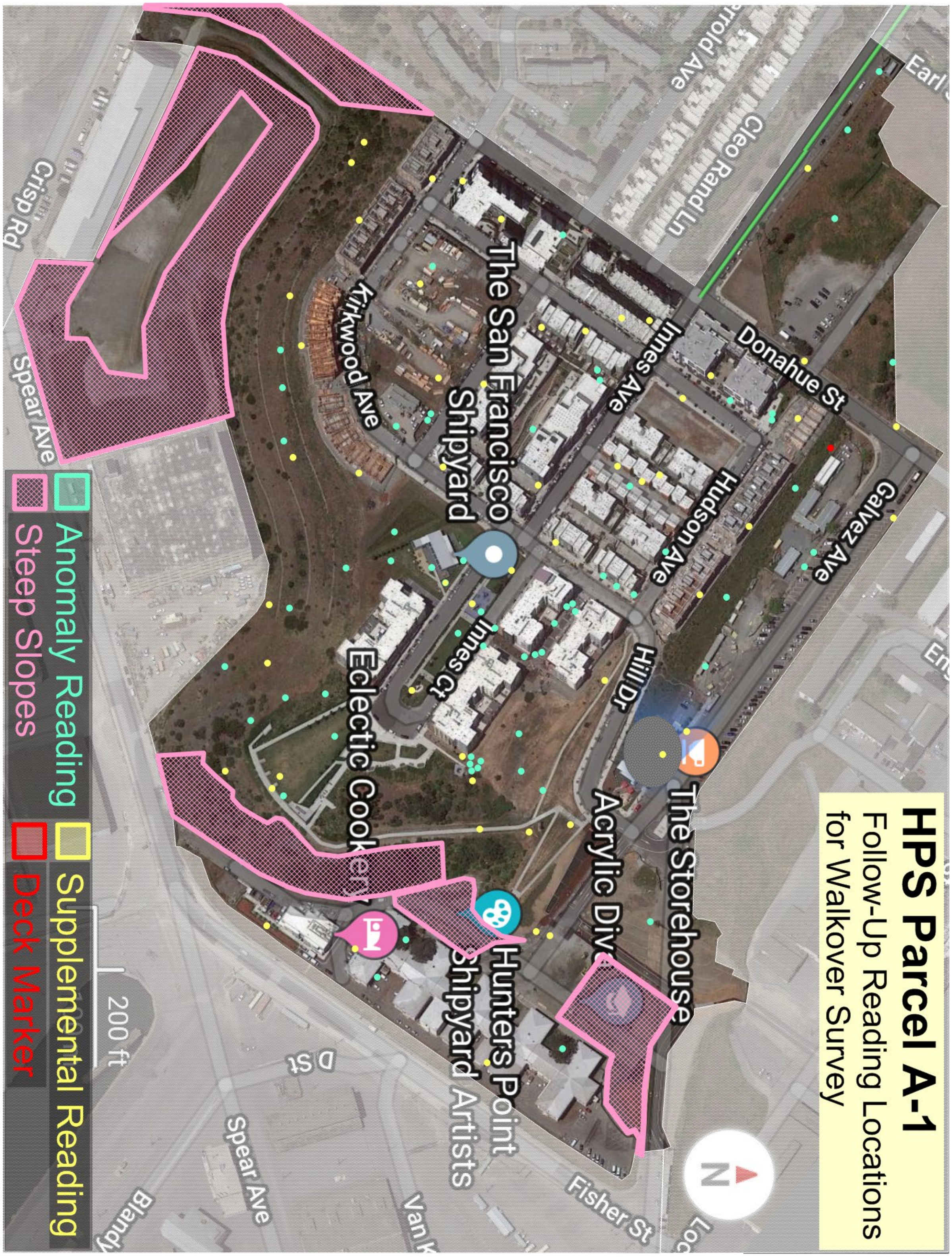
Map 1: Walkover Survey – Survey Areas by Type



Map 2: Walkover Survey – Areas Scanned



Map 3: Walkover Survey – Inspector 1000 Spectroscopy Locations



TOWED ARRAY GAMMA SURVEY

ESSENTIALS TO UNDERSTANDING SURVEY RESULTS

The physics by which the walkover survey and the towed array survey function are identical. The scintillation detectors used for each are made from the same crystalline material, but the towed array is able to use much larger detectors. The walkover survey detector has a volume of about 6 cubic inches while the towed array detectors total approximately 488 cubic inches.

As described in the technical documentation found in Appendix 5, the RS-700 system generates a spectrum by using a multichannel analyzer (MCA) with 1024 channels. Because the energy of gamma rays is unique to each radioactive element, one technique for analysis involves looking at only a small portion of channels that would contain a signal from a specific radioactive element. This subset of channels is known as a region of interest (ROI).

In contrast to the walkover survey in which measurements from a gamma detector are recorded periodically and require the detector to be motionless for 60 seconds in a single location, the towed array generates a spectrum once per second continuously along its path of travel. This feature is due to the difference in volume of the two detectors. However, this also imposes a physical accessibility limitation on the towed array. Most areas of Hunters Point Parcel A-1 are either too confined or too steep to use the larger system.

Another difference to the walkover survey is the collection of Global Positioning Satellite (GPS) data. With an antenna mounted to the towed array, the surveyors did not need to mark their sampling locations on a map. The spectra and the associated locations measured by the towed array are electronic documents consisting of tens of millions of points of data. The electronic recordings are summarized in this report.

SURVEY RESULTS

The Radiation Solutions RS-700 scintillation detector system measured radiation at 55553 positions along streets and large open areas distributed across Parcel A-1. Follow-up measurements at survey locations that exceeded the three-sigma statistical limit were also conducted with the Canberra Inspector 1000 for thirty-minute spectroscopy measurements. In total, 46 anomalies were detected, and all were found to be NORM.

Data Summary Tables

The following tables summarize the data collected, and maps of area surveyed along with locations of anomalies are also provided below.

Table 3 lists by street the number of readings collected by the RS-700 and anomaly spectra collected by the Inspector 1000 ("Insp1k" in tables). No readings by the Falcon 5000 were necessary in support of the towed array survey.

Table 3: Summary of HPS Parcel-1 Towed Array Gamma Survey

Block	RS-700 Readings	Insp1k Anomaly	Falcon 5000
Coleman St.	2118	1	0
Donahue Parking	1864	3	0
Donahue Street	5695	5	0
Friedell Open Area (FS-3RS)	1650	3	0
Friedell Street	6097	2	0
Galvez Avenue	8142	4	0
Hill Drive	2632	2	0
Horn Avenue, Salt Lick Street	5185	4	0
Hudson Avenue	2314	1	0
Innes Avenue	3252	3	0
Innes Court	7331	8	0
Jerrold Avenue	1463	4	0
Kirkwood Avenue	2021	1	0
La Salle Avenue	2032	1	0
Robinson Street	3757	4	0
TOTAL	**55553**	**46**	**0**

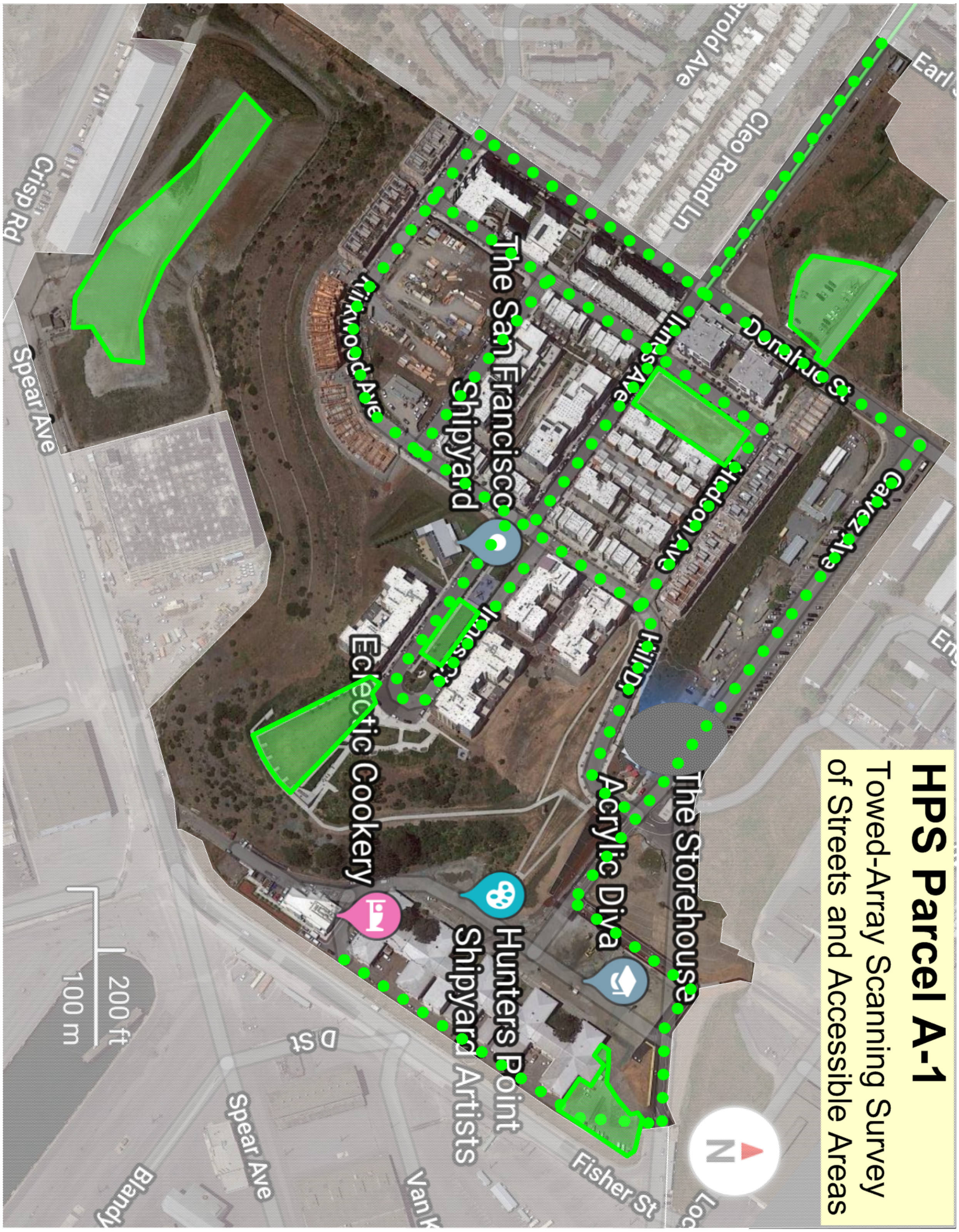
Table 4 lists the locations at which spectra were collected with an Inspector 1000 and the exposure rate measured on contact.

Table 4: Identified Towed Array Survey Anomalies

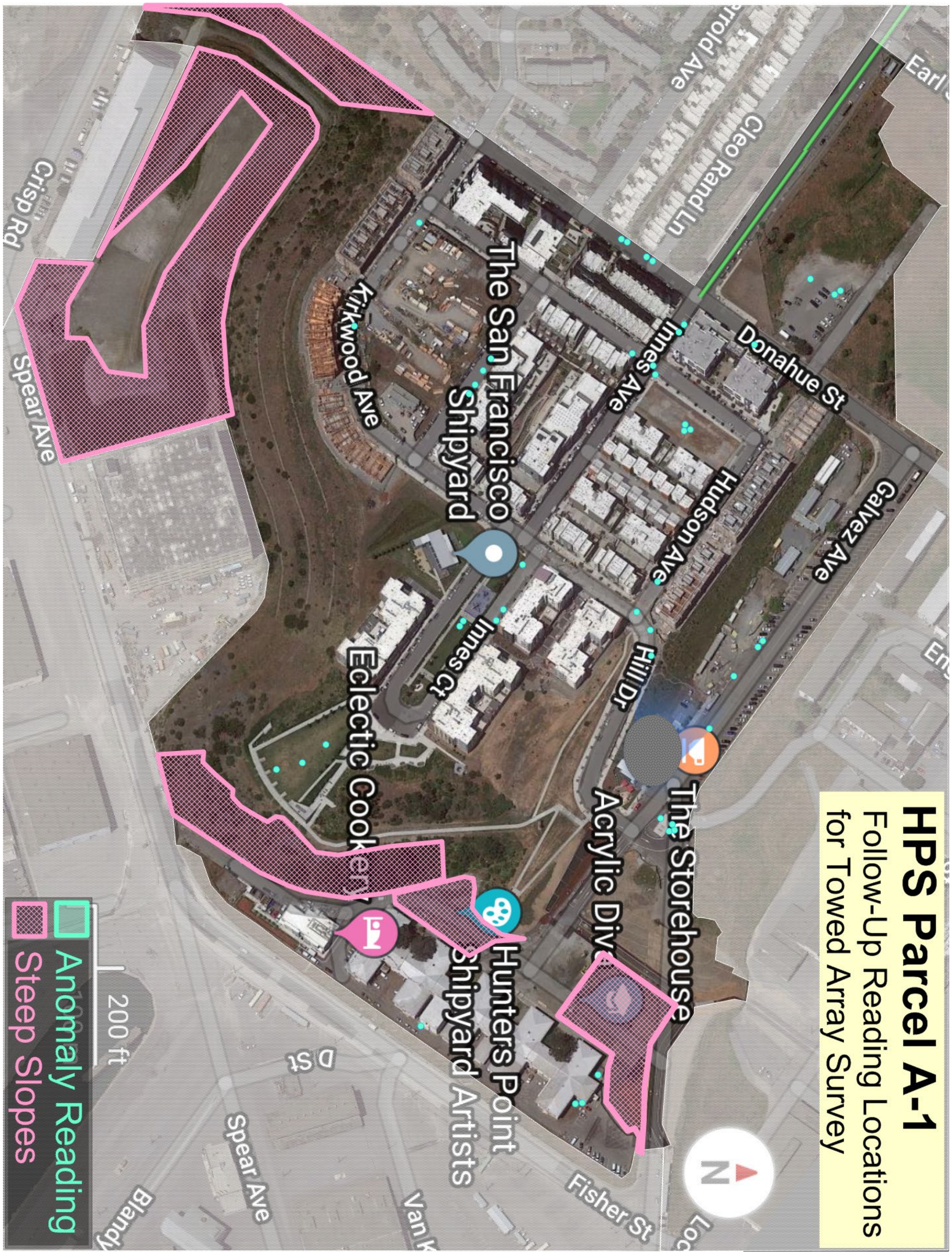
Street	Longitude	Latitude	uR/h
Coleman Street	-122.367816	37.7285383	10.1
Donahue Street	-122.3705853	37.7284278	13
Donahue Street	-122.3704774	37.7285523	11
Donahue Street	-122.3705551	37.7284145	9.6
Donahue Street	-122.3704655	37.7285808	10.9
Donahue Street parking lot	-122.3702093	37.7295964	10.9
Donahue Street parking lot	-122.3702256	37.7296403	11.6
Donahue Street parking lot	-122.370368	37.7295177	10.7
Friedell Street	-122.3696121	37.7286055	8.14

Street	Longitude	Latitude	uR/h
Friedell Street	-122.3697765	37.7284462	8.3
Friedell Street FS-3RS, open area	-122.3691525	37.7287766	9
Friedell Street FS-3RS, open area	-122.3691641	37.7287718	11
Friedell Street FS-3RS, open area	-122.3691503	37.7287754	9
Galvez Avenue	-122.3676311	37.7291292	9.2
Galvez Avenue	-122.36744	37.72903	10.1
Galvez Avenue	-122.3676557	37.7291413	8.5
Galvez Avenue	-122.3670471	37.7289213	9.5
Hill Drive	-122.3679131	37.7284785	10
Hill Drive	-122.3676068	37.7285542	8
Horn Avenue & Salt Lick Street	-122.3643781	37.7281713	11
Horn Avenue & Salt Lick Street	-122.3643671	37.728132	11
Horn Avenue & Salt Lick Street	-122.3649513	37.7272575	9.6
Horn Avenue & Salt Lick Street	-122.3645664	37.728253	11.4
Hudson Avenue	-122.3681118	37.7285934	8.3
Innes Avenue	-122.3698802	37.7287159	8.5
Innes Avenue	-122.3696533	37.7285342	9.6
Innes Avenue	-122.3698119	37.7286971	5.4
Innes Court	-122.3679065	37.7277479	11
Innes Court	-122.367833	37.7276813	9
Innes Court	-122.3683333	37.7277778	11
Innes Court, ICP-3RS, lawn area	-122.3678605	37.7274964	10.4
Innes Court, ICP-3RS, lawn area	-122.3678514	37.7274923	9.4
Innes Court, IC-4RS, Point Park	-122.366844	37.7265781	7.5
Innes Court, IC-4RS, Point Park	-122.3669671	37.726735	7.5
Innes Court, IC-4RS, Point Park	-122.3667428	37.7264672	8.9
Jerrold Avenue	-122.369706	37.7276929	8
Jerrold Avenue	-122.3695166	37.7275844	8.3
Jerrold Avenue	-122.3694162	37.7275075	7.9
Jerrold Avenue	-122.3695859	37.7276233	7.8
Kirkwood Avenue	-122.3698885	37.7268725	7.7
La Salle Avenue	-122.3707063	37.7272537	9.8
Robinson Street	-122.3654655	37.7284849	9.2
Robinson Street	-122.3654178	37.7284742	7.2
Robinson Street	-122.3654461	37.7284893	7.7
Robinson Street	-122.3655368	37.7284084	7.2

Map 4: Towed Array Survey – Areas Scanned



Map 5: Towed Array Survey – Inspector 1000 Spectroscopy Locations



CONCLUSION

In total, the radiation survey detected 110 anomalies with 64 from the walkover survey and 46 from the towed array system. All[1] but one is determined to be NORM, namely potassium-40. The one exception was a Navy radium-containing deck marker. Upon completion of this radiation survey, no radiological health and safety hazards to the residents of Parcel A-1 were observed.

Potassium-40

Potassium-40 is a naturally occurring radioisotope of potassium. It is present as a very small fraction (0.012%) of naturally occurring potassium, which is a substance found throughout nature, including in plants, animals, various foods and our bodies. The potassium-40 detections in Parcel A-1 were mostly in lawn areas, wood chips and other landscapes.

Potassium-40 behaves the same as ordinary potassium, both in the environment and within the human body – potassium is an essential element for both. Detection of potassium-40 is not unusual for a radiation scan of this type and is not a health or safety concern for people or the environment.

Navy Deck Marker

In addition to the naturally occurring potassium-40 that was found, CDPH also detected a radium-containing navy deck marker. The deck marker, which was buried under approximately 10 inches of soil, had a radiation reading of 0.09 mrem/hr on soil surface. Radium is a radioactive substance found in nature and is produced by the radioactive decay of uranium. The amount of radiation output by this deck marker would not have resulted in a health or safety hazard to anyone who happened to be at that spot previously, and radiation readings during and after removal indicated that there was no residual contamination in the soil.

As a comparison, Americans, on average, receive a radiation dose of about 620 mrem each year. Half of this dose comes from natural background radiation. Most of this background exposure comes from radon in the air, with smaller amounts from cosmic rays and the Earth itself. The other half (310 mrem) comes from man-made sources of radiation, including medical, commercial, and industrial sources. Medical procedures account for nearly all (96%) human exposure to man-made radiation. For example, a dental x-ray gives a dose of 1.5 mrem, chest x-ray gives about 10 mrem, a full-body CT gives a dose of 1,000 mrem. To illustrate with another example, an individual would receive 3.5 mrem on a cross-country flight due to higher radiation from cosmic rays at that altitude.

1 A low-energy peak was noticed during data quality review conducted in November 2018. Supplemental field measurements conducted in December 2018 did not replicate this energy peak. Additional measurements will be taken once soil conditions are sufficiently dry.

Since the radiation reading for the deck marker when it was buried was 0.09 mrem/hr on soil surface, a person would have to be sitting on top of the spot for over 16 hours to receive the equivalent amount of radiation as a dental x-ray.

In general, a yearly dose of 620 mrem from all radiation sources has not been shown to cause humans any harm. The CDPH, the US Environmental Protection Agency ("EPA") and the San Francisco Department of Public Health independently determined that the Navy deck marker did not pose a threat to the health or safety of any Parcel A-1 residents, workers, or tenants.

APPENDICES

EXPLANATION OF APPENDICES

Unit and Block Summary: Appendix 1

To streamline personnel organization among the 48 CDPH health physicists that participated during the 18 weeks of the project, HPS Parcel A-1 was broken into 80 survey units (SU) that spanned 15 construction blocks or regions. Early working drafts of project maps used 11 master survey units (MSU) to organize working data, but this report will instead use the block numbers used during construction and alternate descriptors for areas without buildings. Appendix 1 contains a table summarizing the relationship between master survey units, blocks, survey units, and the number of statics and spectra taken within each survey unit.

Static Measurement Table: Appendix 2

The gamma count rate measured by a Ludlum 44-10 2”x2” NaI detector paired to either a Ludlum 2220 or 2221 meter and the exposure rate measured by a Ludlum Model 19 meter, as summarized in table form in Appendix 2, are organized in table form as follows:

Survey Unit
This header is the designated unit of work as presented to the CDPH health physicists.

Subunit
If a multiple teams cooperated on a single survey unit, this header designates the separation.

Static ID
This header designates the order in which static measurements were collected.

CPM
This is the value of the count rate reading at each Static ID in counts per minute (CPM) as read by a Ludlum 44-10.

CPM 2nd
If a second CPM reading at the same Static ID were required, this is the reading.

uR/h
This is the value of the exposure rate reading at each Static ID in micro-Roentgen per Hour as read by a Ludlum Model 19.

uR/h 2nd
If a second uR/h reading at the same Static ID were required, this is the reading.

Canberra Inspector 1000 and Falcon 5000 Spectra: Appendices 3, 4, and 7

The gamma spectra collected by the Canberra Inspector 1000 and Falcon 5000, presented as images in Appendices 3 and 4, respectively, are organized as follows:

Title
The heading following “PeakEasy Ver. 4.98.ld” lists the block, survey unit, A for Anomaly or S for Supplement, static ID, year, month, date, and time that the spectrum collection completed in the following manner:

[Block] – [Survey Unit] [A/S]#[StaticID] [Year][Month][Day][Hour][Minute][Second]

Livetime
This is the period of time during which signals from the detector were measured.

Energy (keV)
This is the channel in which a signal was measured. The calibration procedure assigns an energy, in kiloelectron-Volts (keV), to each channel.

Counts
This is the number of times a signal was received per channel during the counting period, presented on a logarithmic scale.

Towed Array Data Plots: Appendix 6

The towed array data summary, presented in Appendix 6, consists of three tables and six maps for each of the 17 survey units. In Appendix 6, both Table A and Table C have six data columns corresponding to six regions of interest, and each region has an associated map. The regions of interest are Range(45-1980), Potassium, Ra-226(1764), Thorium, Ra-226(609), and Cs-137. Table B lists only three of the regions of interest due to overlap of some channels. On the maps, a key is displayed on the bottom right of the page if any measurements exceeded the action level.

APPENDIX 1: WALKOVER SURVEY – UNIT AND BLOCK SUMMARY

(3 Pages)

Block	MSU[4]	Survey Unit	2"x2" NaI Static	Insp1k Anomaly	Insp1k Supplement	Falcon 5000
49	4	DS-3&4 Ext	34	0	1	0
49	4	DS-3&4 Inner	10	0	1	0
50	4	DS-2, FS-6 Ext	36	0	1	0
50	4	DS-2, FS-6 Inner	19	0	1	0
51	4	FS-4&5 Ext	48	3	0	0
51	4	FS-4&5 Inner	13	0	1	0
52	5	Block 52 - E	56	0	1	0
52	5	Block 52 - Mid	41	0	1	0
52	5	Block 52 - Offices	15	1	0	0
52	5	Block 52 - Outer	28	2	0	0
52	5	Block 52 - W	59	1	1	0
53	2	CS-5	31	0	1	0
53	2	CS-6	39	0	1	0
53	2	FS-1	21	0	1	0
53	2	IA-1	38	2	0	0
53	2	ICJ Park	28	1	0	0
53	2	JA-1	17	0	2	0
54	2	CS-3	35	3	0	0
54	2	CS-4	33	0	1	0
54	3	Avocet Backyards	59	0	0	0
54	3	AW-1	17	0	1	0
54	3	FS-2	6	0	1	0
54	3	HA-1	23	1	0	0
54	3	HA-2	32	0	1	0
54	3	IA-2	13	1	0	0
54	3	IA-3	22	0	1	0
56	1	IC-1	148	3	1	0
56	1	IC-2	140	1	0	0
57	1	CS-1	89	11	0	0
57	1	IC-7	30	2	1	0
57	2	CS-2	81	0	1	0
101	8	101 NE	30	0	1	0
101	8	101 NW	48	1	0	0
101	8	101 S	40	0	1	0
101	8	101 SE	17	1	0	0

[4] Master Survey Unit

Block	MSU[4]	Survey Unit	2"x2" NaI Static	Insp1k Anomaly	Insp1k Supplement	Falcon 5000
101	8	101 SW	41	1	0	0
101	8	101 Sidewalk	18	0	1	0
101	8	Future Artist	65	0	1	0
101	8	Robinson Hill	151	1	0	0
101	8	101 Kitchen	50	0	1	0
55-N	11	Block 55-N5	47	0	1	0
55-N	11	Block 55-N6	46	0	1	0
55-N	11	Block 55-N7	40	0	1	0
55-S	6	Block 55-S1	47	0	1	0
55-S	6	Block 55-S2	47	0	1	0
55-S	6	Block 55-S3	24	0	1	0
55-S	6	Block 55-S4	62	0	1	0
Hillside	1	IC-3	113	3	0	0
Hillside	7	Hillside - East A	56	0	1	0
Hillside	7	Hillside - East B	56	0	1	0
Hillside	7	Hillside - Sidewalks	96	0	1	0
Hillside	7	Hillside - North	150	3	0	0
Hillside	7	Hillside - NorthEast	25	1	0	0
Hillside	10	Hillside - Concrete Gutters	68	0	1	0
Hillside	10	Hillside - South	192	2	0	0
Hillside	10	Hillside - SouthEast A	77	1	1	0
Hillside	10	Hillside - SouthEast B	42	0	1	0
Hillside	10	Hillside - Southwest 1	60	0	1	0
Hillside	10	Hillside - Southwest 2	114	0	1	0
Hillside	10	Hillside - Southwest 3	157	2	0	0
Hillside	10	Hillside - Southwest 4	87	1	2	1* (pending)
North	9	Galvez Hill	110	3	0	1
North	9	Galvez NW Field	91	1	0	0
North	9	Galvez W Grass	15	0	1	0
North	9	Galvez N Sidewalk	23	0	1	0
North	9	Galvez S Sidewalk	14	2	0	0
North	9	Innes NW Sidewalk	30	2	1	0
North	9	Lennar Const. Offices	38	1	0	0
North	9	North Parking Field	183	1	0	0
North	9	NW Bus Stop	32	0	1	0
North	9	Storehouse - Sidewalks	43	0	1	0
North	9	Storehouse - Terrain	95	0	1	0
Park 49/50	4	DF-park	45	1	0	0
Park 56/57	1	IC-4	60	1	1	0

Block	MSU[4]	Survey Unit	2"x2" NaI Static	Insp1k Anomaly	Insp1k Supplement	Falcon 5000
Park 56/57	1	IC-5	74	1	1	0
Park 56/57	1	IC-6	71	0	1	0
Park 56/57	1	ICP-1	8	0	1	0
Park 56/57	1	ICP-2	13	2	0	0
Park 56/57	1	ICP-3	18	0	1	0
Park 56/57	1	ICP-4	37	0	1	0

APPENDIX 2: WALKOVER SURVEY – STATIC MEASUREMENT TABLE

(111 Pages)

Static Reading Color Key
Anomaly above the action level, Inspector 1000 spectrum collected
Reading below the action level, supplemental Inspector 1000 spectrum collected
Reading below the action level, no spectrum collected

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-1	A	1	7043		6	
CS-1	**A**	**2**	**7844**		**6**	
CS-1	A	3	7304		6	
CS-1	A	4	7503		6	
CS-1	A	5	7754		6	
CS-1	**A**	**6**	**6974**		**6**	
CS-1	A	7	6465		6	
CS-1	**A**	**8**	**7010**		**6**	
CS-1	A	9	6581		6	
CS-1	**A**	**10**	**7171**		**6**	
CS-1	A	11	6273		6	
CS-1	A	12	6220		6	
CS-1	**A**	**13**	**6582**		**6**	
CS-1	**A**	**14**	**6590**		**6**	
CS-1	A	15	6188		6	
CS-1	A	16	6075		6	
CS-1	A	17	6151		6	
CS-1	A	18	5721		6	
CS-1	A	19	5793		6	
CS-1	A	20	5803		6	
CS-1	A	21	5727		6	
CS-1	A	22	5493		6	
CS-1	A	23	5433		6	
CS-1	A	24	5401		6	
CS-1	A	25	5502		6	
CS-1	A	26	5614		6	
CS-1	B	1	5583		4.5	
CS-1	B	2	6288	6136	5	

[5] Counts per Minute
[6] Micro-Roentgen per Hour

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-1	**B**	**3**	**6859**		**5.5**	
CS-1	B	4	4773		3.5	
CS-1	**B**		**7266**		**7**	
CS-1	B	6	5340		4	
CS-1	B	7	5652		4.5	
CS-1	**B**	**8**	**6573**		**6**	
CS-1	B	9	6256		5	
CS-1	B	10	4956		3.5	
CS-1	B	11	5103		4	
CS-1	B	12	6165		4	
CS-1	**B**	**13**	**7031**		**6.5**	
CS-1	B	14	4837		4.5	
CS-1	B	15	5345		4.5	
CS-1	B	16	5476		4.5	
CS-1	B	17	5978		5	
CS-1	B	18	6148		5	
CS-1	B	19	6172		5	
CS-1	B	20	5248		4	
CS-1	B	21	4791		4	
CS-1	B	22	5222		4	
CS-1	**B**	**23**	**6447**		**5.5**	
CS-1	B	24	4623		3.5	
CS-1	B	25	4694		4	
CS-1	B	26	4383		3.5	
CS-1	B	27	4395		3.5	
CS-1	B	28	10931		9	
CS-1	B	29	9029		7.5	
CS-1	B	30	8771		7	
CS-1	B	31	9200		8	
CS-1	B	32	9437		7	
CS-1	B	33	7569		7	
CS-1	B	34	8998		6.5	
CS-1	B	35	9242		8	
CS-1	B	36	9141		8	
CS-1	C	1	6265		6	
CS-1	C	2	7054		6	
CS-1	C	3	6658		6	
CS-1	C	4	5255		5	
CS-1	C	5	4439		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-1	C	6	3908		4	
CS-1	C	7	5584		5	
CS-1	C	8	6314		5	
CS-1	C	9	6447		6	
CS-1	C	10	6319		6	
CS-1	C	11	6045		6	
CS-1	C	12	6227		6	
CS-1	D	1	5972		4.5	
CS-1	D	2	6666		5	
CS-1	D	3	5814		4.5	
CS-1	D	4	5234		4.5	
CS-1	D	5	6095		4.5	
CS-1	D	6	6700		5.5	
CS-1	D	7	6088		5	
CS-1	D	8	6097		4.75	
CS-1	D	9	6651		5.5	
CS-1	D	10	6383		5	
CS-1	D	11	5934		5	
CS-1	D	12	5710		5	
CS-1	D	13	6550		5	
CS-1	D	14	6595		5	
IC-1		1	10212		8	
IC-1		2	8880		9	
IC-1		3	9011		10	
IC-1		4	9920		11	
IC-1		5	9183		10	
IC-1		6	10181		10	
IC-1		7	9202		10	
IC-1		8	9503		11	
IC-1		9	9508		10	
IC-1		10	10295		9	
IC-1		11	9900		10	
IC-1		12	9613		9	
IC-1		13	9394		10	
IC-1		14	9476		10	
IC-1		**15**	**12891**		**15**	
IC-1		16	6303		5	
IC-1		17	8302		8	
IC-1		18	8408		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-1		19	8296		7	
IC-1		20	8342		9	
IC-1		21	8432		8	
IC-1		22	8263		9	
IC-1		**23**	**8941**		**9**	
IC-1		24	8404		9	
IC-1		25	8356		8	
IC-1		26	7483		8	
IC-1		27	3874		4	
IC-1		28	4494		5	
IC-1		29	3724		4	
IC-1		30	4438		5	
IC-1		**31**	**5890**		**6**	
IC-1		32	4865		6	
IC-1		33	4541		5	
IC-1		34	5599		5	
IC-1		35	5114		6	
IC-1		36	5419		6	
IC-1		37	5935		6	
IC-1		38	6544		7	
IC-1		39	6376		7	
IC-1		40	6048		6	
IC-1		41	5938		7	
IC-1		42	5809		6	
IC-1		43	5908		6	
IC-1		44	5589		5	
IC-1		45	5498		5	
IC-1		46	5341		6	
IC-1		47	5870		6	
IC-1		48	7016		7	
IC-1		49	6367		7	
IC-1		50	6554		7	
IC-1		51	6256		5	
IC-1		52	6553		7	
IC-1		53	5614		6	
IC-1		54	5847		6	
IC-1		55	6738		7	
IC-1		56	6520		6	
IC-1		57	5794		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-1		58	5702		7	
IC-1		59	5660		5	
IC-1		60	5705		6	
IC-1		61	5950		6	
IC-1		62	6257		6	
IC-1		63	5913		6	
IC-1		64	6157		7	
IC-1		65	4720		5	
IC-1		66	6116		6	
IC-1		67	6105		7	
IC-1		68	5902		6	
IC-1		69	5716		7	
IC-1		70	6174		6	
IC-1		71	6357		6	
IC-1		72	5844		7	
IC-1		73	6270		6	
IC-1		74	4057		4	
IC-1		75	4196		6	
IC-1		76	4479		5	
IC-1		77	5333		5	
IC-1		78	5078		5	
IC-1		79	5703		6	
IC-1		80	5430		6	
IC-1		81	5164		5	
IC-1		82	4922		5	
IC-1		83	4176		5	
IC-1		84	4656		5	
IC-1		85	4410		7	
IC-1		86	4424		7	
IC-1		87	4500		6	
IC-1		88	4369		5	
IC-1		89	4243		5	
IC-1		90	4426		6	
IC-1		91	5596		6	
IC-1		92	4708		6	
IC-1		93	4455		5	
IC-1		94	5483		7	
IC-1		95	4334		6	
IC-1		96	3877		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-1		97	5818		5	
IC-1		**98**	**6333**		**6**	
IC-1		99	5909		7	
IC-1		100	8546		8	
IC-1		101	4831		6	
IC-1		102	4783		5	
IC-1		103	5418		6	
IC-1		104	4237		4	
IC-1		105	4424		4	
IC-1		106	4289		5	
IC-1		107	4431		4	
IC-1		108	4111		4	
IC-1		109	6338		6	
IC-1		110	6541		6	
IC-1		111	5937		6	
IC-1		112	4792		5	
IC-1		113	7554		8	
IC-1		114	5262		6	
IC-1		115	5756		6	
IC-1		116	5631		7	
IC-1		117	5970		7	
IC-1		118	5806		6	
IC-1		119	5512		6	
IC-1		120	5756		6	
IC-1		121	5763		7	
IC-1		122	6088		5	
IC-1		123	5760		7	
IC-1		124	5668		6	
IC-1		125	5860		6	
IC-1		126	5619		6	
IC-1		127	5864		7	
IC-1		128	5514		6	
IC-1		129	5805		7	
IC-1		130	5811		6	
IC-1		131	5644		6	
IC-1		132	5615		7	
IC-1		133	5557		6	
IC-1		134	5162		5	
IC-1		135	5459		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-1		136	5700		5	
IC-1		137	5297		6	
IC-1		138	4316		4	
IC-1		139	4299		6	
IC-1		140	6179		6	
IC-1		141	6175		7	
IC-1		142	5980		6	
IC-1		143	6056		6	
IC-1		144	6379		8	
IC-1		145	6012		7	
IC-1		146	6110		6	
IC-1		147	5660		7	
IC-1		148	4316		6	
IC-2	A	1	5050		4	
IC-2	A	2	5013		4	
IC-2	A	3	5110		4	
IC-2	A	4	5171		4	
IC-2	A	5	5566		4	
IC-2	A	6	6265		5	
IC-2	A	7	5064		4	
IC-2	A	8	5556		4.5	
IC-2	A	9	5268		4	
IC-2	A	10	5465		4	
IC-2	A	11	5164		4	
IC-2	A	12	5111		4	
IC-2	A	13	5264		4	
IC-2	A	14	5376		4	
IC-2	A	15	5360		4	
IC-2	A	16	5297		4.5	
IC-2	A	17	4542		4	
IC-2	A	18	4794		4	
IC-2	A	19	5066		4	
IC-2	A	20	4700		4	
IC-2	A	21	4952		4	
IC-2	A	22	4589		4	
IC-2	A	23	4844		3	
IC-2	A	24	4191		4	
IC-2	A	25	4566		3.5	
IC-2	A	26	4086		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-2	A	27	4725		3.5	
IC-2	A	28	5061		4	
IC-2	A	29	5137		4	
IC-2	A	30	5871		4.5	
IC-2	A	31	5536		3.5	
IC-2	A	32	6027		4	
IC-2	A	33	6582		5	
IC-2	A	34	5014		3.5	
IC-2	A	35	5321		3.5	
IC-2	A	36	10188		5.5	
IC-2	A	37	6696		4.5	
IC-2	A	38	3237		3.5	
IC-2	B	1	5391		4.75	
IC-2	B	2	5780		5	
IC-2	B	3	5137		4	
IC-2	B	4	5713		4.5	
IC-2	B	5	5778		5.5	
IC-2	B	6	6565		5	
IC-2	B	7	6631		5.25	
IC-2	B	8	6418		5	
IC-2	B	9	6418		6.25	
IC-2	B	10	6463		5	
IC-2	B	11	6301		5.75	
IC-2	B	12	6281		6	
IC-2	B	13	6188		5.1	
IC-2	B	14	6017		5	
IC-2	B	15	6117		5.5	
IC-2	B	16	5746		4.75	
IC-2	B	17	6023		5.5	
IC-2	B	18	5348		5	
IC-2	B	19	6123		5.5	
IC-2	B	20	5771		5.25	
IC-2	B	21	5713		5.25	
IC-2	B	22	6282		5.5	
IC-2	B	23	5877		5.75	
IC-2	B	24	5740		5	
IC-2	B	25	5967		5	
IC-2	B	26	5697		4.75	
IC-2	B	27	5306		5.25	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-2	**B**	**28**	**7405**		**6**	
IC-2	B	29	5554		5	
IC-2	B	30	5394		4.75	
IC-2	B	31	5624		5.25	
IC-2	B	32	5533		5	
IC-2	B	33	4940		4.5	
IC-2	B	34	4868		4.75	
IC-2	B	35	6320		5.5	
IC-2	B	36	4803		4.5	
IC-2	B	37	4837		4	
IC-2	B	38	5193		4.25	
IC-2	B	39	5343		4.75	
IC-2	B	40	5791		4.75	
IC-2	B	41	4725		4.5	
IC-2	B	42	6758		6	
IC-2	B	43	6547		5.75	
IC-2	B	44	6755		6	
IC-2	B	45	6696		6	
IC-2	B	46	6938		6	
IC-2	B	47	6964		6	
IC-2	B	48	6908		6	
IC-2	B	49	6839		6	
IC-2	B	50	6667		6	
IC-2	B	51	6740		6	
IC-2	B	52	6919		6	
IC-2	B	53	7105	6966	6	
IC-2	B	54	7195	7338	6	
IC-2	B	55	7426		6	
IC-2	B	56	7712		6	
IC-2	B	57	7008		5.75	
IC-2	B	58	7577		6	
IC-2	B	59	7144		6	
IC-2	B	60	7250		6	
IC-2	B	61	7186		6.5	
IC-2	B	62	7274		6	
IC-2	B	63	7733		7	
IC-2	B	64	5716		5	
IC-2	B	65	7058		6	
IC-2	B	66	6664		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-2	B	67	6619		5	
IC-2	B	68	6070		5.5	
IC-2	B	69	5603		5	
IC-2	B	70	6321		5.5	
IC-2	B	71	6593		6	
IC-2	B	72	6563		5	
IC-2	B	73	6185		6	
IC-2	B	74	6432		5.5	
IC-2	B	75	6633		6	
IC-2	B	76	6248		5	
IC-2	B	77	6545		6	
IC-2	B	78	5536		4.5	
IC-2	B	79	7076		6	
IC-2	B	80	6874		6	
IC-2	B	81	7372		6.25	
IC-2	B	82	6177		6	
IC-2	B	83	6388		6	
IC-2	B	84	6225		5.5	
IC-2	B	85	5639		5	
IC-2	B	86	5618		5	
IC-2	B	87	6018		5	
IC-2	B	88	5723		5	
IC-2	B	89	6067		6	
IC-2	B	90	5821		5.25	
IC-2	B	91	6195		5.25	
IC-2	B	92	5798		6	
IC-2	B	93	6795		5.75	
IC-2	B	94	6258		5.75	
IC-2	B	95	6524		6	
IC-2	B	96	6370		6	
IC-2	B	97	6296		5	
IC-2	B	98	6783		6	
IC-2	B	99	6290		6	
IC-2	B	100	5925		5.5	
IC-3		1	6727		6	
IC-3		2	5850		6	
IC-3		3	6092		7	
IC-3		4	6055		6	
IC-3		5	7368		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-3		6	7574		8	
IC-3		7	7492		7	
IC-3		8	6754		7	
IC-3		9	7038		6	
IC-3		10	5768		6	
IC-3		11	5982		6	
IC-3		12	7371		7	
IC-3		13	6878		8	
IC-3		14	7413		7	
IC-3		15	5625		6	
IC-3		16	5735		7	
IC-3		17	5445		6	
IC-3		18	5463		6	
IC-3		19	6847		7	
IC-3		**20**	**8033**		**8**	
IC-3		21	6053		7	
IC-3		22	6426		7	
IC-3		23	5903		7	
IC-3		24	5698		6	
IC-3		25	5656		6	
IC-3		26	5960		6	
IC-3		27	6152		7	
IC-3		28	6262		7	
IC-3		29	5379		6	
IC-3		30	6581		7	
IC-3		31	5999		6	
IC-3		32	6548		6	
IC-3		33	6253		7	
IC-3		34	6465		7	
IC-3		**35**	**7066**		**8**	
IC-3		36	6318		7	
IC-3		37	6545		7	
IC-3		38	6303		6	
IC-3		39	6555		7	
IC-3		40	6201		7	
IC-3		41	6220		7	
IC-3		42	6191		7	
IC-3		43	5884		7	
IC-3		44	5696		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-3		45	5244		6	
IC-3		46	5782		6	
IC-3		47	6098		7	
IC-3		48	6691		8	
IC-3		49	6217		6	
IC-3		50	6121		7	
IC-3		51	5679		7	
IC-3		52	6496		7	
IC-3		53	6720		7	
IC-3		54	5806		6	
IC-3		55	4989		5	
IC-3		56	6124		6	
IC-3		57	6023		6	
IC-3		58	5824		7	
IC-3		59	5757		6	
IC-3		60	6099		7	
IC-3		61	6457		8	
IC-3		62	7288		8	
IC-3		63	6874		7	
IC-3		**64**	**7815**		**8**	
IC-3		65	7619		8	
IC-3		66	7460		8	
IC-3		67	6988		8	
IC-3		68	6740		8	
IC-3		69	7332		8	
IC-3		70	5712		6	
IC-3		71	5752		6	
IC-3		72	6417		7	
IC-3		73	6203		7	
IC-3		74	6446		7	
IC-3		75	6476		7	
IC-3		76	6428		7	
IC-3		77	6234		6	
IC-3		78	6263		7	
IC-3		79	6327		7	
IC-3		80	6626		7	
IC-3		81	6139		6	
IC-3		82	6367		7	
IC-3		83	6283		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-3		84	5988		6	
IC-3		85	5981		6	
IC-3		86	6817		7	
IC-3		87	6712		7	
IC-3		88	4856		5	
IC-3		89	5027		6	
IC-3		90	4837		5	
IC-3		91	4808		5	
IC-3		92	4799		5	
IC-3		93	5048		5	
IC-3		94	5160		5	
IC-3		95	5097		5	
IC-3		96	4718		5	
IC-3		97	5009		5	
IC-3		98	5084		5	
IC-3		99	5054		5	
IC-3		100	4820		5	
IC-3		101	4971		5	
IC-3		102	4970		5	
IC-3		103	4881		5	
IC-3		104	4878		5	
IC-3		105	5025		5	
IC-3		106	4885		5	
IC-3		107	4891		5	
IC-3		108	4333		5	
IC-3		109	4853		5	
IC-3		110	4860		5	
IC-3		111	4563		5	
IC-3		112	4727		5	
IC-3		113	5964		5	
IC-4		1	6672		7	
IC-4		2	6141		7	
IC-4		3	6300		7	
IC-4		4	6245		7	
IC-4		5	6277		7	
IC-4		6	6062		7	
IC-4		7	6356		6.5	
IC-4		8	6228		7	
IC-4		9	6217		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-4		10	5858		6.5	
IC-4		11	6429		7	
IC-4		12	6127		7	
IC-4		13	6207		7	
IC-4		14	6338		7	
IC-4		15	6279		7	
IC-4		16	6407		7.5	
IC-4		17	6969		7.5	
IC-4		18	6345		7	
IC-4		19	6579		7.5	
IC-4		20	6705		7.5	
IC-4		21	7012		8	
IC-4		22	6935		7.5	
IC-4		23	6525		7.5	
IC-4		24	6894		7.5	
IC-4		25	7056		7.5	
IC-4		26	6681		7	
IC-4		27	6363		6.5	
IC-4		28	6279		7	
IC-4		29	6679		7	
IC-4		30	7099		7	
IC-4		31	5997		6.5	
IC-4		32	6887		7.5	
IC-4		33	7074		7.5	
IC-4		34	6238		7	
IC-4		35	7166		7.5	
IC-4		**36**	**6982**		**6.5**	
IC-4		37	6697		8	
IC-4		38	7155		8	
IC-4		39	6461		7	
IC-4			**7497**		**8**	
IC-4		41	7162		8	
IC-4		42	6971		8	
IC-4		43	6585		7	
IC-4		44	6658		7	
IC-4		45	6372		7	
IC-4		46	6778		7.5	
IC-4		47	7167		8	
IC-4		48	7354		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-4		49	6457		7	
IC-4		50	7087		7.5	
IC-4		51	6732		7	
IC-4		52	6603		7.5	
IC-4		53	7284		7.5	
IC-4		54	7334		8	
IC-4		55	6793		7.5	
IC-4		56	6905		7	
IC-4		57	7065		7.5	
IC-4		58	7308		8	
IC-4		59	6814		8	
IC-4		60	7206		8	
IC-5		1	4746		4	
IC-5		2	4550		3.5	
IC-5		3	4612		3.5	
IC-5		4	4812		4	
IC-5		5	4926		4	
IC-5		6	4421		4	
IC-5		7	4508		4	
IC-5		8	4749		4	
IC-5		9	4640		4	
IC-5		10	4668		4	
IC-5		11	4925		4	
IC-5		12	4656		4	
IC-5		13	4791		3.5	
IC-5		14	5071		4	
IC-5		15	4675		4	
IC-5		16	4356		3.5	
IC-5		17	4608		4	
IC-5		18	4847		4	
IC-5		19	4648		4	
IC-5		20	4288		3.5	
IC-5		21	4692		3.5	
IC-5		22	4713		4	
IC-5		23	4822		4	
IC-5		24	4367		4	
IC-5		25	4579		3.5	
IC-5		26	4599		4	
IC-5		27	4860		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-5		28	4433		3.5	
IC-5		29	4690		4	
IC-5		30	4634		4	
IC-5		31	4779		4	
IC-5		32	5006		4	
IC-5		33	4738		4	
IC-5		34	4536		4	
IC-5		35	4443		4	
IC-5		36	5131	5200	4	
IC-5		37	4655		4	
IC-5		38	5238		4	
IC-5		39	5182		4	
IC-5		40	4813		4	
IC-5		41	4624		3	
IC-5		42	3882		3.5	
IC-5		43	4881		4	
IC-5		44	5289		4	
IC-5		45	4901		4	
IC-5		46	4983		4	
IC-5		47	4813		4	
IC-5		48	5006		4	
IC-5		49	4794		4	
IC-5		50	4988		4	
IC-5		51	4900		4	
IC-5		52	5236		4	
IC-5		53	5066		4	
IC-5		54	4850		4	
IC-5		55	4821		4	
IC-5		**56**	**6738**		**5.5**	
IC-5		57	6567		5.5	
IC-5		**58**	**5469**		**5**	
IC-5		59	5398		5	
IC-5		60	5357		4.5	
IC-5		61	5330		4	
IC-5		62	5341		5	
IC-5		63	5432		4	
IC-5		64	5230		4.5	
IC-5		65	5122		4.5	
IC-5		66	5065		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-5		67	4789		4	
IC-5		68	5786		4	
IC-5		69	6492		5.5	
IC-5		70	6037		5	
IC-5		71	6128		5	
IC-5		72	6099		5	
IC-5		73	6618		5	
IC-6		1	7011		7	
IC-6		2	7792		8	
IC-6		**3**	**8246**		**9**	
IC-6		4	7037		6.5	
IC-6		5	6141		7	
IC-6		6	7003		7	
IC-6		7	6198		6.5	
IC-6		8	6165		6.5	
IC-6		9	6463		7	
IC-6		10	6471		6.5	
IC-6		11	6581		7	
IC-6		12	6981		7	
IC-6		13	6174		6.5	
IC-6		14	6666		7	
IC-6		15	6458		6.5	
IC-6		16	6227		7	
IC-6		17	6322		6.5	
IC-6		18	6406		6	
IC-6		19	6576		7	
IC-6		20	6545		7	
IC-6		21	6357		7	
IC-6		22	6407		7	
IC-6		23	6432		7.5	
IC-6		24	6562		7	
IC-6		25	6457		6.5	
IC-6		26	6444		7	
IC-6		27	6471		6.5	
IC-6		28	6795		7	
IC-6		29	6679		7	
IC-6		30	6388		6.5	
IC-6		31	6455		6	
IC-6		32	6722		6.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-6		33	4698		4.5	
IC-6		34	5322		5.5	
IC-6		35	5391		5.5	
IC-6		36	5557		6	
IC-6		37	5283		5.5	
IC-6		38	5297		5.5	
IC-6		39	4868		5	
IC-6		40	5195		4.5	
IC-6		41	4897		5	
IC-6		42	4804		5	
IC-6		43	5017		5.5	
IC-6		44	4654		4.5	
IC-6		45	4675		4.5	
IC-6		46	4716		5	
IC-6		47	5013		5	
IC-6		48	5064		4.5	
IC-6		49	5135		5	
IC-6		50	4854		5	
IC-6		51	5009		5	
IC-6		52	4892		5	
IC-6		53	5051		5.5	
IC-6		54	5248		5.5	
IC-6		55	5086		5	
IC-6		56	5187		5.5	
IC-6		57	4963		5	
IC-6		58	5185		5.5	
IC-6		59	5212		5	
IC-6		60	4791		4.5	
IC-6		61	5265		5	
IC-6		62	4917		5	
IC-6		63	5400		5	
IC-6		64	5327		5	
IC-6		65	5656		5.5	
IC-6		66	5210		5.5	
IC-6		67	5636		5.5	
IC-6		68	5265		5	
IC-6		69	5001		5.5	
IC-6		70	6214		5.5	
IC-6		71	5214		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IC-7		1	5353		6	
IC-7		2	5960		6	
IC-7		3	5383		5.75	
IC-7		4	5674		6.5	
IC-7		5	6224		5.5	
IC-7		6	3935		4.25	
IC-7		7	6396		7	
IC-7		**8**	**7078**		**7.75**	
IC-7		9	5890		6	
IC-7		10	6171		6.75	
IC-7		11	6329		6.25	
IC-7		12	6476		6.5	
IC-7		13	6121		6	
IC-7		14	5991		6.25	
IC-7		15	5938		7	
IC-7		16	6164		6.75	
IC-7		**17**	**6738**		**7.75**	
IC-7		**18**	**7089**		**6.75**	
IC-7		19	5043		7	
IC-7		20	6645		6.75	
IC-7		21	6618		6.25	
IC-7		22	6321		7.5	
IC-7		23	6309		7.25	
IC-7		24	5702		6.75	
IC-7		25	6164		6.5	
IC-7		26	5866		5.5	
IC-7		27	5811		5.5	
IC-7		28	5937		6.75	
IC-7		29	5936		6.25	
IC-7		30	5989		6.25	
ICP-1		1	5160		5	
ICP-1		2	6040		5	
ICP-1		3	6106		5	
ICP-1		4	5902		5	
ICP-1		5	5993		5	
ICP-1		6	5579		5	
ICP-1		7	6087		5	
ICP-1		**8**	**6565**		**5**	
ICP-2		**1**	**6801**		**6**	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
ICP-2		2	5980		5	
ICP-2		3	6175		5	
ICP-2		4	5904		5	
ICP-2		5	5811		5	
ICP-2		6	6034		5	
ICP-2		**7**	**6693**		**5**	
ICP-2		8	6148		5	
ICP-2		9	4973		5	
ICP-2		10	4998		5	
ICP-2		11	4858		5	
ICP-2		12	4800		5	
ICP-2		13	6193		5	
ICP-3		1	6222		6	
ICP-3		2	6156		6	
ICP-3		3	6119		6	
ICP-3		4	6136		6	
ICP-3		**5**	**6233**		**6**	
ICP-3		6	6221		6	
ICP-3		7	6082		6	
ICP-3		8	6105		6	
ICP-3		9	6218		6	
ICP-3		10	6045		6	
ICP-3		11	5810		6	
ICP-3		12	6096		6	
ICP-3		13	6067		6	
ICP-3		14	6028		6	
ICP-3		15	6025		6	
ICP-3		16	6026		6	
ICP-3		17	5880		6	
ICP-3		18	5775		6	
ICP-4		1	4344		5	
ICP-4		2	4350		5	
ICP-4		3	4380		5	
ICP-4		4	4793	4541	5	
ICP-4		5	4540		5	
ICP-4		6	4625		5	
ICP-4		7	4622		5	
ICP-4		8	4846		5	
ICP-4		9	4782		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
ICP-4		10	4704		5	
ICP-4		11	4652		5	
ICP-4		12	5124	4852	5	5
ICP-4		13	5053	4890	5	6
ICP-4		14	4845		6	
ICP-4		15	4634		6	
ICP-4		16	4796		5	
ICP-4		17	5447		6	
ICP-4		18	5009		6	
ICP-4		19	4907		5	
ICP-4		20	4752		5	
ICP-4		21	5760		6.5	
ICP-4		22	5409		6.5	
ICP-4		23	5528		6	
ICP-4		24	5649		6.5	
ICP-4		25	6010		7	
ICP-4		26	6032		7.5	
ICP-4		27	6107		7.5	
ICP-4		**28**	**6359**		**7.5**	
ICP-4		29	6190		7	
ICP-4		30	5966		7	
ICP-4		31	5785		6.5	
ICP-4		32	6338		6.5	
ICP-4		33	6183		7	
ICP-4		34	5972		6.5	
CS-2	A	1	7935		9	
CS-2	A	2	6133		7	
CS-2	A	3	8893		9	
CS-2	A	4	9176		9.8	
CS-2	A	5	7858		8.5	
CS-2	A	6	9250		10	
CS-2	A	7	7546		8	
CS-2	A	8	8499		9	
CS-2	A	9	9586		9	
CS-2	A	10	8950		9	
CS-2	A	11	7286		7.5	
CS-2	A	12	8793		9.5	
CS-2	A	13	7260		7.5	
CS-2	A	14	8725		9.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-2	A	15	8878		9	
CS-2	A	16	8436		9.5	
CS-2	A	17	7831		8	
CS-2	A	18	7149		7.5	
CS-2	A	19	7081		7.5	
CS-2	A	20	8228		8	
CS-2	A	21	7760		7.5	
CS-2	A	22	7417		8	
CS-2	A	23	6756		7	
CS-2	A	24	7795		8.5	
CS-2	A	25	8774		9	
CS-2	A	26	8639		9	
CS-2	A	27	10447		10.5	
CS-2	A	28	9000		9.5	
CS-2	**A**	**29**	**11590**		**12**	
CS-2	A	30	9829		10	
CS-2	A	31	10998		11	
CS-2	A	32	9911		10.5	
CS-2	A	33	7977		8	
CS-2	A	34	7664		9	
CS-2	A	35	8957		9	
CS-2	A	36	9283		9.5	
CS-2	A	37	9896		10	
CS-2	A	38	8303		9	
CS-2	A	39	8782		9	
CS-2	A	40	6268		6	
CS-2	A	41	6121		6	
CS-2	A	42	5906		5.5	
CS-2	A	43	6456		6	
CS-2	A	44	6055		6	
CS-2	A	45	6066		5.5	
CS-2	A	46	5359		5.5	
CS-2	A	47	5537		6	
CS-2	A	48	6495		6.5	
CS-2	A	49	6686		6.5	
CS-2	A	50	5846		5.5	
CS-2	A	51	5966		6	
CS-2	A	52	6633		6.5	
CS-2	A	53	6921		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-2	A	54	6444		7	
CS-2	A	55	6615		6.5	
CS-2	A	56	6846		7.5	
CS-2	A	57	6573		6.5	
CS-2	A	58	6243		6.5	
CS-2	A	59	7300		8	
CS-2	A	60	6780		7.5	
CS-2	A	61	6005		6.5	
CS-2	A	62	6210		6.5	
CS-2	A	63	6115		6.5	
CS-2	A	64	5799		6	
CS-2	A	65	6604		7	
CS-2	A	66	6018		6	
CS-2	A	67	6026		6	
CS-2	A	68	6401		7	
CS-2	A	69	5695		6	
CS-2	B	1	5742		3	
CS-2	B	2	6204		3	
CS-2	B	3	5535		3	
CS-2	B	4	5676		3	
CS-2	B	5	5766		3	
CS-2	B	6	5391		3	
CS-2	B	7	6188		3	
CS-2	B	8	6207		3	
CS-2	B	9	6424		3	
CS-2	B	10	6518		3	
CS-2	B	11	6293		3	
CS-2	B	12	5851		3	
CS-3		1	9022		7	
CS-3		2	5119		4	
CS-3		3	6000		5	
CS-3		4	5323		4	
CS-3		5	5266		4	
CS-3		6	5402		5	
CS-3		7	5360		4	
CS-3		8	5245		5	
CS-3		9	5522		5	
CS-3		10	5398		5	
CS-3		11	5290		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-3		12	5226		4	
CS-3		13	9389		7	
CS-3		14	9570		7	
CS-3		15	9641		6	
CS-3		16	8181		6	
CS-3		17	9204		6	
CS-3		18	5565		4	
CS-3		19	5752		5	
CS-3		20	5639		4	
CS-3		21	5486		5	
CS-3		22	5375		5	
CS-3		**23**	**6475**		**5**	
CS-3		24	5939		4	
CS-3		25	5281		5	
CS-3		**26**	**6275**		**5**	
CS-3		27	6185		6	
CS-3		28	5760		5	
CS-3		29	6242		5	
CS-3		**30**	**6547**		**5**	
CS-3		31	6222	5928	5	
CS-3		32	5816		5	
CS-3		33	10144		7	
CS-3		34	10271		7	
CS-4		1	5411		4	
CS-4		2	5165		4	
CS-4		3	4843		4	
CS-4		4	5719		4	
CS-4		5	5911		5	
CS-4		6	5577		4	
CS-4		7	6109		5	
CS-4		8	5513		4	
CS-4		9	5124		4	
CS-4		10	5540		4	
CS-4		11	5511		4	
CS-4		12	8765		6	
CS-4		**13**	**10493**		**7**	
CS-4		14	9831		7	
CS-4		15	6023		4	
CS-4		16	4537		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-4		17	5768		5	
CS-4		18	5577		5	
CS-4		19	5440		5	
CS-4		20	4963		4	
CS-4		21	5195		5	
CS-4		22	4848		4	
CS-4		23	4887		4	
CS-4		24	4846		4	
CS-4		25	5206		4	
CS-4		26	5722		4	
CS-4		27	6005		5	
CS-4		28	6048		5	
CS-4		29	5875		5	
CS-4		30	5897		5	
CS-4		31	8759		6	
CS-4		32	9518		7	
CS-4		33	9970		8	
CS-5		1	5174		4	
CS-5		2	5410		4	
CS-5		3	5585		4	
CS-5		4	5623		5	
CS-5		5	5518		5	
CS-5		6	5664		4	
CS-5		7	5286		5	
CS-5		8	5471		5	
CS-5		9	5498		5	
CS-5		10	5270		5	
CS-5		11	5516		5	
CS-5		12	4944		5	
CS-5		13	5626		5	
CS-5		14	7779		6	
CS-5		15	9641		8	
CS-5		16	6104		4	
CS-5		17	4945		4	
CS-5		18	4888		4	
CS-5		19	5036		4	
CS-5		20	4985		4	
CS-5		21	4936		5	
CS-5		22	5178		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-5		23	5094		4	
CS-5		24	5160		4	
CS-5		25	5354		4	
CS-5		26	5522		4	
CS-5		**27**	**10319**		**9**	
CS-5		28	7900		6	
CS-5		29	6856		6	
CS-5		30	7013		7	
CS-5		31	5043		4	
CS-6		1	5240		4	
CS-6		2	4435		4	
CS-6		3	5662		5	
CS-6		4	4535		4	
CS-6		5	4450		3	
CS-6		6	4367		4	
CS-6		7	4716		5	
CS-6		8	4707		4	
CS-6		9	4990		4	
CS-6		10	4950		4	
CS-6		11	4863		4	
CS-6		12	4890		4	
CS-6		13	4745		4	
CS-6		14	4759		4	
CS-6		15	5027		4	
CS-6		**16**	**10595**		**9**	
CS-6		17	5873		5	
CS-6		18	5124		4	
CS-6		19	4871		4	
CS-6		20	5405		4	
CS-6		21	4485		4	
CS-6		22	4467		4	
CS-6		23	4718		4	
CS-6		24	4578		4	
CS-6		25	4851		4	
CS-6		26	4831		4	
CS-6		27	4681		4	
CS-6		28	5221		4	
CS-6		29	5410		4	
CS-6		30	5749		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
CS-6		31	5870		4	
CS-6		32	5103		4	
CS-6		33	5483		4	
CS-6		34	8809		6	
CS-6		35	6415		5	
CS-6		36	5622		4	
CS-6		37	5205		4	
CS-6		38	7591		5	
CS-6		39	5480		5	
FS-1	A	1	4845		6	
FS-1	A	2	3756		5	
FS-1	A	3	5851		5	
FS-1	A	4	5320		5	
FS-1	A	5	4973		5	
FS-1	A	6	6192		5	
FS-1	A	7	5208		5	
FS-1	A	8	5812		5	
FS-1	A	9	4655		5	
FS-1	A	10	5028		5	
FS-1	A	11	5853		4	
FS-1	A	12	4991		5	
FS-1	A	13	5591		5	
FS-1	A	14	4995		5	
FS-1	A	15	5632		5	
FS-1	**A**	**16**	**10841**		**8**	
FS-1	A	17	6064		6	
FS-1	B	1	6153		6	
FS-1	B	2	6170		6	
FS-1	B	3	5967		6	
FS-1	B	4	5526		5.5	
IA-1	A	1	5239		1	
IA-1	A	2	5296		1	
IA-1	A	3	5501		1	
IA-1	A	4	5689		1	
IA-1	A	5	5988		1	
IA-1	A	6	5776		1	
IA-1	A	7	5367		1	
IA-1	A	8	5706		1	
IA-1	A	9	6488		2	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IA-1	A	10	6517		2	
IA-1	A	11	6153		3	
IA-1	A	12	6735		2	
IA-1	A	13	6722		2	
IA-1	A	14	5354		3	
IA-1	A	15	5656		2	
IA-1	A	16	5538		3	
IA-1	A	17	6155		3	
IA-1	A	18	5720		3	
IA-1	A	19	5852		3	
IA-1	A	20	5389		3	
IA-1	A	21	5894		4	
IA-1	A	22	5751		4	
IA-1	A	23	5361		4	
IA-1	A	24	8503		6	
IA-1	A	25	8484		6	
IA-1	**A**	**26**	**8619**	**8718**	**6**	**6**
IA-1	A	27				
IA-1	A	28	8300		5	
IA-1	A	29	6865		4	
IA-1	A	30	6633		4	
IA-1	**B**	**31**	**8607**		**8**	
IA-1	B	32	6997		7	
IA-1	B	33	7446		8	
IA-1	B	34	10967		11	
IA-1	B	35	7102		8	
IA-1	B	36	7354		8	
IA-1	B	37	6310		6	
IA-1	B	38	7110		7	
ICJ Park	A	1	4931		4	
ICJ Park	A	2	5065		4	
ICJ Park	A	3	4820		3	
ICJ Park	A	4	5127		4	
ICJ Park	A	5	4737		4	
ICJ Park	A	6	5209		4	
ICJ Park	A	7	5191		4	
ICJ Park	A	8	4562		4	
ICJ Park	A	9	4577		4	
ICJ Park	A	10	4802		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
ICJ Park	A	11	5182		4	
ICJ Park	A	12	5207		4	
ICJ Park	A	13	5322		5	
ICJ Park	A	14	9686		10	
ICJ Park	A	15	10707		8	
ICJ Park	B	1	5058		5	
ICJ Park	B	2	5817		6	
ICJ Park	B	3	9015		8	
ICJ Park	B	4	9293		9	
ICJ Park	B	5	9954		9	
ICJ Park	B	6	8794		7	
ICJ Park	B	7	7649		6	
ICJ Park	**B**	**8**	**7258**		**5**	
ICJ Park	B	9	5853		6	
ICJ Park	B	10	6489		6	
ICJ Park	B	11	5896		6	
ICJ Park	B	12	6133		6	
ICJ Park	B	13	6794		7	
JA-1		1	8218		10	
JA-1		2	8525		8	
JA-1		3	8892		8	
JA-1		**4**	**6857**		**7**	
JA-1		5	7204		7	
JA-1		6	7377		8	
JA-1		**7**	**5422**		**6**	
JA-1		8	6721		6	
JA-1		9	5099		6	
JA-1		10	5689		6	
JA-1		11	5947		6	
JA-1		12	4721		6	
JA-1		13	5434		6	
JA-1		14	5313		6	
JA-1		15	6101		6	
JA-1		16	10036		8	
JA-1		17	8163		7	
Avocet Backyards		1	6523		6.5	
Avocet Backyards		2	7718		7.5	
Avocet Backyards		3	10004		10	
Avocet Backyards		4	7586		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Avocet Backyards		5	10218		10.5	
Avocet Backyards		6	7475		8.5	
Avocet Backyards		7	5658		6	
Avocet Backyards		8	6114		6	
Avocet Backyards		9	7043		7.5	
Avocet Backyards		10	11241		11.5	
Avocet Backyards		11	10184		10	
Avocet Backyards		12	6978		7	
Avocet Backyards		13	6028		6	
Avocet Backyards		14	9822		9.5	
Avocet Backyards		15	7546		7	
Avocet Backyards		16	6262		6.5	
Avocet Backyards		17	9492		8.5	
Avocet Backyards		18	7519		8	
Avocet Backyards		19	5615		6	
Avocet Backyards		20	10590		11	
Avocet Backyards		21	7371		7.5	
Avocet Backyards		22	5869		5.5	
Avocet Backyards		23	9992		10	
Avocet Backyards		24	7002		7.5	
Avocet Backyards		25	5888		6.5	
Avocet Backyards		26	10729		11	
Avocet Backyards		27	10252		10	
Avocet Backyards		28	7290		7	
Avocet Backyards		29	8672		9	
Avocet Backyards		30	5736		5.5	
Avocet Backyards		31	5741		5.5	
Avocet Backyards		32	7655		7.5	
Avocet Backyards		33	9553		10	
Avocet Backyards		34	8983		9	
Avocet Backyards		35	7307		7.5	
Avocet Backyards		36	5255		5.5	
Avocet Backyards		37	10746		11	
Avocet Backyards		38	7054		6.5	
Avocet Backyards		39	5791		6	
Avocet Backyards		40	9530		9.5	
Avocet Backyards		41	7241		7	
Avocet Backyards		42	5237		5.5	
Avocet Backyards		43	9837		10	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Avocet Backyards		44	7402		7.5	
Avocet Backyards		45	5760		6	
Avocet Backyards		46	9869		10.5	
Avocet Backyards		47	9909		10	
Avocet Backyards		48	6175		6.5	
Avocet Backyards		49	5289		5	
Avocet Backyards		50	9266		9	
Avocet Backyards		51	6734		6.5	
Avocet Backyards		52	5636		6	
Avocet Backyards		53	9781		10.5	
Avocet Backyards		54	7248		7	
Avocet Backyards		55	5616		6	
Avocet Backyards		56	9368		7.5	
Avocet Backyards		57	7442		8	
Avocet Backyards		58	9829		10	
Avocet Backyards		59	5437		5.5	
AW-1		1	5456		6	
AW-1		2	5662		7	
AW-1		3	5587		5.5	
AW-1		4	5771		7	
AW-1		5	5596		6.5	
AW-1		6	5382		6.5	
AW-1		7	5235		5.5	
AW-1		**8**	**5923**		**7**	
AW-1		9	5799		6.5	
AW-1		10	5337		6	
AW-1		11	5205		5.5	
AW-1		12	5677		6	
AW-1		13	5886		7	
AW-1		14	5688		6	
AW-1		15	5856		6.5	
AW-1		16	5348		6	
AW-1		17	3525		3.5	
FS-2		1	4736		6	
FS-2		2	5843		7	
FS-2		3	5823		7	
FS-2		4	4762		6	
FS-2		**5**	**5954**		**7**	
FS-2		6	5562		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
HA-1		1	5044		6	
HA-1		2	5515		6.5	
HA-1		3	5045		6	
HA-1		4	4775		5	
HA-1		5	4965		5	
HA-1		6	4976		5.5	
HA-1		7	4729		5.5	
HA-1		8	5226		6	
HA-1		9	4952		6	
HA-1		10	4869		5.5	
HA-1		11	4938		5	
HA-1		12	6110		6.5	
HA-1		**13**	**10662**		**10**	
HA-1		14	8750		10	
HA-1		15	8628		10	
HA-1		16	5026		6	
HA-1		17	5233		6	
HA-1		18	5373		6.5	
HA-1		19	5694		6.5	
HA-1		20	5672		6.5	
HA-1		21	5885		7	
HA-1		22	5472		7	
HA-1		23	4096		5	
HA-2		1	4728		5.5	
HA-2		2	5368		6	
HA-2		3	5335		5.5	
HA-2		4	4764		5	
HA-2		5	5016		6	
HA-2		6	5524		7	
HA-2		7	4577		5	
HA-2		8	4602		5	
HA-2		9	5309		6	
HA-2		10	5098		5	
HA-2		11	5132		5.5	
HA-2		12	5180		6	
HA-2		13	4607		5	
HA-2		14	4623		5	
HA-2		15	4836		5.5	
HA-2		16	4960		5.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
HA-2		17	6348		7	
HA-2		18	5501		6.5	
HA-2		19	5198		6.5	
HA-2		**20**	**9154**		**10**	
HA-2		21	8225		10	
HA-2		22	8230		9.5	
HA-2		23	8999		10	
HA-2		24	5488		6	
HA-2		25	5307		5.5	
HA-2		26	4985		6	
HA-2		27	5678		6.5	
HA-2		28	5643		6	
HA-2		29	5679		6.5	
HA-2		30	3681		4	
HA-2		31	4718		4.5	
HA-2		32	5559		6.5	
IA-2		1	4795		3	
IA-2		2	5175		3	
IA-2		3	5597		3	
IA-2		4	7704		3	
IA-2		5	5614		3	
IA-2		**6**	**9109**		**3**	
IA-2		7	5608		3	
IA-2		8	5222		3	
IA-2		9	7292		3	
IA-2		10	5558		3	
IA-2		11	6530		3	
IA-2		12	5803		2.5	
IA-2		13	6226		3	
IA-3		1	6706		8	
IA-3		2	6865		8	
IA-3		3	6198		8	
IA-3		4	5776		6	
IA-3		5	6263		7	
IA-3		6	5580		7	
IA-3		7	5125		7	
IA-3		8	5205		6	
IA-3		9	6337		7	
IA-3		10	5950		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
IA-3		11	5230		6	
IA-3		12	5336		6	
IA-3		13	5385		7	
IA-3		14	4994		6	
IA-3		15	5919		7	
IA-3		16	5170		7	
IA-3		17	5751		6	
IA-3		18	6106		7	
IA-3		19	5864		7	
IA-3		20	5664		7	
IA-3		21	7699		8.5	
IA-3		**22**	**9061**		**10.5**	
DF-Park		1	5979		6.5	
DF-Park		2	6243		7	
DF-Park		3	6064		6	
DF-Park		4	5351		5	
DF-Park		5	5262		6	
DF-Park		6	5362		6.5	
DF-Park		7	5239		6	
DF-Park		8	5012		6	
DF-Park		9	5116		6	
DF-Park		10	5146		6	
DF-Park		11	5214		6	
DF-Park		12	5110		6	
DF-Park		13	5246		6	
DF-Park		14	5284		6	
DF-Park		15	5413		6	
DF-Park		**16**	**18807**		**19**	
DF-Park		17	4710		5	
DF-Park		18	4761		5	
DF-Park		19	4626		5	
DF-Park		20	4963		5	
DF-Park		21	4710		5	
DF-Park		22	4682		5	
DF-Park		23	4602		5	
DF-Park		24	5144		5	
DF-Park		25	5219		6	
DF-Park		26	5227		5	
DF-Park		27	4981		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
DF-Park		28	4747		5	
DF-Park		29	4866		5	
DF-Park		30	5385		5	
DF-Park		31	5390		6	
DF-Park		32	5752		6	
DF-Park		33	4774		6	
DF-Park		34	5070		5	
DF-Park		35	5134		5	
DF-Park		36	4981		5	
DF-Park		37	6017		6	
DF-Park		38	6069		7	
DF-Park		39	6681		8	
DF-Park		40	7198		8	
DF-Park		41	6989		7	
DF-Park		42	7182		8	
DF-Park		43	6957		7	
DF-Park		44	5740		6	
DF-Park		45	6602		7	
FS-4&5 Inner		1	7758		8	
FS-4&5 Inner		2	7485		8	
FS-4&5 Inner		3	7985		7	
FS-4&5 Inner		4	7991		8	
FS-4&5 Inner		5	7929		8	
FS-4&5 Inner		6	7977		8	
FS-4&5 Inner		**7**	**8362**		**8.5**	
FS-4&5 Inner		8	4706		5	
FS-4&5 Inner		9	4726		5	
FS-4&5 Inner		10	6727		7	
FS-4&5 Inner		11	6448		7	
FS-4&5 Inner		12	6459		7	
FS-4&5 Inner		13	7126		7	
DS-3&4 Ext		1	6316		5	
DS-3&4 Ext		2	6070		5	
DS-3&4 Ext		3	5495		4.5	
DS-3&4 Ext		4	5158		4	
DS-3&4 Ext		5	6064		4.5	
DS-3&4 Ext		6	6183		5	
DS-3&4 Ext		7	6251		5	
DS-3&4 Ext		8	5874		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
DS-3&4 Ext		9	6041		4.5	
DS-3&4 Ext		10	8264		5.5	
DS-3&4 Ext		11	8453		5	
DS-3&4 Ext		12	8661		5.5	
DS-3&4 Ext		13	6515		5	
DS-3&4 Ext		14	6013		4.5	
DS-3&4 Ext		15	5083		4.5	
DS-3&4 Ext		16	5467		4	
DS-3&4 Ext		17	5640		4.5	
DS-3&4 Ext		18	4168		3.5	
DS-3&4 Ext		19	5403		4	
DS-3&4 Ext		20	5233		4	
DS-3&4 Ext		21	5723		4	
DS-3&4 Ext		22	5907		4.5	
DS-3&4 Ext		23	5491		4.5	
DS-3&4 Ext		24	8919		5.5	
DS-3&4 Ext		25	8635		5	
DS-3&4 Ext		26	8236		5	
DS-3&4 Ext		27	4048		3.5	
DS-3&4 Ext		28	5536		3.5	
DS-3&4 Ext		29	6440		4	
DS-3&4 Ext		30	5656		5	
DS-3&4 Ext		31	5457		5	
DS-3&4 Ext		32	5296		4.5	
DS-3&4 Ext		33	8863		6	
DS-3&4 Ext		**34**	**10439**		**8**	
DS-2, FS-6 Ext		1	4730		4	
DS-2, FS-6 Ext		2	4562		4	
DS-2, FS-6 Ext		3	4536		4	
DS-2, FS-6 Ext		4	4933		4	
DS-2, FS-6 Ext		5	5165		5	
DS-2, FS-6 Ext		6	4705		4	
DS-2, FS-6 Ext		7	4140		3	
DS-2, FS-6 Ext		8	2975		3	
DS-2, FS-6 Ext		9	4830		4	
DS-2, FS-6 Ext		10	4262		3.5	
DS-2, FS-6 Ext		11	4760		4	
DS-2, FS-6 Ext		12	5423		4	
DS-2, FS-6 Ext		13	5772		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
DS-2, FS-6 Ext		14	5759		4	
DS-2, FS-6 Ext		15	5751		4	
DS-2, FS-6 Ext		16	4219		4	
DS-2, FS-6 Ext		17	4621		4	
DS-2, FS-6 Ext		18	5591		3.5	
DS-2, FS-6 Ext		19	4888		4	
DS-2, FS-6 Ext		20	5070		4	
DS-2, FS-6 Ext		21	5411		4.5	
DS-2, FS-6 Ext		22	6388		5	
DS-2, FS-6 Ext		23	5872		5.5	
DS-2, FS-6 Ext		24	6600		5.5	
DS-2, FS-6 Ext		25	5475		5	
DS-2, FS-6 Ext		26	4469		4	
DS-2, FS-6 Ext		27	4634		4.5	
DS-2, FS-6 Ext		28	5075		4.5	
DS-2, FS-6 Ext		29	5050		4	
DS-2, FS-6 Ext		30	5310		4	
DS-2, FS-6 Ext		31	5281		4	
DS-2, FS-6 Ext		32	5638		4.5	
DS-2, FS-6 Ext		33	5982		4.5	
DS-2, FS-6 Ext		34	6232		4.5	
DS-2, FS-6 Ext		**35**	**6884**		**5**	
DS-2, FS-6 Ext		36	6180		5	
DS-2, FS-6 Inner		1	4620		5	
DS-2, FS-6 Inner		2	4532		4	
DS-2, FS-6 Inner		3	5170		6	
DS-2, FS-6 Inner		4	4303		5	
DS-2, FS-6 Inner		5	4586		5	
DS-2, FS-6 Inner		6	4483		5	
DS-2, FS-6 Inner		7	4463		5	
DS-2, FS-6 Inner		8	4350		5	
DS-2, FS-6 Inner		9	4594		5	
DS-2, FS-6 Inner		**10**	**6967**		**7**	
DS-2, FS-6 Inner		11	4923		6	
DS-2, FS-6 Inner		12	5146		5	
DS-2, FS-6 Inner		13	4561		5	
DS-2, FS-6 Inner		14	4655		5	
DS-2, FS-6 Inner		15	4790		5	
DS-2, FS-6 Inner		16	4548		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
DS-2, FS-6 Inner		17	4292		5	
DS-2, FS-6 Inner		18	4462		5	
DS-2, FS-6 Inner		19	4432		5	
DS-3&4 Inner		1	8855		10	
DS-3&4 Inner		2	8883		9.5	
DS-3&4 Inner		3	6409		8	
DS-3&4 Inner		4	6822		7	
DS-3&4 Inner		5	9652		11	
DS-3&4 Inner		**6**	**10281**		**11**	
DS-3&4 Inner		7	7659		8.5	
DS-3&4 Inner		8	8018		9	
DS-3&4 Inner		9	5790		6.5	
DS-3&4 Inner		10	7269		9	
FS-4&5 Ext		1	5045		6	
FS-4&5 Ext		2	5189		6	
FS-4&5 Ext		3	4982		6	
FS-4&5 Ext		4	5193		5	
FS-4&5 Ext		5	5855		6	
FS-4&5 Ext		6	4565		5	
FS-4&5 Ext		7	5710		5	
FS-4&5 Ext		8	4815		6	
FS-4&5 Ext		9	5062		6	
FS-4&5 Ext		10	5620		7	
FS-4&5 Ext		11	6355		7	
FS-4&5 Ext		12	5249		6	
FS-4&5 Ext		13	4952		6	
FS-4&5 Ext		14	5197		6	
FS-4&5 Ext		15	5324		5	
FS-4&5 Ext		16	5062		6	
FS-4&5 Ext		17	5402		6	
FS-4&5 Ext		18	5340		6	
FS-4&5 Ext		19	5196		6	
FS-4&5 Ext		20	5062		5	
FS-4&5 Ext		21	5212		6	
FS-4&5 Ext		22	5216		6	
FS-4&5 Ext		23	5579		6	
FS-4&5 Ext		24	6475		8	
FS-4&5 Ext		25	6284		8	
FS-4&5 Ext		26	5539		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
FS-4&5 Ext		27	6372		7	
FS-4&5 Ext		28	6546		8	
FS-4&5 Ext		29	7032		8	
FS-4&5 Ext		30	5198		6	
FS-4&5 Ext		31	5461		6	
FS-4&5 Ext		32	6200		7	
FS-4&5 Ext		33	6021		7	
FS-4&5 Ext		34	9278		10	
FS-4&5 Ext		35	5711		6	
FS-4&5 Ext		36	6847		6	
FS-4&5 Ext		37	5755		6	
FS-4&5 Ext		38	6690		8	
FS-4&5 Ext		**39**	**17379**		**21**	
FS-4&5 Ext		40	5474		7	
FS-4&5 Ext		41	6021		7	
FS-4&5 Ext		42	6302		8	
FS-4&5 Ext		43	5951		6	
FS-4&5 Ext		44	6651		7	
FS-4&5 Ext		45	7026		8	
FS-4&5 Ext		46	6067		7	
FS-4&5 Ext		**47**	**12403**		**12**	
FS-4&5 Ext		**48**	**11439**		**13**	
Block 52 - Mid		1	4878		5	
Block 52 - Mid		2	4612		4.5	
Block 52 - Mid		3	4298		4	
Block 52 - Mid		4	5533		6	
Block 52 - Mid		5	3961		3.5	
Block 52 - Mid		6	5091		5	
Block 52 - Mid		7	4489		5	
Block 52 - Mid		8	5273		5	
Block 52 - Mid		9	5313		5.5	
Block 52 - Mid		10	3894		4	
Block 52 - Mid		11	5063		5	
Block 52 - Mid		12	6344		6	
Block 52 - Mid		13	6125		6	
Block 52 - Mid		14	5176		5	
Block 52 - Mid		15	4772		5	
Block 52 - Mid		16	4368		5	
Block 52 - Mid		17	2947		2.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 52 - Mid		18	3185		2.5	
Block 52 - Mid		19	5779		5.5	
Block 52 - Mid		20	6501		6.5	
Block 52 - Mid		21	4748		4.5	
Block 52 - Mid		22	4000		4	
Block 52 - Mid		23	5366		5	
Block 52 - Mid		24	4809		5	
Block 52 - Mid		25	4839		5	
Block 52 - Mid		26	4622		4	
Block 52 - Mid		**27**	**7481**		**7**	
Block 52 - Mid		28	5964		5	
Block 52 - Mid		29	5326		5	
Block 52 - Mid		30	5967		5.5	
Block 52 - Mid		31	6074		6	
Block 52 - Mid		32	5682		5	
Block 52 - Mid		33	5578		5	
Block 52 - Mid		34	4805		5	
Block 52 - Mid		35	4769		4.5	
Block 52 - Mid		36	4834		5	
Block 52 - Mid		37	4645		5	
Block 52 - Mid		38	3912		4	
Block 52 - Mid		39	6132		6.5	
Block 52 - Mid		40	5498		5.5	
Block 52 - Mid		41	5660		6	
Block 52 - E		1	3646		4	
Block 52 - E		2	3974		4	
Block 52 - E		3	4351		5	
Block 52 - E		4	4535		5	
Block 52 - E		5	4830		6	
Block 52 - E		6	4778		5.5	
Block 52 - E		7	4688		5.5	
Block 52 - E		8	4018		4.5	
Block 52 - E		9	3563		4	
Block 52 - E		10	6664		7	
Block 52 - E		11	5203		6	
Block 52 - E		12	3069		4	
Block 52 - E		13	4597		5	
Block 52 - E		14	4441		5	
Block 52 - E		15	5676		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 52 - E		16	6604		8	
Block 52 - E		17	5266		6.5	
Block 52 - E		18	7141		8	
Block 52 - E		19	5626		7	
Block 52 - E		20	5766		6	
Block 52 - E		21	6015		7	
Block 52 - E		22	4921		5.5	
Block 52 - E		23	4914		6	
Block 52 - E		24	6781		8	
Block 52 - E		25	6336		6.5	
Block 52 - E		26	4583		5	
Block 52 - E		27	4702		5	
Block 52 - E		28	5441		6	
Block 52 - E		29	5094		6	
Block 52 - E		30	4291		5	
Block 52 - E		31	4309		5	
Block 52 - E		32	4269		5	
Block 52 - E		33	5441		6	
Block 52 - E		34	7543		8.5	
Block 52 - E		35	7121		8	
Block 52 - E		36	7399		9	
Block 52 - E		37	7448		8	
Block 52 - E		38	5517		7	
Block 52 - E		39	7246		9	
Block 52 - E		40	6915		8	
Block 52 - E		41	5374		6	
Block 52 - E		42	7769		9	
Block 52 - E		43	8076		9	
Block 52 - E		44	6985		7	
Block 52 - E		45	6445		7	
Block 52 - E		46	7747		9	
Block 52 - E		47	5488		6	
Block 52 - E		48	5107		5.5	
Block 52 - E		49	5346		6.5	
Block 52 - E		50	5764		6	
Block 52 - E		51	8265		9.5	
Block 52 - E		**52**	**8565**		**9**	
Block 52 - E		53	5491		6	
Block 52 - E		54	7309		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 52 - E		55	4950		6	
Block 52 - E		56	5001		5	
Block 52 - Offices		1	5655		6	
Block 52 - Offices		2	5785		5.5	
Block 52 - Offices		3	5458		5.5	
Block 52 - Offices		4	5335		5.5	
Block 52 - Offices		5	5408		5.5	
Block 52 - Offices		6	5501		6	
Block 52 - Offices		7	5331		5	
Block 52 - Offices		8	5573		6	
Block 52 - Offices		9	5425		6	
Block 52 - Offices		10	5184		6	
Block 52 - Offices		11	5197		6	
Block 52 - Offices		12	5017		5	
Block 52 - Offices		13	5320		5.5	
Block 52 - Offices		14	5597		5	
Block 52 - Offices		**15**	**10031**		**10**	
Block 52 - Outer		**1**	**11364**		**11.5**	
Block 52 - Outer		**2**	**8245**		**8**	
Block 52 - Outer		3	5003		5	
Block 52 - Outer		4	5541		5	
Block 52 - Outer		5	5565		5.5	
Block 52 - Outer		6	5606		5.5	
Block 52 - Outer		7	5155		5	
Block 52 - Outer		8	5898		5.5	
Block 52 - Outer		9	5962		6	
Block 52 - Outer		10	5928		6	
Block 52 - Outer		11	5326		5	
Block 52 - Outer		12	5966		5.5	
Block 52 - Outer		13	6122		6	
Block 52 - Outer		14	7552		7	
Block 52 - Outer		15	7452		7	
Block 52 - Outer		16	6444		6.5	
Block 52 - Outer		17	4730		5	
Block 52 - Outer		18	4860		5	
Block 52 - Outer		19	4213		4	
Block 52 - Outer		20	5117		5	
Block 52 - Outer		21	4825		5.5	
Block 52 - Outer		22	5344		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 52 - Outer		23	5312		6	
Block 52 - Outer		24	5396		5	
Block 52 - Outer		25	5135		5	
Block 52 - Outer		26	5748		5	
Block 52 - Outer		27	5137		5	
Block 52 - Outer		28	5691		5.5	
Block 52 - W		1	5108		4	
Block 52 - W		2	3955		3	
Block 52 - W		3	4274		3	
Block 52 - W		4	5047		3	
Block 52 - W		5	3504		2	
Block 52 - W		6	4329		3	
Block 52 - W		7	5931		4	
Block 52 - W		8	5849		4	
Block 52 - W		9	5382		4	
Block 52 - W		**10**	**6953**		**5**	
Block 52 - W		11	3952		2	
Block 52 - W		12	5208		3	
Block 52 - W		13	4043		3	
Block 52 - W		14	3964		3	
Block 52 - W		15	5155		5	
Block 52 - W		16	9088		6	
Block 52 - W		17	7020		6	
Block 52 - W		18	4935		4	
Block 52 - W		19	8404		6	
Block 52 - W		20	5985		4	
Block 52 - W		21	4126		3	
Block 52 - W		22	6453		5	
Block 52 - W		23	5810		4	
Block 52 - W		24	6671		6	
Block 52 - W		25	5120		4	
Block 52 - W		26	5836		4	
Block 52 - W		27	4601		3	
Block 52 - W		28	4403		3	
Block 52 - W		29	4249		3	
Block 52 - W		30	5833		4	
Block 52 - W		31	4878		3	
Block 52 - W		32	4217		2	
Block 52 - W		33	4591		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 52 - W		34	6120		4	
Block 52 - W		35	5984		4	
Block 52 - W		36	5383		4	
Block 52 - W		37	5631		4	
Block 52 - W		38	4914		3	
Block 52 - W		39	5515		4	
Block 52 - W		40	6170		4.5	
Block 52 - W		41	5402		4	
Block 52 - W		42	4058		3	
Block 52 - W		43	4363		4	
Block 52 - W		44	6325		4	
Block 52 - W		45	3851		3	
Block 52 - W		46	3824		4	
Block 52 - W		47	3157		3	
Block 52 - W		48	4182		4	
Block 52 - W		49	7456		6	
Block 52 - W		50	7561		6	
Block 52 - W		51	3981		4	
Block 52 - W		52	5230		4	
Block 52 - W		53	4252		4	
Block 52 - W		54	3974		3	
Block 52 - W		55	5408		4	
Block 52 - W		56	4152		3	
Block 52 - W		57	3648		3	
Block 52 - W		**58**	**6172**		**5**	
Block 52 - W		59	4944		4	
Block 55-S1		1	6045		5.5	
Block 55-S1		2	5858		6	
Block 55-S1		3	5948		5	
Block 55-S1		4	5648		5.5	
Block 55-S1		5	5903		6	
Block 55-S1		6	5318		5.5	
Block 55-S1		7	5540		5.5	
Block 55-S1		8	5529		5.5	
Block 55-S1		9	5973		6	
Block 55-S1		10	6206		7	
Block 55-S1		11	5623		6	
Block 55-S1		12	5661		6	
Block 55-S1		13	8068		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-S1		14	6011		5.5	
Block 55-S1		15	8226		8.5	
Block 55-S1		16	8526		9	
Block 55-S1		17	9065		9.5	
Block 55-S1		18	9321		10	
Block 55-S1		19	8781		8.5	
Block 55-S1		20	9310		10	
Block 55-S1		21	9014		9	
Block 55-S1		22	8009		8	
Block 55-S1		23	9348		9	
Block 55-S1		24	9231		9	
Block 55-S1		25	8726		9	
Block 55-S1		26	8932		9	
Block 55-S1		27	9128		9	
Block 55-S1		28	8482		9	
Block 55-S1		29	7792		8.5	
Block 55-S1		30	6109		6	
Block 55-S1		31	6315		7	
Block 55-S1		32	6644		6	
Block 55-S1		33	5935		6	
Block 55-S1		34	6203		6	
Block 55-S1		35	5060		5.5	
Block 55-S1		36	9133		10	
Block 55-S1		**37**	**9411**		**10**	
Block 55-S1		38	8772		9	
Block 55-S1		39	8428		8.5	
Block 55-S1		40	8511		9	
Block 55-S1		41	8113		8	
Block 55-S1		42	8237		8	
Block 55-S1		43	8078		8	
Block 55-S1		44	6355		6.5	
Block 55-S1		45	6446		7	
Block 55-S1		46	6527		6.5	
Block 55-S1		47	7923		8	
Block 55-S2	A	1	5957		7	
Block 55-S2	A	2	5649		7	
Block 55-S2	A	3	5696		6.5	
Block 55-S2	A	4	5558		6.5	
Block 55-S2	A	5	5501		6.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-S2	A	6	5382		6.5	
Block 55-S2	A	7	5728		7	
Block 55-S2	A	8	5628		6	
Block 55-S2	A	9	5610		7	
Block 55-S2	A	10	5839		7	
Block 55-S2	A	11	8741		9.5	
Block 55-S2	A	12	8737		10	
Block 55-S2	A	13	8537		9	
Block 55-S2	A	14	8574		9	
Block 55-S2	A	15	8724		9.5	
Block 55-S2	A	16	8454		10	
Block 55-S2	A	17	8343		10	
Block 55-S2	A	18	8593		10	
Block 55-S2	A	19	8423		9	
Block 55-S2	A	20	8627		10	
Block 55-S2	A	21	8738		10	
Block 55-S2	**A**	**22**	**8974**		**10**	
Block 55-S2	A	23	8761		10.5	
Block 55-S2	A	24	8417		10	
Block 55-S2	A	25	8672		10	
Block 55-S2	A	26	8517		10	
Block 55-S2	A	27	8580		10	
Block 55-S2	A	28	4558		7	
Block 55-S2	A	29	6832		8	
Block 55-S2	A	30	7386		8	
Block 55-S2	A	31	6991		8.5	
Block 55-S2	B	1	8180		6.5	
Block 55-S2	B	2	7809		6	
Block 55-S2	B	3	7793		6	
Block 55-S2	B	4	8275		6	
Block 55-S2	B	5	7974		6	
Block 55-S2	B	6	8745		7	
Block 55-S2	B	7	7662		6	
Block 55-S2	B	8	8234		6	
Block 55-S2	B	9	8365		6	
Block 55-S2	B	10	5783		4.5	
Block 55-S2	B	11	5824		4.5	
Block 55-S2	B	12	6257		5.5	
Block 55-S2	B	13	5966		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-S2	B	14	5768		4.5	
Block 55-S2	B	15	7491		5	
Block 55-S2	B	16	5829		4.5	
Block 55-S3		1	8781		7.5	
Block 55-S3		2	8754		7	
Block 55-S3		**3**	**9163**		**7**	
Block 55-S3		4	8879		7.5	
Block 55-S3		5	8152		6.5	
Block 55-S3		6	9013		7.5	
Block 55-S3		7	8654		6.5	
Block 55-S3		8	9101		7	
Block 55-S3		9	9068		7	
Block 55-S3		10	7896		6.5	
Block 55-S3		11	7095		6	
Block 55-S3		12	8591		7.5	
Block 55-S3		13	6526		4.5	
Block 55-S3		14	6884		5.5	
Block 55-S3		15	6316		5	
Block 55-S3		16	5780		5	
Block 55-S3		17	7350		6	
Block 55-S3		18	7559		6	
Block 55-S3		19	7749		6	
Block 55-S3		20	8010		5.5	
Block 55-S3		21	6730		5	
Block 55-S3		22	6847		6	
Block 55-S3		23	8034		6.5	
Block 55-S3		24	8437		7	
Block 55-S4		1	6413		7.5	
Block 55-S4		2	6825		7.5	
Block 55-S4		3	7551		8.5	
Block 55-S4		4	6924		8	
Block 55-S4		5	7483		8.5	
Block 55-S4		6	7792		10	
Block 55-S4		**7**	**8054**		**9**	
Block 55-S4		8	7968		8	
Block 55-S4		9	7866		8.5	
Block 55-S4		10	7695		9	
Block 55-S4		11	7606		9	
Block 55-S4		12	7958		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-S4		13	7883		9	
Block 55-S4		14	7978		9.5	
Block 55-S4		15	7554		8.5	
Block 55-S4		16	7975		9	
Block 55-S4		17	8045		9	
Block 55-S4		18	7341		9	
Block 55-S4		19	7758		9	
Block 55-S4		20	6411		8	
Block 55-S4		21	7041		8.5	
Block 55-S4		22	6300		7	
Block 55-S4		23	5594		6	
Block 55-S4		24	7378		9	
Block 55-S4		25	7034		8	
Block 55-S4		26	6776		6.5	
Block 55-S4		27	7957		9	
Block 55-S4		28	6150		8	
Block 55-S4		29	5222		6	
Block 55-S4		30	6239		6.5	
Block 55-S4		31	6125		6.5	
Block 55-S4		32	5182		5.5	
Block 55-S4		33	4882		5	
Block 55-S4		34	4089		5	
Block 55-S4		35	4275		4.5	
Block 55-S4		36	5028		5	
Block 55-S4		37	4268		5	
Block 55-S4		38	5651		6.5	
Block 55-S4		39	5006		5	
Block 55-S4		40	3963		4.5	
Block 55-S4		41	5879		6	
Block 55-S4		42	4879		5	
Block 55-S4		43	4420		5	
Block 55-S4		44	4853		5.5	
Block 55-S4		45	6415		7.5	
Block 55-S4		46	4139		4.5	
Block 55-S4		47	4102		4.5	
Block 55-S4		48	4999		4.5	
Block 55-S4		49	5509		6	
Block 55-S4		50	6583		7.5	
Block 55-S4		51	6813		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-S4		52	8529		10	
Block 55-S4		53	7682		9	
Block 55-S4		54	7781		9	
Block 55-S4		55	7274		9	
Block 55-S4		56	3548		4	
Block 55-S4		57	3972		4.5	
Block 55-S4		58	4358		5.5	
Block 55-S4		59	2722		4	
Block 55-S4		60	3593		4	
Block 55-S4		61	5173		6	
Block 55-S4		62	4371		4	
Hillside - East A		1	7061		5	
Hillside - East A		2	5859		5	
Hillside - East A		3	6614		5	
Hillside - East A		4	7640		6	
Hillside - East A		5	8261		5	
Hillside - East A		6	6942		6	
Hillside - East A		7	7625		6	
Hillside - East A		8	7743		5	
Hillside - East A		9	7362		6	
Hillside - East A		10	7248		5	
Hillside - East A		11	7435		6	
Hillside - East A		12	9568		8	
Hillside - East A		13	9912		8	
Hillside - East A		**14**	**10000**		**7**	
Hillside - East A		15	5585		6	
Hillside - East A		16	7783		6	
Hillside - East A		17	7781		6	
Hillside - East A		18	7669		6	
Hillside - East A		19	7832		6	
Hillside - East A		20	7299		6	
Hillside - East A		21	8014		7	
Hillside - East A		22	7843		7	
Hillside - East A		23	7434		6	
Hillside - East A		24	7386		6	
Hillside - East A		25	6737		5	
Hillside - East A		26	6766		6	
Hillside - East A		27	6706		5	
Hillside - East A		28	6711		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - East A		29	6005		5	
Hillside - East A		30	6143		5	
Hillside - East A		31	6849		5	
Hillside - East A		32	9930		5	
Hillside - East A		33	7021		5	
Hillside - East A		34	7693		6	
Hillside - East A		35	7501		6	
Hillside - East A		36	7340		5	
Hillside - East A		37	7817		6	
Hillside - East A		38	7329		6	
Hillside - East A		39	7853		5	
Hillside - East A		40	6053		5	
Hillside - East A		41	6604		5	
Hillside - East A		42	5000		4	
Hillside - East A		43	6040		5	
Hillside - East A		44	5199		4	
Hillside - East A		45	7362		6	
Hillside - East A		46	5646		6	
Hillside - East A		47	7857		6	
Hillside - East A		48	9640		8	
Hillside - East A		49	6683		5	
Hillside - East A		50	9867		8	
Hillside - East A		51	8399		7	
Hillside - East A		52	8728		7	
Hillside - East A		53	8710		8	
Hillside - East A		54	7660		6	
Hillside - East A		55	6686		5	
Hillside - East A		56	7523		6	
Hillside - East B		1	6352		6.5	
Hillside - East B		2	6861		7	
Hillside - East B		3	7305		7.5	
Hillside - East B		4	7094		6.5	
Hillside - East B		5	7114		7	
Hillside - East B		6	4870		4	
Hillside - East B		7	5458		5	
Hillside - East B		8	7465		7.5	
Hillside - East B		9	7463		7.5	
Hillside - East B		10	6537		6.5	
Hillside - East B		11	7191		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - East B		12	4351		4	
Hillside - East B		13	5490		5	
Hillside - East B		14	5280		5.5	
Hillside - East B		15	4356		4	
Hillside - East B		16	5454		5.5	
Hillside - East B		17	4995		5.5	
Hillside - East B		18	5369		5.5	
Hillside - East B		19	4877		4	
Hillside - East B		20	4222		5	
Hillside - East B		21	5285		6	
Hillside - East B		22	5871		5	
Hillside - East B		23	5723		6	
Hillside - East B		24	4167		5	
Hillside - East B		25	5715		5	
Hillside - East B		26	4591		6	
Hillside - East B		27	5807		7	
Hillside - East B		28	5528		5	
Hillside - East B		29	6110		7	
Hillside - East B		30	5933		6	
Hillside - East B		31	5247		6	
Hillside - East B		32	5765		6	
Hillside - East B		33	5992		6	
Hillside - East B		34	6454		7	
Hillside - East B		35	6138		7	
Hillside - East B		36	5301		6	
Hillside - East B		37	6562		7	
Hillside - East B		38	7735		8.5	
Hillside - East B		39	8016		8	
Hillside - East B		40	7415		8	
Hillside - East B		41	6987		6.5	
Hillside - East B		42	7853		8.5	
Hillside - East B		43	6960		7	
Hillside - East B		44	6852		7	
Hillside - East B		45	7008		6.5	
Hillside - East B		**46**	**8572**	**7733**	**8**	
Hillside - East B		47	6605		6	
Hillside - East B		48	7720		8	
Hillside - East B		49	7282		7	
Hillside - East B		50	7398		6.75	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - East B		51	7417		7	
Hillside - East B		52	6689		6.5	
Hillside - East B		53	6961		7	
Hillside - East B		54	6531		6.5	
Hillside - East B		55	6519		6.5	
Hillside - Sidewalks		1	5404		4	
Hillside - Sidewalks		2	5588		4	
Hillside - Sidewalks		3	5648		5	
Hillside - Sidewalks		4	5871		5	
Hillside - Sidewalks		5	5660		4	
Hillside - Sidewalks		6	5745		4	
Hillside - Sidewalks		7	5587		5	
Hillside - Sidewalks		8	5128		4	
Hillside - Sidewalks		9	5254		4	
Hillside - Sidewalks		10	5486		4	
Hillside - Sidewalks		11	5214		4	
Hillside - Sidewalks		12	5312		5	
Hillside - Sidewalks		13	5303		4	
Hillside - Sidewalks		14	5439		4	
Hillside - Sidewalks		15	5279		4	
Hillside - Sidewalks		16	5250		4	
Hillside - Sidewalks		17	5218		4	
Hillside - Sidewalks		18	5249		4	
Hillside - Sidewalks		19	4979		4	
Hillside - Sidewalks		20	5130		4	
Hillside - Sidewalks		21	5495		5	
Hillside - Sidewalks		22	4851		5	
Hillside - Sidewalks		23	5459		4	
Hillside - Sidewalks		24	4722		4	
Hillside - Sidewalks		25	4379		4	
Hillside - Sidewalks		26	4902		4	
Hillside - Sidewalks		27	5050		4	
Hillside - Sidewalks		28	5183		4	
Hillside - Sidewalks		29	5367		5	
Hillside - Sidewalks		30	5262		4	
Hillside - Sidewalks		31	5446		5	
Hillside - Sidewalks		32	5197		4	
Hillside - Sidewalks		33	5219		4	
Hillside - Sidewalks		34	4617		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - Sidewalks		35	4604		4	
Hillside - Sidewalks		36	4542		4	
Hillside - Sidewalks		37	4524		4	
Hillside - Sidewalks		38	4940		4	
Hillside - Sidewalks		39	4730		4	
Hillside - Sidewalks		40	4387		4	
Hillside - Sidewalks		41	5307		4	
Hillside - Sidewalks		42	5031		4	
Hillside - Sidewalks		43	5359		4	
Hillside - Sidewalks		44	5348		4	
Hillside - Sidewalks		45	5341		4	
Hillside - Sidewalks		46	5459		4	
Hillside - Sidewalks		47	5131		4	
Hillside - Sidewalks		48	5431		4	
Hillside - Sidewalks		49	5245		4	
Hillside - Sidewalks		50	4840		4	
Hillside - Sidewalks		51	5116		4	
Hillside - Sidewalks		52	6360		5	
Hillside - Sidewalks		53	6637		5	
Hillside - Sidewalks		54	6485		5	
Hillside - Sidewalks		55	6680		5	
Hillside - Sidewalks		56	6196		5	
Hillside - Sidewalks		57	6080		5	
Hillside - Sidewalks		58	6194		5	
Hillside - Sidewalks		59	6051		5	
Hillside - Sidewalks		60	5916		5	
Hillside - Sidewalks		61	5881		5	
Hillside - Sidewalks		62	5499		5	
Hillside - Sidewalks		63	5392		5	
Hillside - Sidewalks		64	5590		5	
Hillside - Sidewalks		65	5298		4	
Hillside - Sidewalks		66	5933		5	
Hillside - Sidewalks		67	5460		4	
Hillside - Sidewalks		68	6148		5	
Hillside - Sidewalks		69	6531		5	
Hillside - Sidewalks		70	6049		5	
Hillside - Sidewalks		71	6160		5	
Hillside - Sidewalks		72	5990		5	
Hillside - Sidewalks		73	6724		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - Sidewalks		74	6431		5	
Hillside - Sidewalks		75	6473		5	
Hillside - Sidewalks		76	6328		6	
Hillside - Sidewalks		77	6571		5	
Hillside - Sidewalks		**78**	**6973**		**5**	
Hillside - Sidewalks		79	6572		6	
Hillside - Sidewalks		80	6027		6	
Hillside - Sidewalks		81	5843		4	
Hillside - Sidewalks		82	5745		5	
Hillside - Sidewalks		83	5867		4	
Hillside - Sidewalks		84	5139		4	
Hillside - Sidewalks		85	5818		5	
Hillside - Sidewalks		86	8289		6	
Hillside - Sidewalks		87	6054		5	
Hillside - Sidewalks		88	6022		5	
Hillside - Sidewalks		89	5850		4	
Hillside - Sidewalks		90	5313		5	
Hillside - Sidewalks		91	5449		5	
Hillside - Sidewalks		92	5529		6	
Hillside - Sidewalks		93	5796		5	
Hillside - Sidewalks		94	6536		6	
Hillside - Sidewalks		95	6665		5	
Hillside - Sidewalks		96	6453		5	
Hillside - North		**1**	**12069**		**13**	
Hillside - North		2	7829		7.5	
Hillside - North		3	7470		8	
Hillside - North		4	8247		8.5	
Hillside - North		5	6805		7	
Hillside - North		6	7780		8	
Hillside - North		7	7061		7	
Hillside - North		8	7106		7	
Hillside - North		9	6824		7.5	
Hillside - North		10	7741		8	
Hillside - North		11	6513		6.5	
Hillside - North		12	7152		7	
Hillside - North		13	6979		7.5	
Hillside - North		14	7006		6.5	
Hillside - North		15	6905		6.5	
Hillside - North		16	7243		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - North		17	6981		7	
Hillside - North		18	6733		7	
Hillside - North		19	8724		9	
Hillside - North		20	8344		7.5	
Hillside - North		21	8501		8.5	
Hillside - North		22	7068		7	
Hillside - North		23	6973		7	
Hillside - North		24	6479		7.5	
Hillside - North		25	6678		7	
Hillside - North		26	6332		7	
Hillside - North		27	6809		7	
Hillside - North		28	6535		7	
Hillside - North		29	7679		7	
Hillside - North		30	6799		7.5	
Hillside - North		31	6794		7	
Hillside - North		32	7106		6.5	
Hillside - North		33	7232		7.5	
Hillside - North		34	7466		7.5	
Hillside - North		35	7987		8	
Hillside - North		36	7554		8	
Hillside - North		37	8876		9	
Hillside - North		38	7758		7.5	
Hillside - North		39	7526		7.5	
Hillside - North		40	7342		7.5	
Hillside - North		41	6301		6	
Hillside - North		42	6633		6.5	
Hillside - North		43	6870		7	
Hillside - North		44	9101		10	
Hillside - North		45	8681		9	
Hillside - North		46	7831		8	
Hillside - North		47	6716		6.5	
Hillside - North		48	6538		7	
Hillside - North		49	6790		7	
Hillside - North		50	6835		7	
Hillside - North		51	7322		7.5	
Hillside - North		52	7028		7	
Hillside - North		53	6487		7	
Hillside - North		54	7842		7	
Hillside - North		55	6606		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - North		56	8380		8.5	
Hillside - North		57	6722		6	
Hillside - North		58	6679		6.5	
Hillside - North		59	8449		9	
Hillside - North		60	7700		7.5	
Hillside - North		61	8535		9	
Hillside - North		62	9215		9	
Hillside - North		63	6864		7	
Hillside - North		64	8396		9	
Hillside - North		65	8347		9	
Hillside - North		66	6660		8	
Hillside - North		67	9186		10	
Hillside - North		68	8627		9	
Hillside - North		69	6255		6.5	
Hillside - North		70	7644		8	
Hillside - North		71	6079		6.5	
Hillside - North		72	6046		5.5	
Hillside - North		73	10541		10.5	
Hillside - North		74	6672		7	
Hillside - North		75	9971		10	
Hillside - North		**76**	**11037**		**11.5**	
Hillside - North		77	6024		6	
Hillside - North		78	6284		6	
Hillside - North		**79**	**11305**		**12**	
Hillside - North		80	7497		8	
Hillside - North		81	7265		7.5	
Hillside - North		82	7410		7.5	
Hillside - North		83	10384		11	
Hillside - North		84	5409		6.5	
Hillside - North		85	5020		5.5	
Hillside - North		86	8950		9.5	
Hillside - North		87	5704		6	
Hillside - North		88	10044		10	
Hillside - North		89	10514		11.5	
Hillside - North		90	5245		5	
Hillside - North		91	6538		6.5	
Hillside - North		92	5439		6.5	
Hillside - North		93	7728		8	
Hillside - North		94	9252		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - North		95	4742		4.5	
Hillside - North		96	7105		7	
Hillside - North		97	5723		6.5	
Hillside - North		98	5673		5.5	
Hillside - North		99	7846		8	
Hillside - North		100	4993		6	
Hillside - North		101	8692		6.5	
Hillside - North		102	5487		6	
Hillside - North		103	10492		11	
Hillside - North		104	5584		5.5	
Hillside - North		105	9937		11	
Hillside - North		106	9931		10	
Hillside - North		107	6539		6.5	
Hillside - North		108	8344		8.5	
Hillside - North		109	5881		6	
Hillside - North		110	8725		10	
Hillside - North		111	5850		6	
Hillside - North		112	8067		8	
Hillside - North		113	8588		8	
Hillside - North		114	6384		7	
Hillside - North		115	7591		8	
Hillside - North		116	6838		8	
Hillside - North		117	6509		6.5	
Hillside - North		118	8028		9	
Hillside - North		119	8365		8	
Hillside - North		120	6594		7	
Hillside - North		121	6684		6	
Hillside - North		122	7316		7	
Hillside - North		123	7894		7.5	
Hillside - North		124	7146		7.5	
Hillside - North		125	7260		7.5	
Hillside - North		126	7339		7.5	
Hillside - North		127	7811		9	
Hillside - North		128	8101		8	
Hillside - North		129	7612		7	
Hillside - North		130	6791		7	
Hillside - North		131	7986		8	
Hillside - North		132	6345		7	
Hillside - North		133	8337		7.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - North		134	10743		11	
Hillside - North		135	7585		7.5	
Hillside - North		136	8153		7.5	
Hillside - North		137	8095		9	
Hillside - North		138	8243		9	
Hillside - North		139	7664		8.5	
Hillside - North		140	6371		6.5	
Hillside - North		141	8613		8	
Hillside - North		142	8659		9	
Hillside - North		143	9043		9.5	
Hillside - North		144	5902		5.5	
Hillside - North		145	9049		9.5	
Hillside - North		146	8780		10	
Hillside - North		147	8733		9.5	
Hillside - North		148	8160		8	
Hillside - North		149	6060		7	
Hillside - North		150	6163		6	
Hillside - NorthEast		1	8671		6	
Hillside - NorthEast		2	7314		6	
Hillside - NorthEast		3	7970		6	
Hillside - NorthEast		4	7811		6	
Hillside - NorthEast		5	7366		6	
Hillside - NorthEast		6	7323		6	
Hillside - NorthEast		7	7487		5.5	
Hillside - NorthEast		8	7078		6	
Hillside - NorthEast		9	8266		6	
Hillside - NorthEast		10	6216		5.5	
Hillside - NorthEast		11	6688		4.5	
Hillside - NorthEast		12	6039		6	
Hillside - NorthEast		13	5337		4.5	
Hillside - NorthEast		14	5041		4	
Hillside - NorthEast		15	5191		4	
Hillside - NorthEast		16	5455		4	
Hillside - NorthEast		17	4930		4	
Hillside - NorthEast		18	4927		4	
Hillside - NorthEast		19	5125		4	
Hillside - NorthEast		20	5039		4.25	
Hillside - NorthEast		21	5097		4	
Hillside - NorthEast		22	4798		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - NorthEast		23	4826		4	
Hillside - NorthEast		**24**	**9585**		**6.5**	
Hillside - NorthEast		25	4747		5	
101 NE		1	6273		5	
101 NE		2	5525		5	
101 NE		3	5511		5	
101 NE		4	6338		5	
101 NE		5	5772		5	
101 NE		6	6368		6	
101 NE		7	6065		5	
101 NE		8	6562		5.5	
101 NE		9	6198		5	
101 NE		10	6651		5	
101 NE		11	5842		5	
101 NE		12	5661		4	
101 NE		**13**	**6695**		**5.5**	
101 NE		14	5812		5	
101 NE		15	6648		5	
101 NE		16	6498		5.5	
101 NE		17	5943		5	
101 NE		18	5781		4.5	
101 NE		19	6199		5	
101 NE		20	6216		5	
101 NE		21	6276		5	
101 NE		22	6205		5	
101 NE		23	6109		5	
101 NE		24	5806		5	
101 NE		25	6168		5	
101 NE		26	5901		5	
101 NE		27	6362		5	
101 NE		28	5760		5	
101 NE		29	6423		5	
101 NE		30	5872		4	
101 NW		1	5734		6.5	
101 NW		2	6534		6.5	
101 NW		3	6342		6.5	
101 NW		4	5921		6	
101 NW		5	6484		6.5	
101 NW		6	6278		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
101 NW		7	6120		6	
101 NW		8	6814		6.5	
101 NW		9	6448		7	
101 NW		10	6730		7	
101 NW		11	6497		6.5	
101 NW		12	4451		5	
101 NW		13	4609		5	
101 NW		14	4435		4.5	
101 NW		15	4468		4	
101 NW		16	3842		4.5	
101 NW		17	5469		6	
101 NW		18	5333		5	
101 NW		19	5760		6	
101 NW		20	5366		5.5	
101 NW		21	5178		5	
101 NW		22	5218		5.5	
101 NW		23	5354		5.5	
101 NW		24	5435		6	
101 NW		25	4546		5	
101 NW		26	4729		5	
101 NW		27	6162		6	
101 NW		28	4642		5	
101 NW		29	5139		6	
101 NW		30	4189		4	
101 NW		31	5142		6	
101 NW		32	4817		5.5	
101 NW		33	5686		5.5	
101 NW		34	5187		5.5	
101 NW		35	4899		5.5	
101 NW		36	7225		7	
101 NW		37	7411		8	
101 NW		38	7463		8	
101 NW		39	6843		7	
101 NW		40	6784		7	
101 NW		41	6792		7	
101 NW		42	6822		7	
101 NW		43	6636		6.5	
101 NW		44	8050		8.5	
101 NW		45	7922		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
101 NW		**46**	**8992**		**10**	
101 NW		47	6951		7.5	
101 NW		48	7323		7.5	
101 S		1	8251		8.5	
101 S		2	8096		8	
101 S		3	7617		8.5	
101 S		4	8222		9	
101 S		5	6722		7.5	
101 S		6	7610		7.5	
101 S		7	7131		8	
101 S		8	4468		4.5	
101 S		9	4369		4.5	
101 S		10	4286		4	
101 S		11	4749		5	
101 S		12	4606		5	
101 S		13	4091		4	
101 S		14	4339		4.5	
101 S		15	4474		4.5	
101 S		16	4791		4	
101 S		17	4784		5	
101 S		18	4513		5	
101 S		19	4340		4.5	
101 S		20	4254		5	
101 S		21	4894		4.5	
101 S		22	4451		4.5	
101 S		23	5054		5	
101 S		24	4379		5	
101 S		25	4804		5	
101 S		26	4455		5	
101 S		27	4678		5	
101 S		28	4649		5	
101 S		29	4156		5	
101 S		30	4267		5	
101 S		31	3991		4	
101 S		32	3572		4	
101 S		33	7383		8.5	
101 S		34	7233		7	
101 S		35	7737		8	
101 S		36	7410		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
101 S		37	6626		7	
101 S		38	6409		6.5	
101 S		39	8260		9	
101 S		**40**	**8555**		**9**	
101 SE		1	6209		5.5	
101 SE		2	5911		5	
101 SE		3	7563		6	
101 SE		4	6858		5.5	
101 SE		5	7244		6	
101 SE		6	6896		6	
101 SE		7	6555		6	
101 SE		8	6681		6	
101 SE		9	5467		5	
101 SE		10	6379		6	
101 SE		11	4865		4	
101 SE		**12**	**8413**	**7886**	**7.5**	**7**
101 SE		13	6134		5	
101 SE		14	7684		6	
101 SE		15	7291		6.5	
101 SE		16	5825		4.5	
101 SW		1	4351		5.5	
101 SW		2	5481		6	
101 SW		3	4840		6	
101 SW		4	5889		6.5	
101 SW		5	4362		4.5	
101 SW		6	4480		5	
101 SW		7	3993		4.5	
101 SW		8	5658		6	
101 SW		9	5462		5.5	
101 SW		10	5554		6	
101 SW		11	6164		6.5	
101 SW		12	9740		9.5	
101 SW		13	8322		7.5	
101 SW		14	7920		8	
101 SW		15	7633		8	
101 SW		16	7144		7	
101 SW		17	5787		6.5	
101 SW		18	6602		7	
101 SW		19	6657		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
101 SW		20	6709		7	
101 SW		21	5924		6	
101 SW		22	5914		6	
101 SW		23	5720		6	
101 SW		24	6504		6.5	
101 SW		25	5908		6.5	
101 SW		26	6165		6	
101 SW		27	6514		6	
101 SW		28	6411		7	
101 SW		29	6058		6	
101 SW		30	6760		7	
101 SW		31	6856		7.5	
101 SW		32	7317		7	
101 SW		33	6149		6.5	
101 SW		34	6714		8	
101 SW		35	8048	7728	6.5	
101 SW		36	6385		8.5	
101 SW		**37**	**8684**	**8590**	**8.5**	
101 SW		38	7288		7.5	
101 SW		39	7588		8	
101 Sidewalk		1	5300		5	
101 Sidewalk		2	4637		5	
101 Sidewalk		3	4868		5	
101 Sidewalk		4	3642		5	
101 Sidewalk		5	5201		6	
101 Sidewalk		6	5497		5	
101 Sidewalk		**7**	**5578**		**6**	
101 Sidewalk		8	4823		5	
101 Sidewalk		9	4767		5	
101 Sidewalk		10	4440		5	
101 Sidewalk		11	4415		5	
101 Sidewalk		12	3478		5	
101 Sidewalk		13	4727		5	
101 Sidewalk		14	4674		5	
101 Sidewalk		15	5292		5	
101 Sidewalk		16	3562		5	
101 Sidewalk		17	5021		6	
101 Sidewalk		18	4962		5	
Future Artist		1	4425		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Future Artist		2	4032		4	
Future Artist		3	3770		3.5	
Future Artist		4	4535		4.5	
Future Artist		5	4436		4	
Future Artist		6	4163		5	
Future Artist		7	4839		5	
Future Artist		8	4883		5	
Future Artist		9	4708		4.5	
Future Artist		10	4900		5	
Future Artist		11	5398		5.5	
Future Artist		12	4067		4.5	
Future Artist		13	4563		4.5	
Future Artist		14	5386		5	
Future Artist		15	5008		5	
Future Artist		16	4655		5	
Future Artist		17	4410		4	
Future Artist		18	4130		4	
Future Artist		19	4561		5.5	
Future Artist		20	4599		5	
Future Artist		21	4143		4.5	
Future Artist		22	3765		4	
Future Artist		23	4041		4.5	
Future Artist		24	4123		4	
Future Artist		25	3687		4	
Future Artist		26	3738		4	
Future Artist		27	5252		5	
Future Artist		28	4922		5	
Future Artist		29	4926		5	
Future Artist		30	3723		4	
Future Artist		31	5288		5	
Future Artist		32	5439		5	
Future Artist		33	4966		5	
Future Artist		34	4836		5.5	
Future Artist		35	5134		5.5	
Future Artist		36	5938		6	
Future Artist		37	5305		5.5	
Future Artist		38	5582		5.5	
Future Artist		39	5159		4.5	
Future Artist		40	5372		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Future Artist		41	5238		5	
Future Artist		42	5121		5	
Future Artist		43	5503		5.5	
Future Artist		44	5510		6	
Future Artist		**45**	**6397**		**6**	
Future Artist		46	5463		6	
Future Artist		47	5393		5	
Future Artist		48	6661		6	
Future Artist		49	5415		5	
Future Artist		50	6232		6.5	
Future Artist		51	6616		7	
Future Artist		52	7246		6.5	
Future Artist		53	5501		6	
Future Artist		54	5277		5	
Future Artist		55	5592		5.5	
Future Artist		56	4855		4	
Future Artist		57	5104		5.5	
Future Artist		58	5297		6	
Future Artist		59	4858		4.5	
Future Artist		60	5165		6	
Future Artist		61	4973		4.5	
Future Artist		62	5156		5.5	
Future Artist		63	4790		5	
Future Artist		64	3224		4	
Future Artist		65	4970		5	
Robinson Hill		1	7468		8	
Robinson Hill		2	6764		8	
Robinson Hill		3	7711		9	
Robinson Hill		4	7821		9	
Robinson Hill		5	7392		9	
Robinson Hill		6	7696		8	
Robinson Hill		7	7593		8	
Robinson Hill		8	7540		9	
Robinson Hill		9	7885		9	
Robinson Hill		10	7594		8	
Robinson Hill		11	7810		9	
Robinson Hill		12	7385		8	
Robinson Hill		13	7397		9	
Robinson Hill		14	7824		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Robinson Hill		15	7696		9	
Robinson Hill		16	7603		8	
Robinson Hill		17	7740		8	
Robinson Hill		18	7502		9	
Robinson Hill		19	7520		8	
Robinson Hill		20	7839		9	
Robinson Hill		21	7794		9	
Robinson Hill		22	7483		9	
Robinson Hill		23	7749		9	
Robinson Hill		24	7769		8	
Robinson Hill		25	7874		9	
Robinson Hill		26	7615		9	
Robinson Hill		27	7751		8	
Robinson Hill		28	7722		9	
Robinson Hill		29	7838		9	
Robinson Hill		30	7449		9	
Robinson Hill		31	7788		9	
Robinson Hill		32	7905		9	
Robinson Hill		33	7339		9	
Robinson Hill		34	6794		8	
Robinson Hill		35	6523		8	
Robinson Hill		36	7595		8	
Robinson Hill		37	6661		8	
Robinson Hill		38	7376		8	
Robinson Hill		39	7651		8	
Robinson Hill		40	7484		8	
Robinson Hill		41	7460		9	
Robinson Hill		42	6926		8	
Robinson Hill		43	7816		8	
Robinson Hill		44	7634		9	
Robinson Hill		45	7726		7	
Robinson Hill		46	7910		9	
Robinson Hill		47	7633		8	
Robinson Hill		48	7648		9	
Robinson Hill		49	7888		9	
Robinson Hill		50	7811		9	
Robinson Hill		51	7472		8	
Robinson Hill		52	7656		8	
Robinson Hill		53	7889		10	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Robinson Hill		54	7753		9	
Robinson Hill		55	7563		9	
Robinson Hill		56	7786		8	
Robinson Hill		57	7793		9	
Robinson Hill		58	7865		9	
Robinson Hill		59	7711		9	
Robinson Hill		60	7745		8	
Robinson Hill		61	7620		9	
Robinson Hill		62	7721		9	
Robinson Hill		63	7712		8	
Robinson Hill		64	7676		9	
Robinson Hill		65	7807		9	
Robinson Hill		66	7792		9	
Robinson Hill		67	7916		9	
Robinson Hill		68	7833		9	
Robinson Hill		69	7909		9	
Robinson Hill		70	7789		9	
Robinson Hill		71	7682		8	
Robinson Hill		72	7884		9	
Robinson Hill		73	7804		9	
Robinson Hill		74	7707		9	
Robinson Hill		75	7527		8	
Robinson Hill		76	7914		9	
Robinson Hill		77	7287		8	
Robinson Hill		78	7507		8	
Robinson Hill		79	7753		9	
Robinson Hill		80	6682		8	
Robinson Hill		81	7897		9	
Robinson Hill		82	7560		8	
Robinson Hill		83	7654		9	
Robinson Hill		84	7401		9	
Robinson Hill		85	7518		9	
Robinson Hill		86	7786		9	
Robinson Hill		87	7680		9	
Robinson Hill		88	7888		9	
Robinson Hill		89	7791		9	
Robinson Hill		90	7900		9	
Robinson Hill		91	7719		9	
Robinson Hill		92	7787		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Robinson Hill		93	7645		8	
Robinson Hill		94	7715		9	
Robinson Hill		95	7871		9	
Robinson Hill		96	7844		8	
Robinson Hill		97	7810		9	
Robinson Hill		98	7580		8	
Robinson Hill		99	7506		9	
Robinson Hill		100	7729		9	
Robinson Hill		101	7615		9	
Robinson Hill		102	7599		9	
Robinson Hill		103	6988		8	
Robinson Hill		104	7106		8	
Robinson Hill		105	7764		8	
Robinson Hill		106	7779		8	
Robinson Hill		107	7674		9	
Robinson Hill		108	7568		9	
Robinson Hill		109	6660		8	
Robinson Hill		110	7742		9	
Robinson Hill		111	6791		8	
Robinson Hill		112	7610		8	
Robinson Hill		113	7760		8	
Robinson Hill		114	7618		8	
Robinson Hill		115	7344		8	
Robinson Hill		116	7261		8	
Robinson Hill		117	6663		7	
Robinson Hill		118	7746		9	
Robinson Hill		119	6970		8	
Robinson Hill		120	7513		8	
Robinson Hill		121	7624		9	
Robinson Hill		122	7644		8	
Robinson Hill		123	6750		8	
Robinson Hill		124	6240		7	
Robinson Hill		125	6765		7	
Robinson Hill		126	6925		8	
Robinson Hill		127	7307		8	
Robinson Hill		128	7410		8	
Robinson Hill		129	6845		9	
Robinson Hill		130	6924		8	
Robinson Hill		131	7007		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Robinson Hill		132	7527		8	
Robinson Hill		133	6200		7	
Robinson Hill		134	6043		7	
Robinson Hill		135	6792		8	
Robinson Hill		136	6880		8	
Robinson Hill		137	6644		8	
Robinson Hill		138	5237		6	
Robinson Hill		139	4906		5	
Robinson Hill		140	5276		6	
Robinson Hill		141	5867		7	
Robinson Hill		142	5613		7	
Robinson Hill		143	5531		6	
Robinson Hill		144	4557		5	
Robinson Hill		145	5244		5	
Robinson Hill		146	5180		6	
Robinson Hill		**147**	**6060**		**6**	
Robinson Hill		148	5877		7	
Robinson Hill		149	4321		6	
Robinson Hill		150	5540		6	
Robinson Hill		151	5449		7	
101 Kitchen		1	5414		4	
101 Kitchen		2	5453		4.5	
101 Kitchen		3	5632		5	
101 Kitchen		4	5508		5	
101 Kitchen		5	3530	3384	3.5	
101 Kitchen		6	4695		4	
101 Kitchen		7	4584		4	
101 Kitchen		8	4155		3.5	
101 Kitchen		9	4127		3.5	
101 Kitchen		10	3973		3	
101 Kitchen		11	5379		4	
101 Kitchen		12	4847		4	
101 Kitchen		13	4827		4	
101 Kitchen		14	4682		4	
101 Kitchen		15	5615		4.5	
101 Kitchen		16	6049		5	
101 Kitchen		17	6330		4	
101 Kitchen		18	5720		5	
101 Kitchen		19	5373		4	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
101 Kitchen		20	5308		4.5	
101 Kitchen		21	5104		4	
101 Kitchen		22	5337		4.5	
101 Kitchen		23	5340		4.5	
101 Kitchen		24	5372		4	
101 Kitchen		25	5605		4.5	
101 Kitchen		26	5827		5	
101 Kitchen		27	6707		5.5	
101 Kitchen		28	7105		5	
101 Kitchen		29	5718		5	
101 Kitchen		30	5093		4	
101 Kitchen		31	5156		4	
101 Kitchen		32	4905		4	
101 Kitchen		33	5531		4.5	
101 Kitchen		34	4853		4	
101 Kitchen		35	4922		2.5	
101 Kitchen		36	5830		3.5	
101 Kitchen		37	5566		4.5	
101 Kitchen		38	5927		4.5	
101 Kitchen		39	5584		5	
101 Kitchen		40	7240		6.5	
101 Kitchen		41	5300		5	
101 Kitchen		42	5372		4	
101 Kitchen		43	5660		5	
101 Kitchen		44	5489		4.5	
101 Kitchen		**45**	**10198**		**8**	
101 Kitchen		46	5327		5	
101 Kitchen		47	9164		7	
101 Kitchen		48	9820		8	
101 Kitchen		49	5224		4.5	
Galvez Hill		1	6456		7	
Galvez Hill		2	5195		5.5	
Galvez Hill		3	5921		7	
Galvez Hill		4	5260		5.5	
Galvez Hill		5	5594		6.5	
Galvez Hill		6	6085		7	
Galvez Hill		7	4728		5	
Galvez Hill		8	5801		6.5	
Galvez Hill		9	5008		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez Hill		10	7100		8	
Galvez Hill		11	5177		5	
Galvez Hill		12	6824		7	
Galvez Hill		13	5394		6.5	
Galvez Hill		14	7085		8	
Galvez Hill		15	5298		5.5	
Galvez Hill		16	7287		8	
Galvez Hill		17	5439		6	
Galvez Hill		18	6408		8	
Galvez Hill		19	5376		6.5	
Galvez Hill		20	5327		7	
Galvez Hill		21	5708		7	
Galvez Hill		22	5969		6	
Galvez Hill		23	7127		8	
Galvez Hill		24	6823		7.5	
Galvez Hill		25	6758		8	
Galvez Hill		26	7850		9.5	
Galvez Hill		27	7552		9	
Galvez Hill		28	7928		9.5	
Galvez Hill		29	7039		8	
Galvez Hill		30	8130		10	
Galvez Hill		31	8161		10	
Galvez Hill		32	6797		7.5	
Galvez Hill		33	7221		9	
Galvez Hill		34	5527		6	
Galvez Hill		35	7821		9	
Galvez Hill		36	9639		11	
Galvez Hill		37	5756		7	
Galvez Hill		38	7971		9.5	
Galvez Hill		39	5910		7	
Galvez Hill		40	8563		9.5	
Galvez Hill		41	7927		8	
Galvez Hill		42	7019		8	
Galvez Hill		43	9086		11	
Galvez Hill		44	7617		8	
Galvez Hill		45	7547		8.5	
Galvez Hill		46	8798		9.5	
Galvez Hill		47	8337		9	
Galvez Hill		48	7613		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez Hill		49	6907		7	
Galvez Hill		50	9502		10.5	
Galvez Hill		51	8752		10	
Galvez Hill		52	7681		9	
Galvez Hill		53	8287		10	
Galvez Hill		54	6655		8	
Galvez Hill		55	8099		9	
Galvez Hill		56	7455		8.5	
Galvez Hill		57	8001		9.5	
Galvez Hill		58	6967		8	
Galvez Hill		59	7670		9	
Galvez Hill		60	6666		7.5	
Galvez Hill		61	7582		9	
Galvez Hill		62	7161		8	
Galvez Hill		63	8106		10	
Galvez Hill		64	9152		10.5	
Galvez Hill		65	9678		11	
Galvez Hill		66	9423		11	
Galvez Hill		67	8117		10	
Galvez Hill		68	8885		10.5	
Galvez Hill		69	8643		10	
Galvez Hill		70	7667		8.5	
Galvez Hill		71	8602		9	
Galvez Hill		**72**	**10123**	**10231**	**12**	**11.5**
Galvez Hill		73				
Galvez Hill		74	7925		10	
Galvez Hill		75	9773		11	
Galvez Hill		76	7310		9	
Galvez Hill		77	8297		9.5	
Galvez Hill		78	8155		9	
Galvez Hill		79	8988		10	
Galvez Hill		80	8822		10	
Galvez Hill		81	7763		9	
Galvez Hill		82	8710		9	
Galvez Hill		**83**	**51090**		**80**	
Galvez Hill		84	8687		9.5	
Galvez Hill		85	5074		6	
Galvez Hill		86	7381		9	
Galvez Hill		87	7437		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez Hill		88	6797		8	
Galvez Hill		89	6663		8	
Galvez Hill		90	6515		8	
Galvez Hill		91	7188		8	
Galvez Hill		92	7183		8	
Galvez Hill		93	7559		8	
Galvez Hill		94	7245		8	
Galvez Hill		95	8315		9	
Galvez Hill		96	8886		10.5	
Galvez Hill		97	10971		13	
Galvez Hill		98	8398		10	
Galvez Hill		99	16413		19.5	
Galvez Hill		100	8546		10	
Galvez Hill		101	6771		7.5	
Galvez Hill		102	12716		15	
Galvez Hill		103	7674		9	
Galvez Hill		104	6620		8	
Galvez Hill		105	7897		10	
Galvez Hill		106	9146		10	
Galvez Hill		107	7947		9	
Galvez Hill		108	8444		9	
Galvez Hill		109	6870		8	
Galvez Hill		**110**	**10249**		**12**	
Galvez NW Field		1	8267		9	
Galvez NW Field		2	8064		8.5	
Galvez NW Field		3	8161		9	
Galvez NW Field		4	7737		9	
Galvez NW Field		5	6743		7.5	
Galvez NW Field		6	7273		7	
Galvez NW Field		7	8188		9	
Galvez NW Field		8	7663		9	
Galvez NW Field		9	7500		8	
Galvez NW Field		10	8068		9	
Galvez NW Field		11	8666		10	
Galvez NW Field		12	8772		9.5	
Galvez NW Field		13	9367		10.5	
Galvez NW Field		14	7663		8	
Galvez NW Field		15	7831		8	
Galvez NW Field		16	9310		10	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez NW Field		17	8520		9	
Galvez NW Field		18	8367		9.5	
Galvez NW Field		19	7875		9	
Galvez NW Field		20	7555		8	
Galvez NW Field		21	7529		8	
Galvez NW Field		22	7935		10	
Galvez NW Field		23	8697		9	
Galvez NW Field		24	7757		9	
Galvez NW Field		25	8160		9	
Galvez NW Field		26	7557		8.5	
Galvez NW Field		27	6250		7.5	
Galvez NW Field		28	7509		8	
Galvez NW Field		29	6930		7.5	
Galvez NW Field		30	9115		11	
Galvez NW Field		31	7118		8	
Galvez NW Field		32	6745		7.5	
Galvez NW Field		33	8049		8	
Galvez NW Field		34	8531		9.5	
Galvez NW Field		35	7242		7.5	
Galvez NW Field		36	6446		7	
Galvez NW Field		37	8694		10	
Galvez NW Field		38	8846		10	
Galvez NW Field		39	8158		9	
Galvez NW Field		40	7882		8.5	
Galvez NW Field		41	6900		8	
Galvez NW Field		42	7829		8.5	
Galvez NW Field		43	7975		9	
Galvez NW Field		44	6207		7	
Galvez NW Field		45	6396		7	
Galvez NW Field		46	6661		7	
Galvez NW Field		47	6118		7	
Galvez NW Field		48	6501		7.25	
Galvez NW Field		49	6661		7.5	
Galvez NW Field		50	5811		6	
Galvez NW Field		51	6463		7.5	
Galvez NW Field		52	6071		7	
Galvez NW Field		53	6205		7	
Galvez NW Field		54	8306		9.5	
Galvez NW Field		55	6421		7.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez NW Field		56	6448		6.5	
Galvez NW Field		57	6587		7	
Galvez NW Field		58	7007		7.5	
Galvez NW Field		59	6760		7.5	
Galvez NW Field		60	8871		9.5	
Galvez NW Field		61	11377		12.5	
Galvez NW Field		62	7704		8.5	
Galvez NW Field		63	6985		8	
Galvez NW Field		64	5775		6	
Galvez NW Field		65	6947		7	
Galvez NW Field		66	4257		5	
Galvez NW Field		67	6954		7.5	
Galvez NW Field		68	6652		7.5	
Galvez NW Field		69	6930		7	
Galvez NW Field		70	3934		4	
Galvez NW Field		71	6241		7	
Galvez NW Field		72	5446		4..5	
Galvez NW Field		73	6965		8	
Galvez NW Field		74	6629		8	
Galvez NW Field		75	6655		7	
Galvez NW Field		76	7221		7	
Galvez NW Field		77	7739		8	
Galvez NW Field		78	6671		8	
Galvez NW Field		79	7902		8	
Galvez NW Field		80	5842		6.5	
Galvez NW Field		81	9524		10.5	
Galvez NW Field		82	9489		11	
Galvez NW Field		83	10303		11	
Galvez NW Field		84	9624		11	
Galvez NW Field		85	11834		13	
Galvez NW Field		86	10665		10.5	
Galvez NW Field		87	7973		11	
Galvez NW Field		**88**	**12769**		**14**	
Galvez NW Field		89	8093		9.5	
Galvez NW Field		90	7876		9	
Galvez NW Field		91	9816		11.5	
Galvez W Grass		1	5722		6	
Galvez W Grass		2	7164		8	
Galvez W Grass		3	7353		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez W Grass		4	7577		8	
Galvez W Grass		5	7863		9	
Galvez W Grass		6	7878		9	
Galvez W Grass		7	7874		9	
Galvez W Grass		8	7401		8	
Galvez W Grass		9	7482		9	
Galvez W Grass		**10**	**8149**		**9**	
Galvez W Grass		11	7121		9	
Galvez W Grass		12	6758		7	
Galvez W Grass		13	7251		7	
Galvez W Grass		14	7426		7	
Galvez W Grass		15	7209		7	
Galvez N Sidewalk		1	5546		6	
Galvez N Sidewalk		2	5877		6	
Galvez N Sidewalk		3	4651		5	
Galvez N Sidewalk		4	5187		5	
Galvez N Sidewalk		5	5974		5.5	
Galvez N Sidewalk		6	5762		6	
Galvez N Sidewalk		7	5944		5	
Galvez N Sidewalk		8	4959		5	
Galvez N Sidewalk		9	5006		5.5	
Galvez N Sidewalk		10	6121		6	
Galvez N Sidewalk		11	4796		5.5	
Galvez N Sidewalk		12	5238		6	
Galvez N Sidewalk		13	5007		5.5	
Galvez N Sidewalk		14	5182		5.5	
Galvez N Sidewalk		15	4912		5	
Galvez N Sidewalk		16	3927		4	
Galvez N Sidewalk		17	4800		5	
Galvez N Sidewalk		18	4925		5.5	
Galvez N Sidewalk		19	4387		4.5	
Galvez N Sidewalk		20	4487		5	
Galvez N Sidewalk		21	5191		6	
Galvez N Sidewalk		**22**	**7539**		**75**	
Galvez N Sidewalk		23	6407		6	
Galvez S Sidewalk		1	4632		5	
Galvez S Sidewalk		2	3666		5	
Galvez S Sidewalk		3	4062		5	
Galvez S Sidewalk		4	5324		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Galvez S Sidewalk		5	5463		7	
Galvez S Sidewalk		6	3349		5	
Galvez S Sidewalk		7	6530		7	
Galvez S Sidewalk		8	6874		6	
Galvez S Sidewalk		9	7262		7	
Galvez S Sidewalk		10	4753		5	
Galvez S Sidewalk		11	5954		5	
Galvez S Sidewalk		**12**	**6923**		**6**	
Galvez S Sidewalk		13	6050		7	
Galvez S Sidewalk		**14**	**8114**		**9**	
Innes NW Sidewalk		1	5549		6	
Innes NW Sidewalk		2	5601		6	
Innes NW Sidewalk		3	5785		6	
Innes NW Sidewalk		4	5656		6	
Innes NW Sidewalk		5	5436		6	
Innes NW Sidewalk		6	5310		6	
Innes NW Sidewalk		7	5267		6	
Innes NW Sidewalk		8	5398		6	
Innes NW Sidewalk		9	5405		6	
Innes NW Sidewalk		10	5265		6	
Innes NW Sidewalk		11	5892		6	
Innes NW Sidewalk		12	5329		5	
Innes NW Sidewalk		**13**	**5876**		**6**	
Innes NW Sidewalk		14	5231		6	
Innes NW Sidewalk		15	5127		6	
Innes NW Sidewalk		16	4383		5	
Innes NW Sidewalk		**17**	**5243**		**5**	
Innes NW Sidewalk		18	2636		3	
Innes NW Sidewalk		19	4284		5	
Innes NW Sidewalk		20	3559		4	
Innes NW Sidewalk		21	2750		2	
Innes NW Sidewalk		**22**	**4740**		**5**	
Innes NW Sidewalk		23	3640		4	
Innes NW Sidewalk		24	3063		4	
Innes NW Sidewalk		25	3351		4	
Innes NW Sidewalk		26	3331		4	
Innes NW Sidewalk		27	3411		4	
Innes NW Sidewalk		28	3665		4	
Innes NW Sidewalk		29	3790		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Innes NW Sidewalk		30	5330		6	
Lennar Const. Offices		1	6140		5	
Lennar Const. Offices		**2**	**7288**		**6**	
Lennar Const. Offices		3	5489		4	
Lennar Const. Offices		4	6871		6	
Lennar Const. Offices		5	7418		6	
Lennar Const. Offices		6	6307		5	
Lennar Const. Offices		7	5802		4	
Lennar Const. Offices		8	6803		6	
Lennar Const. Offices		9	6800		6	
Lennar Const. Offices		10	6929		6	
Lennar Const. Offices		11	10448		9	
Lennar Const. Offices		12	8404		6	
Lennar Const. Offices		13	8287		7	
Lennar Const. Offices		14	8722		7	
Lennar Const. Offices		15	8513		5	
Lennar Const. Offices		16	7321		5	
Lennar Const. Offices		17	7848		6	
Lennar Const. Offices		18	8157		7	
Lennar Const. Offices		19	7589		6	
Lennar Const. Offices		20	7927		6	
Lennar Const. Offices		21	8321		7	
Lennar Const. Offices		22	10221		8	
Lennar Const. Offices		23	9634		8	
Lennar Const. Offices		24	7519		6	
Lennar Const. Offices		25	3303		4	
Lennar Const. Offices		26	4250		4	
Lennar Const. Offices		27	3880		3	
Lennar Const. Offices		28	4189		4	
Lennar Const. Offices		29	4099		4	
Lennar Const. Offices		30	5281		4	
Lennar Const. Offices		31	4922		4	
Lennar Const. Offices		32	5338		6	
Lennar Const. Offices		33	5638		5	
Lennar Const. Offices		34	5806		5	
Lennar Const. Offices		35	5510		5	
Lennar Const. Offices		36	5626		5	
Lennar Const. Offices		37	7329		6	
Lennar Const. Offices		38	6651		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
North Parking Field		1	7174		8.5	
North Parking Field		2	5631		6.5	
North Parking Field		3	6813		8	
North Parking Field		4	6294		7.5	
North Parking Field		5	6488		7	
North Parking Field		6	6725		7.5	
North Parking Field		7	5865		6.5	
North Parking Field		8	5756		6.5	
North Parking Field		9	4929		5.5	
North Parking Field		10	5476		6	
North Parking Field		11	5288		6	
North Parking Field		12	5258		6.5	
North Parking Field		13	3704		4.5	
North Parking Field		14	4139		5	
North Parking Field		15	3901		4	
North Parking Field		16	4978		5.5	
North Parking Field		17	4896		5.5	
North Parking Field		18	2562		3	
North Parking Field		19	2985		3	
North Parking Field		20	5291		6	
North Parking Field		21	3408		3	
North Parking Field		22	3566		4	
North Parking Field		23	3213		3.5	
North Parking Field		24	5679		6	
North Parking Field		25	3240		4	
North Parking Field		26	3118		3.5	
North Parking Field		27	3318		3	
North Parking Field		28	3086		3.5	
North Parking Field		29	3291		4	
North Parking Field		30	4620		5	
North Parking Field		31	3677		4.5	
North Parking Field		32	3828		4.5	
North Parking Field		33	3756		4	
North Parking Field		34	6020		6	
North Parking Field		35	7216		8	
North Parking Field		36	9351		12	
North Parking Field		37	7279		8	
North Parking Field		**38**	**9953**	**9792**	**11**	**10.5**
North Parking Field		39	6092		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
North Parking Field		40	5433		6	
North Parking Field		41	4918		6	
North Parking Field		42	7296		8	
North Parking Field		43	6336		7.5	
North Parking Field		44	6132		7	
North Parking Field		45	7010		8	
North Parking Field		46	8106		9	
North Parking Field		47	4993		6	
North Parking Field		48	6058		6.5	
North Parking Field		49	5428		6.5	
North Parking Field		50	5842		7	
North Parking Field		51	5576		7	
North Parking Field		52	5906		6.5	
North Parking Field		53	6418		7.5	
North Parking Field		54	5972		6.5	
North Parking Field		55	6181		7	
North Parking Field		56	5902		6	
North Parking Field		57	5849		7	
North Parking Field		58	6696		8	
North Parking Field		59	6385		7	
North Parking Field		60	6526		7	
North Parking Field		61	8029		8.5	
North Parking Field		62	6993		8	
North Parking Field		63	6379		7	
North Parking Field		64	6083		7	
North Parking Field		65	7044		7	
North Parking Field		66	5844		6	
North Parking Field		67	11587	12220	13	13.5
North Parking Field		68	5299		5	
North Parking Field		69	6709		7	
North Parking Field		70	3352		4	
North Parking Field		71	4471		5	
North Parking Field		72	3412		4	
North Parking Field		73	3836		4.5	
North Parking Field		74	5451		5	
North Parking Field		75	3623		4	
North Parking Field		76	7165		7.5	
North Parking Field		77	7546		8	
North Parking Field		78	4105		4.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
North Parking Field		79	6964		7.5	
North Parking Field		80	6269		6.5	
North Parking Field		81	6523		7.5	
North Parking Field		82	3983		5	
North Parking Field		83	6120		7.5	
North Parking Field		84	3660		4.5	
North Parking Field		85	2705		3	
North Parking Field		86	2963		3	
North Parking Field		87	3842		4	
North Parking Field		88	4512		4.5	
North Parking Field		89	6178		7	
North Parking Field		90	5671		6	
North Parking Field		91	6011		6.5	
North Parking Field		92	6530		7.5	
North Parking Field		93	7530		9	
North Parking Field		94	8573		9.5	
North Parking Field		95	8881		9	
North Parking Field		96	7074		8	
North Parking Field		97	7092		8	
North Parking Field		98	6220		6	
North Parking Field		99	5532		6	
North Parking Field		100	5548		6	
North Parking Field		101	4313		5	
North Parking Field		102	3253		4	
North Parking Field		103	4733		5.5	
North Parking Field		104	2938		3	
North Parking Field		105	2551		3	
North Parking Field		106	3932		5	
North Parking Field		107	2960		4	
North Parking Field		108	2240		3	
North Parking Field		109	2934		3.5	
North Parking Field		110	2602		3	
North Parking Field		111	2795		2.5	
North Parking Field		112	2243		2.5	
North Parking Field		113	2207		2	
North Parking Field		114	3767		4	
North Parking Field		115	2507		2	
North Parking Field		116	3371		3	
North Parking Field		117	4697		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
North Parking Field		118	5170		6	
North Parking Field		119	2957		3	
North Parking Field		120	3641		4	
North Parking Field		121	3906		4	
North Parking Field		122	3232		3.5	
North Parking Field		123	3410		3.5	
North Parking Field		124	4452		5	
North Parking Field		125	3941		4	
North Parking Field		126	5404		6	
North Parking Field		127	6216		7	
North Parking Field		128	6460		7	
North Parking Field		129	7797		9	
North Parking Field		130	4791		5.5	
North Parking Field		131	9218		10.5	
North Parking Field		132	6508		7.5	
North Parking Field		133	6755		7.5	
North Parking Field		134	7845		9	
North Parking Field		135	5071		5	
North Parking Field		136	6404		7	
North Parking Field		137	6280		7	
North Parking Field		138	5631		6.5	
North Parking Field		139	4461		5	
North Parking Field		140	4221		4.5	
North Parking Field		141	2968		3	
North Parking Field		142	4610		5.5	
North Parking Field		143	4664		5	
North Parking Field		144	4733		5.5	
North Parking Field		145	3922		5	
North Parking Field		146	6279		6.5	
North Parking Field		147	5368		6	
North Parking Field		148	5457		5.5	
North Parking Field		149	4644		5	
North Parking Field		150	5281		6	
North Parking Field		151	6116		7	
North Parking Field		152	5270		6.5	
North Parking Field		153	6600		7.5	
North Parking Field		154	6487		7.5	
North Parking Field		155	5408		6.5	
North Parking Field		156	5882		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
North Parking Field		157	4616		5.5	
North Parking Field		158	4774		5	
North Parking Field		159	4378		5	
North Parking Field		160	3160		4	
North Parking Field		161	3871		4.5	
North Parking Field		162	3066		3.5	
North Parking Field		163	3321		5	
North Parking Field		164	3523		4	
North Parking Field		165	3161		3	
North Parking Field		166	2969		4	
North Parking Field		167	3059		4	
North Parking Field		168	3862		4	
North Parking Field		169	4718		5	
North Parking Field		170	4484		5	
North Parking Field		171	7478		8	
North Parking Field		172	5615		6	
North Parking Field		173	5398		6	
North Parking Field		174	4894		5	
North Parking Field		175	4772		5	
North Parking Field		176	5008		5	
North Parking Field		177	5713		6	
North Parking Field		178	5170		6	
North Parking Field		179	5370		6	
North Parking Field		180	5397		6.5	
North Parking Field		181	5536		6.5	
NW Bus Stop		1	6428		6	
NW Bus Stop		2	6903		7	
NW Bus Stop		3	6394		7	
NW Bus Stop		4	6178		6	
NW Bus Stop		5	6389		6	
NW Bus Stop		6	6312		6	
NW Bus Stop		7	5712		5	
NW Bus Stop		8	6413		6	
NW Bus Stop		9	8215		8	
NW Bus Stop		10	8152		9	
NW Bus Stop		11	7489		7	
NW Bus Stop		12	8689		8	
NW Bus Stop		13	7099		7	
NW Bus Stop		14	6354		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
NW Bus Stop		15	6200		7	
NW Bus Stop		16	6223		6	
NW Bus Stop		17	7297		6	
NW Bus Stop		18	6967		7	
NW Bus Stop		19	6569		7	
NW Bus Stop		20	6732		7	
NW Bus Stop		21	6493		7	
NW Bus Stop		22	6906		7	
NW Bus Stop		23	8073		9	
NW Bus Stop		24	7749		8	
NW Bus Stop		**25**	**10578**		**10**	
NW Bus Stop		26	6895		6	
NW Bus Stop		27	6314		7	
NW Bus Stop		28	6159		6	
NW Bus Stop		29	6423		7	
NW Bus Stop		30	6592		6	
NW Bus Stop		31	6494		6	
NW Bus Stop		32	6159		6	
Storehouse - Sidewalks		1	5394		3	
Storehouse - Sidewalks		2	5805		3	
Storehouse - Sidewalks		3	6290		3	
Storehouse - Sidewalks		4	5376		3	
Storehouse - Sidewalks		5	5188		3	
Storehouse - Sidewalks		6	6002		3	
Storehouse - Sidewalks		7	6216		3	
Storehouse - Sidewalks		8	5900		3	
Storehouse - Sidewalks		9	6095		3	
Storehouse - Sidewalks		10	6267		3	
Storehouse - Sidewalks		**11**	**6535**		**3.5**	
Storehouse - Sidewalks		12	6631		3.5	
Storehouse - Sidewalks		13	6446		3	
Storehouse - Sidewalks		14	5488		2.5	
Storehouse - Sidewalks		15	6633		3.5	
Storehouse - Sidewalks		16	5856		3	
Storehouse - Sidewalks		17	5940		3	
Storehouse - Sidewalks		18	5502		3	
Storehouse - Sidewalks		19	5971		3	
Storehouse - Sidewalks		20	6234		3	
Storehouse - Sidewalks		21	5747		3	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Storehouse - Sidewalks		22	5898		3	
Storehouse - Sidewalks		23	5729		3	
Storehouse - Sidewalks		24	5953		3	
Storehouse - Sidewalks		25	6073		3	
Storehouse - Sidewalks		26	6062		3	
Storehouse - Sidewalks		27	6260		3	
Storehouse - Sidewalks		28	6119		3	
Storehouse - Sidewalks		29	5854		3	
Storehouse - Sidewalks		30	5740		3	
Storehouse - Sidewalks		31	5765		3	
Storehouse - Sidewalks		32	6084		3	
Storehouse - Sidewalks		33	5843		3	
Storehouse - Sidewalks		34	6200		3	
Storehouse - Sidewalks		35	5473		3	
Storehouse - Sidewalks		36	6171		3	
Storehouse - Sidewalks		37	6014		3	
Storehouse - Sidewalks		38	5724		3	
Storehouse - Sidewalks		39	5937		3	
Storehouse - Sidewalks		40	6617	6149	3	
Storehouse - Sidewalks		41	5994		3	
Storehouse - Sidewalks		42	6444		3	
Storehouse - Terrain		1	6413		7	
Storehouse - Terrain		2	6173		6	
Storehouse - Terrain		3	6408		7	
Storehouse - Terrain		4	6546		7	
Storehouse - Terrain		5	6305		7	
Storehouse - Terrain		6	6050		7	
Storehouse - Terrain		7	6409		6	
Storehouse - Terrain		8	6312		7	
Storehouse - Terrain		9	6757		7	
Storehouse - Terrain		10	11699		13	
Storehouse - Terrain		11	7154		8	
Storehouse - Terrain		12	6459		6	
Storehouse - Terrain		13	12899		14	
Storehouse - Terrain		14	6354		6.5	
Storehouse - Terrain		15	6935		7	
Storehouse - Terrain		16	6727		6.5	
Storehouse - Terrain		17	13291		13.5	
Storehouse - Terrain		18	6104		6.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Storehouse - Terrain		19	13598		11	
Storehouse - Terrain		20	6762		6	
Storehouse - Terrain		21	6273		6	
Storehouse - Terrain		22	7468		7	
Storehouse - Terrain		23	6169		6	
Storehouse - Terrain		24	6887		7	
Storehouse - Terrain		25	6220		6	
Storehouse - Terrain		26	5788		6	
Storehouse - Terrain		27	5564		6	
Storehouse - Terrain		28	5319		5	
Storehouse - Terrain		29	5413		6	
Storehouse - Terrain		30	5538		5	
Storehouse - Terrain		31	6216		6	
Storehouse - Terrain		32	5177		5	
Storehouse - Terrain		33	7095		7	
Storehouse - Terrain		34	4977		6	
Storehouse - Terrain		35	7940		8	
Storehouse - Terrain		36	5758		6	
Storehouse - Terrain		37	6298		6.5	
Storehouse - Terrain		38	7893		7.5	
Storehouse - Terrain		39	7516		8	
Storehouse - Terrain		40	6103		6.5	
Storehouse - Terrain		41	6244		6.25	
Storehouse - Terrain		42	12079		11	
Storehouse - Terrain		**43**	**13730**		**13.5**	
Storehouse - Terrain		44	11698		12.5	
Storehouse - Terrain		45	15341	15007	13	
Storehouse - Terrain		46	7011		7	
Storehouse - Terrain		47	6832		6.25	
Storehouse - Terrain		48	7210		7	
Storehouse - Terrain		49	5520		5	
Storehouse - Terrain		50	5128		5.5	
Storehouse - Terrain		51	5141		5	
Storehouse - Terrain		52	5000		5.5	
Storehouse - Terrain		53	5600		5.5	
Storehouse - Terrain		54	6135		7	
Storehouse - Terrain		55	7297		7	
Storehouse - Terrain		56	6262		6.5	
Storehouse - Terrain		57	6054		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Storehouse - Terrain		58	5687		6	
Storehouse - Terrain		59	12989		13	
Storehouse - Terrain		60	11009		10.75	
Storehouse - Terrain		61	6213		6.5	
Storehouse - Terrain		62	6463		6	
Storehouse - Terrain		63	6118		6.5	
Storehouse - Terrain		64	6466		7	
Storehouse - Terrain		65	6634		6.25	
Storehouse - Terrain		66	6463		6.5	
Storehouse - Terrain		67	6122		7	
Storehouse - Terrain		68	6053		6.5	
Storehouse - Terrain		69	6704		6.5	
Storehouse - Terrain		70	6468		7	
Storehouse - Terrain		71	4959		5.5	
Storehouse - Terrain		72	5499		6	
Storehouse - Terrain		73	4966		5	
Storehouse - Terrain		74	5611		6.5	
Storehouse - Terrain		75	6926		8	
Storehouse - Terrain		76	8783		8.75	
Storehouse - Terrain		77	12393		12	
Storehouse - Terrain		78	12868		13	
Storehouse - Terrain		79	8094		8	
Storehouse - Terrain		80	8404		9	
Storehouse - Terrain		81	8157		9	
Storehouse - Terrain		82	8550		8	
Storehouse - Terrain		83	8053		9	
Storehouse - Terrain		84	8135		8.5	
Storehouse - Terrain		85	8536		8	
Storehouse - Terrain		86	8592		8.5	
Storehouse - Terrain		87	8699		8.75	
Storehouse - Terrain		88	8551		8.25	
Storehouse - Terrain		89	8868		8.75	
Storehouse - Terrain		90	8787		9.5	
Storehouse - Terrain		91	8082		8.5	
Storehouse - Terrain		92	8215		8.25	
Storehouse - Terrain		93	6030		6.5	
Storehouse - Terrain		94	6034		6	
Hillside - Concrete Gutters		1	5490		6.5	
Hillside - Concrete Gutters		2	5287		5.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - Concrete Gutters		3	5040		6	
Hillside - Concrete Gutters		4	5113		6	
Hillside - Concrete Gutters		5	5230		6	
Hillside - Concrete Gutters		6	5023		6	
Hillside - Concrete Gutters		7	5523		6.5	
Hillside - Concrete Gutters		8	4610		5	
Hillside - Concrete Gutters		9	5504		6	
Hillside - Concrete Gutters		10	6062		7	
Hillside - Concrete Gutters		11	5262		6	
Hillside - Concrete Gutters		12	5691		6.5	
Hillside - Concrete Gutters		13	5892		7	
Hillside - Concrete Gutters		14	5783		7	
Hillside - Concrete Gutters		15	5903		7.5	
Hillside - Concrete Gutters		16	6227		7	
Hillside - Concrete Gutters		17	6063		7	
Hillside - Concrete Gutters		18	6194		7	
Hillside - Concrete Gutters		19	6325		7	
Hillside - Concrete Gutters		20	6449		7.5	
Hillside - Concrete Gutters		21	6240		7.5	
Hillside - Concrete Gutters		22	6173		7.5	
Hillside - Concrete Gutters		23	6273		6.5	
Hillside - Concrete Gutters		24	6395		7	
Hillside - Concrete Gutters		25	6027		6.5	
Hillside - Concrete Gutters		26	6045		6.5	
Hillside - Concrete Gutters		27	6617		6.5	
Hillside - Concrete Gutters		28	6360		7	
Hillside - Concrete Gutters		29	6273		7	
Hillside - Concrete Gutters		30	6393		7	
Hillside - Concrete Gutters		31	6221		6.5	
Hillside - Concrete Gutters		32	5892		7	
Hillside - Concrete Gutters		33	6403		7	
Hillside - Concrete Gutters		34	6188		7	
Hillside - Concrete Gutters		35	6194		7	
Hillside - Concrete Gutters		36	6634		7	
Hillside - Concrete Gutters		37	6000		6	
Hillside - Concrete Gutters		38	5461		6	
Hillside - Concrete Gutters		39	5199		6	
Hillside - Concrete Gutters		40	5698		6	
Hillside - Concrete Gutters		41	5472		6.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - Concrete Gutters		42	5380		6	
Hillside - Concrete Gutters		43	6396		7	
Hillside - Concrete Gutters		44	6094		6	
Hillside - Concrete Gutters		45	5171		5.5	
Hillside - Concrete Gutters		46	5188		6	
Hillside - Concrete Gutters		47	4809		5	
Hillside - Concrete Gutters		48	4615		5	
Hillside - Concrete Gutters		49	4302		5	
Hillside - Concrete Gutters		50	5517		6.5	
Hillside - Concrete Gutters		51	5449		6.5	
Hillside - Concrete Gutters		52	5236		6.5	
Hillside - Concrete Gutters		53	5423		6	
Hillside - Concrete Gutters		54	5369		6	
Hillside - Concrete Gutters		55	5784		6.5	
Hillside - Concrete Gutters		**56**	**6688**		**6.5**	
Hillside - Concrete Gutters		57	5931		6.5	
Hillside - Concrete Gutters		58	5712		6	
Hillside - Concrete Gutters		59	6145		7	
Hillside - Concrete Gutters		60	6193		7	
Hillside - Concrete Gutters		61	6313		7	
Hillside - Concrete Gutters		62	6057		7	
Hillside - Concrete Gutters		63	6129		7	
Hillside - Concrete Gutters		64	5895		6	
Hillside - Concrete Gutters		65	5910		7	
Hillside - Concrete Gutters		66	5694		6	
Hillside - Concrete Gutters		67	5397		6	
Hillside - Concrete Gutters		68	5661		7	
Hillside - South		1	7860		8.5	
Hillside - South		2	7433		8	
Hillside - South		3	7646		8	
Hillside - South		4	8319		9	
Hillside - South		5	6193		6	
Hillside - South		6	6583		6	
Hillside - South		7	8082		9	
Hillside - South		8	7243		7	
Hillside - South		9	7228		12	
Hillside - South		10	6462		11.5	
Hillside - South		11	7443		8	
Hillside - South		12	6248		11	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - South		13	5552		11	
Hillside - South		14	5752		11	
Hillside - South		15	6654		7	
Hillside - South		16	8413		9	
Hillside - South		17	7670		8	
Hillside - South		18	5888		6	
Hillside - South		19	7288		7	
Hillside - South		20	6857		7	
Hillside - South		21	7437		8	
Hillside - South		22	6562		7	
Hillside - South		23	7759		9	
Hillside - South		24	7536		8	
Hillside - South		25	7807		8	
Hillside - South		26	10769		11.5	
Hillside - South		27	11516		11.5	
Hillside - South		**28**	**11714**		**11.5**	
Hillside - South		29	8950		10	
Hillside - South		30	7470		7	
Hillside - South		31	8031		8	
Hillside - South		32	8881		8	
Hillside - South		33	8188		8	
Hillside - South		34	7744		9	
Hillside - South		35	7335		8	
Hillside - South		36	9333		11	
Hillside - South		37	8050		8	
Hillside - South		38	7190		9	
Hillside - South		39	8011		9	
Hillside - South		40	8423		8.5	
Hillside - South		41	6951		7	
Hillside - South		42	8344		8	
Hillside - South		43	8247		9	
Hillside - South		44	7239		8	
Hillside - South		45	5647		7	
Hillside - South		46	9358		11	
Hillside - South		47	7699		7	
Hillside - South		48	7953		9	
Hillside - South		49	8230		9.5	
Hillside - South		50	8654		9	
Hillside - South		51	7703		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - South		52	8721		9	
Hillside - South		53	7378		8	
Hillside - South		54	7525		8	
Hillside - South		55	7172		8	
Hillside - South		56	6312		6.5	
Hillside - South		57	6053		7	
Hillside - South		58	10247		11	
Hillside - South		59	6528		7	
Hillside - South		60	7744		8	
Hillside - South		61	7796		7.5	
Hillside - South		62	6893		8	
Hillside - South		63	7035		7	
Hillside - South		64	7919		9	
Hillside - South		65	6439		11	
Hillside - South		66	9131		9	
Hillside - South		67	9016		10	
Hillside - South		68	6031		6	
Hillside - South		69	10085		10	
Hillside - South		70	10141		10	
Hillside - South		71	9797		10	
Hillside - South		72	9922		10	
Hillside - South		73	6465		6	
Hillside - South		74	7602		8	
Hillside - South		75	7192		7	
Hillside - South		76	7765		8.5	
Hillside - South		77	7339		8	
Hillside - South		78	5172		6	
Hillside - South		79	7886		8.5	
Hillside - South		80	9349		9.5	
Hillside - South		81	8932		9	
Hillside - South		82	6089		6	
Hillside - South		83	7767		7	
Hillside - South		84	7854		8	
Hillside - South		85	5539		6	
Hillside - South		86	8837		9.5	
Hillside - South		87	9691		10.5	
Hillside - South		88	8701		10	
Hillside - South		89	10159		11	
Hillside - South		90	10906		11.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - South		91	5945		5.5	
Hillside - South		92	6823		6	
Hillside - South		93	10233		10	
Hillside - South		94	8809		9	
Hillside - South		95	9322		9	
Hillside - South		96	6488		6	
Hillside - South		97	10551		11	
Hillside - South		98	9078		9	
Hillside - South		99	6537		7	
Hillside - South		100	10631		10	
Hillside - South		101	5378		11	
Hillside - South		102	9250		10	
Hillside - South		103	6556		6	
Hillside - South		104	6000		7	
Hillside - South		105	8567		9	
Hillside - South		106	6262		6	
Hillside - South		107	7339		8	
Hillside - South		108	6212		7	
Hillside - South		109	8733		8	
Hillside - South		110	5661		6.5	
Hillside - South		111	6551		7	
Hillside - South		112	6408		6.5	
Hillside - South		113	6870		8	
Hillside - South		114	6038		6	
Hillside - South		115	6119		6	
Hillside - South		116	5918		7	
Hillside - South		117	6719		7	
Hillside - South		118	5357		6.5	
Hillside - South		119	7936		8.5	
Hillside - South		120	6545		6	
Hillside - South		121	6798		6.5	
Hillside - South		122	6040		7	
Hillside - South		123	6560		6.5	
Hillside - South		124	7314		7	
Hillside - South		125	7612		8	
Hillside - South		126	8093		8	
Hillside - South		127	8082		8	
Hillside - South		128	7693		8	
Hillside - South		129	7836		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - South		130	7028		7	
Hillside - South		131	7323		7	
Hillside - South		132	7716		8	
Hillside - South		133	8193		8.5	
Hillside - South		134	8361		8.5	
Hillside - South		135	8281		9	
Hillside - South		136	10252		10	
Hillside - South		137	10483		11	
Hillside - South		138	10167		10	
Hillside - South		139	7136		7	
Hillside - South		140	10281		10	
Hillside - South		141	7389		8	
Hillside - South		142	7840		8	
Hillside - South		143	9544		10	
Hillside - South		144	10989		11	
Hillside - South		145	10624		12	
Hillside - South		146	11577		13	
Hillside - South		**147**	**12169**		**12**	
Hillside - South		148	11950		11	
Hillside - South		149	9788		9.5	
Hillside - South		150	8098		9	
Hillside - South		151	7435		7	
Hillside - South		152	8439		9	
Hillside - South		153	7571		8	
Hillside - South		154	6757		6.5	
Hillside - South		155	6674		7.5	
Hillside - South		156	7717		8	
Hillside - South		157	8468		8	
Hillside - South		158	8639		9	
Hillside - South		159	7890		8	
Hillside - South		160	8012		8	
Hillside - South		161	8331		8	
Hillside - South		162	7496		8.5	
Hillside - South		163	8435		9	
Hillside - South		164	8130		9	
Hillside - South		165	8712		9.5	
Hillside - South		166	9500		10	
Hillside - South		167	9614		10.5	
Hillside - South		168	7915		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - South		169	10740		11	
Hillside - South		170	7741		8	
Hillside - South		171	7662		7	
Hillside - South		172	7767		8.5	
Hillside - South		173	7751		8	
Hillside - South		174	6158		7.5	
Hillside - South		175	6290		7	
Hillside - South		176	6433		8	
Hillside - South		177	6668		8	
Hillside - South		178	6924		7.5	
Hillside - South		179	6887		7.5	
Hillside - South		180	6345		7.5	
Hillside - South		181	6137		7	
Hillside - South		182	6157		6.5	
Hillside - South		183	6700		6.5	
Hillside - South		184	6516		6	
Hillside - South		185	6957		7.5	
Hillside - South		186	7011		8	
Hillside - South		187	6973		7.5	
Hillside - South		188	7079		7	
Hillside - South		189	6457		7	
Hillside - South		190	7253		7	
Hillside - South		191	7346		8	
Hillside - South		192	7501		8	
Hillside - SouthEast A		1	6472		5	
Hillside - SouthEast A		2	7440		6	
Hillside - SouthEast A		3	6323		5	
Hillside - SouthEast A		4	6977		6	
Hillside - SouthEast A		5	9811	9213	7.5	
Hillside - SouthEast A		6	7216		6	
Hillside - SouthEast A		7	7133		5	
Hillside - SouthEast A		8	7848		6	
Hillside - SouthEast A		9	8904		7	
Hillside - SouthEast A		10	6649		6	
Hillside - SouthEast A		11	7414		6	
Hillside - SouthEast A		12	7437		6	
Hillside - SouthEast A		13	10254		8.5	
Hillside - SouthEast A		14	9674		7	
Hillside - SouthEast A		15	8124		7	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthEast A		16	11028		9	
Hillside - SouthEast A		17	6079		5	
Hillside - SouthEast A		18	11071		9	
Hillside - SouthEast A		19	8118		6	
Hillside - SouthEast A		20	8022		7	
Hillside - SouthEast A		21	6486		5	
Hillside - SouthEast A		22	6859		5.5	
Hillside - SouthEast A		23	7502		7	
Hillside - SouthEast A		24	10158		8	
Hillside - SouthEast A		25	8265		6.5	
Hillside - SouthEast A		26	7667		6	
Hillside - SouthEast A		27	8808		7.5	
Hillside - SouthEast A		28	9672		7.5	
Hillside - SouthEast A		29	6230		5.5	
Hillside - SouthEast A		**30**	**11416**		**9.5**	
Hillside - SouthEast A		31	7036		6	
Hillside - SouthEast A		32	10887		9	
Hillside - SouthEast A		33	10220		9	
Hillside - SouthEast A		34	7337		6	
Hillside - SouthEast A		35	10068		9	
Hillside - SouthEast A		36	9024		7	
Hillside - SouthEast A		37	7085		6	
Hillside - SouthEast A		38	6376		5	
Hillside - SouthEast A		39	10066		8	
Hillside - SouthEast A		40	7934		7	
Hillside - SouthEast A		41	8294		7	
Hillside - SouthEast A		42	8180		7	
Hillside - SouthEast A		43	7174		6	
Hillside - SouthEast A		44	7882		5	
Hillside - SouthEast A		45	6444		5	
Hillside - SouthEast A		46	8137		7	
Hillside - SouthEast A		47	7025		6	
Hillside - SouthEast A		48	7498		7	
Hillside - SouthEast A		49	7252		7	
Hillside - SouthEast A		50	5812		5	
Hillside - SouthEast A		51	7492		7	
Hillside - SouthEast A		52	4208		4	
Hillside - SouthEast A		53	7289		6	
Hillside - SouthEast A		54	4146		3.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthEast A		55	7440		6	
Hillside - SouthEast A		56	6056		5	
Hillside - SouthEast A		57	5817		5	
Hillside - SouthEast A		58	6116		6	
Hillside - SouthEast A		59	5699		4.5	
Hillside - SouthEast A		60	6292		5	
Hillside - SouthEast A		61	5972		4	
Hillside - SouthEast A		62	6231		5	
Hillside - SouthEast A		63	7596		6	
Hillside - SouthEast A		64	6871		5	
Hillside - SouthEast A		65	5971		6	
Hillside - SouthEast A		66	6469		5	
Hillside - SouthEast A		67	5708		5	
Hillside - SouthEast A		68	5845		5	
Hillside - SouthEast A		69	5791		5	
Hillside - SouthEast A		70	6859		8	
Hillside - SouthEast A		71	4942		6	
Hillside - SouthEast A		72	3592		4.5	
Hillside - SouthEast A		73	6554		7.5	
Hillside - SouthEast A		74	6724		7	
Hillside - SouthEast A		**75**	**4385**		**5**	
Hillside - SouthEast A		76	3984		5	
Hillside - SouthEast B		1	6856		7.5	
Hillside - SouthEast B		2	7340		7	
Hillside - SouthEast B		3	6066		7	
Hillside - SouthEast B		4	6785		7	
Hillside - SouthEast B		5	6216		7.5	
Hillside - SouthEast B		6	8309		9	
Hillside - SouthEast B		7	7263		8	
Hillside - SouthEast B		8	6882		7.5	
Hillside - SouthEast B		9	7966		9	
Hillside - SouthEast B		10	6989		7.5	
Hillside - SouthEast B		11	6932		7.5	
Hillside - SouthEast B		12	6757		7	
Hillside - SouthEast B		13	5812		6	
Hillside - SouthEast B		14	7153		8	
Hillside - SouthEast B		15	7179		8	
Hillside - SouthEast B		16	6487		7.5	
Hillside - SouthEast B		17	5901		6.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthEast B		18	6580		7.5	
Hillside - SouthEast B		**19**	**8417**		**9.5**	
Hillside - SouthEast B		20	7340		8	
Hillside - SouthEast B		21	6751		7.5	
Hillside - SouthEast B		22	6429		7	
Hillside - SouthEast B		23	4976		5	
Hillside - SouthEast B		24	7425		8	
Hillside - SouthEast B		25	4854		5.5	
Hillside - SouthEast B		26	5716		6.5	
Hillside - SouthEast B		27	5319		6	
Hillside - SouthEast B		28	5780		6.5	
Hillside - SouthEast B		29	4985		5.25	
Hillside - SouthEast B		30	5772		6	
Hillside - SouthEast B		31	5325		5	
Hillside - SouthEast B		32	5400		6	
Hillside - SouthEast B		33	5363		5	
Hillside - SouthEast B		34	5015		5.5	
Hillside - SouthEast B		35	5494		5.5	
Hillside - SouthEast B		36	4992		5.5	
Hillside - SouthEast B		37	5158		5	
Hillside - SouthEast B		38	5049		5	
Hillside - SouthEast B		39	4730		5	
Hillside - SouthEast B		40	3299		3	
Hillside - SouthEast B		41	2308		2.5	
Hillside - SouthEast B		42	2407		2	
Hillside - SouthWest 4		1	6788		7	
Hillside - SouthWest 4		2	5759		5.5	
Hillside - SouthWest 4		3	5763		6	
Hillside - SouthWest 4		4	5543		5.5	
Hillside - SouthWest 4		5	7243		7	
Hillside - SouthWest 4		6	7241		6.5	
Hillside - SouthWest 4		7	6730		6.5	
Hillside - SouthWest 4		8	7131		6.5	
Hillside - SouthWest 4		9	7125		7	
Hillside - SouthWest 4		10	7057		6.5	
Hillside - SouthWest 4		11	6407		6.5	
Hillside - SouthWest 4		12	8183		7	
Hillside - SouthWest 4		13	6318		6.5	
Hillside - SouthWest 4		14	7217		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 4		15	6742		7	
Hillside - SouthWest 4		16	5843		5	
Hillside - SouthWest 4		17	5216		5	
Hillside - SouthWest 4		18	5448		5.5	
Hillside - SouthWest 4		19	5131		5.5	
Hillside - SouthWest 4		20	7030		6	
Hillside - SouthWest 4		21	5243		5	
Hillside - SouthWest 4		22	4664		4	
Hillside - SouthWest 4		23	6110		5.5	
Hillside - SouthWest 4		24	6474		5.5	
Hillside - SouthWest 4		25	5935		5.5	
Hillside - SouthWest 4		26	7323		6.5	
Hillside - SouthWest 4		27	6578		6.5	
Hillside - SouthWest 4		28	6028		6	
Hillside - SouthWest 4		29	7992		7	
Hillside - SouthWest 4		30	6520		6.5	
Hillside - SouthWest 4		31	5856		6	
Hillside - SouthWest 4		**32**	**8892**	**8863**	**8**	
Hillside - SouthWest 4		33	8154		8	
Hillside - SouthWest 4		34	7088		7	
Hillside - SouthWest 4		35	8369		8.5	
Hillside - SouthWest 4		36	6883		6.5	
Hillside - SouthWest 4		37	6878		7	
Hillside - SouthWest 4		**38**	**9811**		**9**	
Hillside - SouthWest 4		39	7073		7	
Hillside - SouthWest 4		40	6971		6.5	
Hillside - SouthWest 4		41	7023		6.5	
Hillside - SouthWest 4		42	6286		5.5	
Hillside - SouthWest 4		43	6526		6	
Hillside - SouthWest 4		44	6257		6.5	
Hillside - SouthWest 4		45	6743		6	
Hillside - SouthWest 4		46	7272		7	
Hillside - SouthWest 4		47	5654		5.5	
Hillside - SouthWest 4		48	7655	7544	7	
Hillside - SouthWest 4		49	6986		6.5	
Hillside - SouthWest 4		50	6889		6	
Hillside - SouthWest 4		51	7239		7	
Hillside - SouthWest 4		52	5827		6	
Hillside - SouthWest 4		53	7809		7.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 4		54	7136		7	
Hillside - SouthWest 4		55	7517		7	
Hillside - SouthWest 4		56	7254		7	
Hillside - SouthWest 4		57	5883		6	
Hillside - SouthWest 4		58	7232		7	
Hillside - SouthWest 4		59	6631		6.5	
Hillside - SouthWest 4		60	7185		6.5	
Hillside - SouthWest 4		61	5865		5.5	
Hillside - SouthWest 4		62	7597		7.5	
Hillside - SouthWest 4		63	6468		6	
Hillside - SouthWest 4		64	7129		7	
Hillside - SouthWest 4		65	6136		6	
Hillside - SouthWest 4		66	6985		7	
Hillside - SouthWest 4		67	7632		7.5	
Hillside - SouthWest 4		68	6952		7	
Hillside - SouthWest 4		69	7780		7	
Hillside - SouthWest 4		70	7299		7	
Hillside - SouthWest 4		71	5944		6	
Hillside - SouthWest 4		72	7217		7.5	
Hillside - SouthWest 4		73	6540		6.5	
Hillside - SouthWest 4		74	6835		7	
Hillside - SouthWest 4		75	6873		6.5	
Hillside - SouthWest 4		76	6811		7	
Hillside - SouthWest 4		77	6915		7	
Hillside - SouthWest 4		78	6912		6	
Hillside - SouthWest 4		79	8542		8	
Hillside - SouthWest 4		80	8607		8	
Hillside - SouthWest 4		81	6916		6.5	
Hillside - SouthWest 4		82	6950		6	
Hillside - SouthWest 4		83	8602		8	
Hillside - SouthWest 4		84	7186		6.5	
Hillside - SouthWest 4		85	7025		6.5	
Hillside - SouthWest 3		1	4894		6	
Hillside - SouthWest 3		2	4919		6	
Hillside - SouthWest 3		3	5073		6	
Hillside - SouthWest 3		4	5037		6	
Hillside - SouthWest 3		5	4854		6	
Hillside - SouthWest 3		6	6258		7	
Hillside - SouthWest 3		7	7175		9	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 3		8	5643		7	
Hillside - SouthWest 3		9	6242		7	
Hillside - SouthWest 3		10	6769		8	
Hillside - SouthWest 3		11	6911		8	
Hillside - SouthWest 3		12	7084		9	
Hillside - SouthWest 3		13	6275		7	
Hillside - SouthWest 3		14	4949		5	
Hillside - SouthWest 3		15	7050		8	
Hillside - SouthWest 3		16	5128		6	
Hillside - SouthWest 3		17	6225		8	
Hillside - SouthWest 3		18	6051		7	
Hillside - SouthWest 3		19	5262		6	
Hillside - SouthWest 3		20	7785		10	
Hillside - SouthWest 3		21	7828		9	
Hillside - SouthWest 3		22	6481		7	
Hillside - SouthWest 3		23	7036		8	
Hillside - SouthWest 3		24	6685		7	
Hillside - SouthWest 3		25	6327		7.5	
Hillside - SouthWest 3		26	5775		6.5	
Hillside - SouthWest 3		27	6813		8	
Hillside - SouthWest 3		28	6360		6.5	
Hillside - SouthWest 3		29	6717		8	
Hillside - SouthWest 3		30	5559		6	
Hillside - SouthWest 3		31	8511		10	
Hillside - SouthWest 3		32	6536		9	
Hillside - SouthWest 3		33	7522		9	
Hillside - SouthWest 3		**34**	**10084**	**9945**	**11**	**10**
Hillside - SouthWest 3		35				
Hillside - SouthWest 3		36	6281		8	
Hillside - SouthWest 3		37	6959		8	
Hillside - SouthWest 3		38	7159		8	
Hillside - SouthWest 3		39	7677		8.5	
Hillside - SouthWest 3		40	6502		8	
Hillside - SouthWest 3		41	5069		6	
Hillside - SouthWest 3		42	7453		9	
Hillside - SouthWest 3		43	5980		7	
Hillside - SouthWest 3		44	5984		7.5	
Hillside - SouthWest 3		45	6647		8	
Hillside - SouthWest 3		46	6992		7.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 3		47	6047		7	
Hillside - SouthWest 3		48	5954		7	
Hillside - SouthWest 3		49	6206		8	
Hillside - SouthWest 3		50	5882		7	
Hillside - SouthWest 3		51	8770		10	
Hillside - SouthWest 3		52	9872	10149	11.5	11
Hillside - SouthWest 3		53				
Hillside - SouthWest 3		**54**	**10322**	**10328**	**11.5**	**11.5**
Hillside - SouthWest 3		55				
Hillside - SouthWest 3		56	6447		7.5	
Hillside - SouthWest 3		57	7387		8	
Hillside - SouthWest 3		58	7939		9.5	
Hillside - SouthWest 3		59	6806		7..5	
Hillside - SouthWest 3		60	6797		8	
Hillside - SouthWest 3		61	6799		8	
Hillside - SouthWest 3		62	7391		9	
Hillside - SouthWest 3		63	6899		8	
Hillside - SouthWest 3		64	6633		7	
Hillside - SouthWest 3		65	7128		8	
Hillside - SouthWest 3		66	6563		7	
Hillside - SouthWest 3		67	7691		9	
Hillside - SouthWest 3		68	6947		9	
Hillside - SouthWest 3		69	4292		5	
Hillside - SouthWest 3		70	9006		10	
Hillside - SouthWest 3		71	6659		8	
Hillside - SouthWest 3		72	4512		5	
Hillside - SouthWest 3		73	7126		8	
Hillside - SouthWest 3		74	6788		8	
Hillside - SouthWest 3		75	6577		8	
Hillside - SouthWest 3		76	10205	9767	12	12.5
Hillside - SouthWest 3		77				
Hillside - SouthWest 3		78	6600		7.5	
Hillside - SouthWest 3		79	3591		4	
Hillside - SouthWest 3		80	6923		7	
Hillside - SouthWest 3		81	5008		8	
Hillside - SouthWest 3		82	4452		5	
Hillside - SouthWest 3		83	8593		9	
Hillside - SouthWest 3		84	4888		6	
Hillside - SouthWest 3		85	9853		10.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 3		86	5365		7	
Hillside - SouthWest 3		87	6189		6.5	
Hillside - SouthWest 3		88	4788		5	
Hillside - SouthWest 3		89	6291		7	
Hillside - SouthWest 3		90	5629		7	
Hillside - SouthWest 3		91	5831		6	
Hillside - SouthWest 3		92	4471		5	
Hillside - SouthWest 3		93	5062		6	
Hillside - SouthWest 3		94	5554		6	
Hillside - SouthWest 3		95	6090		7.5	
Hillside - SouthWest 3		96	5344		6	
Hillside - SouthWest 3		97	5884		7	
Hillside - SouthWest 3		98	5390		6	
Hillside - SouthWest 3		99	5631		7	
Hillside - SouthWest 3		100	5502		7	
Hillside - SouthWest 3		101	5567		6.5	
Hillside - SouthWest 3		102	6220		7	
Hillside - SouthWest 3		103	5596		7	
Hillside - SouthWest 3		104	6219		8	
Hillside - SouthWest 3		105	5880		7	
Hillside - SouthWest 3		106	5888		6	
Hillside - SouthWest 3		107	6441		7.5	
Hillside - SouthWest 3		108	6863		7	
Hillside - SouthWest 3		109	5915		6.5	
Hillside - SouthWest 3		110	5636		7	
Hillside - SouthWest 3		111	4560		5	
Hillside - SouthWest 3		112	6523		7.5	
Hillside - SouthWest 3		113	6423		6.5	
Hillside - SouthWest 3		114	6168		7.5	
Hillside - SouthWest 3		115	6355		7.5	
Hillside - SouthWest 3		116	6420		7	
Hillside - SouthWest 3		117	4177		5.5	
Hillside - SouthWest 3		118	5138		7	
Hillside - SouthWest 3		119	4933		7	
Hillside - SouthWest 3		120	6387		7	
Hillside - SouthWest 3		121	6742		7	
Hillside - SouthWest 3		122	5332		6	
Hillside - SouthWest 3		123	5089		6	
Hillside - SouthWest 3		124	5280		5.5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 3		125	5806		7	
Hillside - SouthWest 3		126	6529		7	
Hillside - SouthWest 3		127	5753		7	
Hillside - SouthWest 3		128	4942		5.5	
Hillside - SouthWest 3		129	7286		8	
Hillside - SouthWest 3		130	6581		8	
Hillside - SouthWest 3		131	6200		7	
Hillside - SouthWest 3		132	4977		6	
Hillside - SouthWest 3		133	7371		8	
Hillside - SouthWest 3		134	6092		7	
Hillside - SouthWest 3		135	6045		7	
Hillside - SouthWest 3		136	8654		9.5	
Hillside - SouthWest 3		137	6541		7	
Hillside - SouthWest 3		138	7615		9	
Hillside - SouthWest 3		139	6506		7	
Hillside - SouthWest 3		140	6978		8.5	
Hillside - SouthWest 3		141	7222		8.5	
Hillside - SouthWest 3		142	7290		8	
Hillside - SouthWest 3		143	6908		8	
Hillside - SouthWest 3		144	5152		6	
Hillside - SouthWest 3		145	7398		9	
Hillside - SouthWest 3		146	7828		9.5	
Hillside - SouthWest 3		147	5957		6	
Hillside - SouthWest 3		148	6739		7.5	
Hillside - SouthWest 3		149	7669		9	
Hillside - SouthWest 3		150	7873		8	
Hillside - SouthWest 3		151	6729		8	
Hillside - SouthWest 3		152	6269		8	
Hillside - SouthWest 3		153	7457		8.5	
Hillside - SouthWest 3		154	6247		7.5	
Hillside - SouthWest 3		155	6130		8	
Hillside - SouthWest 3		156	6995		8	
Hillside - SouthWest 3		157	6887		8	
Hillside - SouthWest 2		1	5644		6	
Hillside - SouthWest 2		2	5319		5.5	
Hillside - SouthWest 2		3	6533		7	
Hillside - SouthWest 2		4	6205		7	
Hillside - SouthWest 2		5	5525		5	
Hillside - SouthWest 2		6	6421		6	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 2		7	6173		6.5	
Hillside - SouthWest 2		8	7281		7	
Hillside - SouthWest 2		9	7404		7	
Hillside - SouthWest 2		10	5109		5.5	
Hillside - SouthWest 2		11	5459		6.5	
Hillside - SouthWest 2		12	4648		5	
Hillside - SouthWest 2		13	5372		5	
Hillside - SouthWest 2		14	6808		6.5	
Hillside - SouthWest 2		15	5741		6	
Hillside - SouthWest 2		16	6451		6.5	
Hillside - SouthWest 2		17	6934		7.5	
Hillside - SouthWest 2		18	8324		9	
Hillside - SouthWest 2		19	6186		6	
Hillside - SouthWest 2		20	6074		6.5	
Hillside - SouthWest 2		21	3864		5	
Hillside - SouthWest 2		22	4331		4.5	
Hillside - SouthWest 2		23	7025		8	
Hillside - SouthWest 2		24	6221		6	
Hillside - SouthWest 2		25	7954		9	
Hillside - SouthWest 2		26	5503		6	
Hillside - SouthWest 2		27	5479		5	
Hillside - SouthWest 2		28	4934		5	
Hillside - SouthWest 2		29	4622		5	
Hillside - SouthWest 2		30	5248		6	
Hillside - SouthWest 2		31	5144		5.5	
Hillside - SouthWest 2		32	5185		5	
Hillside - SouthWest 2		33	4829		5	
Hillside - SouthWest 2		34	5116		5.5	
Hillside - SouthWest 2		35	5233		5.5	
Hillside - SouthWest 2		36	5760		5.5	
Hillside - SouthWest 2		37	5019		5	
Hillside - SouthWest 2		38	5640		6.5	
Hillside - SouthWest 2		39	5598		5.5	
Hillside - SouthWest 2		40	5117		5	
Hillside - SouthWest 2		41	4295		4	
Hillside - SouthWest 2		42	5572		5	
Hillside - SouthWest 2		43	4666		5	
Hillside - SouthWest 2		44	4886		5	
Hillside - SouthWest 2		45	4720		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 2		46	5974		6	
Hillside - SouthWest 2		47	7743		9	
Hillside - SouthWest 2		48	6490		6	
Hillside - SouthWest 2		49	5963		6	
Hillside - SouthWest 2		50	5867		6.5	
Hillside - SouthWest 2		51	7242		7.5	
Hillside - SouthWest 2		52	6102		6	
Hillside - SouthWest 2		53	5486		7	
Hillside - SouthWest 2		54	5689		6	
Hillside - SouthWest 2		55	4467		5	
Hillside - SouthWest 2		56	5458		5	
Hillside - SouthWest 2		57	6975		8	
Hillside - SouthWest 2		58	6470		7	
Hillside - SouthWest 2		59	6532		7	
Hillside - SouthWest 2		60	7768		8	
Hillside - SouthWest 2		61	9655		10.5	
Hillside - SouthWest 2		62	10105		11	
Hillside - SouthWest 2		63	9485		10.5	
Hillside - SouthWest 2		**64**	**10156**		**10.5**	
Hillside - SouthWest 2		65	8901		9.5	
Hillside - SouthWest 2		66	10372		11	
Hillside - SouthWest 2		67	8709		9	
Hillside - SouthWest 2		68	9547		9.5	
Hillside - SouthWest 2		69	6152		6	
Hillside - SouthWest 2		70	5901		6.5	
Hillside - SouthWest 2		71	7657		8	
Hillside - SouthWest 2		72	6102		6.5	
Hillside - SouthWest 2		73	6734		6.5	
Hillside - SouthWest 2		74	7235		7	
Hillside - SouthWest 2		75	5976		6.5	
Hillside - SouthWest 2		76	5407		6	
Hillside - SouthWest 2		77	6691		7.5	
Hillside - SouthWest 2		78	7023		8	
Hillside - SouthWest 2		79	6139		6	
Hillside - SouthWest 2		80	8631		10	
Hillside - SouthWest 2		81	6040		6.5	
Hillside - SouthWest 2		82	8633		10	
Hillside - SouthWest 2		83	8035		9	
Hillside - SouthWest 2		84	7353		8	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 2		85	7066		8	
Hillside - SouthWest 2		86	6982		8	
Hillside - SouthWest 2		87	8103		8	
Hillside - SouthWest 2		88	6640		7	
Hillside - SouthWest 2		89	7291		8	
Hillside - SouthWest 2		90	7594		8	
Hillside - SouthWest 2		91	5974		6	
Hillside - SouthWest 2		92	6274		7	
Hillside - SouthWest 2		93	7130		7.5	
Hillside - SouthWest 2		94	8094		9	
Hillside - SouthWest 2		95	7635		8.5	
Hillside - SouthWest 2		96	7329		7	
Hillside - SouthWest 2		97	8541		10	
Hillside - SouthWest 2		98	6250		6	
Hillside - SouthWest 2		99	7270		8.5	
Hillside - SouthWest 2		100	7672		9	
Hillside - SouthWest 2		101	6043		6	
Hillside - SouthWest 2		102	8384		9	
Hillside - SouthWest 2		103	8338		9	
Hillside - SouthWest 2		104	7826		8.5	
Hillside - SouthWest 2		105	7036		7	
Hillside - SouthWest 2		106	8365		9	
Hillside - SouthWest 2		107	6933		7	
Hillside - SouthWest 2		108	8685		9	
Hillside - SouthWest 2		109	7583		8	
Hillside - SouthWest 2		110	6666		7	
Hillside - SouthWest 2		111	7945		9	
Hillside - SouthWest 2		112	7663		9	
Hillside - SouthWest 2		113	7966		8	
Hillside - SouthWest 2		114	5697		6	
Hillside - SouthWest 1		1	4266		4.5	
Hillside - SouthWest 1		2	4437		5	
Hillside - SouthWest 1		3	4366		4.5	
Hillside - SouthWest 1		4	4548		5.5	
Hillside - SouthWest 1		5	4337		5	
Hillside - SouthWest 1		6	4467		5	
Hillside - SouthWest 1		7	4445		5	
Hillside - SouthWest 1		8	4673		5	
Hillside - SouthWest 1		9	4518		5	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 1		10	4553		5	
Hillside - SouthWest 1		11	4419		5.5	
Hillside - SouthWest 1		12	4456		5.5	
Hillside - SouthWest 1		13	4482		5	
Hillside - SouthWest 1		14	4397		4.5	
Hillside - SouthWest 1		15	4814		5	
Hillside - SouthWest 1		16	4560		5	
Hillside - SouthWest 1		17	4289		5	
Hillside - SouthWest 1		18	4282		5	
Hillside - SouthWest 1		19	4556		5	
Hillside - SouthWest 1		20	4527		6	
Hillside - SouthWest 1		21	5197		5.5	
Hillside - SouthWest 1		22	5455		6.5	
Hillside - SouthWest 1		23	7015		7.5	
Hillside - SouthWest 1		24	6144		6.5	
Hillside - SouthWest 1		25	6382		7.5	
Hillside - SouthWest 1		26	5115		6	
Hillside - SouthWest 1		27	9256		9.5	
Hillside - SouthWest 1		28	8778		9	
Hillside - SouthWest 1		29	8436		8.5	
Hillside - SouthWest 1		30	5314		5	
Hillside - SouthWest 1		31	5272		6	
Hillside - SouthWest 1		32	6086		6	
Hillside - SouthWest 1		33	5378		5.5	
Hillside - SouthWest 1		34	6022		6	
Hillside - SouthWest 1		35	6515		6.5	
Hillside - SouthWest 1		36	6196		6	
Hillside - SouthWest 1		37	6368		5.5	
Hillside - SouthWest 1		38	5902		6	
Hillside - SouthWest 1		39	4802		5	
Hillside - SouthWest 1		40	5010		5	
Hillside - SouthWest 1		41	4861		5.5	
Hillside - SouthWest 1		42	6385		6.5	
Hillside - SouthWest 1		43	5835		6	
Hillside - SouthWest 1		44	8762		7	
Hillside - SouthWest 1		45	8827		8	
Hillside - SouthWest 1		46	9023		9.5	
Hillside - SouthWest 1		47	9563		10	
Hillside - SouthWest 1		**48**	**9888**		**9**	

Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Hillside - SouthWest 1		49	9219		9	
Hillside - SouthWest 1		50	9302		10	
Hillside - SouthWest 1		51	7726		8	
Hillside - SouthWest 1		52	5729		7	
Hillside - SouthWest 1		53	5654		6	
Hillside - SouthWest 1		54	7569		8	
Hillside - SouthWest 1		55	9342		9	
Hillside - SouthWest 1		56	7873		10	
Hillside - SouthWest 1		57	5666		6	
Hillside - SouthWest 1		58	7353		9	
Hillside - SouthWest 1		59	7882		8	
Hillside - SouthWest 1		60	7794		7	
Block 55-N5		1	6166		5	
Block 55-N5		2	6025		5	
Block 55-N5		3	6159		4.5	
Block 55-N5		4	5974		5	
Block 55-N5		5	6236		4.5	
Block 55-N5		6	6013		4.5	
Block 55-N5		7	6133		4.5	
Block 55-N5		8	6000		4.5	
Block 55-N5		9	6033		5	
Block 55-N5		10	5834		4	
Block 55-N5		11	5809		4	
Block 55-N5		12	6542		4.5	
Block 55-N5		13	6978		5	
Block 55-N5		14	6705		4	
Block 55-N5		15	7085		5.5	
Block 55-N5		16	6669		5	
Block 55-N5		17	6673		5	
Block 55-N5		18	6557		5	
Block 55-N5		19	6669		5	
Block 55-N5		20	6691		5.5	
Block 55-N5		21	9233		6.5	
Block 55-N5		**22**	**10227**		**7**	
Block 55-N5		23	9195		6	
Block 55-N5		24	9587		7	
Block 55-N5		25	8753		6	
Block 55-N5		26	8868		6.5	
Block 55-N5		27	9370		7	

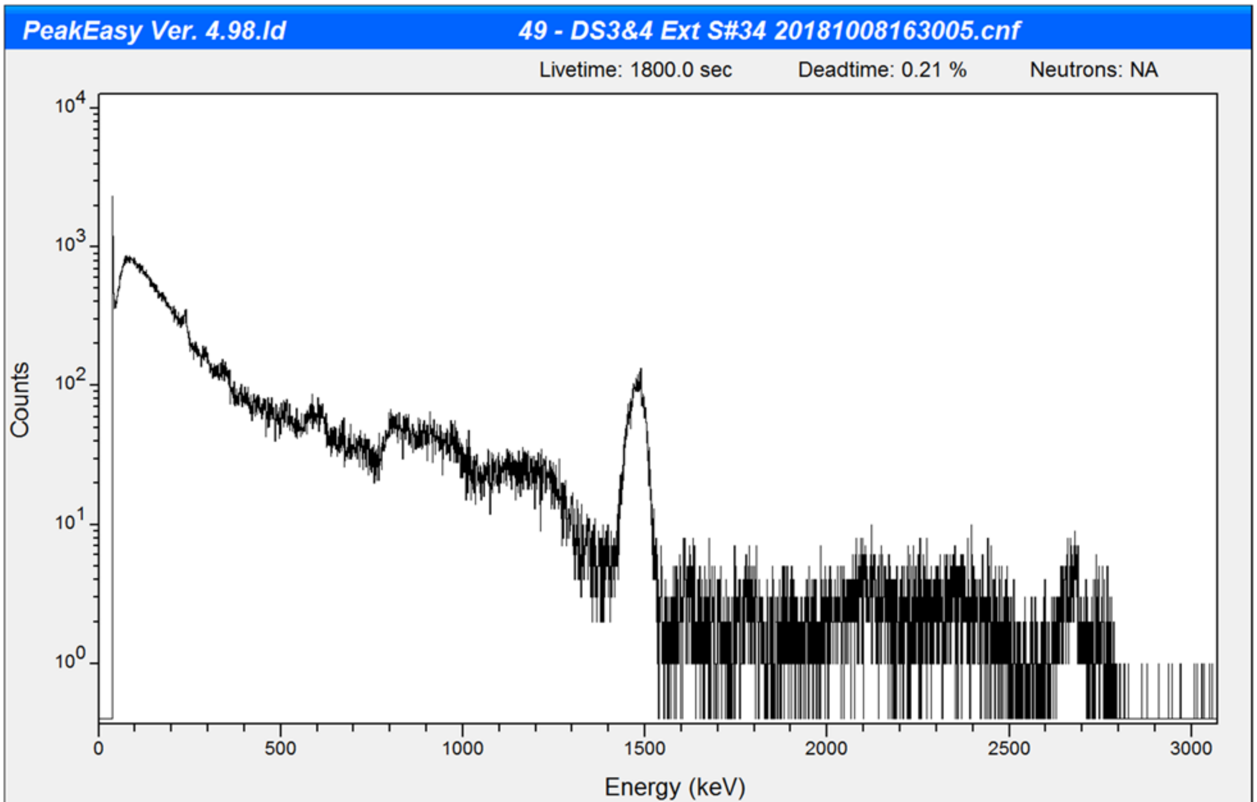
Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-N5		28	8699		6.5	
Block 55-N5		29	9095		6.5	
Block 55-N5		30	7299		5.5	
Block 55-N5		31	8956		6.5	
Block 55-N5		32	9094		7	
Block 55-N5		33	8682		7	
Block 55-N5		34	8747		6.5	
Block 55-N5		35	8309		6	
Block 55-N5		36	9272		7	
Block 55-N5		37	9060		6.5	
Block 55-N5		38	9752		7	
Block 55-N5		39	9236		6	
Block 55-N5		40	9138		6.5	
Block 55-N5		41	9895		7.5	
Block 55-N5		42	9913		7	
Block 55-N5		43	9811		7	
Block 55-N5		44	9276		6.5	
Block 55-N5		45	9093		6.5	
Block 55-N5		46	9326		6.5	
Block 55-N5		47	9951		7	
Block 55-N6		1	7783		8	
Block 55-N6		2	7763		8	
Block 55-N6		3	8264		8.5	
Block 55-N6		4	7135		7.5	
Block 55-N6		5	7790		8	
Block 55-N6		6	8344		8	
Block 55-N6		7	8957		9	
Block 55-N6		8	8503		8.5	
Block 55-N6		9	8714		9	
Block 55-N6		10	8046		8.5	
Block 55-N6		11	7980		8.5	
Block 55-N6		12	7899		8.5	
Block 55-N6		13	8151		8	
Block 55-N6		14	8154		9	
Block 55-N6		15	7747		7.5	
Block 55-N6		16	8283		8.5	
Block 55-N6		**17**	**10236**		**10.5**	
Block 55-N6		18	9540		10	
Block 55-N6		19	9120		9	

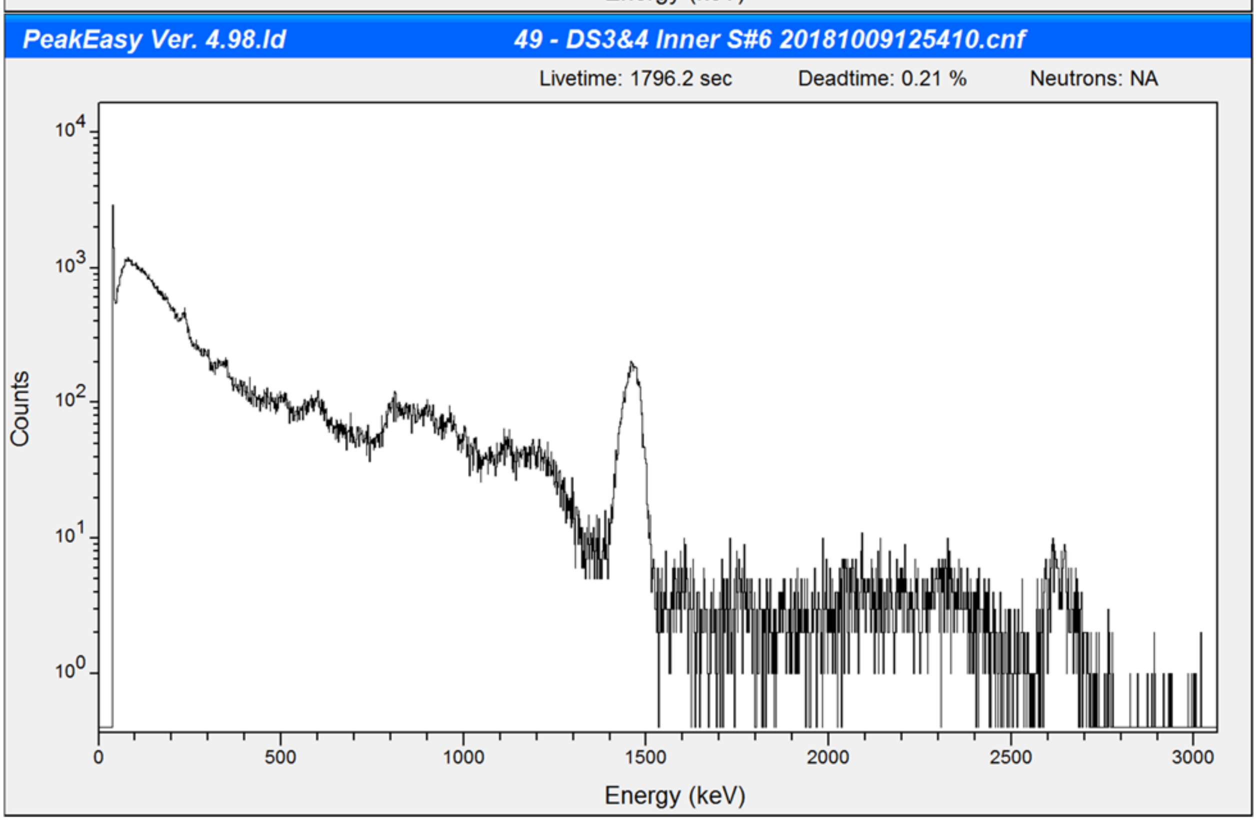
Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-N6		20	8815		9.5	
Block 55-N6		21	9885		10.5	
Block 55-N6		22	8744		10	
Block 55-N6		23	5847		6	
Block 55-N6		24	5361		5.5	
Block 55-N6		25	5736		6	
Block 55-N6		26	5907		6	
Block 55-N6		27	5860		6	
Block 55-N6		28	5757		5	
Block 55-N6		29	6207		6	
Block 55-N6		30	5762		6	
Block 55-N6		31	6111		6.5	
Block 55-N6		32	5516		6	
Block 55-N6		33	6566		6	
Block 55-N6		34	6234		6.5	
Block 55-N6		35	6467		6	
Block 55-N6		36	4262		4	
Block 55-N6		37	3945		4	
Block 55-N6		38	6763		6.5	
Block 55-N6		39	7627		7	
Block 55-N6		40	8299		8	
Block 55-N6		41	8389		7.5	
Block 55-N6		42	7958		7.5	
Block 55-N6		43	6484		7	
Block 55-N6		44	6380		7	
Block 55-N6		45	7295		7	
Block 55-N6		46	7236		7.5	
Block 55-N7		1	6357		5	
Block 55-N7		2	6978		5	
Block 55-N7		3	6112		4.5	
Block 55-N7		4	6884		5	
Block 55-N7		5	6727		6	
Block 55-N7		6	7307		5.5	
Block 55-N7		7	6142		4.5	
Block 55-N7		8	6718		5.5	
Block 55-N7		9	6695		4	
Block 55-N7		10	6529		5	
Block 55-N7		11	6577		5	
Block 55-N7		12	6734		5	

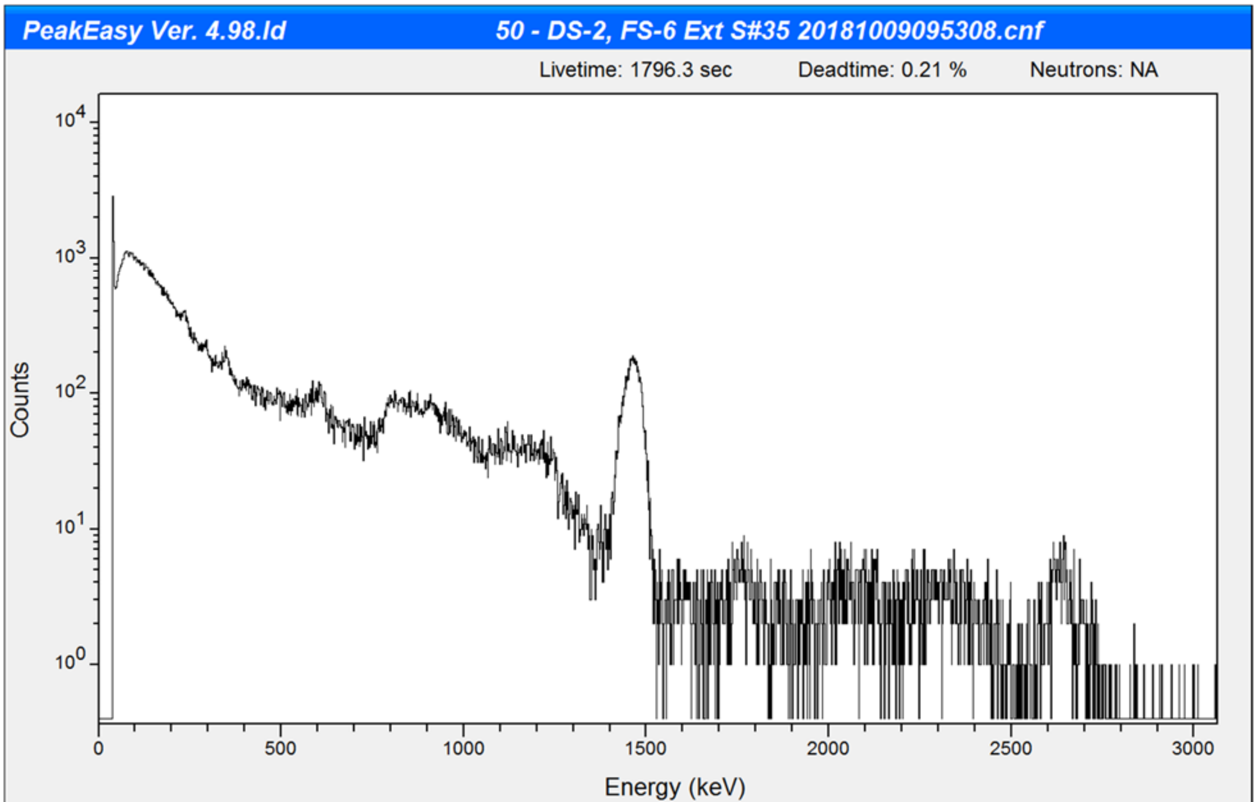
Survey Unit	Subunit	Static ID	CPM[5]	CPM[5] 2nd	uR/h[6]	uR/h[6] 2nd
Block 55-N7		13	5916		4	
Block 55-N7		14	6173		4	
Block 55-N7		15	6656		5	
Block 55-N7		16	6548		4.5	
Block 55-N7		17	6719		4.5	
Block 55-N7		18	6549		4	
Block 55-N7		19	7752		6.5	
Block 55-N7		20	7170		5	
Block 55-N7		21	7549		6	
Block 55-N7		22	6276		4.5	
Block 55-N7		23	7664		6.5	
Block 55-N7		24	6498		5	
Block 55-N7		25	12004		9	
Block 55-N7		26	10922		9.5	
Block 55-N7		27	11991		8.5	
Block 55-N7		28	11827		8.5	
Block 55-N7		29	12821		10.5	
Block 55-N7		30	13042		10.5	
Block 55-N7		31	12624		8.5	
Block 55-N7		32	13869		9.5	
Block 55-N7		**33**	**14149**		**10**	
Block 55-N7		34	13185		9.5	
Block 55-N7		35	12398		9.5	
Block 55-N7		36	9181		6	
Block 55-N7		37	8039		5	
Block 55-N7		38	7992		6	
Block 55-N7		39	8688		6	
Block 55-N7		40	9235		6	

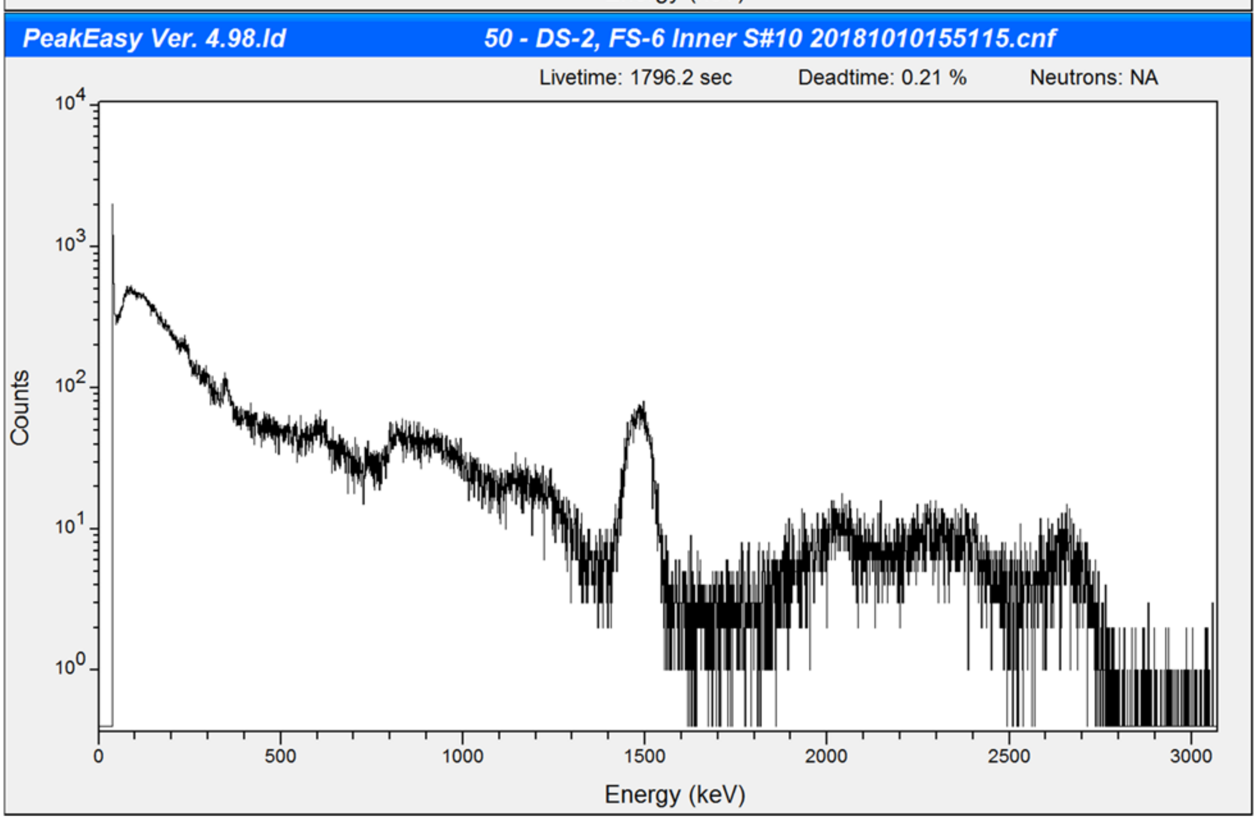
APPENDIX 3: WALKOVER SURVEY – INSPECTOR 1000 SPECTRA

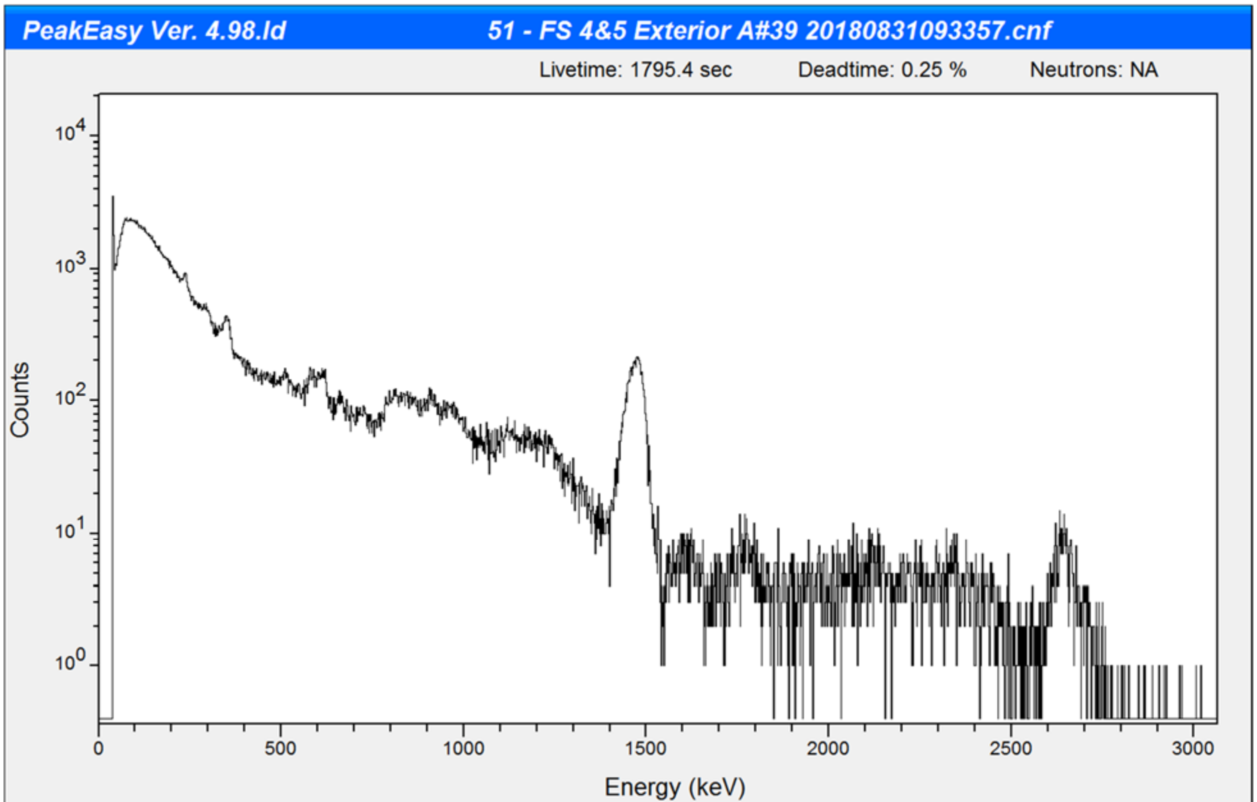
(60 Pages)

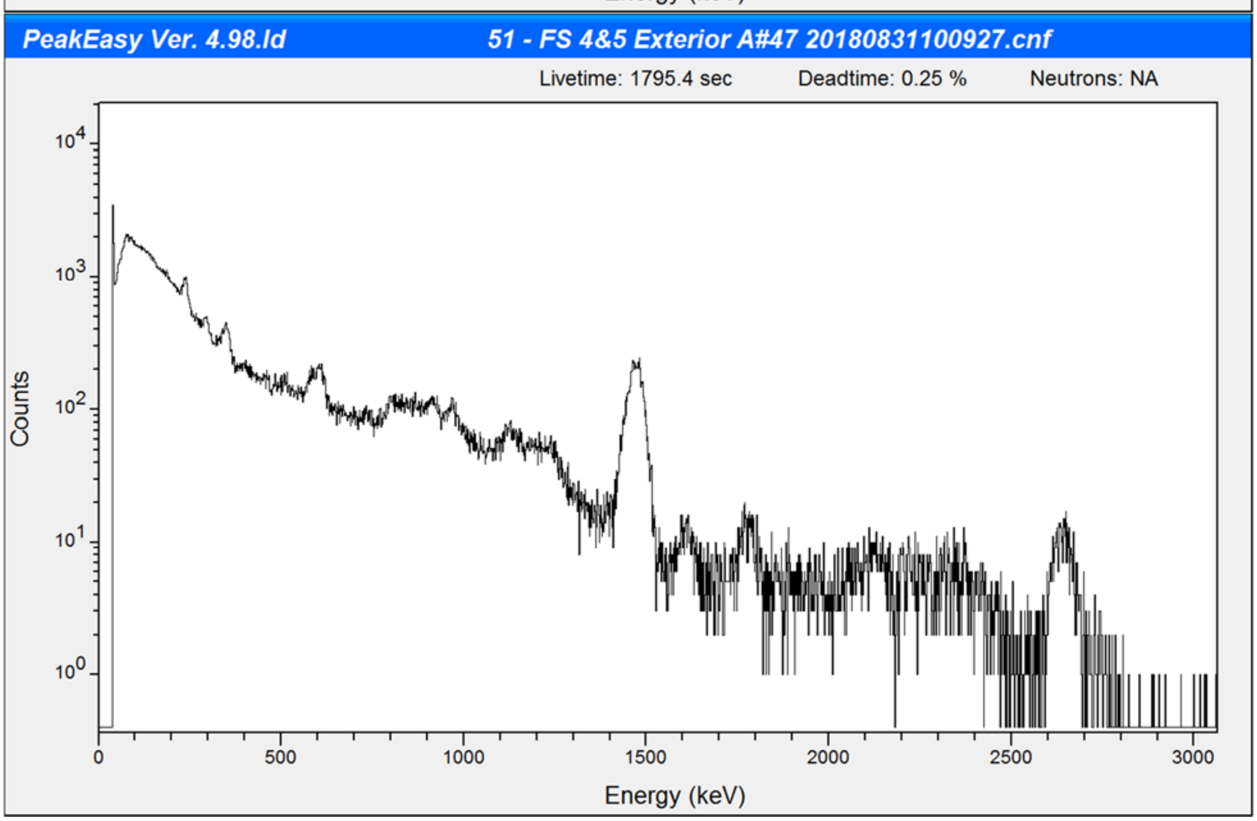

PeakEasy Ver. 4.98.ld
49 - DS3&4 Ext S#34 20181008163005.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^0
10^1
10^2
10^3
10^4
0
500
1000
1500
2000
2500
3000
Energy (keV)

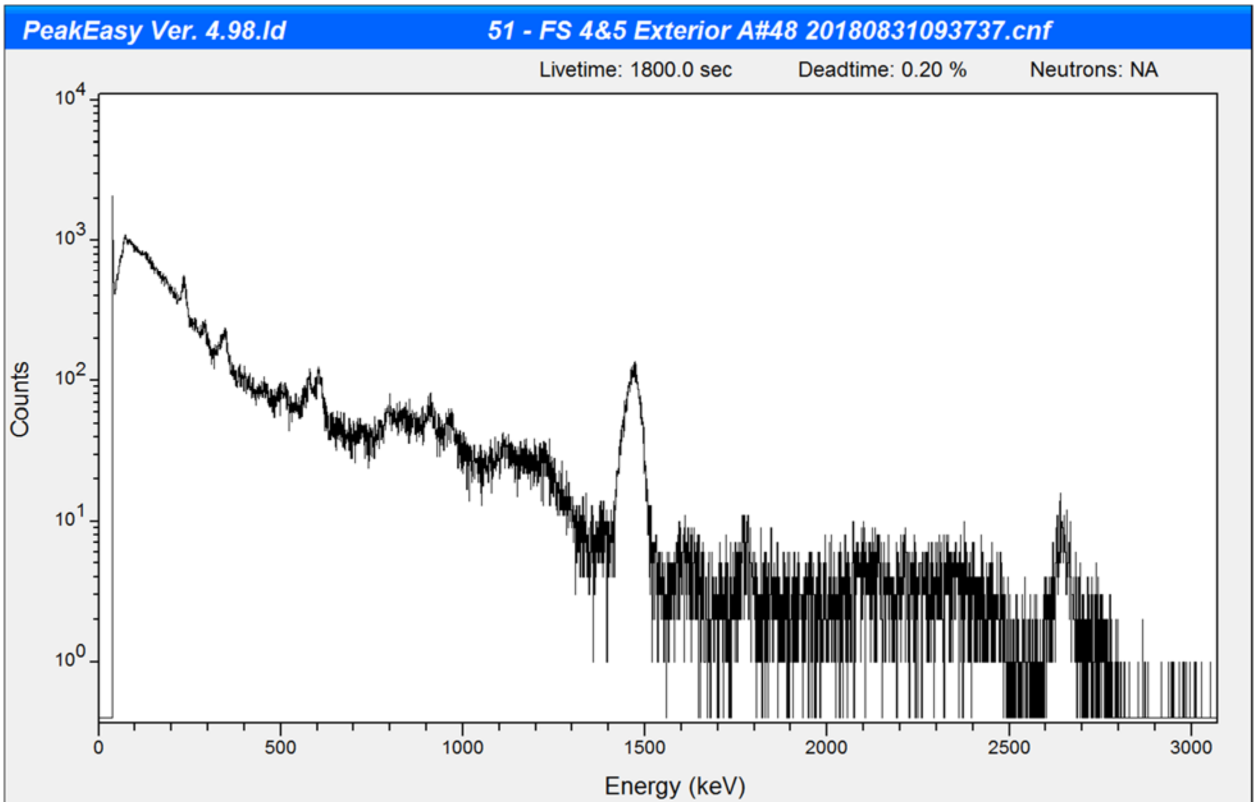

PeakEasy Ver. 4.98.ld
49 - DS3&4 Inner S#6 20181009125410.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^0
10^1
10^2
10^3
10^4
0
500
1000
1500
2000
2500
3000
Energy (keV)

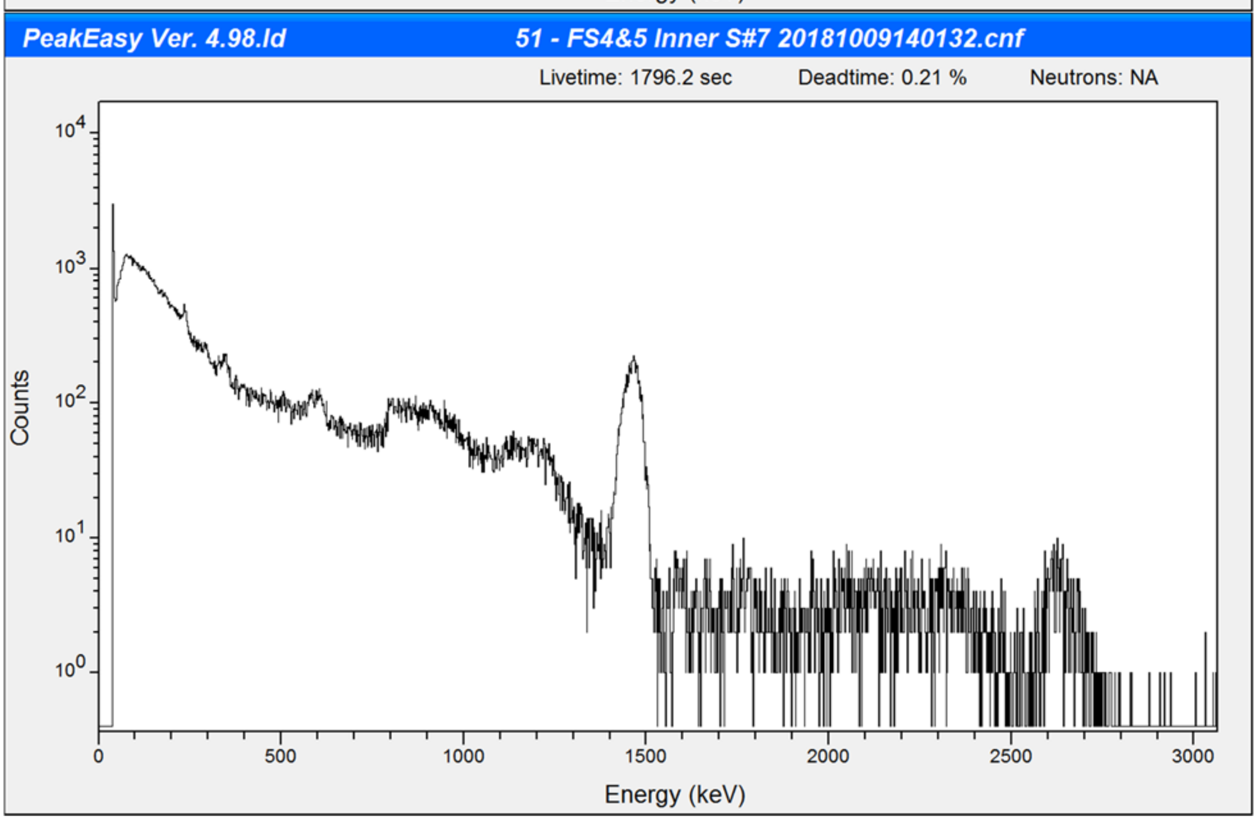

PeakEasy Ver. 4.98.ld
50 - DS-2, FS-6 Ext S#35 20181009095308.cnf
Livetime: 1796.3 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

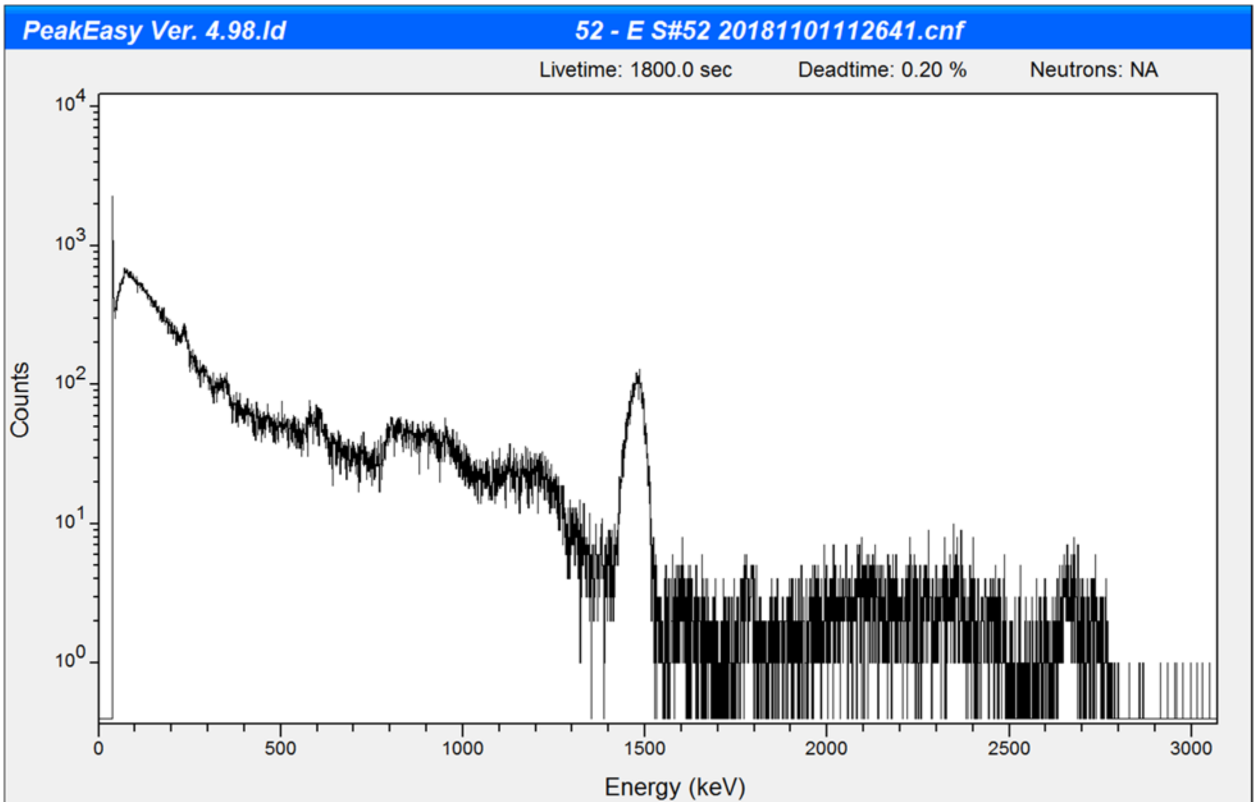

PeakEasy Ver. 4.98.ld
50 - DS-2, FS-6 Inner S#10 20181010155115.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

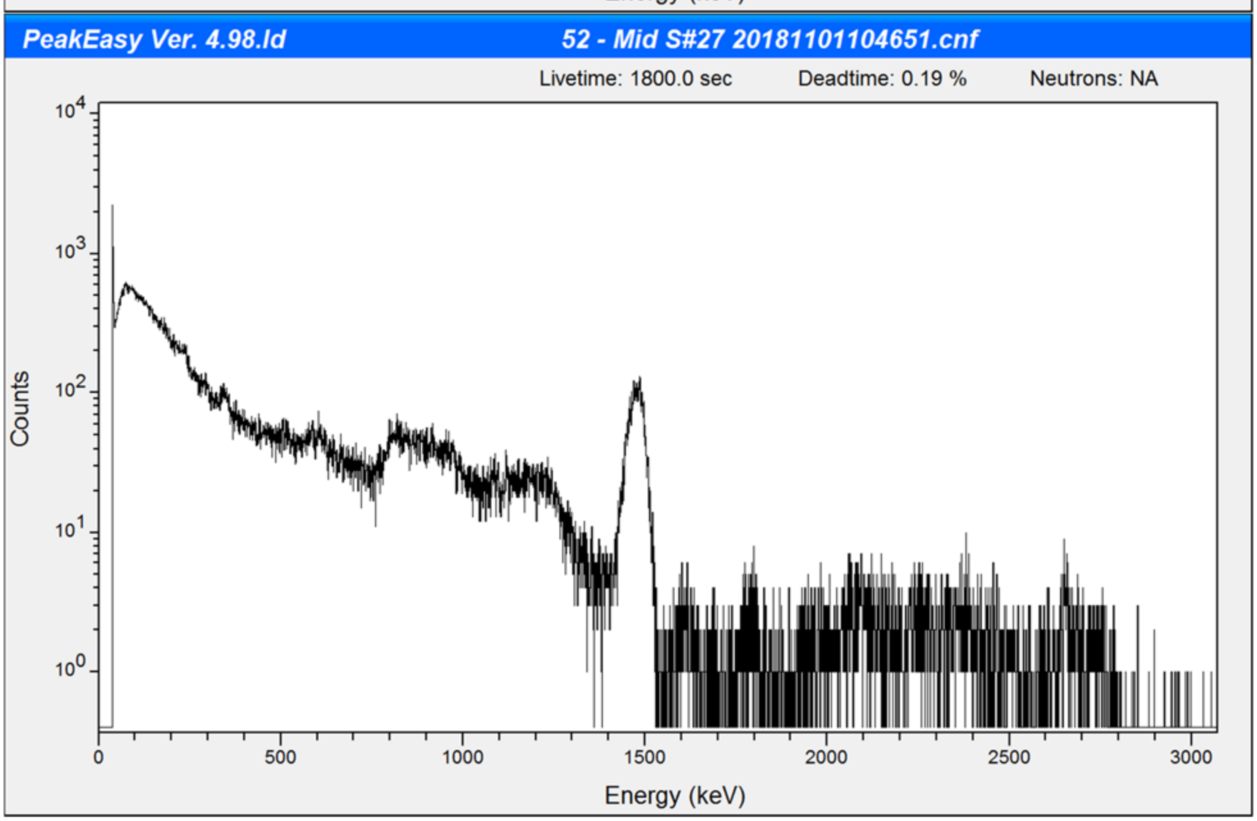

PeakEasy Ver. 4.98.ld
51 - FS 4&5 Exterior A#39 20180831093357.cnf
Livetime: 1795.4 sec
Deadtime: 0.25 %
Neutrons: NA
Counts
Energy (keV)

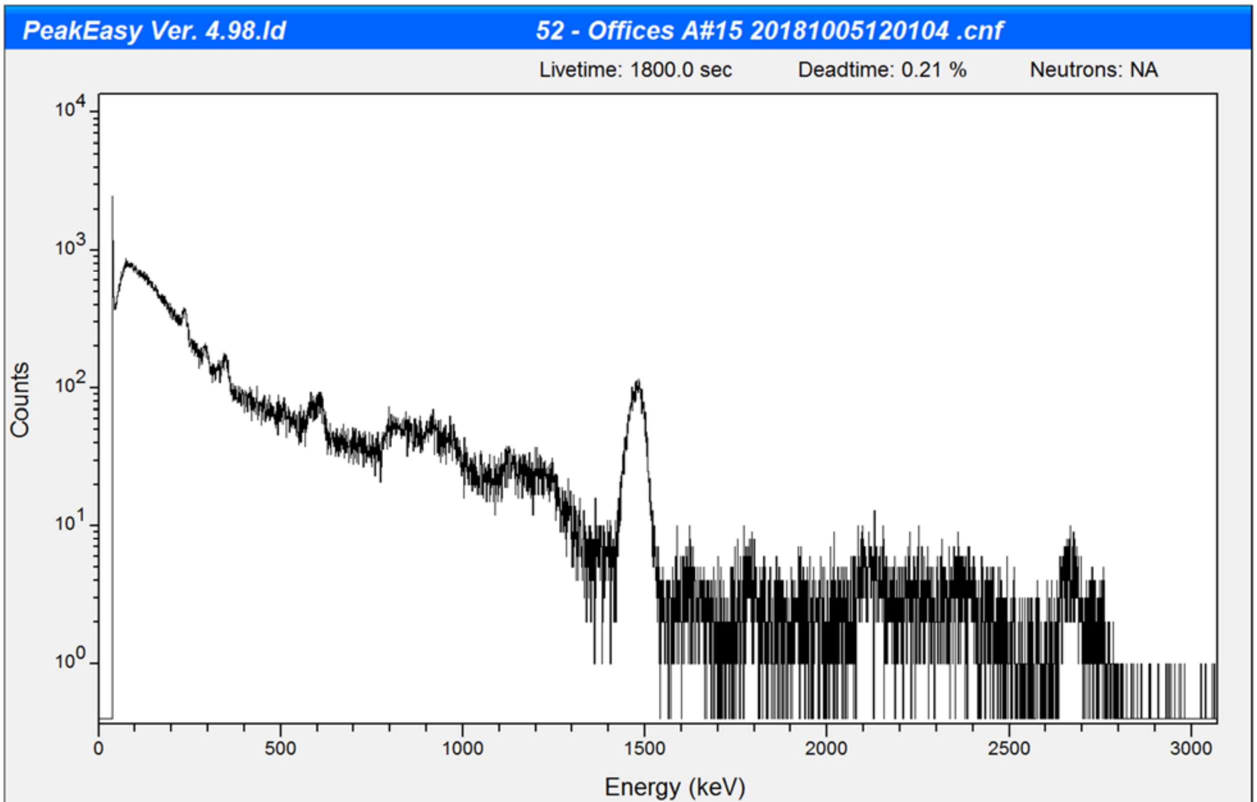

PeakEasy Ver. 4.98.ld
51 - FS 4&5 Exterior A#47 20180831100927.cnf
Livetime: 1795.4 sec
Deadtime: 0.25 %
Neutrons: NA
Counts
Energy (keV)

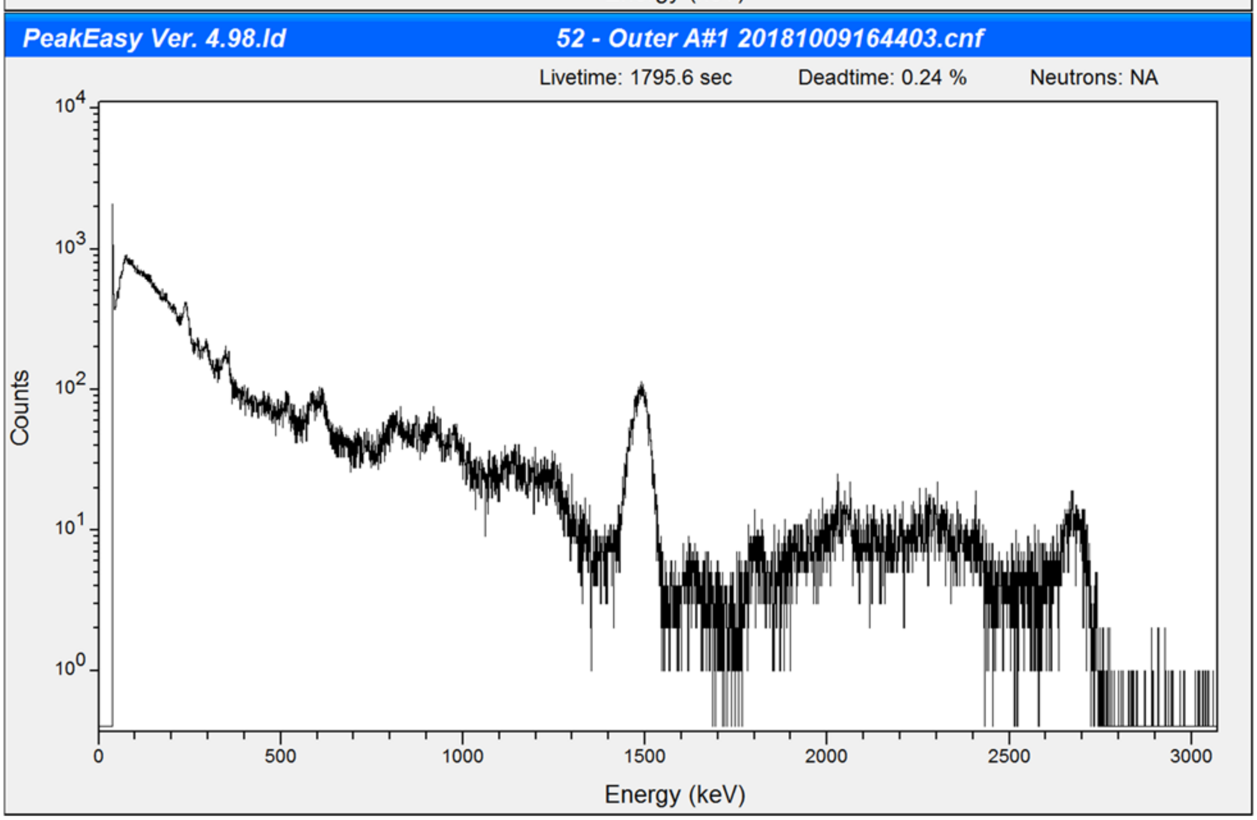

PeakEasy Ver. 4.98.ld
51 - FS 4&5 Exterior A#48 20180831093737.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

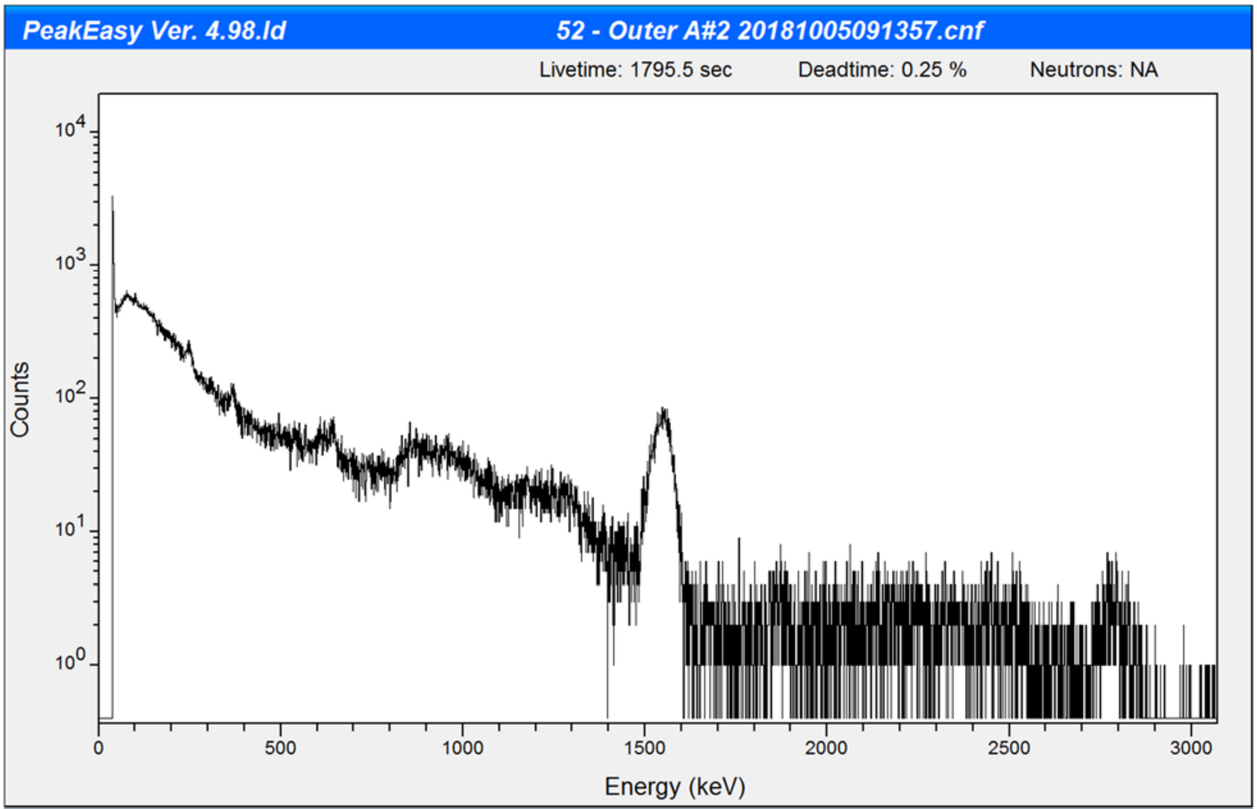

PeakEasy Ver. 4.98.ld
51 - FS4&5 Inner S#7 20181009140132.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

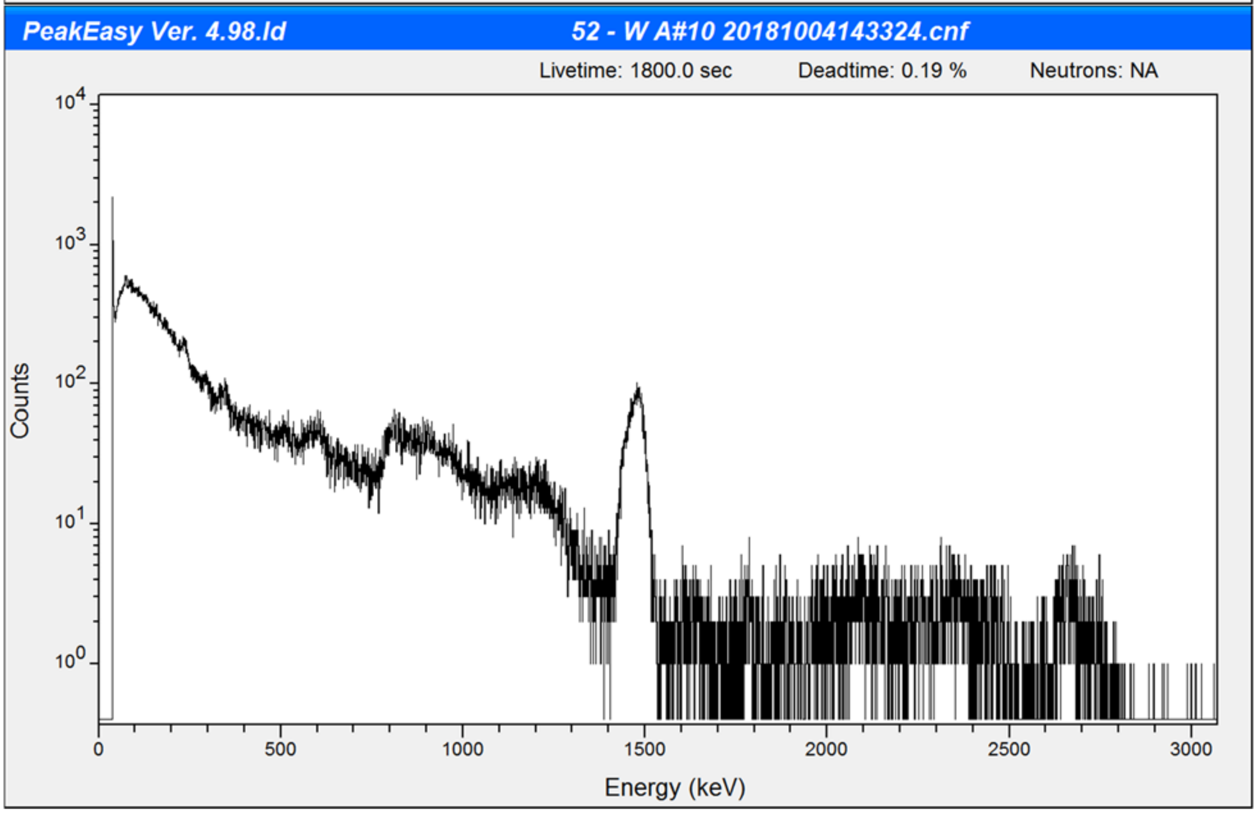

PeakEasy Ver. 4.98.ld
52 - E S#52 20181101112641.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

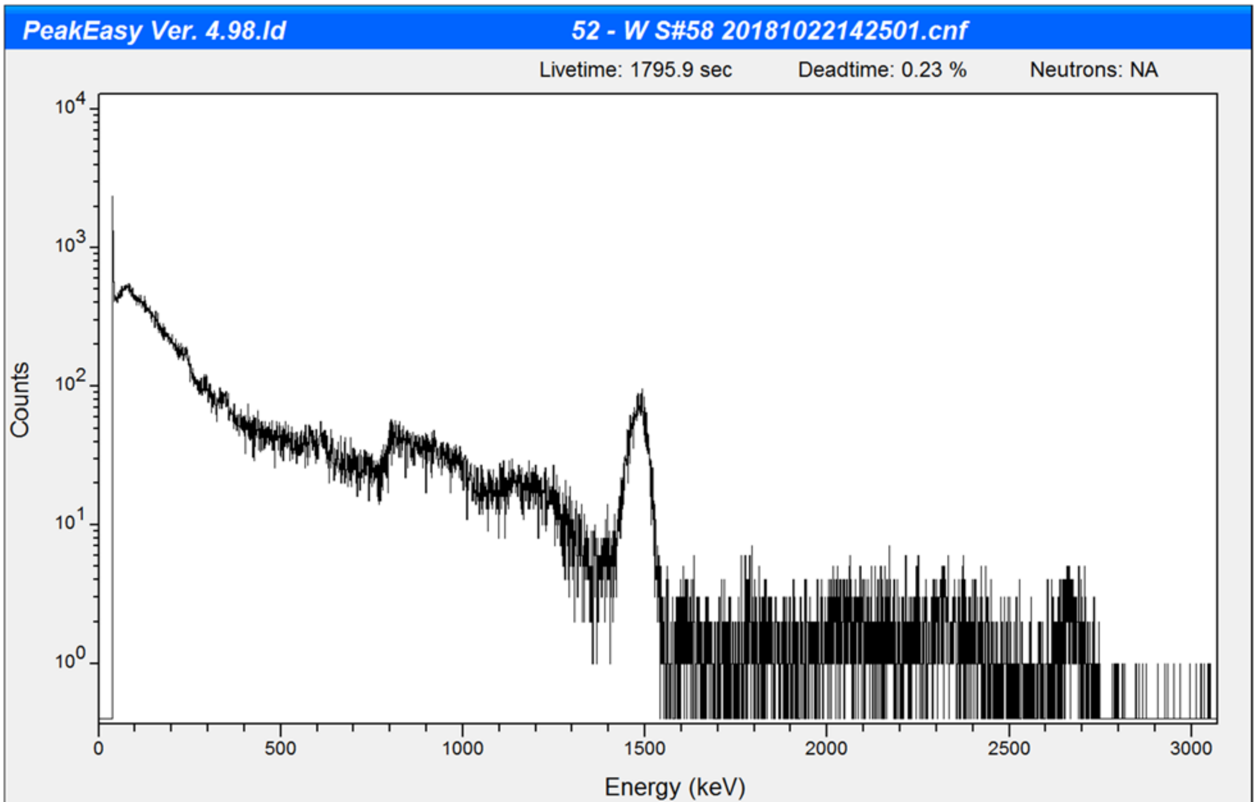

PeakEasy Ver. 4.98.ld
52 - Mid S#27 20181101104651.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

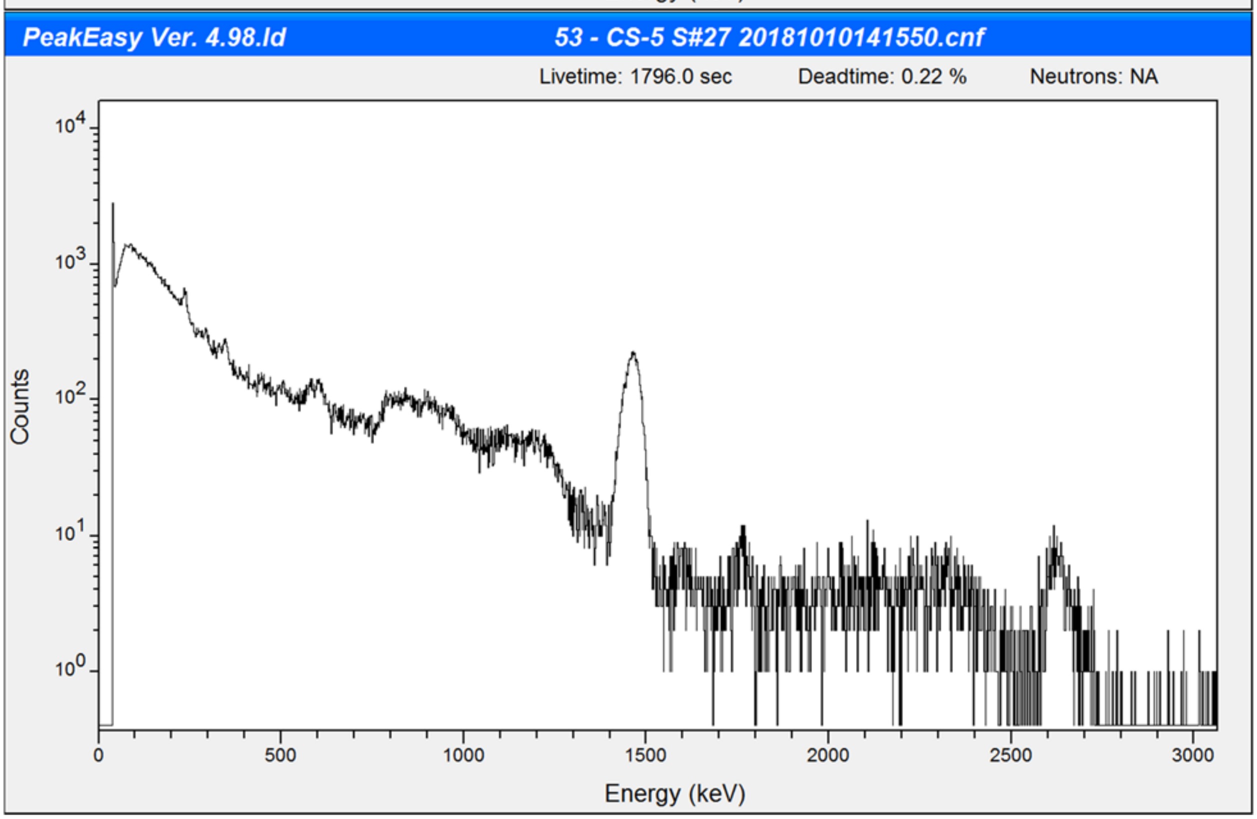

PeakEasy Ver. 4.98.ld
52 - Offices A#15 20181005120104 .cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

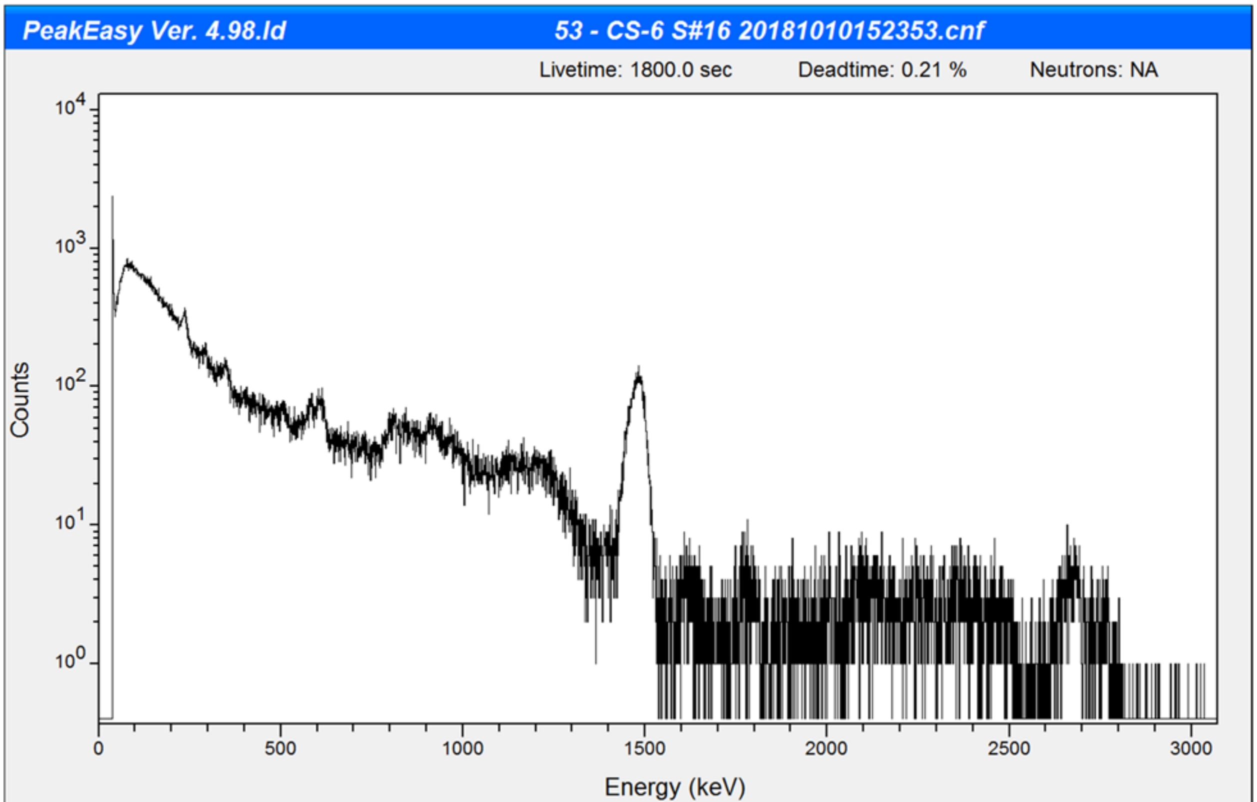

PeakEasy Ver. 4.98.ld
52 - Outer A#1 20181009164403.cnf
Livetime: 1795.6 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

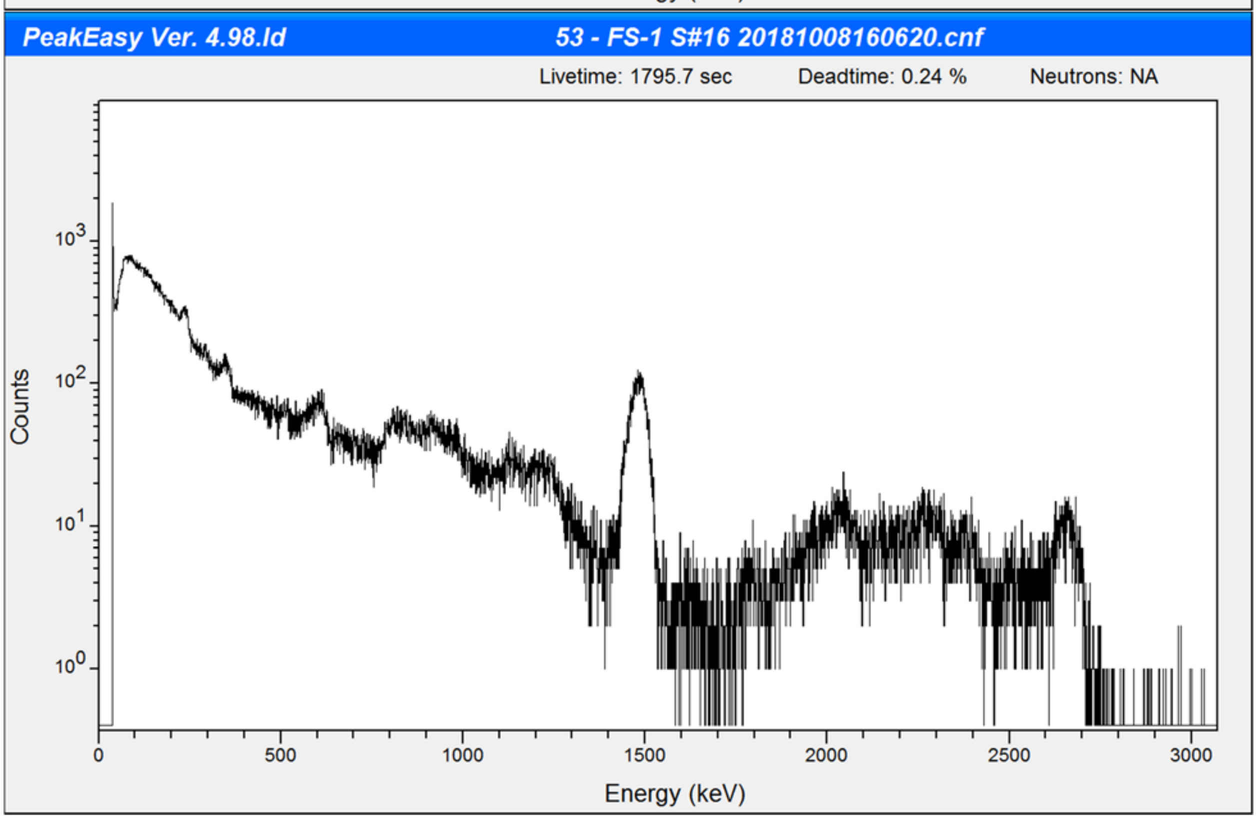

PeakEasy Ver. 4.98.ld
52 - Outer A#2 20181005091357.cnf
Livetime: 1795.5 sec
Deadtime: 0.25 %
Neutrons: NA
Counts
Energy (keV)

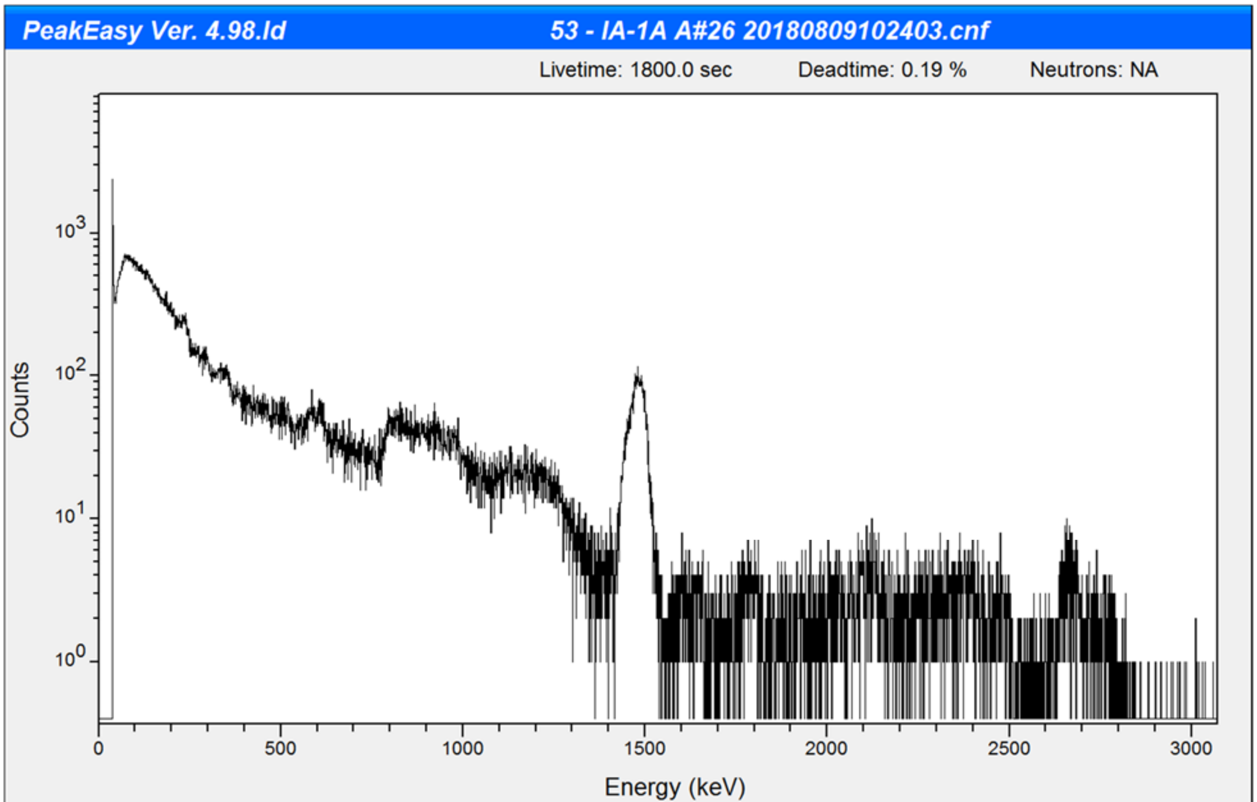

PeakEasy Ver. 4.98.ld
52 - W A#10 20181004143324.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

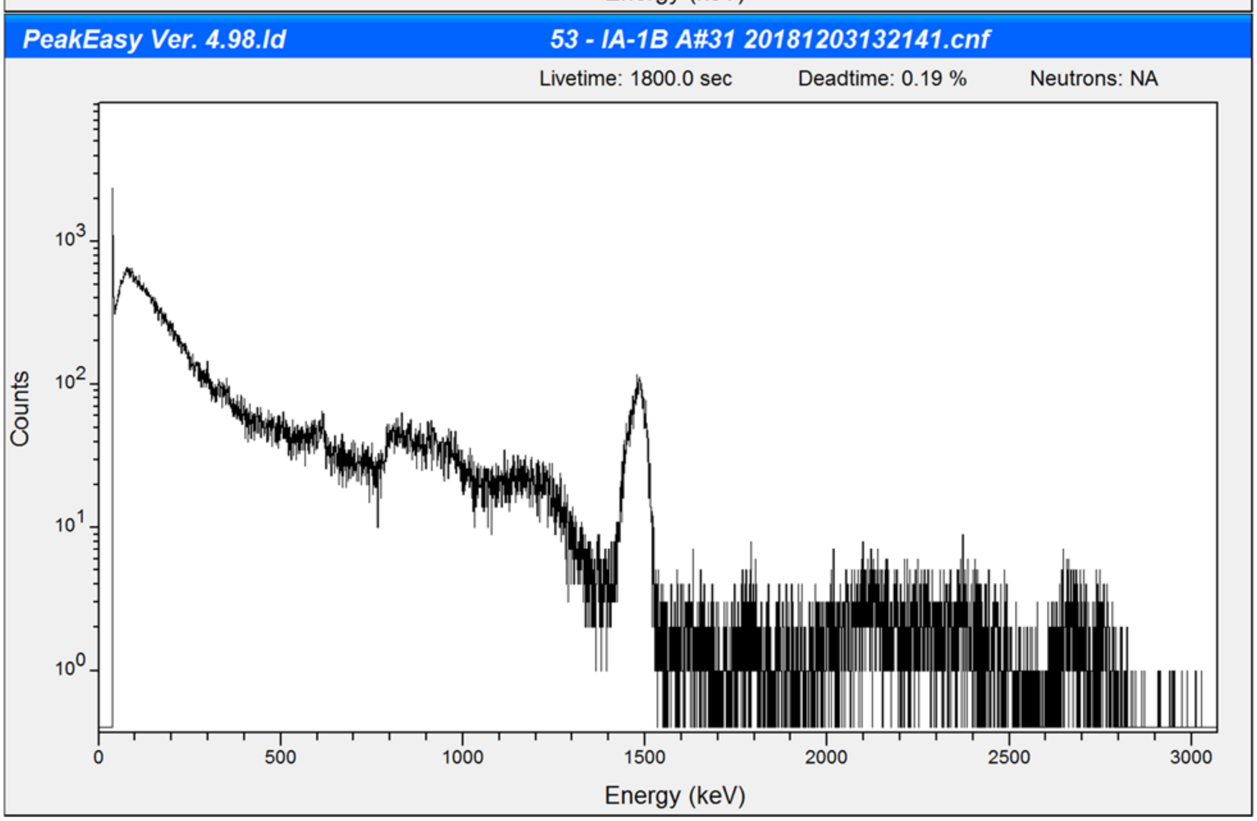

PeakEasy Ver. 4.98.ld
52 - W S#58 20181022142501.cnf
Livetime: 1795.9 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

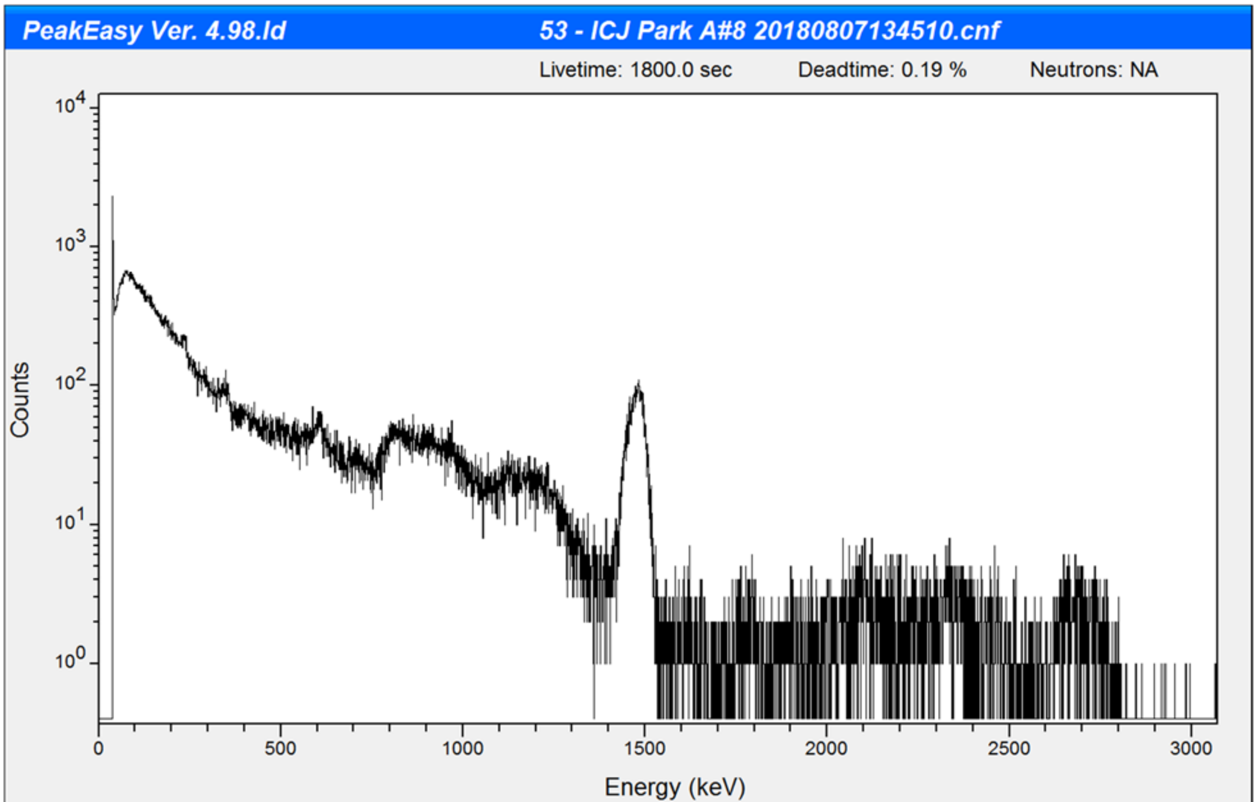

PeakEasy Ver. 4.98.ld
53 - CS-5 S#27 20181010141550.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

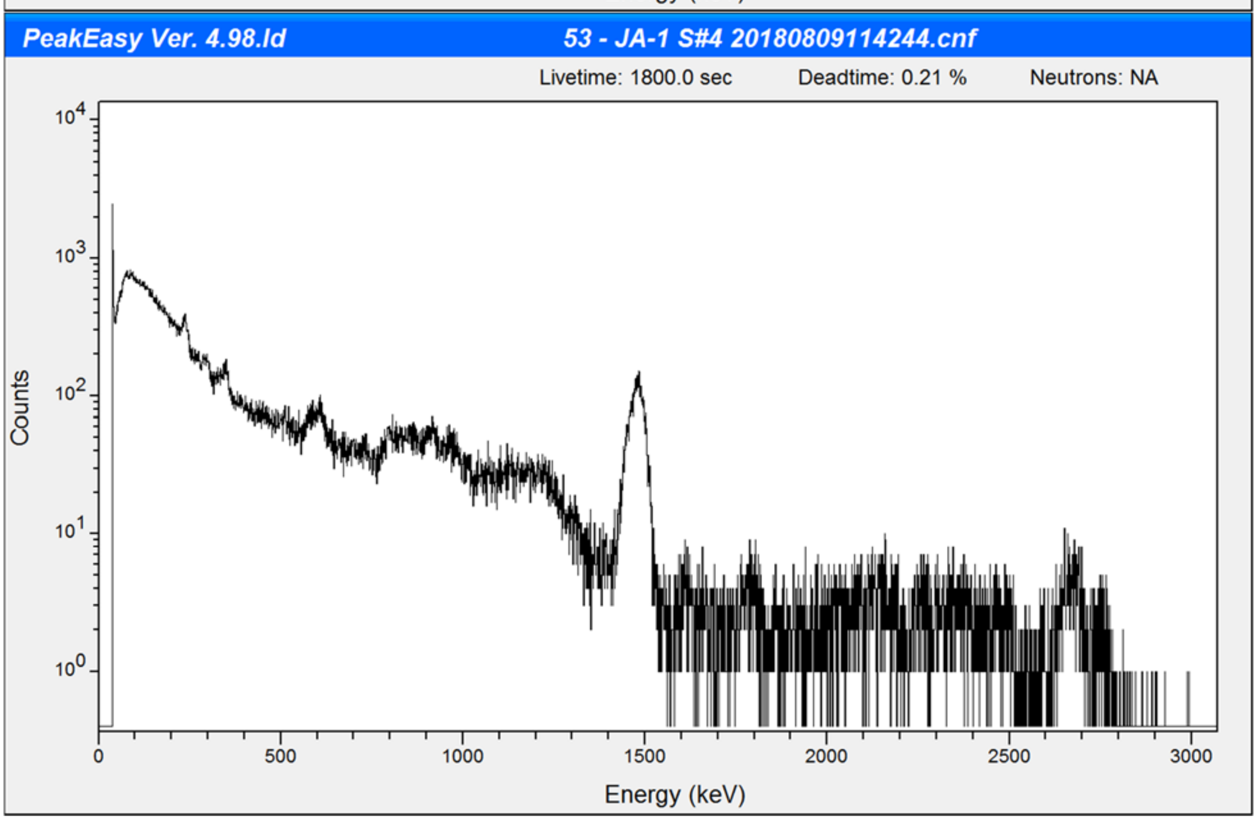

PeakEasy Ver. 4.98.ld
53 - CS-6 S#16 20181010152353.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

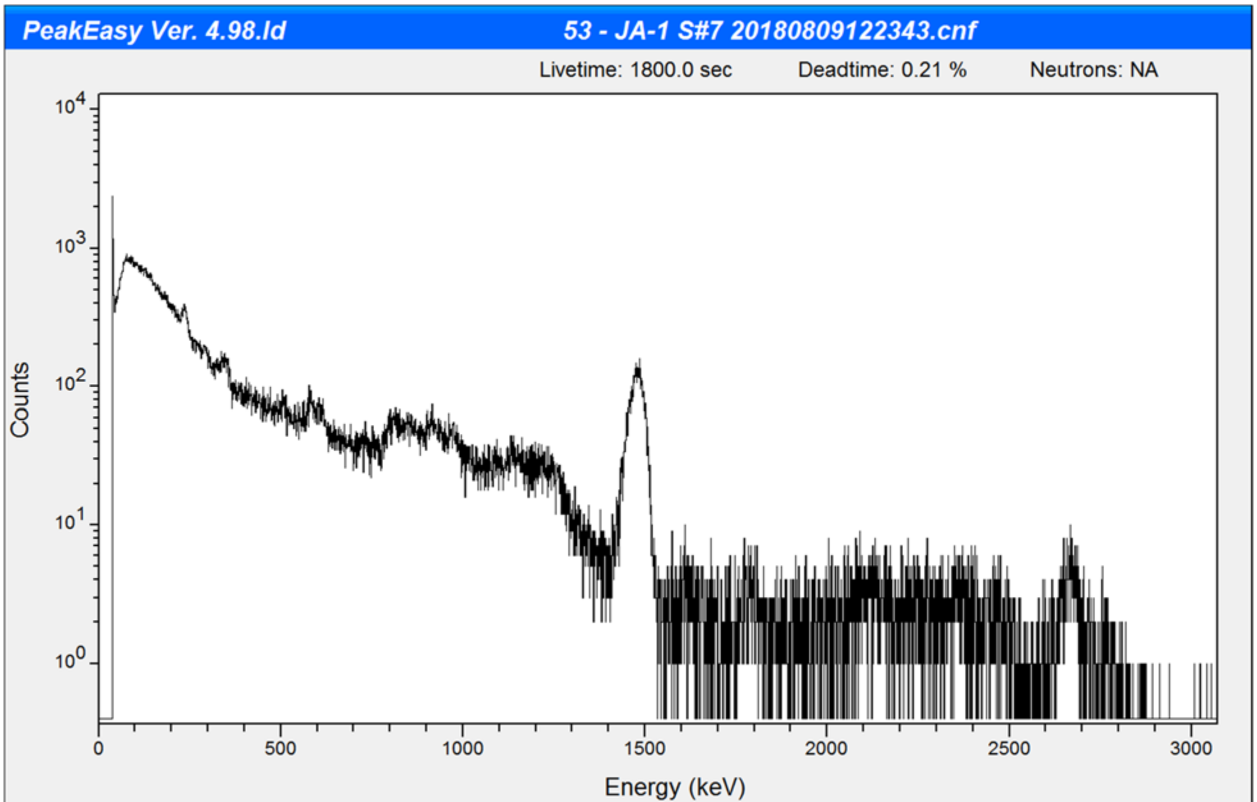

PeakEasy Ver. 4.98.ld
53 - FS-1 S#16 20181008160620.cnf
Livetime: 1795.7 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
Energy (keV)

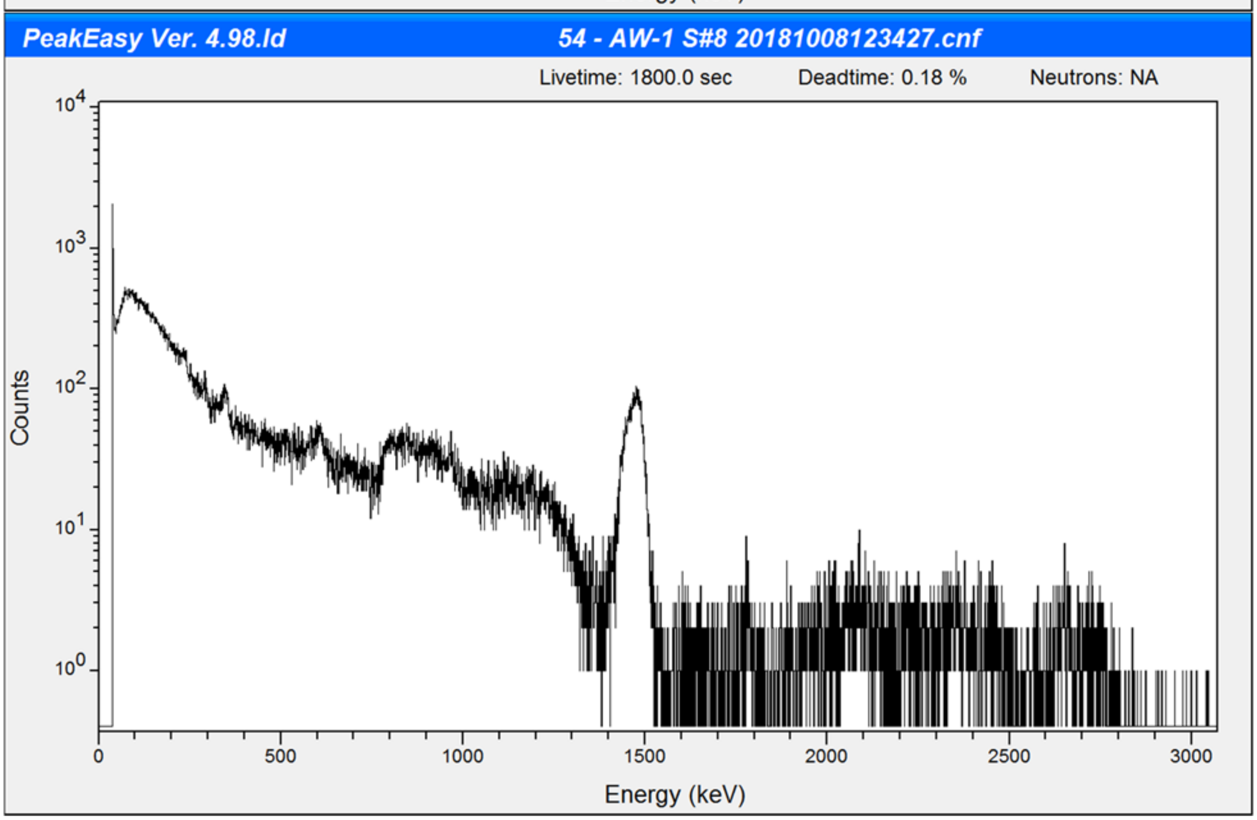

PeakEasy Ver. 4.98.ld
53 - IA-1A A#26 20180809102403.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

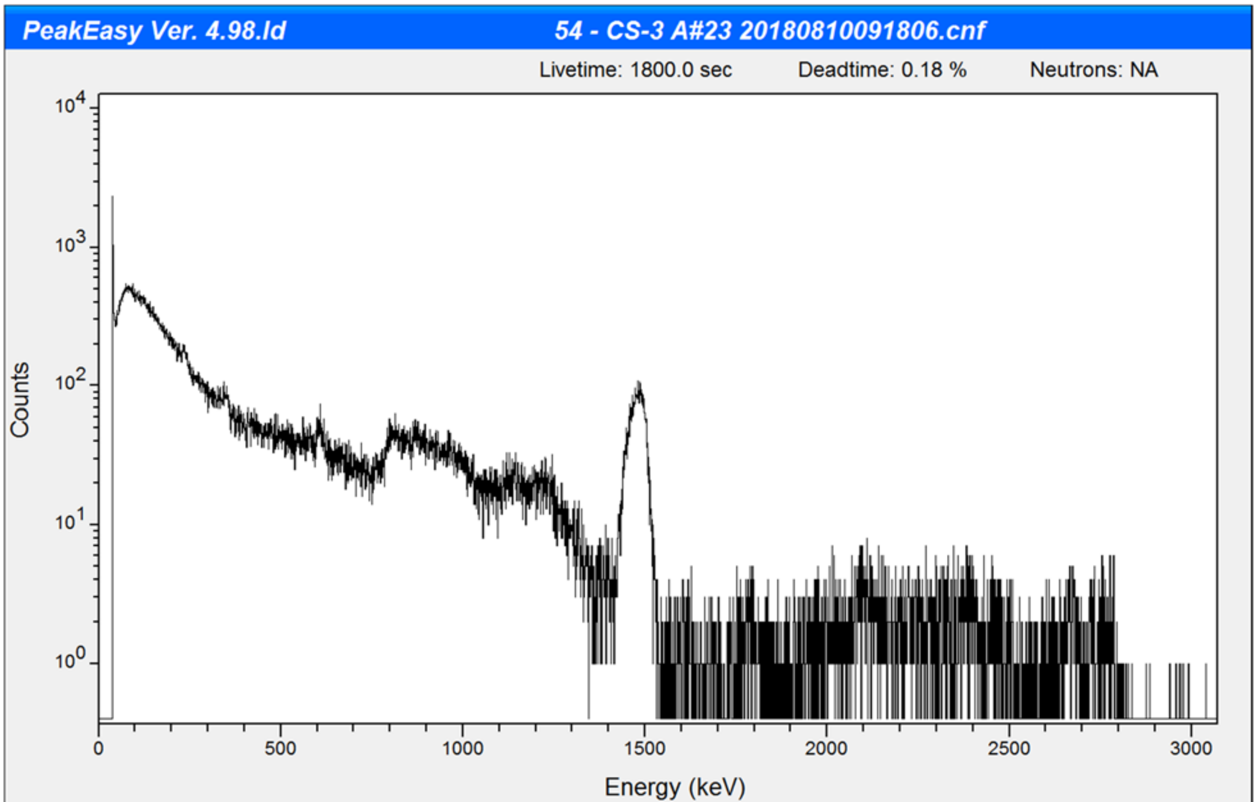

PeakEasy Ver. 4.98.ld
53 - IA-1B A#31 20181203132141.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

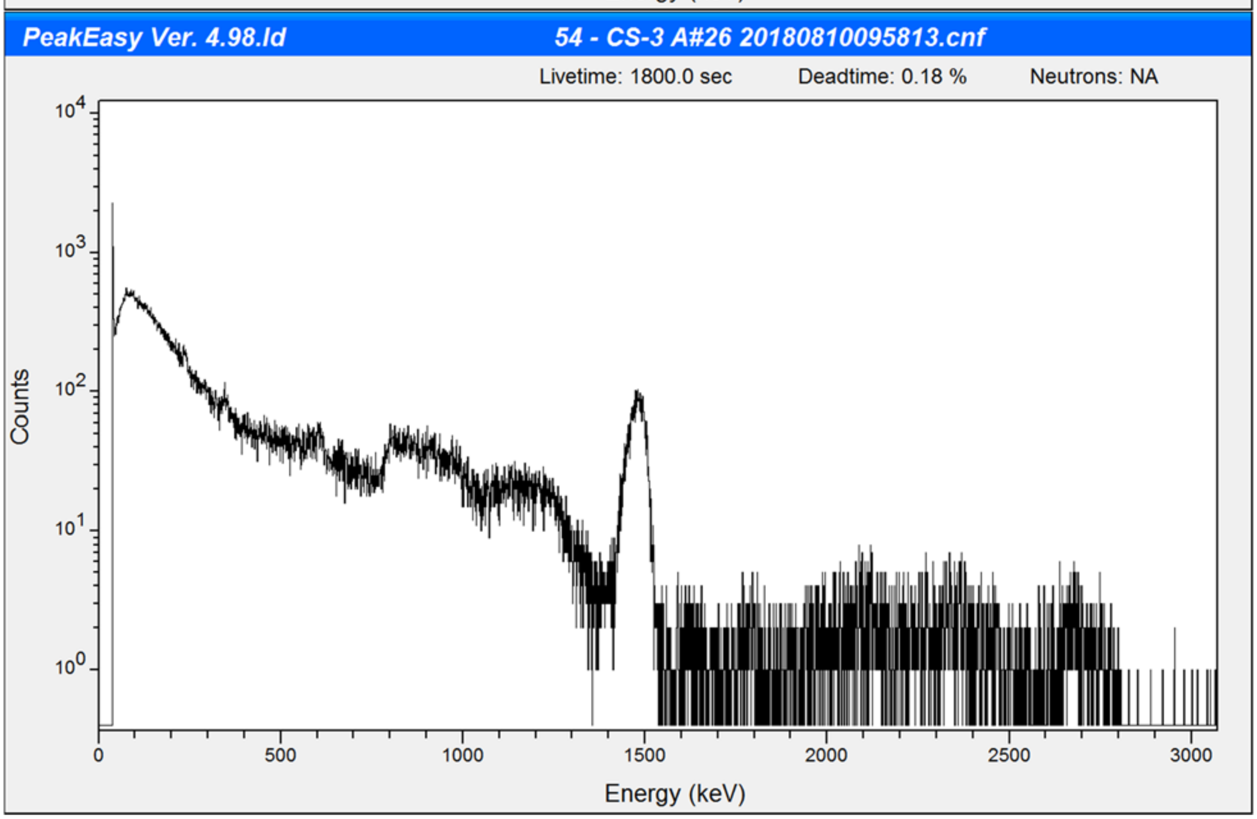

PeakEasy Ver. 4.98.ld
53 - ICJ Park A#8 20180807134510.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

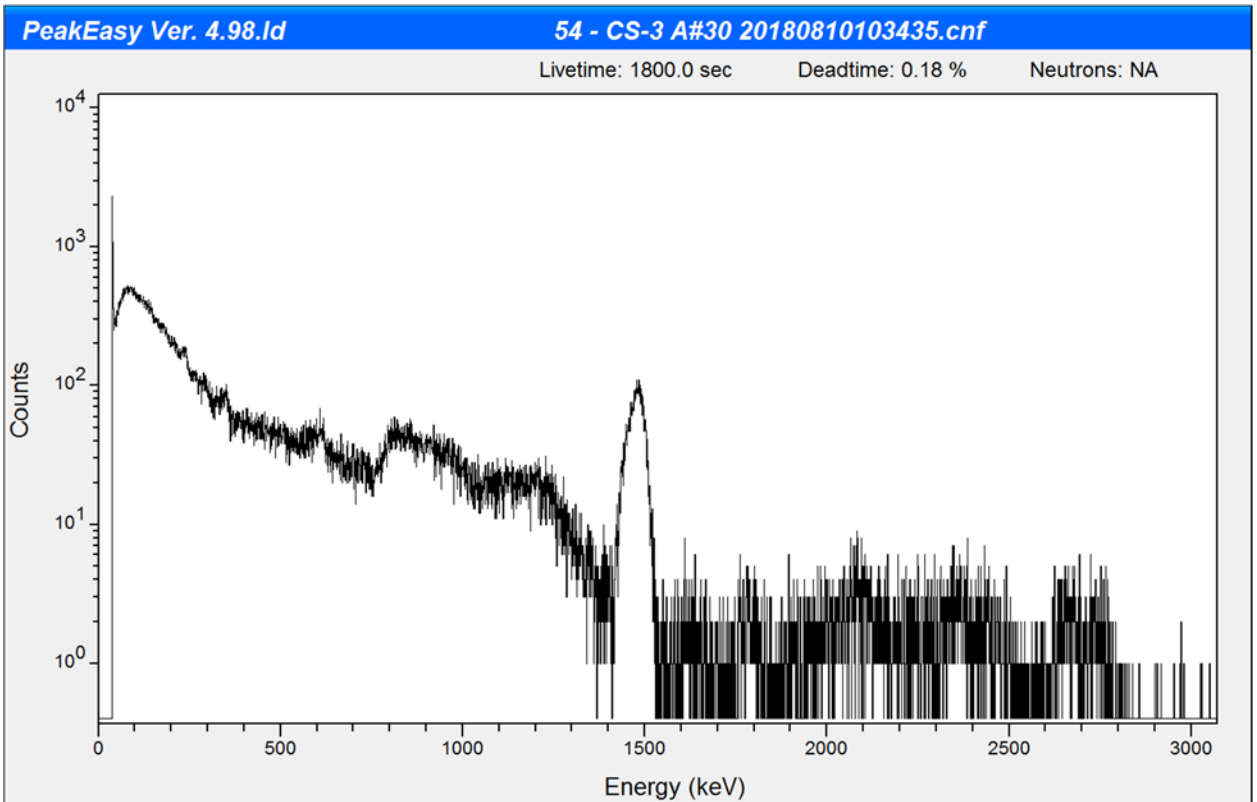

PeakEasy Ver. 4.98.ld
53 - JA-1 S#4 20180809114244.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

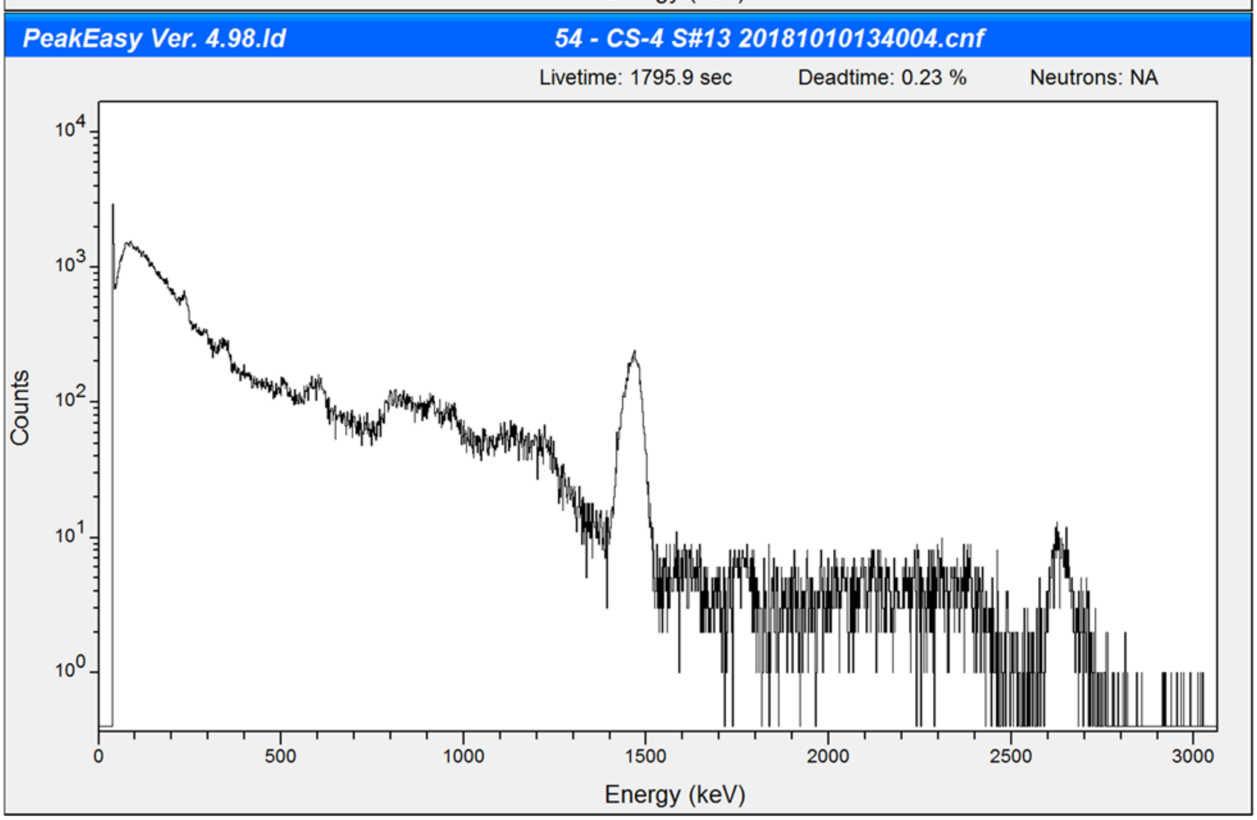

PeakEasy Ver. 4.98.ld
53 - JA-1 S#7 20180809122343.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

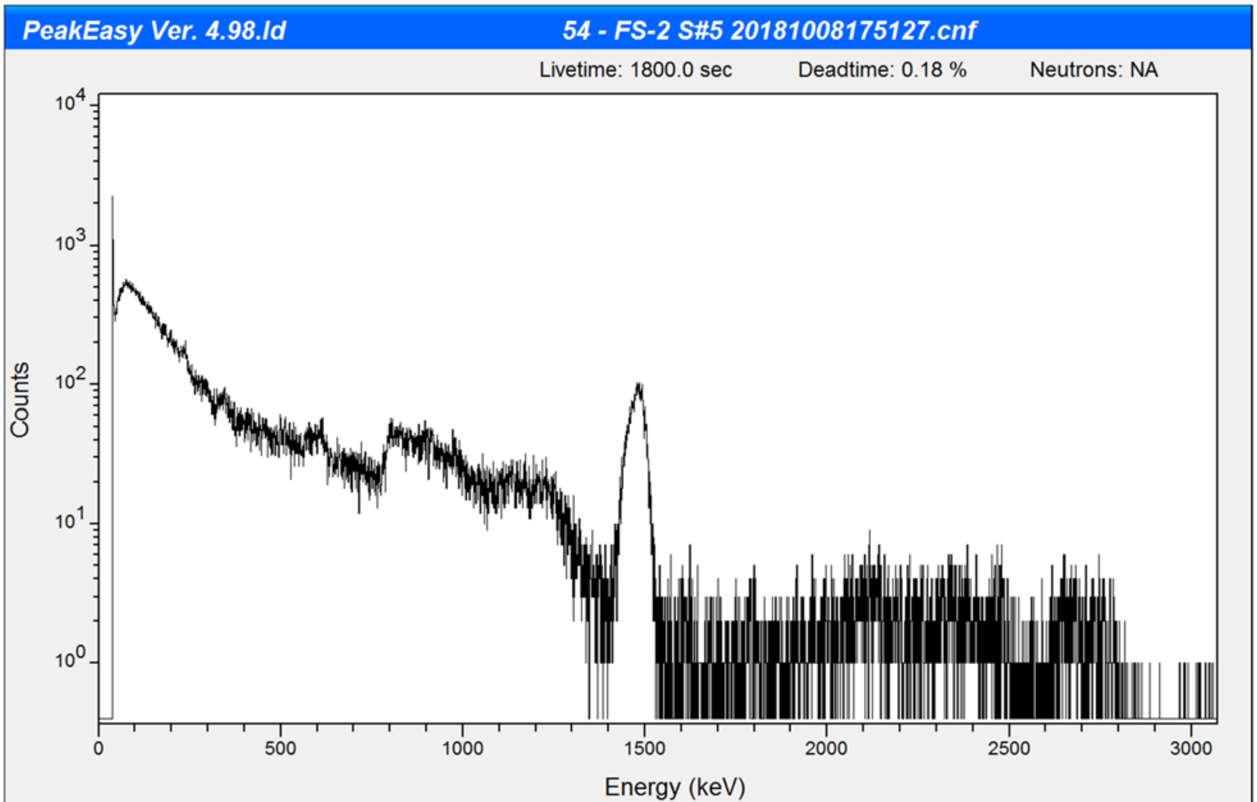

PeakEasy Ver. 4.98.ld
54 - AW-1 S#8 20181008123427.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

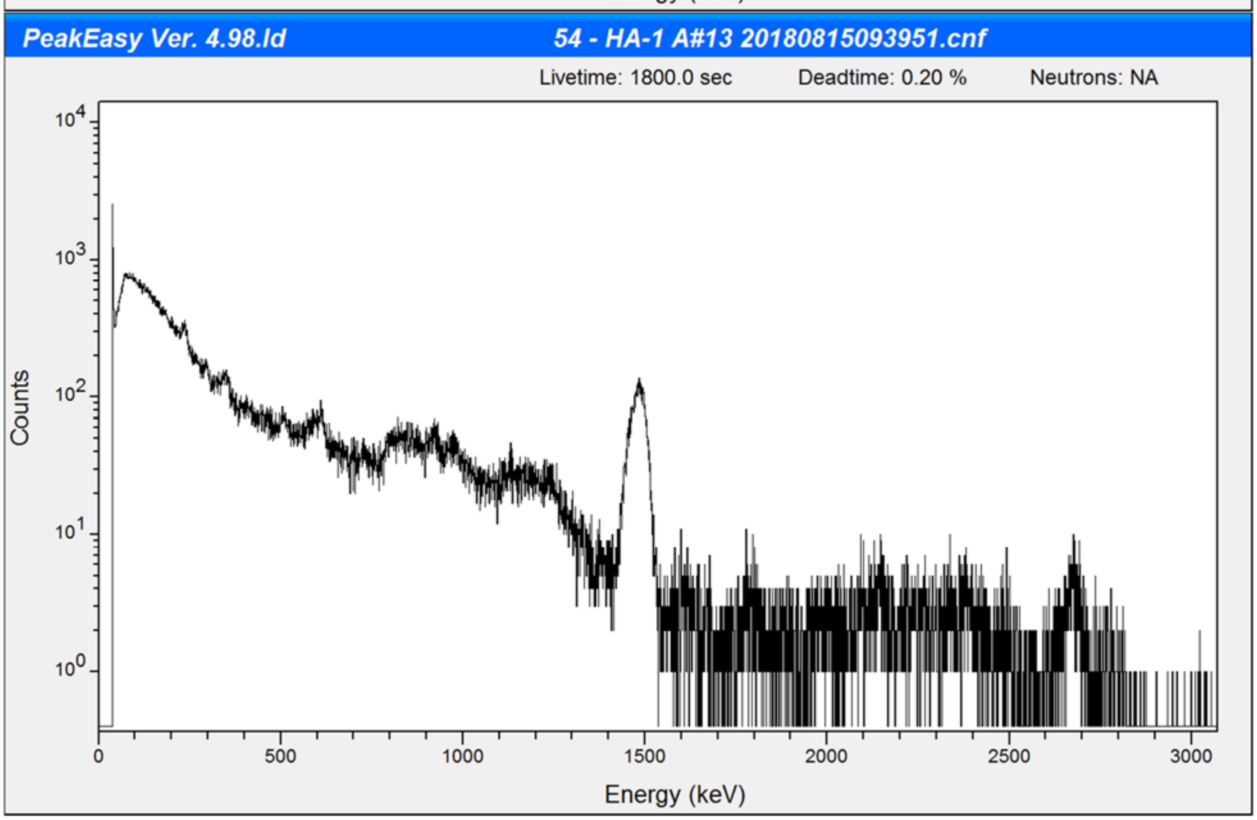

PeakEasy Ver. 4.98.ld
54 - CS-3 A#23 20180810091806.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

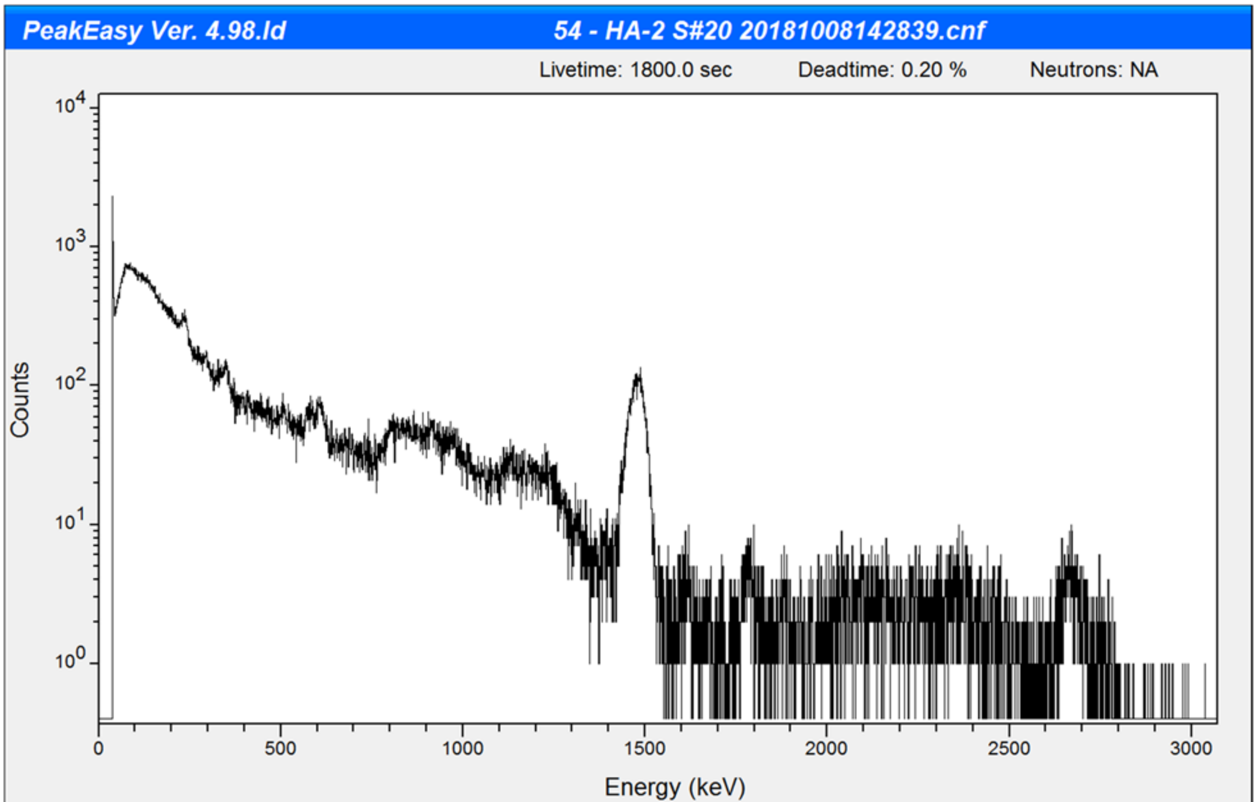

PeakEasy Ver. 4.98.ld
54 - CS-3 A#26 20180810095813.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

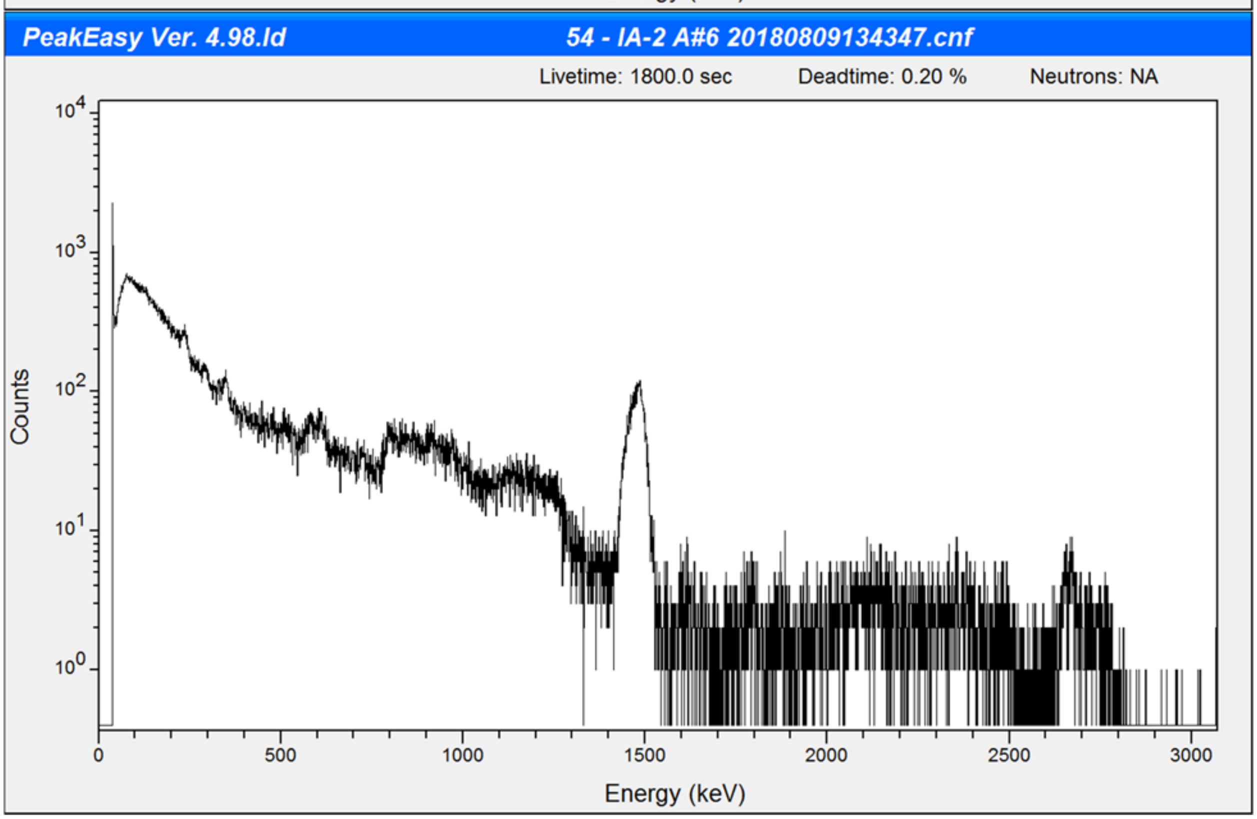

PeakEasy Ver. 4.98.ld
54 - CS-3 A#30 20180810103435.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

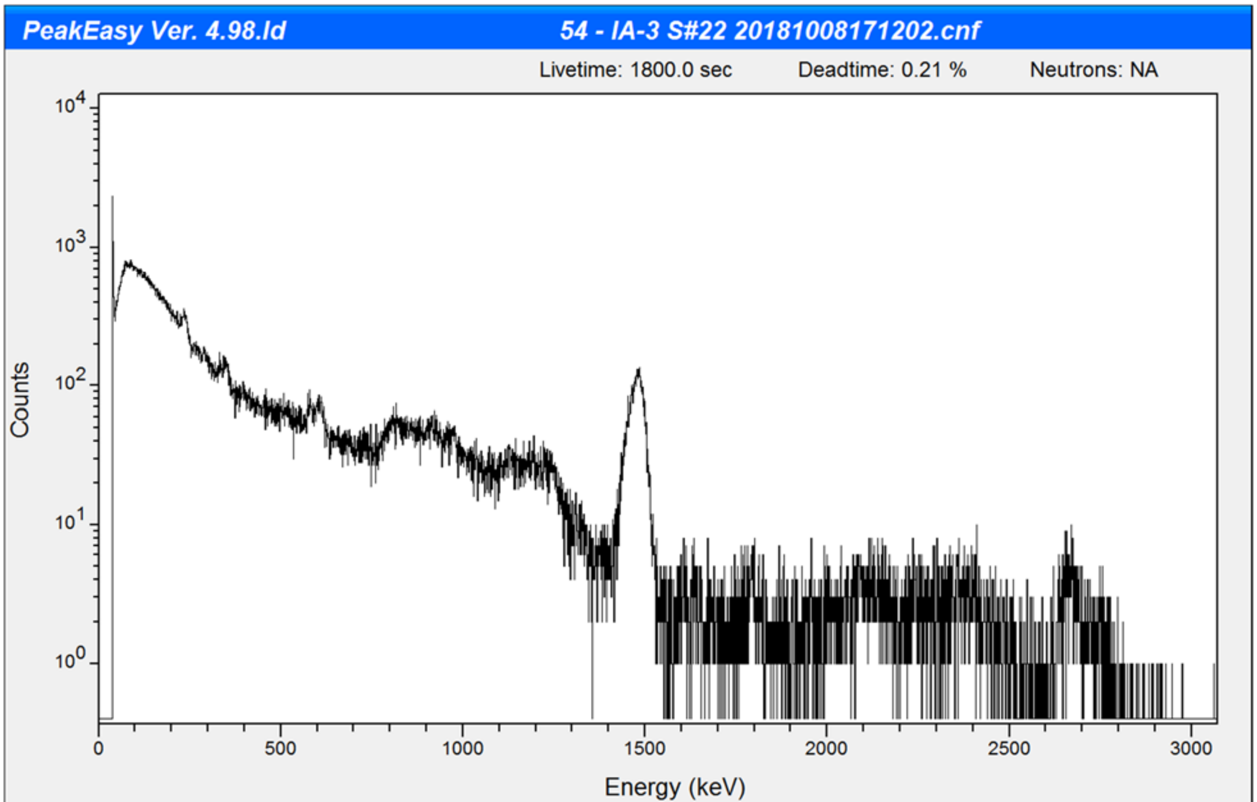

PeakEasy Ver. 4.98.ld
54 - CS-4 S#13 20181010134004.cnf
Livetime: 1795.9 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

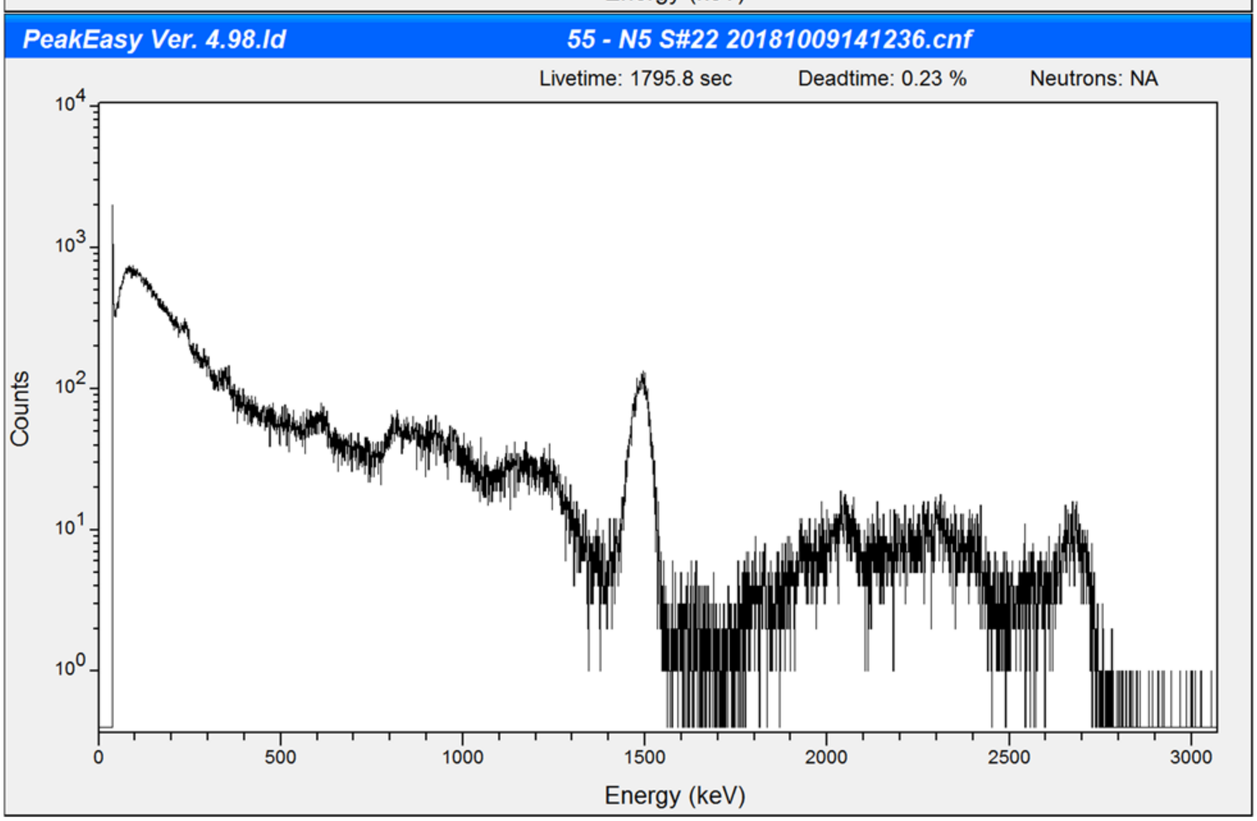

PeakEasy Ver. 4.98.ld
54 - FS-2 S#5 20181008175127.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

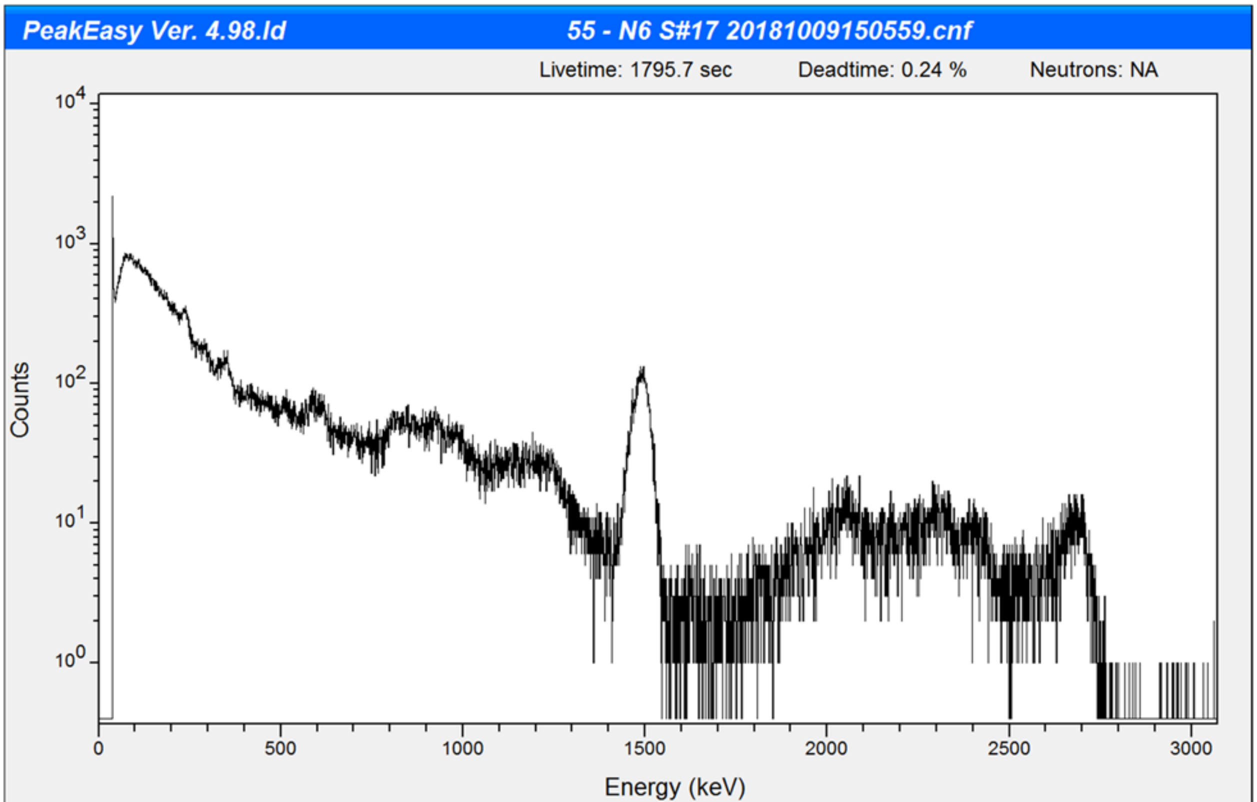

PeakEasy Ver. 4.98.ld
54 - HA-1 A#13 20180815093951.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

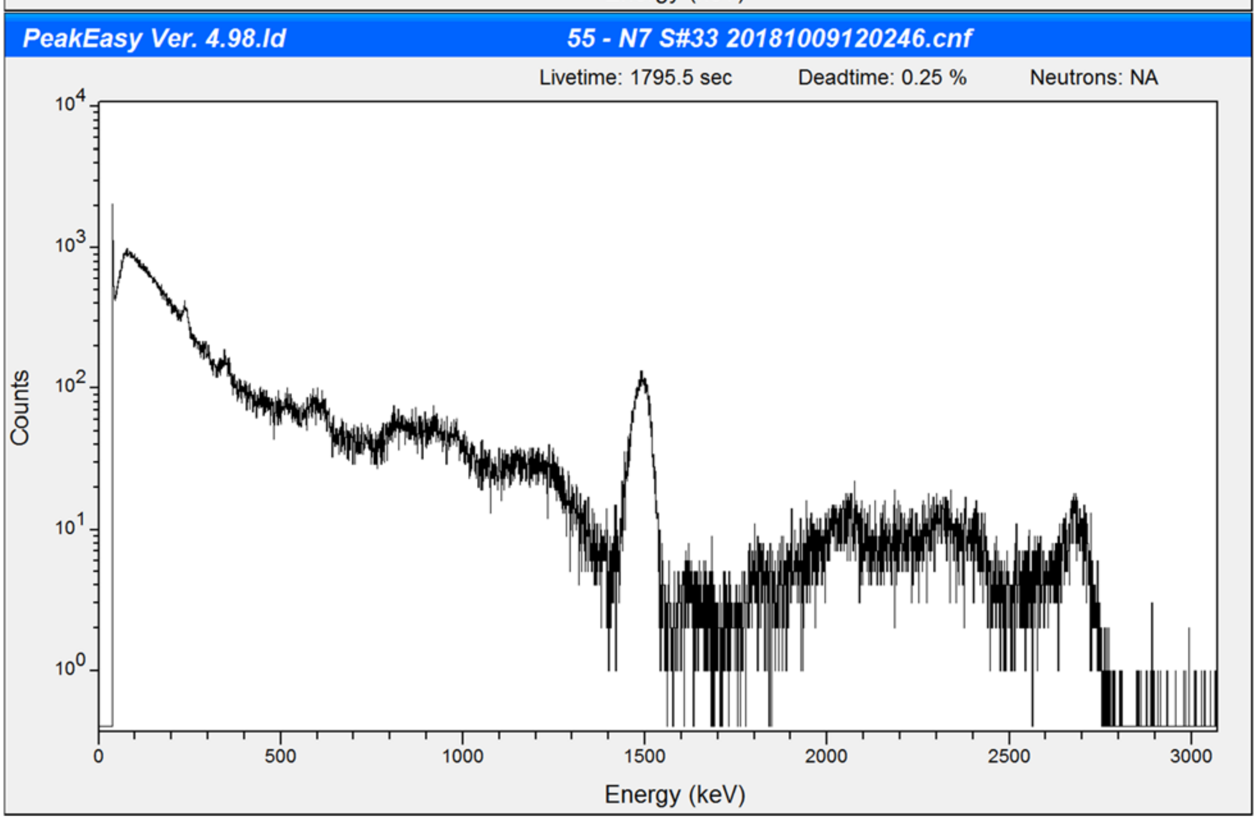

PeakEasy Ver. 4.98.ld
54 - HA-2 S#20 20181008142839.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

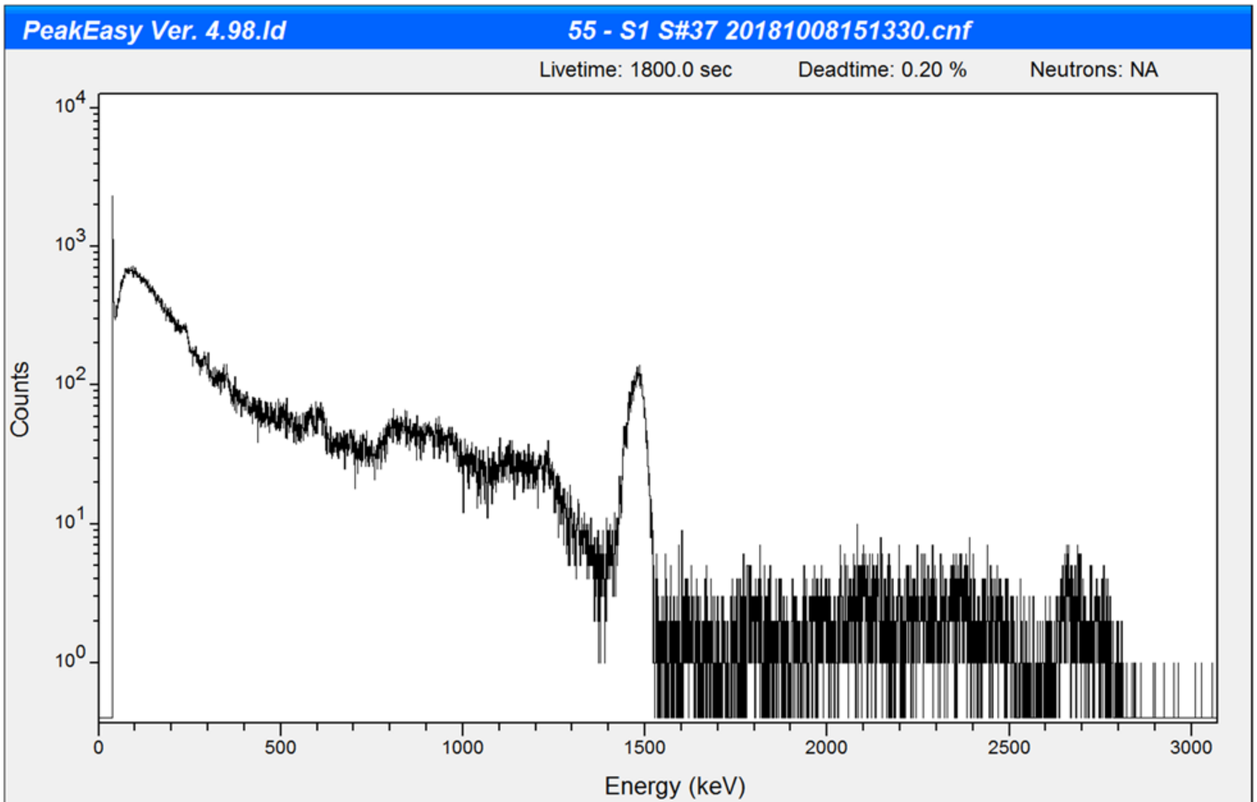

PeakEasy Ver. 4.98.ld
54 - IA-2 A#6 20180809134347.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

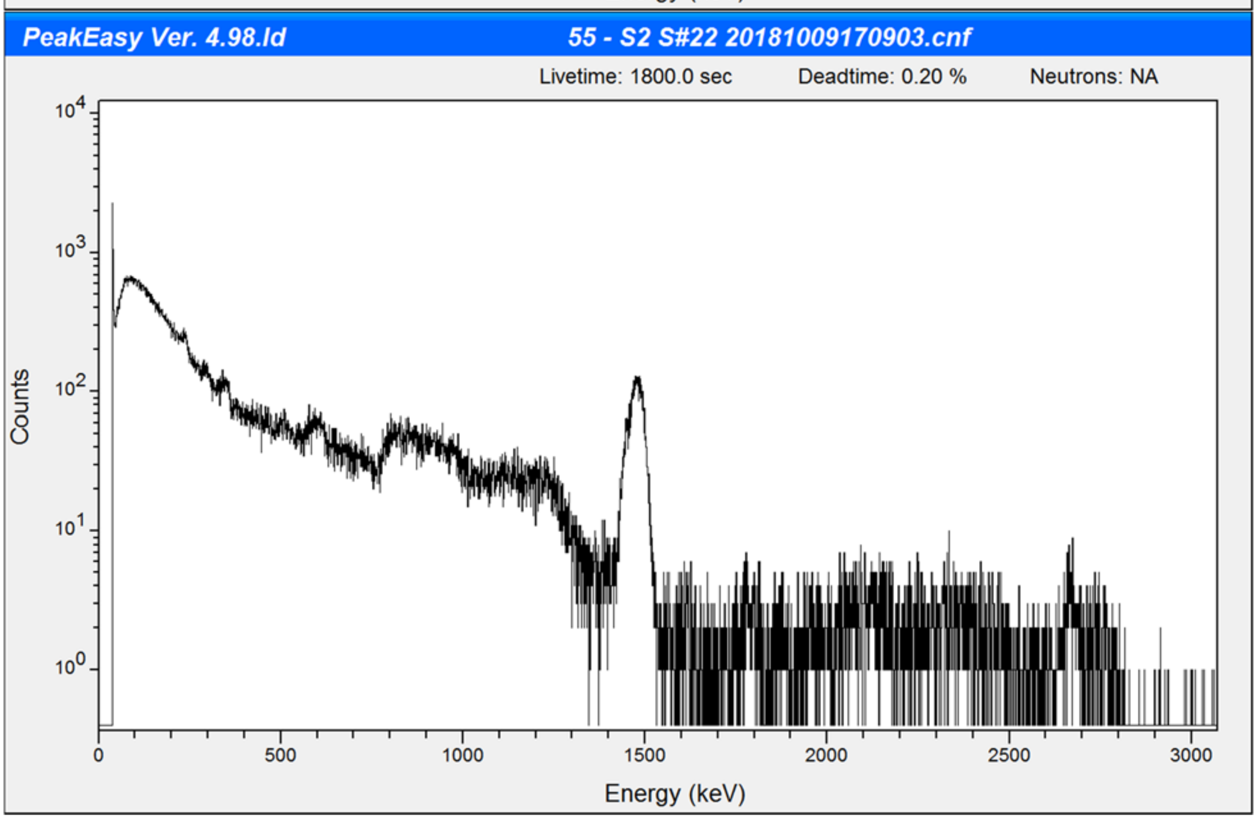

PeakEasy Ver. 4.98.ld
54 - IA-3 S#22 20181008171202.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

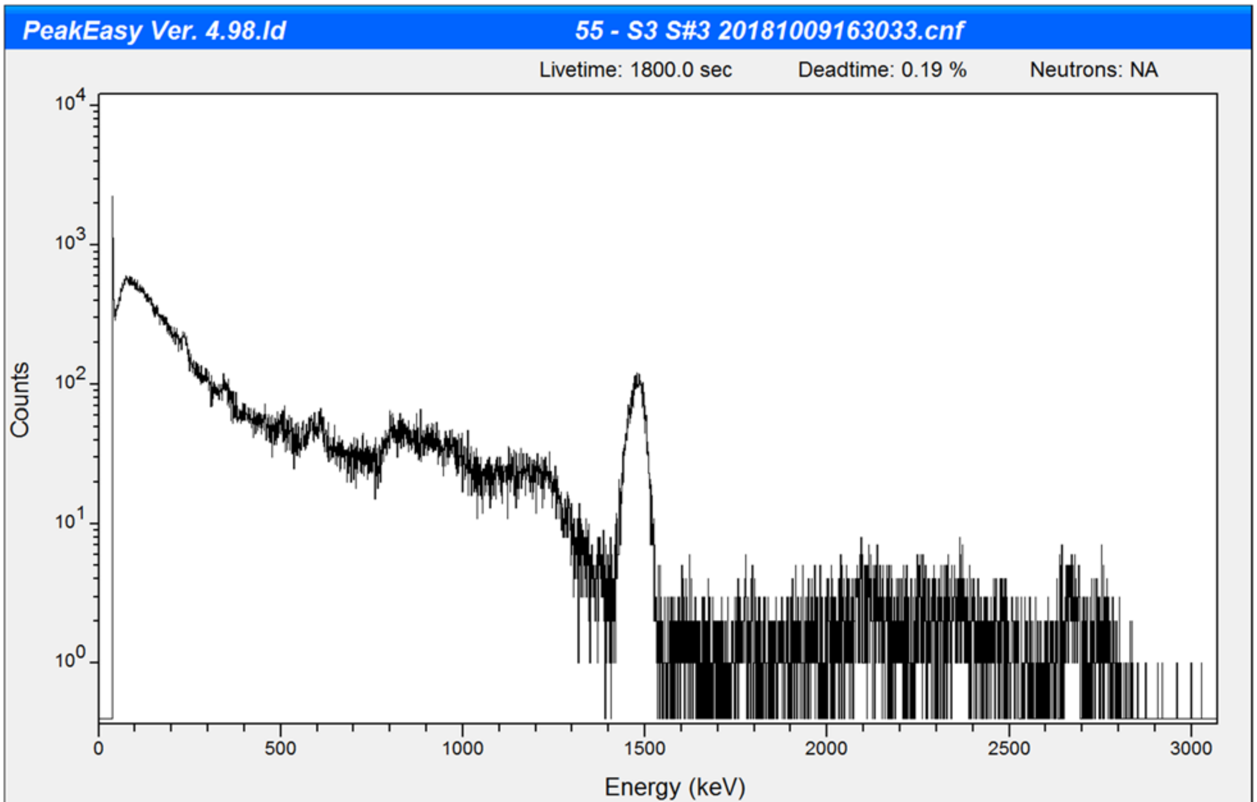

PeakEasy Ver. 4.98.ld
55 - N5 S#22 20181009141236.cnf
Livetime: 1795.8 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

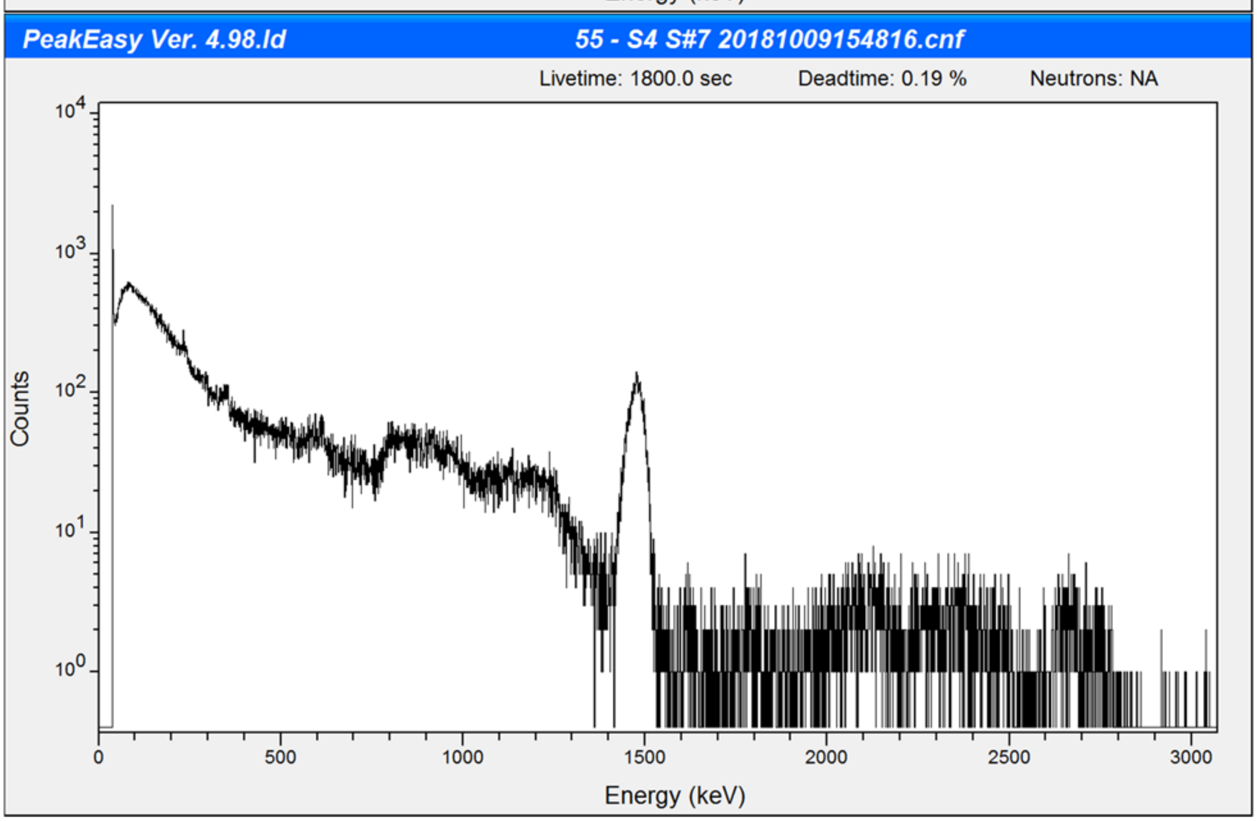

PeakEasy Ver. 4.98.ld
55 - N6 S#17 20181009150559.cnf
Livetime: 1795.7 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
Energy (keV)
0
500
1000
1500
2000
2500
3000

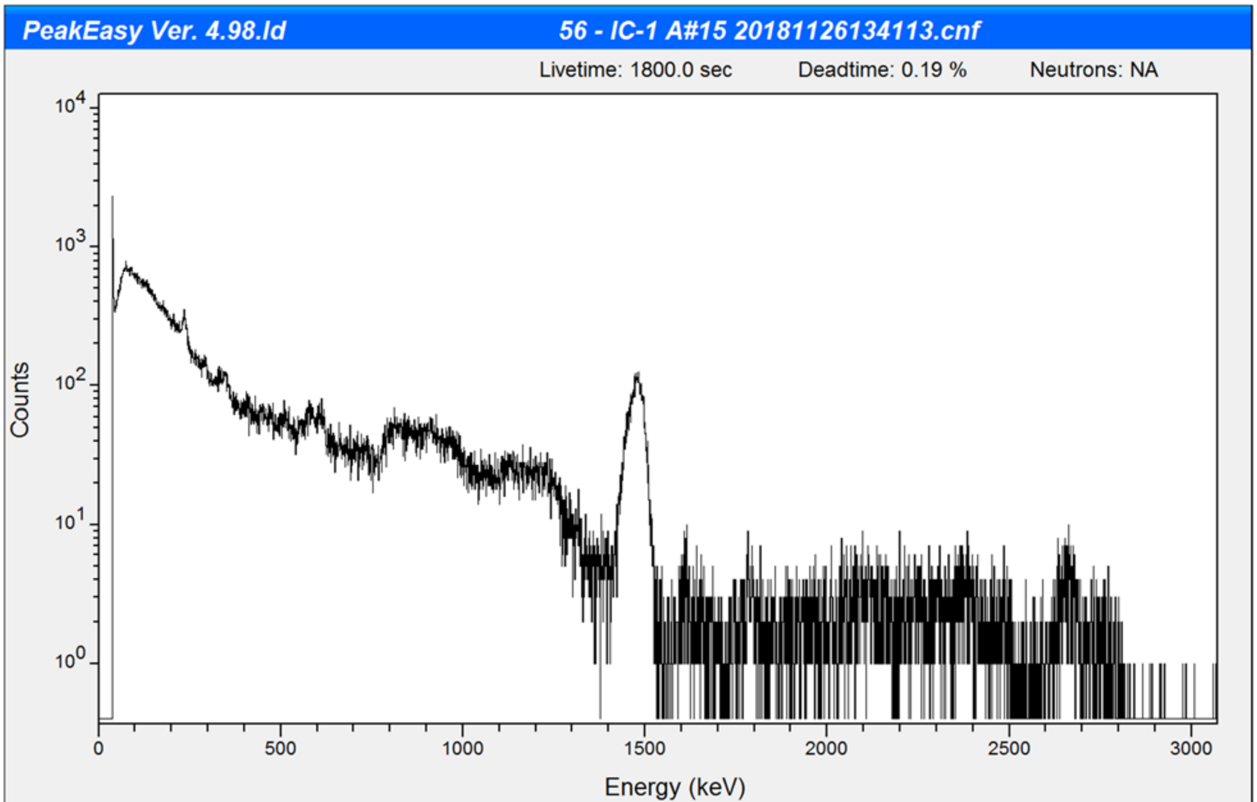

PeakEasy Ver. 4.98.ld
55 - N7 S#33 20181009120246.cnf
Livetime: 1795.5 sec
Deadtime: 0.25 %
Neutrons: NA
Counts
Energy (keV)
0
500
1000
1500
2000
2500
3000

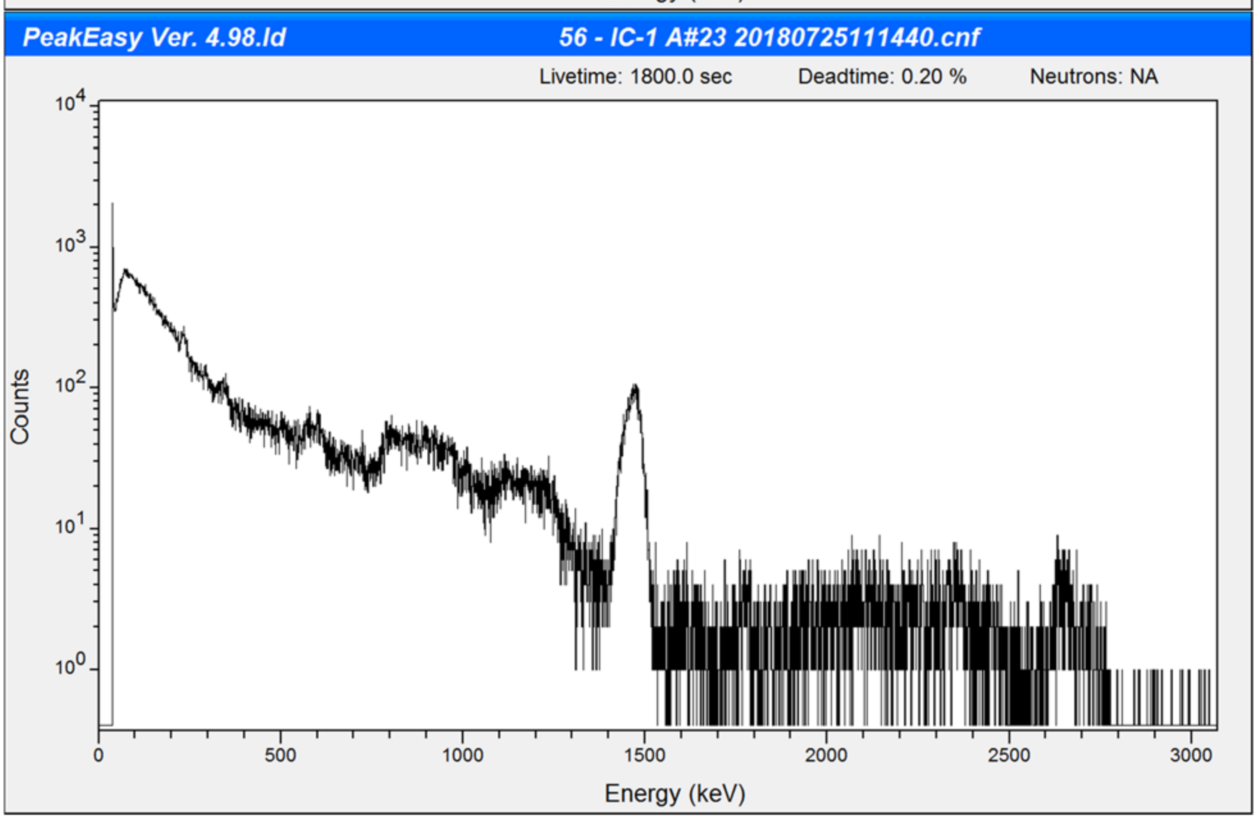

PeakEasy Ver. 4.98.ld
55 - S1 S#37 20181008151330.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

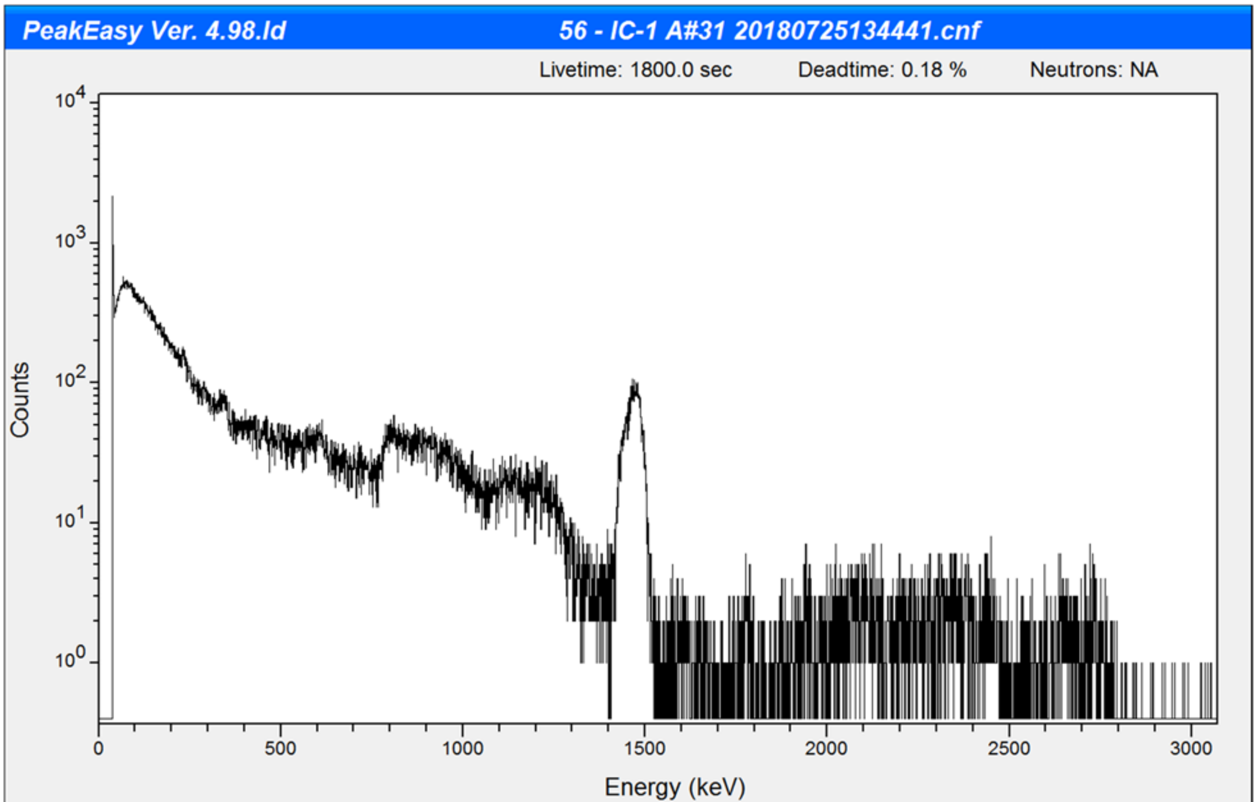

PeakEasy Ver. 4.98.ld
55 - S2 S#22 20181009170903.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

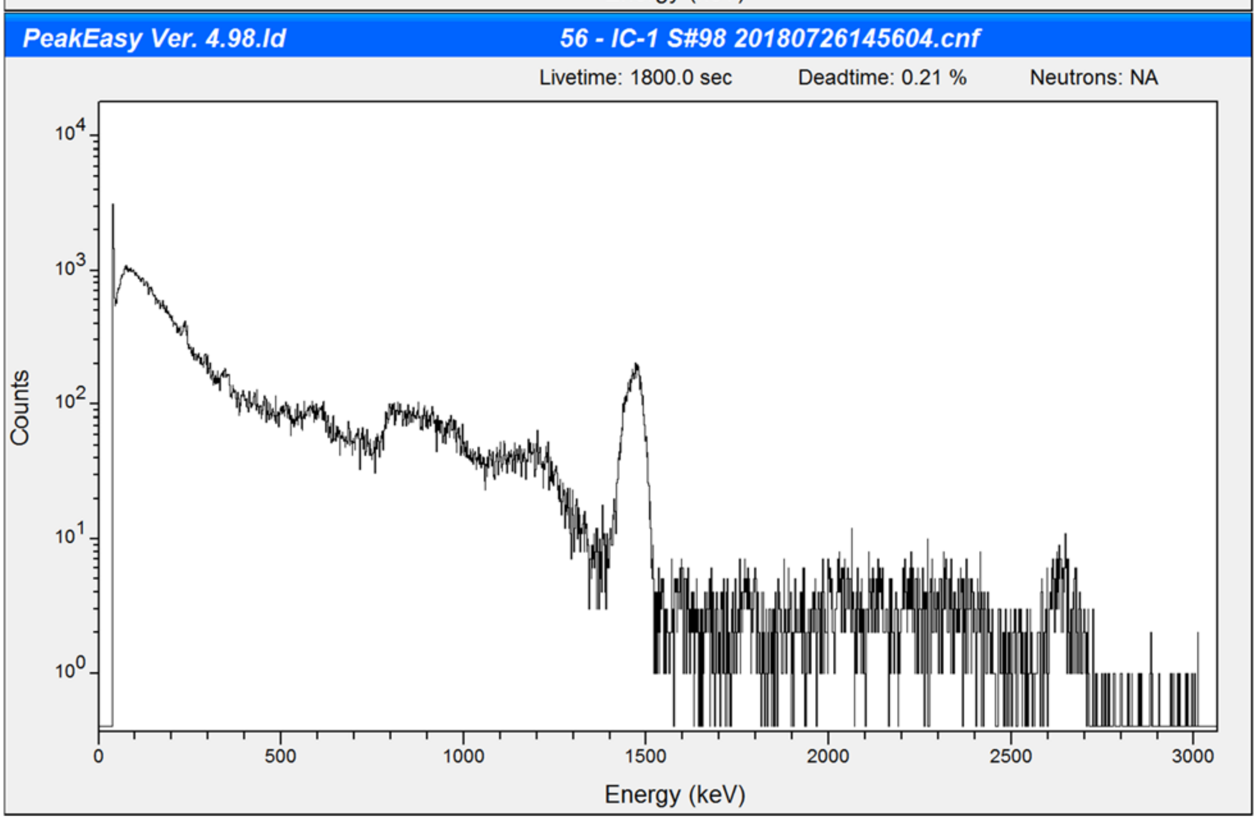

PeakEasy Ver. 4.98.ld
55 - S3 S#3 20181009163033.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

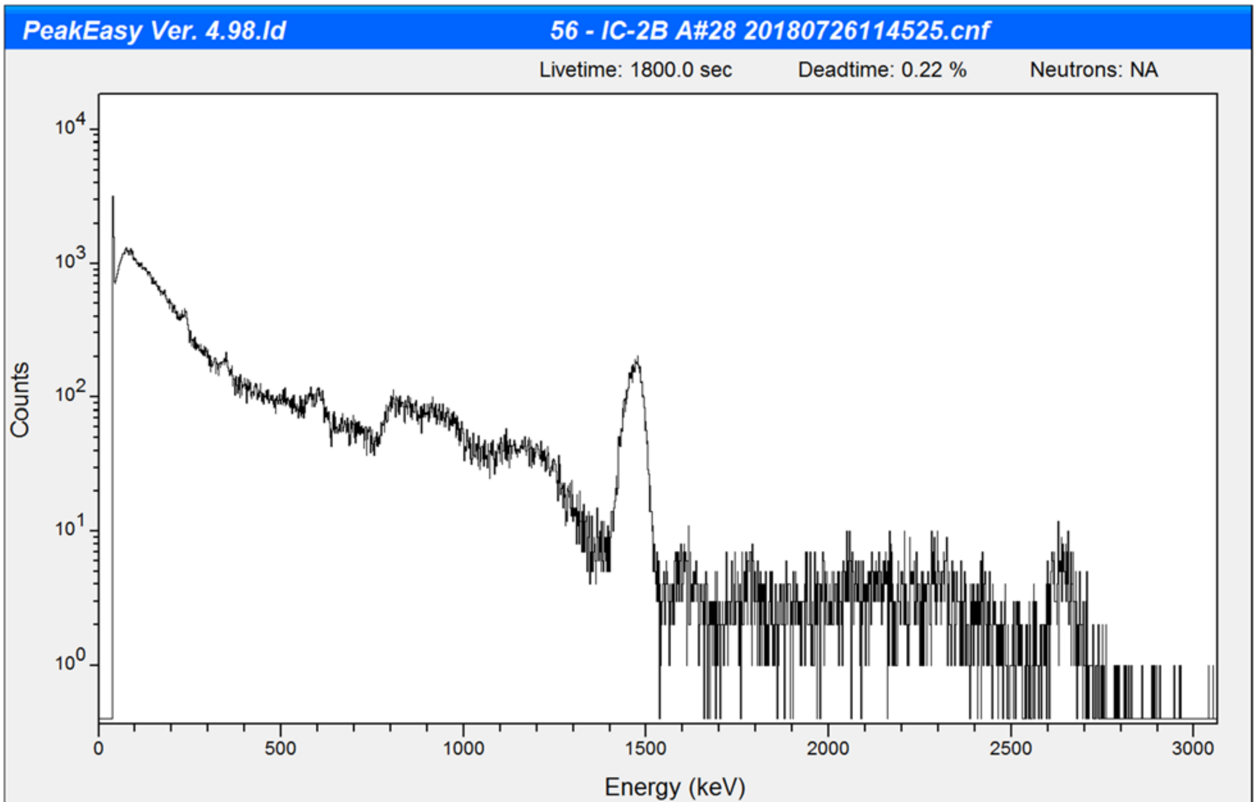

PeakEasy Ver. 4.98.ld
55 - S4 S#7 20181009154816.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

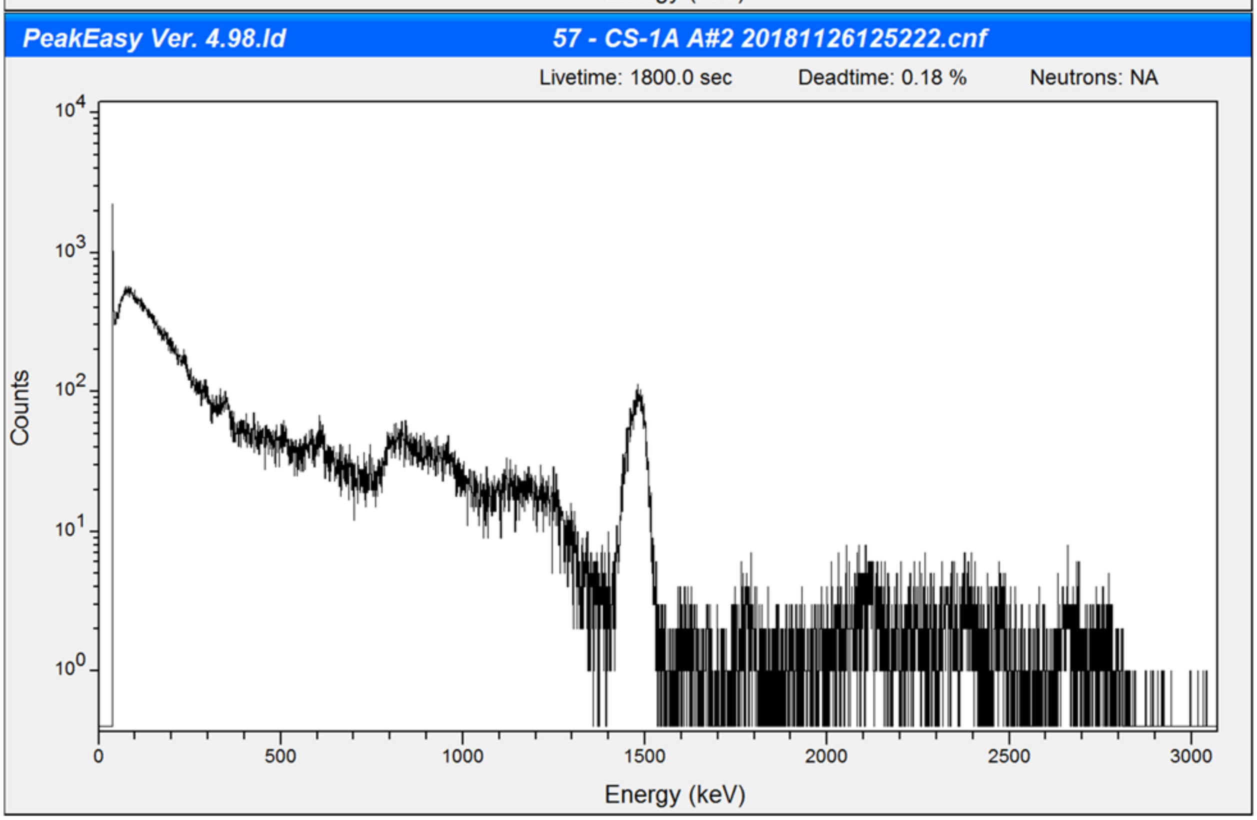

PeakEasy Ver. 4.98.ld
56 - IC-1 A#15 20181126134113.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

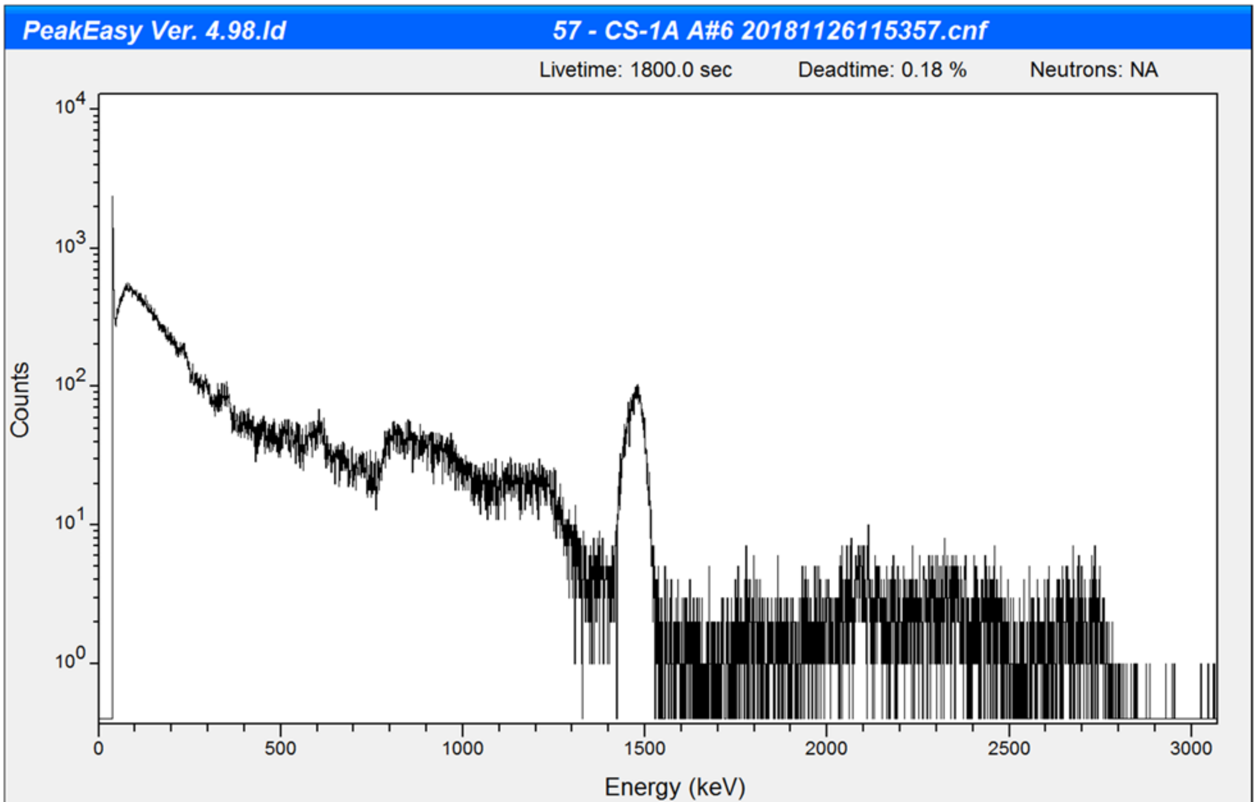

PeakEasy Ver. 4.98.ld
56 - IC-1 A#23 20180725111440.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

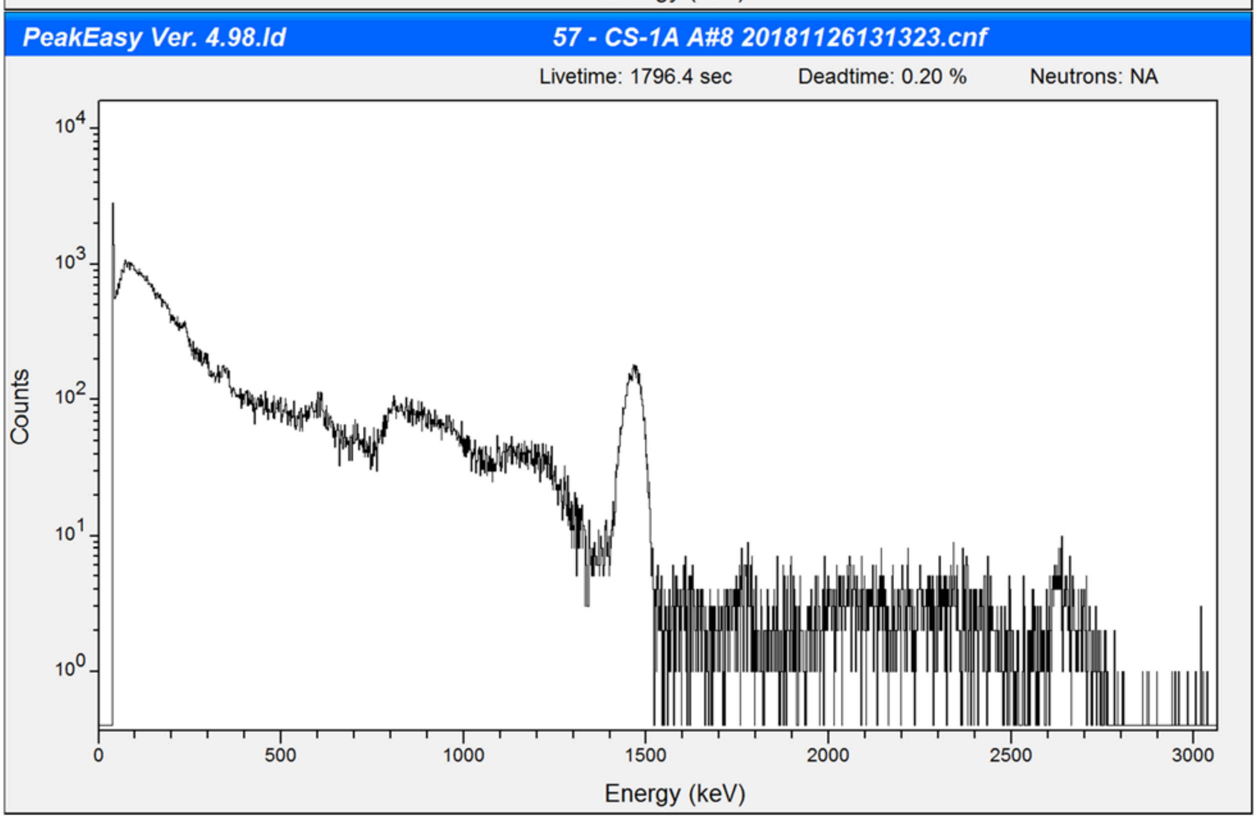

PeakEasy Ver. 4.98.ld
56 - IC-1 A#31 20180725134441.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

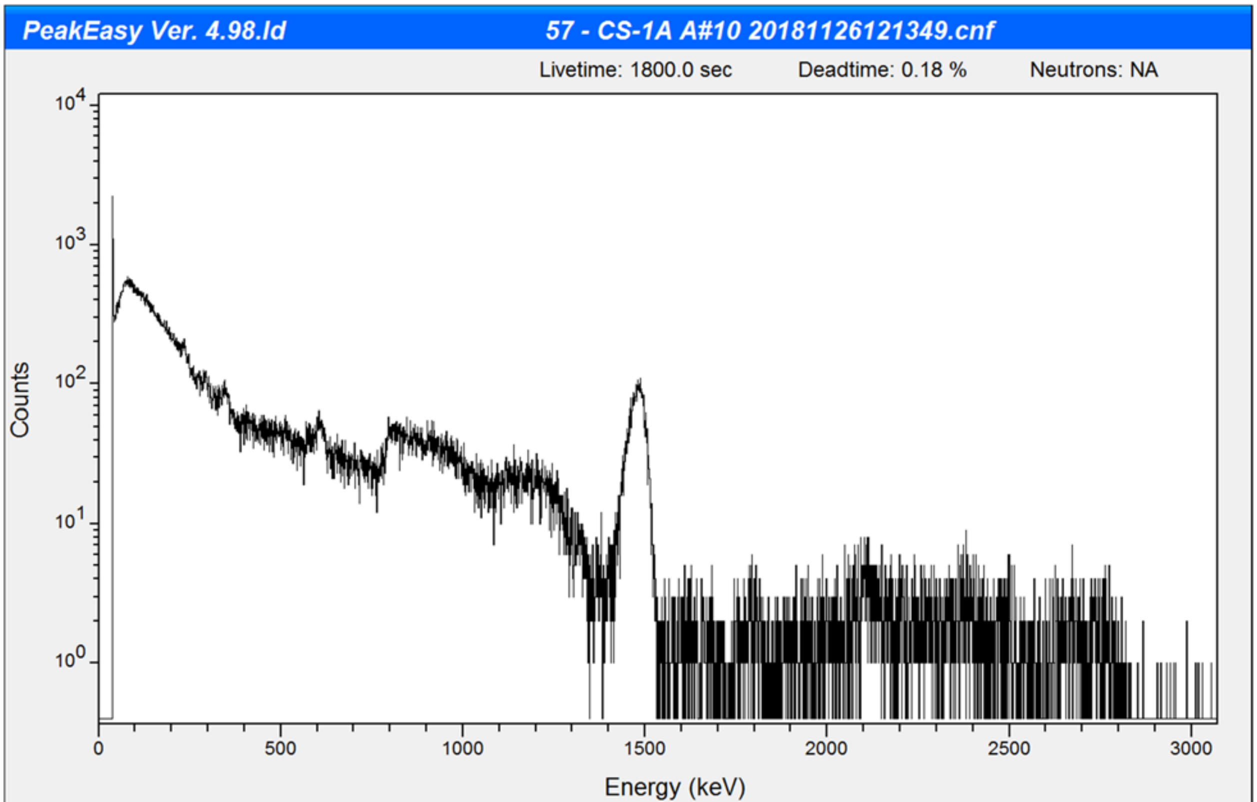

PeakEasy Ver. 4.98.ld
56 - IC-1 S#98 20180726145604.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

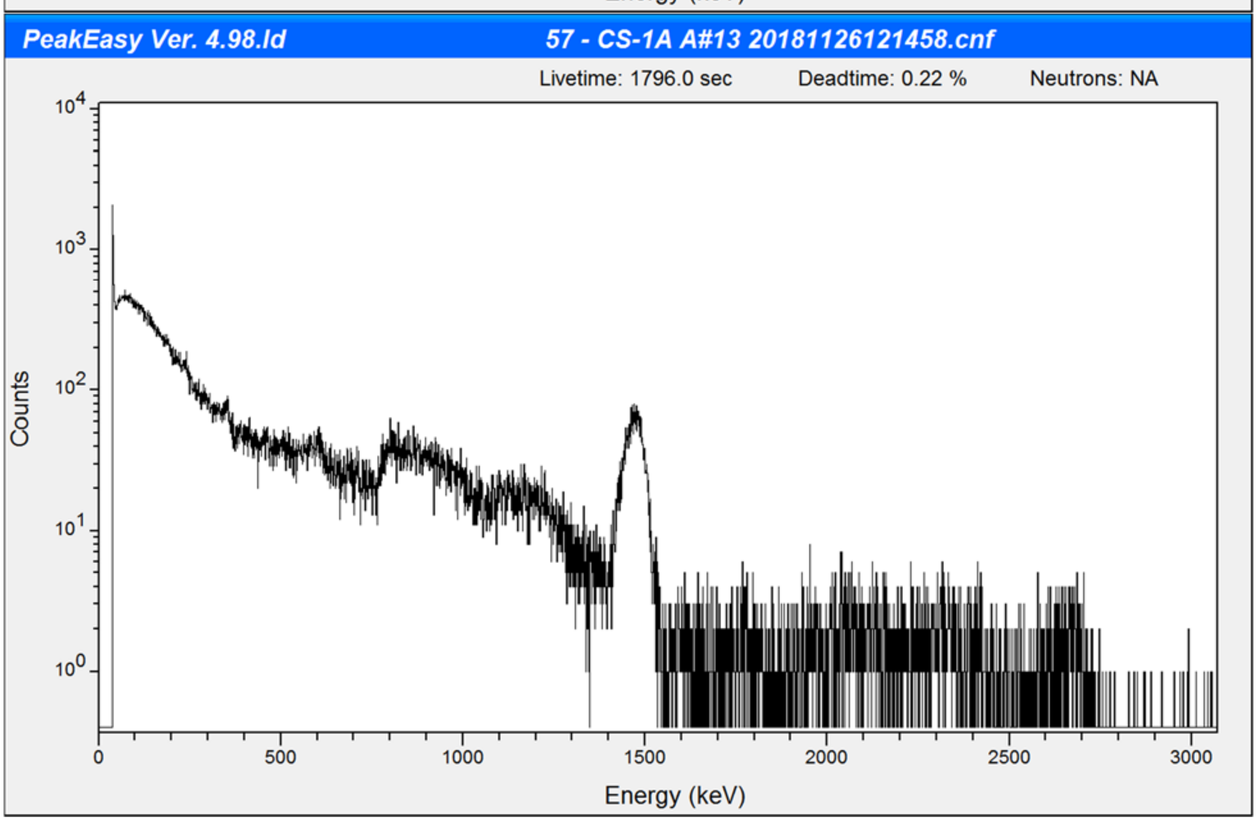

PeakEasy Ver. 4.98.ld
56 - IC-2B A#28 20180726114525.cnf
Livetime: 1800.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

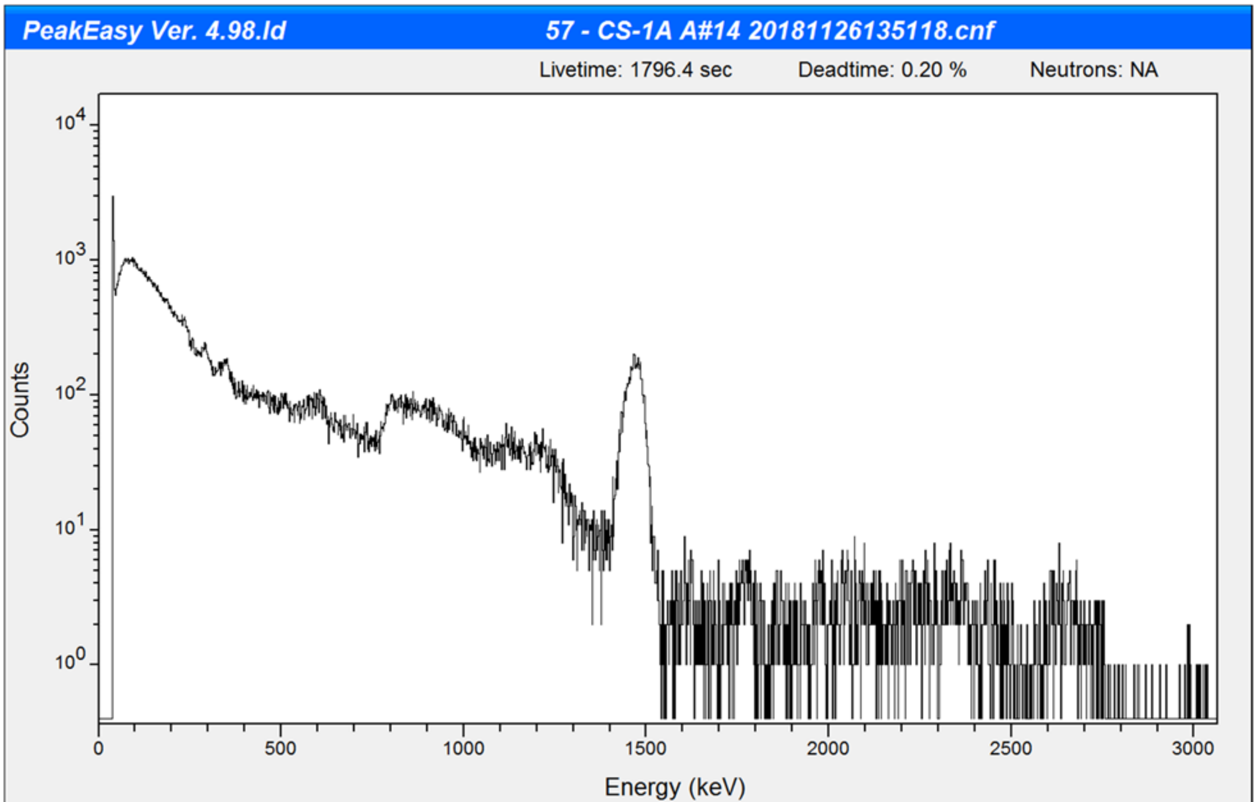

PeakEasy Ver. 4.98.ld
57 - CS-1A A#2 20181126125222.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

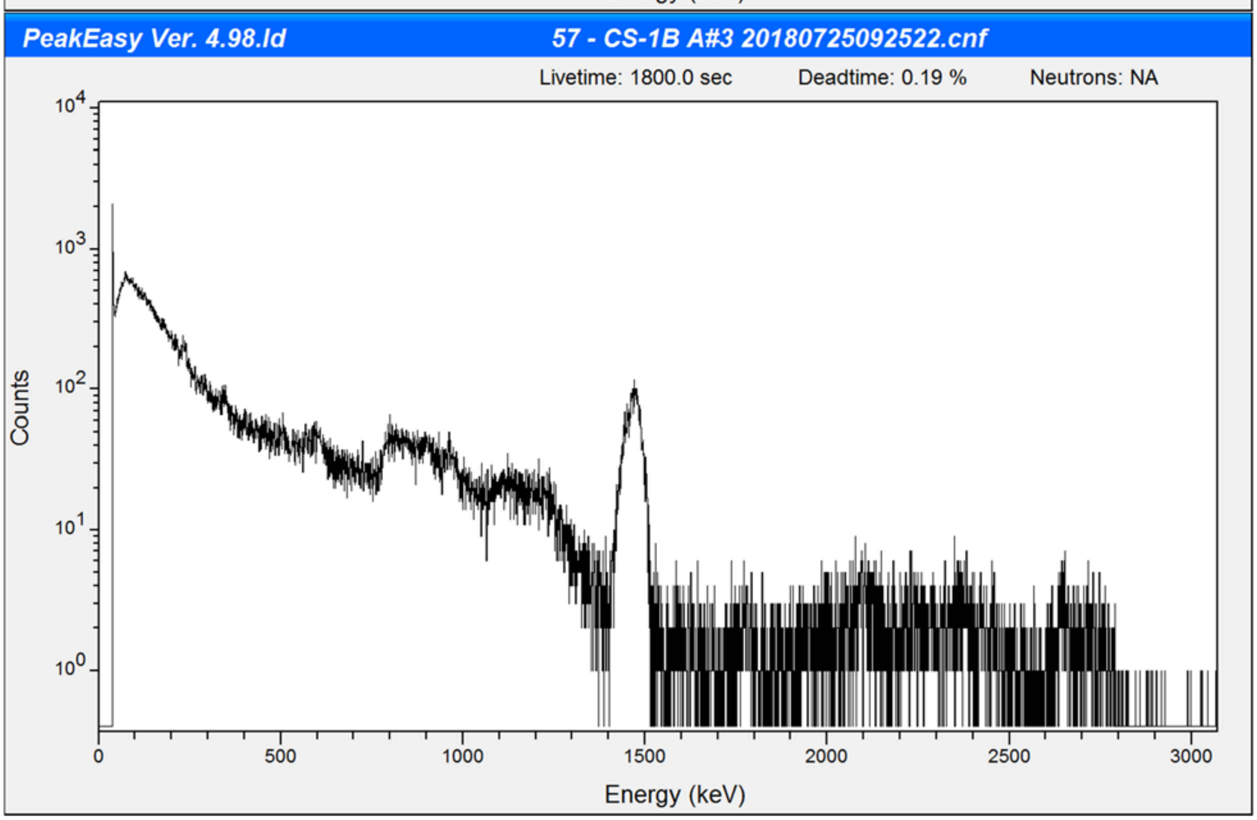

PeakEasy Ver. 4.98.ld
57 - CS-1A A#6 20181126115357.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

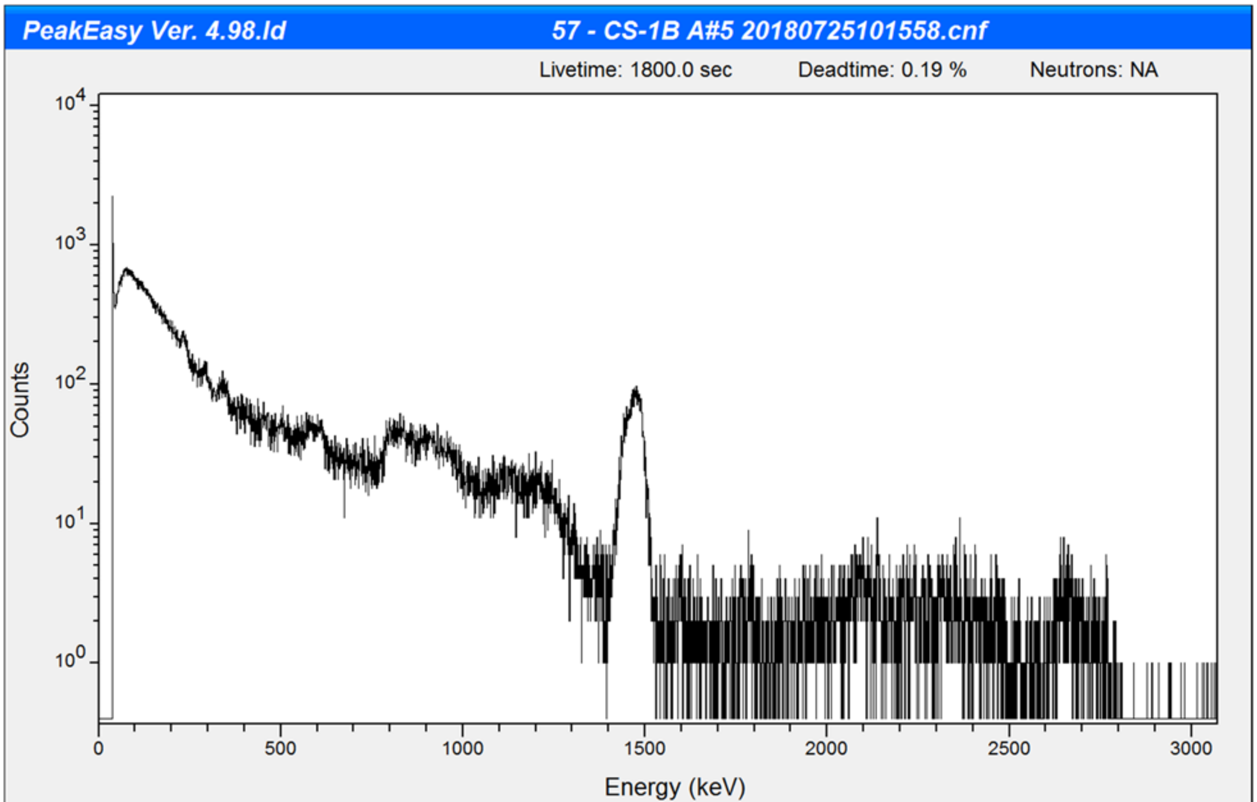

PeakEasy Ver. 4.98.ld
57 - CS-1A A#8 20181126131323.cnf
Livetime: 1796.4 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

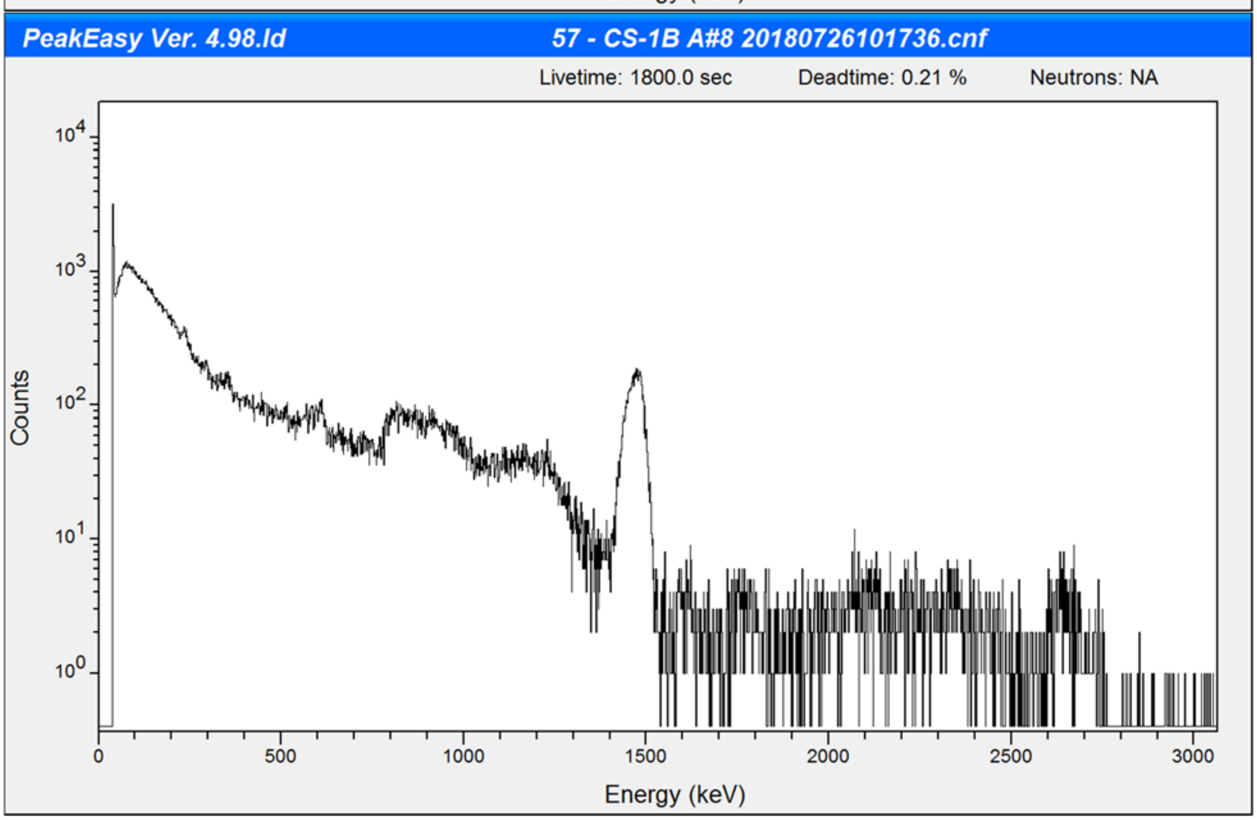

PeakEasy Ver. 4.98.ld
57 - CS-1A A#10 20181126121349.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

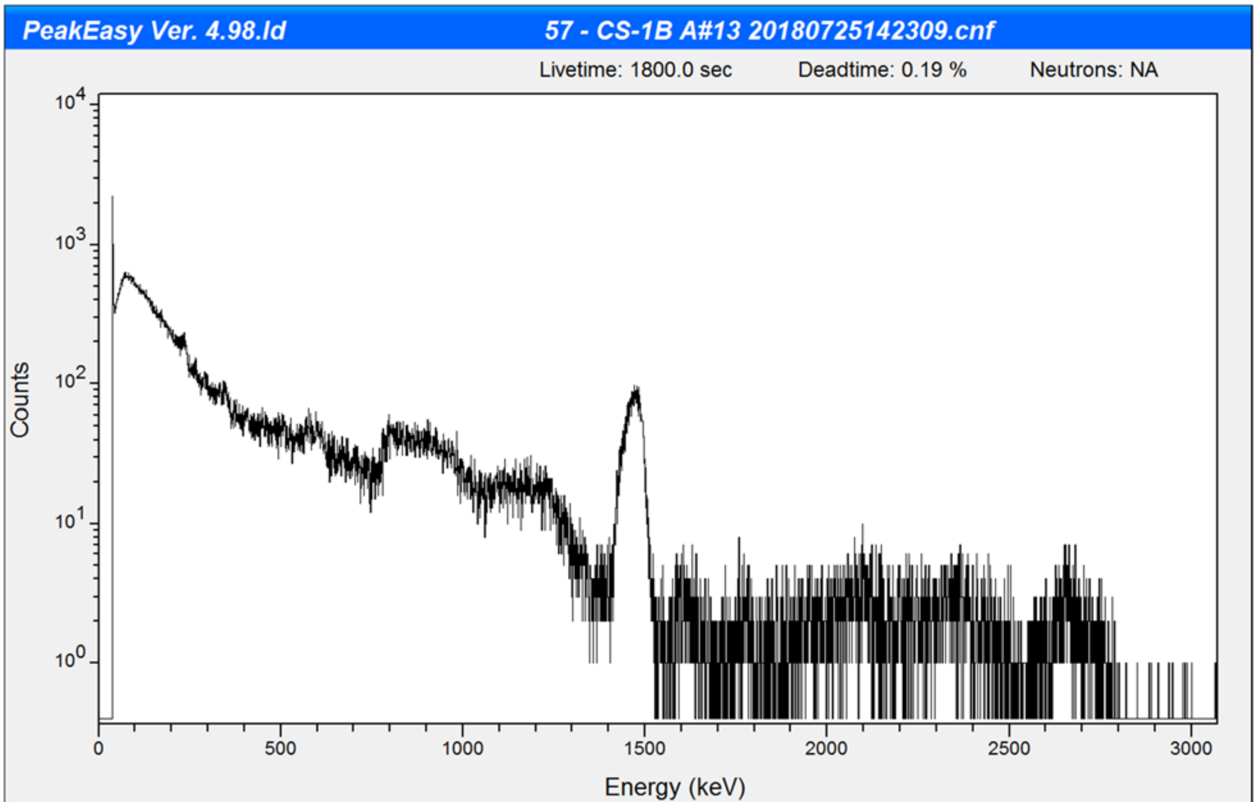

PeakEasy Ver. 4.98.ld
57 - CS-1A A#13 20181126121458.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

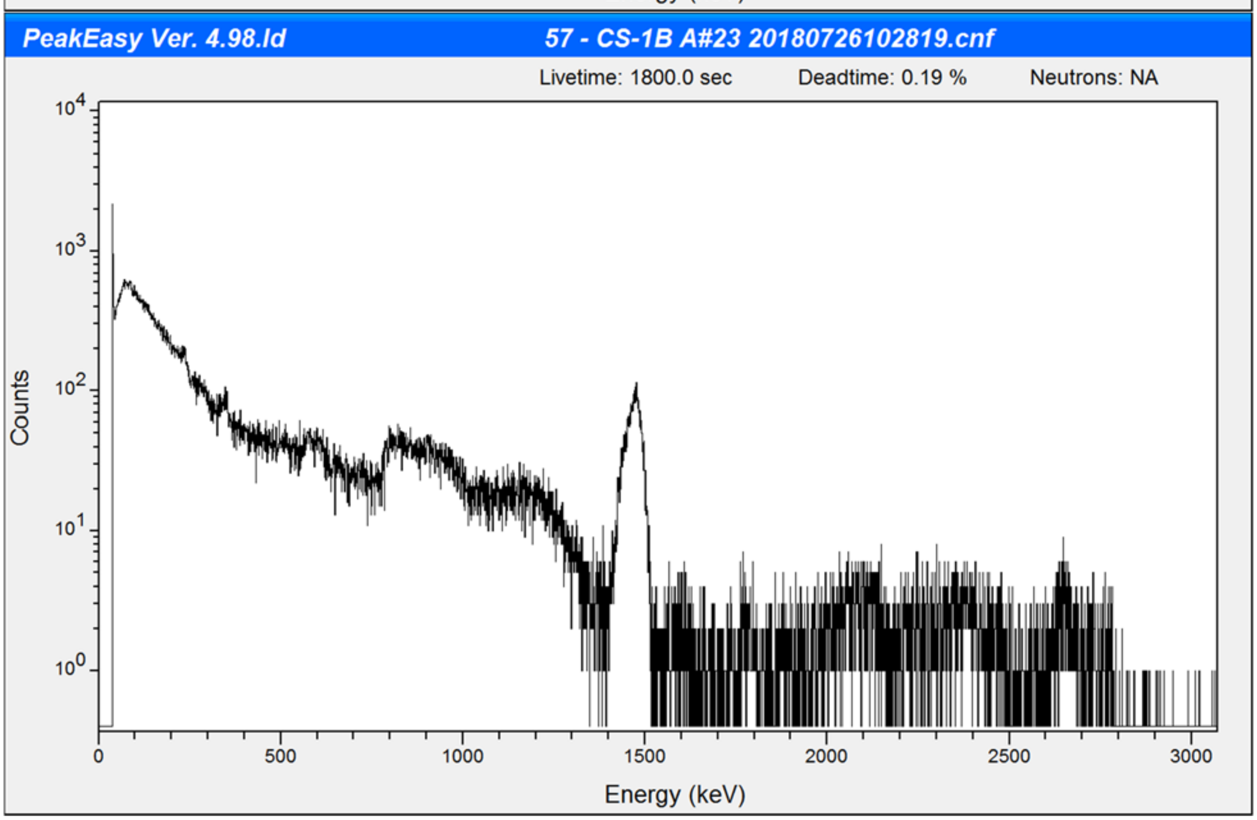

PeakEasy Ver. 4.98.ld
57 - CS-1A A#14 20181126135118.cnf
Livetime: 1796.4 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

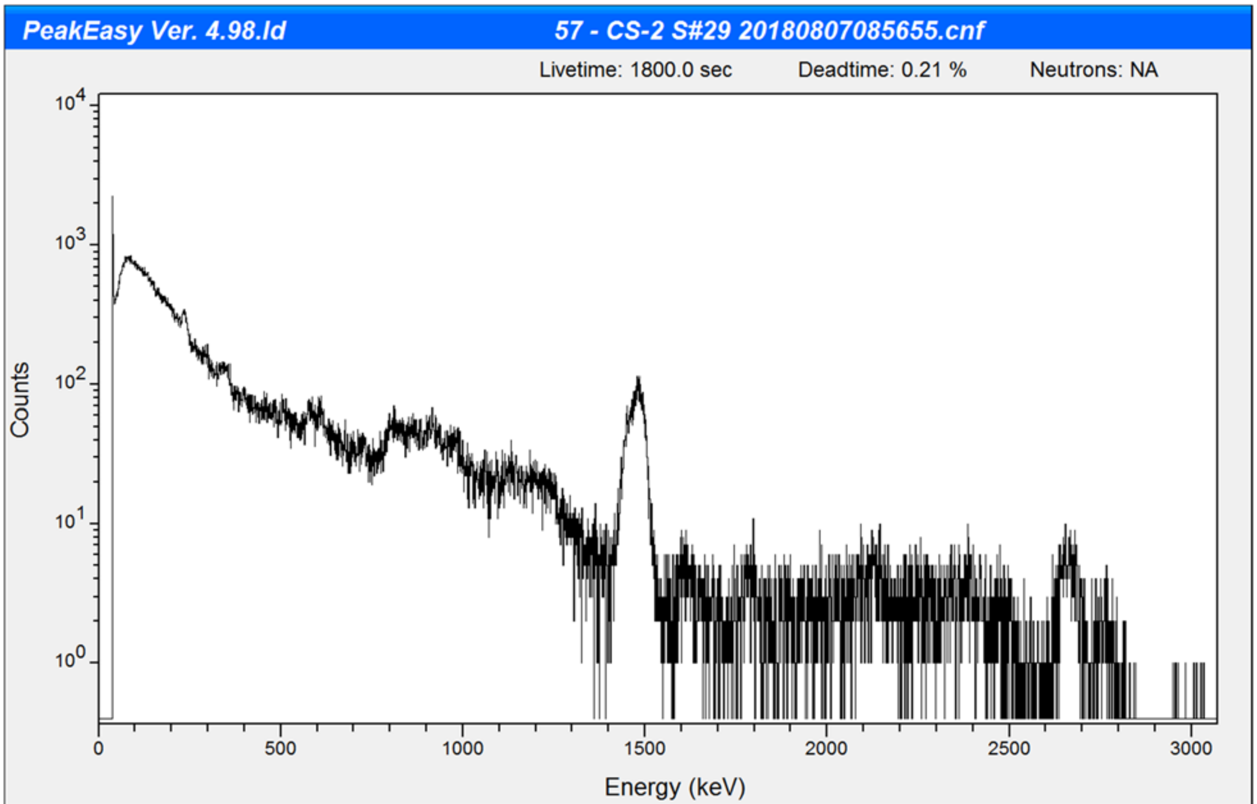

PeakEasy Ver. 4.98.ld
57 - CS-1B A#3 20180725092522.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

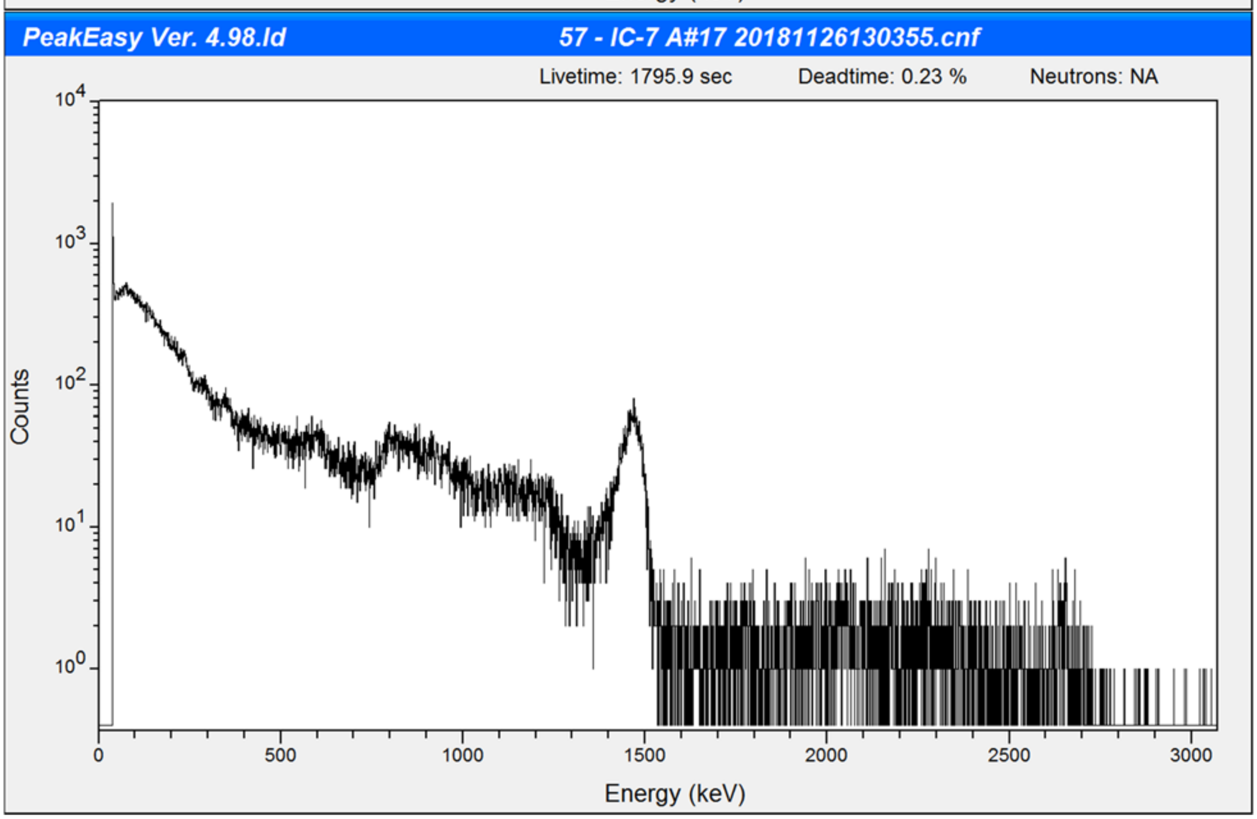

PeakEasy Ver. 4.98.ld
57 - CS-1B A#5 20180725101558.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

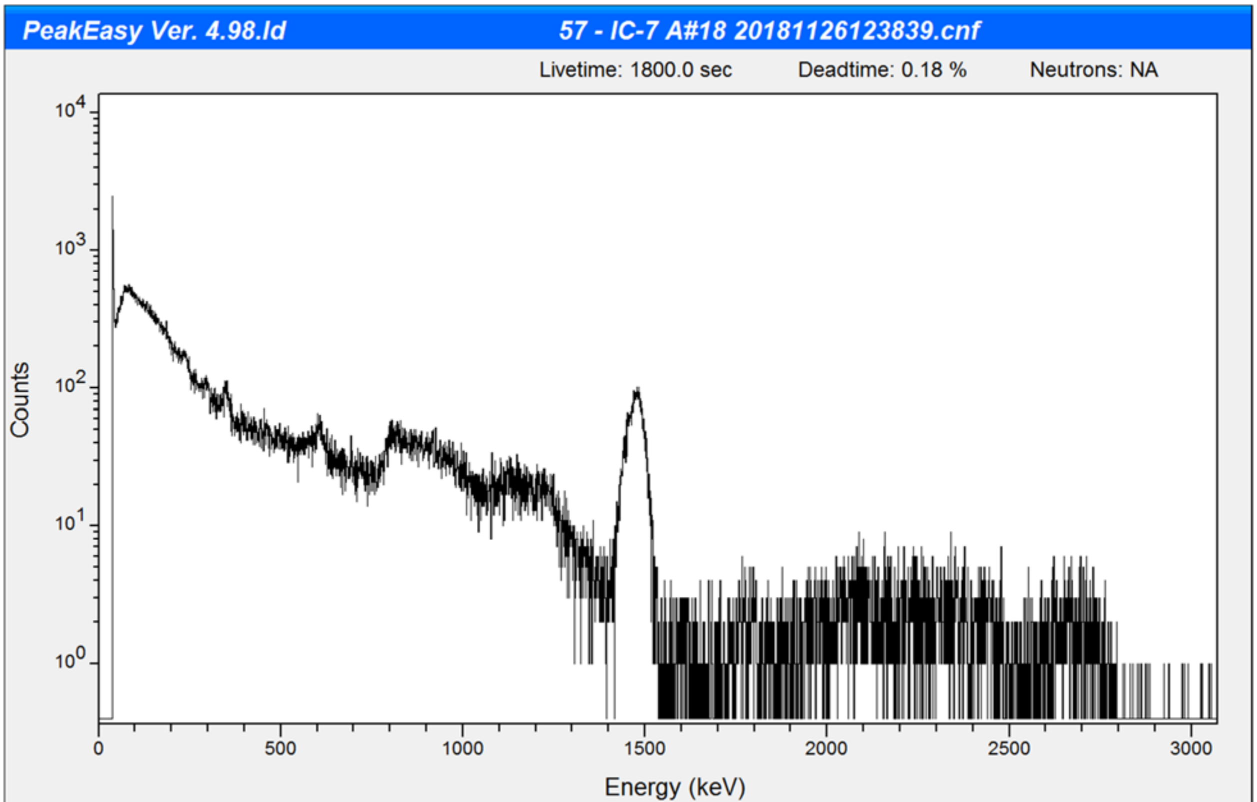

PeakEasy Ver. 4.98.ld
57 - CS-1B A#8 20180726101736.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

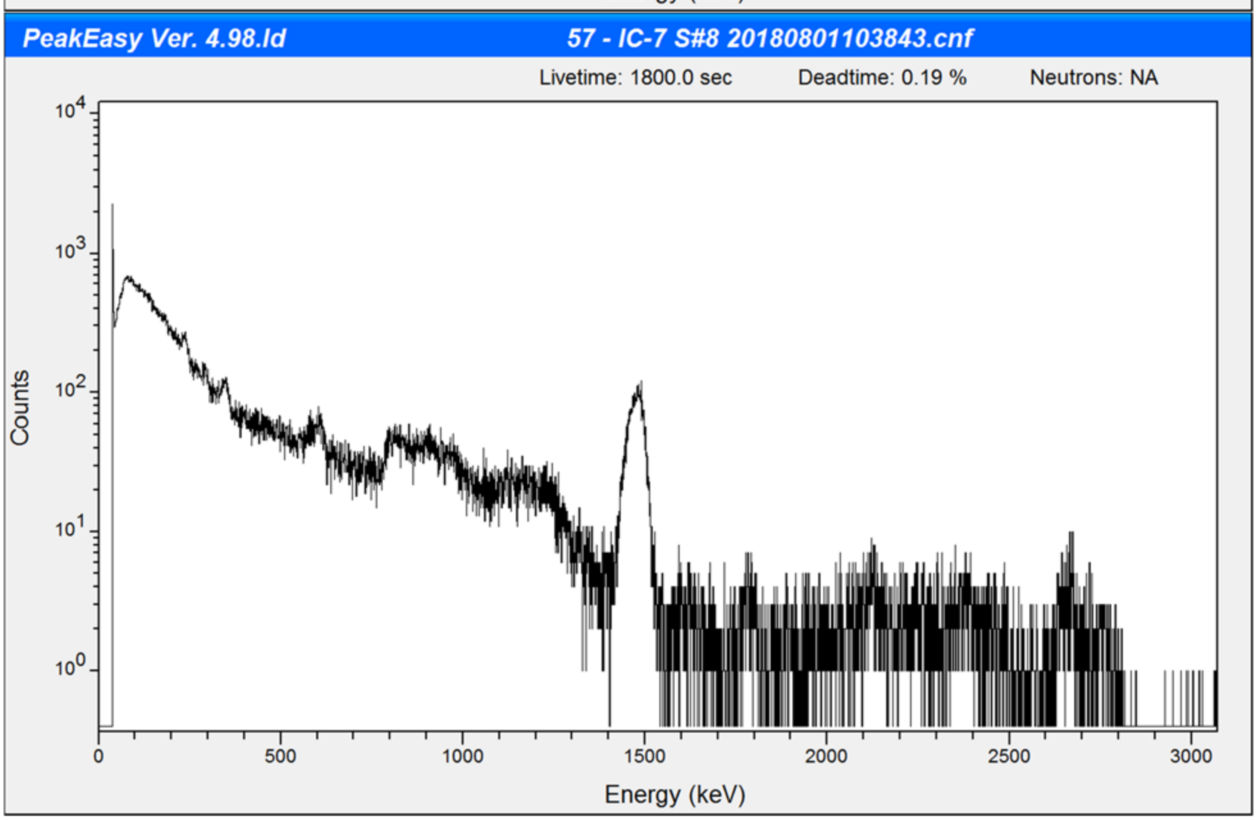

PeakEasy Ver. 4.98.ld
57 - CS-1B A#13 20180725142309.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

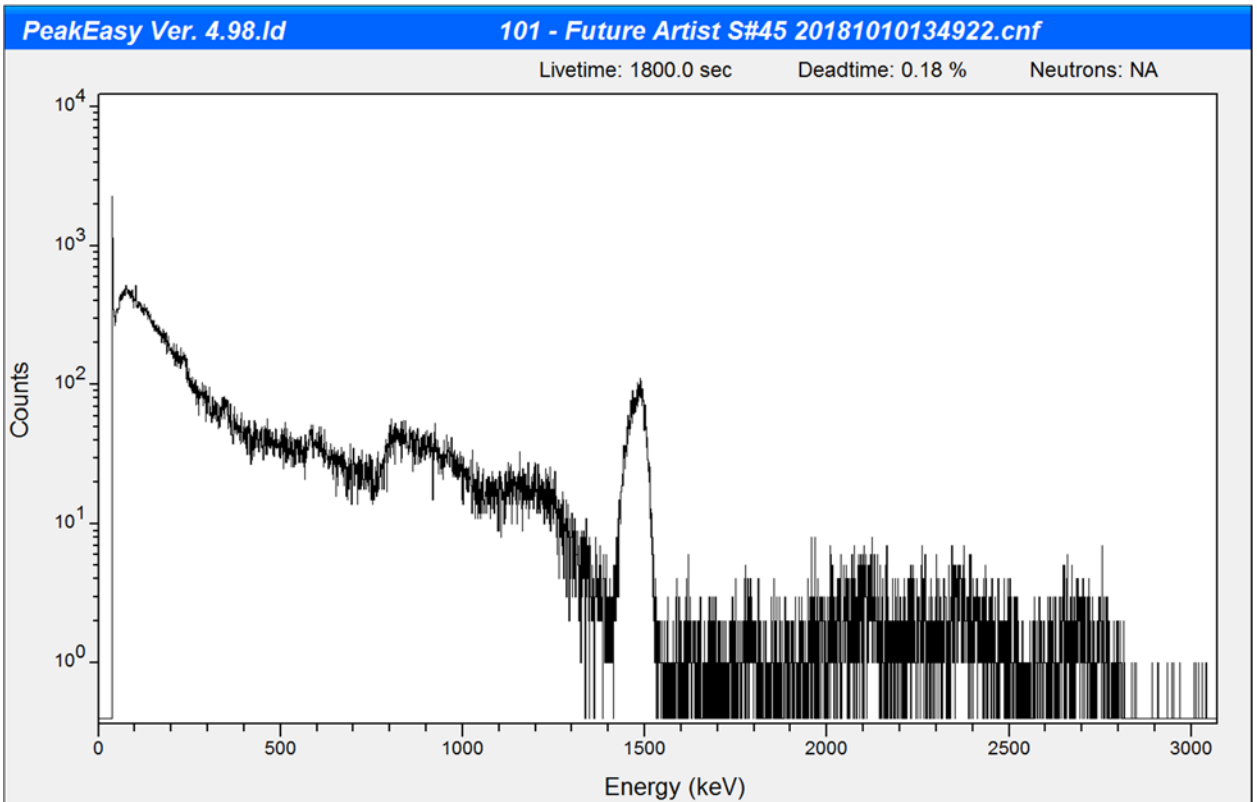

PeakEasy Ver. 4.98.ld
57 - CS-1B A#23 20180726102819.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

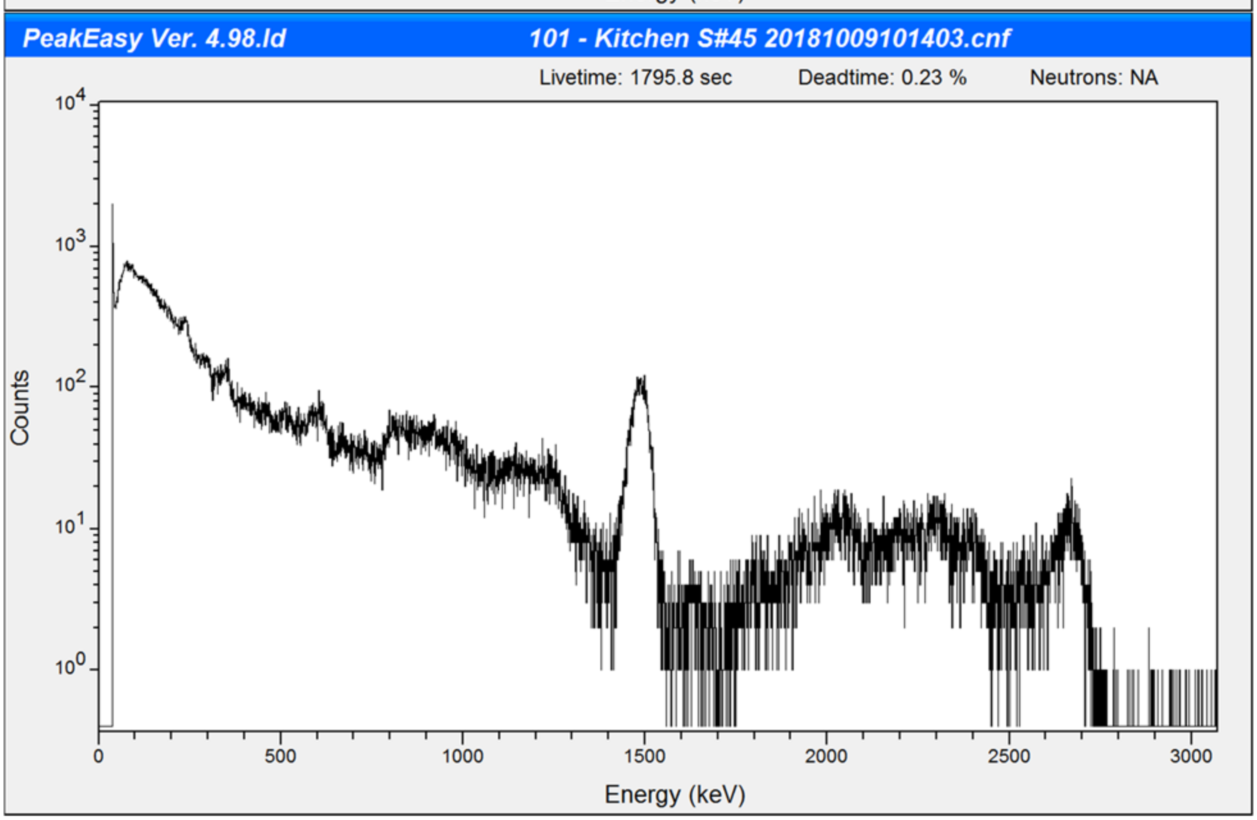

PeakEasy Ver. 4.98.ld
57 - CS-2 S#29 20180807085655.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

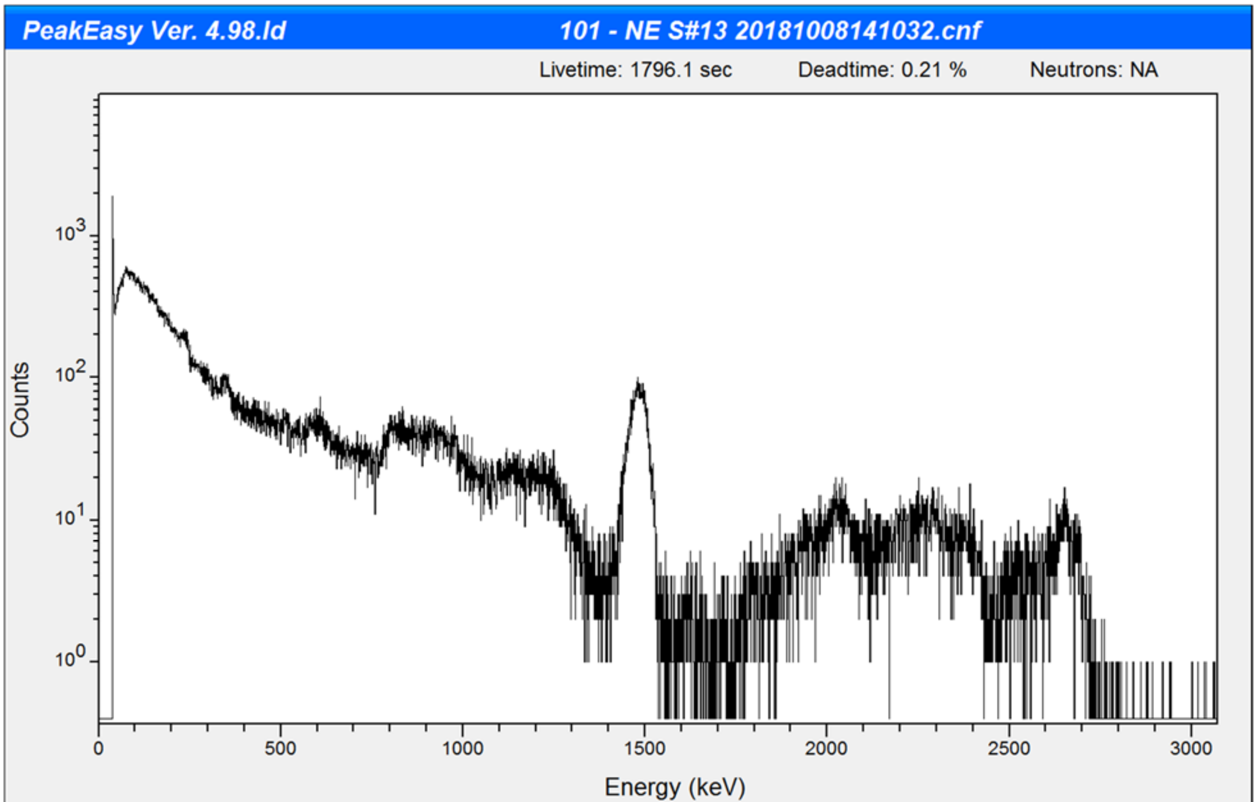

PeakEasy Ver. 4.98.ld
57 - IC-7 A#17 20181126130355.cnf
Livetime: 1795.9 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

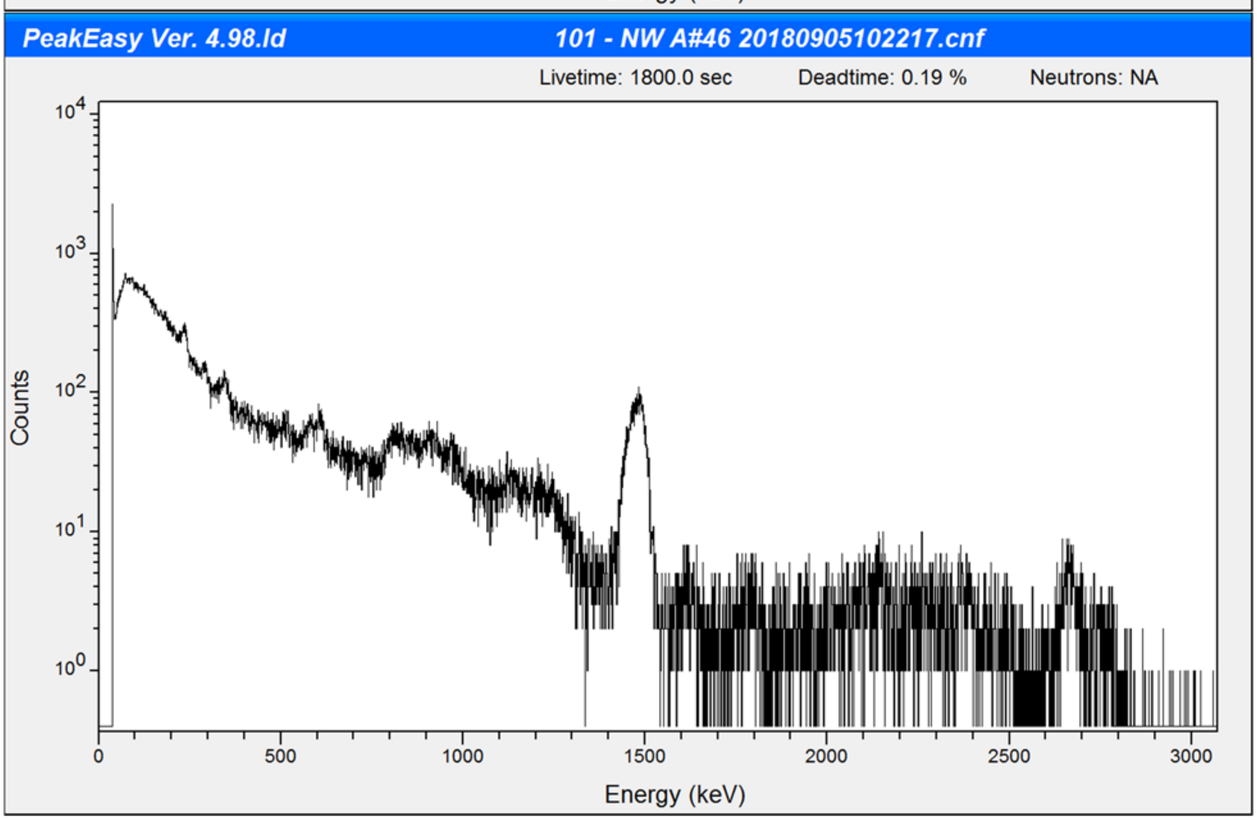

PeakEasy Ver. 4.98.ld
57 - IC-7 A#18 20181126123839.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

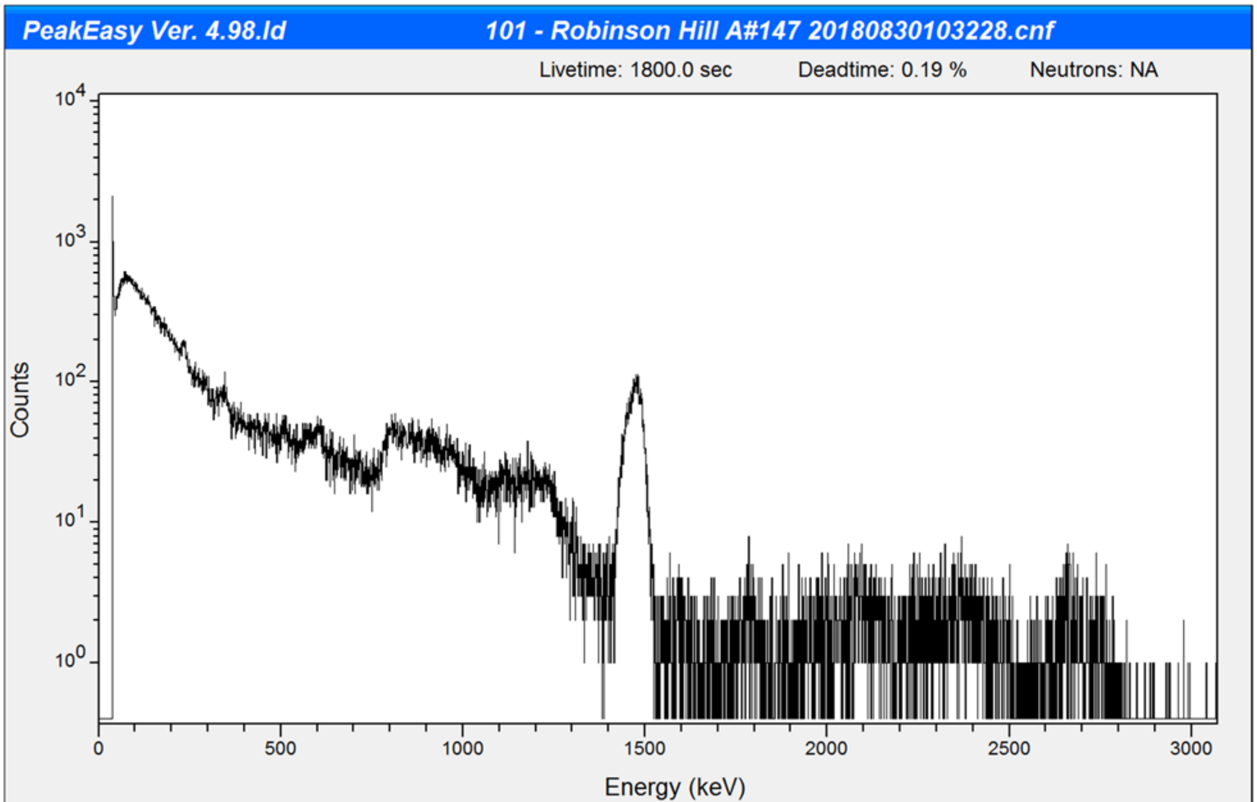

PeakEasy Ver. 4.98.ld
57 - IC-7 S#8 20180801103843.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

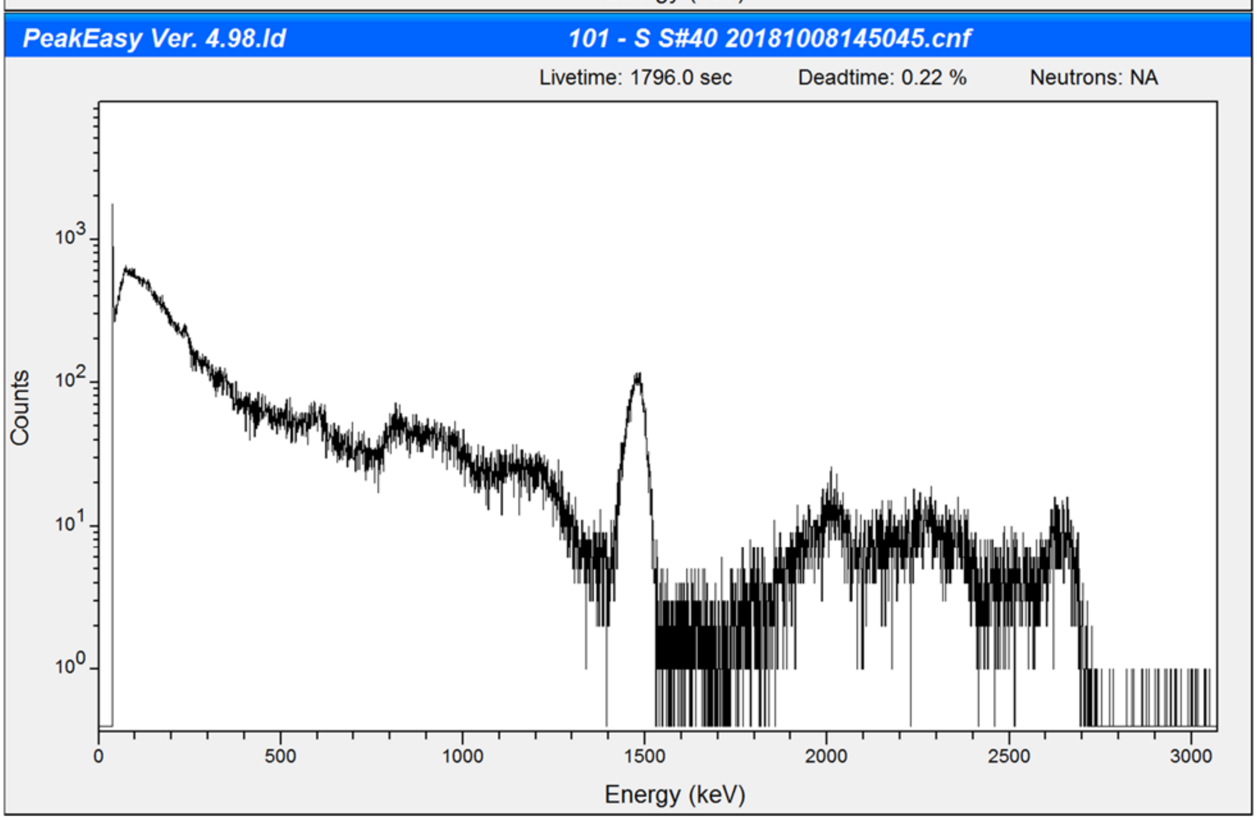

PeakEasy Ver. 4.98.ld
101 - Future Artist S#45 20181010134922.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

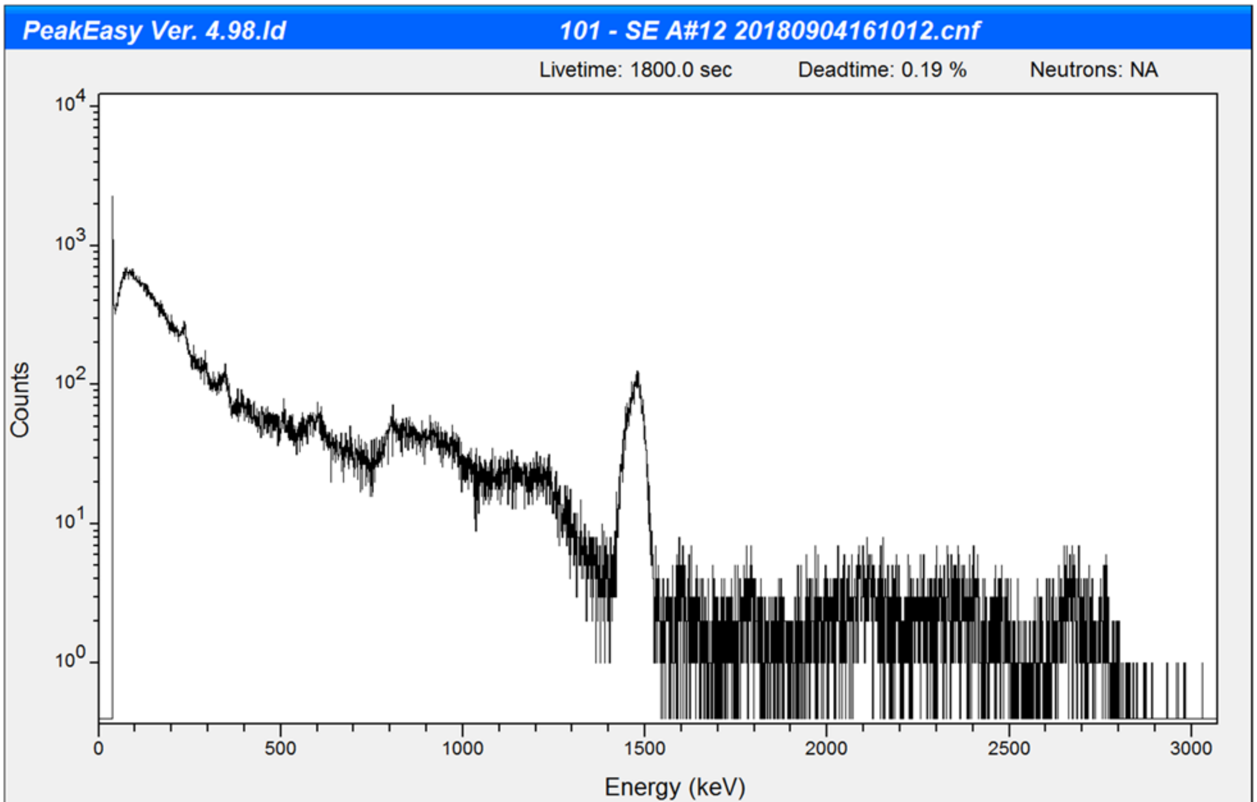

PeakEasy Ver. 4.98.ld
101 - Kitchen S#45 20181009101403.cnf
Livetime: 1795.8 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

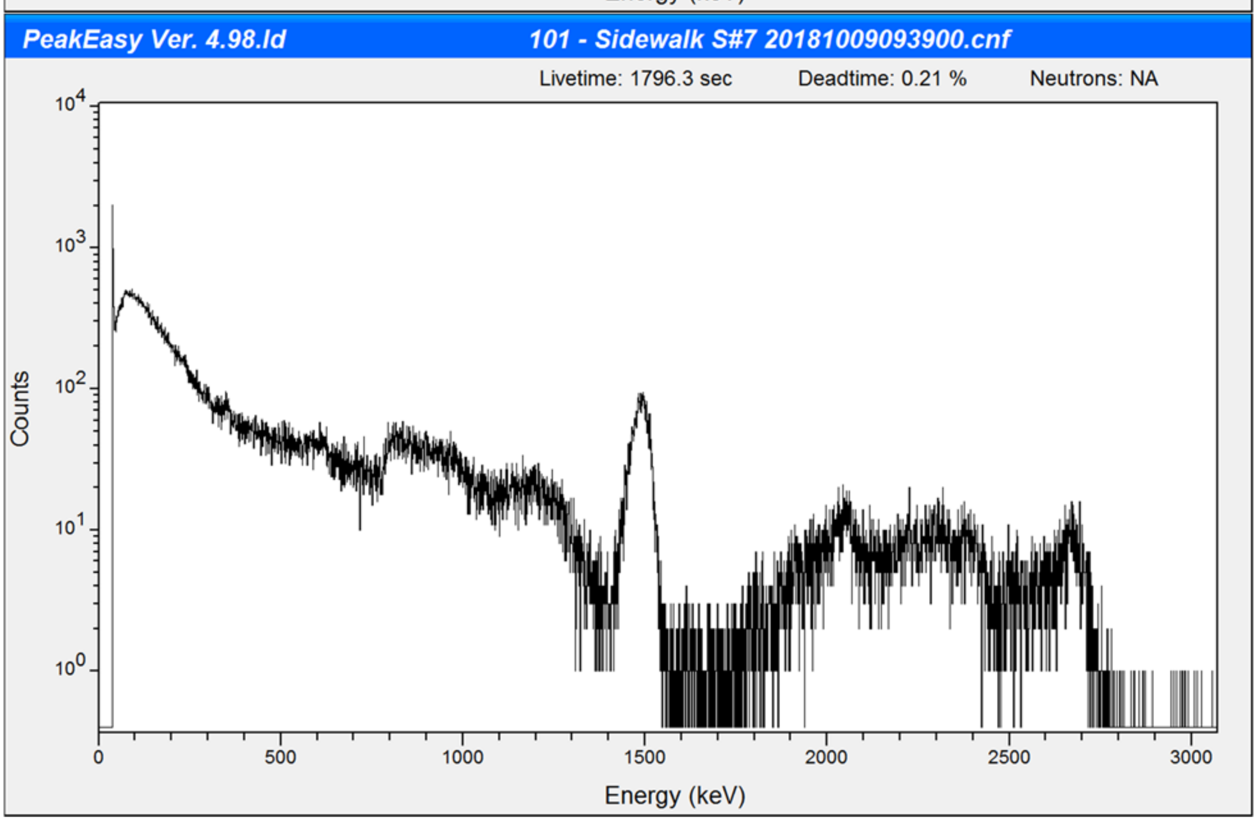

PeakEasy Ver. 4.98.ld
101 - NE S#13 20181008141032.cnf
Livetime: 1796.1 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

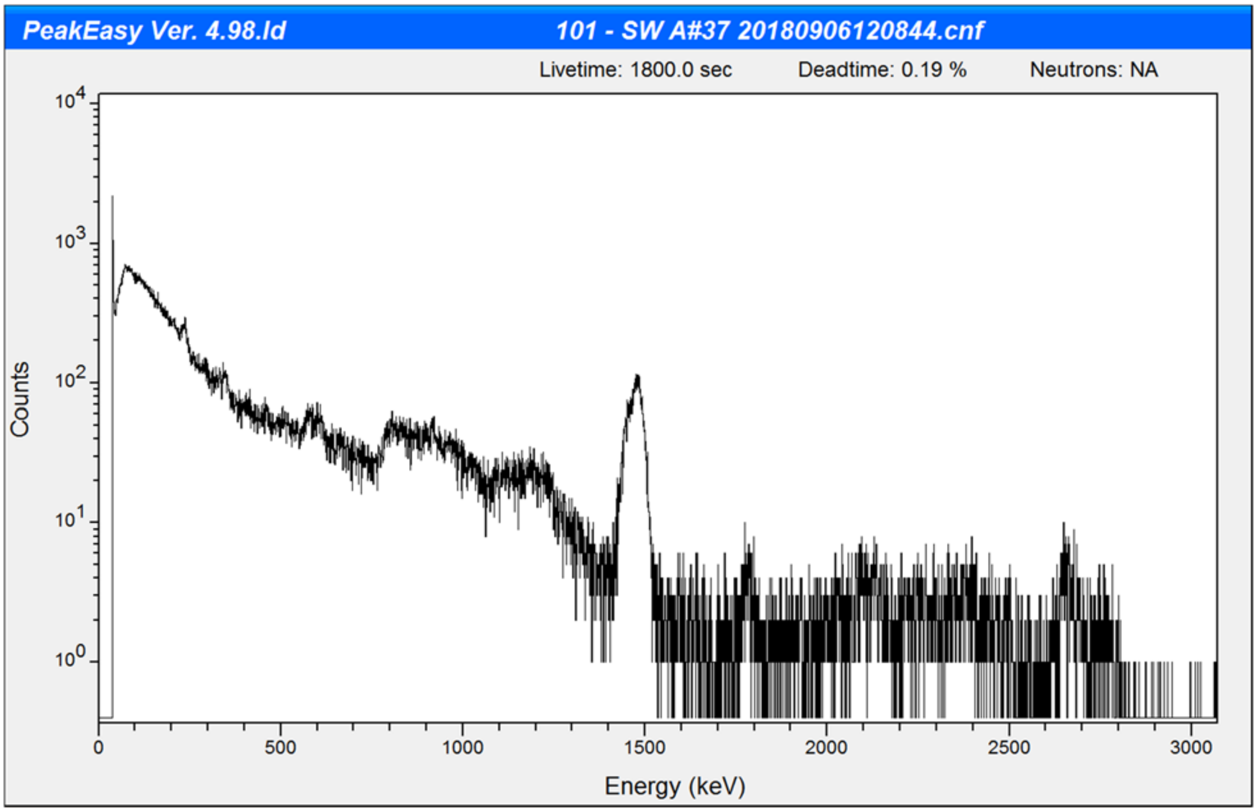

PeakEasy Ver. 4.98.ld
101 - NW A#46 20180905102217.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

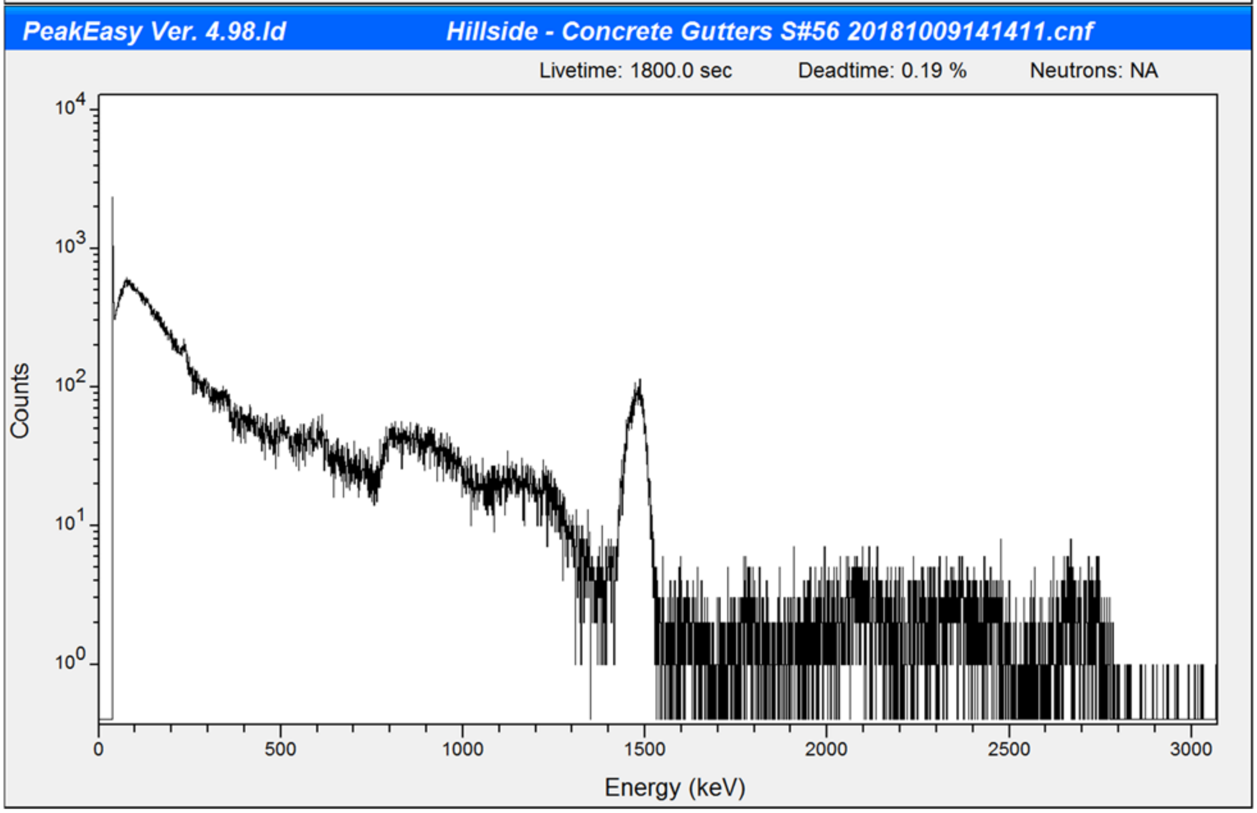

PeakEasy Ver. 4.98.ld
101 - Robinson Hill A#147 20180830103228.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

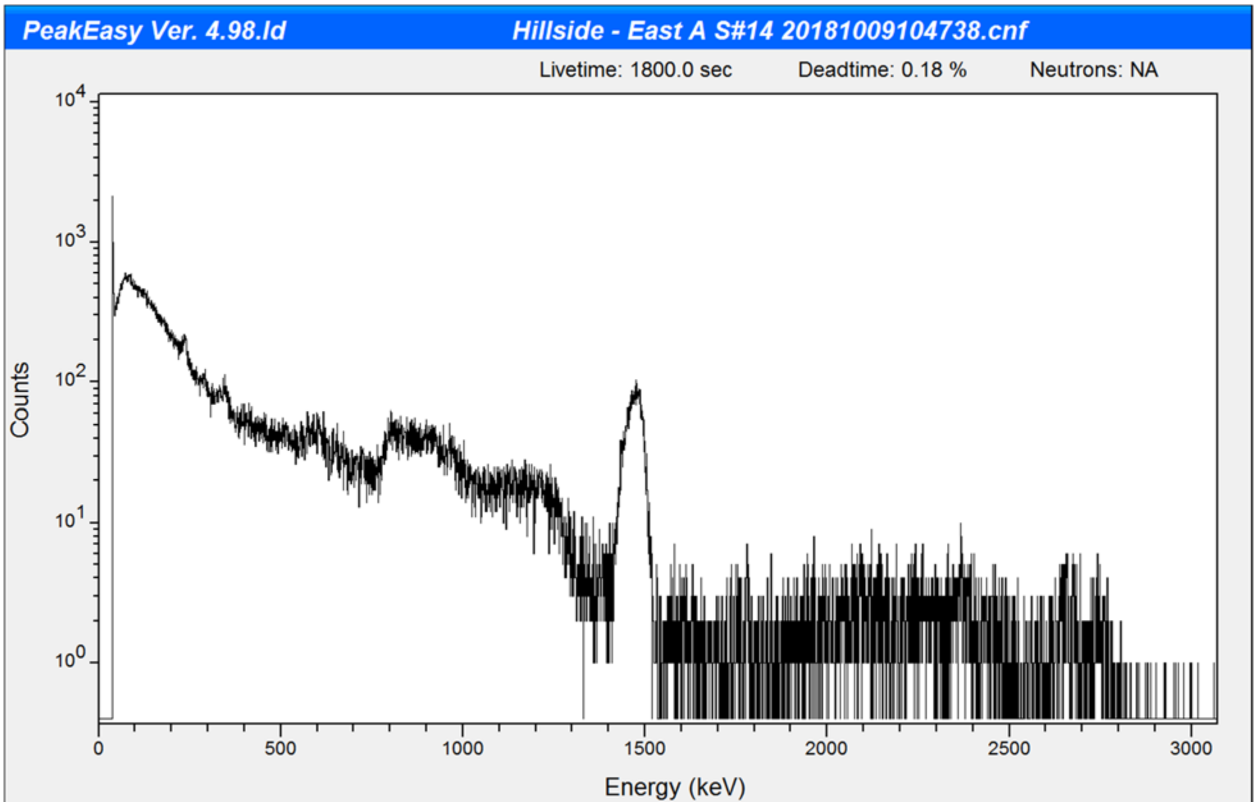

PeakEasy Ver. 4.98.ld
101 - S S#40 20181008145045.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

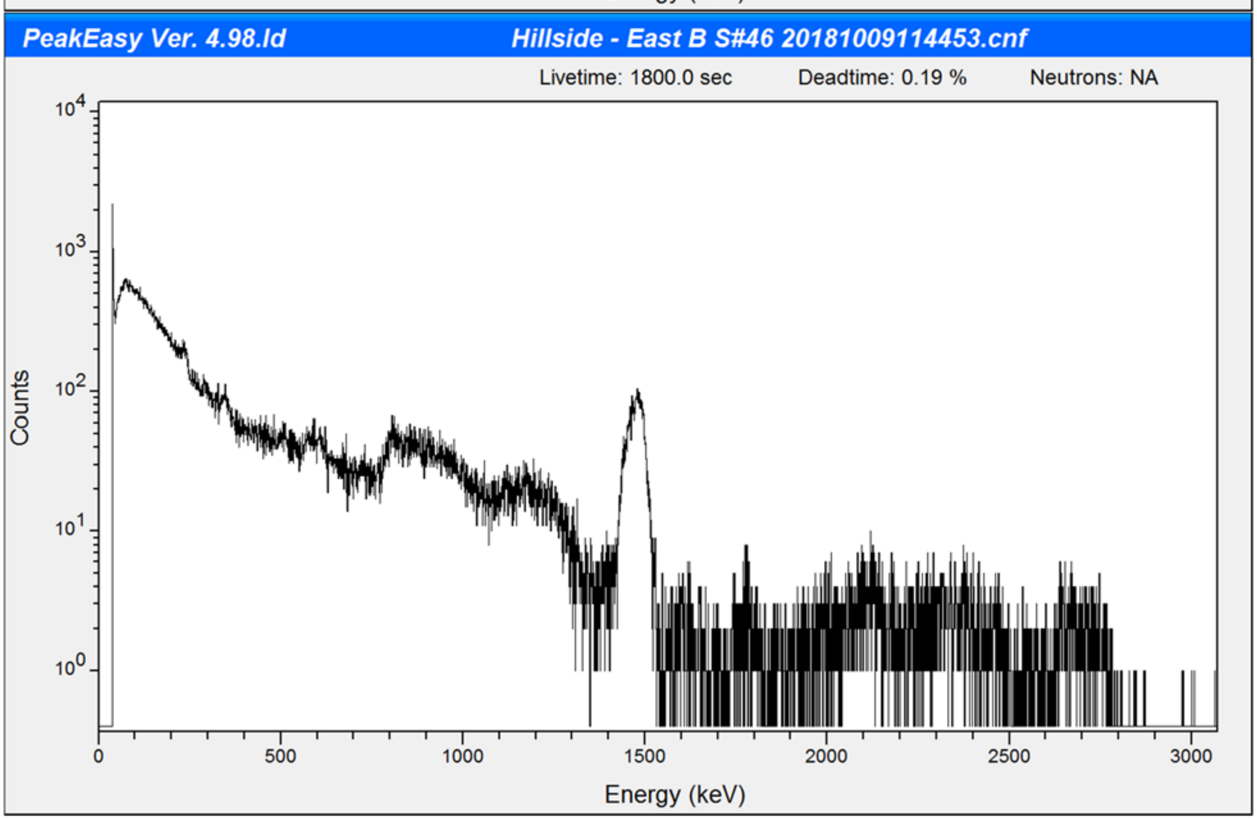

PeakEasy Ver. 4.98.ld
101 - SE A#12 20180904161012.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

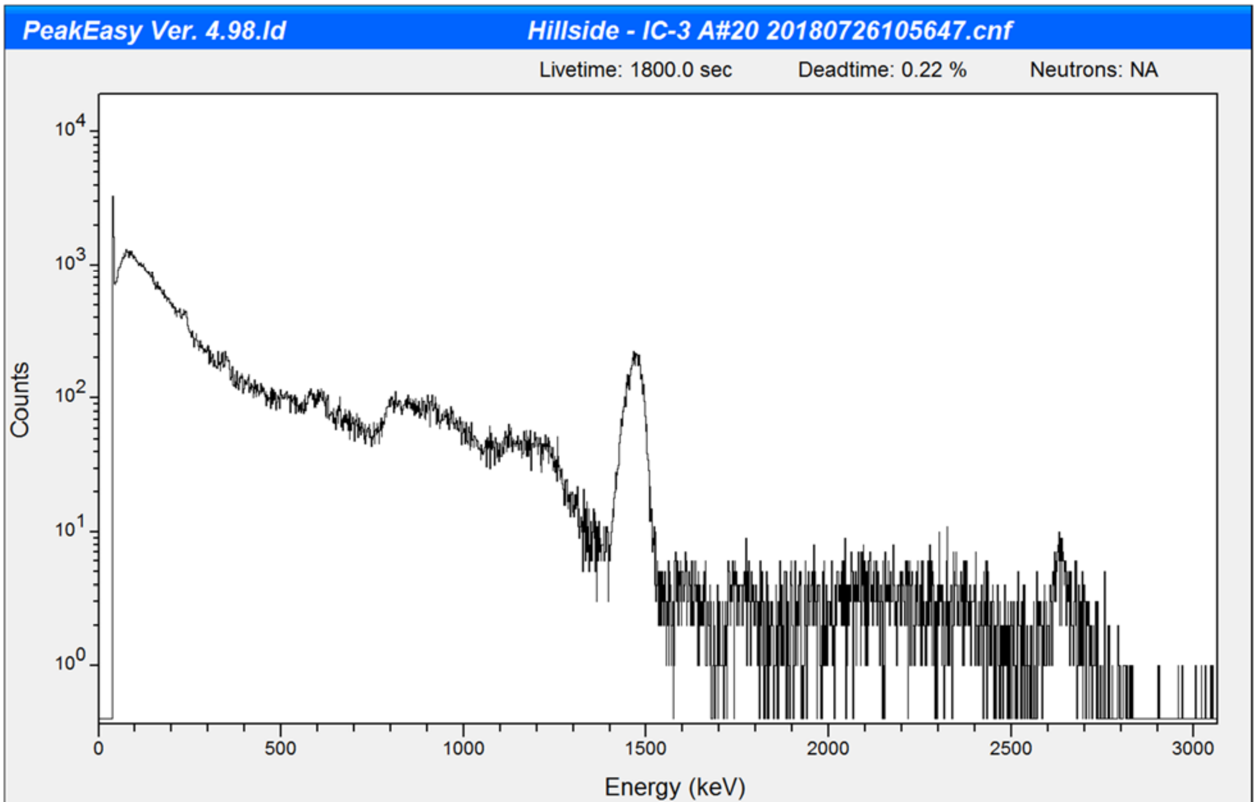

PeakEasy Ver. 4.98.ld
101 - Sidewalk S#7 20181009093900.cnf
Livetime: 1796.3 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

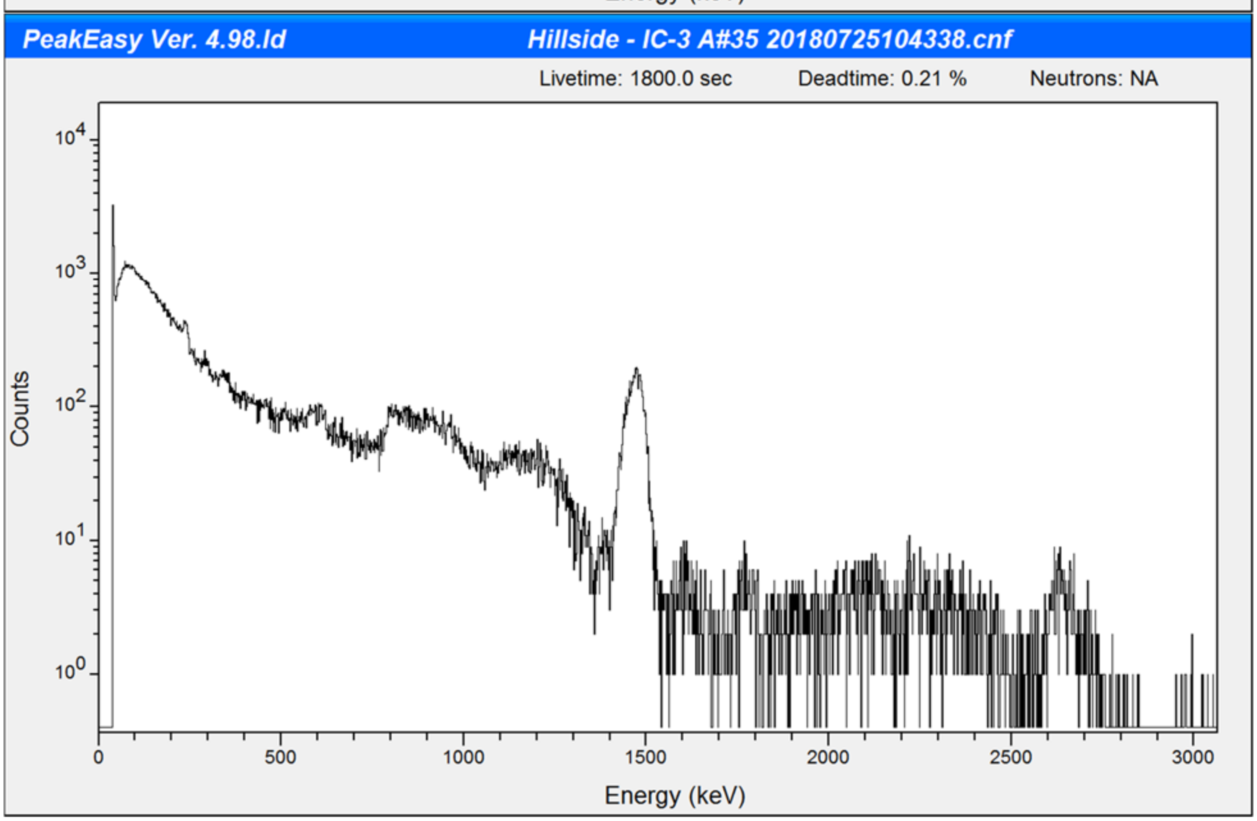

PeakEasy Ver. 4.98.ld
101 - SW A#37 20180906120844.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

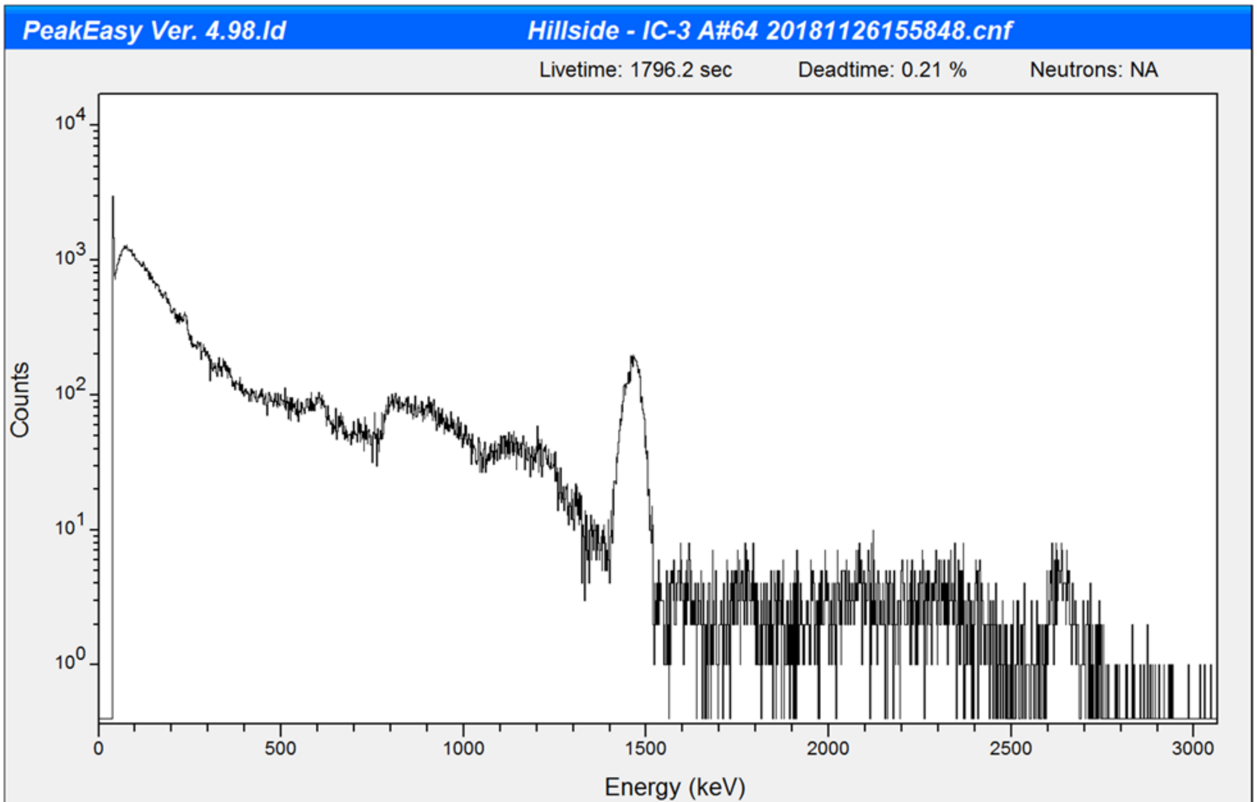

PeakEasy Ver. 4.98.ld
Hillside - Concrete Gutters S#56 20181009141411.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

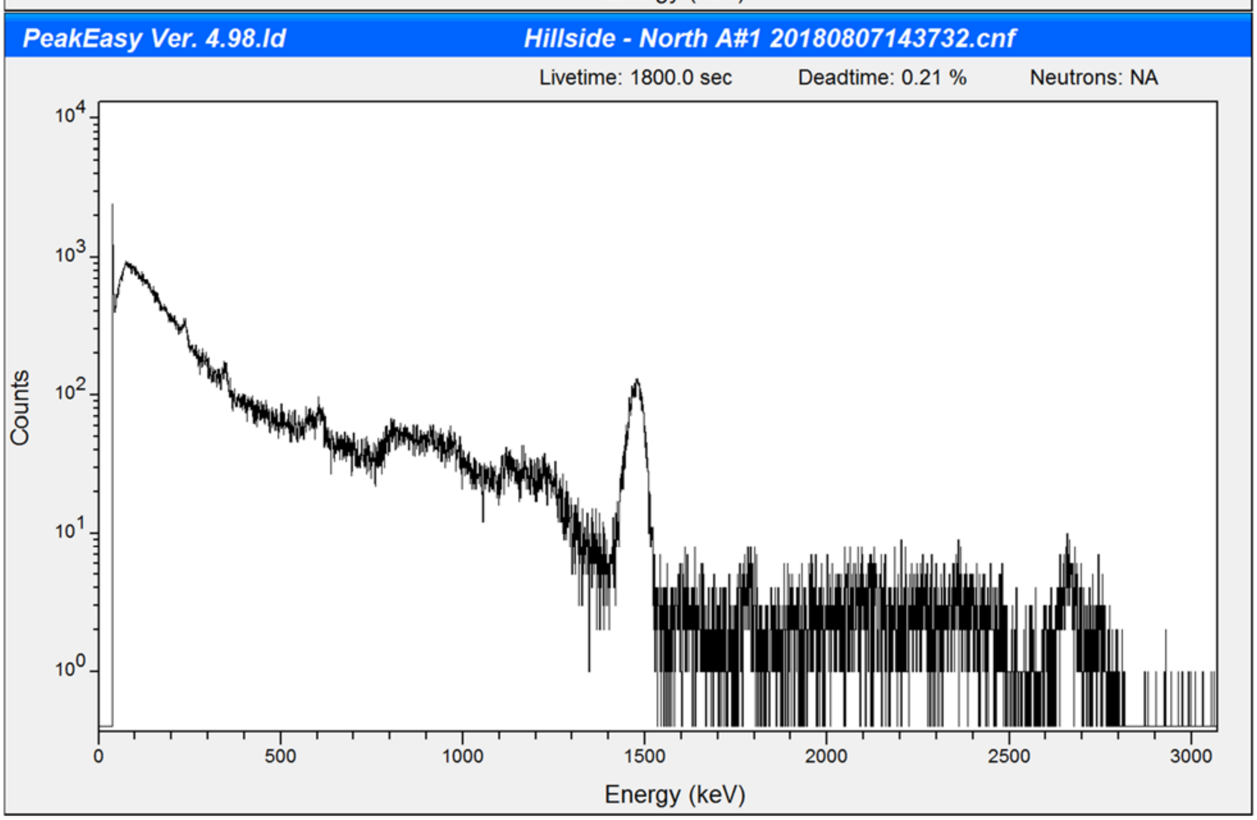

PeakEasy Ver. 4.98.ld
Hillside - East A S#14 20181009104738.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

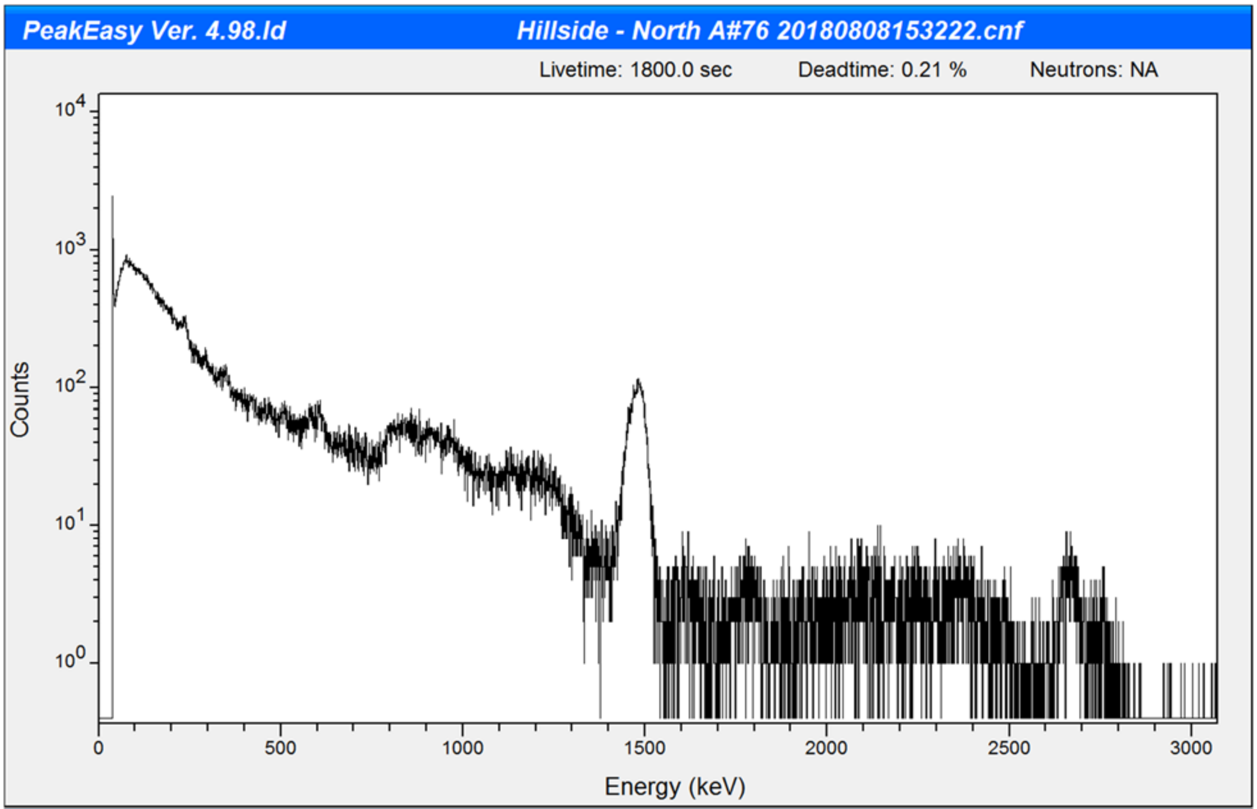

PeakEasy Ver. 4.98.ld
Hillside - East B S#46 20181009114453.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

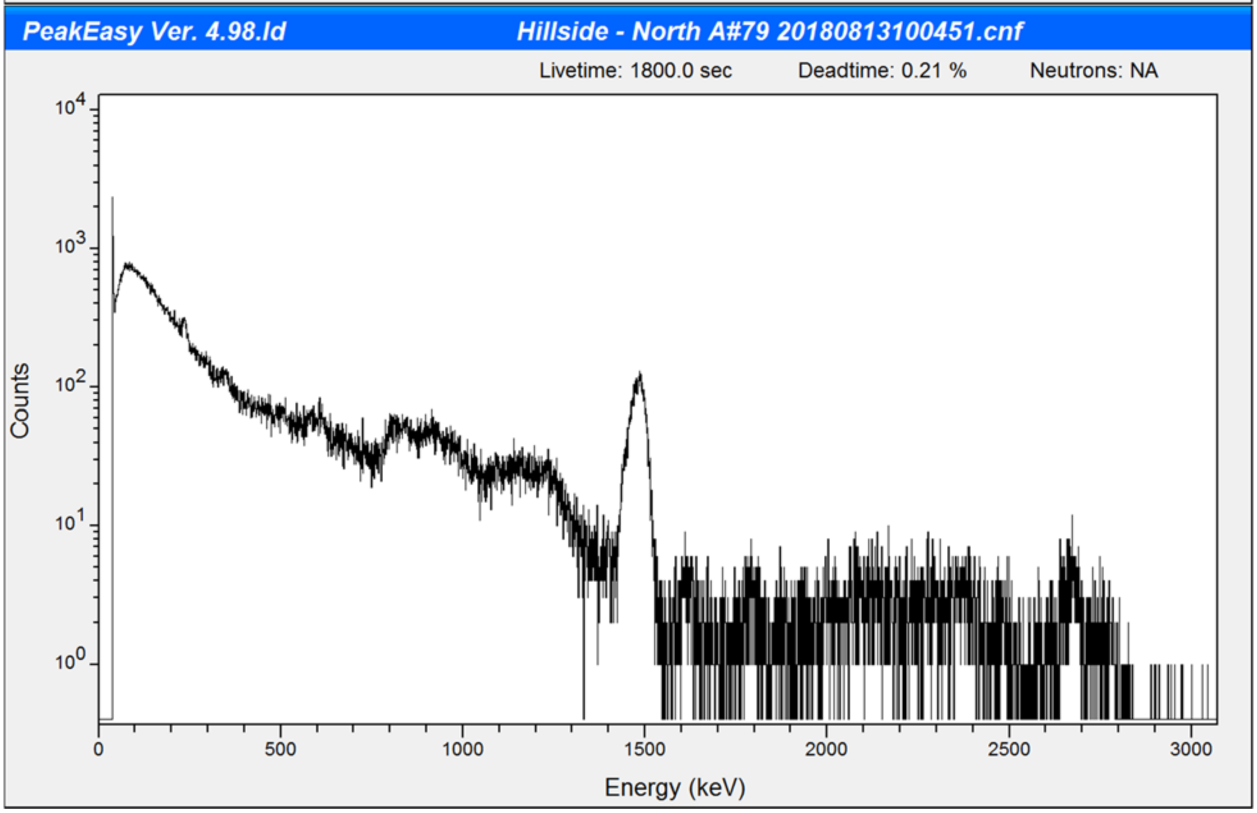

PeakEasy Ver. 4.98.ld
Hillside - IC-3 A#20 20180726105647.cnf
Livetime: 1800.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

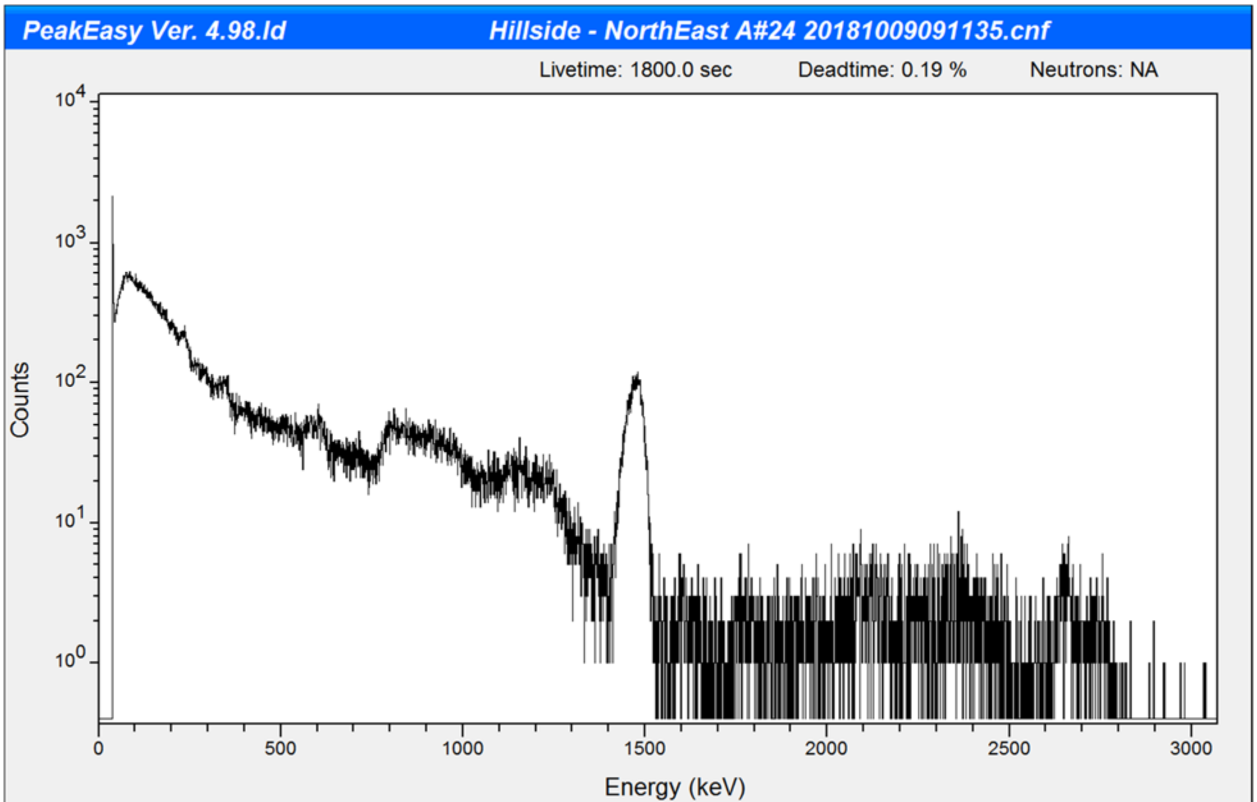

PeakEasy Ver. 4.98.ld
Hillside - IC-3 A#35 20180725104338.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

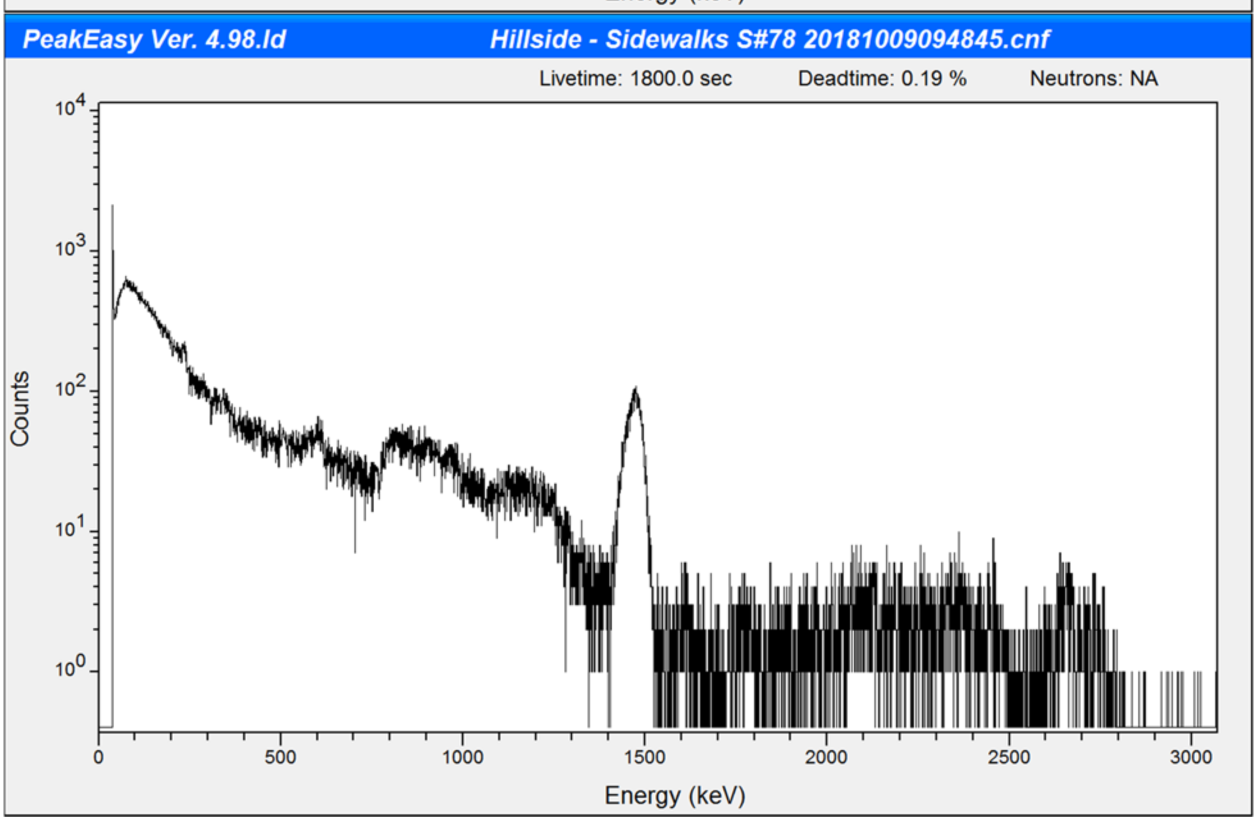

PeakEasy Ver. 4.98.ld
Hillside - IC-3 A#64 20181126155848.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

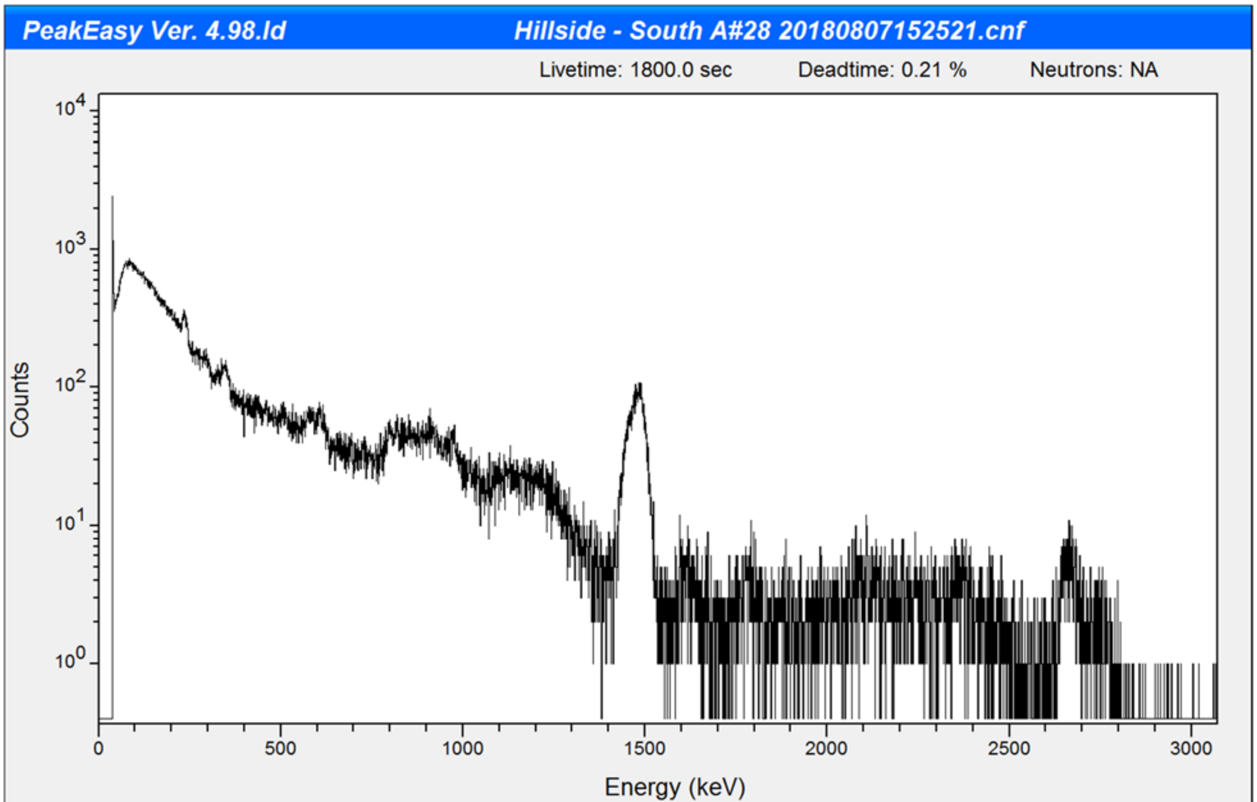

PeakEasy Ver. 4.98.ld
Hillside - North A#1 20180807143732.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

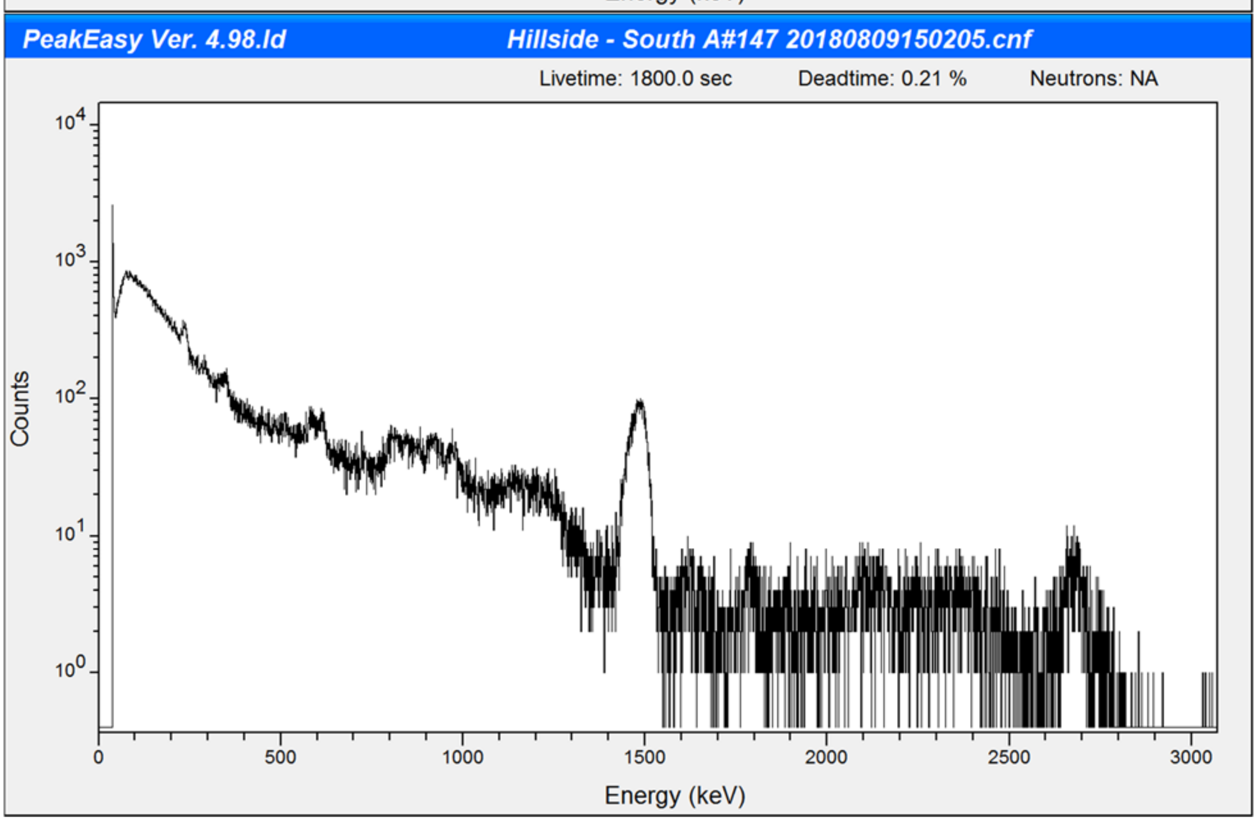

PeakEasy Ver. 4.98.ld
Hillside - North A#76 20180808153222.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

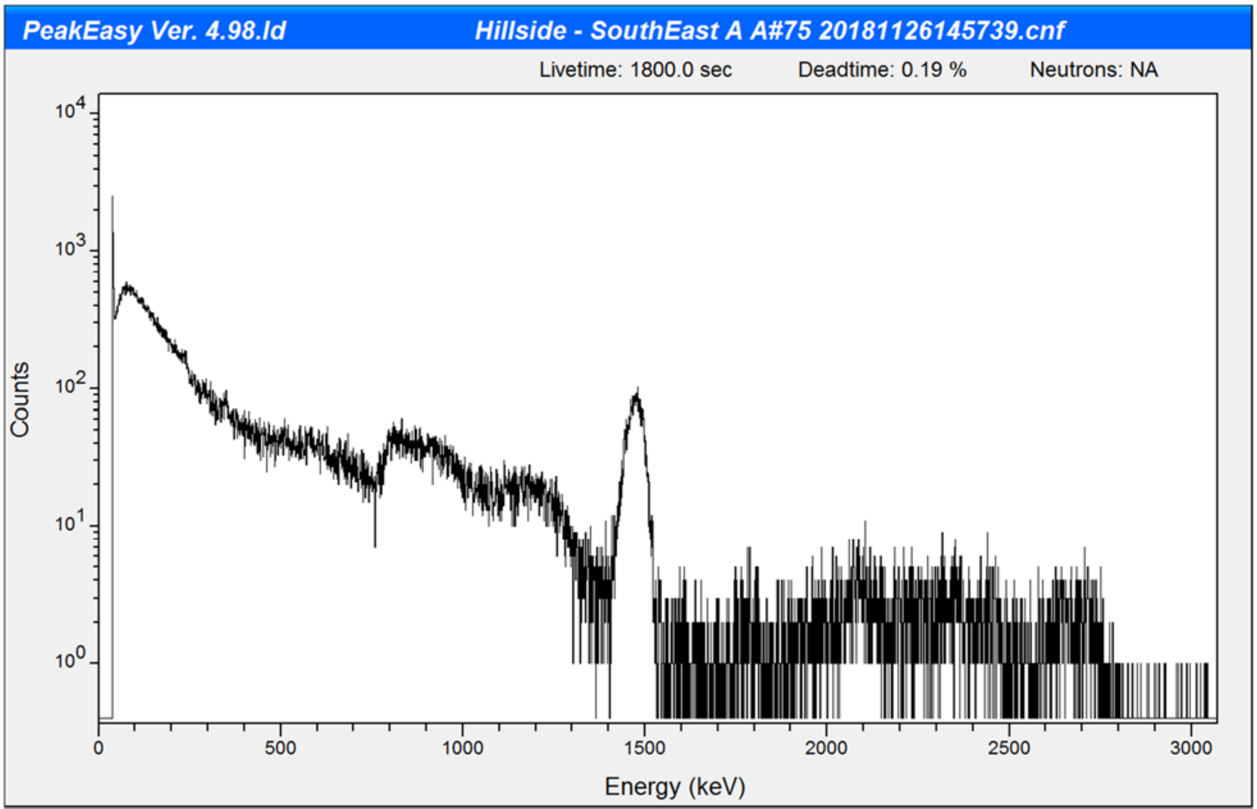

PeakEasy Ver. 4.98.ld
Hillside - North A#79 20180813100451.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

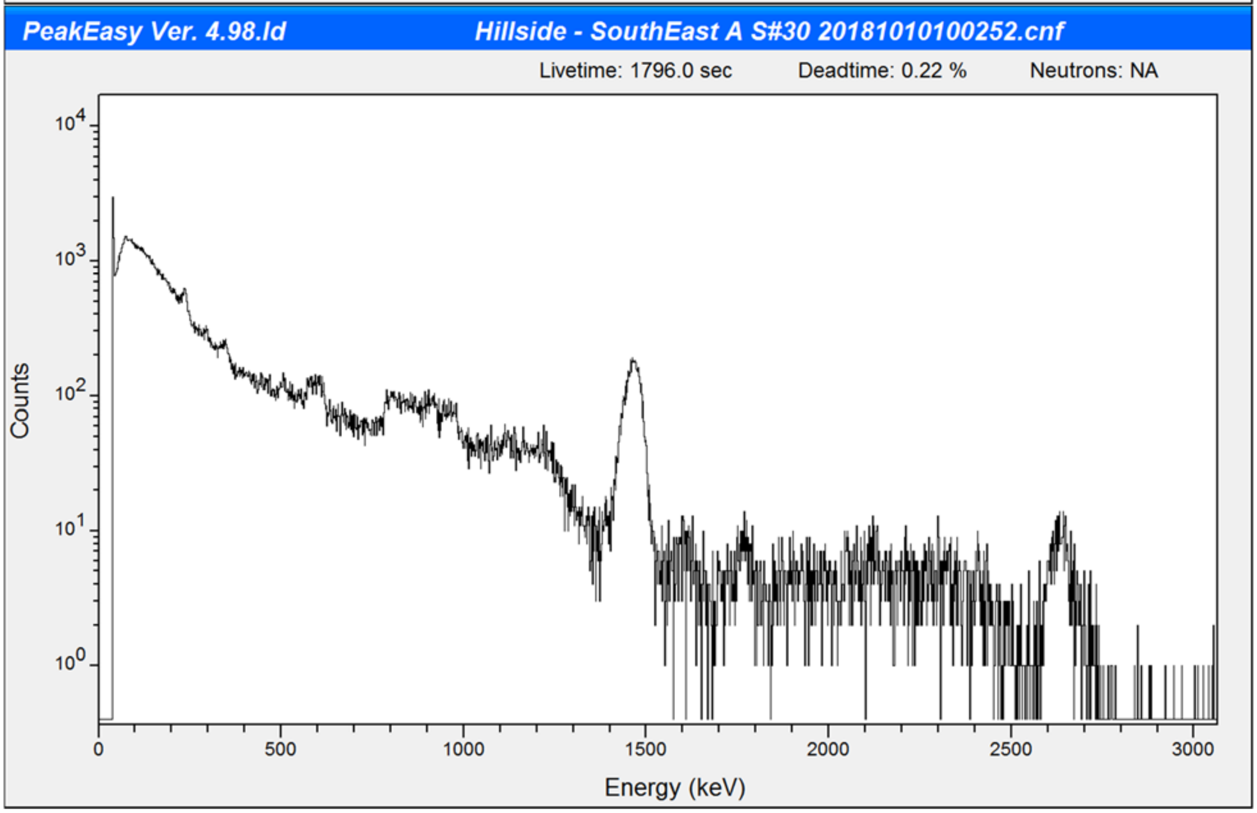

PeakEasy Ver. 4.98.ld
Hillside - NorthEast A#24 20181009091135.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

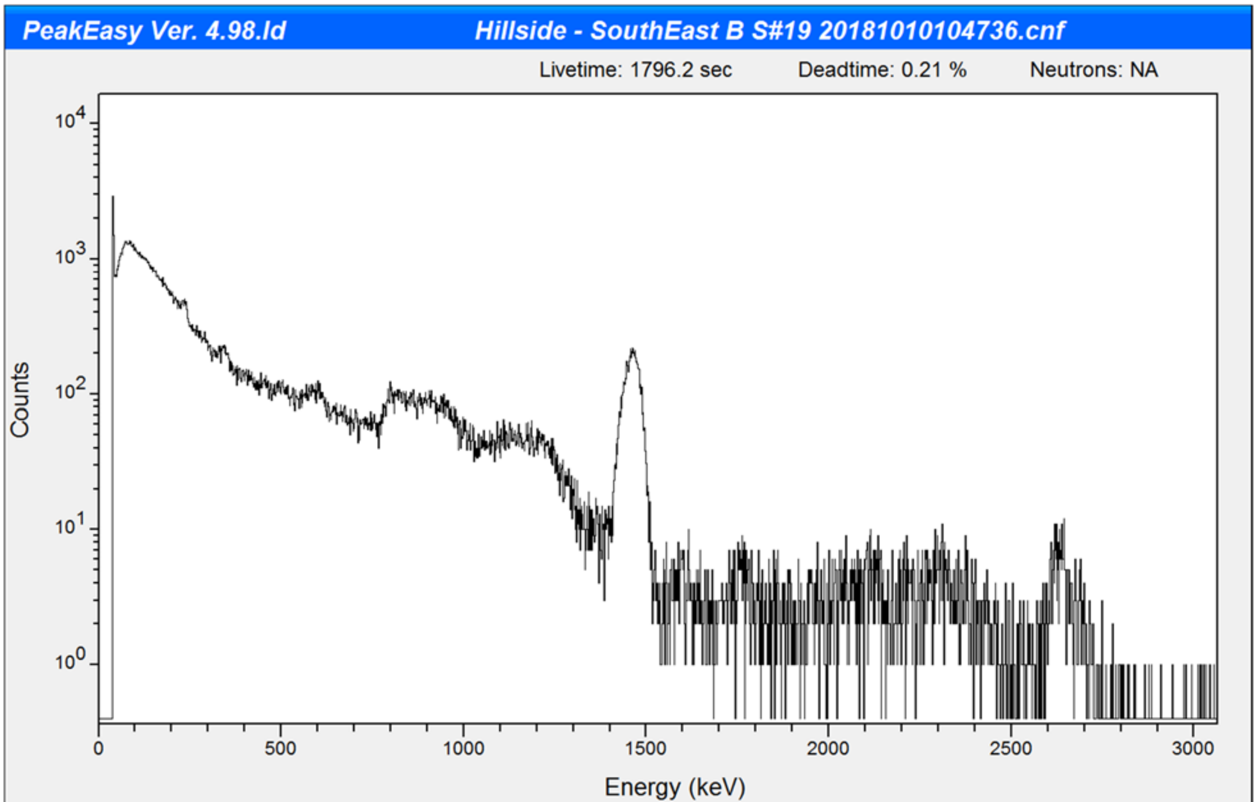

PeakEasy Ver. 4.98.ld
Hillside - Sidewalks S#78 20181009094845.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

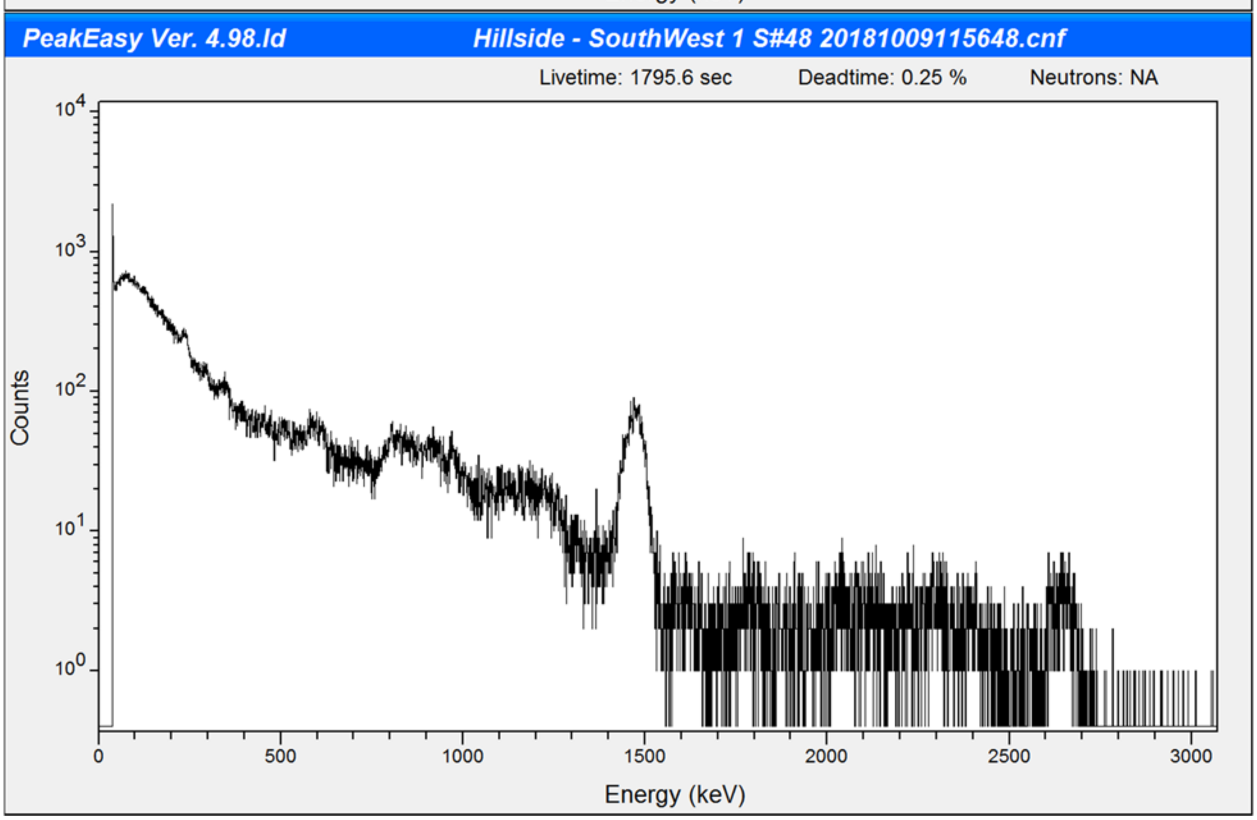

PeakEasy Ver. 4.98.ld
Hillside - South A#28 20180807152521.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

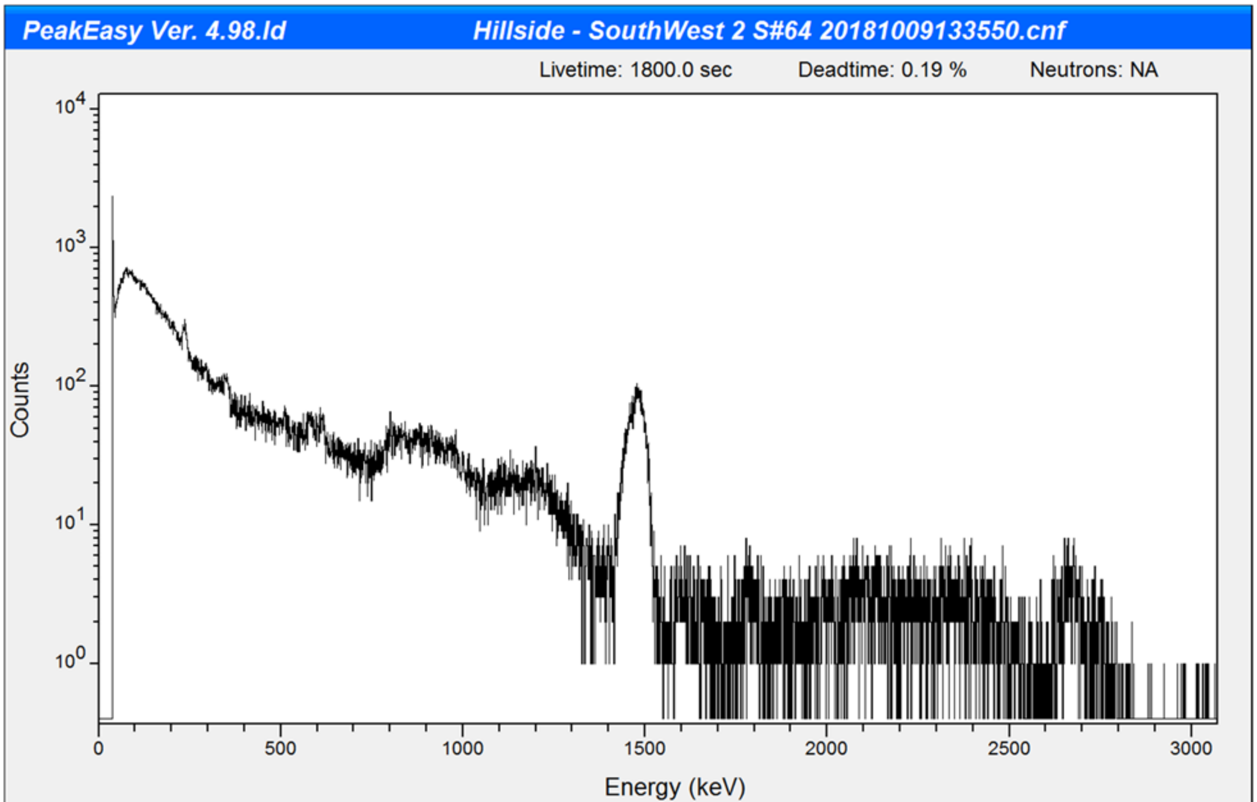

PeakEasy Ver. 4.98.ld
Hillside - South A#147 20180809150205.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

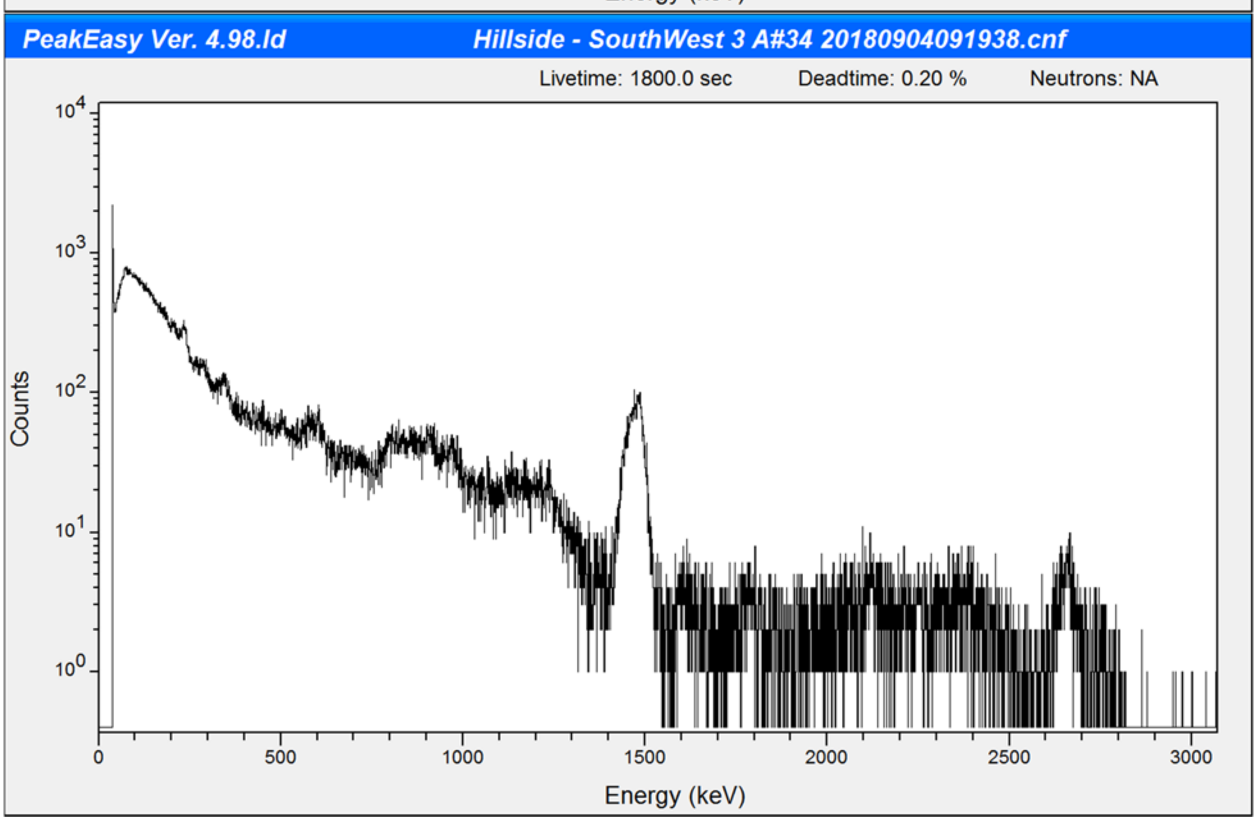

PeakEasy Ver. 4.98.ld
Hillside - SouthEast A A#75 20181126145739.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

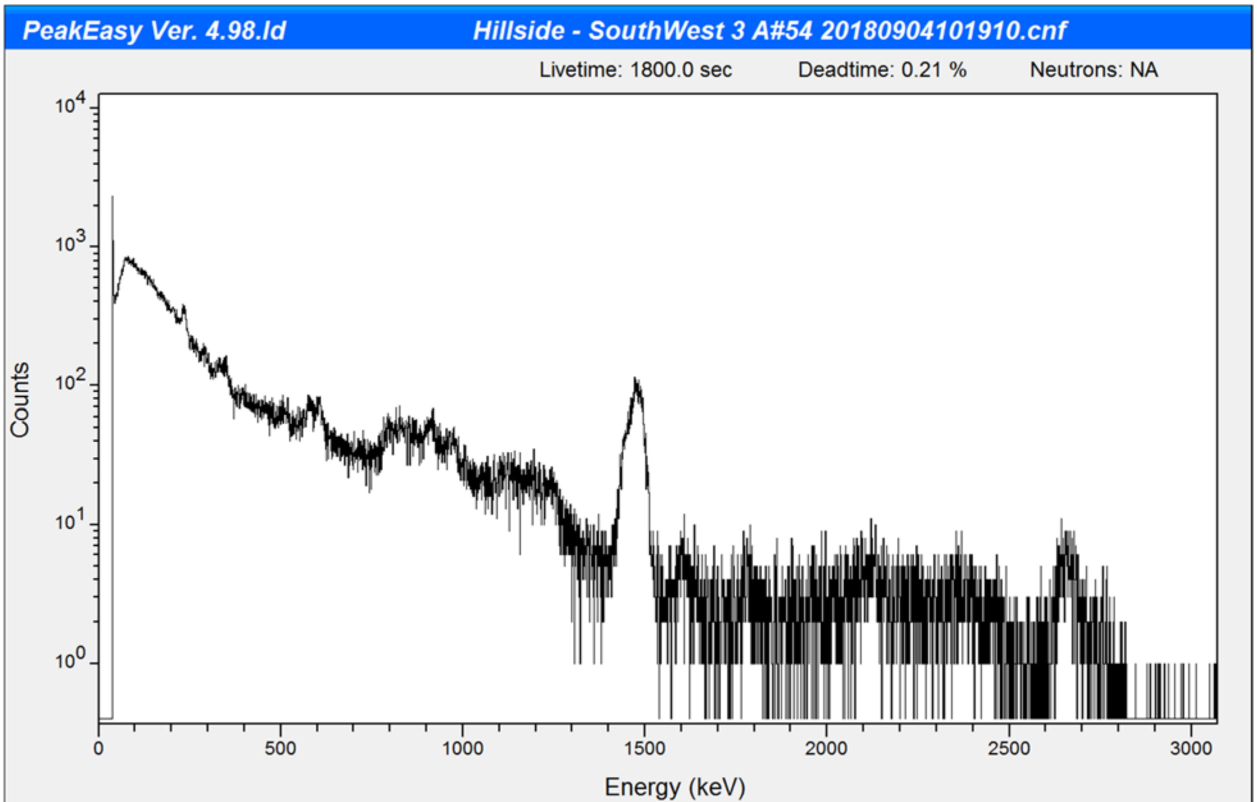

PeakEasy Ver. 4.98.ld
Hillside - SouthEast A S#30 20181010100252.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

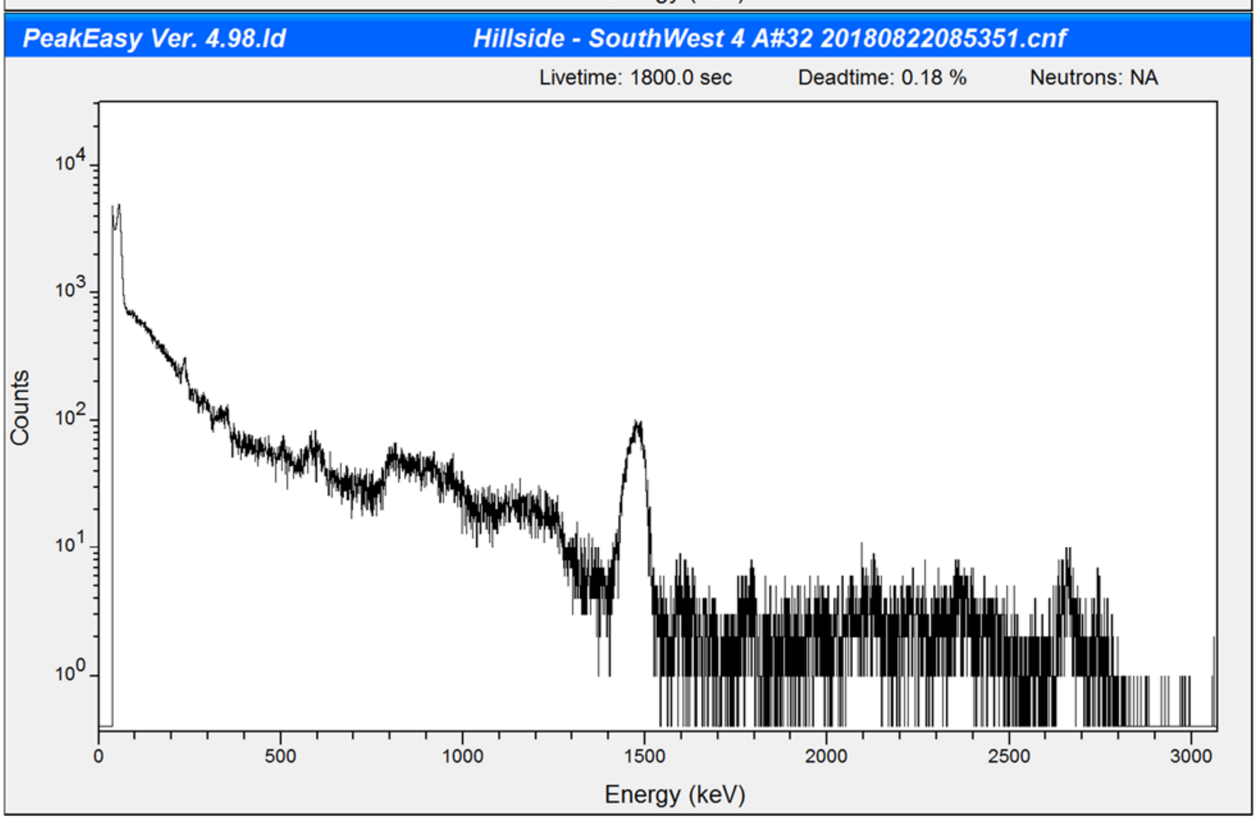

PeakEasy Ver. 4.98.ld
Hillside - SouthEast B S#19 20181010104736.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

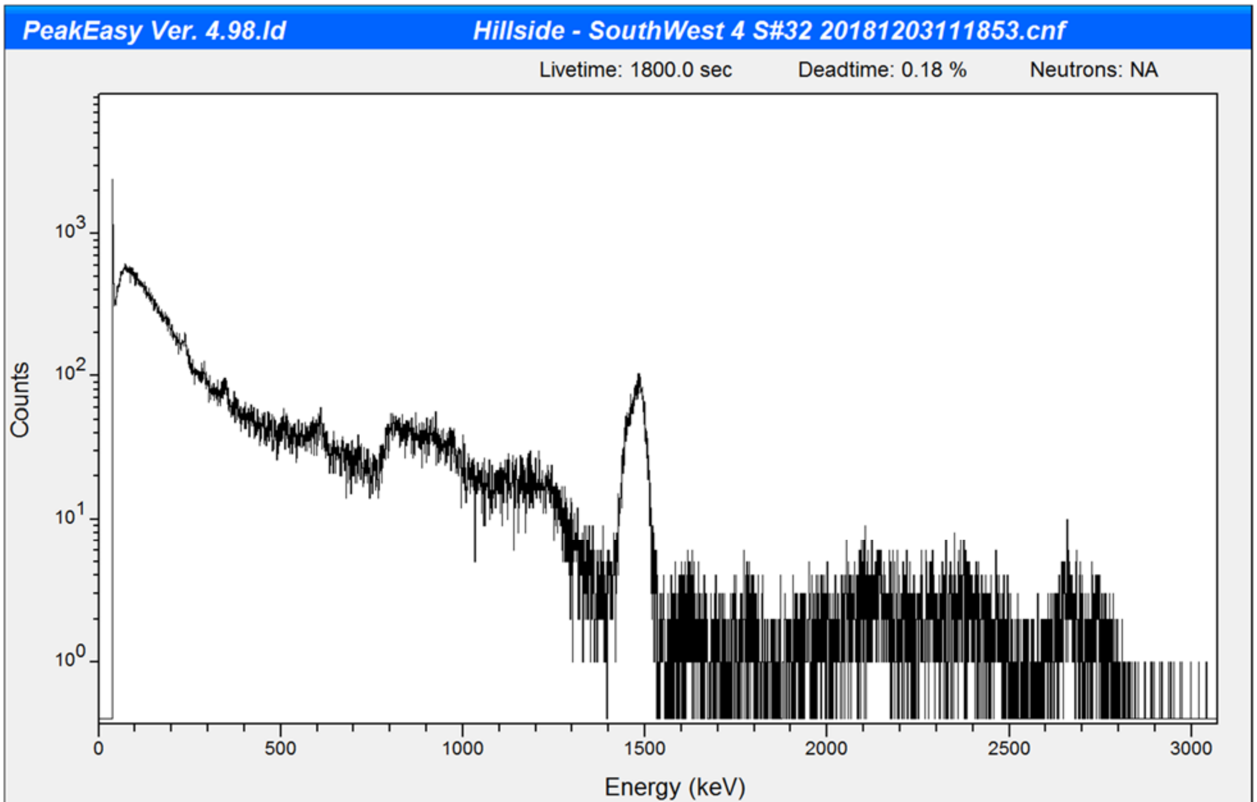

PeakEasy Ver. 4.98.ld
Hillside - SouthWest 1 S#48 20181009115648.cnf
Livetime: 1795.6 sec
Deadtime: 0.25 %
Neutrons: NA
Counts
Energy (keV)

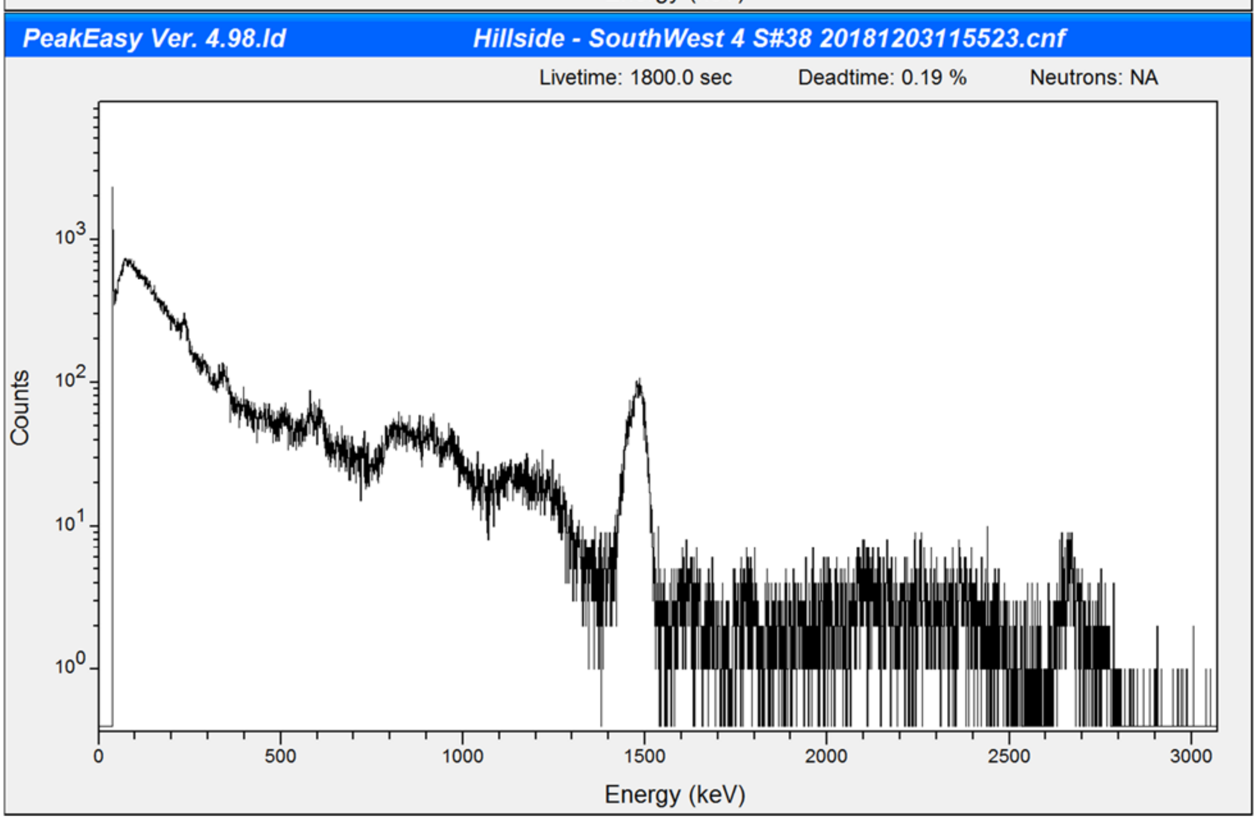

PeakEasy Ver. 4.98.ld
Hillside - SouthWest 2 S#64 20181009133550.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

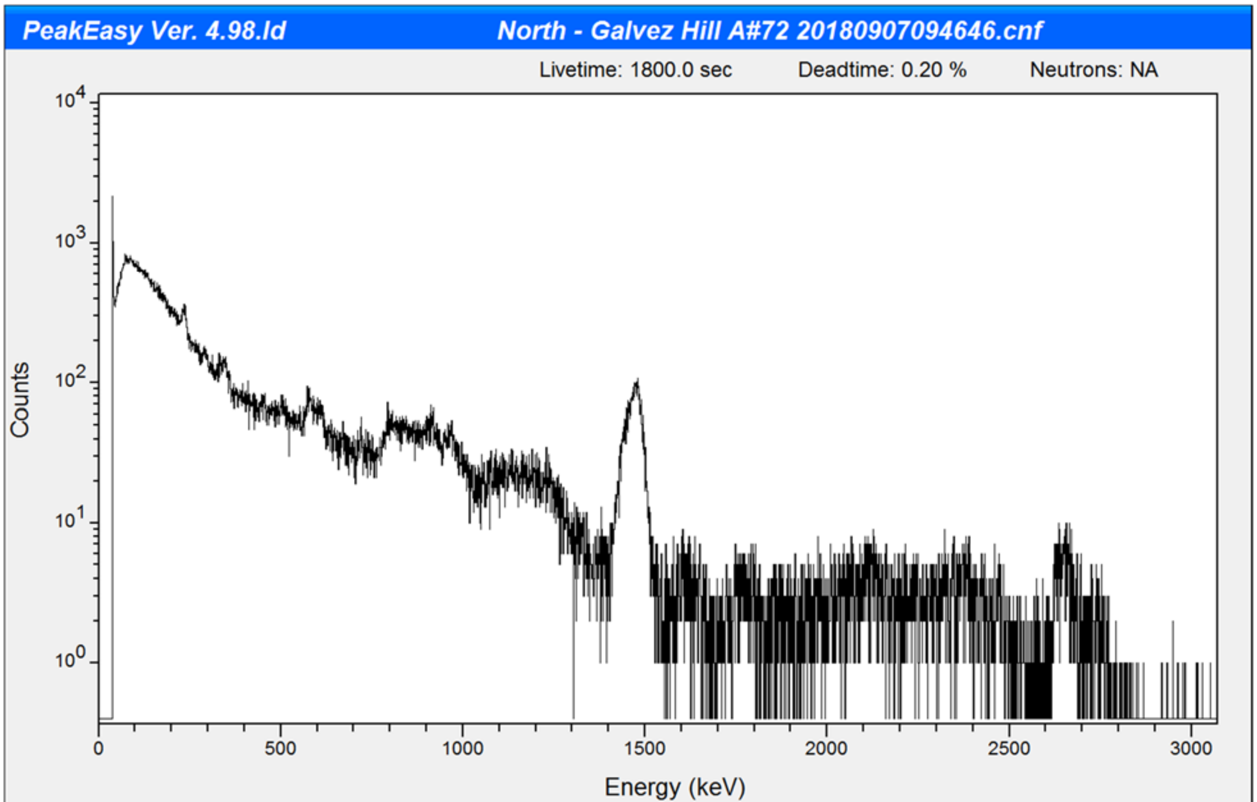

PeakEasy Ver. 4.98.ld
Hillside - SouthWest 3 A#34 20180904091938.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

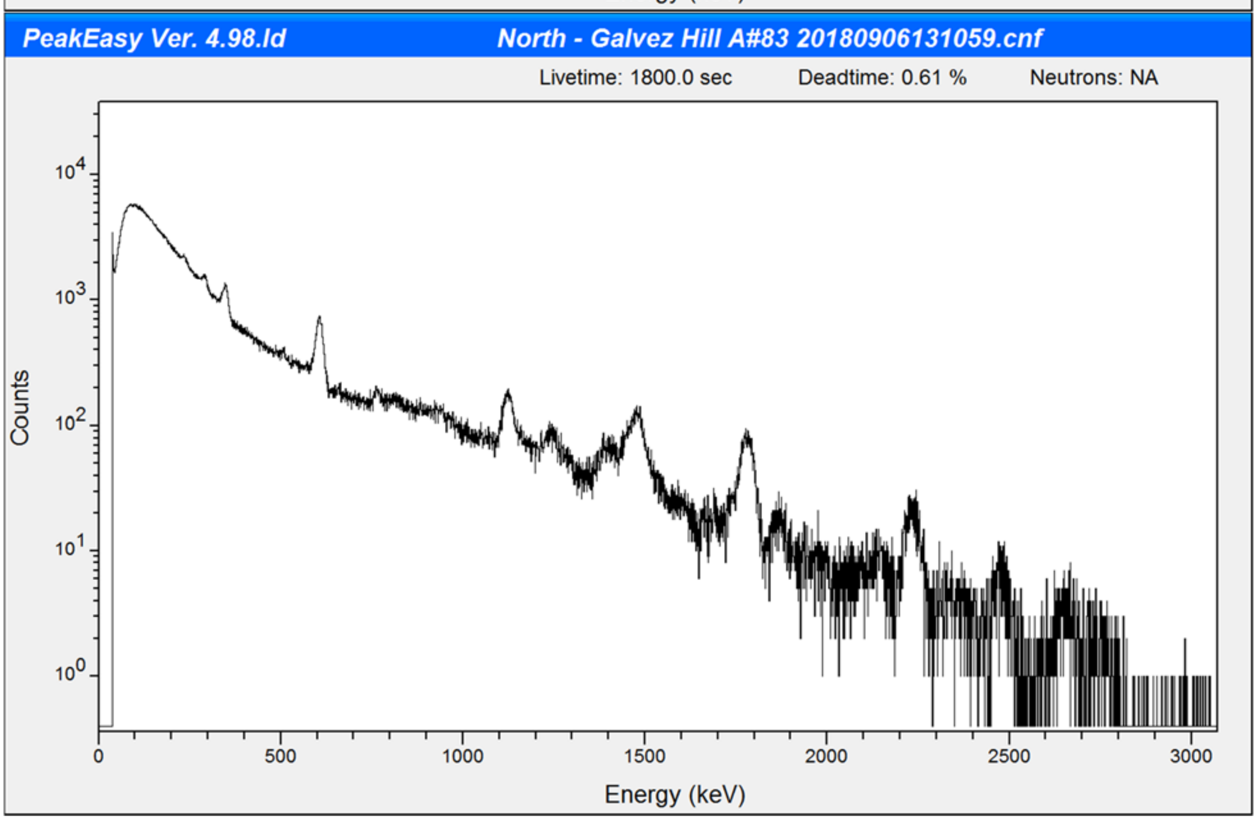

PeakEasy Ver. 4.98.ld
Hillside - SouthWest 3 A#54 20180904101910.cnf
Livetime: 1800.0 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

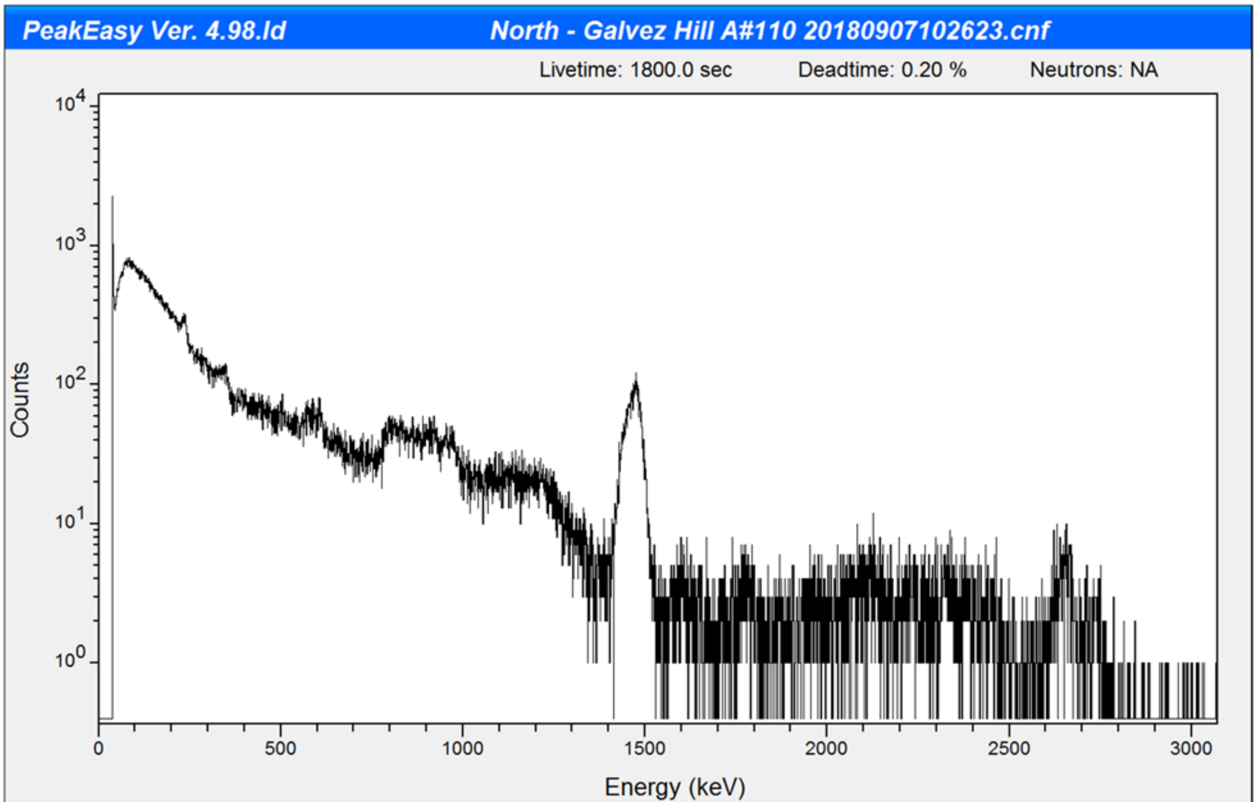

PeakEasy Ver. 4.98.ld
Hillside - SouthWest 4 A#32 20180822085351.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Hillside - SouthWest 4 S#32 20181203111853.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Hillside - SouthWest 4 S#38 20181203115523.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - Galvez Hill A#72 20180907094646.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - Galvez Hill A#83 20180906131059.cnf
Livetime: 1800.0 sec
Deadtime: 0.61 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - Galvez Hill A#110 20180907102623.cnf
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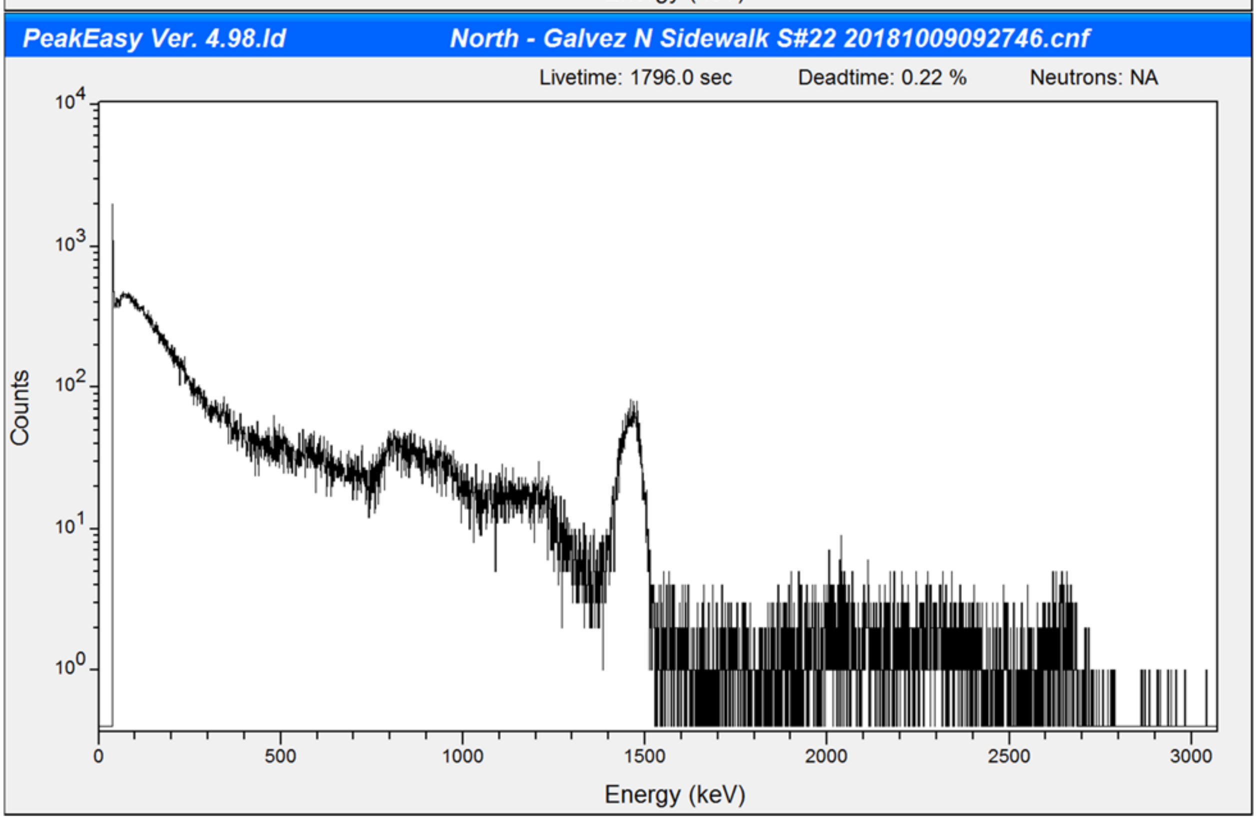
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)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North - Galvez N Sidewalk S#22 20181009092746.cnf
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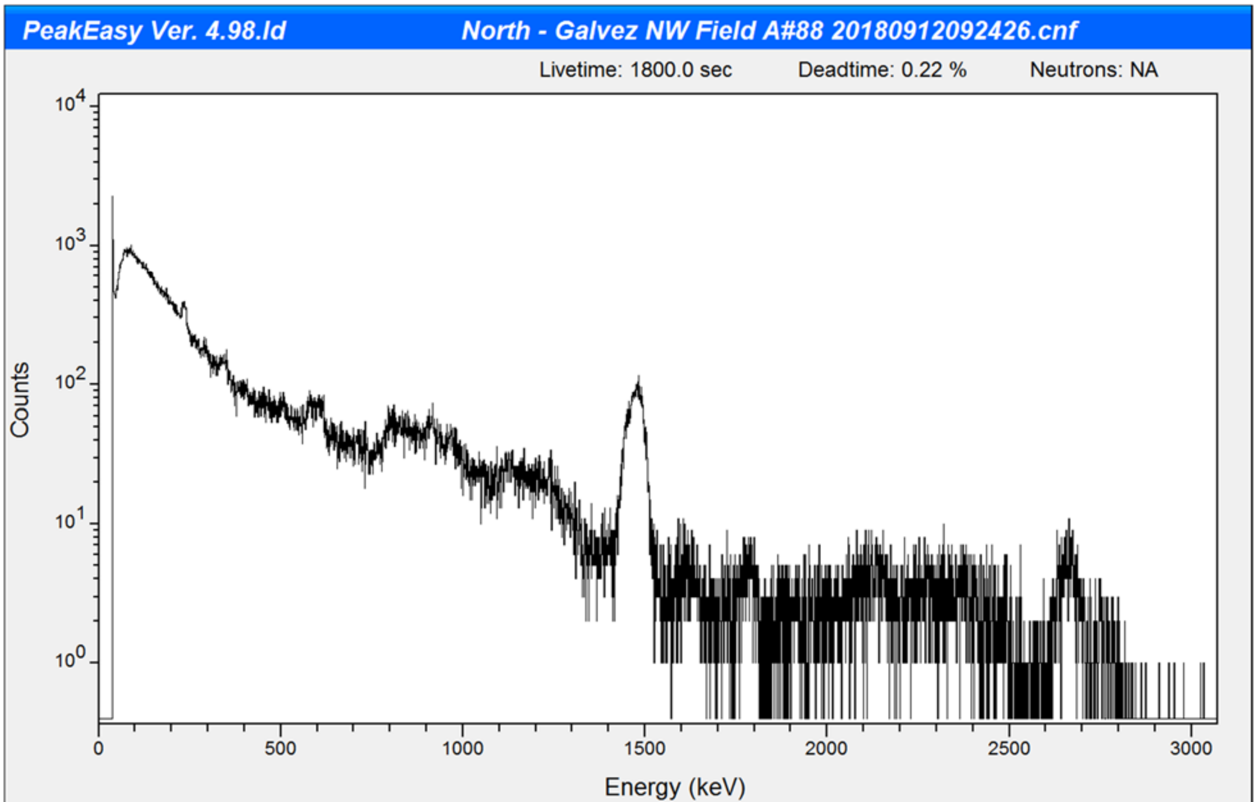
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)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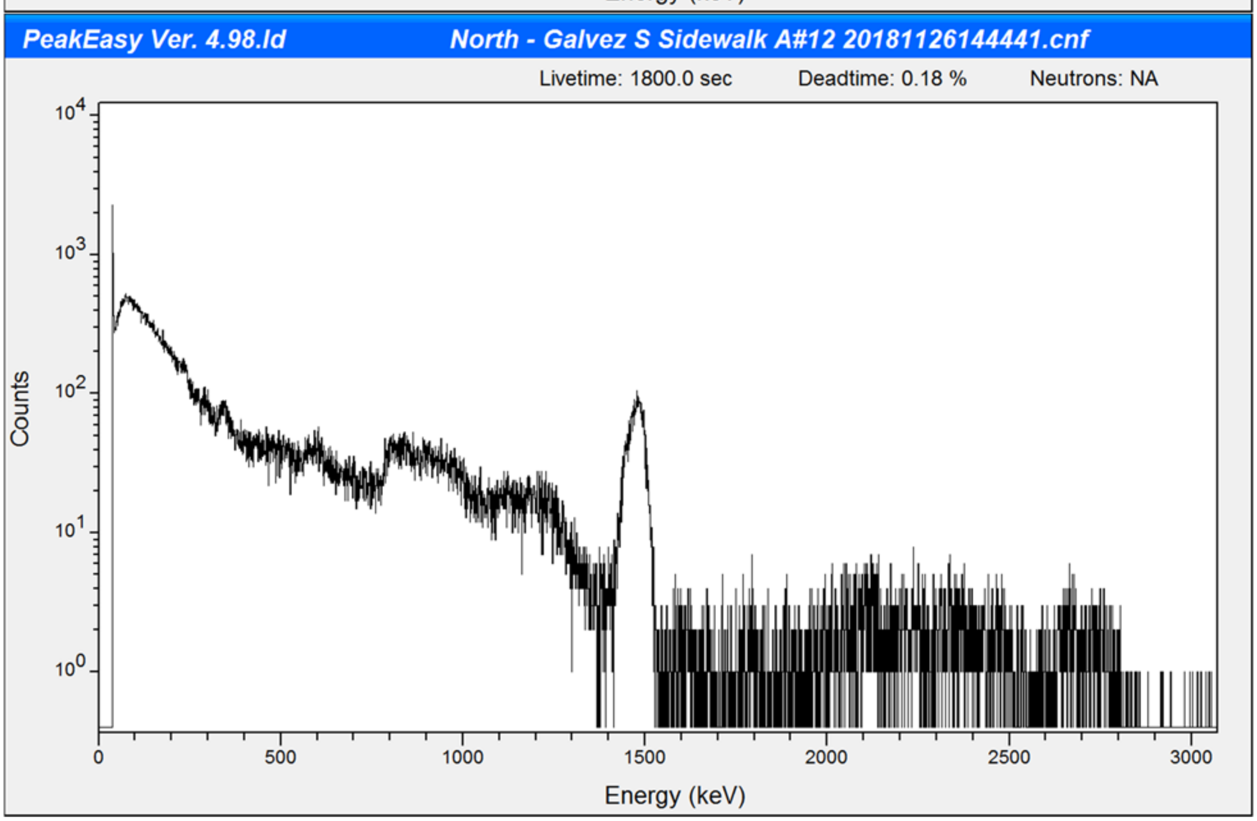
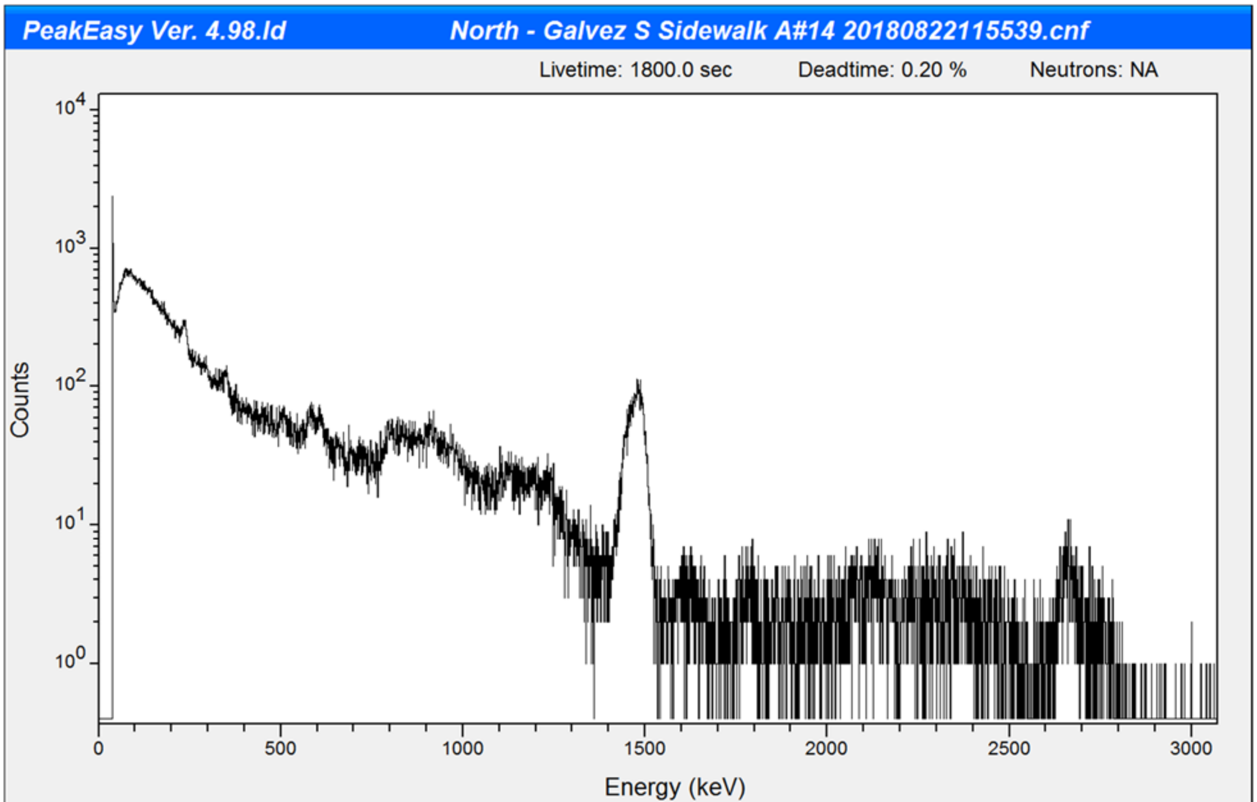
North - Galvez NW Field A#88 20180912092426.cnf
Livetime: 1800.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - Galvez S Sidewalk A#12 20181126144441.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)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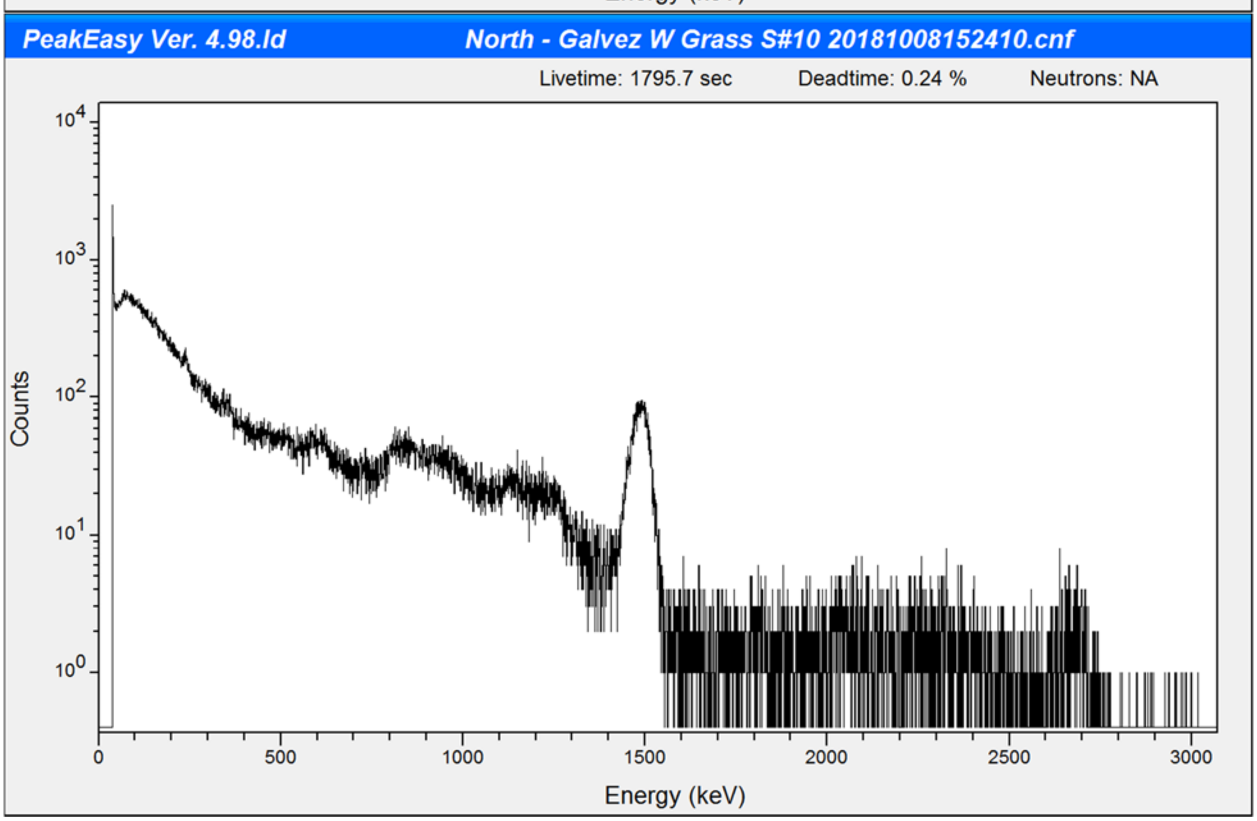
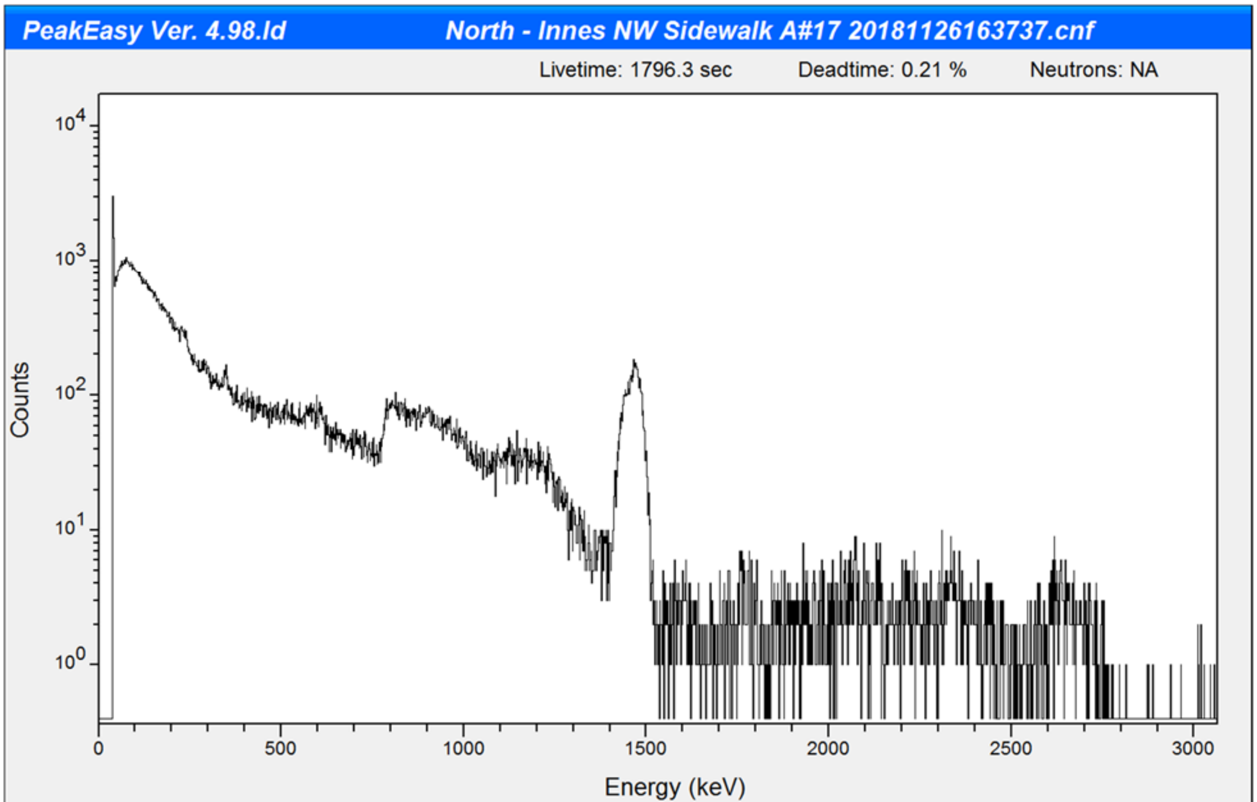
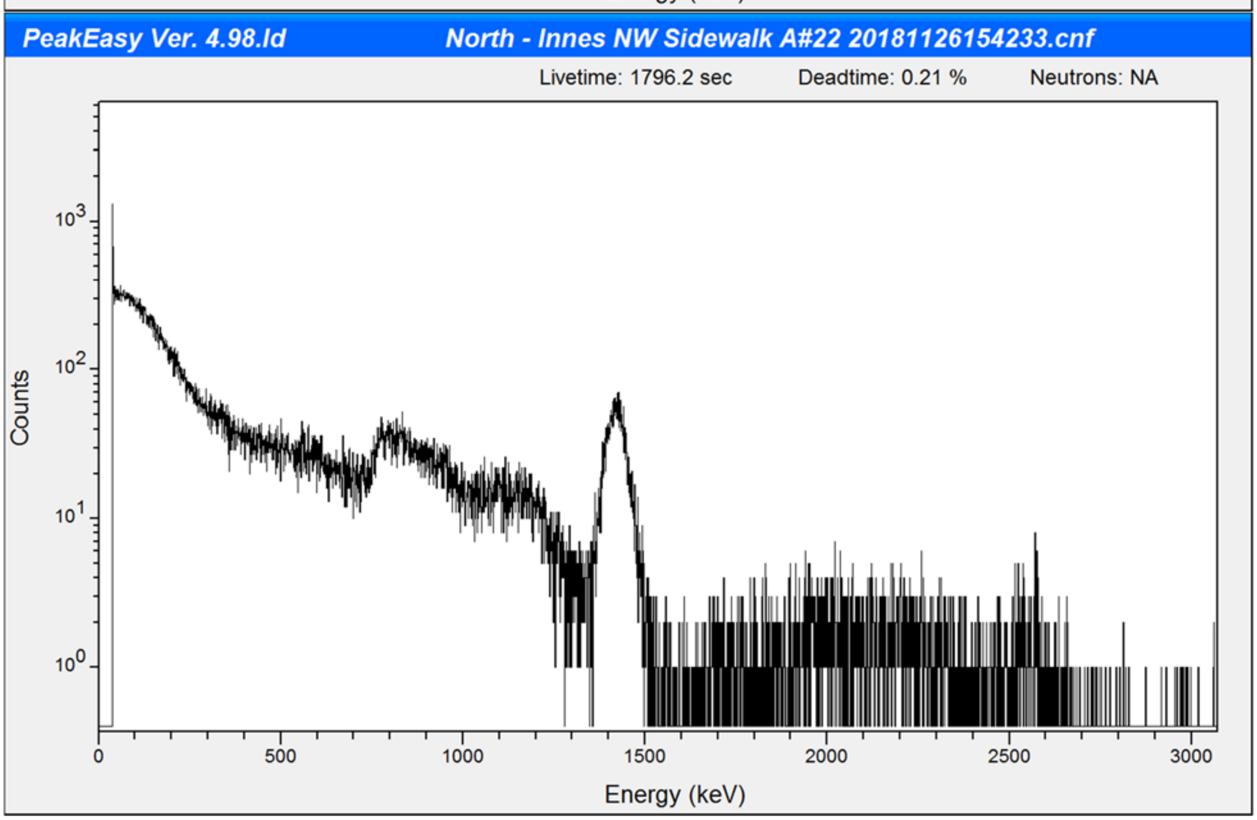
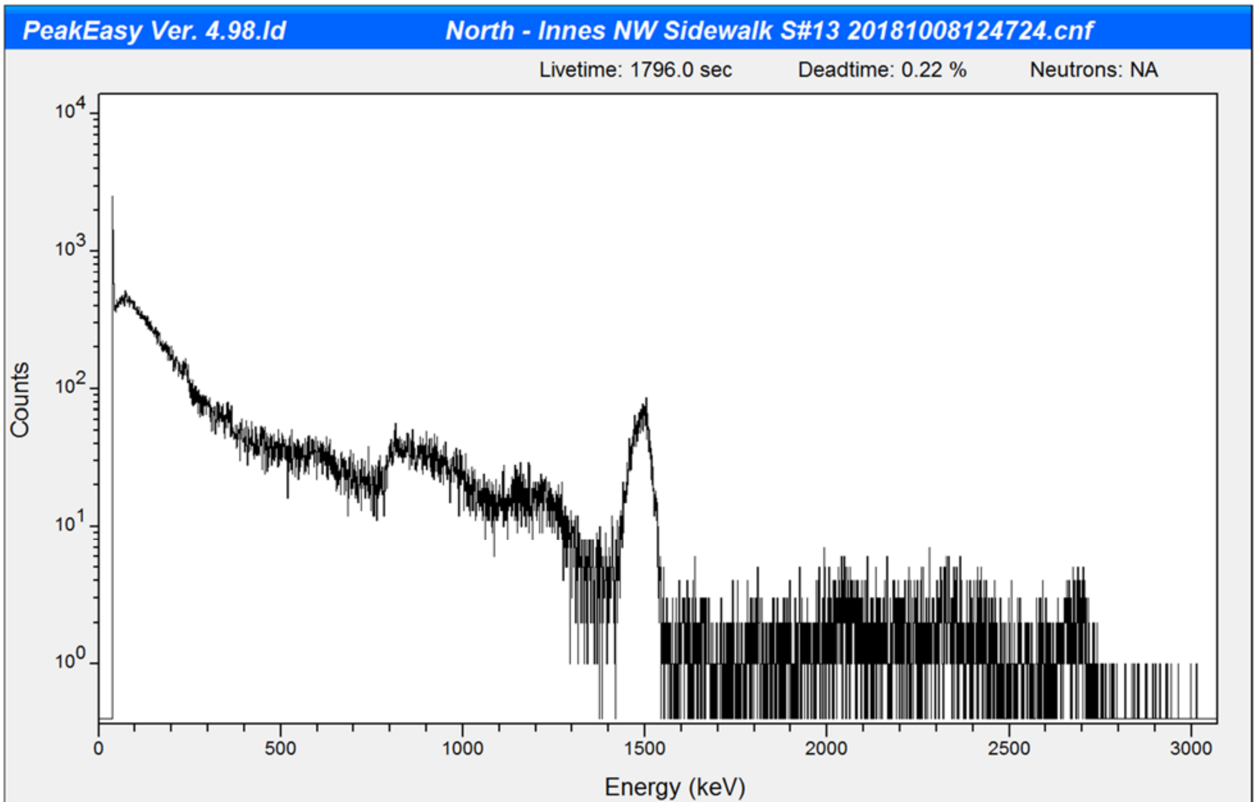
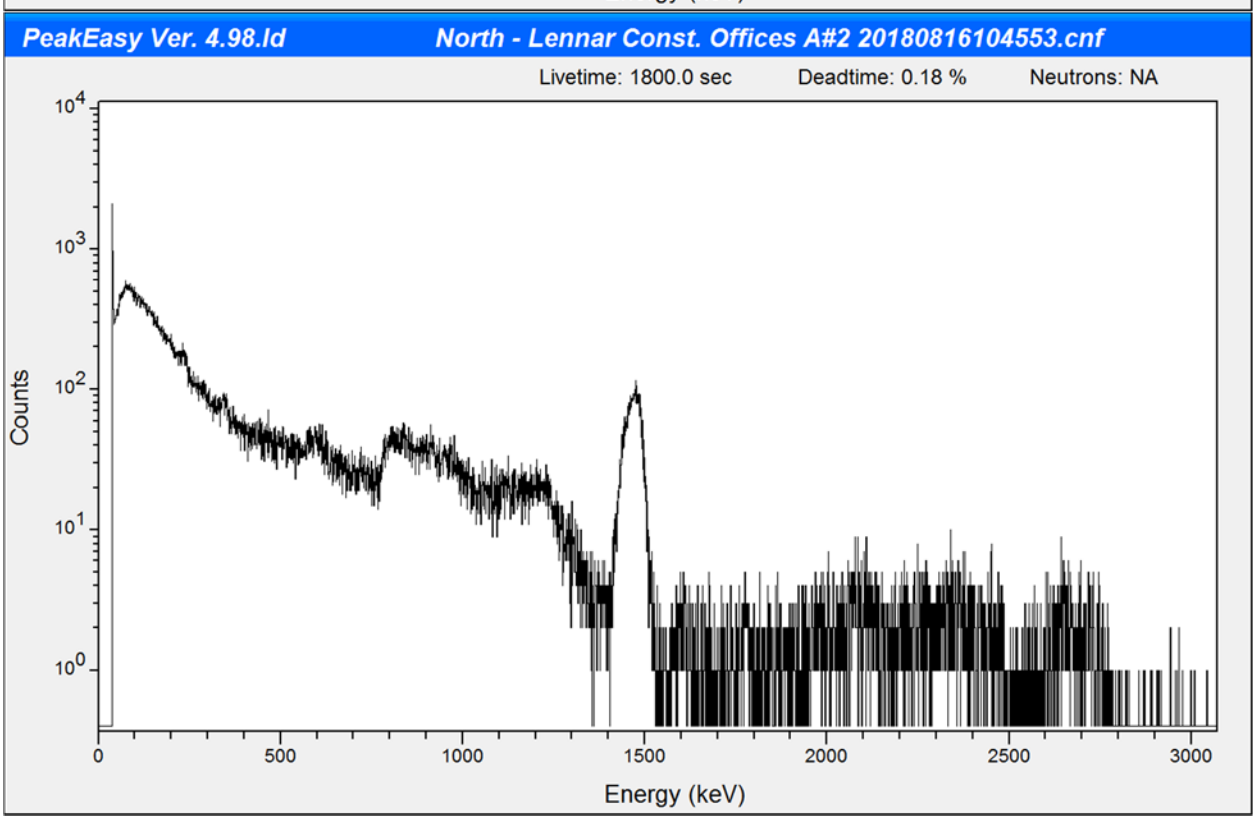
North - Galvez S Sidewalk A#14 20180822115539.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

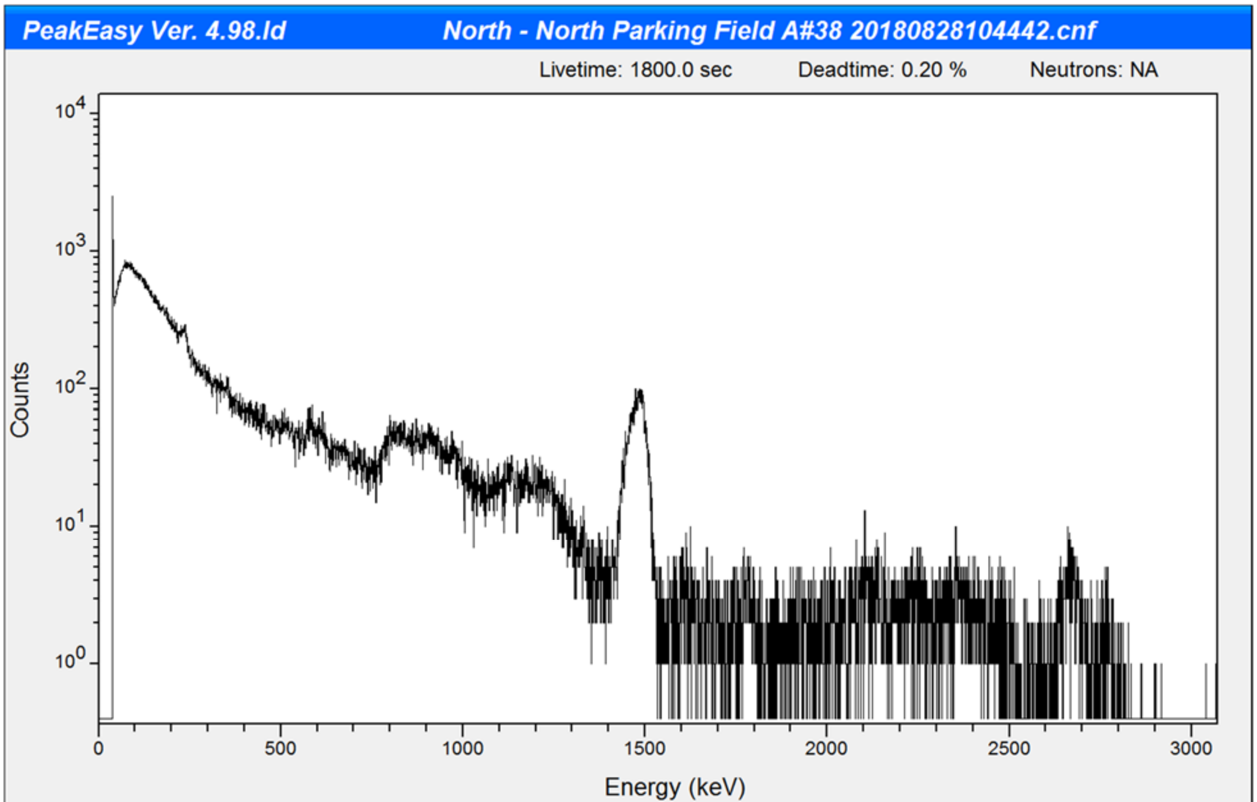

PeakEasy Ver. 4.98.ld
North - Galvez W Grass S#10 20181008152410.cnf
Livetime: 1795.7 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
Energy (keV)

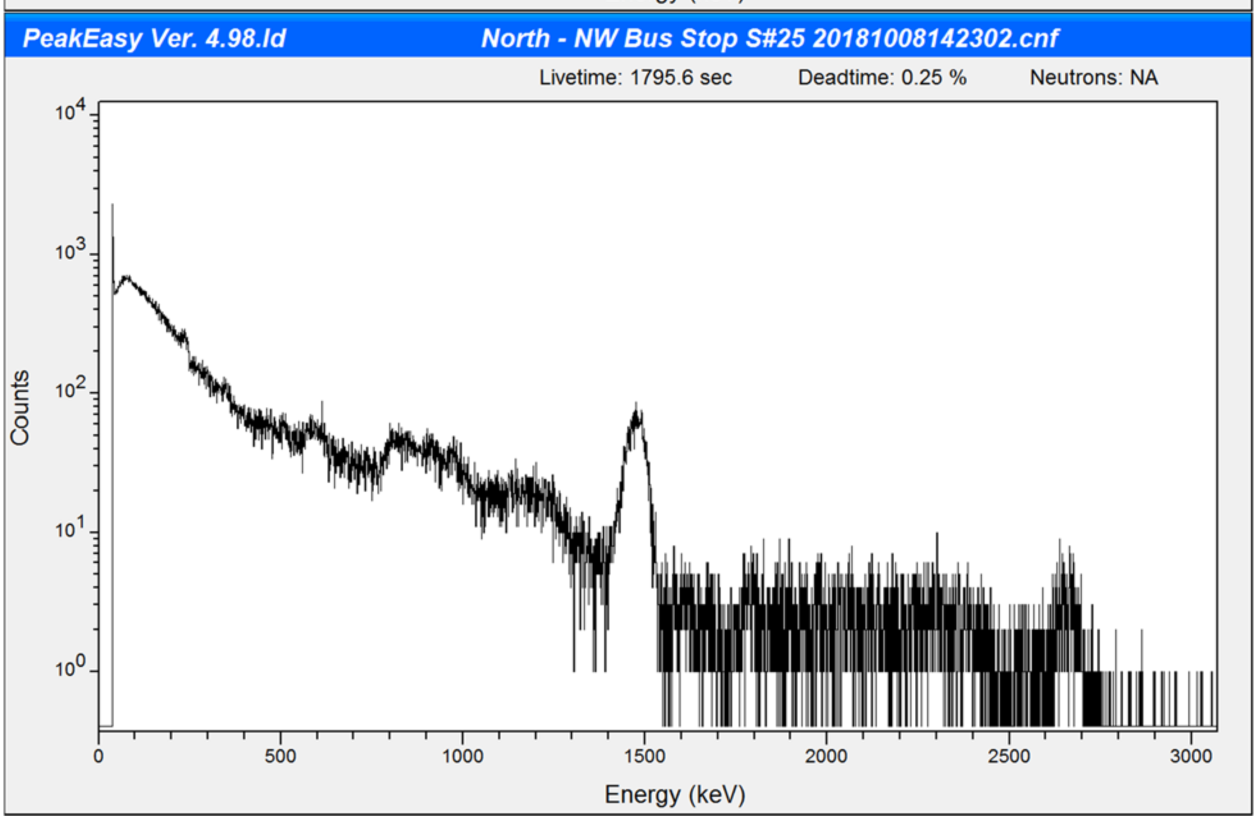

PeakEasy Ver. 4.98.ld
North - Innes NW Sidewalk A#17 20181126163737.cnf
Livetime: 1796.3 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

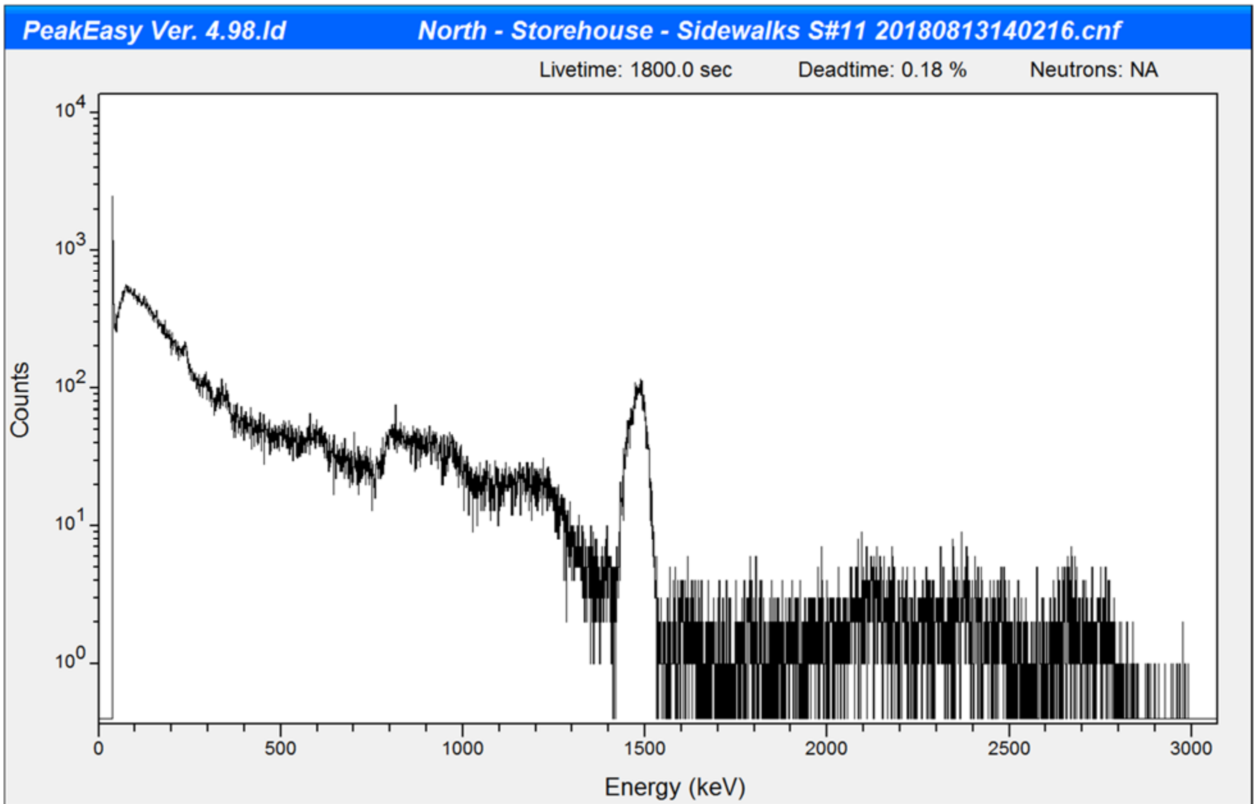

PeakEasy Ver. 4.98.ld
North - Innes NW Sidewalk A#22 20181126154233.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

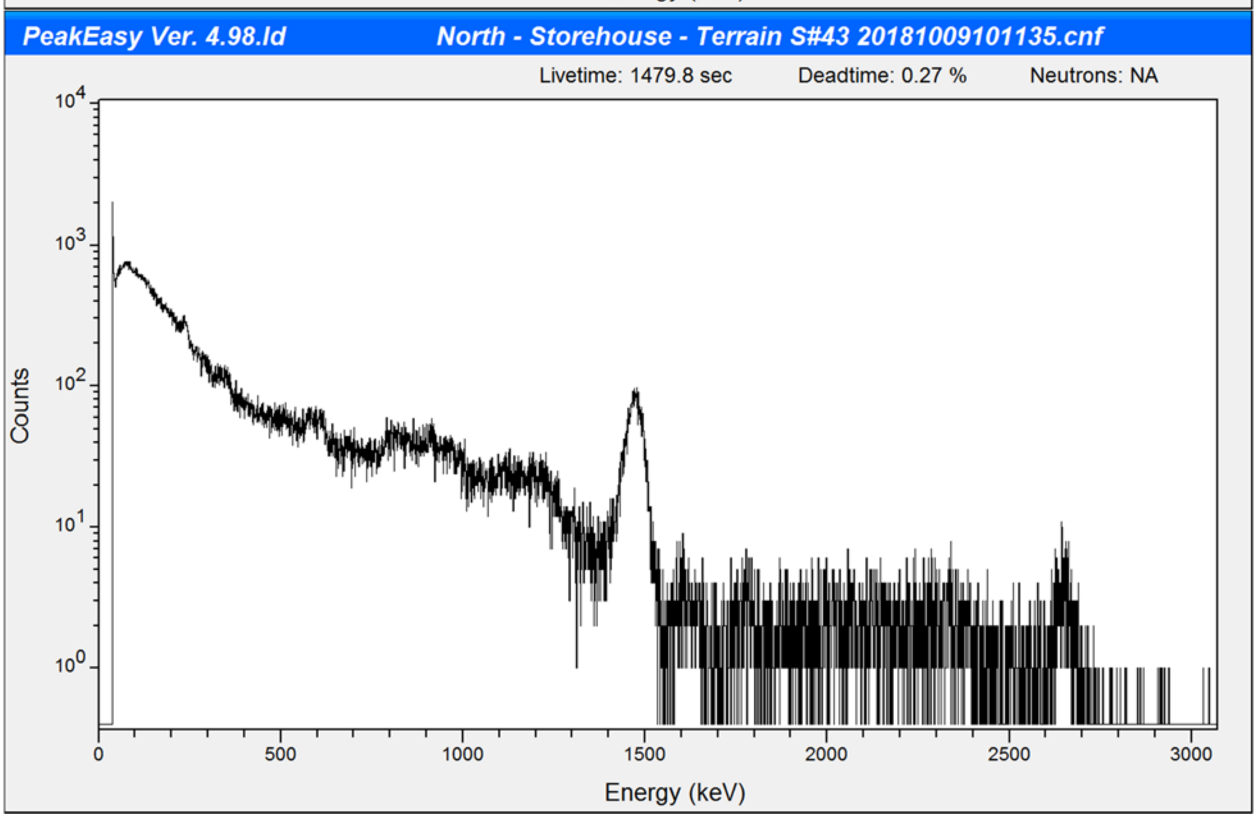

PeakEasy Ver. 4.98.ld
North - Innes NW Sidewalk S#13 20181008124724.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

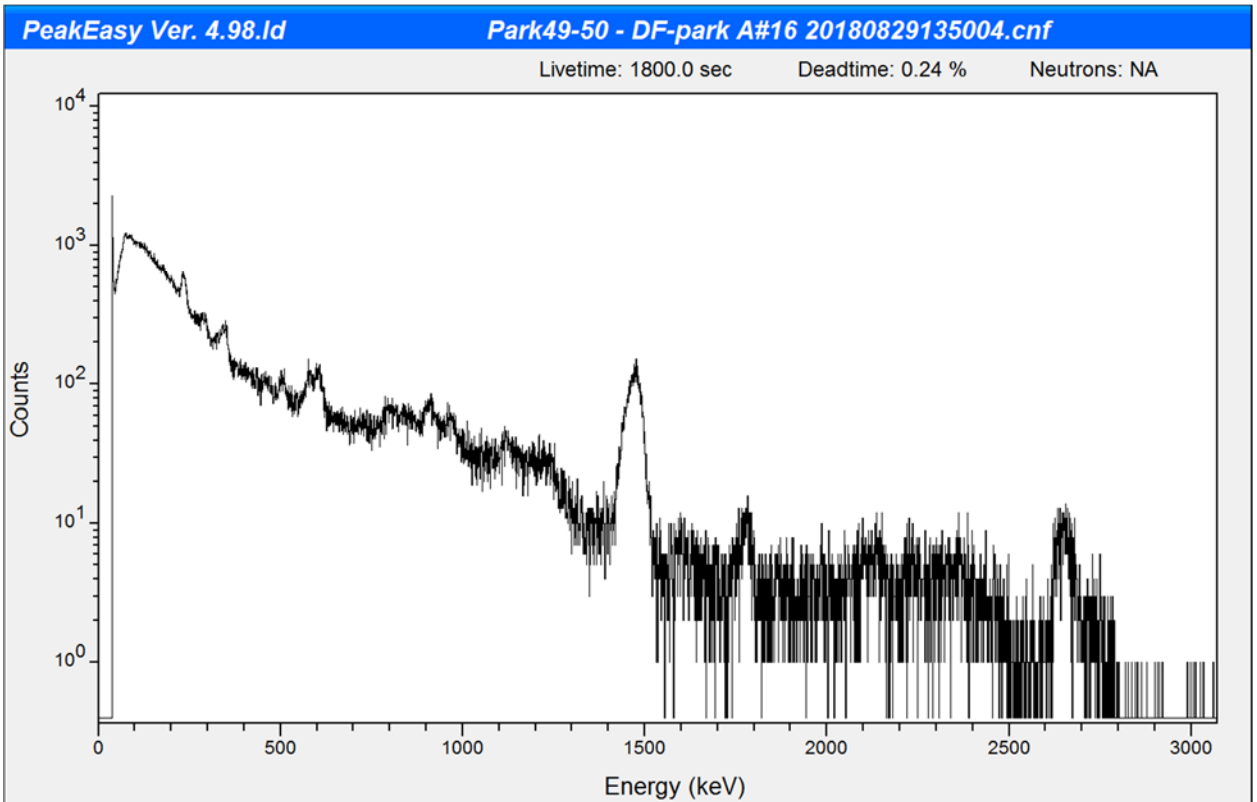

PeakEasy Ver. 4.98.ld
North - Lennar Const. Offices A#2 20180816104553.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

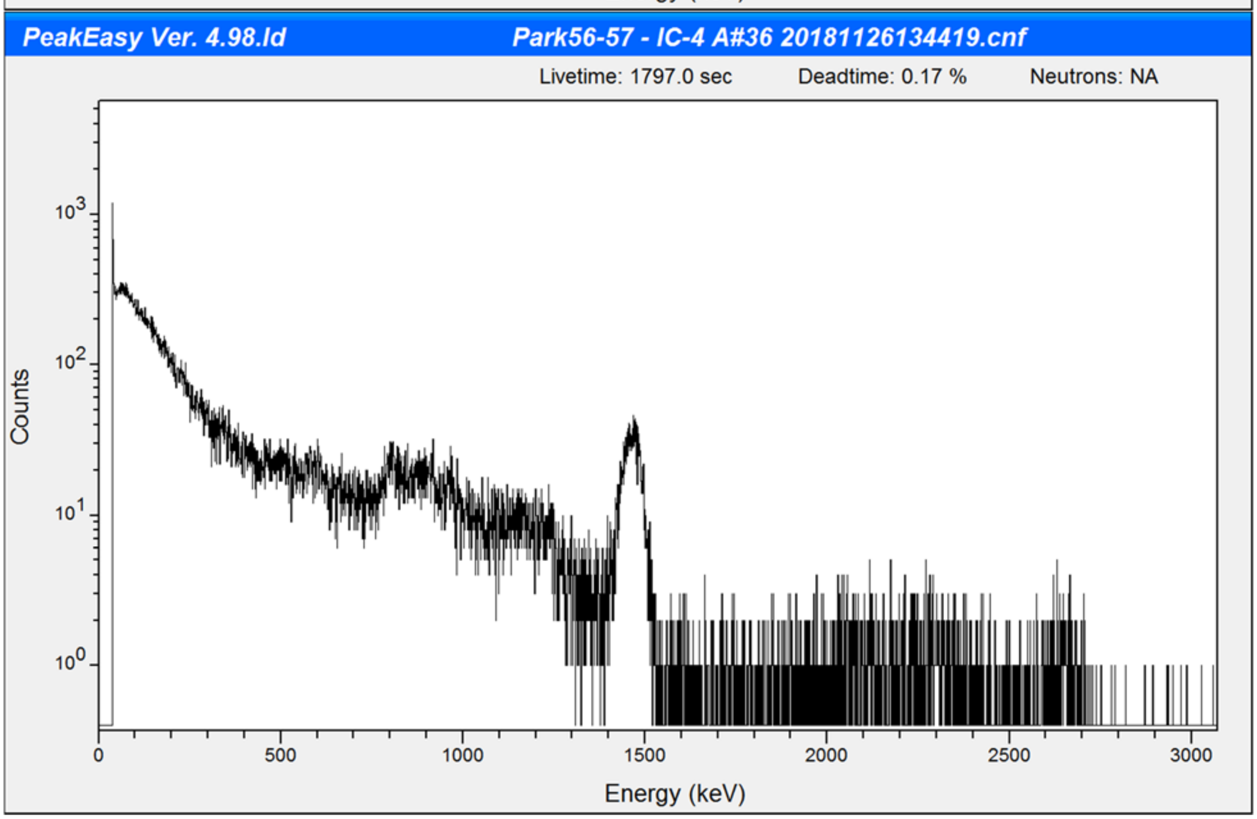

PeakEasy Ver. 4.98.ld
North - North Parking Field A#38 20180828104442.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - NW Bus Stop S#25 20181008142302.cnf
Livetime: 1795.6 sec
Deadtime: 0.25 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - Storehouse - Sidewalks S#11 20180813140216.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
North - Storehouse - Terrain S#43 20181009101135.cnf
Livetime: 1479.8 sec
Deadtime: 0.27 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Park49-50 - DF-park A#16 20180829135004.cnf
Livetime: 1800.0 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Park56-57 - IC-4 A#36 20181126134419.cnf
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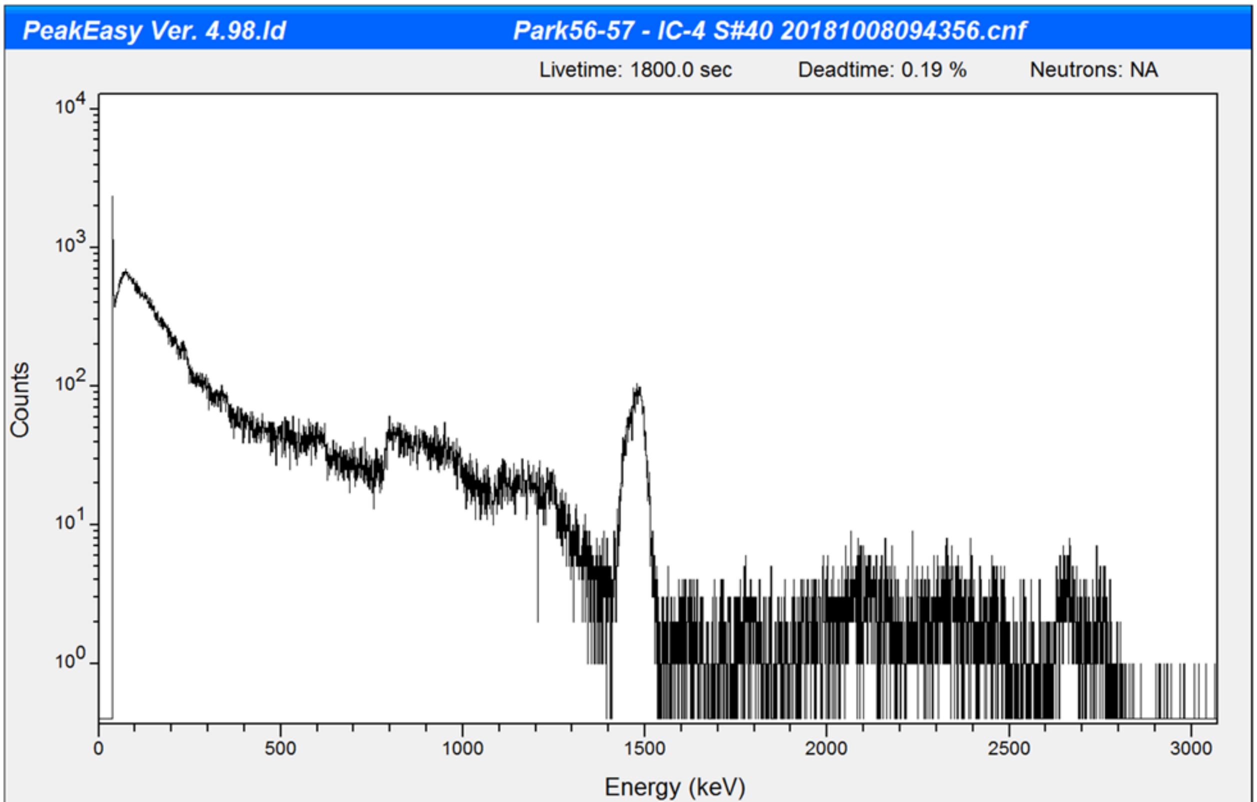
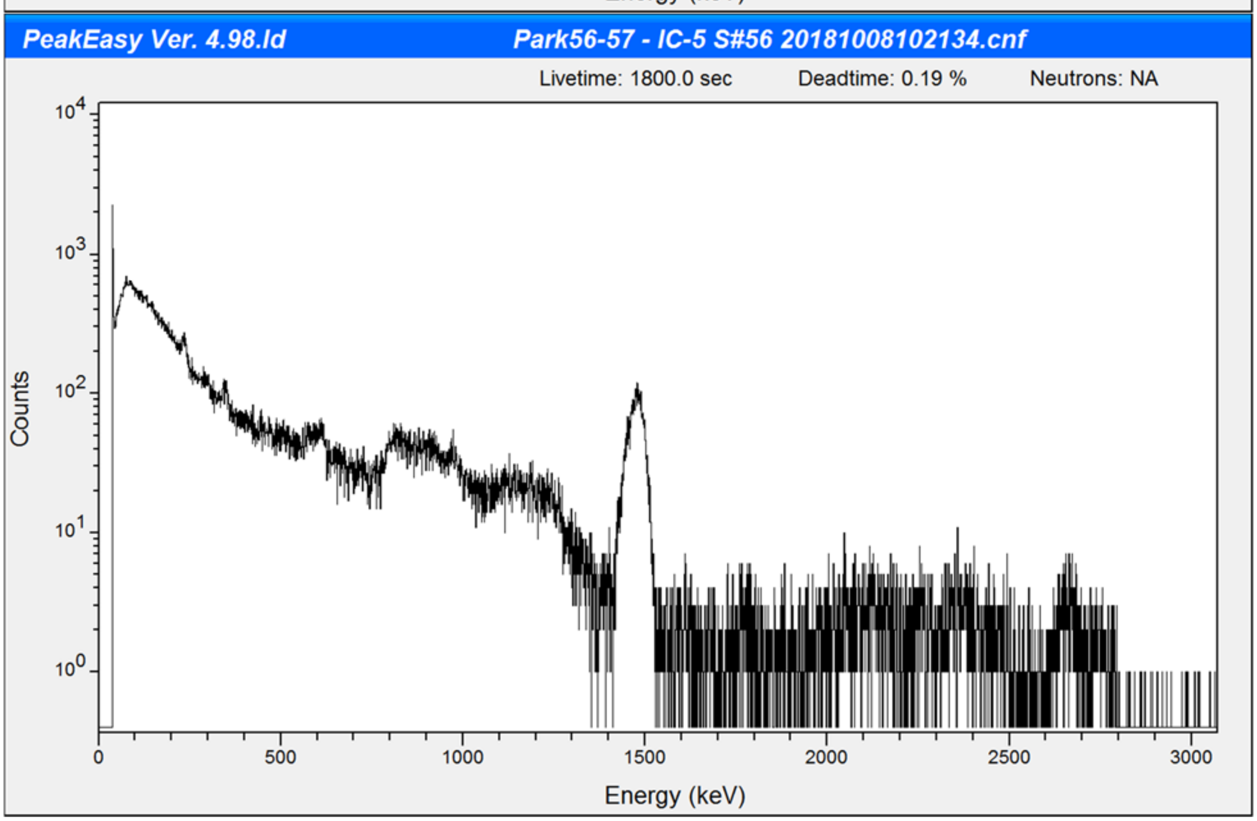
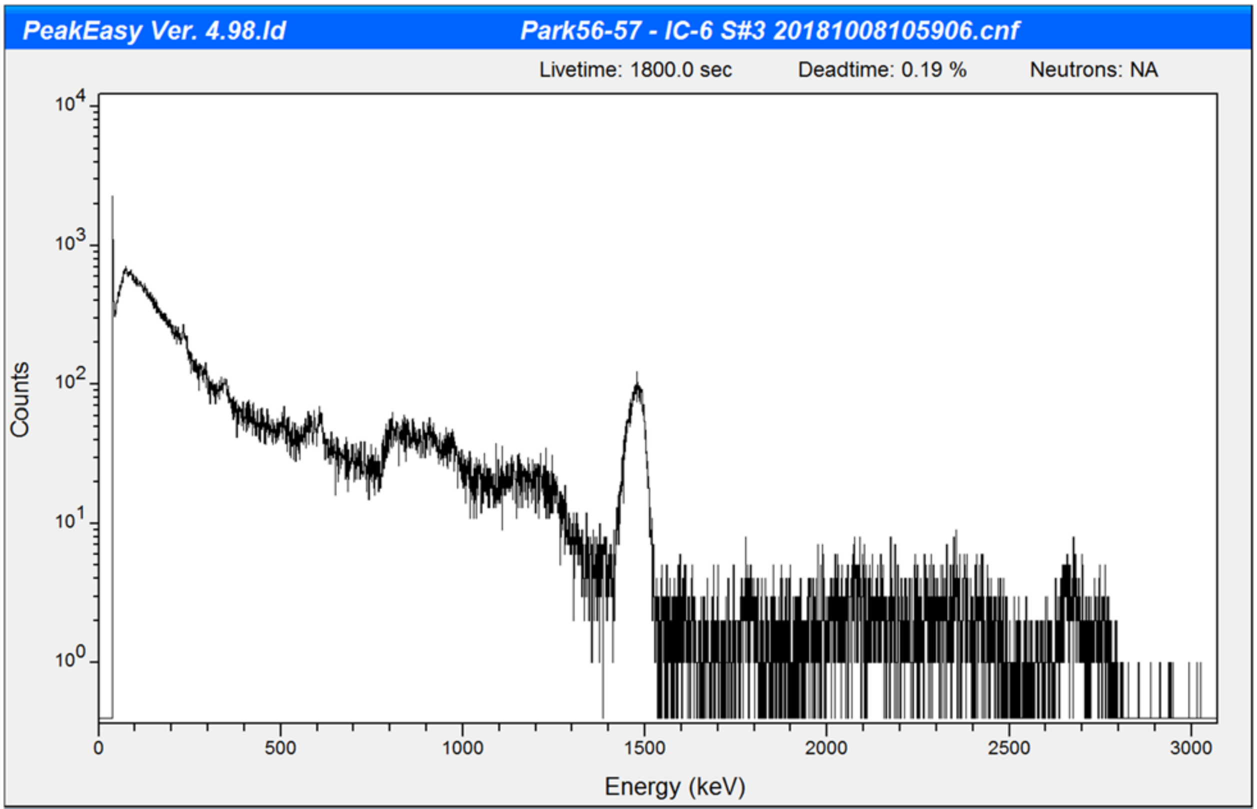
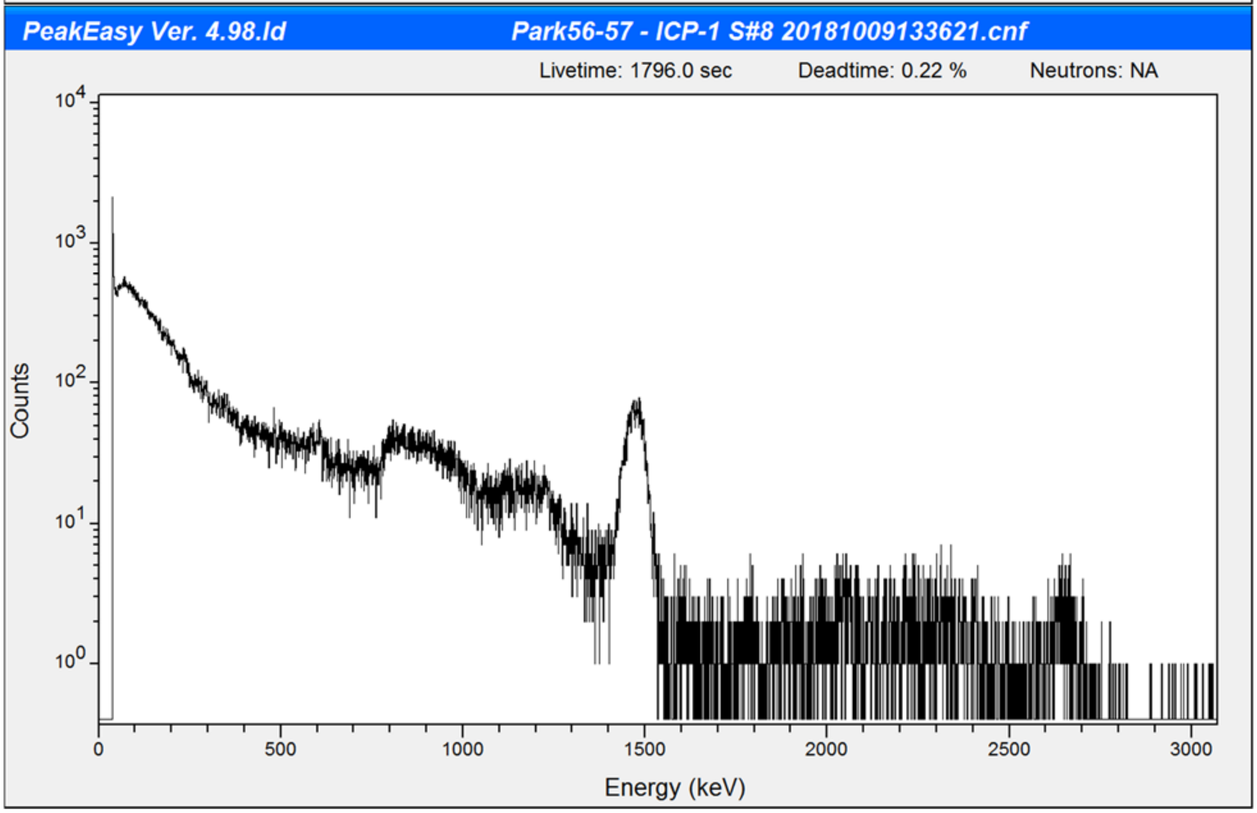
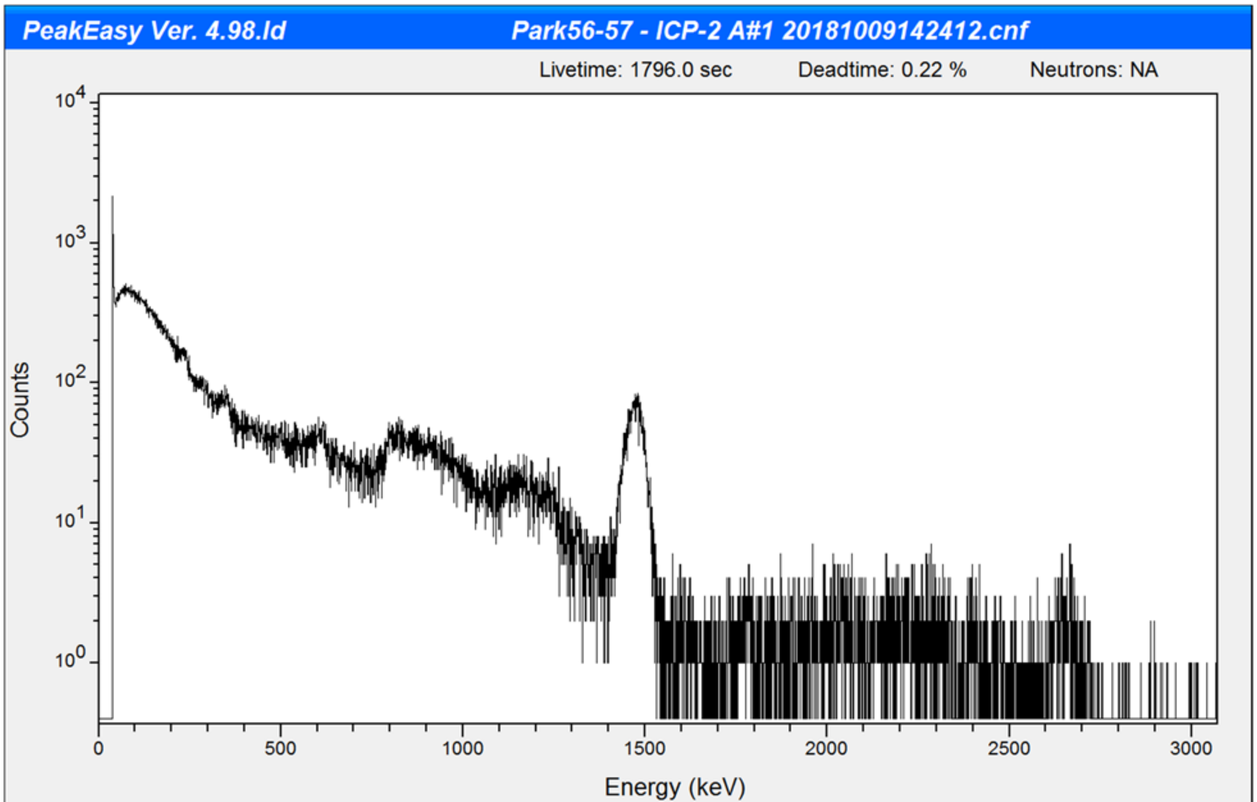
Deadtime: 0.17 %
Neutrons: NA
Counts
Energy (keV)

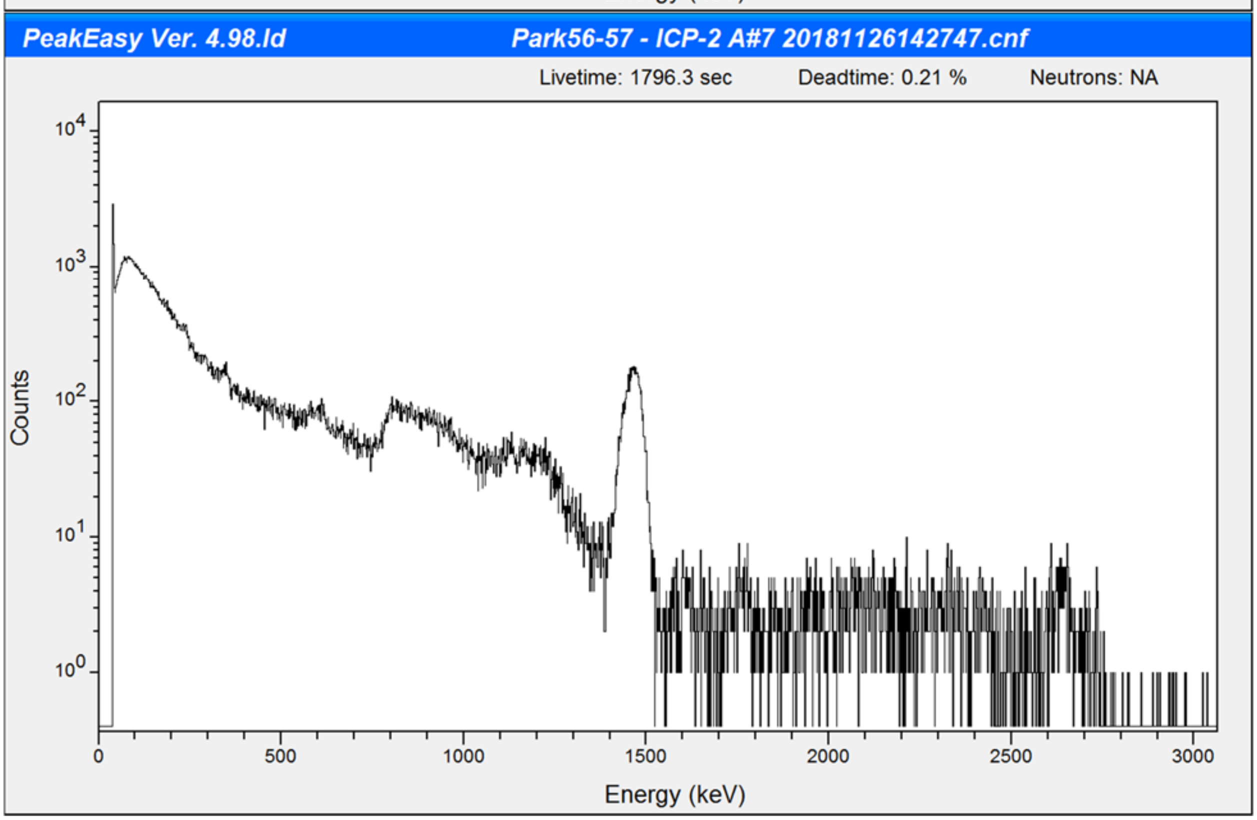

PeakEasy Ver. 4.98.ld
Park56-57 - IC-4 S#40 20181008094356.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

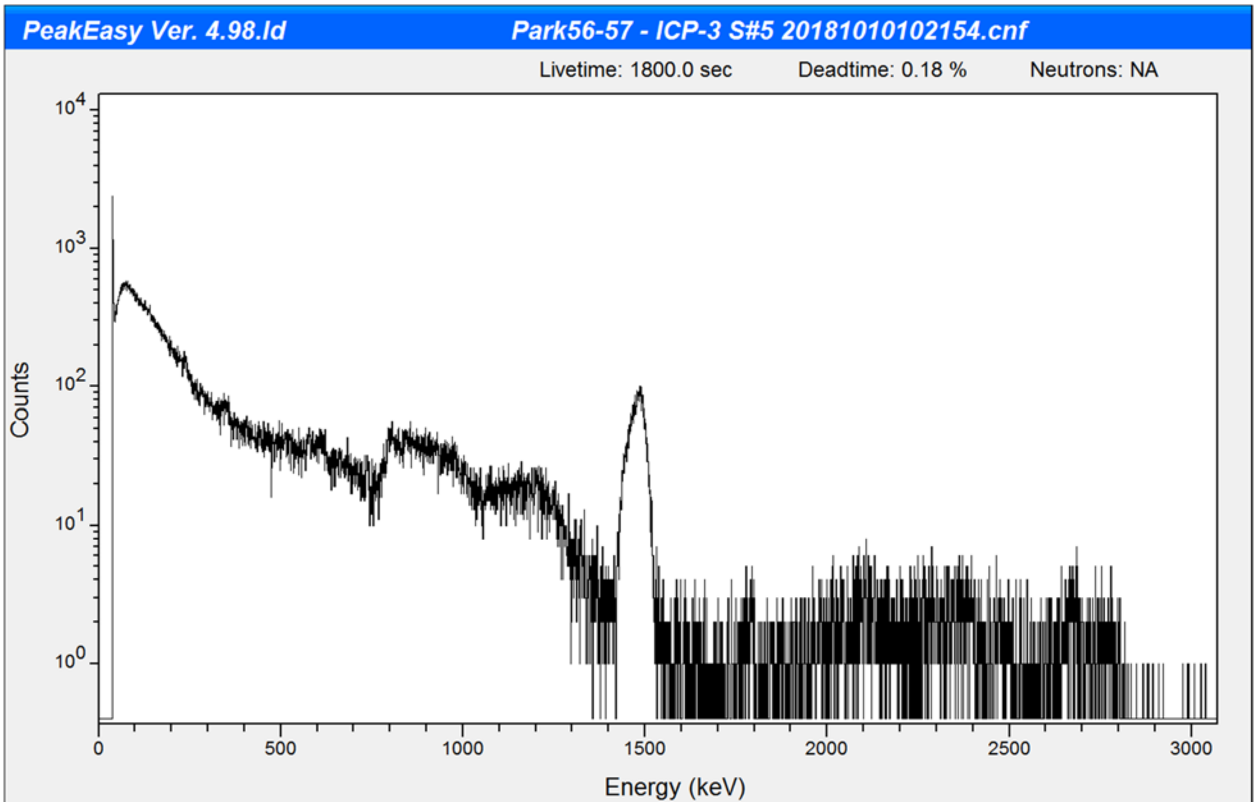

PeakEasy Ver. 4.98.ld
Park56-57 - IC-5 S#56 20181008102134.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

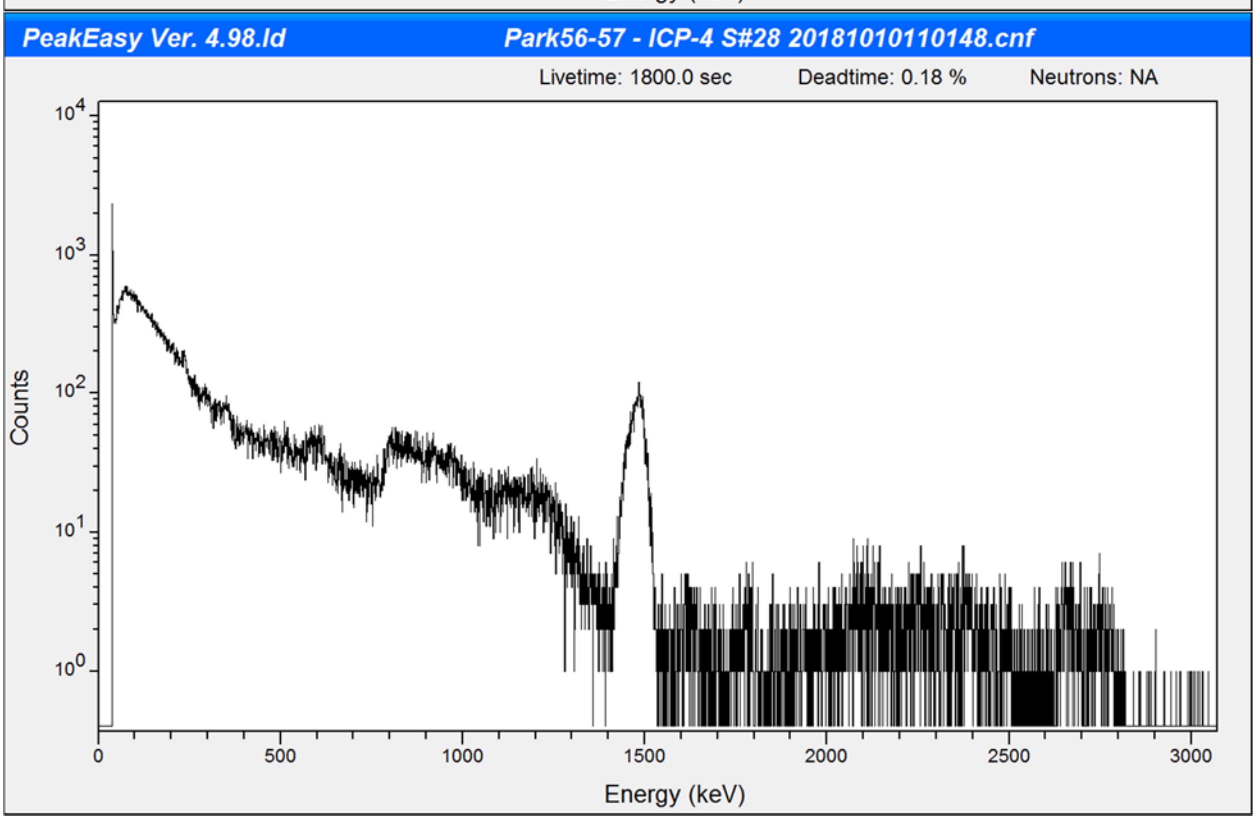

PeakEasy Ver. 4.98.ld
Park56-57 - IC-6 S#3 20181008105906.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

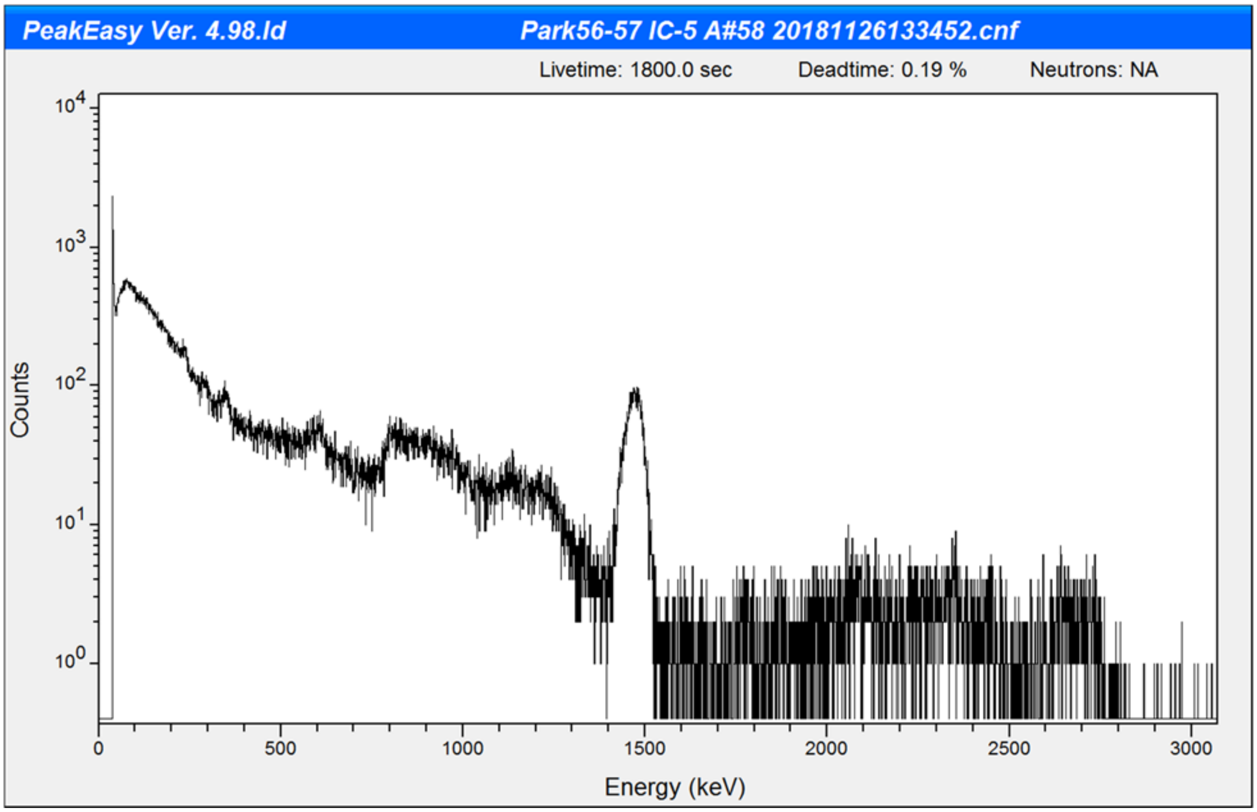

PeakEasy Ver. 4.98.ld
Park56-57 - ICP-1 S#8 20181009133621.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Park56-57 - ICP-2 A#1 20181009142412.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Park56-57 - ICP-2 A#7 20181126142747.cnf
Livetime: 1796.3 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

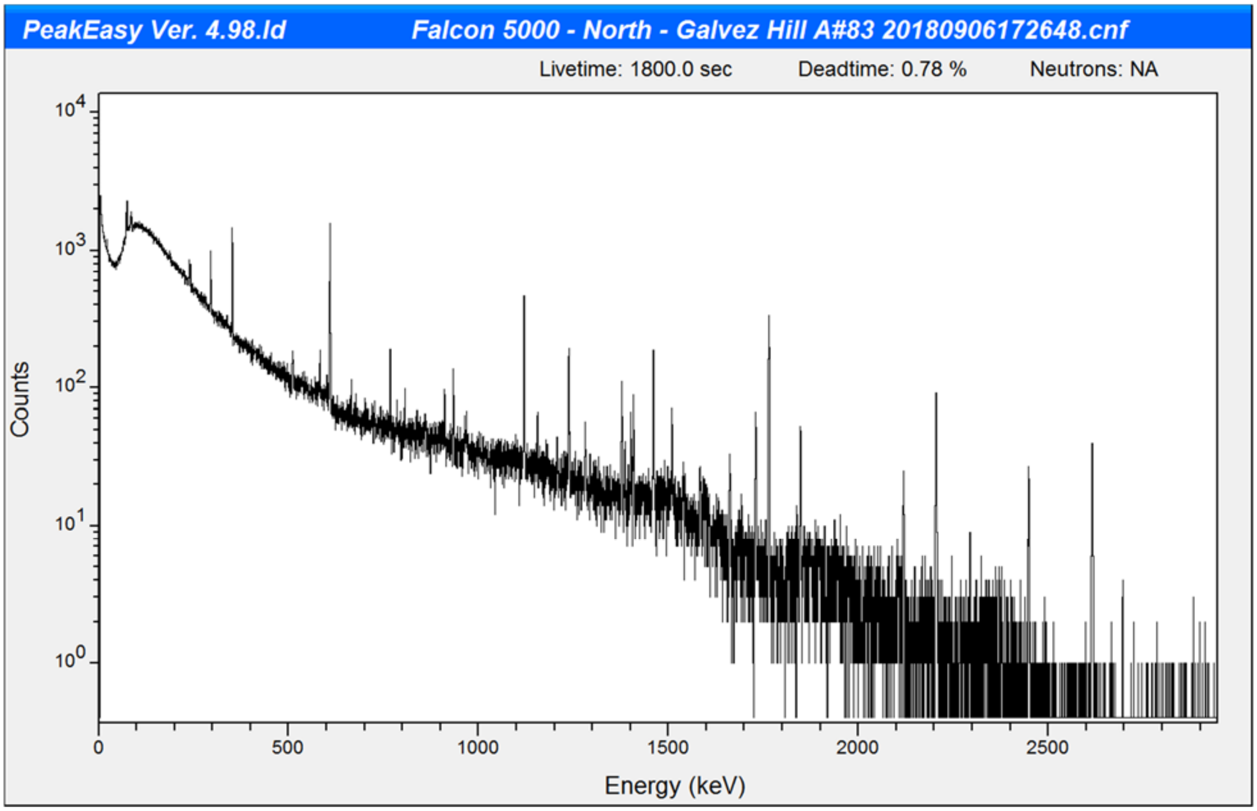

PeakEasy Ver. 4.98.ld
Park56-57 - ICP-3 S#5 20181010102154.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)


PeakEasy Ver. 4.98.ld
Park56-57 - ICP-4 S#28 20181010110148.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)


PeakEasy Ver. 4.98.ld
Park56-57 IC-5 A#58 20181126133452.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

APPENDIX 4: WALKOVER SURVEY – FALCON 5000 SPECTRA

(1 Page)



PeakEasy Ver. 4.98.ld
Falcon 5000 - North - Galvez Hill A#83 20180906172648.cnf
Livetime: 1800.0 sec
Deadtime: 0.78 %
Neutrons: NA
Counts
Energy (keV)

APPENDIX 5: TOWED ARRAY SURVEY – RS-700 TECHNICAL DOCUMENTATION

(40 Pages)

RADIATIONS SOLUTIONS, INC.
RS 700 SYSTEM OVERVIEW

SET-UP, PARAMETERS, DATA PATH, ANALYSIS

V. BRANDT, R. K. LUPO

September 27, 2018

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS, DEFINITIONS AND EQUATIONS

AC	Asphalt concrete, commonly called asphalt, is concrete consisting of aggregate rock and a bitumous binder
CoV	Coefficient of Variation = $\frac{\text{Standard Deviation of measurements}}{\text{Average of measurements}}$ Predicted CoV = $\frac{\sqrt{\text{Average of measurements}}}{\text{Average of measurements}}$
cps	Counts per second
GPS	Global positioning system
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MCA	Multi-channel analyzer
NaI	Sodium Iodide, doped with Thallium
NIST	National Institute of Standards and Technology
NORM	Naturally occurring radioactive materials
ROI	Radionuclide of Interest, plural ROIs
RS 700	Radiation Solutions, Inc. Mobile Radiation Monitoring System, for gamma and neutron detection only
RSX	Four-liter NAI detector
σ	Sigma is the standard deviation, Std. Dev. of the measurements of interest.
Std. Dev.	Standard Deviation, $\sigma = \sqrt{\frac{(x_i - \overline{x})}{N-1}}$ where x_i is measurement, **N is number** of measurements, $\overline{x}$ is the average of measurements.
SU	Survey Unit
UTV	Work /Utility vehicle
Z-score	Statistical measure of how a single measurement compares to the average of all measurements in the data set (Kruglak). $z_i = \frac{(x_i - \overline{x})}{1\sigma}$ where $\overline{x}$ is the average of measurements, x_i is individual measurement, and σ is the standard deviation of all of the measurements.

EQUIPMENT DESCRIPTION:

- **RS 700 MOBILE RADIATION MONITORING SYSTEM**

The Radiological Systems, Inc. RS 700 Mobile Radiation Monitoring system is a self-contained spectrometer designed for mobile gamma ray and neutron detection. This system cannot detect alpha or beta particle radiation, and was not configured to detect neutron radiation. The RS 700 system consists of two four-liter sodium iodide doped with thallium (NaI) detectors, a Trimble AgGPS global positioning system (GPS), power sources, vehicle with trailer, RS 701 (or RS 705) console multi-channel analyzer (MCA) and a laptop computer for real-time gamma ray and GPS position monitoring and data collection.

Figure 1: RS 700 Mapping system (towed array)

Figure 2: RS 700 Electronics and detectors on trailer

The NaI detectors are rectangular prisms, 73.1 cm long by 16.2 cm wide by 17.2 cm high. The detectors are mounted on the underside of the trailer, approximately 27.5 cm from the ground surface and parallel to each other, with a 29 cm separation between the detectors (Hensley). The long axis in the direction of travel, on the underside of a utility trailer pulled by a small utility vehicle (UTV) pulls the trailer. The NaI detector array on the trailer was towed at a target scan speed of 1 meter per second.

Data from each NaI detector and the GPS was collected on a field laptop computer equipped with the proprietary software and administrative rights necessary to operate the detection equipment. *RadAssist* software, upon selecting "Start Data Recording…" assigned a name, with date and time; to which the surveyor appended a descriptive survey unit name. The data recorded consisted of one-second data collections of region of interest data and spectral data. The number of one-second data sets for each unit surveyed depends on the path length of the scan, which depends on the area of the survey unit, the scan path separation, and the actual scan speed. At the end of the scan, *RadAssist* saved the data in the form of an *.rsv* file.

For detailed technical specifications, please see the "Technical Basis Document for the CA Radiologic Health Branch, RS 701 Radiation Mapping System, Radium 226", written by Mr. Jerry Hensley, CHP, see Appendix A: Technical Basis Document for the CA Radiological Health Branch RS-701 Radiation Mapping System; Radium 226. For clarity, the following radionuclides of interest were renamed, as follows in Table 1: Equivalent Names below:

Table 1: Equivalent Names

Technical Basis Document Name	Report Names
TotCount	Range(45-1980)
Uranium	Ra-226(1764)

- **RS 700 SYSTEM COMPONENTS**

The RS 700 System consists of the components found in Table 2: RS 700 System Components.

Table 2: RS 700 System Components

Manufacturer	Model	Serial Number	Function
Radiations Solutions, Inc.	RS 701	7017	Console
Radiations Solutions, Inc.	RS 705		Console
Radiations Solutions, Inc.	RSX	5121	NaI detector (Det. #1)
Radiations Solutions, Inc.	RSX	5122	NaI detector (Det. #2)
Trimble	Z plus	31534803	GPS antenna
Trimble	AgGPS 332	0225122424	GPS receiver
TrippLite	PV6168	9629AY	Power inverter

Other components for the RS 700 system include detector cables, antenna cable, separate power cables for the RS System and the GPS system, a battery for powering GPS, crossover cable to connect the RS 701 console to the data logging device, RS232 cable for connecting the GPS antenna to the RS 701 console, and data logging device with power cord.

- **RS 700 DATA PATH**

Data file of interest collected by RadAssist was in the form of a *.rsv* file which must be converted for analysis, graphing and mapping. Prior to analysis, the files were transferred from the field computer to a faster laptop, with faster processors and larger random access memory (RAM) memory. Data was backed up on G and H drives. When available, the initial unprocessed data was also burned onto a DVD for archive purposes. File conversion and data analysis path is as follows, for summary of process see Figure 3: RS 700 Data Path:

1. *RSV to RAW File Conversion*-proprietary software tool, part of the RadAssist software package, which formats the data for RadAssist to open and to export. Creates *.RFL* file or files depending on the number of 1-second data sets. These files are placed in the same folder as the original *.rsv* file.
2. *RadAssist*-converts *.RFL* file(s) into a comma-separated-value (*.csv*) file. Spectral data is always collected, but export preferences determine whether it is exported into the (*.csv*) file. This conversion can be performed repeatedly and/or separately for processing spectral data. The number of rows of data is dependent on how many 1-second data collections were made. The largest survey unit file for Hunters Point Parcel D-2 has 6963 rows of data.
   a. File for mapping consists of 70 columns
   b. File for spectral data consists of 1094 columns
3. *Excel*-converts *.csv* files to Excel 97-2003 Workbook version *.xls* file for future data analysis and graphing. This Excel version is necessary to be compatible with Surfer 7.0 mapping software.
   a. For spectral data, the *.csv* file must be converted to Excel Workbook *.xlsx* file. The Excel 97-2003 Workbook does not support enough columns to display all 1094 columns of data.
4. *Excel*-RS 700 Analysis Template- is a workbook created to consolidate and streamline data analysis and graphing. All graphs and calculations are based upon the same set of data, eliminating inconsistent version errors. Macros embedded in the spreadsheet template automate inputting data, separating out GPS failure data, and tailoring the calculation fields and graph parameters to the number of rows in each data set. The workbook is saved with the same name as the original survey file as an Excel Workbook *.xlsx* format to strip out the macros and Visual Basic for Applications (VBA) scripts which are incompatible with *Surfer 7.0*. The file is then re-saved as an *Excel* 97-2003 Workbook *.xls* format, because the *.xlsx* format is incompatible with *Surfer 7.0.*

   a. As part of the analysis, the user inputs values from the chosen background. The effect of a different background data set can easily be evaluated by substituting that background data.
   b. The data set may be altered to remove data for points outside of the survey unit, such as data collected while turning the vehicle and trailer in outside of a confined survey unit.
   c. Details on analysis parameters can be found in the following section Analysis Description

5. *Surfer 7.0*-maps the data processed in the Excel workbook
   a. Quality Assurance/Quality Control (QA/QC) data sets were not mapped
   b. Background data sets collected while the array was stationary were not mapped.
6. Analysis-*Surfer* maps and the *Excel* worksheet are analyzed for anomalies, such as high count rate points, clusters of elevated measurements which may indicate the need for further investigation.
7. *Cumulative Probability Plot 3.0* software-graphs data and indicates whether measurements for a region of interest of a survey unit lie outside a normal distribution.
8. Report.

Figure 3: RS 700 Data Path

RS 700 Radiation Mapping system
- Data set named by surveyor
- Data collected on computer
- File: *name*.rsv

RSV2RAW File Converter
- RadAssist, software tool
- File: RSV0000.RFL

.CSV file conversion
- RadAssist software
- Option: include spectral data in export
- Export as *.csv* file
- File: DEX_*yyyymmdd_hhhhss*.csv

.XLS Conversion
- Excel software
- Convert *.csv* to *.xls*
- File: DEX_*yyyymmdd_hhmmss*.xls

Spreadsheet Analysis
- Excel software
- Import file: : DEX_*yyyymmdd_hhmmss*.xls
- Choose background, enter data
- Separate GPS failure data
- Create graphs, z-scores, summary sheet
- File: *name*.xls

Surfer Mapping
- Surfer software
- Create Classed Post maps for each ROI
  - Guide: *Surfer Map specs.xlsx*
- Create maps: background, self, z-scores
- Files:
  - *name*-Bkgd.srf,
  - *name*-Self.srf,
  - *name*-Z-scores.srf

Cumulative Probability Plot 3.0
- Data: *.csv* file, ROI columns
- Plots data for user to compare to Normal distribution
- File: *name*.cmp

Conversion
- Excel, Notepad software
- Open file: DEX_*yyyymmdd_hhhhss*.csv
  - Sum desired range of spectral data by channel,
  - Copy across all channels,
  - Paste special-Values, with transpose into next sheet
- Copy column, paste into Notepad
- Save as:
  - All Files, extension *.tka*
- File: *name*.tka

Spectra Display
- Genie 2000 software
- Open: select PC-Toolkit
- File: NAME
- File Type: SpeedDial (CAM file)

Report

ANALYSIS DESCRIPTION

- **RS 700 RADIATION MAPPING SYSTEM**

Because the radionuclides of concern do not emit gammas, or emit very low energy, low yield gamma radiation (radium-226, 186.2 keV, 3.3% abundance), the higher energy gammas of their progeny are used, for example radium-226 progeny bismuth-214 gammas 609.3 keV (46.3% abundance) and 1764.6 keV (15.8% abundance).

The detection parameters for the RS 700 system were set to measure five windows centered on the gamma emissions of the radionuclides of interest, or one of their more detectable progeny. These windows were named for the ROIs: Potassium, Ra-226(1764), Thorium, Radium (609), and "Range(45-1980)" for the range of gamma-emitting radionuclides detected between 45 keV and 1980 keV. The channel-to-energy conversion is one channel equals 3 keV energy. Table 3: RS 701 Detection Parameters shows the window range for each ROI and the peak of interest.

Table 3: RS 701 Detection Parameters

ROI Name	Start Channel	End Channel	Peak of Interest
Range(45-1980)	15	660	Peaks: 45 keV to 1980 keV
Potassium	457	523	1460.8 keV
Ra-226(1764)	553	620	1764.5 keV (Bi-214, progeny of Ra-226)
Thorium	803	937	2614.7 keV (Tl-208, progeny of Th-232)
Ra-226(609)	182	222	609.3 keV (Bi-214, progeny of Ra-226)
Cs-137	183	247	661.6 keV (Ba-137, progeny of Cs-137)

Neither potassium nor thorium are a radionuclides of interest and are considered naturally occurring radioactive materials (NORM), thus these ROIs are used to characterize the variability of the background. The Ra-226(609) and Ra-226(1764) regions are used to evaluate the presence of anthropogenic radium 226, by measurement of the gamma radiation emitted by the radium 226 progeny bismuth 214. The Compton continuum of 1460.8 keV potassium peak contributes to the Ra-226 (609) ROI counts and is not automatically compensated for by the *RadAssist* calibration parameters. Therefore, where elevated Potassium counts are found, the Ra-226 (609) and Cs-137 counts are also expected to be elevated.

Due to the resolution, or peak width, characteristic of NaI (Tl) detectors, and the close proximity of the Ra-226(609) and Cs-137 peaks of interest, there is significant overlap of the ROIs.

The radiological data is associated point-by-point to geographical and temporal information. Radiation Systems, Inc. proprietary software, *RadAssist*, was used to convert collected data from the detector into comma separated values format. The data was then analyzed using *Excel* spreadsheets and *Surfer* (map plotting software). Spectral data was examined using the *Genie 2000* or *Peak Easy* software. Due to the width of the NaI detector peaks, spectral analysis was qualitative rather than quantitative.

Using *Excel* spreadsheets designed for RS 700 data analysis, measurement averages, standard deviations, average plus 2-5 sigmas, z-scores, coefficients of variation for each ROI in each survey unit were calculated. ROI graphs were used to look for clusters of elevated measurements. Ratios of ROIs were compared to evaluate background variability against the primordial radionuclides of interest (potassium and thorium). The functions of the *Excel* spreadsheets based on *RS 700 Analysis Template.xlt* are summarized in Table 4: RS 700 Analysis Template spreadsheet below.

Table 4: RS 700 Analysis Template spreadsheet

Sheet Name	Sheet Function
Summary	Raw Data: data drawn from Raw Data and GPS Failure Data sheet; Predicted CoV calculated directly, Avg. and Std. Dev. used by Z-scores. Z-scores: data drawn from Z-scores sheet Ratios: data drawn from Ratios sheet Background: data entry (background Average and background Std. Dev.) used by Net Graph Data, Color Separate,
Summary-Self Bkgd	This worksheet summarizes data from "Self-Background data", analyzes and compares "Raw Data" to 2, 3 and 4 sigma reject averages an standard deviations.
DEX …	Data imported from RadAssist
Imported Data	Data sheet for exported data from RadAssist, copied from data sheet (DEX …).
Raw Data	Contains all detector data, minus GPS failure Data. ROI Graphs, Z-scores calculations and graph, Ratio calculations and graphs, and Summary calculations are based upon this data set. Macro extracts GPS Failure data and places in the GPS Failure Data sheet.
GPS Failure Data	Holding place for GPS failure data removed from "DEX …" and "Raw Data" sheets. Data contained in this sheet is included in calculation of average and standard deviations for each region of interest.
Graph Data	Automatically imported from Raw data, automatically calculates Average, Std. Deviation, +2 sigma, -2 sigma, +3 sigma, -3 sigma for each ROI based upon data set values. Automatically imports Background average and Background Std. Dev. from data input on "Summary" sheet. Automatically calculates Average +2 sigma, Average-2 sigma, Average +3 sigma, Average-3 sigma from Background Std. Dev.
ROI Graphs	Graphs generated from Graph Data sheet, using data set average and Std. Dev.
ROI Graphs, Bkgd Sigmas	Graphs generated from Graph Data sheet, Background and Std. Dev. from data input on "Summary" sheet. Sigmas are calculated using Background Std. Dev. entered in "Summary" sheet.
Z-scores	Automatically calculated, binned and graphed, this data is used in Surfer maps
Net Graph Data	Point-by-point subtracts the background the user inputs into Summary and automatically generated Background, Std. Deviation (of Background), +2 sigma (of Background), -2 sigma, +3 sigma, -3 sigma for each ROI based on Background data entered by the user.
Net Graphs	Graphs generated from Net Graph Data sheet.
Ratios	Data is pulled from Raw Data, calculated automatically and graphed automatically
Color Separate	This worksheet is for producing color separation layers for each ROI for graphing in Surfer. Separation parameters are set from user entered background average and standard deviation for each ROI.
Self-Background Data	This worksheet is for producing self-background Averages and Standard deviations based on rejecting data greater than 2, 3 or 4 sigma. Results are summarized in the worksheet: "Summary-Self Bkgd"
OPhub	Necessary for macro use
OPlog	Detailed log of macro actions; necessary for macro use
OPstore	Necessary for macro use

- **Z-SCORES**

Z-scores are a unit-less measure of each measurement's deviation from the average, divided by the standard deviation of the measurements of that survey unit. Z-scores were calculated separately for each survey unit and for each ROI. A greater Z-score number indicates a measurement farther from the mean of the measurements for the survey unit and ROI.

Radiation Solution RS-701 Mobile Radiation Monitoring System: Operation Procedure

Author: Date:

Reviewer: Date:

Approver: Date:

Radiation Solution RS-701 Mobile Radiation Monitoring System
Operation Procedure

Section 1: Initial Setup

1. Remove detectors (2 each), RS-701 control box, detector cables (2 each), GPS (1 each), Ethernet crossover cable, and power connector (12 VDC or 110 VAC) from kits.
2. Visually inspect for damage
3. Connect detector cable #1 to RS-701 control box ***DET 1*** and detector #1 connector (Serial number 5121)
   Note: Each end of the detector cable has a different gender – only connect to appropriate connector.
4. Repeat step #3 for detector #2 (Serial number 5122)
5. Connect GPS antenna to "***GPS***" connector on RS-701 control box
6. Connect power supply cable (110 VAC or 12 VDC as applicable) to RS-701 control box ***POWER*** connector.
   Note: white wire on 12 VDC is *hot* and the black wire is neutral

Section 2: Initial QA/QC Setup

1. System is operational when all LEDs on RS-701 console are green.
2. Perform initial background setup.
   a. Find location(s) where QA/QC tests may be performed multiple times each day. Location should be flat, no sources of elevated radioactivity, and easy to drive UTV and detector each day.
   b. Mark location using paint or flags.
   c. Remove all check sources (minimum of 20 feet away).
   d. Note start time and stop time.
   e. Allow system to collect a minimum of 300 seconds of data without sources present.
   f. Calculate average background value using 300 seconds of data from the Cs-137 region of interest (ROI).
   g. Calculate standard deviation value using 300 seconds of data from the Cs-137 ROI.
3. Perform initial Cs-137 source measurements.
   a. Remove all sources except 1 μCi Cs-137 point source. This source does not require NIST traceability but the same source should be used throughout the data collection.
   b. Place the Cs-137 source on the cart at location noted on frame. All QA/QC measurements will require placing the source at this same position.
   c. Note start and stop time on log.
   d. Collect minimum 300 seconds of source data.

e. Calculate average background value using 300 seconds of data from the Cs-137 ROI.
f. Calculate one, two, and, three standard deviation values using 300 seconds of new data from the Cs-137 ROI.

Section 3: Operation

1. Set up computer to communicate with RS-701 system
   a. Turn on computer
   b. Set IP address of computer as follows – this requires administrator access (page 39 of manual)
      i. Click ***START*** on lower left of screen
      ii. Click ***SETTINGS***
      iii. Click ***NETWORK SETTINGS***
      iv. Under LAN or High-Speed Internet, click ***LOCAL AREA CONNECTION***
      v. Under the General tab, select ***PROPERTIES***
      vi. Click ***INTERNET PROTOCOL (TCP/IP)*** – will highlight
      vii. Click on ***PROPERTIES***
      viii. Under the General tab, select ***USE THE FOLLOWING IP ADDRESS:***
         1. Input the following IP address: ***192.168.1.100***
         2. Input the following Subnet mask: ***255.255.255.0***
         3. Input the following Default gateway: ***192.168.1.1***
      ix. Click on ***OK***
2. Connect Ethernet Cross-Over cable to RS-701 Control box ***DATA*** position and the other end in the computer Ethernet connector.
3. Press the silver button on the RS-701 console and *hold* until the LEDs on console illuminate.
   a. *Yellow* lights for the detector indicate the detectors are performing an automatic gain adjustment (aka energy calibration) – no radioactive sources are required.
   b. *Red* light indicates an error.
   c. *Purple* light indicates startup.
   d. *Green* light indicates all is OK.
4. Select ***RADASSIST*** icon (or Start, Programs, RSI, and RadAssist)
5. Connect RadAssist to computer
   a. Select ***FILE***
   b. Select ***CONNECT TO DEVICE...***

   c. Under ***DIRECT CONNECTION*** tab,
      i. Select ***RS-701 PROTOCOLS*** displayed,
      ii. Select ***CONNECT***.

   Note: Device is RS-701 System Console and IP address of RS-701 is 192.168.1.149

6. System is operational when all LEDs on RS-701 console are *green*.
7. Perform QA/QC test. This should be performed at the start and end of each run. No more than 3 hours of data collection should occur between background and source tests.
   a. QA/QC tests should occur in the same physical location, if practical.
   b. Collect background data file by removing all sources of radiation. Note start and stop time on log. Allow system to collect a minimum of 180 seconds of data.
   c. Place ~ 1 uCi Cs-137 point source at location noted on cart. The source does not require NIST traceability but the *same* source should be used for survey duration.
      i. Note start and stop time on log.
      ii. Allow system to collect a minimum of 180 seconds of data with the source in position.
   d. Net source data should be within 2σ of the initial net cps. Project health physicist (HP) may approve up to 3σ deviation on a case by case basis.
8. Start collecting data on laptop by selecting ***FILE*** and ***START DATA RECORDING***. Choose file name and storage location. Note start time.
   Note: System will automatically collect data without a computer.
9. At the end of data collection, select ***FILE*** and ***STOP DATA RECORDING…***
10. To retrieve data in the RS-701 console, select ***DEVICE*** and ***REQUEST ALL EVENTS***, chose file name and save in predetermined location.
11. To turn system off
    a. Select ***FILE*** and ***STOP DATA RECORDING…*** if still collecting.
    b. Exit out of RadAssist
    c. Press and hold silver ***POWER*** button on back of RS-701 console until lights on the console turn off.
12. Disconnect cables
13. Change computer IP address to ***OBTAIN AN IP ADDRESS AUTOMATICALLY,*** using Step #7
14. Setup baud rate equal to 38,400 on RS-701 Com-1 for external GPS, on RS-701 ***DEVICE PARAMETERS*** tab on RadAssist program

Section 4: Instructions for Using Surfer (field mapping)

1. Retrieve raw data from Rad Mapping system (RMS) by inserting USB memory stick to RS-701 console. Data will be automatically downloaded when a memory stick is inserted. The LED on RS-701 will stop flashing when data is downloaded.
2. Copy files to directory on computer hard drive.
3. Open RadAssist program by selecting ***RADASSIST*** icon.
4. Select ***RAW DATA PROCESSING TAB*** at bottom on program.
5. Select folder icon (Load raw files from a given folder).
6. Select show loaded files icon.
7. Select files required to be processed.
8. Select data that will be processed by highlighting on screen – include QA/QC data if applicable. Use times referenced on scale.
9. Select arrow with green background icon
10. Exported Data Range screen - Data range should be ***SELECTED DATA***, then ***NEXT***
11. Export Data Format screen - Output format should ***CSV*** and ***OPEN FILE AFTER THE EXPORT***
12. Sample time format should be ***UTC YYYY/MM/DD/HH:MM:SS***, data format CSV Export Options - should be ***LLA WGS84 COORDINATES***, only ***OUTPUT ROIS*** selected, then ***NEXT***.
13. Ignore Errors screen – do not select anything, then ***NEXT***.
14. Virtual Detector Configuration screen – select Virtual Detector 1 and Detector Pack 1 only detectors 1 and 2 should be selected, then ***FINISH***.
15. Export Done, select ***OK***
16. Save CSV file according to project specifics.
    a. Column I = longitude,
    b. Column J = latitude,
    c. Column K =elevation,
    d. Column Q through XXX is the radiation reading in counts per second (cps) for each named ROI.
17. Open the Surfer program by double clicking on the ***SURFER*** icon.
18. Create a classed post map by performing the following steps:
    a. Select ***MAP / POST MAP***, and then ***NEW CLASSED POST MAP***.
    b. Open *XXXXXX*.csv file. *XXXXXX* is the file you want to plot.
    c. From the Classed Post Map Properties **General** tab, select the following:
        i. X Coord: Column I,
        ii. Y Coord: Column J,
        iii. Z Value: Column Q or higher.

d. From the *Classed Post Map Properties* **Labels** tab, use all default values.

e. From the *Classed Post Map Properties* **Classes** tab, the number of classes should be 3 and the binning method should be equal number. Change classes as follows:

i. Class 1 upper value to the "average + 2σ".

ii. Class 2 lower value to the "average + 2σ" and the upper value to the "average + 3σ".

iii. Class 3 lower value to the "average + 3σ" and the upper value to the highest integer on the survey.

iv. Note: It is preferable to use, a light green equal arm cross "✚" symbol for values up to the "average + 2σ". For values between background + 2σ and background + 3σ use a dark yellow triangle "▲". For values greater than "average + 3σ", it is preferable to use a red dot "●".

19. Select **Apply** and then **OK** when complete.
20. Save file by selecting **File**, **Save As**, and then *XXXXXX*.srf. *XXXXXX* is the name of the original file.

TECHNICAL BASIS DOCUMENT

CA RADIOLOGIC HEALTH BRANCH

RS-701 RADIATION MAPPING SYSTEM

RADIUM 226

February 2010

NOTICES

The mention of trade names or commercial products in this publication is for illustration purposes and does not constitute endorsement or recommendation for use by the State of California.

TECHNICAL BASIS DOCUMENT FOR THE CA RADIOLOGIC HEALTH BRANCH RS-701 RADIATION MAPPING SYSTEM RADIUM 226

Prepared by:
JERRY R. HENSLEY, CHP
Health Physicist

John G. Fassell

Reviewed by:
JOHN FASSELL, CHP
Supervising Health Physicist

Approved by
GARY BUTNER
Chief, Radiological Health Branch

Table of Contents

List of Tables

List of Figures

TECHNICAL BASIS DOCUMENT FOR THE CA RADIOLOGIC HEALTH BRANCH RS-701 RADIATION MAPPING SYSTEM RADIUM 226

INTRODUCTION

The Radiation Solutions Inc., RS-701 Radiation Mapping System (RMS) is used to perform *in situ* radiological surface and matrix (volume) contamination scanning surveys for radionuclides that emit photons during their decay process. These surveys are used to identify areas that are likely to represent anomalies from local background for further investigation based on use of other radiological survey instrumentation. This document addresses instrument operation and use, gamma energy calibration, and detector efficiency and minimum detection calculations.

As with any portable field radiological detection instrumentation, the efficiency and detection limits addressed in this document are specific to the referenced assumptions, particularly regarding spatial activity distribution and shielding conditions. Since actual field conditions are not likely to precisely replicate the referenced assumptions, the efficiency and detection limits are only approximations and should be used with caution. Fixed location measurements and/or samples will need to be obtained and analyzed to more precisely quantify site conditions.

DESCRIPTION

The RMS consists of the RS-701 console, two 10 centimeter (cm) by 10 cm by 40 cm sodium iodide (NaI) detectors, a Trimble Ag global positioning system (GPS), a trailer modified to carry the detectors, and a laptop computer (optional). The detectors are oriented parallel to the ground and each other with their long axis pointed in the direction of travel. The bottom of the detector cases stands 27.5 cm above the ground and the gap between the detectors is 29 cm.

The RMS automatically records the operator's location to within 1 meter (requires OmniStar subscription service) and it records the associated one-second spectral data from each detector to a storage device inside the RS-701 console. Figure 1, RMS, shows the system in its entirety. Data is retrieved from the RS-701 console using associated software (RadAssist). Data can be binned according to a region of interest (ROI) for predetermined radionuclides or retrieved for each of the 1024 channels (gamma energy from 0 to 3 MeV). The RadAssist software is capable of removing Compton continuum from the peaks. Data can be exported to an Excel spreadsheet to facilitate mapping using industry standard software (i.e. ArcView or Surfer).

The RS-701 console contains the multichannel analyzers (MCA) for each detector along with basic operation controls. The system uses primordial radiation to perform the initial energy calibration and to maintain the system energy gain, negating the need for external check sources except for quality assurance a covered in the next paragraph.

Figure 1, Radiation Monitoring System (RMS)

QUALITY ASSURANCE

Verification of instrument response shall be performed during each run with a Cs-137 check source prior to start and after completion. Any source trends outside $\pm 2\sigma$ should be investigated and any values outside $\pm 3\sigma$ shall be investigated.

OPERATION

The operator connects the cables (Detector 1, Detector 2, GPS, and User if computer connected), applies 12 VDC power, turns the console on (press silver button), exposes the detectors to the Cs-137 check source for QA check, and proceeds to collect data.

The typical scan speed is 1 meter per second. Faster scan speeds will require new minimum detectable calculations.

Upon completion of the survey, the system is turned off and a USB memory device is inserted into the RS-701 console. The data may be captured by a laptop computer during operation. The data is retrieved according to predetermined regions of interest (ROI) or a spectral data file; both with associated GPS coordinates.

Data generated from the ROIs normally should be binned according to the following parameters: background + 2σ, greater than 2σ but less than 3σ above background, and equal to and greater than 3σ above background. The specified binning may need to be modified based on the variations in naturally occurring background uranium, thorium, and radium; values as high as 6σ may need to be used. Data may also be binned according to Z-Scores.

The GPS will not work indoors due to lack of satellite reception.

GAMMA ENERGY CORRELATION

The system energy calibration is an automated function that uses the gamma energies from primordial radionuclides. Each detector gain is adjusted until the gamma energies are in their respective peak channels. A linear equation is used to convert from a channel number to its keV equivalent. This correlation is 3 keV per 1 channel. The system has 1024 channels.

Ra-226 SURFACE AREAL EFFICIENCY DETERMINATION

Measurements were made with a discrete 1.017 µCi Ra-226 gamma point source that is traceable to the National Institute of Standards and Technology. Data was retrieved using 3 user generated regions of interest (ROI) and is referenced in Table 1, Calibration Data.

The source was placed under the detectors at ground level and moved in increments of 10 centimeters until a field of 1 square meter was measured. The Ra-226 source was placed at each location to allow collection of a minimum of 119 seconds worth of data at each location. The net cps values were used to make efficiency determinations for each ROI, as shown in Table 1, and to determine counts per second (cps) values were modeled to show the detector response patterns, as shown in Figures 3, 4, and 5 while the average net cps values were used for efficiency calculations.

MicroShield modeling was performed for a 1 µCi Ra-226 source distributed on the surface over one square meter (areal source). The detector height above the source is 27.5 cm above the surface. The calculated fluence values (with buildup) for each ROI were then compared to the average net empirical value for each ROI (all 121 discrete measurements). The detector fluence location is at the center-point between the detectors and level with the bottom of the detector case.

A detector responses for each ROI was calculated by dividing the average net cps values (empirical) by fluence (MicroShield) for each ROI. A net cps per 1 gamma per cm^2 per second was calculated for each of the ROIs.

Table 1, Ra-226 Surface Calibration Data (Areal)

Radionuclide	ROI	Gamma Energy (keV)	Activity ($\mu Ci/m^2$)	Calculated Fluence ($gammas/cm^2/sec$)	Detector Response, Net (cps)	Efficiency, (cps per 1 gamma/ cm^2/sec)
Ra-226	Gross	45 - 1980	1.02	3.54	2536	716
Ra-226	609 keV	546 - 666	1.02	0.71	242	338
Ra-226	1764 keV	1659 - 1860	1.02	0.28	58.9	210

Ra-226 SURFACE AREAL EFFICIENCY CALIBRATION DATA

The layout of the detectors in relation to the source measurements is shown in Figure 2, Detector Calibration Layout. Visual representations of the detectors' response to each source location are shown in Figures 3 to 5 while the detector value in cps is referenced in Tables 2 through 4.

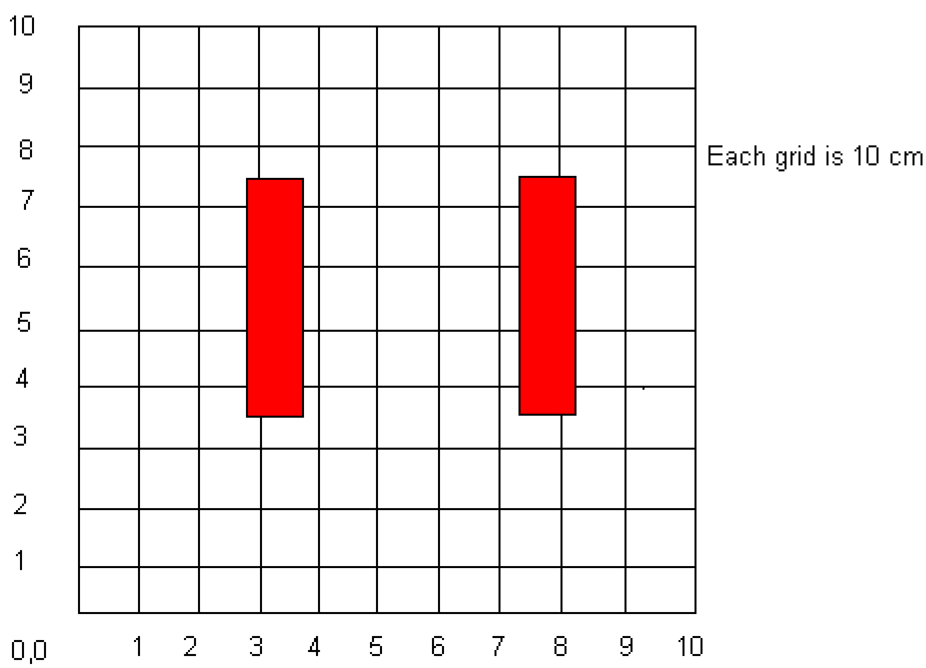


Figure 2, Detector Calibration Layout

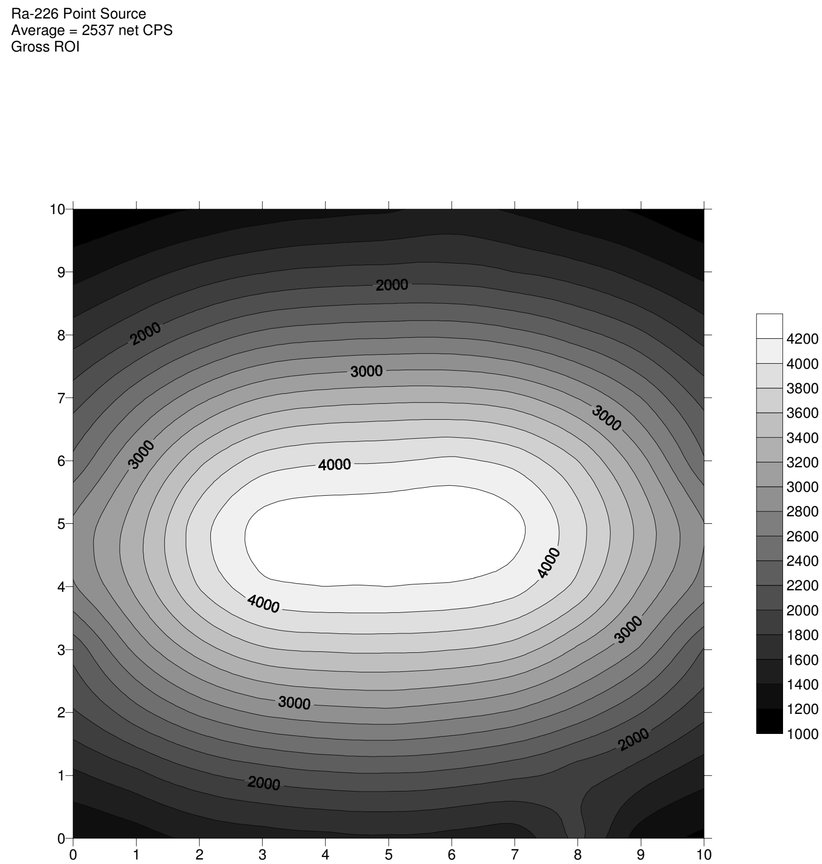


Figure 3, Ra-226, Gross ROI CPS Map

Table 2, Ra-226, Gross ROI Net CPS Calibration Data

10	1021	1112	1208	129	13 0	13 2	1	13 1	125	11 1	1039
9	1323	1500	1 1	1 8	18	18	18 9	1 95	1 91	152	13
8	1 03	19 1	22	2	252	25	25	2 2	2281	20	1 18
	210	25 1	2932	20	01			2 1	299	2 02	212
	2 8	011	8	892	9	98	0 1	939	0	0 8	2 13
	28 1	0	91	2	299	18		25	8 0		2808
	2 82	25	81	15	202	20	1	08		18	2 08
	2252	285	29		21		03	00	15	2 9	2181
2	19	232	2 1	2838	2920	2951	2880	2 9	2522	220	185
1	15	1	1951	20	2151	21 1	2129	2030	18	1 89	1 0
0	1201	130	1	150	15	15 9	15	1	18	128	1158
	0	1	2						8	9	10

Average net response is 2537 cps

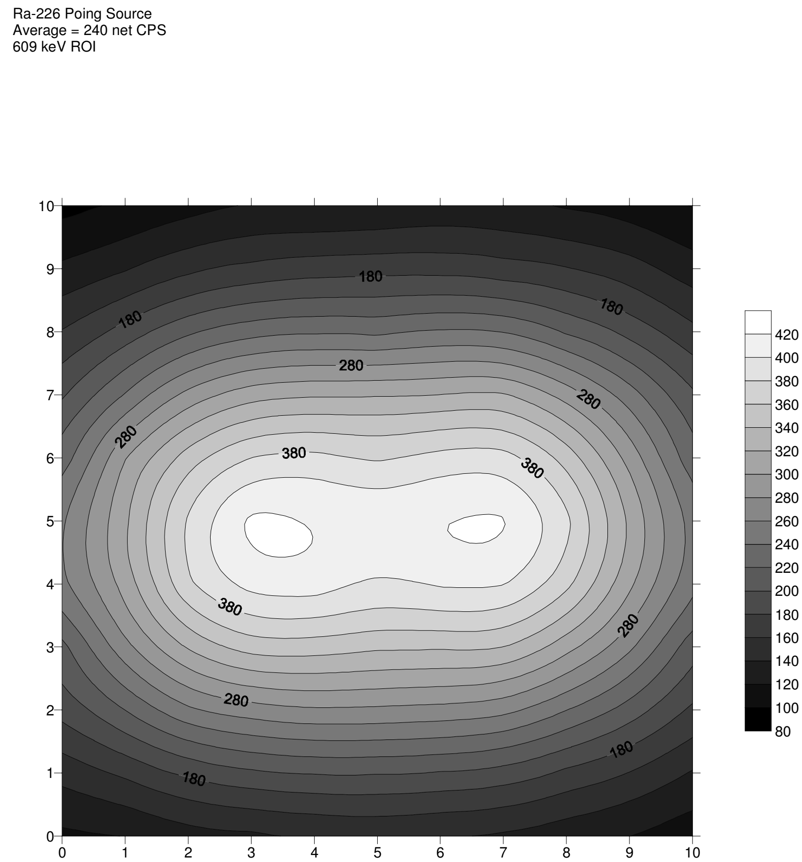


Figure 4, Ra-226, 609 keV ROI CPS Map

Table 3, Ra-226, 609 keV ROI Net CPS Calibration Data

10	9	103 2	113 2	121 2	120 2	122 2	12 2	12 2	118 2	111 2	99 2
9	12	138 2	155 2	1 5 2	1 1 2	1 3 2	1 3 2	1 8 2	1 1 2	1 9 2	129 2
8	1 1 2	188 2	21 2	232 2	23 2	235 2	2 2 2	239 2	21 2	193 2	1 5 2
	19 2	2 1 2	28 2	311 2	31 2	318 2	320 2	322 2	291 2	2 9 2	203 2
	230 2	299 2	3 9 2	380 2	385 2	3 2	38 2	38 2	351 2	292 2	22 2
5	25 2	31 2	382 2	23 2	18 2	12 2	19 2	21 2	38 2	31 2	252 2
	255 2	308 2	3 2	0 2	09 2	39 2	02 2	01 2	3 5 2	30 2	2 2
3	21 2	2 3 2	322 2	3 8 2	3 9 2	3 3 2	3 2 2	3 0 2	30 2	2 2	208 2
2	18	220 2	25 2	2 0 2	2 2	2 2	2 3 2	2 2	2 0 2	211 2	1 2
1	1 2	1 2	18 2	19 2	201 2	201 2	198 2	192 2	1 5 2	159 2	138 2
0	11 2	120 2	132 2	13 2	1 1 2	1 2	1 0 2	13 2	128 2	120 2	108 2
	0	1	2	3		5			8	9	10

Average net response is 240 cps

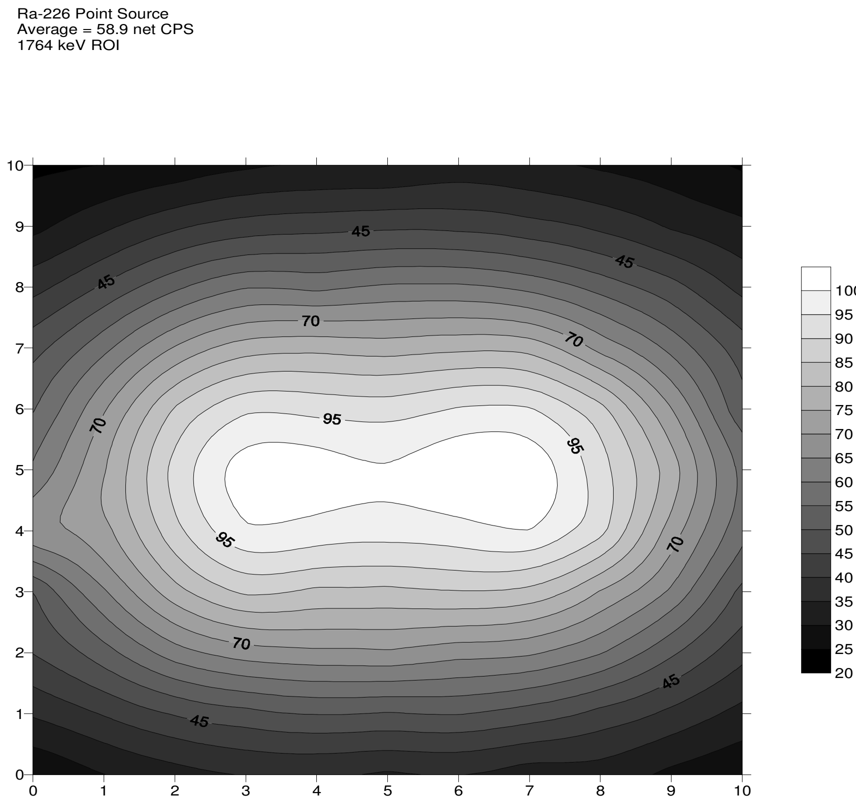


Figure 5, Ra-226, 1764 keV ROI CPS Map

Table 4, Ra-226, 1764 keV ROI Net CPS Calibration Data

10	2 1	25 1	2 8	29 2	30 2	30 2	32 3	31	29 3	2	2
9	28 5	33 9	39	2 2	3 2		3	1	38 8	3 3	31 1
8	38 2	5 8	53 9	59	58	0 8	0 9	58 5	53 1		38
	8 1	58 5	0 5		8		8 8	8 3	8 2	58 5	
	5 5	9	85 5	9 1	93 2	92	95	95 5	8	0 2	51 2
5	0	5	91	102	102 3	100 3	103 5	103	91 9	5	58
	9	3 3	88 3	99 3	9	9	9 8	100	91	2	5 5
3	9 8	3	8	85 9	83	83	8	83 5	5	1	8 5
2	5 2	52 9	2	5	8 8	9 3	8	5 8	0	50 9	1 5
1	35	0	5	8 3	50 2	9 5	50 3		3	38	33
0	25	29 9	33	35 2	35	3 2	35 1	32 3	32 8	28 8	2
	0	1	2	3		5			8	9	10

Average net response is 58.9 cps

CALIBRATION CALCULATION FOR Ra-226 SOIL MATRIX

Data referenced in this section is only for calculating priori detection limits and should not be used as a conversion tool for converting detector cps to a pCi/g or cps to µCi value for Ra-226. Contamination may be in the form of a homogenized mixture or in the form of discrete particles. Because the distribution of the contamination is not known prior to performing the survey or even immediately after the survey, data generated by the instrument should be used as indication only.

Discrete or point source efficiencies were obtained by dividing the activity of the Ra-226 (1 µCi) point source by the average net cps for each ROI.

Soil matrix contamination detection limits were calculated by modeling soil contamination using MicroShield. Input assumptions to calculate a fluence value include: 1 pCi/g Ra-226 (decayed 1 year to ensure gamma-emitting progeny are in secular equilibrium, soil density 1.5 grams/cc, detectors are 27.5 cm above the surface, and area of 1 meter by 1 meter with a soil depth of 15 cm. A scan speed of 1 meter per second is assumed. MicroShield calculations are provided in Attachment B. The calculated fluence values are based an average discrete 1 cm^2 area at the center of the detectors and at the corner of one of the detectors. See Table 5, Calibration Data (Soil Matrix) for additional information.

Typical background data referenced in this document were obtained from 300 one-second data collections. These values may or may not represent actual site conditions. Actual background data from the survey site should be used to calculate average and standard deviation values using the methodology noted below.

Table 5, Calibration Correlation (Soil Matrix)

Radionuclide	ROI	Gamma Energy (keV)	Activity (pCi/g)	Calculated Fluence gammas/cm^2/sec (middle/detector corner)	Efficiency – (net cps per 1 gamma/ cm^2/sec) (Table 1)	Calculated net cps Response (1pCi/g)
Ra-226	Gross	45 - 1980	1	0.51 (0.64/0.37)	716	361.6
Ra-226	609 keV	546 - 666	1	0.10 (0.13/0.1)	338	34.9
Ra-226	1764 keV	1659 - 1860	1	0.04 (0.05/0.03)	210	8.4

DETECTION CALCULATIONS FOR RA-226 POINT SOURCES AND SOIL MATRIX

609 keV Bi-214 ROI – Soil Matrix

For the purposes of calculating a typical detection limit, an average background value for 609 keV ROI from the Bi-214 (Ra-226 progeny) peak was 161.1 cps with a standard deviation of 12 cps. Background ambient radiation levels were 6 μR/hr. This equates to the following detection limits:

Background + 2σ (24 net cps)	=	0.70 pCi/g
Background + 3σ (36 net cps)	=	1.03 pCi/g
Background + 6σ (72 net cps)	=	2.10 pCi/g

609 keV Bi-214 ROI – Point Source on Surface

For the purposes of calculating a typical detection limit, an average background value for 609 keV ROI from the Bi-214 (Ra-226 progeny) peak was 161.1 cps with a standard deviation of 12 cps. Background ambient radiation levels were 6 μR/hr. This equates to the following detection limits:

Background + 2σ (24 net cps)	=	0.10 μCi
Background + 3σ (36 net cps)	=	0.15 μCi
Background + 6σ (72 net cps)	=	0.30 μCi

1764 keV Bi-214 ROI– Soil Matrix

For the purposes of calculating a typical detection limit, an average background value for 1764 keV ROI from the Bi-214 (Ra-226 progeny) peak was 23.4 cps with a standard deviation of 5 cps. Background ambient radiation levels were 6 μR/hr. This equates to the following detection limits:

Background + 2σ (10 net cps)	=	1.19 pCi/g
Background + 3σ (15 net cps)	=	1.80 pCi/g
Background + 6σ (30 net cps)	=	3.57 pCi/g

1764 keV Bi-214 ROI– Point Source on Surface

For the purposes of calculating a typical detection limit, an average background value for 1764 keV ROI from the Bi-214 (Ra-226 progeny) peak was 23.4 cps with a standard deviation of 5 cps. Background ambient radiation levels were 6 μR/hr. This equates to the following detection limits:

Background + 2σ (10 net cps)	=	0.17 μCi
Background + 3σ (15 net cps)	=	0.25 μCi
Background + 6σ (30 net cps)	=	0.51 μCi

Gross ROI– Soil Matrix

For the purposes of calculating a typical detection limit, an average background value for Gross ROI was 3349 cps with a standard deviation of 57.9 cps. Background ambient radiation levels were 6 μR/hr. Care should be taken due to the easily-attenuated low energy photons used to calculate the fluence conversion factors. This equates to the following detection limits:

Background + 2σ (116 net cps)	=	0.32 pCi/g
Background + 3σ (174 net cps)	=	0.48 pCi/g
Background + 6σ (347 net cps)	=	0.96 pCi/g

Gross ROI– Point Source on Surface

For the purposes of calculating a typical detection limit, an average background value for Gross ROI was 3349 cps with a standard deviation of 57.9 cps. Background ambient radiation levels were 6 μR/hr. Care should be taken due to the easily-attenuated low energy photons used to calculate the fluence conversion factors.. This equates to the following detection limits:

Background + 2σ (116 net cps)	=	0.05 μCi
Background + 3σ (174 net cps)	=	0.07 μCi
Background + 6σ (347 net cps)	=	0.14 μCi

Appendix A

Radium 226 MicroShield Modeling

MicroShield 7.00 Dept. of Health Services (06-msd-7.00-1126)

Date	By	Checked

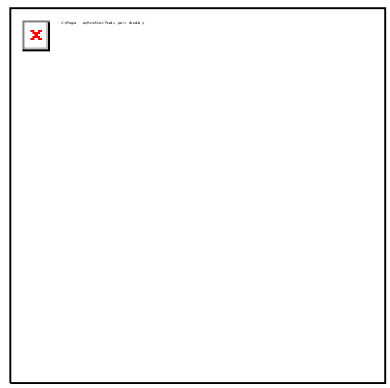
Filename	Run Date	Run Time	Duration
radium point mshield.ms6	November 29, 2009	8:40:47 AM	00:00:00

Project Info	
Case Title	Ra-226 1 ~~uCi~~μCi Pt
Description	1 ~~uCi~~μCi Ra-226 point source over 1m by 1m
Geometry	13 - Rectangular Volume

Source Dimensions	
Length	1.0 cm (0.4 in)
Width	100.0 cm (3 ft 3.4 in)
Height	100.0 cm (3 ft 3.4 in)

Dose Points			
A	X	Y	Z
#1	28.5 cm (11.2 in)	50.0 cm (1 ft 7.7 in)	50.0 cm (1 ft 7.7 in)

Shields			
Shield N	Dimension	Material	Density
Source	1.00e+04 cm³	Air	0.00122
Air Gap		Air	0.00122



Source Input: Grouping Method - Linear Energy
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons < 0.015: Included
Library: Grove

Nuclide	Curies	Becquerels	μCi/cm³	Bq/cm³
Bi-210	2.9582e-008	1.0945e+003	2.9582e-006	1.0945e-001
Bi-214	9.9937e-007	3.6977e+004	9.9937e-005	3.6977e+000
Pb-210	3.0180e-008	1.1167e+003	3.0180e-006	1.1167e-001
Pb-214	9.9937e-007	3.6977e+004	9.9937e-005	3.6977e+000
Po-210	1.5755e-008	5.8295e+002	1.5755e-006	5.8295e-002
Po-214	9.9916e-007	3.6969e+004	9.9916e-005	3.6969e+000
Po-218	9.9957e-007	3.6984e+004	9.9957e-005	3.6984e+000
Ra-226	9.9957e-007	3.6984e+004	9.9957e-005	3.6984e+000
Rn-222	9.9957e-007	3.6984e+004	9.9957e-005	3.6984e+000

Buildup: The material reference is Source Integration Parameters					
X Direction					10
Y Direction					20
Z Direction					20
Results					
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.0516	1.478e+04	3.037e-02	3.095e-02	7.614e-05	7.757e-05
0.1862	1.213e+03	9.018e-03	9.098e-03	1.566e-05	1.580e-05
0.2798	1.040e+04	1.162e-01	1.170e-01	2.184e-04	2.198e-04
0.3527	1.405e+04	1.981e-01	1.992e-01	3.823e-04	3.845e-04
0.4644	6.642e+02	1.234e-02	1.239e-02	2.419e-05	2.430e-05
0.5579	2.336e+02	5.214e-03	5.235e-03	1.021e-05	1.025e-05
0.6112	1.769e+04	4.327e-01	4.343e-01	8.437e-04	8.469e-04
0.7646	2.760e+03	8.450e-02	8.477e-02	1.616e-04	1.621e-04
0.817	7.337e+02	2.400e-02	2.407e-02	4.554e-05	4.567e-05
0.9363	1.367e+03	5.127e-02	5.141e-02	9.551e-05	9.576e-05
1.0605	2.229e+02	9.471e-03	9.495e-03	1.727e-05	1.732e-05
1.1298	7.620e+03	3.449e-01	3.457e-01	6.212e-04	6.227e-04
1.2359	2.367e+03	1.172e-01	1.175e-01	2.071e-04	2.075e-04
1.2827	5.922e+02	3.044e-02	3.050e-02	5.330e-05	5.341e-05
1.3908	3.240e+03	1.806e-01	1.809e-01	3.099e-04	3.106e-04
1.5173	1.106e+03	6.723e-02	6.736e-02	1.128e-04	1.130e-04
1.623	9.158e+02	5.958e-02	5.969e-02	9.807e-05	9.825e-05
1.7581	7.042e+03	4.963e-01	4.971e-01	7.982e-04	7.996e-04
1.846	9.159e+02	6.778e-02	6.789e-02	1.074e-04	1.076e-04
1.8833	1.496e+02	1.130e-02	1.131e-02	1.779e-05	1.782e-05
2.1186	4.342e+02	3.689e-02	3.694e-02	5.601e-05	5.609e-05
2.2042	1.843e+03	1.629e-01	1.631e-01	2.442e-04	2.445e-04
2.2934	1.204e+02	1.107e-02	1.109e-02	1.639e-05	1.641e-05
2.4479	5.765e+02	5.659e-02	5.667e-02	8.201e-05	8.212e-05
Totals	**9.104e+04**	**2.616e+00**	**2.624e+00**	**4.615e-03**	**4.629e-03**

MicroShieW 00 (06-ms -W00-1126) W
Dept of Hea th Services W
Resu ts With BuiWup W
FILE: C:\ra mapping\ra mapping rsi rs 01\Ra-226 (Eric)\ra ium point mshieW ms6W
Case Tit e: Ra-226 1 ~~uCi~~µCi Pt W
This case was run on Sun ay, November 29, 2009 at 8:40:4 WAMW
Dose Point # 1 - (28 5,50,50) cmW

Group # W	Energy W (MeV) W	Activity W photons/secW	F uence RateW photons/cm²/ W secW	Energy F uenceW MeV/cm²/secW	Exposure RateW mR/hrW
1	0.0516	1.47 004	5. -001	3.0 5 -00	7.757 -005
	0.1 6	1. 13 003	4. 6 -00	.0 -003	1.5 0 -005
3	0. 7	1.040 004	4.1 -001	1.170 -001	.1 -004
4	0.35 7	1.405 004	5.64 -001	1. -001	3. 45 -004
5	0.4644	6.64 00	.66 -00	1. 3 -00	.430 -005
6	0.557	.336 00	.3 3 -003	5. 35 -003	1.0 5 -005
7	0.611	1.76 004	7.107 -001	4.343 -001	.46 -004
	0.7646	.760 003	1.10 -001	.477 -00	1.6 1 -004
	0. 17	7.337 00	. 46 -00	.407 -00	4.567 -005
10	0. 363	1.367 003	5.4 0 -00	5.141 -00	.576 -005
11	1.0605	. 00	. 53 -003	.4 5 -003	1.73 -005
1	1.1	7.6 0 003	3.060 -001	3.457 -001	6. 7 -004
13	1. 35	.367 003	.506 -00	1.175 -001	.075 -004
14	1. 7	5. 00	.37 -00	3.050 -00	5.341 -005
15	1.3 0	3. 40 003	1.301 -001	1. 0 -001	3.106 -004
16	1.5173	1.106 003	4.43 -00	6.736 -00	1.130 -004
17	1.6 3	.15 00	3.677 -00	5. 6 -00	. 5 -005
1	1.75 1	7.04 003	. -001	4. 71 -001	7. 6 -004
1	1. 46	.15 00	3.67 -00	6.7 -00	1.076 -004
0	1. 33	1.4 6 00	6.007 -003	1.131 -00	1.7 -005
	.11 6	4.34 00	1.744 -00	3.6 4 -00	5.60 -005
3	. 04	1. 43 003	7.3 -00	1.631 -001	.445 -004
4	. 34	1. 04 00	4. 35 -003	1.10 -00	1.641 -005
5	.447	5.765 00	.315 -00	5.667 -00	. 1 -005
	TOTALS: W	**9 104e+004 W**	**3 663e+000W**	**2 624e+000W**	**4 629e-003 W**

MicroShield 7.00
Dept. of Health Services (06-msd-7.00-1126)

Date	By	Checked

Filename	Run Date	Run Time	Duration
radium soil mshield.ms6	November 29, 2009	8:26:43 AM	00:00:02

Project Info	
Case Title	Ra-226 Soil
Description	Ra-226 1 pCi/g - 1 g/cc 1m by 1m by 15 cm
Geometry	13 - Rectangular Volume

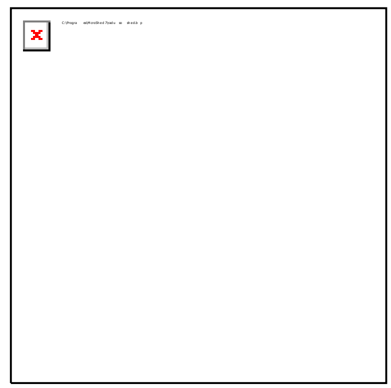
Source Dimensions	
Length	15.0 cm (5.9 in)
Width	100.0 cm (3 ft 3.4 in)
Height	100.0 cm (3 ft 3.4 in)

Dose Points

A	X	Y	Z
#1	42.5 cm (1 ft 4.7 in)	50.0 cm (1 ft 7.7 in)	50.0 cm (1 ft 7.7 in)

Shields

Shield N	Dimension	Material	Density
Source	1.50e+05 cm³	Igneous	1.5
Air Gap		Air	0.00122



Source Input: Grouping Method - Linear Energy
Number of Groups: 25
Lower Energy Cutoff: 0.015
Photons < 0.015: Included
Library: Grove

Nuclide	Curies	Becquerels	µCi/cm³	Bq/cm³
Bi-210	6.6560e-009	2.4627e+002	4.4373e-008	1.6418e-003
Bi-214	2.2486e-007	8.3198e+003	1.4991e-006	5.5465e-002
Pb-210	6.7905e-009	2.5125e+002	4.5270e-008	1.6750e-003
Pb-214	2.2486e-007	8.3198e+003	1.4991e-006	5.5465e-002
Po-210	3.5449e-009	1.3116e+002	2.3633e-008	8.7442e-004
Po-214	2.2481e-007	8.3180e+003	1.4987e-006	5.5454e-002
Po-218	2.2490e-007	8.3214e+003	1.4994e-006	5.5476e-002
Ra-226	2.2490e-007	8.3214e+003	1.4994e-006	5.5476e-002
Rn-222	2.2490e-007	8.3214e+003	1.4994e-006	5.5476e-002

Buildup: The material reference is Source Integration Parameters					
X Direction					10
Y Direction					20
Z Direction					20
Results					
Energy (MeV)	Activity (Photons/sec)	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.0516	3.326e+03	5.446e-04	5.525e-03	1.365e-06	1.385e-05
0.1862	2.729e+02	4.517e-04	1.635e-03	7.844e-07	2.838e-06
0.2798	2.340e+03	6.641e-03	2.105e-02	1.248e-05	3.955e-05
0.3527	3.161e+03	1.217e-02	3.585e-02	2.349e-05	6.921e-05
0.4644	1.494e+02	8.262e-04	2.232e-03	1.620e-06	4.377e-06
0.5579	5.256e+01	3.699e-04	9.431e-04	7.244e-07	1.847e-06
0.6112	3.981e+03	3.158e-02	7.825e-02	6.157e-05	1.526e-04
0.7646	6.211e+02	6.610e-03	1.527e-02	1.264e-05	2.920e-05
0.817	1.651e+02	1.916e-03	4.338e-03	3.635e-06	8.230e-06
0.9363	3.076e+02	4.267e-03	9.264e-03	7.950e-06	1.726e-05
1.0605	5.016e+01	8.187e-04	1.711e-03	1.493e-06	3.121e-06
1.1298	1.714e+03	3.038e-02	6.229e-02	5.473e-05	1.122e-04
1.2359	5.327e+02	1.061e-02	2.117e-02	1.873e-05	3.740e-05
1.2827	1.332e+02	2.784e-03	5.497e-03	4.875e-06	9.626e-06
1.3908	7.290e+02	1.691e-02	3.261e-02	2.902e-05	5.597e-05
1.5173	2.488e+02	6.450e-03	1.214e-02	1.082e-05	2.036e-05
1.623	2.061e+02	5.822e-03	1.076e-02	9.584e-06	1.771e-05
1.7581	1.585e+03	4.954e-02	8.959e-02	7.969e-05	1.441e-04
1.846	2.061e+02	6.852e-03	1.223e-02	1.086e-05	1.939e-05
1.8833	3.366e+01	1.148e-03	2.039e-03	1.808e-06	3.212e-06
2.1186	9.770e+01	3.860e-03	6.657e-03	5.861e-06	1.011e-05
2.2042	4.146e+02	1.721e-02	2.939e-02	2.580e-05	4.407e-05
2.2934	2.709e+01	1.181e-03	1.998e-03	1.748e-06	2.958e-06
2.4479	1.297e+02	6.127e-03	1.021e-02	8.879e-06	1.480e-05
Totals	**2.048e+04**	**2.251e-01**	**4.727e-01**	**3.901e-04**	**8.339e-04**

MicroShieW 00 (06-ms -W00-1126) W
Dept of Hea th Services W
Resu ts With BuiWup W
FILE: C:\ra mapping\ra mapping rsi rs 01\Ra-226 (Eric)\ra ium soiWnshieW ms6W
Case Tit e: Ra-226 SoiW
This case was run on Sun ay, November 29, 2009 at 8:26:43 AMW
Dose Point # 1 - (42 5,50,50) cmW

Group # W	Energy W (MeV) W	Activity W photons/secW	F uence RateW photons/cm²/ W secW	Energy F uenceW MeV/cm²/secW	Exposure RateW mR/hrW
1	0.0516	3.3 6 003	1.070 -001	5.5 5 -003	1.3 5 -005
	0.1 6	.7 00	.77 -003	1.635 -003	. 3 -006
3	0. 7	.340 003	7.5 4 -00	.105 -00	3. 55 -005
4	0.35 7	3.161 003	1.017 -001	3.5 5 -00	6. 1 -005
5	0.4644	1.4 4 00	4. 06 -003	. 3 -003	4.377 -006
6	0.557	5. 56 001	1.6 0 -003	.431 -004	1. 47 -006
7	0.611	3. 1 003	1. 0 -001	7. 5 -00	1.5 6 -004
	0.7646	6. 11 00	1. -00	1.5 7 -00	. 0 -005
	0. 17	1.651 00	5.30 -003	4.33 -003	. 30 -006
10	0. 363	3.076 00	. 4 -003	. 64 -003	1.7 6 -005
11	1.0605	5.016 001	1.613 -003	1.711 -003	3.1 1 -006
1	1.1	1.714 003	5.514 -00	6. -00	1.1 -004
13	1. 35	5.3 7 00	1.713 -00	.117 -00	3.740 -005
14	1. 7	1.33 00	4. 5 -003	5.4 7 -003	.6 6 -006
15	1.3 0	7. 0 00	.345 -00	3. 61 -00	5.5 7 -005
16	1.5173	.4 00	.000 -003	1. 14 -00	.036 -005
17	1.6 3	.061 00	6.6 7 -003	1.076 -00	1.771 -005
1	1.75 1	1.5 5 003	5.0 6 -00	. 5 -00	1.441 -004
1	1. 46	.061 00	6.6 7 -003	1. 3 -00	1. 3 -005
0	1. 33	3.366 001	1.0 3 -003	.03 -003	3. 1 -006
	.11 6	.770 001	3.14 -003	6.657 -003	1.011 -005
3	. 04	4.146 00	1.333 -00	. 3 -00	4.407 -005
4	. 34	.70 001	.713 -004	1. -003	. 5 -006
5	.447	1. 7 00	4.17 -003	1.0 1 -00	1.4 0 -005
	TOTALS: W	**2 048e+004 W**	**6 588e-001 W**	**4 W2We-001 W**	**8 339e-004 W**

APPENDIX 6: TOWED ARRAY SURVEY – DATA PLOTS

(119 Pages)

Number of data points collected: 2118

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	4321	167	26.8	25.0	178	241
Std. Dev.	1033	49	11.4	12.7	59.7	77.4
Median	3734	152	26.0	22.0	156	210
Shift (Avg. - Median)	587	15	0.791	3.031	22.08	31.15
Shift/Std. Dev.	57%	30%	7%	24%	37%	40%
Coeff. of Variation	23.9%	29%	42.7%	50.6%	33.5%	32.1%
Predicted CoV	1.52%	7.74%	19.3%	20.0%	7.49%	6.44%
Avg. +2 sigma	6387	265	49.7	50.4	298	396
Avg. +3 sigma	7420	314	61.1	63.0	357	473
Avg. + 4 sigma	8454	363	72.5	75.7	417	551
Avg. + 5 sigma	9487	412	84.0	88.3	477	628
Avg. + 6 sigma	10520	460	95.4	101.0	537	705
Min. Count	2793	72.0	2.00	4.00	76.0	108.0
Max. Count	6380	280	68.0	68.0	322	432
(Max-Min)/Std. Dev.	3.5	4.3	5.8	5.1	4.1	4.2

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	11.9	3.19	5.20
Std.Dev. Activity	2.85	1.361	1.742
Avg. +2 sigma	17.6	5.91	8.68
Avg. +3 sigma	20.5	7.27	10.42
Min. Activity	7.70	0.238	2.22
Max. Activity	17.6	8.09	9.40

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background ††	**<Avg+2 sigma of all data**					
[cps]	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	4321	165	25.8	24.3	176	240
Std. Dev.	1033	47.6	10.4	11.9	58.2	76.1
Avg + 2 sigma	6387	260	46.5	48.0	293	392
Avg + 3 sigma	7420	308	56.9	59.9	351	468
Avg + 4 sigma	8454	355	67.2	71.8	409	544
Avg + 5 sigma	9487	403	77.6	83.6	468	620

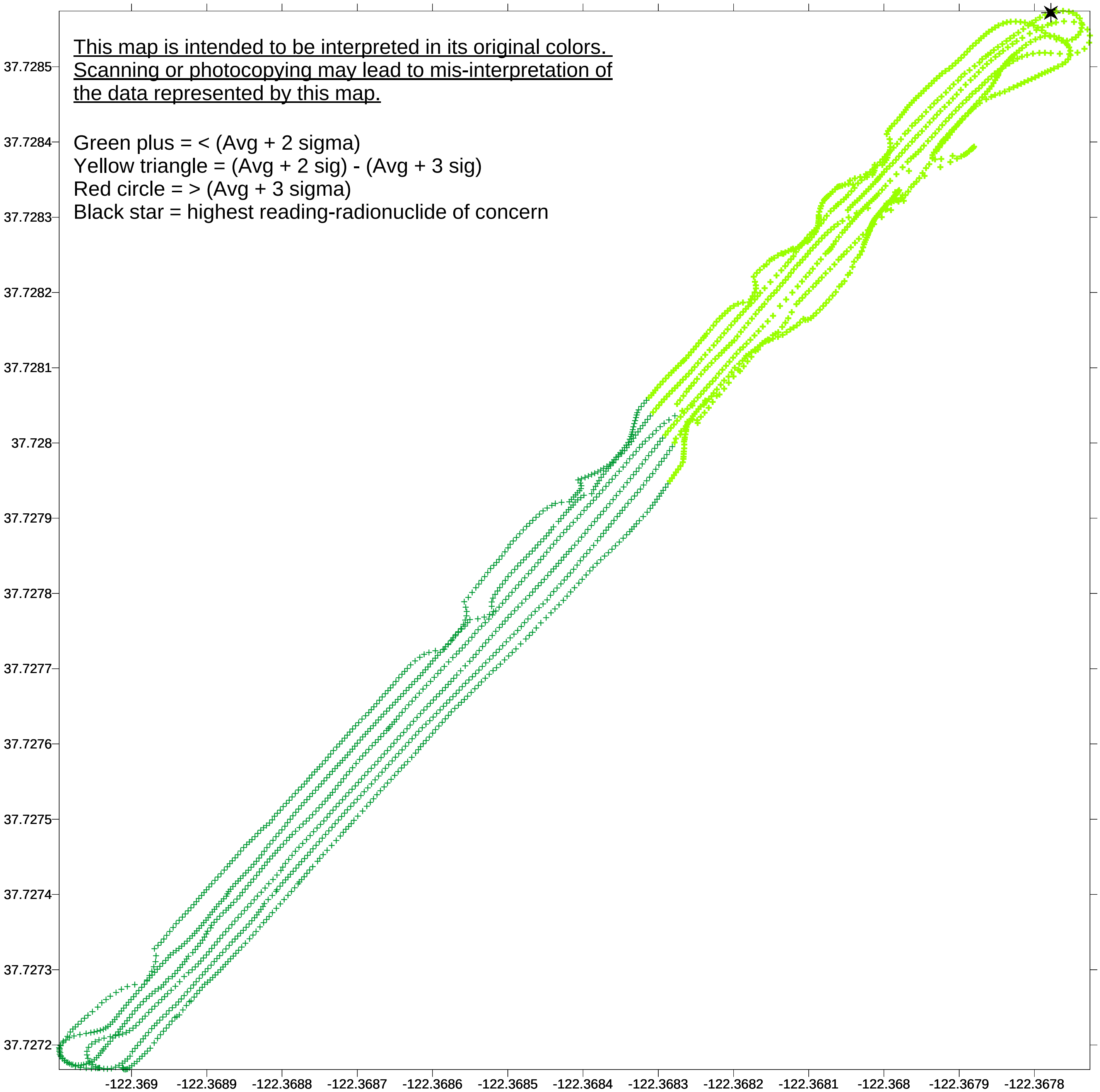
†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_CS_20180717_01.xslx

Range(45-1980)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Range(45-1980) [cps] <2 sig
- 2793 to 4321
- 4321 to 6379
- 6379 to 6382

No measurements > Average + 2 sigma

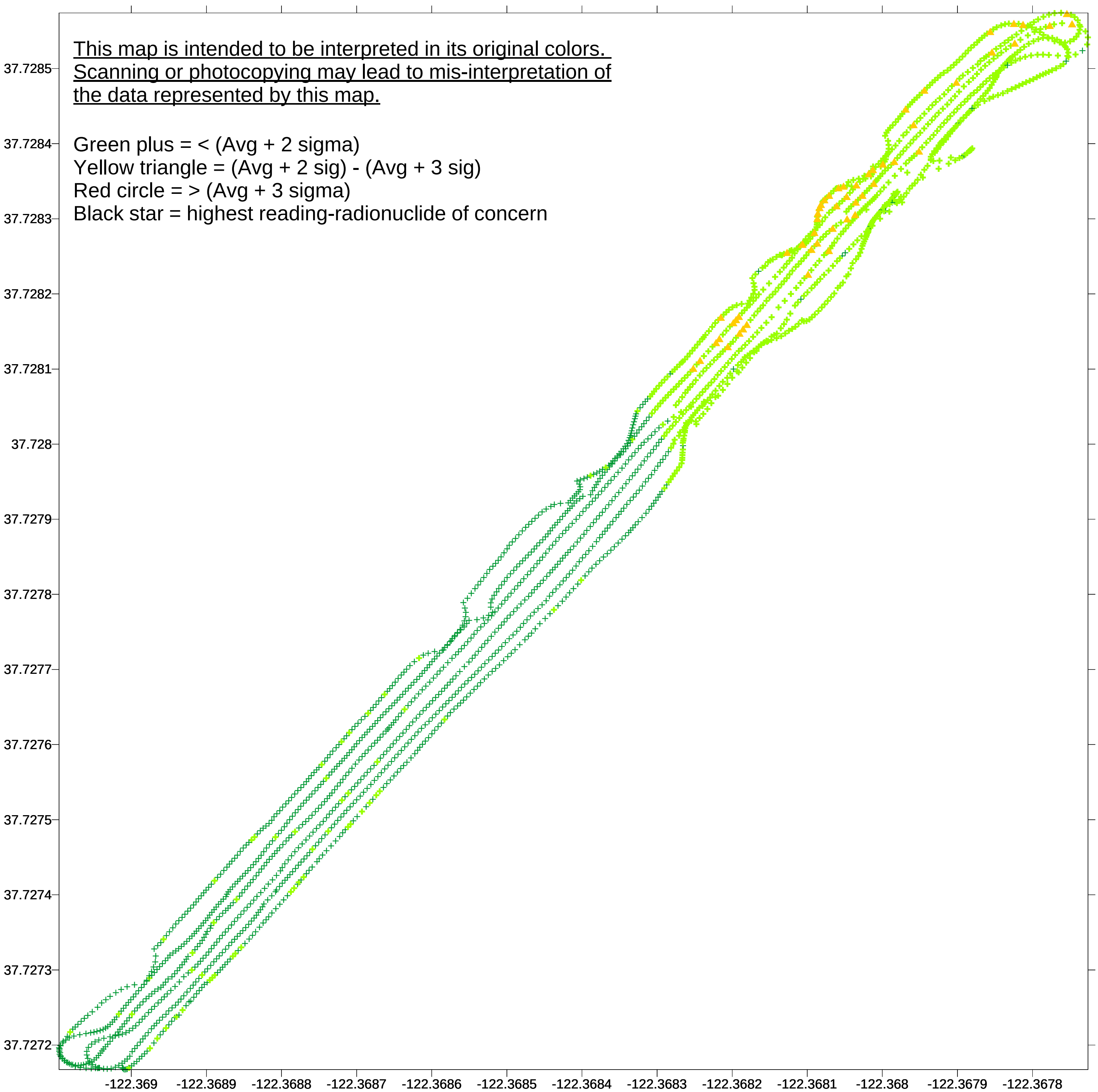
No measurements > Average + 3 sigma

HP_CS_20180717_01.xslx

Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Potassium [cps] <2 sig
72 to 165
165 to 260

Potassium [cps] 2-3 sig
260 to 308

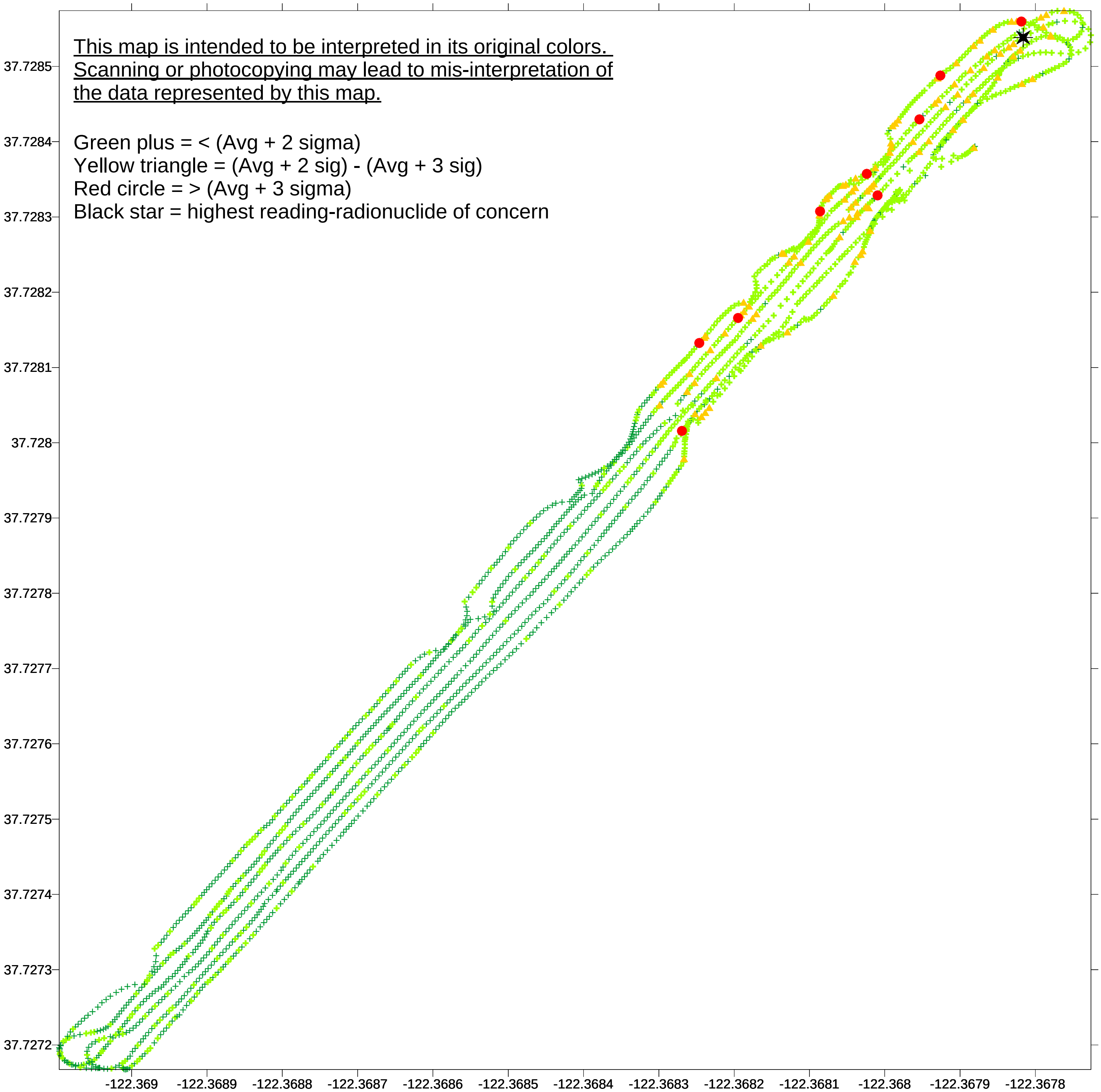
No measurements > Average + 3 sigma

HP_CS_20180717_01.xslx

Ra-226(1764)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Ra-226(1764) [cps] <2 sig
2 to 25.8
25.8 to 46.5

Ra-226(1764) [cps] 2-3 sig
46.5 to 56.9

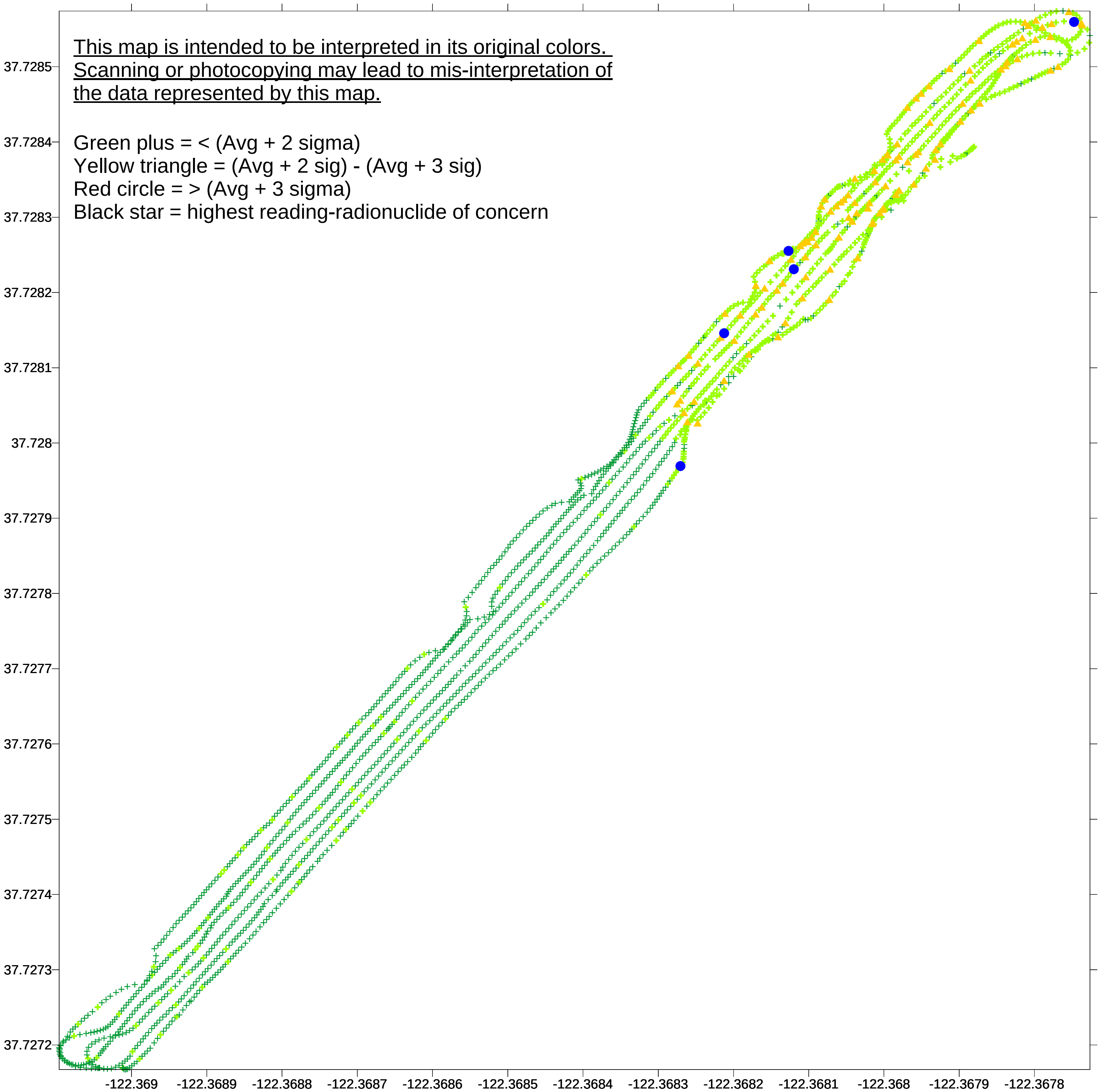
Ra-226(1764) [cps] >3 sig
56.9 to 66
67 to 69

HP_CS_20180717_01.xslx

Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Thorium [cps] <2 sig
4 to 24.3
24.3 to 48

Thorium [cps] 2-3 sig
48 to 59.9

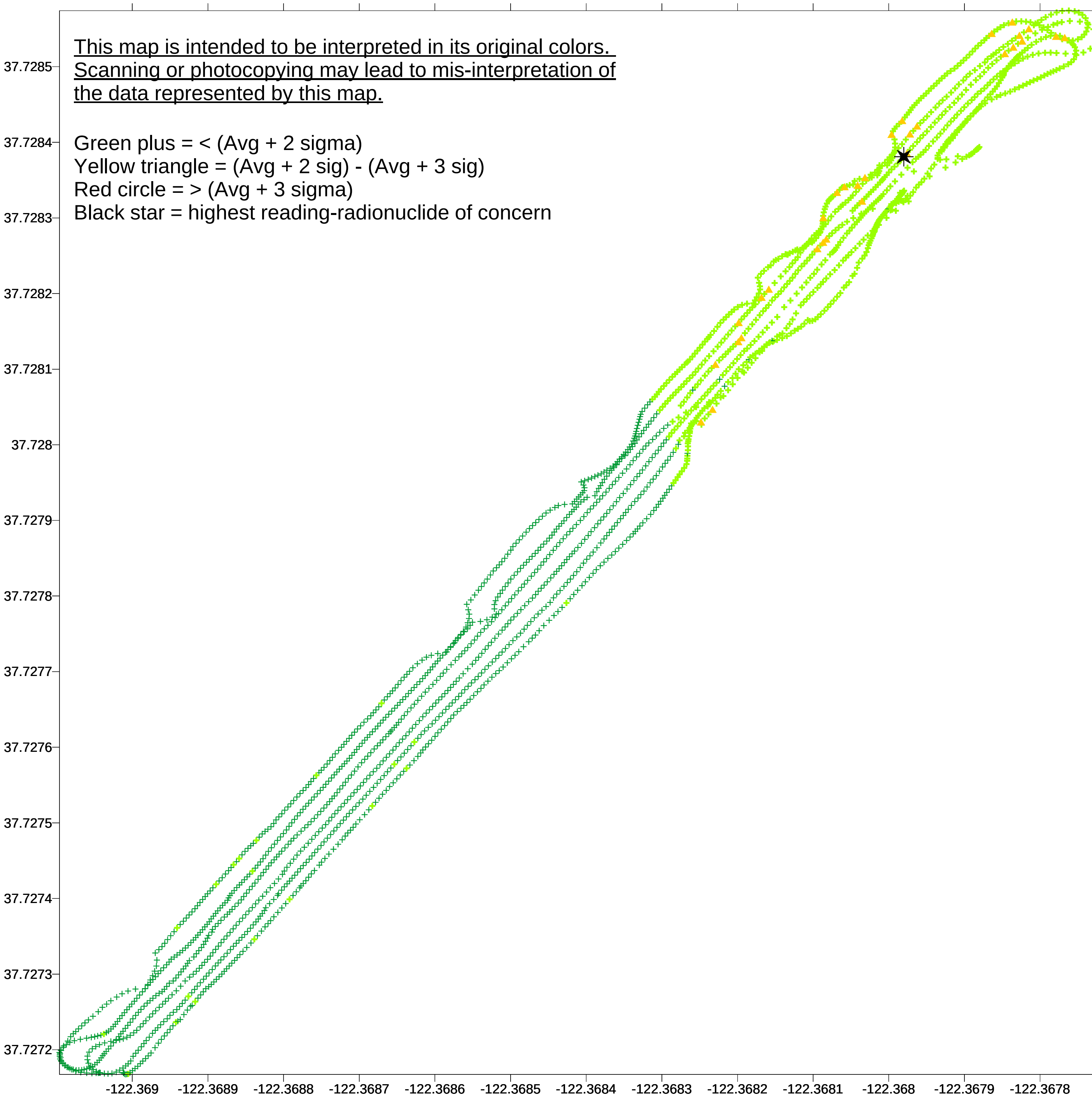
Thorium [cps] >3 sig
59.9 to 68

HP_CS_20180717_01.xslx

Ra-226 (609)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Ra-226 (609) [cps] <2 sig
- 76 to 176
- 176 to 293

Ra-226 (609) [cps] 2-3 sig
- 293 to 321
- 321 to 323

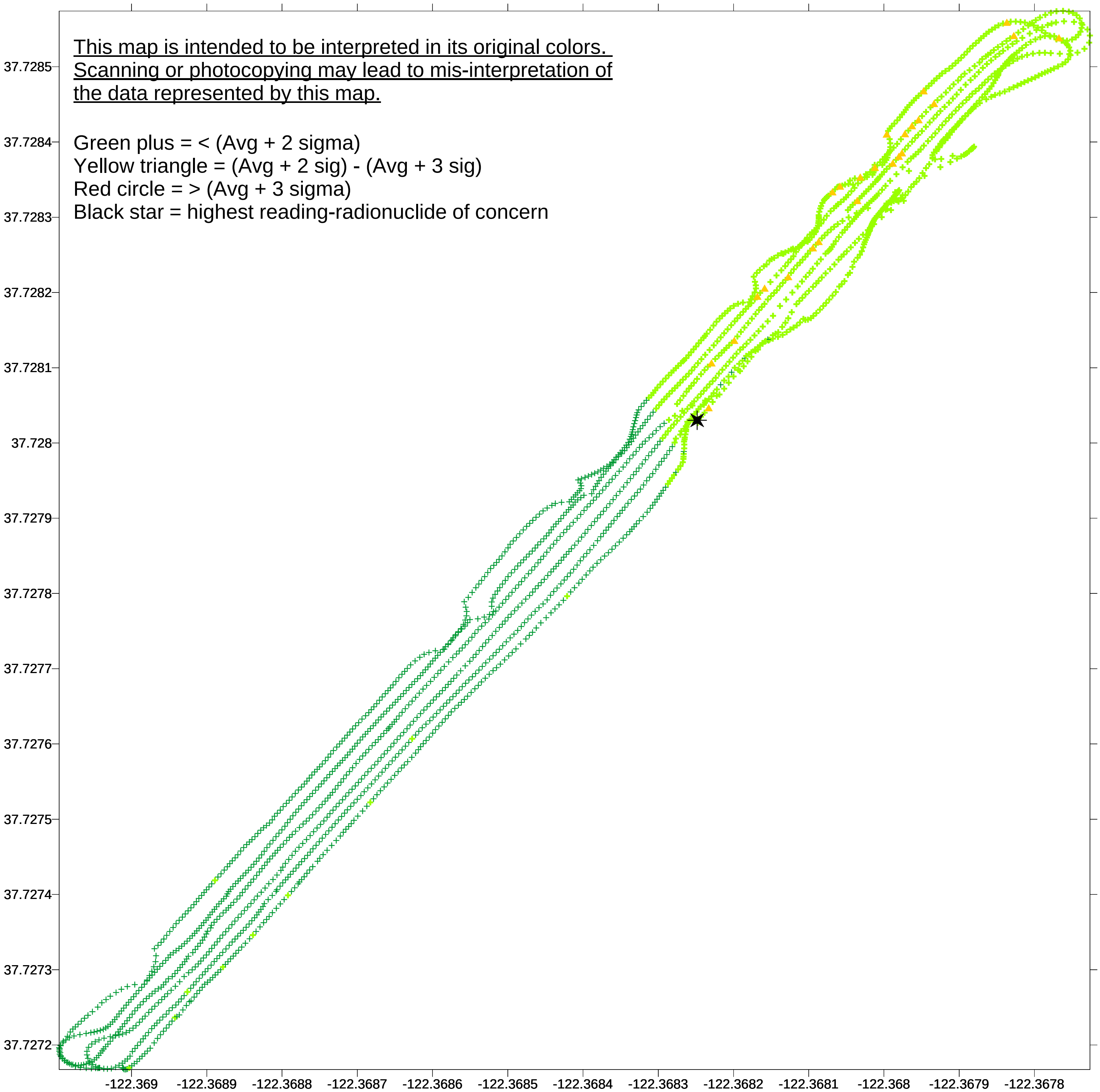
No measurements > Average + 3 sigma

HP_CS_20180717_01.xslx

Cs-137

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Cs-137 [cps] < 2 sig
72.04 to 240
240 to 392

Cs-137 [cps] 2-3 sig
392 to 431
431 to 433

No measurements > Average + 3 sigma

Number of data points collected: 1864

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	5036	224	28.1	29.7	214	292
Std. Dev.	903	79.5	7.85	8.36	48.9	67.5
Median	4759	191	28.1	29.1	203	276
Shift (Avg. - Median)	276	33	0.074	0.609	10.42	16.60
Shift/Std. Dev.	31%	41%	1%	7%	21%	25%
Coeff. of Variation	17.9%	35%	27.9%	28.2%	22.9%	23.1%
Predicted CoV	1.4%	6.7%	18.9%	18.4%	6.8%	5.8%
Avg. +2 sigma	6842	383	43.8	46.4	312	427
Avg. +3 sigma	7745	463	51.7	54.8	360	495
Avg. + 4 sigma	8648	542	59.5	63.1	409	562
Avg. + 5 sigma	9551	622	67.4	71.5	458	630
Avg. + 6 sigma	10454	701	75.2	79.8	507	697
Min. Count	2751	78.2	5.0	6.0	83.2	111
Max. Count	6674	402	59.1	60.2	334	457
(Max-Min)/Std. Dev.	4.3	4.1	6.9	6.5	5.1	5.1

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	13.9	3.35	6.24
Std.Dev. Activity	2.49	0.934	1.425
Avg. +2 sigma	18.9	5.22	9.09
Avg. +3 sigma	21.4	6.15	10.51
Min. Activity	7.59	0.596	2.43
Max. Activity	18.4	7.04	9.74

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background ††	<Avg+2 sigma of all data					
[cps]	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	5036	223	27.5	29.1	212	290
Std. Dev.	903	78.6	7.10	7.76	47.6	66.0
Avg + 2 sigma	6842	380	41.7	44.7	308	423
Avg + 3 sigma	7745	459	48.8	52.4	355	489
Avg + 4 sigma	8648	538	55.9	60.2	403	555
Avg + 5 sigma	9551	616	63.0	67.9	450	621

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

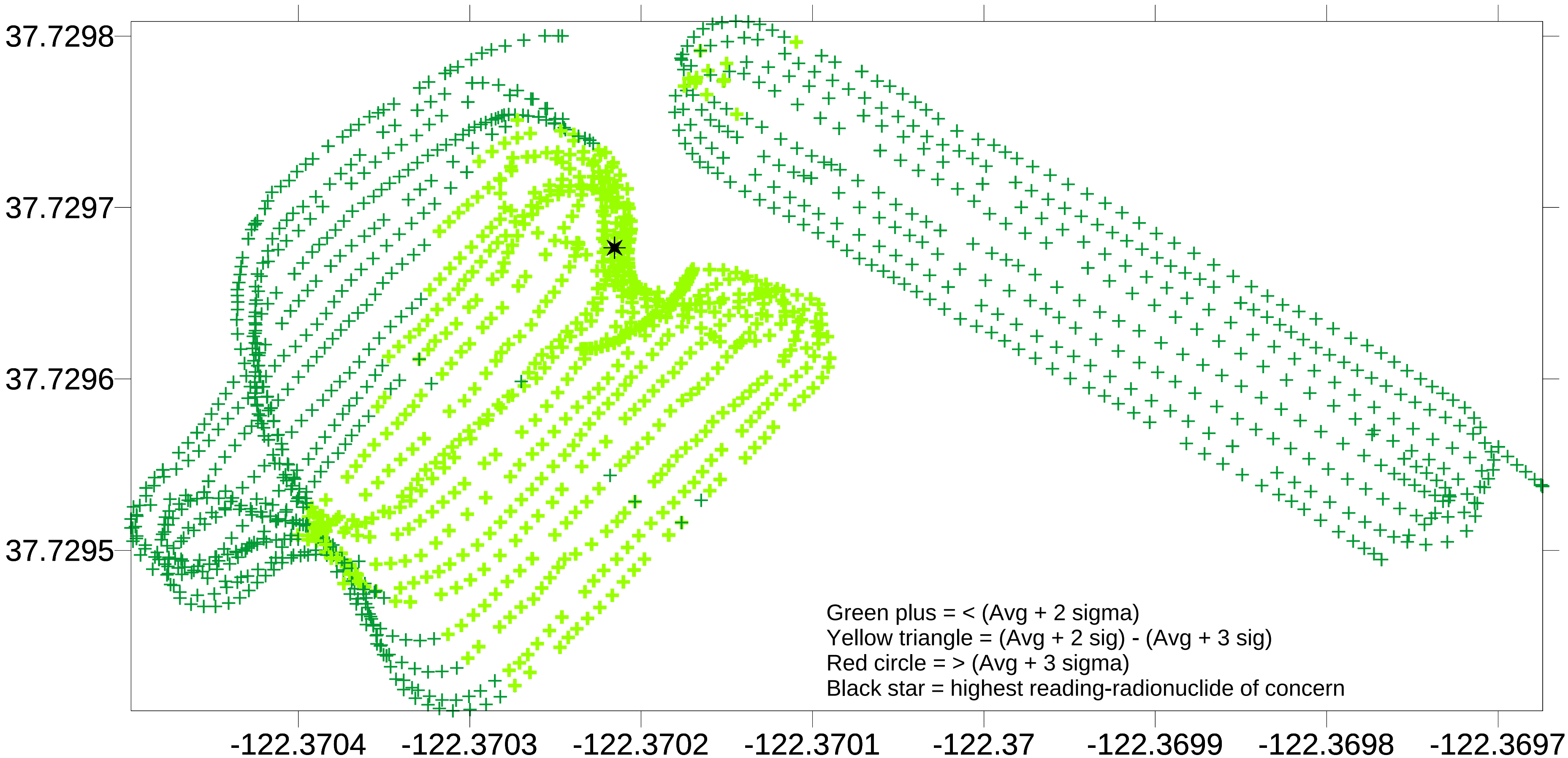
HP_DS_5RS_PLOT_20180814_combined.xlsx

Background: Self

Range(45-1980)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Range(45-1980) [cps] <2 sig
- 2751 to 5036
- 5036 to 6842

Range(45-1980) [cps] 2-3 sig
- 6842 to 7745
- 6673 to 6675

No measurements > Average + 3 sigma

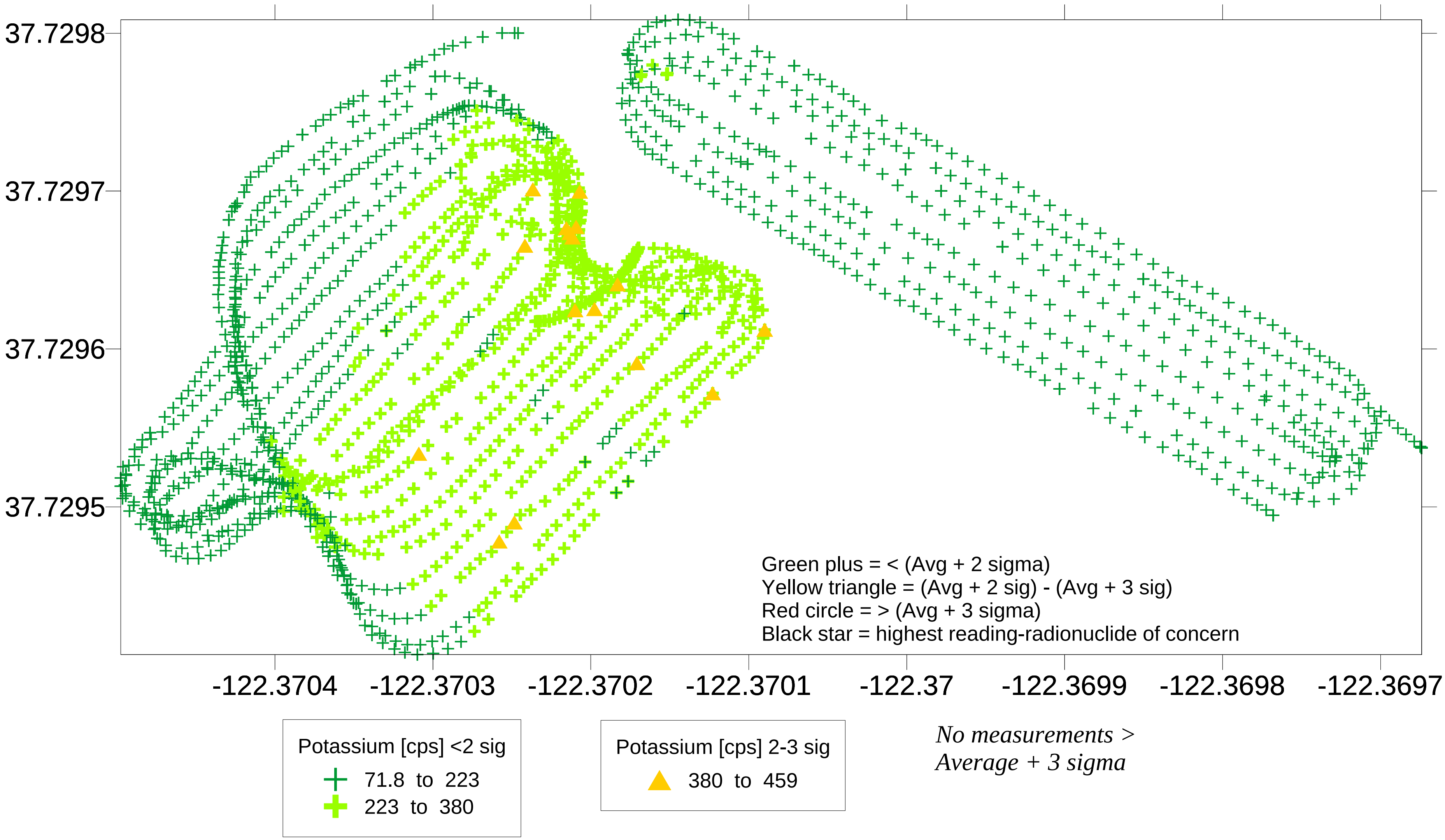
HP_DS_5RS_PLOT_20180814_combined.xlsx

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Potassium

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



No measurements > Average + 3 sigma

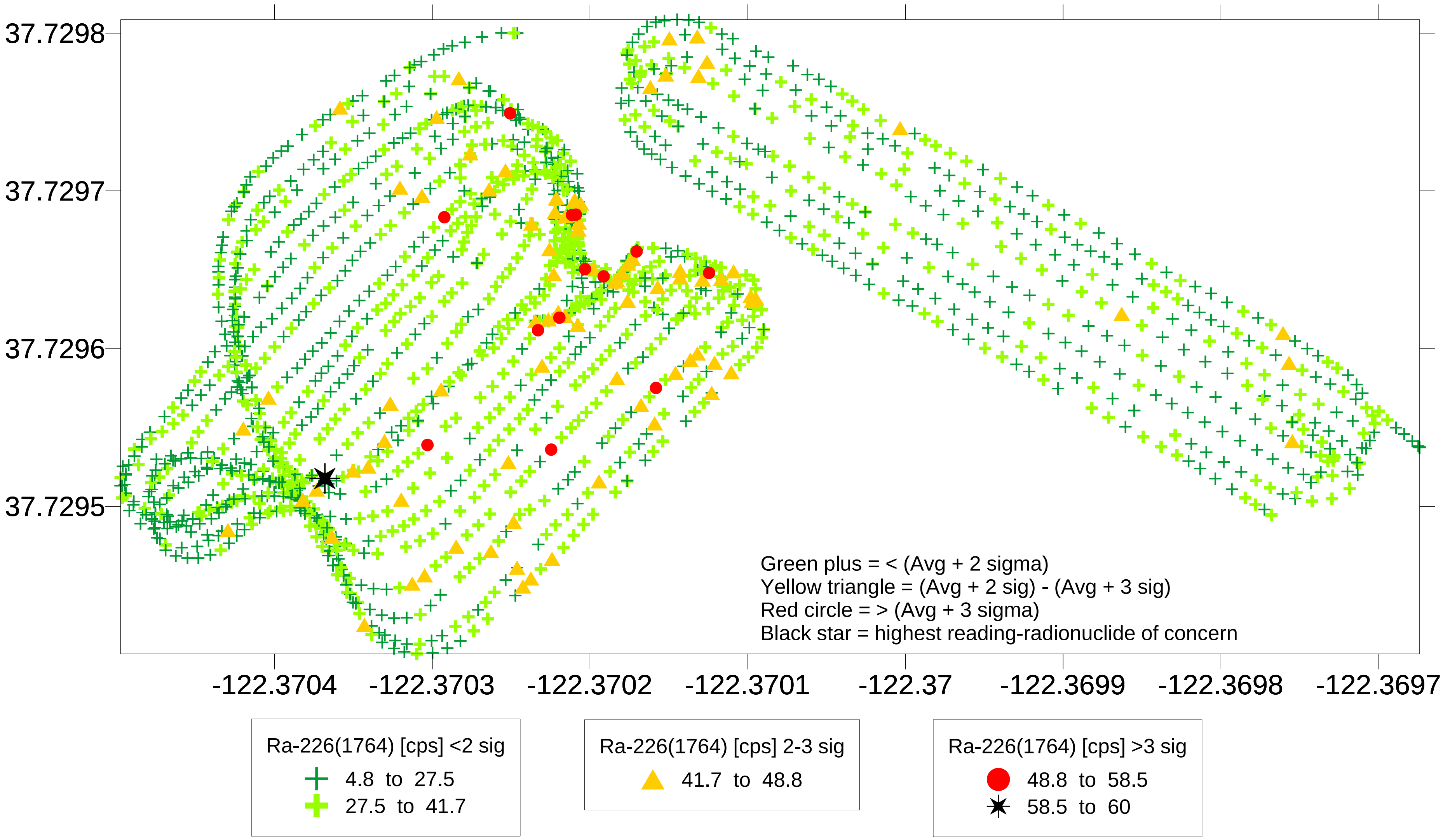
HP_DS_5RS_PLOT_20180814_combined.xlsx

Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



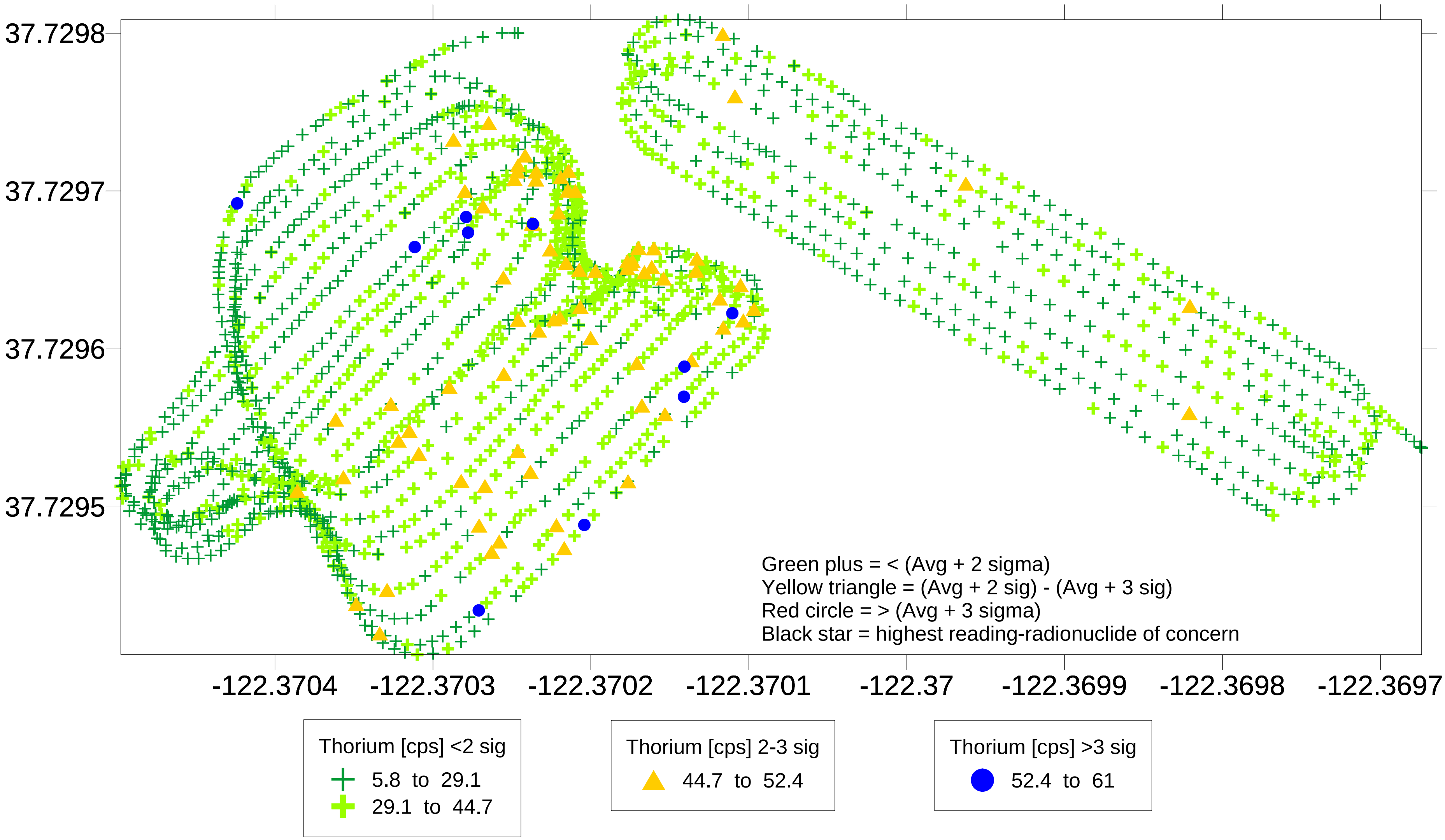
HP_DS_5RS_PLOT_20180814_combined.xlsx

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Thorium

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



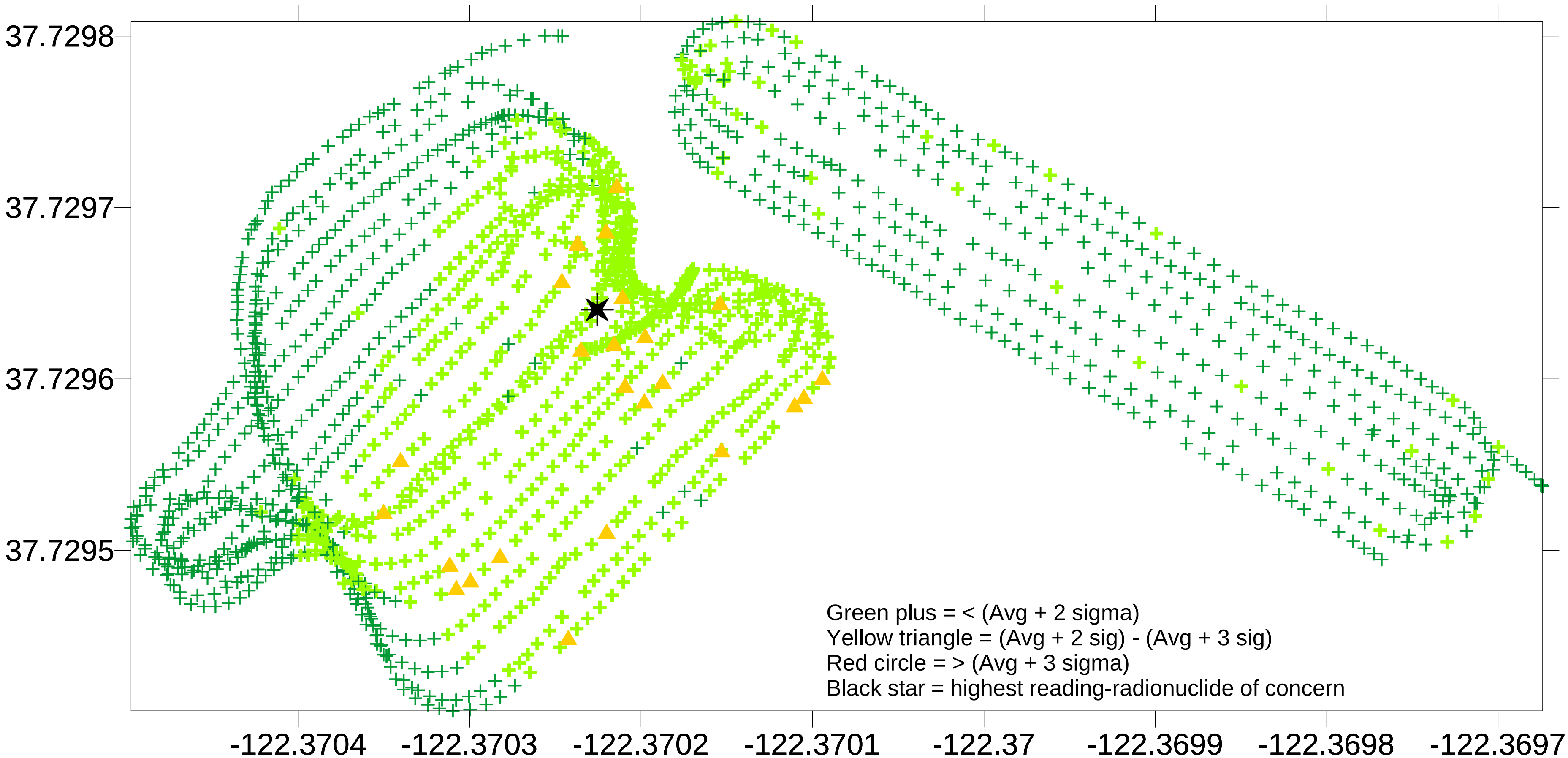
HP_DS_5RS_PLOT_20180814_combined.xlsx

Background: Self

Ra-226 (609)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226 (609) [cps] <2 sig
83 to 212
212 to 308

Ra-226 (609) [cps] 2-3 sig
308 to 333
333 to 335

No measurements > Average + 3 sigma

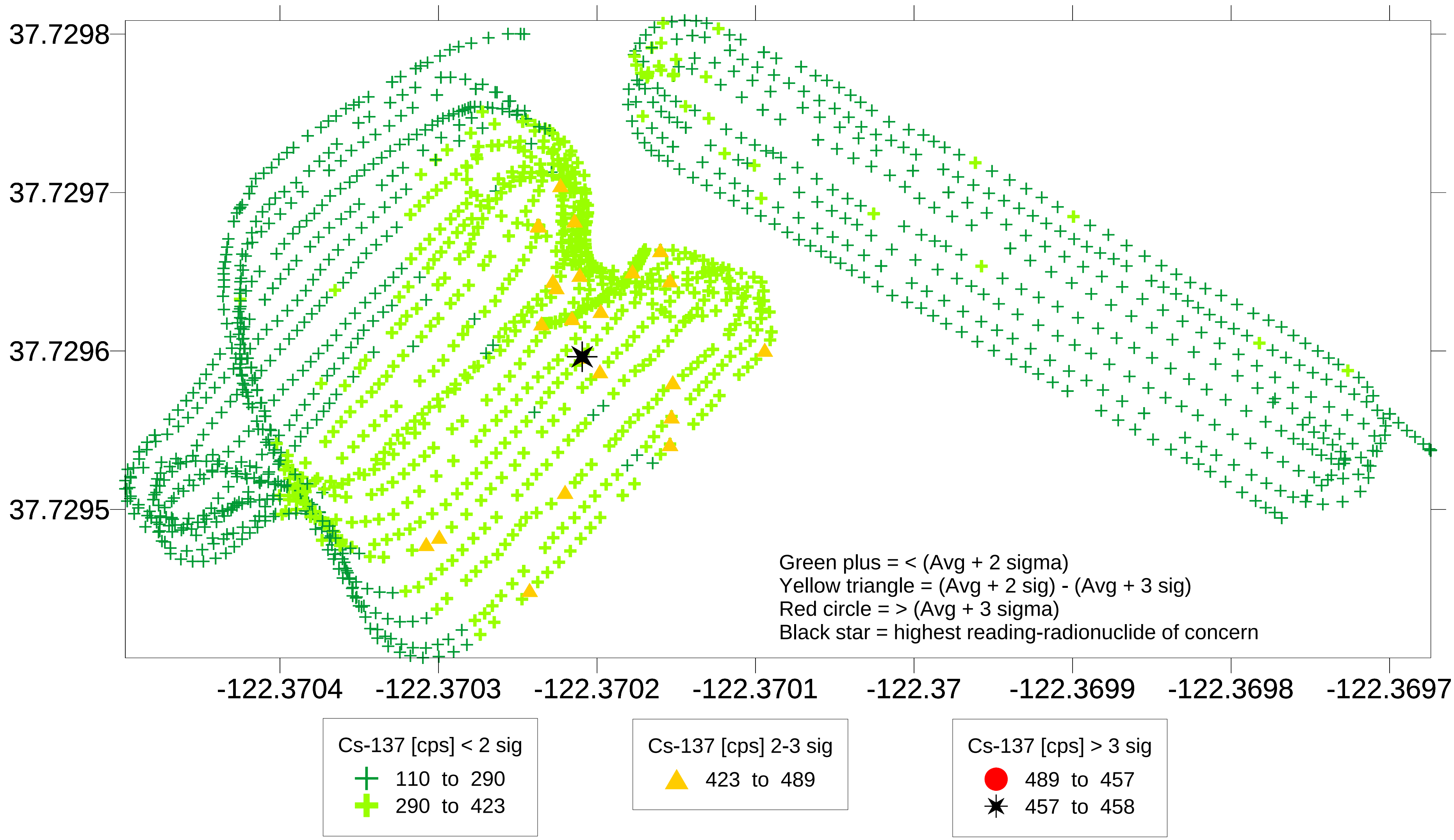
HP_DS_5RS_PLOT_20180814_combined.xlsx

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Cs-137

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Number of data points collected: 5695

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	1941	72	11.2	9.5	75	102
Std. Dev.	321	27	4.13	4.10	20.1	26.2
Median	1864	66	11.0	9.0	71	97
Shift (Avg. - Median)	78	6	0.224	0.514	3.84	5.31
Shift/Std. Dev.	24%	23%	5%	13%	19%	20%
Coeff. of Variation	16.5%	37%	36.8%	43.0%	26.9%	25.6%
Predicted CoV	2.27%	11.77%	29.8%	32.4%	11.56%	9.89%
Avg. +2 sigma	2583	125	19.5	17.7	115	155
Avg. +3 sigma	2904	152	23.6	21.8	135	181
Avg. + 4 sigma	3224	179	27.7	25.9	155	207
Avg. + 5 sigma	3545	205	31.9	30.0	175	233
Avg. + 6 sigma	3866	232	36.0	34.1	195	259
Min. Count	1329	33.0	1.0	1.0	31.0	44.0
Max. Count	3363	209	32.0	31.0	171	221
(Max-Min)/Std. Dev.	6.3	6.6	7.5	7.3	7.0	6.8

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	5.4	1.34	2.18
Std.Dev. Activity	0.88	0.491	0.586
Avg. +2 sigma	7.1	2.32	3.36
Avg. +3 sigma	8.0	2.81	3.94
Min. Activity	3.66	0.119	0.90
Max. Activity	9.3	3.81	4.99

† Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.

Table C: Background Data

Background †† [cps]	Summary-Self Bkgd, <Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	1873	66	10.8	9.0	71	97
Std. Dev.	193.1	13.2	3.51	3.31	13.6	17.3
Avg + 2 sigma	2260	93	17.8	15.6	98	132
Avg + 3 sigma	2453	106	21.3	18.9	112	149
Avg + 4 sigma	2646	119	24.8	22.2	126	166
Avg + 5 sigma	2839	132	28.3	25.5	139	184

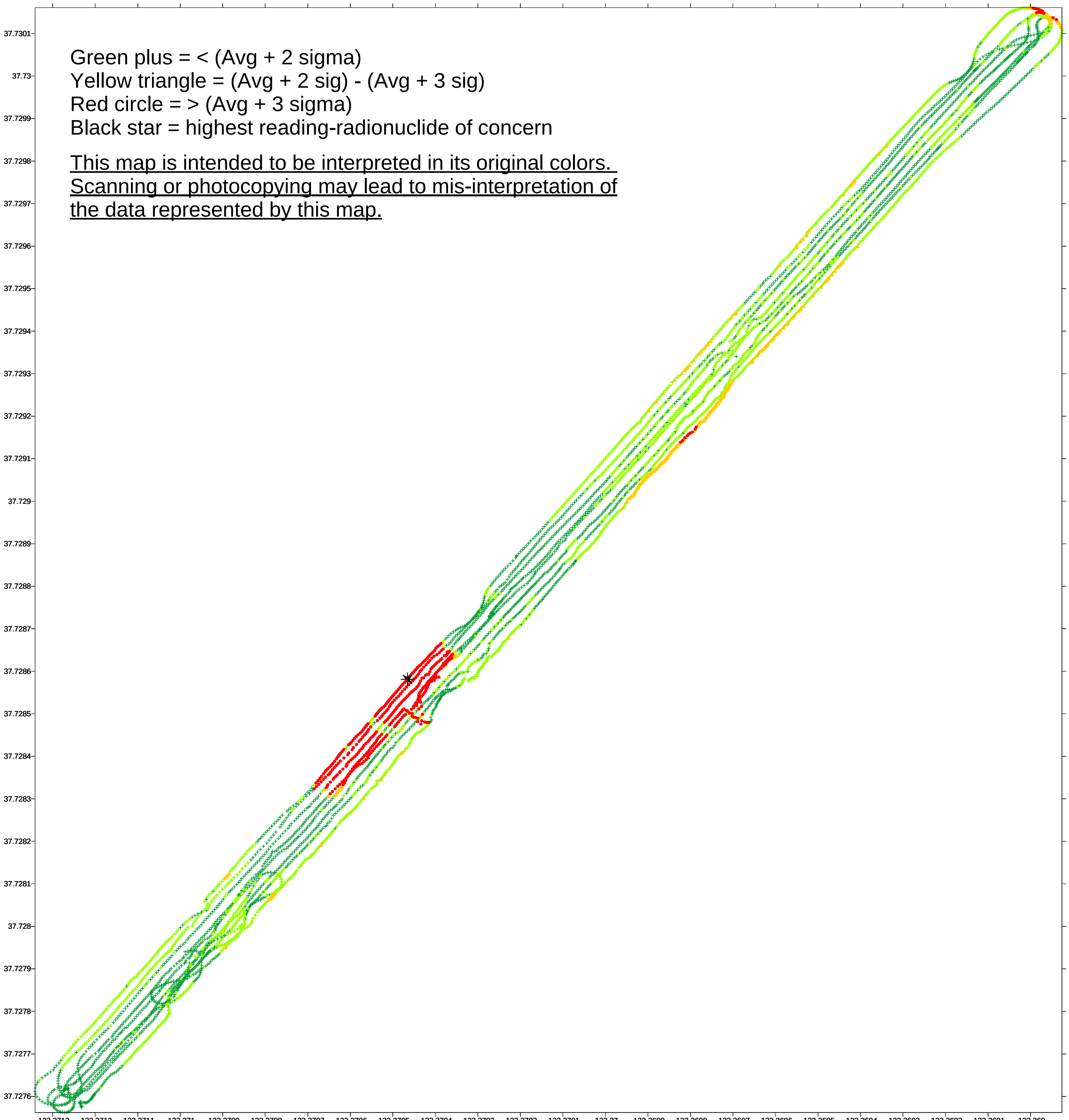
†† This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.

HP_DS_20180719_Combined.xlsx

Range(45-1980)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Range(45-1980) [cps] <2 sig
+ 1329 to 1873
+ 1873 to 2260

Range(45-1980) [cps] 2-3 sig
▲ 2260 to 2453

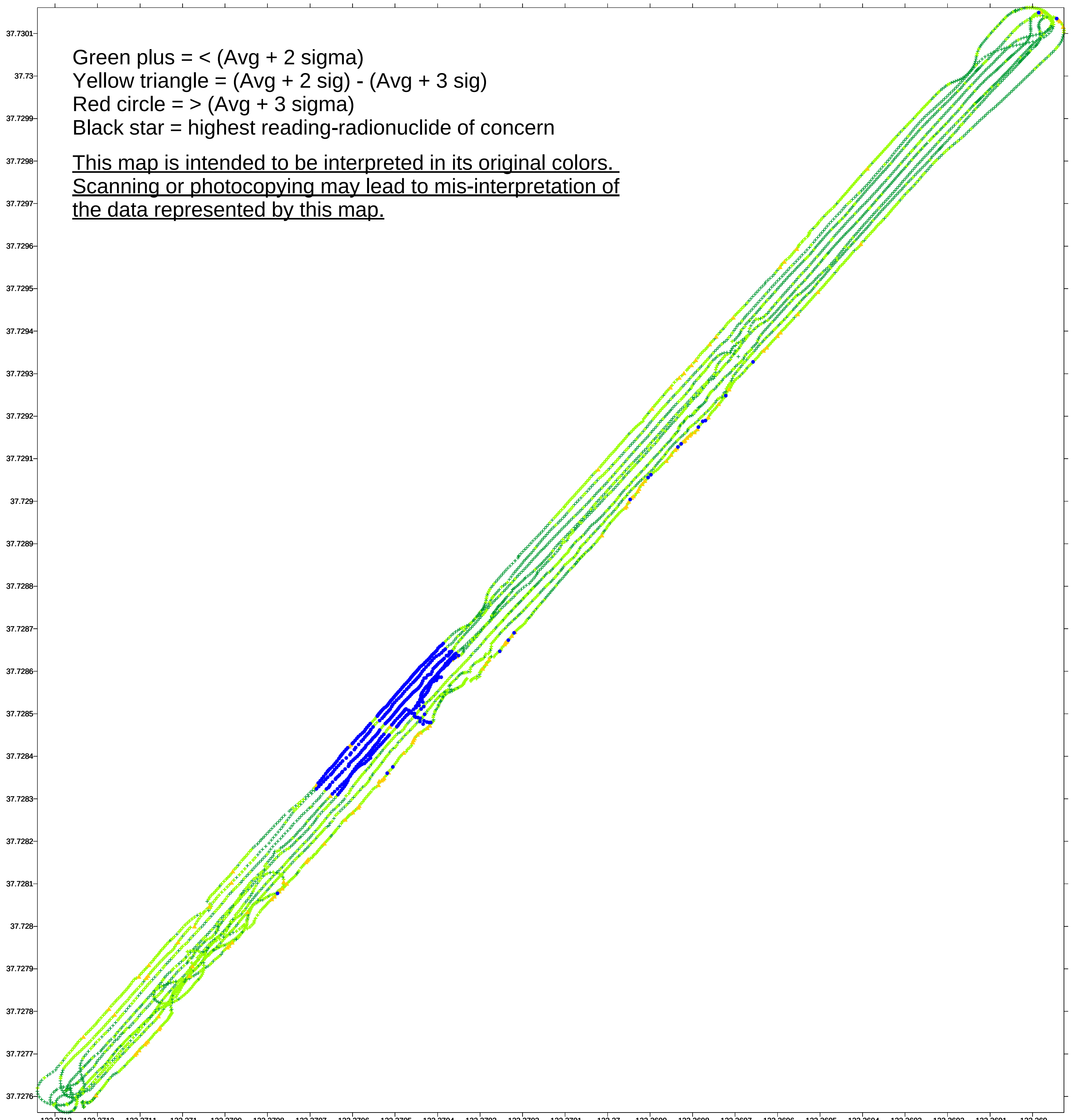
Range(45-1980) [cps] >3 sig
● 2453 to 3363
✶ 3363 to 3365

HP_DS_20180719_Combined.xlsx

Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Potassium [cps] <2 sig
33 to 66
66 to 93

Potassium [cps] 2-3 sig
93 to 106

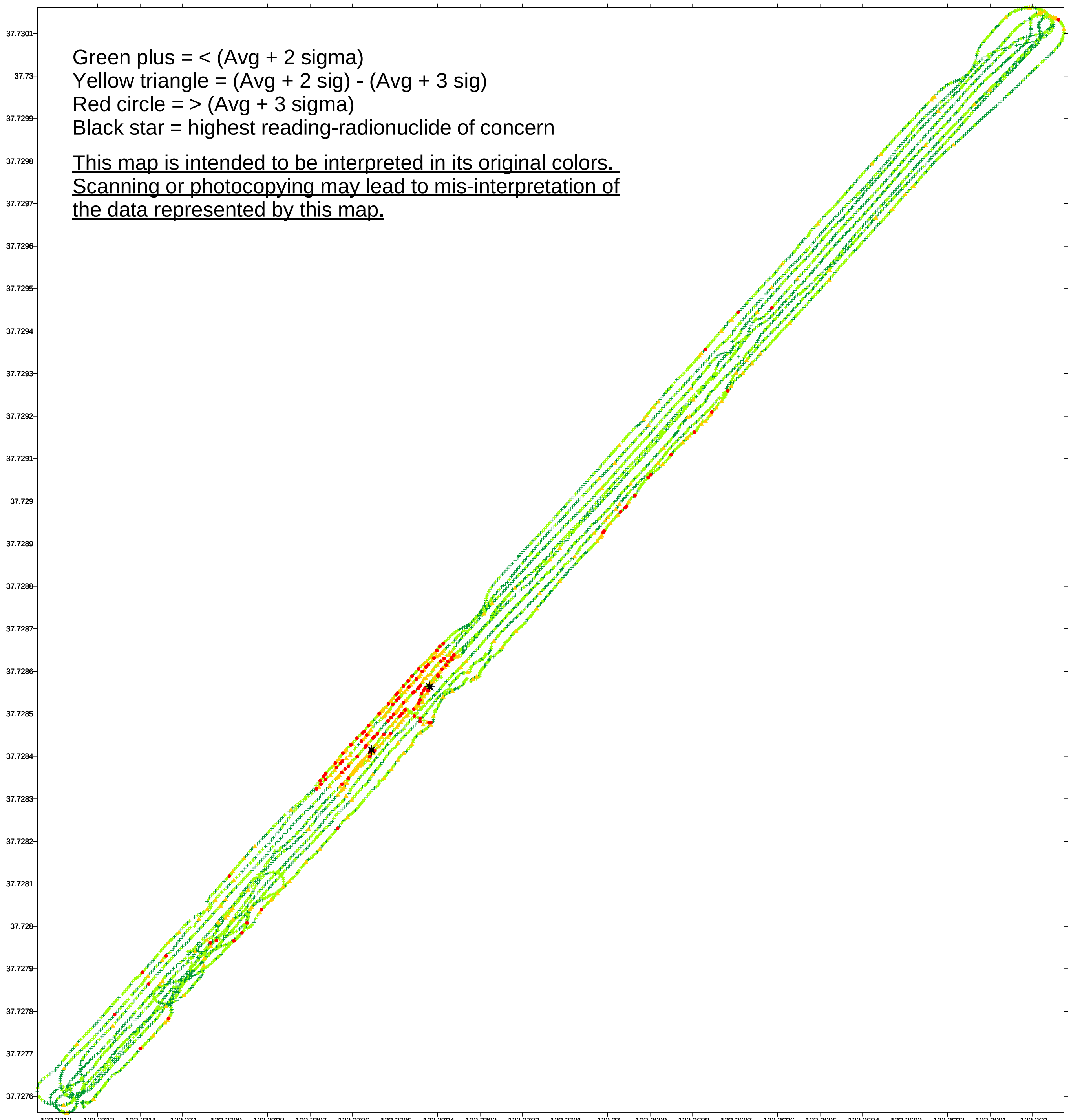
Potassium [cps] >3 sig
106 to 210

HP_DS_20180719_Combined.xlsx

Ra-226(1764)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Ra-226(1764) [cps] <2 sig
- 1 to 10.8
- 10.8 to 17.8

Ra-226(1764) [cps] 2-3 sig
- 17.8 to 21.3

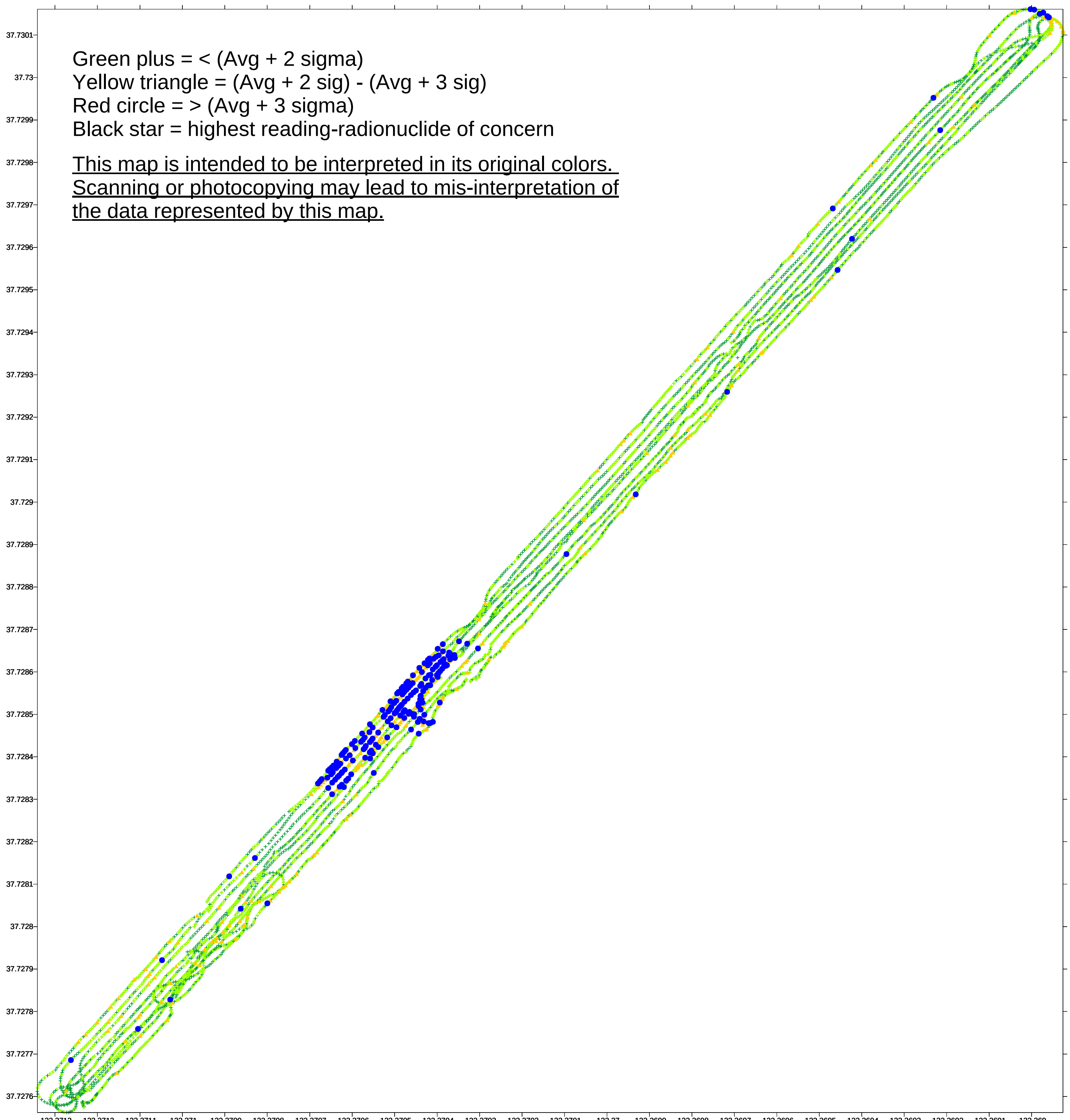
Ra-226(1764) [cps] >3 sig
- 21.3 to 30
- 32 to 34

HP_DS_20180719_Combined.xlsx

Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



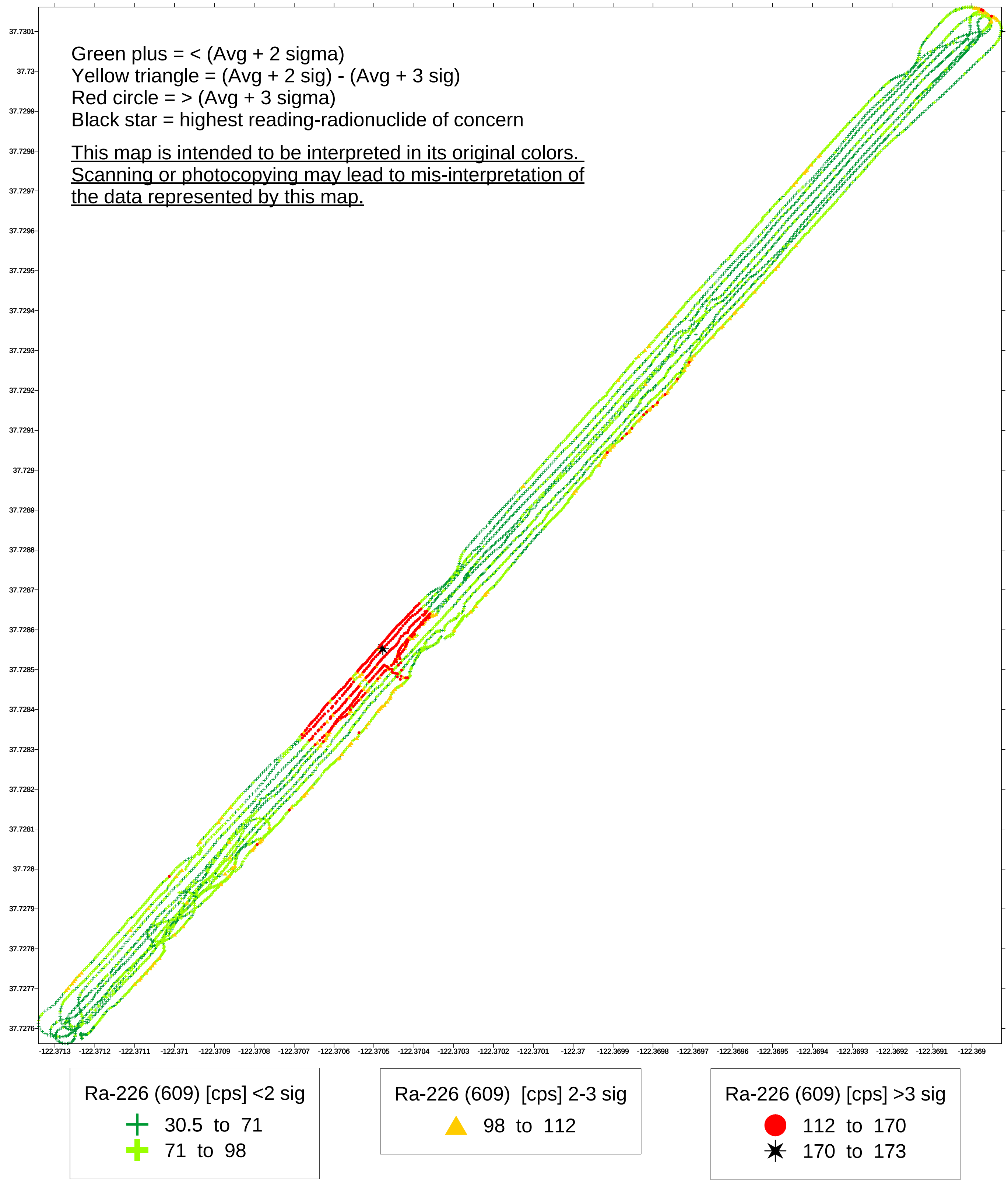
Thorium [cps] <2 sig	Thorium [cps] 2-3 sig	Thorium [cps] >3 sig
1 to 9	15.6 to 18.9	18.9 to 31.1
9 to 15.6		

HP_DS_20180719_Combined.xlsx

Ra-226 (609)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

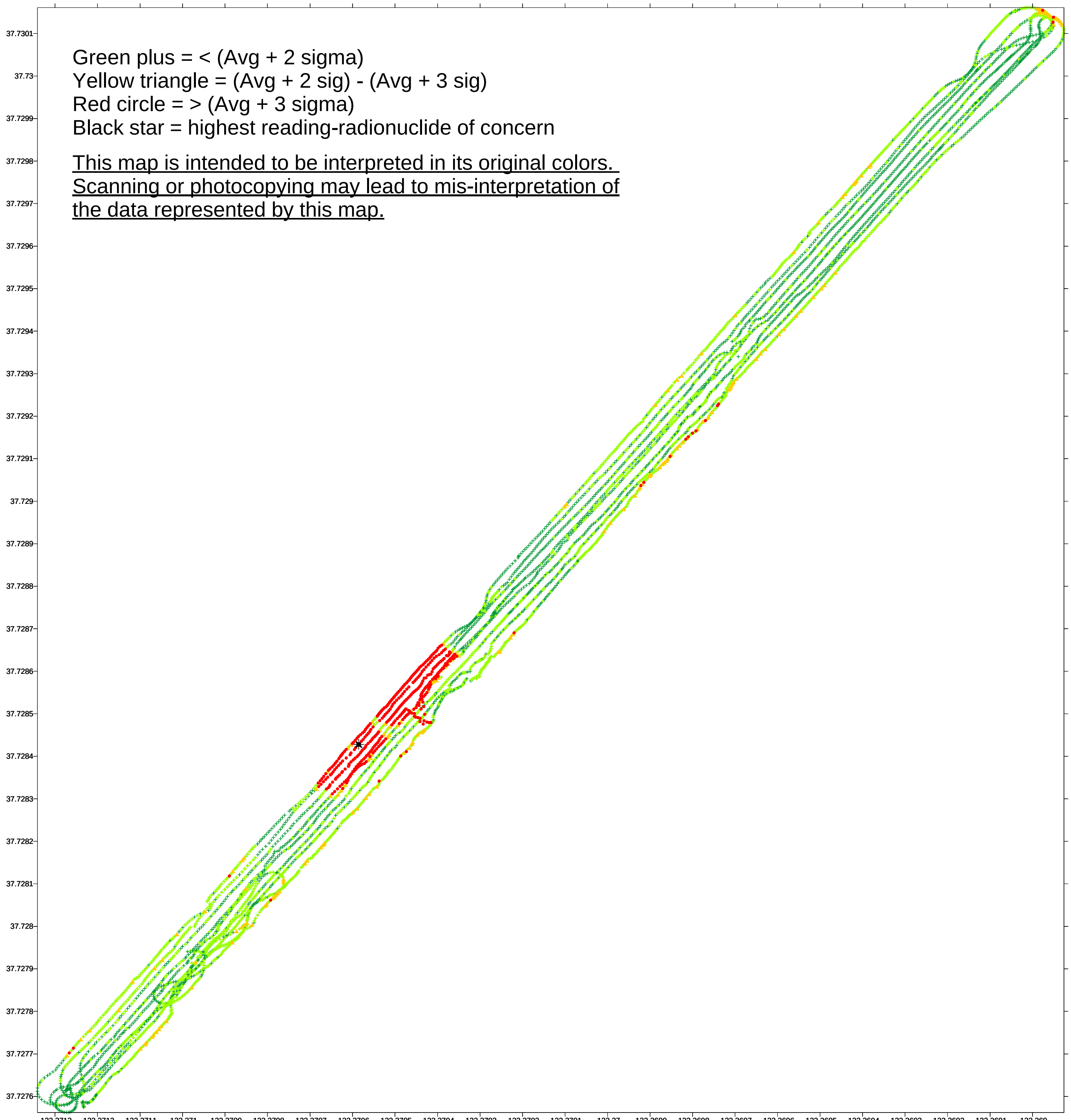


HP_DS_20180719_Combined.xlsx

Background: Self

Cs-137

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Cs-137 [cps] < 2 sig	Cs-137 [cps] 2-3 sig	Cs-137 [cps] > 3 sig
44 to 97	132 to 149	149 to 220
97 to 132		221 to 223.5

Number of data points collected: 1650

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3914	158	24.8	26.9	170	228
Std. Dev.	457	29.0	7.26	7.75	29.6	38.2
Median	3840	156	24.0	26.0	168	226
Shift (Avg. - Median)	73	1.47	0.83	0.88	2.0	2.3
Shift/Std. Dev.	16%	5%	11%	11%	7%	6%
Coeff. of Variation	11.7%	18%	29.2%	28.8%	17.4%	16.7%
Predicted CoV	1.60%	7.97%	20.1%	19.3%	7.67%	6.62%
Avg. +2 sigma	4829	216	39.4	42.4	229	305
Avg. +3 sigma	5286	245	46.6	50.2	259	343
Avg. + 4 sigma	5743	274	53.9	57.9	289	381
Avg. + 5 sigma	6201	303	61.2	65.7	318	419
Avg. + 6 sigma	6658	332	68.4	73.4	348	457
Min. Count	2132	65.0	5.00	5.00	87.0	111.0
Max. Count	5858	274	52.0	62.1	308	383
(Max-Min)/Std. Dev.	8.1	7.2	6.5	7.4	7.5	7.1

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	10.8	2.96	4.96
Std.Dev. Activity	1.26	0.864	0.864
Avg. +2 sigma	13.3	4.68	6.69
Avg. +3 sigma	14.6	5.55	7.55
Min. Activity	5.88	0.595	2.54
Max. Activity	16.2	6.19	8.99

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background †† [cps]	<Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3884	155	24.1	26.3	168	225
Std. Dev.	414	25.5	6.41	6.97	26.7	34.1
Avg + 2 sigma	4713	206	37.0	40.2	221	293
Avg + 3 sigma	5127	231	43.4	47.2	248	327
Avg + 4 sigma	5541	257	49.8	54.1	275	362
Avg + 5 sigma	5956	283	56.2	61.1	302	396

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_FOS_20180726_01.xlsx

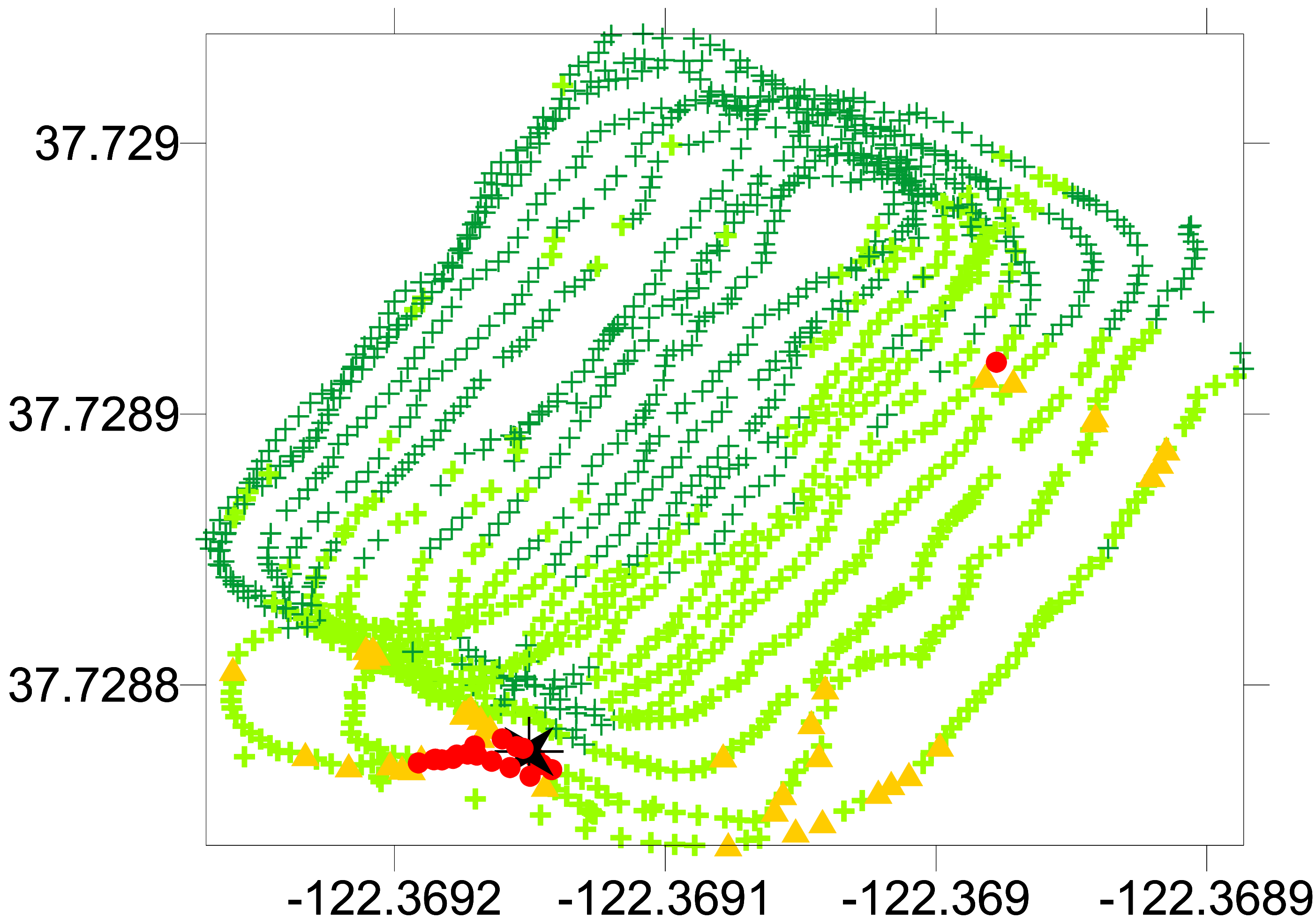
Background: Self

Range(45-1980)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Range(45-1980) [cps] <2 sig
2131 to 3885
3885 to 4715

Range(45-1980) [cps] 2-3 sig
4715 to 5131

Range(45-1980) [cps] >3 sig
5131 to 5855
5855 to 5859

HP_FOS_20180726_01.xlsx

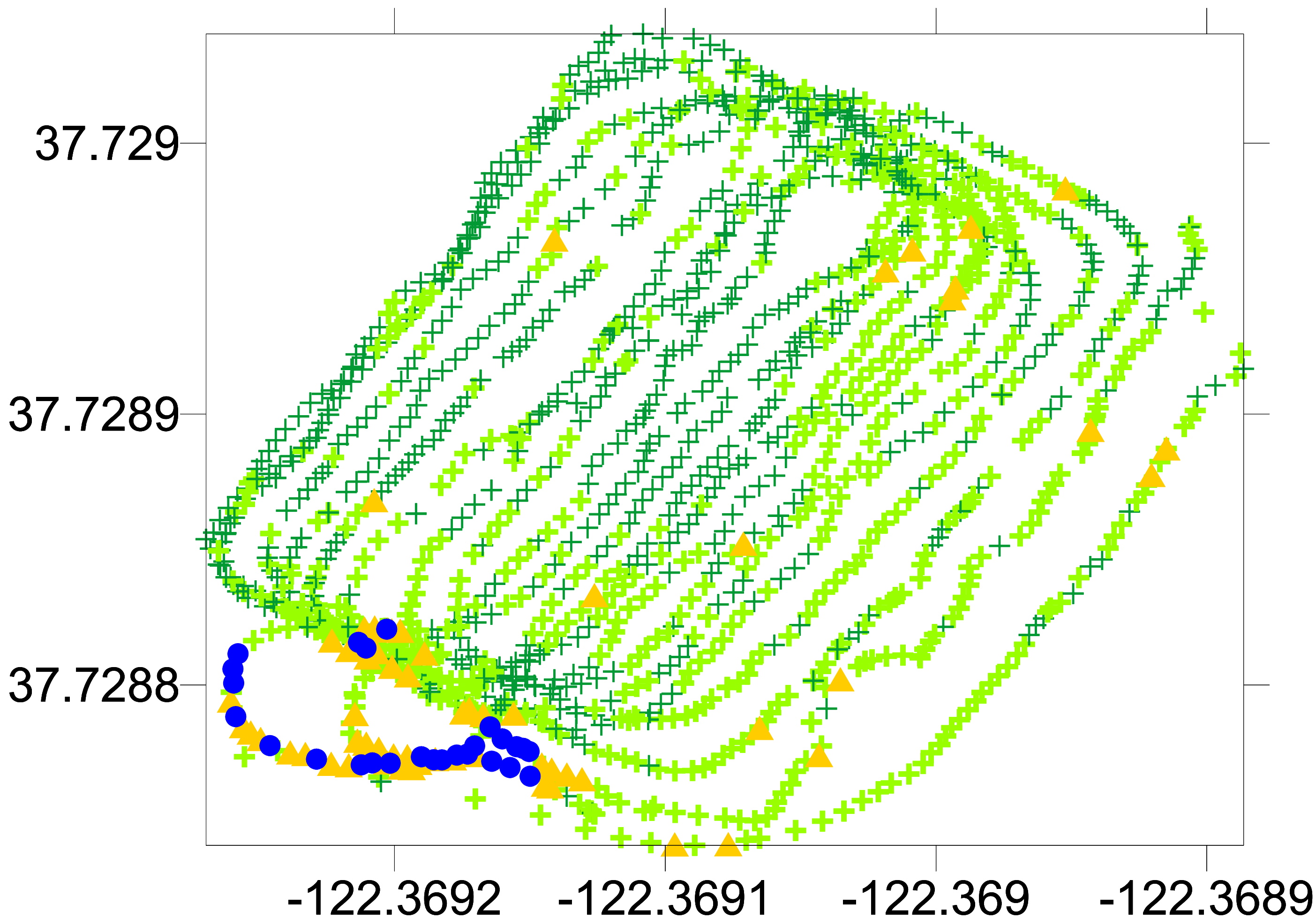
Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Potassium [cps] <2 sig
64.8 to 155
155 to 206

Potassium [cps] 2-3 sig
206 to 231

Potassium [cps] >3 sig
231 to 275

HP_FOS_20180726_01.xlsx

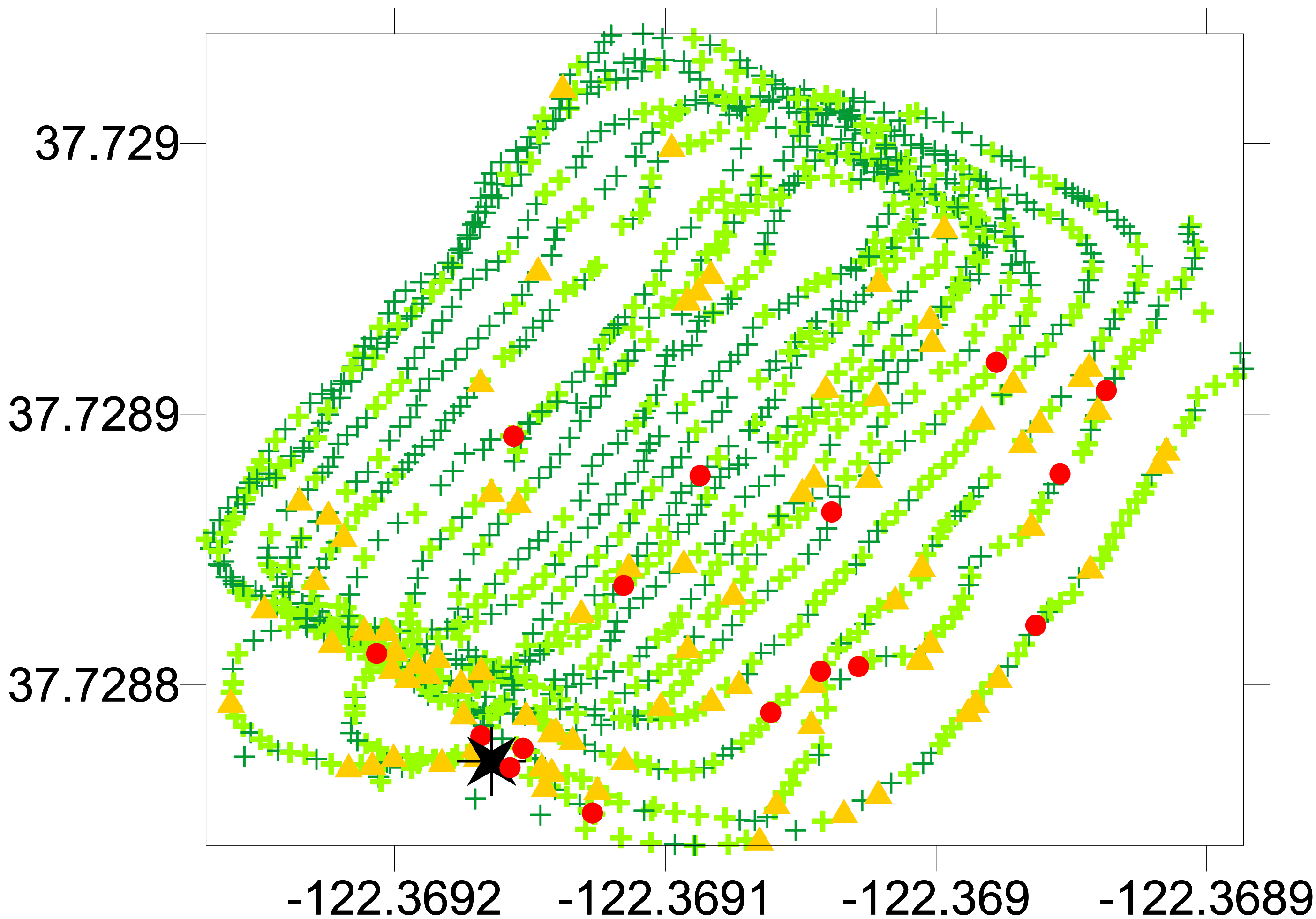
Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Ra-226(1764) [cps] <2 sig
4.8 to 24.1
24.1 to 37

Ra-226(1764) [cps] 2-3 sig
37 to 43.4

Ra-226(1764) [cps] >3 sig
43.4 to 52
52 to 54

HP_FOS_20180726_01.xlsx

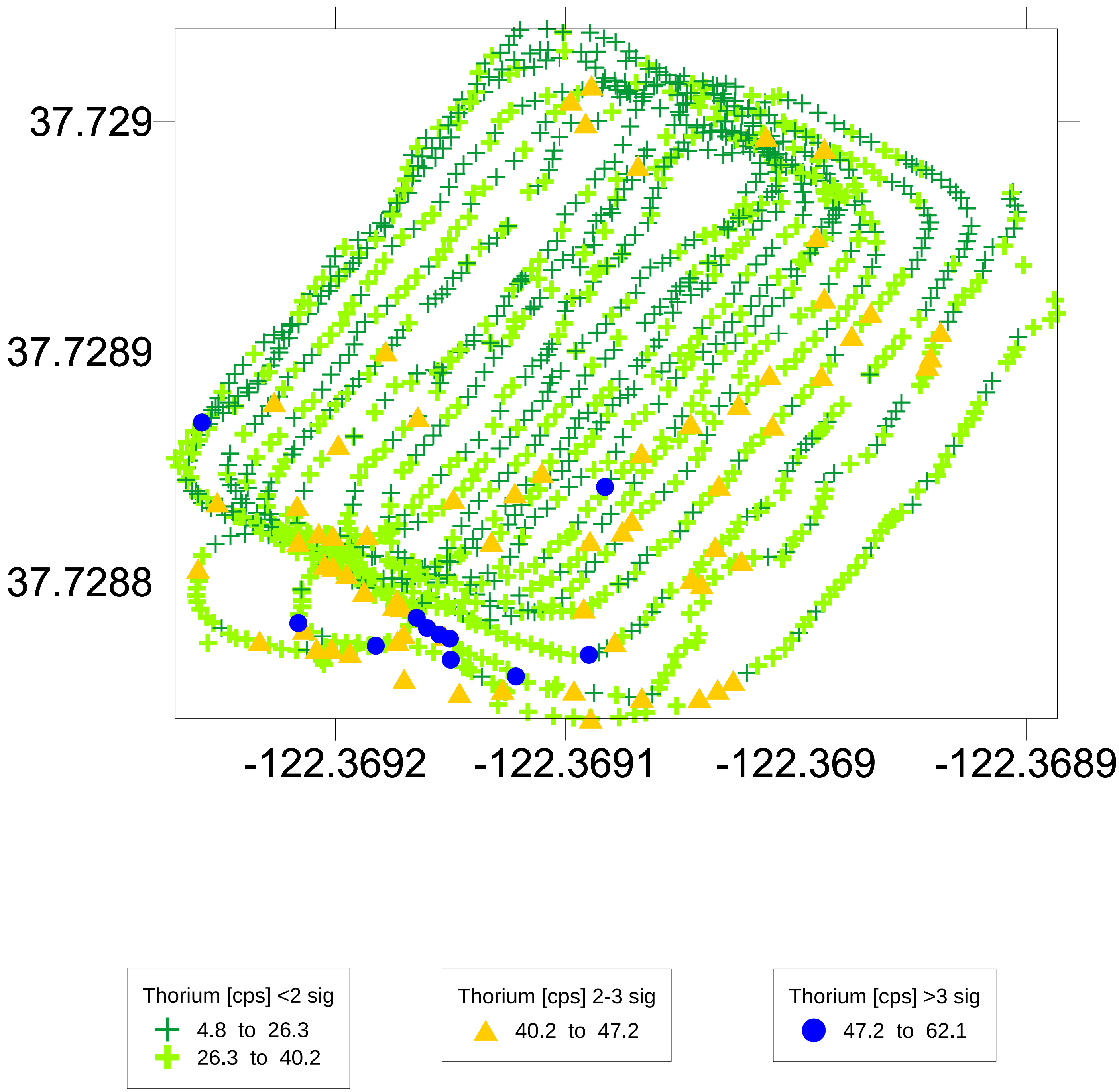
Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



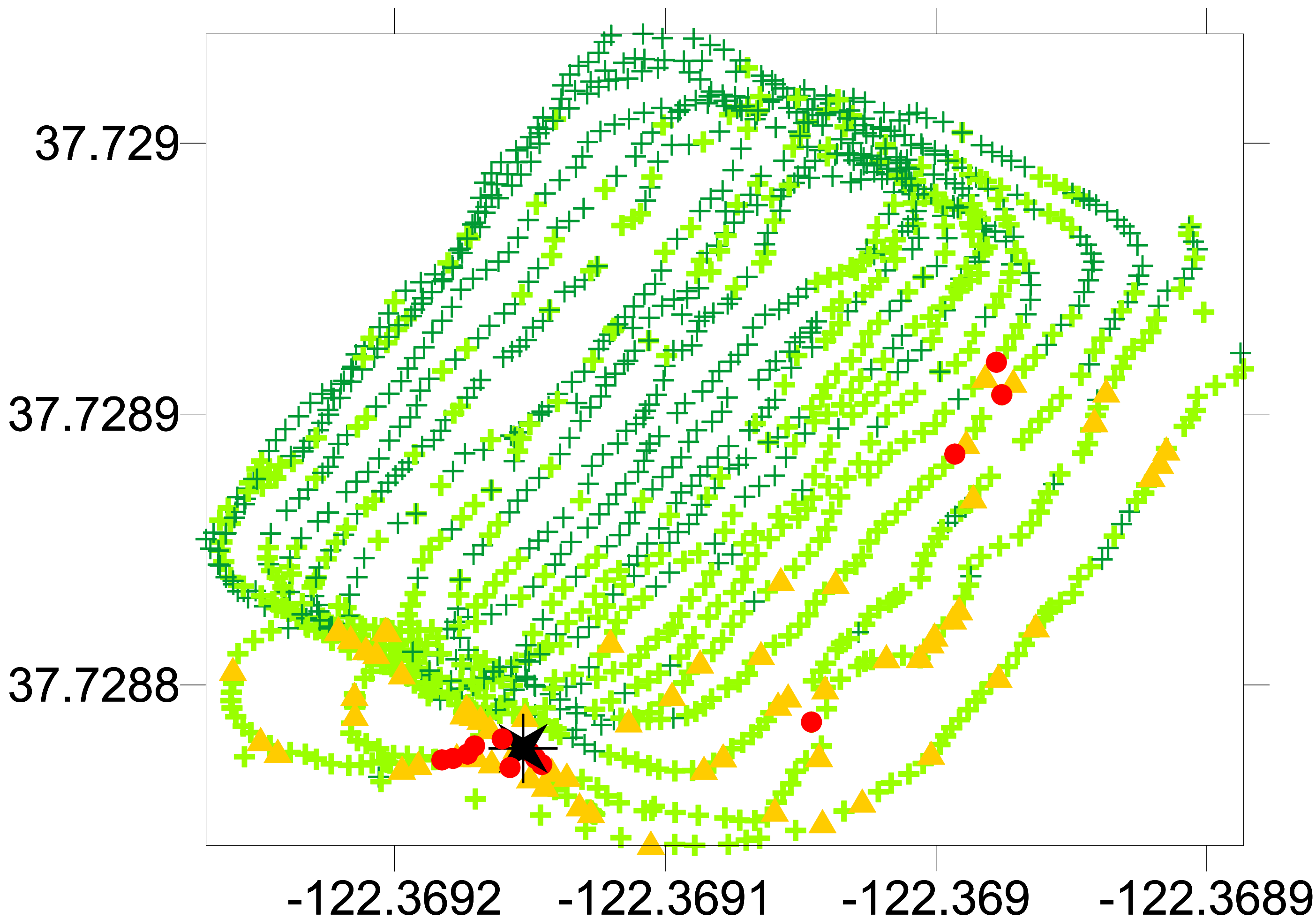
HP_FOS_20180726_01.xlsx
Background: Self

Ra-226 (609)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226 (609) [cps] <2 sig
86.8 to 168
168 to 221

Ra-226 (609) [cps] 2-3 sig
221 to 248

Ra-226 (609) [cps] >3 sig
248 to 305
308 to 310

HP_FOS_20180726_01.xlsx

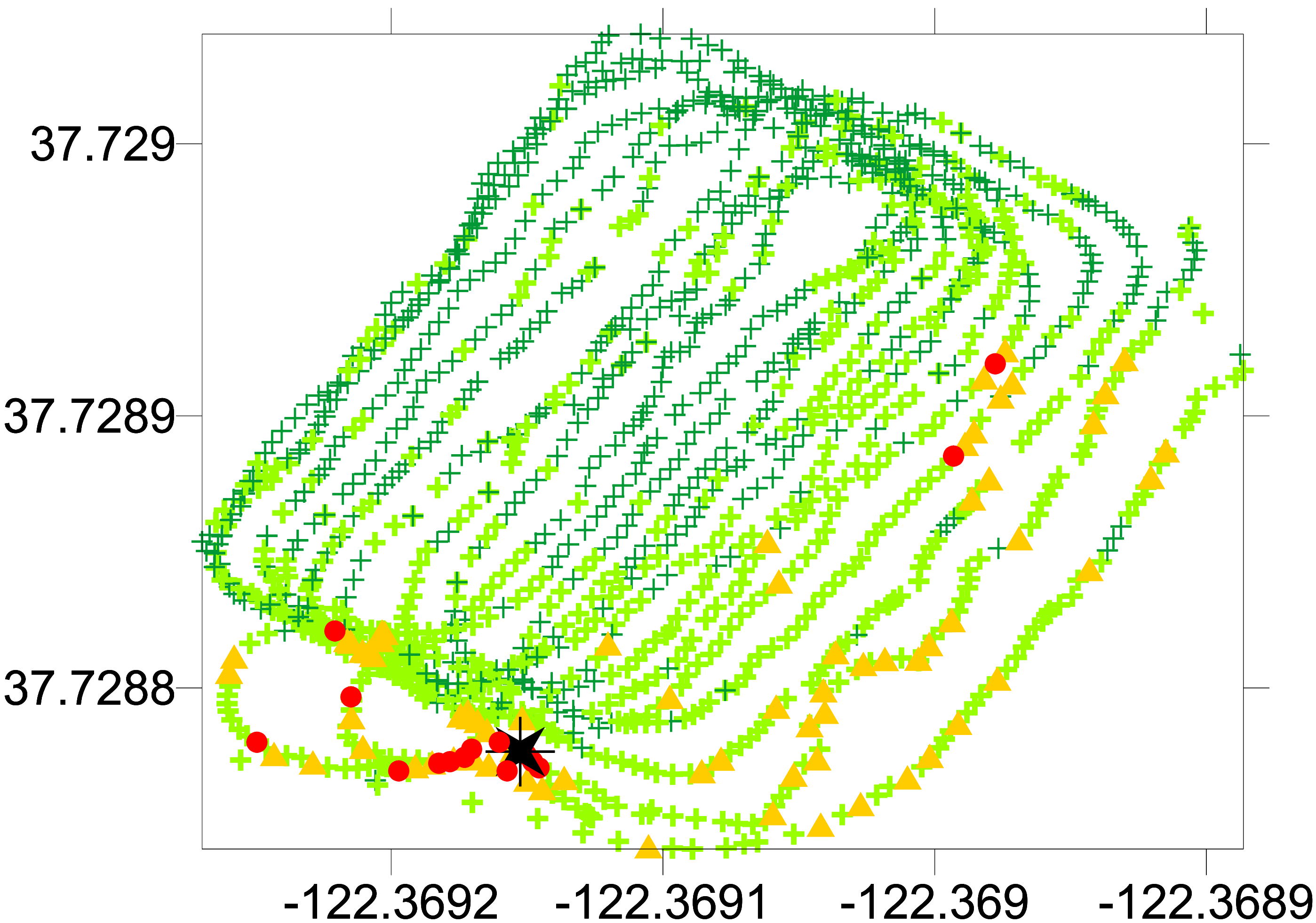
Background: Self

Cs-137

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Cs-137 [cps] < 2 sig
110.8 to 225
225 to 293

Cs-137 [cps] 2-3 sig
293 to 328

Cs-137 [cps] > 3 sig
328 to 383
383 to 385

Number of data points collected: 6097

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3151	114	18.3	15.6	122	168
Std. Dev.	462	22.6	6.24	5.51	22.9	29.9
Median	3245	114	18.0	16.0	122	168
Shift (Avg. - Median)	-94	0.2	0.28	-0.44	-0.15	-0.44
Shift/Std. Dev.	-20%	1%	5%	-8%	-1%	-1%
Coeff. of Variation	15%	20%	34%	35%	19%	18%
Predicted CoV	1.8%	9.3%	23.4%	25.3%	9.1%	7.7%
Avg. +2 sigma	4074	160	30.8	26.6	168	227
Avg. +3 sigma	4536	182	37.0	32.1	191	257
Avg. + 4 sigma	4997	205	43.2	37.6	214	287
Avg. + 5 sigma	5459	227	49.5	43.1	236	317
Avg. + 6 sigma	5920	250	55.7	48.7	259	347
Min. Count	2181	47.1	2.0	1.0	58.1	85.2
Max. Count	5134	240	48.0	44.0	264	342
(Max-Min)/Std. Dev.	6.4	8.5	7.4	7.8	9.0	8.6

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	8.7	2.18	3.56
Std.Dev. Activity	1.27	0.742	0.667
Avg. +2 sigma	11.2	3.66	4.89
Avg. +3 sigma	12.5	4.40	5.56
Min. Activity	6.02	0.238	1.70
Max. Activity	14.2	5.71	7.70

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background †† [cps]	<Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3151	114	18.3	15.6	122	168
Std. Dev.	462	22.6	6.24	5.51	22.9	29.9
Avg + 2 sigma	4074	160	30.8	26.6	168	227
Avg + 3 sigma	4536	182	37.0	32.1	191	257
Avg + 4 sigma	4997	205	43.2	37.6	214	287
Avg + 5 sigma	5459	227	49.5	43.1	236	317

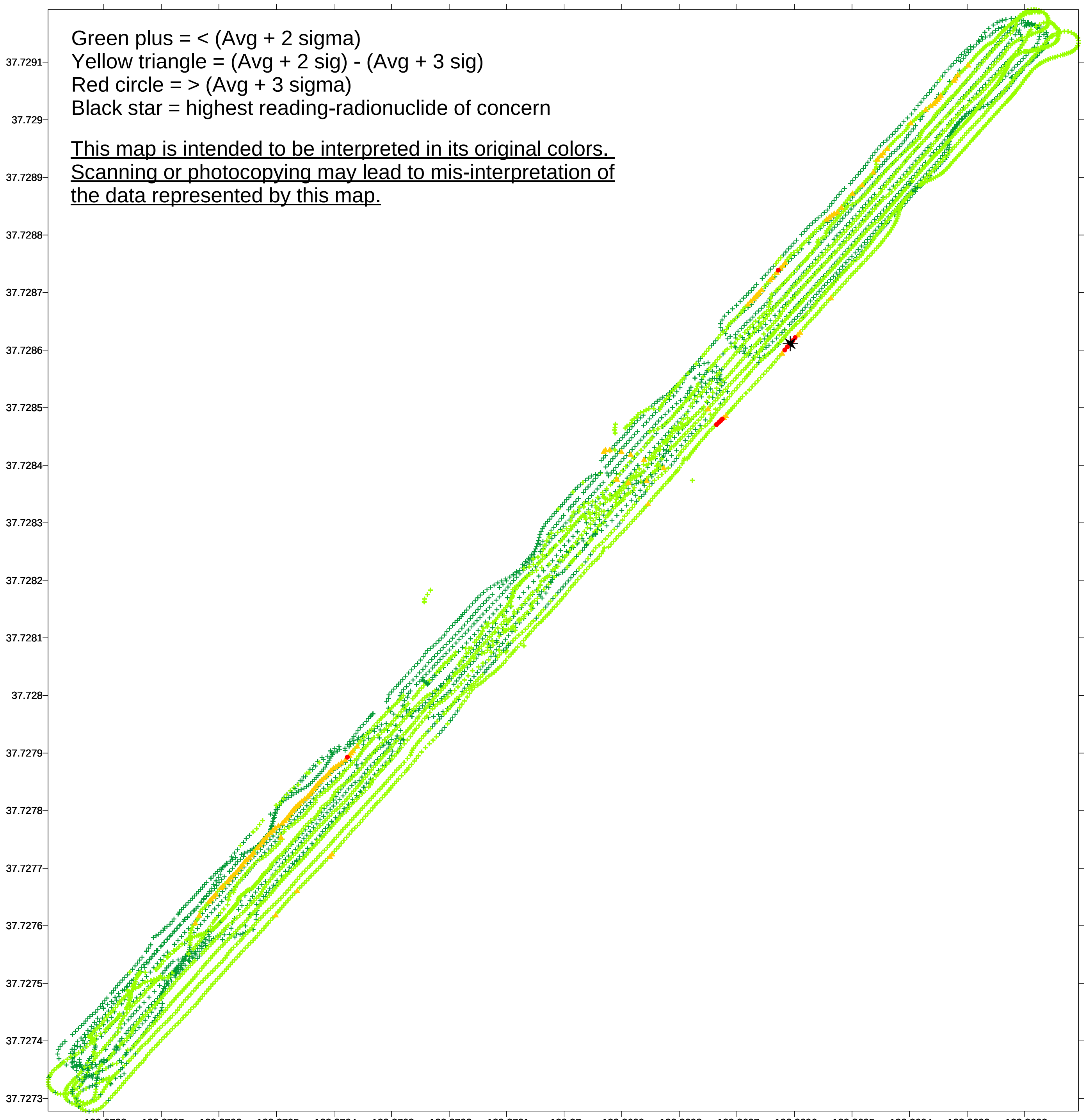
†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_FS_2018(0717comb&0816comb)_combined.xlsx

Range(45-1980)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Range(45-1980) [cps] <2 sig
- 2180 to 3151
- 3151 to 4074

Range(45-1980) [cps] 2-3 sig
- 4074 to 4536

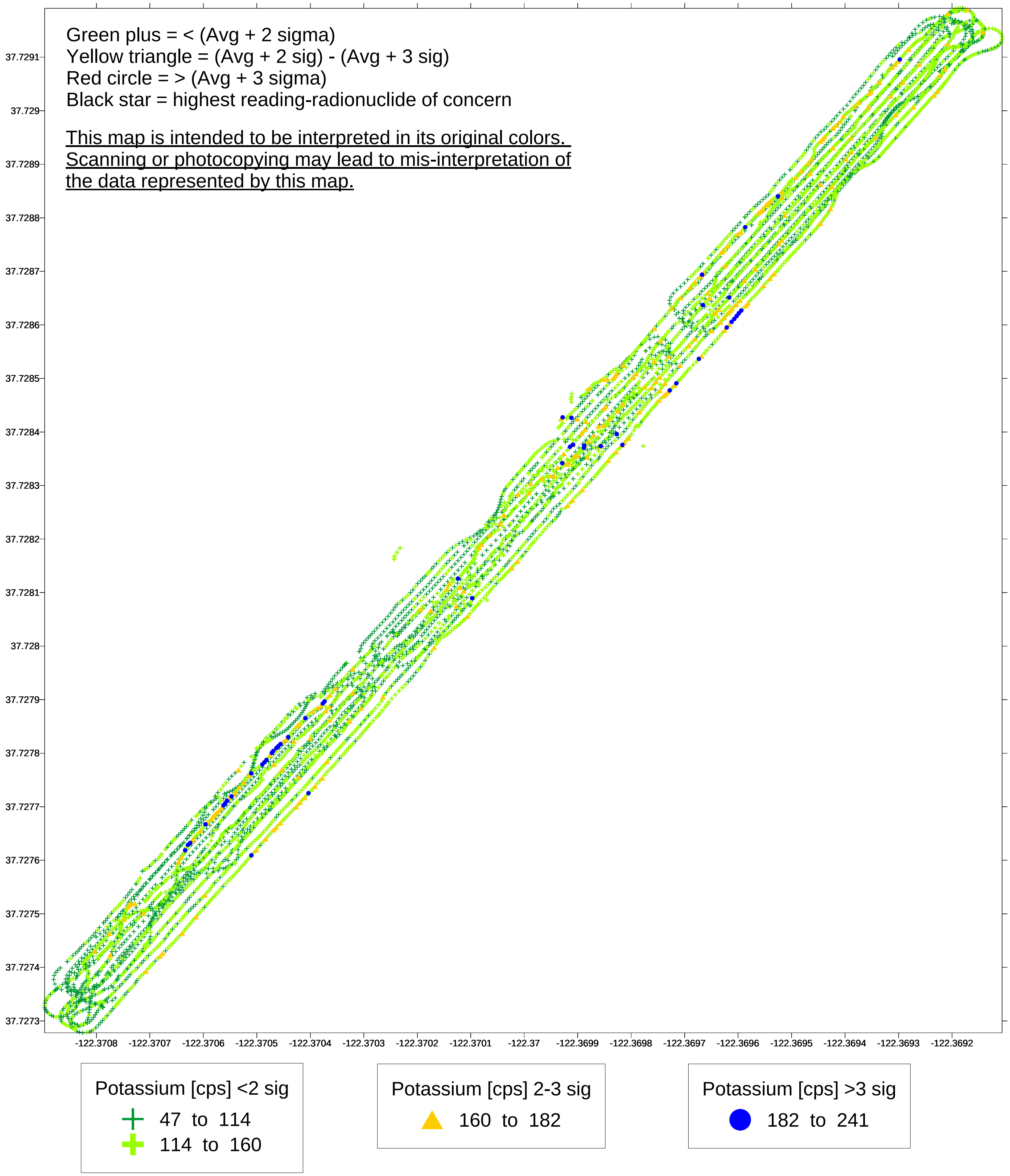
Range(45-1980) [cps] >3 sig
- 4536 to 5132
- 5132 to 5135

HP_FS_2018(0717comb&0816comb)_combined.xlsx

Potassium

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

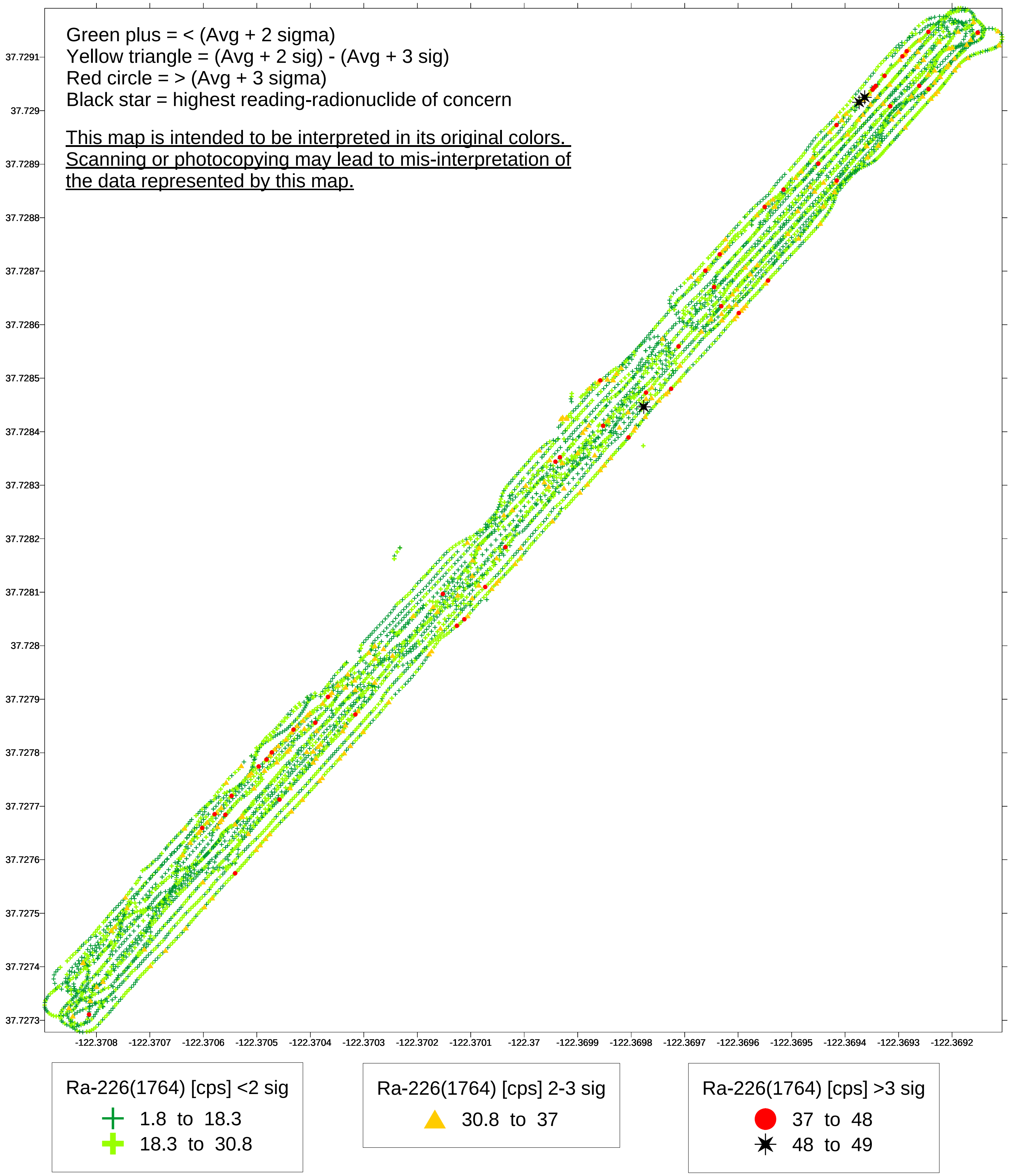


HP_FS_2018(0717comb&0816comb)_combined.xlsx

Ra-226(1764)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

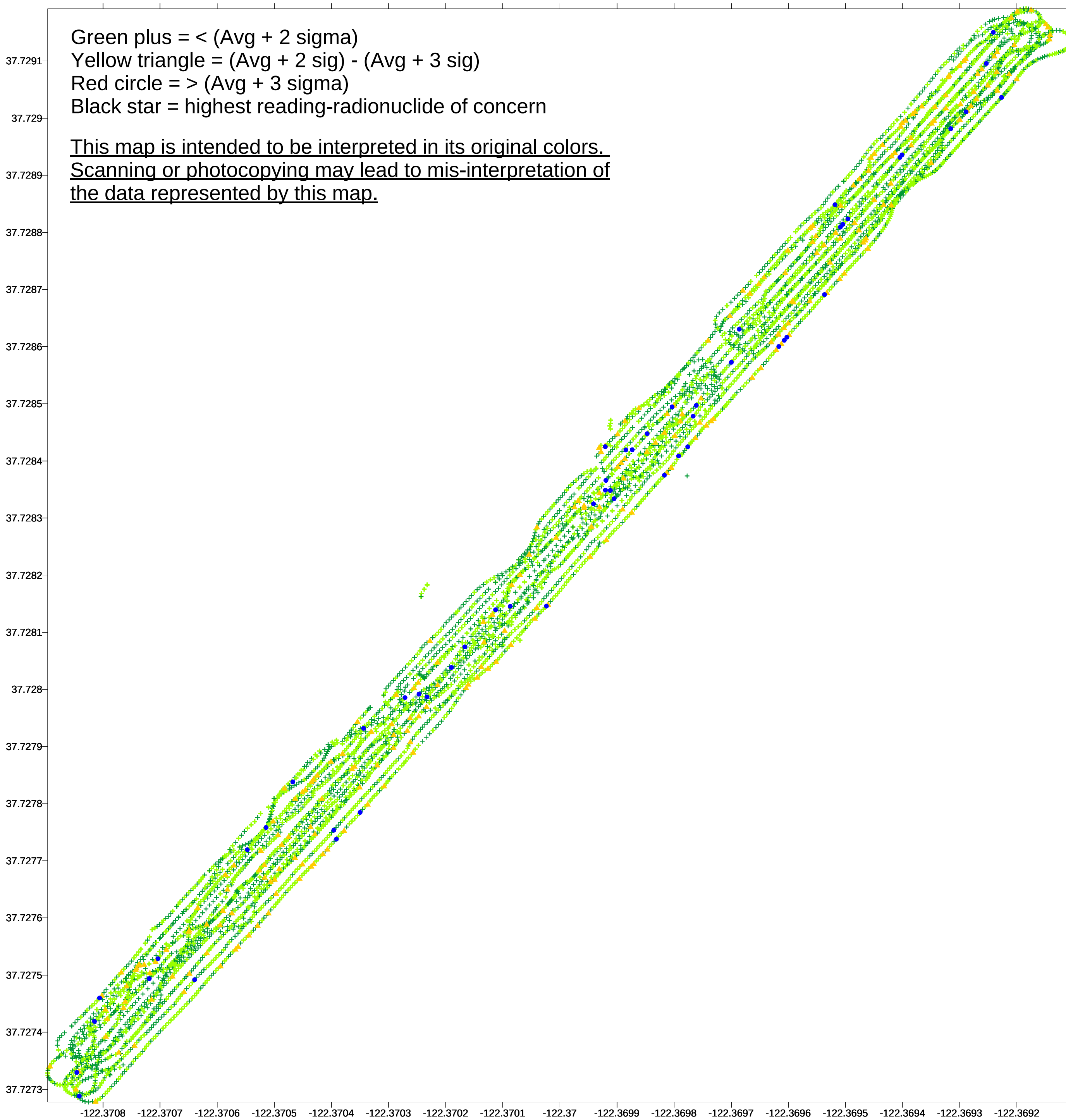


HP_FS_2018(0717comb&0816comb)_combined.xlsx

Thorium

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Thorium [cps] <2 sig
0.8 to 15.6
15.6 to 26.6

Thorium [cps] 2-3 sig
26.6 to 32.1

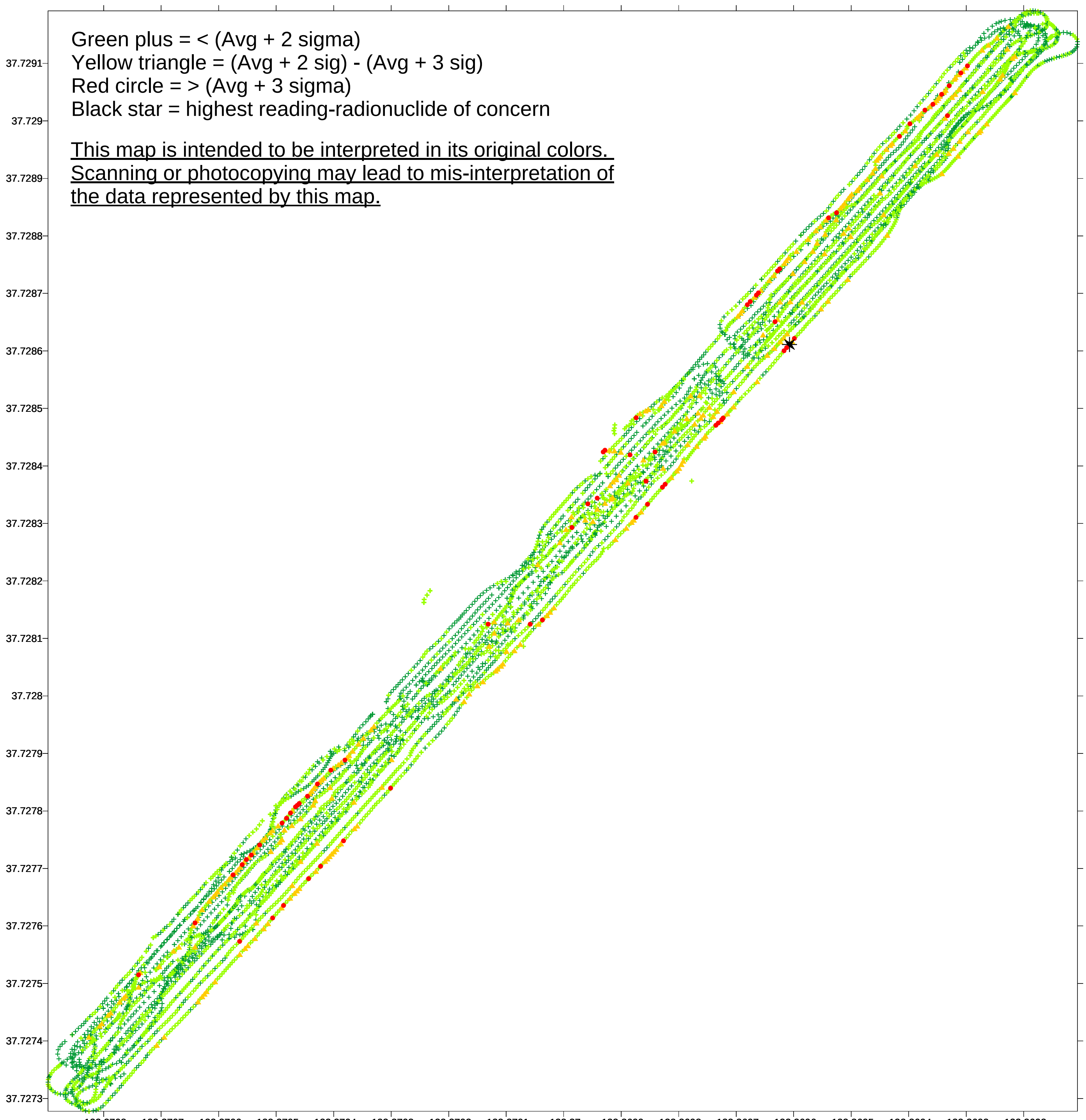
Thorium [cps] >3 sig
32.1 to 45

HP_FS_2018(0717comb&0816comb)_combined.xlsx

Ra-226 (609)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Ra-226 (609) [cps] <2 sig

58 to 122

122 to 168

Ra-226 (609) [cps] 2-3 sig

168 to 191

Ra-226 (609) [cps] >3 sig

191 to 263

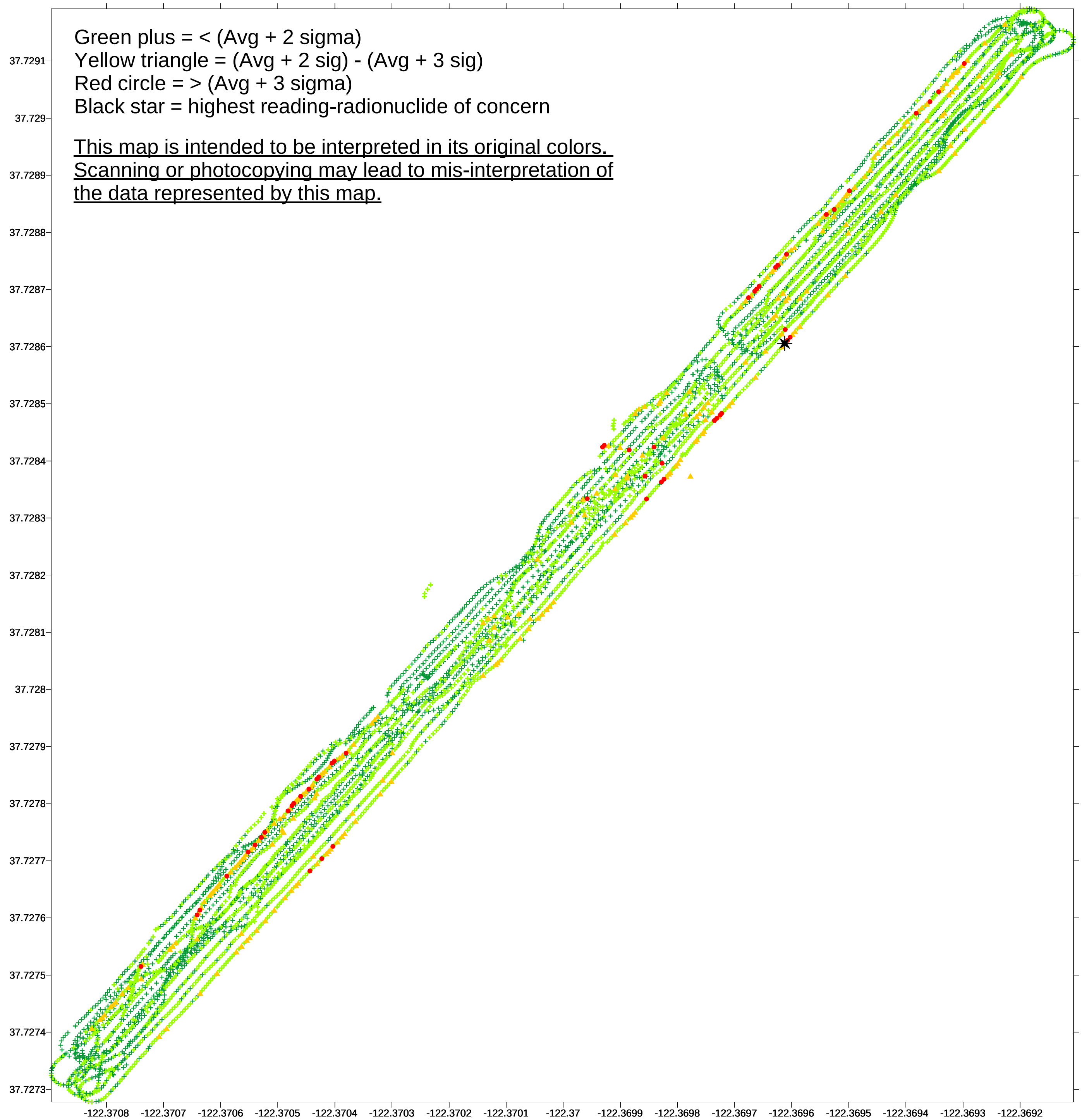
263 to 265

HP_FS_2018(0717comb&0816comb)_combined.xlsx

Cs-137

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.



Cs-137 [cps] < 2 sig
85 to 168
168 to 227

Cs-137 [cps] 2-3 sig
227 to 257

Cs-137 [cps] > 3 sig
257 to 341
341 to 343

Number of data points collected: 8142

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137	Gross
Average	2518	89.5	14.7	14.8	103	139	5289
Std. Dev.	432	21	5.10	5.49	25.9	33.2	897
Median	2647	91	15.0	15.0	107	144	5559
Shift (Avg. - Median)	-129	-2	-0.272	-0.208	-4.34	-5.57	-270
Shift/Std. Dev.	-30%	-7%	-5%	-4%	-17%	-17%	-30%
Coeff. of Variation	17.2%	24%	34.6%	37.1%	25.2%	24.0%	17.0%
Predicted CoV	1.99%	10.57%	26.1%	26.0%	9.87%	8.50%	1.37%
Avg. +2 sigma	3381	132	24.9	25.8	155	205	7084
Avg. +3 sigma	3813	154	30.0	31.3	180	238	7982
Avg. + 4 sigma	4245	175	35.1	36.8	206	271	8879
Avg. + 5 sigma	4677	197	40.2	42.3	232	305	9777
Avg. + 6 sigma	5109	218	45.4	47.7	258	338	10674
Min. Count	1198	25.0	1.0	1.0	25.0	35.0	2547
Max. Count	4178	173	35.0	37.0	211	273	8674
(Max-Min)/Std. Dev.	6.9	6.9	6.7	6.6	7.2	7.2	6.8

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	6.9	1.75	3.00
Std.Dev. Activity	1.19	0.607	0.756
Avg. +2 sigma	9.3	2.97	4.51
Avg. +3 sigma	10.5	3.58	5.26
Min. Activity	3.31	0.119	0.73
Max. Activity	11.5	4.17	6.16

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

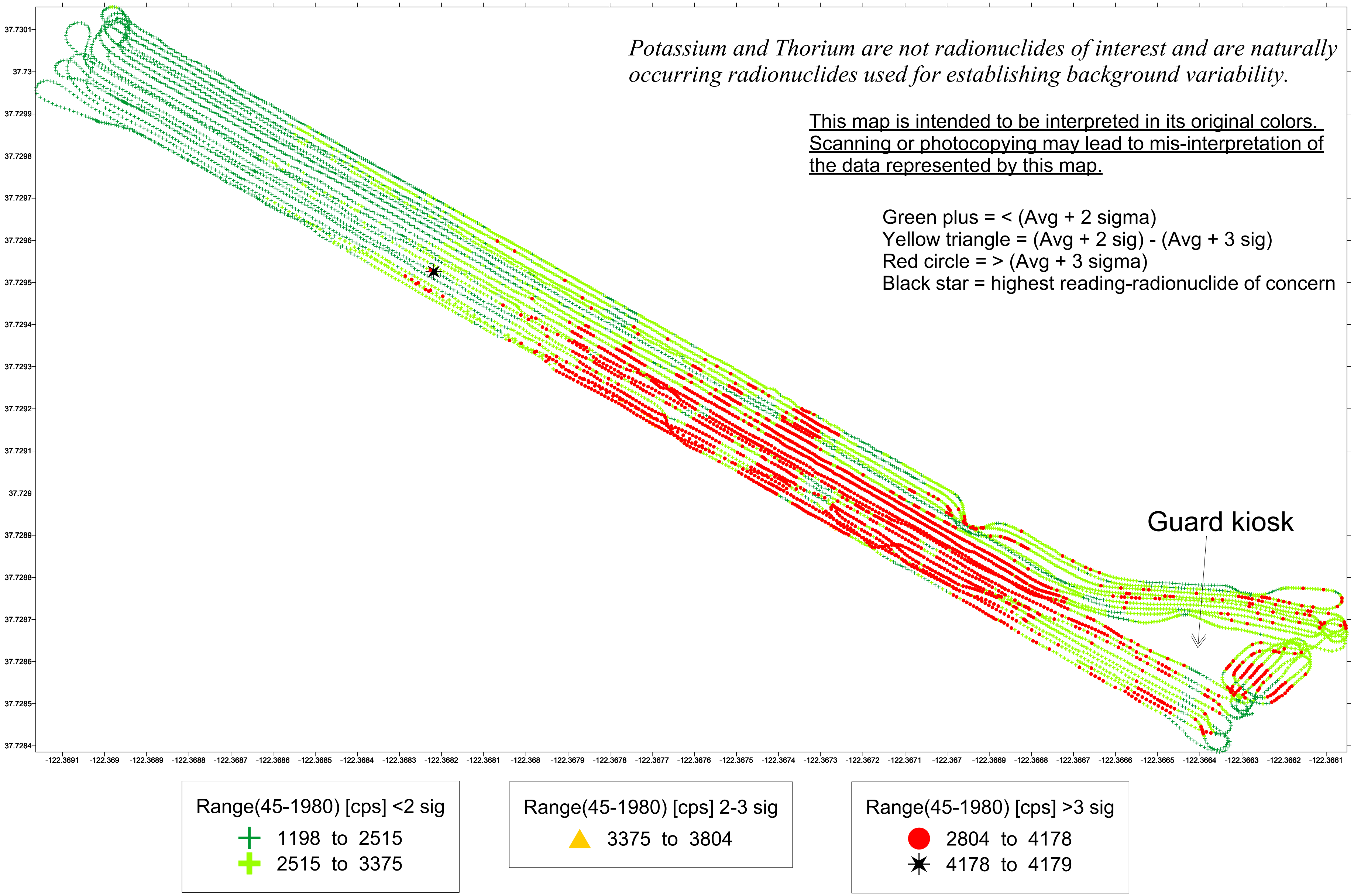
Background †† [cps]	Summary-Self Bkgd, <2Avg+2 sigma of all data						
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137	Gross
Average	2515	89	14.4	14.5	102	138	5285
Std. Dev.	429.6	20.5	4.74	5.17	25.2	32.2	893
Avg + 2 sigma	3375	130	23.9	24.8	152	202	7072
Avg + 3 sigma	3804	150	28.6	30.0	178	234	7965
Avg + 4 sigma	4234	171	33.4	35.2	203	266	8859
Avg + 5 sigma	4663	191	38.1	40.3	228	299	9752

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_GA_20180719_combined.xlsx

Background: Self

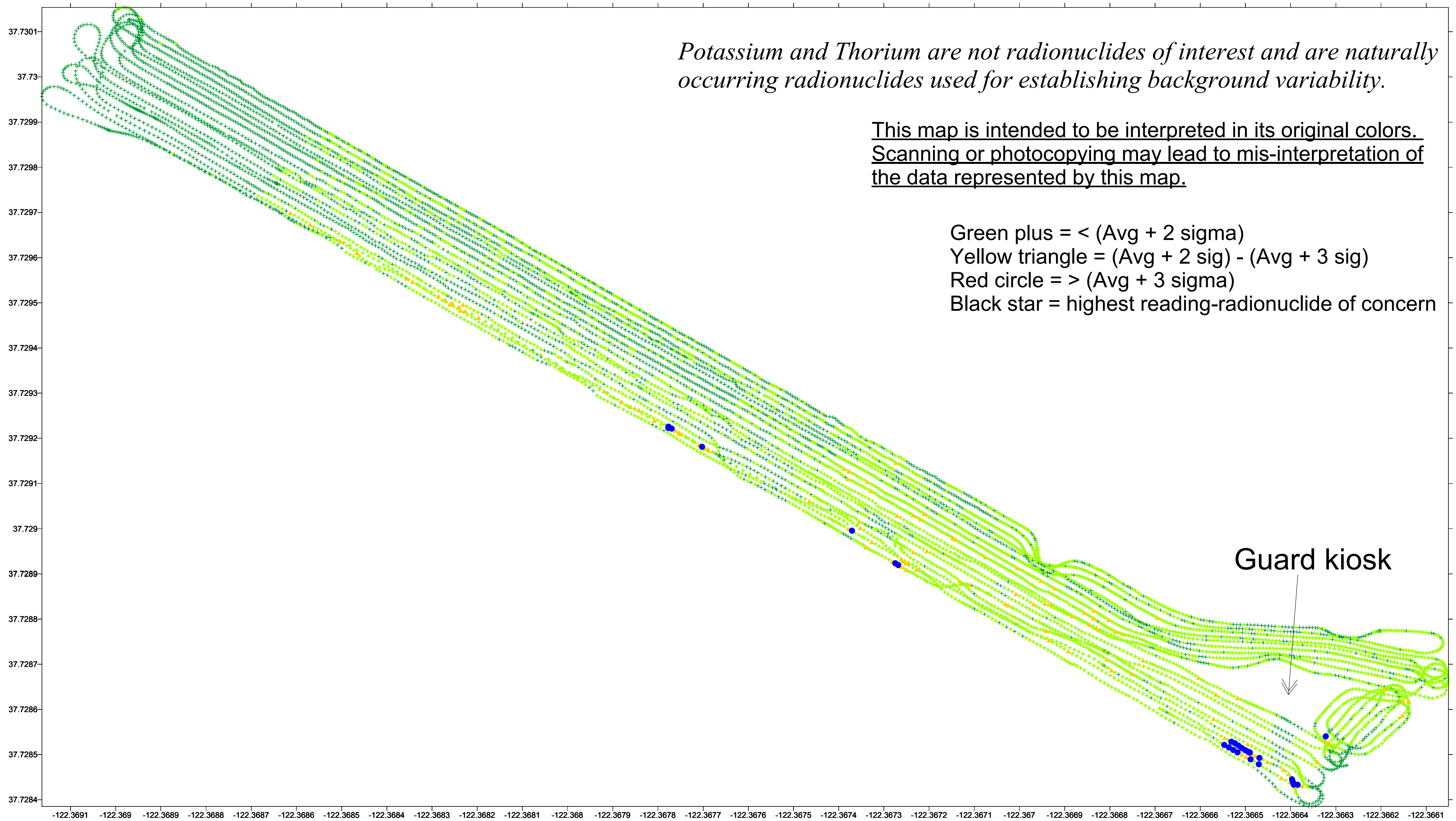
Range(45-1980)



HP_GA_20180719_combined.xlsx

Background: Self

Potassium

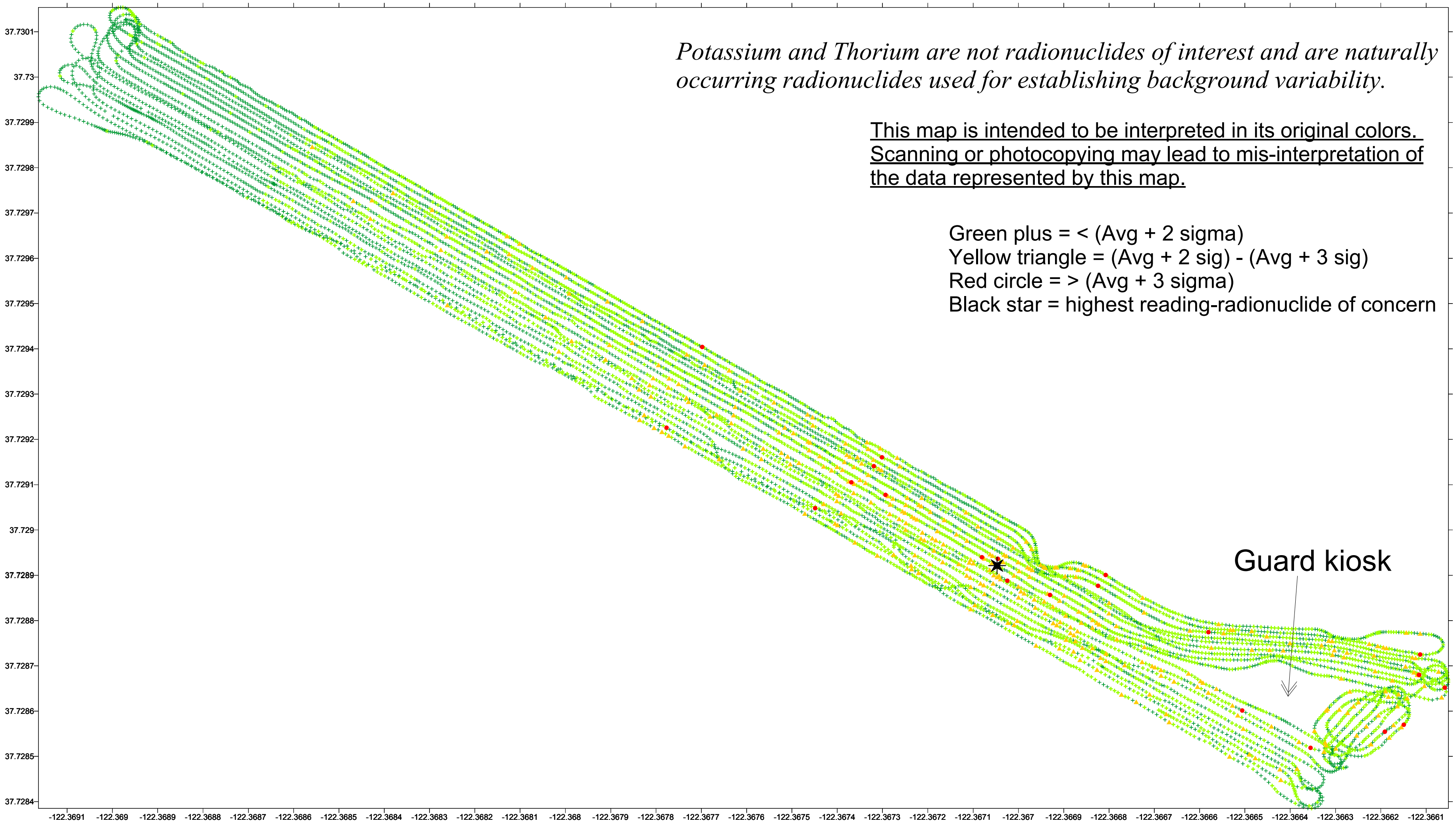


Potassium [cps] <2 sig	Potassium [cps] 2-3 sig	Potassium [cps] >3 sig
25 to 89	130 to 150	150 to 174
89 to 130		

HP_GA_20180719_combined.xlsx

Background: Self

Ra-226(1764)



Ra-226(1764) [cps] <2 sig
1 to 14.4
14.4 to 23.9

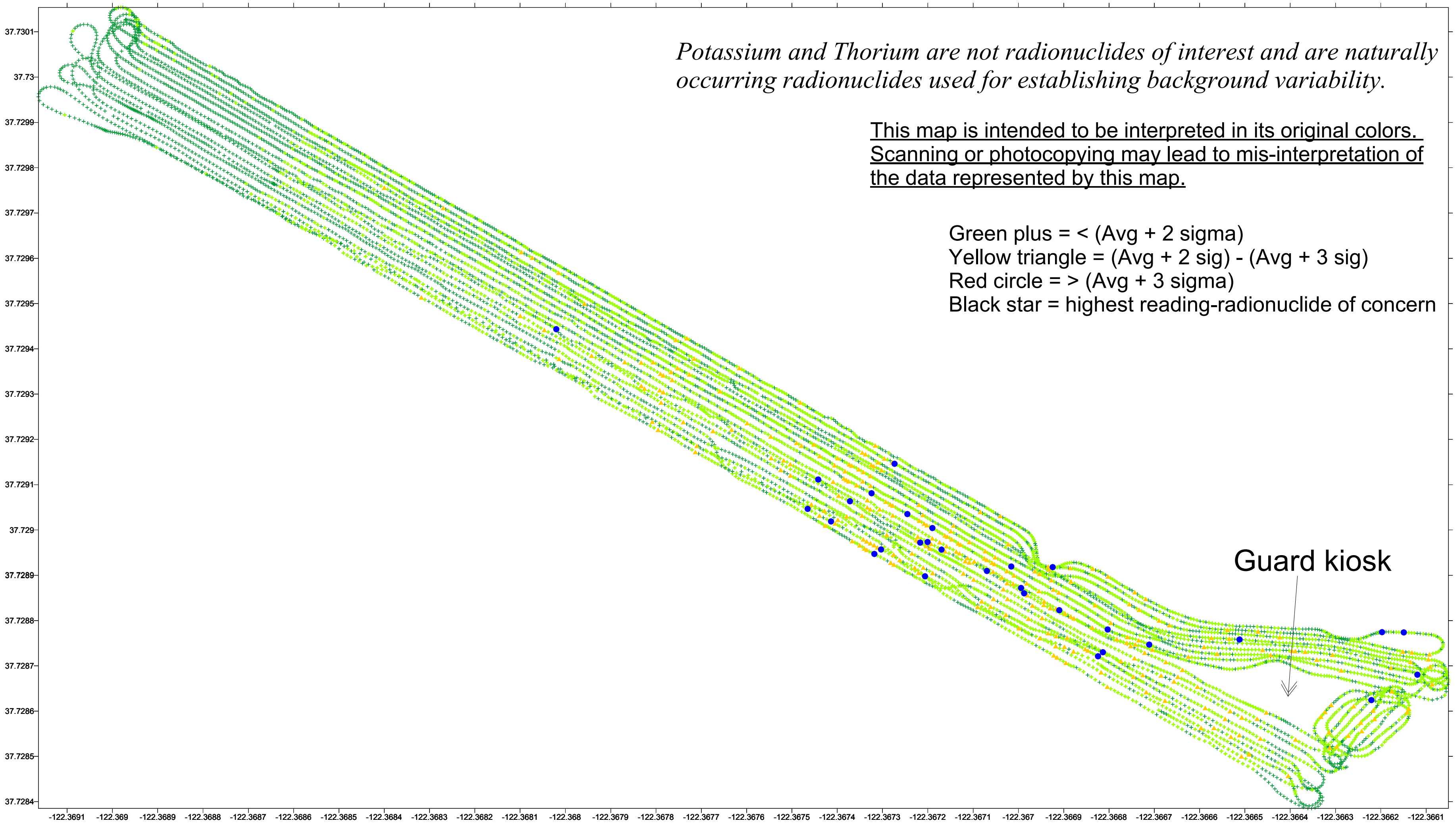
Ra-226(1764) [cps] 2-3 sig
23.9 to 28.6

Ra-226(1764) [cps] >3 sig
28.6 to 35
35 to 36

HP_GA_20180719_combined.xlsx

Background: Self

Thorium



Thorium [cps] <2 sig
1 to 14.5
14.5 to 24.8

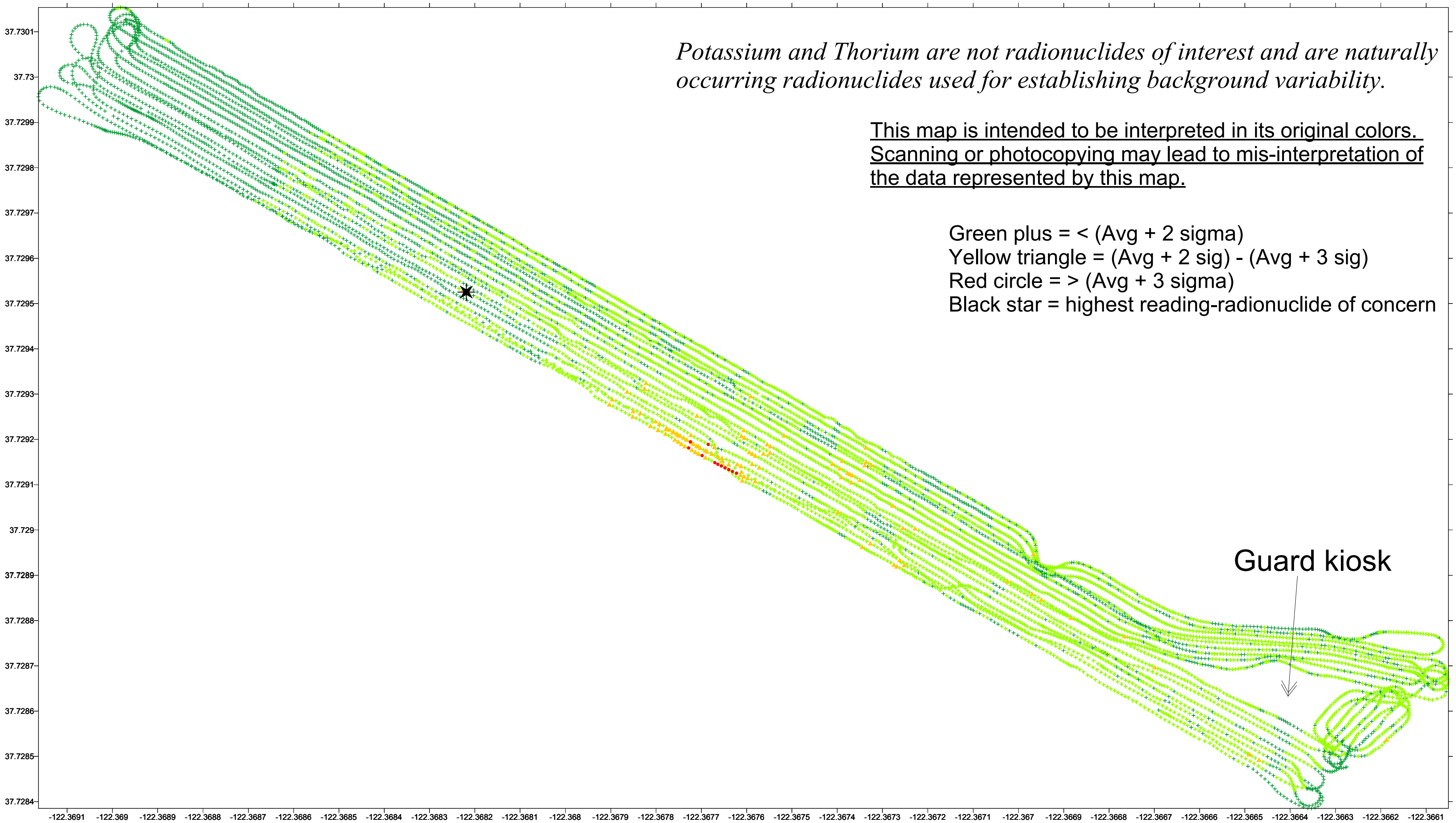
Thorium [cps] 2-3 sig
24.8 to 30

Thorium [cps] >3 sig
30 to 37.5

HP_GA_20180719_combined.xlsx

Background: Self

Ra-226 (609)



Ra-226 (609) [cps] <2 sig
25 to 102
102 to 152

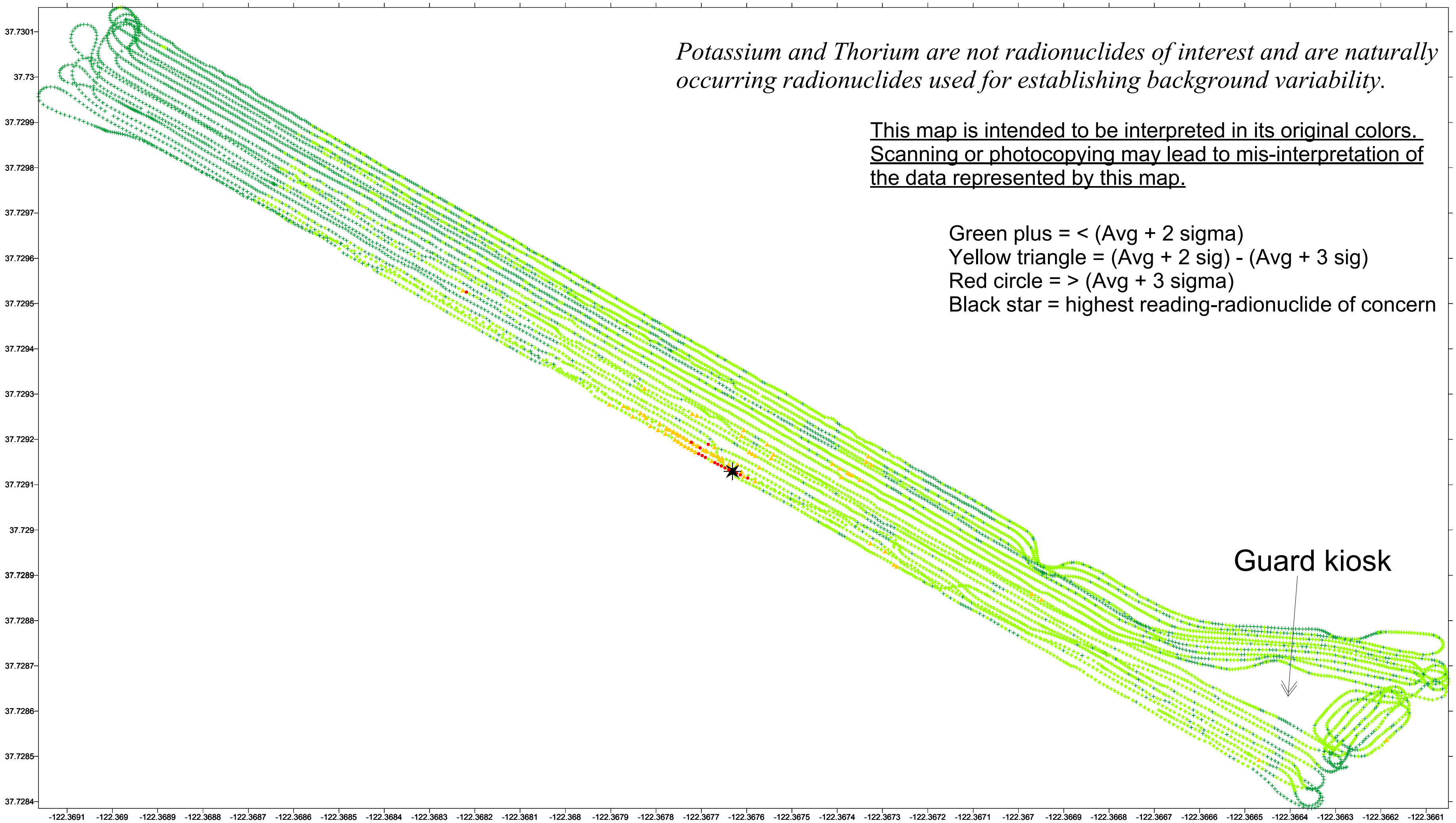
Ra-226 (609) [cps] 2-3 sig
152 to 178

Ra-226 (609) [cps] >3 sig
178 to 211
211 to 212

HP_GA_20180719_combined.xlsx

Background: Self

Cs-137



Cs-137 [cps] < 2 sig
+ 35 to 138
+ 138 to 202

Cs-137 [cps] 2-3 sig
▲ 202 to 234

Cs-137 [cps] > 3 sig
● 234 to 273.2
✶ 273.2 to 274

Number of data points collected: 2632

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	4688	170	27.1	25.3	184	249
Std. Dev.	808	42.1	10.1	11.1	51.0	65.2
Median	4346	160	26.0	24.0	168	228
Shift (Avg. - Median)	343	10.4	1.06	1.28	15.6	21.2
Shift/Std. Dev.	42%	25%	11%	12%	31%	33%
Coeff. of Variation	17.2%	25%	37.2%	43.8%	27.8%	26.1%
Predicted CoV	1.46%	7.66%	19.2%	19.9%	7.38%	6.33%
Avg. +2 sigma	6305	255	47.2	47.4	286	380
Avg. +3 sigma	7113	297	57.3	58.5	337	445
Avg. + 4 sigma	7921	339	67.4	69.6	388	510
Avg. + 5 sigma	8729	381	77.4	80.6	439	575
Avg. + 6 sigma	9537	423	87.5	91.7	490	640
Min. Count	3029	64.0	4.0	4.0	74.0	118.0
Max. Count	6503	334	68.0	68.0	330	438
(Max-Min)/Std. Dev.	4.3	6.4	6.4	5.8	5.0	4.9

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	12.9	3.22	5.36
Std.Dev. Activity	2.23	1.198	1.487
Avg. +2 sigma	17.4	5.62	8.33
Avg. +3 sigma	19.6	6.82	9.82
Min. Activity	8.36	0.476	2.16
Max. Activity	17.9	8.10	9.63

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background †† [cps]	<Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	4670	168	26.0	24.2	180	245
Std. Dev.	792	39.1	8.82	9.79	47.2	61.0
Avg + 2 sigma	6254	246	43.7	43.8	274	367
Avg + 3 sigma	7047	285	52.5	53.5	321	428
Avg + 4 sigma	7839	324	61.3	63.3	368	489
Avg + 5 sigma	8632	363	70.2	73.1	416	550

†† This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.

HP_HD_20180718_01.xlsx

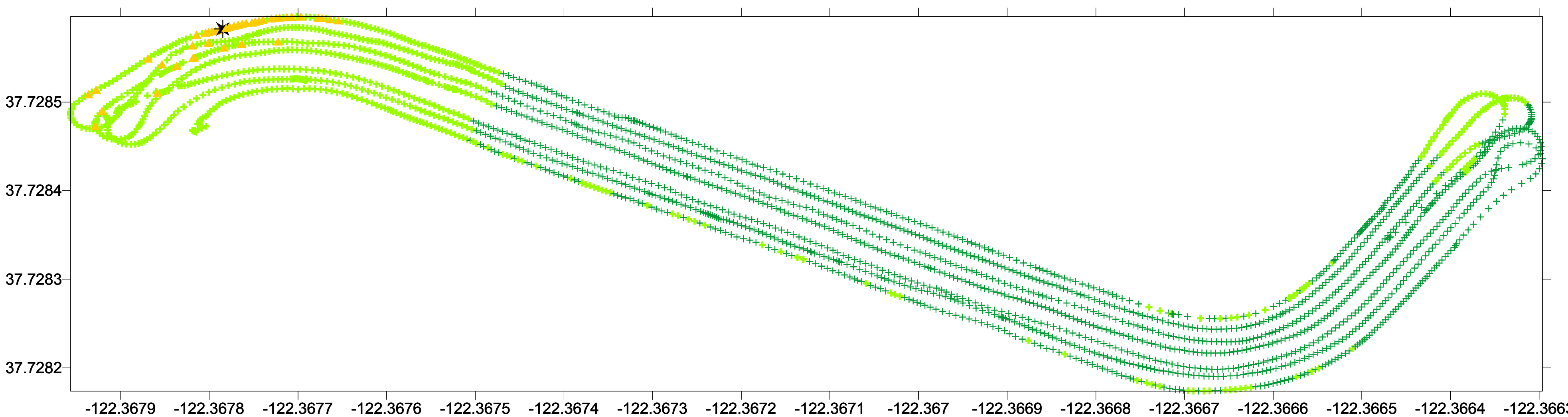
Background: Self

Range(45-1980)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star-highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Range(45-1980) [cps] <2 sig
3029 to 4670
4670 to 6254

Range(45-1980) [cps] 2-3 sig
6254 to 6502
6502 to 6504

No measurements > Average + 3 sigma

HP_HD_20180718_01.xlsx

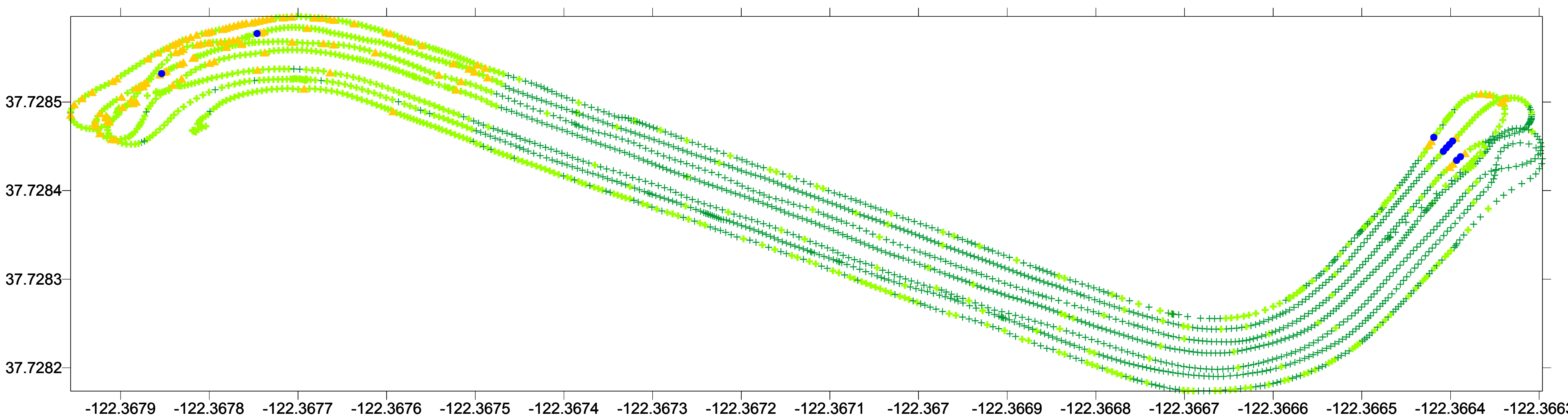
Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star-highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Potassium [cps] <2 sig
63.8 to 168
168 to 246

Potassium [cps] 2-3 sig
246 to 285

Potassium [cps] >3 sig
285 to 335

HP_HD_20180718_01.xlsx

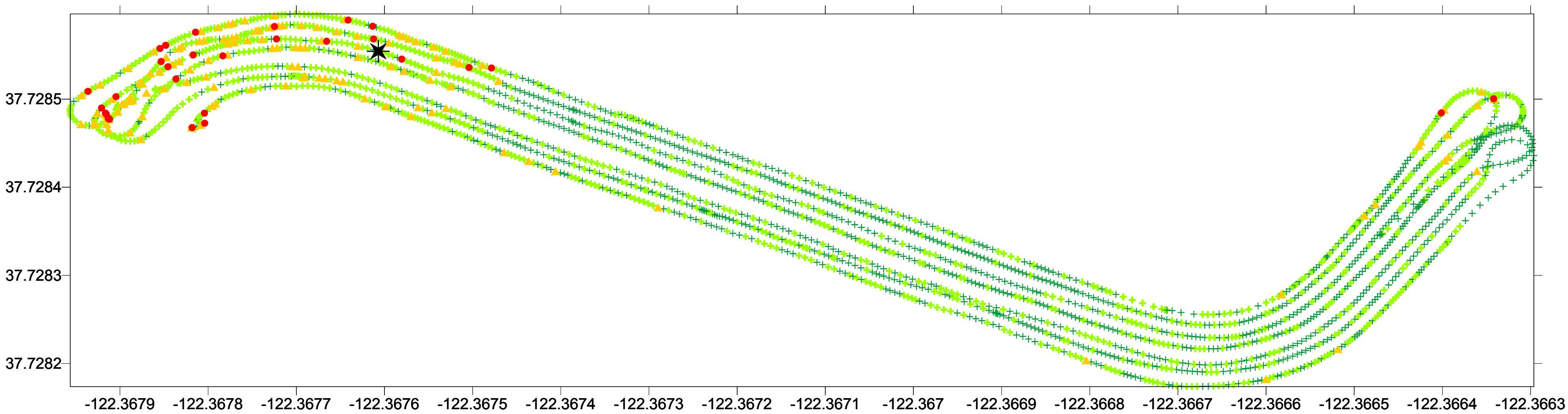
Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star-highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226(1764) [cps] <2 sig	Ra-226(1764) [cps] 2-3 sig	Ra-226(1764) [cps] >3 sig
3.8 to 24.2	43.7 to 52.5	52.5 to 68
24.2 to 43.7		68 to 69

HP_HD_20180718_01.xlsx

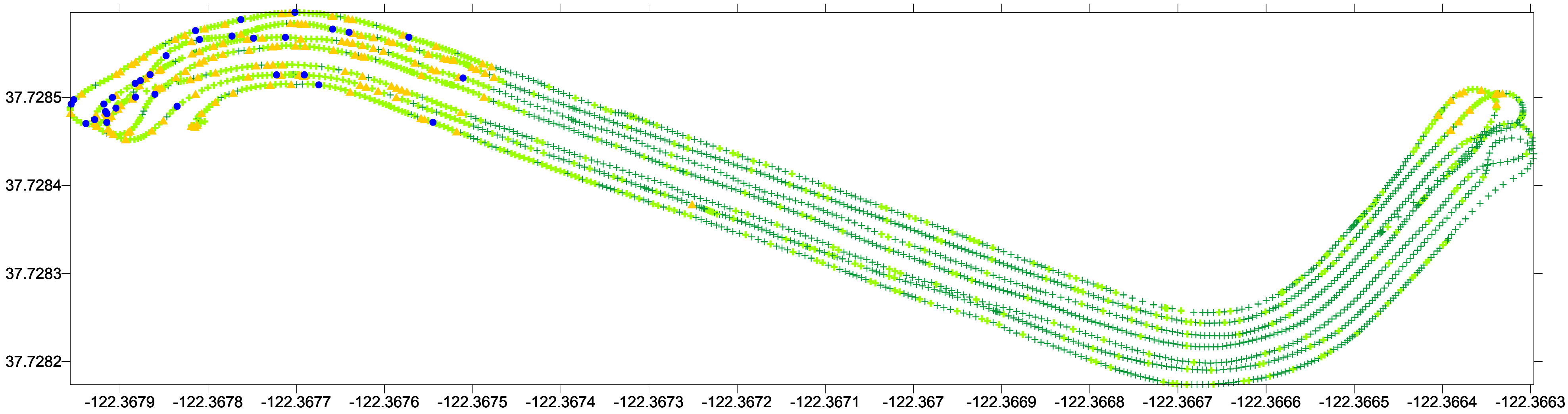
Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star-highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Thorium [cps] <2 sig
3.8 to 24.2
24.2 to 43.8

Thorium [cps] 2-3 sig
43.8 to 53.5

Thorium [cps] >3 sig
53.5 to 70

HP_HD_20180718_01.xlsx

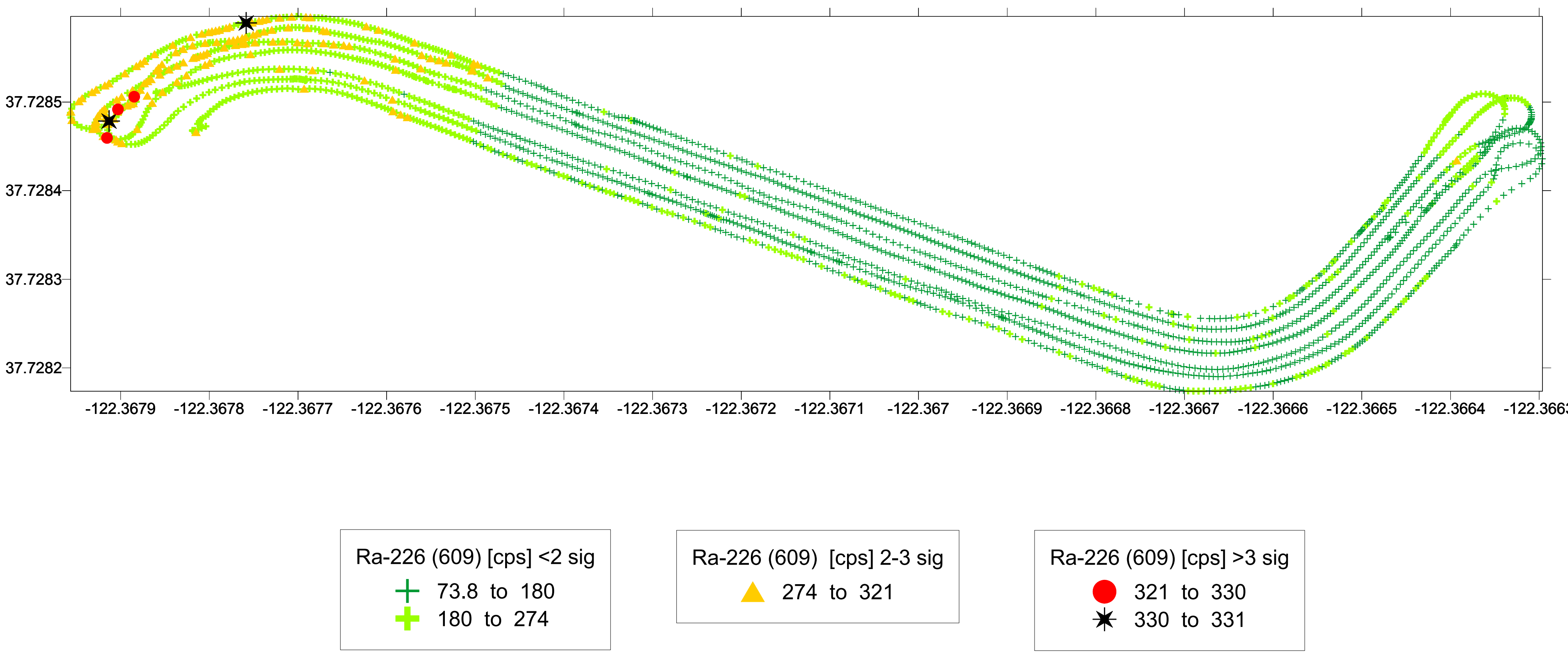
Background: Self

Ra-226 (609)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star-highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



HP_HD_20180718_01.xlsx

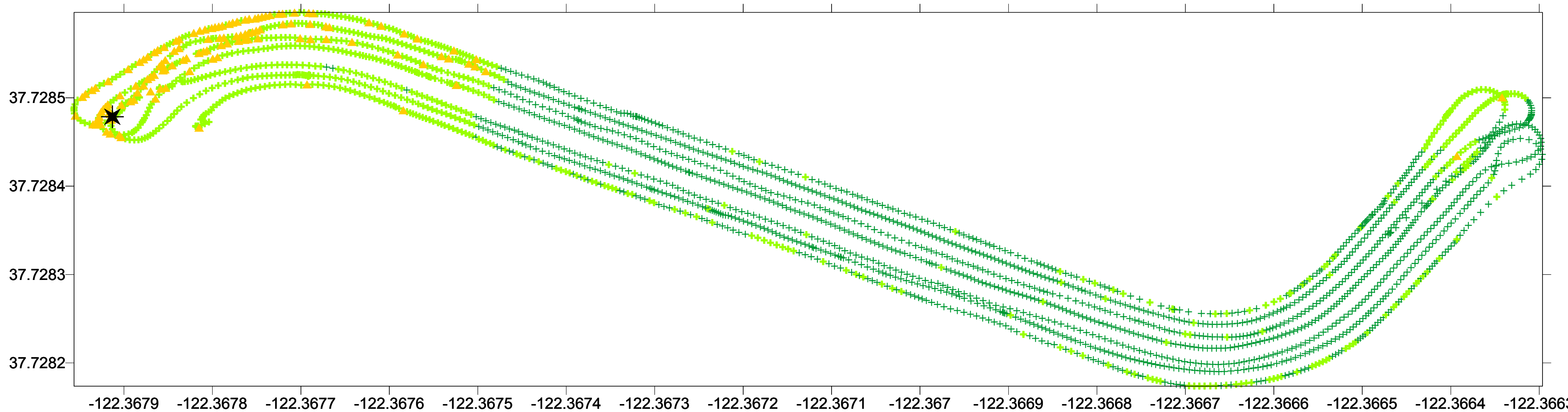
Background: Self

Cs-137

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star-highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Cs-137 [cps] < 2 sig
117.8 to 245
245 to 367

Cs-137 [cps] 2-3 sig
367 to 428

Cs-137 [cps] > 3 sig
428 to 435
435 to 439

Number of data points collected: 5185

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3550	145	20.2	21.0	149	202
Std. Dev.	994	56	9.74	10.5	58.1	76.5
Median	3800	146	19.0	21.0	158	215
Shift (Avg. - Median)	-250	-1	1.2	-0.034	-9.04	-12.68
Shift/Std. Dev.	-25%	-1%	12%	0%	-16%	-17%
Coeff. of Variation	28%	39%	48%	50%	39%	38%
Predicted CoV	1.7%	8.3%	22.2%	21.8%	8.2%	7.0%
Avg. +2 sigma	5538	258	39.7	42.0	265	355
Avg. +3 sigma	6532	315	49.4	52.5	323	432
Avg. + 4 sigma	7526	371	59.2	63.1	381	508
Avg. + 5 sigma	8519	427	68.9	73.6	439	585
Avg. + 6 sigma	9513	484	78.7	84.1	497	661
Min. Count	1870	50.0	1.0	1.0	39.0	62.0
Max. Count	6230	353	55.1	58.0	329	455
(Max-Min)/Std. Dev.	4.4	5.4	5.5	5.4	5.0	5.1

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	9.8	2.41	4.35
Std.Dev. Activity	2.74	1.159	1.693
Avg. +2 sigma	15.3	4.72	7.73
Avg. +3 sigma	18.0	5.88	9.43
Min. Activity	5.16	0.119	1.14
Max. Activity	17.2	6.55	9.60

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

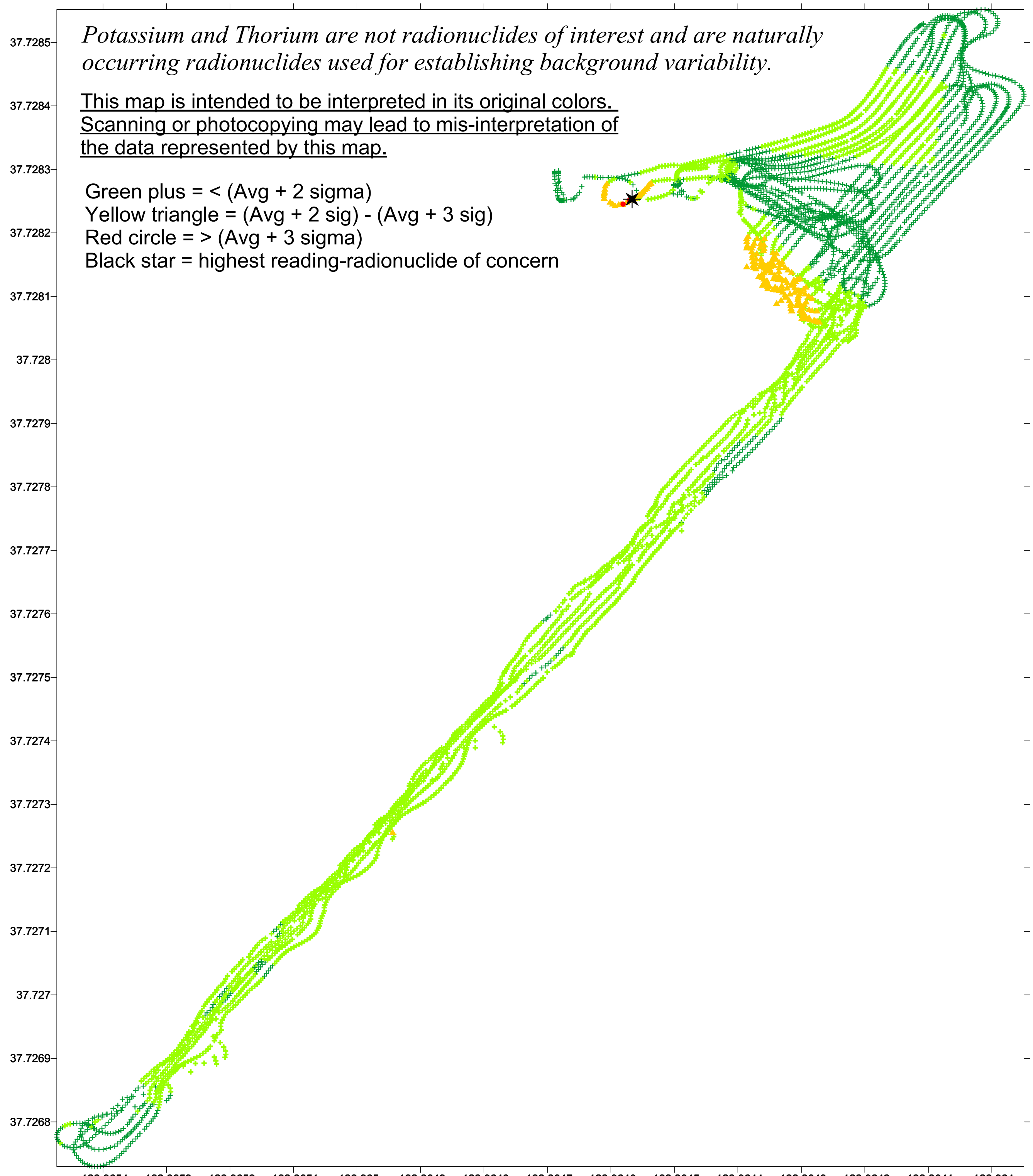
Background †† [cps]	<Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3466	136	19.7	20.3	145	196
Std. Dev.	916.2	42.8	9.20	9.87	53.8	69.6
Avg + 2 sigma	5298	221	38.1	40.1	252	335
Avg + 3 sigma	6215	264	47.3	49.9	306	405
Avg + 4 sigma	7131	307	56.5	59.8	360	474
Avg + 5 sigma	8047	350	65.7	69.7	414	544

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_Horn Ave & Salt Lick Street.xlsx

Range(45-1980)

Background: Self

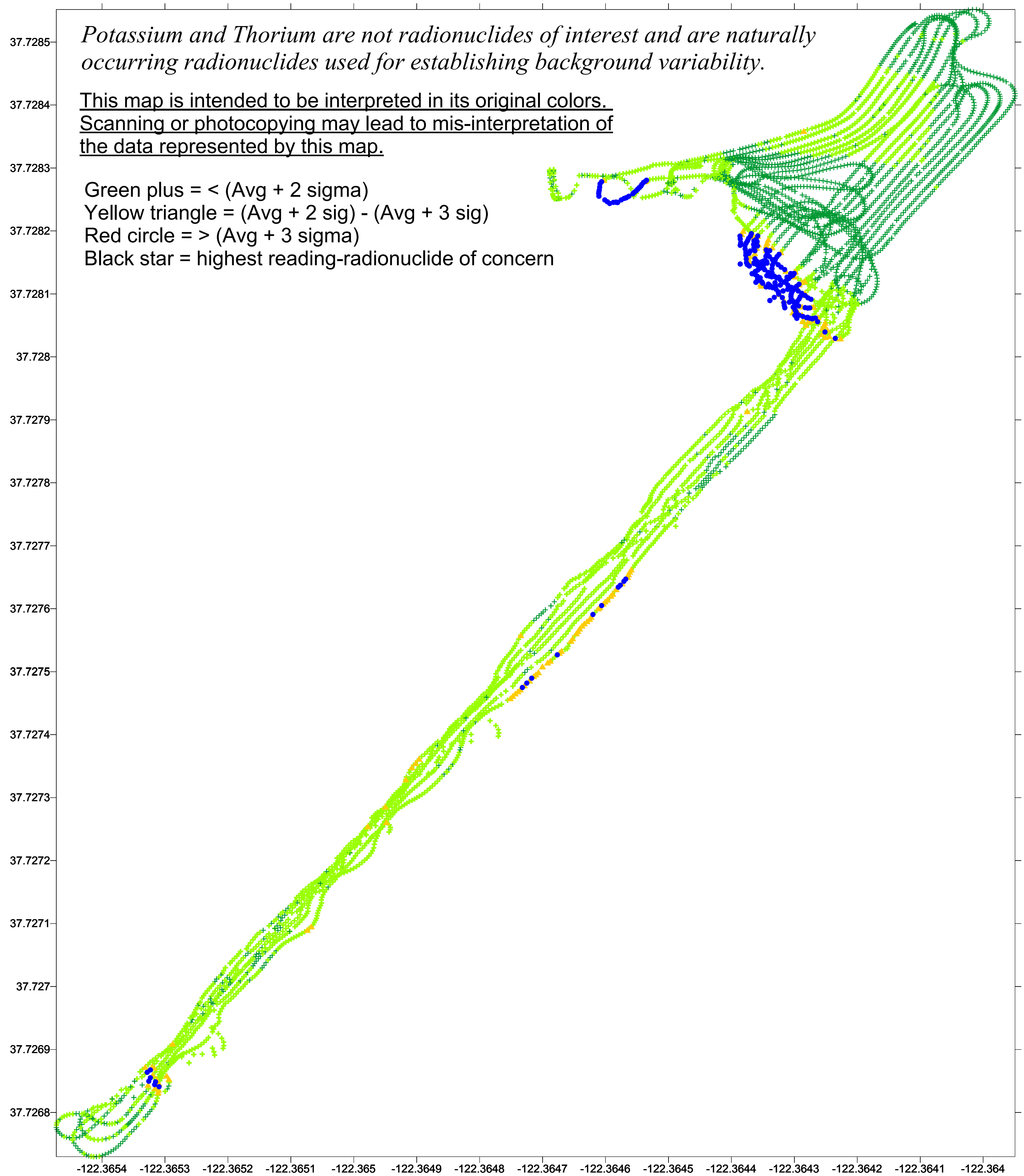


Range(45-1980) [cps] <2 sig	Range(45-1980) [cps] 2-3 sig	Range(45-1980) [cps] >3 sig
1869 to 3466	5298 to 6215	6215 to 6230
3466 to 5298		6230 to 6231

HP_Horn Ave & Salt Lick Street.xlsx

Potassium

Background: Self

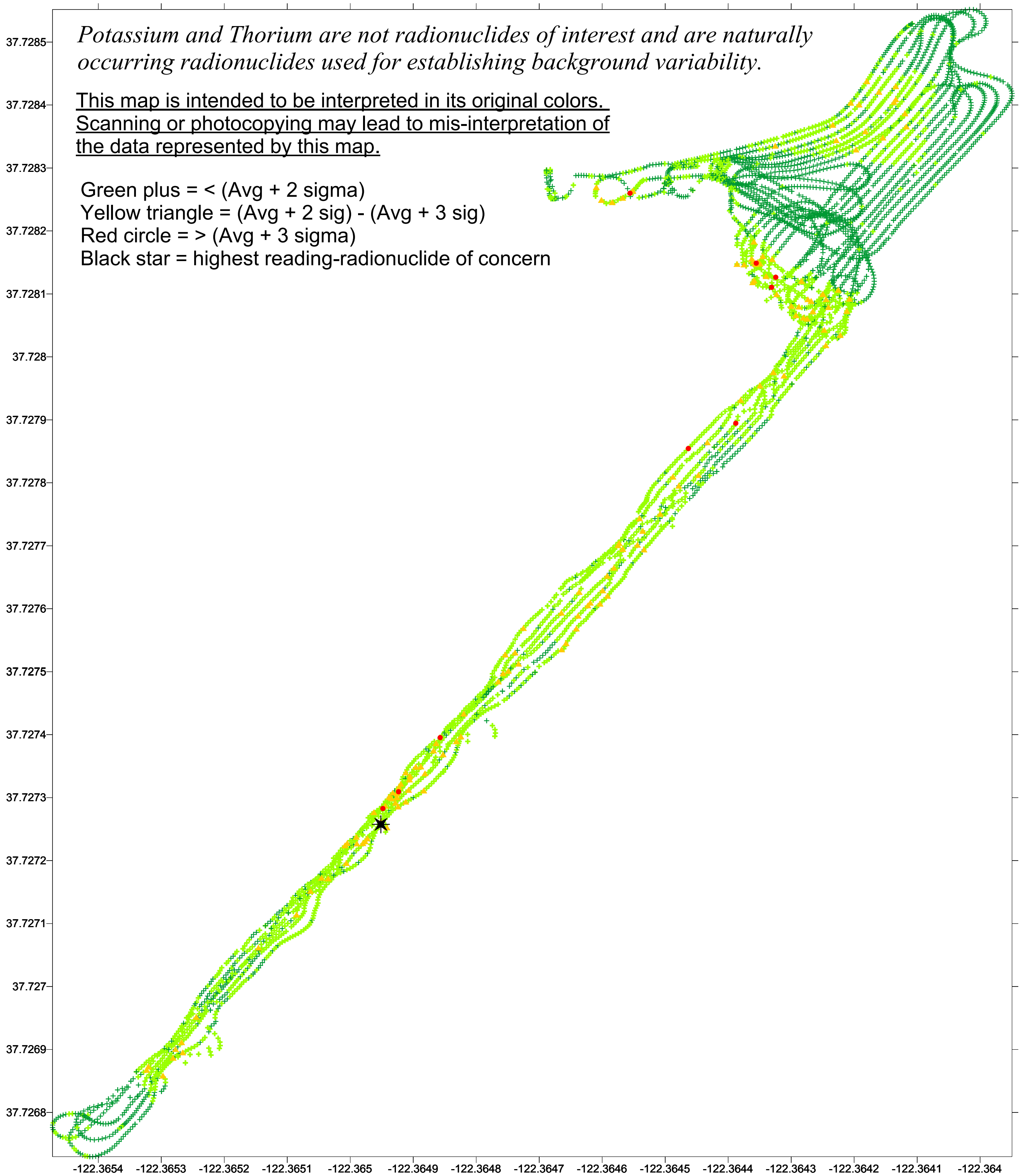


Potassium [cps] <2 sig	Potassium [cps] 2-3 sig	Potassium [cps] >3 sig
49 to 136	221 to 264	264 to 354
136 to 221		

HP_Horn Ave & Salt Lick Street.xlsx

Ra-226(1764)

Background: Self



Ra-226(1764) [cps] <2 sig
- 0.8 to 19.7
- 19.7 to 38.1

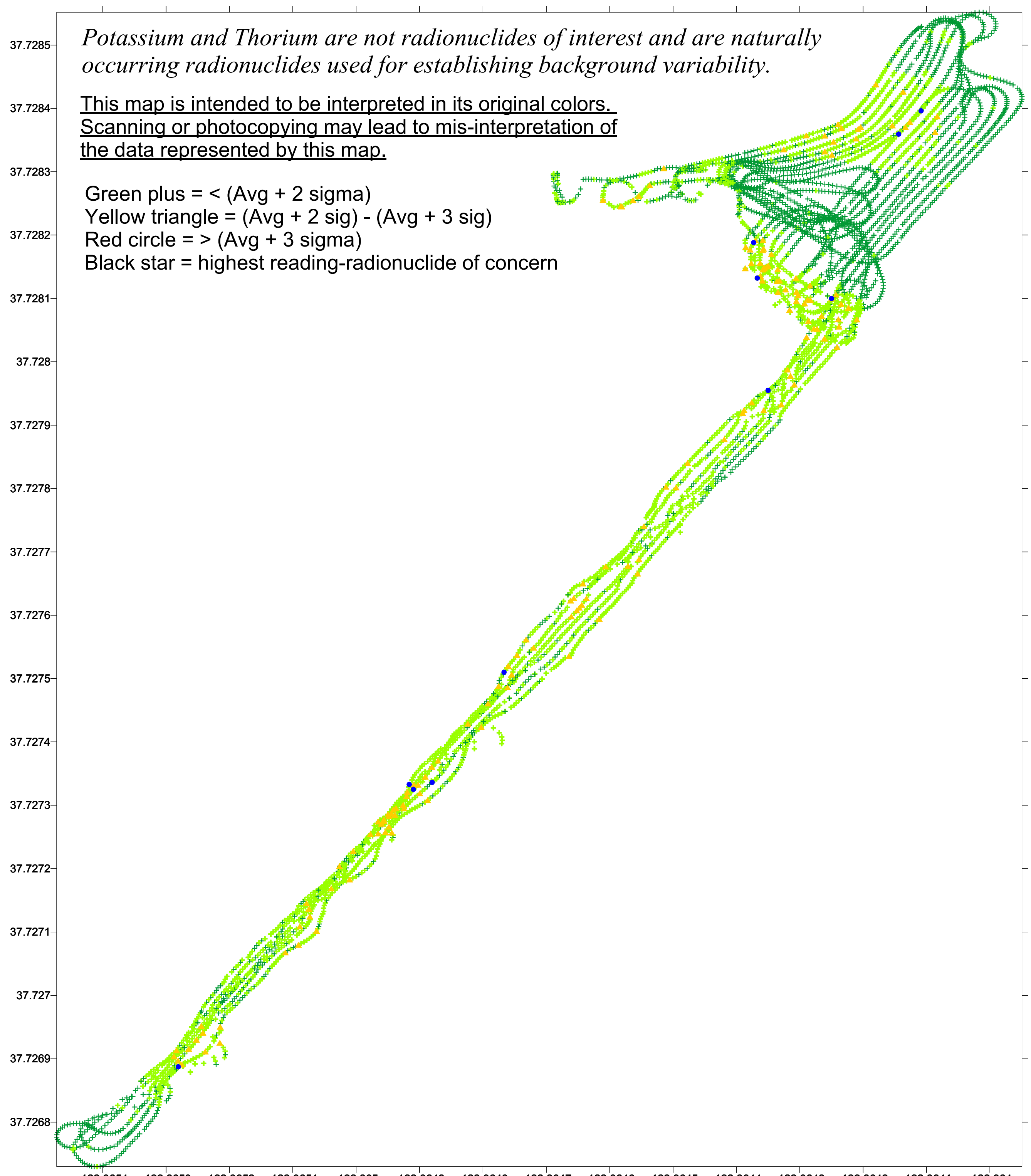
Ra-226(1764) [cps] 2-3 sig
- 38.1 to 47.3

Ra-226(1764) [cps] >3 sig
- 47.3 to 53
- 53 to 57

HP_Horn Ave & Salt Lick Street.xlsx

Thorium

Background: Self



Thorium [cps] <2 sig
0.8 to 20.3
20.3 to 40.1

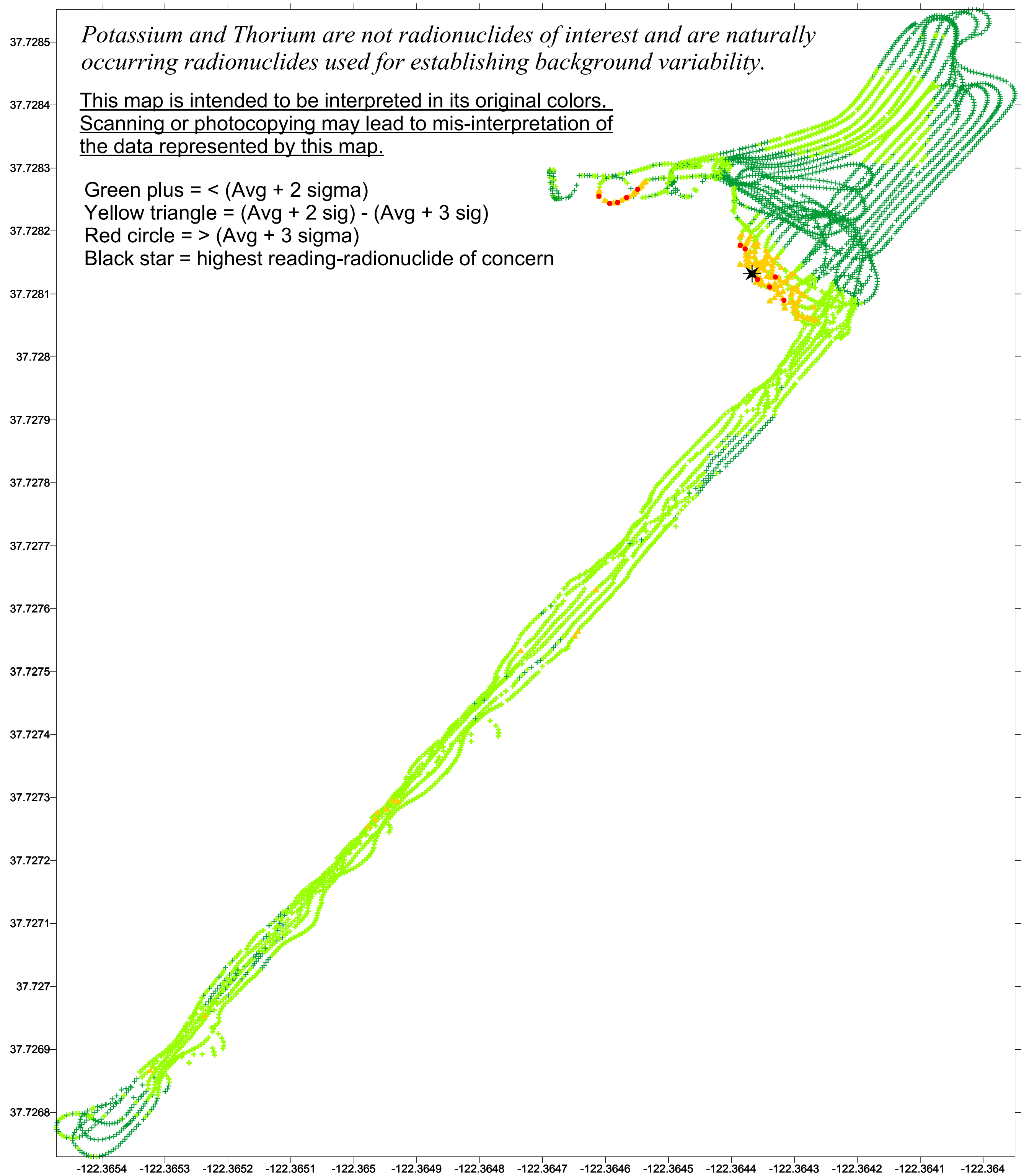
Thorium [cps] 2-3 sig
40.1 to 49.9

Thorium [cps] >3 sig
49.9 to 59

HP_Horn Ave & Salt Lick Street.xlsx

Ra-226 (609)

Background: Self



Ra-226 (609) [cps] <2 sig
38 to 145
145 to 252

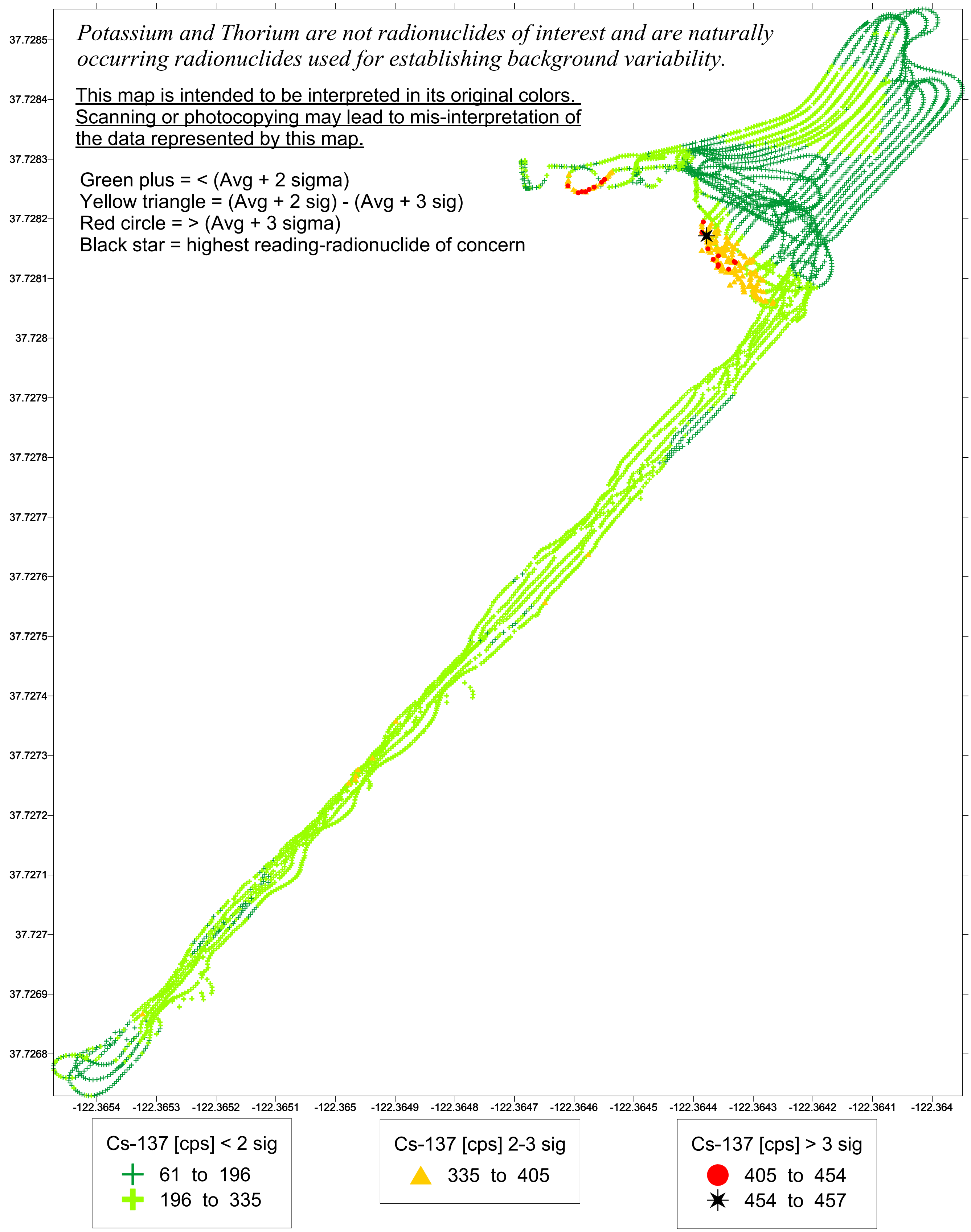
Ra-226 (609) [cps] 2-3 sig
252 to 306

Ra-226 (609) [cps] >3 sig
306 to 328
328 to 330

HP_Horn Ave & Salt Lick Street.xlsx

Background: Self

Cs-137



Number of data points collected: 2314

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	4988	192	32.2	30.5	214	288
Std. Dev.	989	47.0	11.56	12.57	58.3	74.3
Median	5472	206	32.0	32.0	234	314
Shift (Avg. - Median)	-483	-14	0.166	-1.472	-20.24	-26.50
Shift/Std. Dev.	-49%	-29%	1%	-12%	-35%	-36%
Coeff. of Variation	19.8%	24%	35.9%	41.2%	27.2%	25.8%
Predicted CoV	1.42%	7.21%	17.6%	18.1%	6.84%	5.90%
Avg. +2 sigma	6967	286	55.3	55.7	330	436
Avg. +3 sigma	7957	333	66.9	68.2	389	511
Avg. + 4 sigma	8946	380	78.4	80.8	447	585
Avg. + 5 sigma	9936	427	90.0	93.4	505	659
Avg. + 6 sigma	10925	475	101.6	105.9	563	734
Min. Count	3225	80.0	4.0	2.0	90.0	128.0
Max. Count	6372	306	70.1	66.0	344	426
(Max-Min)/Std. Dev.	3.2	4.8	5.7	5.1	4.4	4.0

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	13.8	3.83	6.24
Std.Dev. Activity	2.73	1.376	1.699
Avg. +2 sigma	19.2	6.58	9.64
Avg. +3 sigma	21.9	7.96	11.34
Min. Activity	8.90	0.476	2.63
Max. Activity	17.6	8.34	10.04

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

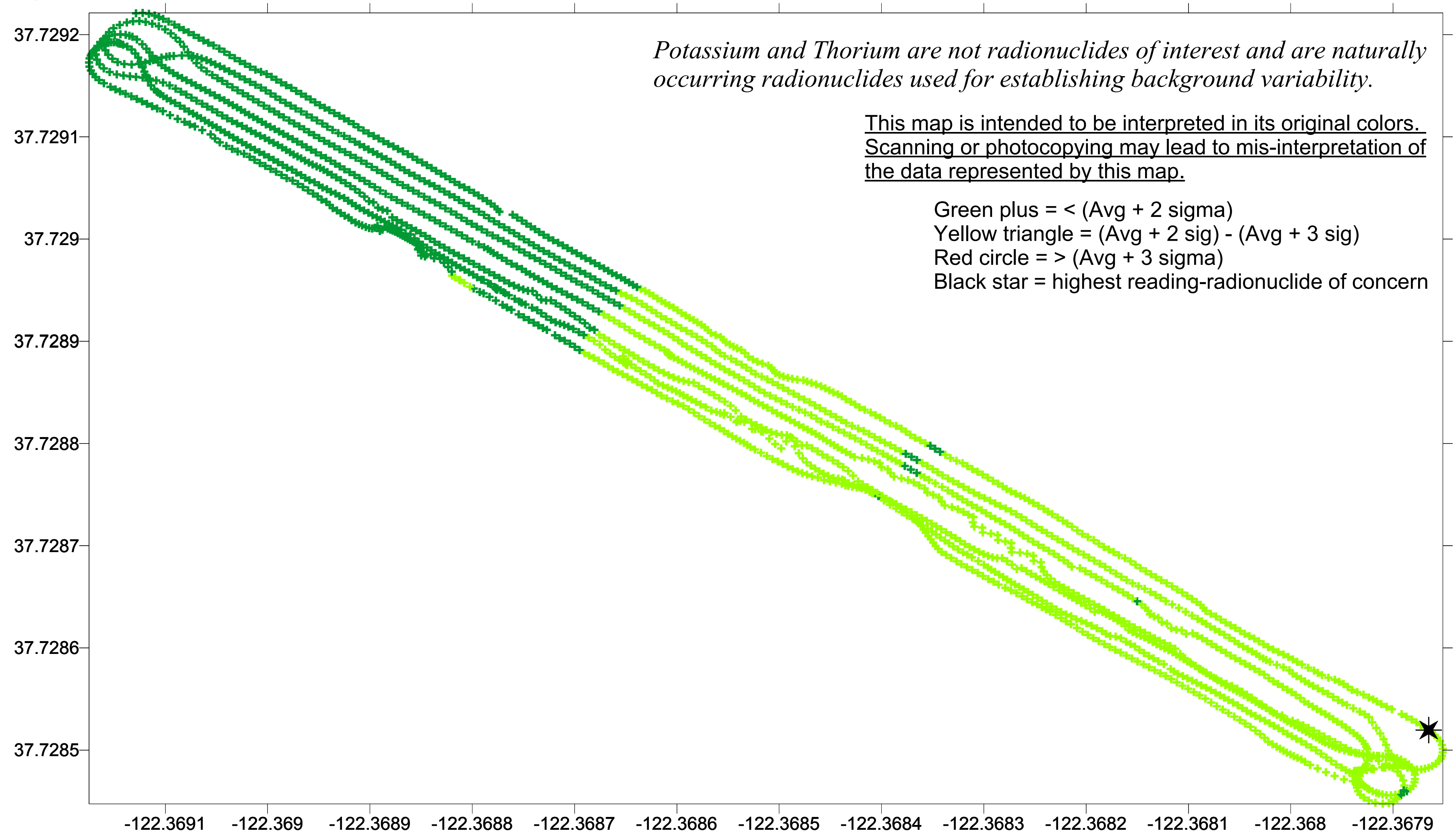
Background †† [cps]	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
	<Avg+2 sigma of all data					
Average	4988	192	31.6	30.0	214	288
Std. Dev.	989	46.7	10.92	12.08	58.2	74.3
Avg + 2 sigma	6967	285	53.4	54.2	330	436
Avg + 3 sigma	7957	332	64.3	66.3	388	511
Avg + 4 sigma	8946	379	75.2	78.4	446	585
Avg + 5 sigma	9936	425	86.2	90.4	505	659

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_HA_20180718_01.xlsx

Background: Self

Range(45-1980)



Range(45-1980) [cps] <2 sig
3224 to 4988
4988 to 6967

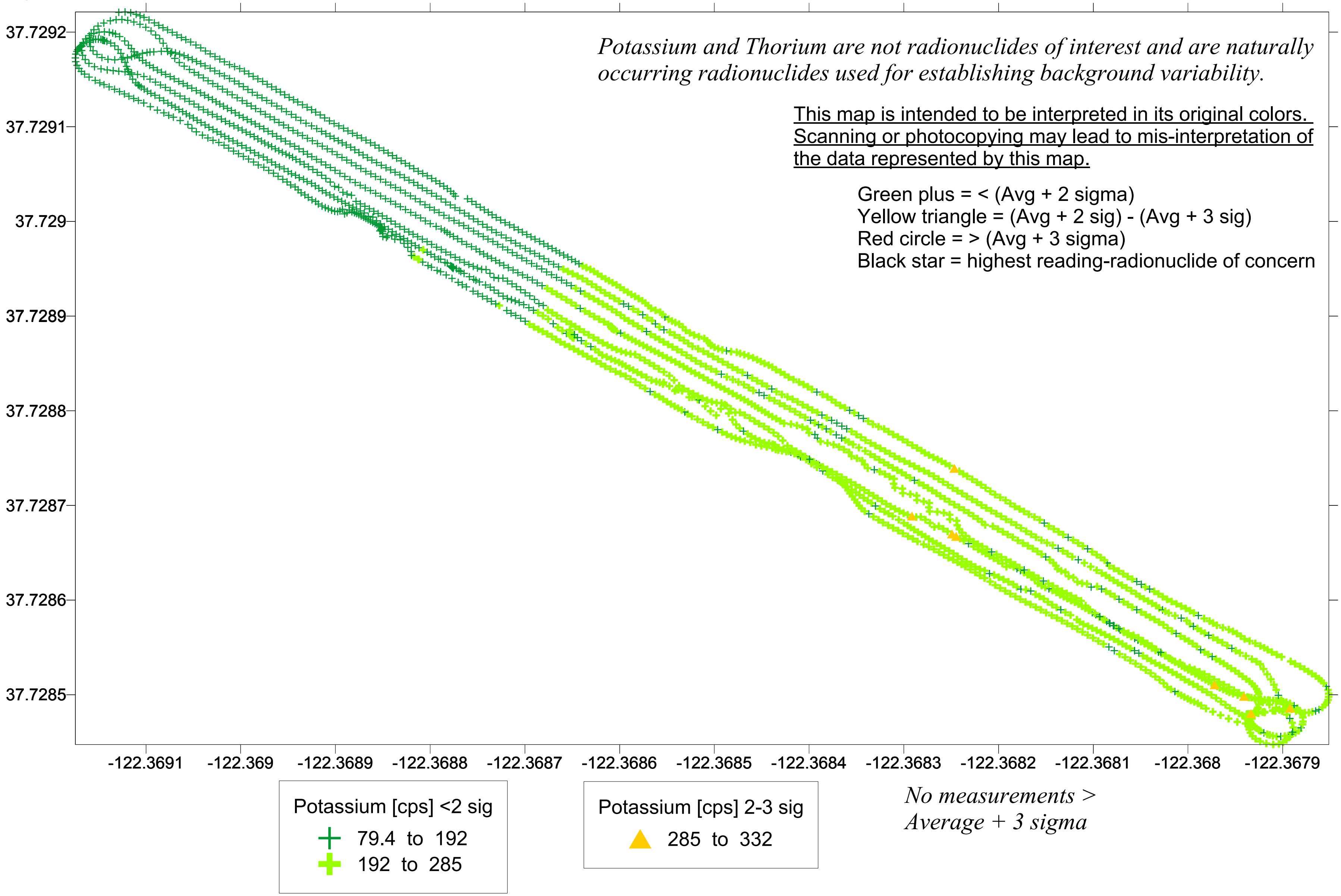
Range(45-1980) [cps] 2-3 sig
6967 to 6371
6371 to 6373

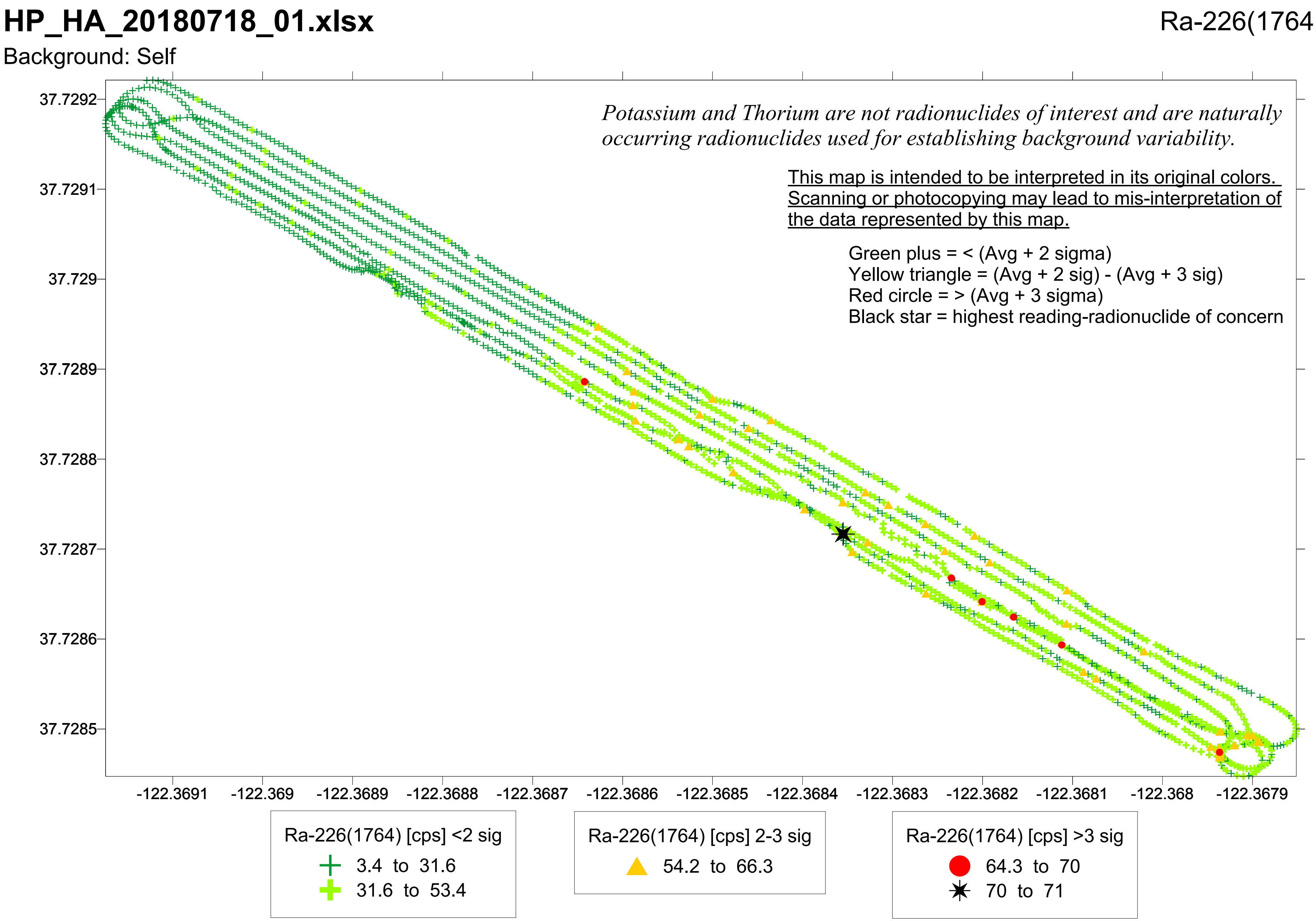
No measurements > Average + 3 sigma

HP_HA_20180718_01.xlsx

Background: Self

Potassium



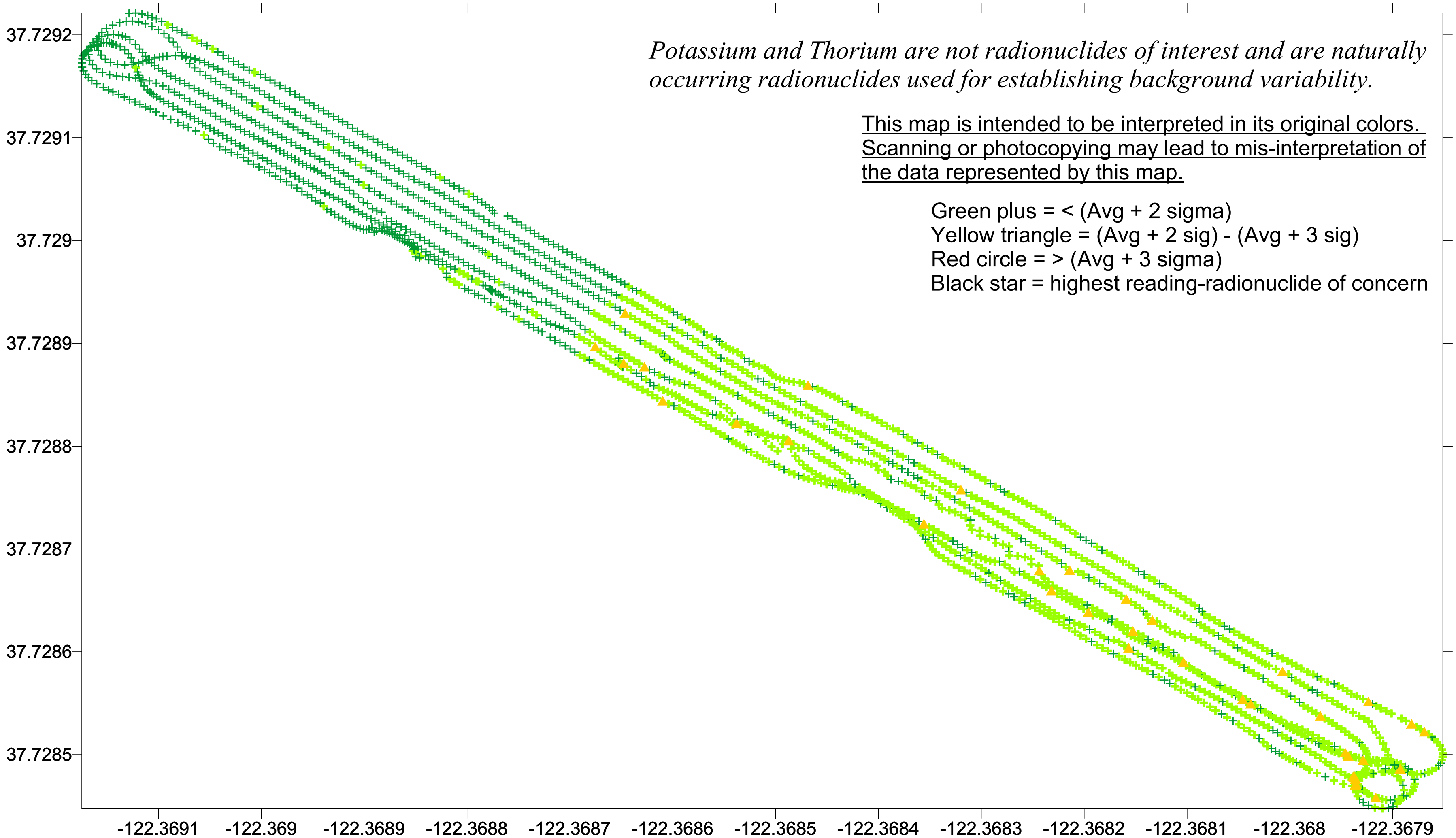


HP_HA_20180718_01.xlsx
Ra-226(1764)
Background: Self
Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.
This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.
Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern
37.7292
37.7291
37.729
37.7289
37.7288
37.7287
37.7286
37.7285
-122.3691
-122.369
-122.3689
-122.3688
-122.3687
-122.3686
-122.3685
-122.3684
-122.3683
-122.3682
-122.3681
-122.368
-122.3679
Ra-226(1764) [cps] <2 sig
3.4 to 31.6
31.6 to 53.4
Ra-226(1764) [cps] 2-3 sig
54.2 to 66.3
Ra-226(1764) [cps] >3 sig
64.3 to 70
70 to 71

HP_HA_20180718_01.xlsx

Background: Self

Thorium



Thorium [cps] <2 sig
1.4 to 30
30 to 54.2

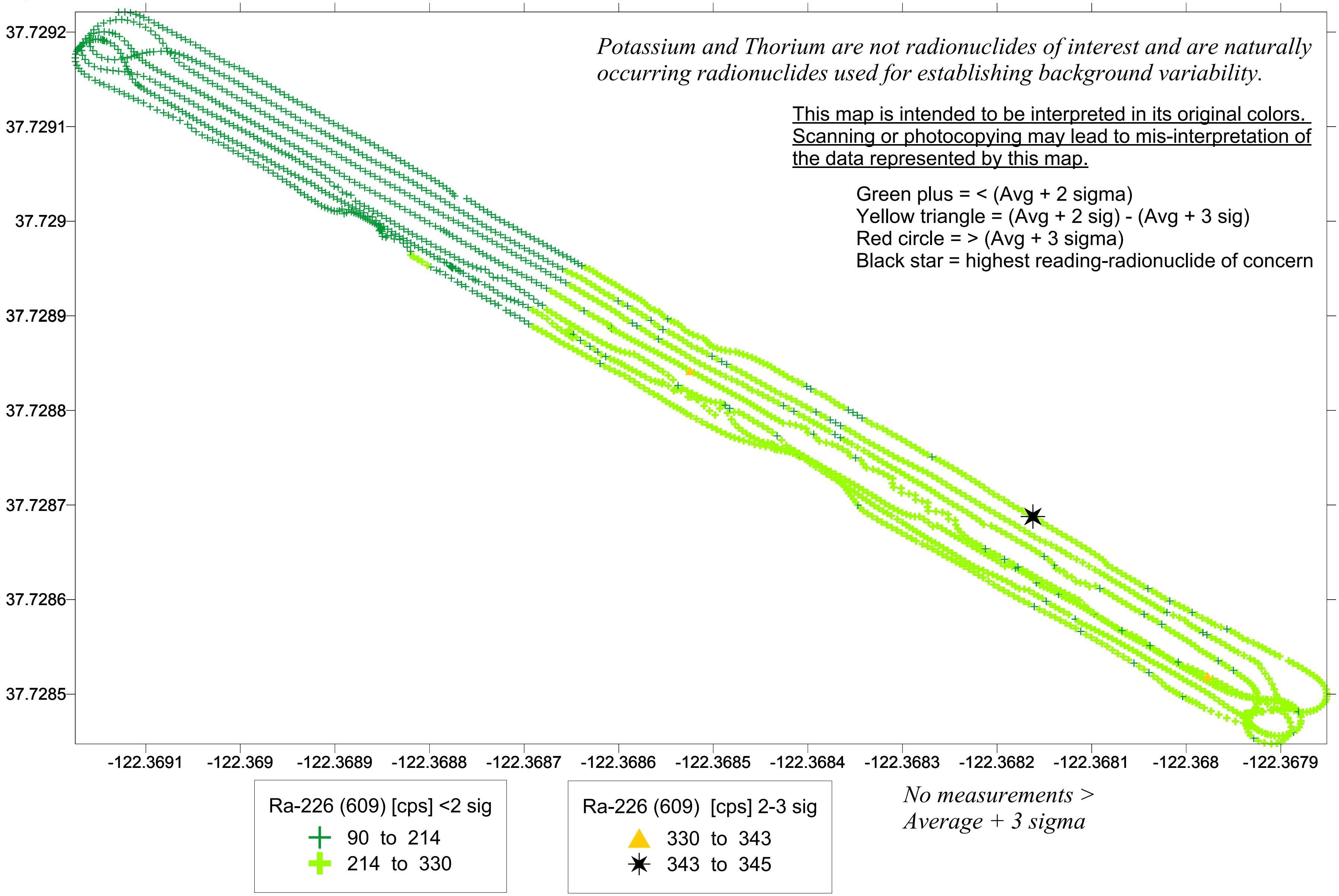
Thorium [cps] 2-3 sig
54.2 to 67

Thorium [cps] >3 sig
66.3 to 67

HP_HA_20180718_01.xlsx

Ra-226 (609)

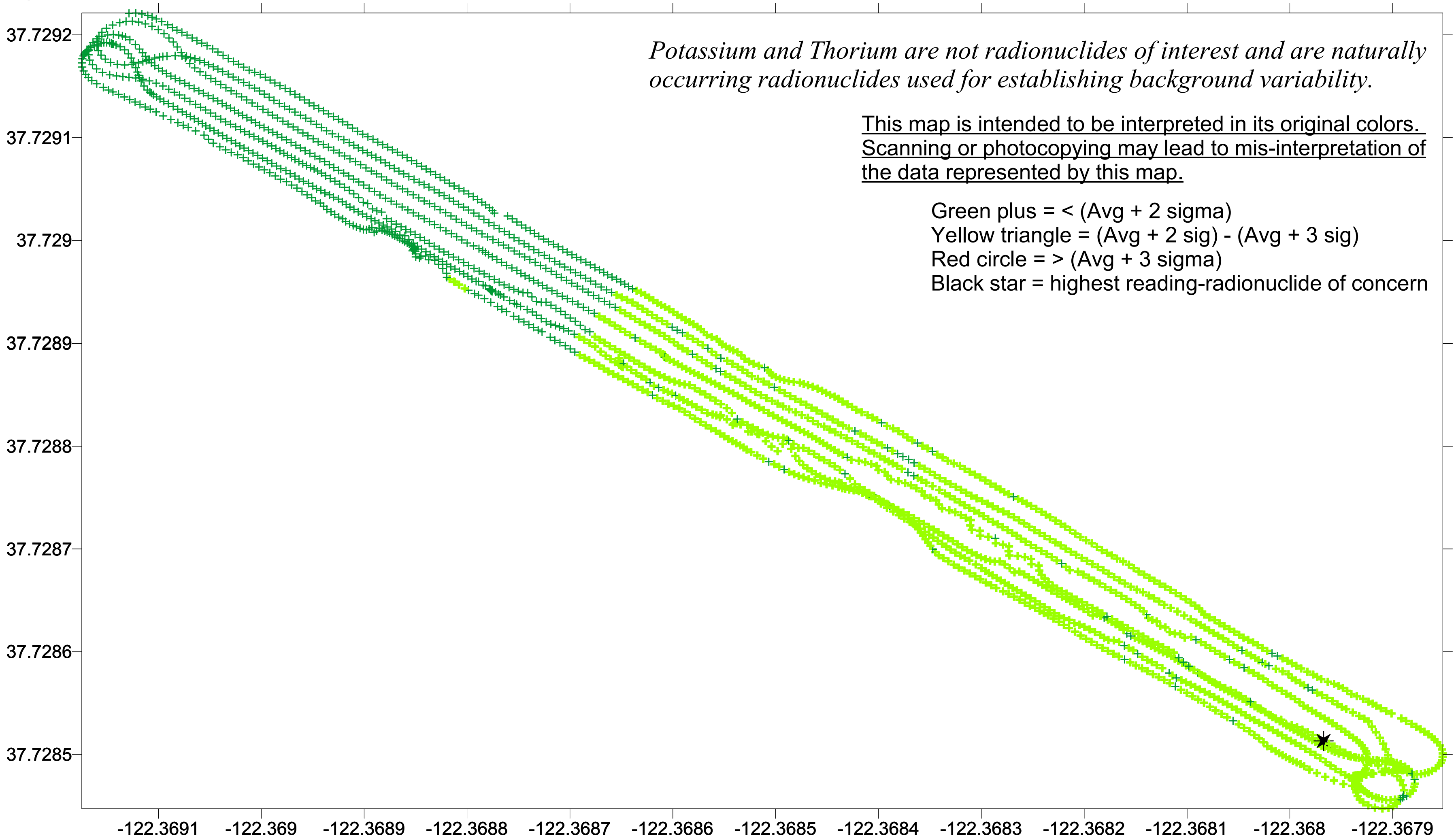
Background: Self



HP_HA_20180718_01.xlsx

Cs-137

Background: Self



Cs-137 [cps] < 2 sig

- 127 to 288
- 288 to 426
- 426 to 427

No measurements > Average + 2 sigma

No measurements > Average + 3 sigma

Number of data points collected: 3252

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3522	135	20.2	16.8	137	189
Std. Dev.	276	20	6.71	6.19	22.6	28.0
Median	3494	134	20.0	16.0	136	188
Shift (Avg. - Median)	28	1	0.195	0.817	1.27	0.66
Shift/Std. Dev.	10%	7%	3%	13%	6%	2%
Coeff. of Variation	7.8%	15%	33.2%	36.8%	16.5%	14.9%
Predicted CoV	1.7%	8.6%	22.2%	24.4%	8.5%	7.3%
Avg. +2 sigma	4074	176	33.6	29.2	183	245
Avg. +3 sigma	4349	196	40.3	35.4	205	273
Avg. + 4 sigma	4625	217	47.0	41.6	228	301
Avg. + 5 sigma	4901	237	53.7	47.8	250	329
Avg. + 6 sigma	5176	257	60.4	54.0	273	357
Min. Count	2746	74.0	2.0	2.0	66.0	98.0
Max. Count	4532	212	46.0	42.0	222	300
(Max-Min)/Std. Dev.	6.5	6.8	6.6	6.5	6.9	7.2

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	9.7	2.40	4.01
Std.Dev. Activity	0.76	0.798	0.659
Avg. +2 sigma	11.2	4.00	5.32
Avg. +3 sigma	12.0	4.80	5.98
Min. Activity	7.58	0.238	1.93
Max. Activity	12.5	5.48	6.48

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

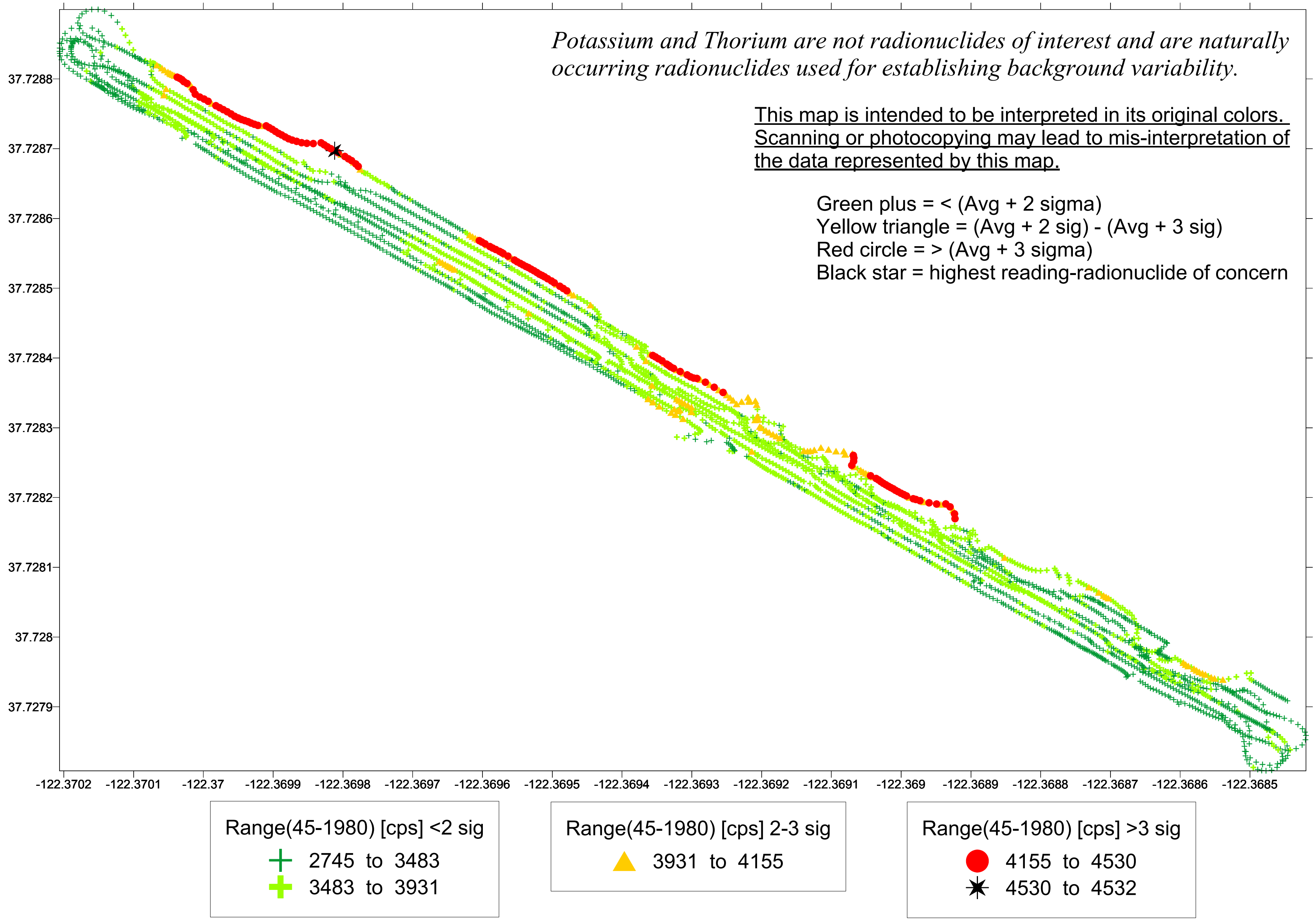
Background †† [cps]	Summary-Self Bkgd, <2Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3483	134	19.6	16.2	136	186
Std. Dev.	224	18.1	6.02	5.45	20.5	25.2
Avg + 2 sigma	3931	170	31.7	27.2	177	237
Avg + 3 sigma	4155	188	37.7	32.6	197	262
Avg + 4 sigma	4379	206	43.7	38.1	218	287
Avg + 5 sigma	4603	224	49.7	43.5	238	312

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_IA_20180717_combined.xlsx

Background: Self

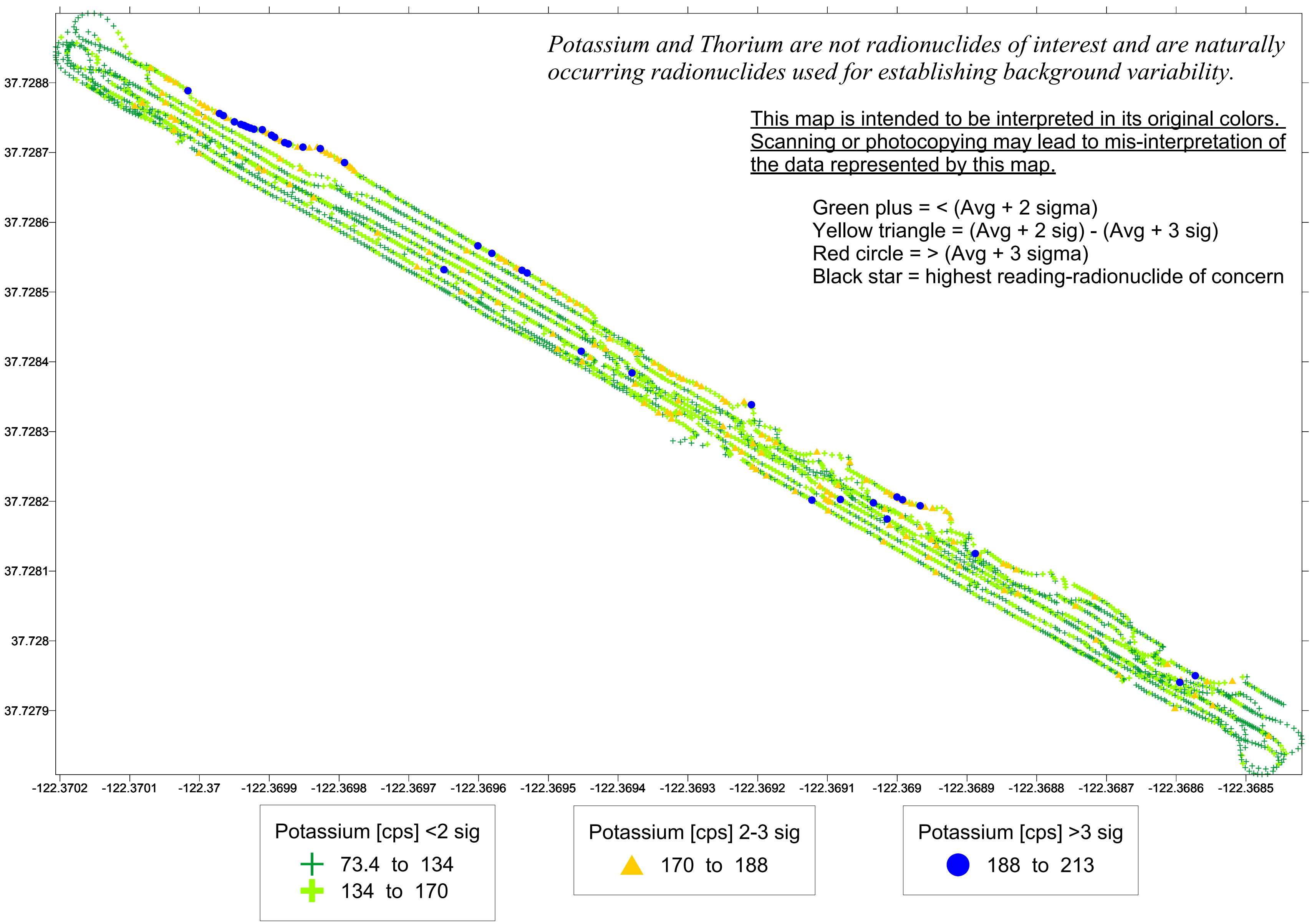
Range(45-1980)



HP_IA_20180717_combined.xlsx

Background: Self

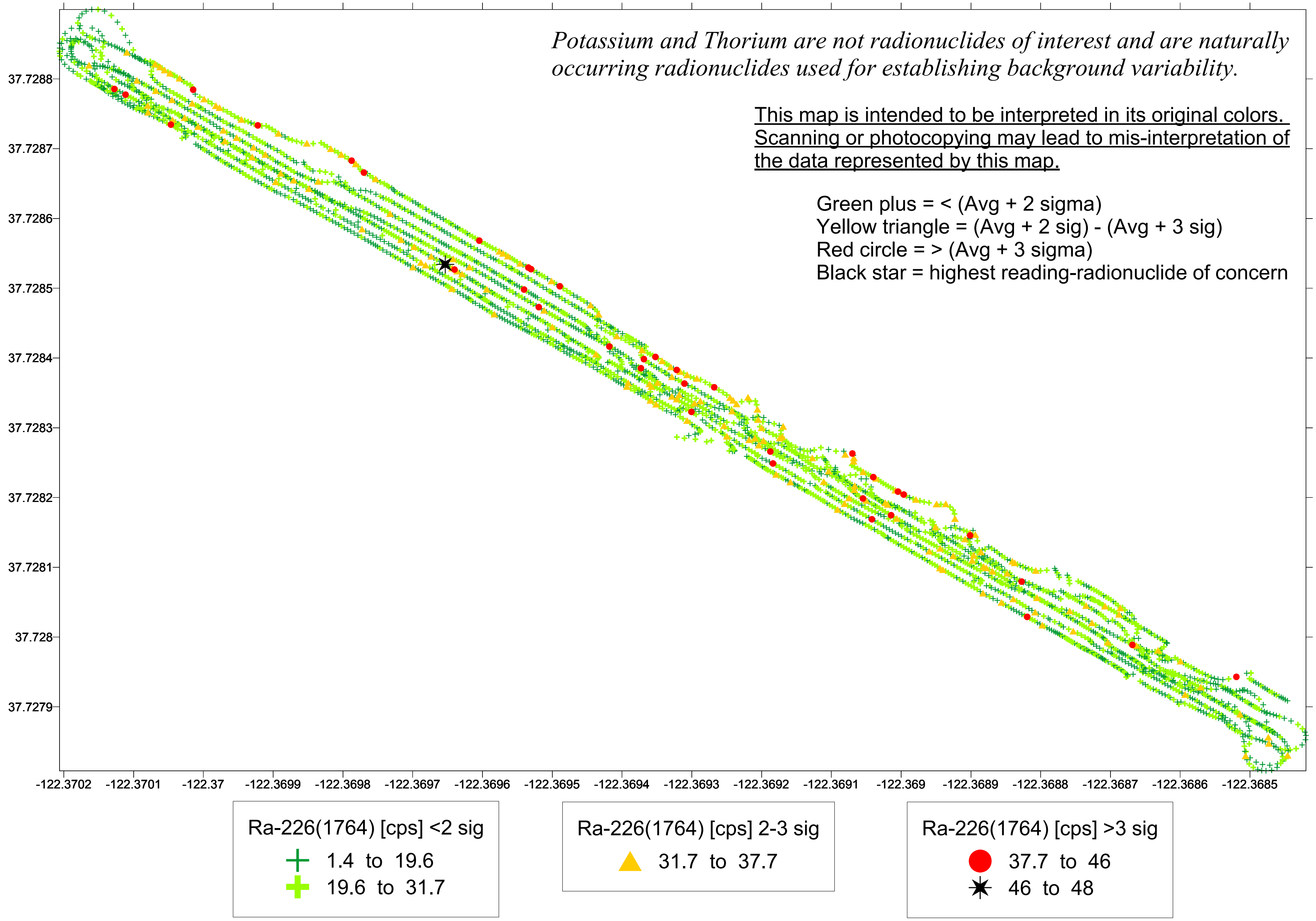
Potassium



HP_IA_20180717_combined.xlsx

Ra-226(1764)

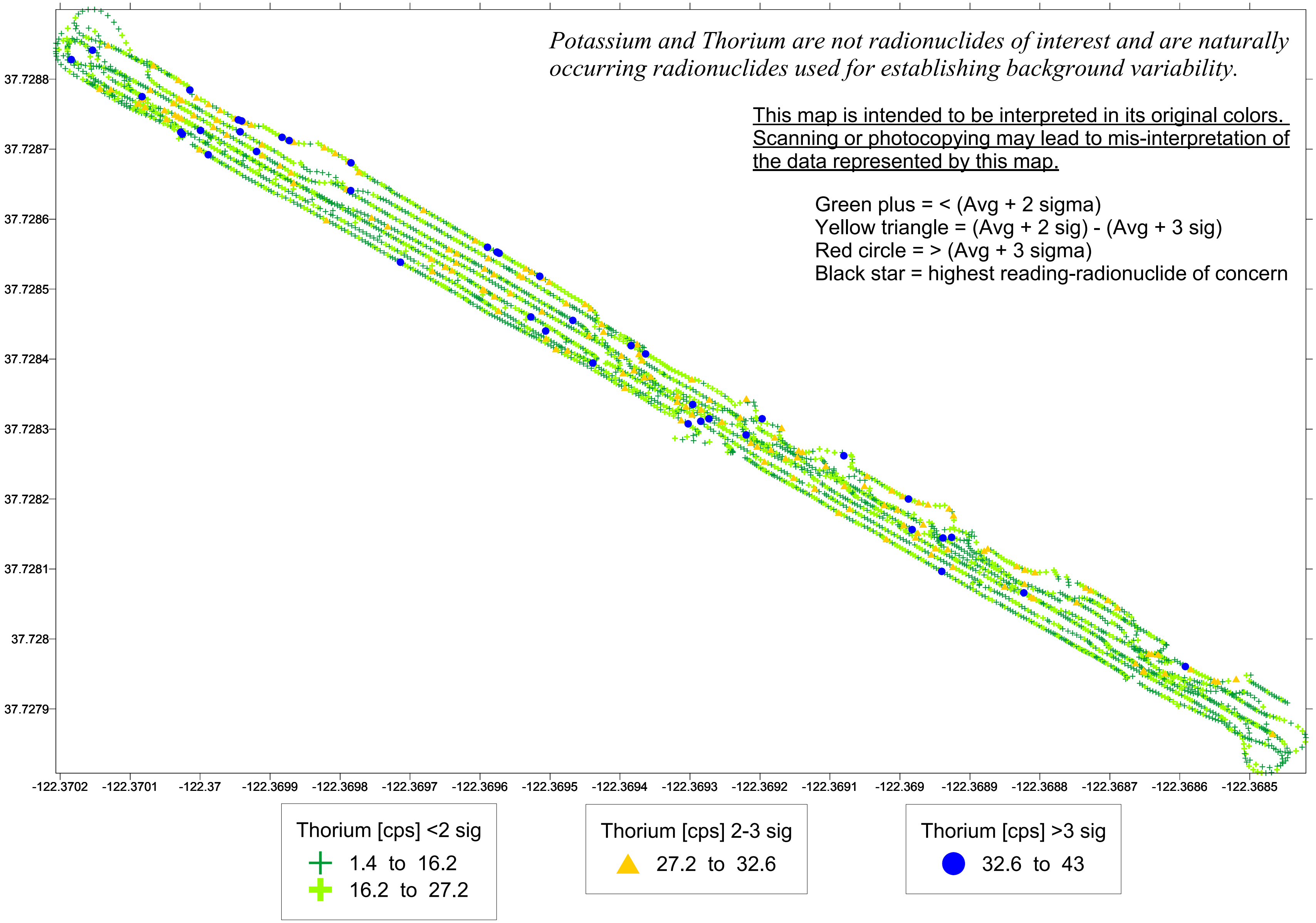
Background: Self



HP_IA_20180717_combined.xlsx

Background: Self

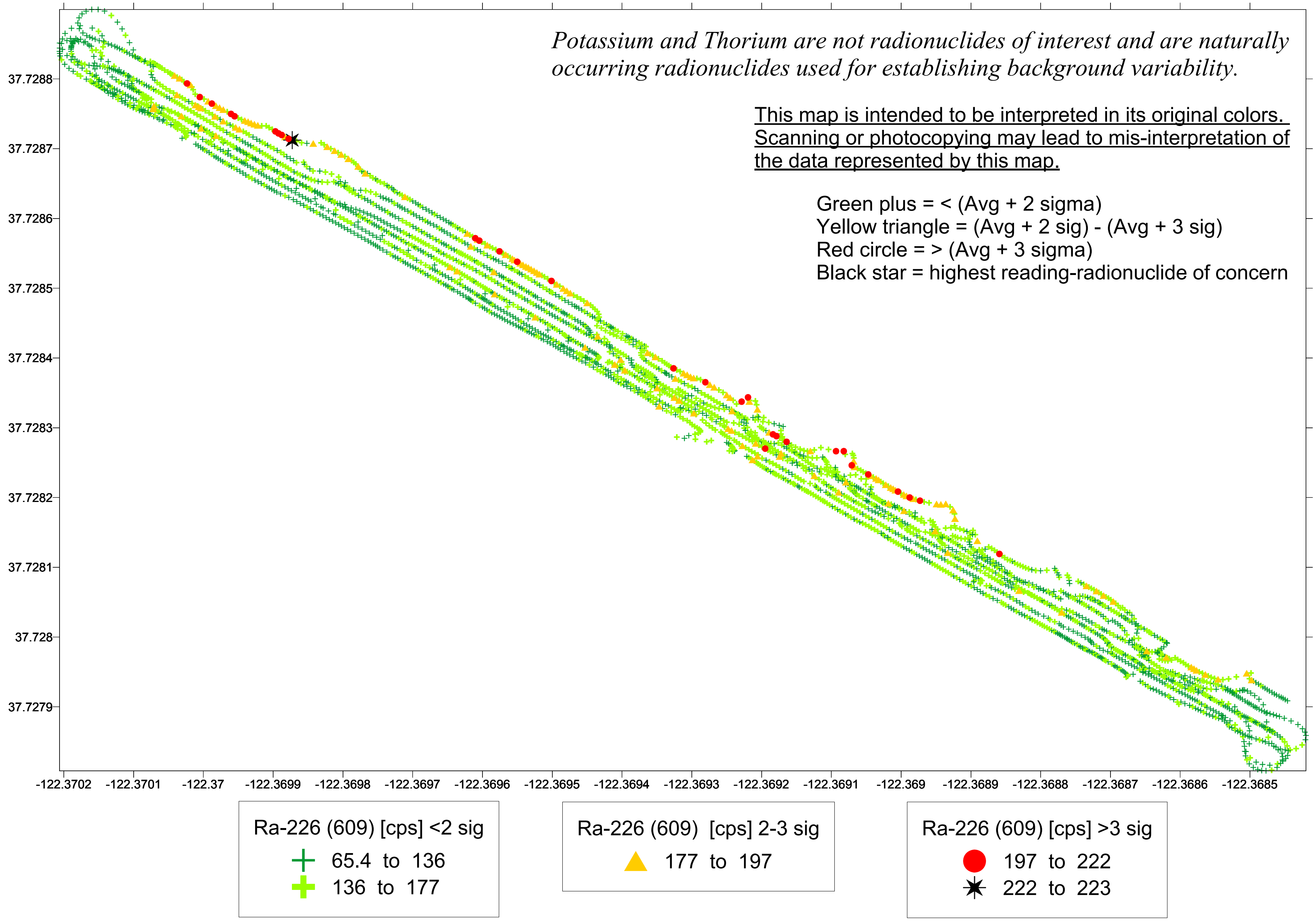
Thorium



HP_IA_20180717_combined.xlsx

Ra-226 (609)

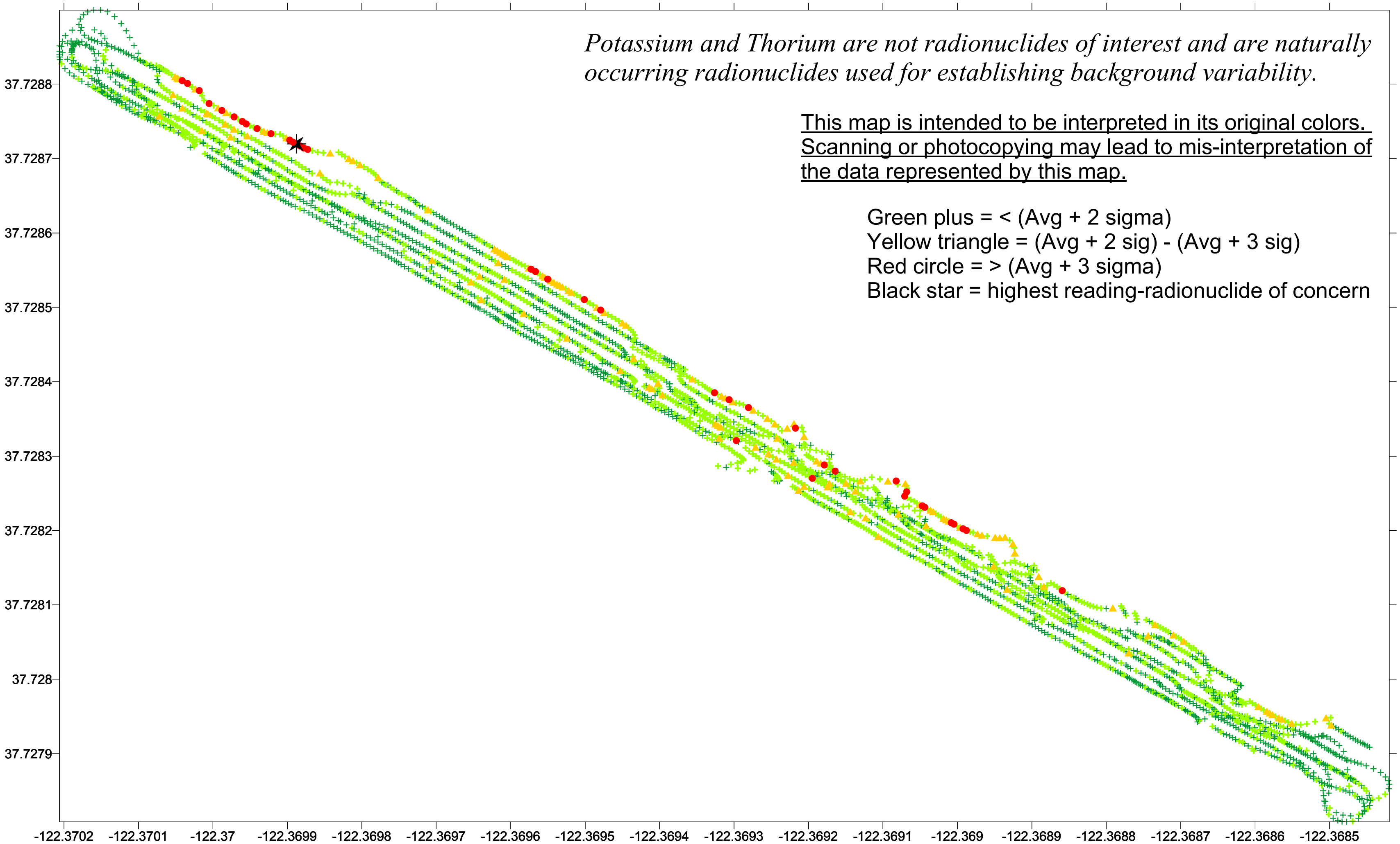
Background: Self



HP_IA_20180717_combined.xlsx

Background: Self

Cs-137



Cs-137 [cps] < 2 sig
97 to 186
186 to 237

Cs-137 [cps] 2-3 sig
237 to 262

Cs-137 [cps] > 3 sig
262 to 300
300 to 302

Number of data points collected: 906

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	5643	177	36.4	40.4	231	312
Std. Dev.	257	19.9	8.46	9.69	21.7	25.5
Median	5689	176	36.0	40.0	230	312
Shift (Avg. - Median)	-46	1.1	0.40	0.36	0.42	-0.18
Shift/Std. Dev.	-18%	5%	5%	4%	2%	-0.7%
Coeff. of Variation	4.6%	11%	23.2%	24.0%	9.4%	8.2%
Predicted CoV	1.3%	7.5%	16.6%	15.7%	6.6%	5.7%
Avg. +2 sigma	6158	217	53.3	59.8	274	363
Avg. +3 sigma	6416	237	61.8	69.5	296	389
Avg. + 4 sigma	6673	257	70.2	79.2	318	414
Avg. + 5 sigma	6931	277	78.7	88.9	339	440
Avg. + 6 sigma	7188	296	87.2	98.5	361	465
Min. Count	4616	96.1	12.0	12.0	164.1	240.1
Max. Count	6322	250	72.1	76.1	308	388
(Max-Min)/Std. Dev.	6.6	7.7	7.1	6.6	6.6	5.8

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	15.6	4.33	6.72
Std.Dev. Activity	0.71	1.006	0.634
Avg. +2 sigma	17.0	6.35	7.99
Avg. +3 sigma	17.7	7.35	8.63
Min. Activity	12.73	1.429	4.79
Max. Activity	17.4	8.57	8.99

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background †† [cps]	<Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	5642	176	35.7	39.7	229	310
Std. Dev.	256.6	18.2	7.61	8.97	20.1	23.8
Avg + 2 sigma	6156	212	50.9	57.6	269	358
Avg + 3 sigma	6412	230	58.5	66.6	289	382
Avg + 4 sigma	6669	248	66.1	75.6	309	405
Avg + 5 sigma	6926	267	73.7	84.5	329	429

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_IP_20180718_01.xlsx

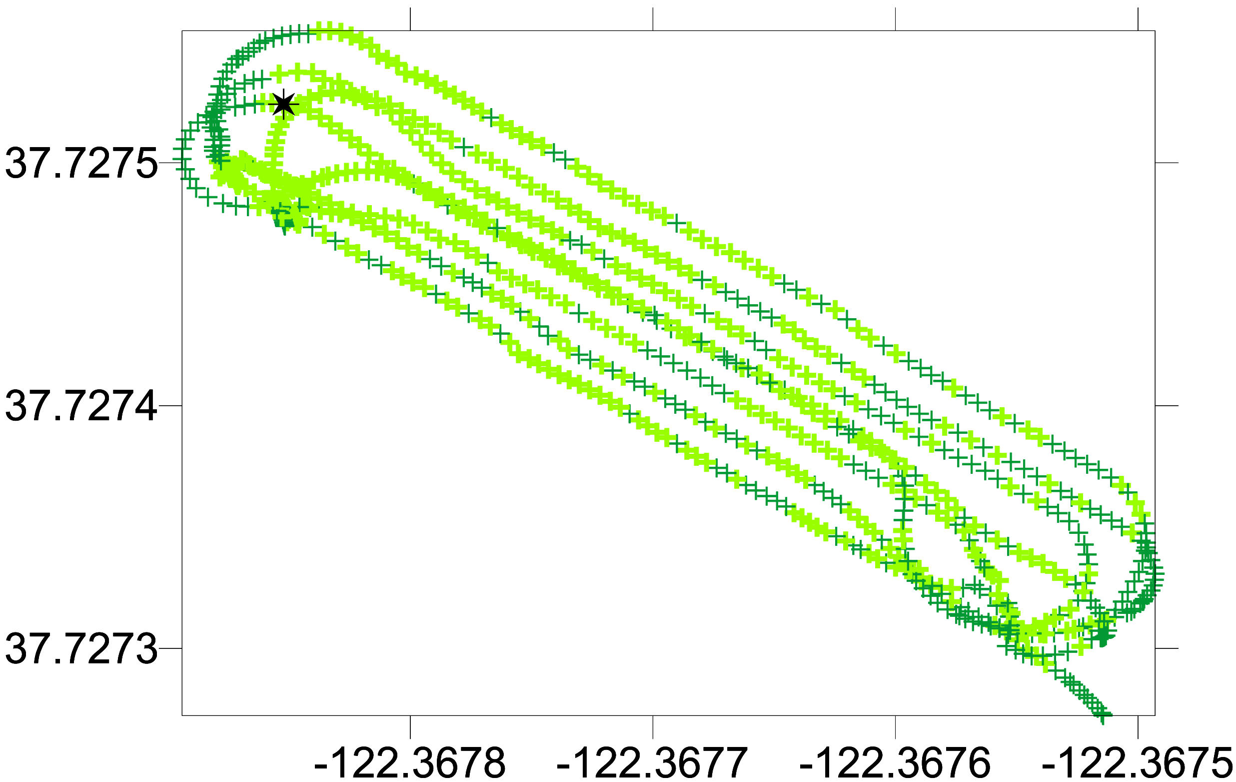
Background: Self

Range(45-1980)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Range(45-1980) [cps] <2 sig
4615 to 5642
5642 to 6156

Range(45-1980) [cps] 2-3 sig
6156 to 6320
6320 to 6325

No measurements > Average + 3 sigma

HP_IP_20180718_01.xlsx

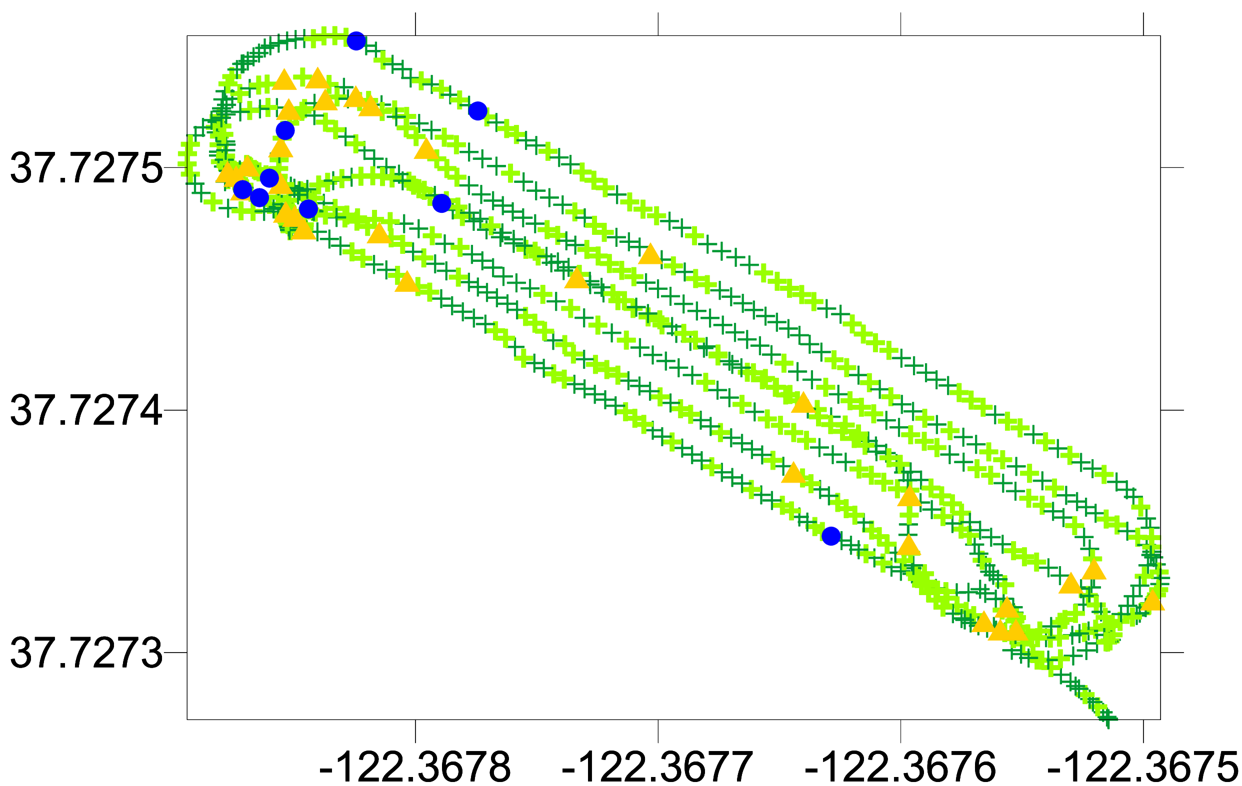
Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Potassium [cps] <2 sig
96 to 176
176 to 212

Potassium [cps] 2-3 sig
212 to 230

Potassium [cps] >3 sig
230 to 251

HP_IP_20180718_01.xlsx

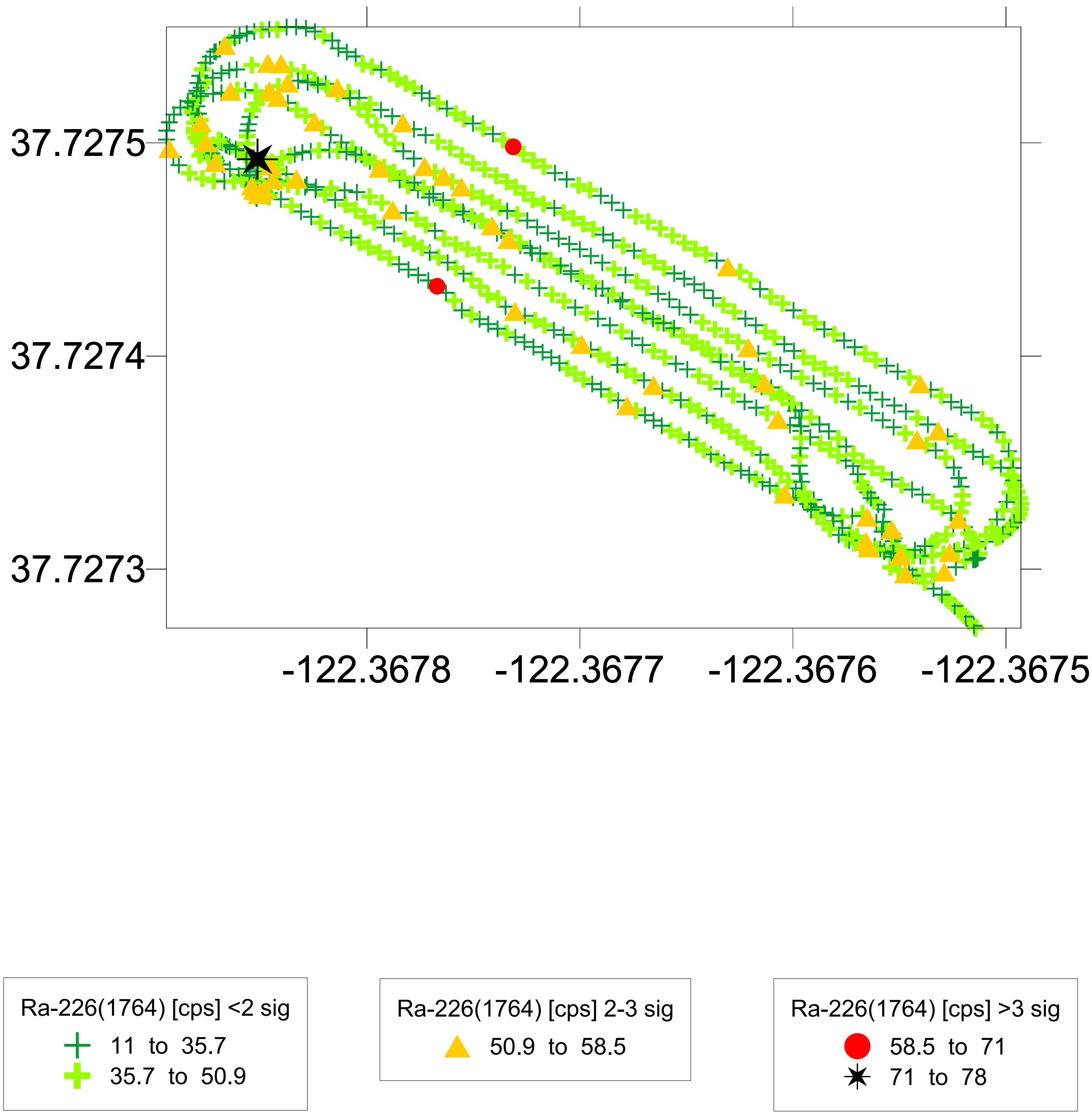
Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



HP_IP_20180718_01.xlsx

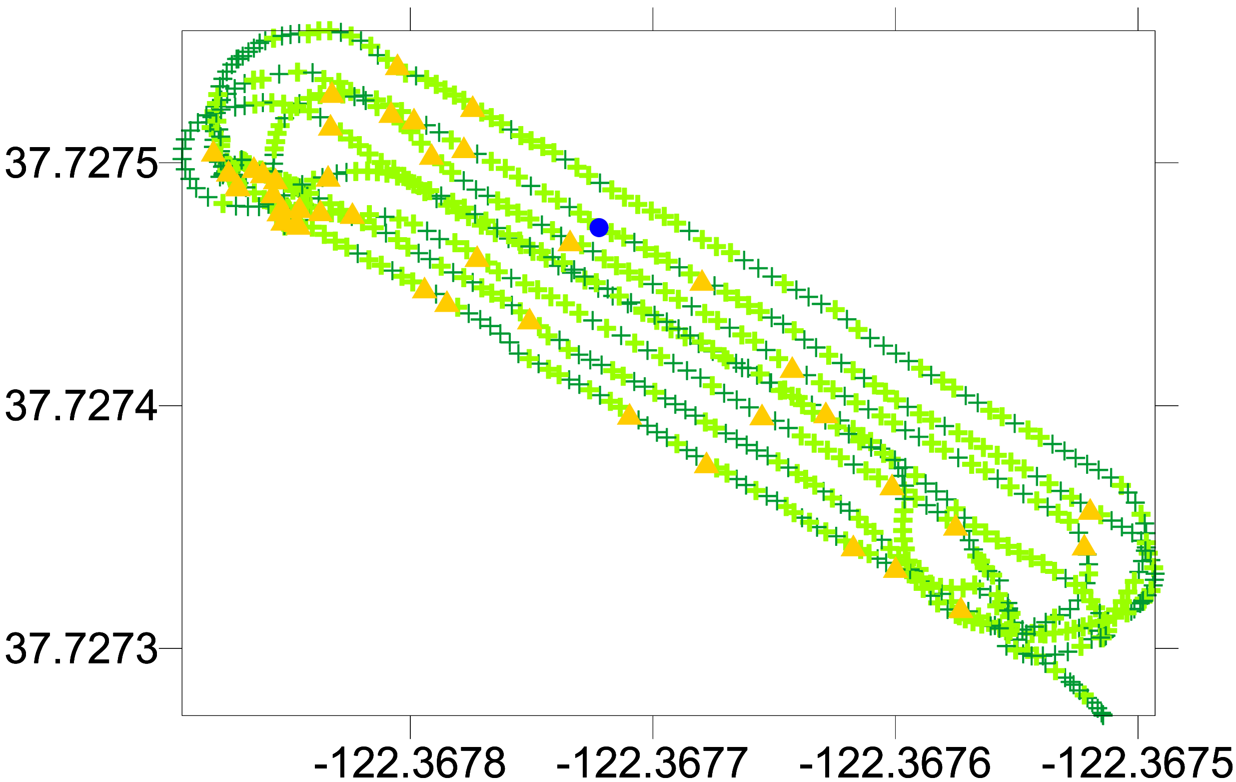
Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Thorium [cps] <2 sig
11.8 to 39.7
39.7 to 57.6

Thorium [cps] 2-3 sig
57.6 to 66.6

Thorium [cps] >3 sig
66.6 to 77

HP_IP_20180718_01.xlsx

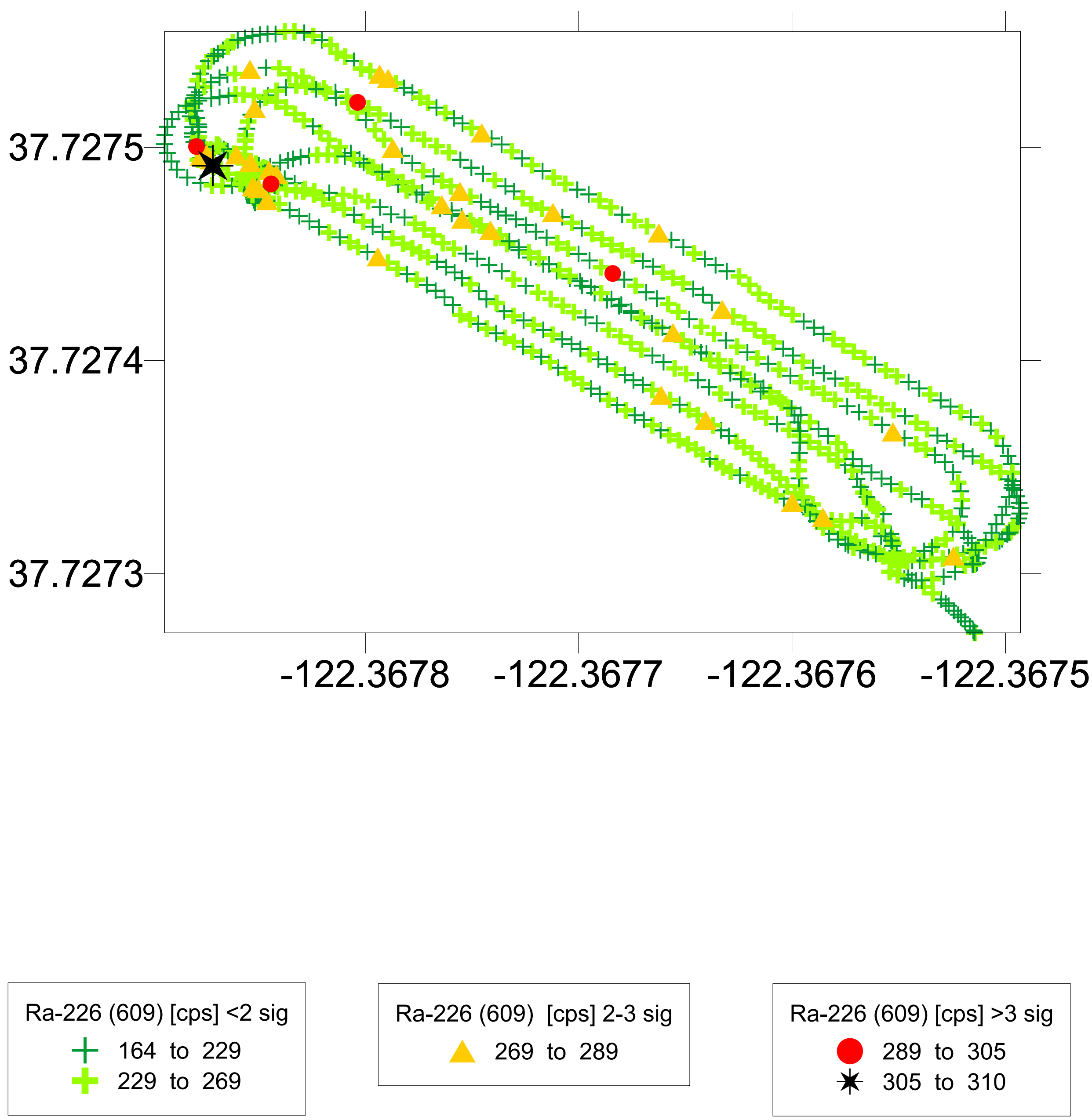
Background: Self

Ra-226 (609)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



HP_IP_20180718_01.xlsx

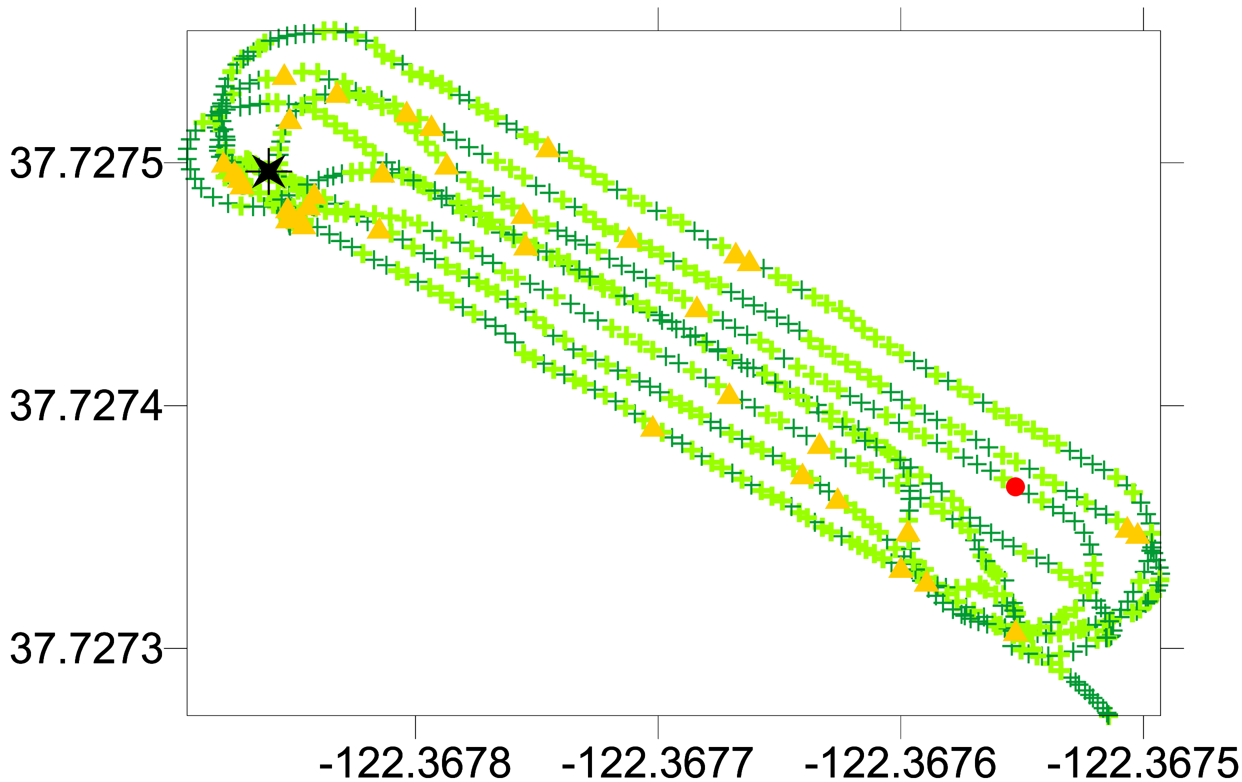
Background: Self

Cs-137

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Cs-137 [cps] < 2 sig
240 to 310
310 to 358

Cs-137 [cps] 2-3 sig
358 to 382

Cs-137 [cps] > 3 sig
382 to 385
385 to 389

Number of data points collected: 2146 Note: alternate designations IC-4RS, Point park

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	5158	177	31.1	37.8	213	287
Std. Dev.	323	23.7	7.48	8.48	25.5	31.5
Median	5158	176	31.1	37.1	212	287
Shift (Avg. - Median)	0.2	0.5	0.01	0.76	0.36	0.76
Shift/Std. Dev.	0%	2%	0%	9%	1%	2%
Coeff. of Variation	6%	13%	24%	22%	12%	11%
Predicted CoV	1.4%	7.5%	17.9%	16.3%	6.9%	5.9%
Avg. +2 sigma	5805	224	46.0	54.8	264	350
Avg. +3 sigma	6128	248	53.5	63.3	289	382
Avg. + 4 sigma	6451	272	61.0	71.8	315	413
Avg. + 5 sigma	6774	296	68.5	80.3	340	445
Avg. + 6 sigma	7097	319	75.9	88.7	366	476
Min. Count	4273	96.2	9.0	14.0	127	183
Max. Count	5876	251	65.2	68.2	304	380
(Max-Min)/Std. Dev.	5.0	6.5	7.5	6.4	6.9	6.2

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	14.2	3.70	6.21
Std.Dev. Activity	0.89	0.890	0.743
Avg. +2 sigma	16.0	5.48	7.69
Avg. +3 sigma	16.9	6.37	8.44
Min. Activity	11.79	1.073	3.71
Max. Activity	16.2	7.75	8.86

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background ††	**<Avg+2 sigma of all data**					
[cps]	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	5156	175	30.5	37.1	211	286
Std. Dev.	321	22.3	6.79	7.64	23.9	29.9
Avg + 2 sigma	5799	220	44.1	52.4	259	346
Avg + 3 sigma	6120	242	50.8	60.0	283	375
Avg + 4 sigma	6441	265	57.6	67.7	307	405
Avg + 5 sigma	6762	287	64.4	75.3	331	435

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_OS_20180814_01.xlsx (IC-4RS, Point Park)

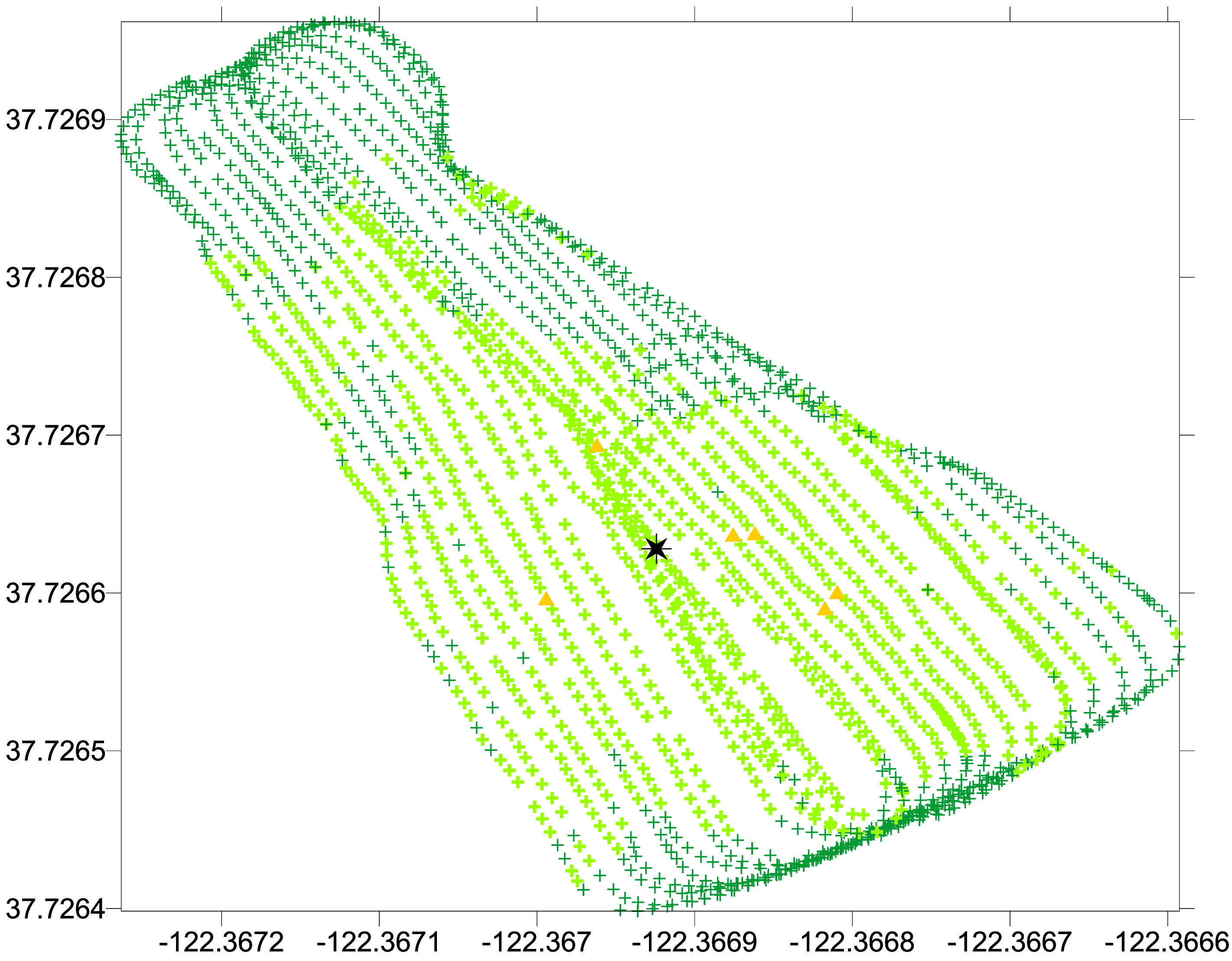
Range(45-1980)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Range(45-1980) [cps] <2 sig
4272 to 5156
5156 to 5799

Range(45-1980) [cps] 2-3 sig
5799 to 5875
5875 to 5877

No measurements > Average + 3 sigma

HP_OS_20180814_01.xlsx (IC-4RS, Point Park)

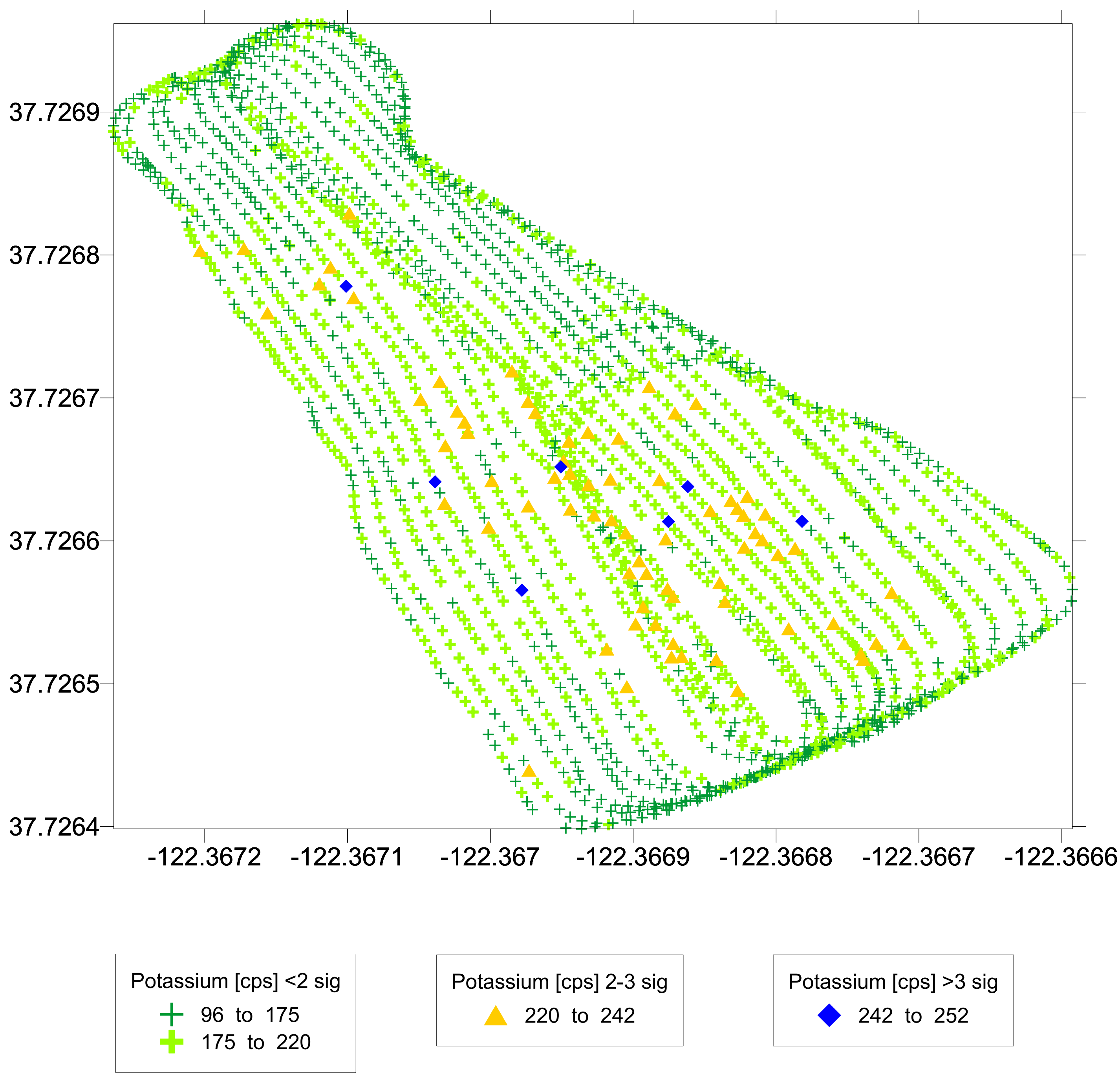
Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



HP_OS_20180814_01.xlsx (IC-4RS, Point Park)

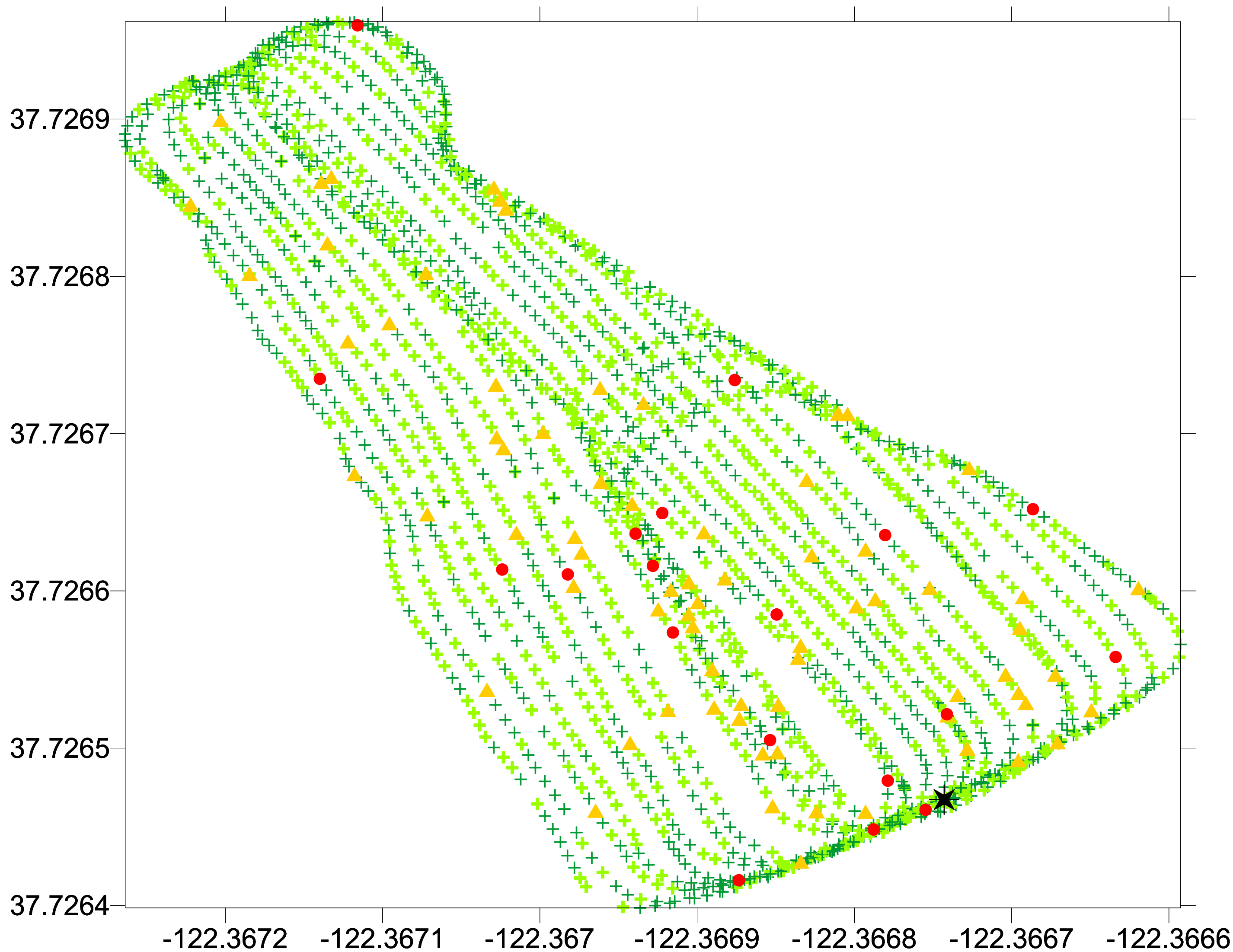
Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226(1764) [cps] <2 sig
8.8 to 30.5
30.5 to 44.1

Ra-226(1764) [cps] 2-3 sig
44.1 to 50.8

Ra-226(1764) [cps] >3 sig
50.8 to 64
64 to 66

HP_OS_20180814_01.xlsx (IC-4RS, Point Park)

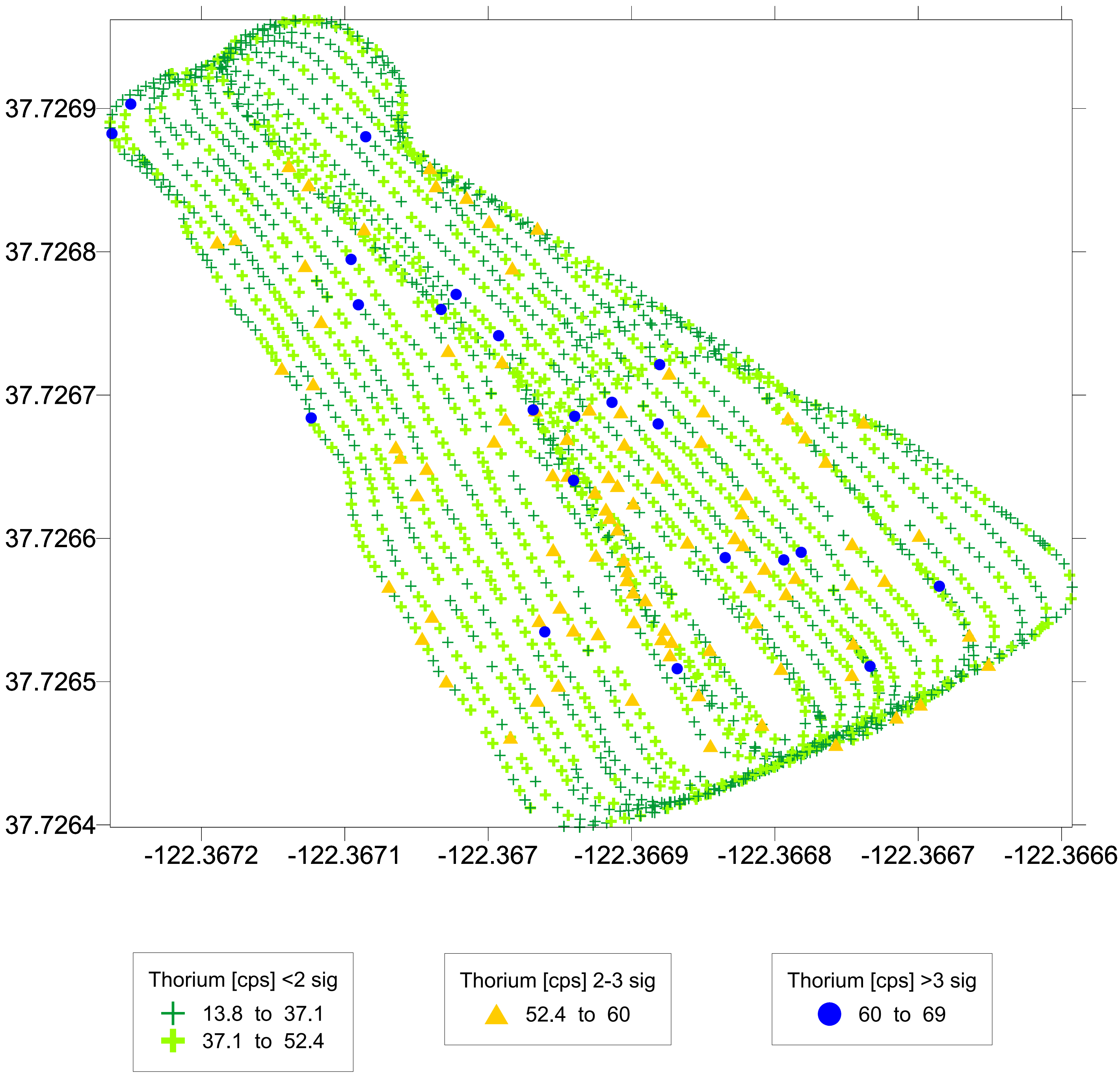
Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



HP_OS_20180814_01.xlsx (IC-4RS, Point Park)

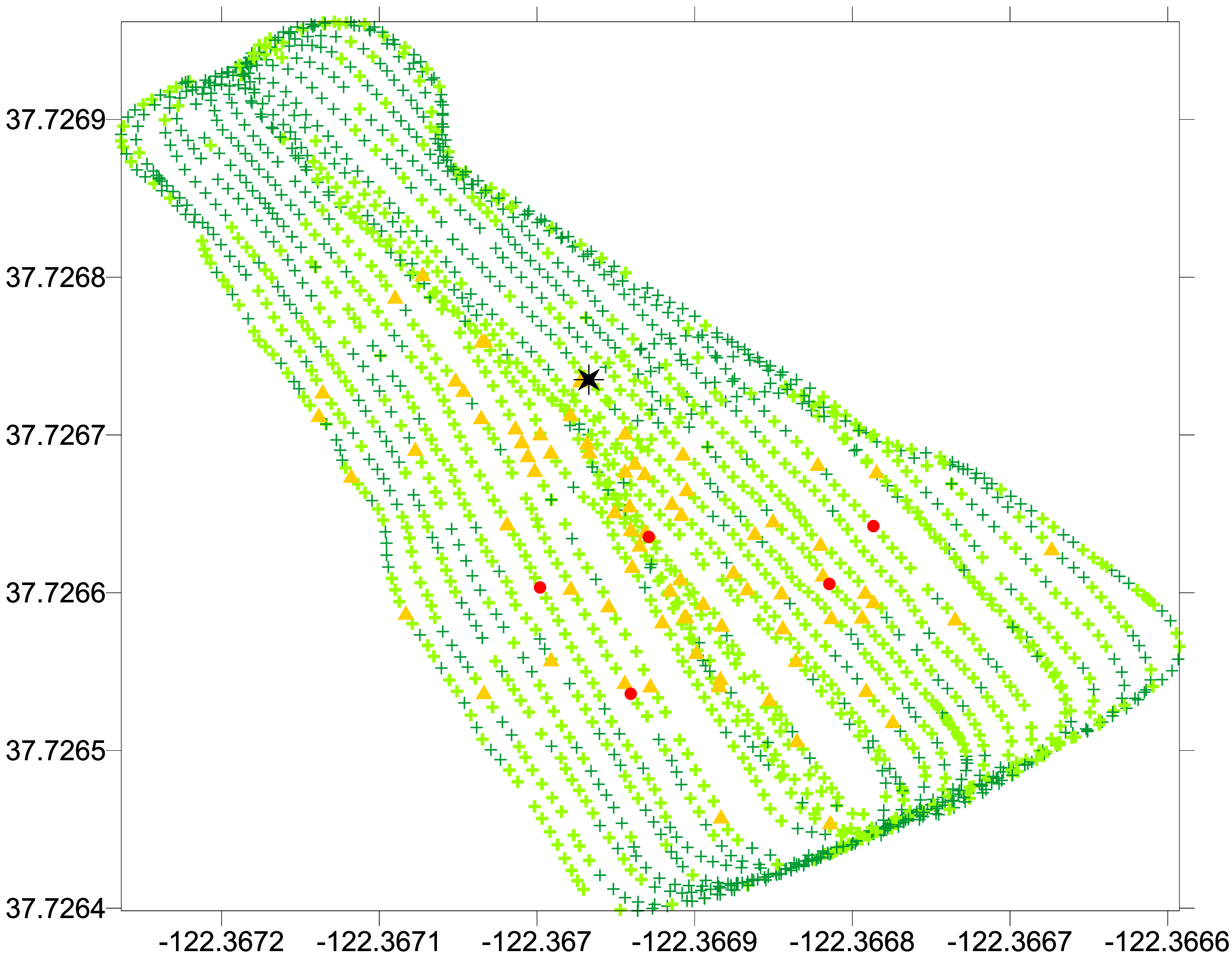
Ra-226 (609)

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Ra-226 (609) [cps] <2 sig
126 to 211
211 to 259

Ra-226 (609) [cps] 2-3 sig
259 to 283

Ra-226 (609) [cps] >3 sig
283 to 303
303 to 305

HP_OS_20180814_01.xlsx (IC-4RS, Point Park)

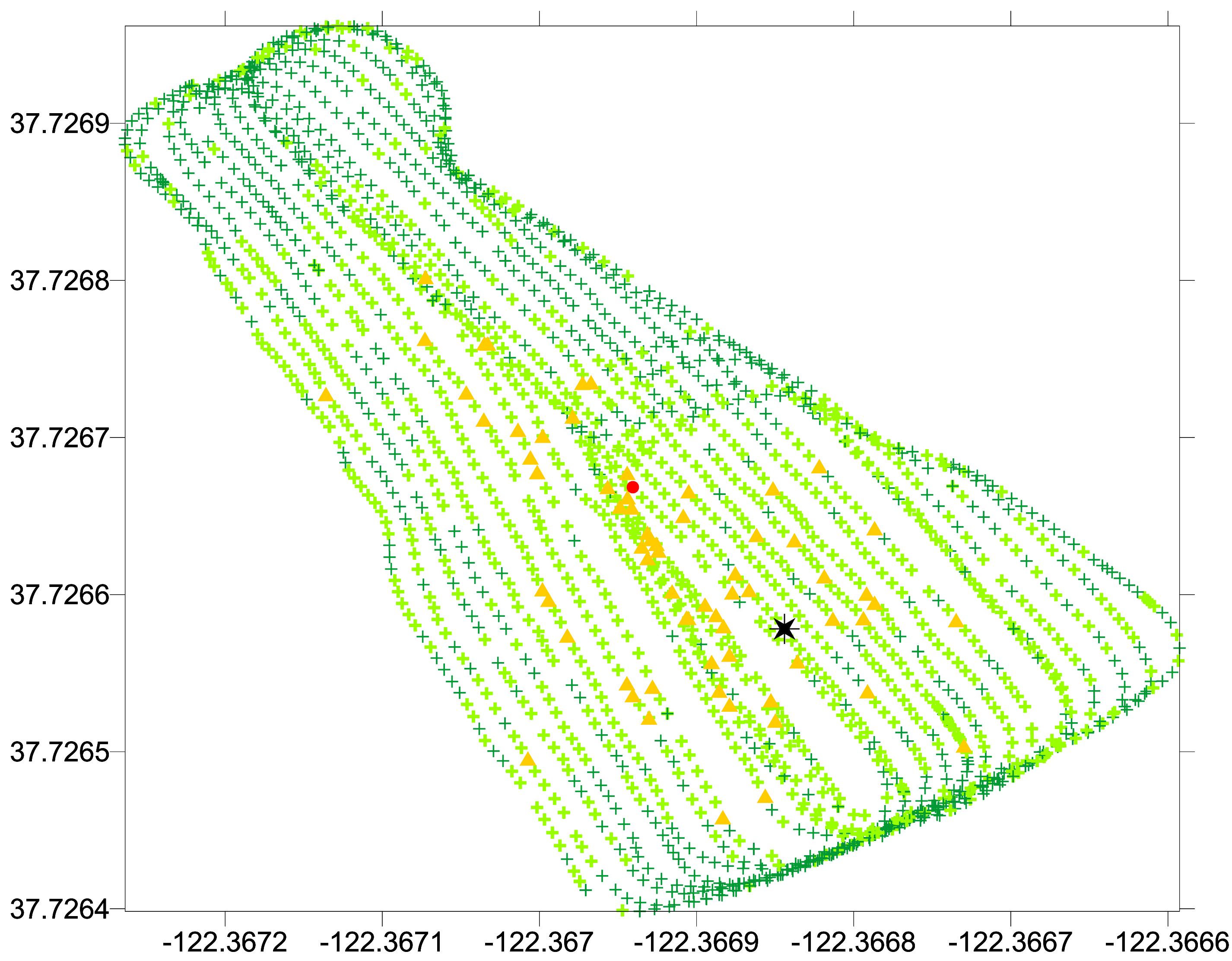
Cs-137

Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



Cs-137 [cps] < 2 sig
183 to 286
286 to 346

Cs-137 [cps] 2-3 sig
346 to 375

Cs-137 [cps] > 3 sig
375 to 379
379 to 381

Number of data points collected: 4279

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	1872	71.3	10.6	8.85	72.0	98.7
Std. Dev.	256	14	3.99	3.93	16.7	21.3
Median	1824	69	10.0	8.0	69	96
Shift (Avg. - Median)	47	2	0.641	0.844	2.91	2.71
Shift/Std. Dev.	19%	16%	16%	21%	17%	13%
Coeff. of Variation	13.7%	20%	37.4%	44.4%	23.3%	21.5%
Predicted CoV	2.31%	11.8%	30.6%	33.6%	11.8%	10.1%
Avg. +2 sigma	2383	99	18.6	16.7	105	141
Avg. +3 sigma	2638	113	22.6	20.6	122	163
Avg. + 4 sigma	2894	127	26.6	24.6	139	184
Avg. + 5 sigma	3149	141	30.6	28.5	156	205
Avg. + 6 sigma	3405	156	34.6	32.4	172	226
Min. Count	1362	39.0	1.0	1.0	35.0	51.0
Max. Count	2972	139	31.0	29.0	151	206
(Max-Min)/Std. Dev.	6.3	7.1	7.5	7.1	6.9	7.3

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	5.2	1.27	2.10
Std.Dev. Activity	0.70	0.474	0.488
Avg. +2 sigma	6.6	2.22	3.08
Avg. +3 sigma	7.3	2.69	3.56
Min. Activity	3.76	0.119	1.02
Max. Activity	8.2	3.69	4.41

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

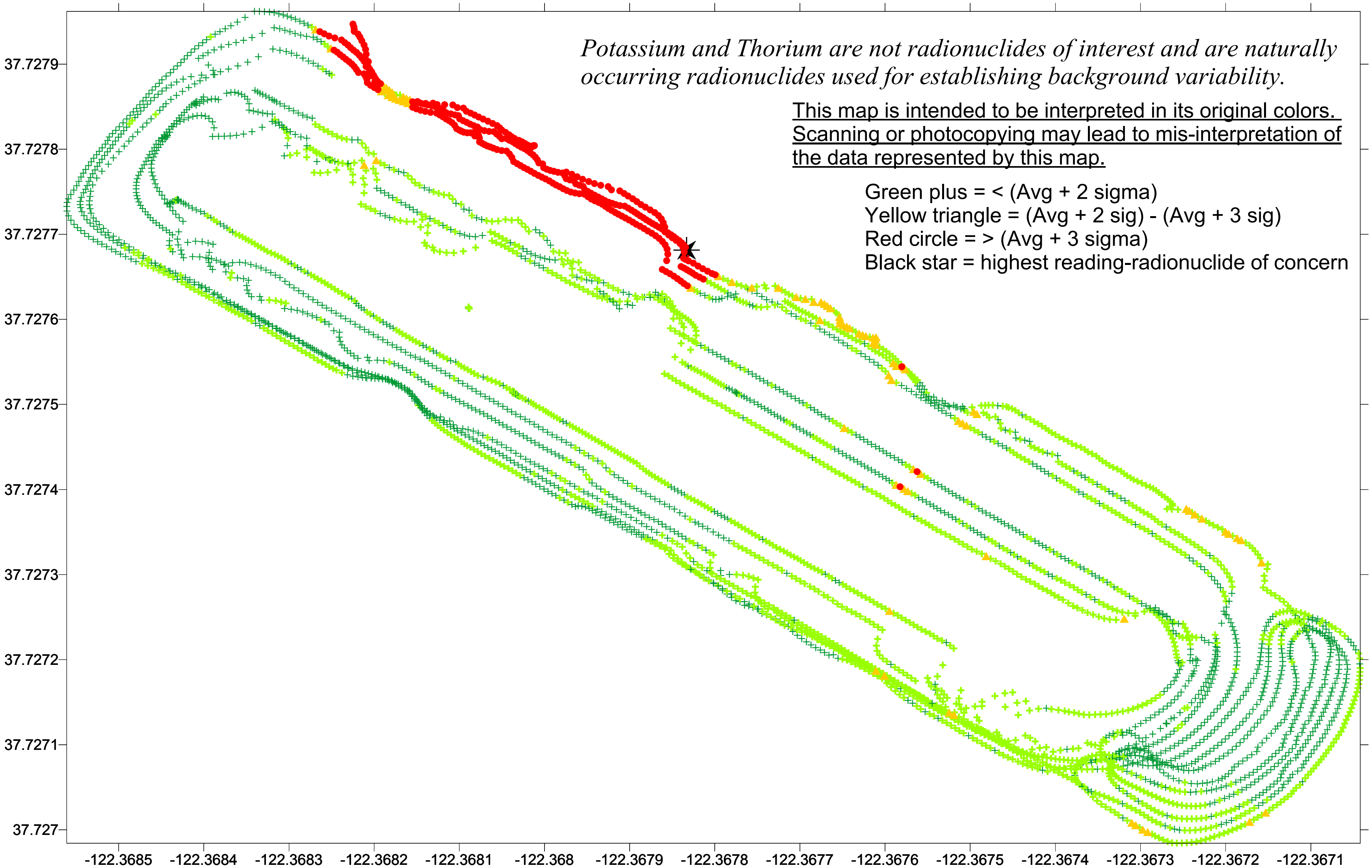
Background ††	Summary-Self Bkgd, <2Avg+2 sigma of all data					
[cps]	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	1815	69	10.2	8.3	69	95
Std. Dev.	147.2	10.9	3.35	3.09	12.0	14.9
Avg + 2 sigma	2110	91	16.9	14.5	93	125
Avg + 3 sigma	2257	102	20.2	17.6	105	140
Avg + 4 sigma	2404	113	23.6	20.7	117	155
Avg + 5 sigma	2551	124	27.0	23.8	129	170

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_IC_20180723_combined.xlsx

Background: Self

Range(45-1980)

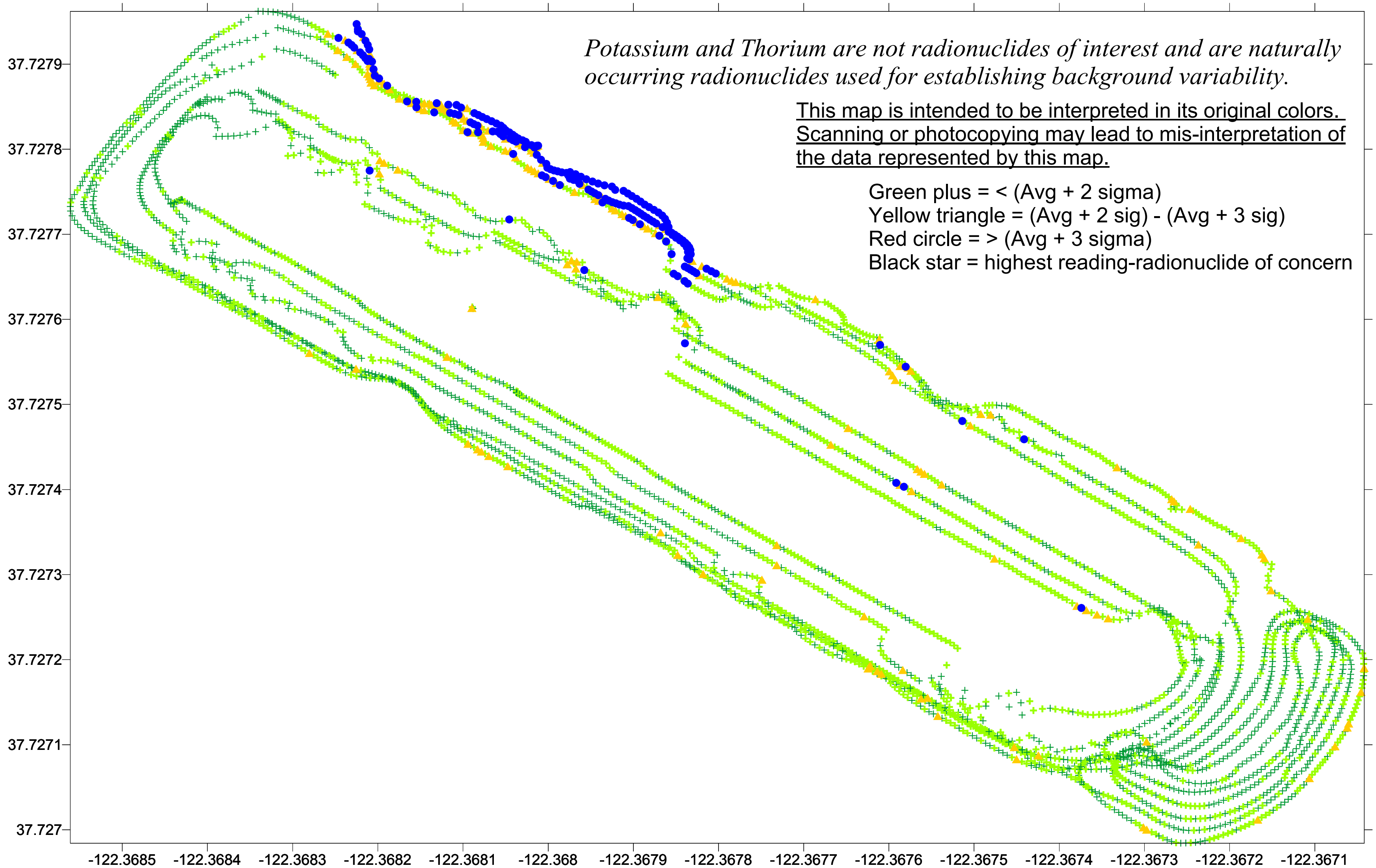


Range(45-1980) [cps] <2 sig	Range(45-1980) [cps] 2-3 sig	Range(45-1980) [cps] >3 sig
1362 to 1815	2110 to 2257	2257 to 2960
1815 to 2110		2960 to 2973

HP_IC_20180723_combined.xlsx

Background: Self

Potassium

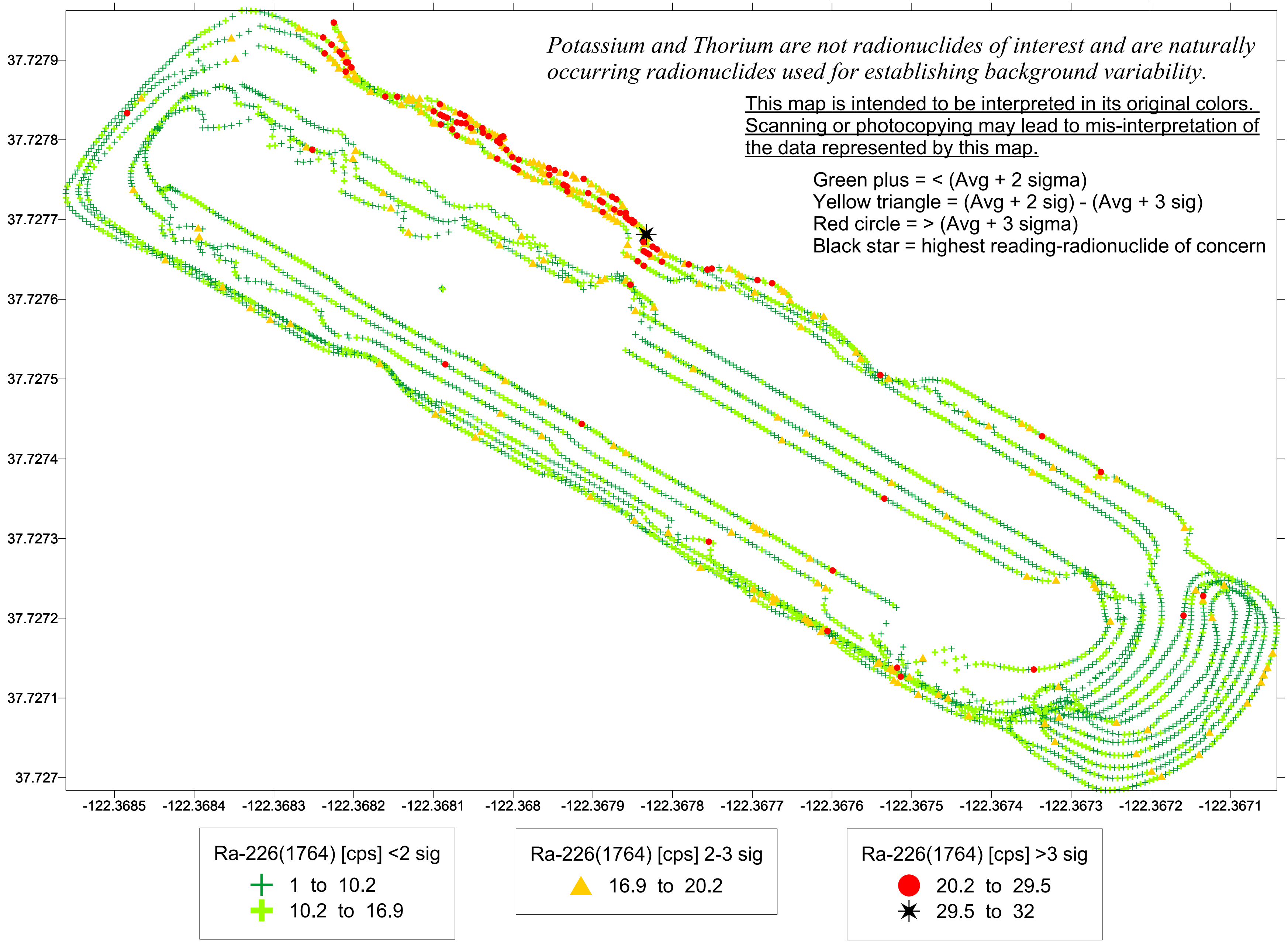


Potassium [cps] <2 sig	Potassium [cps] 2-3 sig	Potassium [cps] >3 sig
39 to 69	91 to 102	102 to 139
69 to 91		

HP_IC_20180723_combined.xlsx

Background: Self

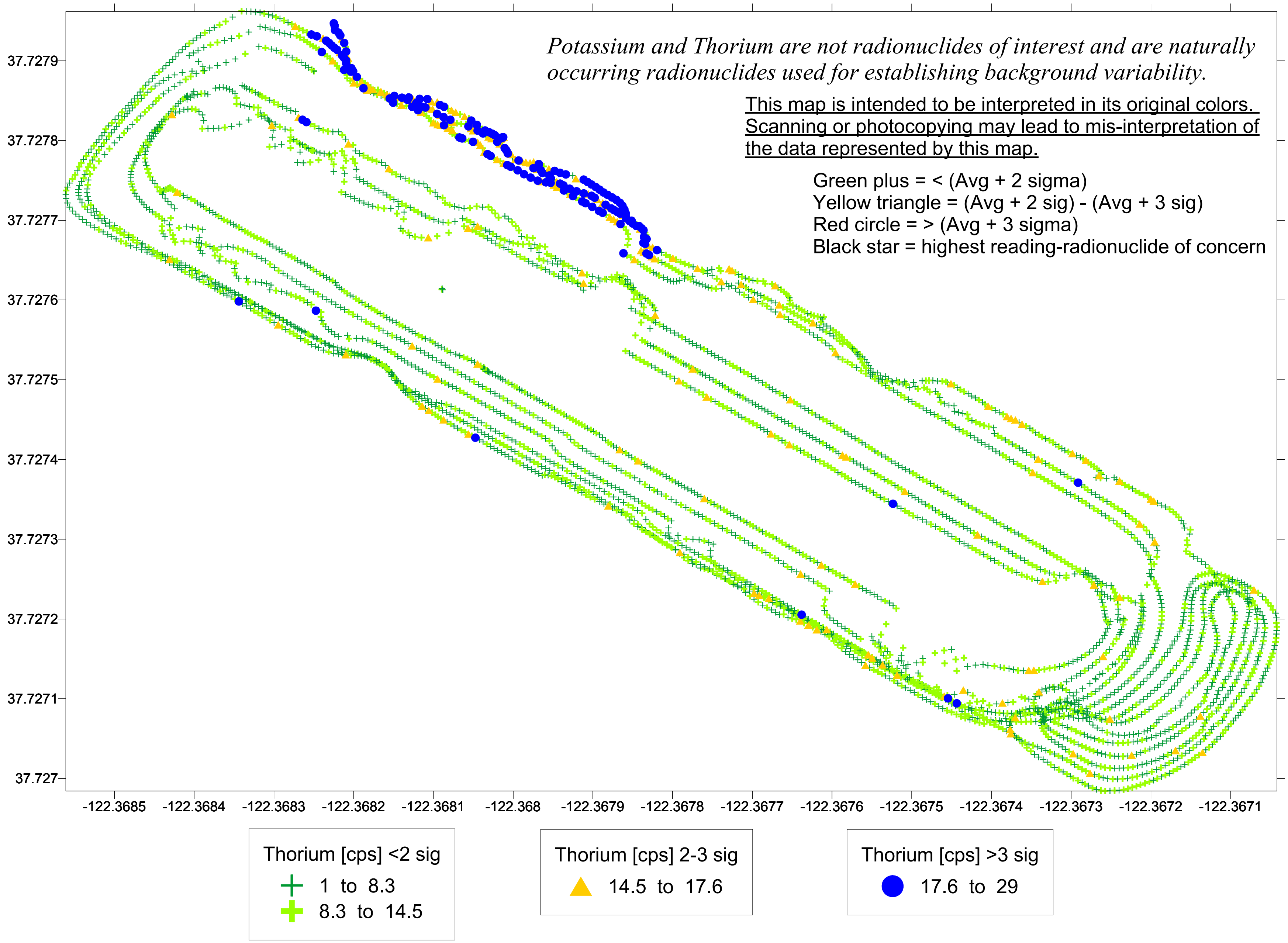
Ra-226(1764)



HP_IC_20180723_combined.xlsx

Background: Self

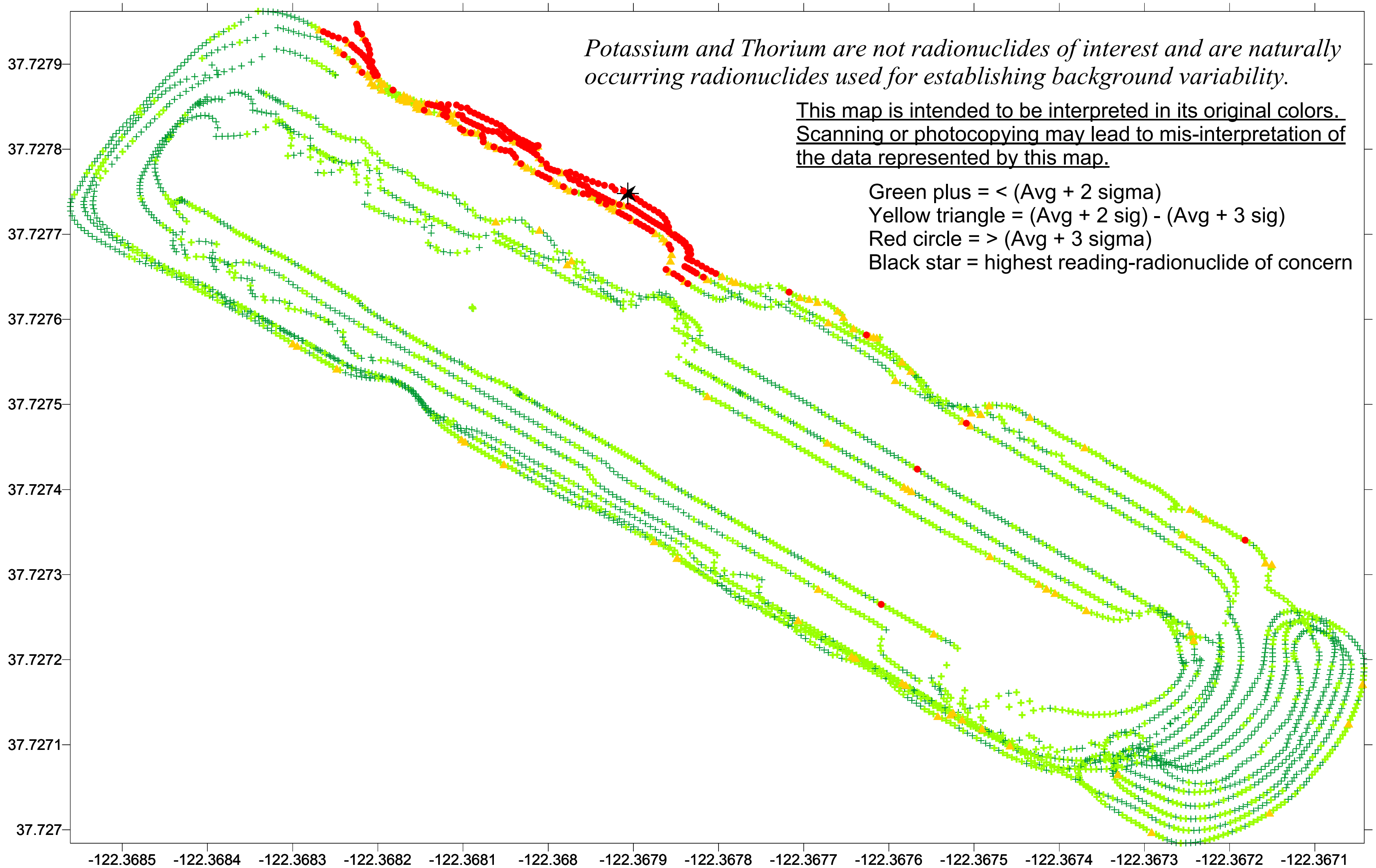
Thorium



HP_IC_20180723_combined.xlsx

Background: Self

Ra-226 (609)



Ra-226 (609) [cps] <2 sig
35 to 69
69 to 93

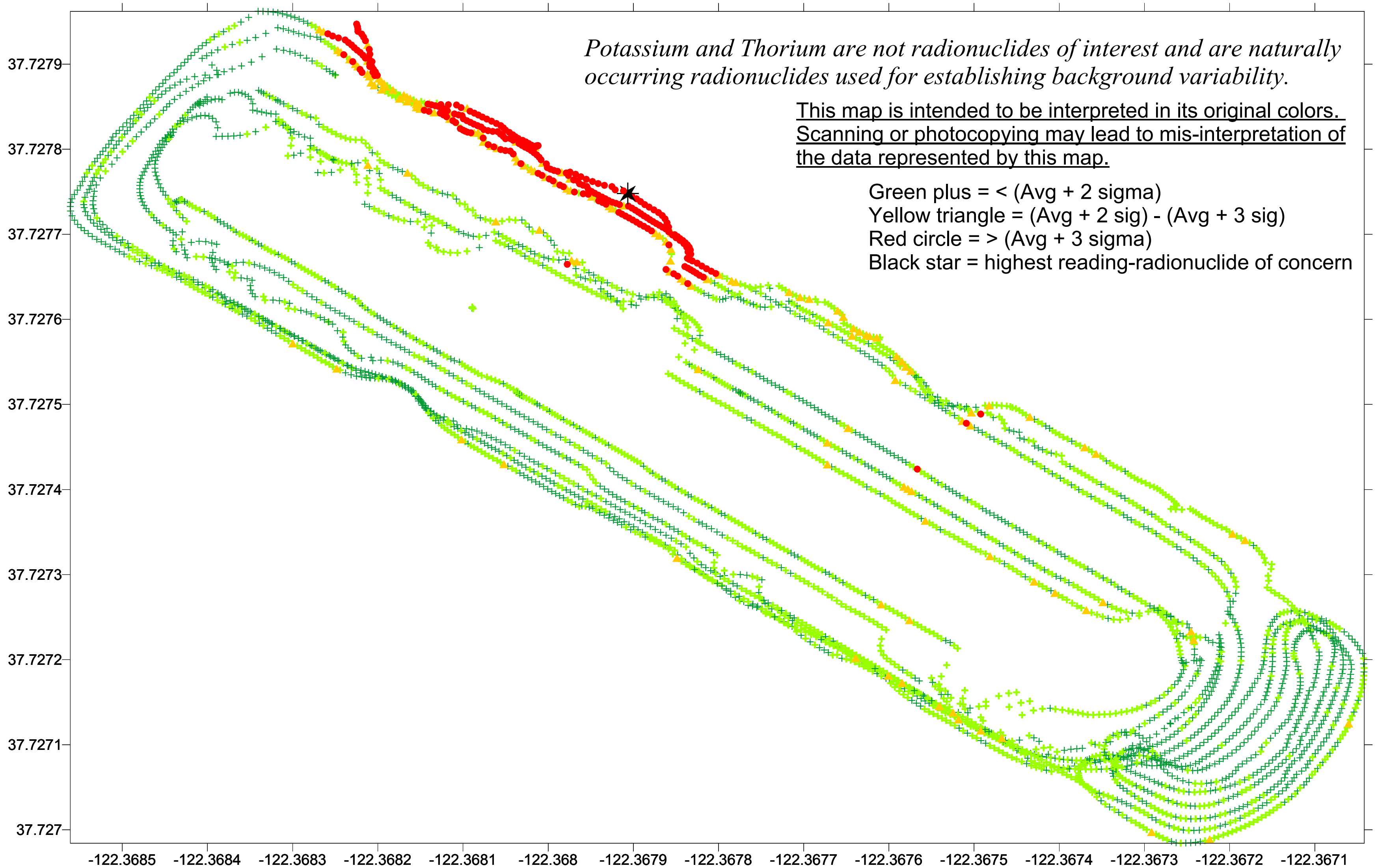
Ra-226 (609) [cps] 2-3 sig
93 to 105

Ra-226 (609) [cps] >3 sig
105 to 151
151 to 152

HP_IC_20180723_combined.xlsx

Background: Self

Cs-137



Cs-137 [cps] < 2 sig	Cs-137 [cps] 2-3 sig	Cs-137 [cps] > 3 sig
51 to 95	125 to 140	140 to 206
95 to 125		206 to 207

Number of data points collected: 1463

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3589	135	21.3	17.2	140	192
Std. Dev.	269	21.3	7.05	6.32	22.8	28.2
Median	3604	134	20.0	16.0	140	190
Shift (Avg. - Median)	-15	1.0	1.3	1.2	0.4	2.2
Shift/Std. Dev.	-6%	4%	18%	18%	2%	8%
Coeff. of Variation	7%	16%	33%	37%	16%	15%
Predicted CoV	1.7%	8.6%	21.7%	24.1%	8.4%	7.2%
Avg. +2 sigma	4126	178	35.4	29.8	186	249
Avg. +3 sigma	4395	199	42.5	36.1	209	277
Avg. + 4 sigma	4663	220	49.5	42.5	231	305
Avg. + 5 sigma	4932	242	56.6	48.8	254	333
Avg. + 6 sigma	5200	263	63.6	55.1	277	362
Min. Count	2687	70.0	4.0	2.0	76.0	116
Max. Count	4415	214	46.0	44.0	222	290
(Max-Min)/Std. Dev.	6.4	6.8	6.0	6.6	6.4	6.2

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	9.9	2.54	4.10
Std.Dev. Activity	0.74	0.839	0.664
Avg. +2 sigma	11.4	4.21	5.42
Avg. +3 sigma	12.1	5.05	6.09
Min. Activity	7.41	0.476	2.22
Max. Activity	12.2	5.48	6.48

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

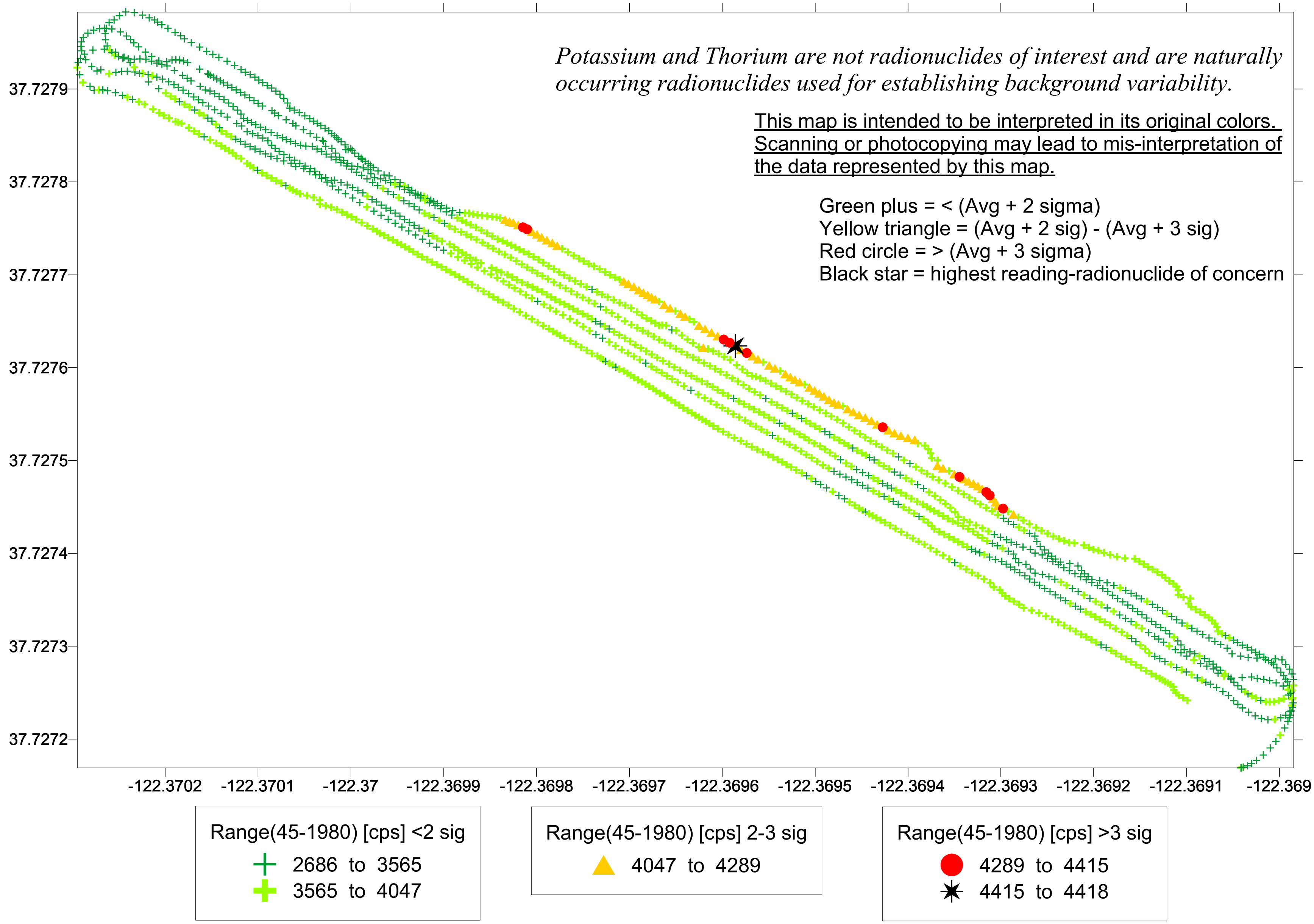
Background †† [cps]	<Avg+2 sigma of all data					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3565	134	20.7	16.6	138	190
Std. Dev.	241	20.2	6.43	5.62	20.5	25.9
Avg + 2 sigma	4047	174	33.6	27.8	179	242
Avg + 3 sigma	4289	194	40.0	33.4	200	268
Avg + 4 sigma	4530	215	46.4	39.0	220	294
Avg + 5 sigma	4772	235	52.9	44.7	241	320

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_JA_20180717_01.xlsx

Range(45-1980)

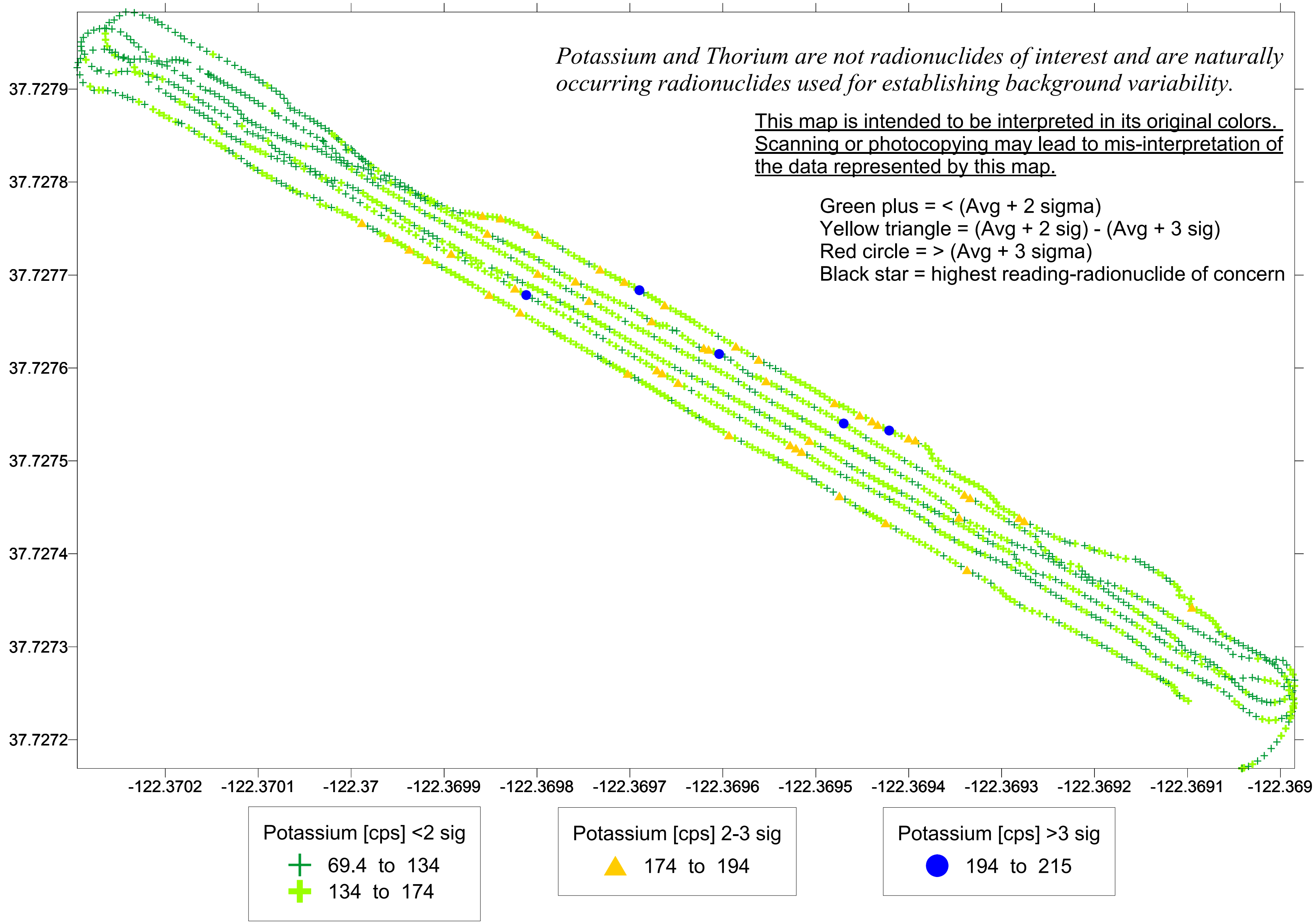
Background: Self



HP_JA_20180717_01.xlsx

Potassium

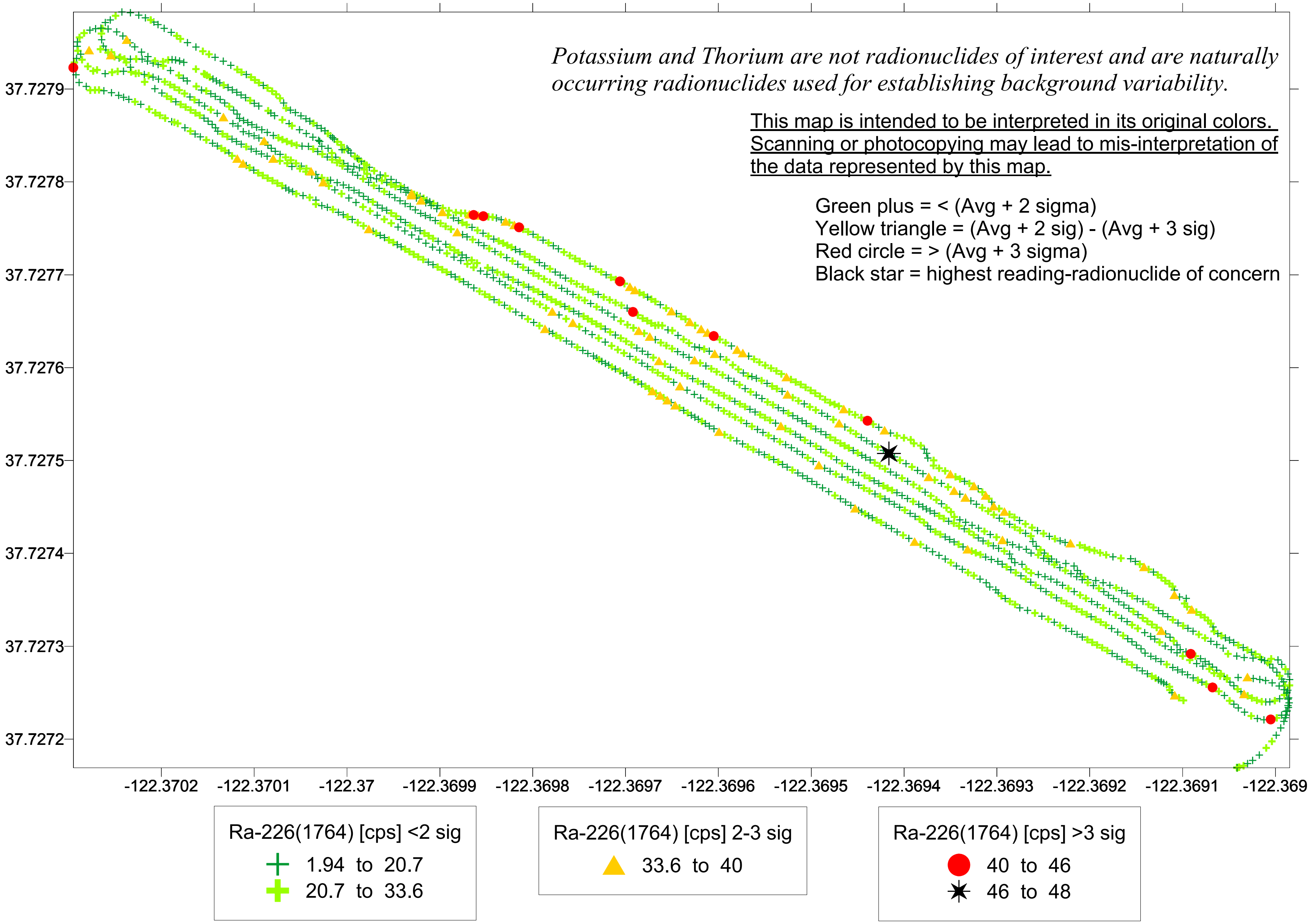
Background: Self



HP_JA_20180717_01.xlsx

Ra-226(1764)

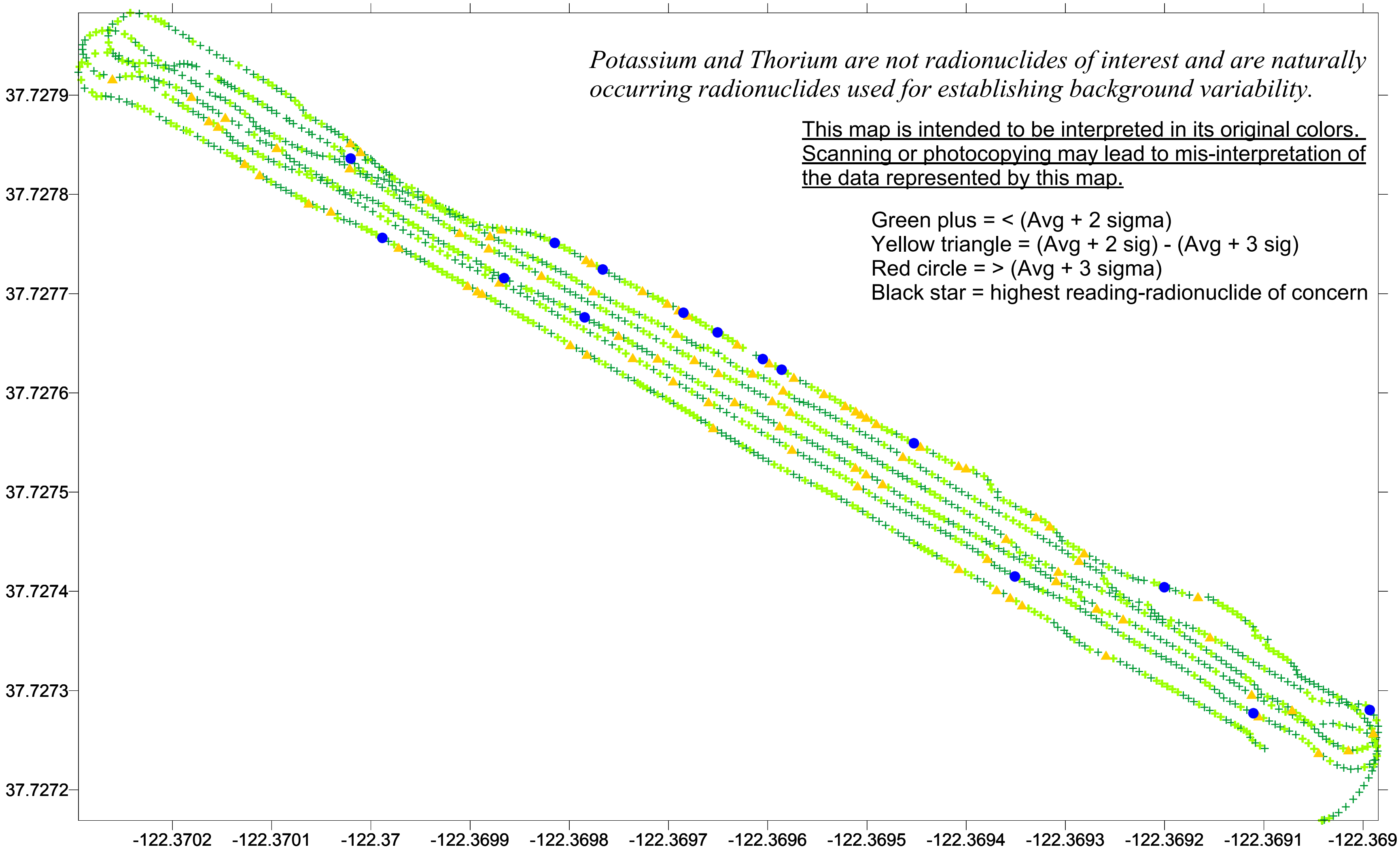
Background: Self



HP_JA_20180717_01.xlsx

Thorium

Background: Self



Thorium [cps] <2 sig
1.94 to 16.6
16.6 to 27.8

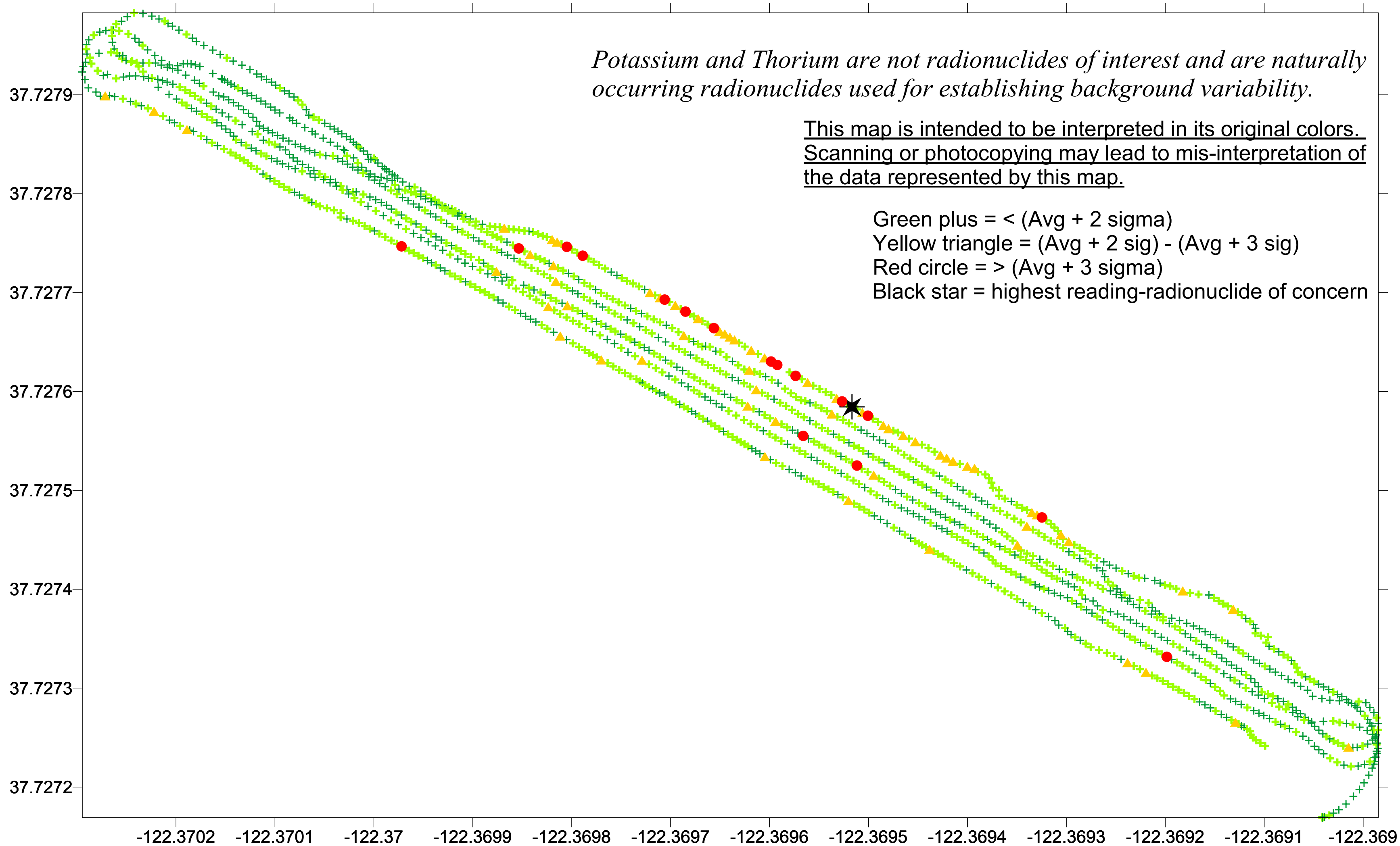
Thorium [cps] 2-3 sig
27.8 to 33.4

Thorium [cps] >3 sig
33.4 to 44

HP_JA_20180717_01.xlsx

Ra-226 (609)

Background: Self



Ra-226 (609) [cps] <2 sig
75.4 to 138
138 to 179

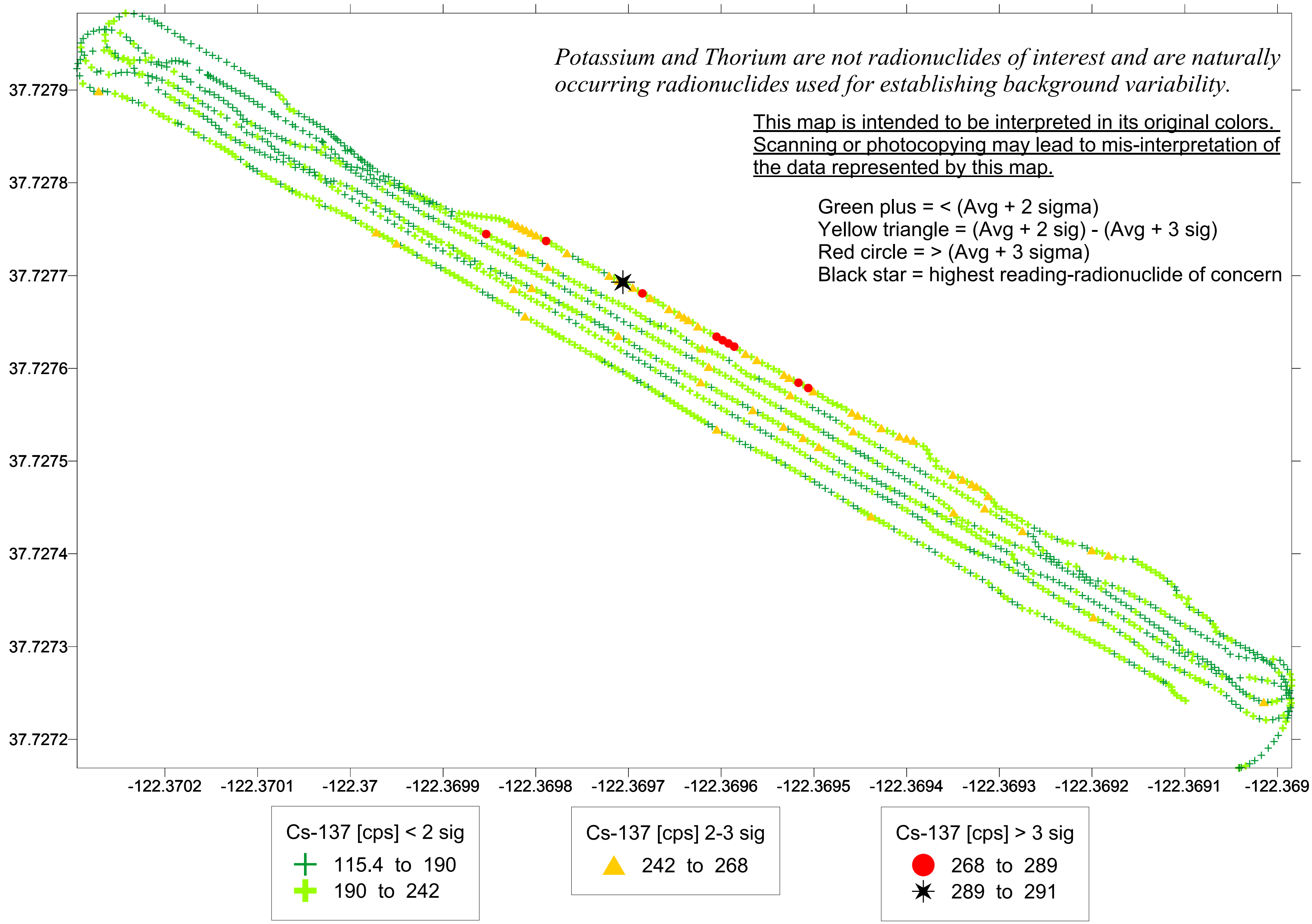
Ra-226 (609) [cps] 2-3 sig
179 to 200

Ra-226 (609) [cps] >3 sig
200 to 218
221 to 223

HP_JA_20180717_01.xlsx

Background: Self

Cs-137



Number of data points collected: 2021

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3534	142	24.0	19.0	153	205
Std. Dev.	313	22.0	7.15	6.04	23.9	29.5
Median	3619	144	24.0	19.0	155	209
Shift (Avg. - Median)	-86	-2	-0.01	-0.07	-3	-4
Shift/Std. Dev.	-27%	-9%	0%	-1%	-11%	-13%
Coeff. of Variation	9%	15%	30%	32%	16%	14%
Predicted CoV	1.7%	8.4%	20.4%	23.0%	8.1%	7.0%
Avg. +2 sigma	4160	186	38.3	31.0	201	264
Avg. +3 sigma	4474	209	45.5	37.1	224	293
Avg. + 4 sigma	4787	231	52.6	43.1	248	323
Avg. + 5 sigma	5101	253	59.8	49.2	272	352
Avg. + 6 sigma	5414	275	66.9	55.2	296	382
Min. Count	2383	64.1	4.0	2.0	64.1	100
Max. Count	3951	198	53.1	38.1	214	273
(Max-Min)/Std. Dev.	5.0	6.1	6.9	6.0	6.3	5.8

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	9.7	2.86	4.46
Std.Dev. Activity	0.86	0.851	0.696
Avg. +2 sigma	11.5	4.56	5.85
Avg. +3 sigma	12.3	5.41	6.55
Min. Activity	6.57	0.477	1.87
Max. Activity	10.9	6.32	6.25

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background †† [cps]	**<Avg+2 sigma of all data**					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3534	142	23.6	18.5	153	204
Std. Dev.	313	21.7	6.61	5.48	23.5	29.3
Avg + 2 sigma	4160	185	36.8	29.4	200	263
Avg + 3 sigma	4474	207	43.4	34.9	223	292
Avg + 4 sigma	4787	229	50.0	40.4	247	322
Avg + 5 sigma	5101	250	56.6	45.8	270	351

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_KA_20180801_combined.xlsx

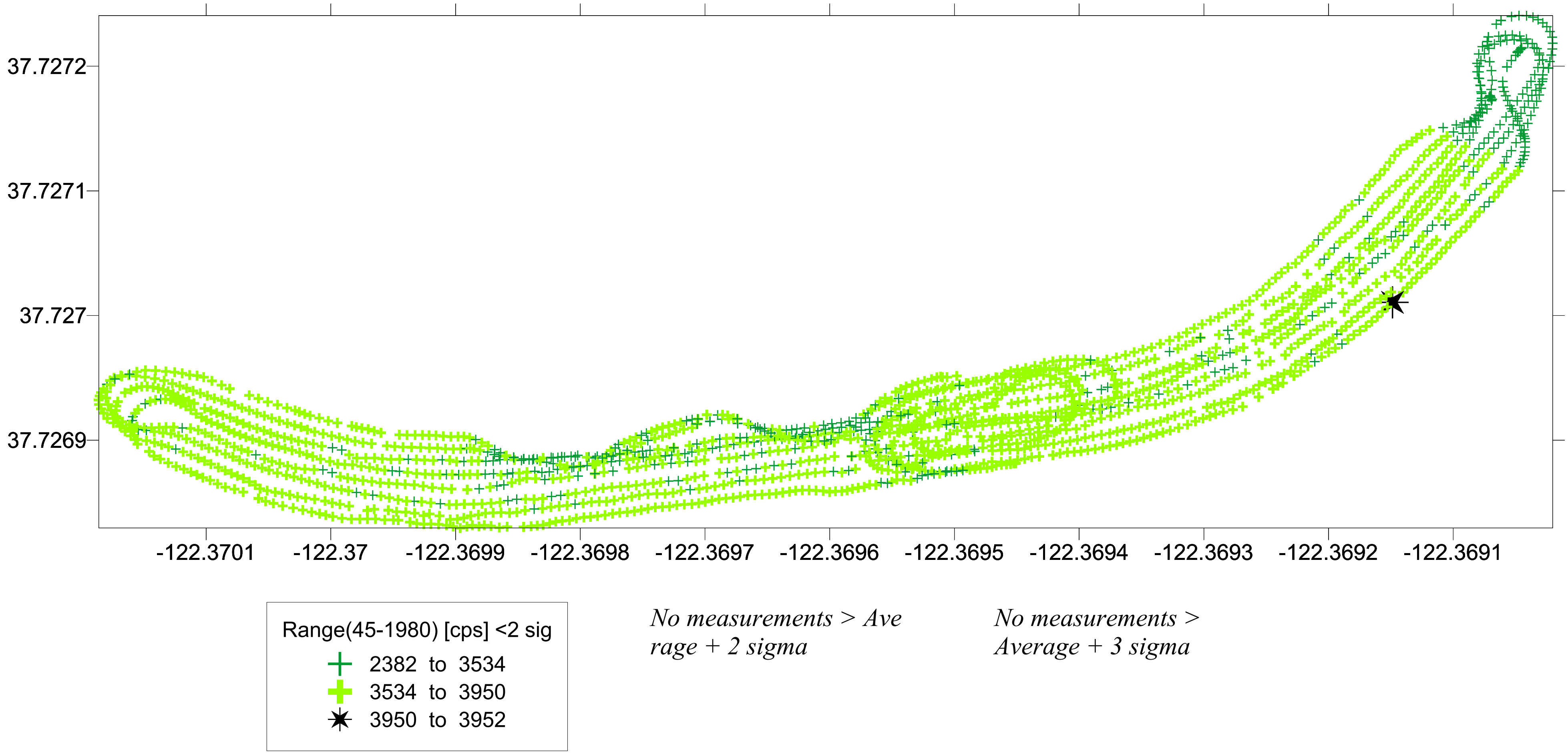
Background: Self

Range(45-1980)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



No measurements > Average + 2 sigma

No measurements > Average + 3 sigma

HP_KA_20180801_combined.xlsx

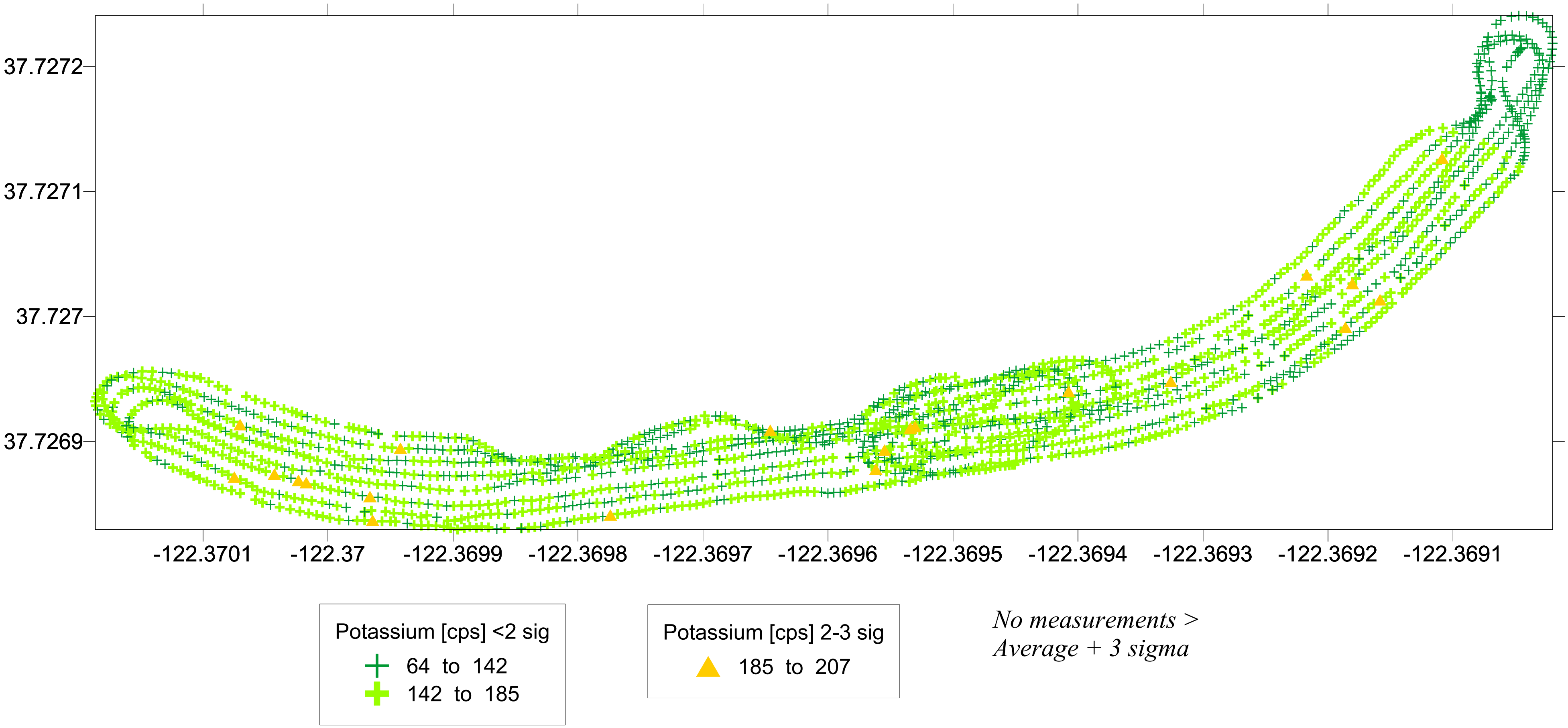
Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



No measurements > Average + 3 sigma

HP_KA_20180801_combined.xlsx

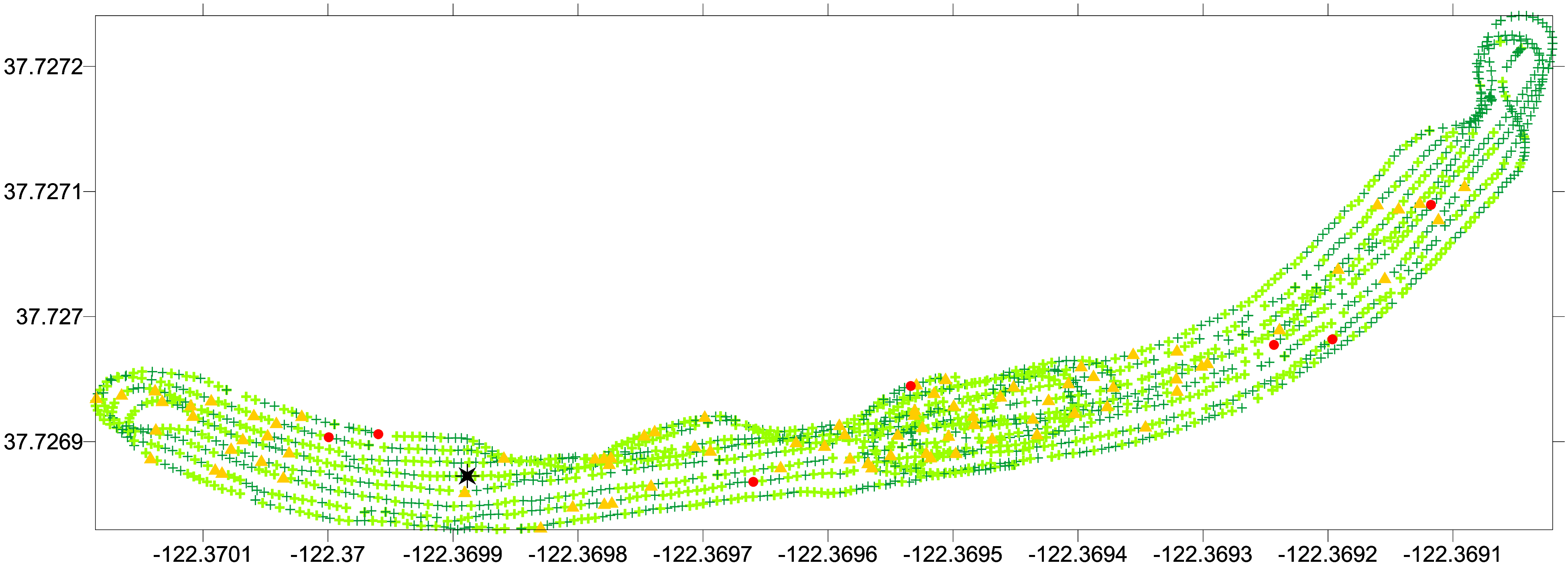
Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226(1764) [cps] <2 sig
3 to 23.6
23.6 to 36.8

Ra-226(1764) [cps] 2-3 sig
36.8 to 43.4

Ra-226(1764) [cps] >3 sig
43.4 to 52
52 to 54

HP_KA_20180801_combined.xlsx

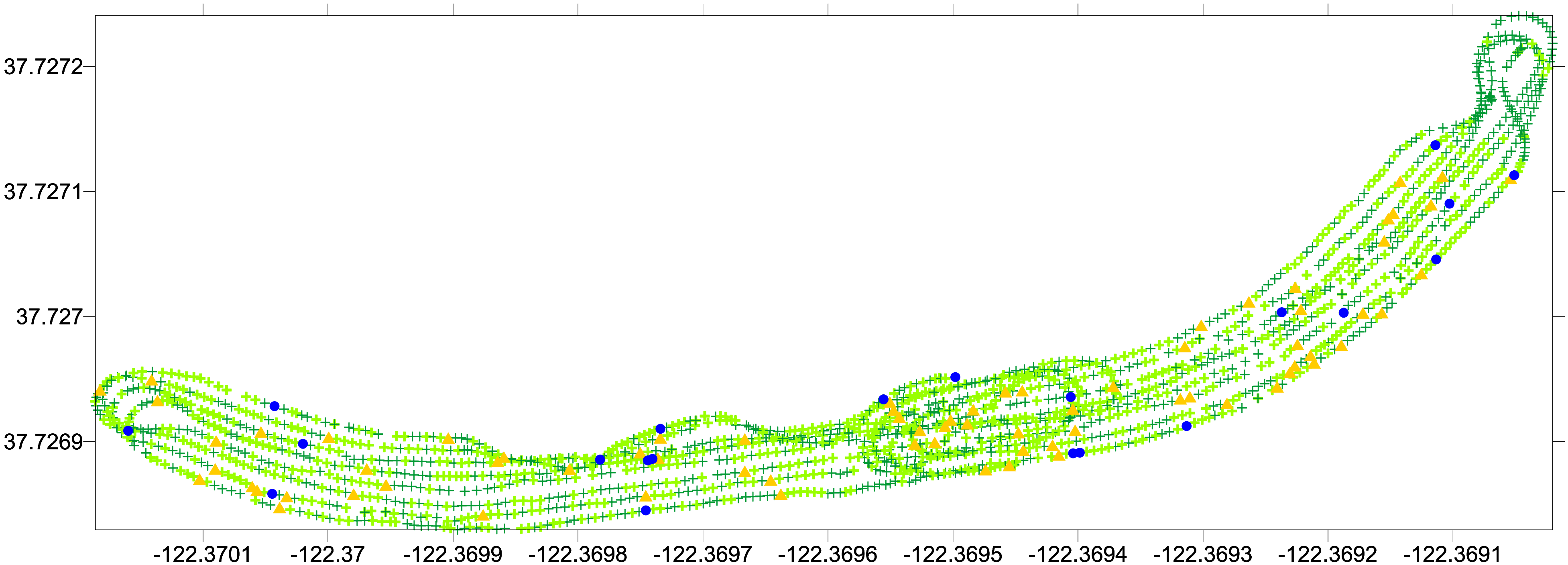
Background: Self

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Thorium

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Thorium [cps] <2 sig
1 to 18.5
18.5 to 29.4

Thorium [cps] 2-3 sig
29.4 to 34.9

No measurements > Average + 3 sigma

HP_KA_20180801_combined.xlsx

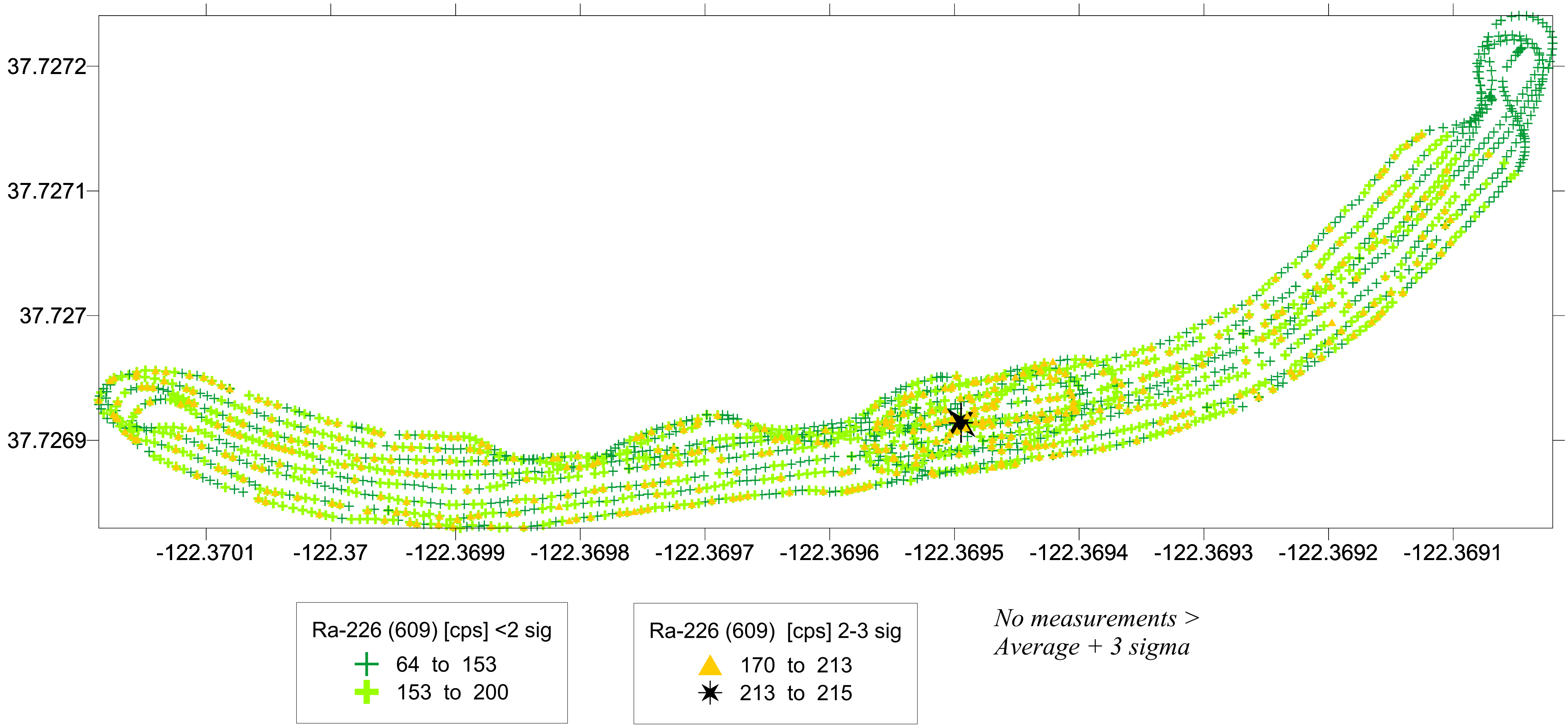
Background: Self

Ra-226 (609)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



No measurements > Average + 3 sigma

HP_KA_20180801_combined.xlsx

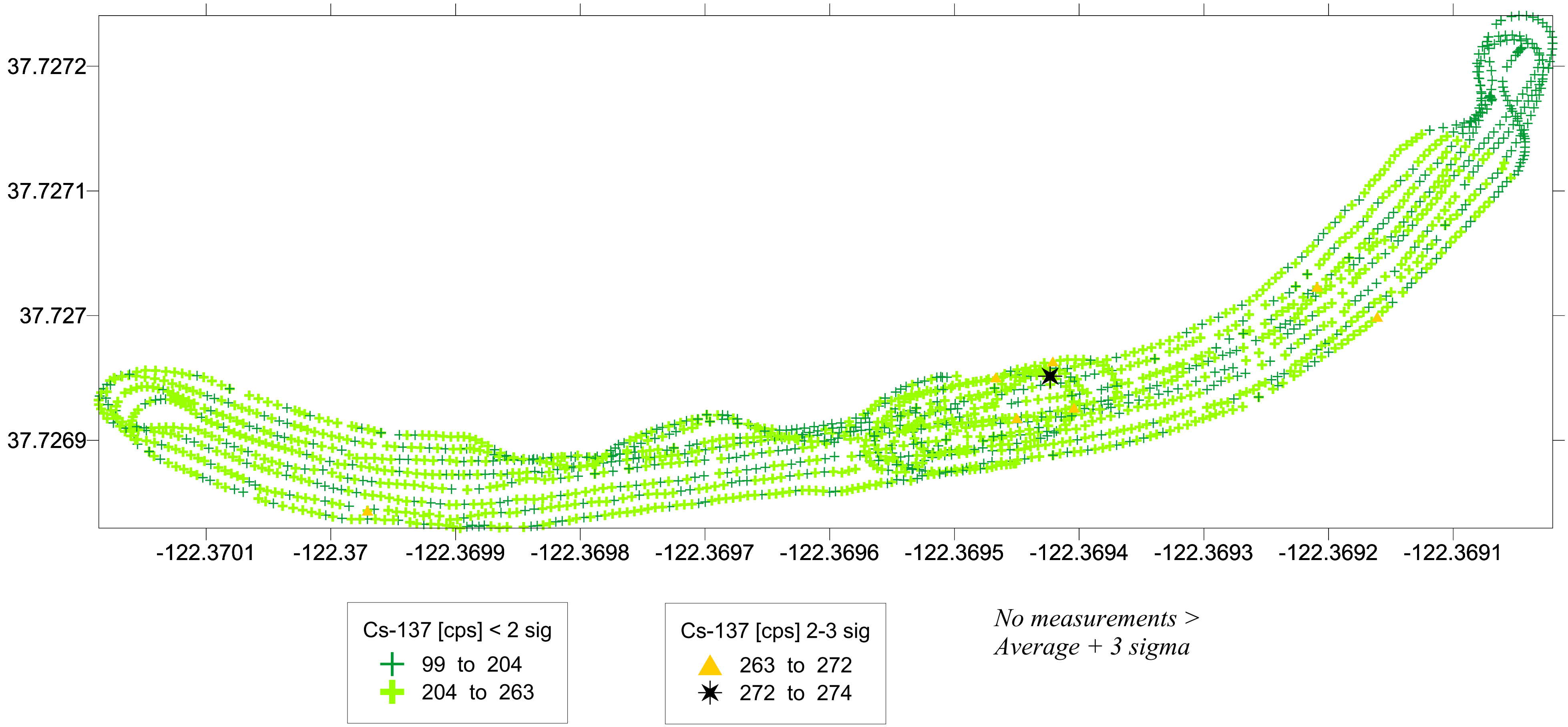
Background: Self

Cs-137

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.



No measurements > Average + 3 sigma

Number of data points collected: 2032

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3235	127	21.7	17.1	138	186
Std. Dev.	548	33.7	7.87	6.35	34.2	43.5
Median	3553	134	22.0	16.0	146	199
Shift (Avg. - Median)	-318	-7	-0.4	1.1	-8.0	-12.9
Shift/Std. Dev.	-58%	-21%	-5%	17%	-23%	-30%
Coeff. of Variation	17%	27%	36%	37%	25%	23%
Predicted CoV	1.8%	8.9%	21.5%	24.2%	8.5%	7.3%
Avg. +2 sigma	4331	195	37.4	29.8	207	274
Avg. +3 sigma	4879	228	45.3	36.1	241	317
Avg. + 4 sigma	5426	262	53.1	42.5	275	361
Avg. + 5 sigma	5974	296	61.0	48.9	310	404
Avg. + 6 sigma	6522	329	68.9	55.2	344	448
Min. Count	2216	47.1	3.0	1.0	51.1	75.2
Max. Count	4330	297	49.1	39.1	217	283
(Max-Min)/Std. Dev.	3.9	7.4	5.9	6.0	4.9	4.8

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	8.9	2.58	4.03
Std.Dev. Activity	1.51	0.937	0.999
Avg. +2 sigma	11.9	4.45	6.03
Avg. +3 sigma	13.5	5.39	7.03
Min. Activity	6.11	0.358	1.49
Max. Activity	11.9	5.84	6.34

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

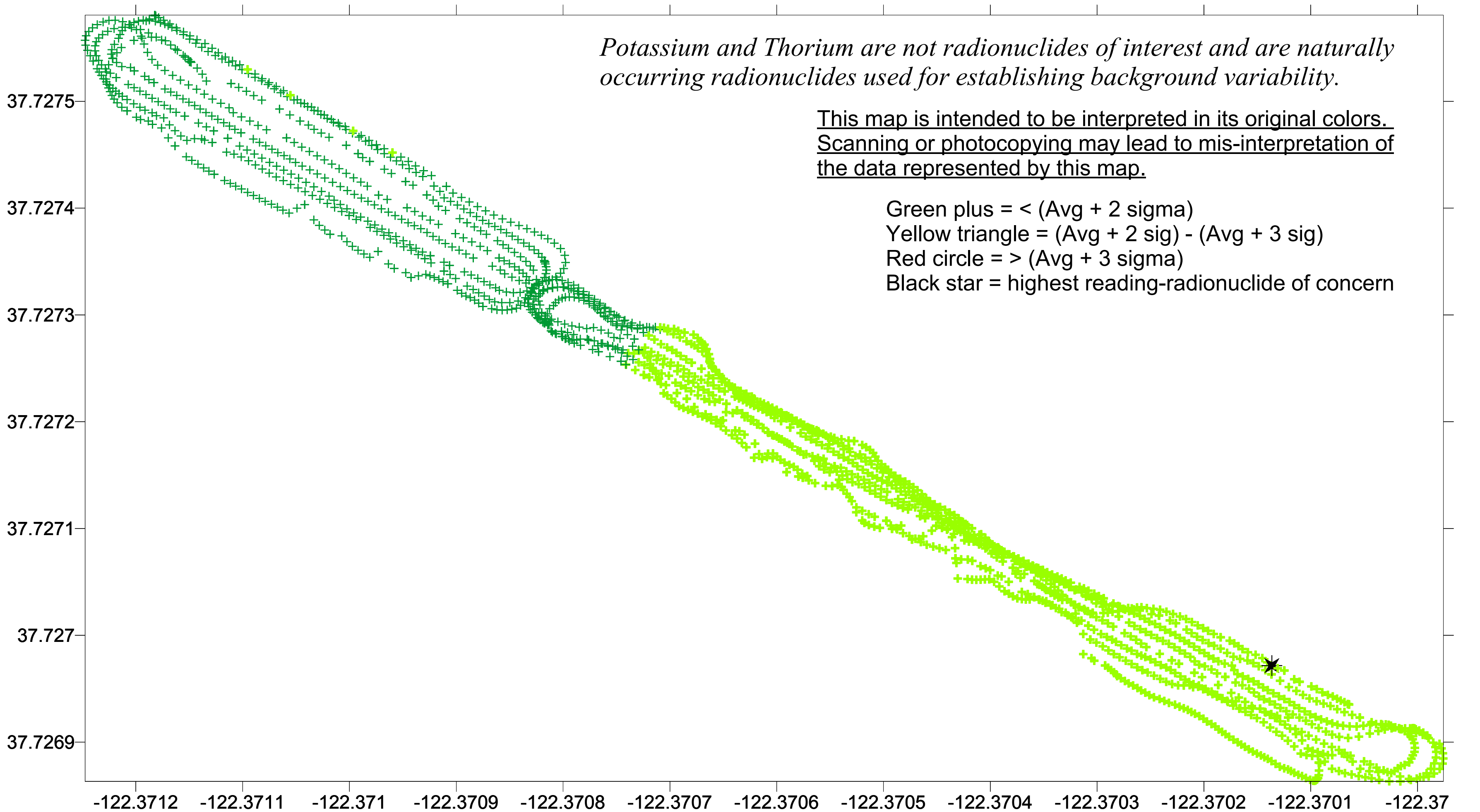
Background ††	<Avg+2 sigma of all data					
[cps]	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	3235	126	21.2	16.6	138	186
Std. Dev.	548	32.9	7.35	5.80	34.1	43.2
Avg + 2 sigma	4331	192	35.9	28.2	206	273
Avg + 3 sigma	4879	225	43.3	34.0	240	316
Avg + 4 sigma	5426	258	50.6	39.8	274	359
Avg + 5 sigma	5974	291	58.0	45.6	309	402

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_LSA_20180801_combined.xlsx

Range(45-1980)

Background: Self



Range(45-1980) [cps] <2 sig

- 2215 to 3235
- 3235 to 4330
- 4330 to 4331

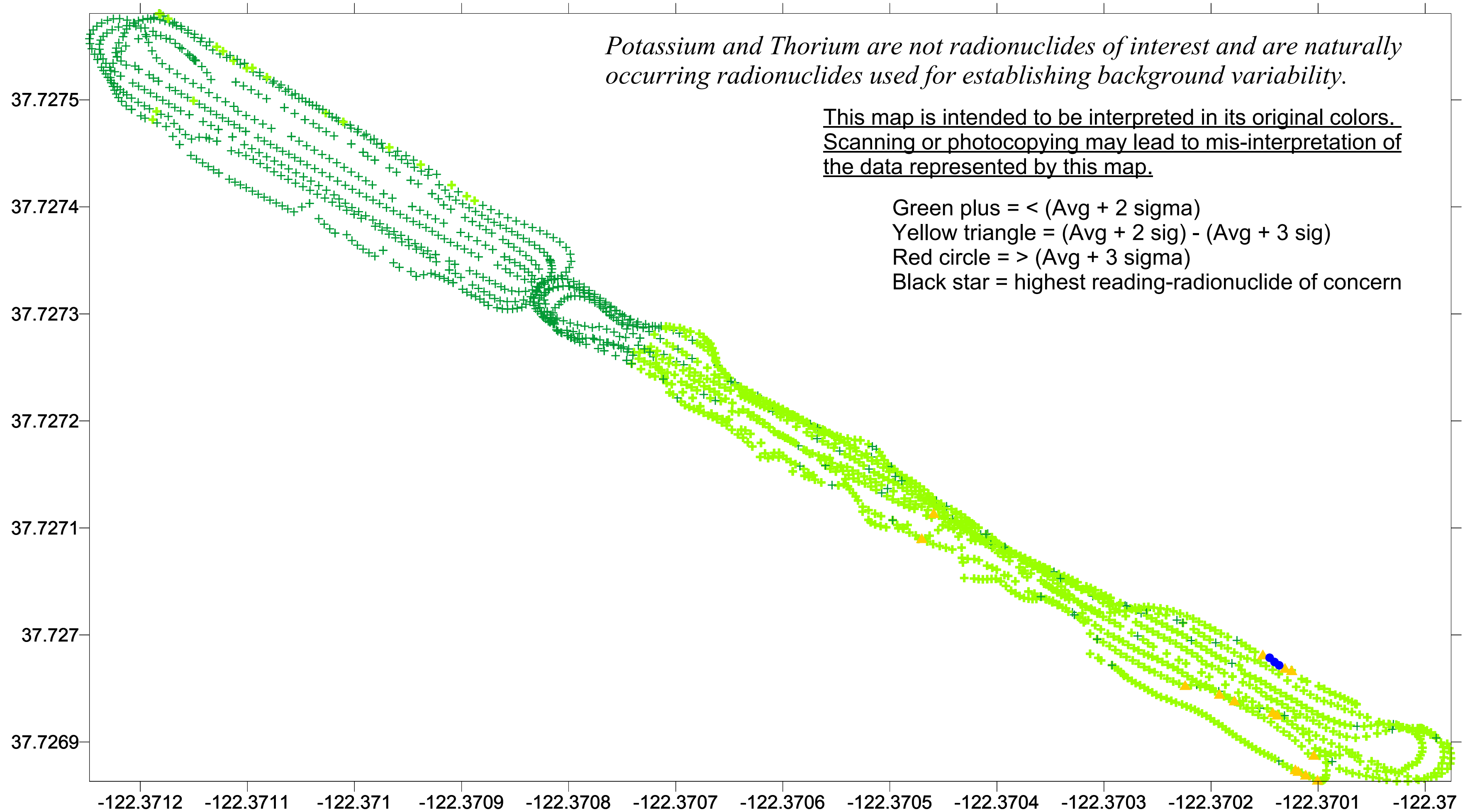
No measurements > Average + 2 sigma

No measurements > Average + 3 sigma

HP_LSA_20180801_combined.xlsx

Background: Self

Potassium



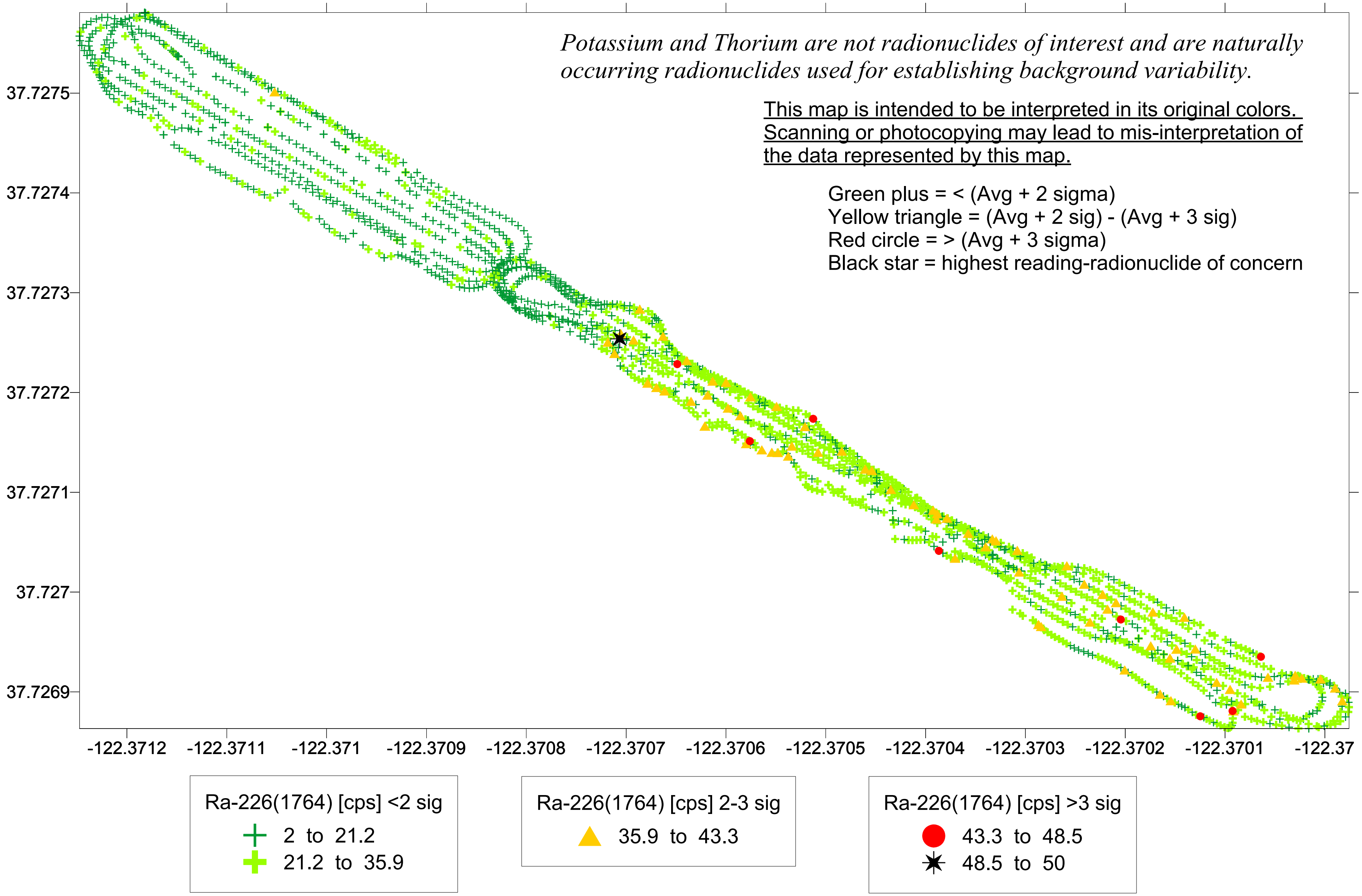
Potassium [cps] <2 sig
47 to 126
126 to 192

Potassium [cps] 2-3 sig
192 to 225

Potassium [cps] >3 sig
225 to 297

HP_LSA_20180801_combined.xlsx Ra-226(1764)

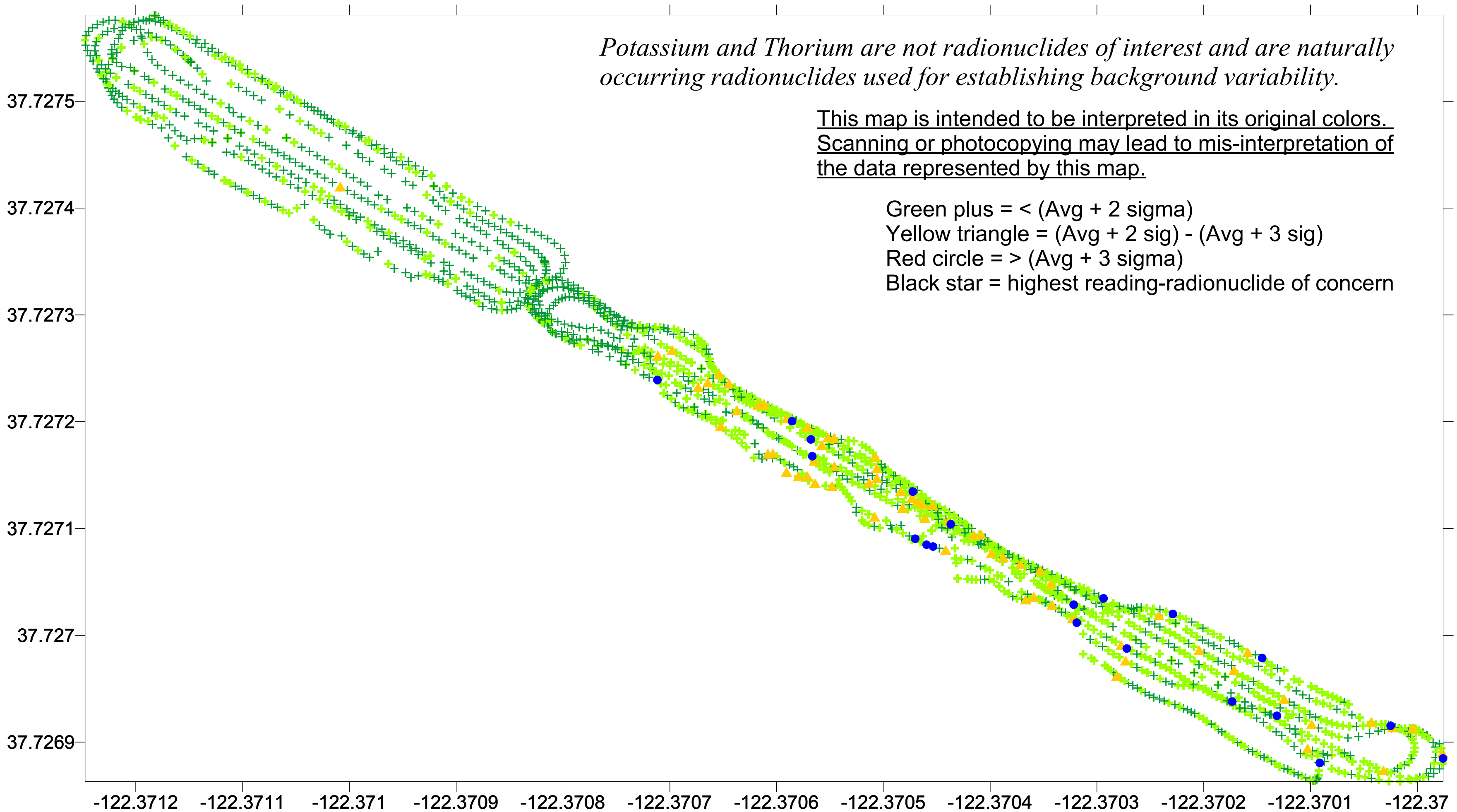
Background: Self



HP_LSA_20180801_combined.xlsx

Background: Self

Thorium



Thorium [cps] <2 sig
0.8 to 16.6
16.6 to 28.2

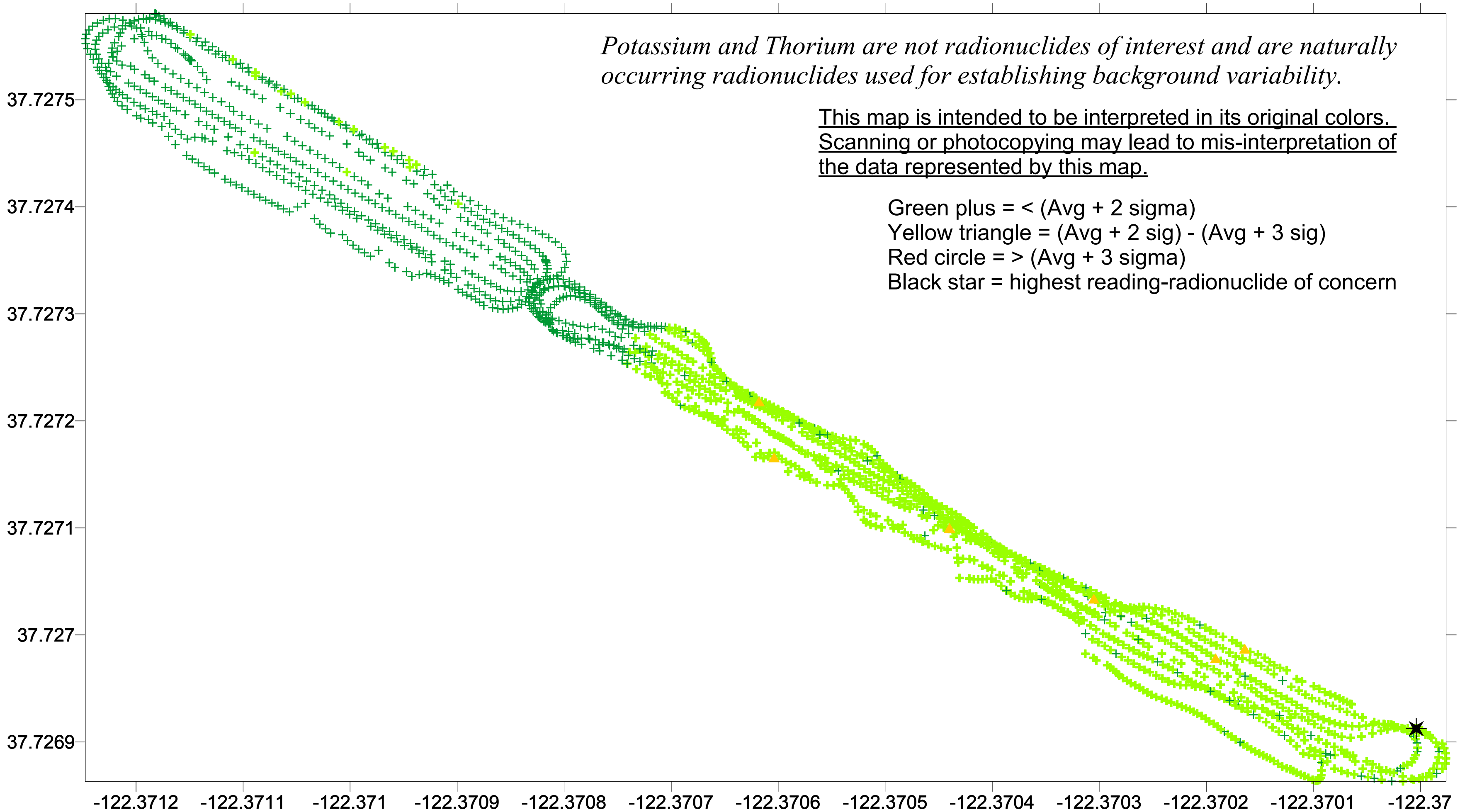
Thorium [cps] 2-3 sig
28.2 to 34

Thorium [cps] >3 sig
34 to 40

HP_LSA_20180801_combined.xlsx

Ra-226 (609)

Background: Self



Ra-226 (609) [cps] <2 sig	
+	51 to 138
+	138 to 206

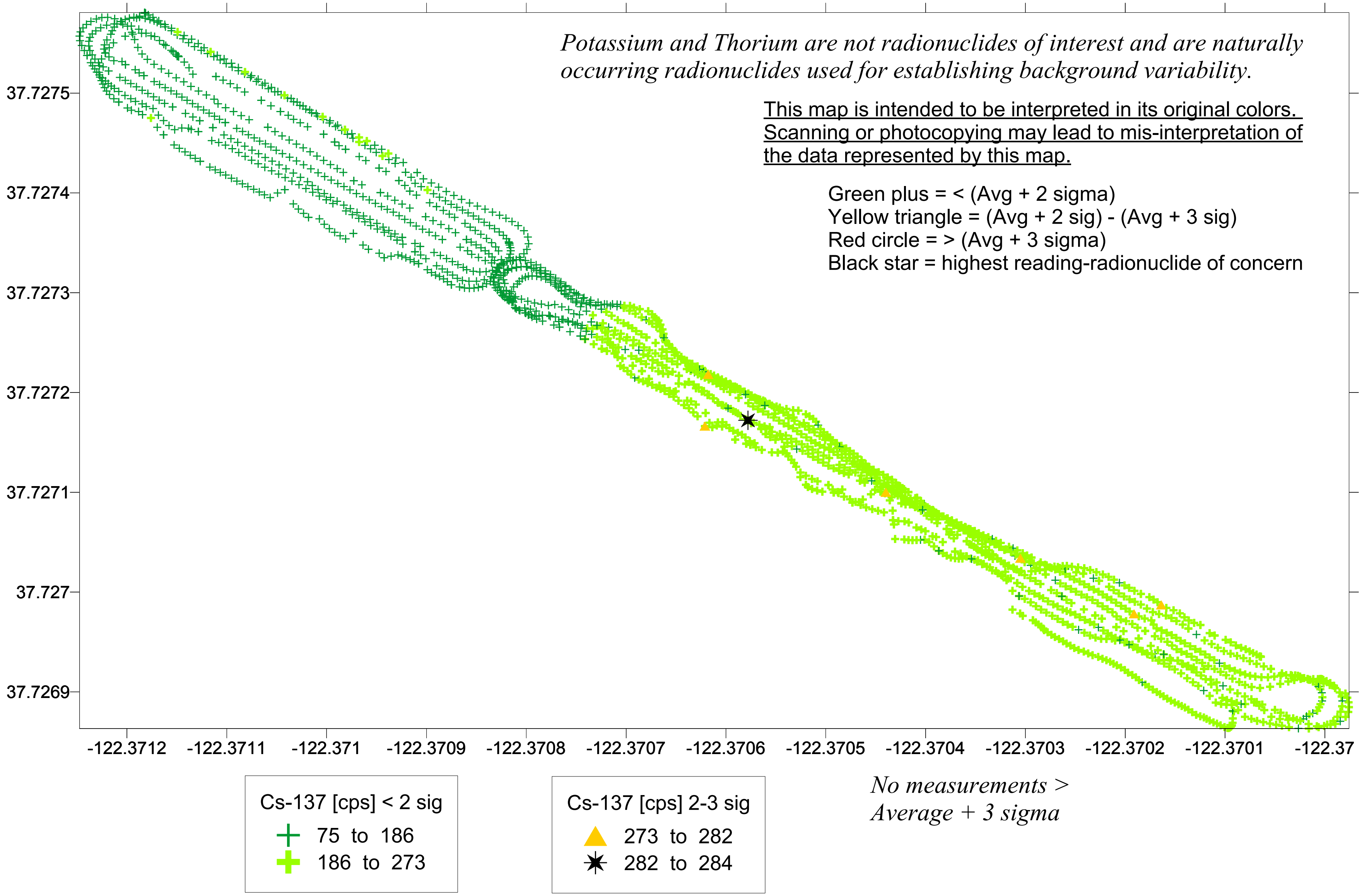
Ra-226 (609) [cps] 2-3 sig	
▲	206 to 216
✱	216 to 218

No measurements > Average + 3 sigma

HP_LSA_20180801_combined.xlsx

Cs-137

Background: Self



Number of data points collected: 3757

Table A: Statistical Analysis of Survey Unit Data

All Data [cps] *	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	2034	78.5	10.0	9.62	74.7	103
Std. Dev.	548	24.8	4.24	4.42	23.6	31.8
Median	1969	75	10.0	9.0	72	100
Shift (Avg. - Median)	64	3	-0.035	0.617	2.67	3.24
Shift/Std. Dev.	12%	14%	-1%	14%	11%	10%
Coeff. of Variation	26.9%	32%	42.6%	46.0%	31.6%	30.7%
Predicted CoV	2.22%	11.3%	31.7%	32.2%	11.6%	9.84%
Avg. +2 sigma	3130	128	18.5	18.5	122	167
Avg. +3 sigma	3678	153	22.7	22.9	146	199
Avg. + 4 sigma	4226	178	26.9	27.3	169	230
Avg. + 5 sigma	4774	203	31.2	31.7	193	262
Avg. + 6 sigma	5322	227	35.4	36.1	216	294
Min. Count	1174	31.0	1.0	1.0	21.0	37.0
Max. Count	3604	175	32.01	30.01	158	209
(Max-Min)/Std. Dev.	4.4	5.8	7.3	6.6	5.8	5.4

* All Data" is "Raw Data" + data separated due to GPS acquisition error. All numbers are rounded.

Table B: RS 700 Technical Basis Document Calculations

Radium Activity†	Range(45-1980) [pCi/g]	Ra-226(1764) [pCi/g]	Ra-226(609) [pCi/g]
Eff. [(cps)$^{-1}$]	0.00276	0.119	0.0292
Avg. Activity	5.6	1.19	2.18
Std.Dev. Activity	1.51	0.505	0.689
Avg. +2 sigma	8.6	2.20	3.56
Avg. +3 sigma	10.1	2.70	4.25
Min. Activity	3.24	0.119	0.61
Max. Activity	9.9	3.81	4.61

† *Radium activity applies to dry soil matrix with neither rocks, nor vegetation. Survey unit data.*

Table C: Background Data

Background †† [cps]	RSI_Survey_20101105_1inchgravelparkinglot					
	Range(45-1980)	Potassium	Ra-226(1764)	Thorium	Ra-226(609)	Cs-137
Average	1961	75.1	9.53	9.07	71.7	99.3
Std. Dev.	474	20.7	3.65	3.65	20.1	27.3
Avg + 2 sigma	2909	116	16.8	16.4	112	154
Avg + 3 sigma	3383	137	20.5	20.0	132	181
Avg + 4 sigma	3858	158	24.1	23.7	152	208
Avg + 5 sigma	4332	179	27.8	27.3	172	236

†† *This summary of data from the background file specified in the blue box above is for comparison purposes. See the background analysis pages in the Background Analysis Appendix for details of this background analysis.*

HP_RS_20180724_combined.xlsx

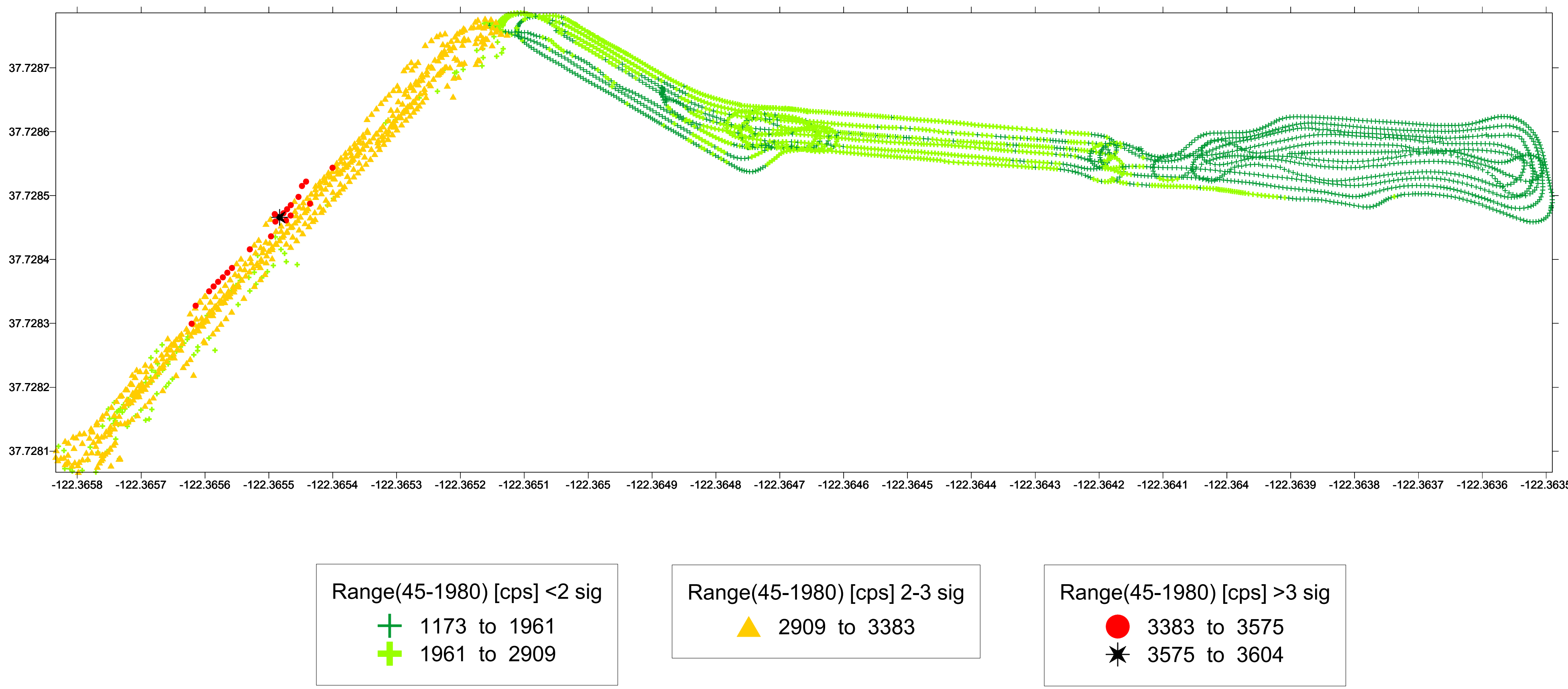
Background: Self

Range(45-1980)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



HP_RS_20180724_combined.xlsx

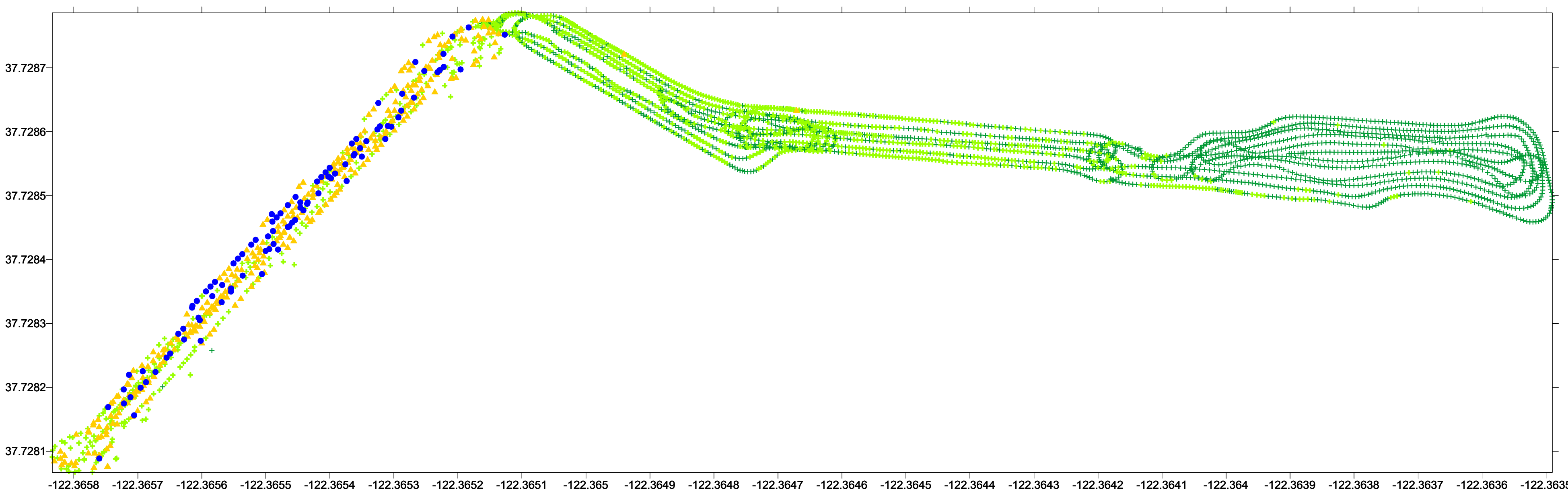
Background: Self

Potassium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Potassium [cps] <2 sig
30.8 to 75.1
75.1 to 116

Potassium [cps] 2-3 sig
116 to 137

Potassium [cps] >3 sig
137 to 176

HP_RS_20180724_combined.xlsx

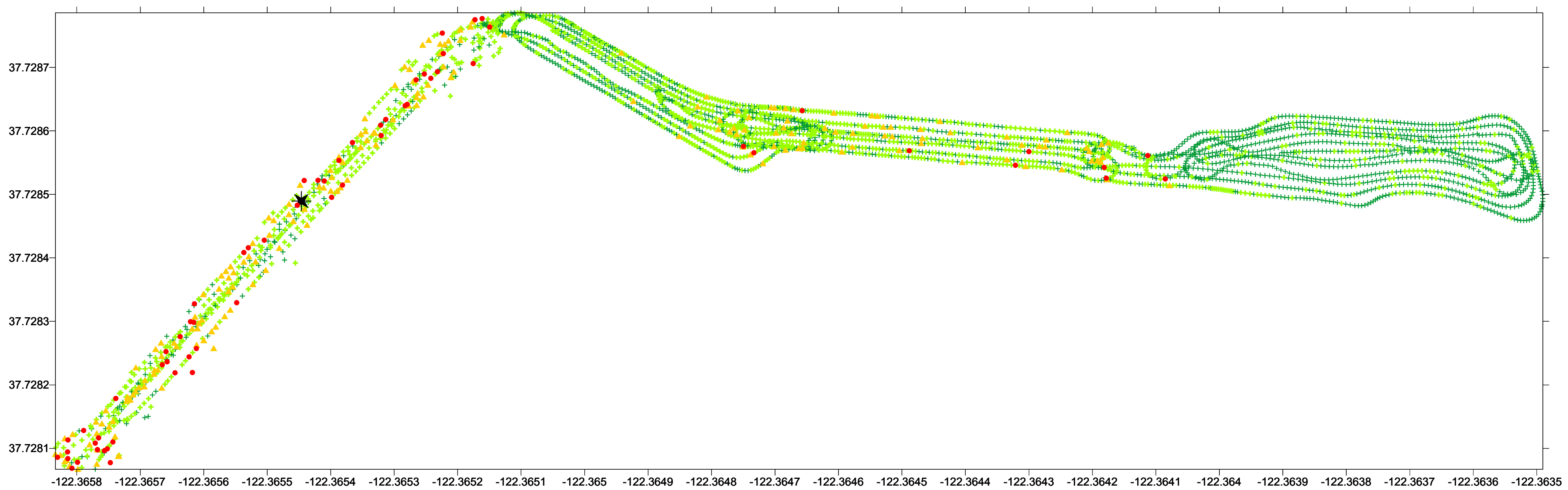
Background: Self

Ra-226(1764)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226(1764) [cps] <2 sig
0.8 to 9.53
9.53 to 16.8

Ra-226(1764) [cps] 2-3 sig
16.8 to 20.5

Ra-226(1764) [cps] >3 sig
20.5 to 32
32 to 35

HP_RS_20180724_combined.xlsx

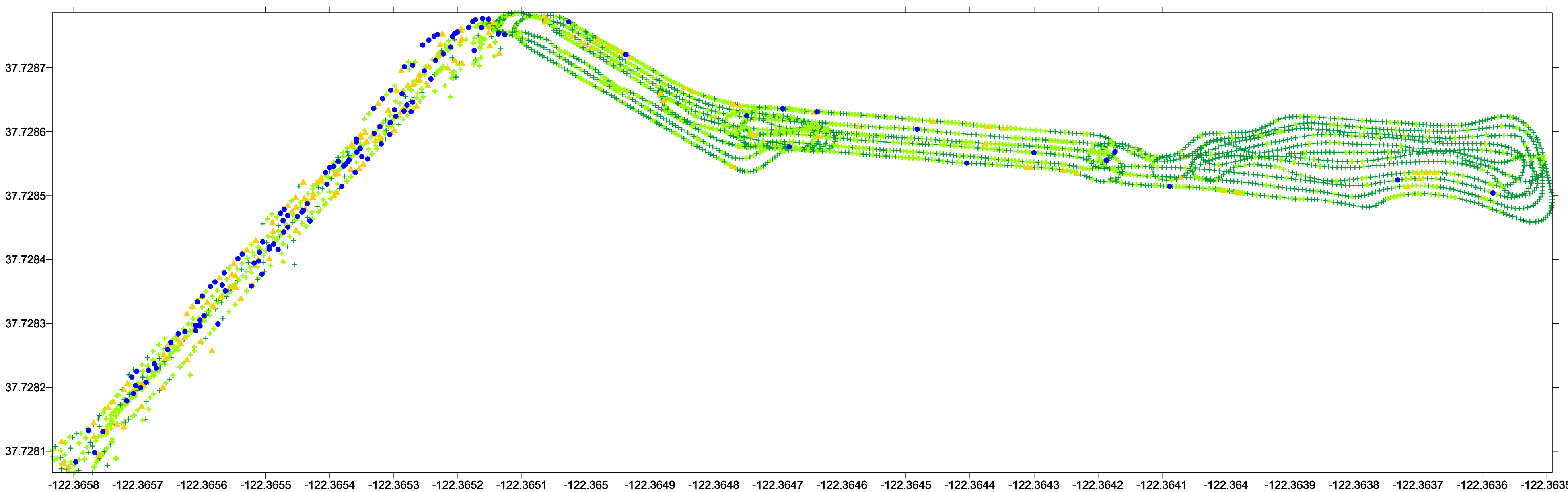
Background: Self

Thorium

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Thorium [cps] <2 sig
0.8 to 9.07
9.07 to 16.4

Thorium [cps] 2-3 sig
16.4 to 20

Thorium [cps] >3 sig
20 to 31

HP_RS_20180724_combined.xlsx

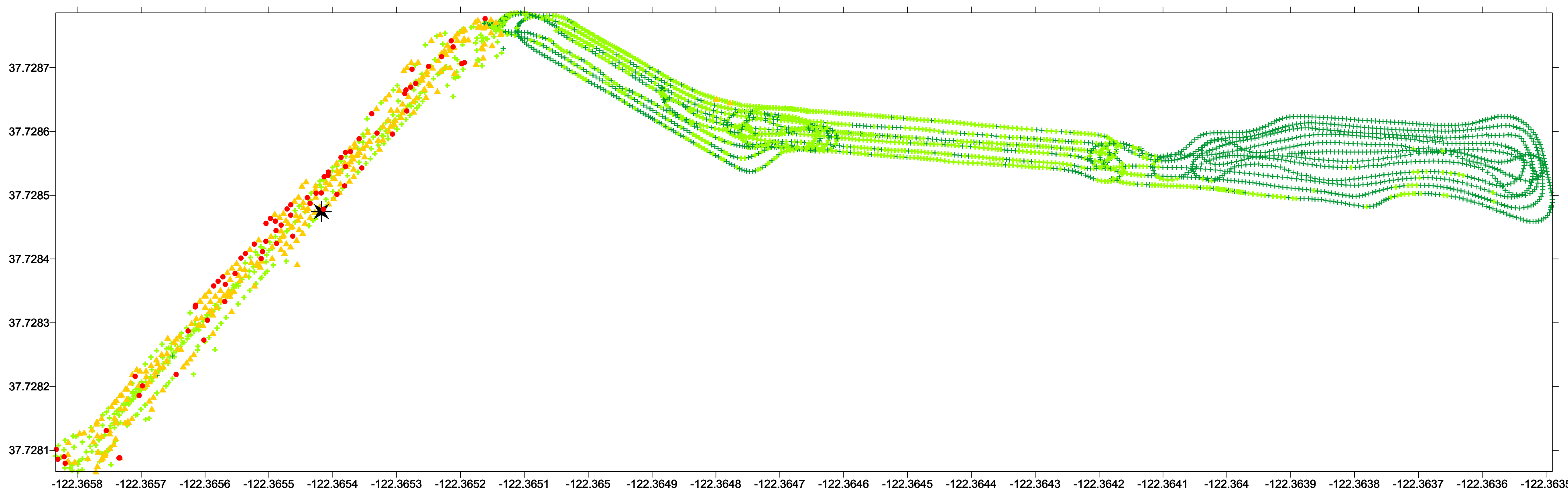
Background: Self

Ra-226 (609)

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



Ra-226 (609) [cps] <2 sig	Ra-226 (609) [cps] 2-3 sig	Ra-226 (609) [cps] >3 sig
21 to 71.7	112 to 132	132 to 158
71.7 to 112		158 to 160

HP_RS_20180724_combined.xlsx

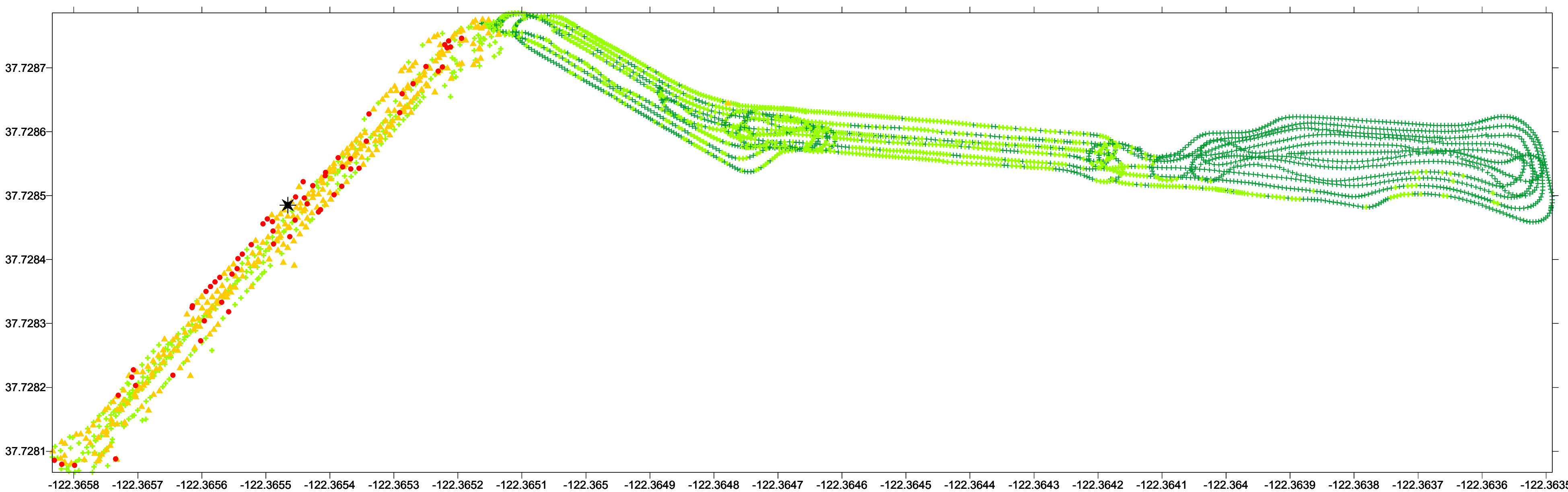
Background: Self

Cs-137

Potassium and Thorium are not radionuclides of interest and are naturally occurring radionuclides used for establishing background variability.

Green plus = < (Avg + 2 sigma)
Yellow triangle = (Avg + 2 sig) - (Avg + 3 sig)
Red circle = > (Avg + 3 sigma)
Black star = highest reading-radionuclide of concern

<u>This map is intended to be interpreted in its original colors. Scanning or photocopying may lead to mis-interpretation of the data represented by this map.</u>



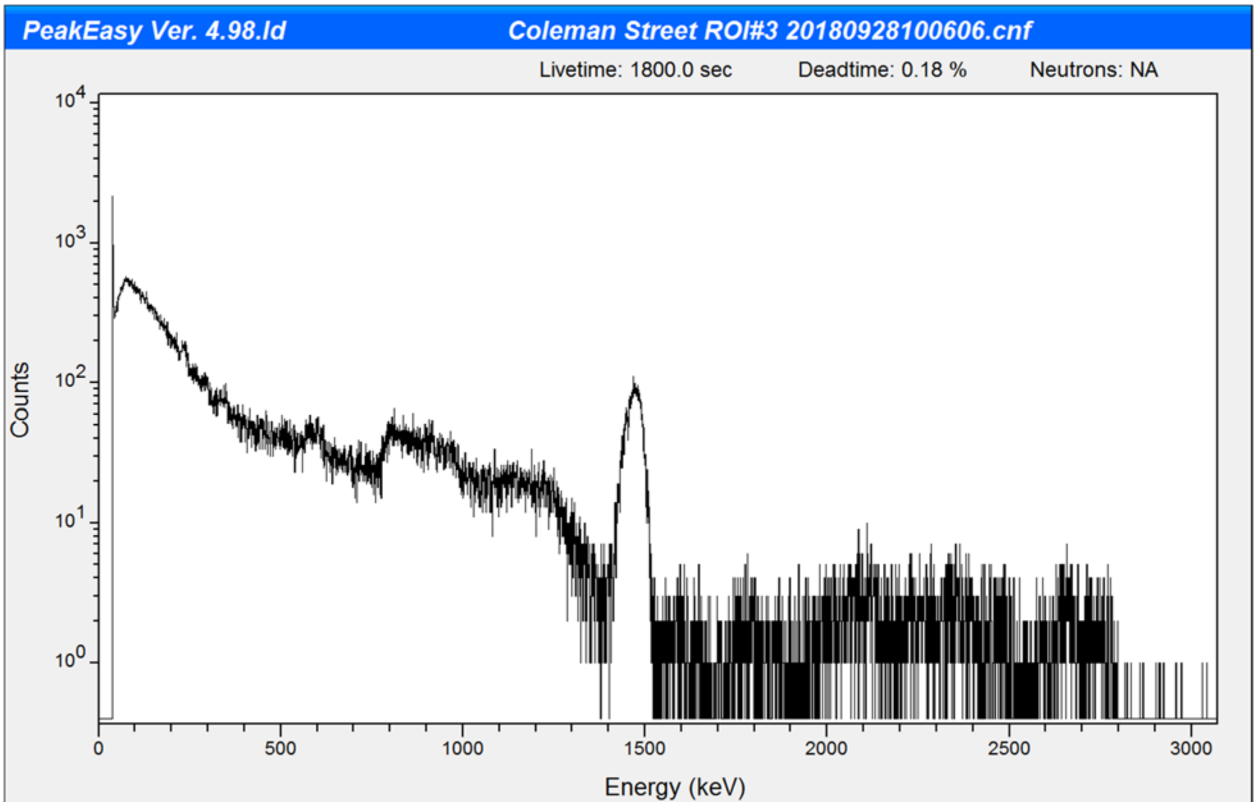
Cs-137 [cps] < 2 sig
36 to 99.3
99.3 to 154

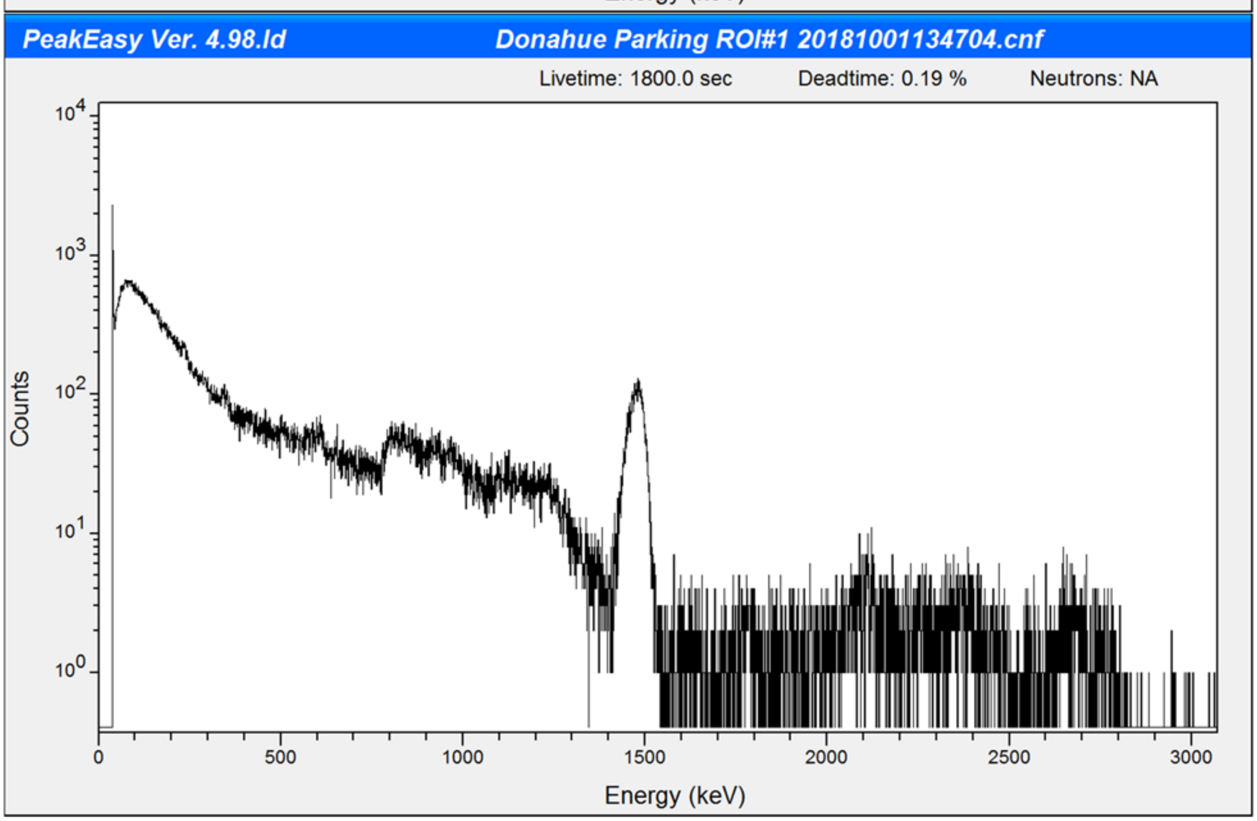
Cs-137 [cps] 2-3 sig
154 to 181

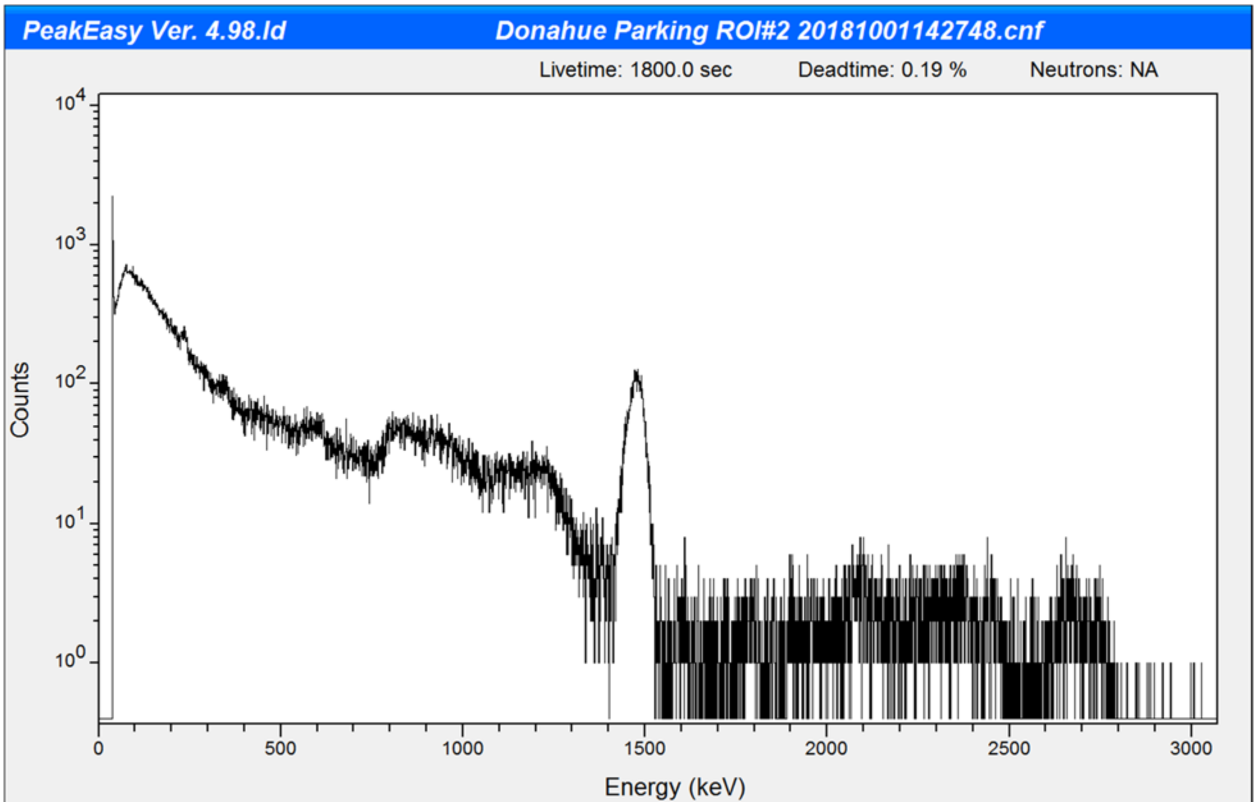
Cs-137 [cps] > 3 sig
181 to 209.1
209.1 to 211

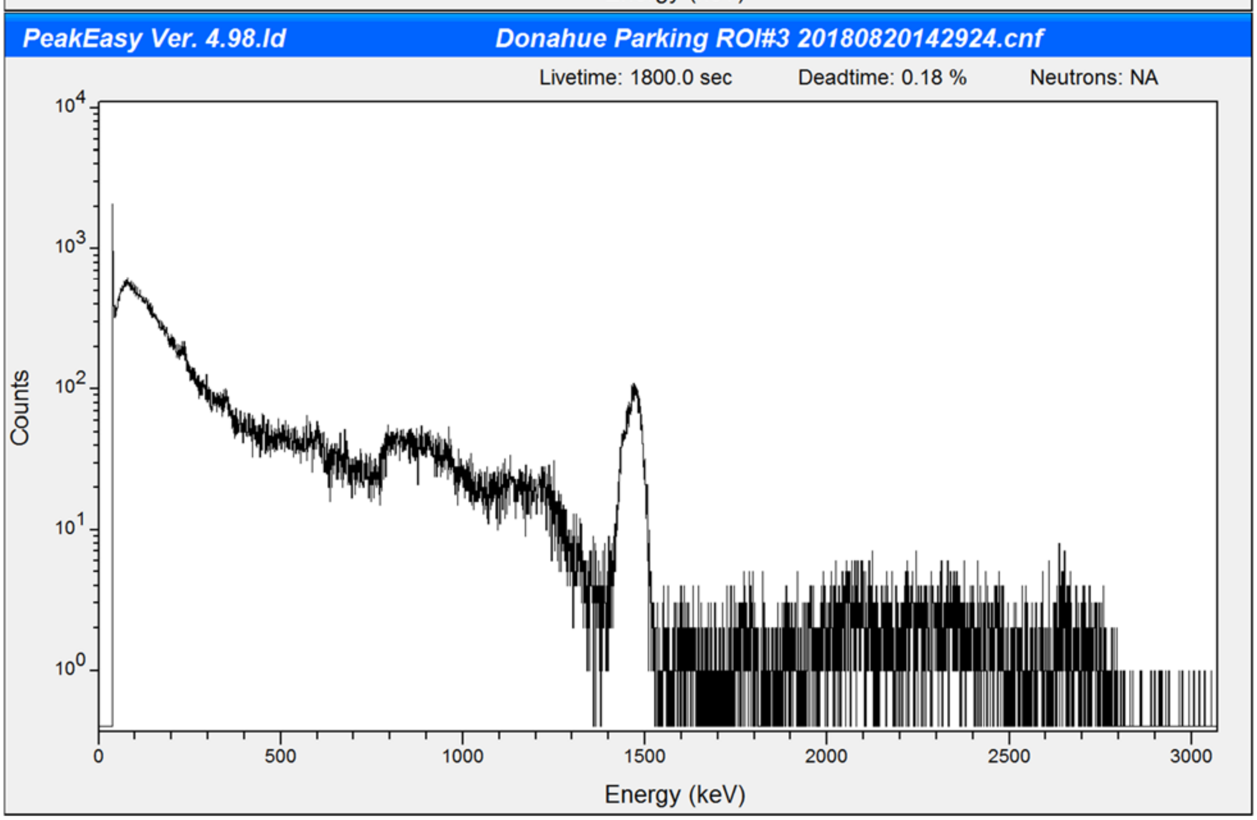
APPENDIX 7: TOWED ARRAY SURVEY – INSPECTOR 1000 SPECTRA

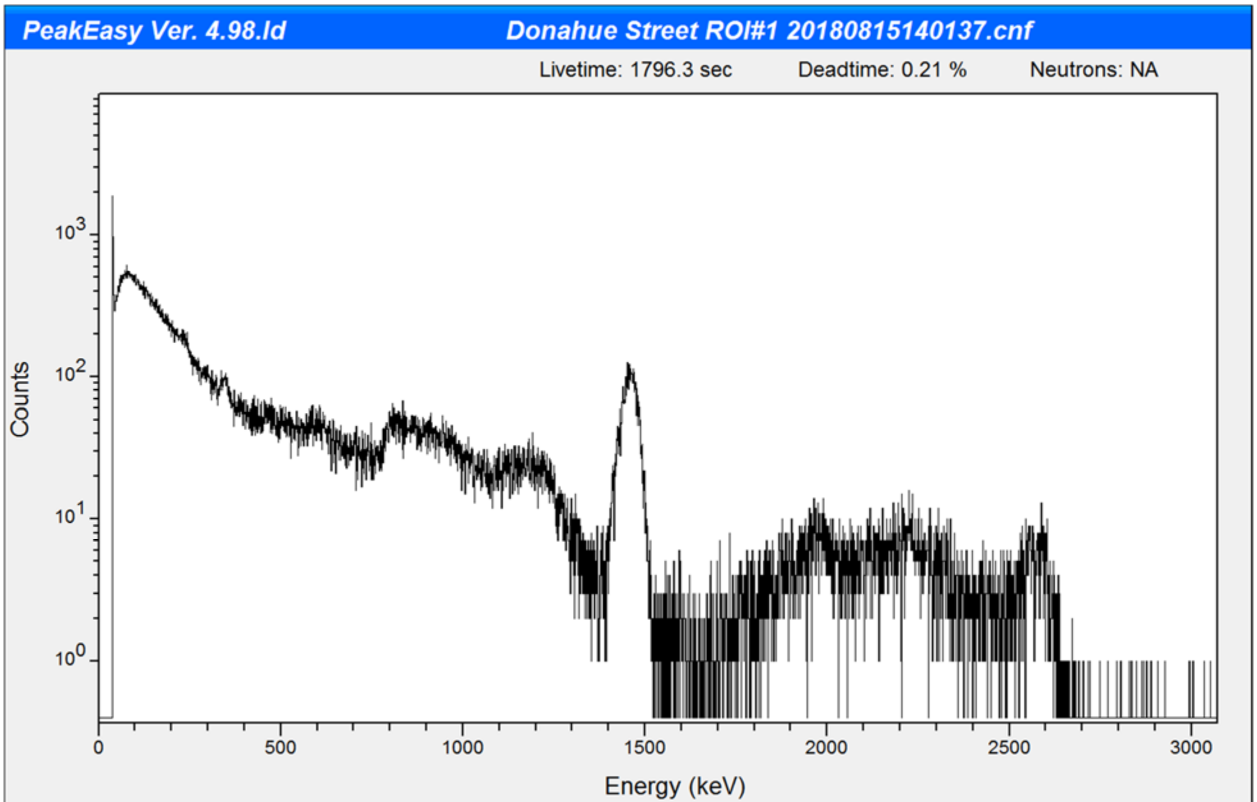
(23 Pages)

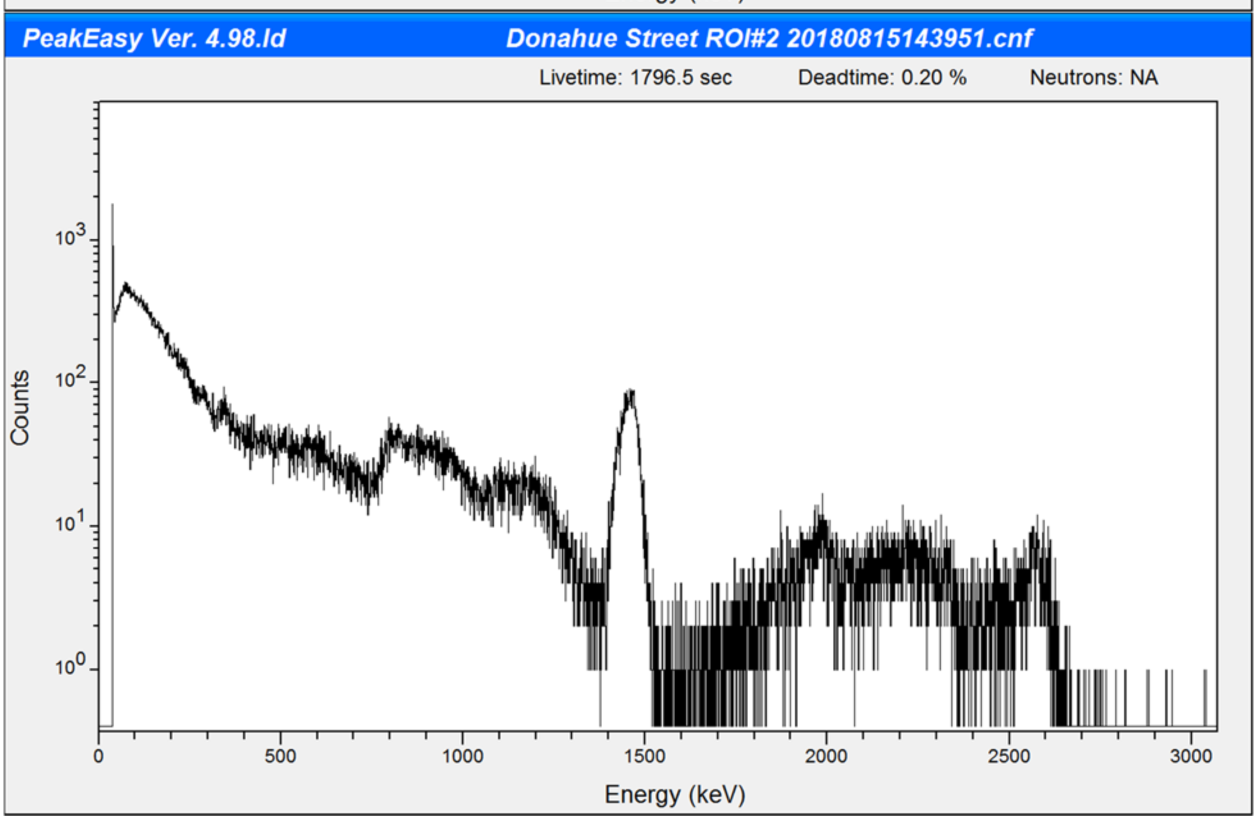

PeakEasy Ver. 4.98.ld
Coleman Street ROI#3 20180928100606.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

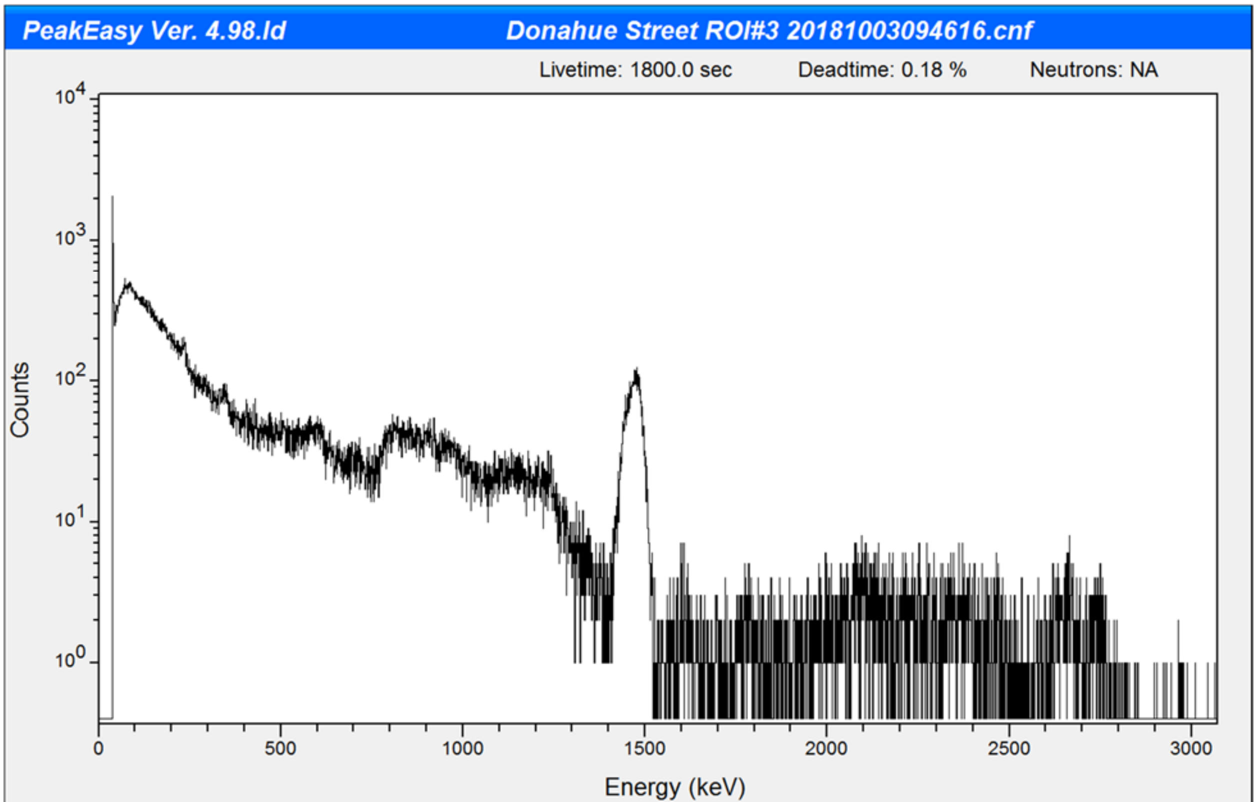

PeakEasy Ver. 4.98.ld
Donahue Parking ROI#1 20181001134704.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

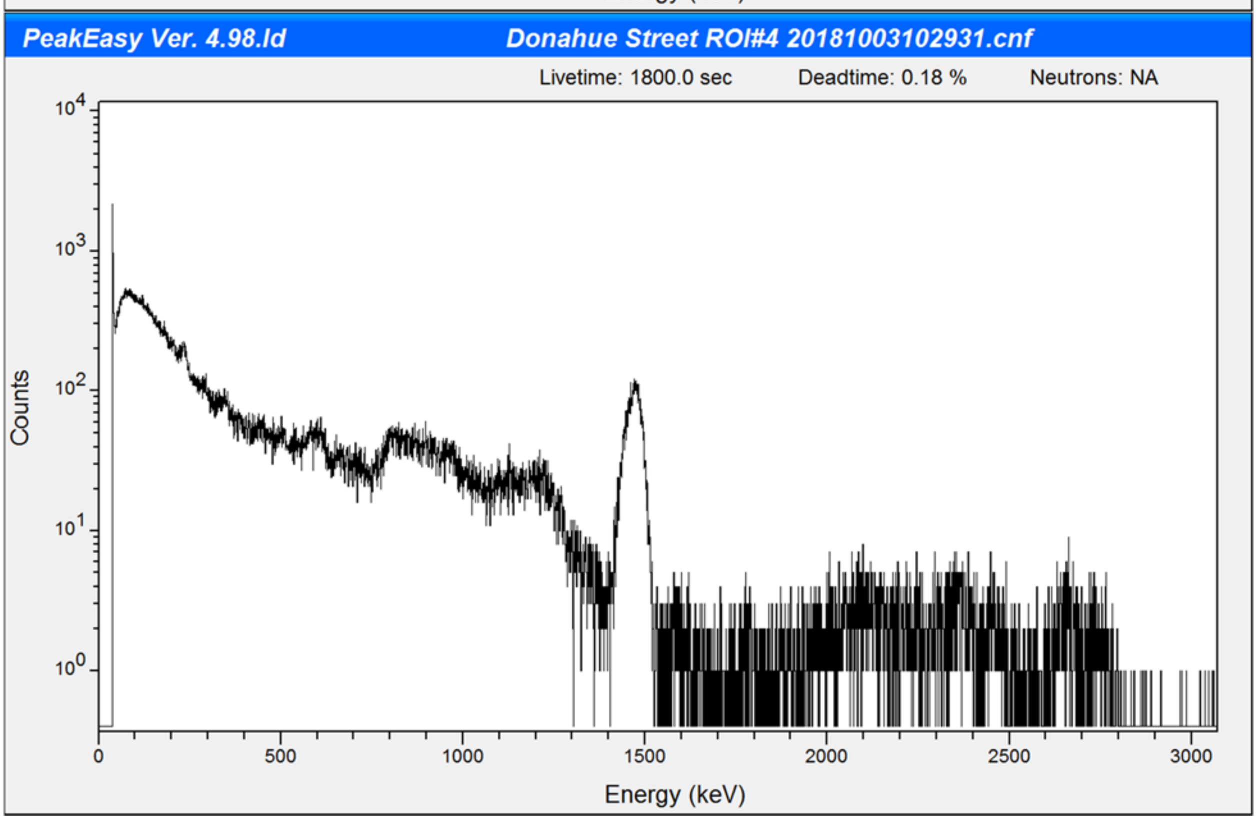

PeakEasy Ver. 4.98.ld
Donahue Parking ROI#2 20181001142748.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

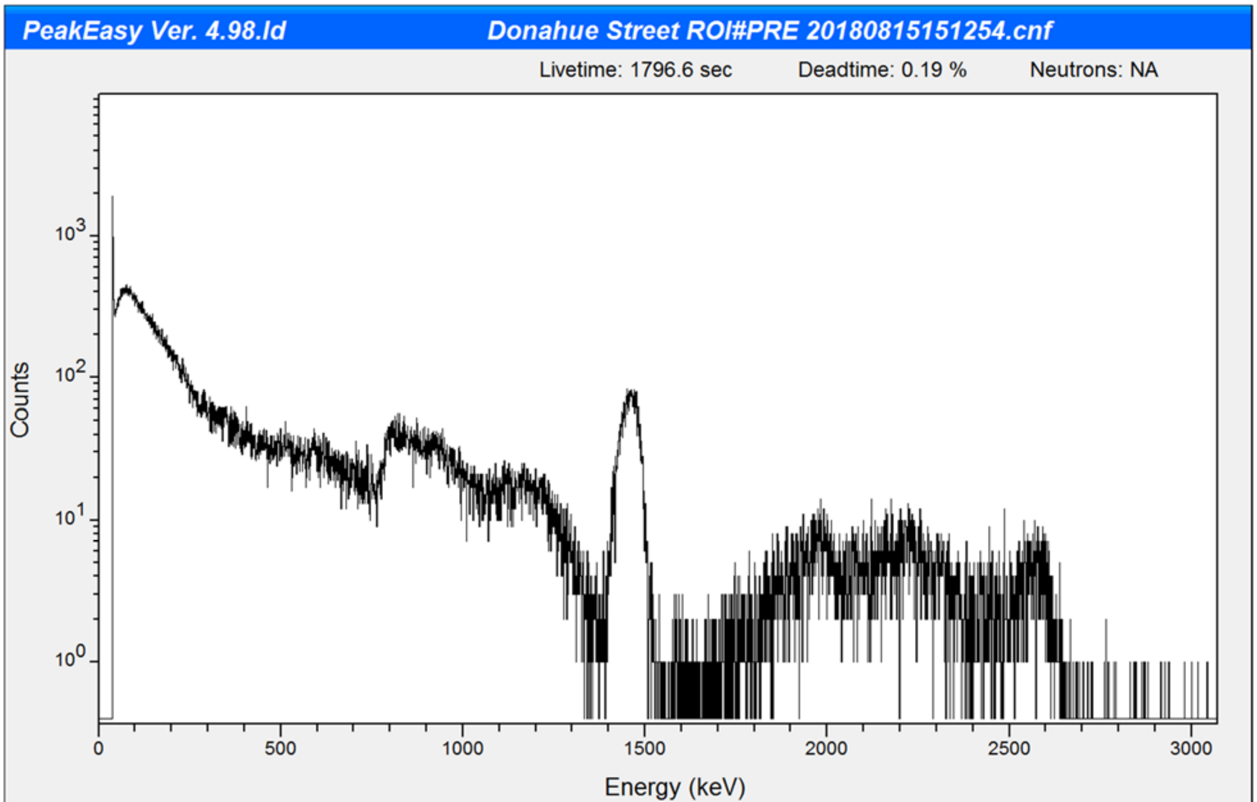

PeakEasy Ver. 4.98.ld
Donahue Parking ROI#3 20180820142924.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

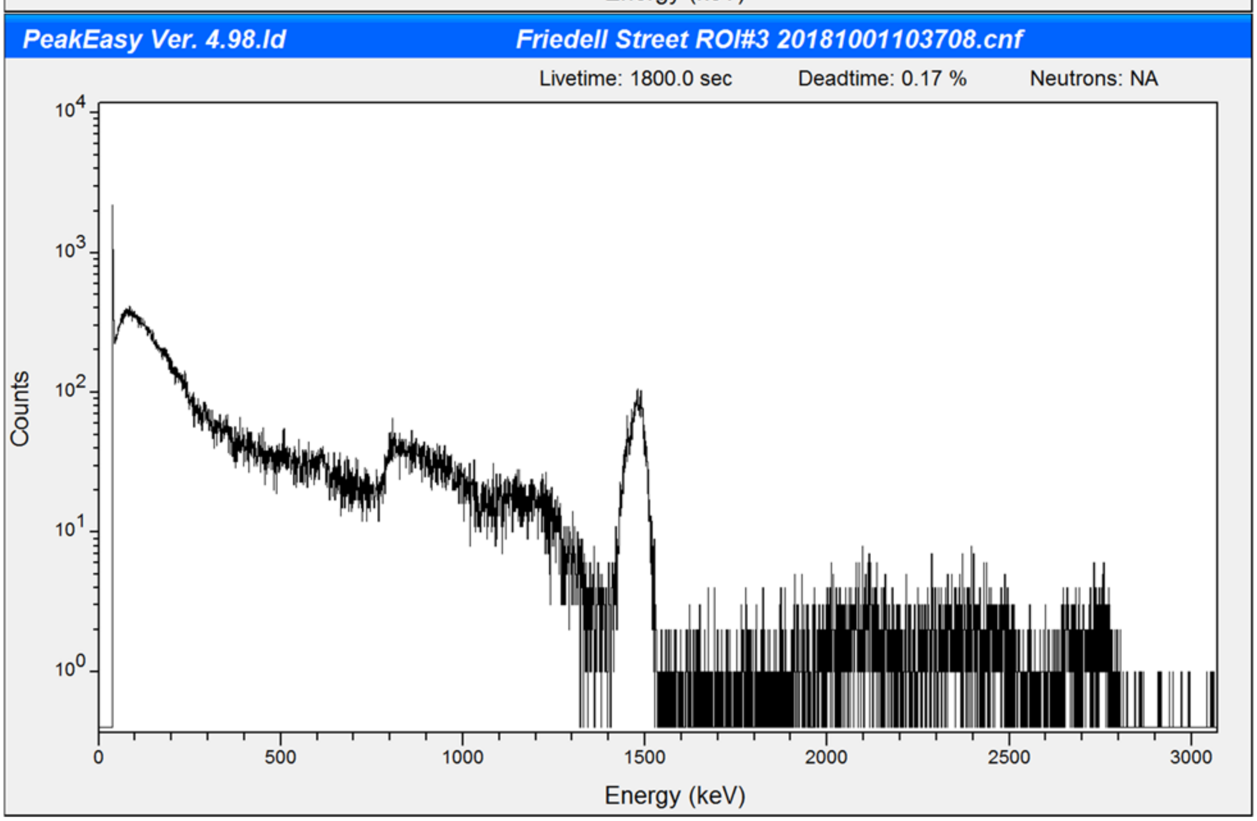

PeakEasy Ver. 4.98.ld
Donahue Street ROI#1 20180815140137.cnf
Livetime: 1796.3 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

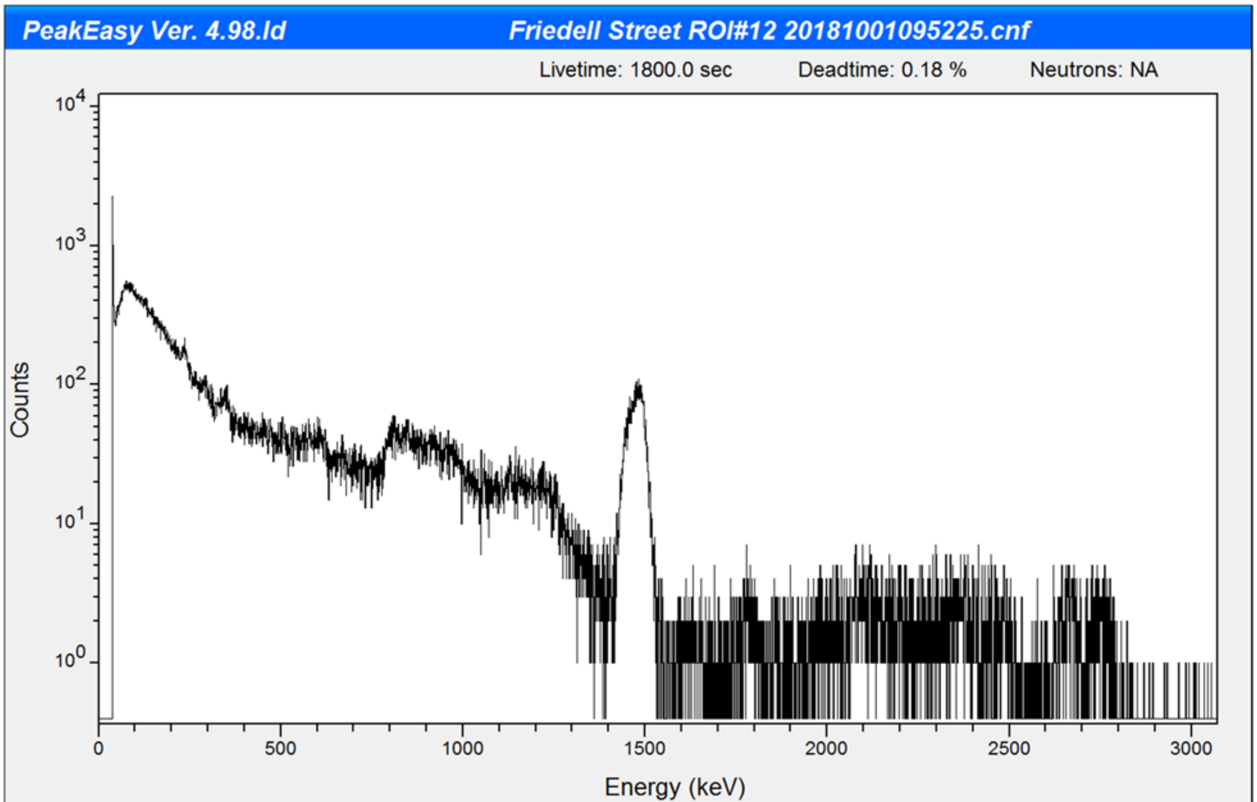

PeakEasy Ver. 4.98.ld
Donahue Street ROI#2 20180815143951.cnf
Livetime: 1796.5 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

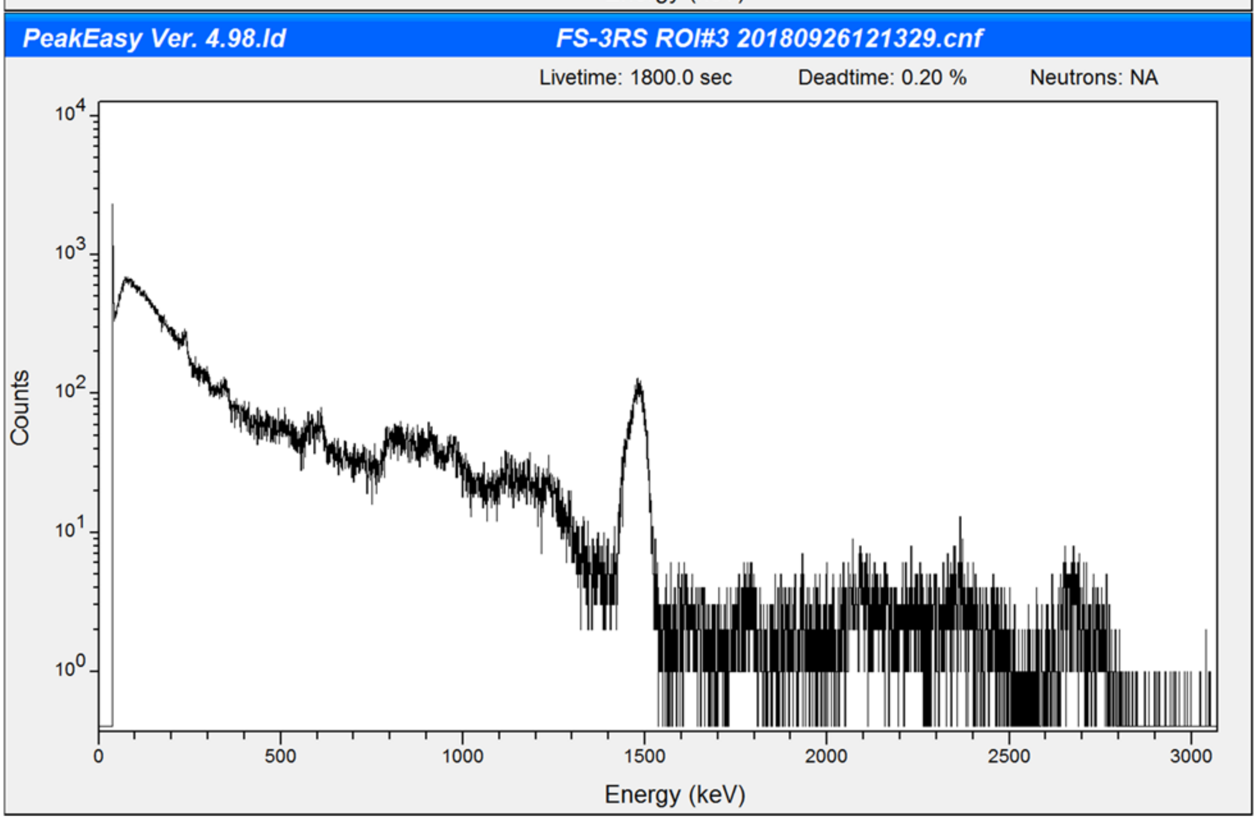

PeakEasy Ver. 4.98.ld
Donahue Street ROI#3 20181003094616.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

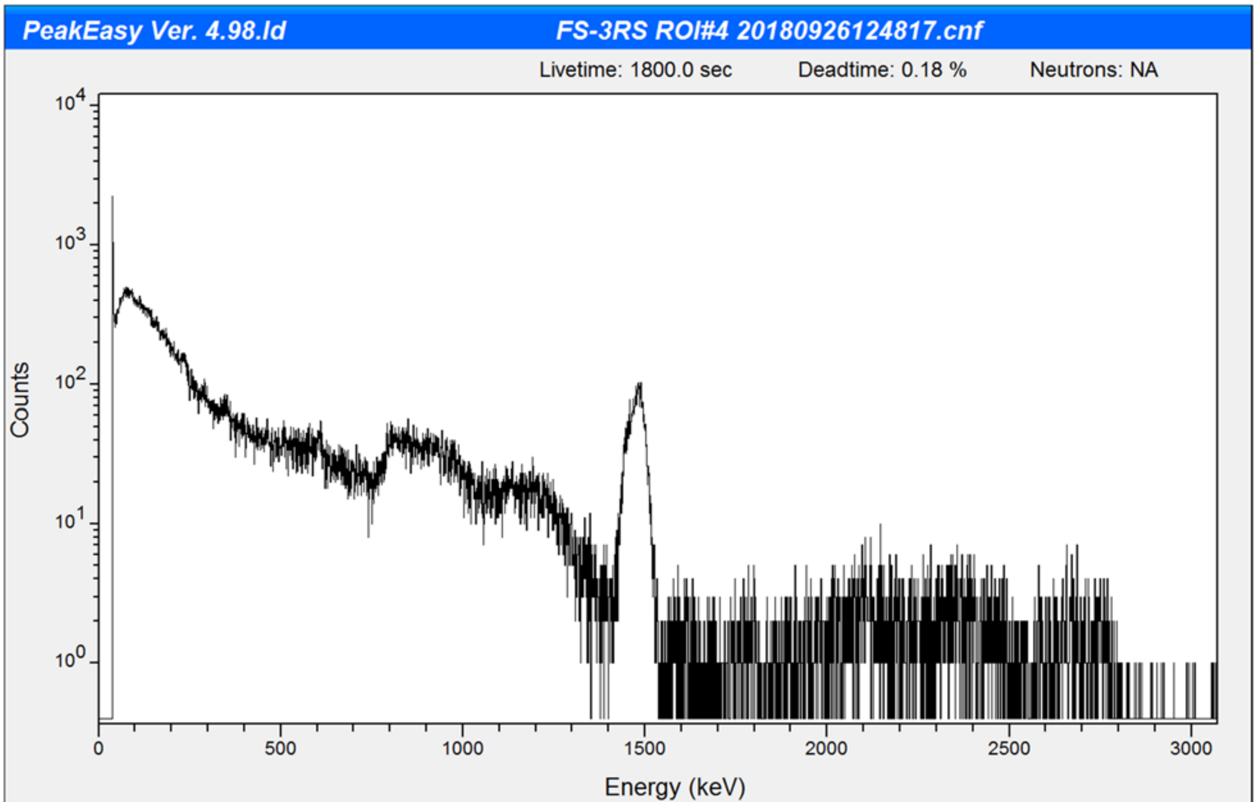

PeakEasy Ver. 4.98.ld
Donahue Street ROI#4 20181003102931.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

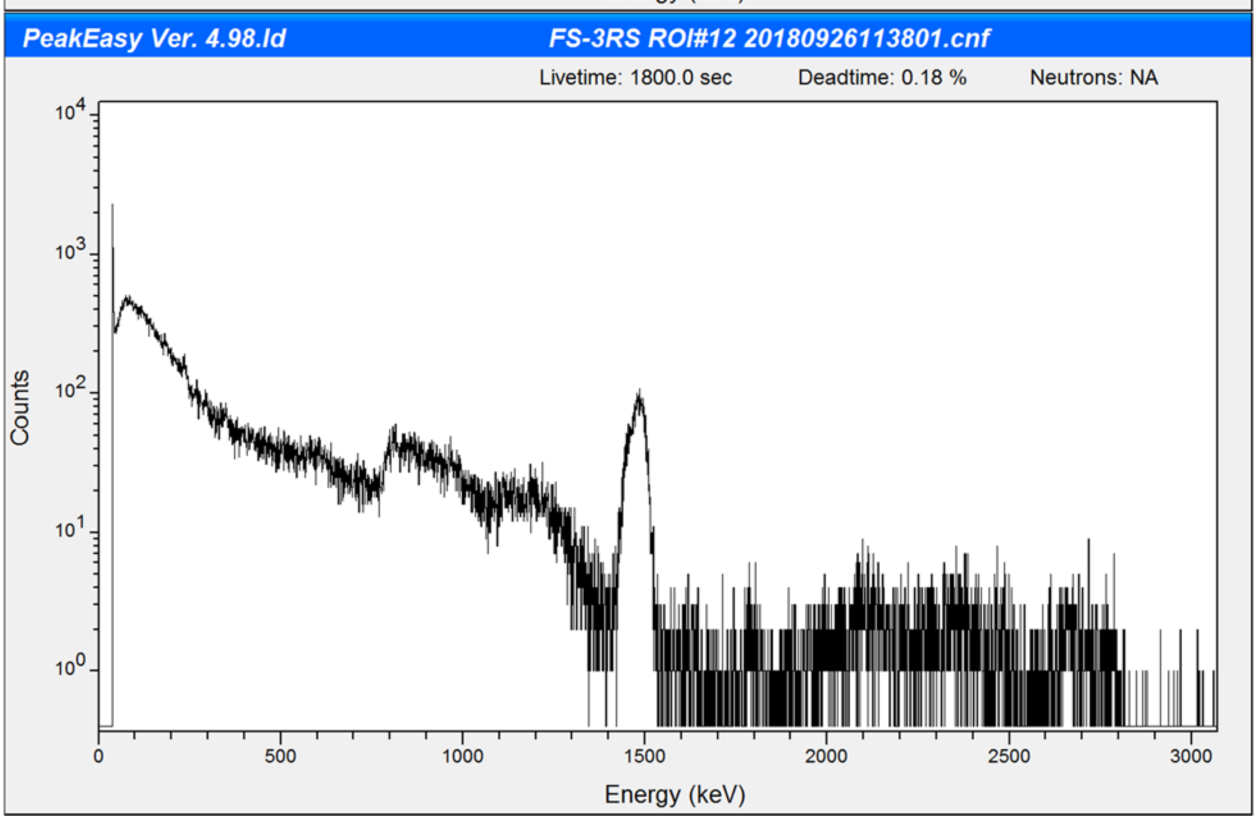

PeakEasy Ver. 4.98.ld
Donahue Street ROI#PRE 20180815151254.cnf
Livetime: 1796.6 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

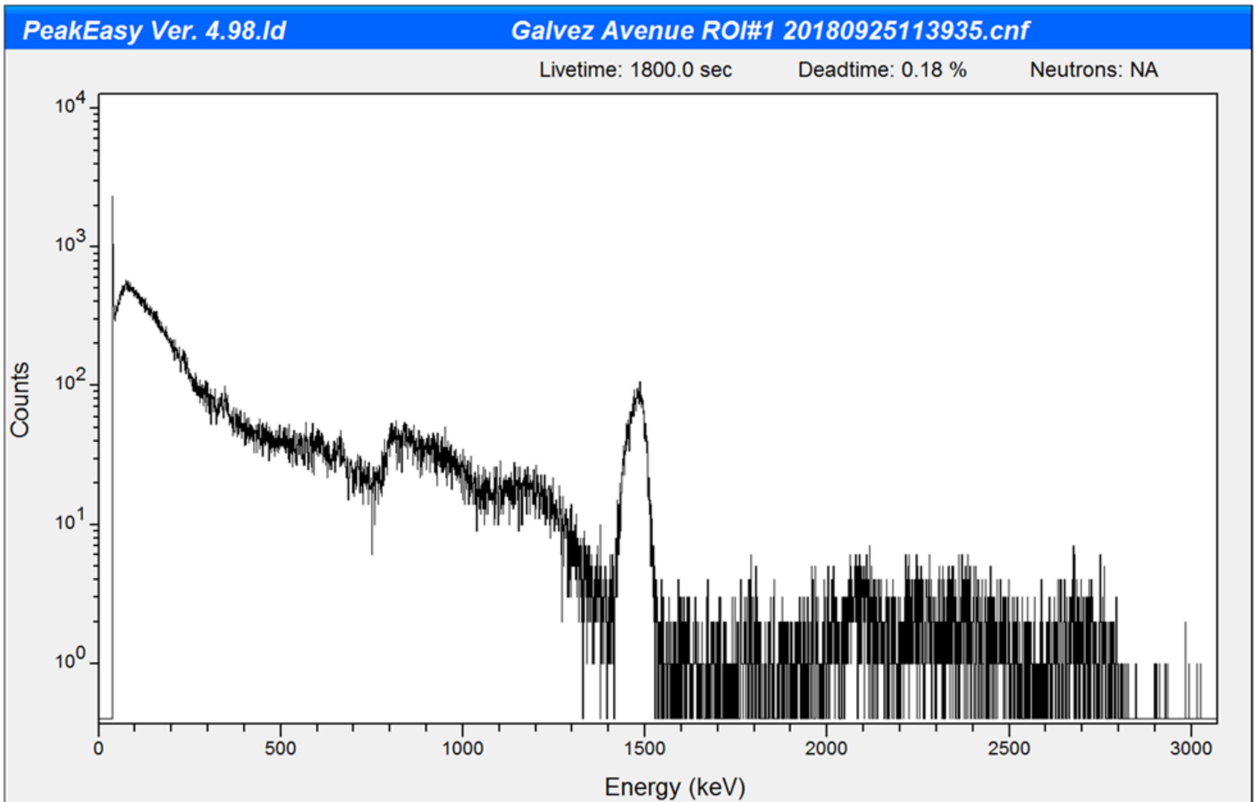

PeakEasy Ver. 4.98.ld
Friedell Street ROI#3 20181001103708.cnf
Livetime: 1800.0 sec
Deadtime: 0.17 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

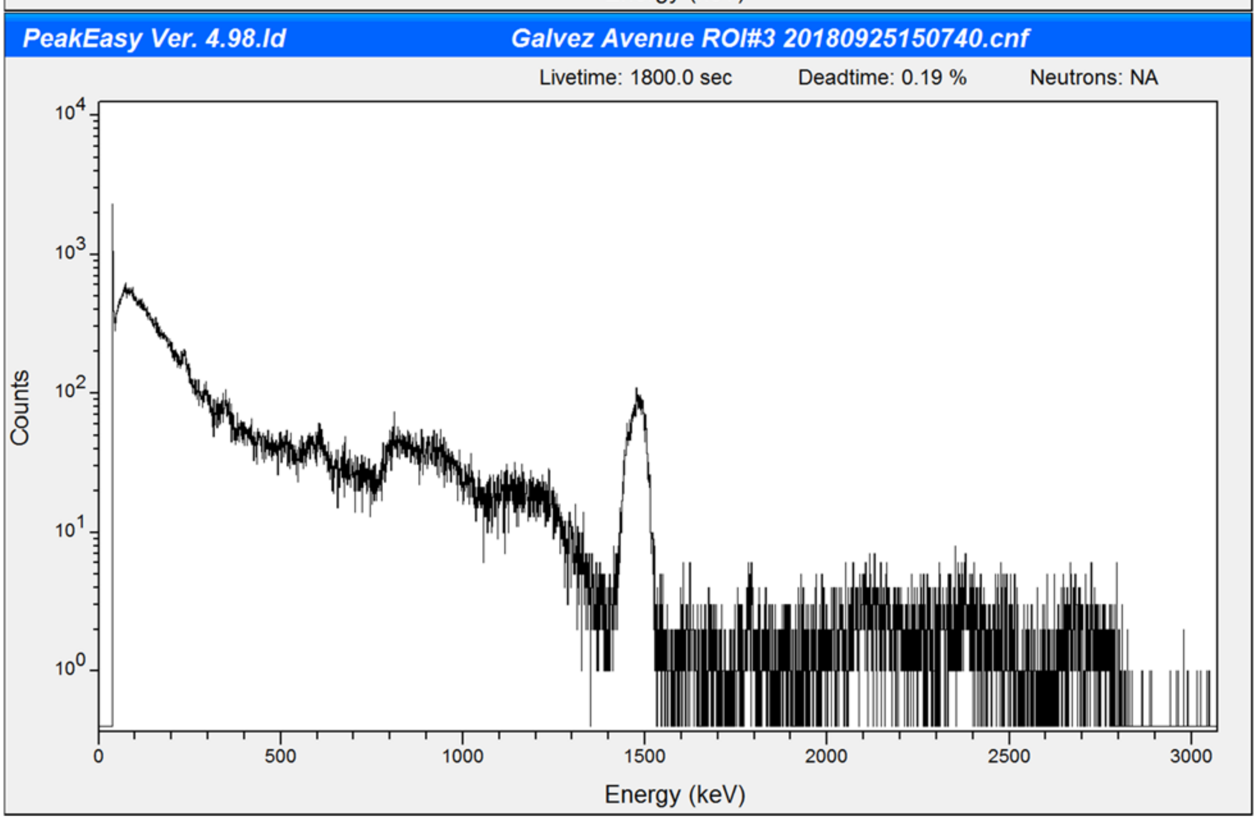

PeakEasy Ver. 4.98.ld
Friedell Street ROI#12 20181001095225.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

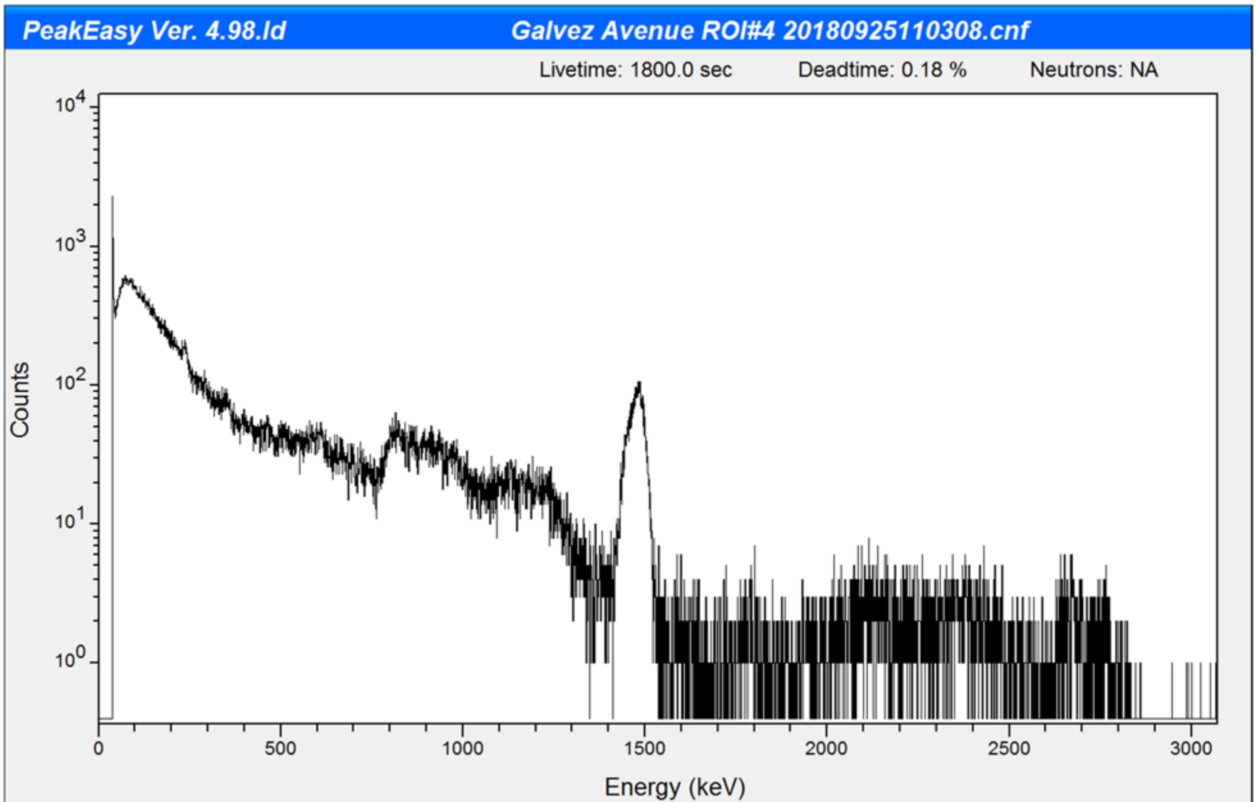

PeakEasy Ver. 4.98.ld
FS-3RS ROI#3 20180926121329.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

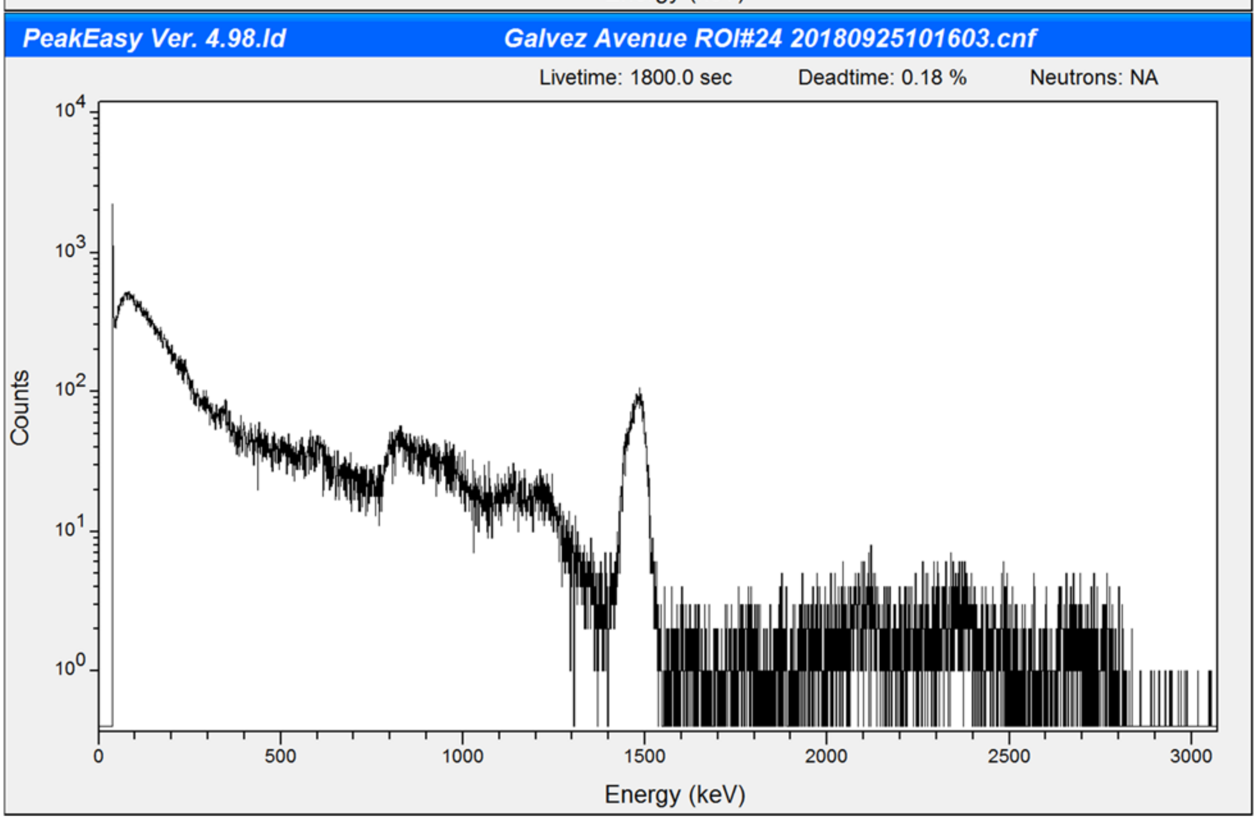

PeakEasy Ver. 4.98.ld
FS-3RS ROI#4 20180926124817.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

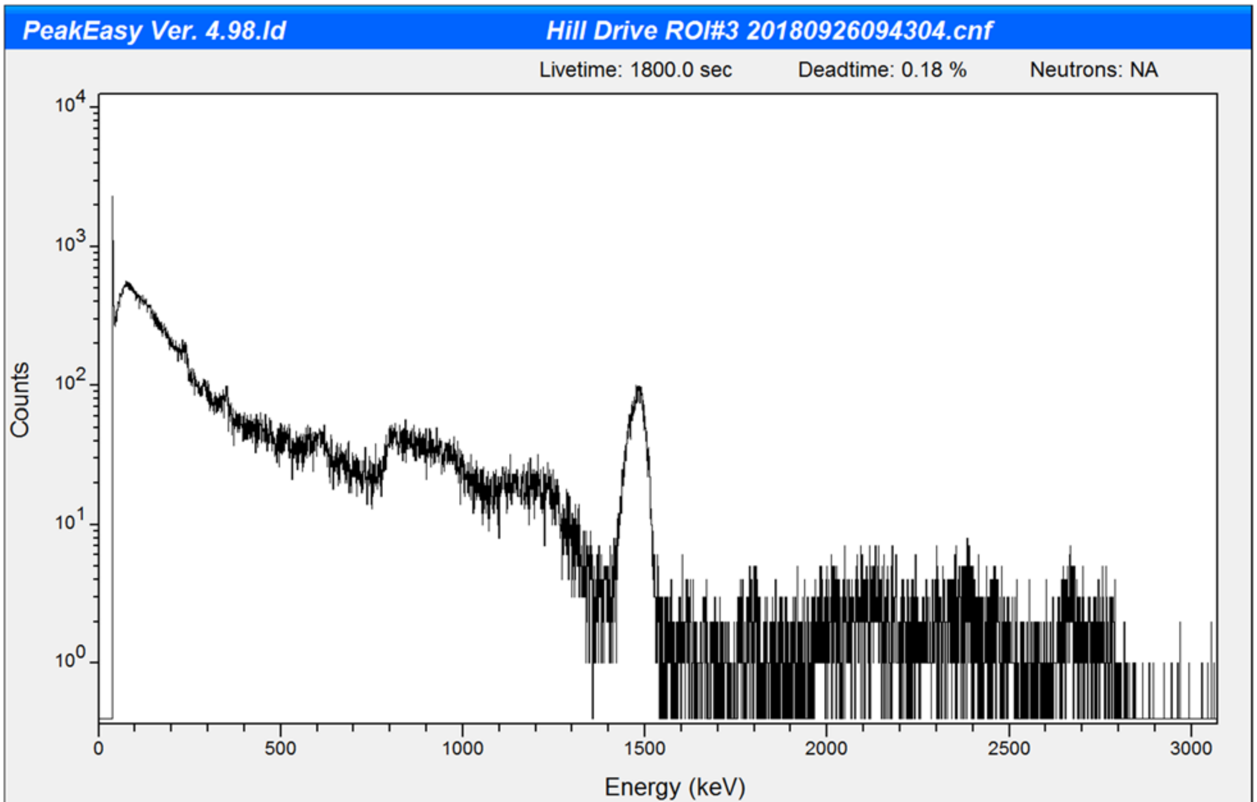

PeakEasy Ver. 4.98.ld
FS-3RS ROI#12 20180926113801.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

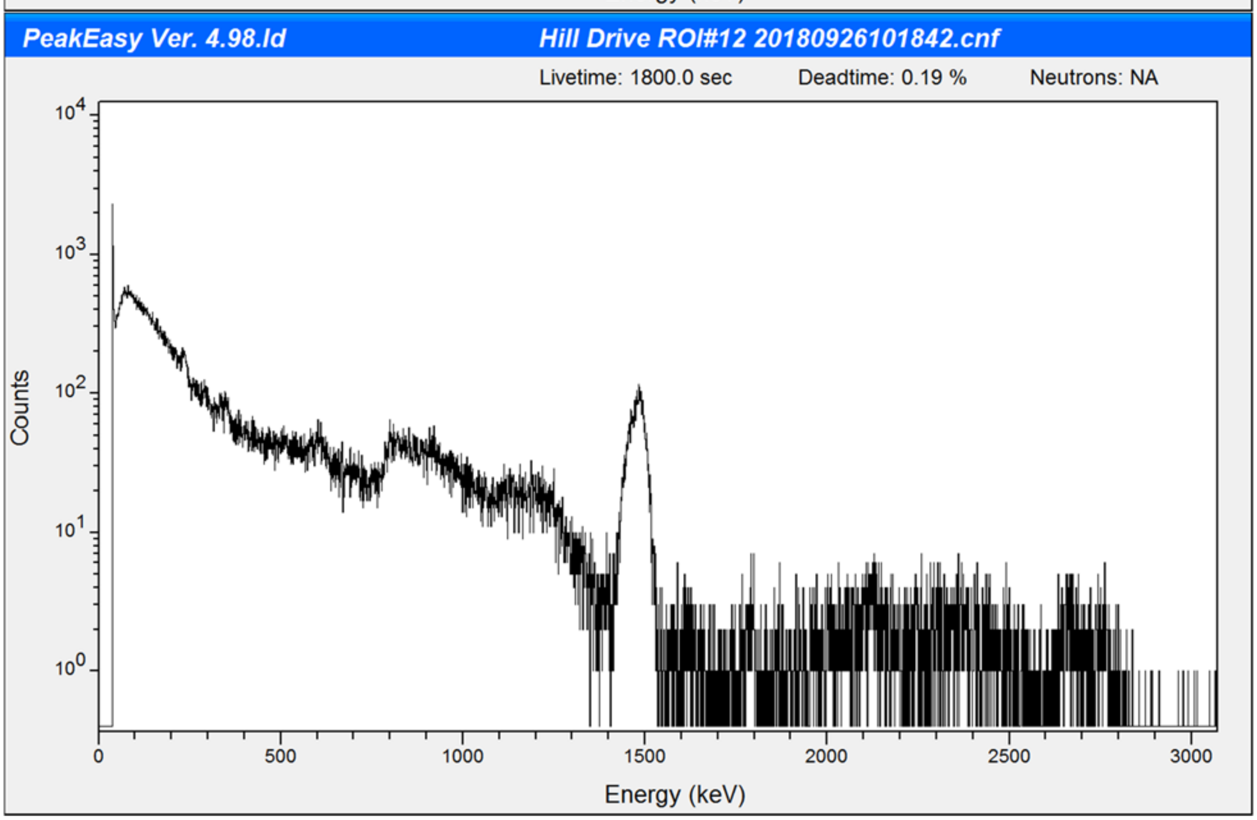

PeakEasy Ver. 4.98.ld
Galvez Avenue ROI#1 20180925113935.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

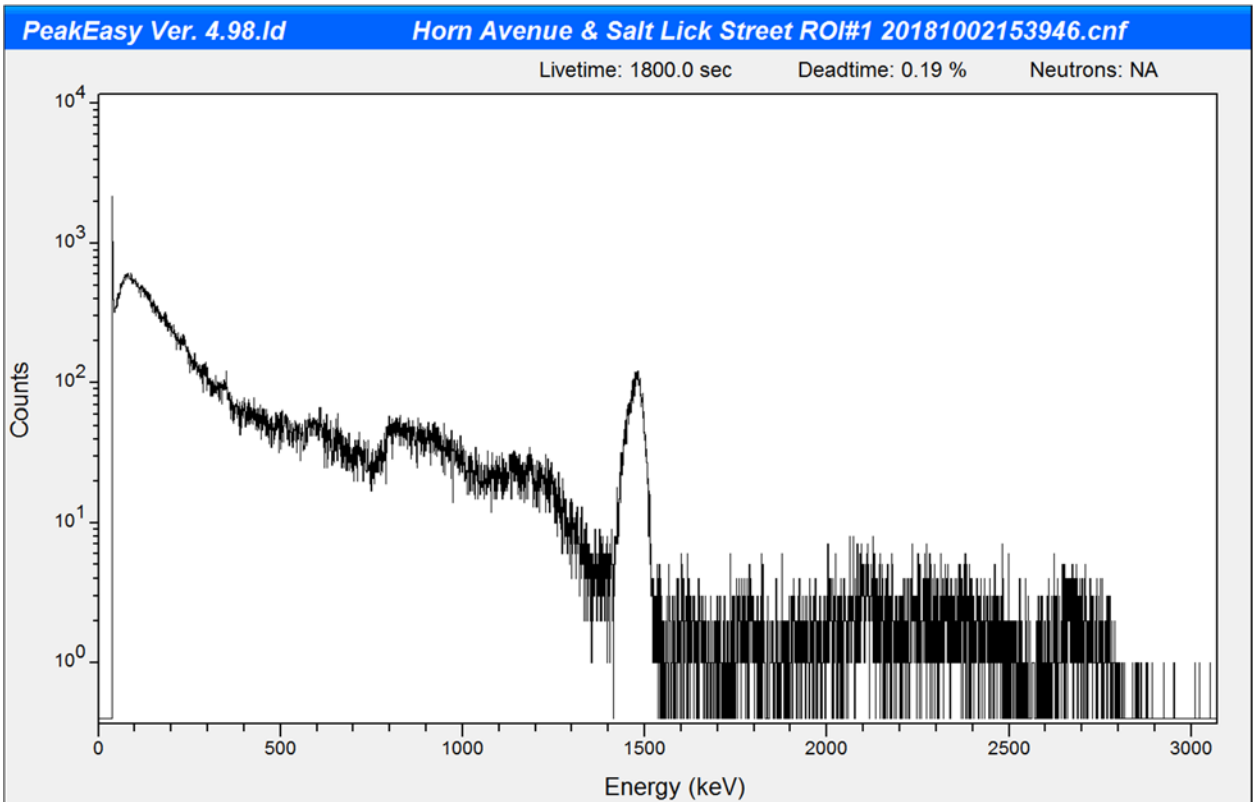

PeakEasy Ver. 4.98.ld
Galvez Avenue ROI#3 20180925150740.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
10^4
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)

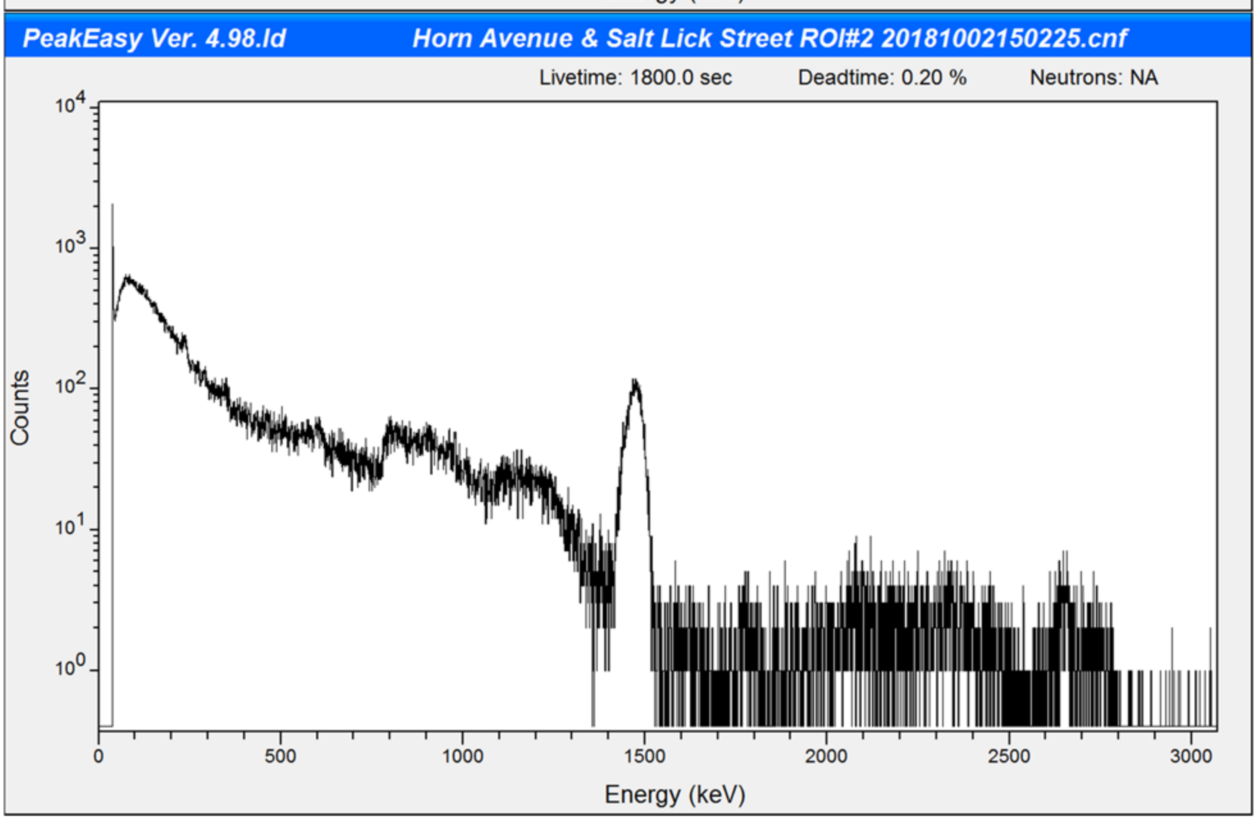

PeakEasy Ver. 4.98.ld
Galvez Avenue ROI#4 20180925110308.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

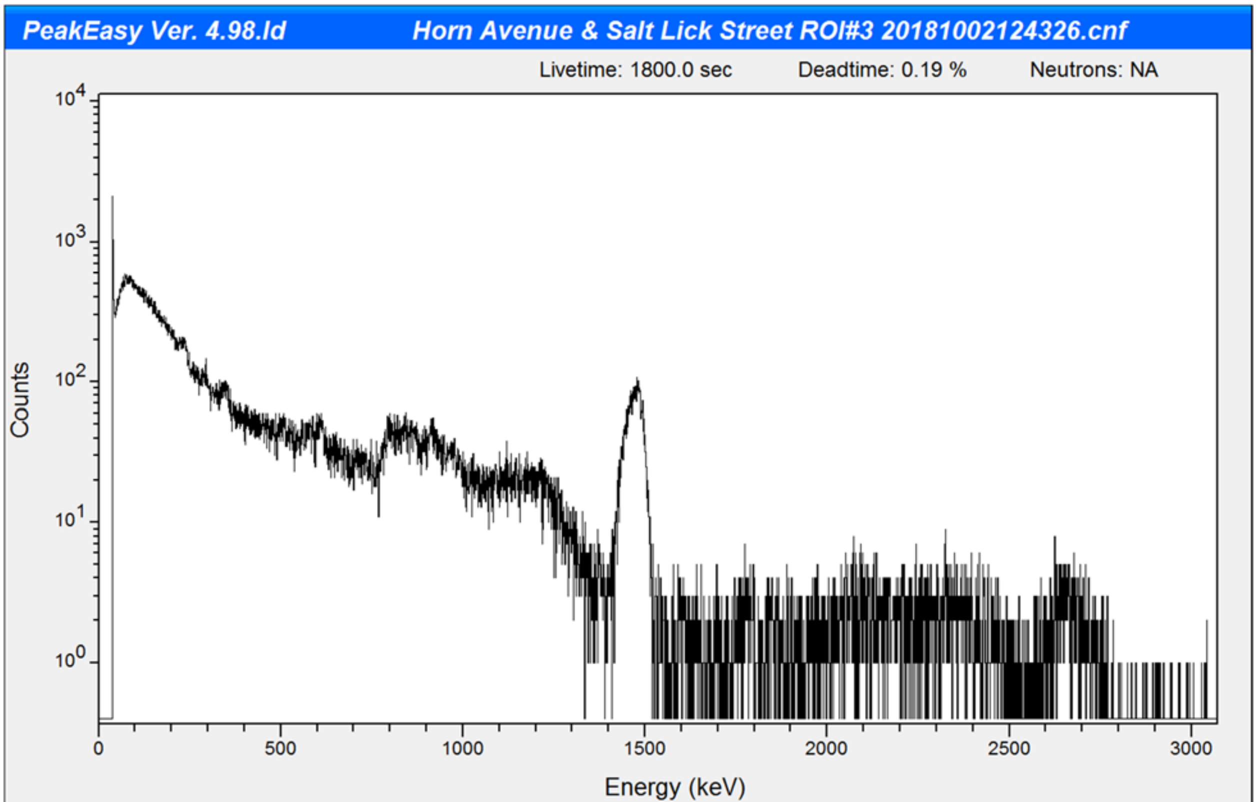

PeakEasy Ver. 4.98.ld
Galvez Avenue ROI#24 20180925101603.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

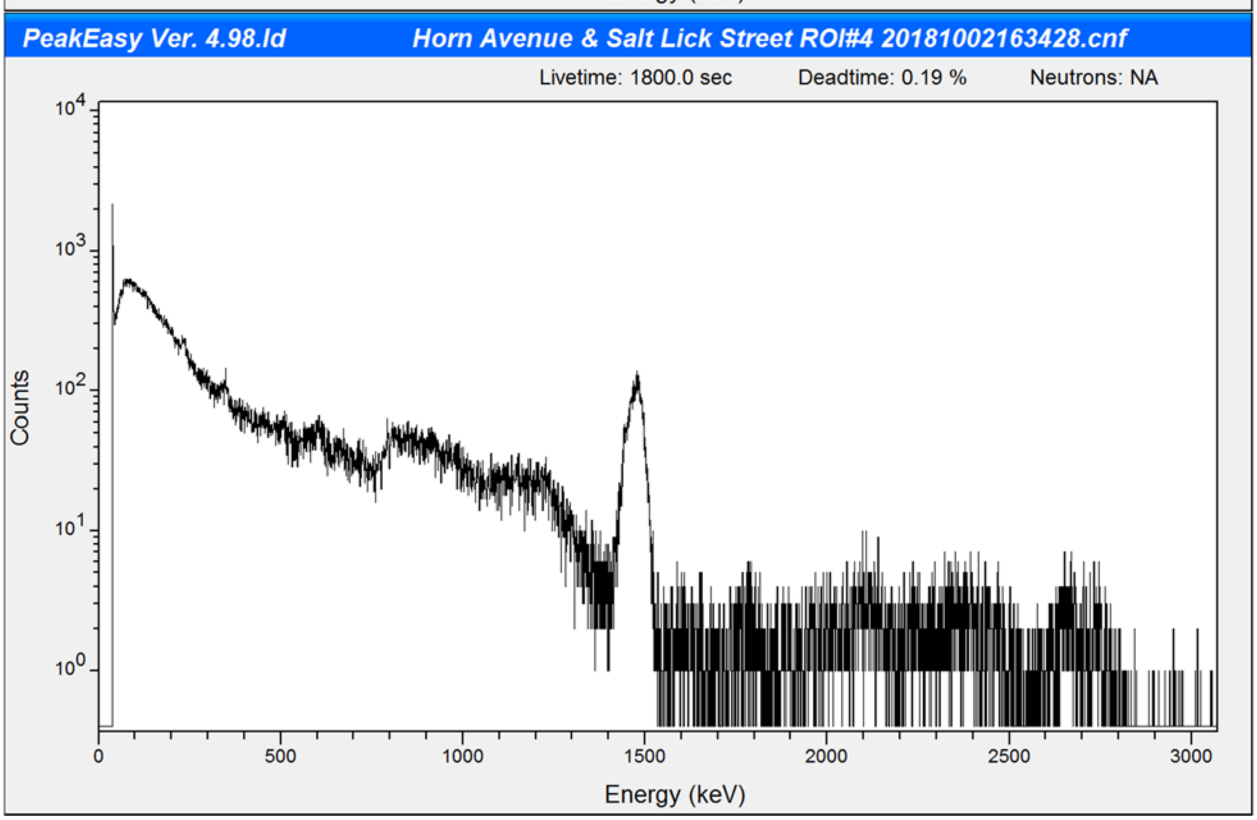

PeakEasy Ver. 4.98.ld
Hill Drive ROI#3 20180926094304.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

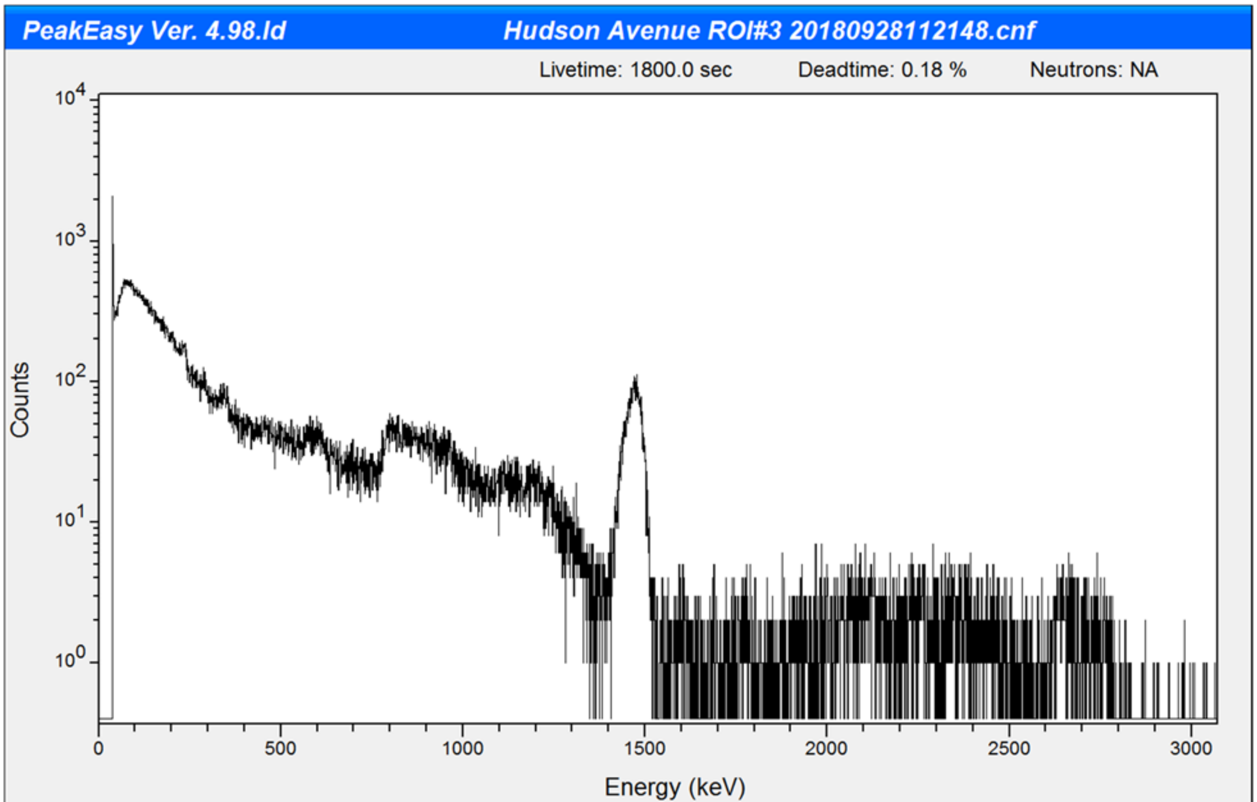

PeakEasy Ver. 4.98.ld
Hill Drive ROI#12 20180926101842.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

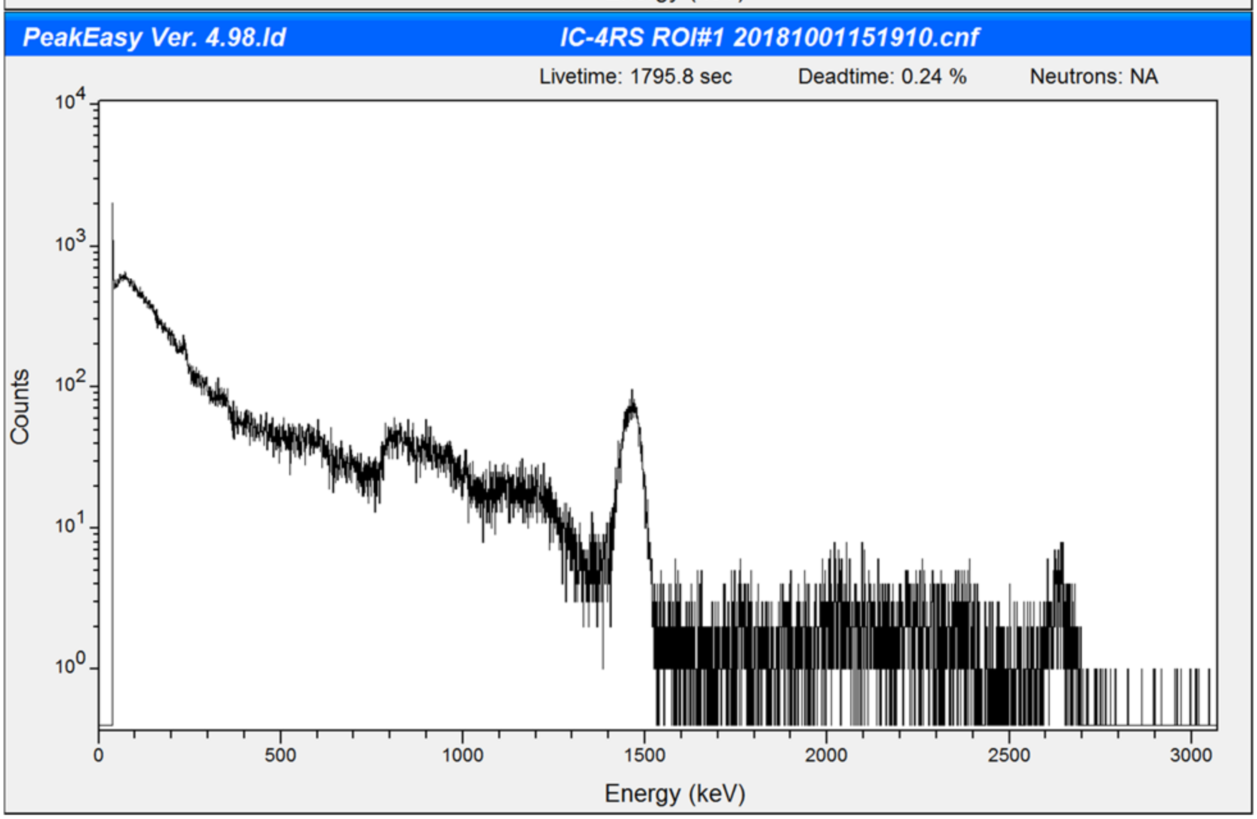

PeakEasy Ver. 4.98.ld
Horn Avenue & Salt Lick Street ROI#1 20181002153946.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

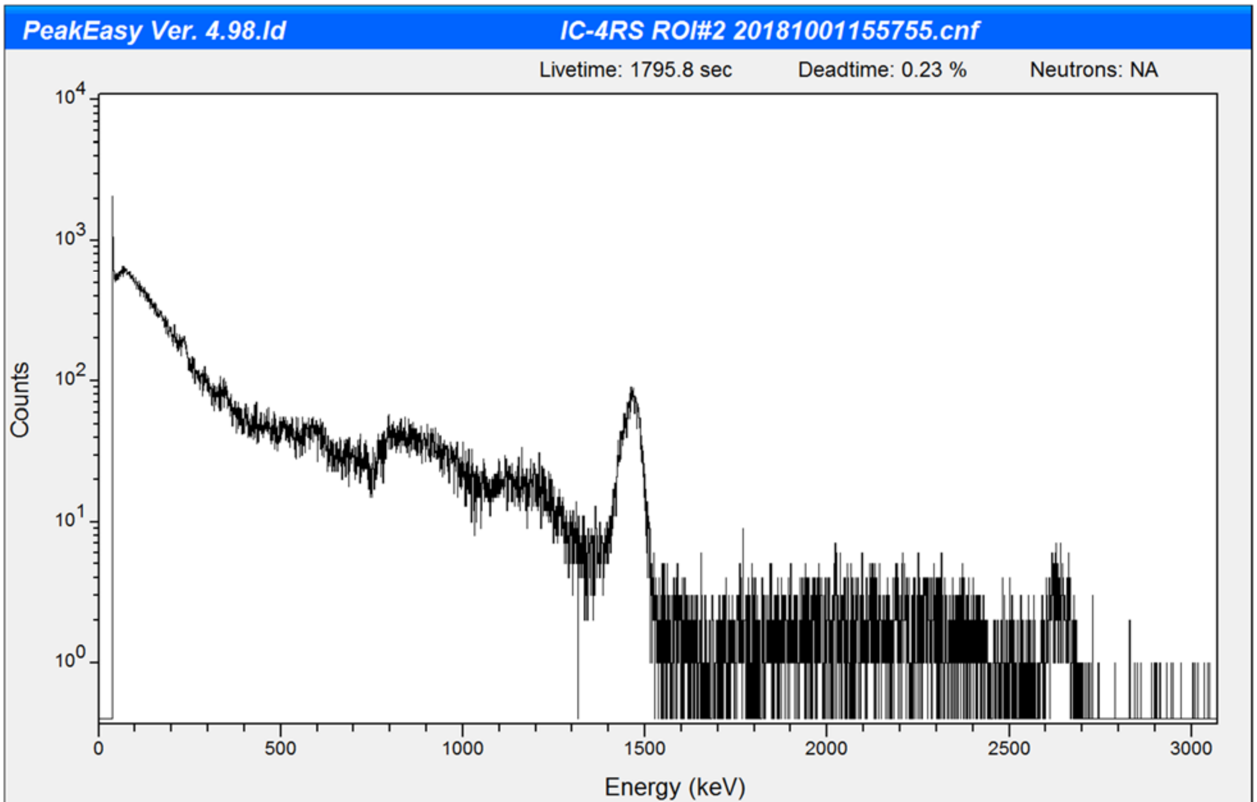

PeakEasy Ver. 4.98.ld
Horn Avenue & Salt Lick Street ROI#2 20181002150225.cnf
Livetime: 1800.0 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

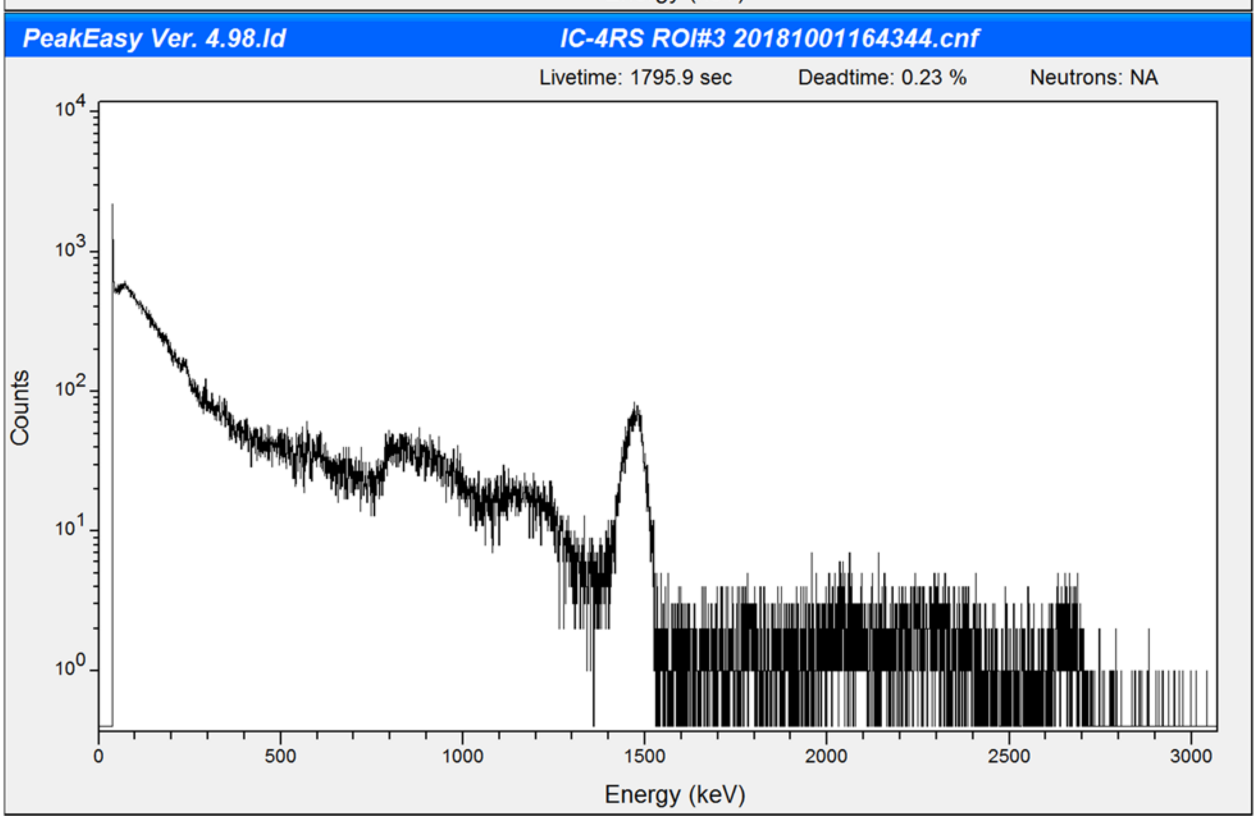

PeakEasy Ver. 4.98.ld
Horn Avenue & Salt Lick Street ROI#3 20181002124326.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

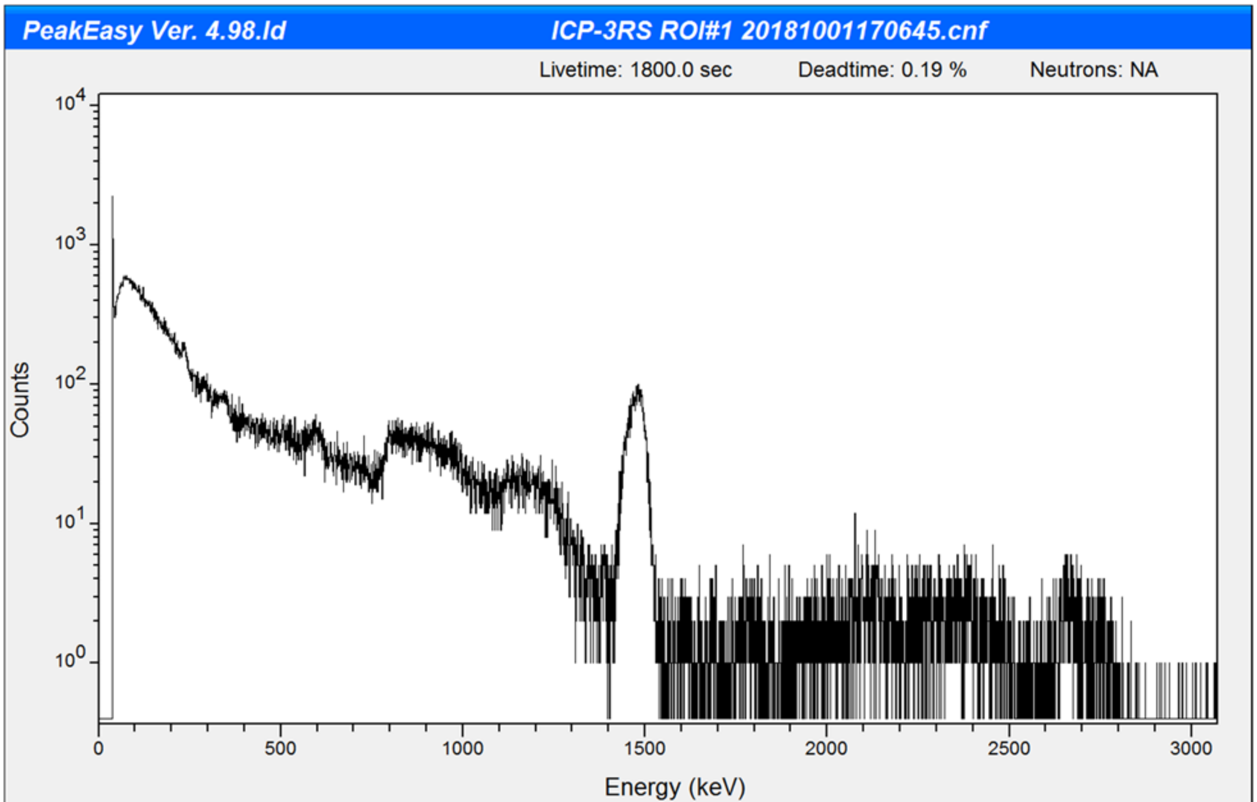

PeakEasy Ver. 4.98.ld
Horn Avenue & Salt Lick Street ROI#4 20181002163428.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

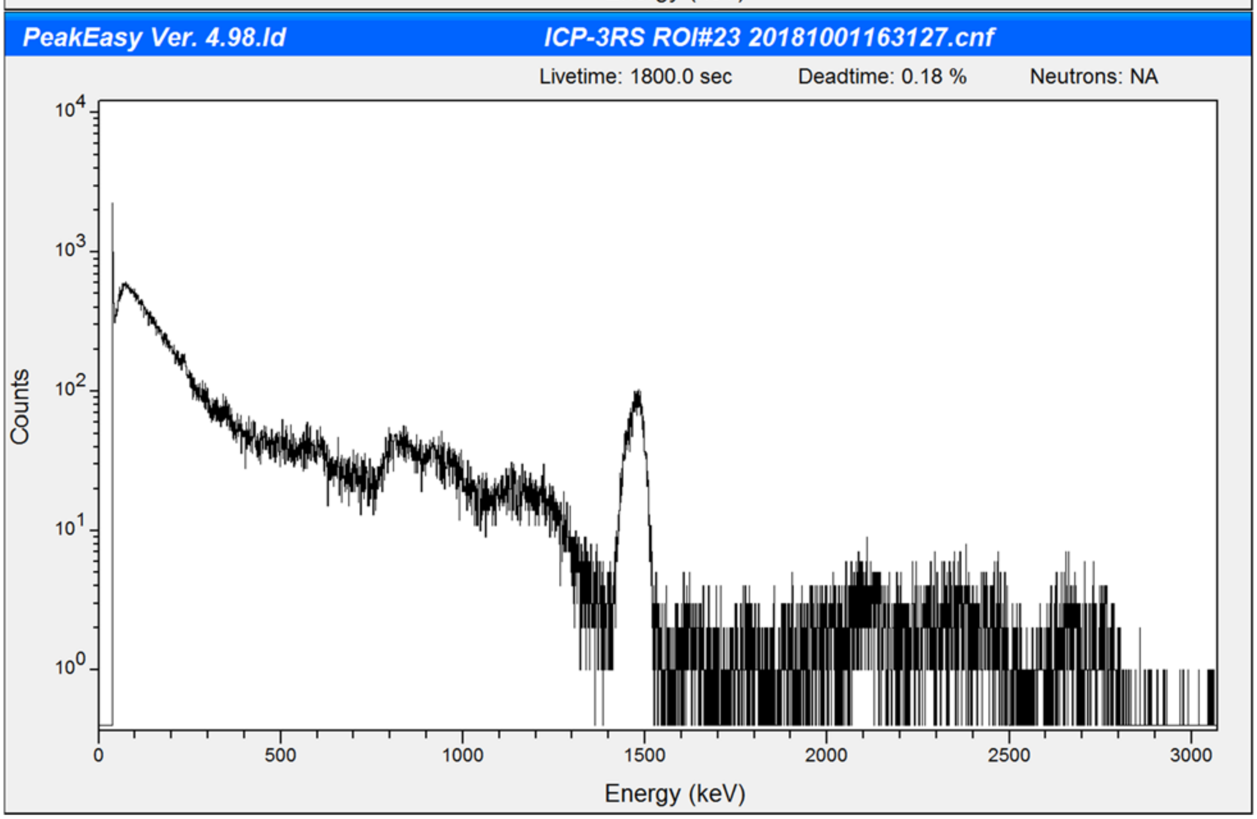

PeakEasy Ver. 4.98.ld
Hudson Avenue ROI#3 20180928112148.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

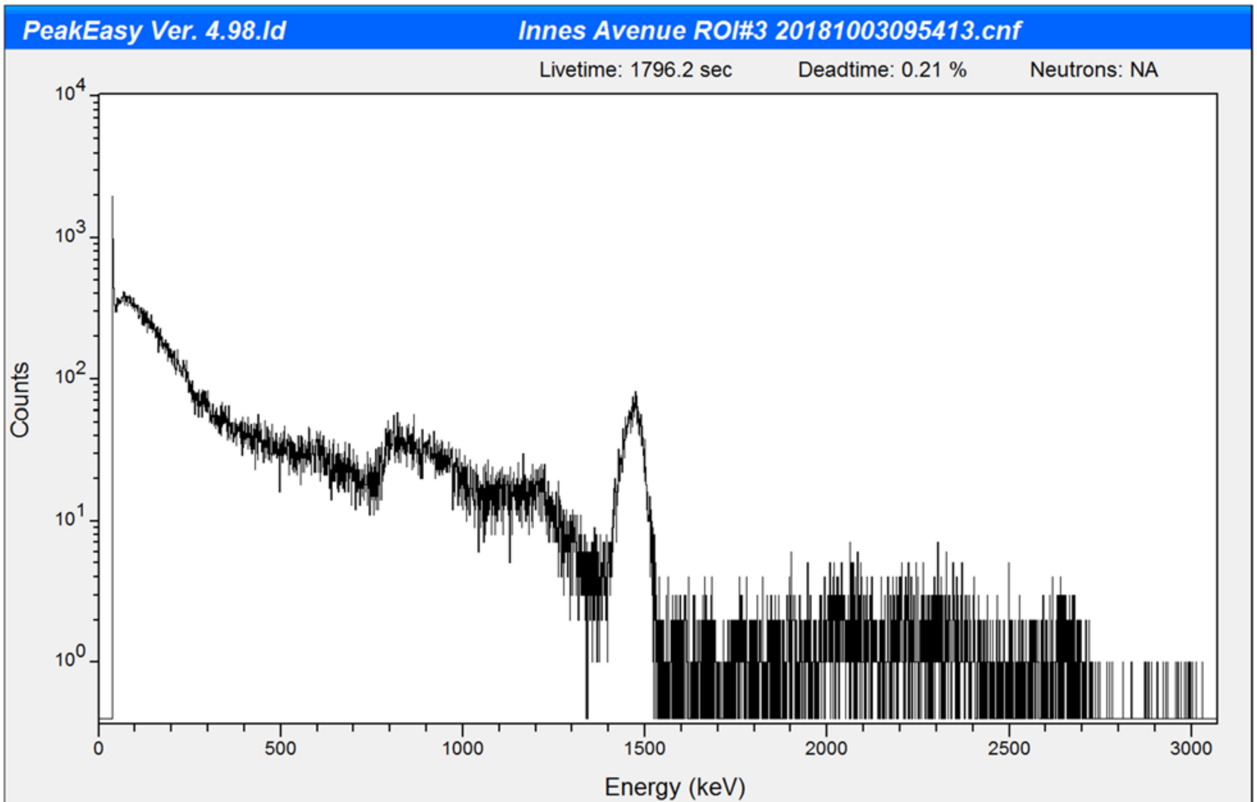

PeakEasy Ver. 4.98.ld
IC-4RS ROI#1 20181001151910.cnf
Livetime: 1795.8 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
Energy (keV)

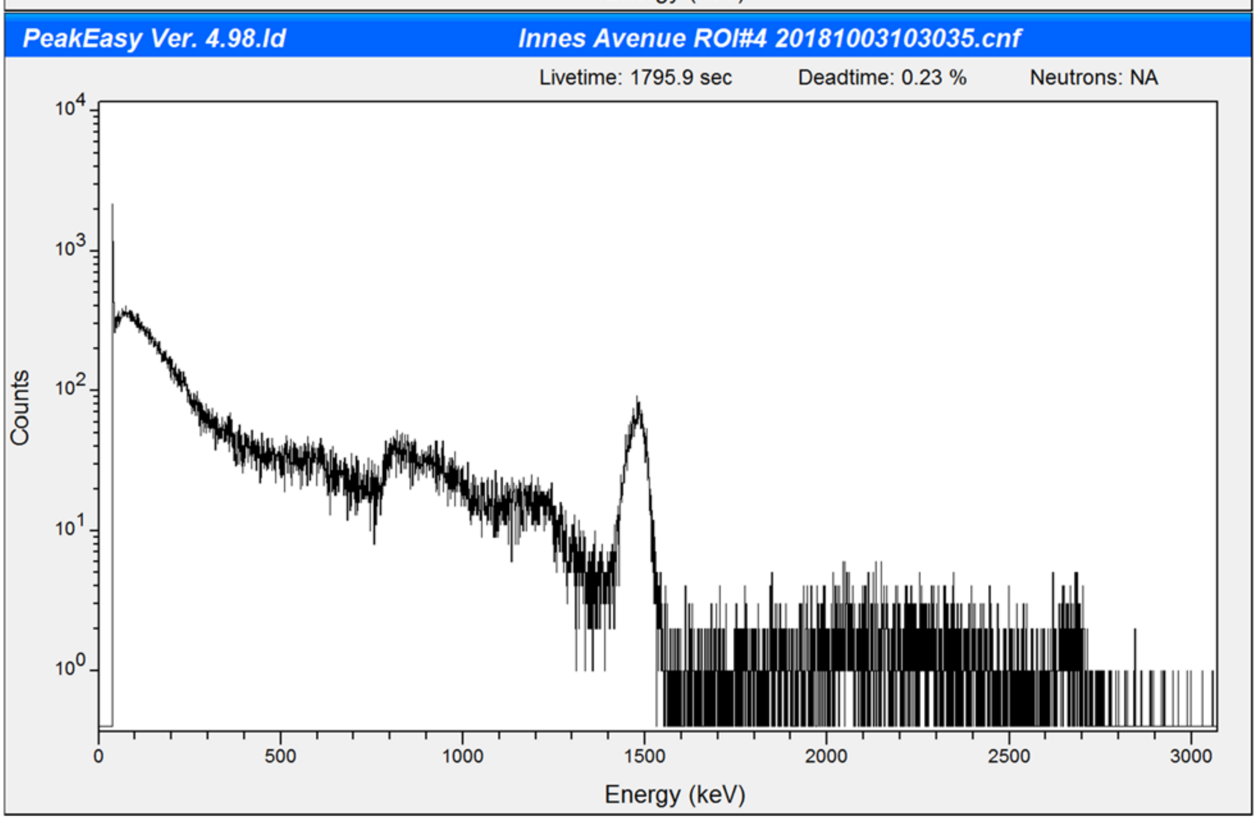

PeakEasy Ver. 4.98.ld
IC-4RS ROI#2 20181001155755.cnf
Livetime: 1795.8 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

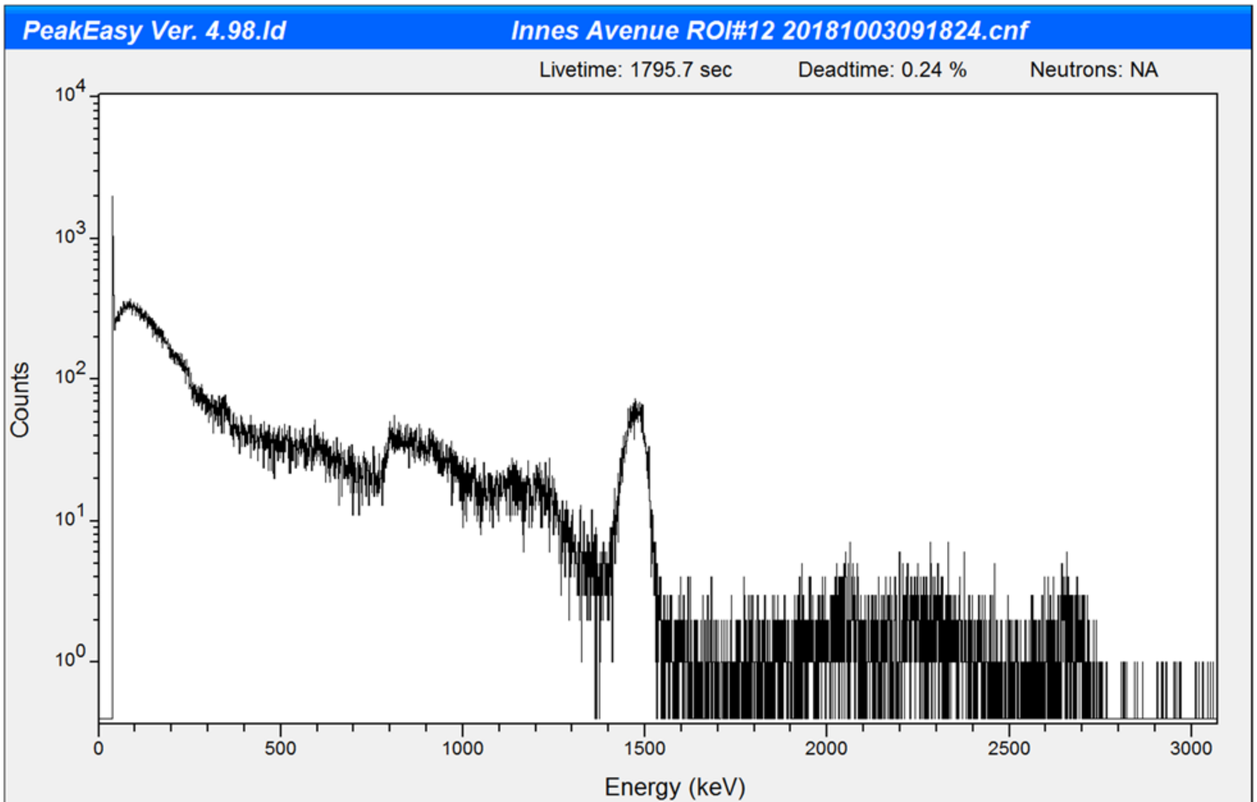

PeakEasy Ver. 4.98.ld
IC-4RS ROI#3 20181001164344.cnf
Livetime: 1795.9 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

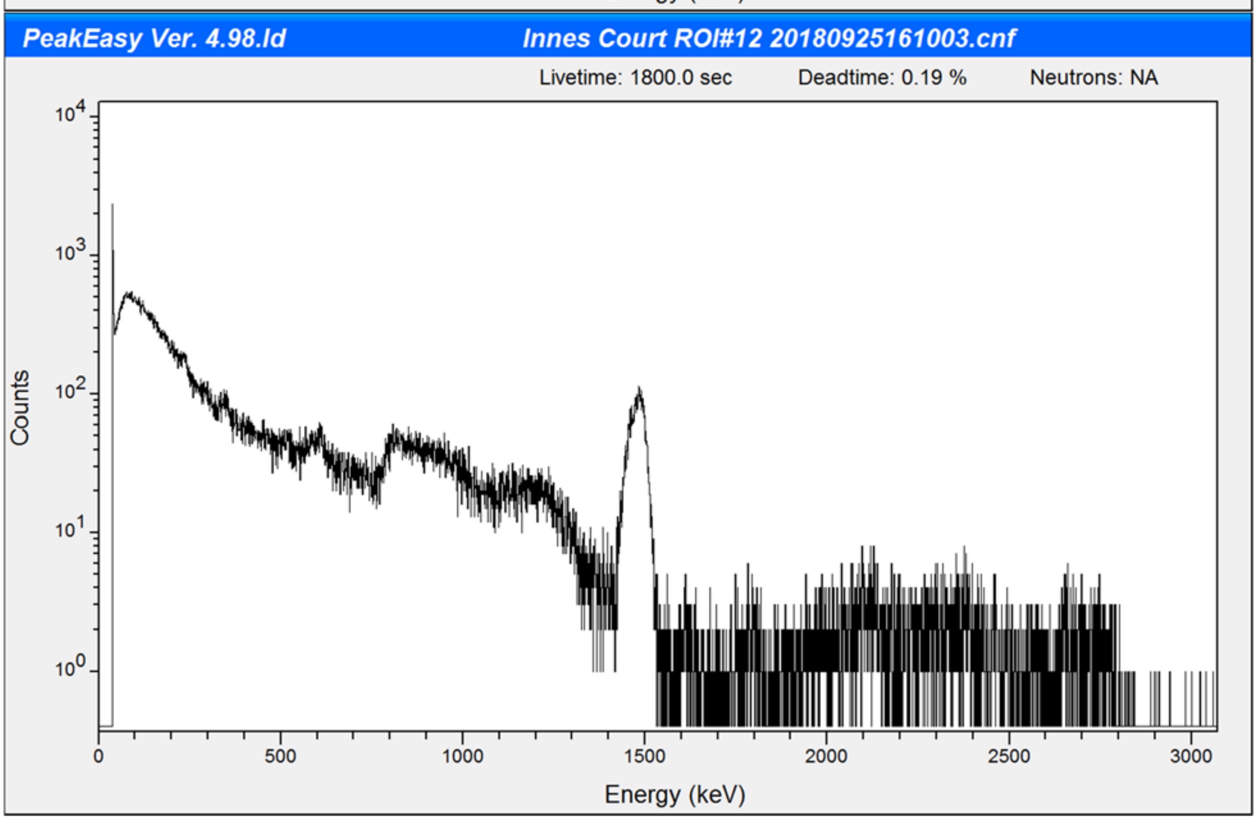

PeakEasy Ver. 4.98.ld
ICP-3RS ROI#1 20181001170645.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

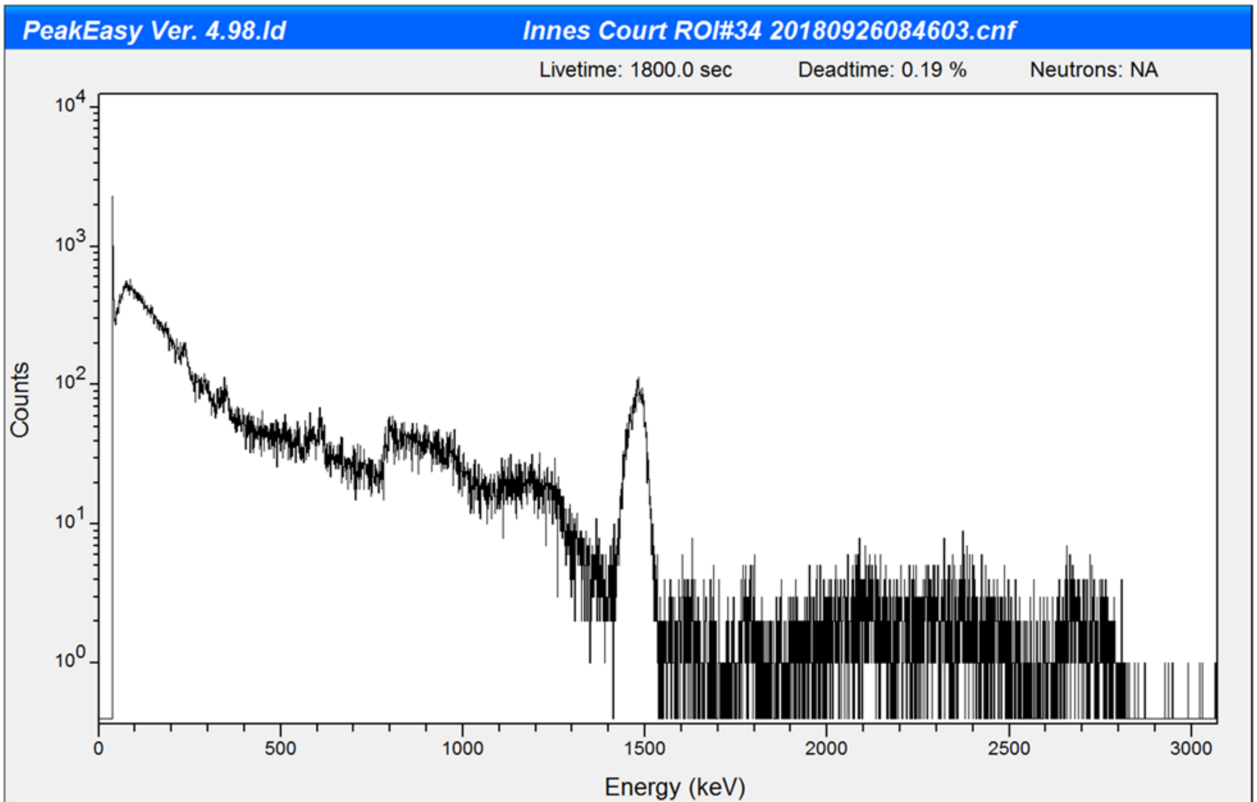

PeakEasy Ver. 4.98.ld
ICP-3RS ROI#23 20181001163127.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)

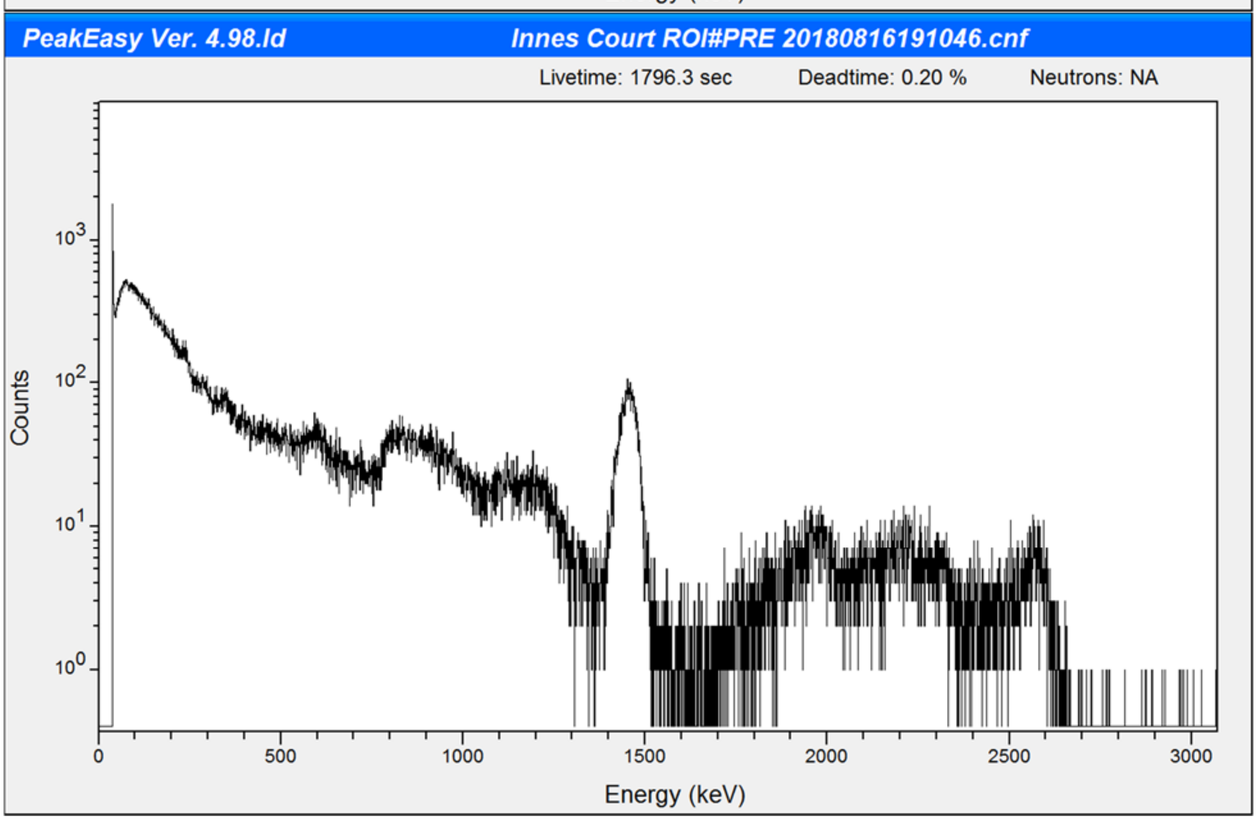

PeakEasy Ver. 4.98.ld
Innes Avenue ROI#3 20181003095413.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

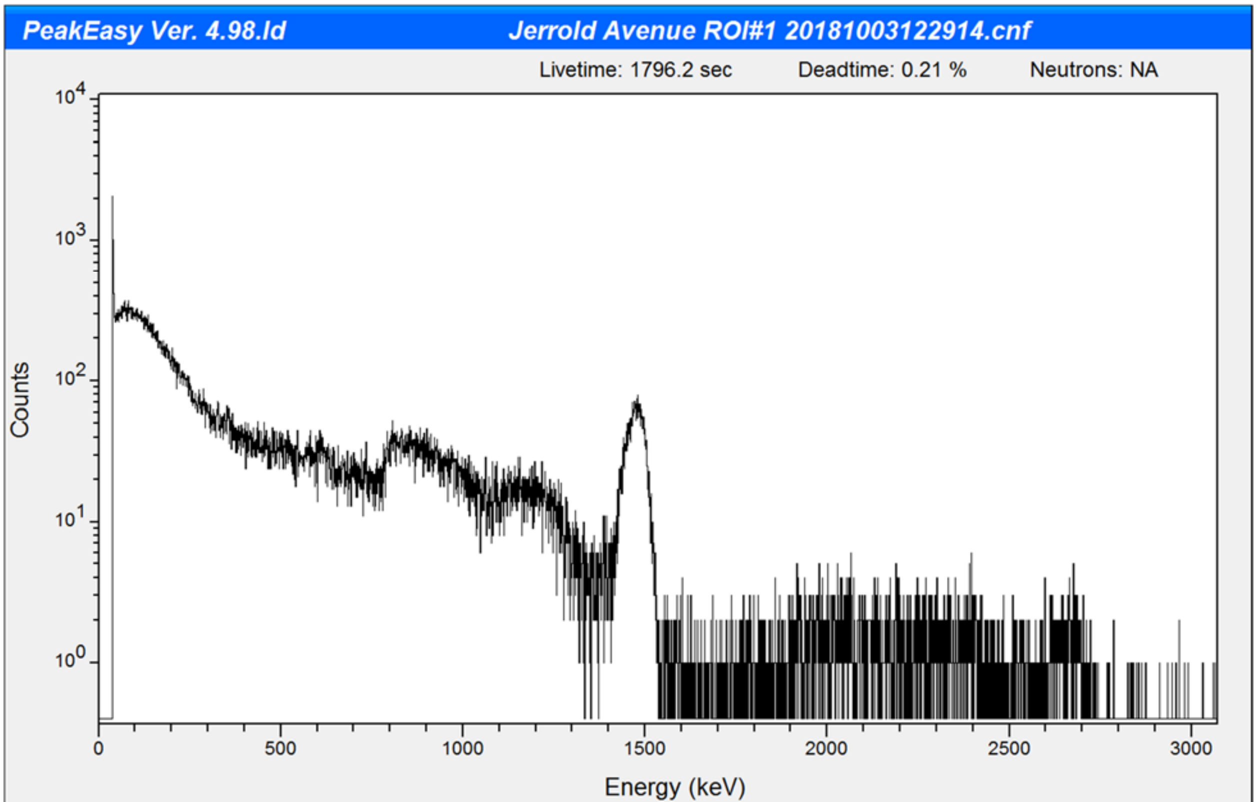

PeakEasy Ver. 4.98.ld
Innes Avenue ROI#4 20181003103035.cnf
Livetime: 1795.9 sec
Deadtime: 0.23 %
Neutrons: NA
Counts
Energy (keV)

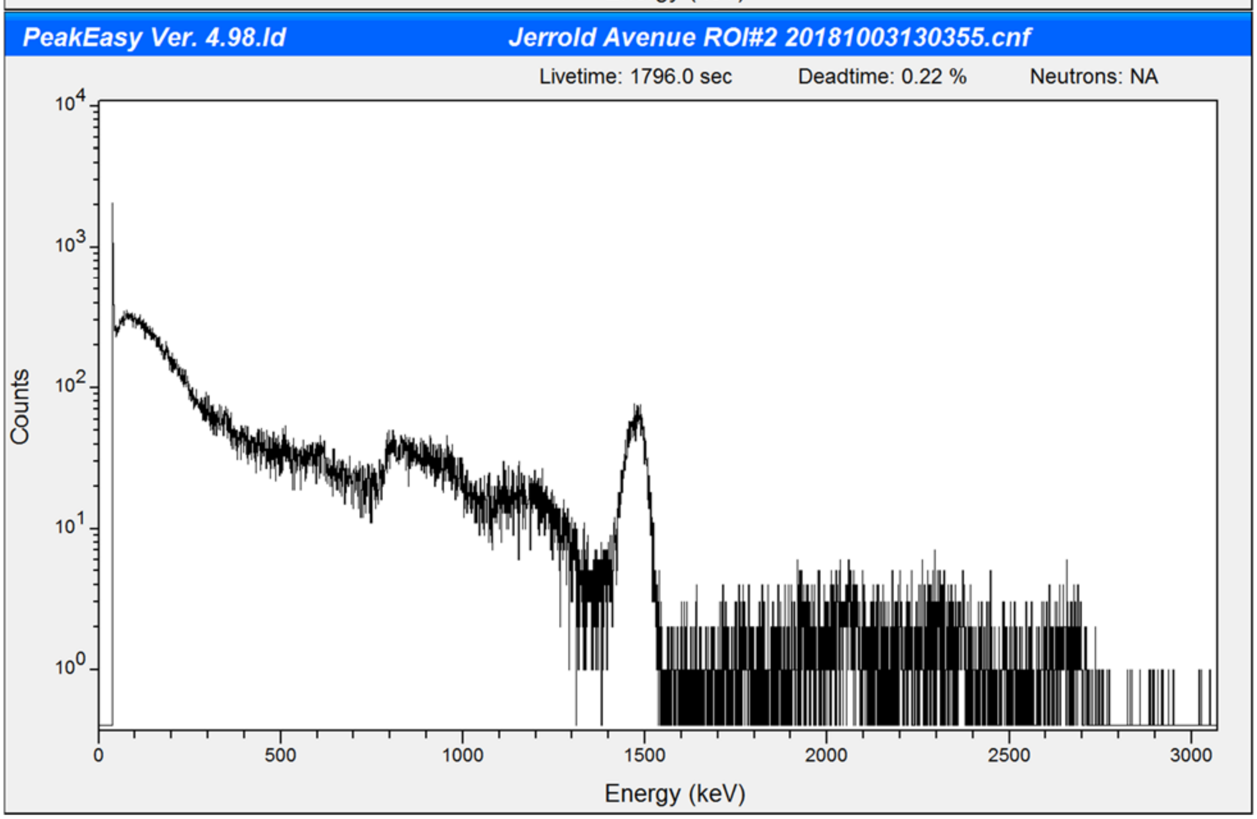

PeakEasy Ver. 4.98.ld
Innes Avenue ROI#12 20181003091824.cnf
Livetime: 1795.7 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
Energy (keV)

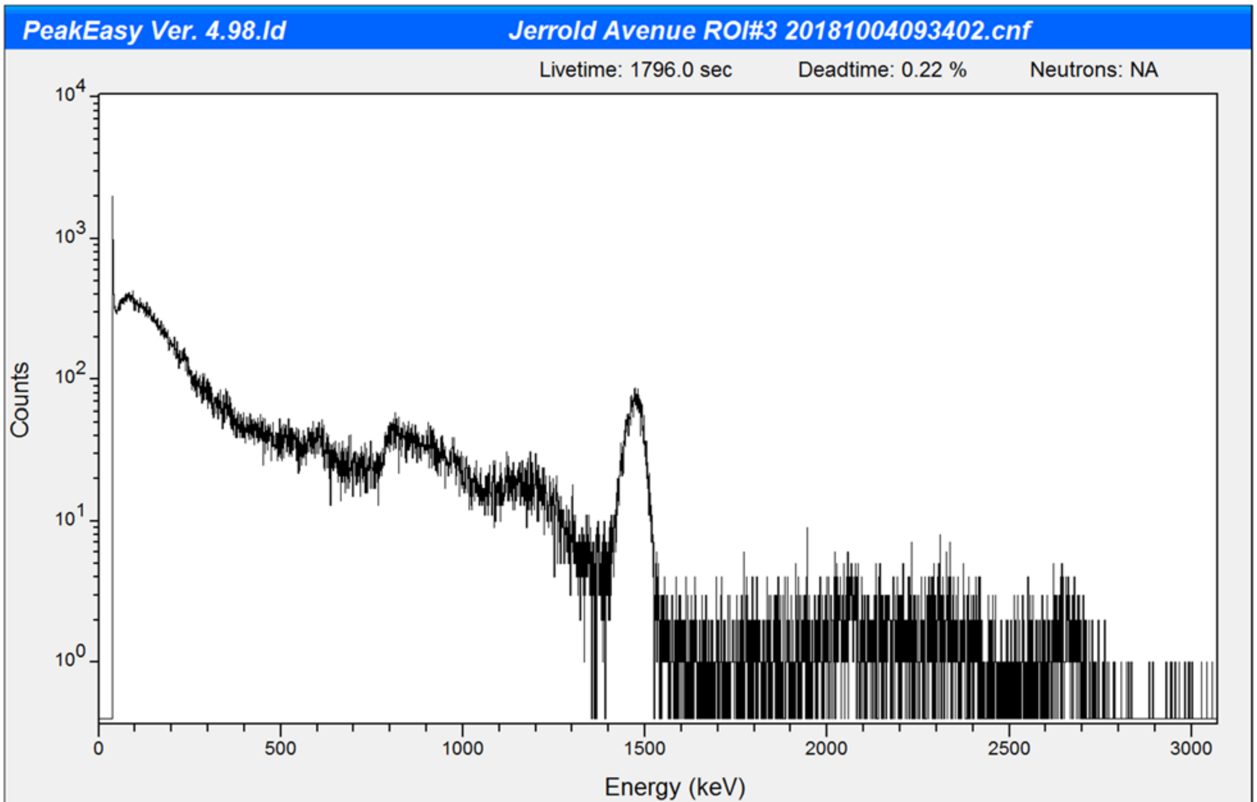

PeakEasy Ver. 4.98.ld
Innes Court ROI#12 20180925161003.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

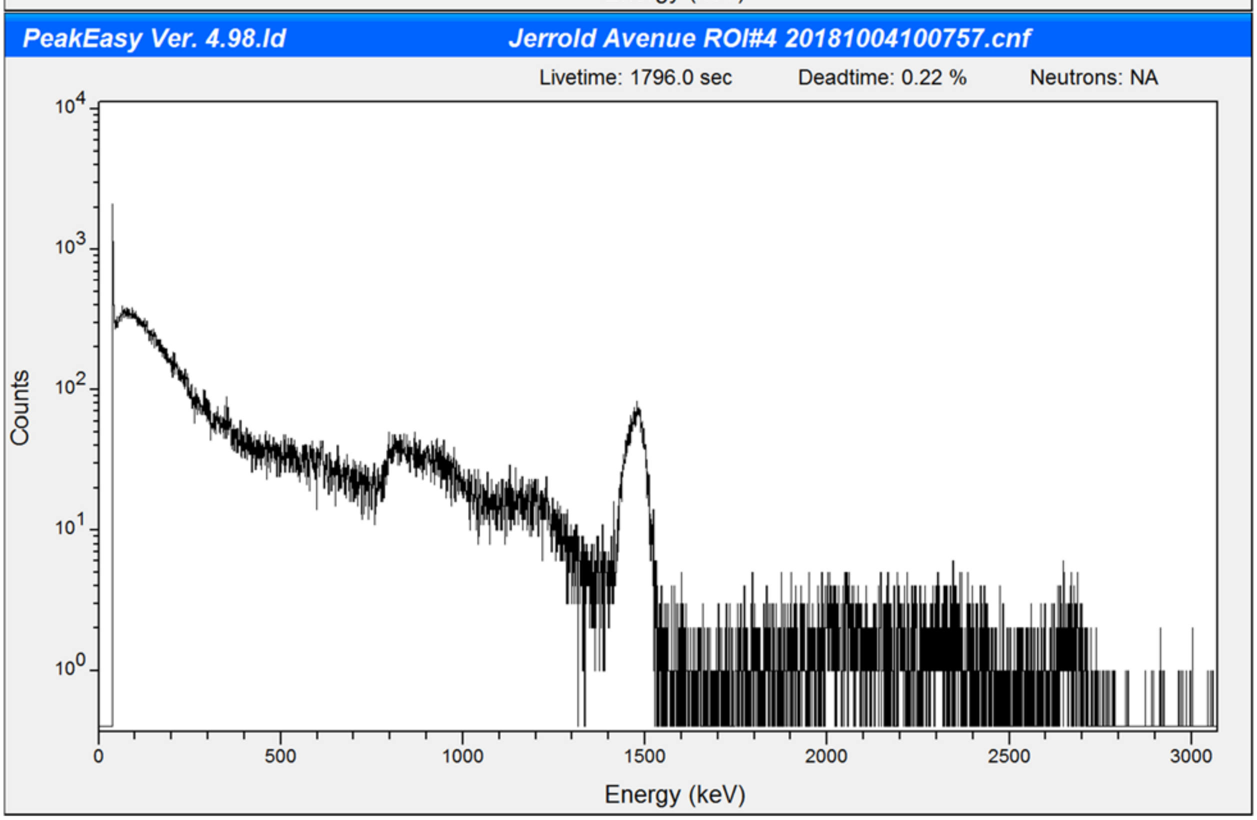

PeakEasy Ver. 4.98.ld
Innes Court ROI#34 20180926084603.cnf
Livetime: 1800.0 sec
Deadtime: 0.19 %
Neutrons: NA
Counts
Energy (keV)

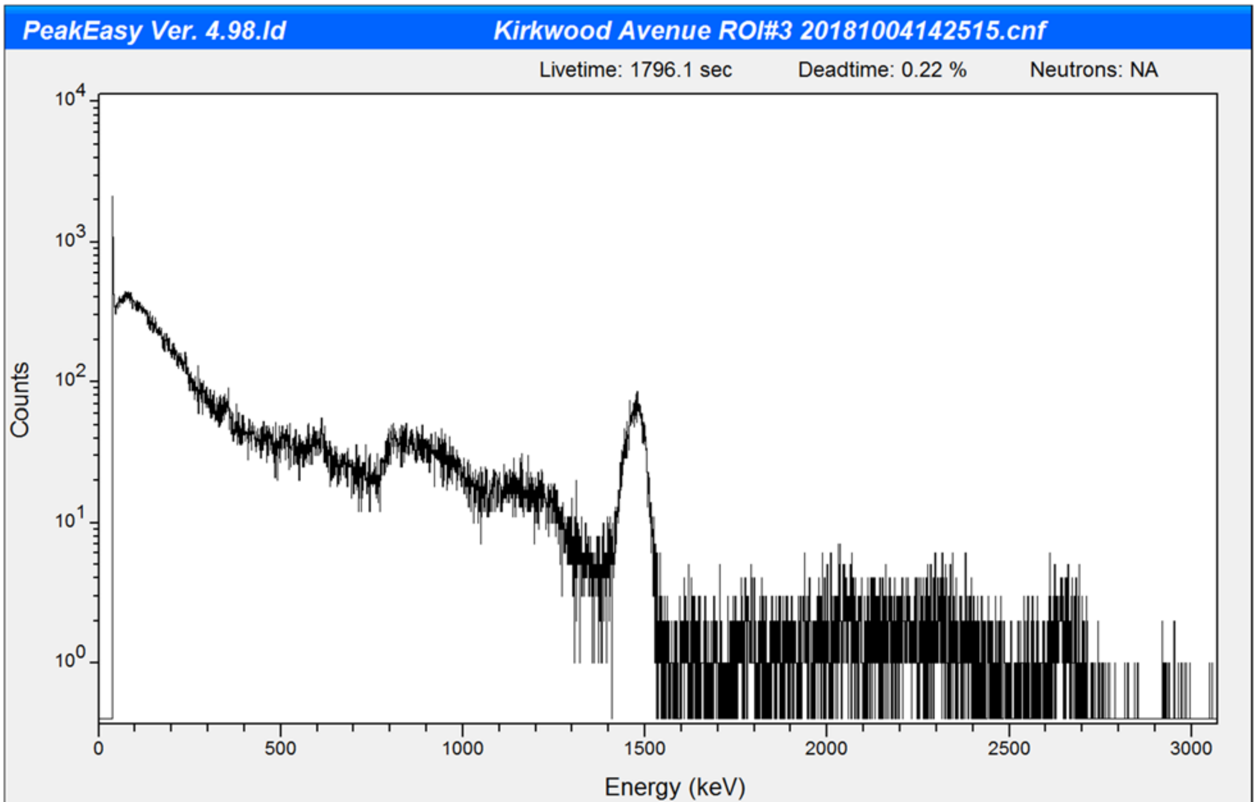

PeakEasy Ver. 4.98.ld
Innes Court ROI#PRE 20180816191046.cnf
Livetime: 1796.3 sec
Deadtime: 0.20 %
Neutrons: NA
Counts
Energy (keV)

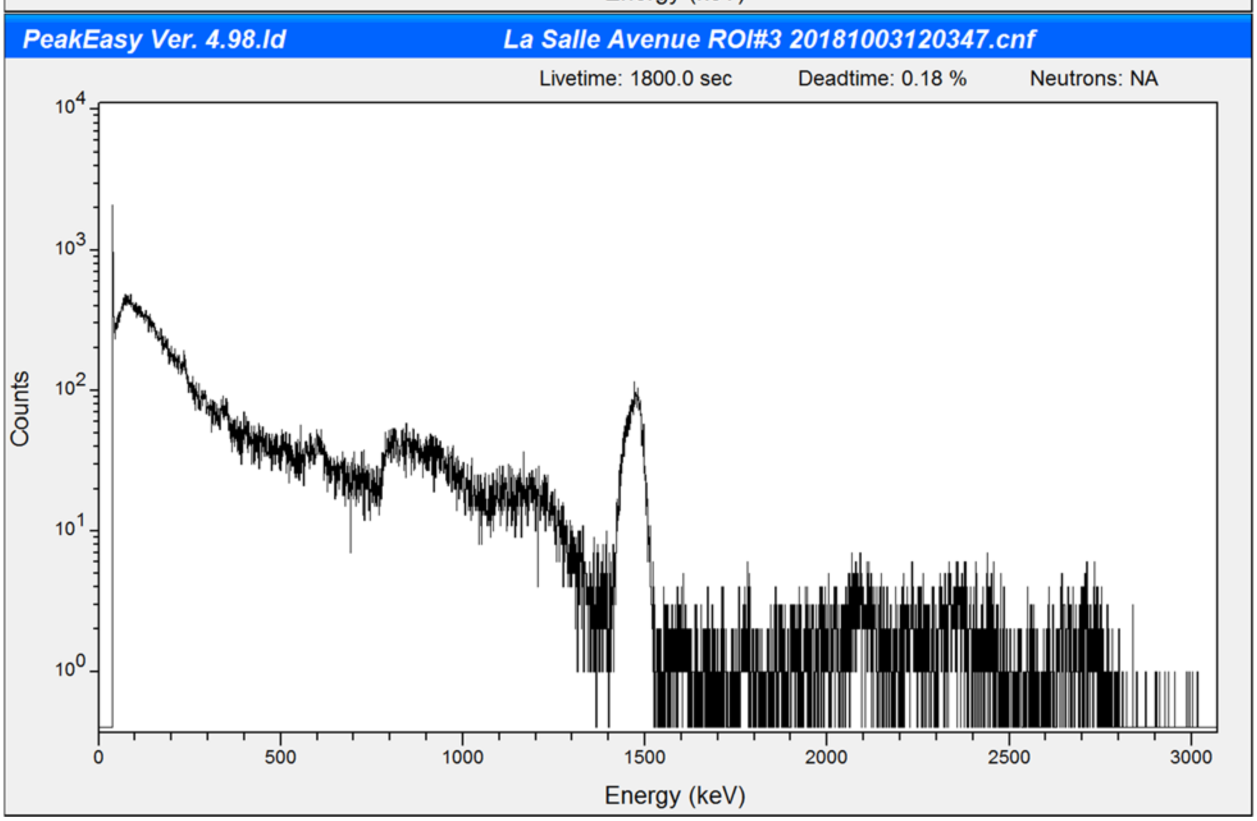

PeakEasy Ver. 4.98.ld
Jerrold Avenue ROI#1 20181003122914.cnf
Livetime: 1796.2 sec
Deadtime: 0.21 %
Neutrons: NA
Counts
Energy (keV)

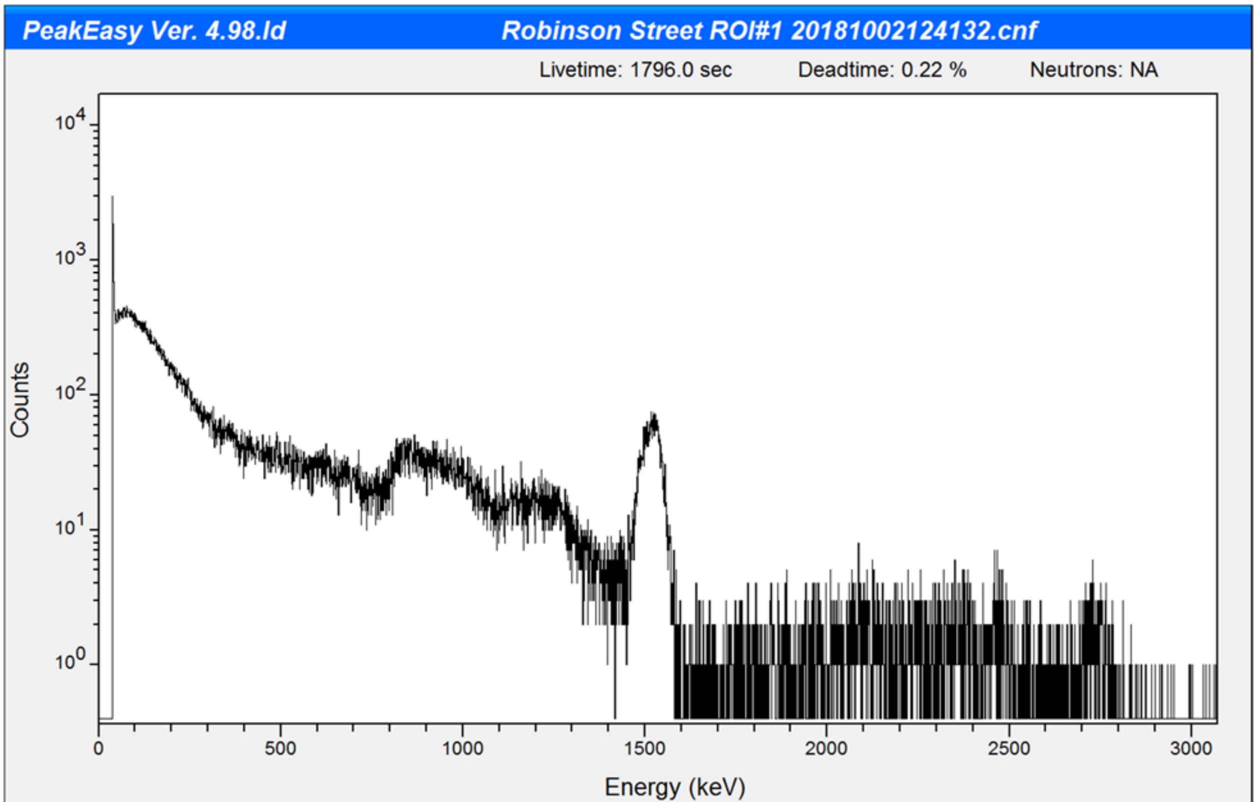

PeakEasy Ver. 4.98.ld
Jerrold Avenue ROI#2 20181003130355.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

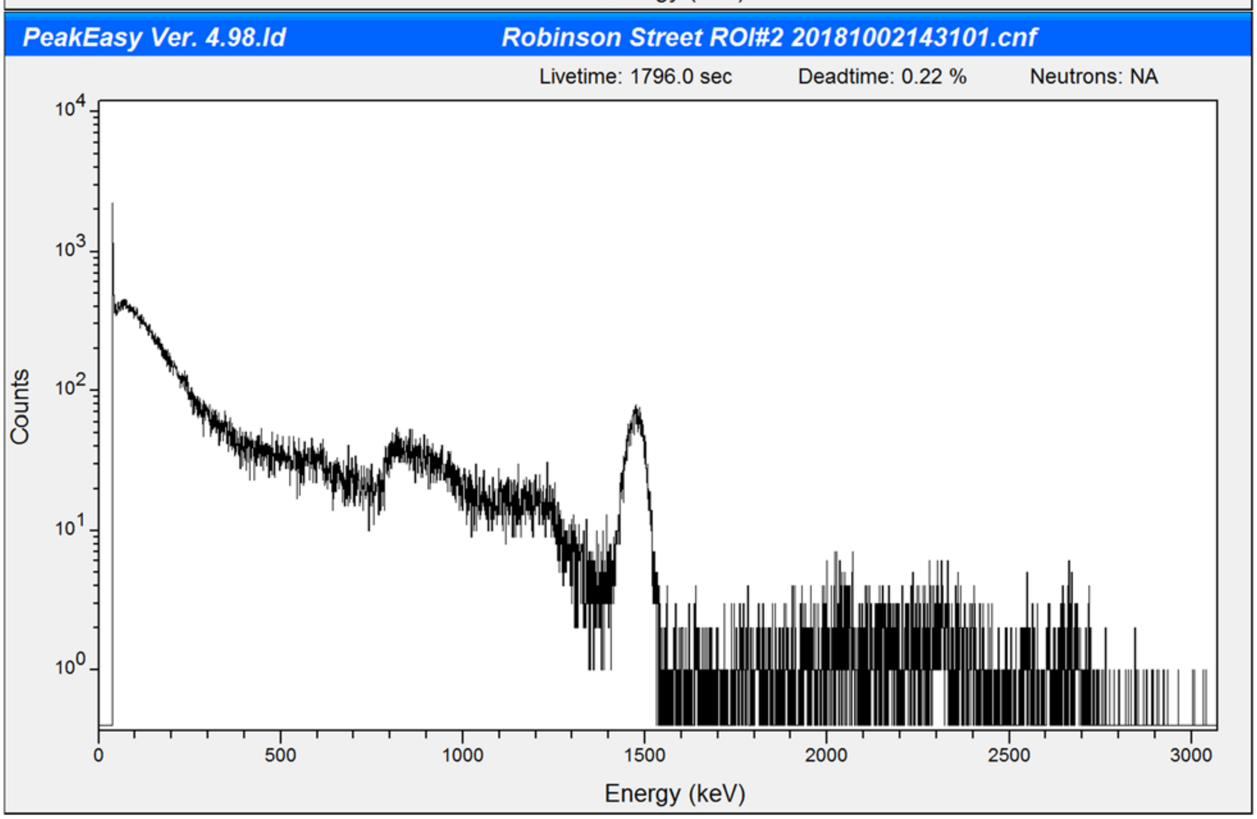

PeakEasy Ver. 4.98.ld
Jerrold Avenue ROI#3 20181004093402.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

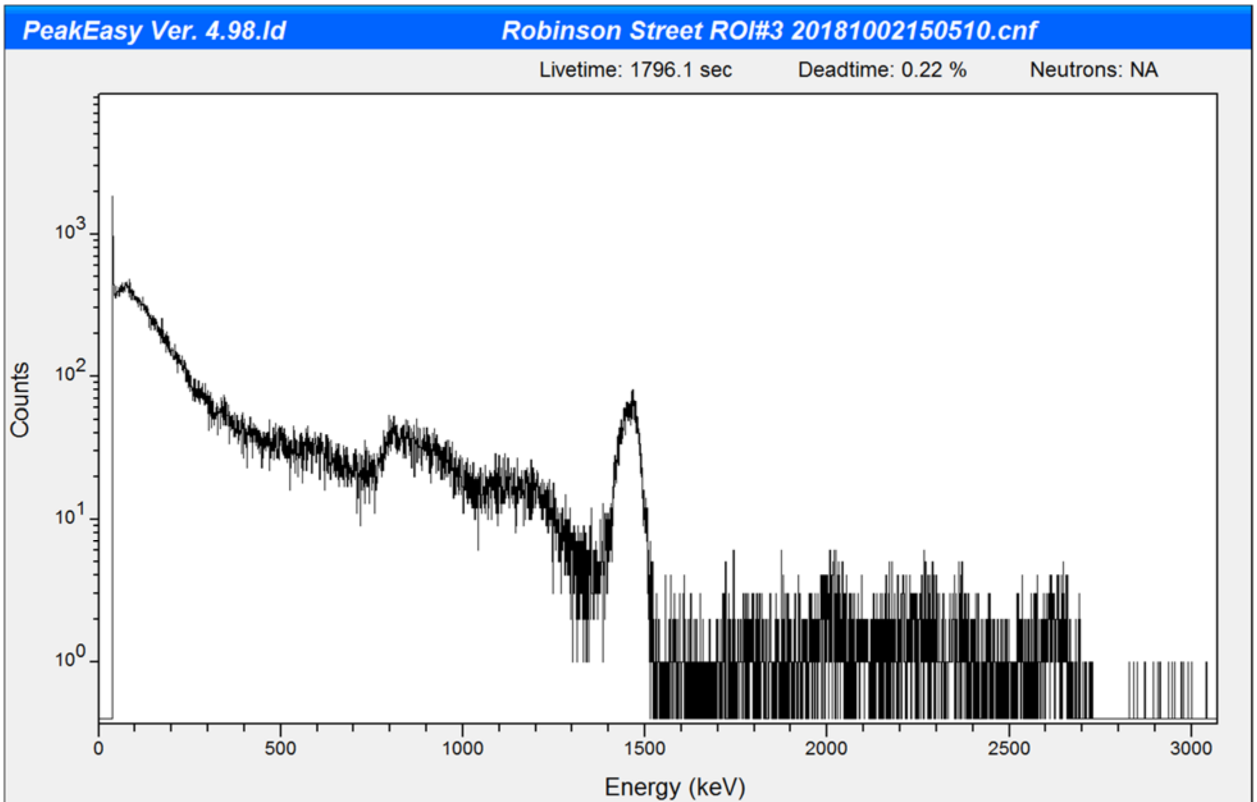

PeakEasy Ver. 4.98.ld
Jerrold Avenue ROI#4 20181004100757.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)

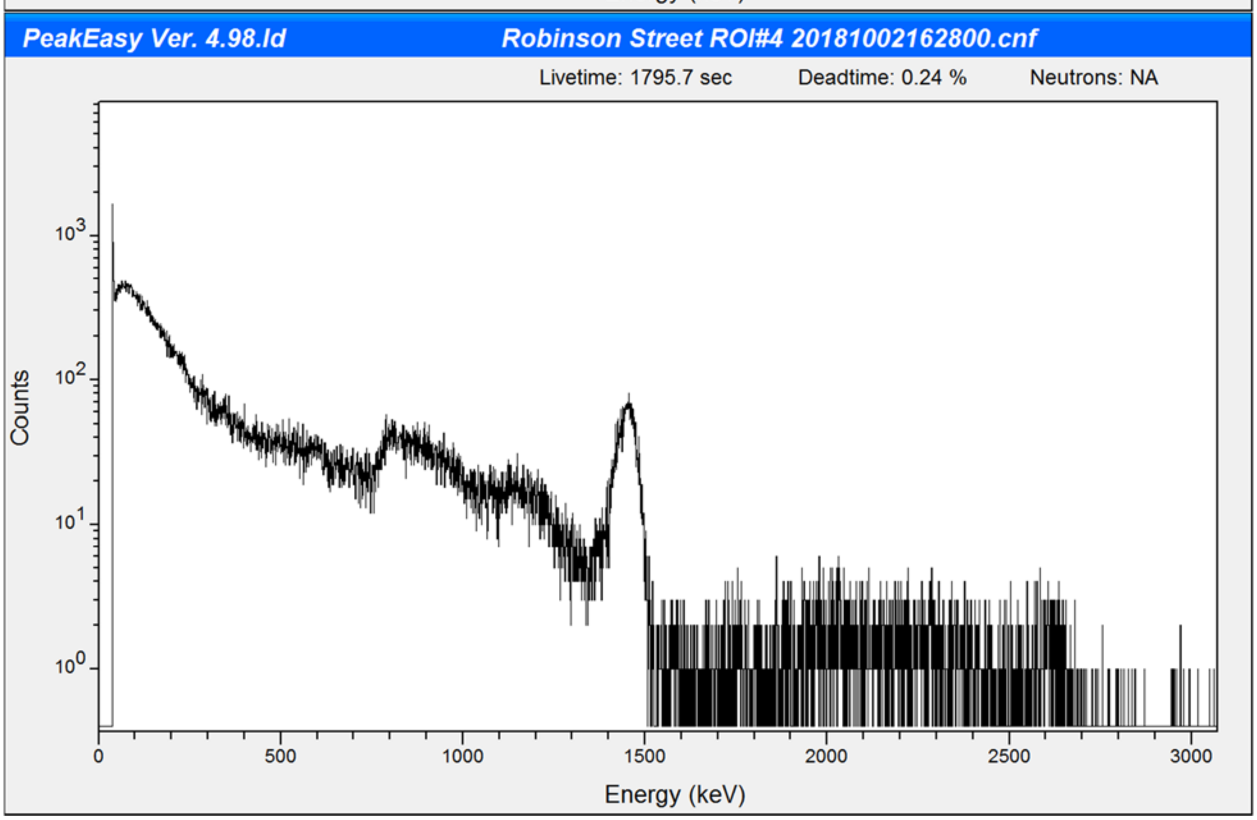

PeakEasy Ver. 4.98.ld
Kirkwood Avenue ROI#3 20181004142515.cnf
Livetime: 1796.1 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
La Salle Avenue ROI#3 20181003120347.cnf
Livetime: 1800.0 sec
Deadtime: 0.18 %
Neutrons: NA
Counts
Energy (keV)


PeakEasy Ver. 4.98.ld
Robinson Street ROI#1 20181002124132.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)
0
500
1000
1500
2000
2500
3000


PeakEasy Ver. 4.98.ld
Robinson Street ROI#2 20181002143101.cnf
Livetime: 1796.0 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
Energy (keV)
0
500
1000
1500
2000
2500
3000


PeakEasy Ver. 4.98.ld
Robinson Street ROI#3 20181002150510.cnf
Livetime: 1796.1 sec
Deadtime: 0.22 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)


PeakEasy Ver. 4.98.ld
Robinson Street ROI#4 20181002162800.cnf
Livetime: 1795.7 sec
Deadtime: 0.24 %
Neutrons: NA
Counts
10^3
10^2
10^1
10^0
0
500
1000
1500
2000
2500
3000
Energy (keV)