



January 29, 2015

VIA EMAIL & MAIL

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Nunavut Impact Review Board  
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Dear All:

**Re: Kiggavik Project Field Program 2014 Annual Report**

AANDC Land Use Permit N2014C0001  
KIA Land Use Licence KVL306C02  
NWB Water Licence 2BE-KIG1318

Please find enclosed, the 2014 AREVA Resources Canada Inc. (AREVA) Annual Report for the Kiggavik Project exploration field program. The hard copies of these documents have been sent via regular mail. AREVA believes this annual report provides a comprehensive summary of the activities conducted and fulfills the Nunavut Impact Review Board (NIRB) screening decision Condition 5, Aboriginal Affairs and Northern Development Canada (AANDC) permit condition No. 6, and Nunavut Water Board (NWB) Licence Part B, Item 2. Should you have any questions or comments, please do not hesitate to contact myself at 306-343-4035, [Naomi.Stumborg@areva.ca](mailto:Naomi.Stumborg@areva.ca), or John Robbins at 306-343-4513, [John.Robbins@areva.com](mailto:John.Robbins@areva.com).

Regards,

Naomi Stumborg  
Exploration Safety, Health, Environment and Quality (SHEQ) Supervisor

Enclosure: Kiggavik Project Field Program 2014 Annual Report  
cc: Workers' Safety and Compensation Commission  
AREVA Distribution



# 2014



**AREVA**

forward-looking energy

AREVA Resources Canada Inc.

## **KIGGAVIK PROJECT FIELD PROGRAM**

2014 ANNUAL REPORT

Date of issue: January 2015



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# **Kiggavik Project Field Program**

## **2014 Annual Report**

## Controlled Distribution List

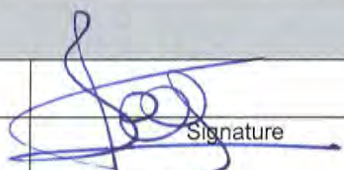
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## **EXECUTIVE SUMMARY**

The following Annual Report provides a summary of the 2014 Kiggavik Project exploration field program conducted by AREVA Resources Canada Inc. (AREVA). This submission is required by Part B, Item 2 of Licence no. 2BE-KIG1318 issued by the Nunavut Water Board (NWB) and condition six of the Land Use Permit N2014C0001 issued by Aboriginal Affairs and Northern Development Canada (AANDC).

The 2014 field program included geophysical surveys to identify potential areas for further exploration and drilling operations to evaluate areas for potential uranium mineralization. Operations were based out of the Kiggavik camp with support provided by helicopter services and the Baker Lake office. The Kiggavik camp was opened on June 9, 2014 and operations were complete and camp closed by September 4, 2014. During this period, a total of 11,161 metres were drilled in 45 drill holes using diamond core equipment.

The Kiggavik Project Management Plans were implemented throughout the season to prevent or reduce any potential adverse effects from exploration activities. AREVA also maintained its ISO 14001:2004 and OHSAS 18001:2007 certifications for the Integrated Management System. Occupational health, safety and radiation protection programs were implemented to ensure workers performed in a safe and responsible manner and were not exposed to adverse effects from uranium exploration activities. There were no lost time incidents involving AREVA personnel or contractors. A community engagement program was carried out to support all aspects of the Kiggavik Project, including the exploration field program. The Management Plans and Integrated Management System were effective in guiding the exploration operations toward a successful season.

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# 1 Summary of Kiggavik 2014 Field Program

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## 1.1 General

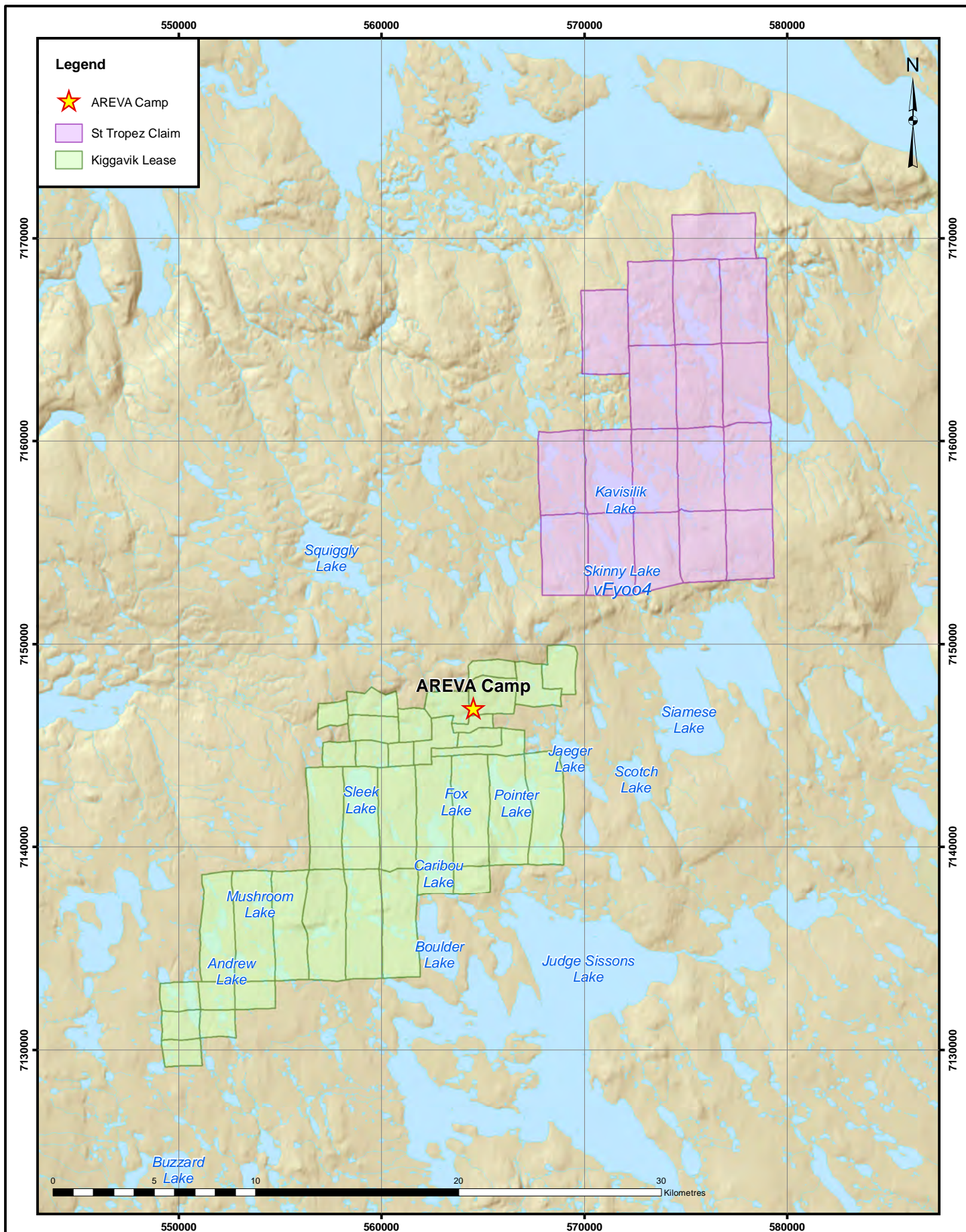
The Kiggavik uranium exploration project (Kiggavik Project) is located 80 kilometres (km) west of Baker Lake, Nunavut and is operated by AREVA Resources Canada Inc. (AREVA). The project includes the Kiggavik mineral leases and the St. Tropez claims which will be converted to lease in 2015 (See Figure 1.1-1). During the 2014 field program, AREVA and its contractors completed 11,161 metres (m) of exploration drilling on the Kiggavik lease. Ground gravity and magnetic VLF geophysics were completed on seven grid areas for a total of 631.65 km. An airborne electromagnetic survey was conducted on three grids for a total of 362.3 km. No prospecting, geological mapping, thermistor installation or packer-testing were conducted.

Operations were based out of the Kiggavik camp which opened on June 9, 2014. The remaining drilling and support staff mobilized to site June 12 and June 16 to support drilling operations which commenced June 14, 2014. The camp accommodated a maximum of 45 persons with an average of 33 persons during the season. Support was provided by the Baker Lake office and transport was provided by helicopter services. Drilling was complete September 1 and camp closed by September 4, 2014. Main Project contributors are shown in Table 1.1-1.

**Table 1.1-1: Kiggavik Project Contributors**

Activity	Contributors
Management	AREVA
Environment, Safety and Radiation Protection	AREVA
Geological logging and probing	AREVA
Camp Operations & Maintenance	AREVA & Peter's Expediting Ltd.
Wildlife Monitoring	AREVA & Peter's Expediting Ltd.
Expediting	AREVA, Peter's Expediting Ltd.
Fuel and other Overland Transportation	Peter's Expediting Ltd.
Drilling	Boart Longyear
Helicopter and Logistics	Kivallingmiut Aviation (Great Slave Helicopters)
Occupational First Aid & Catering	5136 Nunavut Ltd (1984 Inc.)
Ground Geophysics – ground gravity survey	MWH Geo-Surveys Inc.
Ground Geophysics – Magnetics/VLF	AREVA
Aerial Geophysics – VTEM plus survey	Aeroquest Airborne - Geotech





Projection: NAD 1983 UTM Zone 14N  
 Compiled: C. Courant      Drawn: C. Courant  
 Date: 12/15/2014      Scale: Scalebar  
 File: KI01A033  
 Data Sources: Natural Resources Canada, Geobase®, Nation  
 Topographic Database, AREVA Resources Canada  
 Inc.

**FIGURE 1.1-1**  
 KIGGAVIK LEASES AND  
 ST. TROPEZ BOUNDARIES

2014 KIGGAVIK Annual Report

**KIGGAVIK  
 PROJECT**



## 1.2 Drilling, Sampling and Testing

Geological exploration was primarily reconnaissance drilling in the Bong South, Kiggavik East, End East, Roughland Trend, 85W, Sleet Lake, Igloo West, Musko Grid, Jane Extension and the Contact Grid (See Figure 1.2-1).

As per the NWB Licence, Part F, Item 7, AREVA must record the depth of permafrost where drilling activity has penetrated below the permafrost layer. The pneumatic packer testing and installation of thermistors was not necessary in 2014, as these are activities specific to mine development. As further mine development activities are conducted, the relevant data will be provided in subsequent annual reports.

All drill core was logged and core samples (non-mineralized and mineralized) were collected for laboratory testing. Refer to Table 1.2-1 for a summary of the 2014 drilling program.

**Table 1.2-1: Summary of 2014 Drill Holes**

HOLE ID	Zone	UTM X Easting	UTM Y Northing	Azimuth /Dip	Start	Finish	Depth (m)
KE-07	Kiggavik East	569060	7149457	140/-80	June 14	June 18	255
KE-08	Kiggavik East	567205	7147715	150/-80	June 18	June 22	303
KE-09	Kiggavik East	567036	7147843	150/-80	June 22	June 25	255
KE-10	Kiggavik East	568314	7149133	180/-75	June 25	June 30	291
KE-11	Kiggavik East	568299	7148297	100/-80	July 2	July 7	180
BONG-064	Bong	562285	7143687	110/-80	July 8	July 11	279
BONG-065	Bong	562189	7143711	110/-80	July 11	July 14	201
BONG-065A	Bong	562189	7143711	110/-80	July 14	July 19	378
BONG-066	Bong	562255	7143799	110/-70	July 20	July 24	369
RHLD-05	Roughland Trend	560801	7139985	165/-80	June 17	June 21	279
RHLD-06	Roughland Trend	560248	7139519	165/-80	June 22	June 26	111
RHLD-07	Roughland Trend	558809	7138853	170/-80	June 27	June 30	291
RHLD-08	Roughland Trend	558180	7138591	330/-80	July 2	July 5	255
EE-01	End East	555230	7136022	170/-73	June 18	June 20	141
EE-01A	End East	555230	7136022	170/-68	June 20	June 24	318
EE-02	End East	556821	7136525	350/-80	June 24	June 29	312
EE-03	End East	557420	7136354	180/-80	June 30	July 5	279
EE-04	End East	557918	7136499	170/-80	July 6	July 11	318
EE-05	End East	556030	7135977	360/-80	July 12	July 15	162
CONT-006	Contact	550131	7129700	135/-70	July 16	July 21	252
CONT-007	Contact	550093	7129731	125/-70	July 22	July 29	360
CONT-008	Contact	550168	7129734	125/-70	July 30	Aug 5	249
CONT-009	Contact	550168	7129734	125/-50	Aug 5	Aug 08	248
CONT-010	Contact	550095	7129664	125/-70	Aug 10	Aug 13	274
CONT-011	Contact	550095	7129664	125/-55	Aug 13	Aug 15	165

HOLE ID	Zone	UTM X Easting	UTM Y Northing	Azimuth /Dip	Start	Finish	Depth (m)
CONT-012	Contact	550045	7129637	125/-75	Aug 16	Aug 21	264
CONT-013	Contact	550184	7129729	180/-68	Aug 21	Aug 23	173
CONT-014	Contact	550034	7130247	355/-70	Aug 24	Aug 28	261
CONT-015	Contact	550254	7130421	285/-75	Aug 28	Sept 1	234
SLEK-017	Sleek Lake	556845	7138121	330/-80	July 6	July 12	327
SLEK-018	Sleek Lake	557275	7138388	165/-80	July 12	July 20	39
SLEK-019	Sleek Lake	556757	7138574	310/-75	July 20	July 23	201
MO-01	Muskox	556613	7134810	180/-80	July 24	July 30	273
MO-02	Muskox	556217	7134957	180/-80	July 30	Aug 04	246
MO-03	Muskox	557663	7134772	180/-80	Aug 04	Aug 08	225
JE-01	Jane Extension	554410	7132537	180/-75	Aug 08	Aug 13	231
JE-02	Jane Extension	554058	7132478	165/-75	Aug 13	Aug 17	270
85W-04	85W	557636	7144525	165/-80	July 24	July 30	273
85W-05	85W	558171	7143599	090/-80	July 31	Aug 2	66
85W-05A	85W	558171	7143599	090/-75	Aug 2	Aug 6	255
85W-06	85W	558103	7144728	035/-70	Aug 7	Aug 9	225
85W-07	85W	557505	7144693	230/-80	Aug 19	Aug 21	227
85W-08	85W	557736	7144465	230/-80	Aug 21	Aug 23	204
IW-01	Igloo West	560211	7136853	180/-75	Aug 10	Aug 13	273
IW-02	Igloo West	560484	7137000	170/-80	Aug 7	Aug 18	369
<b>TOTAL:</b>							<b>11,161m</b>

### 1.2.1 Bong South

#### Results of 2014 program (4 holes/1,227 m):

The holes drilled in 2014 at Bong intersected dominantly metasediments with sporadic moderate to weak alteration. None of the boreholes encountered mineralization.

### 1.2.2 Kiggavik East

#### Results of 2014 program (5 holes/1,284 m):

The preliminary results indicate that the drill holes intersected the interpreted geology expected in each of the areas, a massive sequence of quartzite above fresh to altered metasediments. Only **KE-08** intersected intermittent weak to trace mineralization in the metasediments.

### 1.2.3 End East

#### Results of 2014 program (6 holes/1,530 m):

All the drill holes along the End East trend consist of moderate to strongly hematized metasediments of the Woodburn Group in the vicinity of major structures. The metasediments



outside of the structural disruption are in general weakly chloritized or fresh. No pervasive secondary alterations are noted except for some narrow halos of bleaching and/or chlorite alteration associated with minor structures. None of the hole drilled at End East in 2014 encountered mineralization.

#### **1.2.4 Roughland Trend**

##### **Results of 2014 program (4 holes/936 m):**

All the holes along the Roughland trend consist of moderate to strongly hematized metasediments of the Woodburn Group. The holes along the trend intersected minor fault zones that have either hematite or chlorite associated with the structures. Two of the drill holes RHLD-05 and RHLD-07 intersected major structures. These major structures (< 10 metres in size) consist of multiple generations of fluid movement consisting of quartz-hematite rich matrix as well as fine-grained intrusives. The Roughland trend is confirmed as a major fault zone but no uranium products or related alteration types has yet been identified.

#### **1.2.5 85W**

##### **Results of 2014 program (6 holes/1,250 m):**

The six drill holes completed at 85W encountered essentially Hudsonian granite with lesser amounts of metasediments and minor lamprophyres and syenites. The granite was locally observed pervasively altered with some intermittent mineralization as seen in 85W-04. 85W-04 was the only mineralized hole of this area.

#### **1.2.6 Sleek Lake**

##### **Results of 2014 program (3 holes/567 m):**

Two of the three holes were successful in being drilled to their intended depth. The targets included testing the ground geophysics as well as the structural interpretation. SLEK-17 intersected a major structure and associated alteration while SLEK-19 did not intersect any structures of interest and with only minor alteration. No mineralization was encountered at Sleek Lake in 2014.



### **1.2.7 Igloo West**

#### **Results of 2014 program (2 holes/642 m):**

Drilling at Igloo West in 2014 outlined essentially metasediments with several positive features. Quartz breccias were intersected in IW-01, as they are seen in the deposits in the southern portion of the property as well as trace mineralization being observed in a fault zone as seen in IW-02. IW-01 was not mineralized.

### **1.2.8 Muskox Grid**

#### **Results of 2014 program (3 holes/744 m):**

All three holes performed at Muskox grid encountered dominant metasediments. The first hole drilled in the area (MO-01) was prospective with strong alteration seen throughout most of the hole. The other holes (MO-02 and -03) were regional in appearance. None of the holes encountered mineralization.

### **1.2.9 Jane Extension**

#### **Results of 2014 program (2 holes/501 m):**

In 2014, the two holes performed at Jane Extension intersected essentially metasediments with local intrusives and quartz breccias. Prospective alterations and structures were seen in the metasediments however no mineralization was encountered.

### **1.2.10 Contact Grid**

#### **Results of 2014 program (10 holes/2,480.2 m):**

The ten boreholes performed at Contact Grid in 2014 intersected dominant granitic gneiss with lesser amounts of granite and quartz breccias. Intermittent uranium mineralization associated with moderate to strong alteration was encountered in CONT-06, -08, -10, -11, -12 and -13.

## **1.3 Geophysics**

A program of ground geophysics was completed in 2014 on seven different grids as listed in Table 1.3-1: 2014 Ground Geophysics Program. These grids are current areas of interest that do not have ground gravity data but have significant airborne gravity lows or other structural or geophysical signatures of interest (see Figure 1.3-1). MWH Geo-Surveys Inc. was the

contractor who performed the ground gravity while the magnetic and VLF surveys were completed by AREVA personnel.

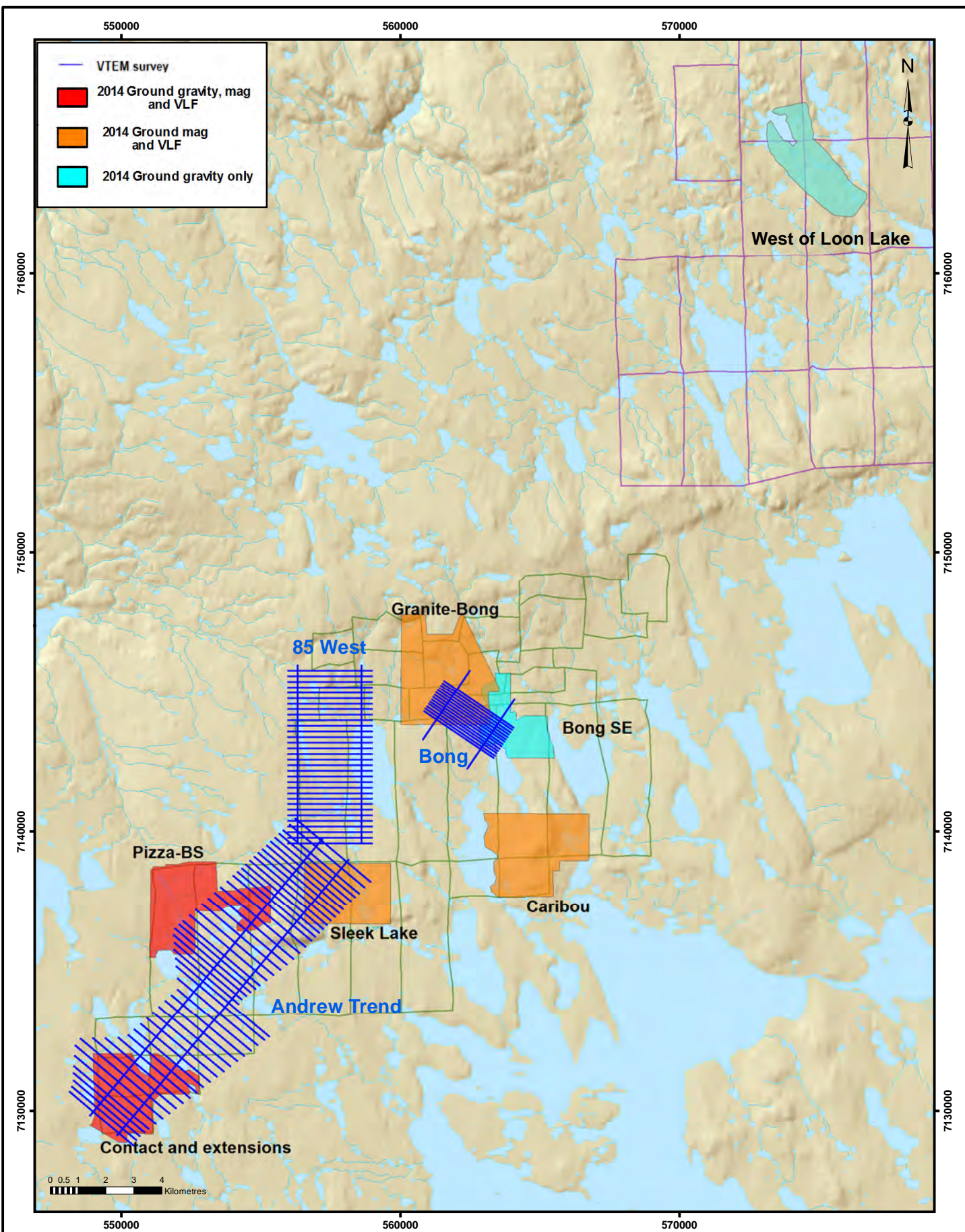
**Table 1.3-1: 2014 Ground Geophysics Program**

<b>Area</b>	<b>Gravity (kilometres)</b>	<b>Magnetics &amp; VLF-EM (kilometres)</b>
Pizza-BS grid	72.0	74.70
Bong SE	38.8	0
Contact and extensions	20.0	67.65
Caribou	0	125.20
Granite Bong	0	103.10
Sleek Lake	0	62.10
West of Loon Lake	68.1	0
<b>Total</b>	<b>198.9</b>	<b>432.75</b>

A VTEM plus survey was completed in late September 2014 on the Bong, 85West and Contact, Jane, Andrew trend, a total of 362 line kilometers were flown (See Figure 1.3-1).







Projection: NAD 1983 UTM Zone 14N  
 Compiled: M.Behaegel Drawn: C.Courant  
 Date: 12/16/2014 Scale: Scalebar  
 File: KI02A014  
 Data Sources: Natural Resources Canada, Geobase®, Nation  
 Topographic Database, AREVA Resources Canada  
 Inc.

**FIGURE 1.3-1**  
 2014 GEOPHYSICAL SURVEYS  
 2014 KIGGAVIK Annual Report

**KIGGAVIK  
 PROJECT**



## 1.4 Inspections

Inspections of the field activities were carried out by Aboriginal Affairs and Northern Development Canada (AANDC) on July 16, 2014, the Kivalliq Inuit Association (KIA) on September 22, 2014, and the Baker Lake Conservation Officer on August 13, 2014. Refer to Appendix A for further detail regarding compliance.

### 1.4.1 Aboriginal Affairs and Northern Development Canada

An inspection was conducted by the AANDC Water Resource Officer on July 16, 2014 for the Land Use Permit N2014C0001. The inspectors visited the Kiggavik camp, drilling area, and fuel storage areas. The recommendations and/or concerns were provided in the Water Licence Inspection Report, and are outlined in Table 1.4-1. The inspector did not identify any unacceptable conditions within the camp area.

**Table 1.4-1: AANDC Inspection – July 16, 2014**

<b>RECOMMENDATIONS/CONCERNS</b>	<b>ACTION TAKEN</b>
1. Rather than averaging maximum drill water capacities, install meters on the intake of the pump to ensure all water that is drawn is measured.	1. Water meters have been ordered for the 2015 season to be installed directly on the water pump.
2. The inspector noted a failure to prevent waste deposition into water when waste entered a small water body in the Bong area (N64° 24' 50.18" W 97° 42' 24.124")	2. AREVA provided both a spill report to regulators and a situational report that discussed the event, immediate measures taken, and a determination of additional long-term measures required to the inspector. Relocation of equipment, sandbag berms, and more frequent inspection were implemented in response to the spill. Further detail is provided in Section 3.4.2.
3. The drill waste area of End grid was observed. This location, though a great distance from a water body	3. The centralization of cuttings was considered best practice to ensure drill cuttings did not migrate toward any water

RECOMMENDATIONS/CONCERNS	ACTION TAKEN
<p>posed a concern to the inspector.</p> <p>The proponent will provide the rationale as to why the centralization of cuttings is best practice and provide more information as to how the location for the current sump was selected.</p>	<p>bodies. The depth of material gradually increased over time because extensive drilling was completed in the area for six years to further delineate the known deposit. Sandbags were used to contain drill waste as well as Curlex Sediment Logs and bark filled filter socks. The purpose of the sediment logs and bark filter socks was for reduced flow, filtration of sediment, and to provide a substrate for re-establishment of vegetation. With little drilling expected in the area and in response to the inspector's concerns, AREVA has begun remediating the site by removing plastic sand bags and spreading the sediment logs and filter socks to create a litter layer for seed establishment. Further detail is provided in Section 3.7.2.1.</p>
<p>4. A drill hole near End grid was noted to have a large hole around the collar. The proponent must include details specific to drill site and drill waste remediation within the revised Abandonment and Reclamation Plan, and the revisions shall be submitted with the 2014 Annual Report.</p>	<p>4. The drill hole identified showed evidence of permafrost degradation and will be reclaimed by placing material within the depression. Further information regarding the standard practice of refilling with clean cuttings is further explained in the revised Abandonment and Restoration Plan (See Appendix C). The large depression identified will require the use of additional fill material. The current proposal is to use gravel and/or clean discharge material to</p>



RECOMMENDATIONS/CONCERNS	ACTION TAKEN
	backfill and remediate the site.
5. A method for treatment of contaminated water from the secondary containment berms must be established.	5. The water accumulated in the secondary containment berms will be placed in the drum allocated for collection of berm water. The contaminated water will then be tested for petroleum hydrocarbon contamination to determine whether transport off site to a licensed disposal facility is required.
6. The proponent will confirm the fuel contractors land authorization number required for the winter resupply/fuel haul to the inspector no later than March 31, 2015.	6. AREVA has confirmed the land authorization number KVRW98F146 for access to Inuit-Owned-Lands (IOL), and the fuel contractor has applied to AANDC for their land use permit.

## 1.4.2 Kivalliq Inuit Association

The KIA conducted an inspection of the Kiggavik camp and fuel storage areas on September 22, 2014 for the Land Use Licence KVL306C02. The inspector noted that the buildings were in respectable condition greater than 100 m from any water body, and materials were stored properly in secondary containment with spill kits available. The following table outlines the inspection findings and action items.

**Table 1.4-2: KIA Inspection – September 22, 2014**

RECOMMENDATIONS/CONCERNS	ACTION TAKEN
1. An apple was left on the deck of the kitchen that may attract wildlife.	1. AREVA will ensure to inspect the entire area of the kitchen, including the back deck before leaving site to prevent wildlife attraction.
2. The radioactive compound door was	2. The latch will be replaced on the

RECOMMENDATIONS/CONCERNS	ACTION TAKEN
<p>open and lacked pertinent signage. Wildlife could have entered the compound and been contaminated.</p>	<p>compound door to prevent from inadvertent opening. Although the compound has signage along the western side, AREVA will install signage at the entrance to the compound.</p>
<p>3. A sea-container door was left open. Wildlife may seek shelter inside and contents not secure from possible dispersal.</p>	<p>3. AREVA mistakenly left the door open prior to departure. AREVA appreciates that the KIA closed the door, and AREVA will ensure to check these areas before season closure.</p>
<p>4. Contaminated sand was observed by fuel pump and under portable fuel container</p>	<p>4. AREVA will clean the sites that leaked diesel fuel and store for proper disposal off site.</p>



## **2 Summary of Planned Activities for 2015**

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### **2.1 General**

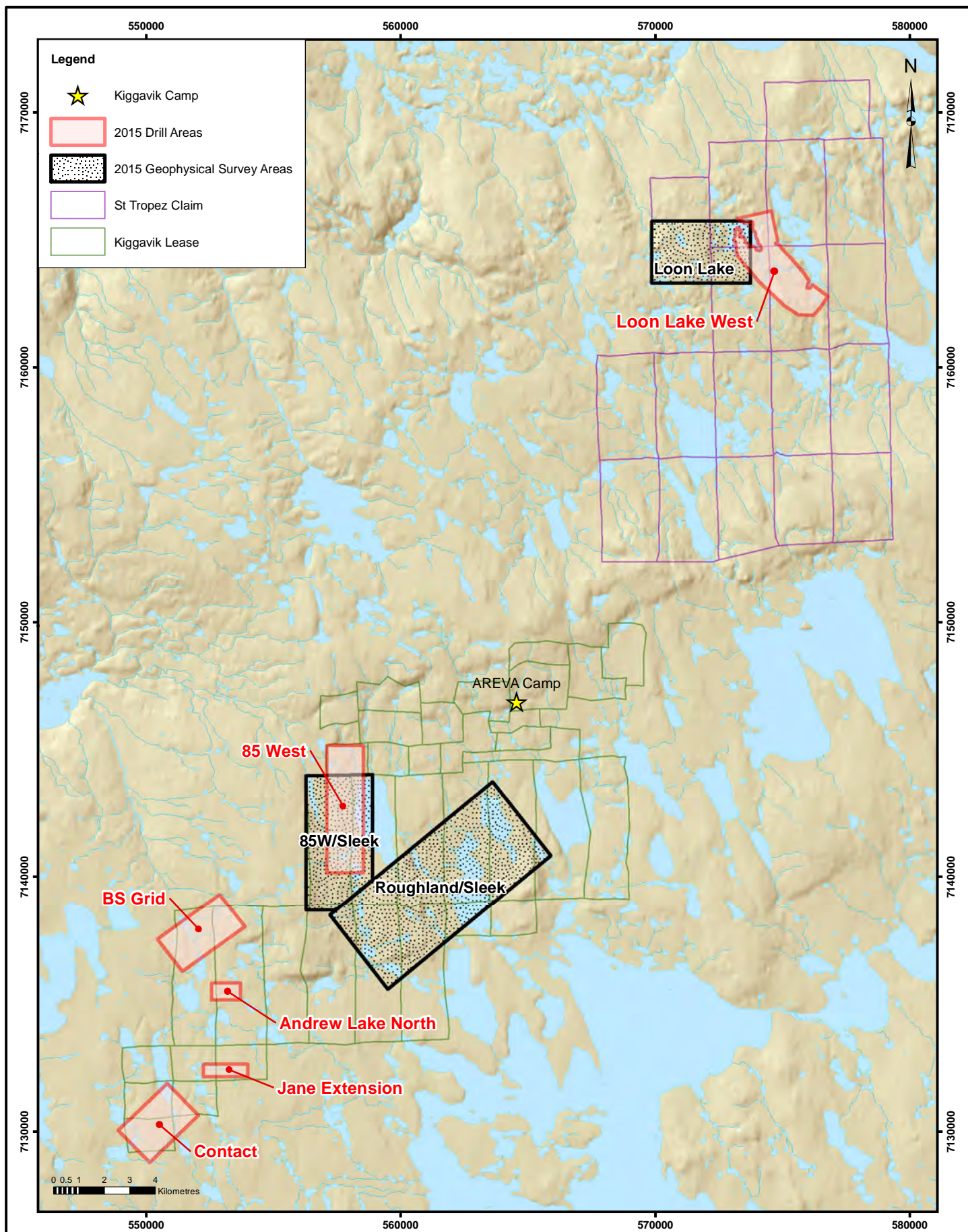
The upcoming 2015 field season will be similar to the 2014 season, and will consist of 100% greenfield exploration. The 2015 exploration program will be a focused drilling campaign to test for mineralization within a defined structural corridor that extends from Contact to the northern portion of the 85 West. A small number of holes will be completed in the St. Tropez area. The Kiggavik camp will accommodate a maximum of 59 people, but is expected to average from 30 to 35 in 2015. The drill and support crews will likely commence mobilization in early June, with drilling completed and camp prepared for the winter season by mid-September. All operations will be conducted out of the Kiggavik camp with support provided by helicopter services and the Baker Lake office.

### **2.2 Drilling, Sampling and Testing**

Although the 2015 drilling program has not been fully defined at this time, it will likely include drilling at Contact, 85 West, BS Grid, Andrew Lake North, and Jane Extension. The St. Tropez claims will be converted to leases in early 2015, and four to five drill holes (~1,000 m) will be completed in this area during the upcoming program. All drilling areas are shown in Figure 2.2-1.

- a. The objectives of the drilling campaign will be to collect resource data in untested areas for mineralizing systems
- b. Diamond drilling will include a total of 29 - 30 drill holes
- c. Total meterage is expected to be approximately 8,500 m
- d. The drill hole size will be NQ, though HQ is being considered in some areas
- e. Core orientation will be conducted using the ACT core orientation system, or equivalent
- f. Holes will be inclined (between -86° and -45°)
- g. Hole length is expected to range between 200 m and 350 m
- h. Drill locations will be picked in the spring of 2015

Prospecting and geological mapping may take place on the Kiggavik and St. Tropez areas.



Projection: NAD 1983 UTM Zone 14N  
 Compiled: M.Behaegel Drawn: C.Courant  
 Date: 01/09/2015 Scale: Scalebar  
 File: KI01A028  
 Data Sources: Natural Resources Canada, Geobase®, Nation  
 Topographic Database, AREVA Resources Canada  
 Inc.

**FIGURE 2.2-1**

PROPOSED 2015 GEOPHYSICAL AND DRILLING AREAS

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## **2.3 Geophysics**

Ground magnetic and VLF geophysics surveys will cover different areas of the Kiggavik lease to complete the coverage (e.g. 85 West and Roughland). There is potential that ground gravity (control profiles) geophysical and airborne surveys may be conducted as well. Gravity, magnetic and VLF surveys will be conducted as well on Loon Lake area on the Saint-Tropez lease (see Figure 2.2-1).

## **2.4 Environment and Radiation Monitoring**

The 2015 environment and radiation monitoring program will continue to be conducted by AREVA staff with support provided by contractors if necessary. Wildlife monitoring will be conducted by Wildlife Monitors from Baker Lake and Kiggavik personnel. AREVA staff will be responsible for the implementation of the Management Plans which were designed to ensure compliance with regulatory conditions and internal AREVA requirements (see Appendix C).

### 3 Environmental Monitoring and Protection

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AREVA is committed to taking every reasonable precaution toward ensuring the protection and conservation of the natural environment. This commitment is reflected in AREVA's Environmental Policy and is supported through a comprehensive environmental program for the exploration activities at the Kiggavik Project.

The 2014 field season was conducted in accordance with the ISO 14001:2004 certification for the Exploration Department's Environmental Management System. The ISO 14001 standard outlines the requirements for an Environmental Management System which enable an organization to implement a policy and objectives which address legal requirements and significant environmental aspects. The standard supports environmental protection and prevention of pollution in balance with socio-economic needs. The external third party, SGS, conducted the ISO 14001:2004 audit March 13, 2014, and later conducted the Kiggavik field audit from July 22 to July 23, 2014. The audit concluded that the management system conforms to the standard, the Kiggavik site has implemented the system, and that the system is capable of achieving AREVA's objectives.

The following Management Plans were submitted to regulatory agencies prior to commencing the field season:

- Uranium Exploration Plan
- Waste Management Plan
- Spill Contingency Plan
- Noise Abatement Plan
- Wildlife Mitigation and Monitoring Plan
- Abandonment and Restoration Plan
- Radiation Protection Plan

These Plans ensure compliance with regulatory conditions and internal AREVA requirements and guide the development of best management practices and procedures to mitigate any potential adverse environmental impacts. AREVA intends to operate in accordance with commitments made in the Plans; however, such Plans are living documents and lessons



learned during the field season and AREVA's commitment to continual improvement occasionally warrant revision of these Plans. The Plans were made available to personnel throughout the 2014 field season, and have been included with the submission of this Annual Report (refer to Appendix C). The following sections summarize the implementation and overall effectiveness of these plans during the field season.

### **3.1 Uranium Exploration Plan**

The Uranium Exploration Plan is designed to meet the requirements of the Water Licence issued by the Nunavut Water Board (2BE-KIG1318) and the *Mineral Exploration Guidelines of Saskatchewan*, also referred to as Best Management Practices (BMPs). Although current activities are not regulated by the Canadian Nuclear Safety Commission (CNSC), the Uranium Exploration Plan is designed in accordance with the CNSC Regulations. The plan discusses activities related to uranium exploration including:

- Training requirements
- Drilling practices
- Core storage and logging
- Radioisotopes
- Spills
- Shipping radioactive material
- Site abandonment and restoration

Drill core samples (low specific activity) were shipped on September 5, 2014 via air transport from Kiggavik to Thompson, Manitoba. The core samples were then transported by truck to the Saskatchewan Research Council (SRC) located in Saskatoon, Saskatchewan. The Shipper's Declaration for Dangerous Goods was completed by appropriately trained AREVA staff.

### **3.2 Waste Management Plan**

In accordance with AREVA's Environmental Policy, a Waste Management Plan was developed to guide waste segregation, storage, and disposal while mitigating any potential adverse environmental impacts. AREVA is committed to ensuring waste generated at the Kiggavik Project site is collected, stored, transported and disposed of in accordance with regulatory requirements. The Waste Management Plan is reviewed and revised upon the identification of new waste streams, new handling methods or requirements and improved logistics.

In the development of this plan, potential waste streams were identified, followed by identification of a treatment strategy and disposal plan. All site staff and contractors are trained in the aspects required to effectively adhere to the plan (i.e. proper identification of waste, proper storage methods, proper handling and transport methods).

All drill cuttings with a uranium concentration greater than 0.05 percent are collected and stored in the radioactive storage compound for future handling (See Photograph 3.2-1). Food, paper and non-treated wood waste are incinerated onsite (See Photograph 3.2-2).



**Photograph 3.2-1: Kiggavik Radioactive Storage Compound**



**Photograph 3.2-2: Kiggavik Camp Incinerator**

An inventory of all waste and material remaining on site was recorded upon seasonal shutdown and is summarized in Table 3.2-1.

**Table 3.2-1: Kiggavik Site End of Season Inventory 2014**

<b>Type of Waste/Product</b>	<b>Quantity</b>	<b>Storage Method</b>
Waste oil and fuel	6 – 205 L bung drums	Stored at site inside a sea container to be transported to Baker Lake over the winter road in 2015
Incinerator Ashes	5 – 205 L ring top drums	Drums are stored inside sea container to be transported to Baker Lake over the winter road in 2015
Diesel Fuel	4 – 205 L drums 5 – 379 L double walled slip tanks	Drums stored outside in secondary containment. Slip tanks stored on top of braced sea container.
Scrap metal and scrap drilling supplies (rubber hose plastic pails)	Approximately 10,000 pounds	Loaded inside one sea container at site to be transported to Baker Lake over the winter road in 2015
Scrap drill rods	Approximately 80,000 pounds	Drill rods loaded on top of trailer. Plans are to transport back to Baker Lake over the winter road in 2015
Engine filters Oil and Fuel	1 – 205 L ring top drum	Stored inside a sea container to be transported to Baker Lake over the winter road in 2015
Oil contaminated rags	5 – plastic lined rock bags	Stored inside a sea container to be transported to Baker Lake over the winter road in 2015
Empty/used paint cans	1 – 205 L ring top drum	Stored inside wooden storage building. Upright in mini berm with top secured
Small Generator and small engine Oil	8 – 1 L jugs	In secondary containment in generator building
Jet Fuel	1800 L	Stored in the Enviro-tanks at fuel cache for 2015 use.
Diesel Fuel	31000 L plus 20 - 379 L double walled slip tanks	Stored in the Enviro-tanks at fuel cache for 2015 use.
Gasoline	4 – 20 L plastic jerry cans	Stored inside wooden storage building at site in mini berm
Large Generator Oil	10 – 20 liter pails 15W 40 oil	Stored inside building on secondary containment
Propane	18 – 100 lb bottle	Upright in a locked fence compound
Aerosol cans – empty and punctured	1 – 205 L ring top drum	Stored inside wooden storage building. Upright in mini berm with top secured
Empty Plastic 20 L pails and various size other empty plastic bottles in bags		Inside sea container to be hauled into Baker Lake over the winter road 2015

Type of Waste/Product	Quantity	Storage Method
Boart Longyear Supplies	<u>Left at Camp Fall 2014</u> 30 pails -Hydrex Hydraulic Oil MV-36 60 cases - Motor oil 15-40 x 16L 36 cases - 2 cycle oil x 12L 65 – pails Linseed Soap 30 pails - Natural blue Cleaner 8 boxes (6 cans per box) Spray Paint 4 gallons Industrial Paint 10 cans Spray Foam 8 cans Brake Cleaner 13 cans Power Lube Spray 30 cans Starting Fluid 30 pails Rod Grease 40 cases Lube Grease (grease guns) 17 cases Kleene Flow Diesel Fuel Conditioner 30 cases Anti-Freeze 5 cases Fast Orange Cleaner 3 pails Solvent Cleaner 11 pails Vibra Guard 4 Cases DFI Diesel Conditioner 1 pail Extreme Stuff Hole Conditioner 15 pails Pervis 12 pails Penetrol 20 pails Poly Plus 6 pails 165 Conditioner 10 pails K-Ion 65 pails AMC133	In sea-can storage container for use in 2015
Boart Longyear Supplies	<u>Shipped up for 2014</u> 10 cases -15-40 Motor oil x 16L 5 cases - 2 cycle oil x 12L 5 cases Lube Grease 20 Fire Extinguishers 20 pails Univis	In sea-can storage container in Baker Lake for use in 2015. To be transported to site during winter haul.



### 3.2.1 Canada Wide Standards

Efforts to meet the *Canada-wide Standard (CWS) for Dioxins and Furans* and the *Canada-wide Standard for Mercury Emissions* include the development and implementation of a Waste Management Plan involving waste inventory, diversion and sorting prior to incineration. Waste materials incinerated include food waste, paper, untreated wood products and toilet wastes. Remaining wastes are sorted and stored in sea containers on site until they are removed via the winter haul to be shipped to a licensed disposal facility.

### 3.3 Water Consumption and Management

As outlined in the conditions of the Nunavut Water Board Licence No. 2BE-KIG1318, the domestic camp water is limited to 10 cubic metres per day (m<sup>3</sup>/day), and the drill water is limited to 289 m<sup>3</sup>/day for a total maximum consumption of 299 m<sup>3</sup>/day. Drilling during low flow artesian was compliant with Part F, Item 6 of the Licence and is further described in Section 3.3.2.

#### 3.3.1 Camp and Drill Water Use

Domestic camp water was drawn from the local unnamed lake for hygienic use, and water sources proximal to drilling activities were used to support drilling. The locations and use of these water sources are listed below in Table 3.3-1 and Table 3.3-3.

**Table 3.3-1: Domestic Water Source Coordinates**

Location Name	Use	Coordinates	
		Lat/Long	UTM
Camp	Emergency water source (i.e. Firefighting)	64° 26' 31.78" N 97° 39' 30.83" W	14W 7146969N 564570E
Unnamed Lake	Hygienic water source	64° 26' 36.93" N 97° 39' 49.51" W	14W 7147123N 564317E

Domestic camp water was pumped from the unnamed lake into holding tanks with marked volumes. These tanks were filled daily, and a water meter measured the cumulative amount of water used. The water meter values were recorded and calculated to ensure the daily allowance was not exceeded. The daily domestic water use limit of 10 m<sup>3</sup> was not exceeded at any time during season. The maximum amount of water use recorded in one day was 7.9 m<sup>3</sup> on July 12 when the tanks were cleaned and filters changed (See Table 3.3-3).

**Table 3.3-2: Drilling Water Source Coordinates**

Location Name	Hole-ID	Coordinates	
		Lat/Long	UTM
Kiggavik East	KE-07	64° 27' 56.84" N 97° 34' 13.82" W	14W 7149694N 568749E
	KE-08	64° 27' 01.47" N	14W 7147950N
	KE-09	97° 35' 54.87" W	567437E
	KE-10	64° 27' 38.56" N 97° 34' 54.74" W	14W 7149116N 568215E
	KE-11	64° 26' 54.98" N 97° 34' 41.81" W	14W 7147771N 568418E
Bong South	Bong-64	64° 25' 17.26" N 97° 42' 55.01" W	14W 7144606N 561887E
	Bong-65, Bong-65A		
	Bong-066		
RoughLand Trend	RHLD-05	64° 22' 53.81" N 97° 44' 14.40" W	14W 7140145N 560913E
	RHLD-06	64° 22' 08.90" N 97° 45' 10.47" W	14W 7138740N 560189E
	RHLD-07	64° 22' 12.69" N 97° 47' 15.63" W	14W 7138825N 558509E
	RHLD-08	64° 22' 05.90" N 97° 47' 30.55" W	14W 7138611N 558313E
85W	85W-04	64° 25' 13.96" N 97° 48' 20.27" W	14W 7144419N 557537E
	85W-05	64° 24' 45.52" N 97° 47' 23.83" W	14W 7143553N 558309E
	85W-06	64° 25' 30.55" N 97° 47' 50.84" W	14W 7144940N 557921E
	85W-07	64° 25' 14.54" N	14W 7144437N
	85W-08	97° 48' 19.72" W	557544E
Sleek Lake	SLEK-017	64° 22' 01.65" N 97° 48' 43.68" W	14W 7138461N 557335E
	SLEK-018		
	SLEK-019		
End East	EE-01,EE-01A	64° 20' 39.91" N 97° 51' 01.73" W	14W 7135897N 555530E
	EE-02	64° 20' 42.34" N 97° 49' 20.49" W	14W 7135997N 556887E
	EE-03	64° 20' 44.26" N	14W 7136063N
	EE-04	97° 48' 53.95" W	557242E
	EE-05	64° 20' 38.05" N 97° 50' 14.41" W	14W 7135851N 556166E

Location Name	Hole-ID	Coordinates	
		Lat/Long	UTM
Igloo West	IW-01	64° 21' 09.11" N	14W 7136898N
	IW-02	97° 44' 38.51" W	560654E
Muskox Grid	MO-01	64° 20' 09.86" N	14W 7134987N
	MO-02	97° 49' 38.87" W	556659E
	MO-03	64° 20' 15.37" N	14W 7135171N
Contact Grid	CONT-006	64° 17' 20.01" N 97° 58' 28.67" W	14W 7129607N 549633E
	CONT-007		
	CONT-008		
	CONT-009		
	CONT-010		
	CONT-011		
	CONT-012		
	CONT-013		
	CONT-014		
	CONT-015		
Jane Extension	JE-01	64° 18' 49.45" N	14W 7132457N
	JE-02	97° 52' 29.49" W	554413E

The drilling contractor, Boart Longyear, used water pumps at each drill capable of pumping a maximum of 15 GPM (0.05678 m<sup>3</sup>/min or 81.76 m<sup>3</sup>/day). Although the water pumps did not operate consistently at this capacity, water use was calculated using precautionary maximums to demonstrate compliance with the 289 m<sup>3</sup>/day licence condition. Should all three pumps operate at maximum capacity for 24 hours, the volume of water would be 245.29 m<sup>3</sup>/day. Using this maximum, the drill water values presented in Table 3.3-3 represent the conservative estimate of 81.76 m<sup>3</sup>/day.

**Table 3.3-3: Daily Water Use**

Month	Date	Total camp (m <sup>3</sup> )	Drill 1 (m <sup>3</sup> )	Drill 2 (m <sup>3</sup> )	Drill 3 (m <sup>3</sup> )	Total
June	10	6.01				6.01
	11	2.35				2.35
	12	0.00				0
	13	3.23				3.23
	14	2.93	40.88 <sup>†</sup>			43.81
	15	2.48	40.88			43.36
	16	2.74	40.88			43.62
	17	3.82	81.76	81.76		167.34
	18	3.10	81.76	81.76	81.76	248.38
	19	3.73	81.76	81.76	81.76	249.01
	20	3.46	81.76	81.76	81.76	248.74
	21	3.85	81.76	81.76	81.76	249.13

Month	Date	Total camp (m³)	Drill 1 (m³)	Drill 2 (m³)	Drill 3 (m³)	Total
	22	3.77	81.76	81.76	-	167.29
	23	2.56	81.76	81.76	81.76	247.84
	24	3.40	81.76	81.76	81.76	248.68
	25	4.11	81.76	81.76	81.76	249.39
	26	3.27	81.76	81.76	81.76	248.55
	27	3.33	81.76	81.76	81.76	248.61
	28	3.15	81.76	81.76	81.76	248.43
	29	4.34	81.76	81.76	81.76	249.62
	30	4.04	81.76	81.76	81.76	249.32
July	1	4.74	81.76	81.76	81.76	250.02
	2	3.71	81.76	81.76	81.76	248.99
	3	4.12	81.76	81.76	81.76	249.4
	4	3.44	81.76	81.76	81.76	248.72
	5	3.41	81.76	40.88	81.76	207.81
	6	3.94	81.76	40.88	40.88	167.46
	7	3.05	81.76	81.76	81.76	248.33
	8	3.80	81.76	81.76	81.76	249.08
	9	3.59	81.76	81.76	81.76	248.87
	10	1.92	40.88	81.76	81.76	206.32
	11	0.00	81.76	81.76	40.88	204.4
	12	7.90	81.76	81.76	81.76	253.18
	13	3.43	81.76	40.88	81.76	207.83
	14	4.08	81.76	81.76	81.76	249.36
	15	4.24	81.76	81.76	81.76	249.52
	16	3.05	81.76	81.76	40.88	207.45
	17	2.86	81.76	81.76	81.76	248.14
	18	2.75	81.76	81.76	81.76	248.03
	19	3.14	81.76	40.88	81.76	207.54
	20	4.08	40.88	81.76	81.76	208.48
	21	3.05	81.76	81.76	81.76	248.33
	22	3.78	81.76	81.76	40.88	208.18
	23	3.67	81.76	81.76	81.76	248.95
	24	1.94	40.88	40.88	81.76	165.46
	25	4.15	81.76	81.76	81.76	249.43
	26	3.67	81.76	81.76	81.76	248.95
	27	4.29	81.76	81.76	81.76	249.57
	28	4.53	81.76	81.76	81.76	249.81

Month	Date	Total camp (m³)	Drill 1 (m³)	Drill 2 (m³)	Drill 3 (m³)	Total
	29	2.59	81.76	81.76	40.88	206.99
	30	3.83	81.76	40.88	81.76	208.23
	31	3.88	40.88	81.76	81.76	208.28
August	1	3.48	81.76	81.76	81.76	248.76
	2	2.84	81.76	81.76	81.76	248.12
	3	2.97	81.76	81.76	81.76	248.25
	4	2.84	81.76	81.76	81.76	248.12
	5	3.09	81.76	81.76	40.88	207.49
	6	3.49	81.76	81.76	81.76	248.77
	7	3.56	40.88	81.76	81.76	207.96
	8	2.78	81.76	40.88	81.76	207.18
	9	3.02	81.76	81.76	40.88	207.42
	10	4.09	40.88	81.76	81.76	208.49
	11	4.80	81.76	81.76	81.76	250.08
	12	3.18	81.76	81.76	81.76	248.46
	13	3.69	81.76	40.88	81.76	208.09
	14	3.30	40.88	81.76	81.76	207.7
	15	3.77	81.76	81.76	40.88	208.17
	16	3.30	81.76	81.76	81.76	248.58
	17	3.66	40.88	40.88	81.76	167.18
	18	3.85	81.76	-	81.76	167.37
	19	3.02	81.76	-	81.76	166.54
	20	3.53	81.76	-	81.76	167.05
	21	3.49	40.88	-	40.88	85.25
	22	3.74	81.76	-	81.76	167.26
	23	2.58	40.88	-	40.88	84.34
	24	3.19	-	-	40.88	44.07
	25	3.00	-	-	81.76	84.76
	26	2.68	-	-	81.76	84.44
	27	2.79	-	-	81.76	84.55
	28	2.47	-	-	40.88	43.35
	29	3.58	-	-	81.76	85.34
	30	2.24	-	-	81.76	84
	31	2.57	-	-	81.76	84.33
September	1	2.12	-	-	-	2.12
	2	2.38	-	-	-	2.38

<sup>†</sup> Lesser values were based on the estimated hours necessary during drill moves and subsequent pump shutdown

In an effort to determine exact flow, meters were installed within the drills to determine the water quantities used, however the amounts were quite low and not representative of the quantities drawn from the lake because the water bypassing the drill setup was not recorded. The flow meters located within the drill averaged 2.22 m<sup>3</sup>/day for three drill rigs, which indicates that water used during the drilling process was significantly lower than the estimated maximum pumped from the lakes. Flow meters have been ordered for direct installation on the water pumps to determine quantities drawn from the lake.

### 3.3.2 Artesians

As per the NWB Licence, Part F, Item 6 (c), AREVA must provide information on all artesian flows encountered, with GPS coordinates, dates, and flow rates, depth, permafrost, aquifer and packer testing data with associated water quality analytical results. Pneumatic packer testing and thermistor installation is specific to mine development and are not standard practices for exploration drilling. The definitive permafrost depths were unknown for the artesian flows discussed below. Should there be packer testing data available or thermistors installed in the future, AREVA will provide the associated data when artesian flows are encountered.

While drilling in the Bong area, two artesian flows were intercepted, and one artesian flow was intercepted in the Contact Grid. As per Part F item 6 (c) of the NWB licence, refer to Table 3.3-4 for the relevant artesian information. Water samples were taken directly from the artesian flows, and the corresponding water analysis results are shown in Table 3.3-5. Upon completion, each drill hole was permanently sealed and capped to prevent further outflow.

**Table 3.3-4: Artesian Location, Date, Flow and Depth**

	Coordinates		Date	Flow Rate (L/min)	Depth (m)
	Lat/Long	UTM			
<b>Bong-065A</b>	64° 24' 48.16" N 97° 42' 33.80" W	14W 7143711N 562189E	July 19, 2014	2	304
<b>Bong-066</b>	64° 24' 50.95" N 97° 42' 28.74" W	14 W 7143799N 562255E	July 23, 2014	4	301
				4	324 <sup>†</sup>
<b>CONT-012</b>	64° 17' 20.76" N 97° 57' 57.99" W	14 W 7129637N 550045E	August 20, 2014	8	294

<sup>†</sup>The artesian was encountered at 301 m, but the water sample was taken at 324 m

**Table 3.3-5: Artesian Water Results**

Analyte	Units	Bong-065A	Bong-066	CONT-012	CCME <sup>†</sup>
Bicarbonate	mg/L	101	57	85	
Carbonate	mg/L	<1	<1	<1	
Chloride	mg/L	2.4	3.6	11800	
Hydroxide	mg/L	<1	<1	<1	
P. alkalinity	mg/L	<1	<1	<1	
pH	pH units	7.36	7.52	8.14	6.5-9
Specific conductivity	uS/cm	125	93	27700	
Sum of Ions	mg/L	144	83	18200	
Total alkalinity	mg/L	83	47	70	
Total hardness	mg/L	37	41	15000	
Nitrate (calc. from NO <sub>2</sub> +NO <sub>3</sub> -N)	mg/L	<0.04	<0.04	0.13	13
Nitrite+Nitrate nitrogen	mg/L	-	<0.01	0.03	
Mercury	ug/L	<0.02	<0.02	<0.02	0.026
Fluoride	mg/L	0.16	0.21	0.55	
Total dissolved solids	mg/L	371	155	20500	
Total suspended solids	mg/L	19	16	163	
Calcium	mg/L	10	11	6000	
Magnesium	mg/L	3	3.4	3	
Potassium	mg/L	4	1.4	78	
Sodium	mg/L	24	4.6	180	
Sulfate	mg/L	<2	1.8	17	
Aluminum	mg/L	0.027	0.059	0.29	0.005 (pH < 6.5) 0.1 (pH ≥ 6.5)
Antimony	mg/L	<0.0002	<0.0002	<0.002	
Arsenic	ug/L	0.8	0.9	<1	5
Barium	mg/L	0.12	0.12	0.24	
Beryllium	mg/L	<0.0001	<0.0001	<0.001	
Boron	mg/L	<0.01	<0.01	<0.1	29 Short-term 1.5 Long-term
Cadmium	mg/L	<0.00001	0.00001	<0.0001	0.001 Short-term 0.00009 Long-term
Chromium	mg/L	<0.0005	<0.0005	<0.005	
Cobalt	mg/L	0.0001	0.0001	<0.001	
Copper	mg/L	0.0022	0.0023	0.02	0.002 (if hardness unknown) 0.004 (hardness>180 mg/L)
Iron	mg/L	0.35	0.39	4.4	0.3 (Long-term)
Lead	mg/L	0.0027	0.0015	0.021	0.001 (if hardness unkown) 0.007 (hardness >180 mg/L)
Lithium	ug/L	1.6	2.6	100	
Manganese	mg/L	0.026	0.019	0.045	
Molybdenum	mg/L	0.0001	0.0002	0.003	0.073
Nickel	mg/L	0.0011	0.0012	0.004	0.025 (if hardness unkown)

Analyte	Units	Bong-065A	Bong-066	CONT-012	CCME <sup>†</sup>
					0.15 (hardness >180 mg/L)
Selenium	mg/L	<0.0001	<0.0001	0.001	0.001
Silver	mg/L	<0.00005	<0.00005	<0.0005	0.0001
Strontium	mg/L	0.052	0.066	4.2	
Thallium	mg/L	<0.0002	<0.0002	<0.002	0.0008
Tin	mg/L	<0.0001	<0.0001	<0.001	
Titanium	mg/L	0.0010	0.0012	<0.002	
Uranium	ug/L	0.1	0.2	<1	33 Short-term 15 Long-term
Vanadium	mg/L	0.0002	0.0002	<0.001	
Zinc	mg/L	0.034	0.0081	0.047	0.03

<sup>†</sup>Canadian Council Ministers of Environment. Canadian Water Quality Guidelines for the Protection of Aquatic Life. 1999.

While drilling the CONT-12 hole, artesian flow of 8 L/min was encountered at 10:30 pm with the flow ceasing in minutes. As shown in the results above, the CONT-12 artesian was saline with elevated levels of copper, iron, lead, and zinc. The elevated calcium and chloride ions contributed to the higher Total Dissolved Solids (TDS) and specific conductivity observed. This elevated conductivity is indicative of increased salinity. The artesian flow experienced was of low quantity and short duration for a total of approximately 24 L. The flow was contained in the designated discharge area with no potential for harm to aquatic life. The CONT-12 hole was completed and capped the following morning, and the other nine holes in the Contact Grid area did not intercept artesian conditions.

### 3.4 Spill Contingency Plan

In accordance with existing legislation and requirements, AREVA maintains a Spill Contingency Plan for the Kiggavik Project. The objectives of this plan are to:

- Identify the potential for and the appropriate response to spills at the Project
- Provide procedures for prevention or mitigate adverse environmental effects through effective and efficient response
- Identify personnel and their responsibilities
- Identify emergency contacts
- Describe reporting requirements

To implement the plan effectively, all site staff and contractors receive orientation on the location of the Material Safety Data Sheets (MSDS), spill kit locations, and spill response supplies and tools. Personnel are trained to identify the probable location of potential leaks and spills and the response should leaks or spills be identified. Additional training for mock spill



scenarios is provided as necessary. Spill prevention is implemented through use of secondary containment, availability of spill kits where hazards exist, conducting inspections at all storage locations, and providing MSDS sheets. Spill response is reviewed with all site personnel, and the site supervisors or designates are aware of spill reporting procedures.

### 3.4.1 Fuel Cache

The primary fuel storage area is located on an esker 3.5 km southwest of the Kiggavik camp. The fuel cache includes eight 50,000 L double walled steel Envirotanks that are registered with Environment Canada, and were installed in accordance with Canadian Council for Ministers of the Environment (CCME) – *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products*. Three Envirotanks are used for jet fuel and five for diesel fuel (See Photograph 3.4-1).



**Photograph 3.4-1: Kiggavik Fuel Cache**

A small number of 205 L diesel fuel drums are used to fuel the geostoves and incinerator and are stored within secondary containment berms. Five double walled slip tanks containing diesel are used to fuel the camp generator. All fuel containers are labeled, identifying the contents and AREVA's name. The camp fuel storage is located at 64° 26' 25.82" N, 97° 39' 39.05" W (14W 564464, 7146782).

### 3.4.2 Reportable Spill

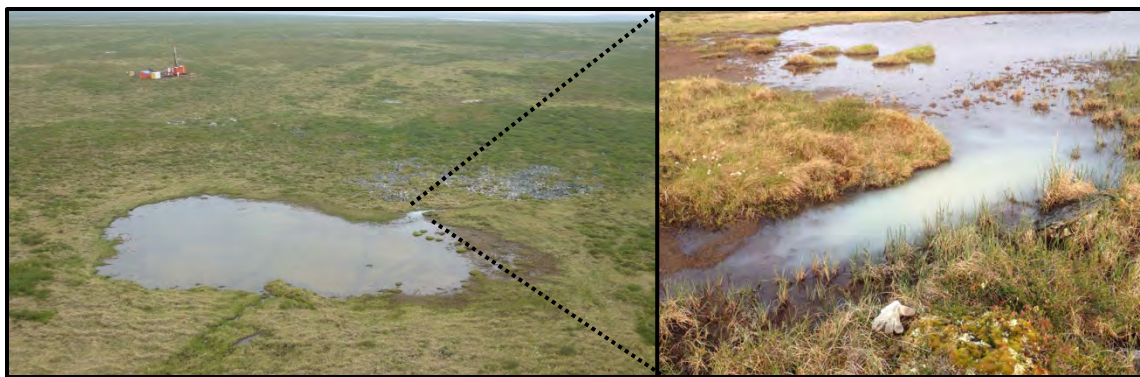
While drilling in the Bong area on July 16, 2014, non-mineralized drill cuttings mobilized into a water body located at 64°24'51" N, 97°42'24" W (14W 562318E 7143802N). The spill was detected during an annual inspection by the AANDC Water Resource Officer (See Photograph 3.4-2). Reporting was completed in accordance with the NWB licence Part H item five and the AANDC Land Use Permit N2014C0001 item 32. In addition to immediate notification to the NT-NU Spill Report Line, the thirty day report summarizing the incident and corrective actions was distributed to regulators.



**Photograph 3.4-2: Unauthorized Cuttings Discharge near Bong 065A**

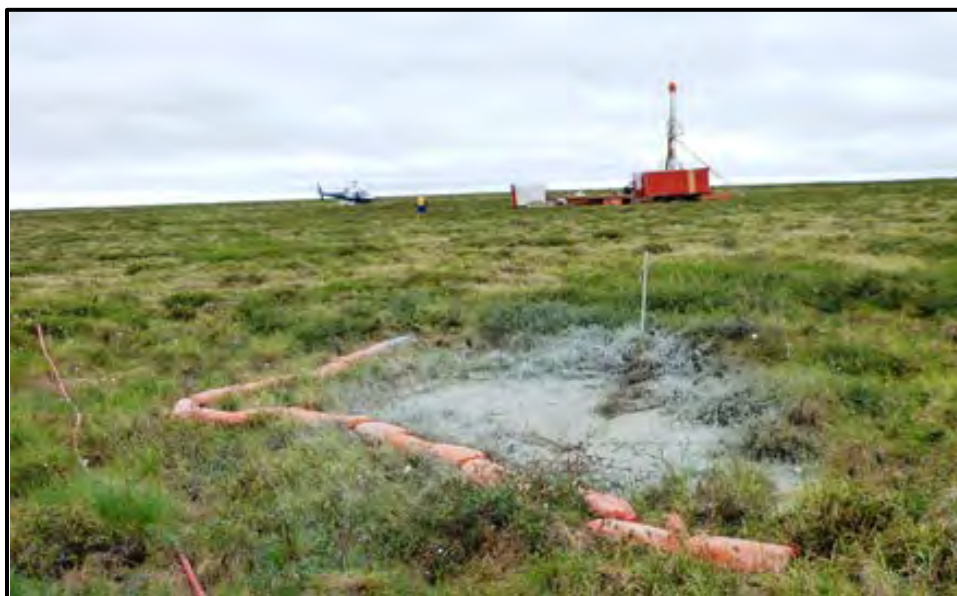
Upon initial inspection of the white discoloration noted at the edge of the water body, it appeared that a hose discharging clean water from a nearby pump flowed downslope into the cuttings discharge site of a previous non-mineralized drill hole located at 64°24'51" N, 97°42'31" W (14W 562225E 7143800N). Upon returning to the site for further investigation, it was determined that the excess water from the hose had not come into contact with the cuttings discharge site near the water. The material appeared to have been remobilized independently of the pump water; likely by recent heavy rains, and flowed downhill into a rocky area (See Photograph 3.4-3). Here, it was allowed to penetrate below the ground surface where the cuttings then traveled to the adjacent water body and were observed collecting at the water's edge.





**Photograph 3.4-3: White Discoloration in Water**

Various corrective and preventative measures were implemented following the spill identification. To limit the spatial extent of the spill, the pump discharging clean water was stopped, and the hose was relocated to the opposing side of the drill. As the existing cuttings discharge area was migrating downhill towards the drill, the discharge hose was moved a considerable distance to the west to eliminate the return flow of drill discharge to the drill pad. The drill crews on site were subsequently instructed not to place their excess clean water hoses in places that could create a potential uncontrolled runoff into a water body and to alert AREVA staff if discharge fluids are accumulating around the drill. A sandbag berm was constructed around the cuttings discharge site the following day to ensure there was no further mobility of cuttings (See Photograph 3.4-4). The site was monitored over the days following the spill and by July 18 the white discoloration of the water was no longer visible. Water samples were taken the day of the spill and again two weeks following the incident (See Photograph 3.4-5).



**Photograph 3.4-4: Bermed Cuttings – July 17, 2014**



**Photograph 3.4-5: Bong Water Body – July 26, 2014**

The placement of drill discharge sites and follow-up inspection by AREVA staff and contractors was reviewed to ensure all personnel were aware of the requirements. It was concluded that the spill of non-mineralized drill cuttings entered the water body of the Bong area following remobilization from heavy rain. This allowed the cuttings to flow downhill away from their original location and eventually collect at the proximal edge of the water body. Increased diligence in the appropriate placement of future drill discharge sites will be used to prevent any repeat occurrences.

**Table 3.4-1: Bong Water Body Results**

Analyte	Units	July 16 - Spill	July 30 – Post Spill	CCME <sup>†</sup>
Bicarbonate	mg/L	60	28	
Carbonate	mg/L	<1	<1	
Chloride	mg/L	128	50	
Hydroxide	mg/L	<1	<1	
P. alkalinity	mg/L	<1	<1	
pH	pH units	7.10	6.94	6.5-9
Specific conductivity	uS/cm	492	224	
Sum of Ions	mg/L	276	118	
Total alkalinity	mg/L	49	23	
Total hardness	mg/L	192	87	
Nitrate (calc. from NO <sub>2</sub> +NO <sub>3</sub> -N)	mg/L	0.4	<0.04	13
Nitrite+Nitrate nitrogen	mg/L	-	<0.01	
Mercury	ug/L	<0.02	<0.02	0.026
Fluoride	mg/L	0.05	0.05	
Total dissolved solids	mg/L	1100	237	

Analyte	Units	July 16 - Spill	July 30 – Post Spill	CCME <sup>†</sup>
Total suspended solids	mg/L	119	<1	
Calcium	mg/L	54	23	
Magnesium	mg/L	14	7.3	
Potassium	mg/L	6.5	1.5	
Sodium	mg/L	9.8	3.3	
Sulfate	mg/L	2.8	4.8	
Aluminum	mg/L	2.21	0.12	0.005 (pH < 6.5) 0.1 (pH ≥ 6.5)
Antimony	mg/L	<0.0002	<0.0002	
Arsenic	ug/L	0.4	0.3	5
Barium	mg/L	0.68	0.32	
Beryllium	mg/L	0.0001	<0.0001	
Boron	mg/L	<0.01	<0.01	29 Short-term 1.5 Long-term
Cadmium	mg/L	0.00022	0.00005	0.001 Short-term 0.00009 Long-term
Chromium	mg/L	0.0043	<0.0005	
Cobalt	mg/L	0.0020	0.0004	
Copper	mg/L	0.0082	0.0034	0.002 (if hardness unknown) 0.004 (hardness >180 mg/L)
Iron	mg/L	2.44	0.31	0.3 (Long-term)
Lead	mg/L	0.0022	0.0009	0.001 (if hardness unknown) 0.007 (hardness >180 mg/L)
Lithium	ug/L	20	5.2	
Manganese	mg/L	0.49	0.044	
Molybdenum	mg/L	0.0002	0.0002	0.073
Nickel	mg/L	0.0042	0.0023	0.025 (if hardness unknown) 0.15 (hardness >180 mg/L)
Selenium	mg/L	<0.0001	<0.0001	0.001
Silver	mg/L	0.00009	<0.00005	0.0001
Strontium	mg/L	0.32	0.14	
Thallium	mg/L	<0.0002	<0.0002	0.0008
Tin	mg/L	<0.0001	<0.0001	
Titanium	mg/L	0.016	0.0018	
Uranium	ug/L	0.9	0.1	33 Short-term 15 Long-term
Vanadium	mg/L	0.0032	0.0002	
Zinc	mg/L	0.019	0.012	0.03

### **3.5 Noise Abatement Plan**

A Noise Abatement Plan was developed to mitigate the effects from noise generated during camp set-up, camp operation, winter road use, and drilling activities. Noise controls and abatement serve a combination of environmental and occupational health and safety purposes. The focus of the plan is the control of environmental noise for the protection of wildlife.

Implementation of the plan ensures that drill rigs and vehicles are equipped with mufflers and/or silencers and is subject to commitments made in the Wildlife Mitigation and Monitoring Plan regarding minimum flying altitudes required and the take-off and landing of aircraft.

The plan is reviewed by all site staff, contractors, and head office contract administrators to ensure all contractors operating drill rigs, vehicles or aircraft are aware of requirements. Frequent review allows for revision to occur with the expansion of infrastructure, changing field programs and the identification of improved practices.

### **3.6 Wildlife Mitigation and Monitoring Plan**

The Wildlife Mitigation and Monitoring Plan (WMMP) was developed to monitor and reduce disturbance to wildlife, particularly caribou. The plan incorporated recommendations from the Government of Nunavut – Department of Environment (GN-DoE), Environment Canada (EC) and the Beverly and Qamanirjuaq Caribou Management Board (BQCMB); as well as conditions from the NIRB, Kivalliq Inuit Association (KIA), Aboriginal Affairs and Northern Development Canada (AANDC) and the Nunavut Water Board (NWB). The plan is designed to protect wildlife from Project activities, increase the current understanding of wildlife interactions with human development and aid in determining the effectiveness of mitigation measures.

The objective of the WMMP is to prevent or reduce any potential adverse effects from exploration activities on wildlife. The plan was implemented by Wildlife Monitors from the Baker Lake community, as well as AREVA staff. Wildlife monitoring and mitigation measures were summarized in monthly reports, and distributed to the Baker Lake Hunter and Trapper's Organization (HTO), the KIA, the Baker Lake Conservation Officer, AANDC, and the GN-DoE Regional Biologist. The reports are also publicly available at [www.kiggavik.ca/resources/](http://www.kiggavik.ca/resources/).

#### **3.6.1 Summary of Wildlife Monitoring Activities and Results**

The Kiggavik personnel and Wildlife Monitors implement the WMMP through providing regular reports of wildlife sightings. Apart from the regular observations from local Wildlife Monitors,

personnel record wildlife sightings as well. Observation methods vary with sightings provided from the personnel in camp, the field, aerial flights, and the Wildlife Monitors. Wildlife logs are placed in the camp kitchen, camp office and in each helicopter for ease of recording. During site orientation, personnel are informed of the wildlife log locations and are encouraged to record all sightings. Animals present regularly around camp such as the ptarmigan, siksik and arctic hare were often not recorded each day they were observed, thus being under recorded by this method. The Government of Northwest Territories (GNWT) also provides collar data that enables proper implementation of the WMMP.

Ground-based monitoring was primarily conducted by the Wildlife Monitor, however additional data was collected from incidental field observations by personnel. The Wildlife Monitors discussed sightings with the Safety, Health, Environment, and Quality (SHEQ) Supervisor, while the remainder of Kiggavik personnel recorded sightings which were collected weekly. The Wildlife Monitor observed wildlife activity from five height-of-land (HOL) locations around camp and occasionally visited areas outside of camp where required. While caribou were observed in the area, the Wildlife Monitor was responsible for assisting in the determination of herd movements and proximity to activity. Occasionally the Wildlife Monitor was flown to elevated locations for ease of monitoring the herd movements. The SHEQ Supervisor and designate recorded all observations in a spreadsheet for inclusion in the monthly reports. As shown in Table 3.6-1, there was a total of 21 species documented from 193 wildlife sightings.

**Table 3.6-1: Summary of Wildlife Sightings**

Species (common name)	Wildlife Sightings	Total Number Observed	Range of Individuals per Sighting	Timeline of Sightings		Observation Method		
				Initial	Final	Field Observation*	Aerial	Camp*
Arctic Fox	14	16	1 - 3	Jun-15	Aug-31	X	X	X
Arctic Hare	9	12	1 - 3	Jun-14	Jul-21	X	X	X
Bald Eagle	1	1	1	Aug-10	Aug-10	X		
Caribou	53	95,468†	1 – 10,000	Jun-10	Sep-2	X	X	X
Eagle	1	1	1	Jul-28	Jul-28		X	
Golden Plover	2	2	1	Jul-15	Jul-19	X		X
Grizzly Bear	5	5	1	Jun-13	Jul-20	X	X	



Species (common name)	Wildlife Sightings	Total Number Observed	Range of Individuals per Sighting	Timeline of Sightings		Observation Method		
				Initial	Final	Field Observation*	Aerial	Camp*
Lemming	2	2	1	Jun-26	Jul-19	X		
Loon	1	1	1	Jul-16	Jul-16	X		
Moose	1	1	1	Jul-30	Jul-30	X		
Muskox	61	933	1 - 60	Jun-12	Sept-2	X	X	X
Peregrine Falcon	1	1	1	Jun-27	Jun-27			X
Ptarmigan	3	34	4 - 20	Jun-29	Aug-10			X
Raptor	1	2	2	Aug-19	Aug-19	X		
Sandhill Cranes	3	7	2 - 3	Jun-21	Aug-14	X	X	X
Seagull	1	1	1	Jul-19	Jul-19	X		
Siksik (Ground Squirrel)	3	3	1	Jun-16	Jun-28			X
Sparrow	3	4	1 - 2	Jun-18	Jul-19	X		X
Snow Geese†	3	1,052	2 – 1,000	Jun-22	Aug-31	X	X	X
Weasel	2	2	1	Aug-4	Aug-7			X
Wolf	23	37	1 - 3	Jun-16	Aug-25	X	X	X
<b>Total</b>	<b>193</b>	<b>97,585</b>						

\* Wildlife Monitor sightings were often recorded as camp sightings, but were also included in the field observations

†From June 25 to July 8, caribou herds numbering in the thousands migrated through the area. The number observed is overestimated due to repeat reporting of the same herds

‡There were thousands of snow geese near the end of August to the beginning of September

### 3.6.2 Wildlife Mitigation Summary

Mitigation measures were implemented for caribou herds, nest sites near a drill, and deterrence measures for grizzly bears and wolves. As shown in Table 3.6-1, five grizzly bears and 37 wolves were observed during the season. Many wolf sightings were repeat observations of the pack of three commonly present around camp. The increased frequency of predatory species was likely due to caribou migrations in the area.

### **3.6.2.1      *Caribou Migration***

During caribou migrations, mitigation measures were implemented as required by the Nunavut Impact Review Board (NIRB) 2007 screening decision and the WMMP. During the post calving period from May 15 to July 15, operations were suspended within 10 km of areas occupied by cows and calves. Occasionally shutdown was required after July 15 when herds greater than 50 caribou were within two km of operations. Caribou herds numbering in the thousands were intermittently present during the post calving period, thus causing temporary shutdown of drilling operations and helicopter activity. Aircraft pilots abided by the altitude restrictions and did not land within one km of herds.

Caribou migrated through the area from June 25 to July 8. During regular trips to Baker Lake from June 25 to 30, herds were observed east of Siamese Lake moving westward. From July 1 to July 3, operations were intermittently shutdown to allow caribou herds to pass undisturbed. While drilling remained on standby, the helicopters also remained grounded at the fuel cache because the herds had moved within one kilometer of camp (See Photograph 3.6-1). The herd moved northward, but later migrated within the western edge of camp (See Photograph 3.6-2). Although caribou were absent on July 4, another herd migrated through the area on July 6. The drilling operations and geophysical crews were temporarily shut down until the Wildlife Monitor determined the herds were sufficient distance from activities. A smaller herd was present on July 7, but moved outside the 10 km buffer by the morning of July 8. Caribou were later observed on July 23 when a small herd travelled near a drill located approximately 20 km southwest of the camp. They moved through quickly towards Aberdeen Lake, which allowed drilling to recommence within half an hour. Large herds were absent during the remainder of the season.



**Photograph 3.6-1: Caribou Herd - July 3, 2014**



**Photograph 3.6-2: Caribou West of Camp - July 3, 2014**

### **3.6.2.2      *Deterrence Measures***

As outlined in the WMMP, deterrent measures were implemented to ensure the safety of personnel. These interventions were necessary on three occasions. The first occurred when a grizzly bear ran toward personnel causing them to climb onto the roof of the drill. They used bear bangers to deter the bear from the area. Considering the unresponsive reaction of the bear, the Conservation Officer recommended the use of rubber slugs for added deterrent. Following the initial encounter, Wildlife Monitors were stationed with firearms at points surrounding the geophysical crews until personnel were confident the bear would not return to the area. Wildlife Monitors were also provided the Government of Nunavut deterrent range guide. A second incident occurred on July 20 when a bear approached the drill site southwest of the fuel cache. The drillers shot bear bangers and went onto the roof of the drill, but requested added deterrence with the helicopter. The Wildlife Monitor indicated that the bear was likely pursuing a herd of approximately 20 muskox near the drill; however, the Wildlife Monitor voluntarily spent the night at the drill to watch over the night shift crew. The third safety intervention occurred on July 13 when a young wolf came into camp. Bear bangers were fired, but rubber bullets were not necessary for further deterrence. There were no physical interactions between bears or wolves with project personnel.

## **3.7            Abandonment and Restoration Plan**

The Abandonment and Restoration Plan was developed to address permit conditions, regulations and industry standards for seasonal operation, shut-down and final closure. This plan is frequently reviewed and revised to reflect the expansion of infrastructure, cost estimates, changing field programs and the identification of improved reclamation practices. Following the recent inspection by AANDC, it was identified that the current practices for reclaiming depressions around bore holes was absent from the plan. The backfilling of sink holes with fill material has been added to the revised Abandonment and Restoration Plan as appended to this report.

The objectives of the plan are to:

- Protect human health
- Reduce or eliminate environmental effects
- Re-establish conditions to similar pre-exploration land use
- Establish physical and chemical stability of disturbed areas



### 3.7.1 Seasonal Shutdown

As required by the Abandonment and Restoration Plan, the following activities were conducted for the seasonal shutdown of the Kiggavik camp during the first week of September:

- All equipment stored in secure buildings or containers
- Plywood placed over windows and doors to prevent inadvertent opening
- Pumps and hoses drained and dismantled
- Inventory of chemicals, products and wastes remaining on site (See Table 3.2-1)
- Final inspection of all storage areas and secondary containment
- Removal of chemicals or storage in secure buildings
- Drill rigs dismantled and stored appropriately
- Generator shut down and winterized
- Waterlines drained, flushed and winterized with antifreeze

All personnel vacated the site by September 4, 2014. Photograph 3.7-1 shows the Kiggavik camp during seasonal shutdown.



**Photograph 3.7-1: Kiggavik Camp Seasonal Shutdown**

### **3.7.2 Progressive Reclamation**

The Abandonment and Restoration Plan has been implemented to ensure drill site stability. Consistent with the objective to return lands to a state similar to pre-exploration use, AREVA intends to implement progressive restoration practices and incorporate new abandonment and/or reclamation methods and procedures, where applicable. Radiologically or chemically contaminated soil or cuttings are collected inside industrial bulk bags and stored in the radioactive storage compound for future handling, which may include transfer to an operating mine site. The gamma radiation 1 m from the boundary of the radioactive storage compound is reduced as much as practical to less than 1  $\mu\text{Sv/h}$  and in no instances exceeding 2.5  $\mu\text{Sv/h}$ . Where collected cuttings are non-mineralized, they are used to re-establish physical stability by levelling depressions that may have formed from permafrost thaw. Where inadequate fill material is available, excess material from the End grid discharge or gravel may be used to fill larger depressions. AREVA is currently working with local contractors on the procurement of gravel for reclamation purposes.

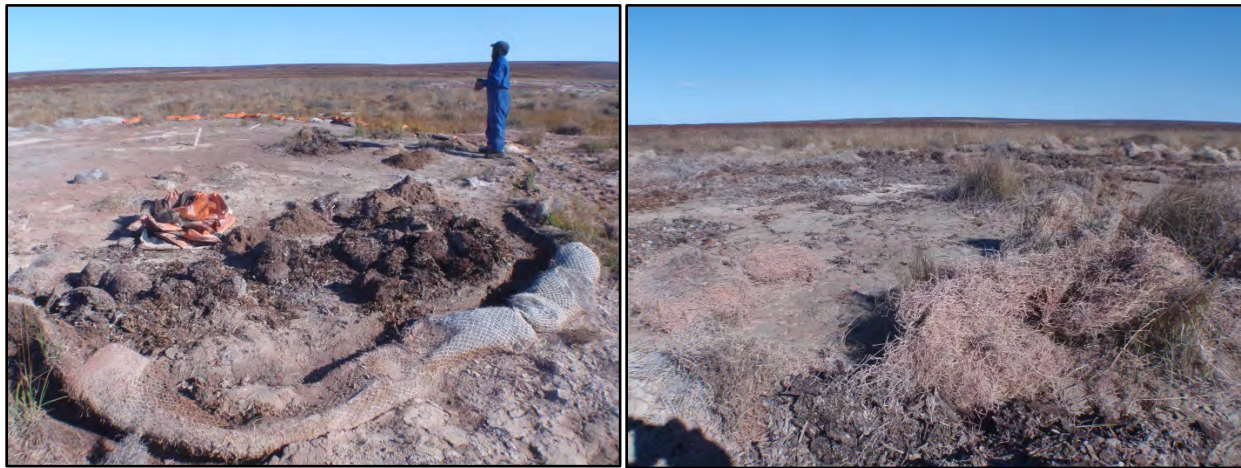
Challenges surrounding physical reclamation of disturbed surfaces include lack of local knowledge or available information. To minimize the affected footprint and the amount of physical reclamation required, there is a focused effort on proper planning of infrastructure placement and drill sites. Reclamation techniques are currently being investigated and when required, will be implemented under the direction and approval of experienced consultants, community members and regulatory agencies. During a meeting with available members of the Baker Lake Community, Land and Resources Committee (CLARC), the CLARC stated a preference that any re-vegetation occurs without seeding or fertilization interventions.

#### **3.7.2.1 *End grid Discharge Reclamation***

Following the AANDC inspection in July, reclamation work was completed on the End grid discharge area to promote seed establishment for natural revegetation. The area was identified as an area of concern with the depth of material deposited over the last six years. Drilling was extensive in this area due to delineation drilling for the deposit. Due to the slope experienced towards streams and End grid Lake, efforts were made to contain the drill discharge to reduce the risk of a spill. This containment resulted in an accumulation of drill cuttings that inhibited prompt regeneration. With the recent absence of drilling in the area and concerns identified, AREVA has begun progressive reclamation for the area and will continue efforts to improve reclamation success and monitor the vegetation establishment.



To reduce potential flow toward End grid Lake, sand bags were used in combination with bark and wood fibre filter socks for containment and eventual revegetation. To prepare the site for reclamation, the plastic sand bags are removed and filter socks spread to encourage establishment of vegetative cover. Remediation efforts have begun with the removal of plastic sand bag material and the spreading of the filter socks (See Photograph 3.7-2 and Photograph 3.7-3). As shown in Photograph 3.7-4 and Photograph 3.7-5, the Bark Filled Filter Sock and Curlex Sediment Logs create a seed bed for native tundra species. With the spreading of these biodegradable filter socks, a litter layer is created for promotion of natural revegetation.



**Photograph 3.7-2: Spreading of Litter Layer for Seed Establishment**



**Photograph 3.7-3: Spreading of Litter Material**





**Photograph 3.7-4: Seed Establishment in Bark Filter Sock**



**Photograph 3.7-5: Seed Establishment in Curlex Wood Fibre Filter Sock**

### ***3.7.2.2 Chemical and Radiological Restoration***

Drill sites are inspected for fuel stained soil and undergo a gamma survey for radioactive contamination. Gamma surveys are conducted prior to commencing drilling activities and following the completion of drilling. Should it be required, drill sites are remediated to the greatest extent possible to ensure the gamma dose rate 1 m above surface is less than 1 micro Sievert per hour ( $\mu\text{Sv/h}$ ) above background. Following remediation activities, another gamma survey would be conducted to ensure levels have been reduced to below 1  $\mu\text{Sv/h}$  above background.

As shown in Table 3.7-1, gamma surveys were conducted for each drill location. Readings with the Ludlum 2221 Scaler Ratemeter and Trimble GPS PRO-XRT were made at 1 second intervals at one meter above ground. As mentioned in the 2013 Annual Report, the pre-gamma survey was completed for drill hole BN-03, but there was an error in collecting the post gamma survey data. The area was re-surveyed in 2014, and the dose rate was below 1  $\mu\text{Sv/h}$ . During the 2014 field season, all gamma survey dose rates were below 1  $\mu\text{Sv/h}$  as shown in Figure 3.7-1 to Figure 3.7-43 of Appendix B.

**Table 3.7-1: 2014 Drill Hole Gamma Surveys**

Drill Hole	Pre-gamma	Post-gamma	Figure Number
	Date	Date	
BN-03 <sup>†</sup>	June 22, 2013	June 14, 2014	Figure 3.7-42
KE-07	13-Jun-14	25-Jun-14	Figure 3.7-16
KE-08	17-Jun-14	27-Jun-14	Figure 3.7-15
KE-09	17-Jun-14	27-Jun-14	Figure 3.7-13
KE-10	25-Jun-14	8-Jul-14	Figure 3.7-14
KE-11	28-Jun-14	8-Jul-14	Figure 3.7-12
BONG-064	16-Jun-14	26-Jul-14	Figure 3.7-1
BONG-065	16-Jun-14	30-Jul-14	Figure 3.7-2
BONG-065A			
BONG-066	11-Jul-14	30-Jul-14	Figure 3.7-3
RHLD-05	14-Jun-14	3-Jul-14	Figure 3.7-17
RHLD-06	20-Jun-14	3-Jul-14	Figure 3.7-18
RHLD-07	20-Jun-14	4-Jul-14	Figure 3.7-19
RHLD-08	20-Jun-14	9-Jul-14	Figure 3.7-20
EE-01	15-Jun-14	25-Jun-14	Figure 3.7-26
EE-01A			
EE-02	15-Jun-14	4-Jul-14	Figure 3.7-28
EE-03	26-Jun-14	13-Jul-14	Figure 3.7-27
EE-04	20-Jun-14	13-Jul-14	Figure 3.7-29
EE-05	9-Jul-14	19-Jul-14	Figure 3.7-30
CONT-006	15-Jul-14	8-Aug-14	Figure 3.7-33
CONT-007	22-Jul-14	8-Aug-14	Figure 3.7-34
CONT-008	25-Jul-14	15-Aug-14	Figure 3.7-35
CONT-009	25-Jul-14	15-Aug-14	Figure 3.7-43
CONT-010	8-Aug-14	24-Aug-14	Figure 3.7-36
CONT-011	8-Aug-14	24-Aug-14	Figure 3.7-37
CONT-012	15-Aug-14	24-Aug-14	Figure 3.7-38
CONT-013	19-Aug-14	24-Aug-14	Figure 3.7-39
CONT-014	19-Jul-14	2-Sep-14	Figure 3.7-40
CONT-015	19-Jul-14	2-Sep-14	Figure 3.7-41
SLEK-017	28-Jun-14	19-Jul-14	Figure 3.7-21
SLEK-018	28-Jun-14	25-Jul-14	Figure 3.7-22
SLEK-019	19-Jul-14	30-Jul-14	Figure 3.7-23
MO-01	22-Jun-14	1-Aug-14	Figure 3.7-4

Drill Hole	Pre-gamma	Post-gamma	Figure Number
	Date	Date	
MO-02	22-Jun-14	9-Aug-14	Figure 3.7-5
MO-03	20-Jul-14	9-Aug-14	Figure 3.7-6
JE-01	18-Jun-14	20-Aug-14	Figure 3.7-31
JE-02	20-Jul-14	20-Aug-14	Figure 3.7-32
85W-04	28-Jun-14	6-Aug-14	Figure 3.7-7
85W-05	28-Jun-14	9-Aug-14	Figure 3.7-8
85W-05A			
85W-06	6-Aug-14	13-Aug-14	Figure 3.7-9
85W-07	19-Aug-14	26-Aug-14	Figure 3.7-10
85W-08	19-Aug-14	26-Aug-14	Figure 3.7-11
IW-01	10-Aug-14	21-Aug-14	Figure 3.7-24
IW-02	19-Jun-14	21-Aug-14	Figure 3.7-25

<sup>†</sup>BN-03 was resurveyed in 2014 to confirm radiological clearance

## 4 Effects of the Project on Human Health

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AREVA is committed to providing a healthy and safe work environment for all employees and contractors and to ensuring work is performed in a safe and responsible manner. To meet this commitment, AREVA takes every reasonable precaution to ensure the health and safety of personnel to mitigate the potential harmful effects of uranium exploration activities. This commitment is supported through a comprehensive Health and Safety Program.

### 4.1 Health and Safety Program

The Health and Safety Program ensures work activities are performed in a safe and responsible manner and that they are conducted in accordance with the Nunavut *Mine Health and Safety Regulations*, exploration best practices and AREVA safety requirements. AREVA completed the field season in accordance with its OHSAS 18001:2007 certification for the Exploration Department's Health and Safety Management System. The OHSAS 18001 standard provides the minimum requirements for a comprehensive Health and Safety Management System which allows an organization to proactively minimize occupational health and safety risks and to continually improve its health and safety performance. An external third party, SGS, conducted the OHSAS 18001:2007 audit for the Health and Safety Management System on March 13 and later conducted the Kiggavik field audit from July 22 to July 23, 2014. The audit concluded that the health and safety program continues to meet requirements.

The Project Geologist was responsible for overseeing the Health and Safety Program with the assistance of the SHEQ Supervisor to ensure worker safety and protection of the environment. All Kiggavik personnel received orientation and appropriate safety training prior to commencing work. Employees and contractors were also required to participate in weekly safety meetings to discuss and reinforce safety issues and act as the Occupational Health and Safety Committee (OHC). The meeting minutes were forwarded monthly to the Workers' Safety and Compensation Commission (WSCC) Mines Inspector. The monthly accident summary was forwarded to the WSCC Mines Inspector, which outlined the two first aids and one medical aid that occurred during the field program. There were no lost time accidents involving AREVA or contractor personnel.

## **4.2 Radiation Protection**

To prevent radiation exposure during drilling, the Radiation Protection program was implemented to ensure work activities were performed in a safe and responsible manner. The results of the radiation monitoring program indicate that the work activities did not pose a health risk to workers or the public.

The Radiation Protection program was completed using:

- Gamma dosimetry which included optically stimulated luminescent dosimeters (OLDs) and direct reading dosimeters (DRDs/Canaries) for personal dosimetry
- Autotess survey instrument for gamma radiation monitoring
- Ludlum model 2221 with Trimble Pro-Xrt for pre and post gamma surveys
- Ludlum model 12 survey instrument and swipes for contamination monitoring
- Alpha monitors for radon progeny and long lived radioactive dust (LLRD) monitoring

The Radiation Protection Program is supported through a comprehensive series of work instructions for worker dosimetry, radiological monitoring, contamination control and the safe handling of radioactive materials.

### **4.2.1 Radiation Protection Plan**

The Radiation Protection Plan for the Kiggavik Project is designed to meet the requirements of the applicable Nunavut Occupational Health and Safety Regulations, exploration best management practices, and AREVA's Integrated Management System (IMS). Although current activities are not regulated by the CNSC, the Radiation Protection Plan is designed in accordance with CNSC Regulations. The Radiation Protection Plan guides the implementation of the Radiation Protection Program to keep exposures As Low as Reasonably Achievable (ALARA) through ongoing monitoring, management of radioactive materials, and proper abandonment and restoration. The plan is implemented through routine radiation monitoring by AREVA personnel. This includes dosimetry monitoring to determine worker exposure, management of radioisotopes, shipping and receiving of radioactive material, the collection and storage of radioactive materials, and emergency response planning.

All AREVA employees and contractors receive appropriate radiation protection training prior to beginning work to ensure worker safety and protection of the environment. This includes the designation and obligations of Occupational Workers, dose limits and dose levels, and relevant hazards. Personnel involved with the shipment of radioactive materials received the required

training in Transportation of Dangerous Goods (TDG) Class 7 Radioactive Material for both ground and air transport.

#### **4.2.1.1 Radiological Monitoring**

As part of the Radiation Protection Program, workplace radiological monitoring was performed for gamma radiation, RnP and LLRD to detect potentially abnormal conditions and estimate worker doses. Appropriate personal protective equipment and ventilation methods were used during all work activities, and continuous monitoring was conducted for LLRD and RnP in the geology core shacks. A summary of the radiological monitoring results is provided in Table 4.2-1. Working Level (WL) is the unit of concentration of radon progeny equivalent to the potential alpha energy concentration that results from 3.7 Bq of each radon decay product. LLRD is expressed in units of bequerel per cubic meter (Bq/m<sup>3</sup>) which refers to number of Bq inhaled or ingested and is used to determine the dose received from radioactive dusts.

**Table 4.2-1: Radiological Area Monitoring Results**

<b>Radiation Type</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>
Radon Progeny (WL)	0.0003	0.0007	0.0005
Long-Lived Radioactive Dust (Bq/m <sup>3</sup> )	--	0.003	0.0006

Contamination control measures are implemented to minimize the spread of radioactive materials. When gamma dose rates on contact with the core exceed 10 µSv/h, contamination monitoring is conducted and the affected surface or equipment cleaned if necessary.

#### **4.2.1.2 Radiation Exposure**

The total effective dose of Kiggavik personnel considers gamma radiation and the results from area monitoring for RnP and LLRD in units of millisieverts (mSv). This cumulative dose is compared to dosimetry limits to confirm the adequacy of the Radiation Protection Program.

##### *Gamma Exposures*

Radiation exposure during uranium exploration activities primarily originates from external gamma radiation emitted from mineralized core, rock and drill cuttings. Worker exposures to gamma radiation were measured using optically stimulated luminescent dosimeters (OLDs) provided by the licensed dosimetry provider, Landauer Inc. For exposure control, workers handling and logging radioactive drill core and rock samples were also issued direct reading dosimeters (DRDs) or Canaries. Action and Administrative Levels are set for gamma radiation



dose rates which are which measured by the DRD or Canaries. Worker gamma radiation exposures ranged from 0.01 mSv to 0.02 mSv with an average exposure of 0.012 mSv which are well below the public dose limit of 1 mSv/year.

#### *Radon Progeny and Long-Lived Radioactive Dust Exposures*

Worker exposures to RnP and LLRD are estimated from industry-accepted area monitoring techniques and occupancy time information. Worker exposures to RnP and LLRD ranged from 0.0004 mSv to 0.006 mSv with an average exposure of 0.0038 mSv.

#### *Total Effective Exposure*

As per the *Radiation Protection Regulations*, the maximum annual dose for an occupational worker is 50 millisievert per year (mSv/year) or an average of 20 mSv/year over 5 years. The maximum annual dose for a member of the public is 1 mSv/year. Total effective exposure for Kiggavik personnel was calculated for each individual based on OLD results, RnP and LLRD radiological monitoring results and time occupancy information. As shown in Figure 4.2-1, the worker radiation doses were well below regulatory dose limits for members of the public and occupational workers. The maximum dose received by an individual working at Kiggavik in 2014 was 0.02 mSv and the average dose was 0.005 mSv. Therefore, the Kiggavik personnel exposures were below the regulatory limit for members of the public.

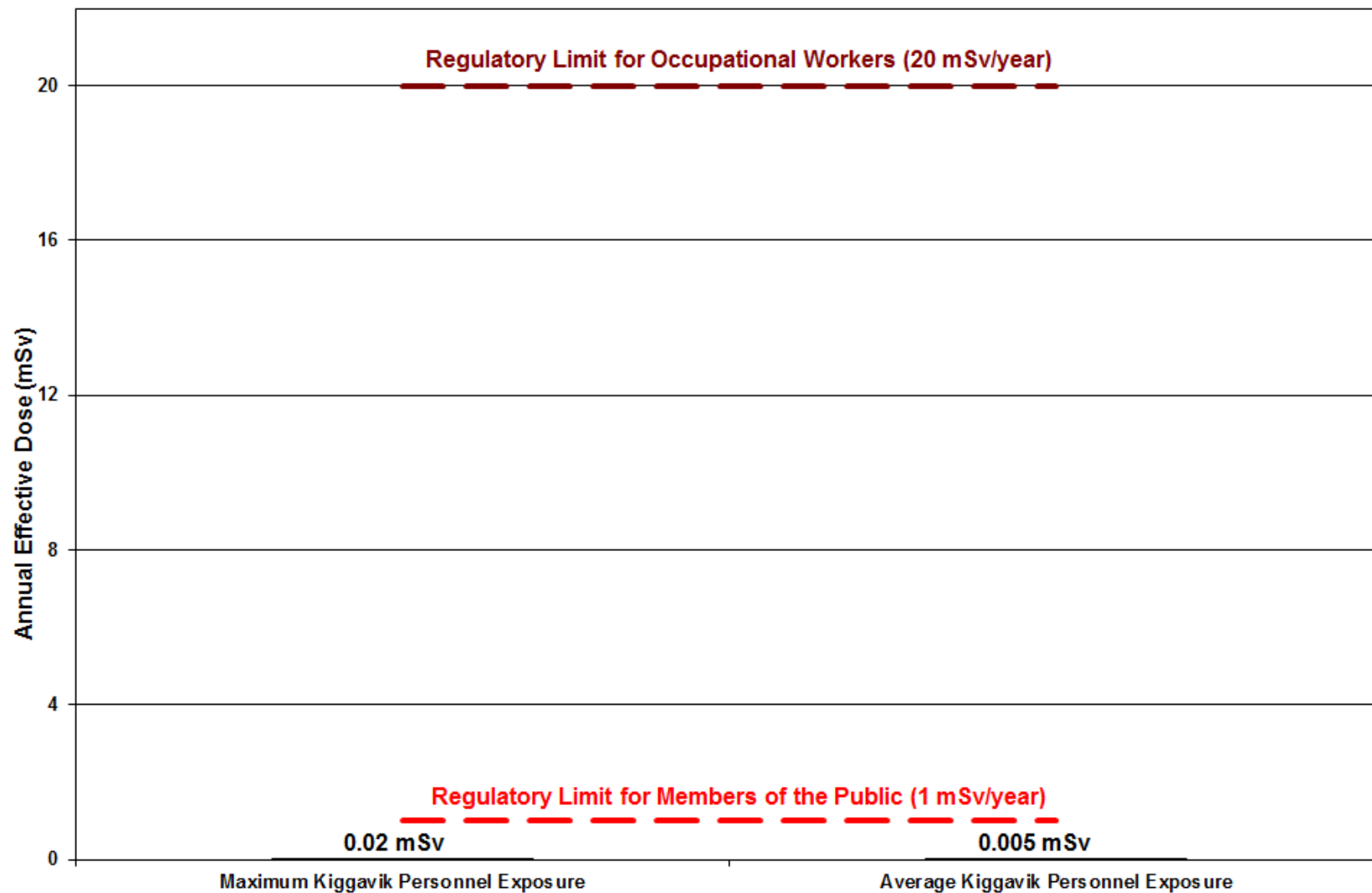


Figure 4.2-1: 2014 Kiggavik Personnel Annual Effective Dose

## 5 Summary of Local Hires and Initiatives

An important aspect of the Kiggavik Project is that it brings employment and business opportunities to local residents. In 2014, local people were hired for work carried out at the Kiggavik camp and in Baker Lake. Northern companies were successful in winning contracts. In addition to providing direct employment and business contracts, AREVA sponsored several events in the Kivalliq region in 2014.

### 5.1 Local Employment

The Kiggavik Project provided employment to local people through direct hiring as well as by hiring local companies to supply labor services to the Project. During 2014, a Community Liaison Officer was hired to work afternoons throughout the year.

The Project contracted Inuit workers through Peter's Expediting Ltd. (PEL), a company based in Baker Lake, for the winter haul, camp operations and maintenance, wildlife monitoring, and kitchen help. The Project's drilling contractor, Boart Longyear, hired four graduates from the Arviat drill program as drill helpers at the Kiggavik site. Kivallingmiut Aviation, the helicopter contractor, also hired two local Baker Lake residents to support operations in Baker Lake. Table 5.1-1 summarizes the employment provided to local Inuit workers for the past six years.

**Table 5.1-1: Local Employment**

Year		AREVA Employees	Contracted Workers	Total
2009	Inuit Workers	3	31	34
	Hours	2,993	10,205	13,198
2010	Inuit Workers	3	27	30
	Hours	3,076	6,495	9,571
2011	Inuit Workers	2*	17	19
	Hours	2,044	4,980	7,024
2012	Inuit Workers	3*	10	13
	Hours	1,830	4,332	6,162
2013	Inuit Workers	3**	19	22
	Hours	2,059	6,752	8,811
2014	Inuit Workers	1	11	12
	Hours	1,239	3352.5	4,591.5

\* Includes a non-Inuit local Community Relations Assistant from Baker Lake who worked in Baker Lake during the summer

\*\*Includes Inuit worker hired by AREVA to work at the Cluff Lake site



**Photograph 5.1-1: Camp Maintenance Workers**



**Photograph 5.1-2: Camp Maintenance Workers Closing Camp**

## **5.2 Locally Contracted Work**

Many goods and services obtained for the Kiggavik Project were contracted to local suppliers. The total value of the contracts to northern vendors in 2014 was \$3.8M, 55% of the total exploration and mine development contract expenditures of \$6.9M. Much of this work went to companies with offices in Baker Lake and Rankin Inlet. There was also accommodation and meals in other Kivalliq communities. Table 5.2-1 summarizes the value of contracts awarded to northern businesses since 2007. The work contracted to local companies in 2014 consists of:

- Diesel and jet fuel
- Expediting and transportation
- Environmental Assessment studies
- Helicopter services
- Groceries

- Meals and accommodations
- Translation services
- Cleaning services
- Labour
- Office utilities
- Construction of core boxes and core racks

**Table 5.2-1: Kiggavik Project Northern Contracts**

	<b>Inuit Owned companies*</b>	<b>Nunavut companies**</b>	<b>Other Northern Companies***</b>	<b>Total Northern Expenditures</b>	<b>Total Contract Expenditures</b>	<b>% spent total northern</b>	<b>% spent Inuit owned Firms</b>
2007	\$1.0M	\$0.90M	\$0.75	\$2.65M	\$8.5M	30%	11%
2008	\$1.75M	\$1.2M	\$1.2M	\$4.15M	\$13.7M	30%	13%
2009	\$1.4M	\$0.76M	\$0.60M	\$2.75M	\$14.5M	19%	10%
2010	\$2.2M	\$1.00M	\$0.33M	\$3.5M	\$12.5M	28%	18%
2011	\$2.4M	\$0.36M	\$0.26M	\$3.03M	\$9.2M	33%	26%
2012	\$2.2M	\$0.5M	\$0.06M	\$2.76M	\$7.1M	39%	31%
2013	\$2.30M	\$0.55	\$0.58M	\$3.43	\$6.8M	50%	34%
2014	\$3.00M	\$0.50	\$0.31M	\$3.79M	\$6.9M	55%	43%
<b>Total</b>	<b>\$16.2M</b>	<b>\$5.8M</b>	<b>\$4.1M</b>	<b>\$26.1M</b>	<b>\$79.2M</b>	<b>33%</b>	<b>21%</b>

\*Companies qualifying as Inuit owned Firms

\*\*Companies not Inuit owned Firms but with offices in Nunavut and a significant number of Inuit employees

\*\*\*Northern based companies from outside of Nunavut

## 5.3 Sponsorships and Donations

The Kiggavik Project has sponsored community events in Baker Lake and other communities in the Kivalliq since 2006. Sponsorships were given to educational, community, cultural and sports events and celebrations. The list of events sponsored and donations given in 2014 is shown in Table 5.3-1.

**Table 5.3-1: Sponsorships and Donations for 2014**

<b>Category</b>	<b>Organization</b>	<b>Activity</b>
Community	Baker Lake Hamlet	Hamlet Days feast
	Baker Lake Hamlet	Mayors meeting dinner
	Coral Harbour Youth Centre	Purchase equipment
	Baker Lake Hamlet	Holiday celebrations
	Chesterfield Inlet Hamlet	Holiday celebrations
	Baker Lake Hospice Society	Elders party
Sports and Recreation	Baker Lake minor hockey	Tournament
	Chesterfield Inlet minor hockey	Tournament
	Baker Lake Square Dance	Showdown
	Baker Lake minor hockey	Tournament
	Kivalliq Science Camp	Kivalliq Communities
	Baker Lake snowmobile club	Races
	Chesterfield Inlet cod derby	Fishing Derby
	Chesterfield Inlet Fishing derby	Fishing Derby
	Arviat Sila Rainbow committee	Dance competitions
	Rankin Inlet minor hockey	Tournament
Education	Baker Lake high school	Exchange trip
	Baker Lake Schools on board	Trip
	Kivalliq	Science Camp
	Baker Lake high school	Graduation award
	Rankin Inlet high school	Graduation award
	Chesterfield Inlet high school	Graduation award
Culture	Bowhead Whale Hunt	Chesterfield Inlet
Environment	Baker Lake Health Committee	Spring cleanup
Health & Safety	Baker Lake Search and Rescue	Helicopter support for searches. Funds for operation
	Rankin Inlet Hamlet	Suicide Prevention Week activities



## **6 Community Engagement**

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AREVA recognizes that for success of the Kiggavik Project, AREVA will need the support of the people in the region. Information sharing and community engagement are not only requirements of the environmental assessment process, but also one of AREVA's corporate commitments. This section presents the engagement activities that were carried out by AREVA in Nunavut in 2014 primarily for the environmental assessment process. The exploration program carried out at Kiggavik was discussed at some of these events.

### **6.1 Information Sharing**

#### **6.1.1 Information Office**

AREVA has operated an information office in Baker Lake since August of 2006. The office continued to be open to the public throughout 2014 on a daily basis. A bilingual Community Liaison Officer was present each afternoon to speak with visitors.

#### **6.1.2 Kiggavik Project Community Liaison Committee**

The Kiggavik Project established a Community Liaison Committee (CLC) in December 2006 as a means of maintaining community involvement in Baker Lake. Committee members are appointed by their respective organizations and a community member is elected as Chair of the Committee.

The organizations represented on the CLC are:

- Hamlet Council
- Elders Society (male and female representatives)
- Youth Group (male and female representatives)
- District Education Authority
- Hunter and Trappers Organization
- Health Committee
- Justice Committee
- Business Community
- Aberdeen Lake People

During 2014, the Baker Lake CLC met on 3 occasions. The dates are shown in Table 6.1-2. Meetings were held at the AREVA Information Office in Baker Lake and were open to the public.

Meeting announcements were made on the local radio with the date, time and location. Following the meetings, radio announcements were made to provide Baker Lake residents with a meeting summary. Translation was provided and minutes were kept of each meeting. Meeting minutes are available at the information office in Baker Lake and are posted on the Kiggavik blog at [www.kiggavik.ca](http://www.kiggavik.ca).

The Baker Lake CLC provided community advice to the Kiggavik Project throughout the year. Following is a summary of topics discussed with the CLC:

- Updates of Project activities including the field program, the overland haul, environmental baseline work and permits
- Updates on the environmental assessment process
- Land Use, navigable waters and fisheries offset possibilities
- Information and updates on local employment opportunities and sponsorships

### 6.1.3 Kiggavik Blog

On June 29, 2010 a new communication initiative, the Kiggavik Blog [www.kiggavik.ca](http://www.kiggavik.ca) went live. In May 2013 the look of the website changed. This website contains project information, a schedule of events and allows for the public to ask questions. Statistics for the blog are shown in Table 6.1-1. Blog activity was fairly consistent throughout the year with the highest activity in October, after the Final Environmental Impact Statement (FEIS) submission. There were 3,856 site visits in 2014, lower than the previous three years which varied between 4,211 and 5,649.

**Table 6.1-1: Statistics for Kiggavik Blog**

Month	Site Visits	Page views	Unique visitors	Average Pages viewed per visit
December 2014	370	857	302	2.32
November 2014	374	893	325	2.39
October 2014	478	1,351	363	2.83
September 2014	261	718	211	2.75
August 2014	266	675	207	2.54
July 2014	368	1,026	272	2.79

Month		Site Visits	Page views	Unique visitors	Average Pages viewed per visit
June 2014		273	689	212	2.52
May 2014		208	591	183	2.84
April 2014		258	735	219	2.85
March 2014		396	1,023	332	2.58
February 2014		241	704	212	2.92
January 2014		363	1,207	276	3.33
<b>Totals</b>	<b>2014</b>	<b>3,856</b>	<b>10,469</b>	<b>3,114</b>	
	2013	4,670	13,954	3,516	
	2012	4,211	10,589	3,075	
	2011	5,649	12,986	4,657	

#### 6.1.4 Summary of Meetings and Events

AREVA has engaged in a series of initiatives to inform, consult with and involve the community in the Kiggavik Project since 2005. The initiatives and events carried out in 2014 are detailed in this section and are listed in Table 6.1-2. Included are events that were organized by AREVA as engagement for the environmental assessment and as part of community involvement. The majority of events occurred in Kivalliq communities or with organizations from Kivalliq communities. Some events took place with communities outside the Kivalliq Region. The various activities are discussed in the remainder of the section.

**Table 6.1-2: Community Information, Involvement and Engagement Activities - 2014**

Community	Group	Date	Purpose/ Topic
Baker Lake	Community Liaison Committee	Feb 20	Overland Haul, status of Kiggavik Environment Assessment, election of Chair and Vice Chair
		Jun 23	Discussed fisheries offset possibilities and navigable waters use
		Aug 12	The Kiggavik field season, the Environmental Assessment, wildlife monitoring and reporting at Kiggavik.
	HTO	Apr 24, 25, 29	Special Meeting to discuss the Kiggavik EA
	Elders	Apr 28	Informal meeting with elders regarding land use
		Jun 23	Informal meeting with hunters and elders regarding fisheries offset possibilities
Chesterfield Inlet	Hunters and Trappers Organization	Feb 25	Special meeting to discuss EA issues
Rankin Inlet	Hamlet	Dec 10	Meeting with Mayor to discuss the EA
Coral Harbour	Hamlet	Jan 21	Kiggavik EA Update
	HTO	Jan 21	Kiggavik EA Update
	School	Jan 21	Mining Cycle and environmental assessment discussion
	Public Meeting	Jan 21	Open House on EA and monitoring
Regional Organizations, Inuit, Government and IPG meetings	KIA	Apr 30	Meeting with KIA/Sakku in Rankin Inlet regarding contracting
		Aug 11	Meeting with staff in Rankin Inlet regarding EA
	NIRB	Apr 11	Meeting with staff in Iqaluit
		Sep 30	Meeting with staff in Cambridge Bay to deliver FEIS
	Nunavut Mine Training Roundtable	Apr 9	Annual meeting in Iqaluit
	Kivalliq Wildlife Board	Apr 9	Project EA wildlife update at annual general meeting in Rankin Inlet
		Oct 23	Project EA Update at meeting in Rankin Inlet
	Kivalliq Socioeconomic Monitoring Committee	Oct 7/8	Annual meeting in Baker Lake
	Northern Project Management Office	Jan 29	Update meeting in Vancouver
		Apr 10	Update meeting in Iqaluit
	AANDC	Mar 3	Meeting with staff in Toronto re EA

Community	Group	Date	Purpose/ Topic
		Apr 11	Meeting with staff in Iqaluit re EA
	GN ED&T/ Housing	Apr 10	Discussion of EA issues in Iqaluit
	MLA for Baker Lake	Aug 13	Project Update meeting in Baker Lake
	GN Minister of ED&T	Jan 26	Update meeting
	MP for Nunavut	Mar 3	Project discussion in Toronto
	Federal Senator for Nunavut	Mar 3	Project Update meeting in Toronto
Transboundary meetings	BQCMB	Apr 3&4	Special meeting in Saskatoon to discuss outstanding EA issues
		May 6-8	Meeting in Regina
		Nov 19	Meeting in Winnipeg
	Hudson Bay Roundtable	Apr 15/16	Meeting and presentation at annual meeting in Churchill, MB
	Tadoule Lake, MB	Jun 25	Meeting with Council re Kiggavik EA
		Jun 25	Public meeting re Kiggavik EA & transboundary issues
	Lac Brochet, MB	Jun 26	Meeting with Council re Kiggavik EA & transboundary issues
	Fond du Lac, SK	Nov 12	Meeting with Council re Kiggavik EA & transboundary issues
		Nov 12	Public meeting re Kiggavik EA and transboundary issues
	Black Lake, SK	Nov 13	Meeting with Council re Kiggavik EA & transboundary issues
		Nov 13	Public meeting re Kiggavik EA and transboundary issues
	Wollaston Lake, SK	Nov 17	Public meeting re Kiggavik EA and transboundary issues

## Hamlet Representatives

Kiggavik team members met with the Mayor and Council of Coral Harbour during the visit to Coral Harbour for the 2013/14 public meeting. A Kiggavik team member met with the Mayor of Rankin Inlet to discuss the Kiggavik EA and the final hearing.

## Hunters and Trappers Organizations/ Kivalliq Wildlife Board

AREVA engaged three of the Kivalliq HTOs in 2014. Kiggavik team members met with the Coral Harbour HTO to discuss the Kiggavik EA in January during the visit to Coral Harbour for the



2013/14 Open House. In February, Kiggavik team members and a consultant met with the Chesterfield Inlet HTO to discuss marine issues. In April, Kiggavik team members held a three session meeting with the Baker Lake HTO to discuss Kiggavik EA issues.

AREVA met with the Kivalliq Wildlife Management Board on October 31 for a project update meeting during their Annual General Meeting in Arviat. AREVA met with the Kivalliq Wildlife Board during their annual meetings in April and November to provide updates on the wildlife aspects of the Kiggavik EA.

## **6.2 Kivalliq Community Involvement**

Community involvement for the Kiggavik project began in 2006. Community involvement activities for 2014 are described in this section.

The Kiggavik Project has been speaking with high school students in the Kivalliq region since 2006. In 2014, awards were given to students in Baker Lake, Rankin Inlet and Chesterfield Inlet.

The final community to be visited for the 2013/14 Open House tour of Kivalliq communities was Coral Harbour. It was visited in January 2014. Kiggavik team members held an open house and also met with the Hamlet Council, the HTO and held a discussion on mining phase and the environmental assessment process with students at the high school.

On two occasions during the summer exploration season, a helicopter from the Kiggavik site rescued people requiring assistance in remote areas. The rescues appeared on the [Kiggavik blog](#) and the Nunatsiaq News (See Appendix D).

## Appendix A Compliance with Conditions

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The following sections list the conditions of the Nunavut Impact Review Board (NIRB) Screening Decision, the Aboriginal Affairs and Northern Development Canada (AANDC) Land Use Permit, the Kivalliq Inuit Association (KIA) Land Use Licence and the Nunavut Water Board (NWB) Water Licence for the Kiggavik Project and also describe the means by which the Project has achieved compliance with these conditions.

### A.1 Nunavut Impact Review Board file no. 06AN085

On March 26, 2008 NIRB re-issued the original terms and conditions ([April 3, 2007 Screening Decision](#)) along with the additional terms and conditions outlined in the August 30, 2007 and January 9, 2011 letters.

#### A.1.1 Original NIRB Screening Decision – April 3, 2007

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
AANDC imposed mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require AREVA (the Proponent) to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to: <ul style="list-style-type: none"><li>a. Location and Area</li><li>b. Time</li><li>c. Equipment</li><li>d. Methods and Techniques</li><li>e. Control or Prevention of Flooding, Erosion and Subsidence of Land</li><li>f. Use, Storage, Handling and Disposal</li></ul>	Refer to Section A.4 for AANDC permit conditions.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>of Chemical or Toxic Material</p> <ul style="list-style-type: none"> <li>g. Wildlife and Fisheries Habitat</li> <li>h. Objects and Places of Recreational, Scenic and Ecological Value</li> <li>i. Petroleum Fuel Storage</li> <li>j. Matters Not Consistent with Regulations</li> </ul>	
<p>AANDC must consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the DIAND Caribou Protection Measures.</p>	<p>AANDC conducted a field inspection pursuant to the Federal Land Use Permit on July 16, 2014. Refer to section 1.4.1 for details on this inspection.</p>
<p>KIA imposed mitigation measures and/or Environment Terms and Conditions pursuant to the IOL Licence in regard to:</p> <ul style="list-style-type: none"> <li>a. General Standards</li> <li>b. Fuel and Chemical Storage</li> <li>c. Campsites</li> <li>d. Fisheries</li> <li>e. Ground Disturbance</li> <li>f. Wildlife</li> <li>g. Any other conditions recommended by the appropriate Community Lands and Resource Committee (CLARC)</li> </ul>	<p>Refer to Section A.5 KIA Land Use Licence.</p>
<p>Additional work (related to AANDC or KIA land applications) outside the original scope of the project proposal requires screening by NIRB; NIRB recommends any renewal request to be</p>	<p>Continual communication efforts are made with all regulatory agencies and boards.</p>

<b>RECOMMENDATION/CONDITION</b>	<b>COMPLIANCE ACTION</b>
forwarded to them for re-screening	
GN – DOE CO's should conduct random inspections of the location from May to August to monitor compliance with DIAND Caribou Protection Measures	The Baker Lake Conservation Officer and student conducted an inspection on August 13, 2014.
GN-DOE should conduct on-going review of wildlife monitoring results as required by WMMP	Monthly wildlife reports were submitted to GN-DOE during the duration of the 2014 field season.
After receiving the annual report, GN-DOE should report to NIRB and AANDC its findings regarding the possible impact of the Project on the Beverly and Ahiak caribou herds	No AREVA action required.
AANDC permit and KIA licence subject to any findings, direction or advice received from GN-DOE as result of 2007 GN/GNWT population surveys of the Beverly and Ahiak Caribou Herds.	No AREVA action required.
AREVA to maintain a copy of Screening Decision at the site	Located in the camp office and kitchen.
AREVA is to forward copies to NIRB of all permits obtained and required for the Project.	Ongoing.
AREVA to operate in accordance with proponent commitments stated in Appendix A (see A.1.2 below)	Refer to Section A.1.2 Summary of Proponent Commitments.
AREVA shall operate in accordance with	AREVA is committed to maintaining

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
commitments made in all the Operation Plans (namely Spill Contingency, Abandonment and Restoration, Noise Abatement, Waste Management, Wildlife Mitigation and Monitoring, Radiation Safety and the Environmental Code of Practice)	compliance as part of AREVA's commitment to continuous improvement. Management Plans are continually reviewed and are submitted with this annual report.
AREVA to submit annual report to NIRB, AANDC, KIA and GN-DOE by January 31 each year that the project is in operation commencing January 31, 2008.	Annual Reports have been submitted for 2007, 2008, 2009, 2010, 2011, 2012, and 2013. This submission represents the Annual Report for the 2014 exploration field program.
Shall abide by DIAND Caribou Protection Measures (see A.2) and those mitigation measures outlined in the WMMP.	This is ongoing throughout the field season with employee/contractor training and awareness. This is monitored by AREVA staff and Wildlife Monitors. Refer to Section 3.6.
Prohibited to allow aircraft to take-off or land if groups of caribou are within 1 km of the airstrip or helipad.	Addressed in the Wildlife Mitigation and Monitoring Plan; pilots receive training and awareness; verified by a Wildlife Monitor. Refer to Section 3.6 for more information.
Update WMMP to include "Section 2.1 During June and July – To avoid injuries to caribou and humans, if one or more caribou approach within 1 km of drilling operations, then activities will be suspended until caribou leave the area." Any direction from GN-DOE or KIA regarding caribou management plan must be forwarded to NIRB.	Revised conditions established in previous Wildlife Mitigation and Monitoring Plan. GNDOE believes that 50 caribou is an appropriate threshold for the suspension of activities (December 16, 2008 letter to NIRB regarding INAC and KIA land use permit extension request). Monitoring program (including Inuit wildlife monitors) help to guide this protection measure.
Ensure no hunting or fishing without proper Nunavut authorizations	Employees and contractors made aware of required authorization during orientation and



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
	through on-going awareness. Employees request fishing licences from the SHEQ Supervisor who obtains them from the Conservation Officer.
Compliance with the <i>CWS for Dioxins and Furans</i> , and the <i>CWS for Mercury</i> . Efforts to achieve compliance reported in annual report.	Refer to Section 3.2.1.
Adherence to conditions in Appendix B <i>Archaeological and Paleontological Resources – Terms and Conditions for Land Use Permit Holders</i> (see A.1.3 below)	Refer to Section A.1.3
Shall avoid known archaeological and/or paleontological sites	Record of known sites is kept updated and sites are avoided or handled appropriately by consultants and responsible authorities.

### A.1.2 Appendix A: Summary of Proponent Commitments

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Disturbance to permafrost mitigated through insulating floors of buildings, keeping sump and incinerator area small and raising incinerator above ground	In compliance through proper site planning.
Use walkways to minimize soil and vegetation disturbance	Walkways are present between all buildings at the cabin and geology areas of camp; The importance regarding the use of walkways is stressed during the site orientation.
The impact of helicopter and airplane noise and presence on wildlife and people will be	Ongoing through the implementation of the Wildlife Mitigation and Monitoring Plan; proper

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
mitigated by avoiding wildlife during flights and avoiding low flying. This will require ongoing communication and diligence.	training and awareness to all site employees/contractors. Refer to Section 3.6 for more information.
The presence of wildlife will be carefully monitored to ensure minimal disturbance. Daily wildlife siting records will be maintained and these will be used to plan work so that wildlife disturbance will be minimized. The information will also be provided to management boards and regulatory authorities.	
Use protective procedures and containments to protect water quality	Ongoing through the implementation of the Spill Contingency Plan.
Grey water treated through sumps and carefully monitored to ensure containment	Prior to the completion of the 2012 season, a punctured barrel with sand and gravel was used to construct a sump for the grey water discharge. During the 2013 inspection, it was deemed adequate by the AANDC inspector. The sump was continuously monitored through 2014 to ensure containment.
No garbage to remain on site	Ongoing through the implementation of the Waste Management Plan.
Camp to be decommissioned when no longer in use	Addressed in the Abandonment and Restoration Plan.
No fuel, drill cuttings, chemicals, wastes or sediment will be deposited into any water body as per the <i>Fisheries Act</i> , S 36(3).	Ongoing through the implementation of the Waste Management Plan and the Spill Contingency Plan; proper training and awareness is provided to all site

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
	employees/contractors. Non-compliance identified during spill in Bong Area (See Section 3.4.2)
Sumps, including those created for the disposal of drill cuttings located above the high water mark of any water body to prevent contents from entering any water body frequented by fish	No sumps are located within the high water mark of any water body.
Drilling additives or mud not to be used in connection with holes drilled through lake ice unless re-circulated or contained such that they do not enter the water or are demonstrated to be non-toxic	On ice drilling has not been conducted to date. If such activities take place in the future, all proper methods will be applied to ensure drilling additives and muds do not enter the water. AREVA uses non-toxic materials wherever possible.
Land-based drilling not to occur within 30 m of the high water mark of any water body	Ongoing through the implementation of the Environmental Code of Practice; proper training and awareness provided; regular inspections of drill sites performed by SHEQ personnel. Any drilling within 30 m of the high water mark will be under an approved licence with applicable protection and mitigation measures in place to the satisfaction of the NWB and DFO.
Material will not be stored on the surface ice of lakes or streams. Materials on ice surface must be for immediate use.	Any materials on ice surface are for immediate use and completely removed before the melting of the ice.
If artesian flow is encountered, the drill hole will be immediately plugged and permanently sealed.	As approved by the NWB on March 14, 2012, AREVA is allowed to drill while under low flow artesian conditions within all areas

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
	encompassed by the Kiggavik Lease provided the appropriate measures are implemented (as outlined in Amendment approval). The amendment was further incorporated into the licence renewal for 2BE-KIG1318. Refer to Section 3.3.2 for information regarding artesian encountered during the 2014 field season.
Winter road travel will not begin until the ground is sufficiently frozen to provide support and to avoid surface damage and rutting	In compliance and ongoing. This is done by following the Environmental Code of Practice; proper training and awareness is provided.
Locate winter road stream crossings that will minimize grades. Avoid bank disturbance and mechanized clearing immediately adjacent to any watercourse.	Committed to conduct when required and achievable.
Winter road lake and stream crossings to be constructed entirely of ice and snow materials and stream crossings are to be removed or notched prior to spring break-up.	Committed to conduct when required and achievable.

### A.1.3 Appendix B: Archaeological and Palaeontological Resources

Terms and Conditions for Land Use Permit Holders (Also attached to AANDC permit).

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
AREVA shall not operate any vehicle over a known or suspected archaeological or paleontological site	In compliance; use of ATV's only permitted around camp and for limited activities; addressed through proper training and awareness; included in site orientation.
AREVA shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or paleontological site	Site rule that is reinforced during orientation.
AREVA will immediately contact the Dept. of Culture, Language, Elders and Youth (CLEY) should an archaeological site or specimen, or a paleontological site or fossil be encountered or disturbed by a land use activity.	AREVA will promptly contact CLEY should any site or specimen be encountered or disturbed.
AREVA will cease any activity that disturbs an archaeological or paleontological site until permitted to proceed by CLEY	In compliance through proper training and awareness; included in site orientation.
AREVA will follow CLEY and DIAND direction in restoring disturbed sites if required	AREVA strives to promptly follow-up on all recommendations/concerns.
AREVA will provide CLEY with requested information on sites encountered in the course of land use	Any information requested on sites encountered will be provided to CLEY.
AREVA will make best efforts to ensure all those working under a permit are aware of conditions concerning archaeological or paleontological sites	Training and awareness of archaeological and paleontological protocol is included in site orientation. Copies of all permits and licences are provided on site for reference.



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
AREVA shall avoid known archaeological or paleontological sites	Record of known sites is kept updated and avoided or handled by consultants on the advice/recommendations of responsible authorities.
AREVA shall have an archaeologist or paleontologist perform those functions required and permitted by CLEY.	In compliance; Previously hired an independent consultant to conduct heritage surveys and investigations.

#### A.1.4 Additional NIRB Terms and Conditions

Terms and conditions contained in [August 30, 2007 letter](#):

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<i>Spill Contingency Plan</i>	
AREVA to consult and implement recommendations found in the 2003 CCME guidance document PN 1326 entitled "Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Product and Allied Petroleum Products"	The site layout and tanks have been designed by a consulting professional engineer and have been installed by a registered company/petroleum contractor to ensure compliance with the <i>Canadian Council of Ministers of the Environment (CCME) Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003</i> . In 2007 Golder Associates (Golder) conducted an engineering assessment to identify potential issues with the installation of storage tanks. Recommendations were provided for the foundation support for the storage tanks. To mitigate the potential issues described in the report, Golder recommended that the tanks be
AREVA to revise Spill Contingency Plan regarding this amendment and conduct personnel re-training as per revised Spill Contingency Plan. AREVA to submit revised plan to NIRB and other regulators within 30 days of this decision	
Revisions to include: quantity of the proposed double-walled tanks and the site layout plan; design considerations for safe operation and	

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
maintenance; operation, maintenance and inspection procedures and an emergency response plan.	<p>placed on timbers located under each saddle to provide an increased bearing area.</p> <p>The use of timbers is a deviation from the CCME COP, however it should be noted that this is common practice in the area and AREVA received permission from the area Fire Marshal, Tim Hinds with the Government of Nunavut-Community and Government Services via email (Trevor Carlson, AREVA) on November 20th, 2007.</p> <p>All necessary changes and appropriate training requirements have been made in both the Project's Spill Contingency Plan and the Emergency Response Manual.</p>
Secondary containment or surface liner with adequate size and volume utilized during all fuel or hazardous substance transfers	In compliance and ongoing through the implementation of the Spill Contingency Plan and the Environmental Code of Practice.
Sufficient absorbent materials and spill kits during fuel transportation, storage and transfers are provided	In compliance and ongoing through the implementation of the Spill Contingency Plan.
<i>Drilling and Disposal of Radioactive Substances</i>	
Use of biodegradable and non-toxic additives (Canadian Environmental Protection Act lists $\text{CaCl}_2$ as a toxic substance)	Committed to minimize the use of $\text{CaCl}_2$ when drilling conditions allow.
Drill holes that encounter uranium mineralization with a content $>1.0\%$ over a length of $>1$ m with a meter-percent concentration greater than 5% should be sealed by cementing over the entire	Committed to conduct when required and achievable as per Uranium Exploration Plan.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
mineralization zone; this should be at least 10 m above and below each mineralization zone.	
All land-based artesian holes shall be documented, plugged and sealed with grout.	Refer to section 3.3.2 for information regarding all artesian encountered during the 2014 field season.
Core storage areas should be located at least 100 m from the high waterline of all water bodies.	Ongoing through the implementation of the Radiation Protection Program and appropriate site planning.
<i>Physical Environment</i>	
No movement of equipment or vehicles unless the ground is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel suspended if rutting occurs	Ongoing throughout field season. Importance communicated to employees and contractors during orientation and on-going awareness. ATV and snowmobile use is strictly controlled.
Additional camp facilities to be located on gravel, sand or other durable land	Is in compliance and is ongoing through site planning. All buildings/sleeping units built in 2007 and later are located on timbers placed on gravel to allow airflow underneath the building which prevents degradation to permafrost.
New sleeping units properly designed to prevent any degradation to permafrost	
Final inspections of entire site to be conducted by proponent and lead agency to ensure all areas have been reclaimed in accordance with authorizations	Addressed in the Abandonment and Restoration Plan

Terms and conditions contained in [January 9, 2009 letter](#):

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
The Proponent shall make all efforts to minimize the use of aerial surveys to obtain information about caribou. It is recommended that the Proponent employ daily stationary ground observations and satellite caribou collar data in obtaining the necessary monitoring data.	In replacement of aerial surveys, ground observations are used by the Wildlife Monitor. Satellite caribou collar data from the government is provided to AREVA. See Section 3.6 for further details on wildlife monitoring and mitigation.
The Proponent shall not conduct aerial surveys with flight altitudes less than 120 m above ground level between June 1 and August 15.	Aerial surveys are conducted for the purpose of gathering geophysical data. As included in the Wildlife Mitigation and Monitoring Plan, it is required that such surveys are conducted at an altitude $\geq$ 120 m.
The Proponent shall not construct camps, cache fuel, conduct blasting or drilling activities, or operate ground, air, or marine based mobile equipment within 10 km of a 'designated and/or recognized caribou crossing' during periods of caribou migration.	There is no infrastructure or activities occurring within 10 km of a designated and/or recognized caribou crossing. Refer to the Wildlife Mitigation and Monitoring Plan appended to this report for further details on AREVA's requirements.
Where wildlife are present, AREVA shall maintain a minimum flight altitude of 610 m above ground level where it is safe to do so	This requirement is specified in the Wildlife Mitigation and Monitoring Plan and communicated to the helicopter pilots. Flight altitudes checks are conducted by AREVA personnel to confirm compliance.
The Proponent shall maintain a daily logbook of caribou observations and submit these records to the Government of Nunavut, Department of Environment on a monthly basis.	A wildlife log is maintained in the Kiggavik kitchen, camp office and in each helicopter for personnel to track wildlife sightings. Wildlife sightings made by the wildlife monitor are also recorded. All wildlife sightings are reported to

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
	the GN-DoE monthly during the field season. See Section 3.6 for further details on monitoring and mitigation.

## A.2 DIAND Caribou Protection Measures

Note that these conditions are also required by the KIA Land Use Licence, AANDC Land Use Permit and the NIRB Screening Decision.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Caribou Protection Areas	
No activity, without approval of Land Use Inspector, between May 15 and July 15 within the Caribou Protection Areas	AREVA does not conduct any activity within the designated Caribou Protection Areas.
When caribou cows approach area of operation within the Caribou Protection Areas all personnel not required for maintenance and protection of camp and equipment must leave the area.	
Activities within the Caribou Protection Areas occurring between May and July may be permitted by the Land Use Inspector if caribou cows are not expected to use the area for calving or post-calving.	
Caribou Protection - General	
In the event that caribou cows calve outside of the Caribou Protection Areas, operations will be suspended within the area(s) occupied by cows and/or calves between May 15 and	These requirements are included in the Wildlife Monitoring and Mitigation Plan. Employees are made aware of these commitments and they are monitored by



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
July 15.	AREVA staff and Wildlife Monitors. See Section 3.6 for further information.
The following operations will be suspended in the presence of caribou cows and calves: <ul style="list-style-type: none"><li>• blasting</li><li>• overflights at &lt; 300 m above ground</li><li>• snowmobile and ATV use outside vicinity of camp</li></ul>	
Caribou Protection - Migration	
No operation will block or cause diversion to migration	Ongoing through the implementation of the Wildlife Mitigation and Monitoring Plan; proper training and awareness provided to all site employees/contractors. See Section 3.6 for further information.
All activities that may interfere with migration will cease during migration	
Caribou Crossing	
No camp construction, caching of fuel or blasting will occur within 10 km of a Designated Caribou Crossing between May 15 and September 1	Ongoing through the implementation of the Wildlife Mitigation and Monitoring Plan; proper training and awareness provided to all site employees/contractors. See Section 3.6 for further information.
No diamond drilling operations within 5 km of a Designated Caribou Crossing between May 15 and September 1	
Additional	
Concentrations of caribou should be avoided by low level aircraft at all times	Ongoing through the implementation of the Wildlife Mitigation and Monitoring Plan; proper training and awareness provided to all pilots. Refer to Section 3.6 for more information

### A.3 Nunavut Planning Commission Keewatin Regional Land Use Plan Conformity Determination

The Kiggavik Project received a positive conformity determination for advanced exploration on December 15, 2006, which is further outlined in the table below.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<i>Archaeological Sites and Artifacts</i>	
Artifacts must be left where they are found. All land users are responsible for reporting the location of, or any removal or disturbance of, artifacts to CLEY.	During orientation, personnel are informed of their responsibility to report the discovery of archaeological sites or artifacts. They are also informed that they shall not disturb known or suspected sites or artifacts.
The NPC and CMC shall continue to hold a central registry of archaeological sites and continue to monitor land use activities to protect these sites. Information about the location and identity of archaeological sites in specific areas, and the measures necessary to protect them, shall be included in land use permits. Land users shall report the discovery of all suspended archaeological sites to CLEY.	AANDC Land Use Permit N2014C0001 and the site orientation inform all employees of these requirements.
<i>Caribou Protection</i>	
Development activities shall be prohibited on all public lands and waters within all caribou calving areas during calving season and within caribou water crossings in the Keewatin, in accordance with the terms of DIAND caribou protection measures contained in Appendix H. Development activities shall be prohibited on IOL within all caribou calving areas during calving season and	KIA Land Use Licence KVL306C02 and AANDC Land Use Permit N2014C0001  These requirements are included in the Wildlife Mitigation and Monitoring Plan. Employees are made aware of these commitments and they are monitored by AREVA staff and Wildlife Monitors. See

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
within caribou water crossings in the Keewatin, in accordance with the KIA caribou protection measures (an example of which is contained in Appendix H). These measures shall be enforced throughout the region by DIAND, KIA and DSD, to the full extent of their respective jurisdictions.	Section 3.6 for further information.
During the caribou calving, post-calving and migrating seasons, land use activities should be restricted to avoid disturbing caribou, in general, and activities will be governed more specifically by caribou protection measures such as those contained in Appendix H.	Ongoing through the implementation of the Wildlife Mitigation and Monitoring Plan; proper training and awareness provided to all site employees/contractors.
<i>Cleanup and Pollution</i>	
<p>Community residents in particular, and all land users in general, shall be actively involved in planning and conducting cleanup operations, whenever possible and practicable.</p> <p>Refuse, such as fuel drums and scrap metal, shall be recycled where possible.</p> <p>Sites containing toxic materials shall be given priority for cleanup, and the location of these sites shall be widely publicized to warn residents.</p> <p>Sites within or near caribou calving grounds, near water and near communities shall also be given priority for cleanup.</p>	The Spill Contingency Plan, Abandonment and Restoration Plan, and Waste Management Plan outline the cleanup requirements and describe the methods for handling waste. This includes proper sorting and disposal of wastes. Personnel are trained and made aware of requirements during orientation.
New occurrences of pollution, garbage and contamination caused by anyone shall be prevented. Land users shall ensure that all drums are safely recovered.	During site orientation, employees are made aware of the requirements as described in the Spill Contingency Plan.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
The principle of “the polluter pays” shall apply to a strategy for cleaning up the environment. Where it is possible to identify the person, or company or agency responsible for creating an abandoned or inactive waste site, they shall be made responsible for the cleanup and restoration of the site.	All lands will be cleaned up prior to the expiry of the existing permits and licences in accordance with the Spill Contingency Plan, Waste Management Plan, and Abandonment and Restoration Plan.
The landscape of each camp and other land use sites will be restored to its original condition to the greatest degree possible. When possible and feasible, old sites will be restored to the natural state. (Code of Good Conduct – Appendix G)	Clean-up activities are outlined within the Abandonment and Restoration Plan, and will be completed prior to the expiry of existing permits and licences.
<i>Hydrocarbon Exploration</i>	
Hydrocarbon exploration shall continue to be restricted in the area encompassing southern Southampton Island and Coats Island, as at present.	The project proposal is not for hydrocarbon exploration in the area encompassing southern Southampton Island and Coats Island (Conformity Requirement 3.8 is not applicable).
<i>Hydroelectric Development</i>	
The possible cumulative impacts of additional hydroelectric power development in Manitoba, Ontario and Quebec on the ecosystem of Hudson Bay, James Bay and Hudson Strait must be examined before more hydroelectric development proceeds.	The project proposal is not for hydroelectric development (conformity requirement 2.13 is not applicable).
<i>Local Purchase of Supplies and Services</i>	
Whenever practicable, and consistent with sound	AREVA employs people from the local

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
procurement management, land users will follow the practice of local purchase of supplies and services. (Code of Good Conduct, Appendix G)	community, and contractors employ from surrounding communities of the region. Various services and supplies are provided by local companies.
Low Level Flights	
Generally, low-level flights by aircraft at less than 300 metres should not occur where they will disturb wildlife or people. If such flights are necessary, they should only take place after consultation with the appropriate communities. All land users are responsible for reporting to the land managers any illegal or questionable low-level flight.	The project proposal does involve absolutely necessary low level flights, the proponent has or will consult with the communities, and pilots will avoid disturbance to wildlife and people. Reasonable comments on the necessity of low-level flight (NPC, 2006).  These requirements are included in the Wildlife Monitoring and Mitigation Plan. Employees are made aware of these commitments and they are monitored by AREVA staff.
Low level flights shall not take place unless absolutely necessary. Should they be necessary, pilots shall avoid disturbance to people and wildlife wherever possible.	
Mine Closure and Restoration	
All proposals for mining developments shall include adequate plans for mine closure and restoration of the site.	The project proposal is not for mining development (conformity requirement 3.4 is not applicable).
Academic and / or Scientific Research	
Local and traditional knowledge shall be sought and, when available and relevant, shall be integrated with the scientific knowledge.	The project proposal does not involve academic and/or scientific research (conformity requirements are not applicable).
Research programs conducted in the Keewatin shall, where possible, rely on local services and local employment.	



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
All scientific researchers shall communicate with the communities in clear, non-technical language in Inuktitut and English. Scientific researchers shall communicate the results of their research to the communities.	
Academic and scientific researchers shall make all reasonable efforts to consult the NRI concerning research topics or fields that would be of benefit and interest to local residents.	
Transportation and/or Communications Corridors	
All parties wishing to develop a transportation and/or communications corridor shall submit to the NPC a detailed application for an amendment. This application must include an assessment of alternative routes, plus the cumulative effects of the preferred route. It shall provide reasonable options for other identifiable transportation and utility facilities. In particular, this application must meet the information requirements set out in Appendix J.	The project proposal is not for the development of a transportation and/or communications corridor (conformity requirements 5.6 and 5.7 are not applicable).
The NPC and either NIRB or a panel acting under s. 12.4.7 of the NLCA shall publicly review the proposed corridor to determine whether the proposal adequately meets the requirements of Appendix J and the guidelines of Appendix J. Once it is determined that a proposal meets the guidelines, the NPS may request the Minister of DIAND to amend the plan to include the new transportation corridor.	

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<i>Uranium Development</i>	
Uranium development shall not take place until the NPC, NIRB, the NWB, and the NWMB have reviewed all of the issues relevant to uranium exploration and mining. Any review of uranium exploration and mining shall pay particular attention to questions concerning health and environmental protection.	The project proposal is not for uranium development (conformity requirements 3.5 and 3.6 are not applicable).
Any future proposal to mine uranium must be approved by the people of the region.	

## A.4 Aboriginal Affairs and Northern Development Canada

The following table lists terms and conditions of the AANDC Land Use Permit N2014C0001 (Received May 30, 2014, Expires May 29, 2016).

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Shall not conduct land use operation on any lands not designated in the accepted application, unless otherwise authorized in writing by the Engineer.	Ongoing through operations.
Shall remove from Territorial Lands, all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material.	All wastes will be removed upon permanent cessation of activity as per the approved Waste Management Plan and Abandonment and Restoration Plan.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Shall not construct an adit or drill site within 31 metres of the normal high water mark of a water body unless approval in writing is obtained from the Engineer.	Ongoing through operations. Should drilling within 31 m of the water mark be required, AREVA will seek the Engineer's approval.
Shall contact or meet with a Land Use Inspector at least 48 hours prior to commencement of the land use operation	Ongoing through regular communication prior to commencement of operations.
Shall provide notification to the Engineer of commencement of the land use operation by emailing <a href="mailto:landsmining@aandc.gc.ca">landsmining@aandc.gc.ca</a> or telephone at (867) 975-4283	Ongoing through regulator communication prior to commencement of operations.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>Shall submit an annual report to the Engineer by March 30 of each year of permitted activities. The report must contain, but not limited to, the following information:</p> <ul style="list-style-type: none"> <li>a) A summary of activities undertaken for the year including</li> <li>b) A map showing the following items with exact coordinates (degrees/min/sec, in NAD 83): <ul style="list-style-type: none"> <li>i. All drilling locations</li> <li>ii. All fuel caches</li> <li>iii. Any other location where activities were conducted</li> </ul> </li> <li>c) A work plan for the following year, including any progressive reclamation work undertaken.</li> </ul>	<p>This annual report</p>
<p>Advise the Land Use Inspector at least 10 days prior to the completion of land use operation of:</p> <ul style="list-style-type: none"> <li>a) His plan for removal or storage of equipment and materials, and</li> <li>b) When final clean-up and restoration of the lands used will be completed</li> </ul>	<p>Ongoing through regular communication. Final clean-up will occur upon permanent cessation of activities.</p>
<p>Shall complete all clean-up and restoration of lands used prior to the expiry date of the permit.</p>	<p>Noted – Restoration will be completed upon permanent cessation of activity prior to the expiry of the permit.</p>
<p>The Engineer reserves the right to impose closure to any area to the permittee in periods when dangers to natural resources are severe</p>	<p>Noted.</p>

<b>RECOMMENDATION/CONDITION</b>	<b>COMPLIANCE ACTION</b>
Shall not use any equipment except of the type, size and number listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector	Ongoing.
All garbage and debris must be kept in a covered container until disposed of and must be kept as to avoid access by wildlife	Garbage is kept inside or in appropriate containers until incinerated or stored in sea-containers for disposal at a licensed facility.
Shall plug all bore holes as the land use operation progresses	All drill holes are cemented and grouted as required.
Shall refill and restore bore-hole craters as the land use operation progresses	Ongoing – Refer to Section 3.7.2. Where clean cuttings is not available, gravel will be used to backfill craters.
Shall not erect camps or store material on the surface ice of streams	Noted
Cut and cap all anchors as close to the ground as possible when completed at any drill holes	Noted
Ensure land use area is kept clean and tidy at all times	Ongoing through operations. Personnel are informed of requirements during site orientation.
Shall remove any obstruction to natural drainage caused by any part of this land use operation	Noted.
Shall not cut any stream bank unless authorized in writing by a Land Use Inspector	Noted.
Shall not construct interceptor or off-shoot drainage ditches unless approved in writing by the Land Use Inspector	Noted.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Shall install erosion control structures as the land use operation progress unless otherwise authorized by a Land Use Inspector	Noted.
Shall prepare the site in such a manner as to prevent rutting of the ground surface	Walkways around camp prevent rutting and ground disturbance. As well an ATV is used around camp, however its use is not permitted when ground is soft. The area is inspected regularly by AREVA site personnel.
Shall not use chemicals in connect with the land use operation without the prior approval of the Engineer	Comply with list provided in application.
Shall not to allow any drilling waste to spread to the surrounding lands	All non-radioactive drill waste is contained to a low-lying depression. All radioactive drill waste is disposed of down hole when achievable or collected and stored in long-term on-site storage facility. See 3.4.2 for drill waste in Bong area
Remove all non-combustible garbage and debris from land use area to a disposal site approved in writing by a Land Use Inspector	Currently being separated and stored for future removal off-site; some items are being backhauled off-site for disposal at an approved facility.



<b>RECOMMENDATION/CONDITION</b>	<b>COMPLIANCE ACTION</b>
Shall dispose of all combustible waste petroleum products by removal	Noted – All waste petroleum products will be transported to a licensed facility for disposal
Shall dispose of all toxic or persistent substances in a manner as approved in writing by the Engineer	Noted
Shall dispose of all fluids used to wash machinery and equipment at the Kiggavik camp as indicated in the land use application	Noted
Shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment	Noted – All hydrocarbon contaminated soils are backhauled from site for transfer to a licensed disposal facility
Shall ensure that appropriate spill response equipment and clean-up materials (e.g. shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at fuel caches and drill sites	Ongoing through operations. Spill kits are available at all fuel cache and drill sites.
Shall report all spills immediately in accordance with instructions contained in “Spill Report” form NWT 1752(05/93). Twenty four (24) hour spill report line (867) 920-8130.	Ongoing through operations. See Section 3.4.2.
Shall not unnecessarily damage wildlife habitat	Development and implementation of the Environmental Code of practice and the Wildlife Mitigation and Monitoring Plan; training and awareness
Shall not obstruct the movement of fish	Ongoing through operations

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Shall not extract water from any fish-bearing waterbody unless the water intake is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish	Ongoing through operations. The drill contractor is aware of the requirement and continues to use the appropriate mesh size.
The operation is in an area where bears may be encountered. Proper food handling and garbage disposal procedures will lessen the likelihood of bears being attracted to the operation. Information about the latest bear detection and deterrent techniques can be obtained from the Department of Renewable Resources.	AREVA continues open communication with the local Conservation Officer to ensure proper deterrents are on hand and that personnel are aware of how to use the deterrents.
Shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. Shall not hunt or fish, unless proper Nunavut authorizations have been acquired.	Ongoing through implementation of the Wildlife Mitigation and Monitoring Plan and training during site orientation.
Shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, precaution must be taken to avoid further interaction and/or disturbance. If active nests are discovered (with eggs or young), the area must be avoided until nesting is complete and the young have left the nest.	Ongoing through implementation of the Wildlife Mitigation and Monitoring Plan and training during site orientation. Four nest sites were identified in June 2014. One was marked off by drillers to avoid the area, two were noted on cabins, and one was noted in a core box. Geologists avoided the core racks until the young had left the nest.
Shall not feed the wildlife	Implementation of the Wildlife Monitoring and Mitigation Plan; Communicated as site rule during orientation, training and awareness.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Fuel storage must be a minimum of 31 m from normal high water mark	The main and camp fuel caches are located > 31 m from the normal high water mark.
Shall ensure re-fuelling of all equipment occurs a minimum of 31 m from the high water mark of any water body	Ongoing through proper planning, inspection, and training.
Shall not allow petroleum products to spread to surrounding lands or into water bodies and prevent access by wildlife	Fuels are properly contained within secondary containment structures
Mark all fuel containers with Permittee's name	Ongoing
Shall keep on hand, at all time during the land use operation, a copy of the Land Use Permit	Ongoing through operations
<p>Shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of land use operation, the following information:</p> <ul style="list-style-type: none"> <li>a. Person, or persons, in charge of the field operation to whom notices, orders, and reports may be served;</li> <li>b. Alternates;</li> <li>c. All the indirect methods for contacting the above person(s).</li> </ul>	The Kiggavik Contact list is provided to all regulators prior to commencement of field operations.
Shall submit to the Engineer a contingency plan, for chemical and petroleum spills, for use during the construction and operation of the winter road	In addition to the contractor spill response policy, AREVA also maintains the Kiggavik Spill Contingency Plan

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>Shall abide by and comply with all applicable lawful rules, acts, regulations, and by-laws of Canada, Nunavut, any Municipal or regulatory body or authority having jurisdiction the Nunavut Land Claim Agreements, and all other agreements, permits, licenses, and other instruments whatsoever related to the project</p>	<p>This commitment to compliance is ongoing through operations. Regulatory requirements are regularly reviewed to ensure that recent updates or amendments that may influence operations are noted and implemented in advance of land use operation.</p>
<p><i>Caribou Protection Measures</i></p>	
<p>Shall not, without approval, conduct any activity between May 15 and July 15 within the Caribou Protection Areas depicted on the map certified by the Engineer as the “Caribou Protection Map” annexed to the Land Use Permit.</p> <p>Upon approval by the Land Use Inspector, may operate within the Caribou Protection Areas beyond the May 15 deadline provided that when monitoring information indicates the caribou cows are approaching the area of operation, activities will cease, personnel will be removed who are not required for maintenance and protection of the camp facilities and equipment, unless otherwise directed by the Land Use Inspector. Activities may resume prior to July 15 within those parts of the Caribou Protection Areas released by the Land Use Inspector for the reason that caribou cows are not expected to use those parts for calving or post-calving.</p>	<p>AREVA does not operate within the Caribou Protection Areas depicted on the map.</p>

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>In the event that caribou cows calve outside of the Caribou Protection Areas, the Permittee shall suspend operations within the area(s) occupied by cows and/or calves between May 15 and July 15.</p> <p>In the event that caribou cows and calves are present, the permittee shall suspend:</p> <ul style="list-style-type: none"> <li>i. Blasting;</li> <li>ii. Overflights by aircraft at any altitude of less than 300 m above ground level; and</li> <li>iii. The use of snowmobiles and ATV (all-terrain vehicles) outside the immediate vicinity of the camp.</li> </ul>	<p>Compliance achieved through implementation of the Wildlife Mitigation and Monitoring Plan, which is communicated to all personnel during site orientation. See Section 3.6 for further information.</p>
<p>During migration of caribou, operation shall not be placed as to block or cause substantial diversion to migration. Activities shall cease that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.</p>	<p>Ongoing through implementation of the Wildlife Mitigation and Monitoring Plan. See Section 3.6 for further information.</p>
<p>Shall not, between May 15 and September 1, construct any camp, cache any fuel, or conduct any blasting within 10 km of any “Designated Crossing” as outlined on the map certified by the Engineer as the “Caribou Protection Map” annexed to this Land Use Permit.</p>	<p>AREVA will not construct camp, cache fuel, or conduct blasting within 10 km of a caribou crossing. No activities are conducted within 10 km of a caribou crossing.</p>

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Shall not, between May 15 and September 1, conduct any diamond drilling operation within 5 km of any “Designated Crossing” as outlined on the map certified by the Engineer as the “Caribou Protection Map” annexed to this Land Use Permit.	AREVA will not drill within 5 km of a designated caribou crossing.
Archaeological and Paleontological Terms and Conditions	
Shall avoid any known or suspected archaeological and/or paleontological sites	Ongoing through operations and personnel are trained during site orientation
Shall not remove, disturb, or displace any archaeological artifact or site, or any paleontological site or fossil	Ongoing through operations and personnel are trained during site orientation



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>Shall immediately cease any activity should a suspected archaeological, paleontological, or burial site be discovered during the course of a land use operation. Immediately contact the AANDC Land Administration division (867) 975-4283 or (867) 975-4285 and Department of Culture, Language, Elders and Youth at (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035. Permission to resume land use operations must be obtained from the Engineer. At such time the Engineer may, at his/her discretion, require that you have an archaeologist or paleontologist perform the following functions:</p> <ul style="list-style-type: none"> <li>a) Survey</li> <li>b) Inventory and documentation of the archaeological or paleontological resources of the land use area</li> <li>c) Assessment of potential for damage to archaeological or paleontological sites</li> <li>d) Mitigation</li> <li>e) Marking boundaries of archaeological or paleontological sites</li> <li>f) Site restoration</li> </ul>	<p>AREVA maintains a map of known archaeological sites to ensure that any new sites are properly reported if encountered during the course of land use operations. Training for personnel is provided during site orientation.</p>
<p>Shall ensure that all persons working under the authority of the permit are aware of these conditions pertaining to archaeological sites and artifacts as well as paleontological sites and fossils.</p>	<p>AREVA maintains a map of known archaeological sites to ensure that any new sites are properly reported if encountered during the course of land use operations. Training for personnel is provided during site orientation.</p>

## A.5 Kivalliq Inuit Association Land Use Licence

The following table lists terms and conditions appended to KIA Land Use Licence KVL306C02 (received April 3, 2007; expiry January 3, 2015).

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<i>Licence Terms and Conditions</i>	
Compliance with all applicable regulations, laws, orders and with terms of licence. Provide KIA with written notices of non-compliance.	AREVA complies with all regulations, laws, orders and with terms of licence. Written notices are and will continue to be provided to KIA should a non-compliance occur.
Obtain and maintain such licences, permits or approvals from the federal, territorial or other governing bodies as may be necessary to enable the Licencee to undertake the permitted activities on the lands	AREVA will obtain all required authorizations.
Permit KIA reasonable access to site for purpose of inspecting	Ongoing. KIA conducted an inspection of the Kiggavik Project on September 22, 2014.
All fees required under licence due on the first of each month. AREVA responsible for reasonable costs of inspections KIA deems necessary to monitor compliance.	AREVA has provided all formally requested fees.
Obtain and maintain appropriate insurance at all times during occupation. Proof of all insurance shall be provided	Ongoing.
AREVA is required to pay the applicable licence fees if operations cease and environmental remediation reclamation occurs	Condition is recognized by AREVA.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Any damage or injury to lands or property caused by licensee will be repaired, rebuilt, replaced and restored to the satisfaction of KIA.	Addressed in the Abandonment and Restoration Plan.
Submit a Work Plan (proposed operation for upcoming year) and an Environmental Action Plan (reclamation and remediation plans) to KIA no later than September 30 <sup>th</sup> each year	Obtained agreement from KIA allowing all revised Plans to be submitted with the Annual Report in January of each year.
<i>Schedule A: General Standards</i>	
No operations on lands not covered by approved licence	In compliance and ongoing.
Contact KIA at least 48 hours prior to commencement of licensed activities	KIA has been and will continue to be notified prior to the start of each field season.
Keep all combustible garbage and debris in a covered metal container; combustible garbage burned in a suitable container; non-combustible removed to approved locations	Ongoing by implementing the Waste Management Plan; includes the proper sorting and storage of garbage; non-combustible garbage back-hauled off-site.
Sewage deposited into a sump or removed from lands	Received verbal approval from inspector to incinerate solid sewage waste and discharge liquid waste with grey water.
No metal wastes buried without consent of the KIA	In compliance through the implementation of the Waste Management Plan; proper training and awareness; proper sorting and storage.
Locate all camps on gravel, sand or other durable land. No permanent structures erected without KIA consent.	Addressed in site plans; all permanent structures have approval of KIA.

<b>RECOMMENDATION/CONDITION</b>	<b>COMPLIANCE ACTION</b>
Housekeeping – keep lands free of garbage and debris	Addressed through formal daily site inspections conducted by AREVA site personnel. Expectations are reviewed during site orientation.
All man-bear interactions reported to nearest Renewable Resources Office	AREVA will continue to comply if such interactions were to occur.
Licence available for viewing in a conspicuous place on site	All site staff is made aware of its location in the camp office and kitchen.
Within 60 days of licence expiry AREVA to provide KIA with final plan showing all areas used in operations	Condition noted and will be complied with upon expiry of approvals.
All buildings, equipment and materials removed (unless otherwise authorized) at completion of operations or licence termination.	This is addressed in the Abandonment and Restoration Plan.
All burial grounds avoided and left undisturbed. All discovered sites to be reported to KIA.	Condition noted and will be complied with upon occurrence.
Operations carried out as to minimize surface disturbance	Ongoing by implementation of the Environmental Code of Practice
All disturbed areas restored	AREVA continues to implement the Abandonment and Restoration Plan.
Surface vehicles not to be used to move drill rigs or other equipment/supplies without prior authorization. Vehicle use off approved routes prohibited.	In compliance; ATV approved to be used around camp only. Most material is transported by helicopter.

<b>RECOMMENDATION/CONDITION</b>	<b>COMPLIANCE ACTION</b>
No petroleum storage containers within 12 m of the normal high water mark.	In compliance through the implementation of the Spill Contingency Plan; generally adhere to the more stringent condition of 31 m.
No petroleum or chemical products to spread to surrounding lands or waters	Ongoing through the implementation of the Environmental Code of Practice and the Spill Contingency Plan. This involves extensive preventative measures and careful monitoring. All fuel and equipment is kept at a minimum of 31 m from the high water mark
All petroleum shall be kept in approved containers marked or within a bermed area. All containers labeled with licensee name	Ongoing through the implementation of the Spill Contingency Plan.
All spills reported	Noted
All combustible waste will be incinerated or removed	Ongoing through the implementation of the Waste Management Plan; proper sorting of wastes; proper training and awareness.
All drill fluids disposed of in sump or naturally occurring contained depression. Drill fluids recycled whenever possible.	Non-mineralized drill fluids are deposited in a naturally low lying depression >31 m from any water body. Mineralized cuttings are collected and stored in the Radioactive storage compound.
No drill sumps to be located within 30 m of any water body	Instructed through Management Plans and adhered to through site planning.
All drill sumps to be restored to natural surrounding contours of the land prior to licence expiry	To be completed through the implementation of the Abandonment and Restoration Plan.
Restrict vegetation disturbance from deposit of	Ongoing throughout field season and

<b>RECOMMENDATION/CONDITION</b>	<b>COMPLIANCE ACTION</b>
drill fluids/cuttings to the area of the sump and ground prepared for re-vegetation upon abandonment	implemented through the Abandonment and Restoration Plan.
No deposit of deleterious substances into any water body	Ongoing through the implementation of the Spill Contingency Plan.
Not cause obstruction of any stream	In Compliance through implementation of the Environmental Code of Practice; proper training and awareness.
Winter stream crossings must be removed prior to annual break-up	Condition noted.
Shall abide by Caribou Protection Measures	Measures have been integrated into the Wildlife Mitigation and Monitoring Plan.
Ensure there is not damage to wildlife habitat	Condition integrated into Wildlife Mitigation and Monitoring Plan and continued employee awareness through orientation and on-going training.
Shall cease activities that may interfere with migration or calving	Integrated into Wildlife Mitigation and Monitoring Plan and considered when planning site activities.
Shall not move any equipment or vehicles without prior testing the thickness of ice	No on ice drilling conducted to date; recommendation is implemented by contractors conducting winter haulage.
Shall suspend overland travel of equipment or vehicles if rutting occurs	Condition is noted. AREVA site personnel monitor land conditions during regular inspections of field operations and winter hauls.



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Shall construct and maintain winter roads with a minimum of ten centimeters of packed snow at all times	Condition communicated to contractor carrying out winter haul.
Shall not use any equipment except of the type, size and number listed in the application	AREVA is in compliance with this list and any other amendments issued.

## A.6 Nunavut Water Board Licence

The following table lists terms and conditions appended to NWB licence 2BE-KIG1318 (previous licence No.'s 2BE-KIG0812, 2BE-KIG0708 and 2BE-SIS0607).

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<i>General</i>	
Annual fees paid in advance of water use	Ongoing.
File an annual report by March 31 <sup>st</sup> containing the following: <ul style="list-style-type: none"> <li>a. A summary report of water use and waste disposal activities;</li> <li>b. A list of unauthorized discharges and a summary of follow-up actions taken;</li> <li>c. Any revisions to the Spill Contingency Plan, Abandonment and Restoration Plan, Uranium Exploration Plan, as required by Part B, Item 7, submitted in the form of an Addendum;</li> <li>d. A description of all progressive and or final reclamation work undertaken,</li> </ul>	Fulfilled with submission of this report. Annual Reports had previously been submitted for 2007, 2008, 2009, 2010, 2011, 2012, and 2013.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>including photographic records of site conditions before, during and after completion of operations;</p> <p>e. Report all artesian flow occurrences as required under Part F, Item 6;</p> <p>f. A summary of all information requested and results of the Monitoring Program; and</p> <p>g. Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.</p>	
<p>Notify NWB of any changes in operating plans or conditions associated with the project at least 30 days prior to the change</p>	<p>Continual communication efforts are made with all regulatory agencies and boards and amendments applied for as necessary.</p>
<p>Install flow meters or other such devices, or implement suitable methods required for measuring of water volumes</p>	<p>Complete on camp water supply. Pumping capacities for all pumps at drills are known and can be used to calculate the maximum amount of water that can be used at the drills each day. This number is below the allowable limit for water used at the drills each day. Meters are on order for more definitive measurements of flow from drilling pumps. Refer to Section 3.1 for further information.</p>
<p>Include proposed implementation timetable with submitted plans for Board approval and direction and implement plans as approved</p>	<p>All plans have been implemented.</p>
<p>Review plans as required by changes in operation and/or technology, and modify the</p>	<p>Plans are included as an addendum to this</p>

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
plans accordingly. Revisions to the plans shall be submitted in the form of Addendum to the Annual Report.	Annual Report.
Every plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a plan where appropriate.	Term and conditions are considered and incorporated into the plans which are included as an addendum to this report.
Copy of Licence is maintained at site.	Available in site office and kitchen.
Shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the board shall include a detailed executive summary in Inuktitut.	Ongoing.
<i>Water Use</i>	
Obtain all camp water from a small unnamed lake located to the north of the camp or a small unnamed lake located to the east of the camp, to a maximum of ten (10) cubic metres per day. Drill water shall be obtained from water sources, proximal to the drilling targets, to a maximum of two-hundred and eighty nine (289) cubic metres per day. The total volume of water for the purposes of this Licence shall not exceed two hundred ninety nine (299) cubic metres per day.	Ongoing compliance through the field season is demonstrated in Section 3.1.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Streams cannot be used as a water source unless authorized and approved by the Board in writing.	Streams were not used as water sources.
Notify NWB of potential drawdown of a water source at least 30 days prior to commencement of use of water, submit to the Board for approval in writing, the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.	Condition is noted. NWB will be notified as required.
Water intake hoses have screens of appropriated mesh size to ensure fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.	Ongoing. All water pumps are inspected by AREVA site personnel to ensure compliance with this condition. The appropriate mesh size is described in the Department of Fisheries and Oceans Freshwater Intake End-of-Pipe Fish Screen Guideline.
Shall not remove any material from below the ordinary high water mark of any water body	Training and awareness. Inspections are conducted to ensure compliance.
Shall not cause erosion to banks of any body of water	Condition met throughout the field season.
Implement sediment and erosion controls prior to and maintained during operation	Condition noted. Preventative and mitigation measures are in place for sediment and erosion control during drilling activities.
<i>Waste Disposal</i>	
Waste disposal is a minimum of 31 m from ordinary high water mark of any water body such that the quality, quantity or flow of water is not	Waste disposal sites are located more than 31 m from the high water mark.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
impaired, unless otherwise approved by the Board in writing.	
<p>Shall not practice on-site land filling of domestic waste, unless otherwise approved by the Board in writing.</p> <p>AREVA is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.</p> <p>AREVA shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting surrounding waters, unless otherwise approved by the Board in writing.</p>	<p>As per the Waste Management Plan, wastes are managed and sorted, the incinerator is then used to dispose of acceptable waste and the remaining materials are stored on site for future disposal at a licensed facility.</p>
Provide authorization from all communities in Nunavut receiving wastes from the Kiggavik Project prior to backhauling and disposal of wastes	Received written consent from the Hamlet of Baker Lake in 2007, forwarded to NWB. No waste was disposed of in any community in 2014.
Backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste at a licensed waste disposal site	Waste oil generated during the 2014 season will be backhauled during the 2015 winter haul and later disposed of at an approved facility.
Shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste.	Waste manifests are completed for all waste backhauled, and records are available.
Contain all grey water in a sump 31 m from the	Currently grey water is being placed in a

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
ordinary high water mark of any water body, at a site where direct flow into a water body is not possible and no additional impacts are created, unless otherwise approved by the Board in writing.	sump which is comprised of a punctured barrel buried in the ground and filled with sand/gravel for filtration. The location is greater than 100 m from any water body.
<p>Shall contain all toilet wastes in latrine pits or use incineration, chemical, portable or composting toilets. Latrine pits shall be located at a distance of at least thirty one (31) metres above the ordinary high water mark of any water body, treated with lime and covered with native material to achieve the pre-existing natural contours of the land prior to abandonment.</p> <p>Shall dispose of all toilet wastes through incineration, chemical or composting toilets. Any remaining residue generated through the course of the operation shall be backhauled and disposed of in an approved waste disposal site.</p>	Sewage waste is collected and incinerated. The ashes are backhauled for disposal in an approved waste disposal site.
Shall ensure that any hazardous materials, including waste oil, receive proper treatment and disposal at an approved treatment facility.	Hazardous materials are stored on site until they are backhauled for shipment to a licensed facility.
<i>Camps, Access Infrastructures and Operations</i>	
Shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.	Operation is seasonal from May to September. Informed through training and awareness. The camp does not impact surface drainage.
Conduct activities in a way to minimize impacts on surface drainage	Drainage and flow are considered prior to activities.



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>Winter lake and stream crossings shall be constructed entirely of water, ice or snow. Choose locations that minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.</p>	<p>This is ongoing through proper selection of routes for the Winter Haul of materials.</p>
<p>With respect to access road, pad construction or earthworks, the deposition debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty one (31) metres from the ordinary high water mark in such a fashion that they do not enter the water.</p>	<p>Currently the site is not accessed by road; however should there be construction or earthworks in the future, this item has been noted. Compliance is achieved through training, awareness and project planning.</p>
<p>Shall not mobilize heavy equipment or vehicles for trenching or other activities unless the ground is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspend if rutting occurs</p>	<p>The winter haul is performed only when the ground is capable of supporting the equipment or vehicles without rutting.</p>
<p><i>Drilling Operations</i></p>	
<p>AREVA to review and revise Uranium Exploration Plan as required by changes in operation and/or technology. Revisions to Plan submitted as addendum with Annual Report.</p>	<p>Board approved AREVA's original Uranium Exploration Plan submitted October 17, 2007. As part of AREVA's commitment to continual improvement, Management Plans are reviewed regularly and the current plans are included in Appendix C.</p>
<p>AREVA shall not conduct any land based drilling</p>	<p>Any drilling within 31 m of the high water</p>

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
within thirty-one (31) metres of the ordinary high water mark of any water body with the exception of the End Grid Lake area as identified in the application received dated October 9, 2008.	mark will be under an approved licence amendment with applicable protection and mitigation measures in place to the satisfaction of the NWB and DFO.
Drill waste (water, chips, muds, salts) from land-based drilling are disposed of in properly constructed sump or natural depression	Use natural depressions, supplemented by temporary sandbag berms and visually monitoring flow. These areas are regularly inspected by AREVA staff. There was a failure to contain drilling waste on one occasion (See Section 3.4.2). Progressive reclamation underway (See Section 3.7.2).
Drill mud solids or cuttings with a uranium concentration greater than 0.05 percent are to be collected and then disposed of down the drill hole and sealed.	Due to difficulty disposal down the drill hole, this material is collected in bags and should the radiation levels exceed 1 µSv/h, the bags are stored in the radioactive storage compound at the Kiggavik Camp for future handling. All drill holes are sealed.
<p>AREVA is permitted to drill under low flow artesian conditions within all areas encompassed by the Kiggavik Lease provided that appropriate measures are implemented to prevent induced contamination of groundwater or salinization of surface waters and that AREVA adheres to the following:</p> <ul style="list-style-type: none"> <li>a. Shall analyze water encountered from the artesian flow to confirm the quality of the water as per Part J, Item 12;</li> <li>b. Shall adhere to the operational and</li> </ul>	When low flow artesian ( $\leq 95$ L/min) are intercepted during drilling operations, the operational and mitigation measures are implemented as per the Technical Support Document submitted with the March 29, 2012 application. Refer to Section 3.3.2 for details regarding all artesian flows encountered during the season.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>mitigation measures as outlined in the technical support document “Drilling in Low Flow Artesian Conditions” submitted as part of the application dated March 29, 2011.</p> <p>c. Shall provide as part of the Annual Report required by Part B, Item 2, information on all artesian flow encountered, with GPS coordinates, dates, and flow rates, depth, permafrost, aquifer and Packer testing data and associated water quality analytical results.</p>	
<p>Record the depth of permafrost – include in annual report</p>	<p>The pneumatic packer testing and installation of thermistors did not occur through the 2014 season as these are activities specific to baseline studies for mine development. The permafrost depths are therefore estimated based upon previous thermistor locations (See Section 1.2).</p>
<p>No on-ice drilling</p>	<p>On ice drilling will only occur under applicable approved licence amendments with appropriate protection and mitigation measures in place to the satisfaction all regulatory bodies.</p>
<p>When conducting drilling within 31 m of the ordinary high water mark of End Grid Lake, activities are to be on stable ground such as frozen tundra or bedrock, to prevent disturbance to the natural ground and limit erosion and</p>	<p>Drill platforms are located on stable ground and set up on timbers to prevent ground disturbance and damage to permafrost.</p>

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
sedimentation.	
AREVA shall establish water quality conditions of adjacent waters or waters immediately downstream prior to and upon completion of any drilling program within 31 m of the high water mark proximal to the End Grid Lake Area.	There were no drill holes completed within 31 m of the End Grid Lake high water mark.
If artesian flow is encountered in areas other than the Kiggavik Lease, drill holes shall be immediately sealed and permanently capped to prevent induced contamination of groundwater or salinization of surface waters. AREVA shall report all artesian flow occurrences within the Annual Report, including the location (GPS coordinates) and dates.	There were no artesian flows encountered outside the Kiggavik Lease.
<i>Modifications</i>	
<p>AREVA may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:</p> <ul style="list-style-type: none"> <li>a. AREVA has notified the Board in writing at least 60 days prior to beginning Modifications;</li> <li>b. Modifications do not place AREVA in contravention of the Licence or the <i>Act</i></li> <li>c. Modifications are consistent with the NIRB Screening Decision;</li> <li>d. The Board has not, during the 60 days</li> </ul>	Management is aware of these conditions and will comply to them if modifications are required.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>following notification of the proposed Modifications, informed AREVA that review of the proposal will require more than 60 days; and</p> <p>e. The Board has not rejected the proposed Modifications.</p>	
<p>Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.</p>	Noted
<p>AREVA shall provide as-built plans and drawings of the Modifications within 90 days of completion. These plans and drawings shall be stamped by an Engineer.</p>	Noted
<p><i>Spill Contingency Planning</i></p>	
<p>AREVA shall review the Spill Contingency Plan as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an Addendum to be included with the Annual Report.</p>	<p>The plan is reviewed at least annually and reviews are submitted with the annual report.</p>
<p>Prevent any chemicals, petroleum products or wastes associated with the project from entering water. All sumps and fuel caches shall be located at least 31 m from the ordinary high water mark of any adjacent water body and inspected on a regular basis. An exception to this condition is provided for activities within 31 m of End Grid</p>	<p>Non-compliance noted in Section 3.4.2; however in compliance through the implementation of the Spill Contingency Plan, proper training and awareness. All drilling sites are inspected regularly by AREVA staff. Double walled tanks are used at the drills and secondary containment is</p>

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Lake.	used for chemical or petroleum products.
Equipment maintenance and servicing conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.	Addressed through training and regular inspections.
<p>If an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, AREVA shall:</p> <ul style="list-style-type: none"> <li>a. Employ the approved Spill Contingency Plan</li> <li>b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and</li> <li>c. For each spill occurrence, submit to the Inspector, no later than 30 days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS locations of the spill, and the measures take to contain and clean up the spill site.</li> </ul>	See Section 3.4.2. Addressed through training and inspections.
Shall, in addition to Part H, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a water body.	See summary of spill of drill cuttings in Section 3.4.2.
While drilling is occurring within the 31 m high water mark at End Grid, AREVA may allow a limited supply of fuel within 31 m of the ordinary	Noted. There was no drilling conducted within 31 m of End Grid Lake during the 2014 season.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
high water mark to support the drilling operations, provided that secondary containment is made available for the storage of fuel and all external pumps and motorized equipment used.	
<i>Abandonment and Restoration or Temporary Closing</i>	
AREVA to review and revise Abandonment and Restoration Plan as required by changes in operation and/or technology. Revisions to Plan submitted as addendum with Annual Report.	Noted. Revisions are submitted with the annual report.
Complete restoration work prior to the expiry of this Licence	Addressed in the Abandonment and Restoration Plan.
Shall carry out progressive reclamation of any components of the project no longer required for AREVA's operations.	Reclamation to ensure chemical stability occurs in a progressive manner; best management practices for reclamation to ensure physical stability of surface disturbance are currently being investigated (See Section 3.7.2.1)
All sumps are backfilled to pre-existing natural contours of the land.	This will be done where required to the satisfaction of the inspector. For progressive reclamation underway see Section 3.7.2.
Remove all site infrastructure, site material, including all fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment prior to the expiry of the Licence.	Addressed in the Abandonment and Restoration Plan.
All roads and airstrip, if any, shall be re-graded to match natural contour to reduce erosion.	Currently not required.



RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Remove any culverts and restore the drainage to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.	Currently not required.
To promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading or scarifying the surface to conform to natural topography.	Addressed in the Abandonment and Restoration Plan.
Shall reclaim areas that have been contaminated by hydrocarbons from normal fuel transfer procedures to meet objectives as outlined in the Government of Nunavut's (GN) <i>Environmental Guideline for Site Remediation</i> (2009). The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the GN, Department of Environment and an Inspector.	This is addressed in the Abandonment and Restoration Plan and the Spill Contingency Plan.
Drill core must be stored greater than 31 m above the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.	Core is transported from the drill location to the Kiggavik camp on a daily basis and stored greater than 31 m above the high water mark of the nearest water body.
Long term storage of core will not exceed radiation measurements of greater than 1.0 $\mu\text{Sv}$ at 1 m from the surface and not to exceed 2.5 $\mu\text{Sv}$	Implemented Radiation Protection Plan; regular inspections and monitoring are conducted by AREVA site personnel.
Drill holes and disturbed areas to be restored to	Completed as required for all drill holes to

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
natural conditions immediately upon completion of drilling. Any drill hole that encounters mineralization with uranium content greater than 1.0 percent over a length greater than 1 m, and with a meter-percent concentration greater than 5.0 will be sealed by grouting over the entire length of the mineralization zone and not less than 10 m above or below each mineralization zone.	date.
Seal by cementing the upper 30 m of bedrock or entire depth of hole, whichever is less	Completed as required for all drill holes to date.
If the radiation levels for the stored core exceed the levels identified in Part I, Item 12, AREVA shall submit to the AANDC Water Resources Inspector, a detailed report of test results and the proposed long term core handling and mitigation measures for the long term storage or removal.	Condition is noted; AREVA is committed to its compliance if required
Shall contour and stabilise all disturbed areas to a pre-disturbed state upon completion of work.	Addressed in the Abandonment and Restoration Plan
<i>Monitoring Program</i>	
Measure and record, in cubic metres, daily water quantities for camp, drilling and other purposes.	Conducted and recorded daily by site staff. Please refer to Section 3.3.1 for further details.
Provide GPS coordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where water sources are utilized for all purposes.	Completed; refer to Section 3.3.1 for GPS coordinates.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION	
Provide GPS coordinates (in degrees, minutes and seconds of latitude and longitude) of all waste locations	Incinerator	64° 26' 26.97" N 97° 39' 30.47" W
	Grey Water Discharge Point (south of Kitchen)	64° 26' 26.75" N 97° 39' 31.68" W
Provide follow-up monitoring and analytical results of the potable water supply previously utilized under previous Licences, in order to assess the oil and grease contamination during the Licence term and investigate the source of contamination and possible mitigation measures required. Plans to address this matter shall be submitted to the NWB within the Annual Report.	Lab analysis was determined to be subject to error. AREVA re-sampled the camp water supply referenced under Licence 2BE-KIG0708 on June 27, 2009. Analysis conducted by the Saskatchewan Research Council (SRC) Laboratory showed no traces of grease and oil	
All sampling, preservation and analysis to be conducted in accordance with the <i>Standard Methods for the Examination of Water and Wastewater</i>	Noted	
All analyses shall be performed in an accredited lab (ISO/IEC Standard 17025). The accreditation shall be current and in good standing.	SRC is accredited by the Canadian Association for Environmental Analytical Laboratories (CAEAL) for environmental testing procedures. Accreditation ensures that procedures, facilities, and methods conform to the internationally recognized ISO 17025 standard. AREVA commits to only using labs that are adequately accredited.	
Additional monitoring requirements may be requested by the Inspector.	Noted	

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
Where uranium mineralization has been encountered, under Part I, Items 13 and 14, AREVA shall monitor the drill sumps and core storage areas to provide the necessary data needed in order to assess and ensure that mitigation measures required for restoration under the Abandonment and Restoration Plan have been completed.	Ongoing, refer to Section 3.7.2.2
All data, monitoring results and information required by this “Monitoring” section to be included in the Annual Report.	In compliance through submission of this Annual Report
<p>AREVA shall establish water quality conditions prior to and upon completion of drilling at the End Grid Lake areas as identified in the application dated October 9, 2008 in accordance with Part F, Item 10, and monitoring shall include the following:</p> <p>Total Suspended Solids</p> <p>pH</p> <p>Electrical Conductivity</p> <p>Total Trace Metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Sb, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li Mn, Mo, Ni, Se, Sn, Sr, Tl, Ti, U, V, Zn), and</p> <p>Trace Arsenic and Mercury</p>	There were no drill holes completed within 31 m of the ordinary high water mark at the End Grid areas.

RECOMMENDATION/CONDITION	COMPLIANCE ACTION
<p>AREVA shall determine GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all drill hole locations within the 31 m ordinary high water mark in the End Grid area and provide these locations on a map of suitable scale for review as part of the annual report.</p>	<p>There was no drilling within 31 m of the ordinary high water mark at the End Grid area.</p>
<p>AREVA shall determine water quality of low-flow artesian conditions identified in Part F, Item 6, by including the following analyses:</p> <p>Total Suspended Solids</p> <p>pH</p> <p>Electrical Conductivity</p> <p>Total Trace Metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Sb, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li Mn, Mo, Ni, Se, Sn, Sr, Tl, Ti, U, V, Zn), and</p> <p>Trace Arsenic and Mercury</p>	<p>Completed for the three artesian encountered during the season (See Section 3.3.2)</p>

## Appendix B   Gamma Survey Results

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Legend

Drill Hole

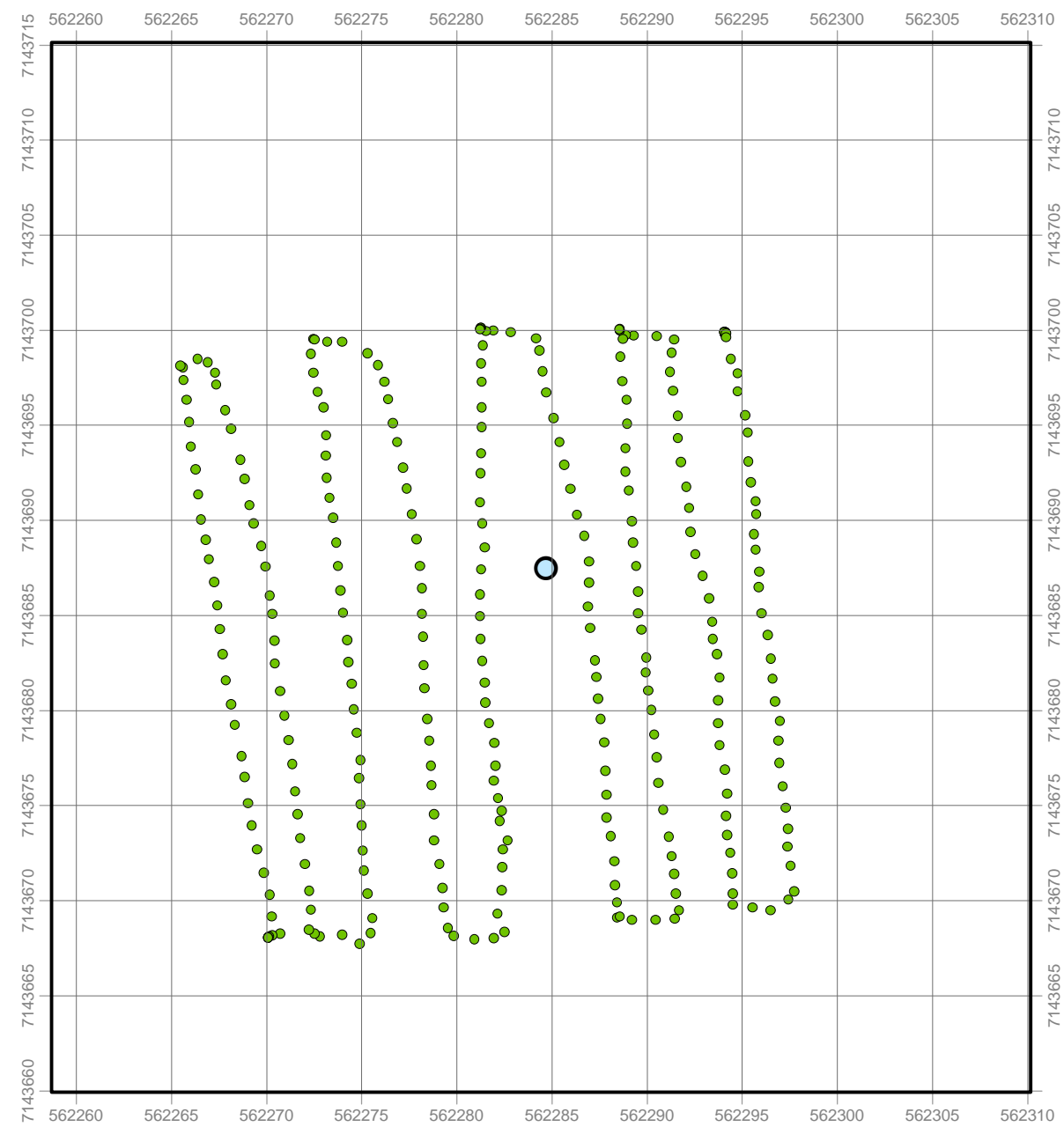
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

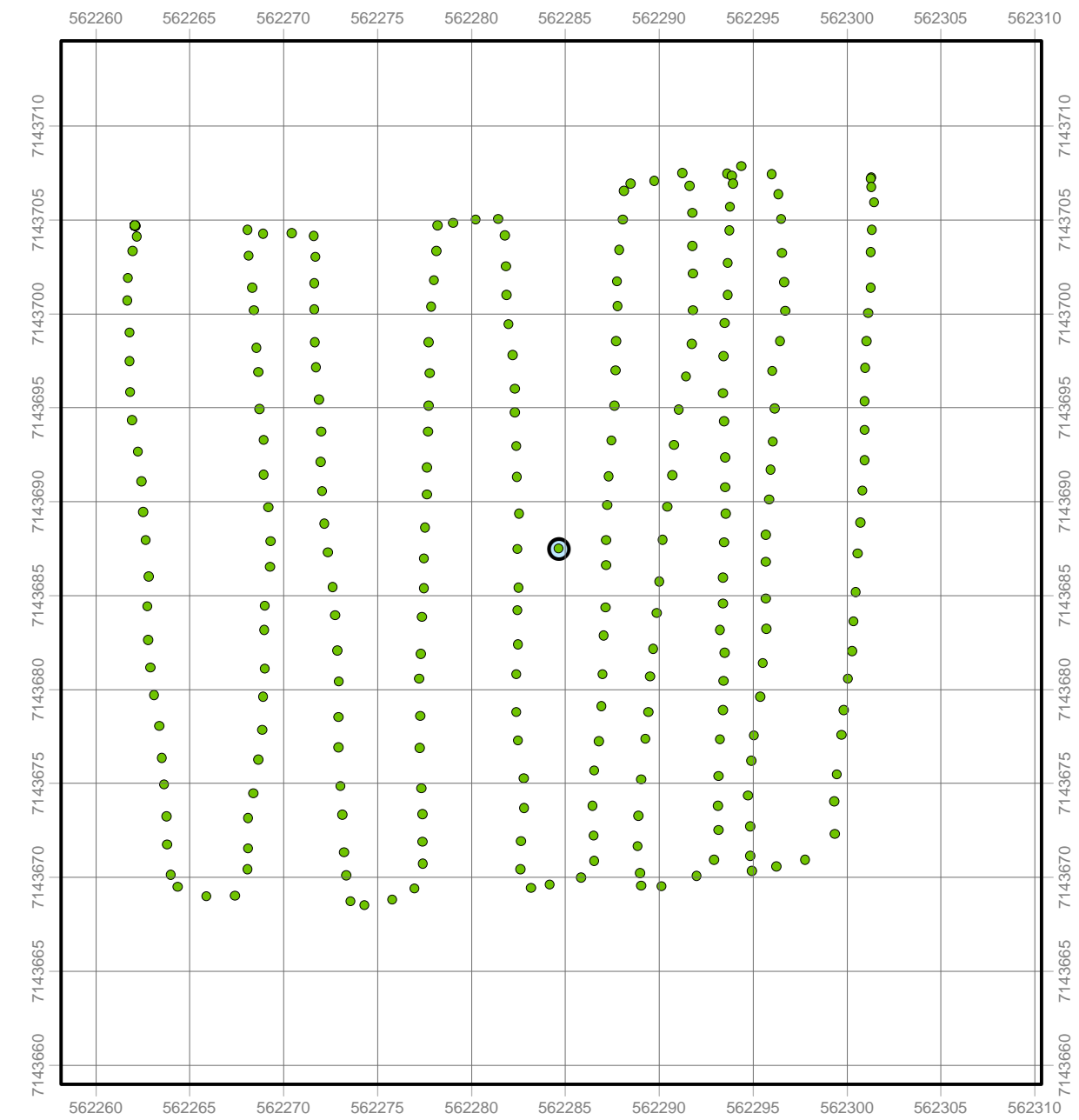


BONG 064

Pre Gamma Survey

Point Count: 321

Min-Max: 0.050 - 0.086  $\mu\text{Sv}$



BONG 064

Post Gamma Survey

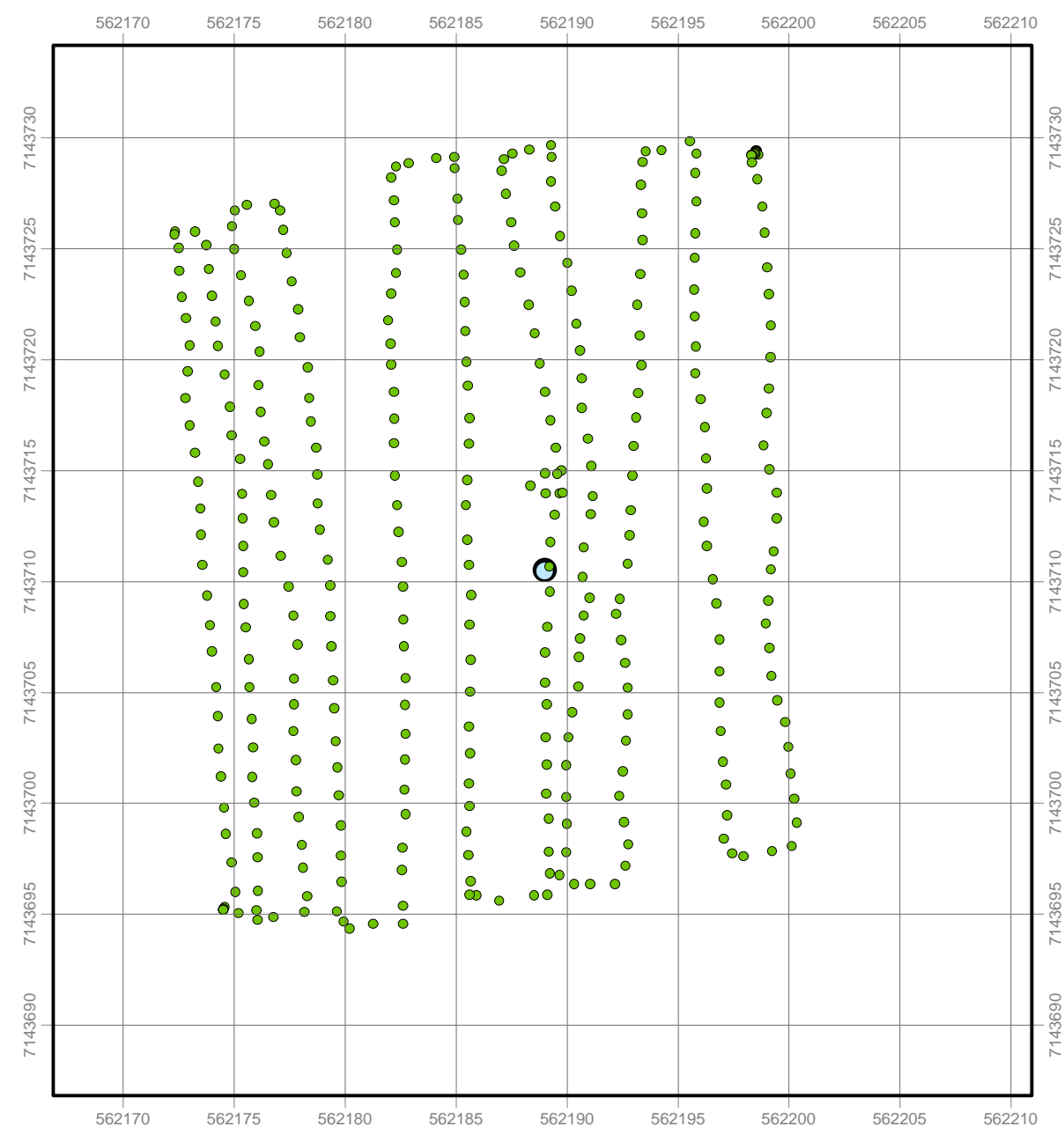
Point Count: 285

Min-Max: 0.055 - 0.093  $\mu\text{Sv}$



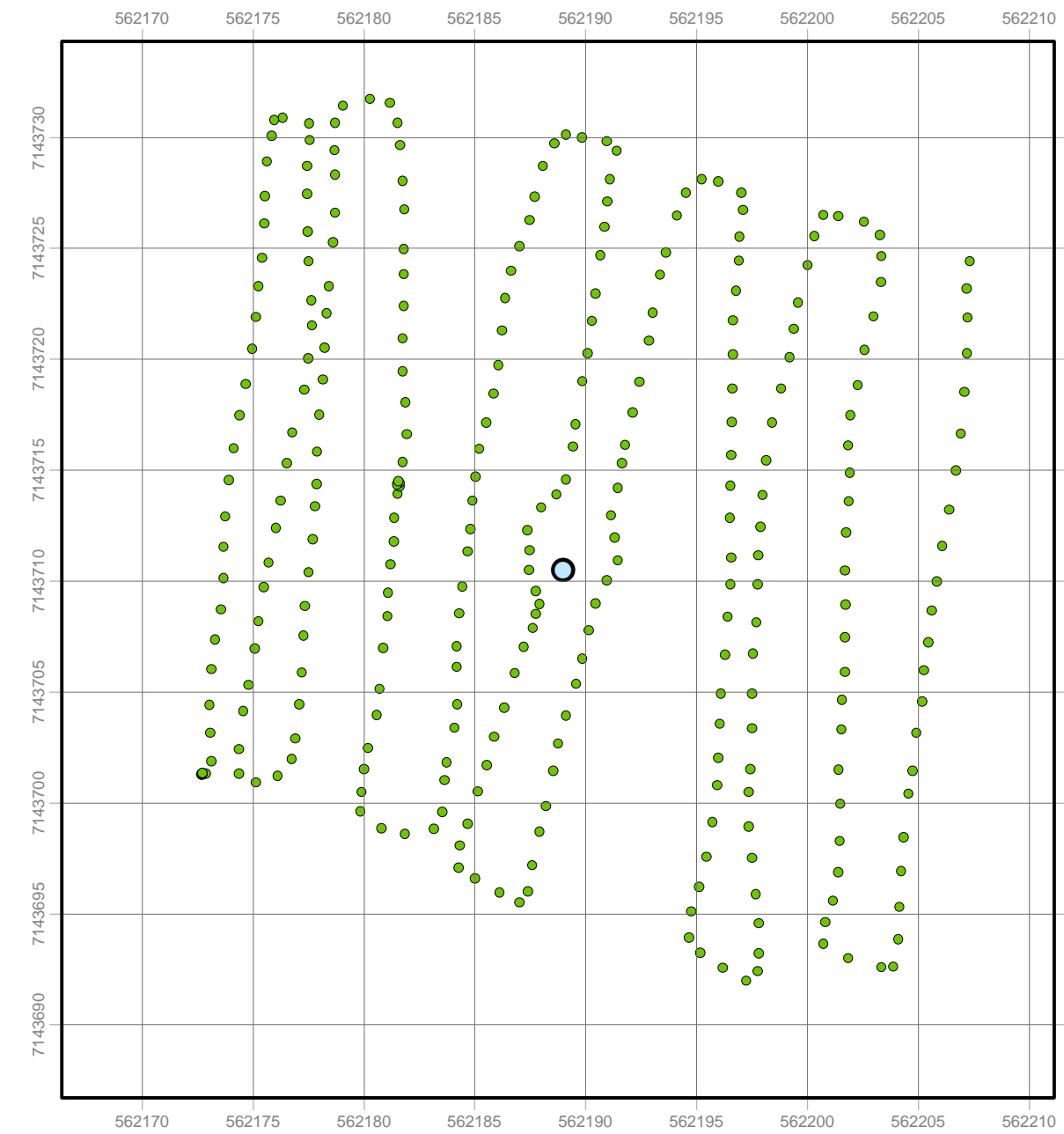
**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**BONG 065 and BONG 065A  
Pre Gamma Survey**

**Point Count: 360**  
**Min-Max: 0.048 - 0.082  $\mu\text{Sv}$**



**BONG 065 and BONG 065A  
Post Gamma Survey**

**Point Count: 304**  
**Min-Max: 0.055 - 0.090  $\mu\text{Sv}$**

Legend

Drill Hole

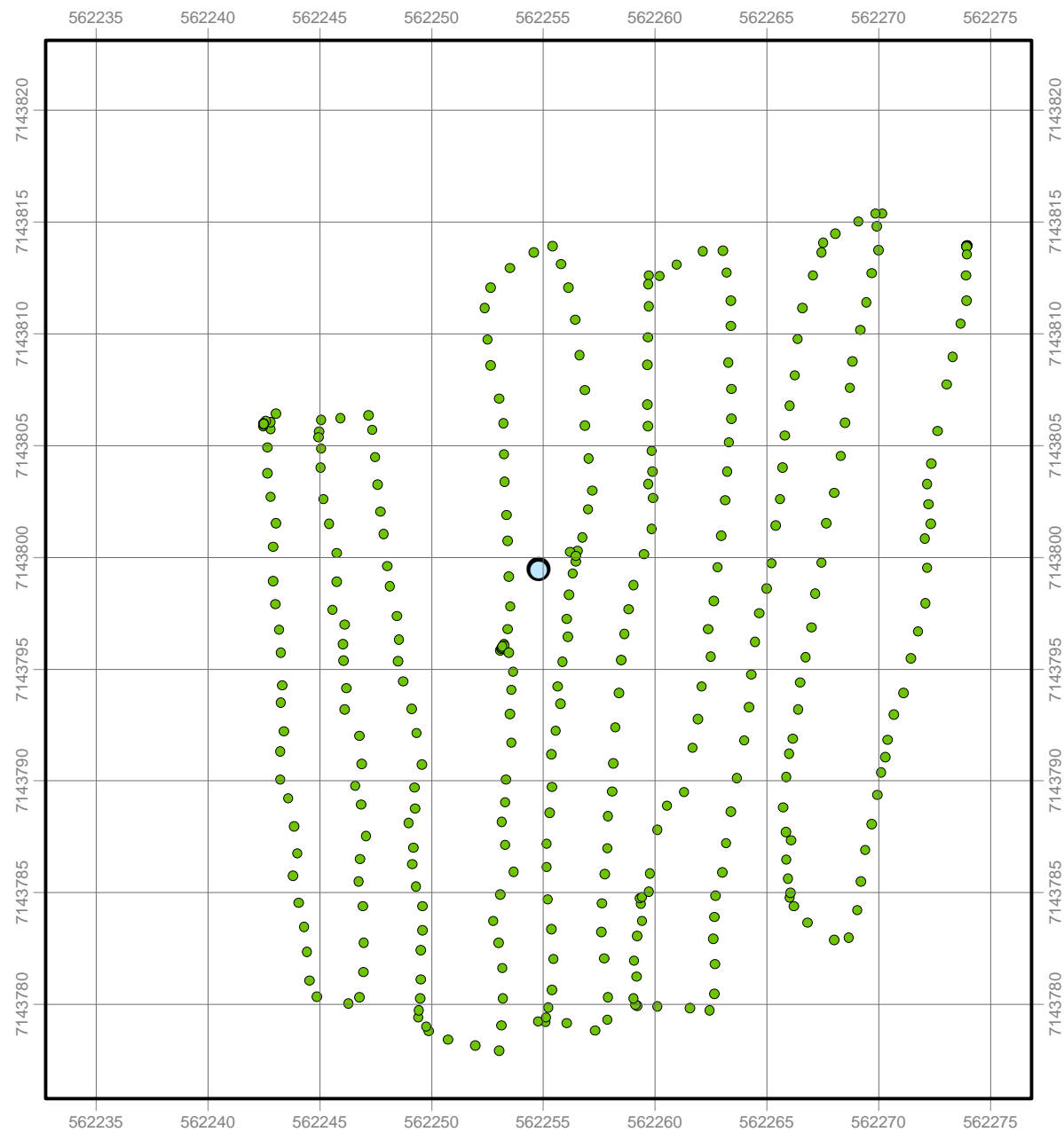
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

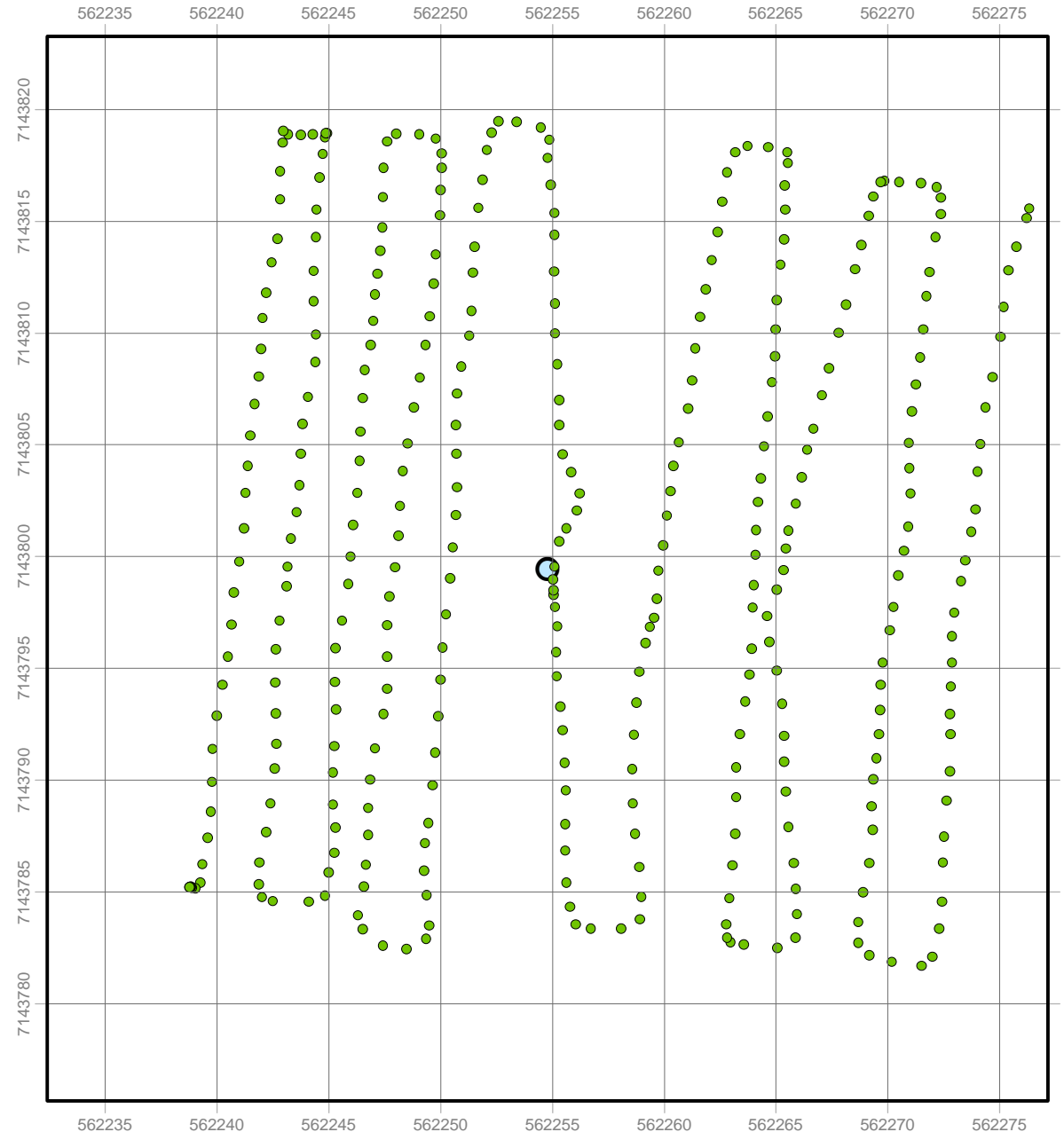


BONG 066

Pre Gamma Survey

Point Count: 351

Min-Max: 0.047 - 0.095  $\mu\text{Sv}$



BONG 066

Post Gamma Survey

Point Count: 352

Min-Max: 0.050 - 0.094  $\mu\text{Sv}$

Legend

Drill Hole

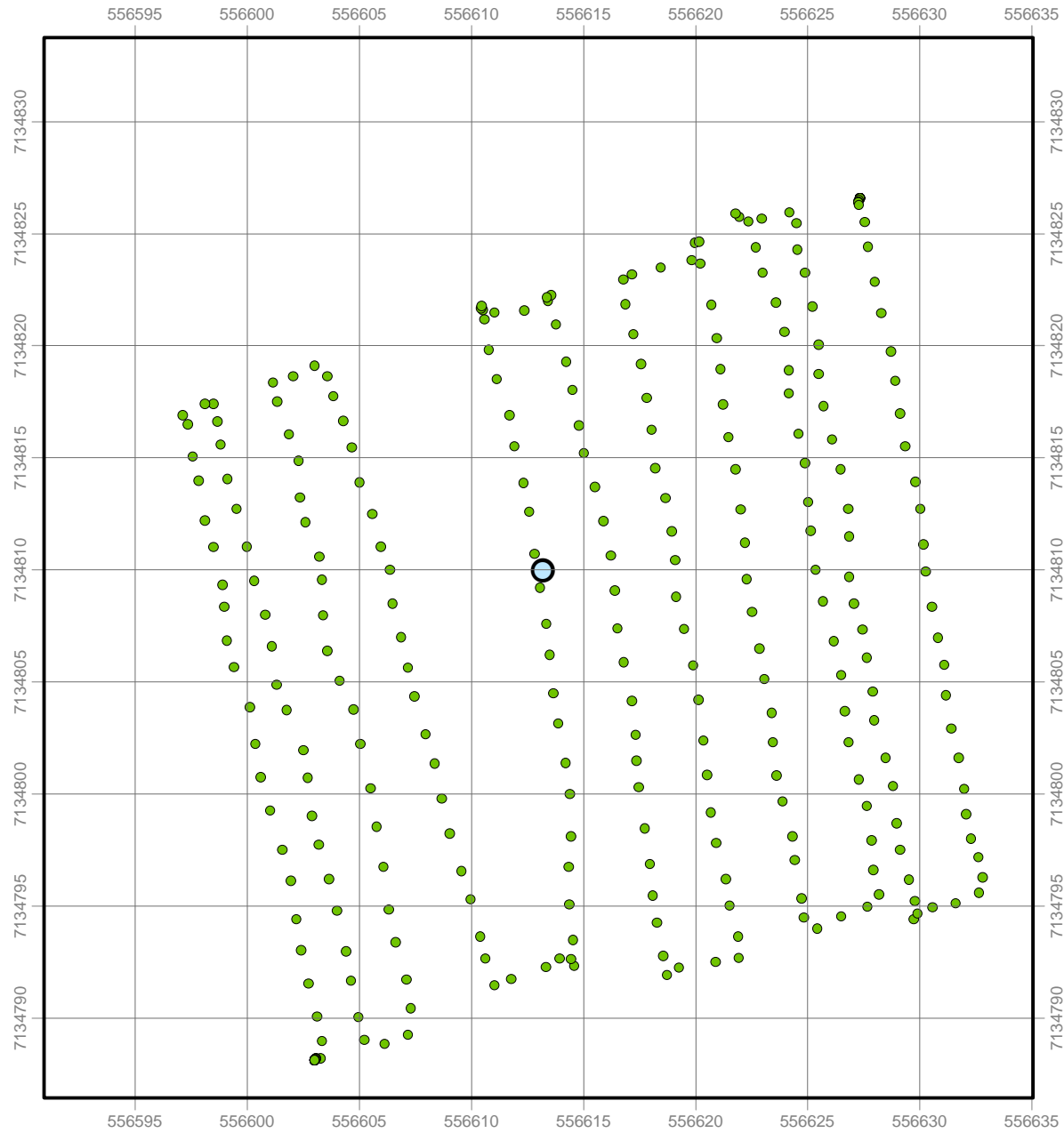
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

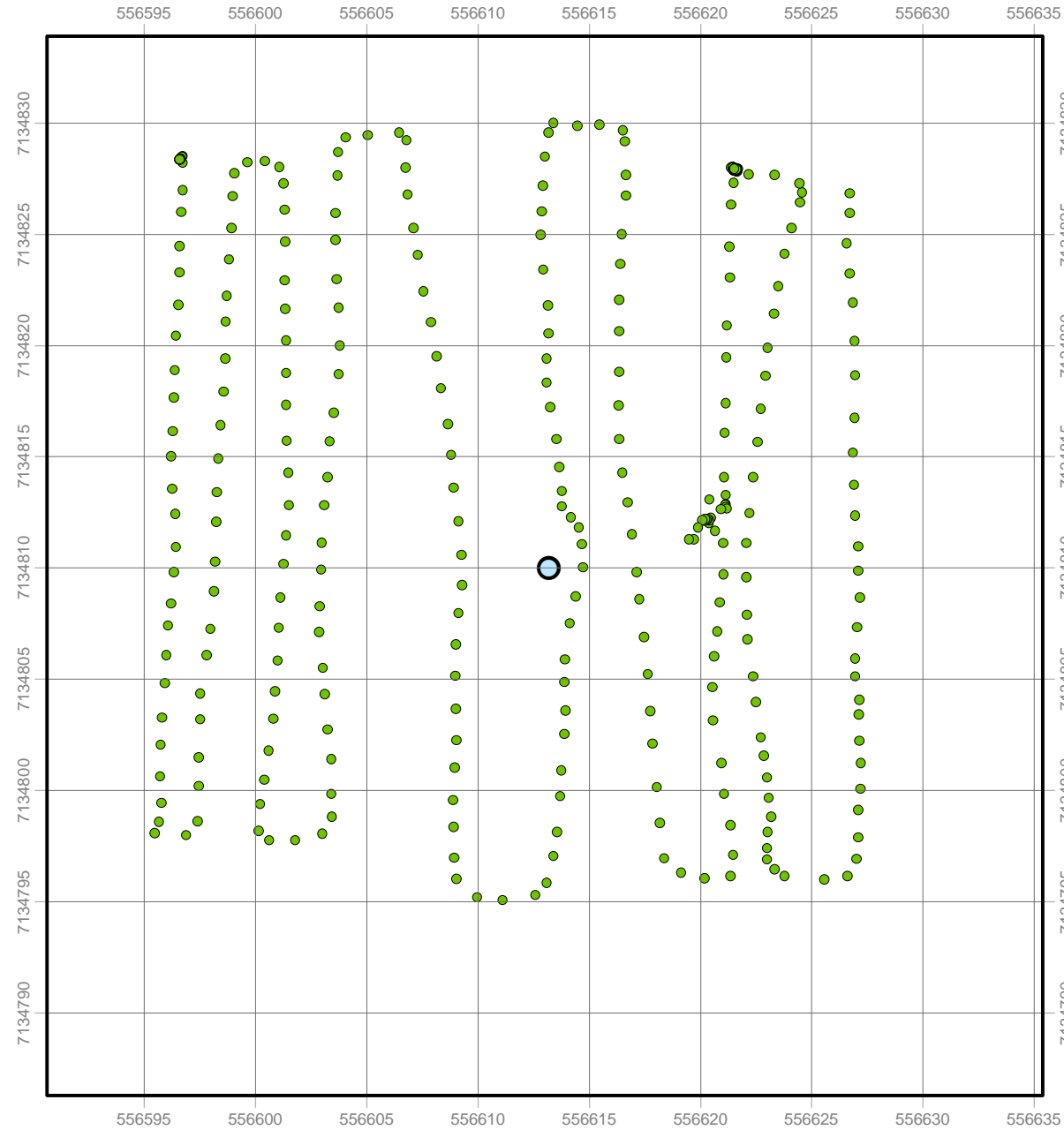


MO 01

Pre Gamma Survey

Point Count: 331

Min-Max: 0.046 - 0.077  $\mu\text{Sv}$



MO 01

Post Gamma Survey

Point Count: 363

Min-Max: 0.048 - 0.089  $\mu\text{Sv}$

Legend

Drill Hole

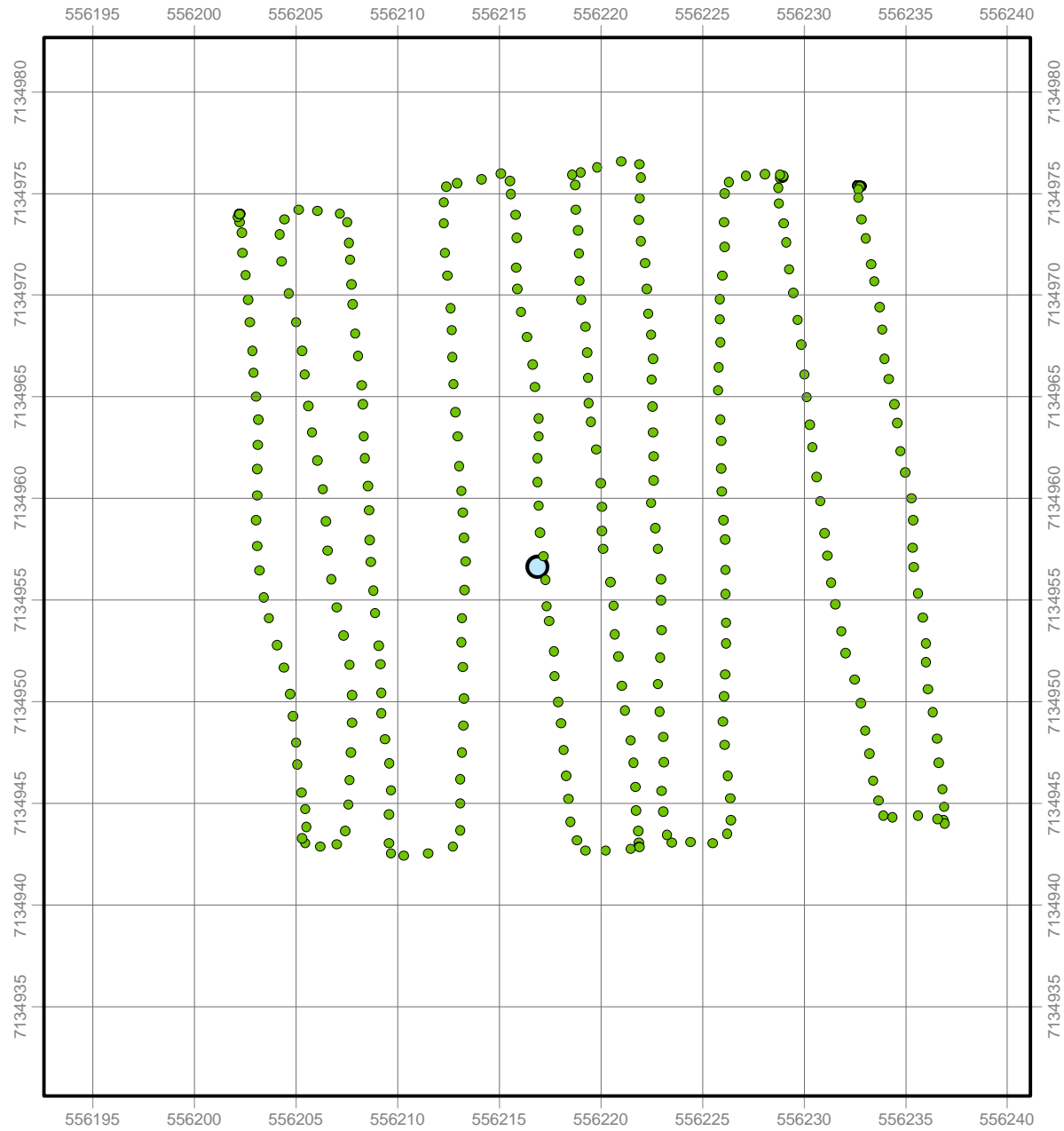
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

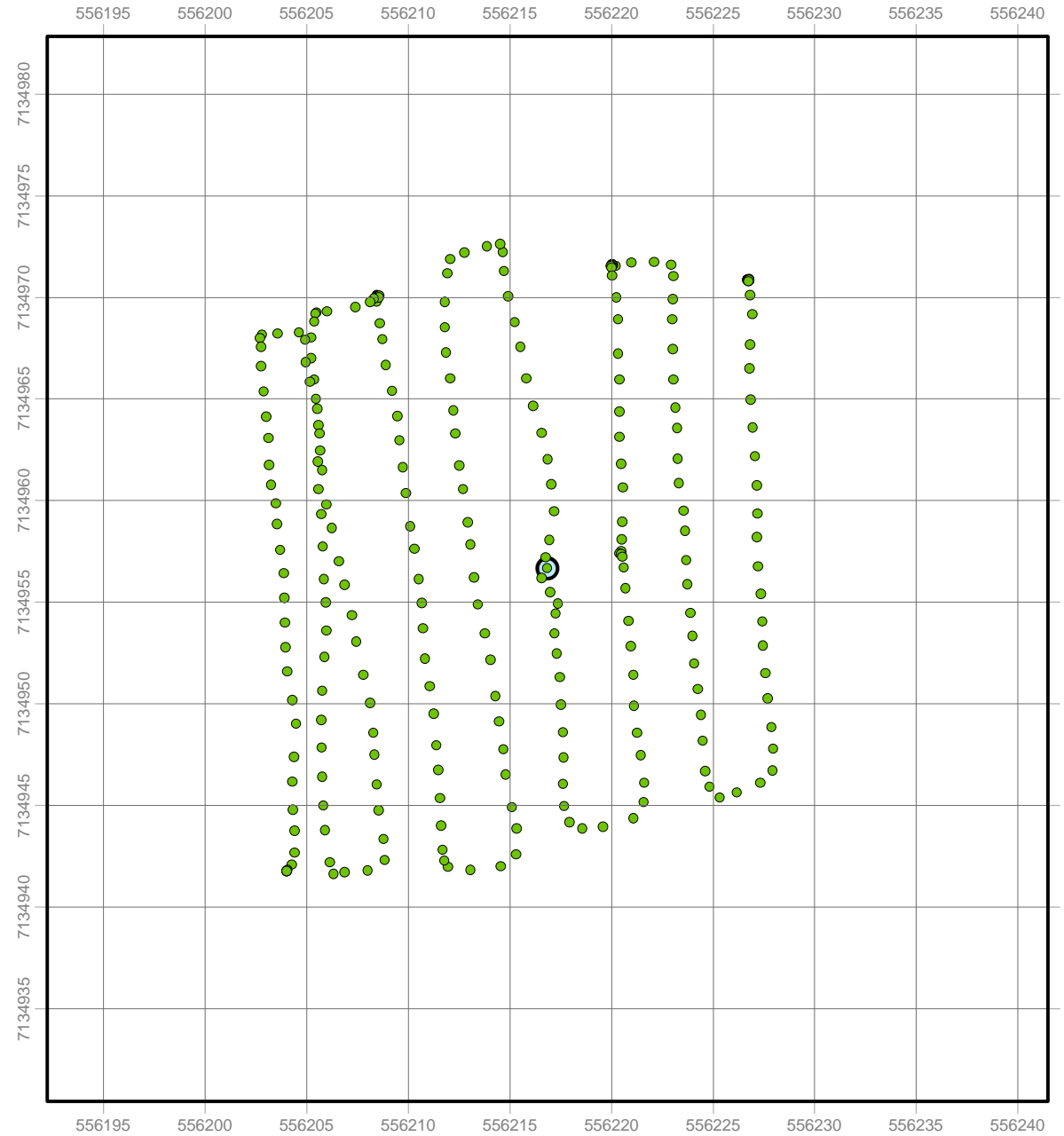


MO 02

Pre Gamma Survey

Point Count: 345

Min-Max: 0.043 - 0.068  $\mu\text{Sv}$



MO 02

Post Gamma Survey

Point Count: 293

Min-Max: 0.044 - 0.073  $\mu\text{Sv}$

Legend

Drill Hole

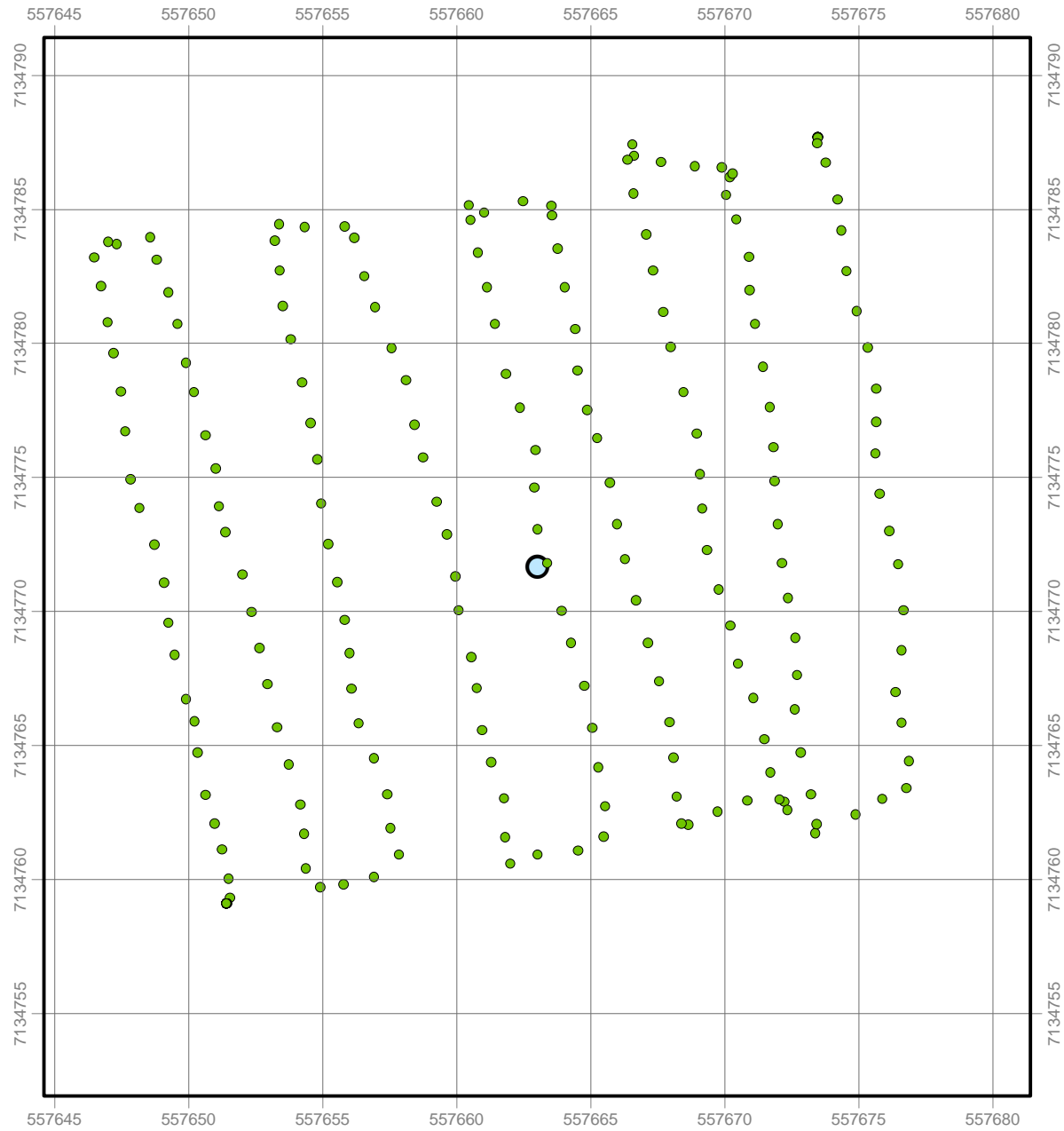
0.0 - 0.3  $\mu$ Sv

0.3 - 0.6  $\mu$ Sv

0.6 - 1.0  $\mu$ Sv

1.0 - 2.5  $\mu$ Sv

> 2.5  $\mu$ Sv

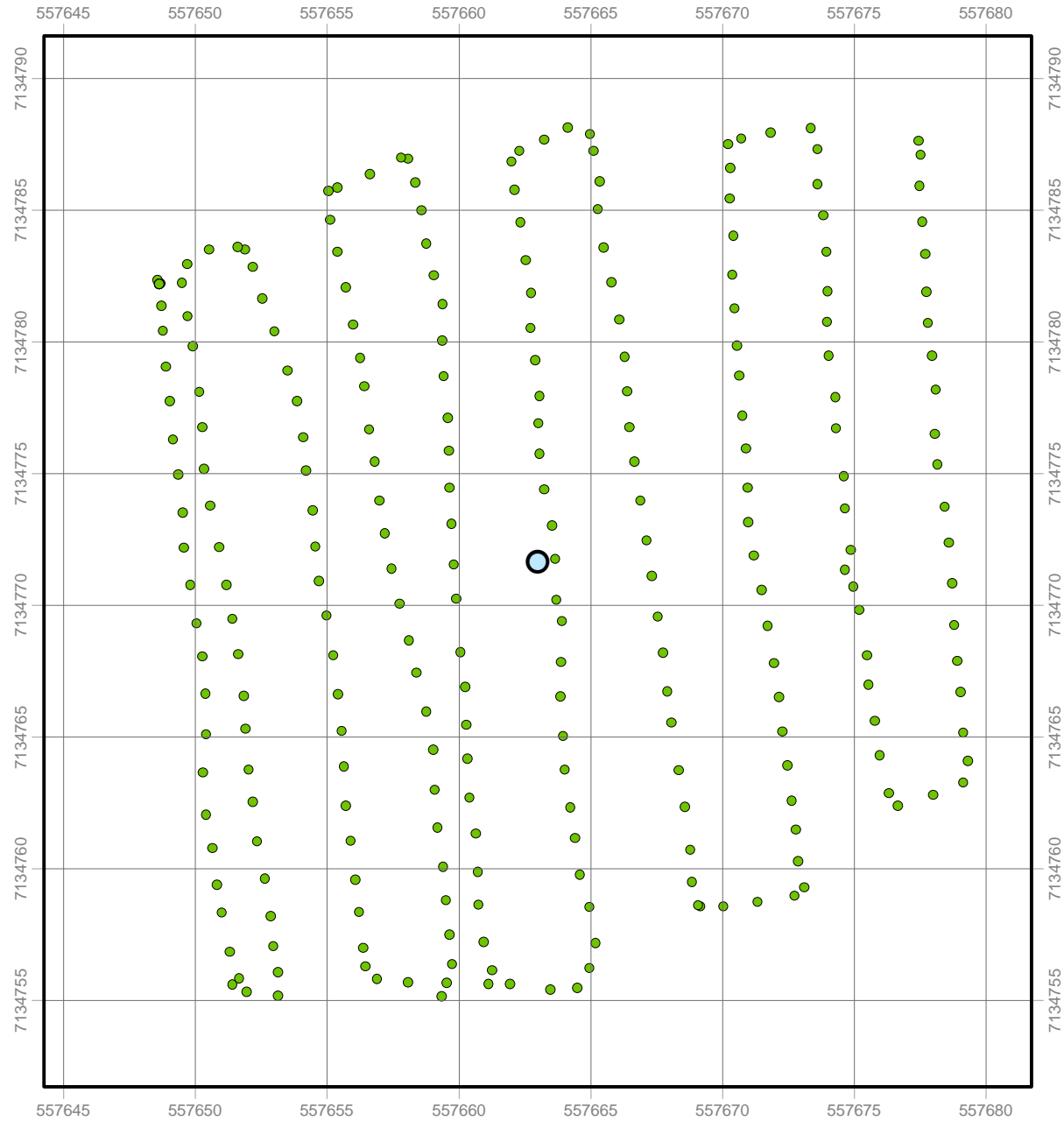


MO 03

Pre Gamma Survey

Point Count: 230

Min-Max: 0.057 - 0.113  $\mu$ Sv



MO 03

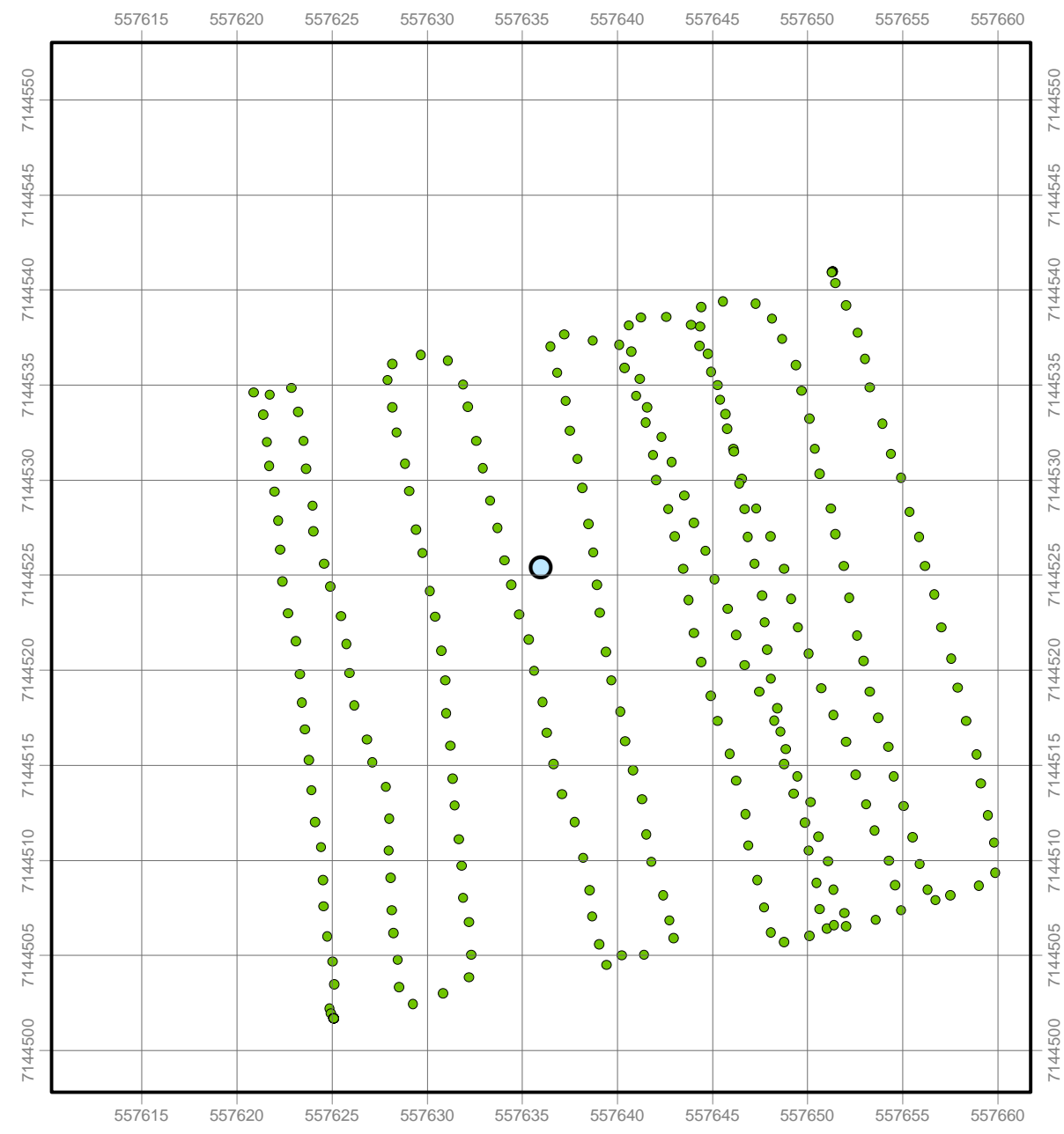
Post Gamma Survey

Point Count: 256

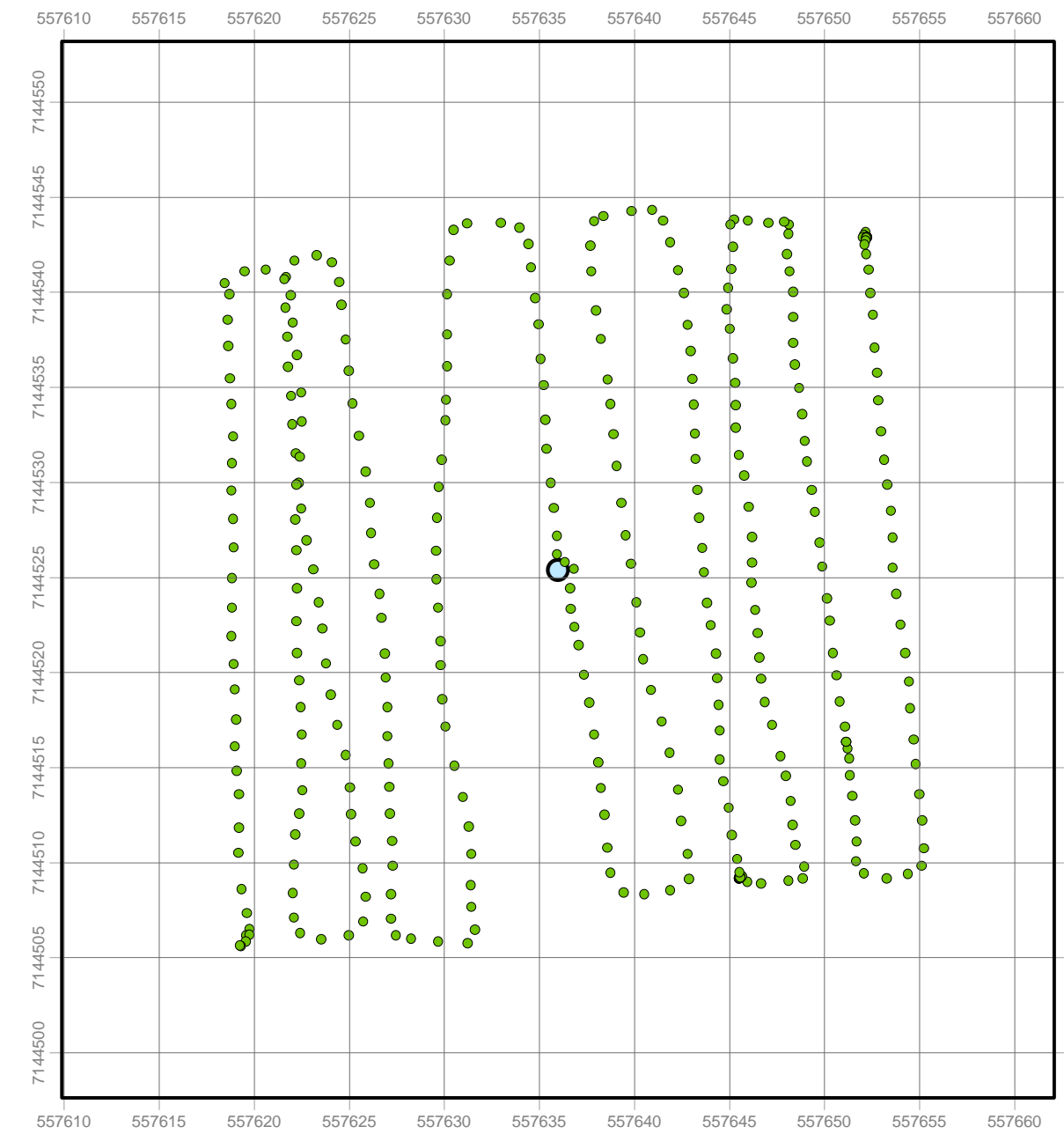
Min-Max: 0.051 - 0.085  $\mu$ Sv

**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**85W 04**  
**Pre Gamma Survey**  
 Point Count: 292  
 Min-Max: 0.044 - 0.078  $\mu\text{Sv}$

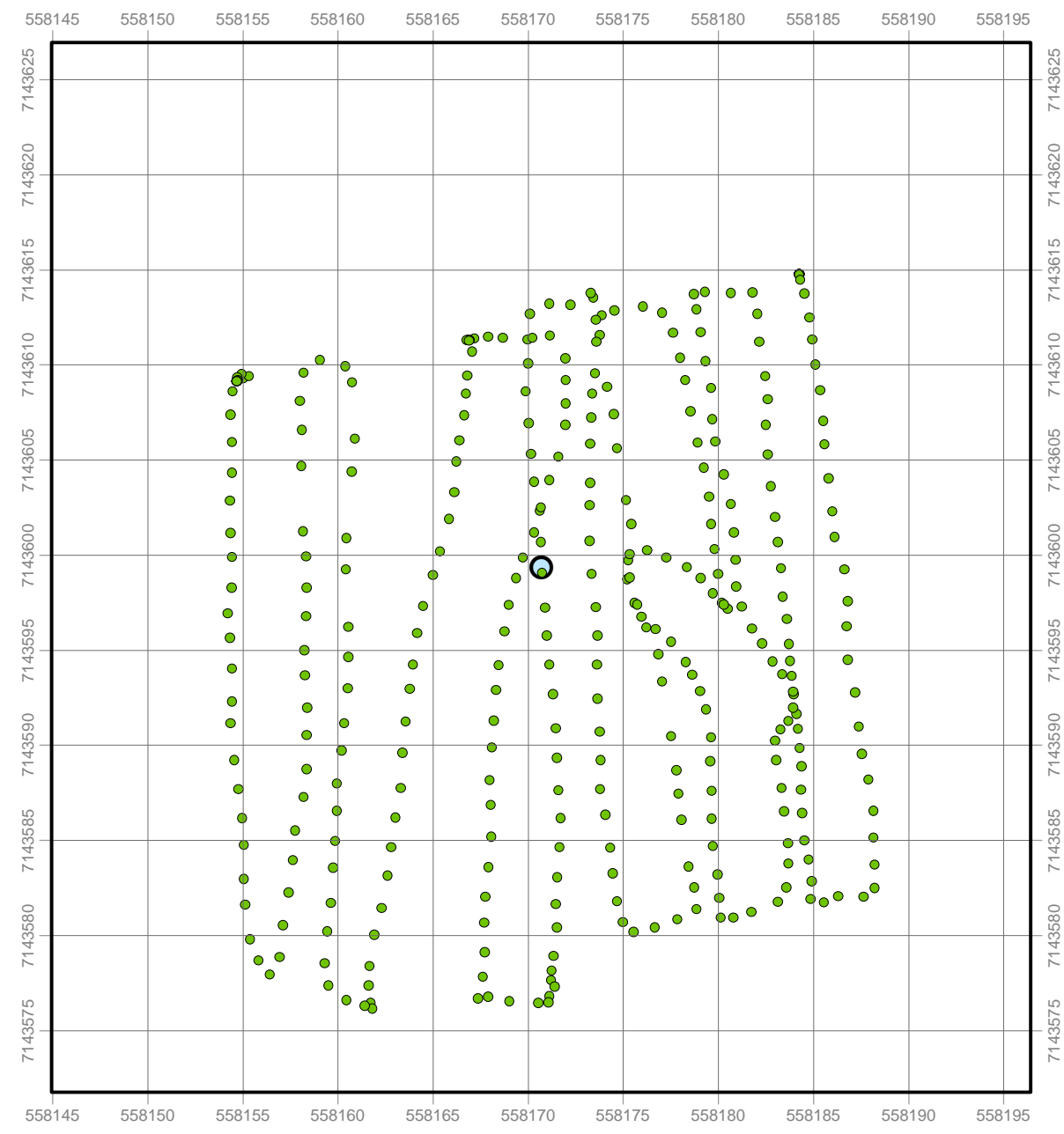


**85W 04**  
**Post Gamma Survey**  
 Point Count: 338  
 Min-Max: 0.046 - 0.099  $\mu\text{Sv}$



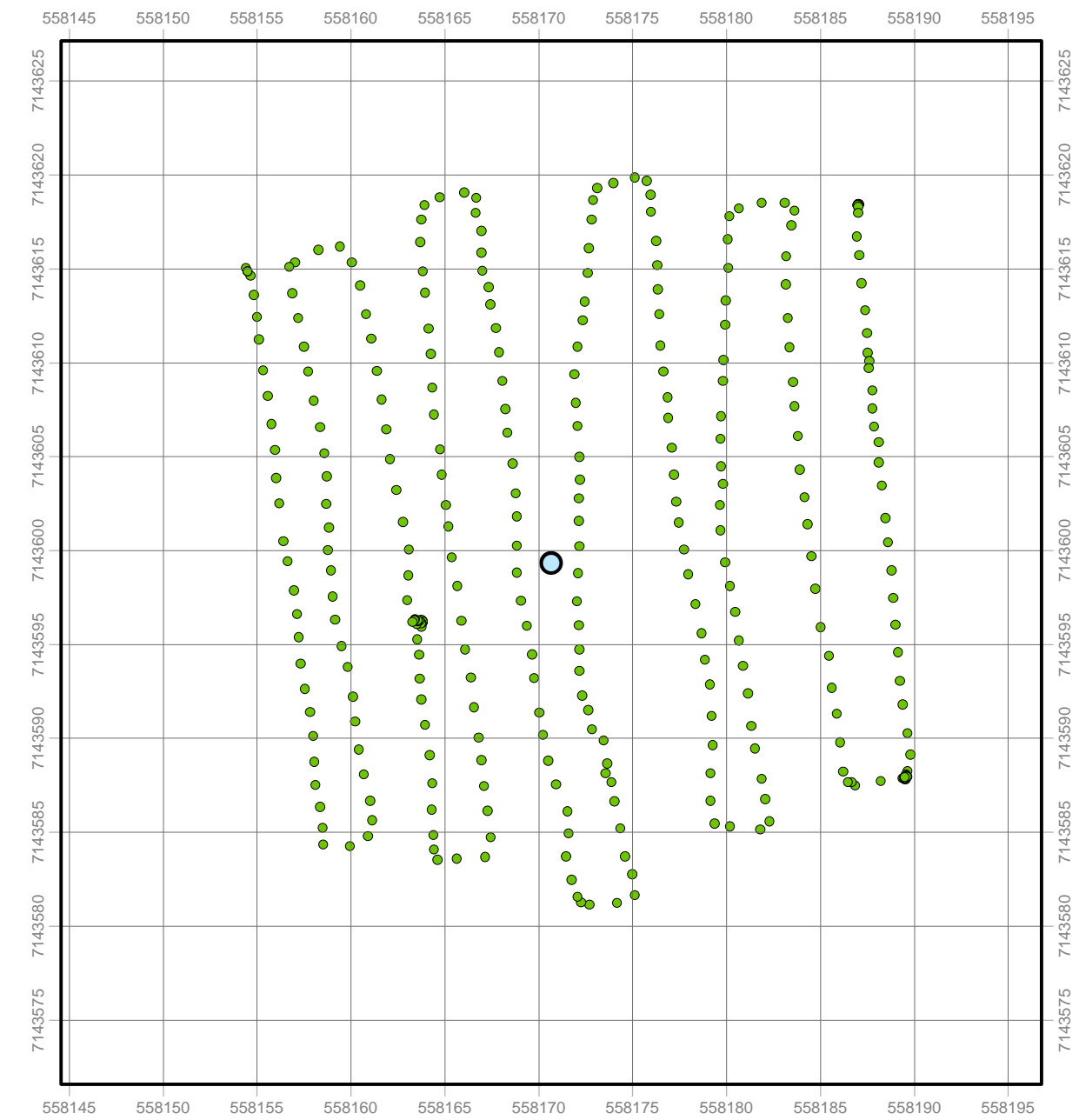
**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**85W 05 and 85W 05A**  
**Pre Gamma Survey**

**Point Count: 374**  
**Min-Max: 0.032 - 0.049  $\mu\text{Sv}$**



**85W 05 and 85W 05A**  
**Post Gamma Survey**

**Point Count: 349**  
**Min-Max: 0.028 - 0.049  $\mu\text{Sv}$**





Legend

Drill Hole

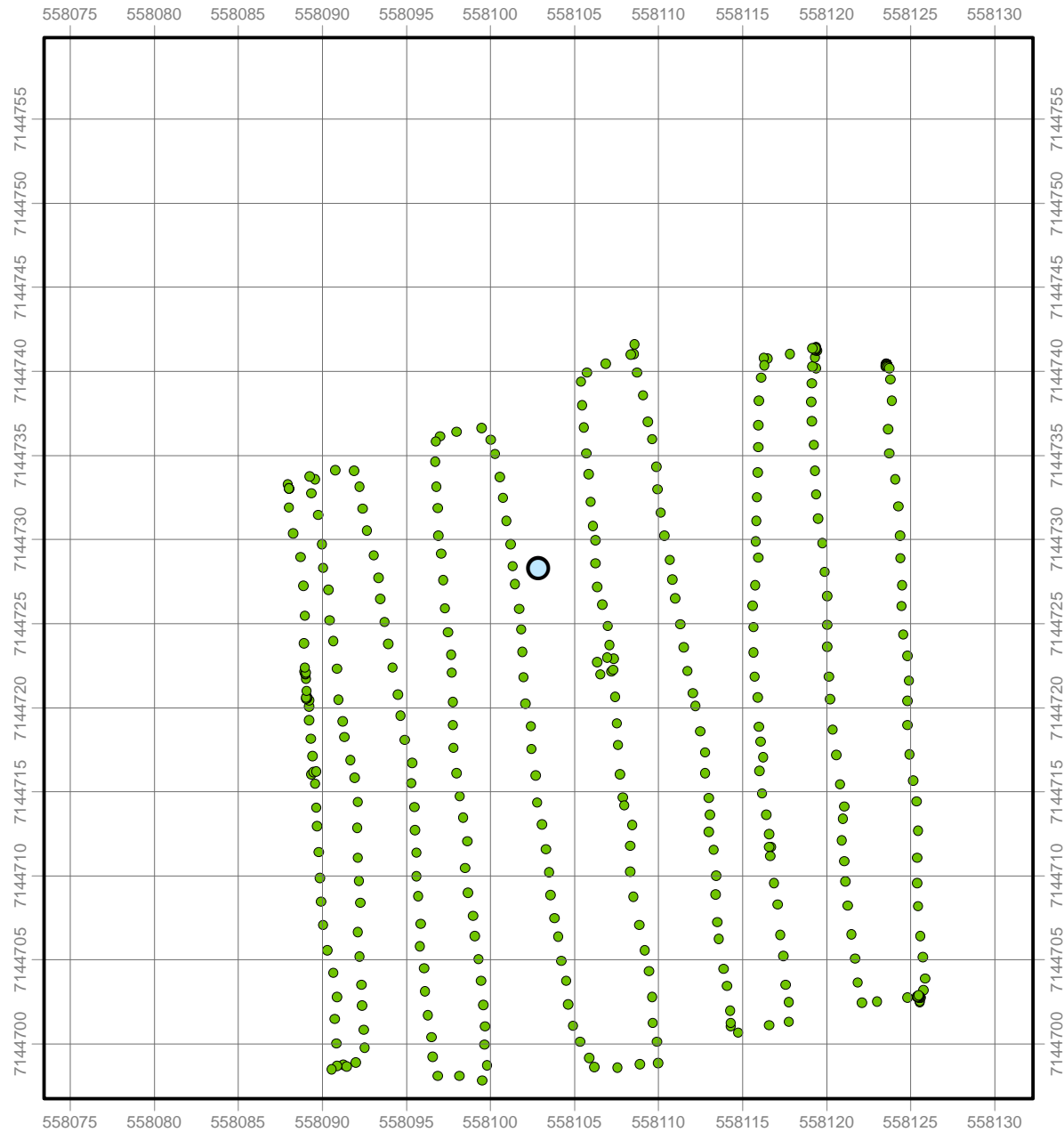
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

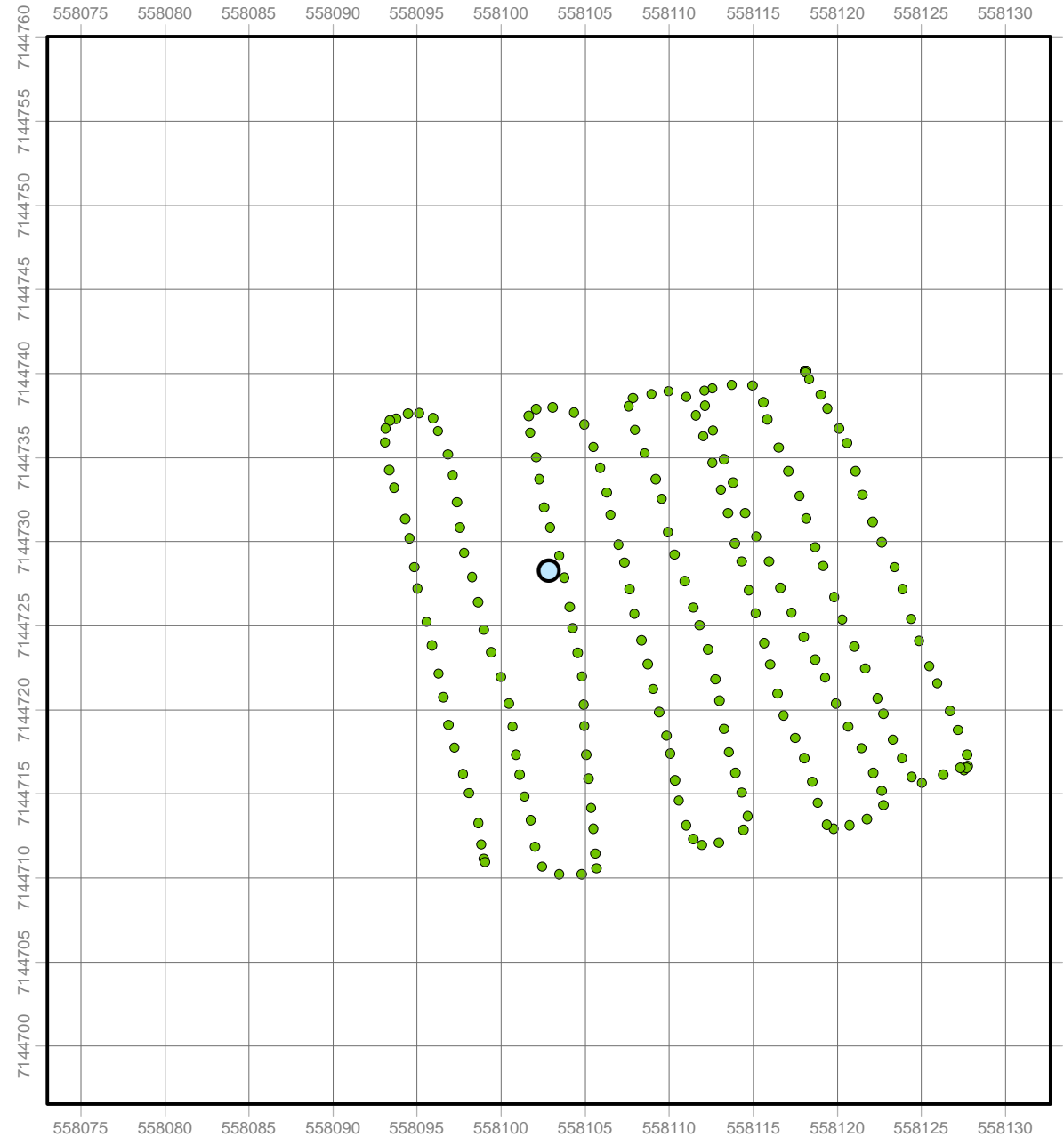


85W 06

Pre Gamma Survey

Point Count: 484

Min-Max: 0.038 - 0.084  $\mu\text{Sv}$



85W 06

Post Gamma Survey

Point Count: 205

Min-Max: 0.039 - 0.080  $\mu\text{Sv}$

Legend

Drill Hole

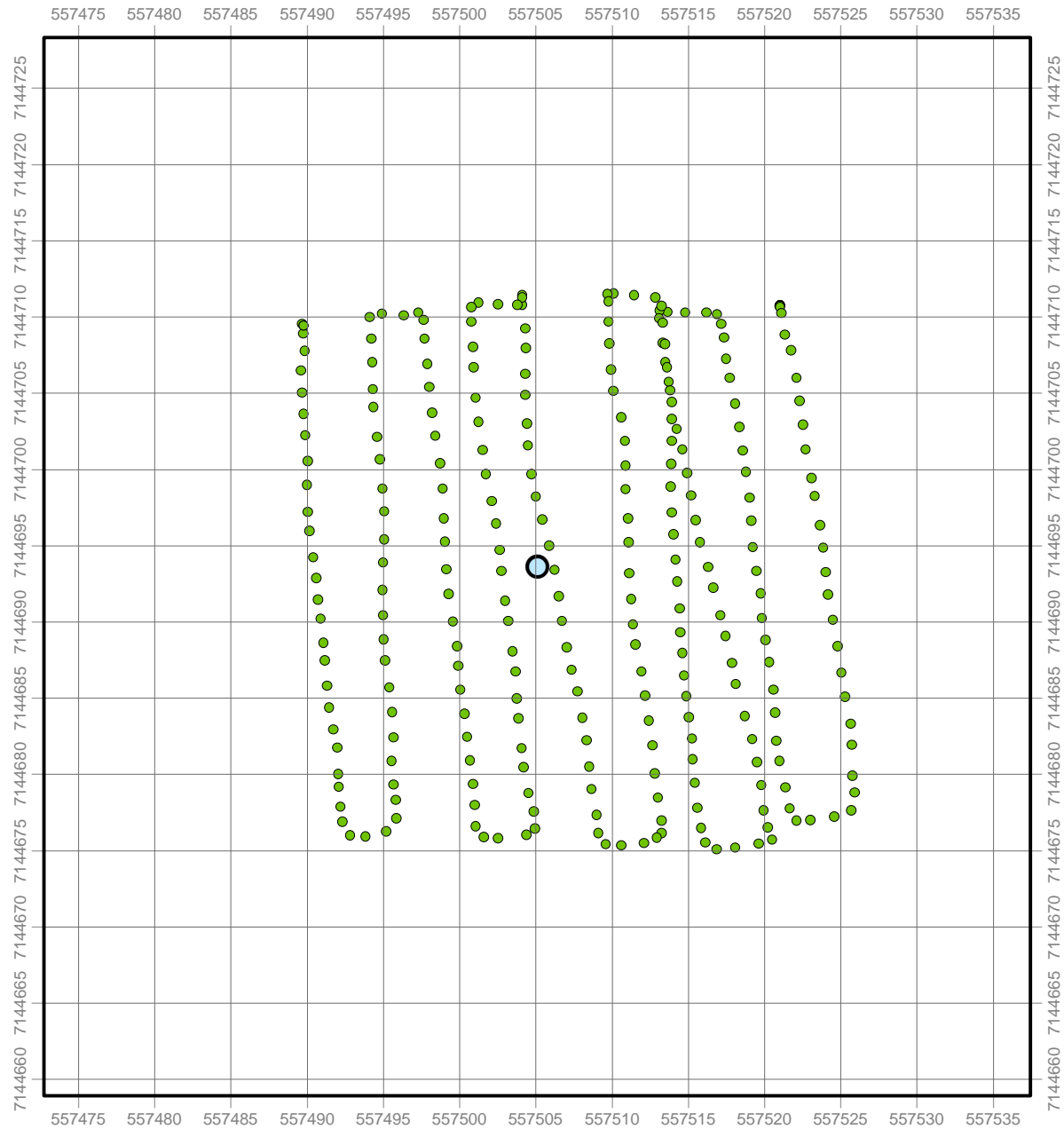
0.0 - 0.3  $\mu$ Sv

0.3 - 0.6  $\mu$ Sv

0.6 - 1.0  $\mu$ Sv

1.0 - 2.5  $\mu$ Sv

> 2.5  $\mu$ Sv

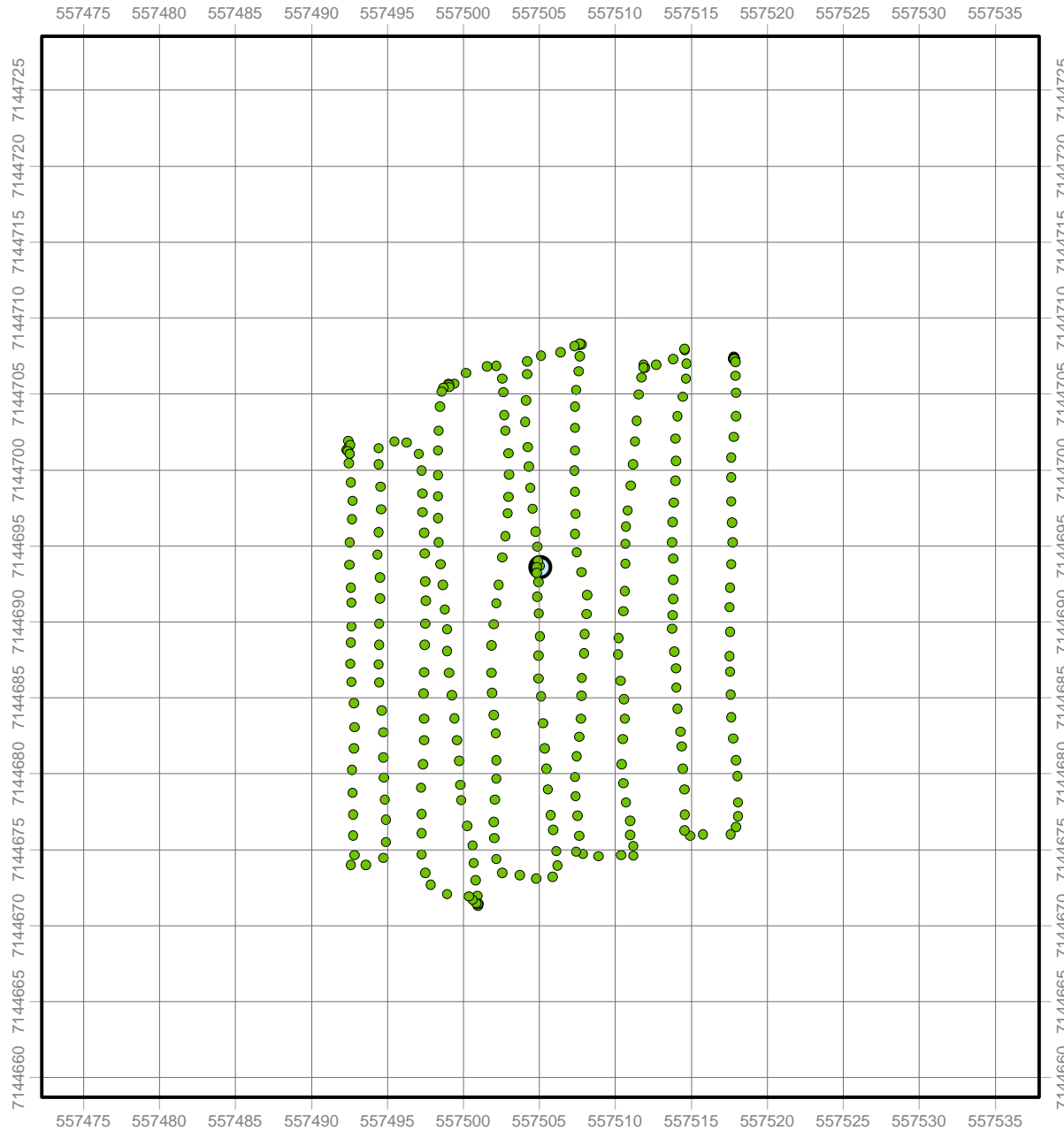


85W 07

Pre Gamma Survey

Point Count: 275

Min-Max: 0.051 - 0.098  $\mu$ Sv



85W 07

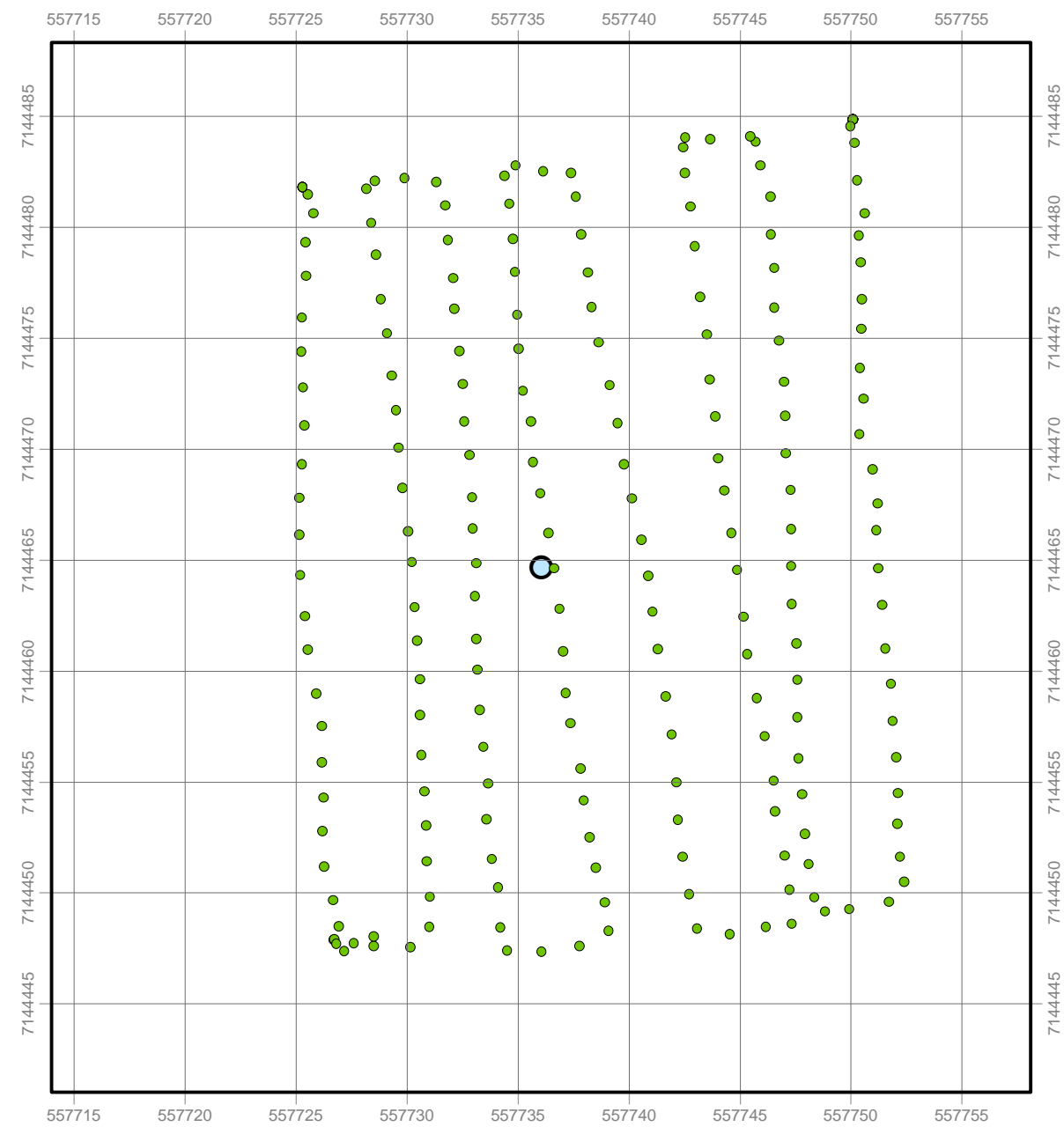
Post Gamma Survey

Point Count: 286

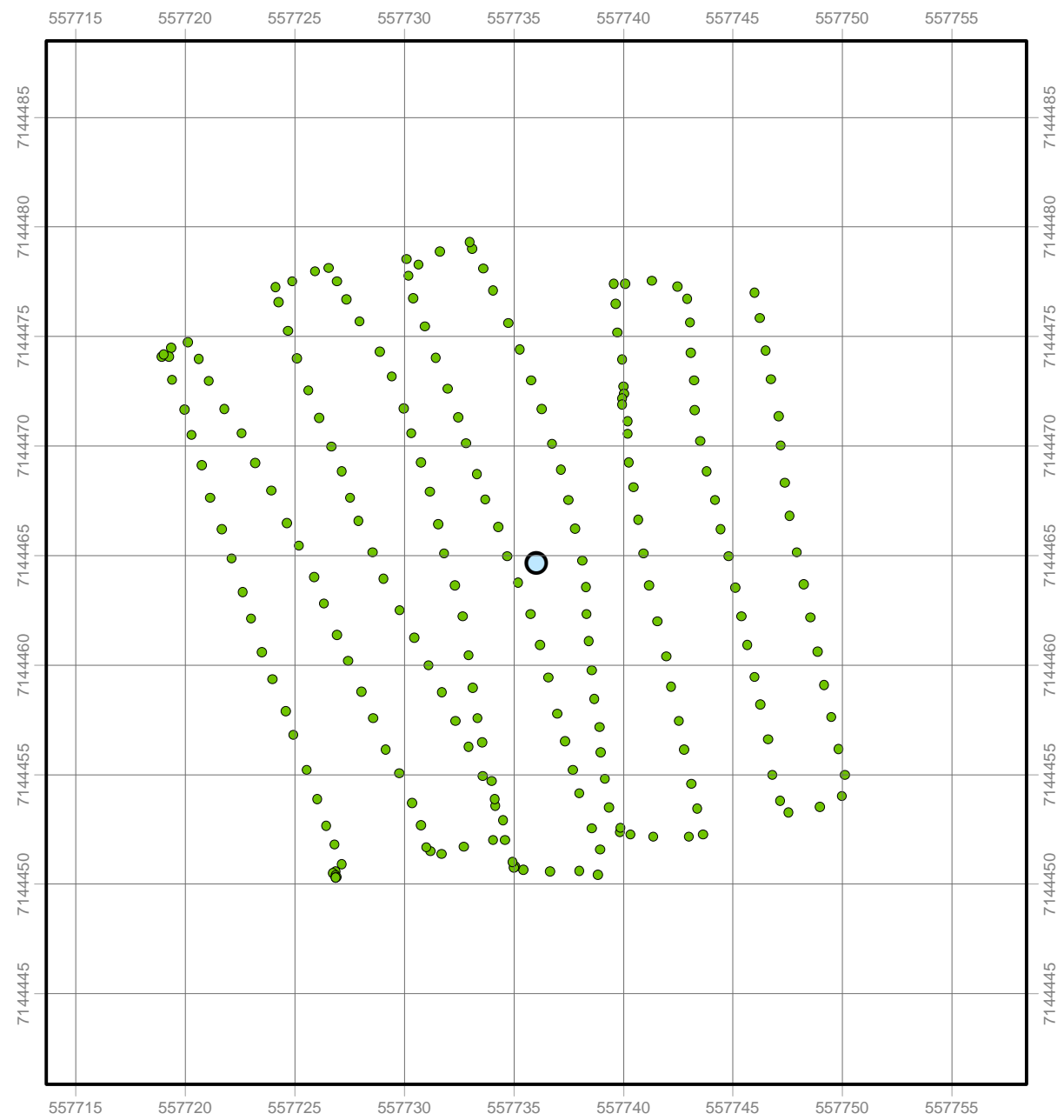
Min-Max: 0.057 - 0.109  $\mu$ Sv

**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



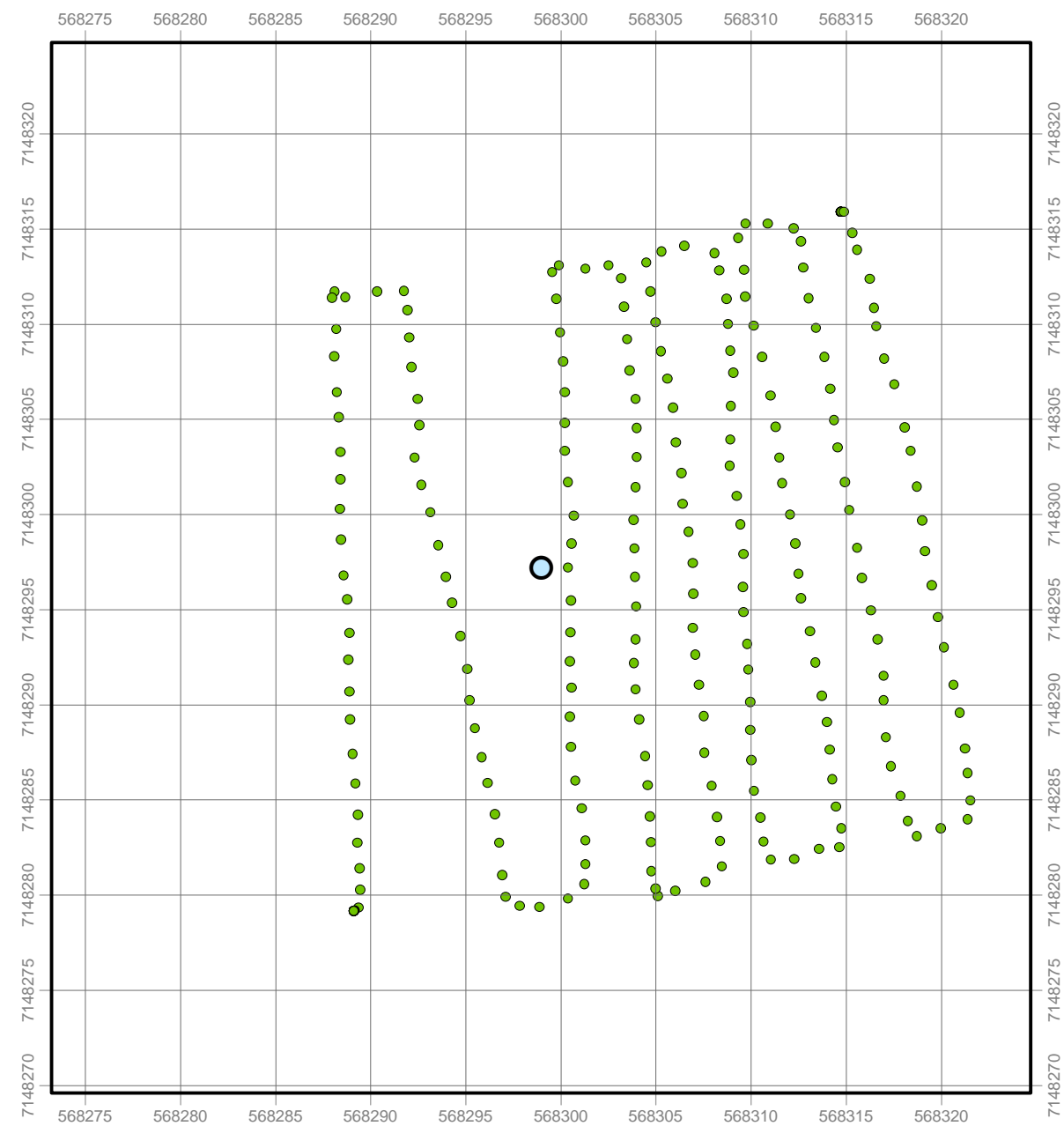
**85W 08**  
**Pre Gamma Survey**  
 Point Count: 217  
 Min-Max: 0.046 - 0.073  $\mu\text{Sv}$



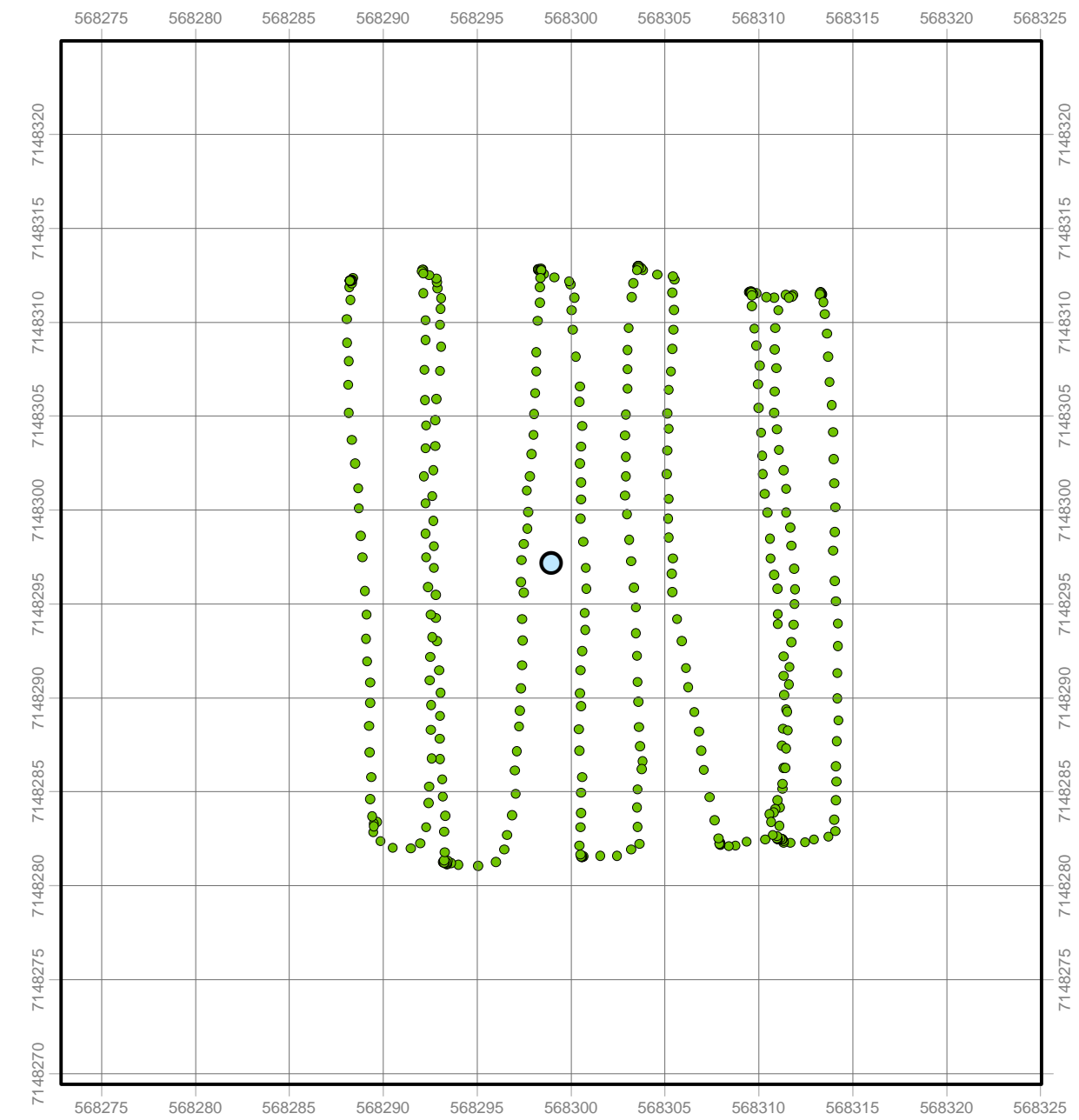
**85W 08**  
**Post Gamma Survey**  
 Point Count: 217  
 Min-Max: 0.052 - 0.112  $\mu\text{Sv}$

**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**KE 11**  
**Pre Gamma Survey**  
 Point Count: 263  
 Min-Max: 0.038 - 0.070  $\mu\text{Sv}$

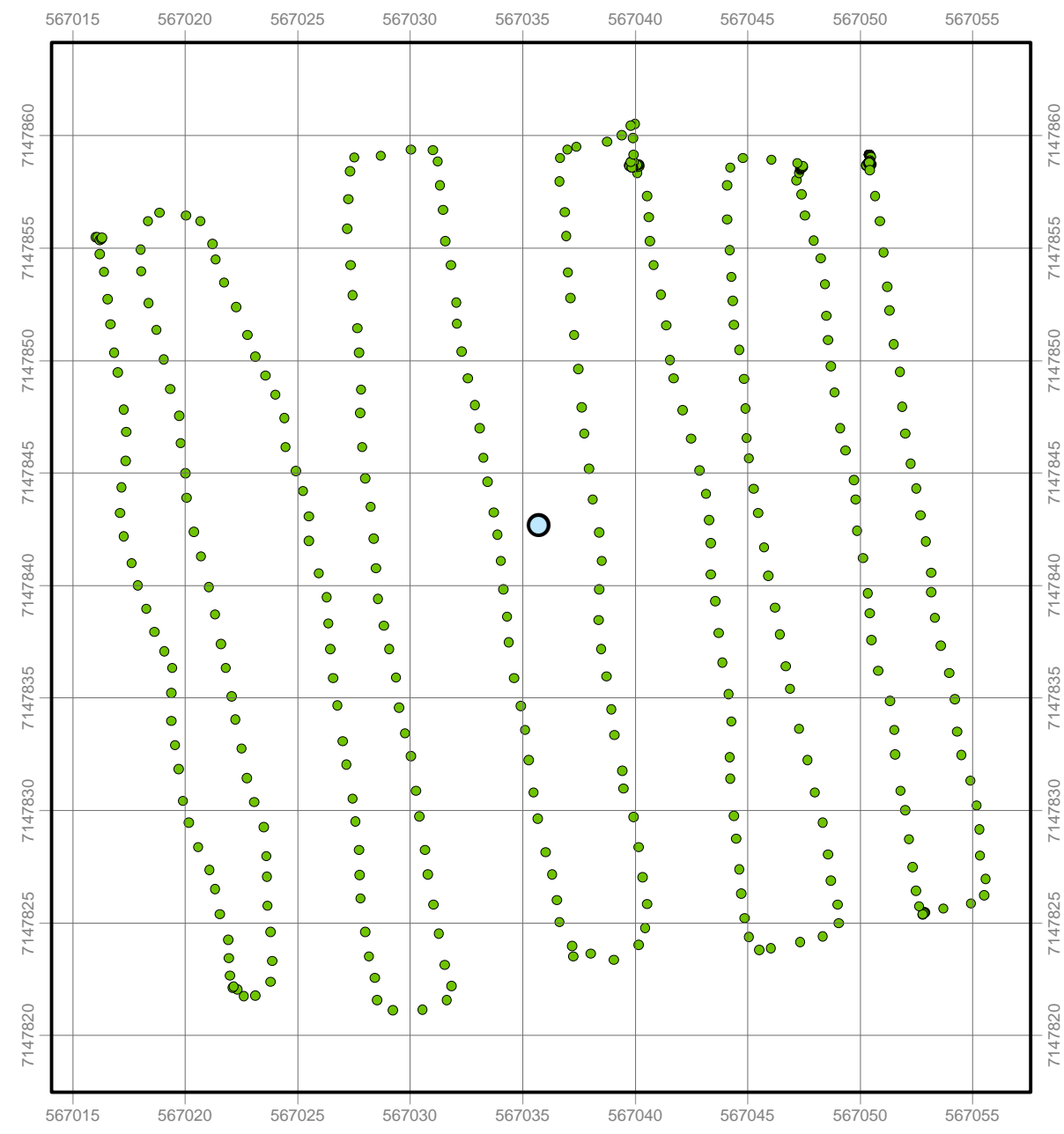


**KE 11**  
**Post Gamma Survey**  
 Point Count: 428  
 Min-Max: 0.039 - 0.067  $\mu\text{Sv}$

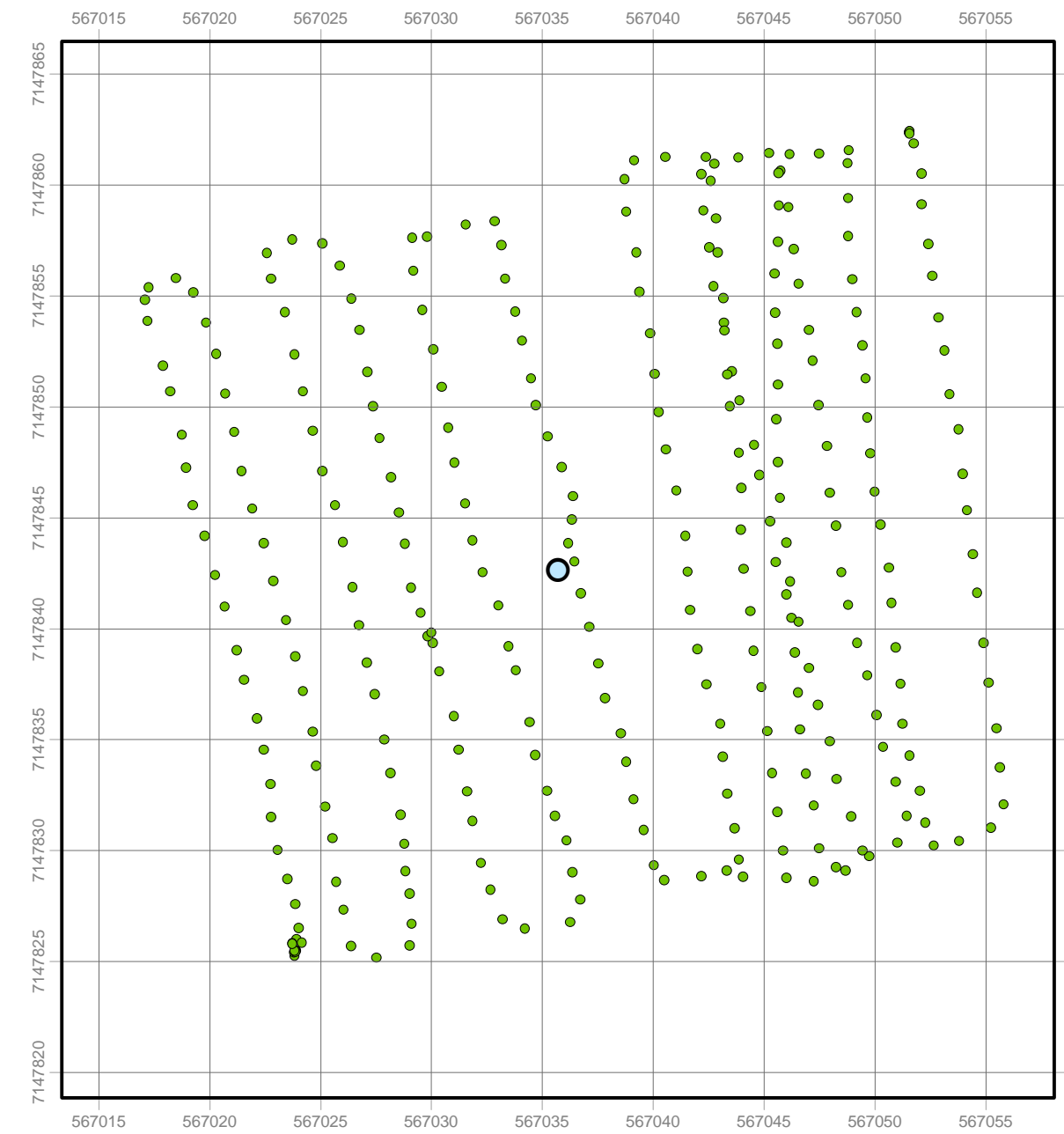


**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**KE 09**  
**Pre Gamma Survey**  
 Point Count: 433  
 Min-Max: 0.052 - 0.091  $\mu\text{Sv}$

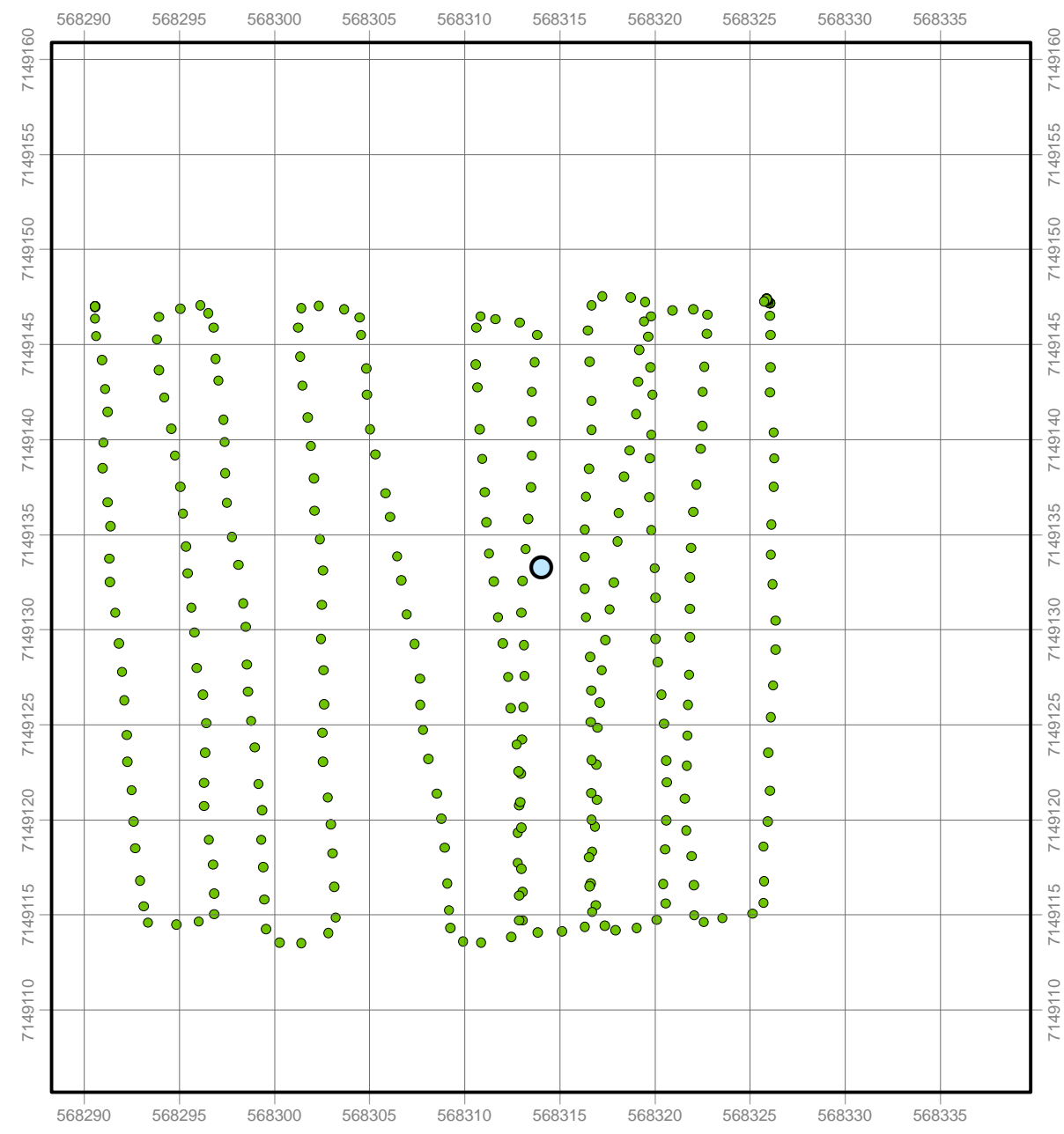


**KE 09**  
**Post Gamma Survey**  
 Point Count: 300  
 Min-Max: 0.058 - 0.101  $\mu\text{Sv}$

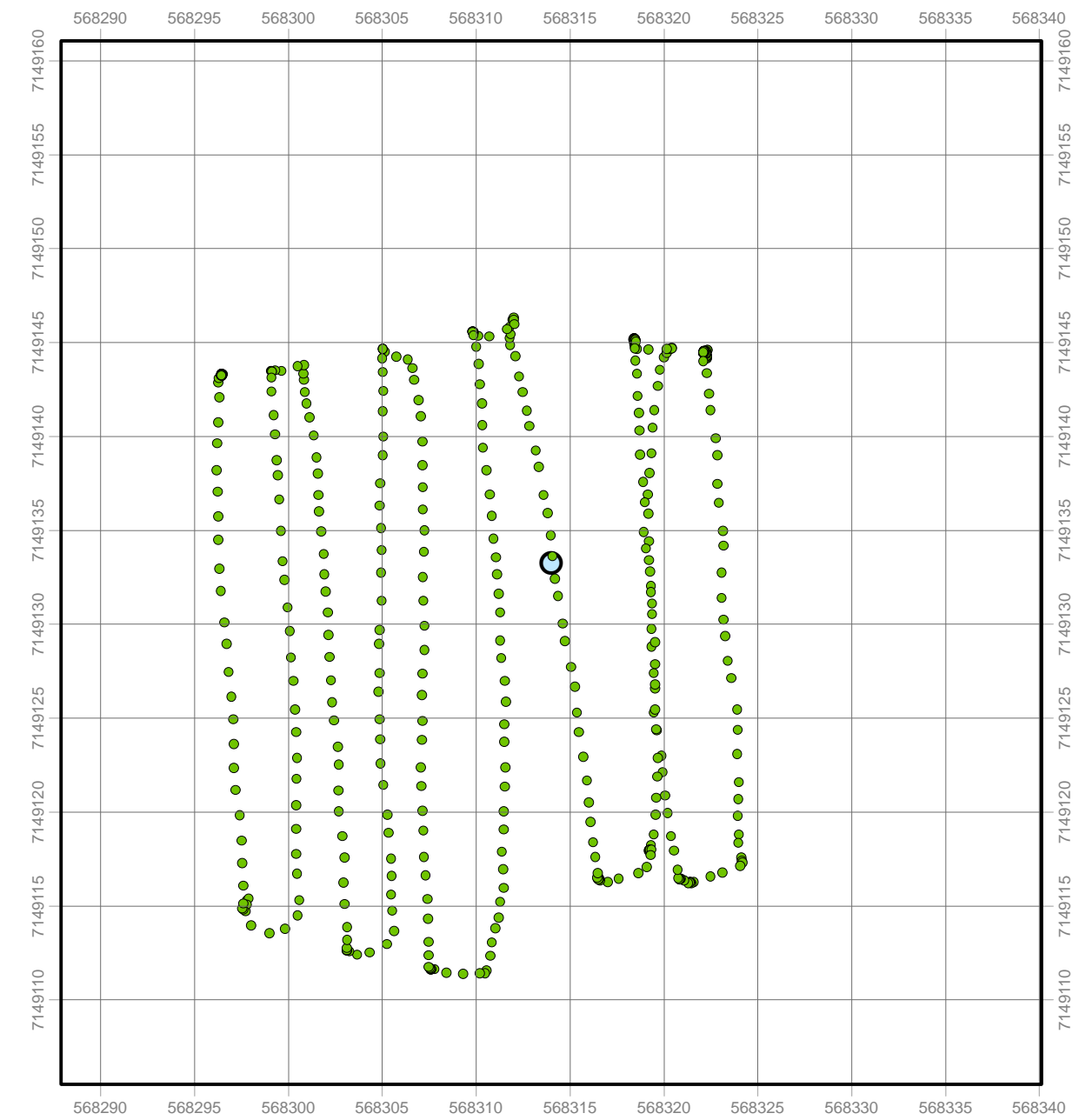


**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



KE 10  
 Pre Gamma Survey  
 Point Count: 307  
 Min-Max: 0.051 - 0.090  $\mu\text{Sv}$



KE 10  
 Post Gamma Survey  
 Point Count: 538  
 Min-Max: 0.053 - 0.087  $\mu\text{Sv}$

Legend

Drill Hole

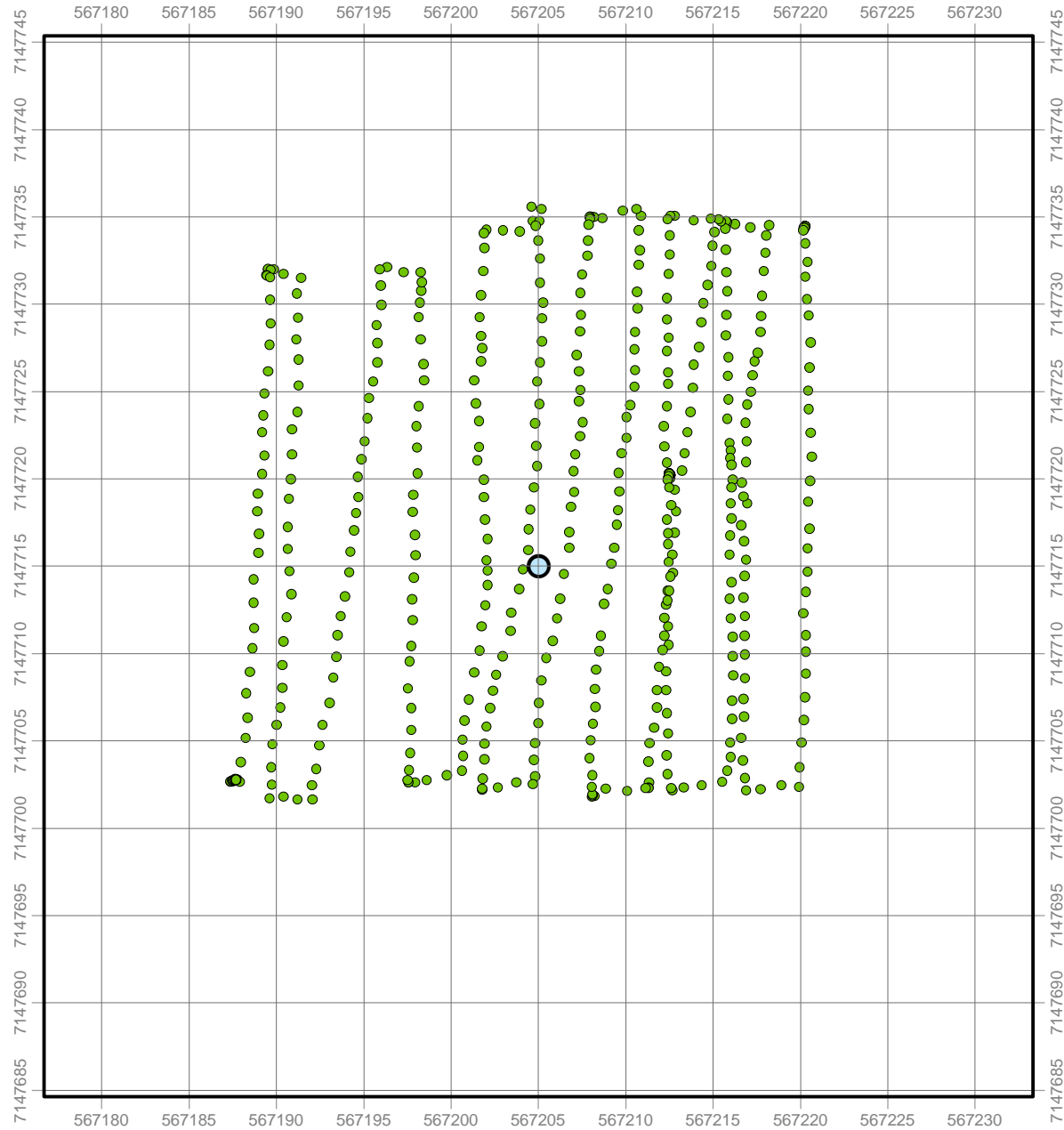
0.0 - 0.3  $\mu$ Sv

0.3 - 0.6  $\mu$ Sv

0.6 - 1.0  $\mu$ Sv

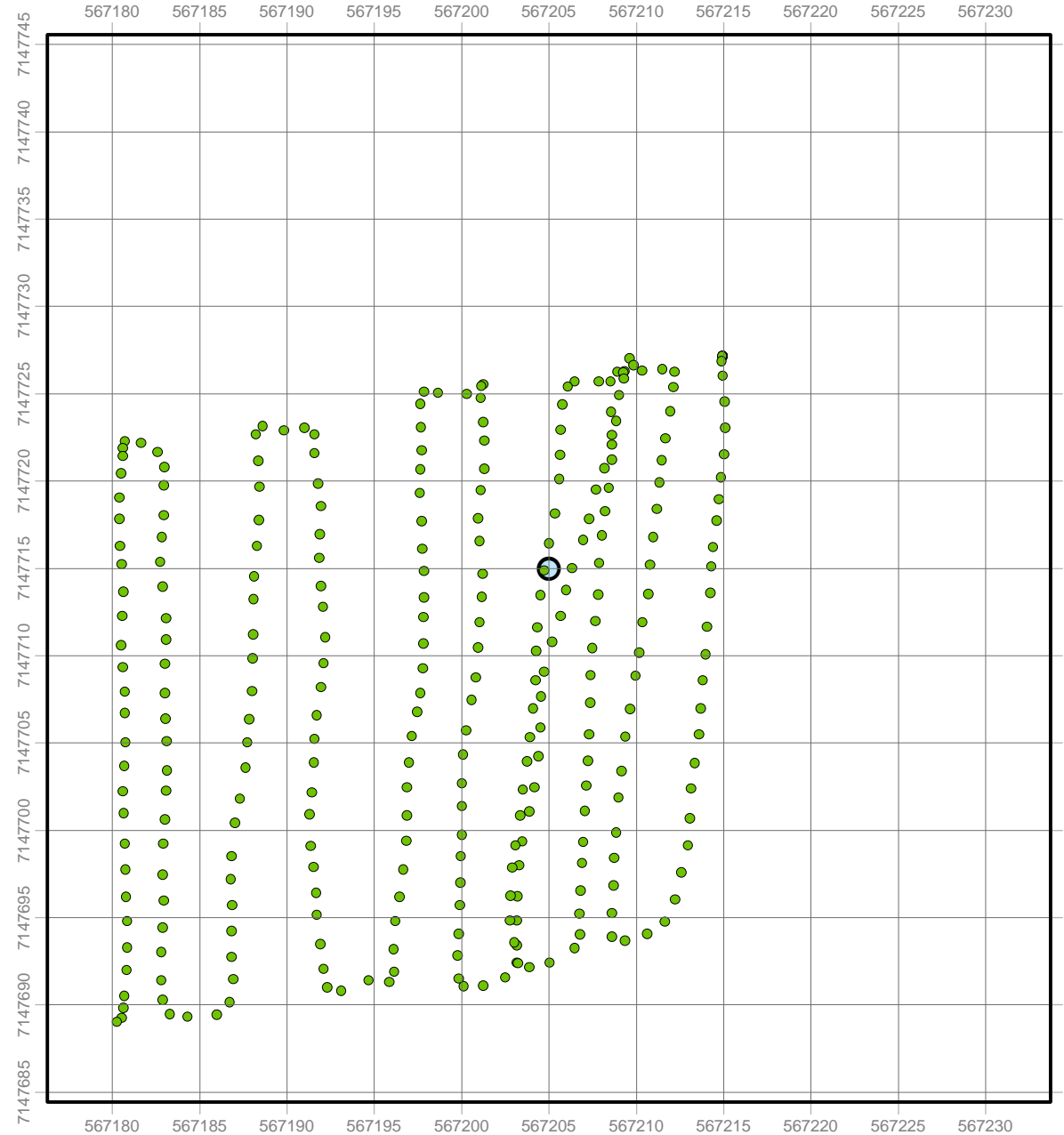
1.0 - 2.5  $\mu$ Sv

> 2.5  $\mu$ Sv



KE 08  
Pre Gamma Survey

Point Count: 534  
Min-Max: 0.048 - 0.092  $\mu$ Sv



KE 08  
Post Gamma Survey

Point Count: 303  
Min-Max: 0.054 - 0.103  $\mu$ Sv



Legend

Drill Hole

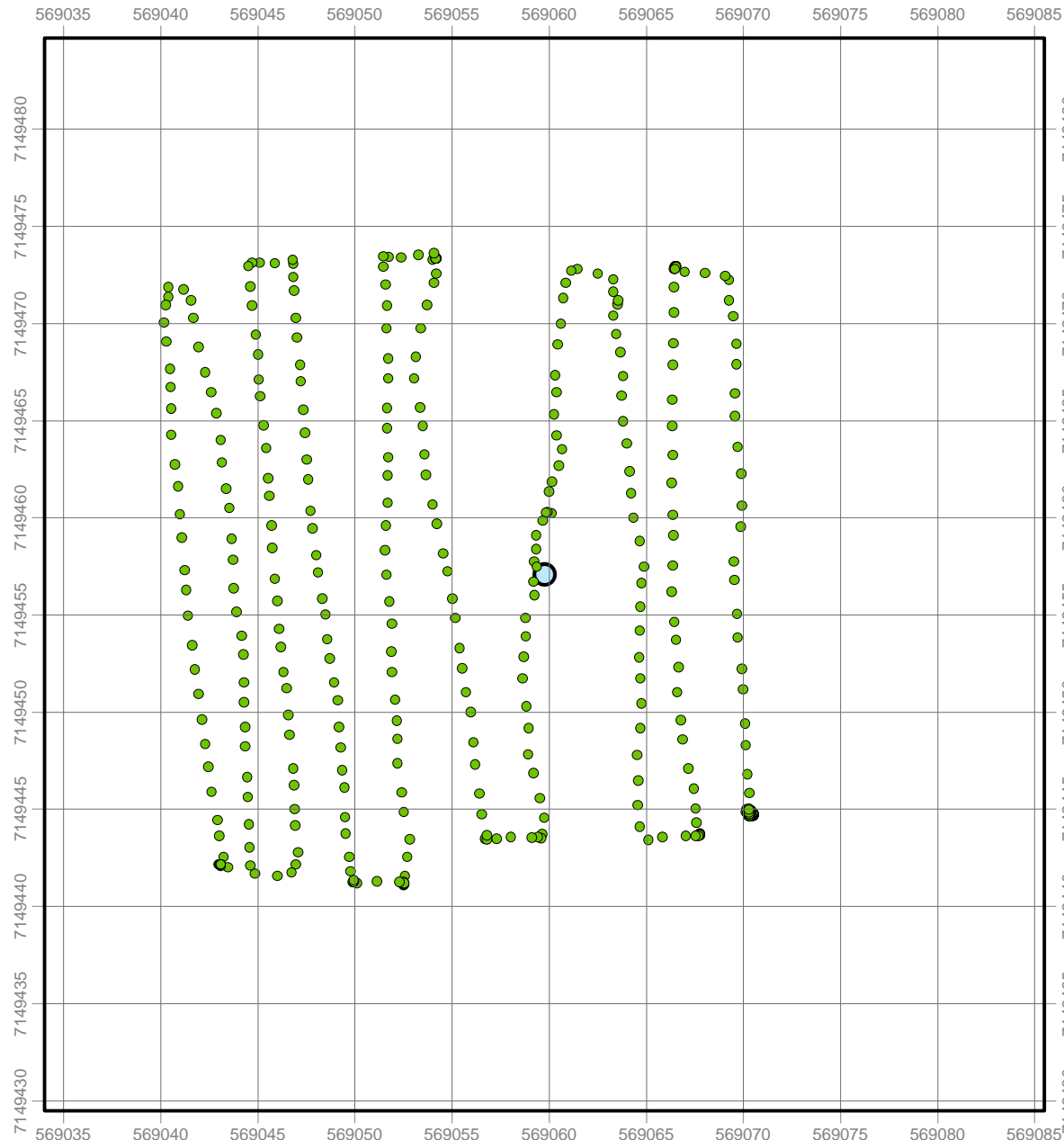
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

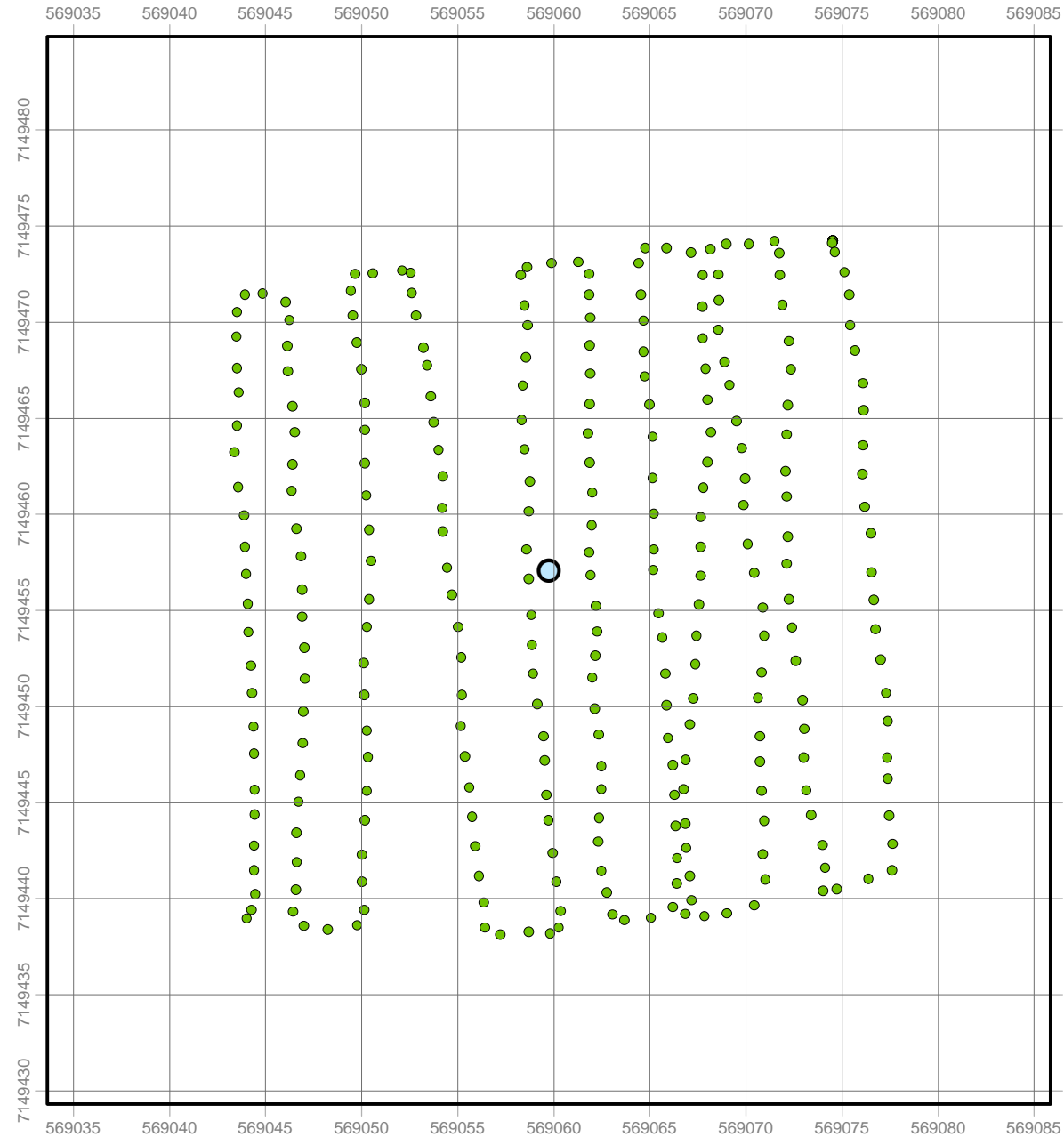


KE 07

Pre Gamma Survey

Point Count: 507

Min-Max: 0.048 - 0.084  $\mu\text{Sv}$



KE 07

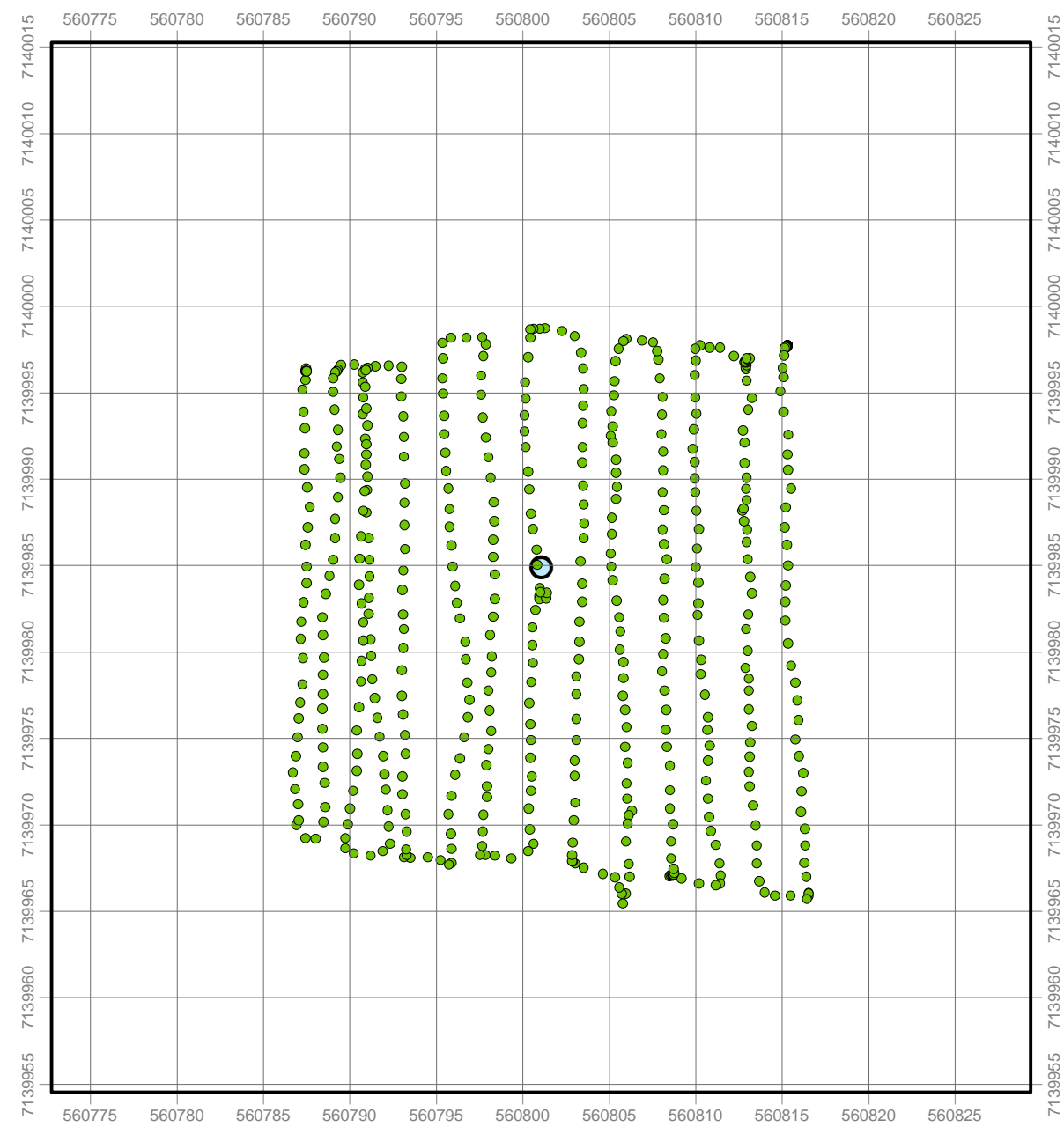
Post Gamma Survey

Point Count: 295

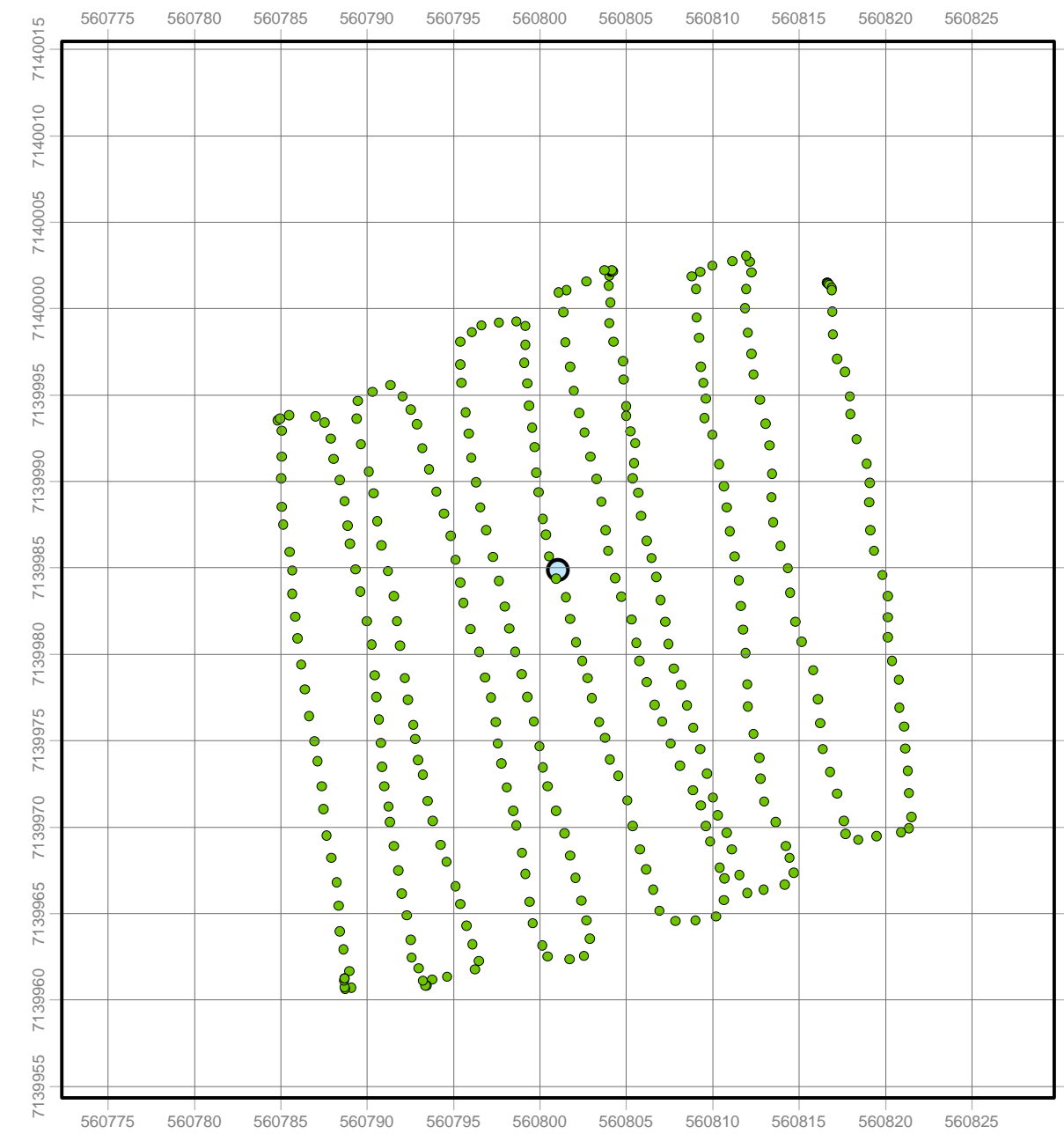
Min-Max: 0.059 - 0.087  $\mu\text{Sv}$

**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



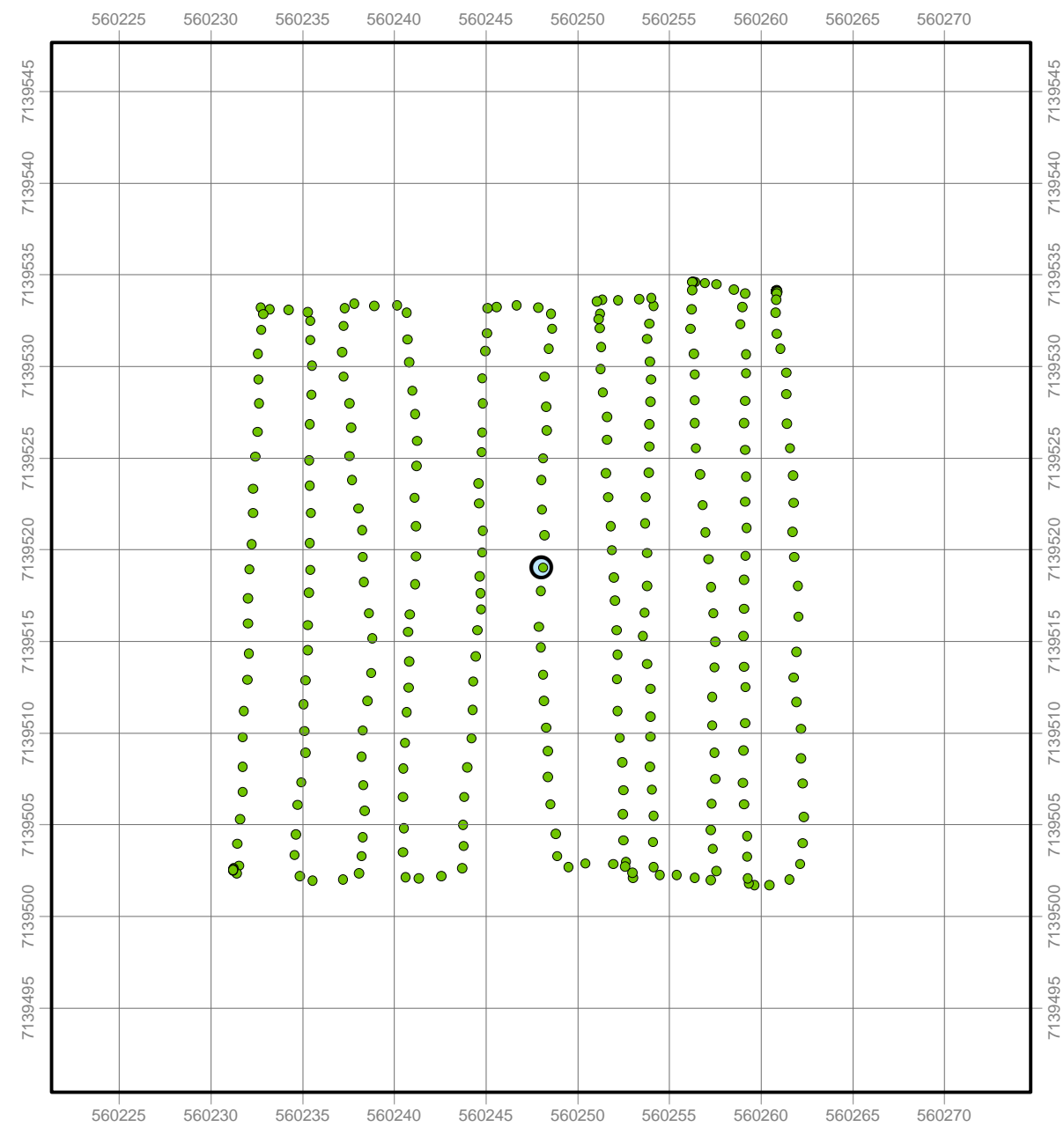
**RHL D05**  
**Pre Gamma Survey**  
**Point Count: 520**  
**Min-Max: 0.038 - 0.066  $\mu\text{Sv}$**



**RHL D05**  
**Post Gamma Survey**  
**Point Count: 366**  
**Min-Max: 0.042 - 0.075  $\mu\text{Sv}$**

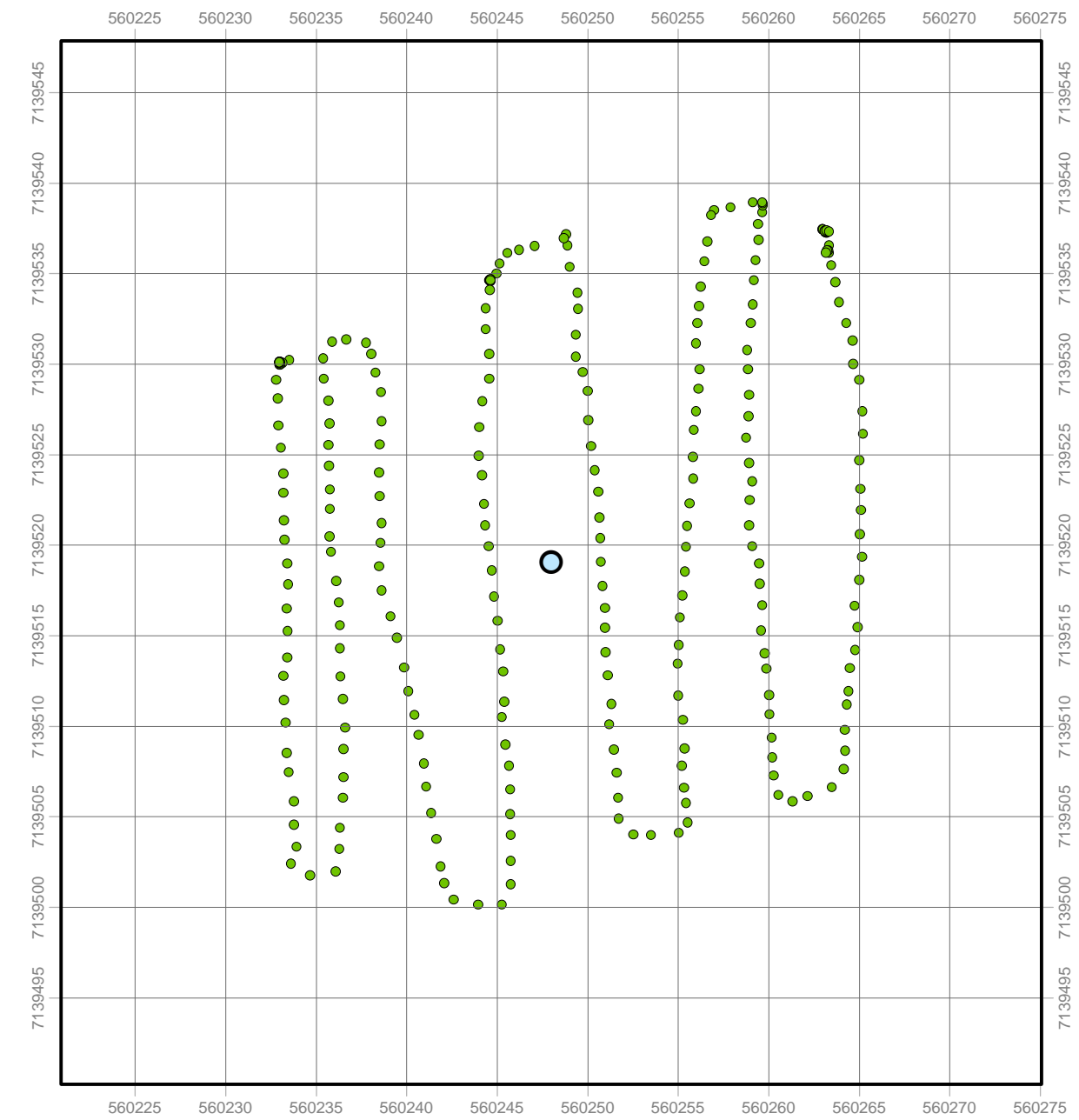
**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**RHLD 06**  
**Pre Gamma Survey**

**Point Count: 429**  
**Min-Max: 0.041 - 0.076  $\mu\text{Sv}$**



**RHLD 06**  
**Post Gamma Survey**

**Point Count: 280**  
**Min-Max: 0.040 - 0.075  $\mu\text{Sv}$**

Legend

Drill Hole

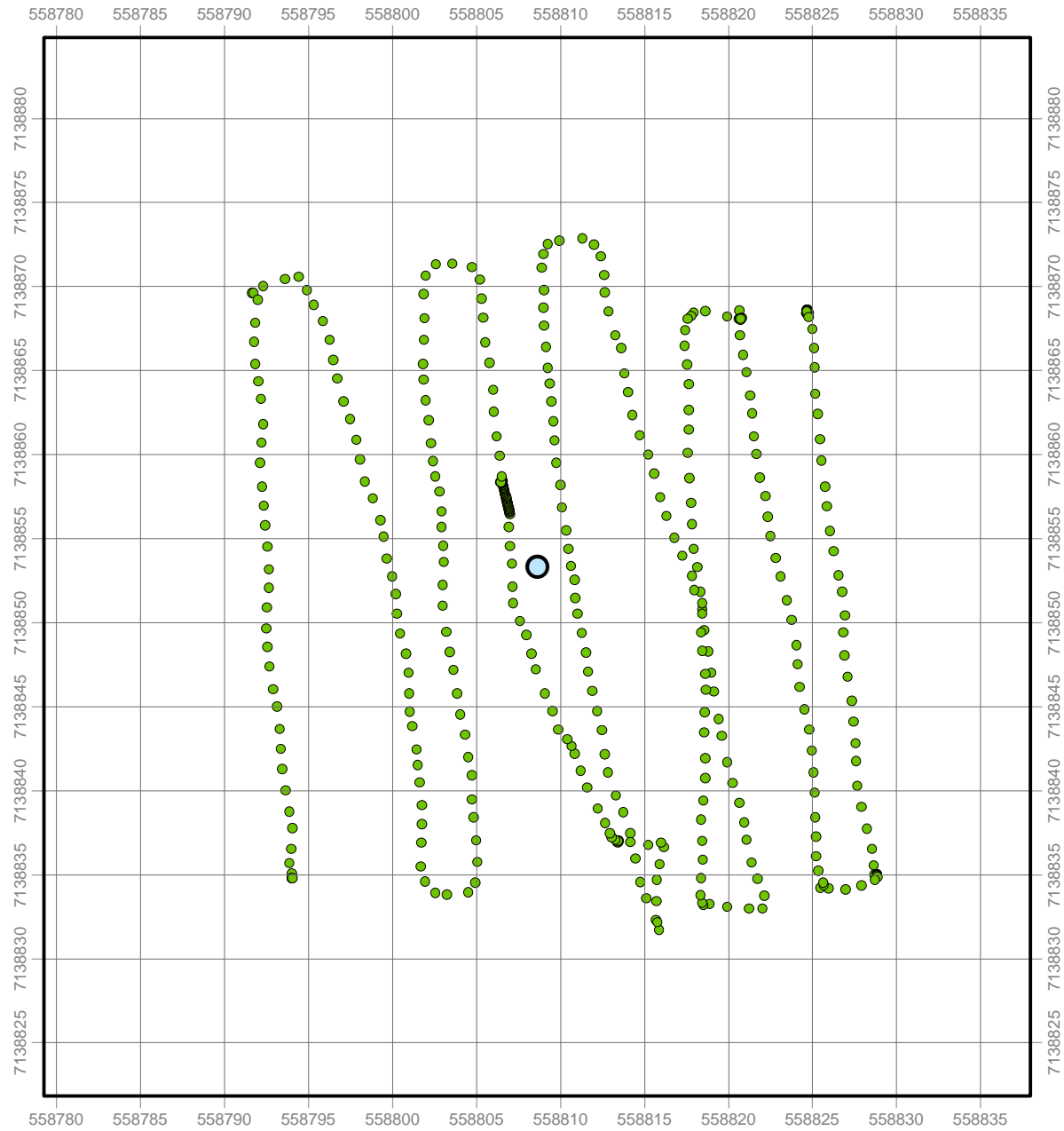
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

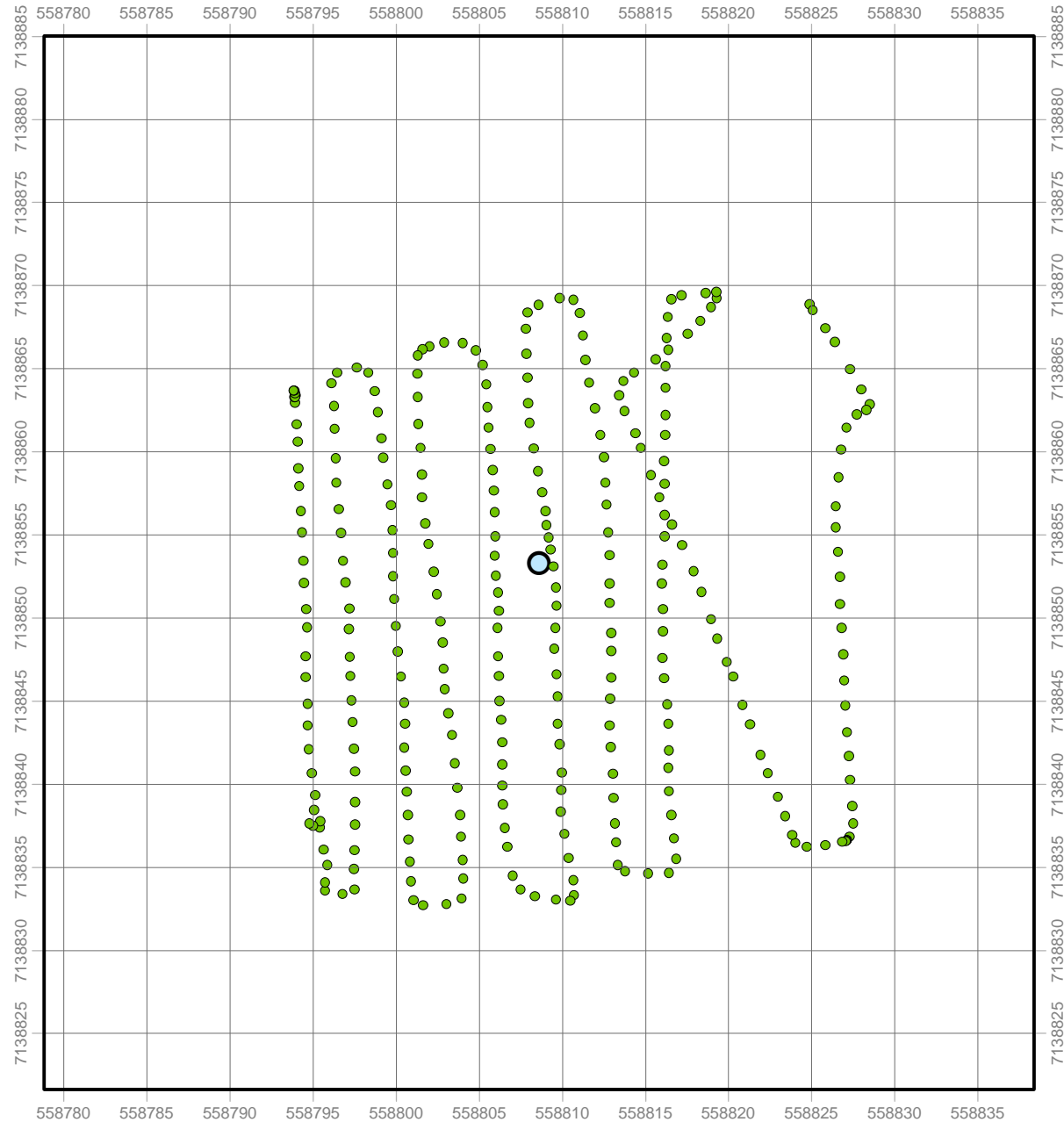


RHL D 07

Pre Gamma Survey

Point Count: 441

Min-Max: 0.050 - 0.088  $\mu\text{Sv}$



RHL D 07

Post Gamma Survey

Point Count: 295

Min-Max: 0.048 - 0.081  $\mu\text{Sv}$

Legend

Drill Hole

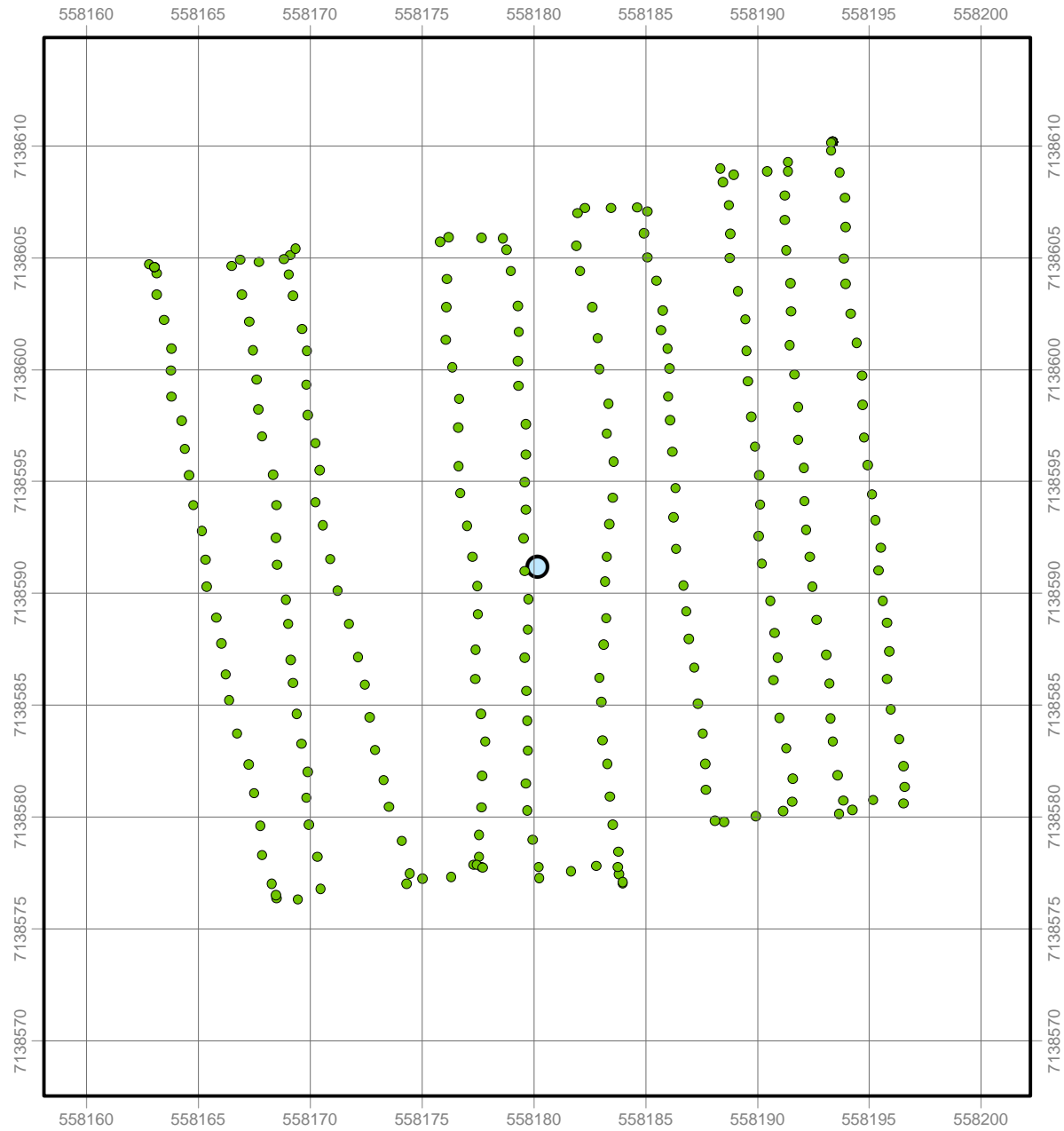
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

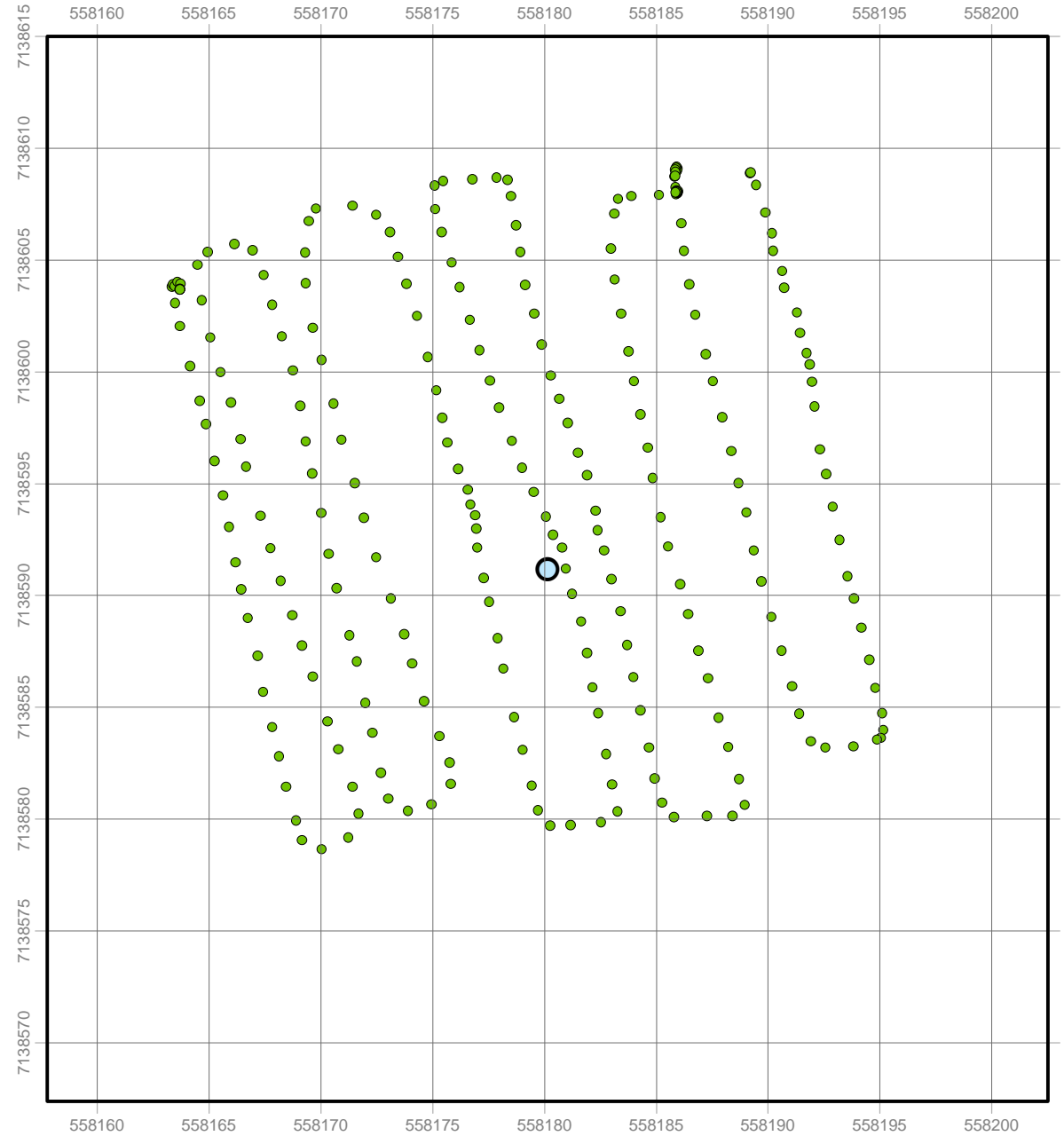


RHLD 08

Pre Gamma Survey

Point Count: 326

Min-Max: 0.040 - 0.102  $\mu\text{Sv}$



RHLD 08

Post Gamma Survey

Point Count: 261

Min-Max: 0.041 - 0.080  $\mu\text{Sv}$

Legend

Drill Hole

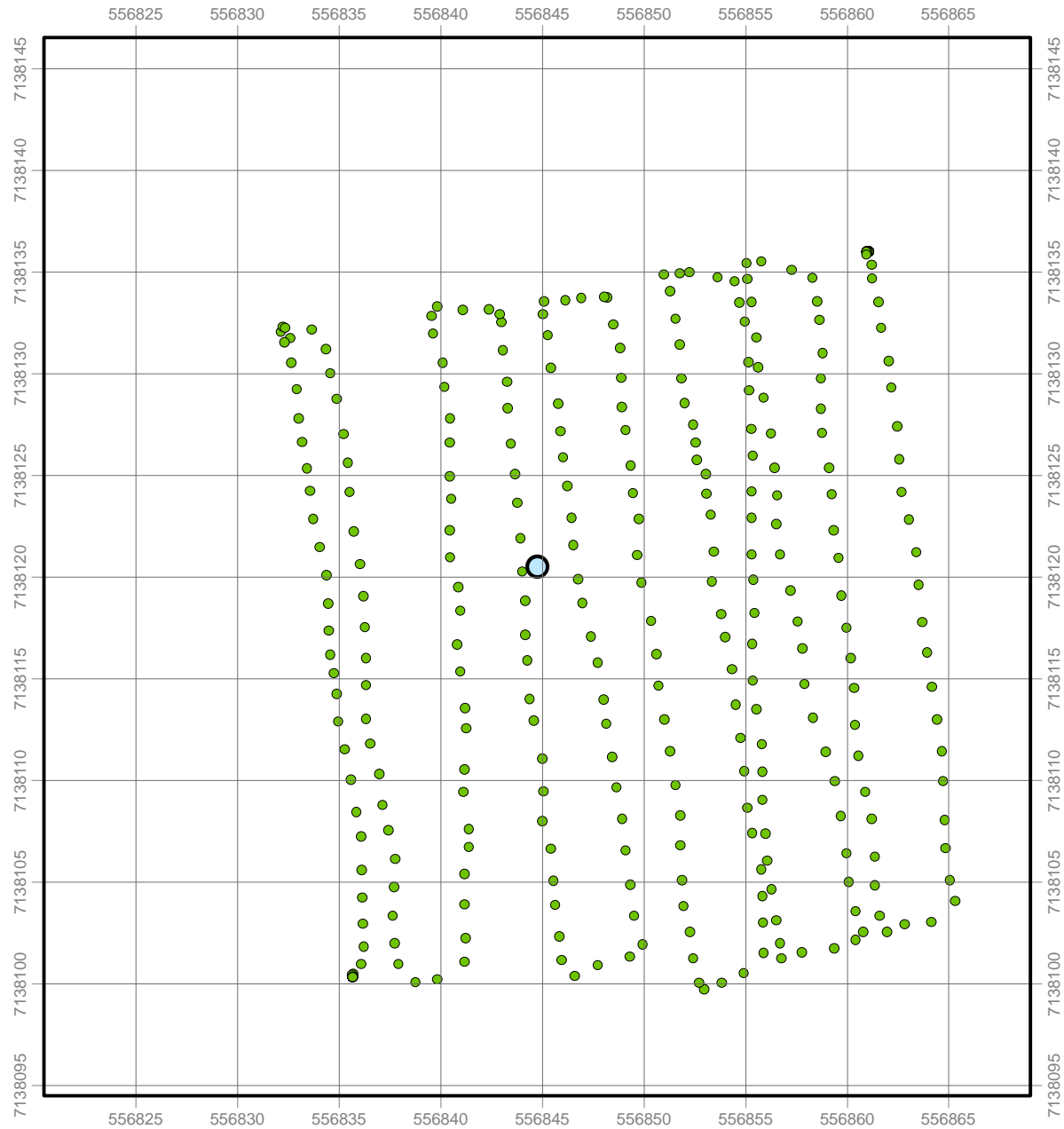
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

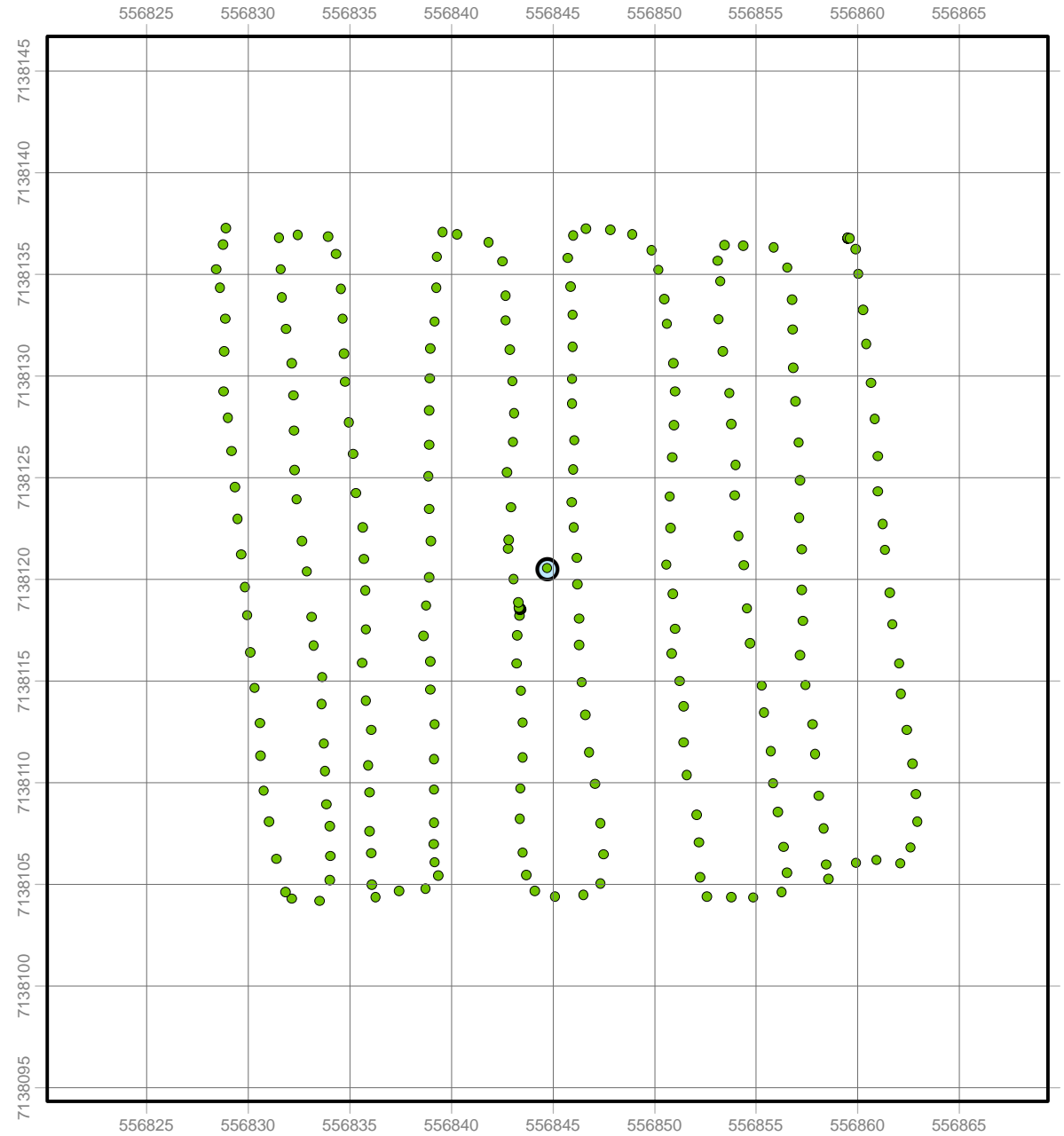


SLEK 17

Pre Gamma Survey

Point Count: 324

Min-Max: 0.048 - 0.080  $\mu\text{Sv}$



SLEK 17

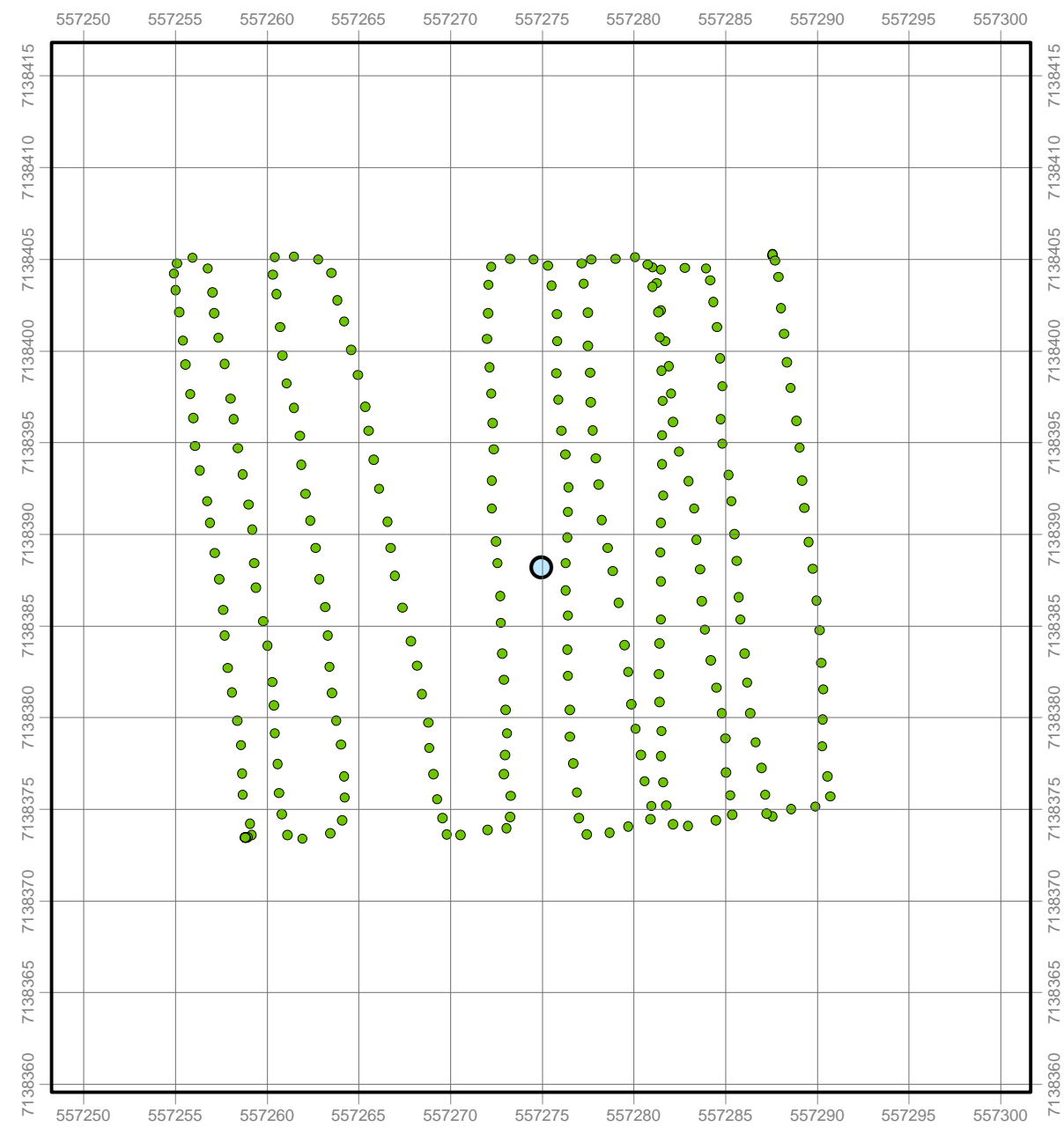
Post Gamma Survey

Point Count: 259

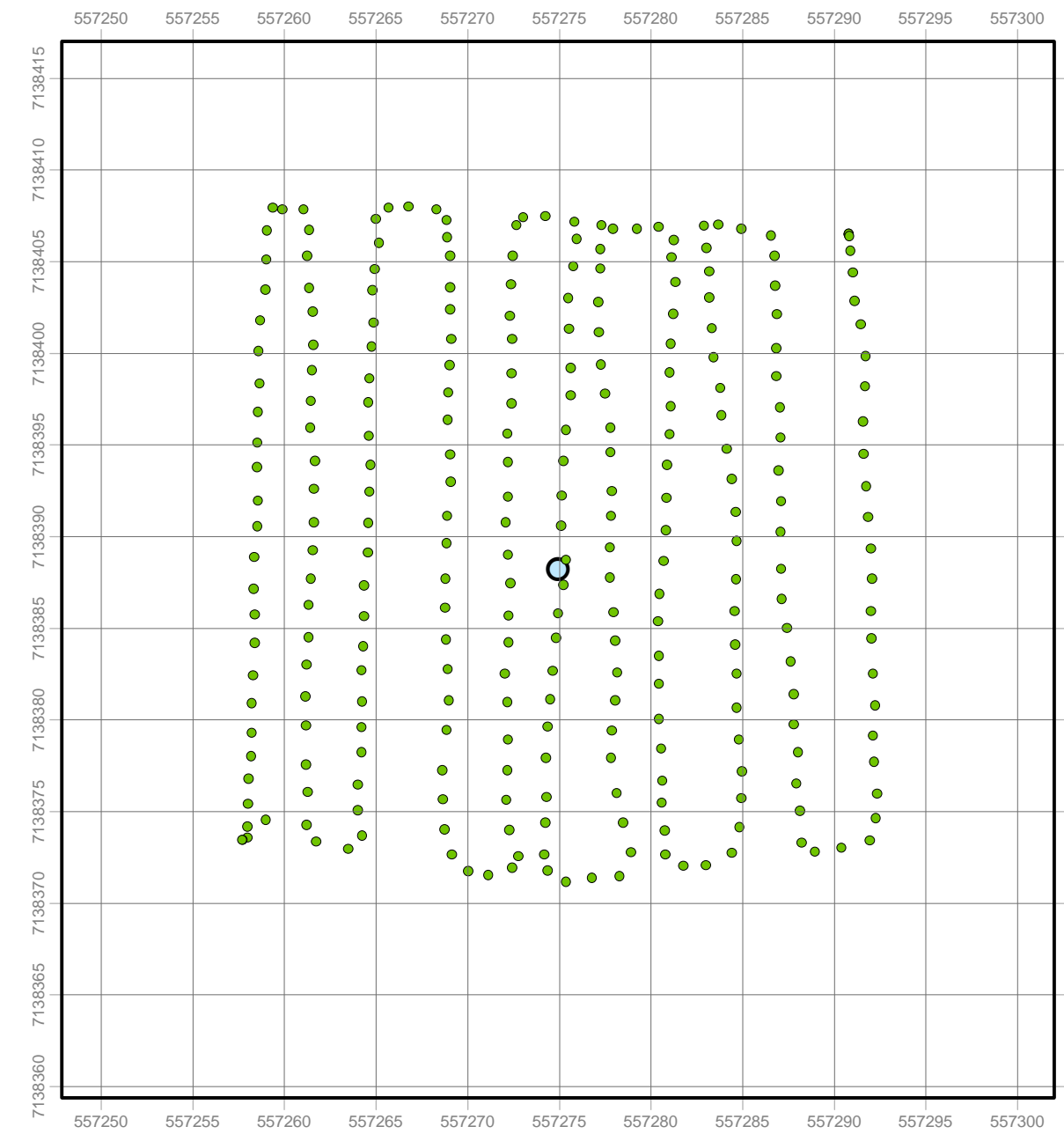
Min-Max: 0.047 - 0.086  $\mu\text{Sv}$

**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**SLEK 18**  
**Pre Gamma Survey**  
 Point Count: 284  
 Min-Max: 0.030 - 0.056  $\mu\text{Sv}$



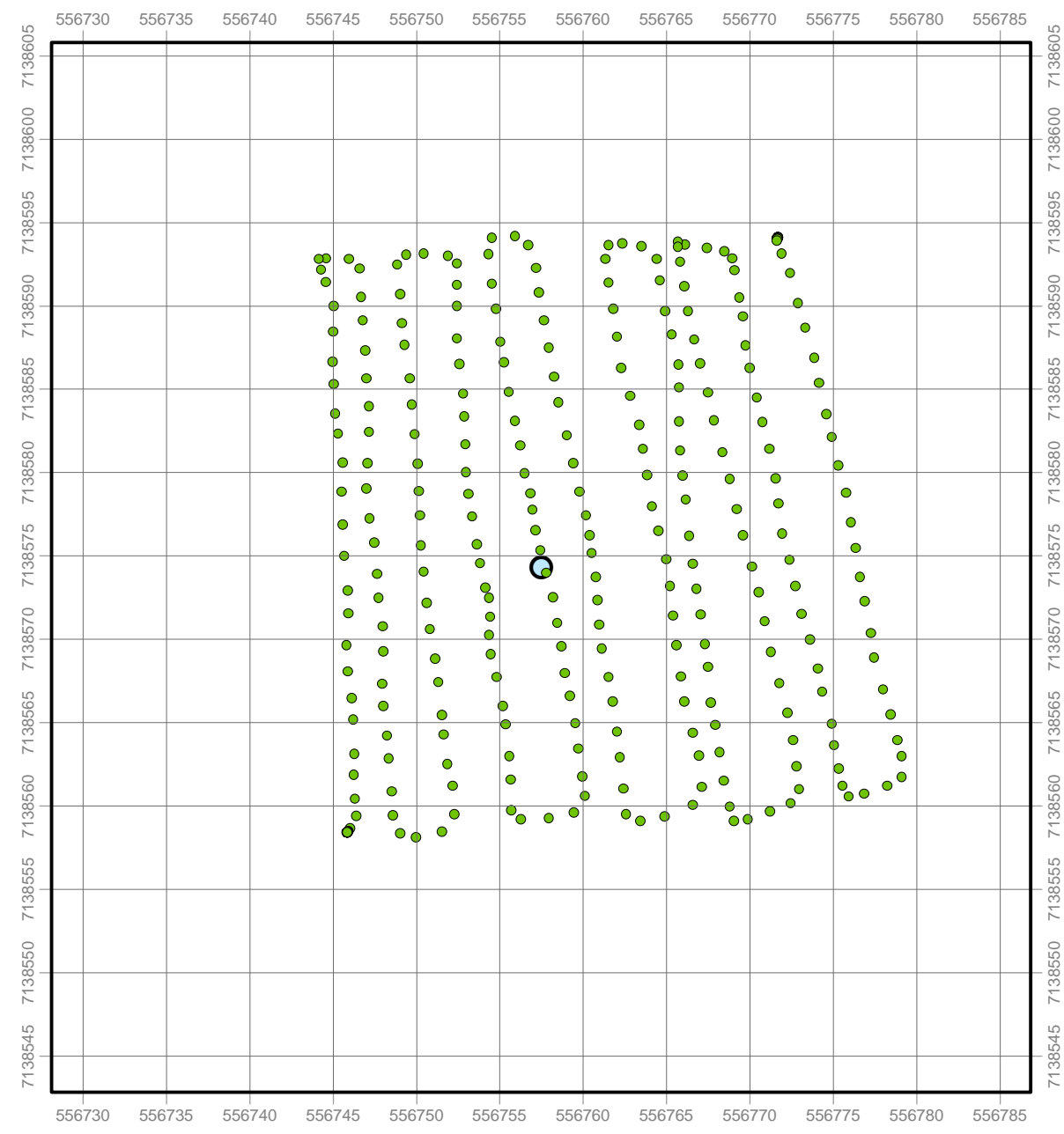
**SLEK 18**  
**Post Gamma Survey**  
 Point Count: 276  
 Min-Max: 0.031 - 0.060  $\mu\text{Sv}$



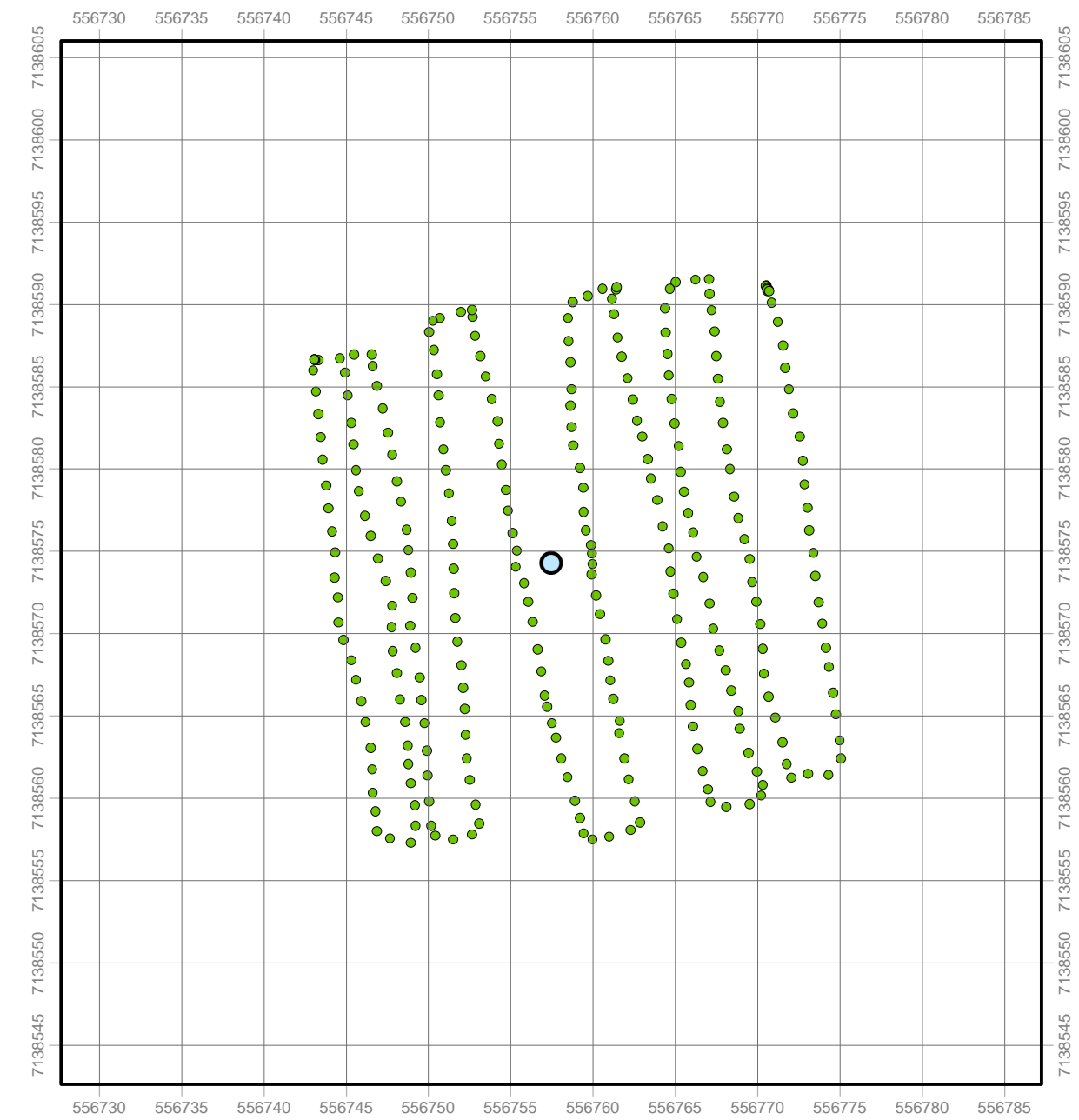


**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$



**SLEK 19**  
**Pre Gamma Survey**  
 Point Count: 315  
 Min-Max: 0.051 - 0.083  $\mu\text{Sv}$

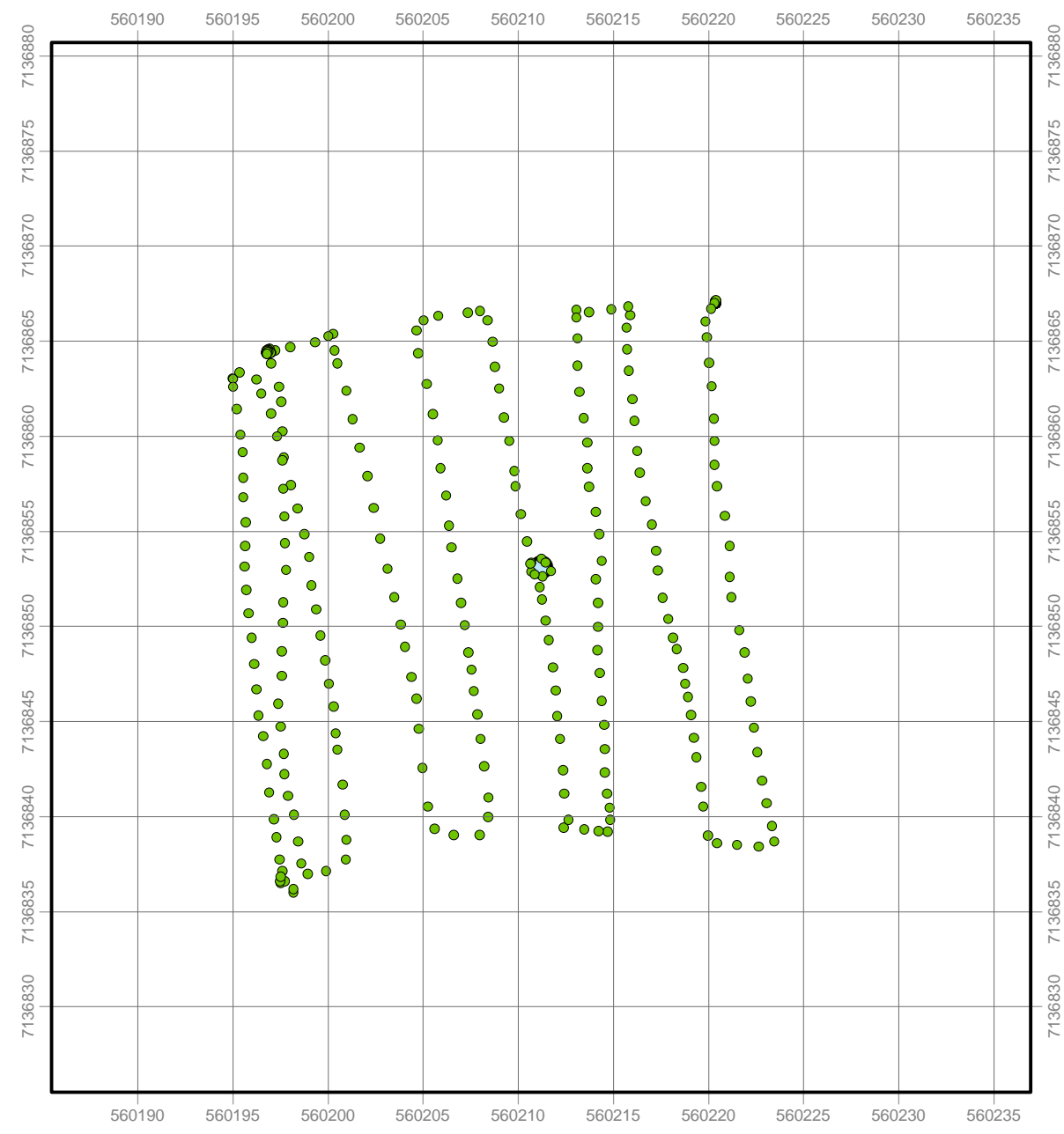


**SLEK 19**  
**Post Gamma Survey**  
 Point Count: 276  
 Min-Max: 0.053 - 0.087  $\mu\text{Sv}$

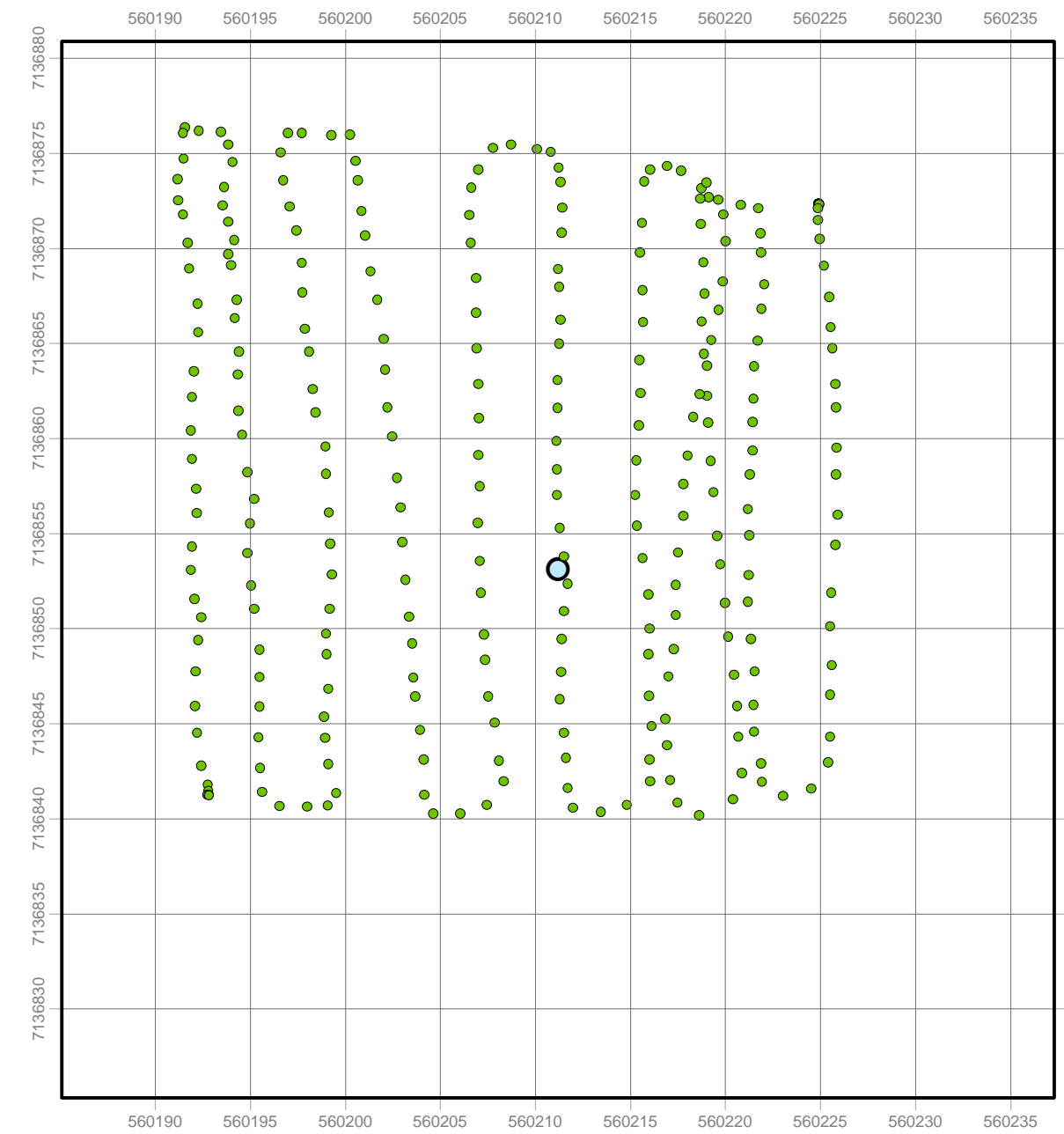


**Legend**

- Drill Hole
- 0.0 - 0.3  $\mu\text{Sv}$
- 0.3 - 0.6  $\mu\text{Sv}$
- 0.6 - 1.0  $\mu\text{Sv}$
- 1.0 - 2.5  $\mu\text{Sv}$
- > 2.5  $\mu\text{Sv}$









**IW 01**  
**Pre Gamma Survey**  
 Point Count: 409  
 Min-Max: 0.053 - 0.092  $\mu\text{Sv}$

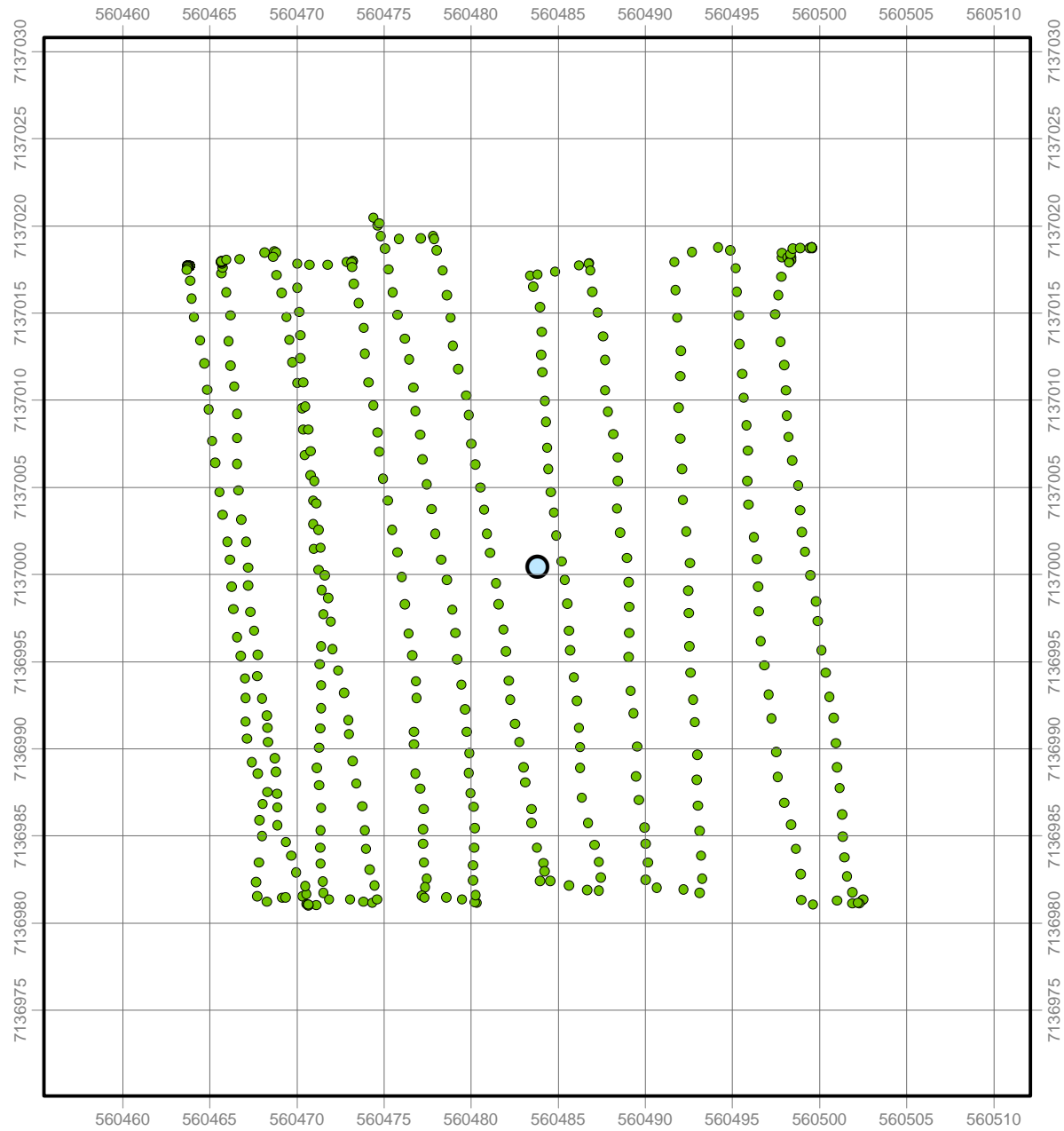


**IW 01**  
**Post Gamma Survey**  
 Point Count: 282  
 Min-Max: 0.045 - 0.096  $\mu\text{Sv}$



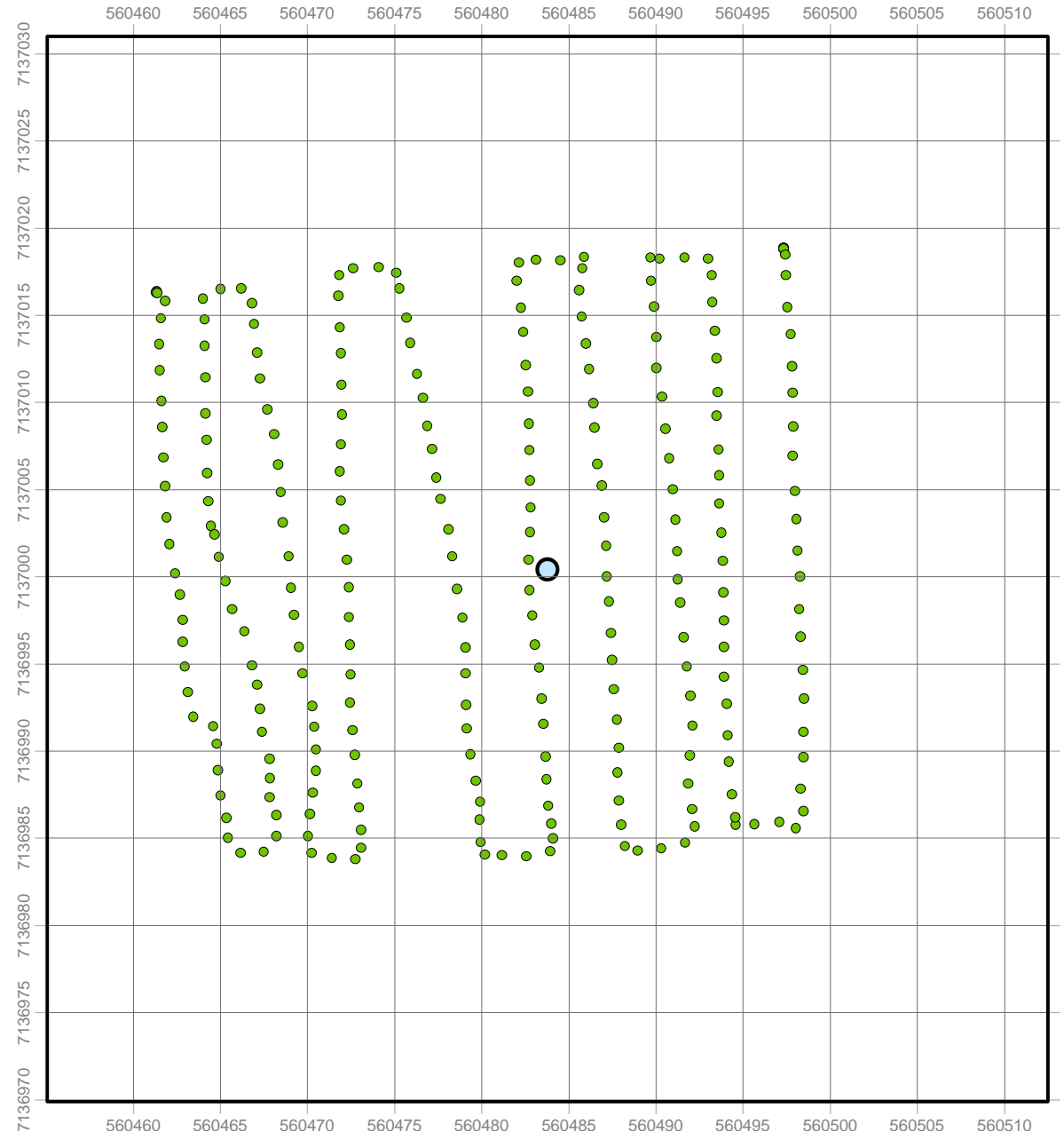
**Legend**

-  Drill Hole
-  0.0 - 0.3  $\mu\text{Sv}$
-  0.3 - 0.6  $\mu\text{Sv}$
-  0.6 - 1.0  $\mu\text{Sv}$
-  1.0 - 2.5  $\mu\text{Sv}$
-  > 2.5  $\mu\text{Sv}$



**IW 02**  
**Pre Gamma Survey**

**Point Count: 534**  
**Min-Max: 0.048 - 0.078  $\mu\text{Sv}$**



**IW 02**  
**Post Gamma Survey**

**Point Count: 254**  
**Min-Max: 0.053 - 0.090  $\mu\text{Sv}$**

Legend

Drill Hole

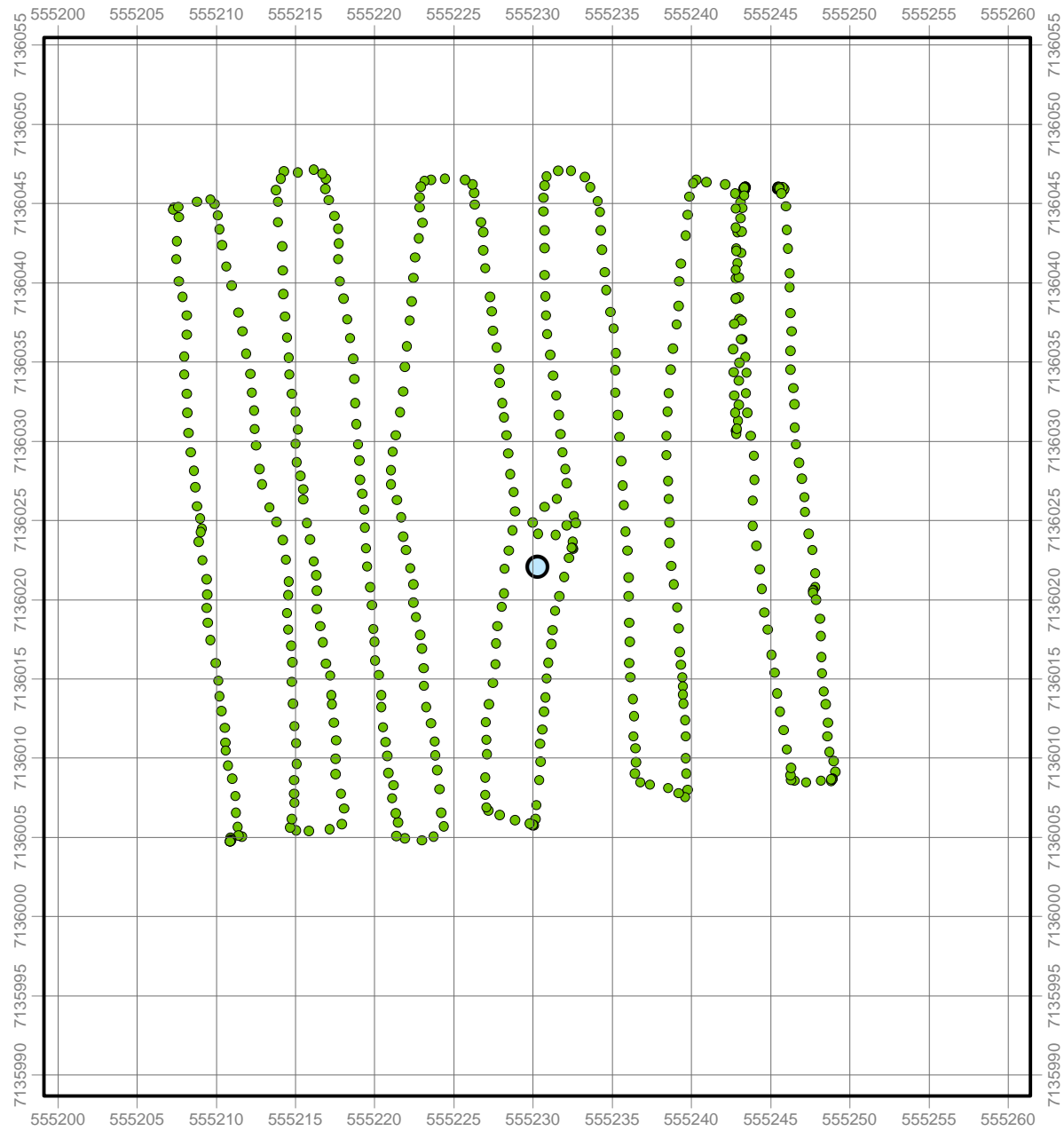
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

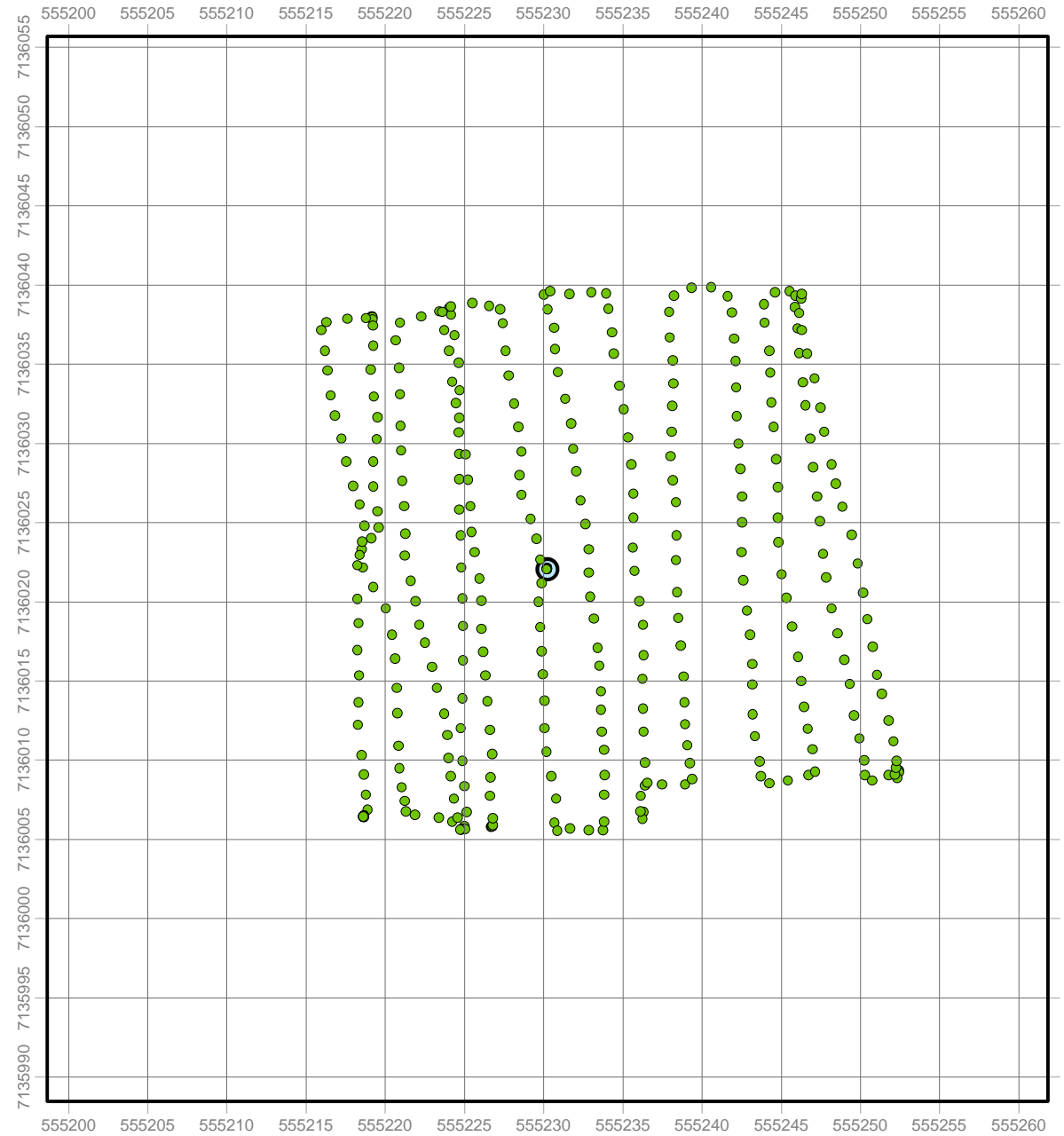


EE 01 and EE 01A

Pre Gamma Survey

Point Count: 573

Min-Max: 0.048 - 0.090  $\mu\text{Sv}$



EE 01 and EE 01A

Post Gamma Survey

Point Count: 387

Min-Max: 0.053 - 0.087  $\mu\text{Sv}$

Legend

Drill Hole

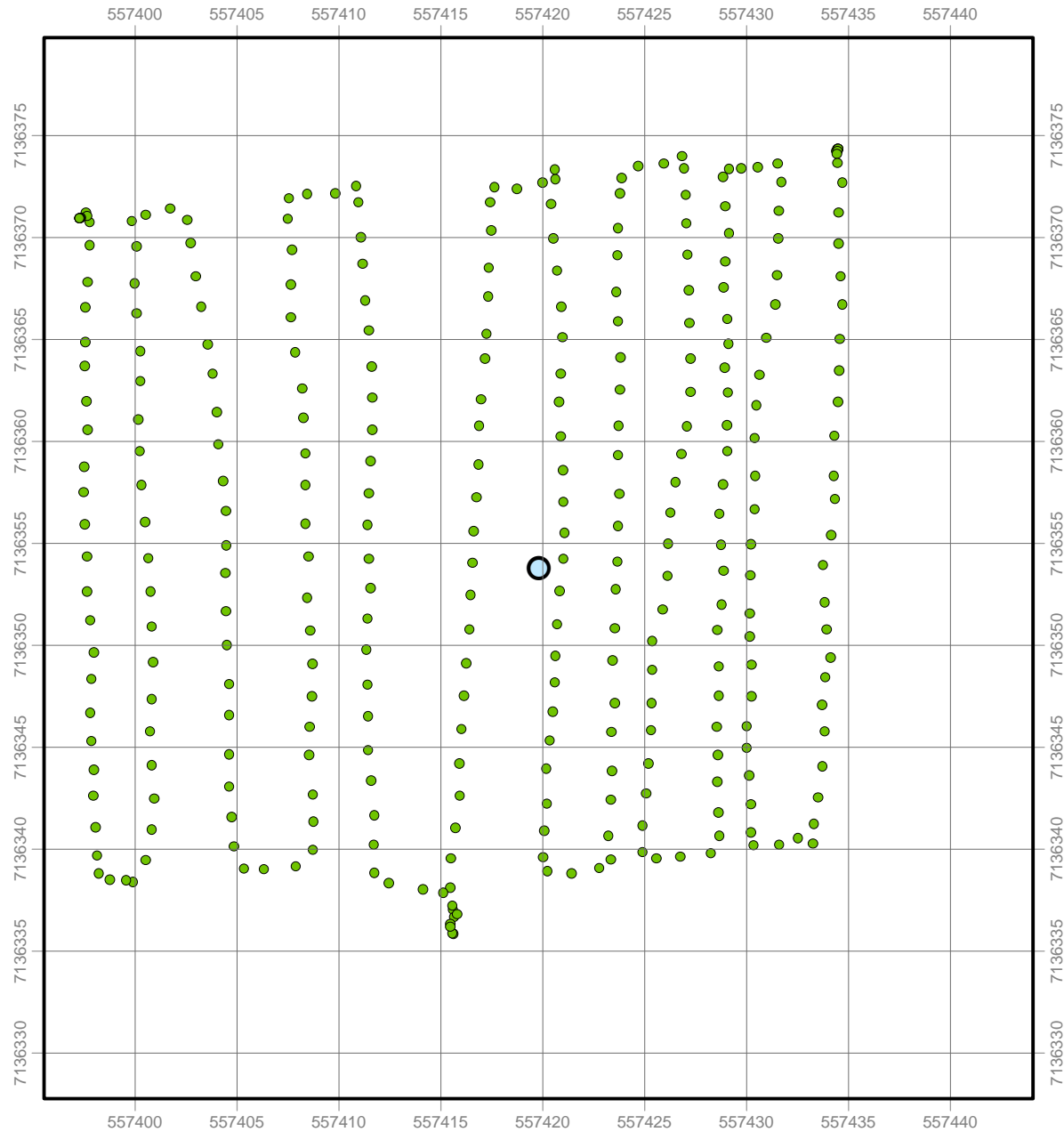
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

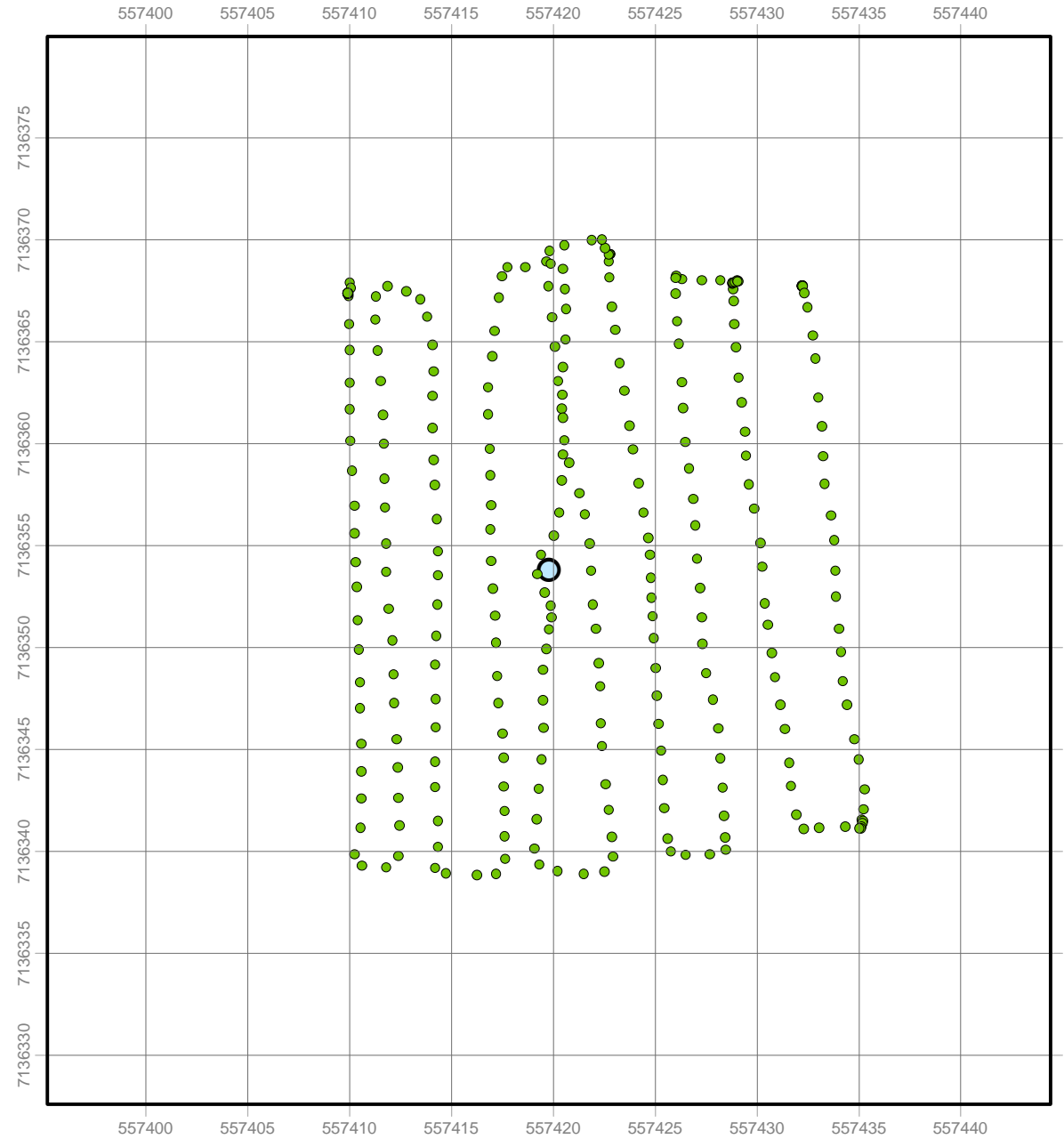


EE 03

Pre Gamma Survey

Point Count: 326

Min-Max: 0.040 - 0.073  $\mu\text{Sv}$



EE 03

Post Gamma Survey

Point Count: 281

Min-Max: 0.044 - 0.076  $\mu\text{Sv}$

Legend

Drill Hole

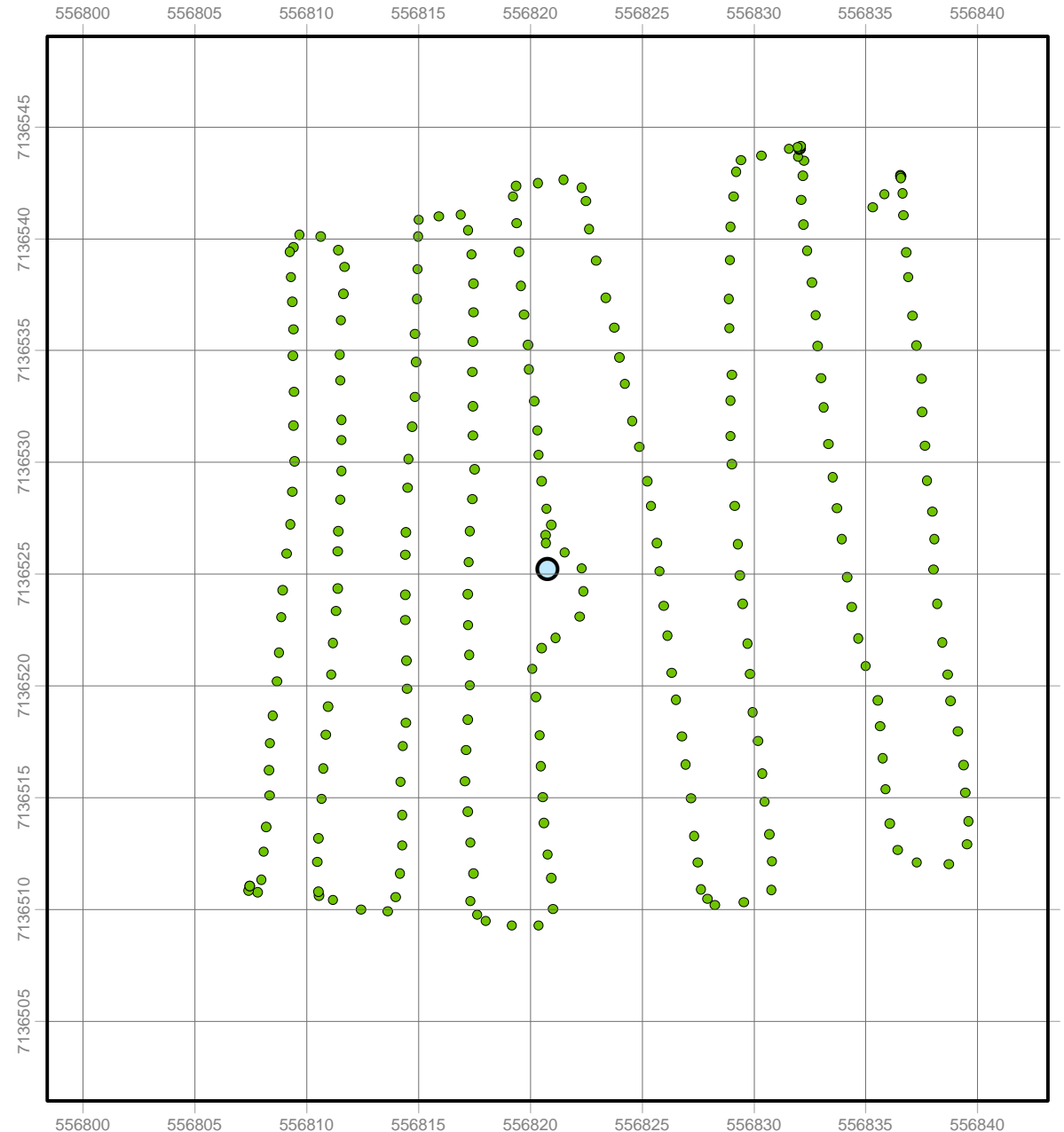
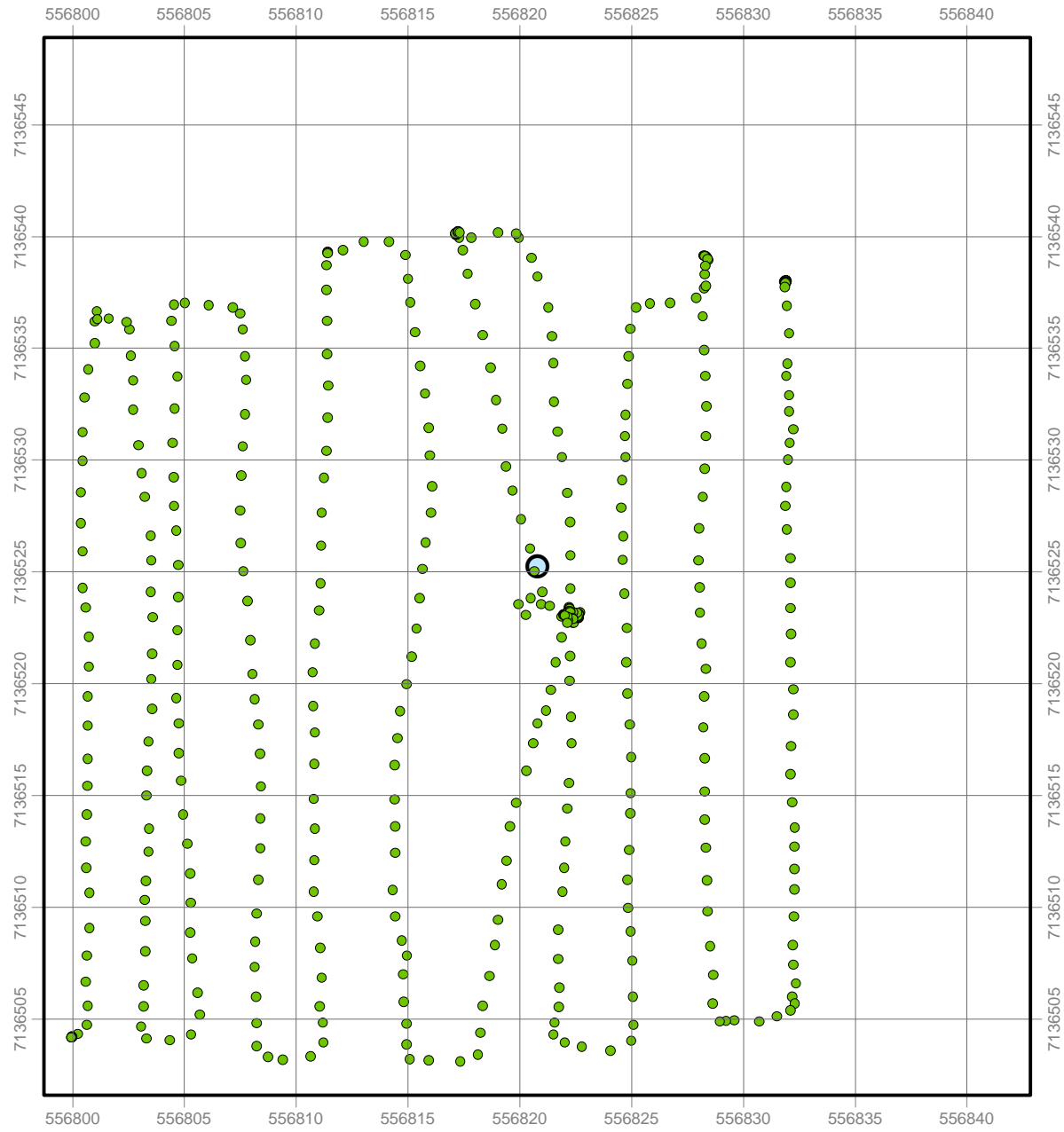
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$



Legend

Drill Hole

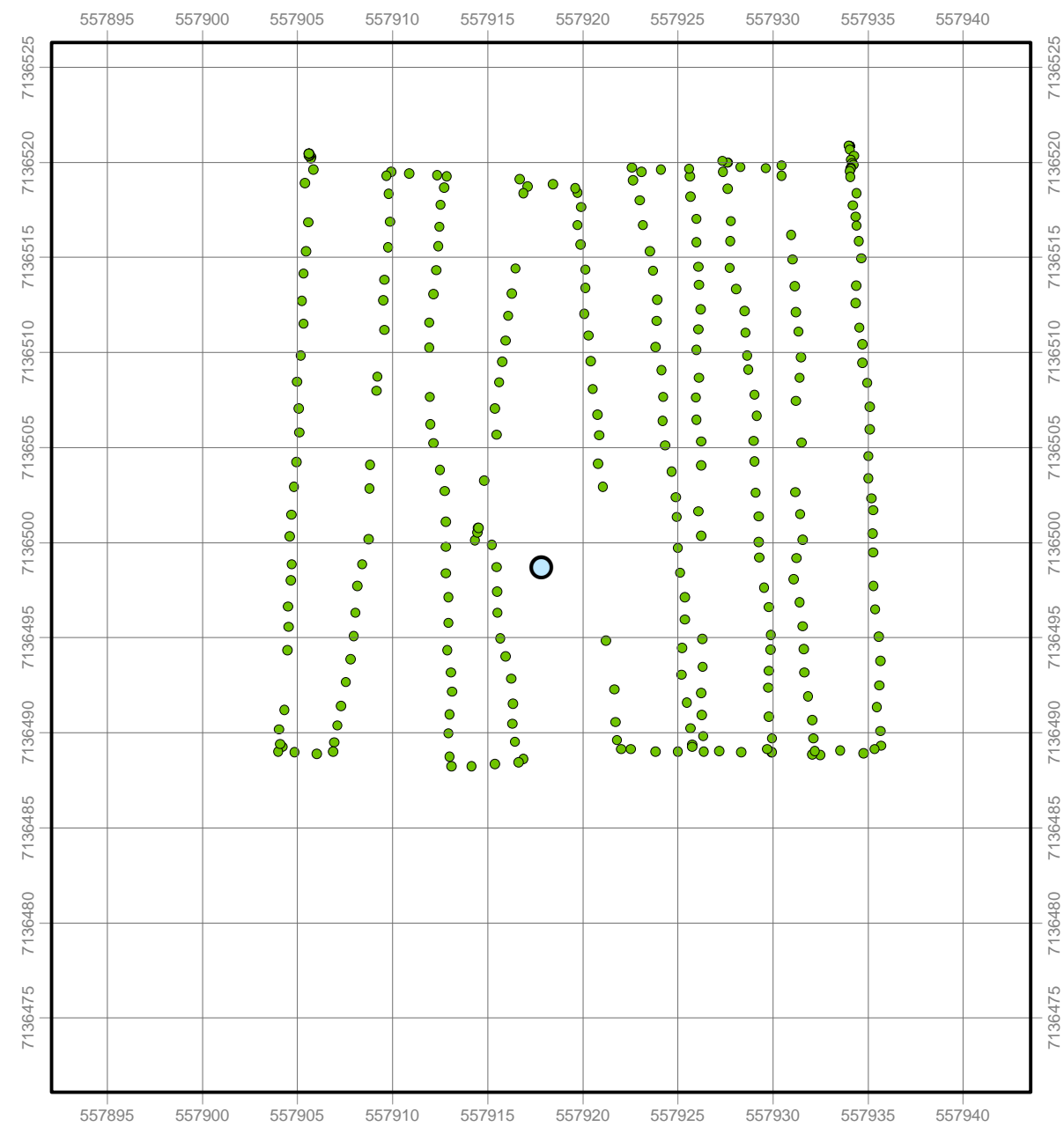
0.0 - 0.3  $\mu$ Sv

0.3 - 0.6  $\mu$ Sv

0.6 - 1.0  $\mu$ Sv

1.0 - 2.5  $\mu$ Sv

> 2.5  $\mu$ Sv

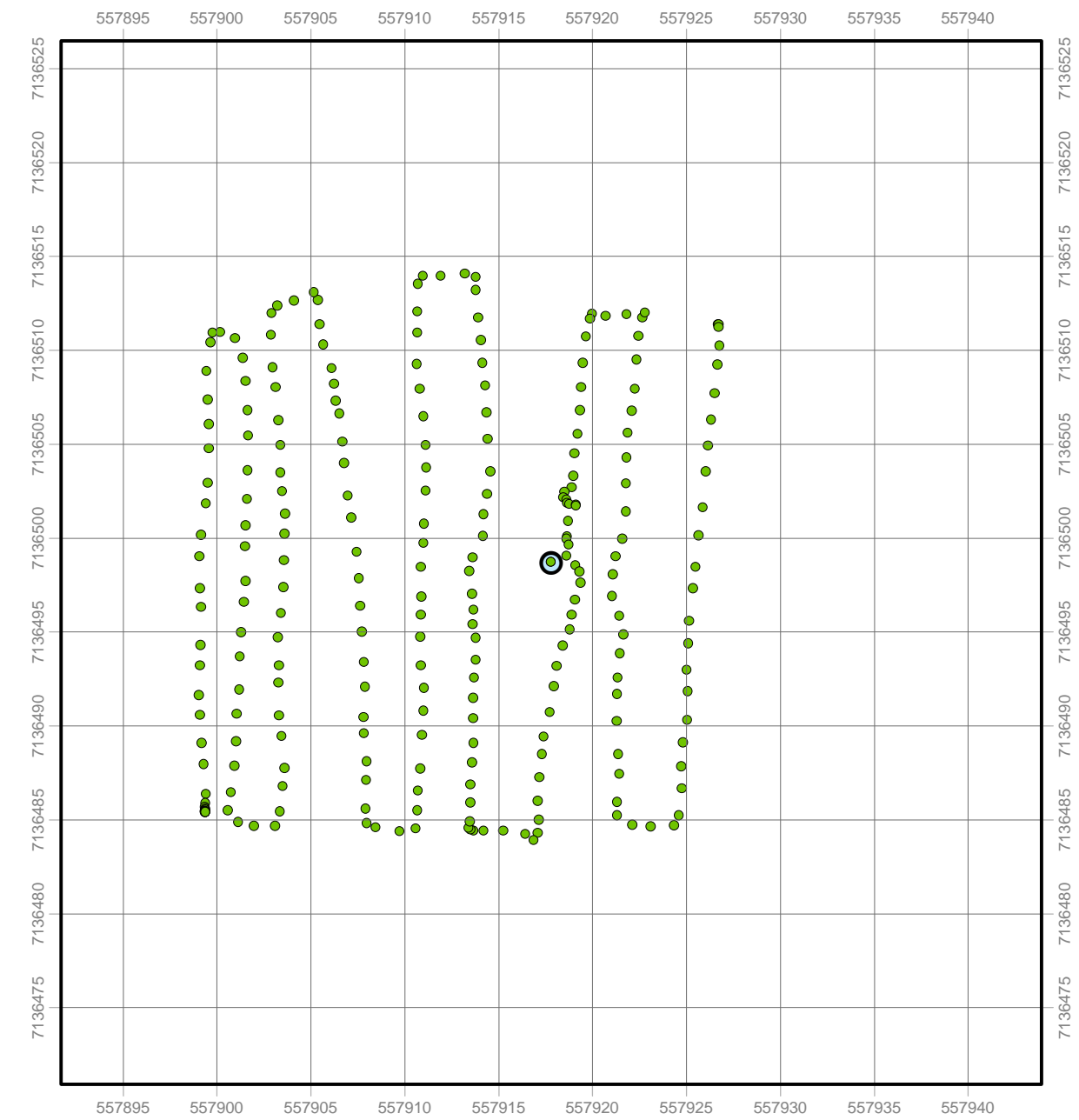


EE 04

Pre Gamma Survey

Point Count: 399

Min-Max: 0.042 - 0.080  $\mu$ Sv



EE 04

Post Gamma Survey

Point Count: 254

Min-Max: 0.041 - 0.075  $\mu$ Sv



Legend

Drill Hole

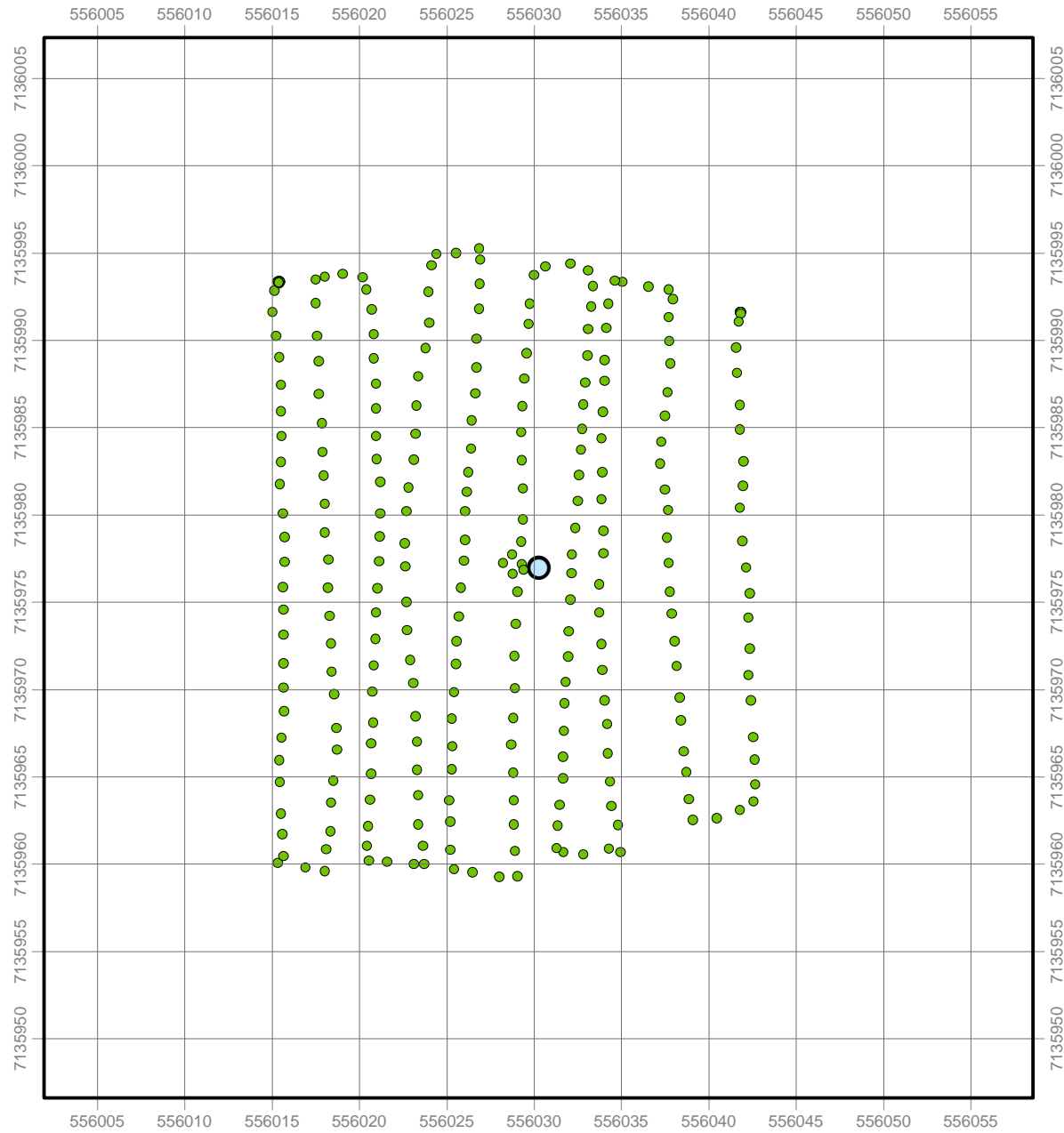
0.0 - 0.3  $\mu\text{Sv}$

0.3 - 0.6  $\mu\text{Sv}$

0.6 - 1.0  $\mu\text{Sv}$

1.0 - 2.5  $\mu\text{Sv}$

> 2.5  $\mu\text{Sv}$

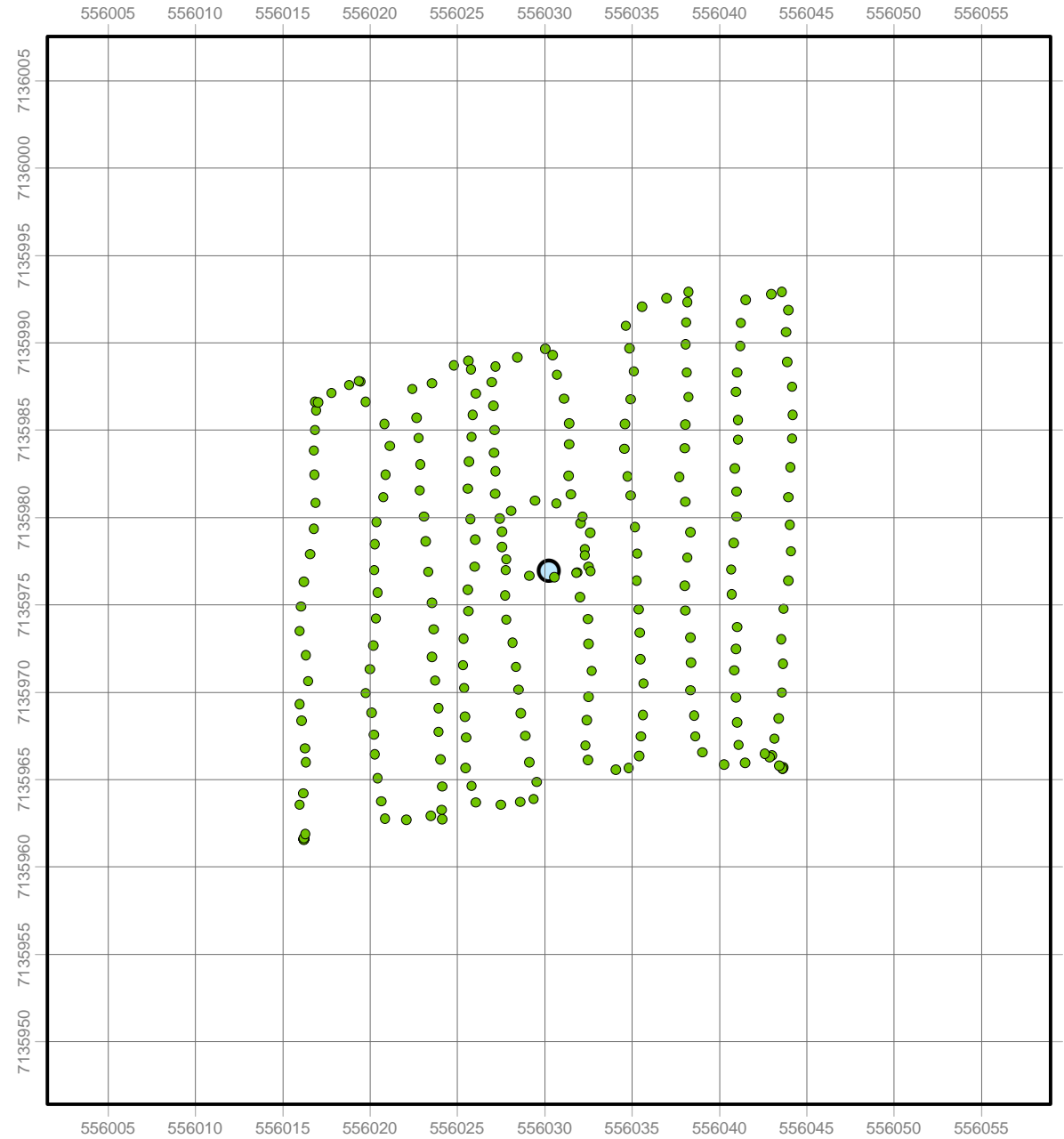


EE 05

Pre Gamma Survey

Point Count: 290

Min-Max: 0.044 - 0.075  $\mu\text{Sv}$



EE 05

Post Gamma Survey

Point Count: 240

Min-Max: 0.045 - 0.074  $\mu\text{Sv}$

