

CERTIFICATE OF UNEXPLODED ORDNANCE (UXO) CLEARANCE

PROJECT: KIR 43522 – Betio Open Integrated Market

DATE OF CERTIFICATE: 1 February 2024

DATE OF WORKS: 2 August 2023 to 7 August 2023 and 21 November 2023 to 13 December 2023

ISSUED BY: Milsearch Pty Ltd, ABN 44 007 106 881, of Level 2, 8 Regent Street, Wollongong NSW 2500 (Milsearch)

ISSUED TO: Department of Foreign Affairs and Trade, ABN 47 065 634 525, C/- Australian High Commission, Tarawa, Bairiki, Kiribati (Client)

CERTIFICATION: This certificate is issued for the purpose of certifying the area, as defined herein, to be managed of UXO risk in accordance with industry practice to the point of 'So Far As Is Reasonably Practicable' (SFAIRP) subject to the stated limitations. This certificate does not reduce the UXO risk to zero. It is not a guarantee that the area is 100% free from UXO, and therefore cannot be considered as a 'free from ordnance' certificate.

MINIMUM STANDARDS: UXO clearance has been carried out in accordance with the Australian Government, Department of Defence, Environment and Engineering Branch Directorate of Contamination Assessment, Remediation and Management, "Defence Unexploded Ordnance Management Manual (DUXOMM)", September 2020, Annex 6E UXO Remediation: Minimum Standards.

UXO CLEARANCE METHOD: Subsurface UXO clearance was performed by:

- Locate-and-Dig using magnetic or electromagnetic based analogue instruments, where the investigation (excavation and identification) of the anomaly was undertaken immediately (usually by the detection equipment operator),
- utilising the following primary search instrument:
- Analogue Instrument - Foerster Ferex 4.032 Virtual Gradient Fluxgate Magnetometer (4.032).

LIMITATIONS: Subsurface UXO clearance was subject to the following geophysical detection limitations:

- Detection of a UXO is dependent on a sufficient conductivity or magnetic susceptibility contrast between a UXO and its host materials. Significant degradation of the casing of such a device or highly magnetic soils may prevent detection under certain circumstances,
- The clearance task specifically targets the anticipated risk of ordnance (mortars, grenades, bombs and alike) within the limits of the equipment capability as stated herein,
- As with all UXO clearance tasks, 100% clearance is not guaranteed. Fragments of ordnance might still be present within the soil and the risk (albeit very low) of whole ordnance devices being found during future excavation works cannot be totally discounted,

and the following site-specific physical limitations:

- An area of approximately 20m x 10m was identified as a limitation due to a large tree/root system together with the discovery of very large quantities of molten metal located in a layer up to 300mm thick. The molten metal appears to be the result of an intense fire. This whole area was excavated and searched to a depth of 500mm. The area below this depth could not be remediated due to the high level of contamination and available equipment (refer area "1" in the attached drawing).
- Large tree along the eastern boundary with substantial/deep tree roots. This area also contains active Public Utilities Board (PUB) electrical infrastructure (refer area "2" in the attached drawing). Tree could not be removed with available equipment/requested to remain in place by the client.
- Existing lighting infrastructure/ steel post. This lighting also has cables running north-east from the base of the pole (refer area "3" in the attached drawing).
- Signage along the boundary near the relocated PUB electrical cables (refer area "4" in the attached drawing).
- Large tree along the western boundary with substantial roots (refer area "5" in the attached drawing). Tree could not be removed with available equipment/requested to remain in place by the client.
- Old steel service pipe running across site was removed during clearance operations, however a section running under the fence line in the northwest corner could not be removed with available machinery (refer area "6" in the attached drawing).
- Existing steel service pipe runs through the middle of the site. This could not be removed with available equipment (refer area "7" in the attached drawing).
- A new PUB electrical cable was installed along the southern boundary of the site. Due to nearby infrastructure and subsurface contamination, these works were conducted under the supervision of a UXO technician (Safety Support). Location of subsurface anomalies within 2m of live cables could not be conducted with confidence due to interference with equipment (refer blue line area "8" in the attached drawing).

- An existing steel fence runs along the northern border of the site. Location of subsurface anomalies within 2m of this fence could not be conducted with confidence due to interference with equipment (refer area "9" in the attached drawing).
- The water table was encountered at approximately 1.5m. Clearance of subsurface anomalies below this depth was not achievable.
- A list of limitations together with coordinates are set out in Tables 2-7. Additional UXO clearance tasks may be required if stated herein.

UXO CLEARANCE DEPTH: The following clearance depths were achieved, expressed as the combination of the limitations of the primary search instrument and the potential common types of UXO present:

- US Mk2 Grenade - 0.3m
- Japanese Type 98 Knee Mortar) - 0.4m
- US 60mm M49A2 Mortar - 0.5m
- US 75mm Projectile HE M48 - 0.7m
- US Bomb 20lb Frag AN-M41 - 1.0m
- US Naval Shell 5in/38 HE AA - 1.5m
- Larger items up to 1.5m due to existing water table level.

Note that due to site specific limitations, Area 1 was cleared to a depth of 0.5m only.

POTENTIAL UXO PENETRATION DEPTH: The common types of UXO present have the potential to be located at depths beyond that of the limitations of the primary search instrument. Based on the observed surface soil conditions additional UXO clearance tasks may be required if stated herein.

CLEARANCE AREA: Subsurface UXO clearance was carried out within the area defined by the attached coordinates, in the map projection WGS84/UTM Zone 59N, and as depicted in the accompanying drawing and coordinates list.

PHYSICAL MARKING OF CLEARED AREAS: Physical marking of cleared areas was unable to be achieved, it was attempted with the use of wooden stakes however locals removed the stakes shortly afterwards.

ITEMS OF UXO OR EXPLOSIVE ORDNANCE (EO) FOUND: The following items of UXO and/or EO were found during the clearance task:

- 1 x US 60mm Mortar M49A2 - 8 December 2023 (#001)

ASSOCIATED UXO NOTIFICATIONS: The following associated reporting forms of UXO found during the project were provided to the relevant organisations (Range Control/Police/JEOS/Kiribati Police Service):

- MT-205h Transfer of Custody Certificate - Kiribati Police Service - 8 December 2023

DEMARICATION OF ITEMS OF UXO/EO: Items of UXO/EO yet to be disposed by the relevant organisations are demarcated by the following:

- N/A

OBSERVED MILITARY ACTIVITY/EXPLOSIVE ORDNANCE MATERIAL (EOM): The following evidence of military activity was found during the clearance task:

- 7 x items of EOM (scrap) were found during the clearance task.
- 40 x Items of small arms ammunition were located during this clearance task.

ASSOCIATED EOM FREE FROM EXPLOSIVES (FFE) AND DISPOSAL CERTIFICATION: The following FFE and subsequent disposal certificates were issued in conjunction with EOM found during the clearance task:

- N/A

ADDITIONAL UXO CLEARANCE TASKS: Due to the limitations, geophysical and/or physical, the potential UXO penetration depth, and the observed surface soil conditions the following additional remediation requirements are recommended:

- The water table was encountered at approximately 1.5m below ground level. Ground intrusive works beyond this depth should be conducted with a UXO Technician providing Safety Support.
- If any of the stated limitations are removed with ground intrusive works to occur, it is recommended that further UXO remediation is performed in these areas or the work is conducted whilst a UXO Technician provides Safety Support.

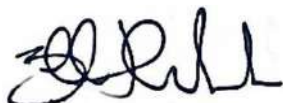
FURTHER RECOMMENDATIONS: It is advised that earthworks and associated personnel are familiarised with potential types of UXO and chance find procedures.

CERTIFICATE AUTHORISATION: For and on behalf of Milsearch I certify that this is a true and accurate record:



David Moore
Project Manager and Unexploded Ordnance (UXOT) Technician
Dated: 1 February 2024

and:



William Halmarick
Project Director and Operations Manager
Dated: 1 February 2024

RELIANCE: This Certificate is issued to and is for the benefit of the Client only. It may not be relied upon by any other person or entity. Milsearch will not be liable to any person for any findings or disclosures made in this Certificate other than the Client. This Certificate is valid on the date on which it is issued and will not be updated to take into account any geographical changes to affected terrain including subsidence, seismic activity, anticipated future land use or other factors or circumstances after the date of this Certificate.

CLEARANCE AREA DRAWINGS:

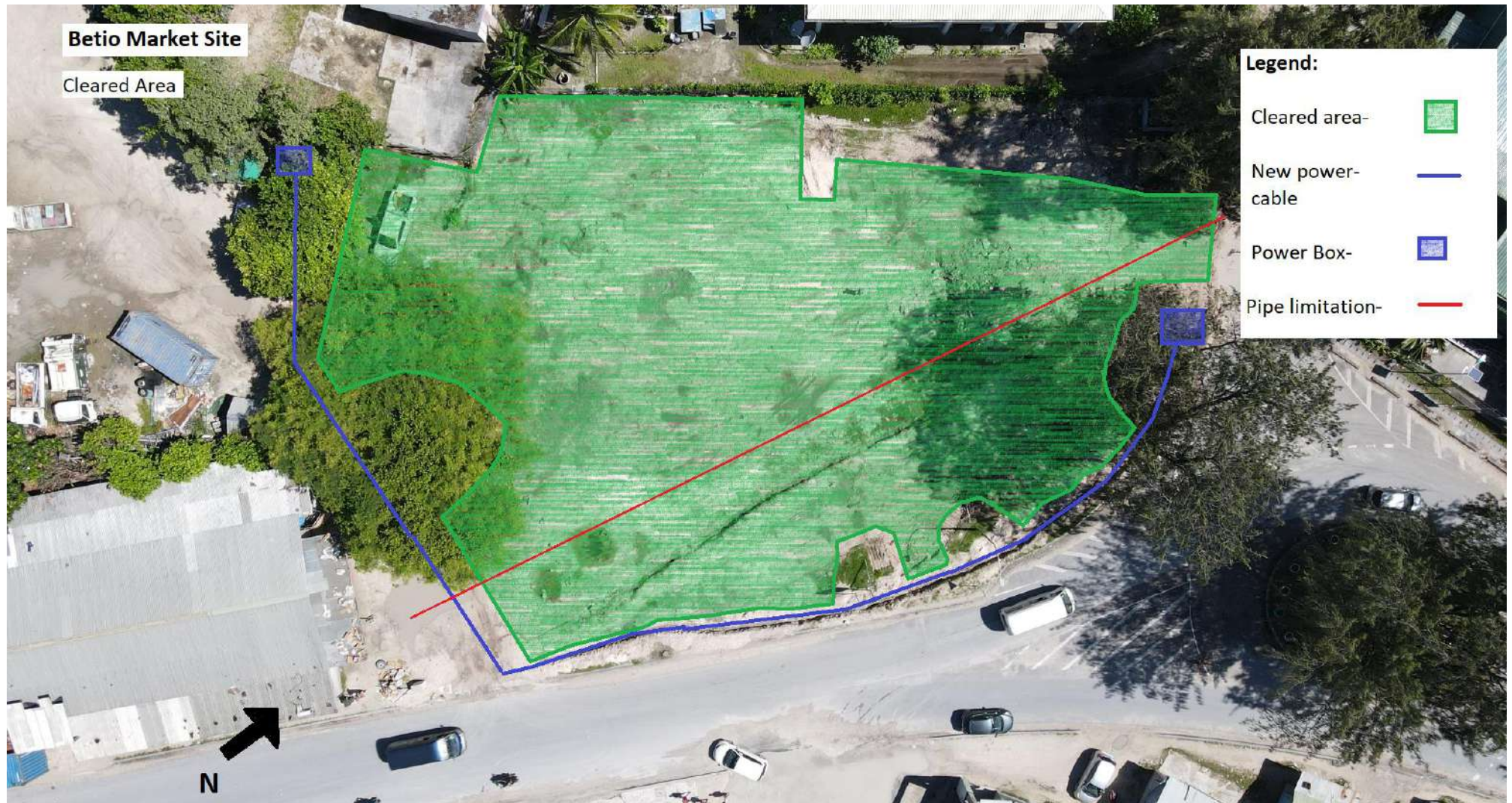


Figure 1: Completed Search Area (Green Polygon)

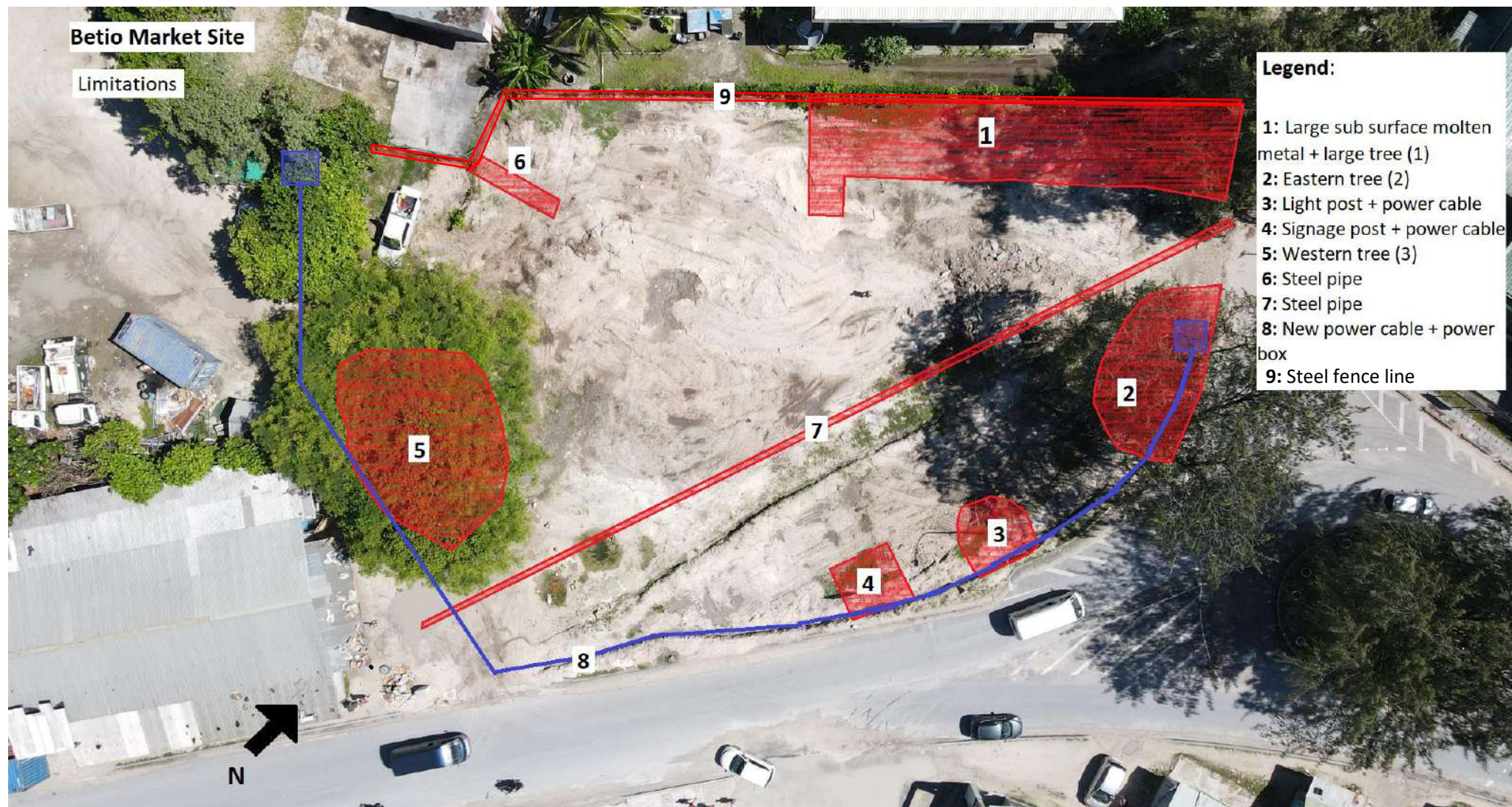


Figure 2: Search Limitation Areas

COORDINATES:**Table 1:** Search Area Completed Boundary

Point ID	Easting	Northing
CA01	150223.7054	714673.8953
CA02	150237.1920	714668.8039
CA03	150242.2120	714675.1657
CA04	150246.2506	714674.4794
CA05	150253.3845	714687.5865
CA06	150256.7324	714694.2580
CA07	150256.5903	714694.3412
CA08	150248.8801	714697.3537
CA09	150249.9651	714700.7340
CA10	150253.3430	714699.3609
CA11	150259.3903	714717.0924
CA12	150260.8382	714725.0723
CA13	150256.7031	714721.2222
CA14	150253.6153	714721.8074
CA15	150252.2481	714722.0955
CA16	150248.9153	714721.4765
CA17	150245.6615	714720.2080
CA18	150243.3114	714722.3862
CA19	150242.1342	714726.7253
CA20	150238.5476	714723.0917
CA21	150235.4635	714721.1655
CA22	150232.6340	714718.6936
CA23	150229.9904	714716.4951
CA24	150226.0228	714711.7947
CA25	150222.7082	714707.5563
CA26	150215.6052	714697.3398
CA27	150213.3666	714693.2116

Table 2: Limitation Area 1 (Subsurface molten metal + tree)

Point ID	Easting	Northing
MM01	150256.5903	714694.3412
MM02	150248.8801	714697.3537
MM03	150249.9651	714700.7340
MM04	150253.3430	714699.3609
MM05	150259.3903	714717.0924
MM06	150260.8382	714725.0723
MM07	150268.6517	714718.6797

Table 3: Limitation Area 2 (Eastern tree+ power box)

Point ID	Easting	Northing
ET01	150260.8382	714725.0723
ET02	150256.7031	714721.2222
ET03	150253.6153	714721.8074
ET04	150252.2481	714722.0955
ET05	150248.9153	714721.4765
ET06	150245.6615	714720.2080
ET07	150243.3114	714722.3862
ET08	150242.1342	714726.7253
ET09	150255.7705	714726.7738
ET10	150245.7857	714727.0414

Table 4: Limitation Area 3 (Light post + power)

Point ID	Easting	Northing
LP01	150234.9522	714721.0674
LP02	150232.7333	714720.0964
LP03	150232.7928	714717.5377
LP04	150234.8611	714716.8969
LP05	150236.7110	714717.5151
LP06	150236.7407	714719.6319

Table 5: Limitation Area 4 (Signage + power)

Point ID	Easting	Northing
S01	150227.3460	714716.3977
S02	150224.3896	714712.7134
S03	150226.3747	714710.7997
S04	150229.5227	714713.6081

Table 6: Limitation Area 5 (Western Tree)

Point ID	Easting	Northing
T01	150218.8597	714684.3712
T02	150220.8527	714685.1728
T03	150223.8746	714685.8963
T04	150226.2312	714684.2103
T05	150225.9064	714681.0469
T06	150224.8043	714679.3630
T07	150223.0350	714676.7314
T08	150220.6219	714678.0057

Table 7: Limitation Area 6 (Steel Pipe)

Point ID	Easting	Northing
NW Pipe 1	150241.332	714678.28
NW Pipe 2	150241.78	714682.826

Table 8: Limitation Area 7 (Steel Pipe)

Point ID	Easting	Northing
Pipe 01	150257.407	714722.723
Pipe 02	150252.35	714718.082
Pipe 03	150248.276	714715.197
Pipe 04	150243.45	714710.735
Pipe 05	150239.887	714707.454
Pipe 06	150237.88	714705.557
Pipe 07	150232.4	714701.288
Pipe 08	150227.034	714696.529
Pipe 09	150222.871	714692.927

Table 9: Limitation Area 8 (New Power Cable + Power Box)

Point ID	Easting	Northing
Trench 01	150255.7705	714726.7738
Trench 02	150245.7857	714727.0414
Trench 03	150236.8151	714725.8753
Trench 04	150232.0984	714721.3756
Trench 05	150223.4999	714711.9307
Trench 06	150214.5604	714700.7100
Trench 07	150210.2190	714695.2007

Table 10: Limitation Area 9 (Steel Fence Line)

Point ID	Easting	Northing
Fence 01	150268.6517	714718.6797
Fence 02	150246.2506	714674.4794
Fence 03	150242.2120	714675.1657

Table 11: UXO find.

Point ID	Easting	Northing
UXO 001	150224.6379	714677.1943

PHOTOGRAPHS:



Figure 3: UXO 001 - US 60mm Mortar M49 A2 (08 Dec 23)



Figure 4: UXO 001 - US 60mm Mortar M49A2 (08 Dec 23)



Figure 5: Typical Limitation – Light post, sign and new cable trench (Area 4)



Figure 6: Typical Limitation – Steel Pipe (Area 6)



Figure 7: Typical Limitation – Water Table (Area 1)



Figure 8: Typical Limitation – Steel Pipe (Area 7)